BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 21-101
21 MAY 2015

AIR EDUCATION TRAINING COMMAND
Supplement
18 SEPTEMBER 2015
Incorporating Guidance Memorandum, 16 FEBRUARY 2016

314 AIRLIFT WING
Supplement
29 AUGUST 2016

Maintenance

AIRCRAFT AND EQUIPMENT MAINTENANCE MANANGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-Publishing website at **www.e-publishing.af.mil.**

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AF/A4LM — Certified by: AF/A4L (Mr. Eugene Collins)
Pages: 485

Supersedes: AFI21-101, 26 July 2010

(AETC)

OPR: AETC/A4MMP — Certified by: HQ AETC/A4M (James B. Stevenson, GS-14)
Pages: 136

Supersedes: AFI21-101_AETCSUP, 21 October 2010; AETCI21-104, 28 December 2010

(314AW)

OPR: 314 MXG/MXGQ — Certified by: 314 MXG/CC (Kenneth J. Timko, Col)
Pages: 34

This publication implements Air Force Policy Directive (AFPD) 21-1, *Maintenance of Military*

Materiel; and is consistent with AFPD 13-5, *Air Force Nuclear Enterprise.* It is the basic Air Force instruction (AFI) 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. It applies to all Major Commands (MAJCOMs), including Air Force Reserve Command (AFRC), and the Air National Guard (ANG), along with their subordinates. Supplements and addendums must be written in accordance with (IAW) AFI 33-360, *Publication and Forms Management*. Supplements must identify required deviations (applicability, variance, and/or differences in organizational placement of responsibilities/processes) on the supplement with the abbreviation "(DEV)" directly preceding the affected paragraph number. Only supplements and addendums containing deviations must be submitted to AF/A4L for approval. The authorities to waive wing/unit level requirements in this publication are identified with a tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, Table 1.1 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 IAW AFI 33-360. For questions on interpreting this instruction, first contact your MAJCOM maintenance functional activity. Refer recommended changes and questions about this publication through your MAJCOM, to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS). 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 Air Force.

(AETC) This supplement implements and extends the guidance of AFI 21-101, *Aircraft and Equipment Maintenance Management.* This supplement applies to all AETC aircraft maintenance, trainer maintenance, and support equipment maintenance activities. This publication does not apply to Air Force Reserve Command (AFRC) or Air National Guard (ANG) and their units. Refer waivers/recommended changes about this publication to the Office of Primary Responsibility (OPR) using AETC Form 1236, *Request for Improving/Changing AETC Maintenance Publications.* Waivers/recommended changes must be approved by the group commander (or squadron commander, if not assigned to a group) before forwarding to HQ AETC/A4M, for action by HQ AETC/A4MMP. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). This publication may be supplemented at the group/director level. The authorities to waive wing/unit level requirements in this publication are identified with a Tier (T-2, T-3) number following the compliance statement. 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 Air Force.

SUMMARY OF CHANGES

This publication has been substantially revised and must be completely reviewed in its entirety.

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entirety. T-38/J85 engine retained task information has been added. Requirement to use AETC Form 290, *Aircraft Flameout/Stall Debrief Checksheet* has been removed. All of AETCI 21-104 (Superseded) has been incorporated as Chapter 15 and aligned with AFI 21-101.

(Added-314AW) This publication has been substantially revised and must be completely reviewed in its entirety. The following publications have been incorporated and aligned with the corresponding chapters in AFI 21-101 and are now rescinded: 314AWI 21-100, 314AWI 21-102, MXGOI 21-102, MXGOI 21-103, MXGOI 21-105, MXGOI 21-106, MXGOI 21-107, MXGOI 21-108, MXGOI 21-109, MXGOI 21-110, MXGOI 21-111, MXGOI 21-112, MXGOI 21-113, MXGOI 21-116, MXGOI 21-118, MXGOI 21-141 and MXGOI 21-150.

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Chapter 1

MANAGEMENT PHILOSOPHY AND POLICY

1.1. Introduction. This instruction prescribes basic aircraft and equipment maintenance management policy implementation and procedures used throughout the 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 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. The term "Lead Command" is used to describe the technical advocacy and product support provided to individual weapon systems across the using MAJCOMs as described in 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 shall be maintained to ensure effective and timely response to peacetime operations, mobilizations, national defense contingencies and other emergencies.

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

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

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

1.3.1.3. Depot: repair materiel coded for organizational, intermediate and depot; overhaul; rebuild; modify and manufacture.

1.3.2. Organizational and intermediate-level maintenance is organized into two mutually supporting 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 maintenance required to fulfill operational needs outside the capability and/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 (e.g. supply counter turn-in) or changing an end item possession code from an operational activity to a repair network activity (e.g. depot maintenance).1.3.1. Most MGN units possess a complement of equipment and supplies to perform on-equipment and off-equipment maintenance.

1.3.2.1. RN units may reside at bases that perform mission generation. RN requirements and processes are identified in AFI 20-117, *Repair Network Integration (RNI)* and when published, AFMAN 20-118, *Repair Network Integration (RNI) Operations*.

1.3.3. Requests for Assistance (RFA). If a maintenance activity requires assistance for evaluation and/or repair beyond unit capability, requests are made IAW AFI 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 Mission Design Series (MDS) Program Manager (PM) (e.g., C-130 AIRCATS, F-16 TAR). All requests for assistance must be coordinated through the originating MAJCOM and Lead Command as applicable. **(T-2).**

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/Missile) to effectively and efficiently support mission generation. Maintainers who attend the USAF Advanced Maintenance and Munitions Operations School (AMMOS) are trained in advanced operational, expeditionary and tactical maintenance management concepts stemming from the alumni's development and formalization of TTPs. MXG/CC's should identify their AMMOS graduates and utilize them as advisors and instructors to enhance mission capability. TTP 3-3, *Aircraft Maintenance*, can be found at: **https://intelshare.intelink.gov/sites/561jts/3-3-default.aspx.** For additional information on AMMOS and TTP development see AFI 21-111, *Advanced Maintenance and Munitions Education Program*.

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 and 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. 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.

1.6. 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.

1.6. (AETC) Maintenance Discipline. Aircraft maintainers are faced with many challenges to include fewer people, merging career fields, increased mission requirements, older fleets and new aircraft growing pains making maintenance discipline ever more important. Maintenance discipline and/or basic maintenance practices, which include compliance with safety, technical data/policy, documentation and training requirements, are essential to ensuring a sound

maintenance organization. All personnel must focus on an attitude of "doing the job right, the first time, even when no one is watching".

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

1.6.1.1. **Shall, 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 Technical Orders (TO) and TO Supplements. Use of the 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*. **(T-1).** All personnel will enforce compliance with technical data. **(T-1).**

1.6.2. **(Added-314AW)** Governing technical data for each task being performed will be present and in use at the job site at all times whenever a maintenance task/procedure (i.e. task included in a Job Guide, FI, TCTO, etc.) is being accomplished. Factors such as weather, working from elevated surfaces or confined spaces, power-saving mode, and fluids/grease should be taken into consideration when determining proper proximity of technical data during maintenance; however, these factors do not circumvent the requirement to have proper technical data in use for each task. The job site is defined as the immediate area where the work is being accomplished.

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

1.7.1. COMSEC/CCI accountability will be accomplished IAW AFMAN 33-283, *Communications Security (COMSEC) Operations* and AFI 23-101, *Air Force Materiel Management*. **(T-1).** Questions concerning COMSEC/CCI accountability can be directed to the Cryptologic and Cyber Systems Division's COMSEC Policy Office (AFLCMC/HNCLS) at DSN 969-3886.

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 90-803, Environmental, Safety, and Occupational Health Compliance Assessment and Management Program, installation ESOHMS/EMS policy/guidance and applicable environmental requirements and guidance. (T-0).

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 AFI 33-360.

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

1.9.1. Develop, control, and maintain functional checklists, at a minimum, each functional checklist is titled and dated. 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. **(Added-AETC)** Contractor regulations (CRs) 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 technical orders (TO). As a minimum, forward CRs to the Chief Contracting Officer's Representative (COR), Functional Commander (FC), 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 duties in their primary AF Specialty Code (AFSC)/Civilian Job Series. Maintenance training includes combat and sortie generation skills not normally integrated into peacetime operations (e.g., 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. (AETC) Maintenance Training. See AETCI 21-103, *AETC Military Aircraft Maintenance Training Program*, or AETCI 21-112, *AETC Civil Service and Contractor Aircraft Maintenance Training Programs*, for AETC training instructions.

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. 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 AFI 91-202, *The US Air Force 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 DODD 5000.01. Refer to AFI 63-131, *Modification Management*, for modification management procedures.

1.11. (AETC) Modification Management. Modification proposals will be routed to HQ AETC/A5RF for coordination, tracking and review IAW AFI 63-131, AETC Supplement. The Aircraft Maintenance Branch (HQ AETC/A4MA) and Systems Support Branch (HQ AETC/A4MS) are the AETC Functional Area Managers to validate modification proposals for aircraft, engines, avionics, support equipment and weapons/munitions and the associated support equipment.

1.11.1. Modifications to Munitions. All proposed modifications to aircraft-carried munitions include SEEK EAGLE certification IAW AFI 63-104, *The SEEK EAGLE Program*. All modifications to AF nuclear munitions or their associated support/training equipment are

nuclear certified IAW AFI 91-103, *Air Force Nuclear Safety Design Certification Program* and AFI 63-125, *Nuclear Certification Program*. All modifications to AF conventional munitions or their associated support/training equipment are certified IAW AFI 91-205, *Non-Nuclear Munitions Safety Board*.

1.12. Maintenance Information Systems (MIS). MIS refers to automated maintenance information systems that support and enable maintenance business processes. MIS is used to document maintenance actions and track fleet health. The information entered into the MIS is accomplished IAW TO 00-20-2, *Maintenance Data Documentation* and match 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/USERIDs of individuals accomplishing the actual work are entered into the MIS. Red Ball maintenance is documented IAW **Chapter 11** of this instruction.

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

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 help when needed, and using 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/crew leaders become task-focused, junior personnel are often better able to assess the danger; however, deferring to the experience and judgment of the crew leader, they may choose to remain silent, missing an opportunity to break the mishap sequence chain. Maintenance commanders and supervisors are responsible to foster 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 AFPAM 90-803, *Risk Management (RM) Guidelines and Tools* for additional information.

1.13.2. Visitors. Units 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-1).** Visitors will not be allowed in the flightline area if munitions operations are present IAW AFMAN 91-201, *Explosive Safety Standards*. **(T-1).**

1.14. Duty Shifts and Rest Periods. Maintenance personnel duty hours are aligned to provide optimal mission support.

1.14.1. Supervision at all levels will be equitably distributed to cover all duty periods. **(T-2).**

1.14.2. Personnel will not be scheduled for more than 12 hours of continuous duty time. **(T-1).** Duty time begins when personnel report for duty and ends when their supervisor releases them. Time spent in exercise/contingency deployment processing lines and in-transit counts toward the total duty day. **Exception:** MXG/CCs are final approval authority for duty time extensions exceeding 12-hour limit up to a maximum of 16 hours. Aircraft/Detachment CCs assume this responsibility in deployed/travel status.

1.14.3. Commanders and supervisors will provide a rest period after each shift. **(T-1).** 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. **Note:** This rest period also applies during exercises or inspections.

1.14.4. Personnel will not handle, load or perform maintenance on nuclear weapons, conventional munitions and/or egress explosives beyond a 12-hour continuous duty period. **(T-1).** This requirement may not be waived for exercises or inspections; however, the 12-hour continuous duty period may be exceeded for shift turnover/administrative actions only and will be avoided to the maximum extent possible. The MXG/CC or equivalent may waive this requirement during advance defense readiness conditions, actual emergencies as defined in DOD Directive 3150.02, *DOD Nuclear Weapons Surety Program*, or to resolve an unexpected event (e.g. disabled vehicle, WS3 fault, hoist failure, etc…).

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. **(T-1).** Stop anyone if fatigue may jeopardize safety. In all cases, Aircraft Commanders (AC)/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.

1.15. Communications. Effective maintenance accomplishment requires the ability to efficiently and effectively communicate across all facets of the maintenance operation. Communication technology (radios, cell phones, wireless internet, etc.) must be available to expedite personnel, equipment, material, and maintenance data throughout the maintenance complex. **(T-2).** Commanders shall develop communication plans according to mission requirements. **(T-2).** See **Chapter 11** for detailed communication requirements.

1.15.1. MAJCOMs will develop guidance on the use and control of personal electronic and communication devices on the flightline, in munitions areas, hangars, and/or other industrial work areas.

1.15.1. **(AETC)** Personal (non-government issue) electronic and communication devices (for example, cell phones, pagers, portable music/video players, electronic games) are not authorized on the flight line, munitions maintenance areas, hangars and (or) other industrial work areas unless the MXG/CC, or respective maintenance authority (MA) authorizes key personnel their use for the performance of official business. **(T-2).**

1.16. Maintenance Repair Priorities. Maintenance repair priorities are listed in **Table 1.1** 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 preplanned maintenance flow determines job sequence. The maintenance repair priority and the Logistics Readiness Squadron (LRS) delivery priorities (listed in AFI 23-123V1, *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 1.1. 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 (MSE).
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/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 Capable (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. - Avionics shop electronic AGE and automated test stations.

PRIORITY	APPLICATION
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 (MSK) 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.

PRIORITY	APPLICATION
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 active and/or Air Reserve Component (ARC) units are collocated and share aircraft, equipment, facilities, and other resources IAW AFI 90-1001, *Responsibilities for Total Force Integration*, and MAJCOM supplements. For the purpose of this instruction, in an Active Association, the ANG/AFRC owns the aircraft, and Regular AF (RegAF) personnel will follow ANG/AFRC maintenance policy. **(T-1).** In an ARC association, AFRC owns the aircraft, and ANG personnel will follow AFRC guidance, or vice versa. **(T-1).** In a classic association, RegAF owns the aircraft, and ANG/AFRC personnel will follow RegAF maintenance policy. **(T-1).** 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. Additional guidance may be found in AFI 38-203, *Commercial Activities Program.* **Note:** A contractor, Most Efficient Organization (MEO), or High Performance Organization (HPO) are referred to as a service provider.

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 AFI 21-101, AETC Supplement, Addendum A (F-35) for more specific F-35 guidance and to the applicability of legacy AFI 21-101 guidance.

1.18.1. 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 Program Management Flight (HQ AETC/A4PM) and HQ AETC/A4M are AETC focal points for contract and civil service 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. Approve base-level requests that would permit a single Federal Aviation Administration (FAA) certified Airframe/Powerplant (A/P) contractor technician maintaining contracted logistics support (CLS) aircraft to repair and sign off their own Red X's when sent to recover aircraft off-station.

1.18.1.5. Ensure units with assigned Contracting Officer Representative (COR) personnel meet requirements in **Chapter 14** of this instruction and applicable 63-series AFI requirements.

1.18.1.6. Ensure aircraft depot maintenance contracts, Statements of Work (SOW), and Performance Work Statements (PWS) are coordinated with the MAJCOM Munitions Functional to ensure munitions handling, accountability and disposition requirements are adhered to.

1.18.2. Units will:

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

1.18.2.2. In coordination with the contracting officer and the MXG/CC (or equivalent), provide specific guidance to the performance-based activity to ensure proper maintenance discipline and flight worthiness of aircraft and subsystems. **(T-2).**

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-1).**

Chapter 2

GENERAL RESPONSIBILITIES FOR COMMANDERS AND KEY LEADERS

2.1 General. This chapter outlines responsibilities for commanders and key leaders involved in maintenance activities. For the purpose of this instruction, 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. **(T-1).** 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. **Note:** 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/skill level equivalents for civilians.

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. **Note:** 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—WS10, WG15, 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).**

2.2. 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-1).**

2.2.2. Conduct a daily "Wing Standup" meeting. **(T-1).** The meeting will include, at a minimum, a review of previous, current, and future activities, focused on identifying and resolving issues with executing the established flying and maintenance schedule. **(T-2).**

2.2.3. Ensure a coordinated wing/base instruction is developed to control tools, equipment, and electronic devices applicable to all wing/base agencies dispatching to aircraft runway/taxi/parking and maintenance areas. **(T-1).**

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-1).** The WG/CC will:

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 HQ AETC/A3, HQ AETC/A3RA, 19 AF and HQ AETC/A4MMA. **(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-1).**

2.2.4.2. Approve the weekly, monthly, quarterly, and annual flying/test schedules **Chapter 15** of this instruction. **(T-1).**

2.2.4.3. Direct the use of the Maintenance Capability and Capacity (MxCAP2) model, if available, for the assigned MDS. **(T-1).** The MxCAP2 model provides the ability to forecast/evaluate the impact of changing requirements (e.g. deployments, changes in aircraft availability, maintenance AFSC shortages, or locally developed scenarios) on a maintenance unit's sortie generation capacity.

2.2.5. Sustain a Crash Damaged or Disabled Aircraft Recovery (CDDAR) capability for assigned active airfields/runways IAW **Chapter 11** of this instruction and develop a wing publication IAW AFI 33-360 containing specific responsibilities for all applicable base support agencies. **(T-1).**

2.2.6. **(Added-AETC)** Assign a historical property custodian (HPC) to ensure proper preservation, inspection, and maintenance are done on all historic static display aerospace equipment (AFI 84-103, *U.S. Air Force Heritage Program*). **(T-2).** The HPC 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 AFI 21-201, *Conventional Munitions Management*.

2.2.7. **(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:

2.2.7.1. **(Added-AETC)** Maintain supply, information technology asset management, and Equipment Management Office accounts.

2.2.7.2. **(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.

2.2.7.3. **(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.

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

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

2.3.1. Manage the Foreign Object Damage (FOD) and Dropped Object Prevention (DOP) Programs. **(T-1).** The WG/CV is the FOD/DOP Prevention Program Manager and will appoint a qualified technical sergeant (or above), civilian equivalent, or contractor, if designated by performance work statement, as the FOD/DOP Prevention Monitor(s) IAW **Chapter 11** of this instruction. **(T-1).**

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 in **Chapter 11** of this instruction. **(T-1).** The MXG/CC (or equivalent) will:

2.4. (AETC) Maintenance Group Commander (MXG/CC) Responsibilities. The MXG/CC, or equivalent (e.g., Director of Maintenance (DOM) /Program Manager (PM)) is the MA and is responsible for aircraft and equipment maintenance to ensure balance between sortie production and fleet management. In the absence of the DOM in contract organizations, as in the case of a strike, the functional commander becomes the MA. 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. Establish a radiation protection program IAW AFI 48-109, *Electromagnetic Field Radiation (EMFR) Occupational & Environmental Health Program*, when applicable. **(T-1).**

2.4.2. Appoint an MXG Environmental Coordinator IAW AFI 32-7001, *Environmental Management*. **(T-1).** Refer to AFI 90-803, *Environmental, Safety, and Occupational Health Compliance Assessment and Management Program*, *AFI 91-203, Air Force Consolidated Occupational Safety Instruction*, AFI 32-7086, *Hazardous Materials Management*, and AFI 32-7042, *Waste Management*, for additional guidance.

2.4.3. Ensure maintenance is only performed by personnel who are trained, qualified, and certified, unless under the direct supervision of a trainer or certifier. **(T-1).**

2.4.4. Ensure standardization of maintenance discipline, procedures, organizational structures, compliance, and management philosophy. **(T-1).**

2.4.5. Coordinate with Fire Emergency Services, Wing Safety, and the Airfield Operations Flight in developing adverse weather procedures for protecting aircraft and equipment IAW AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, and MDS-specific technical data. **(T-1).**

2.4.6. Establish and support a Data Integrity Team (DIT), refer to **Chapter 5** of this instruction. **(T-1). Note:** DIT is not required for contractors unless specified in the PWS/SOW.

2.4.7. Approve and publish In Process Inspection (IPI) listings every two years IAW **Chapter 6** of this instruction. **(T-1).**

2.4.8. Ensure the Maintenance Standardization and Evaluation Program (MSEP) requirements are implemented IAW **Chapter 6** of this instruction. **(T-1).**

2.4.9. Ensure effective management of the MXG's total maintenance training program IAW AFI 36-2201, *Air Force Training Program* and AFI 36-2650. **(T-1). Note:** The MXG/CC may authorize the Munitions Squadron/Flight Commander/Chief to chair the munitions scheduling and training meetings and publish schedules. The MXG/CC will:

2.4.9.1. Ensure Master Training Plans (MTPs) are developed IAW AFI 36-2201 and training is accomplished according AFI 36-2650. **(T-1).**

2.4.9.2. Ensure Special Experience Identifier (SEI) management IAW the *Air Force*

Enlisted Classification Directory. **(T-1).**

2.4.9.3. Support the maintenance training program by allocating aircraft, personnel, facilities and equipment. **(T-1).**

2.4.10. Approve RFAs IAW **Chapter 1** of this instruction after they are coordinated with Plans, Scheduling, and Documentation (PS&D), Quality Assurance (QA), and all applicable maintenance organizations. **(T-1).**

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

2.4.12. Review the weekly, monthly, quarterly, and annual flying/test schedules IAW **Chapter 5** and **Chapter 15** of this instruction. **(T-1).**

2.4.13. Ensure munitions are accounted for IAW AFI 21-201, *Munitions Management*, AFI 21-103 for Nuclear Weapon Procedures, and/or AFI 20-110, *Nuclear Weapons-Related Materiel*. **(T-1).**

2.4.14. Ensure all personnel assigned to maintenance are used to accomplish critical maintenance tasks before releasing them for non-maintenance duties. **(T-1).**

2.4.15. Establish Minimum Equipment Levels (MELs) for essential maintenance assets to include engines, pods, AGE, vehicles, etc. **(T-1).**

2.4.16. 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*. **(T-1).**

2.4.17. Ensure a nuclear surety program is implemented (if applicable) IAW AFI 91-101, *Air Force Nuclear Weapons Surety Program*, and nuclear munitions are maintained, handled and accounted for IAW AFI 21-204, *Nuclear Weapons Maintenance Procedures*, AFI 21-203, *Nuclear Accountability Procedures*, TO 1-1-700, *Corrosion Prevention and Control, Ground Communications-Electronics Equipment* and TO 31Z-10-37, *General Engineering Technical Manual Corrosion Prevention and Protection*. **(T-1).**

2.4.17.1. 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 AFI 91-204, *Safety Investigations and Reports*. **(T-1).**

2.4.18. Ensure effective management of the Engine Trending and Diagnostic (ET&D) program IAW AFI 20-115, *Propulsion Management for Aerial Vehicles*. **(T-1).**

2.4.19. Establish CDDAR capability IAW **Chapter 11** of this instruction and applicable MDS technical data. **(T-1).**

2.4.19.1. The MXG/CC will ensure resources and trained personnel are available to perform responsibilities of the CDDAR Program. **(T-1).**

2.4.20. Develop a 10-year facility plan specifying maintenance, upgrade, and replacement

projections for the group's facilities. **(T-1).** The MXG/CC will:

2.4.20.1. Update and coordinate this plan with the installation Civil Engineer (CE) annually. **(T-1).**

2.4.20.2. Coordinate and prioritize group maintenance facility work orders monthly (quarterly for the ARC). **(T-1).**

2.4.21. Ensure adequate Personal Wireless Communications Systems (PWCS) are available to support mission requirements. **(T-1).** Refer to **Chapter 11** of this instruction for further information on PWCS requirements.

2.4.22. 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)*. **(T-1).**

2.4.23. Ensure effective use of the assigned AF Engineering and Technical Services/Contracting Engineering Team Specialists (AFETS/CETS) IAW AFI 21-110, *Engineering and Technical Services*, and other contracted Field Service Representatives (FSRs) henceforth referred to as assigned AFETS and contractors. **(T-1).**

2.4.24. Establish the group maintenance awards and recognition program to meet AF and MAJCOM requirements IAW AFI 36-2818, *The USAF Logistics Awards Program*. **(T-1).**

2.4.25. Ensure procedures are followed to properly turn in recoverable and consumable items IAW AFI 23-101. **(T-1).**

2.4.26. Ensure the applicable section "safes" all static display aircraft/systems according to TO 00-80-series and system specific TOs. **(T-1).**

2.4.27. Approve MXG Key Task List (KTL) and Routine Inspection Lists (RIL). **(T-1).**

2.4.28. Ensure an orientation program is developed and conducted for all personnel newly assigned to MXG maintenance/activities IAW AFI 36-2650. **(T-1).**

2.4.29. Establish the MXG Lead the Fleet (Pacer) Program for engine type IAW AFI 20-115, and AFMAN 20-116, *Propulsion Life Cycle Management for Aerial Vehicles*. **(T-1).**

2.4.30. Establish and document MXG local manufacture procedures and controls in a supplement to this instruction. **(T-1).**

2.4.31. Ensure the MXG Oil Analysis Program (OAP) complies with AFI 21-124, *Oil Analysis Program*. **(T-1).**

2.4.32. Appoint a Stock Record Account Number (SRAN) Engine Manager (EM) or a Unit Engine Manager (UEM) to accomplish duties outlined in AFI 20-115. **(T-1).**

2.4.33. Appoint a qualified 2A6X1, minimum 7-skill level (or civilian equivalent) technician, to perform Engine Health Management Plus (EHM+) duties IAW AFI 20-115. **(T-1). Exception:** ANG may appoint a qualified 2A6X1 or 2R1X1with a minimum 7-skill level.

2.4.34. Designate the Installation Maintenance Advisor to the Aero Club according to AFI 34-117, *AF Aero Club Program*, when applicable. **(T-1).**

2.4.35. Appoint hot refueling/hot defueling OPRs for the WG, and designate an OPR for hot refuel training (if applicable) IAW **Chapter 11** of this instruction. **(T-1).**

2.4.36. Ensure maintenance requirements (e.g., 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-1).**

2.4.37. Ensure unit personnel collect and report Aircraft Structural Integrity Program (ASIP) data IAW AFI 63-140, *Aircraft Structural Integrity Program* and **Chapter 11** of this instruction. **(T-1).**

2.4.37. **(AETC)** Provide data, as required, on system utilization and operational usage through the lead command to the AFMC system program director, Aircraft Structural Integrity Program (ASIP) manager.

2.4.38. Ensure aircraft shelters at bases with permanently assigned aircraft are maintained, unless otherwise stipulated in contracting arrangements, IAW **Chapter 11** of this instruction. **(T-1). Note:** If an aircraft shelter is used for other than its designed purpose, the using activity will maintain it. **(T-1).**

2.4.39. Ensure management of the Weight and Balance (W&B) program IAW **Chapter 6** of this instruction. **(T-1).**

2.4.40. Coordinate with the Operations Group (OG) and establish Functional Check Flight (FCF), Operational Check Flight (OCF), and High Speed Taxi Check programs. **(T-1).**

2.4.41. Implement the Hangar Queen Program IAW **Chapter 11** of this instruction. **(T-1).**

2.4.42. Develop a MXG Impoundment Program and ensure compliance with the procedures IAW **Chapter 7** of this instruction. **(T-1).**

2.4.43. Establish written procedures to review and clear “repeat”, “recur”, and “cannot duplicate” (CND) discrepancies. **(T-1).**

2.4.44. Appoint a Radar Warning Receiver (RWR)/Radar Threat Warning (RTHW) or equivalent system manager IAW **Chapter 11** of this instruction (if equipped). **(T-1).**

2.4.45. Ensure compliance with Identification Friend or Foe (IFF) Program or equivalent IAW **Chapter 11** of this instruction (if equipped). **(T-1).**

2.4.46. Provide Subject Matter Expertise (SME) support for the development of the wing/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 **paragraph 2.2.2** and **Chapter 8** of this instruction. **(T-1).**

2.4.47. Establish written guidance on individual responsibilities and specific procedures for Cannibalization (CANN) actions IAW **Chapter 11** of this instruction. **(T-1).**

2.4.47.1. Ensure aircraft possessed by AFMC for depot maintenance are not cannibalized without approval from the applicable ALC Maintenance Group Commander/Director and coordinated with the MAJCOM functional manager. **(T-1).**

2.4.48. Establish local procedures for management and maintenance of assigned Ground Instructional Training Aircraft (GITA) and Training Aircraft Aids (TAA) to ensure they remain useful and safe within guidelines stated in **Chapter 11** of this instruction, AFI 84-103, *U.S. Air Force Heritage Program*, AFI 21-103, and 23-series publications. **(T-1).**

2.4.49. Sustain a Transient Alert (TA) function (if required). **(T-1).** 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-1).** Special consideration should be given to medical or air evacuation aerospace vehicle, emergency missions, and special missions.

2.4.50. Ensure AFREP is managed IAW AFI 21-123, *The Air Force Repair Enhancement Program*. **(T-1).**

2.4.50. **(AETC)** Units will request MAJCOM approval if establishing an Air Force Repair Enhancement Program (AFREP). The MAJCOM AFREP manager is HQ AETC/A4MMP.

2.4.51. Ensure unit Flying Crew Chief (FCC) program(s) are established IAW **Chapter 11** of this instruction, if applicable. **(T-1).**

2.4.52. Establish procedures to ensure assigned units have sufficient Electronic Tools (eTools) availability for technical order viewing. **(T-1).**

2.4.53. Develop written procedures and assign responsibilities to ensure aircraft/system forms, equipment forms, and MIS documentation are complete, accurate, and a thorough review is accomplished for each shift. **(T-1).** Documented procedures as a minimum will include:

2.4.53.1. The process to ensure aircraft/systems and equipment status is correctly reflected in maintenance forms and the MIS IAW TO 00-20-1, TO 00-20-2, AFI 21-103 and **Chapter 1** of this instruction. **(T-1).**

2.4.53.2. The process for recovering aircraft/systems from extensive maintenance events/down time (CANN, local depot MX, etc.) include independent screening and validation that all maintenance actions (IPIs, operational checks, configuration management, W&B, serial number (S/N) tracking, Air Force Technical Order (AFTO) Form 95, *Significant Historical Data*) have been accurately documented in the forms and/or MIS before being scheduled for a sortie/mission. **(T-1).**

2.4.53.3. The process for determining if an OCF or FCF is required. **(T-1).**

2.4.54. Ensure that when no 2W1X1 weapons AFSCs are assigned and units are required to install/remove chaff/flare on unique mission aircraft, train and qualify personnel to perform these tasks IAW procedures outlined in AFI 21-201 and **Chapter 11** of this instruction. **(T-1)**. As a minimum, the program will include academic, explosive safety, and load/unload training. **(T-1).**

2.4.55. **(Added-AETC) (Updated)** 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, aerospace ground equipment (AGE) tow tractors) to tow aircraft is not authorized, except for USAFA trainer glider aircraft. **(T-2). Exception:** Properly equipped general-purpose vehicles approved through Vehicle Fleet

Management may be used to tow small trainer-type aircraft during emergency situations at auxiliary fields only.

2.4.55.1. **(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 mission design series (MDS) must be used.

2.4.56. **(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.

2.4.57. **(Added-AETC)** Ensure HQ AETC/A4M is notified, within 3 hours during normal duty hours or the beginning of the next day if after hours, of any significant event/FOD/DOP by completing the information in the AETC Significant Event/FOD/DOP Reporting SharePoint ASAP following the event **https://eis.aetc.af.mil/hq/A47/A4M/SitePages/Home.aspx**. **(T-2).** This reporting requirement is in addition to formal reporting required according to AFI 91-204, *Safety Investigations and Reports*.

2.4.57.1. **(Added-AETC)** Types of air or ground events to report, 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; explosive or missile mishap; dropped object; FOD; or unusual occurrence that results in damage to aircraft, aircraft components, AGE, maintenance facilities and (or) injury to personnel.

2.4.57.2. **(Added-AETC)** Designate key individuals within your maintenance Quality Assurance activity to serve as the significant event mishap/incident reporting POCs. These individuals will be authorized to enter/edit AETC Significant Event/foreign object damage (FOD)/dropped object program (DOP) Reporting SharePoint site. Provide the (NAME/RANK/UNIT/OFFICE/DSN) of these individuals via e-mail to HQ AETC/A4MS who will subsequently grant access. **(T-2).**

2.4.57.3. **(Added-AETC)** Designate key leaders/individuals within your maintenance activity authorized viewing access to AETC Significant Event Reporting SharePoint site, and provide this information (NAME/RANK/UNIT/OFFICE/DSN) via e-mail to HQ AETC/A4MS who will subsequently grant access.

2.5. Deputy Maintenance Group Commander (MXG/CD) will:

2.5.1. Chair and designate mandatory attendees for the daily maintenance production/scheduling meeting. **(T-1).** The purpose of this meeting is to verify aircraft and equipment utilization and scheduled maintenance requirements for the next day, establish work priorities, and coordinate schedule changes.

2.5.1.1. Topics reviewed will include as a minimum: aircraft/system status, MICAP and repair cycle status, AF Form 2407s, *Weekly/Daily Flying Schedule Coordination*, current-

day flying and maintenance schedule execution, remaining portion of the current day's schedule, previous day's flying and maintenance schedule deviations to the published schedule, prioritizing aircraft requiring/competing for shared resources, and review special inspections (SIs), TCIs, TCTOs, Depot Field Team (DFT)/Contract Field Team (CFT) schedules. **(T-1).**

2.5.1.2. As a minimum, the MXG/CD will perform the following reviews weekly:

2.5.1.2.1. Review next week's flying and maintenance schedule to de-conflict and prioritize aircraft/systems requiring/competing for shared resources. **(T-1).**

2.5.1.2.2. Review any overdue special inspections and TCIs and planned corrective action. **(T-1).**

2.5.1.2.3. Review status of TCTOs that will ground within 30 days and completion plan. **(T-1).**

2.5.1.2.4. Review DFT/CFT schedule requirements. **(T-1).**

2.5.1.2.5. Review the previous week's deviations to flying and maintenance schedules. **(T-1).**

2.5.1.2.6. Review overdue Due In From Maintenance (DIFMs). **(T-1).**

2.6. MXG Superintendent Responsibilities. In addition to the Group Superintendent responsibilities outlined in AFI 36-2618, *The Enlisted Force Structure*, the MXG Superintendent is responsible to the MXG/CC and shall advise and assist the MXG/CC on their responsibilities as outlined in this chapter. The MXG Superintendent will:

2.6.1. Conduct a quarterly manning meeting with Squadron Superintendents/Wing Weapons Manager (WWM) to review MXG manning status and ensure manning resources are strategically distributed to provide the greatest possibility for mission success **(T-1). Exception:** Not Applicable (N/A) to ANG.

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, etc.), Special Experience Identifier (SEI) balance, overseas Date Eligible for Return from Overseas (DEROS) extensions/In Place Concurrent Overseas Tour (IPCOT) requests, physical profile changes and personnel rotation plans to enhance mission effectiveness. **(T-1).**

2.6.1.2. MXG Superintendent will provide the MXG/CC coordinated manning recommendations that develop enlisted individual experience and knowledge for consideration. **(T-1).**

2.7. Wing Weapons Manager (WWM). The WWM is the wing's focal point for all weapons loading and armament systems related matters. The WWM's primary efforts focus on compliance, continuity, and standardization. The WWM will be a 2W100 CMSgt assigned directly to the MXG/CC. **(T-1).** In units where 2W1 personnel are assigned but no 2W100 authorization exists, the MXG/CC will appoint the most qualified 2W1 to fulfill WWM responsibilities outlined in this chapter **(T-1). Note:** For ARC, the Senior Weapons Loading Supervisor serves as the WWM and does not require assignment to the MXG/CC staff. Weapons

activities required to support the generation of peacetime training sorties generally do not reinforce primary combat skills. Therefore, the WWM plays a key role in ensuring that the unit is able to produce combat loaded aircraft. The WWM is charged with providing technical and managerial advice to senior leaders in matters of weapons loading and armament systems. The WWM coordinates with the Weapons Sections, Armament Flight, Wing Safety, Wing Weapons and Tactics Officer, the Munitions Squadron/Flight, and other unit agencies on weapons related matters. The WWM is a certifying official and evaluator for weapons loading task certifications and qualifications. The WWM is the functional manager for all 2W1X1 personnel. WWM will coordinate on support agreements and provide support for geographically separated units. **(T-1). Exception:** Unless outlined under additional TFI guidance. The WWM is the wing Point of Contact (POC) for all 2W1XX manpower issues to include coordination on all manning (e.g. AFSC, grade, and skill-level) changes, work center and organizational changes. The WWM will:

2.7.1. Review and coordinate on the Unit Manning Document(s) (UMD). **(T-1).** The WWM will ensure assignment of position numbers to new arrivals, and existing 2W1 personnel are properly assigned on the UMD to balance 2W1XX grades, experience and skill-levels between all 2W1XX work centers across the wing. **(T-1).** The WWM will coordinate on all 2W1 personnel position change requests. **(T-1).**

2.7.2. Ensure sufficient quantities of serviceable load crew training munitions are available to support both load crew and Dual Loading Operations (DLO) training programs. **(T-1).**

2.7.3. Ensure all wing 2W1X1 personnel regardless of duty position receive initial and recurring weapons academics. **(T-1).** The WWM will ensure introductory training is provided to newly assigned personnel on aircraft familiarization, safe for maintenance, explosive safety, weapons release and gun system safety prior to performing duties (as applicable to work center). **(T-1).**

2.7.4. Designate the Weapons Standardization (WS) SUPT, Loading Standardization Crew (LSC), lead crews as WS certifying officials and the primary weapons academic instructor. **(T-1).** The WWM may designate the weapons section Non-Commissioned Officer in Charge (NCOIC) to perform WS functions of academics and weapons task qualification in HH-60 units.

2.7.5. Determine the number of load crews (based on unit taskings), other than the LSC and lead crews, to be certified on support or limited use munitions. **(T-1).** In nuclear-tasked units, the WWM will determine the number of load crews required to be certified on applicable nuclear weapons in support of OPLANs when the OPLAN's Designed Operational Capability (DOC) statement does not dictate load crew requirements. **(T-1). Note*:*** The WWM coordinates with the MXG/CC in determining the number of load crews to be certified on support or limited use munitions.

2.7.6. Use the Weapons Load Crew Management Tool (WLCMT) or MAJCOM-equivalent automated database to track load crew certification and qualification status. **(T-1).**

2.7.7. Monitor overall load crew status and advise the MXG/CC when the number of fully certified load crews fall below the Unit Committed Munitions List (UCML) or Test/Training Munitions List (TTML) minimum requirements. **(T-2).** If this occurs and cannot be corrected within 30 days, a secure message will be sent via Secret Internet Protocol Router (SIPR), through the MXG/CC, to the appropriate MAJCOM 2W1XX functional manager. **(T-1). Note:** All 2W1X1s working outside their respective work center or Duty Air Force Specialty

Code (DAFSC) will be qualified/certified if possible to fill load crew shortfalls before sending a message to the MAJCOM. **(T-2).** The MAJCOM will send the message via SIPR to AF/A4LW at **usaf.pentagon.af-a4.mbx.a4lw-workflow@mail.mil.** The message will include:

2.7.7.1. Number of 2W1X1 personnel authorized and assigned by work center, skill level (primary AFSC) and grade for the entire wing. Include all work centers to which 2W1X1 personnel are assigned.

2.7.7.2. Number of 2W1X1 personnel working outside the AFSC/work center.

2.7.7.3. Number of 2W1X1s not able to perform primary duties and the reason.

2.7.7.4. Number of fully certified crews. Include corrective action, get well date, and 30/60-day load crew status projection. If the standard cannot be reached in 60 days, provide the reason.

2.7.7.5. Number of load crews formed but not fully certified. List crews and specific items for which they are not certified and qualified.

2.7.7.6. Remarks: List limiting factors, equipment shortages, availability of training aircraft, etc.

2.7.8. Annually review DOC Statements, OPLANs, UCML/TTMLs, unit-tasked Unit Type Code (UTC) requirements (for equipment and personnel) and UMD to identify any disconnects or problems for weapons. **(T-2).** The WWM will coordinate changes and appendices with the Wing Weapons and Tactics Officer and the Munitions Squadron/Flight and report any findings to the MAJCOM. **(T-1).**

2.7.8.1. The WWM will validate and document wing 2W1XX UTC Aerospace Expeditionary Force (AEF) taskings against existing/squadron DOC statements quarterly. **(T-2).** Specifically, the WWM ensures no shortfalls exist by aligning required skill level, grade, line remarks and CFETP qualifications against tasked UTCs to include AEF taskings for all assigned 2W1XX personnel. The WWM will start a training program to eliminate any identified shortfalls. **(T-1).**

2.7.9. Resolve scheduling conflicts affecting weapons loading and DLO training programs. **(T-3).**

2.7.10. Provide input during development of local exercises involving weapons loading/armament functions, and serve as an advisor/evaluator to the Wing Inspection Team (WIT). **(T-3).**

2.7.11. Ensure a recognition program for weapons and armament personnel is established. **(T-2).**

2.7.11. **(AETC)** The WWM (or equivalent) may submit nominees for participation in the AETC Armament Maintenance Professional Awards Program. The program participation guidelines are located on the HQ AETC/A4MSW SharePoint link at: https://eis.aetc.af.mil/hq/A47/A4M/A4MS/A4MSW/ArmMunsAward/Forms/AllItems.aspx?InitialTabId=Ribbon.Library&VisibilityContext=WSSListAndLibrary.

2.7.12. Ensure standardization of load crew Composite Tool Kit (CTK) by aircraft MDS to the maximum extent possible to provide interoperability of load crews; and, in coordination with the Weapons Section NCOIC and WS Superintendent, determine the number of CTKs

required. **(T-2).**

2.7.12.1. Load crew CTK contents will be approved by the WWM. **(T-2).**

2.7.13. In coordination with Wing Safety, Airfield Operations Flight, and Quality Assurance, develop an installation publication or supplement to this AFI for parking, launch and recovery of explosives-loaded aircraft, end-of-runway procedures, and to outline situations warranting impoundment of aircraft with hung ordnance, delayed release or jammed gun systems. **(T-1).**

2.7.14. The WWM will ensure arm/de-arm of munitions loaded aircraft is accomplished in approved areas. **(T-1).** Immediately-prior-to-launch and "safing" procedures may be performed in the aircraft parking area for contingencies, unit exercises, and daily training missions as quantity distance clearance allows with the approval of Wing Safety, Airfield Operations Flight, and the MXG/CC.

2.7.15. Establish procedures for inspecting and "safing" hung munitions or external stores before aircraft return to parking areas; and controlling access to aircraft until munitions are made safe and cause of hung stores is identified. **(T-1).** Aircraft guns and rockets are to be "safed" in the de-arm area before aircraft return to open ramp parking areas.

2.7.16. Inform the MAJCOM, within 24 hours, of any significant weapons or armament related issues such as dropped/hung munitions, equipment and aircraft release reliability or deficiency problems, and weapons safety or mishap issues. **(T-2). Note:** Units follow MAJCOM and local reporting instructions.

2.7.16. **(AETC)** Inform AETC/A4MSW within 24 hours of any significant weapons or armament related issues utilizing the HAF Armament Weapons Incidents SharePoint: **https://cs1.eis.af.mil/sites/HAFARMAMENT/AF%20Weapons%20Incidents/Lists/Weapons%20Incidents/Default.aspx**.

2.7.16.1. If a unit has an incident, it is important to preserve the evidence to the maximum extent allowable by operational requirements and safety. 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.

2.7.17. Monitor weapons release/gun fire-out rates, malfunctions and corrective actions to assess weapons and armament systems reliability. **(T-1).**

2.7.17. **(AETC)** Provide performance levels, by squadron, to Quality Assurance (QA) for inclusion in the Maintenance Standardization Evaluation Program (MSEP) summary, and if required, to Plans Scheduling and Documentation (PS&D) for inclusion in monthly maintenance summaries. **(T-2).**

2.7.17.1. Weapons release reliability rates are calculated by dividing the number of successful releases by the number of attempts (Goal: 99%).

2.7.17.2. The gun fire-out rate is calculated by dividing the number of successful bursts by the number attempted (Goal: 98%). Once a malfunction occurs, any further attempts for the purpose of clearing the malfunction should not be counted as attempts.

2.7.18. Ensure compliance with local accountability procedures IAW AFI 11-212, *Munitions Requirements for Aircrew Training*, and AFI 21-201. **(T-1).** In conjunction with the Weapons Section(s) and Munitions Flight, the WWM will develop a standard local format for the AF Form 2434, *Munitions Configuration and Expenditure Document*. **(T-2).** A

computer-generated product may be used if it contains all required information.

2.7.19. Coordinate with Maintenance Supervision, Munitions Squadron/Flight, OSS's Operations Plans, and Wing Safety in developing nuclear weapons operations procedures (e.g., convoy, custody transfer, no-lone-zone), if applicable. **(T-3).**

2.7.20. Conduct a quarterly meeting with representatives from WS, Wing Safety, Quality Assurance, Munitions Squadron/Flight, Armament Flight, and Weapons Section(s) to discuss and resolve any weapons-related issues, concerns or problems. **(T-1).** Weapons AFETS are encouraged to attend.

2.7.21. Ensure en route training requirements for inbound 2W1X1 personnel are identified and requested through the MAJCOM, as applicable. **(T-2).**

2.7.22. Monitor WRM Rack, Adapter, Pylons (RAP) and guns/components status to ensure required assets are available to support OPLAN taskings. **(T-1).**

2.7.23. Provide monthly (quarterly for ANG) manning, weapons release and gun reliability rates, equipment, and tester status (9405 report, or equivalent) to MAJCOM No Later Than (NLT) the 5th of each month. **(T-2).** The WWM will monitor the status of critical armament and weapons systems support equipment and testers for serviceability, accountability and status of TCTO modifications. **(T-2).**

2.7.23. **(AETC)** In addition, provide the information requested in paragraphs **2.7.23.2** and **2.7.23.3** to HQ AETC/A4MSW. **(T-2).**

2.7.23.1. The WWM will provide a valid document number and off-base requisition number for all items listed in Awaiting Parts (AWP) status in the remarks column of the report if the item is procured through USAF supply channels. **(T-2).** If parts are obtained from commercial sources, and purchased using Government Purchase Card (GPC), provide source, date ordered, and status in the remarks column.

2.7.23.2. **(Added-AETC)** Quantity of testers by part number, stock number, quantity authorized, quantity on hand, and quantity on order (including off-base requisition numbers). Identify status of each tester; for example, serviceable, unserviceable, awaiting maintenance (AWM), awaiting parts (AWP), etc. Include nomenclature, part number, stock number, and off-base requisition number for parts on order. Provide any appropriate remarks.

2.7.23.3. **(Added-AETC)** Alternate mission equipment (AME), normally installed equipment (NIE), handling equipment, and other weapons or gun system support equipment assigned by equipment noun, quantity authorized, quantity on hand, quantity serviceable, quantity unserviceable, and remarks. Identify any significant difficulties associated with obtaining equipment, parts, or repairs. **Note:** Equipment is considered in commission if there are no discrepancies or parts required (to include TCTOs) that would hinder performance of the intended function. Equipment is not considered out of commission just because it is undergoing scheduled, preventative, or minor maintenance.

2.7.24. Utilize and involve assigned AFETS and/or contractors in weapons and armament related issues and meetings IAW AFI 21-110. **(T-2).**

2.7.25. Ensure at least two certified WS personnel are included on temporary duties (TDYs) where live munitions will be expended and on deployments exceeding 30 days to provide Minimum Required Proficiency Load (MRPL) and recertification capability. **(T-3).**

Exceptions must be approved by the WWM.

2.7.26. Develop an annual assessment program to evaluate technical proficiency of personnel assigned to WS, Weapons Sections, Armament Flights, and AFSC 2W1 personnel assigned to QA. **(T-1).** The WWM will ensure the program incorporates a process to document findings, track corrective actions and store data. **(T-2).**

2.7.27. Determine when Armament Flight personnel are required to perform load crew duties or related certifiable tasks and gain concurrence from MXG/CC. **(T-3).**

2.7.28. Determine need for a formal supervisory postload program. **(T-3).** If negative performance metrics, special missions, etc., warrant a supervisory postload program, WWM will establish procedures and a training program to ensure standardization between units. **(T-3).** Supervisors (7-skill level minimum, expediters, shift supervisors, section NCOICs, etc.) performing such inspections require initial and recurring (not exceeding 15 months interval) qualification training by WS. Training will be documented in either the WLCMT (or equivalent) or MIS, not on SCR. **(T-1).** Supervisory Postload will be documented on AF Form 2430, *Specialist Dispatch Control Log* (or equivalent). **(T-3).**

2.7.29. Ensure requirements for submitting AFTO Form 375, *Selected Support Equipment Repair Cost Estimate*, on all weapons support equipment identified in TO 35-1-24, are accomplished. **(T-1).** This process provides vital information and source documentation for ALCs to adequately reflect equipment sustainment costs, attrition rates, and to enable timely forecasting for replacement funding.

2.7.30. **(Added-AETC)** Determine the tasks associated with "Red X-limited" certification of AFSC 2W1XX personnel as it applies to the unit special certification roster and requirements of this publication.

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

2.8.1. Ensure compliance with AFI 90-803, AFI 91-202, *The US Air Force Mishap Prevention Program*, AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, and applicable 32-70XX and 48-XXX series AFIs necessary to perform the functions assigned to the squadron. **(T-1).**

2.8.2. Establish and administer squadron training programs IAW AFI 36-2201 and AFI 36-2650; monitor upgrade training, Personnel Reliability Program (PRP) status, and qualifications of assigned work center personnel; and, ensure MAJCOM Mandatory Course List (MMCL) requirements are met (if applicable). **(T-1).**

2.8.3. Ensure upgrade training and maintenance qualification programs emphasize quality and are not primarily focused on meeting minimum upgrade time frames. **(T-1).**

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*. **(T-1).**

2.8.6. Establish and manage squadron FCC program IAW **Chapter 11** of this instruction (if applicable). **(T-1).**

2.8.7. Protect and secure munitions as outlined in AFI 31-101, *Integrated Defense*. **(T-1).** The SQ/CC will ensure Intrusion Detection Systems (IDS) requirements are identified when

required to store munitions. **(T-1).**

2.8.8. Appoint custodians to manage the *Custodian Authorization/Custody Receipt Listing* (CA/ CRL) (R14) of assigned equipement IAW AFI 23-101. **(T-1).**

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*, AFI 36-3802, *Personnel Readiness Operations*, and AFMAN 10-401 V2, *Planning Formats and Guidance.* **(T-1).**

2.8.10. Recommend personnel for QA duty positions. **(T-1).**

2.8.11. Designate Flight CC/Chiefs. **(T-1).**

2.8.12. Ensure the UMD is consistent with the approved organizational structure. **(T-1).**

2.8.13. Ensure proper eTools configuration (operating system, virus checkers, etc.) is maintained. **(T-1).** The SQ/CC will coordinate with lead TODO/Functional System Admistrator (FSA) to resolve TO/eTools requirements that are not being satisfied.

2.8.13.1. Ensure licenses, certification, maintenance and security of eTools (hardware and software) is conducted IAW 33-series AFIs. **(T-1).**

2.8.14. Ensure members assigned to the DIT are qualified and provided sufficient time to accurately assess the data. **(T-1).**

2.9. Maintenance Supervision Responsibilities. Maintenance Supervision consists of the Operations Officer and Maintenance Superintendent (MX SUPT). As applicable, 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/Chiefs, Section NCOICs/Chiefs. The MX SUPT is responsible to the Operations Officer. Maintenance Supervision will:

2.9.1. Ensure adequate levels of supervision and manning are balanced across all shifts to safely and efficiently accomplish the mission. **(T-1).**

2.9.2. Ensure timely and accurate engine data is provided to the EM element for all applicable engines IAW **Chapter 15** of this instruction. **(T-1).**

2.9.3. Enforce procedures to prevent FOD and dropped objects IAW **Chapter 11** of this instruction. **(T-1).**

2.9.4. Monitor and recommend updates to local IPI requirements and forward IPI recommendations to QA IAW **Chapter 6** of this instruction. **(T-1).**

2.9.5. Ensure a sufficient number of personnel are qualified to perform mission critical tasks listed on the Special Certification Roster (SCR) **Table 11.1** in **Chapter 11** of this instruction. **(T-1).** Maintenance Supervision will review and approve individuals for addition to the SCR. **(T-1).**

2.9.6. Ensure aircraft systems and equipment are available to support unit training objectives. **(T-1).**

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-1).**

2.9.8. Review and evaluate management and production effectiveness. **(T-1).** Maintenance Supervision will analyze personnel and equipment performance history. **(T-1).** Initiate management actions to meet new workloads or correct reported/perceived deficiencies. **(T-1).**

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-1).** Maintenance Supervision will:

2.9.9.1. Participate in the maintenance planning cycle. **(T-1).**

2.9.9.2. Utilize the MxCAP2 model for the assigned MDS (if available). **(T-1).**

2.9.10. Ensure a squadron SERENE BYTE or PACER WARE response capability is available to support reprogramming requirements IAW AFI 10-703, *Electronic Warfare Integrated Reprogramming* (if applicable). **(T-1).**

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. **(T-1).**

2.9.12. Ensure squadron ASIP responsibilities are accomplished IAW **Chapter 11** of this instruction and AFI 63-140. **(T-1).**

2.9.13. Review and support the monthly (quarterly for ANG) Weapons Load Training (WLT) schedule. **(T-1).**

2.9.14. Review and support the monthly (quarterly for ANG) Weapons Load Training (WLT) schedule. **(T-1).**

2.9.14. **(AETC)** Manage deferred discrepancies IAW paragraph **11.36** of this instruction.

2.9.15. Review supply products to monitor supply discipline. **(T-1).**

2.9.15.1. Maintenance Supervision will manage DIFMs IAW AFI 23-101. **(T-1).**

2.9.15.1.1. MAJCOMs will establish maintenance turn-in times for non-DIFM assets in their supplements to AFI 23-101.

2.9.15.1.1. **(AETC) (Updated)** Units will manage non-DIFM assets and establish turn-in times locally.

2.9.16. Ensure Reports of Survey are completed for lost assets IAW AFMAN 23-220, *Reports of Survey for Air Force Property*, and AFI 23-101. **(T-1).**

2.9.17. Ensure Special Purpose Recoverables Authorized Maintenance (SPRAM) accounts are established IAW AFI 21-103, **Chapter 9** of this instruction, and AFI 23-101. **(T-1).**

2.9.18. Ensure reporting of materiel deficiencies IAW TO 00-35D-54, *USAF Deficiency Reporting, Investigating, and Resolution.* **(T-1).**

2.9.19. Monitor requirements for CTK, special tools, and SE and take necessary action to ensure availability, as required IAW **Chapter 8** of this instruction. **(T-1).**

2.10. Flight Commander/Flight Chief (Flight CC/Chief) or Aircraft Maintenance Unit (AMU) Officer in Charge (OIC)/Chief. The Flight CC/Chief or AMU OIC/Chief will:

2.10.1. Provide management and oversight and ensure each section is adequately resourced to efficiently execute their mission. **(T-1).**

2.10.2. Manage, distribute and adjust the flight's manpower to support the maintenance plan across all shifts. **(T-1).** The Flight CC/Chief or AMU OIC/Chief will:

2.10.2.1. Equitably distribute all levels of supervision based on manning and workload to supervise all duty periods. **(T-1).**

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-1).**

2.10.2.3. Manage additional duties, leaves, ancillary training, and rotate/assign personnel across shifts to balance the workload and minimize negative impacts on the work force. **(T-1).**

2.10.3. Execute the squadron's Mishap Prevention Program for the flight/work center IAW AFI 91-202 and **Chapter 1** of this instruction. **(T-1).**

2.10.3.1. Ensure all personnel obtain the required safety training, and document on the AF Form 55, *Employee Safety and Health Record,* or equivalent IAW AFI 91-202. **(T-1).**

2.10.4. Coordinate occupational and environmental health risk assessments with Bioenvironmental Engineering (BE) IAW AFI 91-203 to identify proper PPE and facility requirements. **(T-1).**

2.10.4.1. Monitor and ensure environmental and applicable health requirements, physicals and respirator training, initial and recurring requirements, etc., are accomplished when required for assigned personnel IAW AFI 91-203; AFI 48-137, *Respiratory Protection Program;* and AFOSH Standard 48-20, *Occupational Noise and Hearing Conservation Program*. **(T-1).**

2.10.5. Ensure organizational compliance IAW the installation ESOHMS/EMS Program. **(T-1).**

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

2.10.7. Ensure Material Potentially Presenting an Explosive Hazard (MPPEH) requirements in AFI 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 Ejection Rack (MER), Triple Ejection Rack (TER), pylons, launchers, rafts, bomb racks, ejection seats, fire suppression bottles, and gun systems and components. **(T-1).**

2.10.7.1. Flight CC/Chief or AMU OIC/Chief will ensure associated items are explosive free prior to being turned in to LRS or the Defense Logistics Agency Disposition Services (DLADS). **(T-1).**

2.10.8. Perform a weekly review of deferred maintenance in the MIS and coordinate with the Pro Super to schedule and/or validate task accomplishment. **(T-1).**

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

2.10.11. Ensure compliance with TO 33K-1-100-2-CD-1, *TMDE Calibration, Interval Technical Order, and Work Unit Code Reference Guide,* applicable Calibration Measurement

Summaries (CMS), and TO 00-20-14, in the use, care, handling, transportation and calibration of TMDE owned by the flight. **(T-1).**

2.10.12. Evaluate maintenance quality, personnel qualifications, and training of assigned personnel. **(T-1).**

2.10.13. Review/update flight IPI requirements listing every two years and route through Maintenance Supervision. **(T-1).**

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

2.10.15. Select personnel to perform special certification tasks IAW **Chapter 11** and **Table 11.1.** of this instruction and forward names to Maintenance Supervision for approval and addition to the SCR. **(T-1).**

2.10.16. Ensure training requirements are executed to support established training plan and individual AFSC Career Field Education and Training Plans (CFETP) IAW AFI 36-2201 and AFI 36-2650. **(T-1).**

2.10.17. Ensure Cross Utilization Training (CUT) requirements are identified as required by the unit mission IAW AFI 36-2650. **(T-1).**

2.10.17.1. Flight CC/Chief or AMU OIC/Chief will ensure CUT does not interfere with upgrade/qualification training. **(T-1).**

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-1).**

2.10.19. Provide inputs to maintenance and flying schedules, and execute scheduled maintenance plans. **(T-1).**

2.10.20. Establish flight/AMU-specific emergency action procedures to respond to disaster control and severe weather and forward to MOC. **(T-1).**

2.10.20.1. Review unit responsibilities pertaining to aircraft/SE movement and personnel evacuation IAW AFI 10-2501, *AF Emergency Management (EM) Program Planning and Operations.* **(T-1).**

2.10.21. Manage the flight/AMU's participation in the FOD and DOP program IAW **Chapter 11** of this instruction. **(T-1).**

2.10.22. Oversee the flight/AMU's FCC/Dedicated Crew Chief (DCC) Program (if applicable). **(T-1).**

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.* **(T-1).**

2.10.24. Assign section supervisors. **(T-1).**

2.10.25. Ensure proper asset management by reviewing MIS data records, the D23, *Repair Cycle Asset Management Listing*, and other pertinent products to minimize shortfalls. **(T-1).**

2.10.25.1. When applicable, ensure warranty items are loaded in MIS according to applicable directives. **(T-1).**

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

1).

2.10.26. Ensure repairable/non-repairable parts are promptly processed through repair channels within the required time frame IAW AFI 23-101. **(T-1).**

2.10.27. Approve requirements for bench stocks IAW qualification criteria in AFMAN 23-122, *Materiel Management Procedures*. **(T-1).**

2.10.28. Consolidate flight/AMU lists of items received in supply requiring functional check, operational programming, calibration or corrosion control/painting. **(T-1).**

2.10.28.1. Flight CC/Chief or AMU OIC/Chief will submit listing to the LRS Materiel Management Flight IAW TO 00-20-3. **(T-1). 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-1).**

2.10.30. Ensure Nuclear Weapons-Related Materiel (NWRM) is controlled IAW AFI 20-110. **(T-1).**

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. Squadron specific Pro Super responsibilities are outlined in the applicable chapter of this instruction.

2.12. /Chief. The Section NCOIC/Chief is responsible to the Flight CC/Chief or AMU OIC/Chief 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 AFI 91-202, AFI 91-203 and include any locally prescribed safety requirements (if applicable). **(T-1).**

2.12.2. Monitor, track, and ensure occupational safety, fire prevention, occupational and environmental health requirements are accomplished for assigned personnel. **(T-1).**

2.12.2.1. Section NCOIC/Chief will ensure Job Safety Training Outline is documented IAW AFI 91-202 (AF Form 55 or equivalent) for each assigned individual. **(T-1).**

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-1).**

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-1).**

2.12.5. Establish procedures and ensure configuration control for all applicable software required for the sections assigned systems. **(T-1).** Section NCOIC/Chief will:

2.12.5.1. Establish a software sub-account to allow the shop/section access to the Automated Computer Program Identification Number System (ACPINS) or equivalent system. **(T-1).**

2.12.5.2. Ensure technicians check ACPINS/equivalent system for software updates for assigned systems. **(T-1).**

2.12.5.3. Ensure software configuration control is maintained IAW TO 00-5-16,

Software Managers and User's Manual for the USAF Automated Computer Program Identification Number System (ACPINS) and equivalent systems are maintained by use of AF approved and authorized publications. **(T-1).**

2.12.6. Perform production and supervisory inspections. **(T-1).**

2.12.7. Handle classified parts/materiel in accordance with AFI 23-101. **(T-0).**

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-1).**

2.12.8.1. Section NCOIC/Chief will close, reschedule, or defer all events beyond their scheduled start date and time (e.g., IMDS-CDB screen #100/380 and G081 screen #8069/9129A/67033). **(T-1).**

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 G081 Screen #67137). **(T-1).**

2.12.10. Ensure all personnel assigned to nuclear equipped units annotate the Work Center Event (WCE) with the statement "Two-Person Concept Applies" IAW AFI 21-204 and applicable 91-series AFIs. **(T-1).**

2.12.11. Validate scheduled aircraft document reviews using applicable MIS/records check package and automated aircraft forms IAW **Chapter 15** of this instruction. **(T-1).**

2.12.12. Develop and manage the Work Center Training Program. **(T-1).** The Section NCOIC/Chief will:

2.12.12.1. Evaluate the quality of maintenance, training, and personnel qualifications, track training requirements and ensure training documentation is complete and accurate. **(T-1).**

2.12.12.2. Conduct On the Job (OJT) training/certifying as required. **(T-1).**

2.12.13. Review and recommend changes for maintenance tasks requiring IPIs to the Flight CC/Chief or AMU OIC/Chief. **(T-1).**

2.12.14. Review, evaluate, and take corrective action based on QA and other inspection reports. **(T-1).**

2.12.15. Ensure all required work center publications necessary for the work center to meet its functional requirements are current and available for use. **(T-1).**

2.12.16. Ensure section personnel coordinate all flightline maintenance with the Flightline Expediter. **(T-1).**

2.12.17. Manage CTK and supply programs (e.g., bench stocks, and operating stocks) IAW **Chapter 8** and **Chapter 9** of this instruction. **(T-1).** Section NCOIC/Chief will:

2.12.17.1. Ensure sections are organized with tools, equipment and materiel as close to the Point of Maintenance (POMX) as possible, as approved by the Flight CC/Chief or AMU OIC/Chief, without jeopardizing accountability and control procedures. **(T-1).**

2.12.17.2. Ensure the *Bench Stock Review Listing* (M04) is reviewed monthly and all recommendations are adjudicated to most efficiently meet mission needs. **(T-1).**

2.12.18. Ensure custodial responsibilities are accomplished on all assigned equipment IAW AFI 23-101, AFI 23-111, and AFMAN 23-122. **(T-1).**

2.12.19. Manage the section's Repair Cycle Program. **(T-1).** The Section NCOIC/Chief will review the *Repair Cycle Asset Management Listing* (D23) and other pertinent supply products to ensure proper supply discipline daily. **(T-1).**

2.12.20. Establish procedures to control, store, and manage Alternate Mission Equipment (AME); Maintenance, Safety, and Protective Equipment (MSPE); and -21 equipment IAW AFI 21-103. **(T-1).**

2.12.21. Identify items requiring calibration (does not include TMDE) or operational check before installation and provide a list of these items to the Flight CC/Chief or AMU OIC/Chief. **(T-1).**

2.12.22. Recommend individuals for addition to the SCR to the Flight CC/Chief or AMU OIC/Chief. **(T-1).**

2.12.23. Participate in and enforce the Bad Actor Program IAW TO 00-35D-54. **(T-1).**

2.12.24. Manage Hazardous Material (HAZMAT) and ESOH items IAW AFI 32-70XX-series instructions, and AFI 90-803. **(T-1).**

2.12.24.1. The Section NCOIC/Chief will ensure HAZMATs are used IAW TOs and conform to indicated Military Specifications (MIL-Spec) and monitor the Qualified Products List (QPL)/Qualified Product Database (QPD) for changes to specified HAZMAT. **(T-1).**

2.12.25. Ensure assigned Nuclear Certified Equipment (NCE) (applies to both nuclear and non-nuclear tasked units) comply with requirements outlined in AFI 63-125, *Nuclear Certification Program*, and associated MAJCOM supplements. **(T-1).**

2.12.26. Ensure Dull Sword reports are submitted for nuclear deficiencies IAW AFMAN 91-221, AFI 91-204. **(T-1).**

2.12.27. Ensure aircraft -6 TO system, inspections, TCTOs and aircraft functional checks (except Phase (PH)/ Hourly Post-flight (HPO)) are accomplished as required to prevent overdue or over flight of equipment. **(T-1).**

2.12.28. Comply with TCTO performing work center requirements below:

2.12.28.1. Report all deficiencies in technical instructions and applicability to the TCTO managing agency and QA. **(T-1)**.

2.12.28.2. Attend TCTO planning meetings. **(T-1)**. Review the TCTO prior to the meeting and request clarification of any requirements from QA and the appropriate TCTO managing agency during the meeting.

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

2.12.28.4. Perform the inspection or modification procedures outlined in the TCTO and document results or findings in the MIS. **(T-1)**.

2.12.28.5. If an inspection TCTO generates a requirement for parts, the performing work center 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.

2.12.28.6. 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)**.

2.12.28.7. 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*. **(T-1)**.

2.12.29. **(Added-314AW)** Ensure on-duty personnel injuries/mishaps are reported as soon as possible, but no later than the start of the next duty day following the injury/mishap or upon a request for medical care.

2.12.29.1. **(Added-314AW)** Personnel injury/mishap notification procedures start with the person involved in the mishap or an individual having knowledge of the mishap. After notification from the involved party, the Section NCOIC/Chief initiates actions in accordance with the local quick reaction checklist.

Chapter 3

AIRCRAFT MAINTENANCE SQUADRON (AMXS)

3.1. General. The AMXS 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** of this instruction, Maintenance Supervision will:

3.2.1. Ensure standardized procedures and organizations among AMUs. **(T-1).**

3.2.2. Establish hot brake response procedures in coordination with base support agencies (i.e. Fire Emergency Services and CDDAR Team). **(T-1).**

3.2.3. Monitor the squadron FCC program, if applicable. **(T-1).**

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). **(T-1).**

3.2.6. Publish procedures covering the storage, control, and handling of starter cartridges (if applicable). **(T-1).**

3.2.7. Provide input to MMA for the monthly metrics report to MAJCOM. **(T-2).**

3.2.8. Provide input for development of the annual maintenance plan IAW **Chapter 15** of this instruction. **(T-1).**

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.

3.4. AMU OIC/Chief Responsibilities. Allocates personnel and resources to the production effort. In addition to the common responsibilities in **Chapter 2** of this instruction, the AMU OIC/Chief will:

3.4.1. Review PRDs daily and ensure proper maintenance actions are taken. **(T-1).**

3.4.2. Review all aborts and ensure proper maintenance actions are taken. **(T-1).**

3.4.3. Monitor aircraft PH/Isochronal (ISO)/Periodic/Home Station Check (HSC) flow. **(T-1).**

3.4.4. Ensure a sufficient number of personnel are engine run qualified to meet maintenance requirements IAW **Chapter 11** of this instruction. **(T-1).**

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 will:

3.5.1. Make the final determination on aircraft status. **(T-1).**

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** of this instruction. **(T-1).**

3.5.3. Participate in developing and executing the monthly and weekly flying and maintenance schedules/plans. **(T-1).**

3.5.4. Manage the maintenance production effort by assigning priorities to meet the flying and maintenance schedules. **(T-1).**

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.

3.5.5. Fully understand actions required by the squadron under OPLAN 8010 or contingency plans. **(T-1).**

3.5.5.1. Develop, ensure currency of, and direct the aircraft generation sequence. **(T-1).**

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 AFI 10-2501. **(T-1).**

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-1).**

3.5.7. Determine, track, and report aircraft/systems status IAW AFI 21-103. **(T-1).**

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-1).**

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-1).**

3.5.10. Inform MOC of the maintenance effort and coordinate with MOC, Flightline Expediter, and other squadrons for support. **(T-1).**

3.5.10. **(AETC)** Coordinate tail number changes (interchanges and spares) to scheduled sortie or mission lines with maintenance PS&D and operations scheduling, and inform Maintenance Operations Center (MOC) of any changes.

3.5.10.1. Pro Super will provide MOC with aircraft/systems status updates as required. **(T-1).**

3.5.10.1. **(AETC)** Update the MOC on any aircraft discrepancy that affects NMC or PMC status.

3.5.11. Verify aircraft/system is in an authorized status IAW MDS-specific Minimum

Essential Subsystem List (MESL) and AFI 21-103 prior to verifying MICAP conditions. **(T-1).**

3.5.12. Verify aircraft weapons/load configurations are authorized IAW AFI 63-104. **(T-1).**

3.5.13. **(Added-AETC)** Assess the suitability of aircraft with repeat, recur, and cannot duplicate (CND) discrepancies for continued flight.

3.5.14. **(Added-314AW)** Ensure Repeat/Recurring and CND Discrepancies are cleared as follows:

3.5.14.1. **(Added-314AW)** First repeat/recurrence: A 7-skill level or higher and/or civilian equivalent technician will review the discrepancy and corrective action(s). If all actions were appropriate, the reviewer will sign off the discrepancy IAW TO 00-20-1.

3.5.14.2. **(Added-314AW)** Second repeat/recurrence: All second repeat/recur discrepancies will require a separate entry into G081 and the AFTO Form 781A. The entry will have a Red Dash symbol and the following statement: "The Pro Super will review the discrepancy and all corrective actions to determine if any further action is required". If all actions were appropriate, the Pro Super will sign off the discrepancy IAW TO 00-20-1.

3.5.14.3. **(Added-314AW)** Third repeat/recurrence: All third repeat/recur discrepancies will require a separate entry into G081 and the AFTO Form 781A. The entry will have a Red Dash symbol and the following statement: "The OIC/Superintendent will review the discrepancy and all corrective actions to determine if any further action is required." The AMU OIC/Superintendent will thoroughly review the discrepancy and all corrective actions and consider forming a "Tiger Team" of highly-qualified technicians to troubleshoot and correct the discrepancy. If all actions were appropriate, the AMU OIC/Superintendent will sign off the discrepancy IAW TO 00-20-1.

3.5.14.4. **(Added-314AW)** When a discrepancy cannot be duplicated, the technician will document "Cannot Duplicate" or "CND" in the corrective action block, and ensure the symbol is cleared IAW TO 00-20-1.

3.5.15. **(Added-314AW)** Ensure the following steps are taken in the event of a mishap/incident.

3.5.15.1. **(Added-314AW)** The owning AMU will initiate a 314 MXG Form 80, Cost Estimate Worksheet (**Attachment 29**), to include materials and labor rate and route to the QA office by the next duty day. The Pro Super will ensure the cost estimate is accurate and completed as soon as possible. If the initial Cost Estimate Worksheet cannot be completed by the next duty day, the Pro Super will notify QA with the reason for the delay and provide an estimated time of completion.

3.5.15.2. **(Added-314AW)** Ensure all wildlife strikes are reported in accordance with local Quick Reaction Checklist.

3.6. Flightline Expediter. The Flightline Expediter ensures maintenance is accomplished, coordinates on all aircraft maintenance actions, and is assigned for each AMU Aircraft Section. Flightline Expediters work for the Pro Super and manage, control and direct resources to accomplish maintenance. Flightline Expediters will:

3.6.1. Remain on the flightline, to the fullest extent possible, when maintenance personnel are performing flightline maintenance and launching/recovering aircraft. **(T-1).** Flightline Expediters will not perform production inspections (e.g., sign off "Red Xs" and perform IPIs). **(T-2).**

3.6.1. **(AETC)** The MXG/CC may authorize flightline expeditors to clear Red Xs/IPIs, but Red Xs must be cleared IAW TO 00-20-1 and the inspector must have the opportunity to verify the correct completion of the work.

3.6.2. In conjunction with the Weapons Expediter, ensure requirements in AFI 21-201 for flightline munitions accountability are strictly followed. **(T-1).**

3.6.3. Develop and implement disaster control duties and squadron responsibilities pertaining to aircraft/SE movement and personnel evacuation IAW AFI 10-250. **(T-1).**

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, Minimum Essential Subsystem List, Quick Reference List (QRL) (if developed), a Work Unit Code (WUC) manual, and tracking device for aircraft status. **(T-1).**

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. **(T-1).** Ensure devices depicting aircraft status comply with program security requirements. **(T-1).**

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** of this instruction. **(T-1).**

3.6.6. Ensure aircraft OAP sampling is completed IAW AFI 21-124 and applicable technical data. **(T-1).**

3.6.7. Ensure parts are ordered with appropriate priorities and relay document numbers to the Pro Super, MOC, and appropriate technicians. **(T-1).**

3.6.8. Request support beyond AMU capability to the MOC. **(T-1).**

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-1).**

3.6.10. Ensure timely and accurate aircraft status (e.g., discrepancies, WUC/Logistics Control Number (LCN), ETIC, job completion) and configuration status is reported IAW AFI 21-103 to the Pro Super and MOC. **(T-1).**

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-1).**

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. (AETC) Aircrew and Maintenance Debriefing Section. When debriefing an aircrew after the last flight of the day, ensure all previous sorties and missions not debriefed earlier due to a landing status code of 1 or 2 are included in the "last flight of the day" debrief.

3.7.1. Use aircraft fault reporting manuals and include fault codes when documenting discrepancies in the aircraft forms. **(T-1).** Debrief Section will use automated debrief tools such as the Computerized Fault Reporting System. **(T-2).**

3.7.1.1. Debrief Section will develop aircrew debriefing guides. **(T-1).** QA will review and approve debriefing guides every two years. **(T-1).**

3.7.1.1. **(AETC)** Units may implement debriefing guides developed by the respective weapon system lead command.

3.7.2. Implement procedures for reporting dropped objects, aborts, In-Flight Emergencies (IFEs), flight control impoundment actions, and engine malfunctions. **(T-1).**

3.7.3. Use operational utilization update screens in MIS to enter flying time information. **(T-1).** 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-1).**

3.7.4. Check AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance Document* to ensure updates to airframe time and applicable servicing data (e.g. 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-1).**

3.7.5. Input discrepancy and deviation information, utilization, and applicable flight data (to include landing status, system capability IAW AFI 21-103 and other applicable cause codes) into the MIS. **(T-1).** 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 (PRD), and repeat/recur information is captured. Use the specific line/mission number published in the weekly schedule when inputting debrief data into the maintenance information system (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-1).** Debrief Section will ensure previously documented discrepancies are reviewed and identified as repeat/recurs. **(T-1).**

3.7.6.1. Debrief Section will identify repeat/recurs on automated debriefing sortie recaps and on the AFTO Form 781A. **(T-1).**

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.

3.7.6.3. **(Added-314AW)** Repeat Discrepancy: One which occurs on the next sortie or attempted sortie after corrective action has been taken and the system or subsystem indicates the same malfunction when operated.

3.7.6.4. **(Added-314AW)** Recurring Discrepancy: One that occurs on the second through fourth sortie or attempted sortie after corrective action has been taken and the system or subsystem indicates the same malfunction when operated.

3.7.6.5. **(Added-314AW)** Cannot-Duplicate discrepancies: Any discrepancy that cannot be duplicated by maintenance personnel.

3.7.6.6. **(Added-314AW)** For all potential repeat/recur discrepancies identified, debrief section will consult with the Pro Super for proper classification. If deemed to be a repeat/recur, enter the discrepancy in G081 and type "REPEAT" or "RECUR" and the job control number of the initial write-up in the discrepancy block. Stamp "REPEAT" or "RECUR" in RED in the discrepancy block of the AFTO Form 781A, *Maintenance Discrepancy and Work Document*.

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-1).**

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 MDS MESL IAW AFI 21-103. **(T-1).**

3.7.9. Enter one of the deviation cause codes (**Table 3.3**) into the MIS to indicate the reason for the deviation and the agency that caused a deviation IAW AFCSM 21-574, *Automated Debriefing* (**https://ceds.gunter.af.mil/Publications.aspx?AIS=35**). **(T-1).**

3.7.9. **(AETC)** Deviation cause code "Xxx" (**Table 3.3**) will not be used without prior approval from Maintenance Management Branch (HQ AETC/A4MM). **(T-2).**

3.7.10. Collect and submit ASIP aircraft usage data IAW the MDS specific TOs, AFI 63-140, and **Chapter 11** of this instruction. **(T-1).**

3.7.11. If MIS is not available, use blank printouts as manual documentation method. **(T-2).** 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-1).**

Table 3.1. Landing Status Codes.

CODE	STATUS
Code 0	Ground Abort
CODE	STATUS

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 Not 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 requirements determine if aircraft status is NMC or 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	STATUS

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** of this instruction for FCC responsibilities.

3.8.1. Aircraft Technician Responsibilities. Aircraft Technicians manage and maintain assigned aircraft. Aircraft Technicians will:

3.8.1.1. 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. **(T-1).**

3.8.1.2. Inventory on-aircraft -21 equipment when this responsibility is not assigned to another function. **(T-1).**

3.8.1.3. Perform engine operation when qualified and certified. **(T-1).**

3.8.2. Dedicated Crew Chief (DCC) Program. The DCC program is optional with MXG/CC approval. 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 (ADCC) 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, should:

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** of this instruction, the Specialist Section Chief will ensure accurate and timely pod and SE status is updated or verified daily in Reliability, Availability, Maintainability, for Pods (RAMPOD) IAW AFI 21-103 for pods under the control of the AMXS. **(T-1).**

3.9.2. Avionics Specialists will:

3.9.2.1. Perform PACER WARE, SERENE BYTE message, or TCTO reprogramming of avionics systems. **(T-1).**

3.9.3. Electronic Warfare (EW) specialist functions may be combined with the avionics specialists. EW Specialists will:

3.9.3.1. Maintain inventory control of all installed Electronic Counter Measure (ECM) AME and ECM pods. **(T-1).**

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-1).**

3.9.3.3. Load contingency and training configuration settings in ECM pods, infrared countermeasures systems, and RWR/RTHW systems, unless the equipment is assigned to another section. **(T-1).**

3.9.4. Propulsion Specialists will:

3.9.4.1. Troubleshoot, repair, and replace aircraft propulsion systems and components. **(T-1).**

3.9.4.2. Perform engine flightline blade blending. **(T-1).**

3.9.4.3. Perform flightline engine borescope inspections. **(T-1).**

3.9.4.4. **(Added-AETC)** Ensure intermediate maintenance of T56 engines is limited to reduction gearbox, torque meter, accessory-drive housing, turbine, and external mounted components. **Note:** Quick Engine Change (QEC) removal is not an Intermediate Maintenance task.

3.9.4.5. **(Added-AETC)** Accomplish J85 Retained Task Requirements IAW TO 1T-38-2-6, 2J-J85-116 series and 2J-J85-111-1 on installed and removed engines. Refer to paragraph **13.6.3** for additional requirements.

3.9.5. Electro/Environmental (E&E) Specialists will:

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) and components. **(T-1).**

3.9.5.2. Remove and install In Flight Refueling (IFR) carts and fire bottle squibs. **(T-1). 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-1).**

3.10. Weapons Section. The Weapons Section is responsible for supporting flightline munitions loading/unloading and weapon maintenance operations. The Weapons Section may consist of two elements: Weapons Loading and Weapons Maintenance. Weapons Section personnel are trained and utilized in both functions as needed to maximize both mission capability and develop individual functional expertise. The Weapons Section may be comprised of a Weapons Section NCOIC/Chief, Weapons Expediters, an NCOIC for Weapons

Loading, Load Crew personnel and a NCOIC for Weapons Maintenance and Weapons Maintenance personnel. Assistant NCOICs are authorized per applicable manpower standards. When units are TDY/deployed where no AFSC 2W100 is assigned, the senior ranking 2W1 is the WWM. MAJCOMs will determine applicable portions of the Weapons Section responsibilities for contract organizations. Contract units are organized according to their respective contract. **Exception:** See ANG supplement for details on the Weapons Section organizational structure within ANG.

3.10. (AETC) Weapons Section. In AETC, military units are responsible for weapons section non-commissioned officer in charge (NCOIC), weapons loading element, and weapons maintenance element responsibilities outlined in AFI 21-101 and this supplement. Only military units are bound to the organizational requirements of AFI 21-101 and this supplement. Contract units will be organized according to their respective contract. **Note**: See paragraph **3.10.6** for contract weapons and armament function responsibilities.

3.10.1. Weapons Section NCOIC/Chief. In addition to the common section NCOIC responsibilities in **Chapter 2** of this instruction**,** the Weapons Section NCOIC/Chief will:

3.10.1.1. Assist the WWM in recommending distribution of wing 2W1X1 personnel. **(T-3).**

3.10.1.2. Review status of weapons section 2W1's positions on Unit Manpower Personnel Roster (UMPR) and advise WWM and AMU leadership on personnel concerns. **(T-3).**

3.10.1.3. Monitor load crew and PRP status (if applicable) and equipment and tester availability. **(T-2).** The Weapons Section NCOIC/Chief will advise the AMU OIC/Chief and WWM regarding factors which affect training, weapons loading or maintenance capabilities, personnel actions affecting manning levels (special duty, reassignment, etc.) or other key weapons related issues. **(T-2).**

3.10.1.4. In coordination with the WS Superintendent, identify and select the best qualified personnel to be loading standardization and lead crew members. **(T-2).**

3.10.1.5. Ensure the minimum UCML/TTML number of load crews are formed, trained and certified to perform the mission. **(T-1).** Maintain load crew integrity during training and evaluations to the maximum extent possible.

3.10.1.6. Ensure personnel receive a documented supervisory review and complete required prerequisite training before entering initial load crew certification or performing flightline operations (e.g., cockpit familiarization, firefighting, AGE). **(T-2).**

3.10.1.7. Annually review UCML/TTMLs and the unit tasked UTCs (for equipment and personnel) and UMD to identify any disconnects or problems. **(T-1).**

3.10.1.8. Maintain a visual aid or automated product depicting the current status of assigned load crews and members. **(T-1).** Printed products are not required if computer systems are networked or modem-interfaced with the WS load crew management system for on-line updates.

3.10.1.9. Ensure weapons load training aircraft requirements and load crew proficiency evaluation schedules, in coordination with the WS Superintendent, are

developed and included in the weekly and monthly maintenance plans. **(T-2).**

3.10.1.10. Review and apply the Weapons Standardization Program, integrated loading procedures, dual loading procedures (if applicable), and be familiar with local munition loading/maintenance areas. **(T-1).** Utilize the Weapons Load Crew Management Tool (WLCMT). **(T-2).**

3.10.1.11. Review all AF Form 2419 load crew training, certifications, and decertification documentation. **(T-2).**

3.10.1.12. Ensure overall quantity of load crew CTKs are no less than the minimum number of required load crews, including lead crews, listed on the UCML. **(T-1)**. For bomber units and those that support operational test and evaluations, RPA units, or training operations, coordinate with the WWM in determining the number of required load crew CTKs.

3.10.1.13. Ensure a checklist for each UCML/TTML munition is on hand for each assigned load crew CTK. **(T-1). Exception:** Not applicable in units using electronic media devices (e.g. F-22 PMA, F-35); test units are authorized reduced quantities.

3.10.1.14. Review all AFTO Form 22, *Technical Manual I Change Recommendation and Reply*, or Technical Order Data Change Requests (TODCR) prior to submission. **(T-1).** The Weapons Section NCOIC/Chief will route all weapons loading related requests (i.e. -16, -33 Tos, and F-22A TOD) to WS and WWM for review. **(T-2).**

3.10.1.15. Ensure Locally Manufactured Equipment (LME) and Munitions Materiel Handling Equipment (MMHE) meet requirements outlined in **Chapter 8** of this instruction. **(T-1).**

3.10.1.16. Ensure Tamper Detection Indicators for nuclear applications are controlled IAW AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs*. **(T-1).**

3.10.1.17. Track all assigned AME and Normally Installed Equipment (NIE). **(T-1).** If installed, track in MIS by aircraft tail number and position. Track uninstalled equipment in either the MIS or another equivalent means approved by the WWM.

3.10.1.18. Ensure positive control/accountability/serviceability for suspension equipment accessories (cables, fittings, adapters, etc.). **(T-1).**

3.10.1.19. Coordinate with WS Superintendent to ensure MPRL and recertification capability exists on TDYs where live munitions will be expended and on deployments exceeding 30 days. **(T-1).** Exceptions must be approved by the WWM. **(T-3). Exception:** Not applicable to helicopter/CV-22 units.

3.10.1.20. Establish a munitions custody account for dummy test rounds (as applicable, if not tracked by Armament Flight). **(T-3).**

3.10.1.21. Ensure prior to loading live and inert munitions that all requirements in **Chapter 10** of this instruction have been met and the WWM is aware of any changes that affect the munitions policy requirements. **(T-1).**

3.10.1.22. Notify the WWM within 24 hours of any significant issues such as

dropped/hung munitions, aircraft armament system or equipment malfunctions and mishaps. **(T-3).** Take appropriate follow up actions and provide updates until all corrective actions have been taken. Monitor actions taken by supporting agencies on dispensers, suspension equipment, training munitions, etc., which were involved with specific system malfunctions.

3.10.1.23. Report weapons release reliability and gun fire-out rates; along with corrective actions, if required, to the WWM by the first of each month for the previous month. **(T-3).**

3.10.1.24. Provide WWM status on authorized/on-hand quantities and serviceability of AME/NIE/WRM, armament testers, support equipment, and personnel assigned (to include physical profiles/security status, and mal-assigned if applicable) by the first of each month. **(T-3).**

3.10.1.25. Ensure requirements for submitting AFTO Form 375 on all weapons support equipment identified in TO 35-1-24, are accomplished. **(T-3).**

3.10.1.26. Establish, monitor, and verify supervisory inspections on elements assigned with equipment and CTK's are completed. **(T-3).**

3.10.1.27. **(Added-AETC)** Maintain current copy of task assignment listing (TAL) for assigned aircraft. Ensure individuals review TAL and applicable –16/-33 series TOs prior to reporting for initial and recurring weapons load training. **(T-2).**

3.10.1.28. **(Added-AETC)** Retain copies of completed AF Forms 2430, *Specialist Dispatch Control Log* (or equivalent) on file for six months and AF Form 2434, *Munitions Configuration and Expenditure Document* (or equivalent) for one year. **(T-2).**

3.10.1.29. **(Added-AETC)** Ensure aircraft -6 armament system, AME, NIE inspections, TCTOs and aircraft functional checks (except phase/ Hourly Post-flight (HPO)) are accomplished as required to prevent overdues or over flight of equipment.

3.10.1.30. **(Added-AETC)** Inspect 25 percent of weapons section consolidated tool kits (CTKs), armament test and support equipment for serviceability, at least quarterly, and initiates corrective action as required. **(T-2).** Schedule and track inspections to ensure 100 percent of CTKs, test, and support equipment will be checked over a one-year timeframe. **(T-2).** Document inspection results.

3.10.2. **Weapons Expediter.** The Weapons Expediter reports to the Weapons Section NCOIC/Chief and is responsible for managing all munitions loading and armament systems maintenance operations. The Weapons Expediter must be, as a minimum, a 2W171 and knowledgeable of the assigned MDS maintenance and loading tasks. **(T-1).** The Weapons Expediter coordinates maintenance priorities with the Pro Super and Flightline Expediters. The Weapons Expediter will:

3.10.2.1. Remain on the flightline during all munitions loading/unloading. **(T-3).**

3.10.2.2. Remain on the flightline to the maximum extent possible, when maintenance operations are being performed and during launch and recovery of aircraft. **(T-3).** The Weapons Expediter will:

3.10.2.2.1. Monitor the safety of flightline weapons operations. **(T-0).**

3.10.2.2.2. Supervise and provide technical guidance to individuals during weapons release system fault isolation, troubleshooting, and maintenance actions as needed. **(T-3).**

3.10.2.2.3. Conduct weapons production and supervisory inspections. **(T-2).**

3.10.2.3. Maintain copies of the following items in the Weapons Expediter's vehicle (if assigned): flying schedule, emergency action checklists, base grid map with cordon overlay identifying flightline Live Ordnance Loading Area (LOLA), IPI listings, MESL, QRL (if developed) and/or WUC manual. **(T-3).**

3.10.2.4. Track status and configuration of aircraft, suspension equipment, and weapons. **(T-1).** Ensure 100 percent documented accountability of in use AME/NIE by location and status, whether installed or stored. **Note:** ARC Weapons Expediters need not track accountability of stored AME if being tracked by the Weapons Section or Armament Flight.

3.10.2.5. Maintain a separate daily AF Form 2430, or locally produced standardized form with WWM approval, for each shift. **(T-1).** The Weapons Expediter will ensure all required documentation is complete and accurate. **(T-1).** As a minimum, the following fields of the AF Form 2430 will be completed: "AS OF" (date), "JOB CONTROL" (filled out for maintenance actions that have a JCN, e.g., 18-month inspections, PRDs), not required for weapons loading tasks)), Aircraft "(ACFT)/TRAINER"(MDS), "SERIAL" (tail number/serial number of component), "TIME" (("Required" = start time, "Dispatched" = time completed, "Completed" = status code, (e.g., C/W, C/F, CANX)), "SPECIALIST(S) DISPATCHED" (load/maintenance crew number/name), "DISCREPANCY & REMARKS" (discrepancy/task performed). **(T-1).** Transcribe any actions not complied with or cancelled to the next shift's AF Form 2430.

3.10.2.5.1. Units may maintain one single AF Form 2430 (or equivalent) for weekly scheduled maintenance, in addition to the daily shift AF Form 2430 (or equivalent). Transcribe any actions not complied with or cancelled to the next week's scheduled maintenance AF Form 2430 (or equivalent).

3.10.2.6. Manage munitions assets expenditures as follows:

3.10.2.6.1. Fill out an AF Form 2434, *Munitions Configuration and Expenditure Document*, or locally produced form, on all aircraft configured with munitions (includes impulse cartridges and chaff/flare). **(T-1).** Record by serial number and location or position all armament related AME, NIE, or support equipment from which munitions items are expended. **Note:** Record NIE serial numbers only when munitions are loaded directly on the NIE versus the AME.

3.10.2.6.1. **(AETC)** Document number of firings for applicable AME and guns by equipment serial number and record the action in the MIS (for example, rounds totalization, 30 days after fire, or 100 firing inspections). **(T-2).** An AF Form 2434 or locally produced form is not required for aircraft loaded for alert or exercises not involving flight. Locally produced forms will be coordinated through the munitions activity and approved by the MXG/CC.

3.10.2.6.2. Comply with flightline munitions accountability requirements outlined

in AFI 21-201. **(T-1).** The Weapons Expediter will provide copies of final expenditure documents to PS&D, the Munitions Flight and Armament Flight. **(T-1)**.

3.10.2.7. Coordinate with the MOC or Munitions Control for the delivery and pick-up of munitions items. **(T-3).**

3.10.2.8. Inspect at least 25 percent of conventional loaded aircraft to meet scheduled front-lines (and spares) to validate safety/security of aircraft prior to flight; document inspection on AF Form 2430 (or equivalent). **(T-1).** If negative trends are apparent, identify the trend and inspect remaining flyers prior to flight. Inform Weapons Section NCOIC/Chief on the negative trend that is identified during inspection.

3.10.2.9. Ensure inspection requirements are carried forward/documented for all items that have specific periodic inspections (e.g., Electronic Control Units, Gun System Control Panel). **(T-1).** Inform PS&D when actions affect the aircraft inspection schedule.

3.10.2.10. Ensure aircraft and equipment forms and MIS documentation is complete, accurate and accomplished. **(T-1).**

3.10.2.11. Coordinate accomplishment of all scheduled and unscheduled maintenance and inspections with the Pro Super. **(T-3).** Inform the Pro Super of all start and stop times, status changes, delays and extensions.

3.10.2.12. Ensure all mission specific safing gear is controlled and accounted for to preclude loss and potential FOD. **(T-1).**

3.10.2.13. Ensure Captive Air Training Munitions (CATM) missile devices are managed IAW the munitions policy requirements outlined in **Chapter 10** of this instruction (if applicable). **(T-1).**

3.10.2.14. Track acceleration monitor assemblies by serial number, showing aircraft tail number and installed position. **(T-3).**

3.10.3. **Weapons Loading Element.** The Weapons Loading Element is responsible for munitions loading and unloading during daily aircraft training, operational test and evaluations, and contingency operations. If a Weapons Maintenance Element is not formed, the Weapons Loading Element is responsible to perform all on-equipment armament system maintenance. The Weapons Loading Element consists of an NCOIC and Weapons Load Crews, (Weapons Load Team Chief and load crew members).

3.10.3.1. Weapons Loading Element NCOIC. The Weapons Loading Element NCOIC is responsible to the Weapons Section NCOIC/Chief. If an NCOIC of loading is not designated, the requirements below will be the responsibility of the Weapons Section NCOIC/Chief. The Weapons Loading Element NCOIC will:

3.10.3.1.1. Advise Weapons Section NCOIC/Chief on load crew status and load crew member concerns and issues related, but not limited to training, certification, qualification, and load crew personnel issues. **(T-3).**

3.10.3.1.2. Review and become familiarized with the Weapons Standardization Program, integrated loading procedures, dual loading procedures (if applicable), and local munition loading and maintenance areas. **(T-3).**

3.10.3.1.3. Review AF Form 2419 on load crew training, certifications, and decertification documents. **(T-3).**

3.10.3.1.4. For nuclear tasked units, ensure all loading supervisors and load crew members are trained to perform weapon system fault isolations and troubleshooting IAW AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapon Systems*. **(T-1).**

3.10.3.2. Weapons Load Team Chief. The Weapons Load Team Chief is responsible to the Weapons Expediter for munitions loading and armament systems maintenance (if applicable). Weapons Load Team Chiefs are typically NCOs; however, Senior Airmen may perform conventional munition load team chief duties with concurrence of the WWM in writing. **(T-1).** The Weapons Load Team Chief will:

3.10.3.2.1. Supervise the loading and/or unloading of only one aircraft at a time. **(T-1).**

3.10.3.2.2. Control all actions during the munitions load/unload operations environment and ensure the number of personnel in the area during explosives handling operations are kept to a minimum. **(T-1).** The Weapons Load Team Chief may authorize other individuals to work on the aircraft provided they are briefed on emergency procedures, perform no maintenance or inspections which would jeopardize safety, hamper munition loading operations, or violate technical data. Access to the cockpit and/or applying power to the aircraft by other than the load crew during loading operations is prohibited unless coordinated through and approved by the Weapons Load Team Chief. **Exception:** During simultaneous loading/unloading and refueling during Concurrent Servicing Operations (CSOs), the Concurrent Servicing Supervisor (CSS) is in charge and should still coordinate any aircraft activity with the Weapons Load Team Chief (See **Chapter 11** of this instruction for CSO guidance).

3.10.3.2.3. Ensure compliance with AFI 91-101 and AFI 91-107 when responding to maintenance actions on nuclear loaded aircraft. **(T-1).**

3.10.3.3. Certified weapons loading personnel will load and unload munitions in support of aircraft operations. **(T-1).**

3.10.3.3.1. Certified weapons loading personnel may be task qualified to perform on-equipment armament maintenance, per direction of Weapons Section Chief.

3.10.4. **Weapons Maintenance Element.** The Weapons Maintenance Element is responsible for all on-equipment weapons maintenance, to include fault isolation and troubleshooting. The Weapons Maintenance Element may be required to perform munition loading/unloading operations as determined by Weapons Section NCOIC/Chief. **Note:** If the Weapons Maintenance Element is not formed, these tasks are performed by loading personnel.

3.10.4.1. Weapons Maintenance Element NCOIC. The Weapons Maintenance Element NCOIC is responsible to the Weapons Section NCOIC/Chief. The Weapons Maintenance Element NCOIC will:

3.10.4.1.1. Advise Weapons Section NCOIC/Chief on all maintenance personnel issues (training, certification, qualification, and personal etc.). **(T-3).**

3.10.4.2. Weapons maintenance personnel are responsible to the Weapons Expediter for all armament systems maintenance and munition loading (if applicable). **Note:** Weapons maintenance personnel may be certified as load crew members, per direction of Weapons Section NCOIC/Chief. Weapons maintenance personnel will:

3.10.4.2. **(AETC)** If accomplished, transfer and acceptance inspections will include a parts integrity inspection and a complete electrical and mechanical checkout of every installed NIE and AME. **(T-2). Note**: Installed equipment (NIE or AME) need not be removed for acceptance or transfer inspections unless a malfunction, defect, overdue inspection discrepancy is detected or serial number verification requires removal.

3.10.4.2.1. Install and remove armament related suspension equipment, launchers, adapters, etc., on assigned aircraft to support configuration requirements for daily and contingency operations. **(T-1).**

3.10.4.2.2. Install and remove all armament AME and NIE to Facilitate Other Maintenance (FOM) or for repair action. **(T-3).**

3.10.4.2.3. Maintain equipment historical records (AFTO Form 95) for AME, and weapons system NIE, if equipment is not assigned to Armament Flight. **(T-3).**

3.10.5. **Non-Standard Weapons** (e.g. F-35, CV-22/Helicopter/RPAs)**.** Non-standard units will organize into a consolidated Weapons Section, which will be a composite of both the Weapons Section and Armament Flight. **(T-3).** Contract units are organized according to their respective contract. The Weapons Section NCOIC/Chief must also comply with the applicable requirements of the section chief responsibilities of **Chapter 2** of this instruction, to include **paragraph 3.10** Weapons Section and **paragraph 4.6** Armament Flight responsibilities. **(T-3). Note:** When no WWM or WS Superintendent is assigned, the Weapons Section NCOIC/Chief will perform the duties of the WWM and WS Superintendent.

3.10.5.1. Personnel will be formed into maintenance/load crews and will be qualified to perform on/off equipment maintenance. **(T-1).**

3.10.5.2. Coordinate with WWM to ensure sufficient quantities of qualified WS personnel are included on TDYs where live munitions will be expended and on deployments exceeding 30 days to provide qualification capability.

3.10.5.3. When Weapon Expediter manpower authorizations do not exist, the WWM will select and appoint a 2W171 individual(s) to perform weapons expediter duties within **paragraph 3.10.2** of this instruction. **(T-3).**

3.10.5.4. Weapons Section personnel will be qualified to perform on/off-equipment maintenance and munitions loading. **(T-3).**

3.10.5.4.1. Personnel may perform rescue/guillotine hoist arm and de-arm procedures.

3.10.5.5. Weapons Section will track and issue small arms for armory security, maintenance security and courier operations for assigned/qualified weapons personnel

only when required by unit commander authorization. **(T-2).**

3.10.5.5.1. Weapons Section NCOIC/Chief will ensure personnel are trained to perform required security of high risk weapons at home station and deployed locations. **(T-3).** Training will as a minimum include armory, anti-robbery, theft/recovery and resource protection procedures IAW AFI 31-101, *Integrated Defense*. **(T-3).**

3.10.5.6. Weapons Section does not repair, maintain, or issue aircrew/mobility small arms weapons (i.e., M9, M16, etc.).

3.10.5.7. Personnel will not load ammunition on weapons systems where the flight engineer or aerial gunner performs this task (e.g. CV-22/Helicopters). **(T-3).**

3.10.5.8. Geographically-Separated Weapons Sections. If a Weapons Section is geographically separated (determined locally) from the squadron support section, then items listed in **paragraph 5.7.5** of this instruction (Armament Support Section) must be available to support the geographically separated Weapons Section. **(T-3).**

3.10.6. **(Added-AETC)** Contracted Weapons and Armament Functions. The contracted F-16 weapons functions at Luke AFB perform weapons loading and are responsible for on-equipment scheduled and unscheduled maintenance on assigned aircraft armament systems. Contractor-established weapons load crews maintain weapons load qualification and certification according to **Chapter 10** of AFI 21-101. Contracted armament functions at Sheppard AFB are responsible for the off-equipment armament maintenance requirements listed in these paragraphs. Contracted armament functions at Sheppard AFB also perform applicable on-equipment trainer maintenance according to their respective contract and local maintenance instruction. In addition to specific weapons/armament responsibilities, contracted functions will comply with applicable flight chief responsibilities outlined in **Chapter 2** of AFI 21-101. The contracted weapons and armament functions will: **(T-2).**

3.10.6.1. **(Added-AETC)** Perform the applicable on- and (or) off-equipment dash-6 inspections, time compliance technical orders (TCTO), AME, NIE, and aircraft armament systems functional checks as required to prevent overdues or overflight of equipment.

3.10.6.2. **(Added-AETC)** Ensure PS&D is aware of applicable dash -6 TO and all other armament inspections.

3.10.6.3. **(Added-AETC)** Ensure appropriate follow-up actions are accomplished for all armament system malfunctions. Monitor actions taken by supporting agencies on dispensers, suspension equipment, training munitions, etc., which were involved with specific system malfunctions.

3.10.6.4. **(Added-AETC)** Perform the applicable on- and (or) off-equipment portions of aircraft armament equipment transfer and acceptance inspections. As a minimum, inspections will include the following: a parts integrity inspection (to ensure equipment serial numbers match the records received), a review and update of historical records for all AME and NIE, a complete electrical and mechanical checkout of every installed NIE and AME (to include associated cables) and an inventory of AME/NIE serial numbers and applicable -21 authorizations. Update/initial historical records for each item.

3.10.6.5. **(Added-AETC)** Identify to the Logistics Readiness Squadron (LRS) all aircraft armament systems components by national stock number (NSN) that require acceptance inspections. Acceptance inspection items that are returned to the LRS, requiring functional check or bench check prior to use, will be identified IAW TO 00-20-3, *Maintenance Processing of Reparable Property and The Repair Cycle Asset Control System*, as requiring functional check or calibration every three years.

3.10.6.6. **(Added-AETC)** Ensure approval of locally manufactured equipment (LME) if not included in tech data or listed on the munitions material handling equipment (MMHE) focal point web site: **https://cs1.eis.af.mil/sites/MMHEFP/SitePages/Home.aspx** managed by the MMHE Focal Point, 615 Apalachicola Road, Suite 101, Eglin AFB, FL 32542-6845. See paragraphs **8.6.1** through **8.6.3** and this instruction for armament LME guidance.

3.10.6.7. **(Added-AETC)** Designate munitions account custodians according to AFI 21-201 for impulse cartridges, dummy ammunition, etc., if applicable.

3.10.6.8. **(Added-AETC)** [Luke AFB only] Ensure sufficient numbers of qualified and certified weapons crews are available to load and unload weapons in support of daily flying operations.

3.10.6.9. **(Added-AETC)** [Luke AFB only] Monitor weapons release/gun fire-out reliability rates and take appropriate corrective action to resolve any problems. Calculate the weapons release reliability rate by dividing the number of successful releases by the number of attempts (Goal: 99%). The gun fire-out rate is calculated by dividing the number of successful bursts by the number attempted (Goal: 98%). Once a malfunction occurs, any further attempts for the purpose of clearing the malfunction should not be counted as attempts. Provide monthly performance levels to the QA office for inclusion in the MSEP summary and, if required, to the analysis function for inclusion in the monthly maintenance summaries.

3.10.6.10. **(Added-AETC)** [Luke AFB only] Maintain a visual aid or automated product depicting the current status of assigned load crews and members. Printed products are not required if computer systems are networked or modem-interfaced with the WS load crew management system for on-line updates.

3.10.6.11. **(Added-AETC)** [Luke AFB only] Ensure load crew certification records and automated products are sent with load crews to temporary duty (TDY) location if loading tasks are to be performed. Obtain a signed copy of the Weapons Load Crew Management Tool (WLCMT) or equivalent printout from WS.

3.10.6.12. **(Added-AETC)** [Luke AFB only] In coordination with the WS superintendent, ensure load crew proficiency evaluation schedules are developed. Include these schedules in the weekly and monthly maintenance plans. Ensure training aircraft are properly configured to support load-training requirements prior to scheduled training sessions.

3.10.6.13. **(Added-AETC)** [Luke AFB only] Monitor the safety of flight line weapons operations. Ensure supervisory post load and maintenance inspections are performed and documented. Ensure aircraft and equipment forms and MIS documentation is complete,

accurate and accomplished. Ensure aircraft status is accurately reflected in both the maintenance forms and the MIS.

3.10.6.14. **(Added-AETC)** [Luke AFB only] Inform the flight line lead of all status changes, delays, and extensions. Coordinate the accomplishment of all preplanned and unscheduled maintenance requirements and inspections with the flight line lead.

3.10.6.15. **(Added-AETC)** [Luke AFB only] Coordinate with the MOC or munitions control for the delivery and pickup of munitions items.

3.10.6.16. **(Added-AETC)** [Luke AFB only] Track the configuration of aircraft, suspension equipment, and weapons. Track NIE and assigned in-use AME by aircraft tail number and position installed in the MIS.

3.10.6.17. **(Added-AETC)** [Luke AFB only] Fill out an AF Form 2434, or locally produced form, on all aircraft configured with munitions (includes impulse cartridges and chaff/flare). Record by serial number and location or position all armament related AME, NIE, or support equipment from which munitions items are expended or rounds fired. **Note**: Record NIE serial numbers only when munitions are loaded directly on the NIE versus the AME. Document ammunition rounds fired by gun serial number and record the action in the MIS (for example, rounds totalization, 30 days after fire inspections). Maintain copies of completed AF Forms 2434 on file for one year.

3.10.6.18. **(Added-AETC)** [Luke AFB only] Comply with flight line munitions accountability requirements outlined in AFI 21-201. Provide copies of final expenditure documents to PS&D, the munitions flight and, armament flight, as required, at the end of the flying day. The documentation action block is annotated when entries are made on item historical documents by the Armament Flight.

3.10.6.19. **(Added-AETC)** [Luke AFB only] Route all AFTO Forms 22, Technical Manual (TM) Change Recommendation and Reply, for 33-series TOs to the WS for review/coordination.

3.10.6.20. **(Added-AETC)** [Luke AFB only] Ensure positive control, accountability, and serviceability for suspension equipment accessories (cables, fittings, adapters, etc.).

3.10.6.21. **(Added-AETC)** [Luke and Sheppard AFB only] Maintain a separate AF Form 2430, or locally produced standardized form, for each shift. Ensure all required documentation is complete and accurate. As a minimum, the following fields of the AF Form 2430 will be completed: ―AS OF‖ (date), ―JOB CONTROL‖ (filled out for maintenance actions with job control numbers (JCNs) (e.g., 18-month inspections, PRDs, but not required for weapons loading tasks), ―ACFT/TRAINER‖ (MDS), ―SERIAL‖ (tail number/serial number of component), ―TIME‖ (―Required‖= start time, ―Dispatched‖ = time completed, ―Completed‖ = status code, (e.g., C/W, C/F, CANX)), ―SPECIALIST(S) DISPATCHED‖ (load/maintenance crew number/name), ―DISCREPANCY & REMARKS‖ (discrepancy/task performed). Transcribe any actions not complied with or cancelled to the next shift's AF Form 2430.

3.10.6.21.1. **(Added-AETC)** One single AF Form 2430 may be maintained for weekly scheduled maintenance in addition to the daily shift AF Form 2430. Transcribe any actions not complied with or cancelled to the next week's scheduled

maintenance AF Form 2430.

3.10.6.21.2. **(Added-AETC)** Maintain copies of completed AF Forms 2430 on file for 6 months.

3.10.6.22. **(Added-AETC)** Establish and monitor gun room security and explosive licenses if required. Ensure storage facilities are maintained according to AFMAN 91-201, *Explosives Safety Standards*, and AFI 31-101, *Integrated Defense*.

3.10.6.23. **(Added-AETC)** [Luke AFB only] Use proper job data documentation (JDD) procedures to install and remove applicable AME and NIE in the MIS. **Note**: Proper JDD procedures are interpreted as creating and clearing jobs in the MIS.

3.10.6.24. **(Added-AETC)** [Luke AFB only] Designate and authorize a select number of supervisors to use non-JDD procedures (Integrated Maintenance Data System (IMDS)-Central Database (CDB) screens 45 and 46) in the MIS. Limit the supervisors authorized to use these screens to the minimal number needed to ensure timely documentation.

3.10.6.25. **(Added-AETC)** [Sheppard AFB only] Monitor inspection and time change subsystems of the MIS. Monthly, review time distribution indexes (TDIs) or IMDS-CDB screen 469 for all armament job standards (JST). As a minimum, review for overdue or missed inspections. Annotate discrepancies on the TDIs or IMDS-CDB screen 469 and provide a copy to the work center supervisor for correction and return. Maintain a file copy of the most current corrected copy of each TDI or IMDS-CDB screen 469.

3.10.6.26. **(Added-AETC)** [Sheppard AFB only] Requisition parts to satisfy time change requirements for armament equipment or gun system components not identified in applicable dash-6 TOs.

3.10.6.27. **(Added-AETC)** [Sheppard AFB only] Maintain and inspect ammunition-loading assemblies and (or) systems.

3.10.6.28. **(Added-AETC)** [Sheppard AFB only] Maintain equipment historical records, using AFTO Form 95, *Significant Historical Data*, for armament AME, NIE, aircraft guns and, if applicable, ammunition loading systems. Maintain a current printed copy of automated histories on file for ready reference and backup.

3.10.6.29. **(Added-AETC)** [Sheppard AFB only] Establish procedures to ensure items requiring explosive free certification according to TO 11A-1-60, *General Instruction s-Inspection of Reusable Munitions Containers and Scrap Material Generated from Items Exposed to or Containing XPL*, are properly inspected, marked and certified prior to shipment back to depot/contractors for repair or for turn-in to Defense Reutilization and Marketing Office.

3.10.6.30. **(Added-AETC)** [Sheppard AFB only] Ensure requirements for submitting AFTO Form 375, Selected Support Equipment Repair Cost Estimate, on applicable support equipment identified in TO 35-1-24, *General Instruction—AF Repair/Replacement for Selected San Antonio ALC Managed Support Equipment (SE)*, are accomplished. (AFTO Form 375 is prescribed by TO 00-25-240, *Uniform Repair/Replacement Criteria for Selected USAF Support Equipment (SE)*. Refer to that publication for guidance on filling out the form.) This process provides vital information

and source documentation for Air Logistics Centers (ALCs) to adequately reflect equipment sustainment costs, attrition rates, and to enable timely forecasting for replacement funding.

3.10.6.31. **(Added-AETC)** [Sheppard AFB only] Coordinate with test measurement and diagnostic equipment (TMDE) to ensure calibration requirements are met.

3.10.6.32. **(Added-AETC)** [Sheppard AFB only] Maintain the R-14 master identification (ID) listing.

3.10.6.33. **(Added-AETC)** [Sheppard AFB only] Maintain accountability and serviceability of CTKs, support equipment, and testers according to AFI 21-101, **Chapter 8**.

3.10.6.34. **(Added-AETC)** [Sheppard AFB only] Maintain applicable TOs and publication files.

3.10.6.35. **(Added-AETC)** [Sheppard AFB only] Manage consumables, residual, and bench stock.

3.10.6.36. **(Added-AETC)** [Sheppard AFB only] Manage hazardous material (HAZMAT) and Environmental Safety and Occupational Health (ESOH) items according to ESOH guidance. Ensure compliance with HAZMAT and hazardous waste management and air emissions record keeping as required for environmental compliance IAW installation Environmental, Safety, and Occupational Health Management System (ESOHMS)/Environmental Management System (EMS) policy/guidance and applicable environmental requirements and guidance.

3.10.6.37. **(Added-AETC)** [Sheppard AFB only] Ensure equipment is routed to Structural Maintenance for corrosion prevention and control as required IAW AETCI 21-106, *Corrosion Control* and local Corrosion Prevention and Control Program.

3.10.6.38. **(Added-AETC)** [Sheppard AFB only] Coordinate with PS&D monthly to develop armament maintenance schedule. Include NIE/AME inspection schedules in the maintenance schedule plan.

3.10.6.39. **(Added-AETC)** [Sheppard AFB only] Provide PS&D with the required data to load applicable JSTs to armament equipment items during ground instructional trainer aircraft (GITA), trainer, aircraft, and (or) equipment acceptance and receipts from supply or other sources.

3.10.6.40. **(Added-AETC)** [Sheppard AFB only] Inform PS&D of any changes to armament equipment inspection and time change requirements that may require update of the job master listing (JML).

3.10.6.41. **(Added-AETC)** [Sheppard AFB only] Coordinate with 363rd TRS to develop and implement procedures for documenting receipt of AME and NIE requiring in-shop inspection or maintenance.

3.10.6.42. **(Added-AETC)** [Sheppard AFB only] Inspect load crew training munitions and components, issued to the Armament Schoolhouse, every 180 days, or more frequently if mandated by commodity TOs. Maintain an AFTO Form 244, *Industrial/Support Equipment Record* (or automated form) for each all-up-round (AUR)

training munition. Load crew training munitions are defined as munitions loaded or unloaded from aircraft or aircraft sub-systems. **Exception**: 20 MM and 30 MM ammunition and countermeasure training aides do not require the 180 day inspection.

3.11. Support Section. The Support Section may include the following elements/functions to support AMU flightline maintenance activities; support (CTKs/special tools, E-Tools, 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).** 2W1X1 personnel may be required to maintain task qualification/certification. Support Sections must standardize procedures across the AMXS for security, control, and accountability of equipment. **(T-1).** Materiel support procedures in this section do not apply to aircraft supported by Contractor Operated and Maintained Base Supply (COMBS). The Support Section will:

3.11.1. Maintain TOs IAW TO 00-5-1. **(T-1).**

3.11.2. Maintain bench, shop and operating stocks IAW AFI 23-101, and **Chapter 9** of this instruction. **(T-1).**

3.11.3. Ensure maintenance, control and storage of assigned AME, -21 equipment, and Maintenance, Safety, and Protective Equipment (MSPE) IAW AFI 21-103. **(T-1).**

3.11.3.1. Support Section will develop local procedures to control and store other equipment not identified as -21 equipment (e.g., aircraft galley items, U-2 pod panels, aircraft pylon attachment cover panels, aircraft covers/plugs) using AFI 21-103 guidelines. **(T-1).**

3.11.4. Control and maintain TMDE IAW TO 33-1-27, *Logistic Support of Precision Measurement Equipment*. **(T-1).**

3.11.4.1. Support Section will comply with TO 33K-1-100-2-CD-1 and TO 00-20-14, requirements for the use, care, handling, transportation, and calibration of TMDE owned by the section. **(T-1).**

3.11.5. Maintain and manage squadron Land Mobile Radio (LMR) IAW **Chapter 11** of this instruction (as applicable). **(T-1).**

3.11.6. Monitor the status of critical support equipment and testers for serviceability, accountability and status of TCTO modifications. **(T-1).** Support Section will provide monthly critical support equipment status update to Maintenance Supervision. **(T-3).**

3.11.7. Maintain tools/CTKs IAW **Chapter 8** of this instruction. **(T-1).**

3.12. AMU Decentralized Materiel Support (DMS). In addition to the responsibilities in **Chapter 9** of this instruction for DMS procedures, AMU DMS personnel will:

3.12.1. Requisition parts and use supply management products. Initiate follow-up action when necessary. **(T-1).**

3.12.2. Notify the Flightline Expediter of all back-ordered parts. **(T-1).**

3.12.3. Develop and maintain a QRL as needed and provide it to technicians. **(T-2).**

3.12.4. Track and process DIFM assets, to include warranty parts IAW AFI 23-101. **(T-1).**

3.12.4.1. AMU DMS personnel will notify AMU leadership when DIFM asset turn-in

times exceed requirements outlined in AFI 23-101. **(T-1).**

3.12.5. Manage reusable containers IAW AFI 24-203, *Preparation and Movement of Air Force Cargo*, and TO 00-20-3. **(T-1).**

3.12.6. Control and manage aircraft Tail Number Bins (TNBs) if stored within the Support Section. **(T-1). Note:** When FOM assets are collocated with TNB, they must be similarly controlled and managed.

3.12.7. Coordinate with the Pro Super and Flightline Expediter(s) for "mark for" changes. **(T-1).**

3.12.8. Manage the AMU's CANN program supply transactions and the associated documentation. **(T-1).**

Chapter 4

MAINTENANCE SQUADRON (MXS)

4.1. General. The MXS 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 AFI. 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 AFI, to ensure both local and enterprise mission requirements are met. **(T-1).** 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 may consist of an Operations Officer and Superintendent and is responsible to the SQ/CC for maintenance production. Maintenance Supervision manages the resources to accomplish the workload. In addition to general responsibilities in **Chapter 2** of this instruction, Maintenance Supervision will:

4.2.1. Review and consolidate monthly maintenance plan inputs from flights/sections and forward to Maintenance Operations PS&D. **(T-1).**

4.2.2. Participate in the review of base level repair capability to ensure it meets the requirements of AFI 20-117, AFI 21-123, TO 00-20-3, and MAJCOM supplements. **(T-1).**

4.2.3. Ensure EOR procedures for transient aircraft are developed IAW TO 00-20-1 and MAJCOM supplements. **(T-1).**

4.2.4. Ensure procedures are developed by the MXS and WS 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-1).**

4.2.5. Ensure local manufacture capability and fabrication process is controlled IAW this instruction. **(T-1).**

4.2.6. Ensure 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-1). Note:** For drawings not available electronically, contact the appropriate JEDMICS help desk.

4.2.7. Appoint MXS Pro Super(s) (if applicable). **(T-1).**

4.3. MXS Production Superintendent (Pro Super). The MXS Pro Super will:

4.3.1. Monitor flightline operations and coordinate support and priority with other squadron Pro Supers and MOC. **(T-1).** MXS Pro Super will focus overall maintenance effort towards MXG maintenance priorities. **(T-1).**

4.3.2. Identify production requirements and shortfalls to Maintenance Supervision. **(T-1).**

4.4. Accessories Flight. Responsible for performing on/off-equipment maintenance of Electrical and Environmental (E&E), egress, fuel, and hydraulic systems and equipment.

4.4.1. Accessories Flight CC/Chief Responsibilities. In addition to the common responsibilities in **Chapter 2** of this instruction, the Accessories Flight CC/Chief will:

4.4.1.1. Ensure an egress training program is established IAW this instruction. **(T-1).**

4.4.1.2. Ensure E&E and hydraulic personnel rotation plans are developed to comply with core task upgrade requirements. **(T-1).** Rotation plans are N/A to the ARC; however, all core tasks must be complied with. **(T-1).**

4.4.1.3. Ensure explosives are controlled and stored in approved storage areas/containers. **(T-1).**

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 will:

4.4.2.1. Ensure battery disposal procedures meet applicable environmental standards and batteries are controlled for accountability purposes. **(T-0).**

4.4.2.2. Perform on/off-equipment maintenance on aircraft electrical and environmental systems and components. **(T-1).**

4.4.2.3. Repair LOX/GOX/Liquid Nitrogen (LN2) servicing units/carts. **(T-1). Note:** AGE performs chassis, enclosure, and trailer maintenance on gaseous and cryogenic servicing units and all maintenance on Self-Generating Nitrogen Servicing Carts (SGNSC).

4.4.2.4. Perform off-equipment maintenance for aircraft and aircrew Carbon Dioxide (CO2) cylinders. **(T-1).**

4.4.2.5. Perform 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-1).** 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 (e.g., 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 during egress systems maintenance. MAJCOMs will identify the base level organization responsible for locating inadvertent beacon activations and configuring survival kit personnel locator beacons (on-aircraft) and Aircrew Flight Equipment (AFE) (in-shop) in the correct mission configuration.

4.4.3.1. The Egress Section will:

4.4.3.1. **(AETC)** Egress Section also accomplishes 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).**

4.4.3.1.1. Perform all off-equipment ejection seat maintenance in the egress maintenance facility. **(T-1).**

4.4.3.1.2. Ensure all personnel use the Demand Response Team during any task requiring the removal/installation of explosive components, and during egress final inspections. **(T-1).**

4.4.3.1.2.1. Demand Response Teams will be comprised of individuals who are certified to perform egress maintenance. **(T-1).** At least one team member must be a certified egress journeyman. **(T-1).**

4.4.3.1.2.2. **(Added-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. 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-1).**

4.4.3.1.4. Utilize a facility that meets the requirements of AFMAN 32-1084, *Facility Requirements*. **(T-1).** Locations are established IAW 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 (NEW) capacity for each Hazard Class Division (HC/D) without approval from Wing Safety. **(T-1).** See AFMAN 91-201 for additional restrictions.

4.4.3.1.4.1. **(AETC)** Only egress section personnel will be authorized unescorted entry to the egress licensed explosive location. **(T-2).**

4.4.3.2. The Egress Section NCOIC/Chief will:

4.4.3.2.1. Ensure ejection systems are safed IAW with 00-80G-series technical orders and AFMAN 91-201 prior to an aircraft being placed on static display. **(T-1).**

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-1).**

4.4.3.2.3. Ensure aircraft (to include GITA) are "safed” IAW 00-80-series TOs. **(T-1).**

4.4.3.2.4. Ensure all permanently decommissioned static display aircraft explosive devices are removed and turned in to munitions inspections IAW AFI 21-201. **(T-1).**

Egress Section will sign the appropriate block on the AF Form 3580, *USAF Museum Aerospace Vehicle Static Display Acceptance Condition and Safety Certificate*, which is retained by the Historical Property Custodian(s). **(T-1)**

4.4.3.2.5. Request assistance from Explosive Ordnance Disposal (EOD) when egress explosive devices are damaged or suspected to be unsafe. **(T-1).**

4.4.3.2.6. Establish egress training program requirements and conduct reviews IAW AFI 36-2650. **(T-1).**

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-1).**

4.4.3.2.6.2. Certification requirements:

4.4.3.2.6.2.1. Egress personnel must successfully complete an Air Education and Training Command (AETC) Egress Technician Course for the specific aircraft to be maintained. **(T-1). Exception:** ACES II-trained and certified egress SSgt 5-levels and above being reassigned to another base or unit maintaining ACES II-equipped aircraft are not required to complete the Organizational Maintenance (O/M; 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 HQ AETC/A4MSS for review and forwarded to the 2A6X3 Career Field Manager for approval/disapproval IAW AFI 36-2650, *Maintenance Training*.

4.4.3.2.6.2.2. **(Added-AETC)** Egress personnel must also complete a HQ AETC A4MMR/A4MSS 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 SOW/PWS. The service provider 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 (OJT) 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).**

4.4.3.2.6.2.3.1. **(Added-AETC)** HQ AETC/A4MMR and HQ AETC/A4MSS 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 HQ AETC/A4MMR/A4MSS/A4PM. **(T-2).** The

approval level for periodic course reviews that do not result in changes will be IAW AETCI 21-112.

4.4.3.2.6.2.4. **(Added-AETC)** Contracting Officers 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 HQ AETC/A4MMR and will make every effort to coordinate this training to coincide with the individual's initial COR training.

4.4.3.2.6.2.5. **(Added-AETC)** QA personnel assigned to inspect egress system maintenance must first complete egress explosive safety training, followed by an AETC Egress Technician Course 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-1).** Instructing and inspecting egress maintenance is not considered performing maintenance.

4.4.3.2.6.3.2. Document decertification in accordance with AFI 36-2201. **(T-1).**

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-1).**

4.4.3.2.6.4.2. Recertification must be accomplished by a 2A673 trainer/certifier. **(T-1).**

4.4.3.2.7. Review and validate all egress familiarization training documents at least every 24 months. **(T-1).**

4.4.3.2.8. Ensure the egress TCI data in the MIS is accurate. **(T-1).** Egress Section NCOIC/Chief will:

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-1).**

4.4.3.2.8.2. Ensure separate databases are not used to manage the egress TCI program. **(T-1).**

4.4.3.2.9. 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-1).**

4.4.3.2.9.1. At least annually, Egress Section NCOIC/Chief will meet with PS&D to verify each aircraft's egress data. **(T-1).**

4.4.3.2.9.2. Document the annual verification on the AF Form 2411, *Inspection Document* maintained in the aircraft jacket file. **(T-1).**

4.4.3.2.10. Establish egress systems inspection and documentation requirements. **(T-1).**

4.4.3.2.10.1. A certified egress production inspector (i.e. 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-1).**

4.4.3.2.10.1.1. The inspection must be an egress final inspection unless another inspection is prescribed by technical data. **(T-1).**

4.4.3.2.10.2. 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. **(T-1). Exception:** N/A to F-35.

4.4.3.2.10.2. **(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.

4.4.3.2.10.3. **(Added-AETC)** Egress Sections will maintain a decentralized jacket file for each aircraft assigned. **(T-2).** (Not required, but highly recommended for civil service and contractor maintenance egress sections). Jacket files will include and be formatted as follows:

4.4.3.2.10.3.1. **(Added-AETC)** Binder Spine. Aircraft serial number.

4.4.3.2.10.3.2. **(Added-AETC)** Front Cover. Delayed Discrepancies.

4.4.3.2.10.3.3. **(Added-AETC)** Tab A. Planning requirement (PRA) or F-35 Autonomic Logistics Information System (ALIS) equivalent (Cross reference sheet stating digital location of data)

4.4.3.2.10.3.4. **(Added-AETC)** Tab B. Completed in-shop maintenance flow sheet(s).

4.4.3.2.10.3.5. **(Added-AETC)** Tab C. Completed major inspection flow sheet(s) (i.e., 36 month, etc.), or equivalent (if MDS applicable).

4.4.3.2.10.3.6. **(Added-AETC)** Tab D. Egress configuration screen (IMDS 257 or ALIS equivalent), current manual CAD/PAD collection sheets.

4.4.3.2.10.3.7. **(Added-AETC)** Tab E. Completed time change item (TCI) replacement sheets (locally generated).

4.4.3.2.10.3.8. **(Added-AETC)** Tab F. Significant historical data (AFTO Form 95 or ALIS equivalent, depot/PDM package and applicable TO 00-25-107, *Maintenance Assistance*, request, Technical Assistance Request (TAR), or Action Request (AR) responses).

4.4.3.2.10.3.9. **(Added-AETC)** Tab G. Miscellaneous (i.e., Production Aircraft Inspection Requirement (PAIR), extension letters, etc.).

4.4.3.2.10.3.10. **(Added-AETC)** Tab H. AF Form 2411, *Inspection Document*.

4.4.3.2.11. **(Added-AETC)** Additional Requirements: The egress section NCOIC will: **(T-2).**

4.4.3.2.11.1. **(Added-AETC)** Ensure ejection systems are safed IAW MDS specific TOs, 00-80G-series technical orders and AFMAN 91-201 prior to an aircraft being placed on static display. **(T-2).**

4.4.3.2.11.2. **(Added-AETC)** Egress system on **t**raining aircraft will be de-armed/safed IAW MDS specific TOs when an aircraft is used for fire department and/or aircrew extraction training. **(T-2).** 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).**

4.4.3.2.11.3. **(Added-AETC)** Ensure aircraft (to include GITA) are "safed" IAW 00-80G-series and MDS-specific TOs. **(T-2).**

4.4.3.2.11.4. **(Added-AETC)** Ensure all permanently decommissioned static display aircraft explosive devices are removed and turned in to munitions inspections IAW AFI 21-201. **(T-2).** Egress section will sign the appropriate block on the AF Form 3580, *USAF Museum Aerospace Vehicle Static Display Acceptance Condition and Safety Certificate* which is retained by the Historical Property Custodian(s).

4.4.3.2.11.5. **(Added-AETC)** Request assistance from the explosive ordnance disposal (EOD) unit when egress explosive devices are damaged or suspected to be unsafe. **(T-2).**

4.4.3.2.11.6. **(Added-AETC)** Establish egress training program requirements and conduct reviews IAW AFI 36-2650. **(T-2).** At a minimum include: A master training plan, explosive safety certification, and MIS time change documentation qualification. **(T-2).**

4.4.3.2.11.7. **(Added-AETC)** Ensure the egress TCI data in the MIS is accurate. **(T-2).** Automated data products will be updated whenever an egress item is replaced to ensure the annual TCI forecast is correct. **(T-2).** Do not maintain a separate data base to manage the egress TCI program. **(T-2).**

4.4.3.2.11.8. **(Added-AETC)** Ensure component background information is provided to the appropriate PS&D section to include a list of all components having multiple part numbers with a different service life. At least annually, meet with PS&D to verify each aircraft's egress data. **(T-2).** Document the annual verification on the AF Form 2411 maintained in the aircraft jacket file. **(T-2).**

4.4.3.2.11.9. **(Added-AETC)** Ensure cartridge-actuated devices (CAD) and propellant-actuated devices (PAD) verification procedures are followed. **(T-2).**

4.4.3.2.11.9.1. **(Added-AETC)** CAD and 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 and PAD verifications is to provide plans and scheduling (P&S) and egress a shared drive where read-only, password-protected planning requirements (PRAs) are posted. The focus of the CAD and PAD verification is to ensure the MIS is always correct.

4.4.3.2.11.9.2. **(Added-AETC)** As a minimum, CAD and PAD components and harnesses installed on non-Advanced Concept Ejection Seat II (ACES II) egress systems will be validated during major PEs. **(T-2).** Validate ACES II CAD and PAD components during the 36-month seat inspection. Limit verification of ACES II and non-ACES II CAD and PAD installed components to visually accessible items; however, the full extent of physical CAD and 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.

4.4.3.2.11.9.3. **(Added-AETC)** Egress will correct any discrepancies discovered in the MIS during the verification procedures outlined in paragraph **4.4.3.4.11.9.4** through **4.4.3.4.11.9.8** **(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.

4.4.3.2.11.9.4. **(Added-AETC)** Egress personnel will reconcile the data listed on their CAD and 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.

4.4.3.2.11.9.5. **(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 and 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.

4.4.3.2.11.9.6. **(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.

4.4.3.2.11.9.7. **(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).**

4.4.3.2.11.9.8. **(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 suspense for PS&D to clear. **(T-2).** At 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.

4.4.4.1. The Fuels Systems Section will:

4.4.4.1.1. Perform maintenance on AME external fuel tanks, Conformal Fuel Tanks (CFT), and Weapons Bay Tanks (WBT) and provides temporary storage for CFTs/WBTs. The Fuels Systems Section will:

4.4.4.1.1.1. Maintain serial number inventory accountability for all removable external fuel tanks IAW AFI 21-103. **(T-1).**

4.4.4.1.1.2. Establish a local MOA/MOU (MXS with AMXS or equivalents) governing the storage, issue/receipt, and inventory control of in-use removable external fuel tanks. **(T-1).**

4.4.4.1.1.3. Purge and preserve external tanks that require shipment. **(T-1).**

4.4.4.1.2. Perform all maintenance and inspections on WRM fuel tanks. **(T-1).** The Fuels System Section will:

4.4.4.1.2.1. Purge and preserve fuel tanks for storage and shipment. **(T-1). Note:** LRS is responsible for the storage, delivery, and shipment of fuel tanks.

4.4.4.1.2.2. Meet quarterly with installation War Reserve Materiel Officer (WRMO)/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-1).**

4.4.4.1.3. **(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** of this instruction, 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-1).**

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-1).**

4.4.4.2.3. When required, ensure Hydrazine Response Teams are formed with only team members/supervisors possessing AFSC 2A6X4. **(T-1).** Refer to TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 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. **Note:** In the ARC and US Air Force Air Demonstration Squadron (Thunderbirds) only the Hydrazine Response Team Supervisor must possess AFSC 2A6X4. The Fuel Systems Section NCOIC/Chief will:

4.4.4.2.3.1. Ensure initial and refresher (annual) hydrazine safety training is completed for all hydrazine response team members IAW TO 42B1-1-18. **(T-1).**

4.4.4.2.3.2. Integrate Hydrazine Response Team responsibilities into the CDDAR Program and local IFE functional checklists (as applicable). **(T-1).**

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. **(T-1).**

4.4.4.2.5. Manage and document non-grounding fuel leaks according to TO 1-1-3, and MDS-specific TOs. **(T-1).**

4.4.4.2.6. Establish a Confined Space Entry Program IAW TO 1-1-3 and AFI 91-203. **(T-1).**

4.4.4.2.7. Establish a Respiratory Protection Program IAW AFI 48-137. **(T-1).**

4.4.4.2.7.1. All respiratory training requirements are documented on AF Form 55 or equivalent IAW AFI 91-202.

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. **(T-1).**

4.4.5.1.2. Maintain and inspect refueling drogues, booms, and refueling receptacle systems for large aircraft. **(T-1).**

4.4.5.1.3. **(Added-AETC)** Local manufacture and test hose assemblies and test rigid tube assemblies.

4.4.5.1.4. **(Added-AETC)** Repairs, overhauls, and bench checks flight control, landing gear, and hydraulic power system components (e.g., brakes, struts, accumulators, reservoirs, actuators).

4.5. Aerospace Ground Equipment (AGE) Flight. The AGE Flight provides powered and Non-Powered AGE (NPA) as defined in TO 00-20-1 to support both aircraft and non-aircraft weapon systems. The AGE Flight should be organized as a consolidated maintenance unit (repair, inspection, and servicing sections) or, at MAJCOM discretion, may be organized into teams for concentrated support efforts.

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. **(T-1).**

4.5.1.2. Pick up, service, deliver, repair, and perform approved modifications, TCTOs, inspect assigned AGE and perform corrosion control tasks. **(T-1).**

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. **(T-1).**

4.5.1.4. Perform chassis, enclosure, and trailer maintenance on gaseous and cryogenic servicing units. **(T-1).**

4.5.1.5. Manage maintenance/inspection scheduling activities for flight maintained equipment. **(T-1).**

4.5.1.6. Safeguard any Item Unique Identification (IUID) marks during maintenance activities to the maximum extent possible. **(T-1).** In the event the UII is damaged during maintenance activities, the AGE Flight will notify the responsible Equipment Custodian and/or Equipment Accountability Element (EAE) to replace the mark with the same UII. **(T-1).**

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** of this instruction, the AGE Flight Chief will:

4.5.2.1. Review and coordinate the AGE MEL annually with applicable Maintenance Supervision. **(T-1).** The MXG/CC approves the identified types and quantities of AGE for the MEL.

4.5.2.1. **(AETC)** Units without an assigned operational flying mission are not required to identify a minimum equipment level (MEL). However, units are still required to track status IAW paragraph **4.5.2.2**.

4.5.2.1.1. AGE Flight Chief will provide copies of the approved MEL to the MOC.

4.5.2.2. Ensure AGE status/scheduling is tracked daily using the MIS. **(T-1).**

4.5.2.2.1. Status and ETIC information needs to be provided to the MOC when it falls below MEL.

4.5.2.3. Ensure newly assigned AGE receives acceptance inspections IAW TO 00-20-1. **(T-1).**

4.5.2.4. Control fuel dispensed from issue tanks IAW AFI 23-204, *Organizational Fuel Tanks*. **(T-1).**

4.5.2.5. Ensure the Uniform Repair and Replacement Criteria Program is implemented IAW TO 00-25-240 and TO 35-1-24. **(T-1).**

4.5.2.6. Coordinate welding requirements with the Fabrication Flight Chief. **(T-1).**

4.5.2.7. Manage AGE CANN actions IAW **Chapter 9** and **Chapter 11** of this instruction. **(T-1).**

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-1).**

4.5.2.8. **(AETC)** The AGE operator training program will include safety and operating procedures required by AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, and prior-to-use inspections required by TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies and Procedures*, 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 Notification*, 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 AETCI 21-103 or AETCI 21-112, 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. **(T-1).**

4.5.2.10. Develop and implement a tracking system to prioritize complete repainting for AGE equipment based on a “worst is first” principle. **(T-1).**

4.5.2.10. **(AETC)** Ensure Item Unique Identification (IUID) labels are viewable or identified as absent during repainting of AGE equipment.

4.5.2.10.1. AGE Flight Chief will coordinate with Fabrication Flight Chief for work beyond the AGE work center capability. **(T-1).**

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. **(T-1).**

4.5.2.12. Ensure annual transient aircraft landing data is submitted to the respective MAJCOM AGE functional manager by 1 February. **(T-1).** Data will reflect previous year's transient aircraft landings by aircraft MDS and is obtained from local Transient Alert managing office. **(T-1).**

4.5.2.13. Establish AGE sub-pools, as needed, in coordination with OSS's Airfield Operations Flight. **(T-1).**

4.5.2.14. Ensure AGE tow vehicles are two-way radio equipped, permanent or hand-held, to expedite AGE deliveries. **(T-1).** AGE Flight Chief will ensure any permanent installation of radios are accomplished IAW AFI 24-302. **(T-1).**

4.5.2.15. **(Added-AETC)** Submit an annual (excel spreadsheet) equipment inventory listing to HQ AETC/A4MSS 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-1).**

4.5.3.2. Monitor adherence to AGE Flight's safety, training, and CTK programs. **(T-1).**

4.5.3.3. Monitor serviceability status of equipment parked in sub-pools. **(T-1).**

4.5.3.4. Monitor distribution, control, and condition of AGE Flight's assigned vehicles. **(T-1).**

4.5.3.5. Monitor shop equipment for condition and documentation. **(T-1).**

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) will be assigned to the AGE Production Support Section when the workload warrants. **(T-1).** In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2** of this

instruction, the AGE Production Support Section NCOIC/Chief will:

4.5.4.1. Manage the AGE Flight's TO libraries IAW TO 00-5-1. **(T-1).**

4.5.4.2. Manage the AGE Flight's tool storage and issue areas IAW **Chapter 8** of this instruction. **(T-1).**

4.5.4.3. Manage the AGE Flight's TMDE program IAW TO 00-20-14 and TO 33-1-27. **(T-1).**

4.5.4.4. Manage the AGE Flight's materiel management function IAW **Chapter 9** of this instruction 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-1).** The AGE Production Support Section NCOIC/Chief will:

4.5.4.5.1. Maintain AGE historical records. **(T-1).**

4.5.4.5.2. Prepare an AGE scheduled maintenance plan and maintain a current equipment scheduling report for all assigned equipment. **(T-1).**

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 AFI 23-204. **(T-1).**

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. **(T-0).**

4.6. Armament Flight. The Armament Flight, when formed, will be part of either MXS, EMS or MUNS, and performs off-equipment maintenance for assigned aircraft armament systems, guns, pylons, racks, launchers and adapters. An AFSC 2S0X1 Materiel Management journeyman/craftsman may be assigned to the flight if mission dictates and respective wing 2S Functional Manager concurs. The Armament Flight normally consists of three sections: Armament Maintenance Section, AME Section, and Support Section. The WWM, with MXG/CC concurrence, determines when armament systems personnel are required to perform load crew duties or related certifiable tasks.

4.6.1. Armament Flight Chief Responsibilities. In addition to common Flight Chief responsibilities outlined in **Chapter 2** of this instruction, the Armament Flight Chief will:

4.6.1.1. Assist the WWM in recommending distribution of AFSC 2W1X1 personnel to satisfy on-and off-equipment weapons release and gun system maintenance. **(T-1).**

4.6.1.2. Advise the Operations Officer/MX SUPT and the WWM regarding factors which affect training, loading or maintenance capabilities, personnel actions affecting manning levels (cross-training, special duty, reassignment, etc.), equipment shortfalls and other key weapons related issues. **(T-1).**

4.6.1.3. Establish and monitor gun room security IAW AFI 31-101. **(T-1).**

4.6.1.4. Ensure AME and SPRAM accountability and control requirements are met IAW AFI 21-103. **(T-1).**

4.6.1.5. If applicable, support WRM rack, adapter, pylon, launcher and gun maintenance requirements IAW AFI 25-101, *War Reserve Materiel (WRM) Program Guidance and Procedures*. **(T-1).**

4.6.1.6. Provide the WWM monthly status on authorized/on-hand quantities and serviceability of AME/NIE/WRM, critical armament testers, and support equipment by the first of each month, for the previous month. **(T-3).**

4.6.1.7. Ensure requirements for submitting AFTO Form 375 on all weapons support equipment identified in TO 35-1-24, are accomplished. **(T-1).** This process provides vital information and source documentation for the Product Group Manager to adequately reflect equipment sustainment costs, attrition rates, and to enable timely forecasting for replacement funding.

4.6.1.8. Establish procedures to ensure items requiring explosive-free certification IAW TO 11A-1-60 are properly inspected, marked and certified prior to shipment. **(T-1).**

4.6.1.9. **(Added-AETC)** Inspect 25 percent of armament section CTKs, armament test and support equipment for serviceability, at least quarterly, and initiates corrective action as required. **(T-2).** Schedule and track inspections to ensure 100 percent of CTK, test and support equipment will be checked over a one year timeframe. **(T-2).** Document inspection results. **(T-2).**

4.6.2. Armament Maintenance Section. The Armament Maintenance Section performs TCTOs, inspections and maintenance on assigned armament systems, guns, pylons, racks, launchers, and adapters. In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2** of this instruction, the Armament Maintenance Section NCOIC/Chief will:

4.6.2.1. In coordination with PS&D, ensure all inspections, TCTOs, time changes, maintenance and repair actions for aircraft armament systems suspension and release components and AME, including AME items preloaded with munitions for contingencies are scheduled and performed. **(T-3).**

4.6.2.2. Ensure the off-equipment portion of major inspections is performed. **(T-1).** In bomber and special mission aircraft units, the AME Section NCOIC/Chief will facilitate assistance with the on-equipment portion of major aircraft inspections that pertain to the

armament system. **(T-1).**

4.6.2.3. Ensure WRM assets are maintained (if applicable). **(T-1).**

4.6.2.4. Ensure equipment historical records (AFTO Form 95) for AME, aircraft guns and weapons system NIE are maintained. **(T-1).**

4.6.2.5. Ensure ammunition loading assemblies and systems are maintained and inspected. **(T-1). Note:** The Munitions Flight maintains the chassis portion.

4.6.2.6. **(Added-AETC)** Monitor AME in-commission rates monthly. **(T-2).** Take corrective action when rates fall below the command performance level of 90 percent for AME in commission. **(T-2).** Calculate rates by the type of equipment in their functional configuration; for example, a pylon with a bomb rack installed and a missile launcher with a remote interface unit installed are considered one item for measuring purposes. **(T-2).** Equipment is considered in commission if there are no discrepancies or parts required (to include TCTOs) that would hinder performance of the intended function. **Note**: Equipment is not considered out of commission just because it is undergoing scheduled, preventative, or minor maintenance.

4.6.2.7. **(Added-AETC)** Develop plans and schedules separately for each operations squadron or other customers supported. **(T-2). Note**: Plans and schedules may be developed on a single product, provided they distinguish between customers.

4.6.2.8. **(Added-AETC)** Develop long range, monthly, and weekly plans, and identify all inspections, TCTOs, and other maintenance requirements (or equipment usage) in a format that depicts required actions by day, equipment type, and serial number. **(T-2).**

4.6.2.9. **(Added-AETC)** Coordinate with armament maintenance combat armament support team (CAST) chiefs and appropriate outside functions on scheduled maintenance requirements. **(T-2).**

4.6.2.10. **(Added-AETC)** Produce and ensure monthly armament plans are delivered to PS&D by the third week of the preceding month for inclusion in the monthly maintenance plan. **(T-2).**

4.6.2.11. **(Added-AETC)** Produce and ensure a copy of the armament weekly schedule annex is delivered to PS&D no later than (NLT) 1200 on Wednesday of the week preceding the effective week. **(T-2).**

4.6.2.12. **(Added-AETC)** Input all maintenance actions in the MIS once the weekly schedule is approved.

4.6.2.13. **(Added-AETC)** Maintain a current TDI product for all armament-related JSTs and desired MIS TCTO reports. **(T-2).** Monitor inspection subsystems of the MIS. Review TDIs for all armament JSTs monthly and correct any discrepancies discovered. **(T-2).**

4.6.2.14. **(Added-AETC)** Manage the JML for all armament equipment in the MIS. Update the JML as inspection requirements change. Reconcile the JML with appropriate governing TOs semiannually to ensure inspection frequencies are accurate. **(T-2).** Document the reconciliation on a printed copy of the JML or locally approved form/product to include the date and name of the inspector. **(T-2).** Retain this copy on file

until replaced by the next reconciliation according to Air Force RDS, Table 21-11, Rule 10. **(T-2).**

4.6.2.15. **(Added-AETC)** Load applicable JSTs to armament equipment items during aircraft and (or) equipment acceptance and receipt from supply or other sources.

4.6.3. Alternate Mission Equipment (AME) Section. The AME Section accounts for, stores and controls AME. If not formed, the responsibilities detailed in this section will be accomplished by the Armament Maintenance Section. **(T-2).** In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2** of this instruction, the AME Section NCOIC/Chief will:

4.6.3.1. Develop procedures governing accountability and control of AME, in coordination with Weapons Section NCOIC/Chief and WWM. **(T-1).**

4.6.3.2. Ensure all weapons assigned, non-load box/tester-configured (bomber aircraft), F-2/utility type trailers are maintained. **(T-1).**

4.6.3.2. **(AETC)** Aircraft Maintenance Units (AMUs) will assist in maintaining F-2 type trailers as follows:

4.6.3.2.1. **(Added-AETC)** Corrosion prevention and control.

4.6.3.2.2. **(Added-AETC)** Tire inflation check.

4.6.3.2.3. **(Added-AETC)** Wheel bearing and chassis lubrication.

4.6.3.3. Ensure SPRAM accounts are maintained IAW AFI 21-103 and AFI 23-101. **(T-1).**

4.6.3.4. **(Added-AETC)** Manage equipment on-hand levels according to applicable allowance standards and dash-21 TOs. (**Note**: Units possessing equipment authorized by dash-21 TOs or allowance standards, but not required by the unit, will request disposition instructions from HQ AETC/A4MSW.) Units requiring armament equipment in excess of their authorizations will coordinate requests for increases through HQ AETC/A4MSW. **(T-2).**

4.6.4. Support Section. The Support Section stores and maintains tools/equipment and manages the supply and bench stock functions for Armament Flight. The Support Section will:

4.6.4.1. Ensure tools and equipment are managed IAW **Chapter 8** of this instruction. **(T-1).**

4.6.4.2. Ensure maintenance materiel management support is managed IAW **Chapter 9** of this instruction. **(T-1).**

4.7. Avionics Flight. Avionics Flight is responsible for maintaining avionics systems, components and performs authorized equipment repairs, TCTOs, component programming, troubleshooting, CND/Bench Check Serviceable (BCS) screening, 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. MAJCOMs will identify any additional mission support requirements in their supplements and addendums.

4.7.1. The Avionics Flight is authorized to perform the following maintenance actions if the required support equipment is authorized and on-hand. Repairs above and beyond those listed require approval from the appropriate approval authority (e.g., Lead Command, depot). If authorized, Avionics Flight will be limited to the following repairs:

4.7.1.1. CND or BCS screening. **(T-2).**

4.7.1.2. TCTOs performed at wing level. **(T-2).**

4.7.1.3. LRU Operational Flight Program (OFP) loads. **(T-2).**

4.7.1.4. Shop-Replaceable Units (SRU) cross-CANNs. **(T-2).**

4.7.1.5. Replacement of minor bits and pieces. **(T-2).**

4.7.2. High priority TCTOs or other circumstances may result in more workload than can be accommodated. In the event the section cannot accomplish the special workload as well as normal CND/BCS screening, the following formula may be used to identify those LRUs that could be temporarily "direct Not Repairable This Station (NRTS)" without screening. The formula may also help determine LRU priorities in order to adjust workload to meet production. Index formula: Index Number = Percent of Base Repair (PBR) * EXCHG PRICE * Daily Demand Rate (DDR).

4.7.2.1. LRUs with higher index numbers have a higher priority for repair compared to those with lower numbers. In the example below, the Programmable Signal Processor (PSP) would have the highest priority, followed by Dual Mode Transmitter (DMT). Digital Flight Control Computer (DFLCC) may be a candidate to temporarily "Direct NRTS" until workload permits CND/BCS screening.

Figure 4.1. Example Index Numbers.

NOUN	PBR*	EXCHG PRICE*	DDR	=INDEX
PSP	63	$33352.00	214412	450517348512
DMT	13	$16521.00	21451	4607095623
DFLCC	82	$6000.00	03148	1548816000

4.7.3. Historical Records. Section NCOICs will maintain AFTO Form 95, *Significant Historical Data* or equivalent on selected, significantly repairable, serialized components for which historical failure data would enhance repair. **(T-1).** 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. **(T-1).**

4.7.3.1. The record will remain with the component anytime it is undergoing maintenance. **(T-1).**

4.7.3.2. 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 Flights supporting multiple MDS, or those organized under the combat support team structure are authorized to form functional sections below flight level to achieve efficiency and maintain effective span of control. **Note:** Do not authorize additional manpower positions to form sections resulting from local management decisions.

4.7.5. Avionics Flight CC/Chief Responsibilities. In addition to the applicable Flight CC/Chief responsibilities listed in **Chapter 2** of this instruction, the Avionics Flight CC/Chief will:

4.7.5.1. Support Wing EW system programming. **(T-1).**

4.7.5.2. Ensure control and storage of assigned AME IAW AFI 21-103. Develop local procedures for control and storage of items not specified in -21 TOs. **(T-1).**

4.7.5.3. Ensure accurate and timely pod and SE status is updated or verified daily in RAMPOD IAW AFI 21-103. **(T-1).**

4.7.5.4. 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-1).**

4.7.5.5. Ensure cryptography components are controlled and maintained IAW National Security Agency directives and AF/XOI directives. **(T-1).**

4.7.5.6. When applicable, determine maintenance responsibility for aircraft adapter group equipment. **(T-1).**

4.7.5.7. Implement the "Bad Actor" program IAW TO 00-35D-54. **(T-1).** 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.

4.7.5.8. **(Added-AETC)** Ensure accurate and timely pod and support equipment status is updated or verified daily in RAMPOD IAW AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*.

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 AFMAN 33-363. Each Repair Monitor will:

4.7.6.1. Process items into and out of the section, ensuring all documentation is accurate and complete. **(T-1).**

4.7.6.2. Advise the section NCOICs and Pro Supers of item status. **(T-1).**

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-1).** 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-1).**

4.7.6.4. Designate and maintain an AWP area, ensure accurate documentation, and submit supply assistance requests, as required. **(T-1).**

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-1).**

4.7.6.6. Ensure the MIS is updated with current supply data, location changes and DIFM status changes. **(T-1).**

4.7.7. MAJCOMs will establish avionics sections and responsibilities to match their mission requirements. Sections may include:

4.7.7.1. Communication-Navigation Section.

4.7.7.1. **(AETC)** Integrated Communication-Navigation Section.

4.7.7.1.1. **(Added-AETC)** Perform off-equipment maintenance and/or cannot duplicate (CND) screening on integrated communication-navigation/mission systems and components, including assigned support equipment (SE), designated "user responsibility" in TO 33K-1-100-2-CD-1, *TMDE Calibration Notes, 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.

4.7.7.1.2. **(Added-AETC)** Maintain radar altimeters, Mark XII systems (AIMS), international friend or foe (IFF) systems, direction finder equipment that is an integral part of airborne radios, secure voice systems and global positioning systems.

4.7.7.1.3. **(Added-AETC)** Maintain typical communication-navigation/missions systems including high frequency (HF), ultra-high frequency (UHF), very high frequency (VHF), IFF, automatic direction finder (ADF), VHF omni directional range (VOR)/instrument landing system (ILS), tactical air navigation (TACAN), AF satellite communication (AFSATCOM)/satellite communication (SATCOM), Cockpit Voice Recorder (CVR), Emergency Location Transmitter (ELT), secure voice, interphone, search/weather/Doppler radars, radar/radio altimeters, global positioning satellite (GPS), Traffic Collision Avoidance System (TCAS) and associated data-bus management system components.

4.7.7.1.4. **(Added-AETC)** When authorized, this section may perform on-equipment maintenance. **(T-3).**

4.7.7.2. Radio Frequency (RF) Multiplexing Section.

4.7.7.3. Instrument and Flight Control Systems (IFCS).

4.7.7.3. **(AETC)** Integrated Instrument and Flight Control Systems (IFCS).

4.7.7.3.1. **(Added-AETC)** Includes automatic flight control systems, all-weather landing systems, attitude heading reference systems (AHRS), instrument systems, attitude reference and bombing systems, flight director systems, auxiliary flight reference systems, pressure altimeters and encoders of the AIMS systems, engine test cell aircraft instrumentation, inertial navigation systems (INS) and navigation computers.

4.7.7.3.2. **(Added-AETC)** Maintain compass and stability augmentation systems

(SAS), weapons release computer systems (WRCS), flight data recorders (FDR), maintains fuel savings advisory systems (FSAS), Doppler systems, navigational computers, loads environment spectra survey (LESS) recorder systems, ground proximity warning systems (GPWS) and assigned SE not maintained by TMDE Flight.

4.7.7.3.3. **(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).

4.7.7.3.4. **(Added-AETC)** Maintain typical ground control system (GCS) 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.

4.7.7.3.5. **(Added-AETC)** When authorized, this section may perform on-equipment maintenance. **(T-3).**

4.7.7.4. Weapons Control System Section.

4.7.7.4. **(AETC)** Weapons Control System Section.

4.7.7.4.1. **(Added-AETC)** Maintain aircraft weapons control systems, lead computing optical sight systems and assigned SE not maintained by TMDE Flight. This section also performs on-equipment calibration of weapons control systems.

4.7.7.5. Sensors Section.

4.7.7.6. Electronic Warfare System (EWS) Section.

4.7.7.6. **(AETC)** Integrated Electronic Warfare System (EWS) Section.

4.7.7.6.1. **(Added-AETC)** Perform on- and off-equipment maintenance on aircraft EWS and components, including assigned SE when not maintained by the TMDE function.

4.7.7.6.2. **(Added-AETC)** Maintain EWS status, EWS histories on AFTO Form 95 and scheduling records.

4.7.7.6.3. **(Added-AETC)** Report Electronic Attack (EA) pod status in RAMPOD IAW AFI 21-103 if maintaining EA pod equipment. Reports other EWS status IAW TO 00-20-1 and TO 00-20-2, *Maintenance Data Documentation*.

4.7.7.6.4. **(Added-AETC)** Store and control non-installed EA pods according to applicable directives. Other removed EWS components are controlled IAW TO 00-20-3.

4.7.7.6.5. **(Added-AETC)** Manage cannibalization (CANN) actions to ensure pods are returned to service, at a minimum, every time the Preventive Maintenance Inspection (PMI) is due.

4.7.7.6.6. **(Added-AETC)** Maintain inventory control of EWS AME. Loads proper contingency and training configuration settings in electronic countermeasure (ECM) pods, infrared countermeasures systems and radar warning receiver (RWR) unless equipment/ responsibility is assigned to another repair section.

4.7.7.6.7. **(Added-AETC)** Develop a EWS assessment program to verify system operation IAW applicable aircraft and system TOs.

4.7.7.6.8. **(Added-AETC)** Maintain aircraft adapter group equipment when directed.

4.7.7.6.9. **(Added-AETC)** Load proper contingency and training software in reprogrammable EWS IAW applicable system TOs and AFI 10-703, *Electronic Warfare Integrated Reprogramming*.

4.7.7.6.10. **(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.

4.7.7.7. Avionics Intermediate Section.

4.7.7.7. **(AETC)** Avionics Intermediate Section.

4.7.7.7.1. **(Added-AETC)** Maintains programs and performs TCTOs on avionics components specific to assigned test stations and support equipment.

4.7.7.7.2. **(Added-AETC)** Maintain, calibrate, certify and perform TCTOs on assigned SE not maintained by the TMDE Flight.

4.7.7.8. Computer Section.

4.7.7.9. Surveillance Radar Section.

4.7.7.10. Combat Systems Section.

4.7.7.11. Cryptographic Section.

4.7.7.11. **(AETC)** Cryptographic Section.

4.7.7.11.1. **(Added-AETC)** Aircraft installed Controlled Cryptographic Items (CCI) and keying materials shall be handled IAW AFI 21-109, *Communications Security (COMSEC) Equipment Maintenance and Maintenance Training*; and AFMAN 33-283, *Communications Security (COMSEC) Operations* to report COMSEC deviations; and AFI 23-101, *Air Force Material Management*. Document aircraft CCI removal and installation in AFTO Form 781B, *Communication Security Equipment Record*, IAW TO 00-20-1.

4.7.7.12. Offensive Avionics Section.

4.8. Fabrication Flight. Responsible for aircraft structural maintenance, low observable aircraft structural maintenance, metals technology, and Nondestructive Inspection (NDI).

4.8.1. Fabrication Flight CC/Chief Responsibilities. In addition to the applicable Flight CC/Chief responsibilities outlined in **Chapter 2** of this instruction, 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-1).**

4.8.1.2. Coordinate AGE welding requirements with the AGE Flight Chief**. (T-1).**

4.8.1.3. Ensure 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. **(T-1).**

4.8.2. Aircraft Structural Maintenance (ASM) Section. Manages structural repair, corrosion control, 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** of this instruction, the ASM Section NCOIC/Chief will:

4.8.2. **(AETC)** The aircraft structural maintenance (ASM) 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-1).**

4.8.2.2. Monitor the aircraft wash and corrosion inspection schedule in the weekly and monthly maintenance plans. **(T-1).**

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-1).**

4.8.2.4. Develop maintenance procedures IAW **Chapter 11** of this instruction, AFI 91-203, and ensure assigned ASM personnel are trained and qualified on aircraft intake maintenance. **(T-1).**

4.8.2.5. Review the QPL/QPD for changes to cleaners that must conform to a MIL-Spec as specified in applicable TOs for aircraft wash rack. **(T-1).**

4.8.2.6. Stock supplies and equipment necessary to support aircraft and equipment washing, inspection, and treatment. **(T-1).**

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.

4.8.3. Metals Technology Section. Manages structural repair, corrosion control, inspection, damage evaluation, inspects, repairs, services, manufactures, fabricates or modifies metallic, composite, fiberglass, plastic components, performs heat treating, cleans, welds, and related hardware associated with aircraft and SE. In addition to the applicable Section NCOIC/Chief responsibilities in **Chapter 2** of this instruction, the Metals Technology Section NCOIC/Chief 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*, Work Package 005 02. **(T-1).**

4.8.3.1. **(AETC)** IAW TO 00-25-252, *Intermediate Maintenance and Depot Level Maintenance Instructions—Aeronautical Equipment Welding*, the following Base Metal groups are required for certification of the weapon system identified: **(T-2).**

4.8.3.1.1. Ensure assigned welders conducting Gas Tungsten Arc Welding (GTAW), Gas Metal Arc Welding (GMAW), or Shielded Metal Arc Welding (SMAW) repairs on support equipment are certified IAW TO 00-25-252. **(T-1).**

4.8.3.1.2. Welding proficiency is documented IAW TO 00-25-252, Work Package 005 02.

4.8.3.1.3. **(Added-AETC)** C-17, KC-135, T-6 and T-1 require Base Metal group I, II, III, IV and VI.

4.8.3.1.4. **(Added-AETC)** C/H/M-130 require Base Metal group I, II, III, IV, V, VI and VII.

4.8.3.1.5. **(Added-AETC)** F-16 require Base Metal group I, II, III, IV and VII.

4.8.3.1.6. **(Added-AETC)** F-35 require Base Metal group I, II, III, IV and VII.

4.8.3.1.7. **(Added-AETC)** CV-22, HH-60, TH-1H and UH-1 require Base Metal group I, II, III, IV, V, VI and VII.

4.8.3.1.8. **(Added-AETC)** J85 require Base Metal group I, II, III, IV, V and VII.

4.8.3.1.9. **(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-1).**

4.8.3.3. Ensure special tools, jigs, and fixtures are designed, fabricated, protected and properly stored. **(T-1).**

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** of this instruction, the NDI Section NCOIC/Chief will:

4.8.4. **(AETC)** Ensure questionable indications of defects are confirmed, using another nondestructive inspection (NDI) method. **(T-2).** For indications that cannot be confirmed beyond doubt by using an alternate NDI procedure, contact HQ AETC/A4MSS.

4.8.4.1. Ensure OAP requirements are accomplished (if applicable to assigned MDS) IAW AFI 21-124 and AFI 21-131, *Joint Oil Analysis Program*. **(T-1).**

4.8.4.1. **(AETC)** Each organization responsible for taking samples, will deliver them to the OAP lab. All aircraft oil samples will be taken and delivered as soon as possible after engine shutdown IAW TO 33-1-37-1, *Joint Oil Analysis Program Manual Volume I Introduction, Theory, Benefits, Customer Sampling Procedures, Programs and Reports*. A DD Form 2026, *Oil Analysis Request*, will accompany each sample. The DD Form 2026 will be properly annotated with the aircraft serial number, engine serial number,

position number, time on engine and engine oil, oil added since previous sample, hours flown since last sample in remarks block (example + 1.5 hrs), and the reason oil was added (if amount added exceeds one pint per engine operating hour). Any DD Form 2026 submitted with no information entered in required areas will appear as an error on the quarterly error listing. On F100 engines, engine operating time is used. The NDI section will also refer to TO 33-1-37-1, NSN 0817-LP-305-8000, and the following guidance:

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 Laboratory Manual, Volume I*, TO 33-1-37-2, *Joint Oil Analysis Program Laboratory Manual, Volume II* and TO 33-1-37-3, *Joint Oil Analysis Program Laboratory Manual, Volume III*. 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-1).**

4.8.4.1.2. **(Added-AETC)** Develop an instruction addressing the OAP and quarterly meeting requirements and required representation. **(T-2).** Review effectiveness of the local OAP. **(T-2).** As a minimum, the following will be topics of discussion during the meeting. **(T-2):**

4.8.4.1.2.1. **(Added-AETC)** Number of OAP samples processed.

4.8.4.1.2.2. **(Added-AETC)** Number and percentage of DD Form 2026 errors. **Note**: Count each DD Form 2026 that has any errors as one error, and then divide the number of discrepant DD Forms 2026 by the total number of OAP samples processed for the error percentage.

4.8.4.1.2.3. **(Added-AETC)** Number of OAP laboratory maintenance recommendations.

4.8.4.1.2.4. **(Added-AETC)** Average OAP sample response time (SRT). **Note**: Enter SRT to the nearest tenth of an hour and do not include the time when the OAP lab is not manned.

4.8.4.1.2.5. **(Added-AETC)** Number and percentage of OAP samples that exceeded required sample response times. **Note:** Obtain the percentage by dividing the number of OAP samples exceeding required sample response time by the total OAP samples processed.

4.8.4.1.2.6. **(Added-AETC)** Number and percentage of aircraft engines not sampled as required by applicable TO. **Note** This is accomplished by dividing the number of aircraft engines not sampled by the total OAP samples processed.

4.8.4.1.2.7. **(Added-AETC)** Number of OAP lab maintenance recommendations confirmed by physical finding of abnormal wear or potential for catastrophic failure "hits".

4.8.4.1.3. **(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).**

4.8.4.1.4. **(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. **(T-2).** The gaining laboratory supervisor will notify the losing laboratory supervisor on receipt of the engine oil analysis history.

4.8.4.1.5. **(Added-AETC)** Notify HQ AETC/A4MSS 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 Spectrometric And Physical Test Laboratory Operating Requirements And Procedures.* Inform HQ AETC/A4MSS when support is requested.

4.8.4.1.6. **(Added-AETC)** Most labs require an alternate power source for both the spectrometer and the HVAC because cycling power and abrupt changes in temp/humidity will seriously affect the spectrometer. Coordinate with base CE to request OAP lab alternate power sources in times of power outages.

4.8.4.2. Advise Maintenance Supervision, MOC and the owning work center of abnormal OAP trends. **(T-1).**

4.8.4.2. **(AETC)** The MOC will notify the owning section and the production superintendent of requests for grounding red cap samples.

4.8.4.2.1. **(Added-AETC)** Following analysis of a requested red cap sample, NDI will immediately notify 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.

4.8.4.2.2. **(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).**

4.8.4.3. Ensure capability exists to perform optical, dye-penetrant, magnetic particle, ultrasonic, eddy current, radiographic and special inspections as required. **(T-1).**

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-1).**

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-1). Note:** Locally developed inspection techniques for use on aircraft and their components will be approved by the responsible ALC NDI manager prior to use. **(T-1).** 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 AFMAN 48-125, *Personnel Ionizing Radiation Dosimetry*, and TO 33B-1-1. **(T-1).**

4.8.4.7. Ensure a Radiation Safety Program is established IAW TO 33B-1-1. **(T-1).**

4.8.4.8. Control and dispose of radiographic silver-bearing materiel IAW AFI 23-101. **(T-1).**

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-1).**

4.8.4.9.1. **(AETC)** AETC Form 453, *Nondestructive Inspection History*, may be used to annotate the individual exposure requirement, the name of the person interpreting the film, the specific number of radiographs relating to exposure requirements, the date of film interpretation, and the required film density level for the exposure. **Note:** This is not required for units that use computed radiography digital imaging. However, these requirements must be recorded in the digital imaging software.

4.8.4.9.2. The name of the person who interpreted the radiography. **(T-1). 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, film density, 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-1).**

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-1).** The NDI Section NCOIC/Chief will ensure disposition of radiographic film IAW AFRDS located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/rims.cfm**. **(T-1).**

4.8.4.10. Ensure all NDI technicians are certified IAW TO 33B-1-1. **(T-1).**

4.8.4.11. **(Added-AETC)** Refer to TO 33B-1-1, *Nondestructive Inspection Methods, Basic Theory*, for specific certification requirements for civil service and 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)** *[Randolph AFB only]* Assume responsibility for research and development as directed by HQ AETC/A4M.

4.8.4.14. **(Added-AETC)** Ensure the NDI/OAP facility is on a priority repair list with base civil engineering.

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** of this instruction, 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-1).**

4.8.5.2. Ensure appropriate resources are available to perform all LO related tasks. **(T-1).**

4.8.5.3. Stock supplies and equipment necessary to support aircraft inspection, and treatment. **(T-1).**

4.8.5.4. Monitor the inspection schedule in the weekly and monthly maintenance plans. **(T-1).**

4.8.5.5. Ensure protective/LO coatings are applied to aircraft, AGE, applicable munitions, and components IAW applicable TOs. **(T-1).** 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-1).**

4.9. Maintenance Flight. May consist of Repair and Reclamation (R&R), Wheel and Tire (W&T), Inspection, and Transient Alert (TA) Sections.

4.9. (AETC) Maintenance Flight. The aero repair function and wheel and tire function may be combined at the discretion of the maintenance squadron commander.

4.9.1. The Maintenance Flight CC/Chief will comply with the common Flight CC/Chief responsibilities in **Chapter 2** of this instruction and locally established management requirements. **(T-1).**

4.9.2. R&R Section. 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.

4.9.2. **(AETC)** AETC Form 403, *Landing Gear/Flight Control Malfunction History* may be used for recording malfunction history.

4.9.2.1. R&R Section, when established, will remove, install, and repair towed-targets and airborne reel pods. **(T-1).**

4.9.3. Wheel and Tire (W&T) Section. Manages the build-up, repair, test, and storage of wheel and tire assemblies and components. W&T Section will:

4.9.3. **(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.

4.9.3.1. 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. **(T-1).**

4.9.3.2. Clean, inspect, and properly store (do not co-mingle) wheel bearings. **(T-1).**

4.9.4. Aircraft Inspection Section. Performs aircraft Phase (PH), Periodic, Isochronal (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** of this instruction, the Inspection Section NCOIC/Chief will:

4.9.4.1. Ensure assigned non-powered SE (e.g., dock stands) is maintained. **(T-1).**

4.9.4.2. Review inspection schedules and ensure dock teams are available to meet inspection needs. **(T-1).**

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-1).**

4.9.4.3.1. Units may use an Automated Data System (ADS) instead of the inspection flow plan to request specialist support.

4.9.4.3.2. Inspection Section NCOIC/Chief will ensure flow plan data remains current with -6 TO requirements. **(T-1).**

4.9.4.4. Inform the MOC and owning agency of all MICAP parts. **(T-1).**

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 periodic (PE) (major or minor), phase (PH), or isochronal (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-1).**

4.9.4.5. **(AETC)** Include AF Form 2410, *Inspection/TCTO Planning Checklist*, and the transaction identification 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. **(T-1).**

4.9.4.6.1. Ensure serially-controlled components are reinstalled on the same aircraft and position from which they were removed. **(T-1). 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. **(T-2).**

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 (N/A to the ANG). Recovers, services, inspects, maintains, and launches transient aircraft. Transient aircraft are those aircraft not assigned to a base that are en route from one location to another that may require routine servicing. Aircraft are not considered transient aircraft when deploying to or staging from a base for the purpose of flying sorties or conducting training with a squadron assigned to the base, with or without the necessary maintenance support from the 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** of this instruction, 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-1).**

4.9.5.2. Complete reimbursement documentation. **(T-1).**

4.9.5.2.1. AF Form 726, *Transient Aircraft Service Record*, may be used for documenting maintenance servicing requirements and necessary billing information.

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-1).** 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-1).**

4.9.5.3.3. Forward completed AF Form 861 for contracted transient alert 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 transient alert activities to the Maintenance Flight CC/Chief for review. **(T-1).**

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-2).**

4.9.5.3.4.2. AF Form 861 may be used to validate manpower and equipment requirements against current AF standards.

4.9.5.4. Close out support general EIDs daily. **(T-1).**

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-1).**

4.9.5.5.1. The TA Section NCOIC/Chief will coordinate all required FCF requirements through owning MXG/CC, off-station transient alert and off-station QA sections. **(T-1).**

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-1).**

4.9.5.6. Supervise maintenance performed by assigned personnel on transient aircraft. **(T-1).**

4.9.5.7. Maintain the appropriate TOs for aircraft that can be expected to transit the function on a regular basis. **(T-1).**

4.9.5.8. Ensure personnel are trained and strictly adhere to oil sample requirements specified in the respective -6 TO. **(T-1).**

4.9.5.9. Ensure personnel authorized to run engines are qualified IAW **Chapter 11** of this instruction. **(T-1).**

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-1).** 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 AFI 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. **(T-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-1).**

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-1).**

4.9.5.12.2. The MXG/CC may direct the LSC to arm, de-arm, and unload an aircraft on which they are not certified/qualified, if appropriate technical data and support equipment is available.

4.9.5.12.2.1. In such cases, the aircrew shall be available for consultation on aircraft peculiarities. **(T-2).**

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-1).**

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. The host GP/CC or his authorized representative may delegate this responsibility to the transient aircraft commander/pilot if the aerospace vehicle is a new or experimental aerospace vehicle with which base maintenance personnel are not familiar, or when personnel qualified to provide the required services accompany the aerospace vehicle. In such cases, the host unit will provide assistance within their capability. **(T-3).**

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 material (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 AFI 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 turbo-prop/turbo-shaft repair, engine PH/ISO inspections, as required. Sections may be combined or grouped at the discretion of the MXS/CC. When an engine CRF is co-located with an operational wing a MOA/MOU may be developed to clarify mutual support responsibilities. In addition, the flight will be the focal point for common propulsion support equipment i.e., 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 HQ AETC/A4MS.

4.11.1. In addition to the applicable Flight CC/Chief responsibilities in **Chapter 2** of this instruction, 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-1).**

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-2).**

4.11.1.3. Coordinate with Engine Manager (EM) and organization leadership to support War Readiness Engine (WRE) requirements. **(T-1).**

4.11.1.3. **(AETC)** War Readiness Engine (WRE) and Target Serviceable Requirement (TSR) are synonymous in AETC. Units will compute requirements using TSR IAW AFMAN 20-116, *Propulsion Life Cycle Management For Aerial Vehicles.*

4.11.1.3.1. Propulsion Flight CC/Chief will 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, Oil Analysis Program (OAP) code (if applicable), and remarks. **(T-1).**

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 Operating Limits and Pipeline Times*, including QEC configuration when applicable. **(T-1).**

4.11.1.5. Coordinate with the EM to ensure accurate engine and equipment status reporting IAW AFI 20-115, AFI 21-103 and TO 00-25-254-1, *Comprehensive Engine Management System (CEMS) (D042) Engine Status, Configuration, and TCTO Reporting Procedures.* **(T-1).**

4.11.1.6. Provide RN (JEIM regional repair, and/or CRF) support to other organizations, when tasked (refer to AFI 20-117). **(T-1).**

4.11.1.7. Develop guidelines to comply with AF and wing OAP requirements IAW

33-series TOs and AFI 21-124. **(T-1).**

4.11.1.8. Review/analyze all unscheduled engine or module removals and ETS rejects. **(T-1).** Propulsion Flight CC/Chief will:

4.11.1.8.1. Review/analyze major component failure trends. **(T-1).**

4.11.1.8.2. Provide input to the MXG/CC's ET&D program IAW AFI 20-115. **(T-1).**

4.11.1.9. Ensure in-shop CANN actions are accomplished IAW local procedures, **Chapter 9** and **Chapter 11** of this instruction and TO 00-20-2. **(T-1).**

4.11.1.9.1. Ensure local procedures are coordinated with Engine Management (EM) to ensure sufficient time remains on TCIs prior to CANN action approval. **(T-1).**

4.11.1.10. Coordinate with base civil engineering to provide maintenance on NSS and ETS supporting structures that are categorized as real property. If the wing or squadron is a tenant, incorporate this maintenance requirement into the host-tenant support agreement. **(T-1).**

4.11.1.10.1. Ensure NSS and/or ETS repair discrepancies that exceed the base repair capability are reported in RAMPOD. **(T-1). Note:** Entering repair requirements into RAMPOD establishes official repair request and ensures visibility to MAJCOM and Support Equipment PGM at WR-ALC.

4.11.1.11. Ensure an uninstalled engine run qualification/certification program is established IAW **Chapter 11** of this instruction. **(T-1).**

4.11.1.12. 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*. **(T-1).**

4.11.1.13. Ensure engines and engine components removed from crash damaged aircraft are disposed of IAW AFI 23-101. **(T-1).**

4.11.1.14. Ensure an engine flexible borescope certification and blade-blending certification program, for each Type, Model, Series (TMS) possessed, is established IAW **Chapter 11** of this instruction. **(T-1).**

4.11.1.15. 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-1).**

4.11.1.15.1. The Propulsion Flight CC/Chief and EM will develop a 6-month plan to smooth surges in the engine maintenance workload. **(T-1).**

4.11.1.15.1.1. Use automated methods to develop the 6-month plan and include scheduled engine removals for TCIs, Periodic (PE) Inspections, TCTOs and a projected unscheduled removals factor.

4.11.1.15.1.2. The Propulsion Flight CC/Chief will ensure Reliability-Centered Maintenance (RCM) principles IAW AFMAN 20-116 are followed. **(T-1).**

4.11.1.16. Ensure Engine Automated Work Package (EAWP) user permissions mirror

current training/certification authorizations. **(T-1).**

4.11.1.16.1. Users of EAWP may use the EAWP program in lieu of a work folder to meet minimum requirements of this AFI.

4.11.1.17. Coordinate with the OAP laboratory to obtain maximum benefits from OAP data when abnormal wear-metal trends are indicated. **(T-1).** The Propulsion Flight CC/Chief will:

4.11.1.17.1. Ensure all OAP responsibilities are performed IAW AFI 21-124. **(T-1).**

4.11.1.17.2. Establish procedures to monitor OAP trends. **(T-1).**

4.11.1.17.3. 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. **(T-1).**

4.11.1.17.4. Ensure oil samples taken at the ETS are promptly delivered to the OAP laboratory. **(T-1).**

4.11.1.17.5. Act as a central point-of-contact for all abnormal OAP laboratory results. **(T-1).**

4.11.1.17.6. Forward information to the OAP laboratory concerning actions taken as a result of OAP recommendations. **(T-1).**

4.11.1.17.7. Review OAP response time (from sampling to receipt at the laboratory and return to the unit) to ensure processing time meets mission needs. **(T-1).**

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 AFMAN 23-122, Sec. 5B. **(T-2).** In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2** of this instruction, the Support Section NCOIC/Chief will:

4.11.2.1. Ensure a flight due-out release point and holding bins are established, and UND "A" and Urgency Justification Code (UJC) BQ requirements are verified. **(T-1).**

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** of this instruction, 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-1).**

4.11.3.1. **(AETC)** Units will compute requirements using TSR IAW AFMAN 20-116.

4.11.3.1.1. The JEIM Section NCOIC/Chief will report production to Propulsion Flight CC/Chief and immediately inform EM of engine status changes IAW AFI 20-115. **(T-1).**

4.11.3.2. Ensure personnel prepare propulsion units and components for shipment and properly identify units to be returned to depot. **(T-1).**

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. **(T-1).**

4.11.3.3. Ensure documentation of TCTO compliance IAW 00-20-series TOs. **(T-1).**

4.11.3.4. Ensure CEMS and/or MIS products obtained from EM are used for all assigned engines. **(T-1).**

4.11.3.4.1. CEMS and/or MIS products will list all parts and serial numbers installed on the engine. **(T-1).**

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-1).**

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-1).**

4.11.3.5.2. EAWP users EME will be the change correction authority on Part Number/Serial Number Record. **(T-1).**

4.11.3.6. Ensure an engine work folder is established for each engine during periodic inspection, reconditioning, or other maintenance. **(T-1).**

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/WCE/Work Event Separator (WES) 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. All engine shops will establish engine work folders on all possessed engines and EM or JEIM will maintain the folders until the engine is transferred. **(T-1).** 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-1).**

4.11.3.6.2.2. Engine/Module/Accessories Information Worksheet. **(T-1).** 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-1).**

4.11.3.6.2.2.1. The Section NCOIC/Chief reviews signature blocks (Crew Chief, Support Section, EM Section) and verifies all repair requirements have been accomplished and will documented in the work folder. **(T-1).**

4.11.3.6.2.2.2. A JCN is created by the JEIM/Module/Accessories Flight or EM section and is used to process repair of the engine and modules. 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-1).** 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 (TEMS) 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-1).**

4.11.3.6.2.4. Serially-Controlled/Time-Tracked Item Replacement Record. **(T-1).** 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-1).** 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 (e.g., 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-1).** Units may use a general purpose or MAJCOM/locally approved form.

4.11.3.6.2.6. IPI Worksheet. **(T-1).** 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 (e.g., Interactive Electronic Technical Manual (IETM).

4.11.3.6.2.7. Parts Requisition Record. **(T-1).** 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-1).**

4.11.3.6.2.8. JEIM ETS Preparation Worksheet. **(T-1).** 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 (e.g., cap open lines, cannon plugs, engine intake and exhaust

inspection). **(T-1).**

4.11.3.6.2.8.2. A thorough tool inventory and an inspection for loose hardware. **(T-1).**

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-1).**

4.11.3.6.2.9. ETS Pre-run Worksheet. **(T-1).** ETS personnel will complete this document prior to an engine run. **(T-1).**

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-1).**

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-1).**

4.11.3.6.2.9.2.1. Each area inspection will have the performing technician's employee number and date accomplished annotated. **(T-1).**

4.11.3.6.2.10. ETS Post Run Worksheet. **(T-1).** 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; ETS Supervisors Post-run Review with Name, Signature and Date; and Area Inspections, Employee Number and Date. **(T-1).**

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*, Attached; 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-1).**

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-1).**

4.11.3.6.2.10.4. Each area inspection will have the performing technician's employee number and date accomplished annotated. **(T-1).**

4.11.3.6.2.11. Final Inspection Worksheet. **(T-1).** 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-1).**

4.11.3.6.2.12. Borescope Worksheets. **(T-1).** Borescope inspection worksheets will be used for engines requiring borescope documentation. **(T-1).**

4.11.3.6.2.13. Uninstalled Engine/Module Blade Blending/FOD Damage Worksheet. **(T-1).** 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, Corrective Action including number of blades blended, depth of damage before and after blend, area of damage and Employee Number. **(T-1).**

4.11.3.6.2.14. RCM Worksheets (if applicable). **(T-2).**

4.11.3.6.2.14.1. For JEIM engine builds, a copy of the "RCM Build Options" and "RCM Calculator Summary" worksheets are maintained in the engine work folder or EAWP for documenting life-limited component engine build recommendations.

4.11.3.6.2.14.2. Utilize RCM calculator software in JEIM prior to engine build (see **https://gimms.tinker.af.mil**).

4.11.3.6.2.14.3. 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 RCM. 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-1).**

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-1).**

4.11.3.7. Ensure MICAPs are processed in ES-S; ensure all pertinent data is included. **(T-1).**

4.11.3.8. Upgrade, downgrade and cancel MICAP requirements. **(T-1).**

4.11.3.9. **(Added-AETC)** Accomplish J85 Retained Task Requirements IAW TO 1T-38-2-6, 2J-J85-116 series and 2J-J85-111-1 on installed and removed engines. Refer to paragraph **13.6.3** 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** of this instruction, the NSS and ETS Section NCOIC/Chief will:

4.11.4.1. Assign primary and alternate RAMPOD custodians to perform -107 engineering support request and status updates in RAMPOD for WR-ALC-managed NSSs and ETSs. **(T-1).**

4.11.4.2. Monitor repair activity and ensure reporting and status updates are timely, accurate and kept current in RAMPOD. **(T-1).**

4.11.4.3. Ensure NSS and ETS personnel accomplish minor maintenance, make adjustments to engines, and document engine condition. **(T-1).**

4.11.4.3.1. Ensures ETS components are calibrated on site, if practical. **(T-1).**

4.11.4.4. Brief maintenance personnel on NSS/ETS operating/emergency procedures. **(T-1).**

4.11.4.5. Handle and report halon releases IAW AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, and AFI 32-7086. **(T-1).**

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** of this instruction, the Small Gas Turbine Engine Section NCOIC/Chief will ensure personnel are qualified to operate small gas turbine engines and test stands. **(T-1).**

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 trailer status is properly reported IAW AFI 21-103 and MAJCOM supplements. **(T-1).**

4.11.7.2. Track all removal/installation/transportation trailers and adapters in the MIS. **(T-1).**

4.11.7.3. Ensure equipment forms and MIS documentation are complete, accurate, and accomplished for all maintenance and scheduled inspections. **(T-1).**

4.11.7.4. Ensure status is accurately reflected in both the maintenance forms and

the MIS. **(T-1).**

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 Quick Engine Change (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-1).**

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-1).**

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-1).**

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 (N/A to the ARC). 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 geographically-separated units. Calibrates, certifies, and maintains TMDE IAW TO 00-20-14, TO 33K-1-100-2-CD-1, and the supported CMS. A Rapid Assistance Support for Calibration (RASCAL) may also be assigned.

4.12.1. In addition to applicable Flight CC/Chief responsibilities in **Chapter 2** of this instruction, and TO 00-20-14, the TMDE Flight Chief (referred to as "PMEL Manager" in TO 00-20-14) will:

4.12.1.1. Ensure all TMDE (AF-owned, leased, or borrowed) used on an AF installation to support an AF mission is calibrated under the guidance of the AFMETCAL program. **(T-1).**

4.12.1.1.1. TMDE owned and used by contractors performing under an AF contract

on an AF installation to support an AF mission is considered leased/borrowed equipment when determining calibration requirements. See AFI 21-113, *Air Force Metrology and Calibration (AFMETCAL) Management*, and TO 00-20-14 for additional guidance.

4.12.1.2. Establish a PMEL Quality Assurance Section. **(T-1).** The PMEL Quality Program (QP) is outlined in TO 00-20-14.

4.12.1.2.1. The QP is established by the TMDE Flight Chief and the PMEL Quality Section NCOIC/Chief is responsible to the TMDE Flight Chief.

4.12.1.2.2. The PMEL QP and AFMETCAL Program evaluates processes used to validate the technical proficiency and capability of the PMEL.

4.12.1.2.3. Personnel Evaluations (PE), Quality Verification Inspections (QVI), and Evaluator Proficiency Evaluations (EPE) will not be performed on calibration/certification tasks by MSEP. **(T-1).**

4.12.1.2.3.1. MSEP PEs and QVIs may be performed on other logistics/maintenance actions within PMEL to include, but not limited to, production control, maintenance supply actions, and QA functions not associated with calibration/certification tasks but identified on the flight's MTL.

4.12.1.2.4. The TMDE Flight Chief will publish a monthly QP Activity Summary and route it through the Operations Officer/MX SUPT to the SQ/CC (or organizational equivalent). **(T-2).**

4.12.1.2.4.1. The report format shall comply with TO 00-20-14 and meet local requirements. **(T-2).**

4.12.1.2.4.2. Groups with TMDE Flights assigned will include the TMDE QP Activity Summary data in the QA monthly summary IAW **Chapter 6** of this instruction. **(T-2).**

4.12.1.3. Establish a Production Control Section. **(T-1).** The Production Control Section will:

4.12.1.3.1. Ensure TMDE monitors are properly trained and maintain a database or log to track training events (dates, names, organizations, etc.). **(T-3).**

4.12.1.3.2. Use the PMEL Automated Management System (PAMS)/MIS to control TMDE processed for maintenance. **(T-1).**

4.12.1.3.3. Ensure the current status of all TMDE processed into the PMEL for repair and calibration is reflected in the PAMS/MIS database. **(T-3).**

4.12.1.4. Assist Owning Work Center (OWC) personnel in locating TMDE to meet their mission requirements and avoid abuse of the TMDE priority system. **(T-3).** The OWC should attempt to meet mission requirements prior to requesting emergency or mission essential support. TMDE will be scheduled using one of the three following categories:

4.12.1.4.1. EMERGENCY Calibration or Repair: TMDE that is inoperable or due calibration and for which a critical job is at a work stoppage.

4.12.1.4.1.1. A letter of justification signed by the OWC Maintenance Supervision must accompany the TMDE. **(T-3).** The letter may be handwritten to prevent delay. Telephone verification between the OWC and PMEL is encouraged.

4.12.1.4.1.2. PMEL must accept emergency TMDE at any time. **(T-2).** Immediate and continuous repair action is required until repair/calibration is completed or status of the item changes (e.g., AWP, deferred for lack of standards or technical data).

4.12.1.4.1.3. The TMDE Flight Chief may require an OWC technician to accompany the TMDE.

4.12.1.4.1.3.1. The technician should remain at the PMEL to provide technical assistance until the work is completed or placed in an interim-complete status.

4.12.1.4.1.4. The OWC or using organization must pick up the TMDE immediately upon notification of completion. **(T-3).**

4.12.1.4.2. MISSION ESSENTIAL Calibration or Repair: TMDE that is part of a unit's deployment package, is critical to daily peacetime operations, or TMDE assets falling below critical availability levels.

4.12.1.4.2.1. A letter of justification signed by the OWC Flight CC/Chief or equivalent will accompany the TMDE unless pre-identified by OWC Flight CC/Chief and approved by TMDE Flight Chief or delegated approval authority. **(T-3).**

4.12.1.4.2.2. PMEL must accept mission essential TMDE any time during duty hours and schedule it with sufficient priority to ensure the calibration/ repair is complete by the date and time specified by the customer. **(T-3).**

4.12.1.4.2.3. The OWC or using organization must pick up the TMDE immediately upon notification of completion. **(T-3).**

4.12.1.4.3. ROUTINE Calibration or Repair: TMDE not categorized as emergency or mission essential. PMEL must accept routine TMDE during normal turn-in and pick-up hours. **(T-3).**

4.12.1.5. Establish a Maintenance Supply Support Function. **(T-2).** Maintenance Supply Support function will:

4.12.1.5.1. Manage the flight's maintenance-supply actions IAW **Chapter 9** of this instruction, and AFI 23-101. **(T-2).** Provide assistance to other flight personnel to resolve supply problems.

4.12.1.6. Manage shipment of TMDE. **(T-2).** TMDE items needing contract, warranty, depot or lateral calibration/repair and return are processed through local Deployment and Distribution Flight, Traffic Management Element IAW TO 00-20-14, and AFI 24-203.

Chapter 5

MAINTENANCE OPERATIONS

5.1. General. Maintenance Operations (MO) is directly responsible to the MXG/CC for the administration, analysis, training management, and programs and resources necessary to support the group's production effort. MO is comprised of the following sections: EM, PS&D, MMA, MOC, MT, and Programs and Resources (P&R). In missile organizations, MO will be organized as a Maintenance Operations Squadron, as applicable. For the purposes of this instruction, the term Maintenance Operations is equivalent with Maintenance Operations Flight for ANG units.

5.2. Maintenance Operations (MO). MO 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. **(T-3)**. (N/A to the ANG).

5.2.1. **Maintenance Operations Officer-in-Charge/Superintendent (OIC/SUPT).** In addition to the applicable Flight CC/Chief responsibilities in **Chapter 2** of this instruction the MO OIC/SUPT will:

5.2.1.1. 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-1).**

5.2.1.2. Determine long-range fleet health maintenance priorities. **(T-1).**

5.2.1.3. Manage the data collection process, review data and verify analysis for maintenance data collection requirements. **(T-1).**

5.2.1.4. Evaluate and provide trend analysis information to the MXG/CC and SQ/CCs. **(T-1).**

5.2.1.5. Ensure aircraft status is properly reported and maintained IAW AFI 21-103. **(T-1).**

5.2.1.5.1. Designate an Aerospace Vehicle Distribution Officer (AVDO) in PS&D and ensure they accurately report all assignment/possession changes through the MAJCOM AVDO IAW AFI 21-103 and AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*. **(T-1).**

5.2.1.6. Initiate, review, and validate special analysis studies. **(T-1).** MO OIC/SUPT will:

5.2.1.6.1. Determine planning factors for the next year's flying hour program. **(T-1).**

5.2.1.6.2. Ensure the Mx CAP2 model is utilized for the assigned MDS, if available. **(T-1).**

5.2.1.7. 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" (G081 units are exempt as long as a Higher Headquarters (HHQ) agency accomplishes this requirement). **(T-1).**

5.2.1.7.1. IMDS units will use code "XXXX", and G081 units will use "CCCC" for classified locations. **(T-1).**

5.2.1.7.2. The MO OIC/SUPT will ensure any deploying unit loads all equipment into the IMDS-CDB AEF subsystem (G081 units are exempt). **(T-1).**

5.2.1.8. Host DFTs/CFTs, provide in-briefs on unit-specific maintenance and tool-control requirements, review plans and coordinate/monitor status of aircraft and progress of repair work. **(T-1).**

5.2.1.9. Participate in the review of base level repair capability IAW TO 00-20-3, AFI 21-123, and supplements. **(T-1).**

5.2.1.10. Publish wing notification requirements for munitions-loaded or unloaded aircraft. **(T-2).**

5.2.1.11. Publish local radio call signs for maintenance LMR networks. **(T-1).**

5.2.2. **Maintenance Operations Center (MOC)**. The MOC monitors and coordinates sortie production, 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 (e.g., fuel or calibration docks, wash racks, and dispatched specialists from the maintenance squadron(s) (e.g., 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.

5.2.2. **(AETC) The Maintenance Operations Center (MOC).** The MOC will review the on- line IMDS debrief sortie recap, screen 174, and the IMDS background products daily *Accomplishment Utilization Report (Screen 362), Deviation Detail Listing (Screen 181)* and *Deviation Summary Inquiry (Screen 173)* to ensure accuracy of deviation reporting. **(T-2).** The MOC will also review *Uncompleted Operational Events*, IMDS screen 719, daily to ensure uncompleted sortie lines are deviated using Deviation Start/Stop/Correction/Abort/Delete (Screen 350), or deleted using IMDS screen 883, Operational Events Delete, if necessary after coordination with debrief section and Maintenance Operations (MO) PS&D. **(T-2).** The MOC will record additions, cancellations before crew show, tail swaps and spare usage in IMDS as they occur. **(T-2).** Deviation reporting provides an audit trail to identify variations to the printed schedule for analysis and scheduling sections.

5.2.2.1. The MOC will:

5.2.2.1.1. 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-1).**

5.2.2.1.2. Utilize the Enhanced Maintenance Operations Center (EMOC). **(T-1). Exception:** For those units using G081, the use of EMOC is optional.

5.2.2.1.2.1. EMOC is the program of record for the AF and its use is mandated for all units using the Integrated Maintenance Data System Central Database (IMDS CDB) for aircraft maintenance data collection/documentation.

5.2.2.1.2.2. An EMOC interface to the Core Automated Maintenance System for Mobility (CAMS-FM/G081) has not been completed to date. If EMOC is used, dual entry of maintenance data will be required until the EMOC/G081 interface is implemented. **(T-1).**

5.2.2.1.3. Aircraft maintained or supported by the unit but not on station will also be tracked (aircraft cross country etc.). **(T-1).**

5.2.2.1.4. Coordinate maintenance on the alert force, if applicable. **(T-1).**

5.2.2.1.5. Ensure status boards depicting aircraft status and location comply with Security Program guidelines. **(T-1).**

5.2.2.1.6. Monitor the status and ETIC of MEL-designated AGE if it falls below critical levels. **(T-1).**

5.2.2.1.7. Monitor the status of ECM and sensor pods IAW AFI 10-201, *Status of Resources and Training System.* **(T-1).**

5.2.2.1.7.1. 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-1).**

5.2.2.1.7.2. Classify information IAW AFI 31-401, *Information Security Program Management*.

5.2.2.1.8. Verify aircraft status and ETICs with the Pro Super(s) and ensure they are properly documented in the MIS IAW AFI 21-103, AFCSM, 21-564, Vol 2, *Status and Inventory Reporting Software User Manual*. **(T-1).**

5.2.2.1.8. **(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.

5.2.2.1.8.1. The MOC will verify aircraft status and ETIC using the MIS before reporting it. **(T-1).**

5.2.2.1.9. Inform affected activities of changes in priorities, plans, and schedules. **(T-1).**

5.2.2.1.10. Coordinate on changes to the operations schedule with applicable agencies by use of AF Form 2407. **(T-1).** The MOC will:

5.2.2.1.10.1. Ensure all deviations to the daily operations schedule are reviewed

and accurately reported. **(T-1).**

5.2.2.1.10.2. Forward a copy of each AF Form 2407 and the daily flying schedule, with all annotated deviations, to MMA. **(T-1).**

5.2.2.1.11. Request support services outside the scope of the MXG (e.g., 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-1).**

5.2.2.1.11.1. Coordinate on all aircraft engine runs and all aircraft ground movements conducted by maintenance personnel prior to execution. **(T-1).**

5.2.2.1.12. Develop, implement, and maintain functional checklists. **(T-1).**

5.2.2.1.12.1. Functional checklists are required for use during actions such as nuclear mass loads, Broken Arrow, Dull Swords, Bent Spear, aircraft crash, aircraft FOD, aircraft damage, flightline fire, severe weather warning or evacuation, runway closure, Quick Reaction Checklists (QRC), injuries resulting from aircraft maintenance and any other unusual circumstances deemed necessary.

5.2.2.1.12.1. **(AETC)** Develop the following functional checklists as required: EWO 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.

5.2.2.1.12.2. For OPLAN 8010 notification, use the plan implementation checklists.

5.2.2.1.12.2.1. Use unit OPLANs as a guide in developing these checklists.

5.2.2.1.12.2.2. Checklists contain those actions required to be taken by functional area(s).

5.2.2.1.12.2.3. The MOC will maintain checklists that implement all approved MAJCOM and local requirements. **(T-2).**

5.2.2.1.13. Coordinate munitions delivery priorities with flying units and munitions maintenance activities/control, when tasked. **(T-1).**

5.2.2.1.13.1. 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-2).**

5.2.2.1.13.1.1. The MOC will provide agencies with the aircraft type, tail number, location, type of explosives, and arming status. **(T-1).**

5.2.2.1.14. Upon notification of deployments, ensure all deploying equipment is

identified and loaded into the IMDS-CDB, AEF subsystem or designated MIS equivalent for the duration of the deployment. **(T-1).**

5.2.2.1.15. Monitor and manage reporting of Hangar Queen aircraft/systems IAW **Chapter 11** of this instruction. **(T-1).**

5.2.2.1.15. **(AETC)** Report Hangar Queen data to HQ AETC/A4MMA according to AETCI 21-105, *Logistics Performance Measures Reporting Procedures*. **(T-2).**

5.2.2.1.16. Notify Flightline Expediters of OAP code "C" and "E" conditions. **(T-1).**

5.2.2.1.16. **(AETC)** Notify the EM section of any codes that restrict or limit engine operation/aircraft flight. **(T-2).**

5.2.2.1.17. Ensure facilities and visual aids meet the following minimum standards:

5.2.2.1.17.1. A completely enclosed room with air conditioning and heating. **(T-1).** An observation room is permitted.

5.2.2.1.17.1.1. Doors to the MOC and the observation room will be either mechanically or electrically locked to control access. **(T-1).**

5.2.2.1.17.2. Isolate MOC electrical power circuits and provide a standby power source and emergency lighting. **(T-1).**

5.2.2.1.17.2.1. The MOC will establish procedures to operate standby power sources. **(T-1).**

5.2.2.1.18. Maintain the status and location of all transient aircraft. **(T-1).**

5.2.2.1.18.1. Post the priority of each transient aircraft on the status board, based on the maintenance priorities listed in **Table 1.1** **(T-1).**

5.2.2.1.18.2. Coordinate with the appropriate agency for aircraft maintenance support. **(T-1).**

5.2.2.1.18.3. Contact WS for arming or de-arming of transient aircraft IAW **Chapter 11** of this instruction. **(T-1).**

5.2.2.2. MOC Maintenance Communications. Reliable, redundant and effective communications systems are essential for efficient operation. Communications equipment will be operated and managed IAW AFI 33-590, Radio *Management*, AFI 33-580, *Spectrum Management*, and AFI 33-200, *Information Assurance (IA) Management*. The MOC NCOIC/SUPT will:

5.2.2.2.1. Establish a procedure to process requests for specific radio equipment to support maintenance activities IAW AFMAN 23-122. **(T-1).**

5.2.2.2.1.1. Specific radio allowances are stated in AS 660 at **https://earms2.wpafb.af.mil/SITES/ASRS/HOME.ASP.**

5.2.2.2.2. Ensure a Very High Frequency (VHF)/Ultra High Frequency (UHF)/ High Frequency (HF) radio is authorized and available to provide communications between aircraft and maintenance. **(T-1).**

5.2.2.2.3. Ensure the MOC has a hotline on the secondary crash phone net. **(T-1).**

5.2.2.2.3.1. 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-1).**

5.2.2.2.4. Develop and exercise comm-out procedures to include loss of radios, Local Area Network (LAN) and phone. **(T-1).**

5.2.2.2.5. Ensure MOC personnel receive initial radio operating training before assuming duties involving radio operations IAW AFI 33-590 and **Chapter 11** of this instruction. **(T-1).**

5.2.3. **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. Combine functions supporting EM within the wing and physically co-locate with the Propulsion Flight. The SRAN Engine Manager works and is co-located with the EM section.

5.2.3. **(AETC)** The 33 FW engine management function is performed by Lockheed Martin and Pratt Whitney with inputs from the unit.

5.2.3.1. Specific EM responsibilities are detailed in **Chapter 15** of this instruction.

5.2.4. **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.

5.2.4.1. Specific PS&D responsibilities are detailed in **Chapter 15** of this instruction.

5.2.5. **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 perform analyses to assess and improve unit performance (e.g., 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. IMDS-CDB/G081 and Reliability and Maintainability Information System (REMIS) are the prime sources of data.

5.2.5. **(AETC)** ALIS is the primary source of data for the F-35 aircraft.

5.2.5.1. MMA will:

5.2.5.1.1. Be centrally organized but may locate analysts in the squadron to enable maximum responsiveness and effectiveness.

5.2.5.1.1.1. 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-1).**

5.2.5.1.2. Establish working relationships with the MXG and squadron leadership through visits to work centers and provide assistance to all unit personnel in the area of the MIS, data extraction and interpretation. **(T-1).**

5.2.5.1.3. Review data for anomalies and identify areas requiring further study. **(T-1).**

5.2.5.1.3.1. Provide presentations, reports, studies/analyses, and briefings as requested or deemed appropriate. **(T-1).**

5.2.5.1.3.2. Provide information on analysis services and capabilities to unit supervision. **(T-1).**

5.2.5.1.4. Assist unit leaders with the application and interpretation of maintenance data. **(T-1).**

5.2.5.1.5. 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-1).**

5.2.5.1.5. **(AETC)** The Maintenance Analysis Section (HQ AETC/A4MMA) is the POC for Maintenance Management Analysis (MMA); refer to AETCI 21-105. Analyze maintenance and flying performance data and provide the cause of any trends to management and scheduling functions. Develop annual and monthly attrition factors for weather, maintenance, supply, operations, and other variables into a total attrition factor.

5.2.5.1.5.1. MAJCOMs will publish attrition and spare factors computations in a supplement to this instruction.

5.2.5.1.5.1. **(AETC)** 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.)

5.2.5.1.5.1.1. MMA will use MAJCOM supplement guidance to calculate attrition and spare factor computations. **(T-1).**

5.2.5.1.5.1.2. **(Added-AETC)** Compute spare aircraft requirements annually.

5.2.5.1.5.1.3. **(Added-AETC)** Review sortie scheduling effectiveness and flying deviations for trends.

5.2.5.1.5.1.4. **(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, or AF Form 2407.

5.2.5.1.5.2. MMA will provide required data to populate the Mx CAP2 model,

when used. **(T-1).**

5.2.5.1.6. 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-1).**

5.2.5.1.7. Verify accuracy of the Job Data Documentation (JDD) subsystem of MIS. **(T-1).** MMA will:

5.2.5.1.7.1. Validate data entered into MIS as part of daily analysis duties and informs affected agencies of discrepancies. **(T-1).**

5.2.5.1.7.2. Identify erroneous or missing data to the responsible agency for correction or completion. **(T-1).**

5.2.5.1.8. Control the assignment of unit work center and mnemonic codes. **(T-1).** MMA will:

5.2.5.1.8.1. Coordinate with P&R on the assignment of alpha numeric and work center codes. **(T-1).**

5.2.5.1.8.2. Publish written guidance to control these codes when not provided by higher headquarters and may use multiple mnemonic codes within a work center code to accommodate different AFSCs assigned. **(T-1).**

5.2.5.1.8.3. Coordinate new or revised mnemonic codes with affected activities for planning purposes. **(T-1).**

5.2.5.1.8.4. **(Added-AETC)** IMDS units will ensure work center numbers comply with TO 00-20-2, Appendix A.

5.2.5.1.9. Be responsible for system database management. **(T-1).** Work centers throughout the organization manage those applications and functions applicable to their environment.

5.2.5.1.10. Assists MIS users in developing procedures for collecting information from deployments and exercises where the MIS is not available. **(T-1).**

5.2.5.1.11. **(Added-314AW)** Advise the 314th Operations Group Commander, 314th Maintenance Group Commander, and staff on system status.

5.2.5.1.12. **(Added-314AW)** Coordinate all G081 related processing with the Defense Enterprise Computing Center (DECC) and users.

5.2.5.1.13. **(Added-314AW)** Maintain overall control of G081 and serve as the primary advisor for G081-related problems to include monitoring G081 activities and ensuring continuity within the system.

5.2.5.1.14. **(Added-314AW)** Conduct G081 user group meetings at least quarterly, then record and distribute the G081 user group meeting minutes.

5.2.5.1.15. **(Added-314AW)** Coordinate with DECC, Oklahoma City and G081 subsystem monitors prior to loading G081 updates. Coordination will include dates, times, responsibilities, and affected changes.

5.2.5.1.16. **(Added-314AW)** Review all changes to G081 policies and releases prior to implementation. Create System Deficiency Reports using screen 9038 (00-ALC Form 529, *Deficiency Reporting System*) for G081, when needed.

5.2.5.2. In addition to the applicable Section NCOIC/Chief responsibilities outlined in **Chapter 2** of this instruction, the MMA Section NCOIC/Supervisor will:

5.2.5.2.1. Ensure each analyst assigned attends a local familiarization course for 2R0X1 personnel. **(T-1).**

5.2.5.2.1.1. 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-1).**

5.2.5.2.1.2. Analysts will attend the course within 3 months of assignment to the unit. **(T-1).**

5.2.5.2.1.3. For remote assignments, analysts will attend within 1 month of assignment. **(T-1).**

5.2.5.2.1.4. For ARC, Analysts will attend the course within 6 months of assignment to the unit. **(T-1).**

5.2.5.3. Maintenance Information Systems (MIS). For management of IMDS-CDB, G081, and 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.

5.2.5.3.1. Request to modify/create new functionality within IMDS-CDB IAW AFSCM 21-556 Vol 2. **(T-1).** G081 units will submit a System Change Request for any new requirements or corrections to existing features. **(T-1).**

5.2.5.3.2. Documentation Accuracy and Completeness. Data integrity is the responsibility of every member of the unit. All personnel are responsible for ensuring accuracy and completeness.

5.2.5.3.2.1. Subsystem monitors are responsible for ensuring the accuracy of their subsystem.

5.2.5.3.3. MAJCOMs will provide guidance describing the management of MIS assigned to wings within their command. At a minimum the guidance will establish procedures to ensure:

5.2.5.3.3.1. IMDS-CDB/G081 security is maintained IAW AFI 33-200 and AFI 33-115, *Air Force Information Technology (IT) Service Management.*

5.2.5.3.3.1.1. Analysis personnel coordinate MIS access permission requirements to enable MDD on non-possessed aircraft.

5.2.5.3.3.2. Analysis personnel provide expertise on IMDS-CDB/G081 for resolution of problems beyond the workcenter's and sub-system monitors' control.

5.2.5.3.3.2. **(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 AFCSM 21-series manuals. If the subsystem monitor cannot resolve a problem, elevate it to the data base manager (DBM). Each subsystem monitor reports hardware/software problems to the unit DBM, assists MT 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. Section Chiefs of the appropriate functional will appoint subsystem monitors and their alternates and notify the DBM of the appointment. The following list assigns functional responsibilities for the various IMDS-CDB subsystems **(T-2)**:

5.2.5.3.3.2.1. **(Added-AETC)** MMA is responsible for the overall management of the JDD subsystem and provides overall management and control of the maintenance deferred code listing. Changes to the table will be coordinated with PS&D.

5.2.5.3.3.2.2. **(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 (GCSAS), and aircraft inventory subsystems. Coordinate with MMA on the AEF subsystem.

5.2.5.3.3.2.3. **(Added-AETC)** The EM section is responsible for CEMS.

5.2.5.3.3.2.4. **(Added-AETC)** MOC is responsible for overall management and control of the location subsystem and aircraft status reporting (IMDS- CDB/REMIS corrections).

5.2.5.3.3.2.5. **(Added-AETC)** Avionics section is responsible for overall management and control of the Automatic Test Reporting System (ATERS) (IMDS-CDB/REMIS corrections).

5.2.5.3.3.2.6. **(Added-AETC)** Egress section is responsible for overall management and control of the egress configuration management (IMDS-CDB/REMIS corrections).

5.2.5.3.3.2.7. **(Added-AETC)** MT is responsible for overall management and control of the training management subsystem.

5.2.5.3.3.2.8. **(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.

5.2.5.3.3.3. Support is provided to tenant organizations and users.

5.2.5.3.3.4. Coordination with the Defense Enterprise Computing Center (DECC) or AF Network Control Center (AFNCC) on all matters concerning

IMDS-CDB.

5.2.5.3.3.5. The DECC supports all requirements concerning the operation and maintenance of IMDS-CDB.

5.2.5.3.3.6. Scheduled MIS downtime is published for users.

5.2.5.3.3.6. **(AETC)** The DBM will prepare a maintenance automated data system (ADS) 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:

5.2.5.3.3.6.1. **(Added-AETC)** Manual backup procedures for MIS as well as restart and recovery priorities and procedures.

5.2.5.3.3.6.2. **(Added-AETC)** The schedule of priorities for systems and subsystems for off-site processing. Only those programs absolutely necessary for mission support will be processed off site unless the base or regional processing center (RPC) gives prior approval.

5.2.5.3.3.6.3. **(Added-AETC)** Procedures for accomplishing off-site processing and return and distribution of output products.

5.2.5.3.3.6.4. **(Added-AETC)** ID of personnel to proceed to the off-site location to coordinate processing.

5.2.5.3.3.6.5. **(Added-AETC)** Restart and (or) recovery priorities and procedures for home-site operations upon regaining base or RPC support.

5.2.5.3.3.6.6. **(Added-AETC)** Refer MIS-related problems that cannot be locally resolved by DBM personnel to HQ AETC Information Systems Branch (HQ AETC/A4PI). If HQ AETC/A4PI cannot solve the problem, request assistance from system program managers.

5.2.5.3.3.6.7. **(Added-AETC)** The DBM/MMA will also develop and publish a local OI detailing manual documentation and JCN assignment procedures in coordination with MX PS&D.

5.2.5.3.3.6.7.1. **(Added-314AW)** Manual documentation and JCN assignment procedures are listed in LRAFBI 21-107 *Job Control Number Assignment.*

5.2.5.3.3.6.7.2. **(Added-314AW)** The following list defines priority processing for data input upon system restore:

5.2.5.3.3.6.7.2.1. **(Added-314AW)** Priority 1 - Aircraft status and cannibalization discrepancies.

5.2.5.3.3.6.7.2.2. **(Added-314AW)** Priority 2 - Aircraft sorties and flying hours.

5.2.5.3.3.6.7.2.3. **(Added-314AW)** Priority 3 - Weapons system job data documentation.

5.2.5.3.3.6.7.2.4. **(Added-314AW)** Priority 4 - Engine tracking.

5.2.5.3.3.6.7.2.5. (**Added-314AW)** Priority 5 - All others.

5.2.5.3.3.6.8. **(Added-314AW)** In the first 12 hours after the system is restored, Priorities 1 through 4 will be the only actions input into G081 unless notified by MMA. 314 MXG/MXOOA will notify work centers when to begin normal processing of Priority 5 data.

5.2.5.3.3.6.9. **(Added-314AW)** After inputting all completed work orders in the system, the work center supervisor will ensure the work is correctly documented.

5.2.5.3.3.7. Analysis personnel control and monitor submissions of IMDS-CDB Difficulty Report (DIREP), and AF Form 3215, *Information Technology/National Security Systems Requirements Document*.

5.2.5.3.3.8. Coordination on matters pertaining to the interface of other automated systems with IMDS-CDB.

5.2.5.3.3.8.1. **(Added-AETC)** The host IMDS-CDB DBM will monitor the transmission to and receipt of files from Reliability and Maintainability Information System (REMIS) via defense data network (DDN) address record, screen 881.

5.2.5.3.3.8.2. **(Added-AETC)** Process the Document Validation Report (DVR), TRIC DVR, format 1, monthly and distribute output as required. **(T-2).**

5.2.5.3.3.9. Development of a functional checklist to establish timelines and MIS data capture requirements for use in the event of a weapon system mishap.

5.2.5.3.3.9.1. 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. Contact the Database Manager (DBM) to immediately put the IMDS-CDB in File Update Mode (FUD) until the functional checklist can be completed. G081 equipment records will be locked using screen 9012 (Lock/Unlock Aircraft/Data Records).

5.2.5.3.3.9.2. **(Added-AETC)** Use the following procedures in the event of an aircraft mishap: **(T-2).**

5.2.5.3.3.9.2.1. **(Added-AETC)** G081 DBM aircraft mishap procedures:

5.2.5.3.3.9.2.1.1. **(Added-AETC)** QA or MOC provides G081 DBM with tail number of mishap aircraft.

5.2.5.3.3.9.2.1.2. **(Added-AETC)** G081 DBM locks aircraft record via screen 9012 (Lock/Unlock Aircraft Data bases).

5.2.5.3.3.9.2.1.3. **(Added-AETC)** G081 DBM prints aircraft maintenance history, on-equipment and engine records via batch report 67117 (Discrepancy Search and Print Program).

5.2.5.3.3.9.2.1.4. **(Added-AETC)** G081 DBM provides aircraft

maintenance history printout to production superintendent and investigation team.

5.2.5.3.3.9.2.1.5. **(Added-AETC)** Aircraft record remains locked until QA or MOC requests G081 DBM unlock record.

5.2.5.3.3.9.3. **(Added-AETC)** IMDS-CDB DBM aircraft mishap procedures:

5.2.5.3.3.9.3.1. **(Added-AETC)** Process screen 931, TRIC: FRZ (equipment record freeze).

5.2.5.3.3.9.3.2. **(Added-AETC)** Put the system in file-update mode (FUD) by processing IMDS-CDB screen 891.

5.2.5.3.3.9.3.3. **(Added-AETC)** Process the following background and online products against tail number of mishap aircraft and provide copies to investigation team:

5.2.5.3.3.9.3.3.1. **(Added-AETC)** Screen 418, TRIC: ARC (automated records check for equipment IDs).

5.2.5.3.3.9.3.3.2. **(Added-AETC)** Screen 429, TRIC: TRE (equipment transfer data report, format 1 (equipment ID)).

5.2.5.3.3.9.3.3.3. **(Added-AETC)** Screen 105, TRIC: QMH (maintenance history report, 2 years minimum or data available).

5.2.5.3.3.9.3.3.4. **(Added-AETC)** Screen 460, TRIC: EST (summarized/detailed status for equipment ID).

5.2.5.3.3.9.3.3.5. **(Added-AETC)** Screen 510, TRIC: SHD (significant historical data).

5.2.5.3.3.9.3.4. **(Added-AETC)** Perform static data base save and archive dump tapes.

5.2.5.3.3.9.3.5. **(Added-AETC)** Take the system out of FUD.

5.2.5.3.3.10. Support of the C-E maintenance community referring to AFI 21-103 and AFI 33-150, *Management of Cyberspace Support Activities* for maintenance analysis and host DBM responsibilities.

5.2.5.3.3.10.1. **(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).**

5.2.5.3.3.10.2. **(Added-AETC)** Process the C-E Status Summary Report, TRIC SSR, format 1 and 4, monthly and distribute output as required. **(T-2).**

5.2.5.3.3.11. Control of access to specific IMDS-CDB programs and subsystems by utilizing Transaction Identification Codes (TRICs) security profiles or screen 9057 (program access) for G081.

5.2.5.3.3.11.1. Periodically review IMDS security profiles and G081 access keys. Take appropriate measures when a compromise is suspected or

reported.

5.2.5.3.3.12. IMDS-CDB subsystem managers are informed of the status of applicable TRICs prior to turning the TRIC on or off.

5.2.5.3.3.12.1. **(Added-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.

5.2.5.3.3.13. **(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.

5.2.5.3.4. MMA is responsible for the overall management of the JDD subsystem and provides overall management and control of the maintenance deferred code listing. **(T-1).**

5.2.5.3.4.1. Changes to the table will be coordinated with PS&D. **(T-1).**

5.2.5.3.5. Data Integrity Team (DIT). MMA is the OPR for the DIT. All units will establish a DIT. **(T-1).**

5.2.5.3.5.1. 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/G081. MMA is the OPR for the team and will ensure that all assigned DIT members are trained in the use of MIS applicable programs for the data integrity review/correction process. **(T-2).** Errors identified by the DIT team will be reconciled IAW **paragraph 5.2.5.12.5.5.3.2** of this instruction**. (T-1).**

5.2.5.3.5.2. 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-2).**

5.2.5.3.5.3. MAJCOMs/MMA will determine the frequency of DIT meetings.

5.2.5.3.5.3. **(AETC)** The MXG/CC will determine the frequency of data integrity team (DIT) meetings.

5.2.5.3.5.3.1. **(Added-314AW)** DIT meetings will be conducted monthly and minutes will be published and distributed to all DIT members.

5.2.5.3.5.4. Representatives will be at least 5-levels and familiar with the unit's assigned weapon system(s). **(T-2).**

5.2.5.3.5.5. As a minimum, the following functions will be performed by the DIT:

5.2.5.3.5.5.1. Ensure MIS accurately reflects AFTO Form 781-series

forms entries. **(T-1).**

5.2.5.3.5.5.2. Compare all NRTS actions and turnarounds in IMDS-CDB/G081. **(T-1).**

5.2.5.3.5.5.2.1. G081 users will request these reports from LRS.

5.2.5.3.5.5.2.2. Work with supply LRS/Materiel Management activity to resolve conflicts. **(T-1).**

5.2.5.3.5.5.3. Run maintenance action review background reports for all work accomplished by squadron and work center. **(T-1).**

5.2.5.3.5.5.3.1. Audit the report by JCN/WCE (WES for G081) to verify the corrective action narratives match the action taken codes used and the WUC utilized most accurately identifies the affected system. **(T-1).**

5.2.5.3.5.5.3.2. Identify suspected errors on the report by circling or marking on the report and give report to appropriate squadron for corrections. **(T-1).**

5.2.5.3.5.5.3.3. Identify and count the documentation errors. **(T-1).**

5.2.5.3.5.5.3.4. Use of automated processes is authorized.

5.2.5.3.5.6. **(Added-314AW)** Accurate and timely data is essential for monitoring the reliability and maintainability of weapons systems. Data reported will be accumulated, stored, and used to calculate quality performance measures. The data provides historical references for special studies and is used for developing and validating command standards and goals. The main purpose of the DIT program is to ensure the accuracy of maintenance documentation at unit level and educate managers and technicians concerning proper documentation practices/procedures. The goal established by the 314 MXG is to maintain an error rate of less than 3 percent. Individuals/agencies initiating the maintenance documentation inputted into G081 are responsible for its accuracy and completeness.

5.2.5.3.5.7. **(Added-314AW)** Squadron commanders will appoint MMA representatives, DIT Managers, and DIT Monitors.

5.2.5.3.5.8. **(Added-314AW)** The MMA will:

5.2.5.3.5.8.1. **(Added-314AW)** Maintain responsibility for the overall management of the DIT program. The MMA representative will provide guidance pertaining to DIT processes.

5.2.5.3.5.8.2. **(Added-314AW)** Maintain a current DIT roster comprised of the primary and alternate members.

5.2.5.3.5.8.3. **(Added-314AW)** Maintain cumulative uncorrected and corrected error rates. The data will be analyzed and briefed to the Maintenance Group Commander (MXG/CC) on a monthly basis.

5.2.5.3.5.8.4. **(Added-314AW)** Provide G081 Programming Language

(FOCUS) reports to DIT Managers for corrections.

5.2.5.3.5.8.5. **(Added-314AW)** Allow 5 duty days starting from the day of distribution to identify and correct errors.

5.2.5.3.5.8.6. **(Added-314AW)** Randomly check "corrected errors" identified by the DIT members to ensure proper documentation. MMA personnel will not correct or enter data into G081.

5.2.5.3.5.8.7. **(Added-314AW)** By request of the MXG/CC, MMA will perform regression analysis for locally established goals (i.e. DIT, Repeat/Recur, and Delayed Discrepancies.)

5.2.5.3.5.9. **(Added-314AW)** DIT Managers will:

5.2.5.3.5.9.1. **(Added-314AW)** Provide oversight to DIT Monitors.

5.2.5.3.5.9.2. **(Added-314AW)** Retrieve applicable reports from the MIS and distribute to team monitors. Ensure that DIT monitors initiate data sheets and identify initial errors for their appointed shop, number of jobs checked, and correct all identified errors within 5 duty days.

5.2.5.3.5.9.3. **(Added-314AW)** Forward completed data sheets to MMA every Monday and cumulative monthly reports within 3 duty days of the beginning of the month.

5.2.5.3.5.9.4. **(Added-314AW)** Conduct random spot checks of each assigned shop to identify errors and ensure corrections are made. Redirect findings back to shop-level DIT monitors for corrections.

5.2.5.3.5.9.5. **(Added-314AW)** Attend monthly/quarterly DIT meetings.

5.2.5.3.5.10. **(Added-314AW)** DIT Monitors will:

5.2.5.3.5.10.1. **(Added-314AW)** Ensure the validity/timeliness of data documented (refer to TO 00-20-2) for their appointed Air Force Specialty Code and notify DIT Manager upon completion.

5.2.5.3.5.10.2. **(Added-314AW)** Review applicable reports from the MIS and identify initial errors for their appointed shop, number of jobs checked, and correct all identified errors within 5 duty days.

5.2.5.3.5.11. **(Added-314AW)** Data Processing:

5.2.5.3.5.11.1. **(Added-314AW)** DIT members will check the following categories for accuracy, at a minimum:

5.2.5.3.5.11.1.1. **(Added-314AW)** Work Unit Code (WUC) - accurately describes the item being replaced or repaired.

5.2.5.3.5.11.1.2. **(Added-314AW)** Action Taken Code (AT) - accurately describes the action taken to repair the discrepancy.

5.2.5.3.5.11.1.3. **(Added-314AW)** How Malfunction Code (HMAL) - accurately describes the malfunction or defect.

5.2.5.3.5.11.1.4. **(Added-314AW)** Discrepancy action – ensures the discrepancy action provides a complete and accurate statement of the defect or suspected defect.

5.2.5.3.5.11.1.5. **(Added-314AW)** Corrective action – ensures the corrective action matches the AT and WUC, while accurately describing the exact action taken to correct the defect.

5.2.5.3.5.11.2. **(Added-314AW)** Jobs found to have multiple errors (i.e. incorrect AT, HMAL, and WUC codes in one job) will only be charged for one error in DIT rate accounting by MMA.

5.2.5.4. Production Analysis. The Production Analysis function calculates maintenance metrics and compares unit performance against MAJCOM, local and MMA standards. In addition, they provide monthly airframe, facility and personnel capabilities (as required), attrition, and spare factors for use in planning the annual FHP.

5.2.5.5. **(Added-AETC)** Deficiency Analysis (Not applicable to contract and civil service organizations). Deficiency analysts will be a 5- or 7- level and should have at least 6 months experience on the weapon system. **(T-2).** 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. **(T-2).** 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: **(T-2).**

5.2.5.5.1. **(Added-AETC)** Review QA summaries for positive and negative trends.

5.2.5.5.2. **(Added-AETC)** Review debriefing data and abort information daily to assist in the identification of problem aircraft or systems.

5.2.5.5.3. **(Added-AETC)** As a minimum, perform monthly reviews of:

5.2.5.5.3.1. **(Added-AETC)** Delayed discrepancy (DD) lists for technical errors or negative trends.

5.2.5.5.3.2. **(Added-AETC)** Repeat/recur discrepancy lists for problems.

5.2.5.5.3.3. **(Added-AETC)** High CND rates and incidents for inadequate troubleshooting or technical data problems.

5.2.5.5.3.4. **(Added-AETC)** Aircraft scheduling deviations for negative maintenance practices and trends that impact work force and workload stability.

5.2.5.5.4. **(Added-AETC)** Analyze the performance of selected systems,

subsystems, and components to help determine the source of problems affecting the mission of the unit.

5.2.5.5.5. **(Added-AETC)** Attend QA and Product Improvement Working Group (PIWG) meetings and provide trend data as needed.

5.2.5.5.6. **(Added-AETC)** 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 AETCI 21-103, AETCI 21-112, 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 AFI 36-2201. **(T-1).**

5.3.2. Serve as the single point of contact for all training matters affecting maintenance. **(T-1).**

5.3.3. The MT Chief will maintain administrative responsibility for UTMs whether UTMs are centralized or decentralized. **(T-1).**

5.3.4. **(Added-AETC)** Maintenance Resource Management (MRM). MRM is applicable to all 2A, 2W, 21A, 21M, and 2P personnel (this includes personnel in QA, Maintenance Training, and other MXG staff agencies). MRM is not applicable to 3A0s, 3S2s and 2R0/2R1s. Contractors and civil service organizations are not required to implement MRM, but may choose to accomplish the training at no additional cost to the government.

5.3.4.1. **(Added-AETC)** HQ AETC/A4MMR is the MRM OPR.

5.3.5. **(Added-314AW)** Maintenance Group Training Management (314 MXG/MXOT) will have overall management and control of the training subsystem in G081. MXOT will:

5.3.5.1. **(Added-314AW)** Load work center training requirements against appropriate work centers as determined by work center supervisors.

5.3.5.2. **(Added-314AW)** Load personnel into G081 and review the training codes monthly for accuracy.

5.3.5.3. **(Added-314AW)** Coordinate through 314 MXG/MXOA on any needed changes to the Training Course Code Master List within G081.

5.4. Programs and Resources (P&R). P&R manages the manning, facilities, support agreements, and deployment functions for the MXG. P&R will:

5.4.1. Develop, maintain, and coordinate all applicable AFI-directed programs and plans affecting maintenance. **(T-1).**

5.4.2. Act as the resource advisor to the MXG/CC. **(T-1).**

5.4.3. Coordinate with the MXG/Squadron SUPTs to manage manpower authorizations

for the MXG. **(T-1).**

5.4.4. Serve as the focal point within the MXG for management of facilities. **(T-1).**

5.4.5. Serve as the focal point for MXG deployment planning and execution actions. **(T-1).** If designated as a UTC pilot unit IAW AFI 10-401. P&R will:

5.4.5.1. 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-1).**

5.4.5.2. 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-1).**

5.4.5.3. 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*. **(T-1).**

5.4.6. 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*. **(T-1).**

5.4.7. Develop and coordinate MXG commercial contracts as directed by the MXG/CC. **(T-1).**

5.4.8. Manage readiness reporting for the MXG IAW AFI 10-252, *Defense Readiness Reporting System*. **(T-1).**

5.4.9. Coordinate with LRS Deployment & Distribution Flight to obtain unit assistance in interpreting guidance for marking/packing/marshaling of tasked equipment IAW AFMAN 24-404IP, *Preparing Hazardous Materials for Military Air Shipments*; AFI 10-401 and AFMAN 91-201. **(T-1).**

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 shall not be tasked to perform sortie production inspections (e.g., sign off "Red Xs" and perform IPIs). **(T-1).** QA serves as the primary technical advisory agency in the maintenance organization, assisting maintenance supervision at all levels to identify, validate and/or resolve workmanship, 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 shall be recorded using a MAJCOM-approved QA database. **(T-1).** Civil service and contracted personnel to include MEO/HPO organizations are to follow requirements established in their respective civilian position description/contract and accepted quality assessment system.

6.1. (AETC) General. Units are authorized to use a QA data base of their choice providing the data base meets the minimum requirements of AFI 21-101, paragraph **6.8**. **(T-3).**

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-1).**

6.2.1.1.1. Deficiency Reporting (DR). **(T-1).**

6.2.1.1.2. Product improvement inputs. **(T-1).**

6.2.1.1.3. R&M inputs. **(T-1).**

6.2.1.2. Aircraft and equipment impoundment procedures IAW **Chapter 7** of this instruction. **(T-1).**

6.2.1.3. Functional Check Flight (FCF) program IAW this chapter. **(T-1).**

6.2.1.4. W&B Program IAW this chapter. **(T-1).**

6.2.1.5. Hot Refuel/Defuel and Aircraft-to-Aircraft Refuel Programs. **(T-1).**

6.2.1.6. **(Added-314AW)** Mishap/Incident/Significant Event response/reporting IAW **Paragraph 2.4.57.1.** of this supplement, AFI 91-204 *Safety Investigations and Reports* and/or AFMAN 91-223 *Aviation Safety Investigation and Reports* as required. Aircraft

and equipment incidents and/or mishaps have the potential to be investigated by the 314 AW Safety Office and/or impounded. Every effort should be taken to maintain positive control of key evidence (parts, equipment, etc.) that could aid in the investigation of the incident/mishap. Do not disturb the scene of the incident until cleared by a Safety Representative unless personnel are in need of medical attention. When a mishap or incident occurs, QA will:

6.2.1.6.1. **(Added-314AW)** Notify the 314th Maintenance Group Superintendent or 314th Maintenance Group Deputy Commander as soon as possible for further up-channeling.

6.2.1.6.2. **(Added-314AW)** Ensure the owning AMU notifies the appropriate agencies of the incident IAW local checklists.

6.2.1.6.3. **(Added-314AW)** Dispatch to the location of all mishaps/incidents when 314th aircraft/equipment or personnel were involved. Assume on-scene commander responsibilities if one has not already been established.

6.2.1.6.4. (**Added-314AW)** Ensure all proper forms are completed as required for type of significant event/incident/mishap.

6.2.1.6.4.1. (**Added-314AW)** AETC Form 435, Mishap Data Worksheet.

6.2.1.6.4.2. (**Added-314AW)** AETC Form 645-4 *Trend Data Report.*

6.2.1.6.4.3. (**Added-314AW)** 314 MXG Form 79 *Incident Investigation Witness Statement Form* (**Attachment 29**). Complete 314 MXG Form 79 when personnel witness, are involved in, or are injured during the incident/mishap. The witness statement will contain as many details of the incident as possible. Notify appropriate leadership of any injury to personnel IAW local checklists as soon as possible.

6.2.1.6.4.4. **(Added-314AW)** 314 MXG Form 78 *Aircraft Maintenance Investigation Worksheet* (**Attachment 28**).

6.2.1.6.5. (**Added-314AW)** Photograph any damage to aircraft or equipment.

6.2.1.6.6. **(Added-314AW)** Email incident summary and pictures to appropriate group and/or squadron leadership and 314 AW Safety Office as soon as possible. The message will include, as a minimum, aircraft tail number or equipment identifier, time of incident, description of damage, and sequence of events that led to the damage.

6.2.1.6.7. **(Added-314AW)** QA will assist 314 AW Safety Office when any damage to an aircraft or equipment occurs, to include providing copies of reports and pictures.

6.2.1.6.8. **(Added-314AW)** Coordinate with AMU to have cost estimates of damaged or destroyed aircraft or equipment completed/forwarded to 314 AW Safety Office as soon as possible.

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-1).**

6.2.2.1. **(Added-314AW)** Incident Trend Tracking:

6.2.2.1.1. **(Added-314AW)** QA will assign a tracking number to each incident/mishap and load the initial report into the database.

6.2.2.1.2. **(Added-314AW)** The affected AMU or designated personnel within the unit (e.g. debrief, USR, Pro Supers) is responsible for updating the incident/mishap database within 72 hours of occurrence and to notify QA upon completion.

6.2.2.1.3. **(Added-314AW)** Completed AETC Form 645-4, 314 MXG FORM 78, 314 MXG Form 79, and 314 MXG Form 80 will be sent to QA via email, or messenger as applicable.

6.2.2.1.4. **(Added-314AW)** QA will review the completed report for accuracy and notify 314 AW Safety Office.

6.2.3. Comply with the configuration management program requirements IAW **Chapter 15** of this instruction. **(T-1).**

6.2.4. In coordination with PS&D, comply with TCTO Program requirements IAW **Chapter 15** of this instruction, TO 00-5-1 and TO 00-5-15. **(T-1).**

6.2.5. In conjunction with MMA, develop a local Job Standard (JST)/work package for both gaining and losing aircraft and equipment transfer inspection IAW **Chapter 15** of this instruction. **(T-1).**

6.2.6. Coordinate with AVDO and MMA on all AFTO Form 103s. **(T-1).**

6.2.7. Manage OTIs. **(T-1).**

6.2.8. Augment evaluations at the request of the WS. **(T-1).** 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 etc., for accuracy, intent, and necessity as referenced in this AFI. **(T-1).**

6.2.10. **(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).** At a minimum, exercises will evaluate aircraft lifting procedures and dash-2 and dash-3 TO preparatory actions. Perform these exercises annually for each type of aircraft possessed. **(T-2).** (**Note:** Crash recovery exercises may be included in Exercise Evaluation Team conducted exercises.) The lift portion of crash recovery exercises is not required on C-17 aircraft, but crash recovery exercises will still be performed to ensure effective program management. Units without access to a crane on base will perform lift exercises to the point of hooking up the sling and/or attach points and “mock” positioning of a crane. Kirtland AFB is only required to perform a crash recovery exercise on one of the helicopters MDS’, but must alternate between the MDS’ annually.

6.2.11. **(Added-AETC)** Control T-38 flight control decals and administer the challenge and response program according to T-38 series TOs. **(T-2).**

6.2.12. **(Added-AETC)** Ensure QA summaries are uploaded to the HQ AETC/A4M AFIS

SharePoint site monthly. **(T-2).** When QA personnel change, ensure HQ AETC/A4MMP is notified to provide updated permissions for personnel changes.

6.3. QA Superintendent Responsibilities. In addition to the applicable Flight CC/Chief duties in **Chapter 2** of this instruction 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-1).**

6.3.2. Develop and monitor the MSEP using a MAJCOM-approved QA database and provide supervisors access to MSEP data. **(T-1).**

6.3.3. Notify the appropriate agencies when deficiencies are found in (AF, MAJCOM/Lead Command, WG, GP) instructions. **(T-1).**

6.3.4. Review maintenance-related instructions, supplements, operating instructions, forms and local/functional checklists every two years or when source data changes, for accuracy, intent and necessity. **(T-1).**

6.3.4.1. The QA SUPT will document the review once complete. **(T-1).**

6.3.5. Review profile JSTs annually or when source data changes for accuracy, intent and necessity. **(T-1).**

6.3.5.1. The QA SUPT will document the review once complete. **(T-1).**

6.3.6. Ensure management and special inspections are performed. **(T-1).**

6.3.7. Ensure the GP portion of the FOD Prevention Program is conducted IAW **Chapter 11** of this instruction. **(T-1).**

6.3.8. Oversee and implement the GP Impoundment Procedures IAW **Chapter 7** of this instruction. **(T-1).**

6.3.9. Coordinate on all requests for locally manufactured, developed, and modified tools and equipment, and maintain records for approved requests. **(T-1).**

6.3.9.1. This includes pictures or drawings and a description of the use for each item.

6.3.9.1.1. If a TO contains the option for these tools or equipment, QA does not need to coordinate or maintain the records on that tool as long as the tool remains approved by the TO.

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-1).**

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-1).**

6.3.11. Develop KTL/RIL to supplement MAJCOM listings in conjunction with the Operations Officer/MX SUPT (if required). **(T-1).**

6.3.11.1. Provide copies of approved KTL/RIL to all affected organizations. **(T-1).**

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-1).**

6.3.13. Ensure agendas and presentations are compiled for the MSEP summary. **(T-1).**

6.3.14. Review wing RFAs IAW **Chapter 1** and **Chapter 15** of this instruction. **(T-1).**

6.3.15. Designate a Chief Inspector. **(T-1). Note:** ARC may elect to appoint a Chief Inspector or distribute these responsibilities to individual inspectors as appropriate.

6.3.16. Designate individuals to be the Technical Order Distribution Office (TODO) and Product Improvement Manager (PIM). **(T-1).**

6.3.17. Designate individuals to be the W&B and FCF Program managers. **(T-1).**

6.3.18. Monitor the ASIP IAW **Chapter 11** of this instruction. **(T-1).**

6.3.19. Maintain DOP program oversight IAW **Chapter 11** of this instruction. **(T-1).**

6.3.20. When hot refueling is performed by maintenance personnel, ensure Hot Refueling Program is accomplished IAW TO 00-25-172 and MAJCOM supplements. **(T-1).**

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** of this instruction. The Chief Inspector will:

6.4.1. Use assigned inspectors to provide on-the-spot assistance to correct problems. **(T-1).**

6.4.2. Spot-check TOs, inspection work cards, checklists, job guides and WUC manuals during evaluations and inspections for currency and serviceability. **(T-1).**

6.4.3. Assist MMA with investigations and studies. **(T-1).**

6.4.4. Review QA database and MSEP inspection summary inputs for accuracy and content. **(T-1).**

6.4.5. Initiate actions when additional attention is required to resolve adverse maintenance trends or training problems. **(T-1).**

6.4.5.1. Actions include preparing cross-tell information bulletins and messages for GP/CC release to other similarly-equipped units and higher headquarters.

6.4.6. Review and compile inputs for updating the IPI listing. **(T-1).**

6.4.6.1. Maintain a copy of the MXG/CC or equivalent approved IPI listing with the signature and date of review/certification. **(T-1).**

6.4.7. Review Category II major discrepancies for trends quarterly. **(T-1).**

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 AFTO Form 22 or develop a local work card, local page supplement or checklist IAW TO 00-5-1. **(T-1).**

6.4.8. Establish procedures for QA Inspectors to document completed inspections. **(T-1).**

6.4.9. Perform inspections on GITA IAW **Chapter 11** of this instruction. **(T-1).**

6.4.10. Construct and maintain a master standardized AFTO Form 781-series forms binder IAW TO 00-20-1. **(T-1).**

6.4.10. **(AETC)** The master AFTO Form 781, *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 6.15** of this instruction). **(T-1).**

6.4.12. Review MSEP data monthly to identify high-missed carded items from PEs and QVIs. **(T-1).** A high-missed carded item is defined as any work card item missed at least three times during a one-month period. The Chief Inspector will:

6.4.12.1. Coordinate with MMA to identify any relationships with repeat, recur and CND trends. **(T-1).**

6.4.12.2. Include this data in the monthly MSEP summary. **(T-1).**

6.4.13. Conduct EPEs on each inspector. **(T-1).**

6.4.13.1. EPEs will be conducted while the Chief Inspector assesses one PE and one technical inspection (QVI/SI). **(T-1).**

6.4.13.2. Each QA Inspector, permanent or augmentee, must pass both EPEs prior to performing unsupervised evaluations and inspections. **(T-1).**

6.4.14. Document QA Inspector training in the Training Business Area (TBA). **(T-1).**

6.5. Quality Assurance Inspector Responsibilities. QA Inspectors will:

6.5.1. Evaluate flightline and back shop maintenance tasks and inspections to include items identified by the KTL/RIL. **(T-1).**

6.5.2. Enter inspection and evaluation reports into the MAJCOM-approved QA database. **(T-1).**

6.5.3. Perform QA review of Dull Swords, TCTOs, OTIs, modification proposals, DRs, AFTO Form 22s, instructions and supplements. **(T-1).**

6.5.4. Provide training/instruction as applicable to address deficiencies identified during evaluations/inspections. **(T-1).**

6.5.5. Evaluate forms and MIS documentation to evaluate compliance IAW MXG written procedures described in **Chapter 2** of this instruction. **(T-1).**

6.5.6. Evaluate maintenance TO files that are kept on the aircraft (G files). **(T-1).**

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-1).**

6.6.1. Training must cover inspection and evaluation techniques, documenting inspection worksheets and actions to prevent personnel injury or property/equipment damage. **(T-1).**

6.6.2. All EPEs must be tracked in the MIS and/or MAJCOM-approved QA database. **(T-1).**

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 TBA for the KTL requirements they evaluate. **(T-1).**

6.6.3.1. Chief Inspectors will identify other critical tasks requiring AF Form 797 qualification (QA WJQS) within TBA as required. **(T-1).**

6.6.3.2. For all other tasks, QA Inspectors must be familiar with the requirements/procedures of tasks they evaluate. **(T-1).**

6.6.3.2.1. CUT for QA Inspector is not allowed for 2W1 maintenance tasks. Only 2W1 personnel will perform these inspections (N/A to ARC). **(T-1).**

6.6.4. All QA Inspectors will complete egress certification IAW **Chapter 4** of this instruction before evaluating egress tasks (if applicable). **(T-1).**

6.6.5. QA Inspectors may evaluate welding operations and processes. However, QA Inspectors will not evaluate completed welds unless certified IAW TO 00-25-252. **(T-1).**

6.6.6. QA personnel who conduct engine run evaluations are not required to maintain the engine run proficiency requirements outlined in **Chapter 11** of this instruction. **(T-1).**

6.6.7. Inspectors evaluating Low Observables (LO) maintenance must complete applicable LO TD courses and be certified in core training tasks contained in Attachment 3 of the 2A7X5 CFETP (N/A to ARC). **(T-1).**

6.6.8. QA Inspectors must be trained on all associated safety requirements prior to performing inspections on fuel systems or fuel systems repair facilities IAW TO 1-1-3. **(T-1).**

6.6.9. QA Inspectors evaluating NDI technicians during PEs must be a trained and qualified 2A7X2 (or civilian equivalent) on the method being evaluated. **(T-1).**

6.7. Maintenance Standardization and Evaluation Program (MSEP). The purpose of the MSEP is designed 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-1).** 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 Operations Officers/Superintendents and Group Leadership and will be executed by QA. **(T-1).**

6.7.1.2. The MXG/CC will focus the unit program on problem areas where improvements are needed. **(T-1).**

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 based on MAJCOM-approved QA databases. If so, MAJCOMs will provide terms and definitions within their supplement to this AFI.

6.7.2. Unit MSEP Focus Areas. QA shall assess how units are meeting compliance goals and will identify areas of opportunity for improvement. **(T-1).** A unit's MSEP will focus on:

6.7.2.1. Compliance with and currency of TOs and directives. **(T-1).**

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-1).**

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.

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 2.4.58 of this instruction. **(T-1).**

6.7.2.3. Aircraft, Systems and Equipment Inspections. **(T-1).**

6.7.2.3.1. Ensure aircraft and equipment, including munitions, are inspected IAW TOs and directives.

6.7.2.4. Compliance and Management of Safety, Environmental, Bioenvironmental, Housekeeping, and FOD Programs. **(T-1).**

6.7.2.4.1. Personnel at all levels are responsible for minimizing risk to equipment, personnel and the environment.

6.7.2.5. Training. **(T-1).**

6.7.2.5.1. Verify training is correctly documented and ensure individuals are qualified/certified to perform evaluated tasks.

6.7.2.6. Unit-Directed Programs. **(T-1).**

6.7.2.6.1. Verify units' programs are in compliance with local directives.

6.7.2.7. Key Task List (KTL). **(T-1).** 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.

6.7.2.7.1. **(AETC)** [DEV] QA will develop the key task list (KTL) with inputs from Maintenance Operations. The MXG/CC will approve the KTL. **(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-1).**

6.7.2.7.2.1. QA evaluators will respond and perform an evaluation. **(T-1). Exception:** The MXG or designated representative may waive the inspection.

6.7.2.7.2.1.1. QA will track all KTLs called in, waived or completed and maintain a list of MXG-designated KTL waiver authorities. **(T-1).**

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-1).**

6.7.2.8. Routine Inspection List (RIL). **(T-1).** The RIL is an AF, MAJCOM, or unit developed list of routine inspections that must be performed. Frequency is determined by MXG/CC or equivalent.

6.7.2.8.1. QA shall consolidate Operations Officer/MX SUPT inputs/suggested changes to the RIL and obtain MXG/CC approval. **(T-1).**

6.7.2.8.2. Additional RIL requirements, for nuclear capable units, are located in AFI 21-200.

6.7.2.8.3. Tasks will not be removed from the RIL without issuing authorities' approval (e.g., AF, MAJCOM, MXG/CC). **(T-1).**

6.7.2.8.4. The RIL must contain the following if applicable to the unit:

6.7.2.8.4. **(AETC)** The MXG/CC will identify additional routine inspection list (RIL) actions and tasks as necessary.

6.7.2.8.4.1. Pre-flight. **(T-1).**

6.7.2.8.4.2. Thru-flight. **(T-1).**

6.7.2.8.4.3. Basic post-flight. **(T-1).**

6.7.2.8.4.4. HSC inspections. **(T-1).**

6.7.2.8.4.5. Aircraft forms/MIS documentation. **(T-1).**

6.7.2.8.4.6. Equipment forms/MIS documentation. **(T-1).**

6.7.2.8.4.7. Aircraft and munitions flightline accountability/CAS documentation. **(T-1).**

6.7.2.8.4.8. Aircraft ground handling. **(T-1).**

6.7.2.8.4.9. Launch and recovery. **(T-1).**

6.7.2.8.4.10. Servicing tasks. **(T-1).**

6.7.2.8.4.11. Technical data. **(T-1).**

6.7.2.8.4.12. CTK Program. **(T-1).**

6.7.2.8.4.13. TMDE calibrations when the performing work center is not a PMEL IAW TO 00-20-14. **(T-1).**

6.7.2.8.4.14. AGE maintenance. **(T-1).**

6.7.2.8.4.15. AGE flightline use. **(T-1).**

6.7.2.8.4.16. Housekeeping. **(T-1).**

6.7.2.8.4.17. Vehicles. **(T-1).**

6.7.2.8.4.18. Aircraft washes/aircraft corrosion inspections. **(T-1).**

6.7.2.8.4.19. Supply discipline (e.g., TNB, DIFM). **(T-1).**

6.7.2.8.4.20. Equipment washes/ equipment corrosion inspections. **(T-1).**

6.7.2.8.4.21. Environmental compliance. **(T-1).**

6.7.2.8.4.22. NWRM accountability and forms documentation. **(T-1).**

6.7.2.8.4.23. TCTO Program. **(T-1).**

6.7.2.8.4.24. Time-Change Program. **(T-1).**

6.7.2.8.4.25. FHP management. **(T-1).**

6.7.2.9. QA will coordinate with the Munitions Activity (Munitions Flight CC/Chief; or Operations Officer/MX SUPT in the Munitions Squadron (MUNS)) and will develop quarterly standards for the following areas:

6.7.2.9.1. Munitions accountability. **(T-1).**

6.7.2.9.2. Munitions storage practices, security and safety. **(T-1).**

6.7.2.9.3. Munitions inspections. **(T-1).**

6.7.2.9.4. Munitions materiel handling and test equipment. **(T-1).**

6.7.2.9.5. Munitions stockpile management. **(T-1).**

6.7.2.9.6. Tactical munitions reporting system. **(T-1).**

6.7.2.9.7. Munitions infrastructure (e.g., adequacy of lightning protection and grounding systems, bonding of facility doors, adequate power conversion equipment). **(T-1).**

6.7.2.9.8. Munitions training programs. **(T-1).**

6.7.3 Unit MSEP Evaluation and Inspection (E&I) Plan. QA will develop an E&I Plan showing areas, types and numbers of inspections and evaluations to complete during the month. **(T-1).**

6.7.3.1. The E&I Plan, and changes to it, will be coordinated through each squadron Operations Officer/MX SUPT and approved by the MXG/CC. **(T-1).**

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-1).**

6.7.3.3.2. Tailor the plan for each squadron, flight or section. **(T-1).**

6.7.3.3.3. Coordinate and distribute the E&I Plan. **(T-1).**

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.

6.7.4.1.1. **(AETC)** The MXG/CC will determine and approve acceptable quality levels (AQLs) and ensure they are reviewed annually. **(T-2).**

6.7.4.1.2. GP/CCs will establish AQLs for tasks/inspections not included on the MAJCOM AQL listing. **(T-1).**

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 AFI 21-200.

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, note, caution or warning for a specific condition or action. Use sub-classifications 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, note, caution or warning for that specific evaluated task. Use sub-classification 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 would 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-1).**

6.7.4.3.3. The QA Inspector will intercede and declare a major finding when one additional action "would" 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-1).**

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-1).**

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 shall be documented for trends, but must not be counted against the AQL. **(T-1).**

6.7.4.4.2. 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 would 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 MAJCOM-approved 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-1).**

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-1).**

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-1).**

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-1).** 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-1).**

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. Personnel Evaluations (PE). A PE is an over-the-shoulder (direct) evaluation of a maintenance action or inspection. Individuals performing, supervising or evaluating maintenance 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-1).**

6.7.6.1.2. Document the PE in the MAJCOM-approved database. **(T-1).**

6.7.6.1.3. PEs will be accomplished on all technicians who perform maintenance based on the MAJCOM-established frequency. **(T-1).**

6.7.6.1.3. **(AETC)** Personnel Evaluations (PE) will be accomplished on an 18-month cycle. NDI PEs are applicable to all organizations and will be conducted IAW AFI 21-101, **paragraph 6.7.6.1.6**.

6.7.6.1.4. Personnel in any AFSC certified to perform nuclear maintenance or logistics operations (e.g., limited general maintenance, transfer, transport, etc.), will also comply with applicable PE requirements in AFI 21-200. **(T-1).**

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 (e.g., refueling, ECM pod up/down loading, 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. **(T-1).**

6.7.6.1.5.2.3. Refer to AFI 21-200 for nuclear weapons maintenance and handling evaluations.

6.7.6.1.6. QA Inspectors will conduct PE's on each NDI technician, for each NDI method annually (every 2 years for the ARC) to ensure effective trending on NDI methods. **(T-1).**

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-1).**

6.7.6.2.1. The QA inspector will determine what task will be evaluated. **(T-1).**

6.7.6.2.2. The PE will include an evaluation of: the individual's training records, SCR (if task requires), tool box, TMDE, and TOs used to perform the task. **(T-1).**

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-1).**

6.7.6.2.4. Provide feedback to the individual or team and supervision upon completion. **(T-1).**

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-1).** 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 that could affect the performance of the equipment involved or cause injury to personnel.

6.7.6.3.2.3.1. QA Inspectors will notify individuals immediately during the PE that a TDV was committed. **(T-1).**

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/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 Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3263.05, *Nuclear Weapons Technical Inspections*, or AFI 21-200. **(T-0).**

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. Quality Verification Inspections (QVI). 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 shall 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 (i.e., 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 MAJCOM-approved 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. GP/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, in-flight emergency 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 MAJCOM-approved QA database will be used to document MIs. **(T-1).**

6.7.7.3. Special Inspections (SI). 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, etc. 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 MAJCOM-approved QA database will be used to document special inspections. **(T-1).**

6.7.7.3.2. When rating an SI, rate as "Pass" or "Fail" based on established AQLs/standards.

6.7.8. Discrepancy Reporting. Report all discrepancies to the applicable work centers.

6.7.8.1. QA will provide an authoritative source reference for all reported discrepancies (e.g. work cards, job guides, WUC manuals, checklists, occupational safety requirements, TOs, and other applicable references). **(T-1).**

6.7.9. Units will grade their MSEP evaluations using objective ratings based on the following five-tier rating system:

6.7.9.1. Outstanding: 95-100% **(T-1).**

6.7.9.2. Excellent: 90-94.99% **(T-1).**

6.7.9.3. Satisfactory: 80-89.99% **(T-1).**

6.7.9.4. Marginal: 70-79.99% **(T-1).**

6.7.9.5. Unsatisfactory: 0-69.99% **(T-1).**

6.7.9.6. Inspections and evaluations performed (e.g., PE, SI, QVI) are rated "Pass/Fail". **Exception:** Unless otherwise directed by AFI 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. 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-1).**

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** of this instruction.

6.7.11. Monthly Summary. QA shall publish and distribute the monthly summary to the MXG/CC or equivalent and inspected organizations. **(T-1).**

6.7.11.1. For security purposes, classified portions of the MSEP will be published separately from the main summary. **(T-1).**

6.7.11.2. QA will compile the summary from inspection data and load crew evaluation statistics (provided by WS).

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-1).**

6.7.11.4.2. Aircraft and equipment forms documentation. **(T-1).**

6.7.11.4.3. Compliance and management of Safety, Environmental, Housekeeping, and FOD Programs. **(T-1).**

6.7.11.4.4. Training Program. **(T-1).**

6.7.11.4.5. Key Task List (KTL). **(T-1).**

6.7.11.4.6. Routine Inspection List (RIL). **(T-1).**

6.7.11.4.7. TDVs, DSVs, and UCRs. **(T-1).**

6.7.11.4.8. Munitions Program. **(T-1).**

6.7.11.4.9. TMDE QP Activity Summary (if TMDE lab assigned). **(T-1).**

6.7.11.4.10. High-missed carded items. **(T-1).**

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-1).**

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. **(T-1).**

6.7.11.4.11.1. Prior to preparing the narrative report, QA will conduct a study of trends. **(T-1).**

6.7.11.4.12. Trend Analysis. QA will review previous reports to determine if inspected areas have improved or declined. **(T-1).**

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.

6.7.12. MSEP Meetings. The MXG or equivalent will conduct quarterly meetings to review a summary of the last three months of MSEP data. **(T-1).**

6.7.12.1. The MXG/CC or equivalent shall chair the meeting. **(T-1).**

6.7.12.2. Attendees must include, as a minimum, SQ/CCs, Operations Officers/MX SUPTs, WWMs, Chief Inspector, and senior analysts. **(T-1).**

6.8. MAJCOM-approved QA database. Units will use their MAJCOM-approved QA database to capture MSEP data. **(T-1).** MAJCOMs will ensure the data fields contained in the database include:

6.8.1. Work center: Input the shop code whose process was inspected.

6.8.2. Inspector: Enter the employee number of the inspector.

6.8.3. Employee: Enter the employee number or equivalent of the person inspected.

6.8.4. Date: Enter the date the inspection was completed.

6.8.5. Time: Enter the time of day when the inspection took place (24-hour clock).

6.8.6. Shift: Enter the shift during which the actual work was performed.

6.8.7. Type Inspection Performed: This code reflects the inspection performed. (e.g., PE, SI, QVI)

6.8.8. WUC/LCN or Type Event Code (TEC): This code reflects the event being evaluated. (e.g., CTK, PH)

6.8.9. QL/standards: The number of discrepancies allowed for a particular item or process (task).

6.8.10. Inspection Rating: “Pass” or “Fail”.

6.8.11. Equipment: Enter the type of equipment assessed.

6.8.12. Equipment ID: Enter the equipment ID. Example of this field would be A/C serial number 91-0387, SG01, etc.

6.8.13. Discrepancy Category: Identify discrepancies as: Major, Minor (CAT I, CAT II).

6.8.14. Remarks: The narrative of inspector findings.

6.8.15. Total items inspected (e.g., number of tools, number of pages of forms, etc.).

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 R&M of aircraft and equipment. PIP includes the following programs:

6.9.1. Deficiency Reporting.

6.9.2. AFTO Form 22.

6.9.3. Source, Maintenance, Recoverability (SMR) code change request(s).

6.9.4. Configuration Management Program; AF Form 1067, *Modification Proposal*; and TCTOs.

6.9.5. Product Improvement Manager (PIM). The MXG/CC or equivalent will assign a PIM

within their organization with responsibilities as specified in this chapter. **(T-1).** The PIM promotes deficiency reporting and provides a sound PIP based on inputs from maintenance activities. The PIM interacts with assigned AFETS personnel, Field Service Representatives (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 will:

6.9.5.1.1. Monitor the DR process to ensure items are properly loaded in the MIS database. **(T-1).**

6.9.5.1.2. Ensure compliance with acceptance inspection reporting requirements on DRs for aircraft returning from depot or contractor maintenance. **(T-1).**

6.9.5.1.3. Ensure DRs are submitted using Joint Deficiency Reporting System (JDRS) at **https://jdrs.mil**. **(T-1).**

6.9.5.1.4. Review the DR prior to releasing to the ALC or AFMC Maintenance Wings IAW TO 00-35D-54. **(T-1).**

6.9.5.1.5. Verify each report against pertinent publications and assign the appropriate precedence and category. **(T-1).**

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-1).**

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-1).**

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-1).**

6.9.5.1.9. **(Added-314AW)** Notify the Wing Safety office of all Category 1 DRs.

6.9.5.1.10. **(Added-314AW)** The Unit DR Monitors, along with maintenance and supply technicians will serve as the "Originator" IAW Technical Order (TO) 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*, and will be responsible for initially screening items and associated paperwork for exhibits considered as deficient. Together, they will ensure the Deficiency Report Routing Worksheet (see **Attachment 31**) Originator and Supply portions are completed prior to sending the paperwork to the PIM office. It is the responsibility of the Originator, (Unit DR Monitors, owning units, or Decentralized Supply Support personnel) to route all completed paperwork to the 314 MXG/PIM office for processing.

6.9.5.2. Technical Order Improvement Program (AFTO Form 22). The PIM will:

6.9.5.2.1. Ensure proper evaluation is performed and forms are properly filled out and processed IAW TO 00-5-1. **(T-1).**

6.9.5.2.1.1. WS will review and approve all AFTO Form 22s for weapons loading TOs and will fill in Block 9 and indicate "Approval"/"Disapproval" in Block 1. **(T-1).**

6.9.5.2.2. Ensure control numbers are assigned and forward all AFTO Form 22s via e-mail transmission or to the appropriate action agency and provide a courtesy copy to the initiator. **(T-1).**

6.9.5.2.3. Maintain an AFTO Form 22 suspense file. **(T-1). Note:** An approved AFTO Form 22 does not provide authority to deviate from current TO procedures; TO changes must be posted to implement approved AFTO Form 22s.

6.9.5.2.4. Conduct a technical review of disapproved AFTO Form 22 to determine whether to resubmit with additional information. **(T-1).**

6.9.5.2.5. **(Added-314AW)** All AFTO Form 22 submissions will be sent via electronic mail through flight supervision to the 314 MXG/PIM office.

6.9.5.3. SMR code change request. Submit an SMR code change request IAW TO 00-25-195, *Air Force 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-1).**

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-1).**

6.9.5.3.3. Coordinate repair evaluation meetings when approved SMR change requests affect several agencies. **(T-1).**

6.9.5.3.4. Serve as focal point for base-level repair and manufacturing capability. **(T-1).**

6.9.5.3.5. **(Added-314AW)** All SMR code change submissions will be sent via electronic mail through flight supervision to the 314 MXG/PIM office.

6.9.5.4. **(Added-AETC)** 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, Precision Measurement Equipment Laboratory (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 HQ AETC/A4M within 45 days of the meeting.)

6.9.5.4.3. **(Added-AETC)** Forward agenda items to HQ AETC/A4M on request.

6.9.5.4.4. **(Added-AETC)** List items requiring out-of-cycle input to HQ AETC/A4M. 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.

6.9.5.4.5. **(Added-314AW)** Consider any additional topics concerning fleet health beyond the scope of AFTO Form 22, SMR code change, or a DR submissions for action item submissions prior to the next Product Improvement Working Group (PIWG) meeting.

6.10. Configuration Management (CM) and Modification Management. 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.

6.10.1. QA will manage/document modifications IAW **Chapter 15** of this instruction, AFI 63-131, TO 00-20-2 and TO 00-5-15. **(T-1).**

6.10.2. QA will establish a process for updating the Integrated Maintenance Information System (IMIS) for weapon systems (e.g. F-15E) that require manual updates for TCTO configuration. **(T-1).**

6.10.3. **(Added-314AW)** Individuals submitting a modification proposal will:

6.10.3.1. **(Added-314AW)** Obtain an AF Form 1067, *Modification Program Management*, and properly fill out the form IAW AFI 63-131.

6.10.3.2. **(Added-314AW)** Provide diagrams, drawings, and photos as necessary to support modification proposal.

6.10.3.3. **(Added-314AW)** Route submissions via electronic mail through flight supervision to the 314 MXG/PIM office.

6.10.4. **(Added-314AW)** The PIM will:

6.10.4.1. **(Added-314AW)** Serve as the focal point for all modification proposal within the 314 MXG.

6.10.4.2. **(Added-314AW)** Assign a local control number, maintain a tracking log, and follow up with the proposal submitter until the submission is closed.

6.10.4.3. **(Added-314AW)** Initiate a routing slip and forward the Modification Proposal to the MXG/CC or designated representative for evaluation.

6.10.5. **(Added-314AW)** The MXG/CC or designated representative will:

6.10.5.1. **(Added-314AW)** Review and approve or disapprove the proposal.

6.10.5.1.1. If approved, sign the organization validation block 11F and return the form to the PIM.

6.10.5.1.2. **(Added-314AW)** If disapproved, provide a brief explanation at the bottom of block 10 for local tracking purposes.

6.10.5.1.3. **(Added-314AW)** The MXG/CD will serve as the designated representative in the absence of the MXG/CC.

6.11. Technical Order Distribution Office (TODO). The TODO ensures TOs are managed IAW AFI 63-101/20-101, *Integrated Life Cycle Management*, TO 00-5-1 and TO 00-5-15. TO 00-5-1 provides criteria for establishing levels of TO distribution activities. Additionally, TODOs shall control electronic technical data configuration IAW **Chapter 8** of this instruction. **(T-1).** Establish the PMEL TODO under the control of the TMDE Flight. **(T-1).** The TODO will:

6.11.1. Coordinate with QA SME for each incoming TCTO to determine applicability. **(T-1).**

6.11.1.1. All TCTOs received from outside agencies need to be routed through QA for the review process.

6.11.1.2. 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.

6.11.1.3. TCTOs need to be manually or electronically date stamped to reflect the date the electronic or hard copy is received.

6.11.1.3.1. Date stamping all TCTOs both manually on a hard copy and/or electronically with the date received indicates QA has reviewed the TCTO and that applicability has been determined.

6.11.1.3.2. TCTO electronic date stamping can be accomplished by 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. This date received will be entered by the QA TODO responsible for tracking TCTOs. **(T-1).**

6.11.1.3.2.1. If used, the TCTO tracking spreadsheet will be electronically secured and controlled by the receiving QA office. **(T-1).**

6.11.1.3.3. Only date-stamped TCTOs are authorized for use. **(T-1).**

6.11.1.4. Post TCTO file copies IAW TO 00-5-1. **(T-1).**

6.11.1.4.1. TCTO file copies may be posted/distributed in electronic format provide all requirements of TO 00-5-1 and AFMAN 33-363 are sustained. Electronic TCTO distribution is automated for Enhanced Technical Information Management Systems (ETIMS)/IETM.

6.11.1.5. For hard copy TCTOs, provide a file copy of the TCTO to PS&D. **(T-1).**

6.11.1.6. 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-1).**

6.11.2. Manage the QA Central TO File. **(T-1).**

6.11.2.1. As a minimum, the QA Central TO File must contain copies (paper copies for paper-only TOs or local access to digital TOs) of general and procedural TOs and copies of all TCTOs pertaining to the assigned aircraft and equipment owned, operated or maintained. **(T-1).**

6.11.2.2. The file is kept to meet QA requirements, not to duplicate TOs held by maintenance work centers.

6.11.3. Manage TO accounts using ETIMS IAW TO 00-5-1. **(T-1).**

6.11.4. Limit use of Local Work Cards (LWC), Local Job Guides (LJG), Local Page Supplements (LPS) or Local Checklists (LCL) to accomplish maintenance on AF equipment. **(T-1).** Locally prepared technical instructions will not be used to circumvent approved technical data (see TO 00-5-1). **(T-1).**

6.11.4. **(AETC)** Ensure all locally developed work cards, job guides, page supplements, and checklists are reviewed and validated by QA/quality control (QC) and approved by the MXG/CC (or equivalent) or FC 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 (COTS) manuals or publications relating to this equipment (TO 00-5-1, *AF Technical Order System*). This file must be collocated with the TO file.

6.11.4.1. 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-1).**

6.11.4.1.1. **(Added-314AW)** Primary and alternate custodians are required for all TODA and TODO. Members assigned as TODA monitors will be the point of contact for the 314 MXG QA TODO.

6.11.4.1.2. **(Added-314AW)** When there is a change to information/personnel, a new appointment letter will be routed to the TODO for placement in the required continuity folder. A copy will also be placed in the TODA folder.

6.11.4.2. LWCs, LJGs, LPSs and LCLs need to be reviewed for currency when source reference data changes.

6.11.4.3. TODO will develop local publications IAW AFI 33-360 to ensure compliance with these policies. **(T-1).**

6.11.4.3.1. **(Added-314AW)** LCL, LPS, and LWC will be submitted IAW TO 00-5-1, TO 00-5-1 AETC Supplement I and this instruction.

6.11.4.3.2. **(Added-314AW)** All proposed/updated LCL/LPS/LWC will be forwarded with a cover letter to 314 MXG/CC for approval.

6.11.4.3.3. **(Added-314AW)** TODO will assign a LCL/LPS/LWC number after approval process. All LCL, LPS, and LWC numbers will follow standard formats as directed by TO 00-5-1.

6.11.4.3.3.1. **(Added-314AW)** LCLs will be numbered LCL-314AW-X.

6.11.4.3.3.2. **(Added-314AW)** LWCs will be numbered LWC-314AW-X (X will be the sequence number assigned).

6.11.4.3.3.3. **(Added-314AW)** LPS will be numbered LPS-314AW-(applicable TO number).

6.11.4.3.4. **(Added-314AW)** TODO will notify the submitting TODA of the LCL/LPS/LWC status upon its return from 314 MXG/CC.

6.11.5. Prepare a list of all changes and revisions to indexes, TOs, inspection work cards and checklists. **(T-1).**

6.11.5.1. This list will include TO number and date received. **(T-1).**

6.11.5.2. The TODO will date stamp the cover page of all paper TOs, changes, supplements, LWCs, LJGs, LCLs and Computer Program Identification Numbering (CPIN)s to reflect the date the hard copy is received. **(T-1).**

6.11.5.2.1. This list will be included in the wing's weekly maintenance plan and flying schedule or electronically linked. **(T-1).**

6.11.5.2.2. Supervisors need to review the list of changes and ensure all personnel are aware a change or revision has been received.

6.11.5.3. "Immediate" action TCTOs must be implemented upon receipt, and "Urgent Action" TCTOs, safety supplements and interim supplements must be brought to the attention of supervisors within 24 hours of receipt. **(T-1).**

6.11.6. Ensure all authorized technical data variances are kept with aircraft/equipment historical records until no longer applicable (aircraft/equipment historical record requirements listed in **Chapter 15** of this instruction). **(T-1).**

6.11.7. If designated as Lead TODO (primary as designated in block 6 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-1).**

6.11.7.1. 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-1).**

6.11.7.2. The Lead TODO(s) shall work with other TODOs and TODAs (and Client Support Administrators CSAs/Functional Systems Administrators (FSA)s if required) to ensure eTools are configured with current software to support TO and maintenance documentation. **(T-1). Note:** Network configuration for eTools is available 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.

6.11.8. Control the electronic data configuration on applicable eTools IAW **Chapter 8** of this instruction. **(T-1).**

6.11.8.1. TODOs will ensure eTools are locked down in the event of a mishap, until it is determined which eTool was used on the affected aircraft/equipment. **(T-1).**

6.11.9. Maintain records of ACPINS IAW TO 00-5-1 and TO 00-5-16. **(T-1).**

6.11.9.1. TODOs shall set up software sub-accounts with each appropriate shop/section and ensure each shop/section has the most current software on hand. **(T-1).**

6.11.9.2. TODOs will include ACPINs or equivalent system in the routine and annual checks required by TO 00-5-1. **(T-1).**

6.12. 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.

6.13. Functional Check Flights (FCFs) to include Operational Check Flights (OCFs).

6.13.1. Check Flights are performed to ensure an aircraft is airworthy and/or capable of accomplishing its mission. Additional guidance may be found in AFI 11-401, *Aviation Management*; AFI 11-202 V3, *General Flight Rules*; AFI 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.

6.13.1.1. OCFs should be kept to a minimum and are not used to replace -6 TO 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-1).**

6.13.1.2. **(Added-314AW)** Maintenance Responsibilities. The owning AMU will ensure the following steps are completed:

6.13.1.2.1. **(Added-314AW)** Ensure all aircraft systems are fully operational or that known discrepancies will not affect the CF profile.

6.13.1.2.2. **(Added-314AW)** Coordinate fuel load and cargo compartment configuration requirements then refuel/configure the aircraft according to aircrew request. To minimize brake and tire wear while performing High Speed Taxi Check (HSTC), coordinate with the FCF aircrew to ensure the aircraft is configured with the minimum operational fuel requirements. Ensure aircraft is prepared for flight and the Exceptional/Conditional release is signed off.

6.13.1.2.3. **(Added-314AW)** Prepare aircraft AFTO Form 781, *Aircrew/Mission Flight Data Document*, series binder for review by QA. Ensure all AFTO Forms 781A, *Maintenance Discrepancy and Work Document*, since last flight, to include the original discrepancy, are delivered to QA for review no later than 3 hours prior to aircrew briefing on the day of the CF or HSTC.

6.13.2. The QA FCF Program Manager will:

6.13.2.1. 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-1).**

6.13.2.1.1. Coordinate these procedures with OG Standardization/Evaluation and publish them in a wing publication/supplement IAW AFI 33-360. **(T-1).**

6.13.2.1.2. **(Added-314AW)** Prior to all CFs and HSTCs, QA will:

6.13.2.1.2.1. **(Added-314AW)** Review the aircraft forms for accuracy and complete documentation. Prepare a concise statement of the reason for the CF or HSTC to be included in the discrepancy block of AFTO Form 781A. Place a blue border around the entire page and stamp the top with CF worksheet stamp.

6.13.2.1.2.2. **(Added-314AW)** Insert the blue-bordered AFTO Form 781A CF worksheet in front of the of the AFTO Form 781A note page of the active forms and have the highlighted checklist ready for the aircrew briefing.

6.13.2.1.2.3. **(Added-314AW)** Develop an aircrew briefing checklist specifically IAW T.O. 1-1-300, *Acceptance/Functional Check Flt and Maintenance Operational Checks*.

6.13.2.1.2.4. **(Added-314AW)** On the day of the CF or HSTC, review all aircraft forms since last flight and verify aircraft status by calling the MOC. Coordinate with the AMU to load a CF/HSTC job control number in G081 IAW LRAFBI 21-107, *Job Control Number Assignment.*

6.13.2.1.2.5. **(Added-314AW)** Brief aircrew of the reason for the CF or HSTC and annotate the briefing in the next open block on the AF Form 2400, *Functional Check Flight,* or equivalent, Functional Check Flight Log. Ensure the aircrew is briefed on the purpose and extent of the CF/HSTC as well as previous maintenance problems and discrepancies recorded on the aircraft or engines related to the CF/HSTC.

6.13.2.2. Coordinate with the appropriate squadron for an FCF pilot/aircrew and provide squadron operations with the aircraft tail number, reason for the FCF and anticipated takeoff time. **(T-1).**

6.13.2.3. Maintain an information file for briefing aircrews. **(T-1).**

6.13.2.3.1. As a minimum, this file must contain unit directives concerning FCF procedures and an FCF checklist for each MDS assigned. **(T-1).**

6.13.2.4. An FCF checklist will be used for each FCF. **(T-1).**

6.13.2.5. Ensure all FCFs are debriefed with the appropriate debrief function. **(T-1).**

6.13.2.5. **(AETC)** QA may suspend debrief of functional check flights (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.

6.13.2.5.1. During debriefing, the FCF checklist and aircraft forms will be reviewed to determine if all requirements have been accomplished. **(T-1).**

6.13.2.5.2. After completing the review, the FCF checklist will be sent to PS&D for inclusion in the aircraft jacket file. **(T-1).**

6.13.2.6. Maintain a copy of the AF Form 2400, *Functional Check Flight Log***,** or equivalent automated product for deficiency and trend analysis. **(T-1).**

6.13.2.7. **(Added-314AW)** Aircrew Responsibilities.

6.13.2.7.1. **(Added-314AW)** The CF/HSTC will be accomplished using the information contained in the FCF Information Handbook containing Technical Order (TO) 1-1-300 and 1C-130J-6CF-1, *Acceptance or Functional Check Flight Procedures.*

6.13.2.7.2. **(Added-314AW)** The aircraft commander will review the aircraft forms and applicable CF/HSTC TO and sign the log sheet to signify he/she has reviewed the FCF Read File. The aircraft commander will brief the rest of the aircrew on issues concerning the FCF Read File.

6.13.2.7.3. **(Added-314AW)** Enter only CF/HSTC related discrepancies on the blue-bordered AFTO Form 781A. Discrepancies not CF/HSTC related are placed in the regular AFTO Forms 781A.

6.13.2.7.4. **(Added-314AW)** The aircraft commander will annotate and complete the appropriate blocks on the completed applicable CF/HSTC checklist, AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance Document*, and blue-bordered AFTO Form 781A with the time and date the CF/HSTC was completed.

6.13.3. FCF-qualified QA Inspectors will:

6.13.3.1. 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-1).**

6.13.3.2. Ensure aircraft W&B documents are reviewed. **(T-1).**

6.13.3.3. Ensure AF Form 2400 or an equivalent automated product is maintained to provide information for evaluation and analysis. **(T-1).**

6.13.3.3. **(AETC)** Collect and prepare FCF results according to AETCI 21-105.

6.13.3.3.1. Include the date and time of the FCF, aircraft serial number, reason for FCF, name of debriefer and name of aircraft commander. **(T-1).**

6.13.3.3.2. 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-1).**

6.13.3.4. 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-1).**

6.13.3.5. All maintenance actions on transient aircraft requiring FCF must be reviewed by QA prior to FCF. **(T-1).**

6.13.3.5.1. 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-1).**

6.13.4. 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 decision to fly a full profile FCF is the decision of the MXG/CC. The FCF profile will be tailored for the discrepancy causing the FCF by applying the following guidance:

6.13.4. **(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.

6.13.4.1. Require a clean configuration whenever FCFs are flown for flight controls, fuel controls or engine changes. **(T-1).**

6.13.4.2. 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, etc. **(T-1).**

6.13.4.3. Do not fly FCFs in conjunction with other missions or training requirements, unless authorized in TO 1-1-300. **(T-1).**

6.13.5. 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.

6.13.5.1. 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.

6.13.5.1. **(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 gauge. In this example the aircraft may be released.

6.13.5.1.1. **(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 dash-6 TO, or specified during the FCF briefing. The following exceptions apply:

6.13.5.1.2. **(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.

6.13.5.1.3. **(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.

6.13.5.1.4. **(Added-314AW)** Upon completion of each CF/HSTC attempt, the following steps will be accomplished:

6.13.5.1.4.1. **(Added-314AW)** The QA technician will debrief the aircrew at the applicable maintenance debrief section and retrieve the applicable CF/HSTC checklist. The QA technician will sign off the CF/HSTC in G081 using his/her employee number for the aircrew.

6.13.5.1.4.2. **(Added-314AW)** If the CF/HSTC aircraft is released, QA will:

6.13.5.1.4.2.1. **(Added-314AW)** Complete all documentation on the AF Form 2400 or equivalent, or a computer automated FCF Log as required.

6.13.5.1.4.2.2. **(Added-314AW)** Move the blue-bordered page from in front the AFTO Forms 781A to the last page and re-number it accordingly.

6.13.5.1.4.2.3. **(Added-314AW)** Deliver the CF/HSTC completed checklist to the PS&D section to be filed in the aircraft jacket file.

6.13.5.1.4.3. **(Added-314AW)** If the aircraft fails the CF/HSTC and is not released, QA will move the blue-bordered page from in front of the AFTO Forms 781A to the last page and re-number it accordingly.

6.13.6. MAJCOMs will issue instructions for FCF procedures away from home station.

6.13.6. **(AETC)** Units will develop guidance for FCF procedures away from home station using guidance provided in AFI 21-101 and this supplement as required. **(T-2).**

6.13.6.1. **(Added-314AW)** In the event that an FCF/OCF/HSTC must be completed off-station, the Temporary Duty (TDY) maintenance personnel will:

6.13.6.1.1. **(Added-314AW)** Contact home station Pro Super to verify the CF/HSTC requirement.

6.13.6.1.2. **(Added-314AW)** Contact the local (TDY location) QA to request that an FCF qualified inspector review all maintenance actions prior to CF/HSTC. If local QA does not exist or cannot support the request, then the TDY maintenance personnel will contact home-station QA for guidance and instructions to review all maintenance actions prior to CF/HSTC.

6.13.6.1.3. **(Added-314AW)** Contact the transient base flight operations unit and home-station to determine CF/HSTC pilot/crew availability/scheduling. If the Mission Design Series aircraft is not assigned at the transient base, then the owning unit must provide a qualified CF/HSTC pilot/crew and maintenance as required.

6.14. 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. **(T-1).**

6.14.1. Document inflight operational checks IAW TO 00-20-1.

6.15. 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.

6.15.1. High speed taxi checks (as applicable) will be accomplished IAW TO 1-1-300 instead of FCFs. **(T-1).**

6.15.1.1. Process aircraft forms through QA using FCF procedures. **(T-1).**

6.15.1.2. QA will develop an aircrew briefing checklist specifically for high speed taxi checks, to include the required FCF briefing items and pertinent warnings, cautions, etc. **(T-1).**

6.15.2. Configure aircraft with the minimum -1 operational fuel requirements. **(T-1).**

6.15.3. Ensure aircraft is prepared for flight and the Exceptional/Conditional Release is signed off prior to conducting high speed taxi checks. **(T-1).**

6.16. Weight and Balance (W&B) Program. QA will manage this program IAW TO 1-1B-50, *Basic Technical Order for USAF Aircraft Weight and Balance*. **(T-1).**

6.16.1. W&B manuals for Class I and II aircraft are maintained in a central file. **(T-1).**

6.16.1.1. The Lead Command will standardize the method of supplemental handbook storage and physical location for like-MDS aircraft.

6.16.2. QA will manage W&B on commercial derivative aircraft IAW **Chapter 6** of this instruction. **(T-1). Note:** The contractor is responsible for managing W&B programs on CLS-supported aircraft.

6.16.3. The W&B Program Manager will ensure:

6.16.3.1. Sufficient personnel are qualified on assigned aircraft IAW TO 1-1B-50. **(T-1).**

6.16.3.2. All assigned aircraft are weighed IAW applicable directives. **(T-1).** The W&B Program Manager will:

6.16.3.2.1. Keep W&B documents required by TO 1-1B-50 for each assigned aircraft. **(T-1).**

6.16.3.2.2. Use the Automated Weight and Balance System (AWBS), and maintain a back-up copy of all W&B documents. **(T-1).**

6.16.3.2.3. **(Added-314AW)** Maintain primary Weight and Balance handbooks on all assigned aircraft and provide current Chart C for aircraft supplemental handbooks.

6.16.3.2.4. **(Added-314AW)** Provide 314th Operations Group Standard Evaluations Program with information identifying baseline aircraft to be used for calculation of "canned" Form F, DD Form 365-4, Weight and Balance Flight Clearance.

6.16.3.2.5. **(Added-314AW)** Provide the owning AMU with an Aircraft Weight Preparation Check Sheet (**Attachment 24**) to provide guidance in configuring the aircraft to its proper pre-weighing condition.

6.16.3.3. Procedures are established for routing completed TCTO and modification information for W&B changes. **(T-1).**

6.16.3.3.1. **(Added-314AW)** The W&B Program manager will:

6.16.3.3.1.1. **(Added-314AW)** Update the Chart A and Chart C IAW the instructions published in the TCTO or verified information extracted from a project report or other specification sheets provided by the manufacturer / contractor.

6.16.3.3.1.2. **(Added-314AW)** Upon completion of TCTO/modification actions, print all the affected pages of the Chart A and Chart C and post them in the Primary Weight and Balance book to reflect the changes. Complete job documentation requirements in the aircraft Air Force Technical Order (AFTO) Form 781A, *Maintenance Discrepancy and Work Document*, and maintenance data collection G081 (CAMS for Mobility) as required.

6.16.3.4. Essential W&B data and changes to the basic weight and moment are available for appropriate mission planning (e.g., Standard Configuration Loads, updates to supplemental handbook). **(T-1).**

6.16.3.4. **(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.

6.16.3.5. Periodic serviceability inspections are accomplished on unit-stored/maintained W&B equipment (as applicable). **(T-1).**

6.16.3.6. Coordination with Operations Officer/MX SUPT in developing a W&B Preparation Checklist if the aircraft -5 TO is not comprehensive enough for the task. **(T-1).**

6.16.3.7. The SCR reflects W&B certification. **(T-1).**

6.16.4. W&B Qualified QA Inspector Responsibilities. The W&B Qualified QA Inspector will:

6.16.4.1. Verify scale readings and accomplish/oversee the actual computations. **(T-1).**

6.16.4.2. Supervise the preparation, leveling and weighing of the aircraft IAW MDS specific –2 and –5 series TOs and TO 1-1B-50. **(T-1).**

6.16.4.3. Inspect W&B documents before flight when locally-accomplished modifications affect the basic aircraft weight and moment. **(T-1).**

6.16.4.4. Review computations for accuracy. **(T-1).**

6.16.5. **(Added-AETC)** Store the Weight & Balance supplemental handbook for T-1 and T-6 aircraft as follows:

6.16.5.1. **(Added-AETC)** On the aircraft for T-1 aircraft.

6.16.5.2. **(Added-AETC)** At the operations desk for T-6 aircraft.

6.16.6. **(Added-314AW)** PS&D section will:

6.16.6.1. **(Added-314AW)** Ensure aircraft are scheduled for wash, as required, prior to being weighed. **NOTE**: Aircraft must not be flown between wash and weigh.

6.16.6.2. **(Added-314AW)** Ensure aircraft are scheduled for weighing as recommended IAW TO 1-1B-50 and will be coordinated with QA for certified weighing locations.

6.16.6.3. **(Added-314AW)** Ensure the QA Weight and Balance Manager/technician is informed of all Programmed Depot Maintenance (PDM) or Programmed Maintenance Program (PMP) departure and return dates.

6.16.7. **(Added-314AW)** Pro Super and/or Expediter will:

6.16.7.1. **(Added-314AW)** Ensure the QA Weight and Balance Manager is notified as soon as possible whenever aircraft equipment (weighing 5 lbs. or more) is added or removed and when the aircraft is expected to fly with the resulting configuration. To complete an aircraft inventory, the standard minimum notification is 24 hours prior to scheduled take-off. Ensure required specialist support is available throughout the duration of the weigh procedure.

6.16.7.2. (**Added-314AW)** Notify QA Weight and Balance Manager upon completion of the Aircraft Weight Preparation Check List (**Attachment 24**). This pre-weigh check list will be placed in the front of the aircraft AFTO Form 781A binder and will be reviewed by QA W&B personnel. It will remain with the binder throughout the entire weighing process.

6.16.7.3. **(Added-314AW)** Verify aircraft fuel tanks with foam are refueled full, and then defueled, drained, and pogo has been accomplished using applicable publications.

6.16.7.4. **(Added-314AW)** Provide a fully qualified, experienced tow crew to position the aircraft during the weighing procedure.

6.16.7.5. **(Added-314AW)** Coordinate with MOC and 19 MXS Pro Super to reserve an authorized aircraft weigh location for forecasted date/time of weigh.

6.16.7.6. **(Added-314AW)** Provide personnel to assist with the aircraft inventory when requested by QA.

6.16.8. **(Added-314AW)** Support Section will:

6.16.8.1. **(Added-314AW)** Maintain serviceable weighing equipment.

6.16.8.2. **(Added-314AW)** Offset W&B equipment calibration schedules as much as possible to maximize availability.

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 AFI 91-204 for aircraft and equipment involved in accidents, mishaps or incidents. Impounding aircraft and equipment enables investigative efforts to systematically proceed with minimal risk relative to intentional/unintentional actions and subsequent loss of evidence.

7.2. Specific Guidance. MXG/CCs, or equivalent, will ensure compliance with the procedures in this chapter and will develop a local Impoundment Program. **(T-1).** Local program procedures, requirements and responsibilities will be captured in a local supplement to this instruction. **(T-1)**.

7.2.1. QA is the OPR for the Impoundment Program and will develop local impoundment checklists. **(T-1).**

7.2.2. The MXG/CC and MXG/Deputy Commander (CD) (or equivalents) are the Impoundment Release Authorities. **(T-1).**

7.2.2.1. In the event of a dual MXG/CC and CD absence, the MXG/CC or CD will appoint an individual in writing as the designated Impoundment Release Authority for the period of the dual absence. **(T-1).**

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-1).**

7.3. Impoundment Authorities.

7.3.1. Impoundment Authorities are designated by the MXG/CC (or equivalent) and will be tracked on the SCR. **(T-1).** Impoundment Authorities will:

7.3.1.1. Select the Impoundment Official. **(T-2).**

7.3.1.2. Determine if impoundment is warranted when:

7.3.1.2.1. An aircraft landing gear fails to extend or retract due to an unknown condition. **(T-1).**

7.3.1.2.2. The aircraft has been confirmed as being contaminated with chemical, biological, or radiological materials. **(T-1).**

7.3.1.2.3. An aircraft sustains FO damage from an unknown cause. **(T-1).**

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. **(T-1).** The Impoundment Official will:

7.4.1. Be responsible for controlling and monitoring the investigation of impounded aircraft or equipment. **(T-1).**

7.4.2. Use established checklists to guide the sequence of actions. **(T-1).**

7.4.2.1. **(Added-314AW)** Ensure completion of AF IMT 2519, *Aircraft/Equipment Impoundment Checklist* (**Attachment 25**).

7.4.3. Control and track access of personnel to impounded aircraft or equipment. **(T-1).**

7.4.4. **(Added-314AW)** Review historical records in MIS of the aircraft/equipment systems suspected of causing the problem(s).

7.4.5. **(Added-314AW)** Use AETC Form 403, *Landing Gear/Flight Control Malfunction History*, to document sequence of actions during primary flight control malfunction maintenance if applicable.

7.4.6. **(Added-314AW)** Conduct a daily brief for 314MXG leadership covering as much information as possible.

7.4.7. **(Added-314AW)** Record all inspections/maintenance actions pertaining to the aircraft/equipment impoundment on a 314 MXG Form 105 (**Attachment 26**).

7.4.7.1. **(Added-314AW)** Coordinate with QA Representative to document QA actions pertaining to the aircraft/equipment impoundment on the 314 MXG Form 105, Quality Assurance Impoundment Record (**Attachment 26**). The completed form will be kept on file within QA for a minimum of 1 year.

7.4.8. **(Added-314AW)** Review the AFTO Form 781A and G081 daily to ensure all maintenance actions are documented/cleared IAW TO 00-20-1, Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures. When G081 is locked out, use AFTO Form 349 to track all maintenance actions.

7.4.9. **(Added-314AW)** Prohibit any Cannibalization (CANN) actions from the aircraft/equipment that have not been approved by the impoundment authority.

7.5. Mandatory Impoundments. Aircraft and/or equipment will be impounded:

7.5.1. When the Impoundment Authority determines extraordinary measures are required to address any degradation of aircraft airworthiness or serious aircraft/equipment anomaly. **(T-1).**

7.5.2. Following an aircraft ground or flight-related mishap as defined in AFI 91-204 and AFMAN 91-223, *Aviation Safety Investigations and Reports*. **(T-1).**

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-1).**

7.5.4. Following an uncommanded flight control movement. **(T-1).** Following impoundment for uncommanded flight control movement, the MXG/CC and OG/CC will determine the need for an FCF/OCF. **(T-1)**.

7.5.5. Following an inadvertent ordnance release or explosive mishap. **(T-1).**

7.5.6. When authorized procedures are not adequate or the unit is unable to identify or repair loaded nuclear weapons system malfunctions within the criteria of AFI 91-107. **(T-1).**

7.5.7. Following aircraft engine anomalies to include but not limited to:

7.5.7.1. Unselected propeller reversal. **(T-1).**

7.5.7.2. Flameout/stagnation (for single engine aircraft). **(T-1).**

7.5.7.3. Unselected power reversal. **(T-1).**

7.5.7.4. Engine case penetrations, ruptures, or burn-through from an internal engine component. **(T-1).**

7.5.7.5. When an aircraft experiences a loss of thrust sufficient to prevent maintaining level flight at a safe altitude. **(T-1).** 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-1).**

7.5.7.7. Engine damage which occurs during transport. **(T-1).**

7.5.8. Following an in-flight fire. **(T-1).**

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-1).**

7.5.10. When there is evidence of intentional damage, tampering, or sabotage. **(T-1).**

7.5.11. When physiological incidents attributable to aircraft systems or cargo occur. **(T-1).**

7.6. Impoundment Procedures.

7.6. (AETC) Impoundment Procedures. See **Attachment 7** for an aircraft and equipment impoundment checklist. For impounded transient aircraft, the supporting organization is responsible for releasing the aircraft from impoundment in coordination with the owning unit (paragraph **7.6.10**).

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-1).**

7.6.2. The MOC will be notified when an impoundment decision has been made. **(T-1).**

7.6.3. Aircraft or equipment records will be controlled at the discretion of the Impoundment Official. **(T-1).** 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-1).**

7.6.3.1.1. **(Added-314AW)** Aircraft jacket file and decentralized records are gathered, locked/secured and identified as impounded IAW local checklist.

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-1).**

7.6.3.3. Request and collect any training records, required to complete the impoundment investigation. **(T-1).**

7.6.3.4. On aircraft impounded for potential safety related incidents, ensure the Cockpit

Voice Recorder (CVR)/Flight Data Recorder (FDR) circuit breakers are pulled immediately after engine shutdown or before applying external power to safeguard CVR/FDR data, if equipped. **(T-1).**

7.6.3.5. Ensure impounded aircraft/equipment is identified by cordon with cones, ropes or placards indicating impound condition and aircraft location. **(T-1).**

7.6.3.5.1. **(Added-314AW)** Maintain an Entry Control Point (ECP) entry log (manual or electronic) if an ECP is established.

7.6.4. Impoundment Official will limit maintenance actions on impounded aircraft or equipment until the cause is determined. **(T-1).**

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-1).**

7.6.4.2. Parts removed from impounded aircraft or equipment will be carefully controlled. **(T-2).** This is to ensure that parts, once confirmed as the cause for impoundment, are available to be processed as DR exhibits.

7.6.4.2.1. **(Added-314AW)** Ensure assigned technicians complete AFTO Form 350, Repairable Item Processing Tag, with all pertinent information for each component removed from the impounded aircraft/equipment. The AFTO Form 350 tag will also be further identified with a red border and the word “IMPOUNDED” written clearly in the discrepancy block.

7.6.5. The Impoundment Official will select a team of qualified technicians dedicated to determine the cause of the problem that led to the impoundment. **(T-1).**

7.6.5.1. Impoundment team members will be relieved of all other duties until released by the Impoundment Official (N/A to ARC). **(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-1).**

7.6.6.1. **(Added-314AW)** Meet with QA to discuss actions taken prior to briefing the releasing authority.

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-1).**

7.6.8. Clear impoundments from forms/MIS IAW TO 00-20-1. **(T-1).**

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 (e.g., requesting depot assistance, further troubleshooting, FCF/OCF). **(T-2).**

7.6.10. MAJCOMs will publish guidance outlining impoundment and release procedures for transient aircraft.

7.6.10.1. At locations where no MXG/CC or designated representative is available, the aircraft assigned MXG/CC may temporarily delegate Impoundment and Release Authority to the deployed Maintenance Supervisor.

7.6.11. (**Added-314AW)** Engine and/or Propeller Impoundment Procedures.

7.6.11.1. **(Added-314AW)** When the cause of a mishap/incident is isolated to an engine and/or propeller, the impoundment will be transferred to the suspected engine/propeller. Once the engine and/or propeller have been replaced, the aircraft may be released from impoundment at the discretion of the impoundment authority.

7.6.11.2. **(Added-314AW)** AE2100D3 engines and C-130J propellers will be sent to their respective local vendor representatives for further evaluation and investigation. A separate 314 MXG Form 105 will be filled out by the impoundment official for the engine and/or propeller which will remain impounded after removal from aircraft.

7.6.11.3. **(Added-314AW)** The impoundment official will continue to monitor the engine/propeller impoundment and investigation and provide MXG leadership updates on status until the engine/propeller is released by the impoundment release authority.

7.6.11.4. **(Added-314AW)** If the damage to the impounded engine/propeller is beyond local repair/investigation capabilities, the engine and/or propeller impoundment(s) will be transferred to their respective local vendor representative prior to the engine/propeller being shipped off-station. Original Impoundment Official will request updates from local vendor representative if required by Impoundment Authority.

7.6.12. **(Added-314AW)** Off-Station Aircraft Impoundment Procedures:

7.6.12.1. **(Added-314AW)** Home-station guidance for impounded aircraft will be followed to the fullest extent possible.

7.6.12.2. **(Added-314AW)** For aircraft impounded off-station, the impoundment release authority may verbally release the aircraft/equipment from impoundment after being briefed by the impoundment official on the cause of the malfunction or damage. If the aircraft/equipment is verbally released, the impoundment official will annotate the aircraft AFTO Form 781A stating the "Aircraft has been verbally released from impoundment by _____ (the name of the releasing authority)" then print his/her minimum signature in the inspected by block and initial over the symbol.

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-1).** 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 will be notified of the impoundment action. **(T-1).**

7.7.1.3. The aircraft with unsafe munitions will be parked and isolated in an area approved by the weapons safety office and airfield management. **(T-1).**

7.7.1.4. Investigate and report the incident IAW AFI 91-204. **(T-1).**

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-1).**

7.7.2.3. Do not change the position of any switches except as needed for safety. **(T-1).**

7.7.2.4. Limit maintenance actions to those actions required to make the aircraft or equipment safe. **(T-1).**

7.7.3. Preserve mishap evidence to the maximum extent possible. **(T-1).** 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 (GACP) Air Force Life Cycle Management Center, Munition Division (AFLCMC/EBH) Munitions Rapid Response Team (MRRT): DSN: 777-4865; COMM: (801) 777-5155 and the MAJCOM munitions staff. **(T-1).**

7.7.4.1. Refer to AFI 91-202 for additional information about the MRRT team. **Note:** The MRRT 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** of this instruction) also follow applicable requirements/criteria outlined in AFI 91-107. **(T-1)**

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 AFI. DFT/CFT will adhere to local tool control policies and procedures provided in the MXG/MO in-brief (see **paragraph 5.2.1.9** of this instruction) when working on aerospace equipment possessed by the unit. **Note:** For the purpose of this instruction Tool Accountability System (TAS) is the generic term used to describe a computer program/software that provides inventory control over CTK/tool room content and not the AF Tool Accountability System formerly referred to in this AFI.

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 (e.g. Hospital, CE, vehicle Mx, Security Forces, etc.), to provide mission support in a wing level publication IAW AFI 33-360. **(T-1).** The MXG/CC, or equivalent, is the OPR for development of this publication and will coordinate with all wing organizations that work in, or enter, the above mentioned areas to ensure they have established tool/equipment control procedures documented in the wing publication. **(T-1).** As a minimum, guidance will address the following:

8.2. (AETC) Guidelines for Program Management. In contractor organizations, the wing will appoint a noncontractor POC to develop the wing instruction.

8.2.1. Standardized procedures for security, control, and accountability of tools and equipment. **(T-1).**

8.2.1.1. Chits are not authorized.

8.2.2. Inventory requirements. **(T-1).** As a minimum, units will conduct and document an annual inventory of all tools and equipment. **(T-1).**

8.2.3. Procedures for warranted tool management. **(T-1).**

8.2.3.1. Procedures to tag/segregate unserviceable warranty tools will be addressed in the local wing publication. **(T-1).**

8.2.3.1.1. **(Added-314AW)** Unserviceable or unsafe warranted tools will be secured in an area separated from other non-warranted tools until replaced by the vendor IAW AFMAN 23-110.

8.2.4. Procedures for control and management of replacement, expendable and consumable hand tools, HAZMATs, and other items contained in CTKs. **(T-1).**

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.

8.2.4.1. **(Added-314AW)** Tool Replacement Procedures:

8.2.4.1.1. **(Added-314AW)** Replacement/expendable/consumable tool bins/lockers will be strictly controlled and secured at all times. Tools will be exchanged on a one-for-one basis. Examples of expendable tools include saw blades, apexes, files, file cleaners, acid brush, wire brushes, etc. Items on hand will be inventoried and quantities kept accurate at all times. A quarterly inventory will be accomplished and documented by the CTK custodian or designated representative. Name and rank of person conducting the inventory, date of inventory, balance on hand, and location of tool storage will be documented in an automated system, a general purpose form, or on a locally approved form.

8.2.5. Procedures for transfer of tools/CTKs at the job site (on-site transfers). **(T-1).**

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-1).**

8.2.5.1.1. **(Added-314AW)** On-duty Pro Super is the only individual who can authorize an on the job site turnover of dispatchable CTKs/equipment. If a dispatchable CTK is to remain at a job site for more than one shift and is not returned to the support section at the end of the shift for inventory/turnover, the following procedures will be used to ensure positive tool control:

8.2.5.1.1.1. **(Added-314AW)** Outgoing and incoming individuals will inventory the CTK(s) together. Both individuals will report to CTK once the inventory is complete and perform the shift change transfer option in the automated tool tracking system. CTK personnel will verify with the on-duty Pro Super for authorization of the transfer.

8.2.5.1.1.2. **(Added-314AW)** An AF Form 1297 may be used in place of the above procedure when an extreme situation prevents the incoming person from going to CTK as determined by the Pro Super. CTK personnel will verify with the on-duty Pro Super for authorization of the transfer.

8.2.6. Procedures for lost or missing tools. **(T-1).**

8.2.7. Assignment of Equipment Identification Designators (EID) for CTKs, non-CA/CRL equipment, and assignment of CTK numbers for tools. **(T-1).**

8.2.8. Procedures for issue, marking, and control of PPE, tools or equipment (e.g., hearing protectors, reflective belts, headsets, etc.) assigned/issued to individuals. **(T-1).**

8.2.9. Procedures to ensure positive accountability and control of rags. **(T-1).**

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.

8.2.9.4. **(Added-314AW)** Positive control of rags will be enforced at all times.

8.2.9.5. **(Added-314AW)** Lost rags will be treated as a "lost tool."

8.2.9.6. **(Added-314AW)** Rags may be added to CTKs, signed out, or prepackaged (quantity to be determined by the CTK custodian) to facilitate the check-in/check-out process. Bags or containers of prepackaged rags or pads will be marked with the quantity of items in the bag or container. Rags issued or removed from CTKs will be strictly controlled.

8.2.9.7. **(Added-314AW)** Upon return to the support section, the soiled rags in the CTK will be exchanged with clean rags on a one-for-one basis.

8.2.10. Procedures to limit numbers of personnel authorized to procure tools. **(T-1).**

8.2.11. Procedures for control of locally manufactured or developed tools and equipment. **(T-1).**

8.2.12. Procedures for FSRs/DFTs/CFTs when working on equipment within the unit. **(T-1).**

8.2.13. Standardized procedures and responsibilities for decentralizing CTKs, tools, and equipment outside tool room/support section to meet mission requirements. **(T-1).**

8.2.13.1. Inventory and accountability requirements described in this AFI apply equally to all decentralized CTKs tools, and equipment. **(T-1).**

8.2.14. Procedures for control of response equipment permanently stored/located in trailers or vehicles. **(T-1).**

8.2.15. Procedures for requiring a second party or on-duty supervisor inspection of CTKs when conditions warrant a single person shift. **(T-1).**

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-1).**

8.2.16. Procedures for controlled access to tool rooms. **(T-1).**

8.3. General Program Guidelines.

8.3.1. The Flight CC/Chief will designate CTK custodians in writing. **(T-1).**

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.

8.3.1.1.1. **(Added-314AW)** In order to maintain positive control of all items that may be dispatched to the flightline and to reduce the potential for FOD, all individual equipment, HAZMAT items, consumable assets etc. will be marked with applicable EID numbers for that kit/item and listed in TAS or equivalent.

8.3.2. Flight CC/Chiefs and/or Section NCOICs/Chiefs (or equivalents) will determine the type, size, contents and number of CTKs required for their work centers. **(T-1)**.

8.3.2.1. The WWM will make this determination for load crew CTKs, when assigned. **(T-1).**

8.3.2.2. **(Added-314AW)** Flight CC/Chiefs and/or Section NCOICs/Chiefs (or equivalents) will approve the Master Inventory Listing (MIL) by signing it.

8.3.3. Design CTKs to provide for quick inventory and accountability of tools. CTKs and tools will be clearly marked with the EID (follow guidance below). **(T-1).**

8.3.4. CTK contents will be standardized to the maximum extent possible within functional elements of a squadron that have similar missions (e.g., aircraft flights/sections and Combat Armament Support Team (CAST)s). **(T-1).**

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-1).**

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 except for tools issued in sets such as drill bits, allen wrenches, apexes, or paired items (e.g., gloves, booties). **(T-1).**

8.3.5.2. **(Added-314AW)** Expendable hand tools such as apexes, files, and file cleaners will be permanently marked or installed in a marked container prior to issue as replacements. Before replacement expendable tools are issued, unserviceable items will be accounted for and turned in to the support section. **NOTE:** Cutting blades will not be etched. The blades will be considered as part of the cutting device. Only one blade will be authorized in the cutting device; accountability and replacement procedures still apply.

8.3.5.3. **(Added-314AW)** A serviceable FOD pouch, can, bag, etc. will be maintained with every dispatchable CTK and tool pouch (excluding test equipment). The FOD container will be included on the inventory listing. As a minimum, the FOD container will be emptied upon turn in.

8.3.6. A Master Inventory List (MIL) will be required for each CTK or series of identical CTKs. **(T-1).**

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-1).**

8.3.6.2. When items such as dispatchable support equipment or dispatchable special tools are issued separately and contain multiple parts, an inventory of the multiple items must be provided with the equipment or special tools. **(T-1).**

8.3.6.3. When a TAS is used, the MIL resides in the TAS, but a hard copy of the MIL must reside with each dispatchable CTK. **(T-1).**

8.3.6.4. If identification tags or dust caps are attached to tools/equipment, they will be secured in a manner that will preclude any possibility of FOD. **(T-1).**

8.3.6.4.1. Items not permanently attached, will be marked/etched with the appropriate CTK number. **(T-1).**

8.3.6.4.2. All items will be listed on the MIL. **(T-1).**

8.3.6.4.3. **(Added-314AW)** MILs will be created using the following criteria:

8.3.6.4.3.1. **(Added-314AW)** MIL contents are broken down by drawer/section indicating the total number and type of items in each drawer/section of the storage location or CTK.

8.3.6.4.3.2. **(Added-314AW)** MILs will have the description, World Wide Identification (WWID) number, and the quantity of each item contained in the storage location or CTK. Units may add serial numbers if desired.

8.3.6.4.3.3. **(Added-314AW)** For containers with multiple pieces, such as apex kits, etc., the contents listing description will include a detailed breakdown with the description and quantity of each piece contained inside. EXCEPTION: If labeling/marking on the container identifies each item in the kit/set, only the quantity is required on the MIL.

8.3.6.4.3.4. **(Added-314AW)** All test equipment will have a MIL kept inside the container of detachable items included in the test set (i.e. power cords, hoses, etc.). All detachable items will be permanently marked with the CTK/test set identification number.

8.3.6.5. Consumables may be placed in CTKs. If so, they will be identified on the MIL as consumables. **(T-1).** Examples of consumables include; safety wire, adhesive, wire bundle lacing, solder, etc.

8.3.6.5.1. Do not include common hardware items such as bolts, nuts, and/or screws unless they are required as tools.

8.3.6.5.2. **(Added-314AW)** When a consumable is used up, it will be replaced or annotated in TAS, on AETC Form 1042, or a locally approved form.

8.3.6.5.3. **(Added-314AW)** Lost consumables or containers will be treated as a lost tool/item.

8.3.6.5.4. **(Added-314AW)** Consumables must be kept in a neat, serviceable condition and meet shelf-life and Hazardous Communication Program requirements

concerning hazardous chemicals (if applicable).

8.3.6.6. Tool sets will be identified on the MIL by total number of items in the set (e.g., allen wrench set - 9 each allen wrenches + container for a total of 10). **(T-1).**

8.3.6.7. Missing, removed and/or broken tools/items will be documented in the TAS if they cannot be replaced immediately. **(T-1).**

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-1).**

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-1).**

8.3.6.7.1.2. Pencil/pen may be used for hard copy MIL documentation and erased/lined through when cleared.

8.3.6.7.1.3. **(Added-314AW)** Tools removed from CTKs for any reason (other than when in use performing maintenance) will be annotated in TAS, an AETC Form 1042, or locally approved form. The form, if used, will be kept in the tool storage facility and a matching copy kept with the corresponding CTK.

8.3.6.7.2. The EID will be removed from any permanently removed item/tool. **(T-1)**.

8.3.6.7.3. A permanently removed (without planned replacement) item/tool constitutes a change to the inventory and requires a new MIL.

8.3.6.7.3.1. **(Added-314AW)** Silhouettes or cavities for tools, which have been permanently removed, will be filled in.

8.3.6.7.4. The CTK custodian has the authority to interchange "like" (form, fit, function) items.

8.3.6.7.4.1. **(Added-314AW)** All changes will be annotated in the automated tool tracking system, and all copies of the MIL must be individually initialed and dated in ink by the CTK personnel.

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-1).**

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 (e.g., waveguides, attenuators, fittings, cables, adapters) that are not part of a CTK. **(T-1).**

8.3.8.1. As a minimum, designated locations will be labeled to identify the contents. **(T-1)**.

8.3.8.2. Industrial shop machinery accessories/attachments (e.g., blades, arbors, chucks, gears) need not be controlled as tools; however, these items will be maintained in designated storage locations for accountability. **(T-1).**

8.3.8.2.1. As a minimum, storage cabinets/drawers will be labeled to identify the contents. **(T-1).**

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-1).**

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-1).**

8.3.9.2. In addition to normal CTK identification, oxygen system maintenance kits will be marked "For Oxygen System Use Only". **(T-1).**

8.3.10. Discard removable (e.g., slide on) pocket clips and spare parts from tools when possible (flashlights, continuity testers, small screwdrivers, etc.) prior to placement in tool kits. **(T-1).**

8.3.10.1. Do not disassemble/damage tools for sole purpose of removing clips (e.g., tape measures, rubber switch guards, etc.).

8.3.11. Tools not controlled through CTK procedures are NOT authorized on the flightline, or in any maintenance area (e.g., personal Mini Maglite® flashlights, Leatherman®, Buck Knives®, etc.). **(T-1).**

8.3.11. **(AETC)** The MXG/CC will develop procedures to mark and control equipment that is assigned or issued to individuals. **(T-2).** Also see AFI 21-101, paragraph **8.2.8**.

8.3.11.1. Personally-purchased tools are not authorized. **(T-1).**

8.3.11.2. **(Added-314AW)** Personal equipment issued to individuals such as ear protectors, reflective belts, whistles, etc., will be clearly marked with the individual's last name, employee number, and the first two digits of the WWID (i.e. LP for Little Rock AFB). Individuals are responsible for controlling the personal equipment issued to them at all times.

8.3.11.3. **(Added-314AW)** Personal tools are NOT authorized for maintenance personnel on the flightline or in any maintenance area (i.e. flashlights, Leatherman type tools, knives, etc.). Supervisors at all levels must strictly enforce this policy.

8.3.11.4. **(Added-314AW)** Aircrew personnel may carry personal equipment as required for mission requirements IAW local MDS-specific instructions.

8.3.11.5. **(Added-314AW)** Lost personal equipment/items will be treated the same as lost tools/items and reported on an AETC Form 138, *Lost Tool or Item Investigation Record*, IAW this instruction.

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 AFMAN 91-201 when used in explosive environments. **(T-1). 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 for managing the TMDE calibrations requirements for the owning work center. **(T-1).** 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 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 PAMS/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 PAMS 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-1).**

8.4.7. Ensure classified TMDE is protected IAW AFI 31-401. **(T-1).**

8.4.8. Ensure TMDE shipped off base for calibration or repair and return is shipped by traceable means and IAW AFI 24-203. **(T-1).**

8.4.8.1. The TMDE Monitor will maintain a file consisting of all supporting documentation for each type of shipment. **(T-1).**

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-1).**

8.4.9. For deployment purposes, ensure equipment, tools, and HAZMAT items are properly identified, prepared, and documented IAW AFI 10-403. **(T-1).**

8.5. Tool Accountability. Flight CC/Chiefs 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 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 a MAJCOM-approved TAS for accountability and control of tools and equipment. **(T-1).** Contractors and MEOs are not required to use the MAJCOM- approved TAS unless specified in the Performance Work Statement/Statement of Work. **Note:** AFE Sections follow instructions given in AFI 11-301, Volume 1, *Aircrew Flight Equipment (AFE) Program*.

8.5.1. **(AETC)** The AETC approved tool accountability system is TCMax. ALIS is used to manage tools for the F-35 aircraft. Sections such as QA, where only a handful of items 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 their respective TAS database at least once a month. **(T-1).**

8.5.1.1.1. This backup must be kept physically and electrically separate from the computer that houses the tool control database. **(T-1).**

8.5.1.1.2. **(Added-314AW)** TAS database will be backed up to removable media daily and an idle backup will be set up to save issue/return log to removable media a minimum of once per day.

8.5.1.2. Units will use a TAS 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-1).**

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 the TAS. However, HAZMAT and supply procedures need to be followed.

8.5.1.2.2. Track authorizations/restrictions for special tools/equipment (by

individual). **(T-1).**

8.5.1.2.3. Track CTK and Support Section inspections. **(T-1).**

8.5.1.2.4. Track spare, lost, damaged, and/or removed tools. **(T-1).**

8.5.1.2.5. Develop and manage tool/equipment inventories. **(T-1).**

8.5.1.2.6. Develop and manage deployment kits (import/export). **(T-1).**

8.5.1.3. If the TAS 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-1).**

8.5.1.4. Units using the AF legacy TAS that experience problems should contact the AFMC, AFLCMC/HICA at DSN 596-5771/Comm (334) 416-5771 for assistance. Units utilizing other authorized tool control system (e.g. TC-Max) contact the applicable system support activity for assistance.

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-1).**

8.5.2.1. Shift inventories must be documented by both outgoing and incoming personnel.

8.5.2.1.1. **(Added-314AW)** Inventories will be documented in TAS, on AETC Form 1042, or a locally approved form.

8.5.2.1.2. **(Added-314AW)** CTK tool room will not be signed out and back in by the same person unless extenuating circumstances exist, i.e. only a single person is working in the work center and the next shift is unmanned.

8.5.2.1.3. **(Added-314AW)** The contents of nondispatchable CTKs will be inventoried at least daily.

8.5.2.2. CTKs present during tool room shift inventories do not need to be opened for inventory.

8.5.3. 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-1).**

8.5.3.1. Users will accomplish a CTK inventory prior to operation of any aircraft or equipment when maintenance actions are performed (e.g., engine run, landing gear retraction, flight control operational checks). **(T-1).**

8.5.3.2. 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-1).**

8.5.3.3. **(Added-314AW)** During check-out and turn in, tools and boxes will be checked for cleanliness and serviceability and will be free of foreign objects, water or excessive amounts of residual oils, hydraulic fluids, etc.

8.5.3.4. **(Added-314AW)** If a discrepancy exists with a CTK (e.g. undocumented missing tool, broken tools, etc.) personnel will immediately notify appropriate supervision. In the case of lost tool(s) or item(s), follow procedures in Paragraph **8.9** of

this instruction. Affected CTKs will be removed from service until all tools are properly accounted for and any issues are resolved.

8.5.4. At least annually or when the CTK Custodian changes, conduct a comprehensive inventory of all dispatchable/decentralized tools, non-CA/CRL equipment, and CTKs. **(T-1).**

8.5.4.1. 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.

8.5.4.2. CTK Custodians will ensure all tools are inspected for serviceability IAW TO 32-1-101, *Use and Care of Hand Tools and Measuring Tools*. **(T-1).**

8.5.4.3. CTK Custodians will document these inventories and maintain the most current inventory. **(T-1).**

8.5.5. Electronic Tools (eTools). eTools (desktop and laptop computers, hand held devices, Portable Maintenance Aids (PMA), etc.) are common infrastructure which allow access to electronic TO files, logistics information systems, update TOs, provide automated change requests (similar to AFTO Form 22) and integrate with other MIS. Units will:

8.5.5.1. Manage eTools IAW TO 00-5-1. **(T-1).**

8.5.5.1.1. **(Added-314AW)** License, certification, maintenance, and security of eTools (hardware and software) will be the responsibility of the Automated Data Processing Equipment (ADPE) account custodian, whether owned by the group or unit.

8.5.5.1.2. **(Added-314AW)** An additional ADPE account shall be established for eTools to separate them from other small computers within the squadron or support section.

8.5.5.1.3. **(Added-314AW)** An additional ADPE account shall be established for eTools to separate them from other small computers within the squadron or support section.

8.5.5.1.4. **(Added-314AW)** Dispatchable eTools will be connected to the Local Area Network (LAN) during periods of recharging or before issue if more than 24 hours has expired since the last update to ensure current patches/and technical data are loaded.

8.5.5.1.5. **(Added-314AW)** eTools will be managed IAW their security classification.

8.5.5.2. Track dispatchable eTools in the TAS. **(T-1).**

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**. of this instruction. **(T-1).**

8.5.5.4. Make maximum use of eTool warranties. **(T-1).**

8.5.5.5. Ensure eTools are used for official and authorized purposes only IAW AFI 33-115. **(T-1).**

8.5.5.5. **(AETC)** 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 will not be used for 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.

8.5.5.6. Establish procedures for shipping TOs, eTools, and associated support equipment with eTools to support mobility requirements. **(T-1)**.

8.5.6. 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-1).**

8.5.6.1. For accountability, DIAMONDS laptops and hardware must be managed and tracked in the TAS, but do not require placement on unit equipment account IAW TO 11N-3150-8-1. **(T-1).**

8.5.7. Tools which are accountable on a CA/CRL must be marked with a UII. **(T-1).** 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.

8.6. 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 PAS code do not duplicate the WWID. **(T-1).** All units must mark their tools and equipment with the standard EID. **(T-1).** Geographically separated units may use the parent wing EID. Replacement spare tools stored in the tool crib do not need to be etched until placement in a specific CTK.

8.6.1. **(AETC)** Contractor organizations are not required to remark tools and equipment with the equipment identification designator (EID) if not required to use an AF/MAJCOM approved Tool Accountability System (TAS).

8.6.1.1. The EID will consist of nine characters (numbers/letters) of which the first four characters will be a unique World Wide Identification (WWID) code (assigned by AF Directorate of Logistics, Maintenance Division, (AF/A4LM)). **(T-1).**

8.6.1.1.1. 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.

8.6.1.1.1.1. The first two characters of the WWID in the EID are based on the wing's/unit's Personnel Assignment System (PAS) base code. Multiple wings (or equivalent) at the same base (i.e., ANG, AFRC, and RegAF) must have different WWID codes. **(T-1).**

8.6.1.1.1.2. 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-1).**

8.6.1.1.1.3. **(Added-314AW)** CTKs will strictly adhere to the WWID codes assigned by QA (**Attachment 22**). Any additions or deletions to these assignments will be coordinated through QA.

8.6.1.1.2. Request additional "base" codes from AF/A4LM at **usaf.pentagon.af-a4.mbx.a4lm-m-maintenance-policy@mail.mil,** DSN 222-2342/2343.

8.6.1.2. The unit will establish the remaining five characters (any combination of numbers/letters) for CTKs, tools, and dispatchable equipment identification. **(T-1).**

8.6.1.3. 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-1).**

8.6.1.3.1. The 9-digit EID must be placed on the outside of dispatchable CTKs. **(T-1).**

8.6.1.3.2. Tools located inside the tool box 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-1).** For example, tools inside an assigned dispatchable CTK "U6JG00001" may be marked "U6JG1." Units may affix non-metallic bar code 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.

8.6.1.3.3. Tools will be marked with the most current EID. **(T-1).**

8.6.1.3.4. All previous CTK identifiers will either be removed or marked out (this does not include PMEL markings). **(T-1).**

8.6.1.3.5. Small tools and/or items that cannot be marked as described above (such as drill bits, allen wrenches in sets, apexes, etc.) 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-1).**

8.6.1.3.5.1. The container is counted as one of the items.

8.6.1.4. MXG/CCs may require use of the EID in addition to AFTO Form 66 for TMDE routinely (i.e., once per week) dispatched from a work center or use of the AFTO Form 66 alone.

8.6.1.5. 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-1).**

8.6.1.5.1. 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 MILSPEC of the contents. **(T-1).**

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 Material Safety Data Sheet (MSDS). **(T-1). Note:** SDSs will replace MSDSs by 1 June 2015. References in this document to "MSDS" apply to both MSDS and SDS.

8.6.2.2. Keep hoses and fittings separate for each type of grease. **(T-1).**

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, *Hazard Communication*, 29 CFR 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 (e.g. fiberglass handled hammers are etched IAW TO 32-1-101 and safety glasses are etched IAW AFI 91-203). **(T-1).**

8.6.4. CTKs, tools, and dispatchable equipment that may possess a unique serial/tracking number must be marked with an EID number. **(T-1).**

8.6.4.1. If the item cannot be marked, etched, or stamped, annotate the additional designator on the CTK contents list. **(T-1).**

8.6.4.2. **(Added-314AW)** When included in CTKs, special tools, meters, and items listed on a Custodian Authorization/Custody Receipt Listing (CA/CRL) will be etched/marked with a CTK number. These items will also be identified with the CA/CRL detail number and/or the Test Measurement and Diagnostic Equipment (TMDE) number.

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 (e.g., scribes, flashlights, grease guns, feeler gauges). **(T-1).**

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 would void the tool warranty) and update the TAS and the MAJCOM/locally generated form or hard copy MIL accordingly. **(T-1).**

8.6.6.1. **(Added-314AW)** Unserviceable tools will be strictly controlled until they are turned in for salvage. Unserviceable tools will not be placed in metal recycling bins. Tools will be de-etched before placing them into the scrap tool storage bin. The scrap tool bin will be a separate and secure container/location.

8.6.7. **(Added-314AW)** Dispatchable CTKs will have reflective tape on all sides.

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. **(T-1).**

8.7. (AETC) Locally Manufactured, Developed, or Modified Tools and Equipment. Tools or equipment altered from their original design will be treated as locally manufactured, developed or modified tools and equipment. **(T-2).**

8.7.1. This procedure does not apply to local manufacture, modification or design of

tools authorized in specific technical data. QA will coordinate on all requests for approval and use of locally designed tools or equipment. **(T-1).**

8.7.1. **(Added-314AW)** Work centers will coordinate with QA on all requests for approval and use of locally manufactured tools or equipment that carry loads, change torque, and present the potential to damage government resources, or injure personnel. Requestors will give local manufactured tool approval request letters, with photos, to QA (see **Attachment 23**). The QA Superintendent or Chief Inspector, as designated by the Group Commander, is the final approval authority.

8.7.1.1. **(Added-314AW)** Modifications to tool containers are authorized unless modifications void the manufacturer's warranty. All container modifications will be approved by the CTK NCOIC.

8.7.2. Work centers will review items and requirements every two years for applicability and current configuration. **(T-1).** See **Chapter 6** and **Chapter 9** of this instruction 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-1).** 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 web site (**https://cs1.eis.af.mil/sites/MMHEFP/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-1).**

8.7.3.1.1.1. Munitions/armament LME is specialized equipment designed to interface with or support munitions or armament suspension equipment (e.g., tools, handling dollies, storage racks, maintenance stands, transport adapters). All munitions/armament LME contained on the MMHE Focal Point web site meets applicable AFI 91-203 AFOSH, explosive safety, 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 web site.

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 web site (e.g., 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. **(T-1).**

8.7.3.1.1.2.1. If the MAJCOM Functional Manager determines the item has AF utility, the drawings shall 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 web site.

8.7.3.1.1.2.2. **(Added-AETC)** HQ AETC/A4MSW 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 HQ AETC/A4MSW for approval. **(T-2).** If applicable, HQ AETC/A4MSW will submit new LME requests to the HQ AETC Explosives Safety Division (HQ AETC/SEW) and the Non-nuclear Munitions Safety Board for evaluation. Use the following procedures for new LME requests requiring HQ AETC/A4MSW approval: **(T-2).**

8.7.3.1.1.2.2.1. **(Added-AETC)** The flight or section chief will submit a memorandum to HQ AETC/A4MSW through the maintenance operations officer or superintendent, QA and wing safety.

8.7.3.1.1.2.2.2. **(Added-AETC)** Include a description of the test equipment and for what it is used.

8.7.3.1.1.2.2.3. **(Added-AETC)** Include a list of materials.

8.7.3.1.1.2.2.4. **(Added-AETC)** Include the approximate cost (including labor and material).

8.7.3.1.1.2.2.5. **(Added-AETC)** 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-1).**

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 AFI 91-203 AFOSH, explosive safety, and USAF standards. **(T-1).**

8.7.3.1.3. All equipment designated for use with nuclear weapons test and handling must meet requirements in AFI 91-103. **(T-1).**

8.7.3.1.4. All 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*. **(T-1).**

8.7.3.1.4.1. AFTO Form 244, or equivalent, must be maintained for all LME items (racks, stands, adapters, etc.) except hand tools. **(T-1).**

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-1).**

8.8. Tool Room Operations and Security.

8.8.1. Operations. Tool rooms will be set up to ensure accountability. **(T-1).**

8.8.1.1. Procedures will be established to ensure custodial control. **(T-1).**

8.8.1.1.1. **(Added-314AW)** TAS will be used to:

8.8.1.1.1.1. **(Added-314AW)** Track and issue all assigned tools, equipment, tool kits, rags, dispatchable tech data, and dispatchable HAZMAT items.

8.8.1.1.1.2. **(Added-314AW)** Track authorizations/restrictions for special tools and/or equipment by individual.

8.8.1.1.1.3. **(Added-314AW)** Track inspections required by this instruction.

8.8.1.1.1.4. **(Added-314AW)** Track spare, lost, and damaged (removed) tools.

8.8.1.1.1.5. **(Added-314AW)** Develop and manage tool/equipment inventories.

8.8.1.1.2. **(Added-314AW)** If an automated system is not available, units may use AF Form 1297, AETC Form 1042 or locally approved form for accountability and control of CTKs, equipment, and tools.

8.8.1.2. Tools will not be issued individually from dispatchable CTKs. **(T-1).**

8.8.1.2.1. When a recurring need exists for common tools to be issued individually, (e.g., hammers, screwdrivers, pliers, drills, wrenches) individual issue bins/drawers may be established as a CTK within the tool room. **(T-2).**

8.8.1.3. Process reports for tools that are lost, damaged, or destroyed, due to neglect IAW AFMAN 23-220. **(T-1).**

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-1).**

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-1).**

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. Tool kit locks will be used to provide a physical barrier to opening the container lid, drawer or door and prevent the unauthorized removal of tools. **(T-1).**

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. Dispatchable tools, equipment, eTools and CTKs must be locked and/or secured when left unattended. **(T-1).**

8.8.2.2.2.1. Tools and equipment will never be secured to the exterior of

an aircraft. **(T-1).**

8.8.2.2.2.2. 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 but do not need to be secured to another object if none are readily available. **(T-1).**

8.8.2.2.2.3. Alert Aircraft in Protection Level 1 or 2 Areas and ASA Aircraft in PL-3 Areas. CTKs in these areas that are directly supporting alert 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. Limit authorization to clear Red X's when an item/tool cannot be located to no lower than Operations Officer/MX SUPT. **(T-1).**

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-1).**

8.9.2.1.1. If not found, after completing an initial search the individual will notify the expediter/Pro Super or equivalent. **(T-1).**

8.9.2.1.1. **(Added-314AW)** When a tool/item is lost, personnel will immediately report the missing tool/item to the expediter, Pro Super, or their immediate supervisor. If the tool/item is not found after a 1-hour search, the expediter or Pro Super will initiate the lost tool checklist. NOTE: Once the lost tool/item number is issued a lost tool/item report will be completed even if the tool or item is subsequently found.

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-1).**

8.9.2.3. Expediter/Pro Super or equivalent will immediately notify the Flight CC/Chief, Support Section, MOC, and QA. **(T-1).**

8.9.2.3.1. Initiate a thorough search for the item/tool. **(T-1).**

8.9.2.3.2. Initiate the lost tool report if tool is not located during initial search. **(T-1).**

8.9.2.4. If it is suspected that the item/tool has fallen into an inaccessible or unobservable aircraft area, perform a NDI or use borescope equipment to locate the lost item/tool. **(T-1).**

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-1).**

8.9.2.5. If at any time during the investigation the item/tool is found, notify the Flight CC/Chief, Support Section, MOC, QA, expediter, Pro Super or equivalent, and the owning work center. **(T-1).**

8.9.2.5.1. If the item/tool is found, but is inaccessible, the Operations Officer/MX SUPT 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 Programmed Depot Maintenance (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-1).**

8.9.2.6. The Operations Officer/MX SUPT will determine when the search for the lost item/tool may be discontinued. **(T-1).** 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-1).**

8.9.2.6.2. Ensure lost item/tool report is completed IAW locally established procedures. **(T-1).**

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.

8.9.2.6.2.1. **(Added-314AW)** If a tool/item is discovered missing between sign outs, support section personnel will initiate the AETC Form 138. The initiator of the lost tool report will complete the AETC Form 138 with the assistance of the CTK supervisor and ensure QA is contacted for a lost tool/item control number.

8.9.2.6.2.2. **(Added-314AW)** The completed AETC Form 138 will be reviewed by the maintenance supervisor or maintenance superintendent and forwarded to the QA Superintendent or Chief Inspector by the first duty day following closeout of the report.

8.9.2.6.2.3. **(Added-314AW)** QA will review the AETC Form 138 for accuracy and place it on file in the QA office. A courtesy copy of the completed lost tool report will be forwarded to the 314 AW FOD Office and the owning work center that lost the tool/item.

8.9.2.6.2.4. **(Added-314AW)** QA will maintain a lost tool logbook and copies of all lost tool reports for 1 year.

8.9.2.6.3. If applicable, ensure the TAS is documented IAW **paragraph 8.3.6.7** of this instruction. **(T-1).**

Chapter 9

MATERIEL MANAGEMENT SUPPORT

9.1. General. This chapter describes materiel management support and general responsibilities and requirements. MAJCOMs will identify specific responsibilities and outline unique DMS requirements necessary to support wing level maintenance and mission generation operations, and establish processes and responsibilities for maintenance units/work centers without DMS support in supplements and addendums to this AFI. DMS personnel assigned within maintenance units will follow the guidance in this instruction as well as the materiel management policy in 23-series publications. **(T-1).** The AF has consolidated materiel management support under the AF Sustainment Center (AFSC). The AFSC 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. When authorized on the MXG UMD, DMS personnel will report to maintenance activities. **(T-1).** DMS personnel coordinate maintenance and materiel management actions, manage supply transactions for their assigned maintenance activity, monitor and track assets in the repair cycle, resolve support problems and report aircraft parts status to maintenance supervision. DMS 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. Refer to AFI 23-101 for additional guidance.

9.2.1. In units with DMS personnel, unit leadership in coordination with the LRS Superintendent will ensure proper career-field development opportunities for assigned 2S0XX personnel. **(T-1).**

9.2.1.1. Squadron Superintendents will coordinate with the LRS Superintendent to facilitate DMS personnel moves (N/A for ARC). **(T-1).**

9.2.1.2. The LRS Superintendent is responsible for rotation of 2S0XX personnel between LRS and MX activities.

9.2.2. In units/work centers without assigned DMS personnel, the Logistics Readiness Squadron Materiel Management Flight is responsible for centralized materiel management support. Roles and responsibilities for this process are listed in 23-series publications.

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 IAW AFI 23-111, *Management of Government Property in Possession of the Air Force*.

9.4. Parts ordering. To minimize record discrepancies, all parts ordering will be initiated from the LRS/materiel management activity through the appropriate MIS when an interface with ILS-S exists. **(T-1).** Request supply assistance from LRS/materiel management activity if status is unacceptable. For ordering aircraft parts, DMS or designated personnel will:

9.4. (AETC) Parts ordering. 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.

9.4.1. Receive required data from maintenance to facilitate the issue request IAW AFMAN 23-122, Sec. 5B. **(T-2).**

9.4.2. Provide MICAP processing support. **(T-1).**

9.4.2.1. 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.

9.4.3. Order transient aircraft parts IAW AFMAN 23-122 and TO 00-20-3. **(T-1).**

9.4.4. Ensure proper use of UJC and Force Activity Designators (FAD) codes. **(T-2).**

9.4.4.1. 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-1).** See AFH 23-123, Vol 2, Pt 1, ILS-S, *Materiel Management Operations* for further details on UJC, FAD, and FAD override option procedures.

9.4.5. Purchase parts and hardware IAW AFI 64-117, *Air Force Government-Wide Purchase Card (GPC) Program*, AFI 23-101, and AFMAN 23-122. **(T-1).**

9.4.5.1. The weapon system program office approves the local purchase of all aircraft parts.

9.4.6. Requestor will ensure validity and completeness of requisition forms and verify "UJC" and “SRD” codes. **(T-2).**

9.4.7. 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).**

9.4.8. Follow-up with LRS/materiel management activity to resolve AWP problems. **(T-2).**

9.4.9. 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-1).**

9.4.9.1. DMS or designated personnel will review and update at least semiannually. **(T-1).**

9.4.10. Establish a storage area for reusable containers. **(T-1).** Consolidation with other work centers is authorized.

9.4.11. Schedule and monitor all repair cycle assets through the repair flights based on priority assigned. **(T-2).**

9.4.12. Move repairable assets from work center to work center in an expedient manner. **(T-2).**

9.4.12.1. DMS or designated personnel will ensure proper documentation and containers accompany repairable assets to meet required evacuation time frames IAW AFI 23-101. **(T-1).**

9.4.13. **(Added-AETC)** Reconcile IMDS and Standard Base Supply System (SBSS)

records by correcting mismatched records listed in the NFS540 DVR contained in IMDS and explained in AFCSM 21-579 Vol 2. This report is required to maintain a matching interface between maintenance and supply systems. **(T-2).**

9.5. Backorder review and validation. DMS or designated personnel will:

9.5.1. Verify and monitor backordered requests to prevent unwarranted mission limiting conditions, CANNs, priority abuses and wasted money. **(T-1).**

9.5.2. Track DIFMs. **(T-1).**

9.5.2.1. DIFM inputs are critical to recording and getting credit for proper repair cycle times.

9.5.2.2. 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. DIFMs should be reduced to as near zero as possible since credit is not given for delayed maintenance or AWP time. See **paragraph 9.21** of this chapter for additional information on DIFM management.

9.5.3. Complete Aircraft Document Reviews (ADR) as outlined in **Chapter 15** of this instruction. **(T-1).**

9.5.3.1. For units with IMDS, reconcile IMDS and Standard Base Supply System (SBSS) records listed in the NFS540 Document Validation Report (DVR) contained in IMDS and explained in AFCSM 21-579, Vol 2.

9.6. Parts processing. DMS or designated personnel will:

9.6.1. Process reparable items. **(T-2).**

9.6.2. Cancel erroneous requests. **(T-3).**

9.6.3. Process reusable containers IAW AFI 24-203. **(T-1).**

9.6.4. Process metals IAW the Precious Metals Recovery Program outlined in AFI 23-101. **(T-1).**

9.6.5. Turn in excess supply parts and materiel to LRS/materiel management activity IAW AFI 23-101. **(T-1).**

9.6.6. Process TRN to record usage of an item and ensure demand levels and percent base repair are updated IAW AFMAN 23-122. **(T-1).**

9.7. Readiness Spares Package (RSP) Review. Maintainers play a critical role in the annual RSP review process. This role includes active maintenance participation in the base level validation process conducted by the LRS and their MAJCOM during the annual RSP 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 AFMAN 23-122 for further details**.**

9.8. Bench Stock. Flight CCs/Chiefs and/or Section NCOICs/Chiefs will determine the contents of their bench stock IAW qualification criteria in AFMAN 23-122. **(T-1).** 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/materiel management activity. A thorough review of these listings is extremely important to ensure that bench stock supports the mission efficiently and economically.

9.8.1. DMS or designated personnel will:

9.8.1.1. Mark bins containing 50 percent or less of the authorized quantity to facilitate monthly inventories. **(T-1).** Do not include items coded TCTO, unacceptable for AF use, critical, classified or sensitive in bench stocks.

9.8.1.1. **(AETC)** For 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.

9.8.1.2. Maintain environmentally sensitive items in their original container. **(T-1).** If removed from original container, place items in a sealed package and clearly mark them to prevent misidentification and misuse (e.g., seals, desiccant, filters, circuit cards, sealants).

9.8.1.3. Remove unidentifiable items or items whose serviceability is unknown, from bench stock bins and process them as shop scrap through DLADS. **(T-2).**

9.8.1.4. Control and secure any precious metals displayed. **(T-1).**

9.8.1.5. Set up fixed or mobile bench stocks to provide quick and easy access to bits and pieces needed to support maintenance efforts. **(T-2).** Ensure mobile bench stocks do not present a FOD hazard.

9.8.1.5. **(AETC)** 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).**

9.8.1.6. Identify and control the issue and turn-in of hazardous materials/items on bench stock listings. **(T-1).**

9.8.1.7. **(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 AFI 64-117, *Air Force Government-Wide Purchase Card (GPC) Program*, and AFI 23-101. The following provisions apply:

9.8.1.7.1. **(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).**

9.8.1.7.2. **(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.

9.8.1.7.3. **(Added-AETC)** Perform reviews of locally purchased items in conjunction with normal bench stock reviews to identify any needed adjustments.

9.8.2. Work center supervisors will:

9.8.2.1. Semi-annually complete a bench stock joint review with the Customer Support Liaison Element (CSLE), Materiel Control. **(T-1).**

9.8.2.1.1. 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 AFMAN 23-122 for further details.

9.9. Consumable Readiness Spares Package (CRSP). The CRSP 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, CRSP procedures provide MAJCOMs with a standard process to support consumable item requirements during contingency operations. Refer to AFMAN 23-122 for CRSP procedures and options.

9.10. 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.

9.10. (AETC) Shop Stock. Items such as safety wire and solder routinely used at a work station may be maintained at the work station. (**Note**: This does not include hardware such as nuts, bolts and screws (aircraft or equipment parts).) Work center supervisors will establish an inventory list that identifies what items are kept at each workstation to ensure accountability. **(T-2).**

9.10.1. **(Added-AETC)** Store work center hazardous materials in a centralized location. Hazardous materials must be returned to the centralized location at the end of each shift to ensure accountability. **(T-2).**

9.11. 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.

9.12. 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.

9.13. 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 a 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 AFMAN 23-122 and provide adequate justification (e.g. 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 Operations Officer/MX SUPT and MXG/CC (or equivalent) 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-1).**

9.14. 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 AFMAN 23-122. **(T-1).** Personnel managing bench, shop, or operating stocks will:

9.14.1. Identify serviceable shelf-life items/locations with a colored and/or highlighted label that clearly states the items expiration date. **(T-2).**

9.14.2. Check expiration dates on issued items and do not accept outdated items. **(T-2).** Refer to AFMAN 23-122 for outdated and/or unserviceable shelf-life items.

9.14.3. Not open shelf-life containers until needed and use the oldest items first. **(T-2).**

9.14.4. Ensure shelf-life materiel stored in other than original containers are marked with original shelf-life expiration codes. **(T-2).**

9.14.5. Recycle, reclaim, or turn-in for disposal, shelf-life items which are loose in the bin and expiration dates cannot be determined. **(T-2).**

9.15. Equipment Items. Flight CCs/Chiefs and/or Section NCOICs/Chiefs will review equipment items needed for mission accomplishment IAW AFI 23-101. **(T-1).**

9.15.1. Equipment Management, LRS/Materiel Management Activity, EME personnel will assist Equipment Custodians in researching and preparing documents for gaining authorizations and ordering equipment items. **(T-2).** Refer to AFMAN 23-122**,** for the required procedures to order and deploy equipment items.

9.16. 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.

9.16.1. Flight CCs/Chiefs and/or Section NCOICs/Chiefs will review all SPRAM authorizations annually and certify as valid IAW AFI 23-101, AFMAN 23-122, and AFI 21-103**. (T-1).**

9.17. 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-1).**

9.17.1. 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-1).**

9.17.1.1. The list will be routed through the Operations Officer/MX SUPT to the LRS. **(T-1).**

9.17.1.2. This list shall be updated/validated IAW AFMAN 23-122. **(T-1).**

9.17.2. 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.

9.17.3. If a part issues 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.

9.18. 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.

9.18.1. Initiate requests for kits, parts and special tool requirements through LRS as outlined in **Chapter 15**.

9.18.2. Transfer TCTO kits with aircraft or equipment. AFMAN 23-122, TO 00-5-15, and TO 00-5-1 contain detailed guidance for the transfer of TCTO kits.

9.18.3. Retain TCTO kits for aircraft returning to the unit for TCTO compliance.

9.19. 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.

9.19.1. Storage space for the supply points is provided by the supported work center.

9.19.2. Management of the supply point will be documented within a written MOA/MOU between group commanders. **(T-1).** Supply point monitors will be appointed in writing to manage and account for supply point assets. **(T-1).** LRS/materiel management activity will maintain overall accountability and control of supply point assets. **(T-1).**

9.19.3. Supply points must be reconciled semi-annually by the Supply Point Monitor. **(T-1).**

9.19.3.1. One of the semiannual reconciliations will be done at the same time as the annual supply point inventory IAW AFI 23-101. **(T-1).**

9.20. 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 AFMAN 23-122.

9.20.1. MXG/CCs will publish directives outlining procedures covering the manufacture of items source coded local manufacture IAW **Chapter 2**, **Chapter 4**, and **Chapter 8** of this instruction. **(T-1).**

9.20.2. MXG directives as a minimum will include:

9.20.2.1. Procedures that prevent abuses and specify coordination requirements (e.g., QA and approval authority, EAE. **(T-1).**

9.20.2.1.1. **(Added-314AW)** Requester will coordinate Local Manufacture Work Sheet (**Attachment 30**) with the approving official, QA, and Supply before routing to Fabrication Flight.

9.20.2.2. Identifying the approval authority for local manufacture requests. **(T-1).**

9.20.2.2.1. **(Added-314AW)** Pro Supers are designated as local manufacture approving officials. Pro Supers will:

9.20.2.2.1.1. **(Added-314AW)** Verify the need for local manufactured items.

9.20.2.2.1.2. **(Added-314AW)** Ensure all documentation is complete prior to coordination with QA.

9.20.2.2.2. **(Added-314AW)** QA will:

9.20.2.2.2.1. **(Added-314AW)** Review and approve all documentation prior to routing for manufacture/fabrication.

9.20.2.2.2.2. **(Added-314AW)** File approved documentation in Local Manufacture program continuity binder.

9.20.2.3. Identifying drawing, sample, technical data and DD Form 1348-6, *DOD Single Line Item Requisition System Document*, source requirements as required. **(T-1).**

9.20.2.3.1. Ensure guidance identifies that drawings are obtained from the appropriate repository (e.g. Engineering Data Service Center (EDSC) or Joint Engineering Data Management Information and Control System (JEDMICS)).

9.20.2.4. Establishing coordination process for all the appropriate fabricating sections to determine the bits and pieces required to manufacture the item. **(T-1).**

9.20.2.4.1. Coordinating bit and piece parts requirements and availability with the LRS/materiel management activity.

9.20.2.5. Identifying all work centers that have action on the AFTO Form 350 for items requiring multiple section processing. **(T-1).**

9.21. DIFM Management

9.21.1. The roles and responsibilities for DIFM management are identified in AFI 23-101. The LRS/materiel management activity 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.

9.21.1.1. 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. **(T-1).**

9.21.1.1.1. Repair assets to the fullest extent authorized.

9.21.1.2. Repairable components will be processed, repaired, and returned to the FSC within the required time frame IAW AFI 23-101. **(T-1).**

9.21.1.3. The D23 will not be used to manage serviceable assets.

9.21.2. 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.

9.21.3. DMS or designated personnel will monitor the status of repair cycle assets. **(T-1).**

9.21.3.1. DMS or designated personnel will process these assets and ensure appropriate DIFM status codes are used IAW AFH 23-123. **(T-1).**

9.21.3.2. Units will establish local procedures for the control of repair cycle assets throughout the maintenance repair cycle IAW AFI 23-101 and AFMAN 23-122. **(T-1).**

9.21.3.2.1. 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-2).**

9.21.4. AWP and cross-CANN assets will be controlled and managed IAW AFMAN 23-122. **(T-1).**

9.21.4.1. Maintenance activities will closely control reparable assets in AWP status. **(T-1).**

9.21.4.2. Do not consolidate storage areas for AWM and AWP assets.

9.21.4.3. Group commanders will negotiate storage of out-sized units. **(T-2).**

9.21.5. Maintenance Turn-In to Supply. Maintenance is responsible for DIFM items until the item is returned to LRS/materiel management activity.

9.21.5.1. 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-1).**

9.21.5.1.1. 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-1).**

9.21.5.1.2. The work center must comply with packaging, environmental control, purge and preservation requirements as specified in applicable TOs, AFI 24-203, *Preparation and Movement of Air Force Cargo*, AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments* and place the proper documentation with the container. **(T-1).**

9.21.5.2. Include AFTO Form 350, Parts I and II, and a condition tag or label with all items turned into supply. **(T-1). Note:** Some DIFM assets may require additional tags.

9.21.5.2.1. Enter the correct action taken code on AFTO Form 350, Part II.

9.21.5.3. Accomplish proper reclamation and demilitarization actions on condemned repair cycle assets IAW AFMAN 23-122 and AFH 23-123, Vol. 2, Pt 1, Sec. 6C.

9.21.5.4. DIFM items (serviceable or unserviceable) will be processed and turned in to LRS IAW AFI 23-101. **(T-1).**

9.22. Tail Number Bins (TNB)

9.22.1. Establishment and management of TNBs is a maintenance responsibility. 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.

9.22.1.1. DMS or designated personnel will not release parts from the TNB without proper documentation. **(T-2).**

9.22.1.2. Items removed from the TNB that are not installed that duty day will be returned to TNB/DMS. **(T-2).**

9.22.1.3. DMS or designated personnel will inform the Pro Super or Flightline Expediter of TNB assets, which may prevent or satisfy a mission-limiting condition. **(T-2).**

9.22.2. TNB items used to satisfy MICAP conditions are not CANNs. If a TNB asset is issued to satisfy a part request, maintenance personnel will:

9.22.2.1. Reorder the item and notify the expediter of the new document number. **(T-1).**

9.22.2.2. Update the aircraft forms and the MIS. **(T-1).**

9.22.2.3. If a due-out is created prior to transfer of these items, notify the LRS/materiel management activity (or DMS if applicable) to change the "mark-for" field on the due-out detail. **(T-1).**

9.22.3. 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-1).**

9.22.4. Maintain security and control of TNB assets. **(T-1).**

9.22.5. Track property placed in the TNB by tail number, serial number, or equipment identification number. Each entry will indicate:

9.22.5.1. Date received. **(T-1).**

9.22.5.2. Noun. **(T-1).**

9.22.5.3. Document number. **(T-1).**

9.22.5.4. Status (FOM, Issue/Due-Out Release (ISU/DOR), TCTO, etc.). **(T-1).**

9.22.5.5. Removal information (date, time, signature, and employee number of the person who picked up the property). **(T-1).**

9.22.5.6. Remarks. **(T-1).** Enter “NONE” if no remarks are necessary.

9.22.5.7. Current JCN. **(T-1).**

9.23. CANN actions. See **Chapter 11** of this instruction for CANN procedures and responsibilities.

9.24. 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:

9.24.1. Order required parts "fill or kill."

9.24.1.1. If the part is not in stock and a MICAP condition exists, backorder the new request.

9.24.1.2. Determine local repair capability before requisitioning off-base support or going lateral support.

9.24.2. 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.

9.24.3. Bench-check, repair, take NRTS action, or condemn the item.

9.24.3.1. 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.

9.24.3.2. 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.

9.25. Maintenance Turn-Around (TRN) Record Update Processing. Work centers processing TRNs will coordinate with LRS/materiel management activity and follow requirements outlined in AFI 23-101, AFMAN 23-122, and AFH 23-123. **(T-1).**

9.26. Buildup Items. Maintain items requiring build-up prior to use (e.g., wheels and tires) in supply points in a built-up configuration.

9.26.1. Send items to appropriate work centers for build-up and return them to the supply point for re-issue.

9.26.1.1. Use AF Form 1297 or control log to control assets sent for build-up when the supply point is operated by DMS.

9.26.1.2. Validate AF Form 1297 daily if over 10 days old.

9.26.2. 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-1).**

9.27. Deficiency Report (DR) Exhibits. DR exhibit procedures for issue, turn-in, and storage are contained in TO 00-35D-54 and AFI 23-101. DRs shall be inputted into the Joint Deficiency Reporting System (JDRS) at **https://jdrs.mil**. **(T-0).**

9.28. 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 31-401. A copy of the destruction certificate will be included with the turn-in documentation. **(T-0).**

9.28.1. Provide sensitive instruments interior container protection. **(T-1).**

9.28.2. Ensure a copy of the LRU/SRU historical record accompanies turn-in of all items. **(T-1).**

9.29. Certifying Items Associated With Explosives. Ensure items such as MERS, TERS, pylons, launchers, rafts, bomb racks, ejection seats, fire suppression bottles, AFE and gun

systems and components are certified explosive-free prior to turn-in to LRS and/or Defense Logistics Agency (DLA) Disposition Services. **(T-1).** Refer to TO 11A-1-60 and AFI 21-201 for specific certification requirements.

Chapter 10

MUNITIONS POLICY AND WEAPONS LOAD CREW PROGRAM

10.1. AF Munitions Policy. AF munitions policies are contained in AFI 21-200, *Munitions and Missile Maintenance Management*, and AFI 21-201. AF nuclear munitions policy is contained in AFI 21-204.

10.1.1. Live and inert missiles (or electrical simulators) of the same type (i.e. CATM with Air to Air) must not be loaded or flown together on an aircraft for any purpose. **(T-2).** Live and inert (to include training or practice) bombs must not be loaded in/on the same dispenser/rack or flown on an aircraft load together. **(T-2).** Any request to deviate from or waiver to this policy must be coordinated through the WWM, and must be submitted via official message to the MAJCOM Munitions Division, Weapons Safety, and Operations Weapons and Tactics/Training Divisions. **(T-2)**. **Note:** Units that fly rocket pods will not fly TP rockets with any combination of live rockets. **Note:** With SPO/Seek Eagle approval, configurations with inert AGMs can be flown with all types of bombs and rockets. The MAJCOM Munitions Division is the sole approval authority for these deviations/waivers. Test organizations may load and fly live and inert munitions on the same aircraft for test missions only, as long as the flight profile is IAW an approved test directive that has been through a Safety Review Board process and flight clearance through the applicable SPO/Seek Eagle office has been properly obtained.

10.1.2. Request for waiver of, or deviation to, this policy will include as a minimum: (1), an Operational Risk Assessment report and proposed controls to mitigate or eliminate hazards to personnel, damage to aircraft and support equipment or inadvertent employment of live ordnance, and (2), a signed copy of the Test Requirement Plan, Test Plan, or Concept Employment Plan. **(T-2).** Approved requests will remain valid only for the event requested and will not exceed 60 days. **(T-2).**

10.1.3. Captive Air Training Munitions (CATM). Safety pins/streamers for arming keys/safe-arm handles on CATMs may be removed for daily training/flying operations provided positive control and accountability is maintained for these items.

10.1.3.1. CATM AIM-9M arming handles will be permanently removed. **(T-1)**. These components are only removed for foreign or dropped object prevention.

10.1.3.2. Any CATM missiles used for exercises, Load Crew Training and inspections should be configured to the maximum extent possible with all safety devices and components to mirror the parent tactical munitions.

10.2. Unit Committed Munitions List (UCML), Test/Training Munitions List (TTML). Operational units will use UCMLs, Test/Training (AETC and AFMC only (includes ARC associated units in these commands)) will use TTMLs unless they already require a UCML (i.e., NORAD Committed). **(T-1).** The UCML/TTML is a list of Primary Munitions (PM), Support Munitions (SM), and Limited-use Munitions (LM) necessary to meet unit operational/test/training requirements and is published IAW this instruction. The list of PM will not include more than 10 individual munitions or Munitions Family Groups (MFG) combined per mission, design, and series (MDS) aircraft assigned. **(T-2).** The UCML/TTML also specifies

the minimum certified load crews required to meet unit requirements. MAJCOMS may supplement UCML/TTML processing, coordination and appendix requirements.

10.2.1. As a minimum, UCML/TTML's will be updated annually to identify all munitions tasked and/or required to support test/training or OPLANs and Designed Operational Capability (DOC) statements. **(T-1).** Additional munitions may be included on the UCML/TTML as SM or LM munitions if required by the unit or designated by the MAJCOM (A4M performs this in the ANG) to support test, training, or deployment. The UCML/TTML is the base document for aircrew and load crew training munitions forecasts, authorizations and operations. Units will start their UCML/TTML validation in July, and have a coordinated input to the MAJCOM Munitions Division in August. **(T-2)**. MAJCOMs will supply approved UCML/TTML to the units in September. **Note:** Specified months not applicable to ANG process.

10.2.1. **(AETC)** The wing weapons manager will develop the unit committed munitions list (UCML) and test/training munitions list (TTML). **(T-2).**

10.2.2. Unit changes to the UCML/TTML will be justified by Wing Weapons and Tactics, coordinated and processed through the WWM, Munitions Squadron/Flight, MXG/CC and OG/CC before sending it to higher headquarters and MAJCOM. **(T-2).**

10.2.2. **(AETC)** Units will notify HQ AETC/A4MSW of any significant mission, contingency tasking, or munitions changes that may affect the UCML/TTML. **(T-2).**

10.2.3. Standard Conventional Load (SCL) lists are not part of the UCML/TTML. They are stand-alone documents.

10.2.4. The WWM determines the minimum number of certified load crews depicted on the UCML. The minimum number should be based on supporting the initial/lead Unit Type Code (UTC) requirements. Additionally, follow-on UTCs tasked simultaneously with the initial/lead UTC will be considered to determine minimum load crew requirements. The WWM determines the number of load crews depicted on the TTML as required to meet training unit syllabus and/or test unit mission requirements. **Note:** WWM will specify in writing the minimum number of load crews required in aggressor units when no UCML/TTML exists. **(T-1)**.

10.3. Weapons Load Crew Training Program (WLCTP). The USAF WLCTP ensures all weapons load crew members obtain and maintain the certification/qualification and proficiency needed to effectively meet safe, secure, and efficient munitions loading/unloading operations supporting their unit's mission. The objective of the WLCTP is to develop and maintain a high state of mission readiness for immediate and effective generation/employment of munitions loaded aircraft. WLCTP provides the basis for accomplishing peacetime missions while maintaining critical wartime capability. The WLCTP is managed by Weapons Standardization.

10.3.1. Weapons Standardization (WS)**.** WS plans and conducts nuclear and conventional weapons load certification and training requirements to support unit tasking and operational plans. WS is comprised of the superintendent, the LSC, lead crews and an academic instructor. WS will manage and govern the Weapons Standardization Program. **(T-1).** In TFI-associated units, the WWM will ensure ARC/RegAF LSC (minimum of two certifying officials) are available to cover weekend loading evaluations. **(T-2).** This arrangement must

be in writing (grade, names) and reviewed on an annual basis. **(T-2).** Training, certification and qualification required to load munitions on aircraft are only provided by Weapons Standardization.

10.3.1. **(AETC)** Weapons Standardization. The WS function applies only to Eglin, Luke and Holloman AFBs. WS will provide all academic and practical training, including explosive safety, required to load munitions on aircraft.

10.3.2. Weapons Standardization Program. The Weapons Standardization Program is established to ensure munitions loading standardized training, procedures, and policies, are in place to support mission requirements. The Weapons Standardization Program is made up of the WS personnel, weapons academic training, practical training, munitions loading certification, weapons task qualification, and proficiency evaluations. These core elements are managed and governed by the WS. WS will establish and manage a program to train, certify and maintain proficiency for each load crew based on the munitions designated by the UCML/TTML and/or those munitions designated by the WWM for SM's and LM's. **(T-1).**

10.3.3. WS Superintendent (SUPT) Responsibilities. The WS SUPT is responsible to the WWM, and performs Section NCOIC/Chief duties outlined in **paragraph 3.10** of this instruction. The WS SUPT develops and oversees the Weapons Standardization Program, sets standards, develops local policies and procedures, and interprets all technical data and directives governing the Weapons Standardization Program. **Note:** ARC & Air Force Special Operations Command (AFSOC) WS SUPT responsibilities may be performed by the LSC Team Chief. The WS SUPT will:

10.3.3.1. Manage WLT training munitions, components, and accessories. **(T-1).**

10.3.3.1.1. Ensure load crew training munitions are maintained to the same standard and are representative of the parent munitions to the maximum extent possible. **(T- 1).**

10.3.3.1.2. If defects exist that preclude the use of training munitions for WLT/DLO, they will be turned in to the Munitions Flight/Squadron for maintenance or replacement IAW AFI 21-201. **(T-1).**

10.3.3.2. Ensure training munitions and munitions items meet unit needs. **(T-1).** The UCML/ TTML will be the source document for WLT munitions requirements and authorizations and the WS SUPT must ensure correct munition variants are requested to support unit taskings. **(T-2)**.

10.3.3.2.1. The WS SUPT will ensure sufficient quantities of load crew training munitions are forecasted for IAW AFI 21-201 and issued assets are serviceable to support both load crew and DLO training programs. **(T-1).**

10.3.3.2.1.1. If sufficient training munitions are not available to support DLO training, coordinate use of assigned items from WS supply point for management flexibility.

10.3.3.2.2. The WS SUPT will review and validate all munitions forecasts submitted by WS and the Armament Flight prior to submission to MAJCOM. **(T-1).** Refer to AFI 21-201 for guidance on submitting the annual non-expendable air-munitions training forecast to the MAJCOM.

10.3.3.2.3. Training munitions. Authorized quantities of training munitions are posted in the "Air Force Standard for Non-Expendable Air-Munitions Training" located on the Air Force Conventional Munitions SharePoint site at **https://cs.eis.af.mil/afmunitions/default.aspx.** These numbers reflect the maximum munitions required exclusively for weapons load crew certification and recurring training. These munitions are forecasted by and assigned to weapons load training (W1) accounts.

10.3.3.2.3.1. Units may request and justify additional quantities of munitions than specified on these tables but may not be allocated munitions unless sufficient quantities are available and approved.

10.3.3.2.4. Units with multiple MDS will use the authorization for the MDS that provides the greater quantity per item; these authorizations are not cumulative. **(T-1).** For example, if a base has both F-15E and F-16 aircraft assigned and both MDS are tasked on the UCML/TTML for Guided Bomb Unit (GBU)-12 then only two, not four, GBU-12s will be allocated to support both MDS.

10.3.3.2.4.1. If a situation exists where the WLT facilities are physically separated and the WWM determines it negatively impacts load crew training to move munitions from one to the other, then each facility will be authorized the minimum number of tasked training munitions. **(T-2).**

10.3.3.3. Ensure load crews demonstrate proficiency on each type aircraft racks and stations prior to certification on that munition. **(T-1).**

10.3.3.3.1. For conventional munitions capable of multiple carriage, both aircraft parent station and multiple carriage loading are required.

10.3.3.3.2. For nuclear weapons, only the aircraft stations that are maintained in nuclear certified status are loaded.

10.3.3.4. Ensure load crews are familiar with fuse inspection, installation and wiring IAW MDS-33 series TO procedures or TO 11A-1-63, *Munitions Assembly Procedures—Inspection and Assembly of Conventional Munitions*. **(T-1).**

10.3.3.4.1. Conduct this training during initial certification.

10.3.3.5. Ensure EPEs are performed on each LSC/Lead Crew member at least semi-annually to validate standardization of the weapons load training program. **(T-1).**

10.3.3.5.1. Results will be documented on the AF Form 2419 and will be maintained within the WLCMT or MAJCOM approved equivalent. **(T-1).**

10.3.3.5.2. WWM and/or WS SUPT will perform EPEs on LSC members during load crew Semi-Annual Evaluations. **(T-1). Exception:** For the 354th Fighter Wing (FW), EPEs will be accomplished during weapons task qualification training. (**T-1**).

10.3.3.5.3. LSC members perform EPEs on Lead Crew members during load crew MPRL evaluations. **(T-1).**

10.3.3.5.4. **(Added-AETC)** Develop load crew members prerequisite training that

must be completed and verified prior to beginning practical training and being certified to load or unload munitions. **(T-2).**

10.4. Loading Standardization Crew (LSC). The LSC is assigned to WS and reports to the WS SUPT. The LSC administers the Weapons Standardization Program and the WWM and/or WS SUPT evaluate and certify the LSC according to criteria in this AFI.

10.4.1. The LSC Team Chief must be at least a TSgt 2W171. **(T-1).**

10.4.2. The LSC trains, evaluates, and certifies the lead crews and load crews.

10.4.2.1. **(ARC)** If the LSC Team Chief is performing WS SUPT duties then the WWM will evaluate and certify the LSC. **(T-1)**.

10.4.2.2. The LSC will perform semi-annual evaluations, (quarterly at short tour locations), on all certified load crews on at least one of the unit's PM. **(T-1).** Lead crew members may assist; however, at least one member of the LSC must be present. **(T-1).**

10.5. Weapons Academic Instructor. A WS member is designated to oversee and manage the Weapons Academic Training Program.

10.5.1. The WWM will designate WS members (minimum 7-skill level) as primary (primary instructor will be a permanently assigned individual to WS, minimum grade of TSgt) and alternates, to conduct initial and recurring weapons academic training for all wing 2W1XXs (or equivalent contractor personnel). **(T-1).**

10.5.1.1. The instructors will have a SEI for at least one of the assigned MDS weapons system and familiarized with all UCML/TTML items (SEI is not applicable for ARC personnel). **(T-1).**

10.5.2. The primary academic instructor will manage the Weapons Academics Training Program and associated materiel. **(T-1).**

10.5.3. The primary weapons academic instructor will review the Weapons Academics Training Program annually IAW AFI 36-2650. **(T-1).**

10.5.3.1. The weapons academics instructor is not considered a maintenance instructor.

10.6. Lead Crews. The lead crews are assigned to the WS and assist the LSC in training, evaluating and certifying unit load crews in safe and reliable munitions loading procedures.

10.6.1. For contingency operations or deployed locations a lead crew should deploy to perform WS functions.

10.6.2. If a lead crew is not deployed, the senior 2W1X1 weapons loading person (with WWM coordination) on location will have WS authority. **(T-1).** For example, a new munition or load configuration is required to support operations and crews need to be trained on location (provided Seek Eagle approval has been granted and verified technical data/procedures are available).

10.7. Training Facilities/Aircraft.

10.7.1. Practical training will be conducted in a facility dedicated to load crew training that is of sufficient size to accommodate required aircraft, training munitions and

associated support equipment. **(T-1).**

10.7.1.1. Adequate office space and classroom with appropriate heating and cooling are required in the academic and practical training area. See AFMAN 32-1084, *Facility Requirements*, for facility requirements.

10.7.2. Aircraft will have a fully configured and operational (electrical and mechanical) weapons system for load training purposes. **(T-1).**

10.7.2.1. If a permanent load trainer (i.e., Armament Systems Trainer and/or GITA) is assigned, it also will have a fully configured and operational weapons system. **(T-1).**

10.7.2.2. In addition, WS will develop a schedule for periodic maintenance to weapons system components. **(T-1).**

10.8. Weapons Academics. All 2W1X1s (and civilian equivalents performing in 2W1 capacity) assigned to a wing regardless of duty position, and non-2W1X1 personnel who maintain specific weapons task qualification will complete initial and recurring (not exceeding a 24-month interval) weapons academic training. **(T-1).**

10.8.1. Complete initial academic training before the start of any practical training. **(T-1).**

10.8.1.1. Recurring academic training may also be part of training and recertification for failed loads.

10.8.1.2. Initial and recurring course outlines may be combined.

10.8.1.3. A minimum score of 80 percent must be attained to receive credit for academic testing. **(T-1).**

10.8.2. Coordinate training requirements and course control documents annually through Wing Safety or the safety officer and MT. **(T-1).**

10.8.2.1. Wing Safety will approve all nuclear surety training lesson plans. **(T-1).**

10.8.2.2. The WWM is the final approval authority for course documents. **(T-1).**

10.8.3. Weapons academic training may fulfill the requirements for explosive safety and nuclear surety training if requirements of AFI 91-101 and AFMAN 91-201 are met. Course control documents are tailored to unit and contingency needs and, as a minimum, will include the following items:

10.8.3.1. Local publications that prescribe weapons related operating procedures or directives. **(T-1).**

10.8.3.2. Safety (ground and explosive) and security. **(T-1).**

10.8.3.3. Aircraft, munitions, AGE, SE, TMDE, and munitions trailer familiarization. **(T-1).**

10.8.3.4. Testers, handling equipment and special tools. **(T-1).**

10.8.3.5. Operations in revetments/protective aircraft shelters. **(T-1).**

10.8.3.6. Weapons storage and security system vaults (tasked units). **(T-1).**

10.8.3.7. Applicable command unique training requirements in 36-26XX

supplements. **(T-1).**

10.8.3.8. Hazards inherent during CSO. **(T-1).**

10.8.3.9. Task Assignment List (TAL) and applicable -16/-33 TOs (initial academics/ load crew personnel only). **(T-1).**

10.8.3.10. Explain Master Nuclear Certification List, Dull Sword definition and reporting procedures IAW AFMAN 91-221 and other related directives (applies to all units with nuclear certified equipment regardless of mission). **(T-1).**

10.8.3.11. Nuclear weapons systems fault isolation and troubleshooting procedures (if applicable). **(T-1).**

10.8.3.12. Explain procedures for operations involving nuclear weapons, to include safety wiring and sealing, use of Tamper Detection Indicators (TDI), two-person concept, no-lone zone, personnel reliability program (PRP), and AF Form 504 custody transfer procedures (if applicable). **(T-1).**

10.8.3.13. Discuss accident, incident and deficiency reporting. Include in this training: DULL SWORD, AVOID AMBER, AVOID RED, BENT SPEAR, BROKEN ARROW, NUCFLASH, EMPTY QUIVER, Weapons Custody and Control Procedures and Command Disablement Systems (if applicable). **(T-1).**

10.8.4. Weapons Expediter training. Weapons Expediter training will be instructed by the Weapons Academic Instructor. **(T-1).**

10.8.4.1. Initial training is required prior to assuming duties as a Weapons Expediter. **(T-1).**

10.8.4.2. Expediter training will address the following subject areas:

10.8.4.2.1. Basic Expediter duties within this AFI. **(T-1).**

10.8.4.2.2. AF Forms 2430 and AF Form 2434 documentation. **(T-1).**

10.8.4.2.3. Munitions flightline accountability. **(T-1).**

10.8.4.2.4. Emergency procedures. **(T-1).**

10.8.4.2.5. NET Explosive Weight/Explosive Site Planning. **(T-1).**

10.8.4.2.6. Review and monitor JSTs (screen 469, 100, and 122 as a minimum). **(T-1).**

10.8.4.2.7. Aircraft MESLs (as applicable). **(T-1).**

10.8.4.2.8. Maintenance on conventional and nuclear explosives loaded aircraft. **(T-1).**

10.8.4.2.9. MNCL items (as required) and nuclear policies pertaining to flightline activity. **(T-1).**

10.9. Practical Training. Practical training starts when academic training is complete. Practical training is the initial hands-on procedural training given to load crew members. The LSC or lead crews administer practical training to each load crew member on required munitions

and aircraft. They ensure practical training duplicates operational conditions to the maximum extent possible and stress requirements such as DLOs, two-person concept, safety wiring and sealing/roto sealing, controlled access and weapon custody receipt and transfer procedures, as required.

10.10. Task Assignment List (TAL). A TAL is a functional grouping of procedural steps from applicable -16/-33 series TOs, by crew position, to be accomplished in sequence by each crew member during a loading operation. TALs are used during training for all loading operations except those for which job oriented procedures have been published (B-2 rotary launcher conventional munitions, and B-52H Conventional Air Launched Cruise Missile (CALCM) pylon and Conventional Stores Rotary Launcher (CSRL) loading/unloading is accomplished procedurally parallel to the -16 procedures). TALs are not a replacement for TO procedures, but are used to standardize procedures and facilitate the training of unit load crews.

10.10.1. TALs will include single, DLO and integrated munitions loading procedures (including gun and chaff/flare loading). **(T-1).**

10.10.2. Units may develop TALs for aircraft armament electrical functional checks (at unit's discretion).

10.10.3. Separate TALs will be developed for weapons qualification tasks performed by non-2W1X1 personnel. **(T-1)**.

10.10.4. MPRLs and semi-annual evaluations are not considered training operations.

10.10.5. Minimum responsibilities of each load crew position (MAJCOM's may develop more detailed TAL's).

10.10.5.1. Two member load crews (CV-22, AC-130H, MC-130E/H/P, HH-60 and MQ-1).

10.10.5.1.1. Crew member number one will be the load crew chief and is in charge of the loading operation. **(T-1).**

10.10.5.1.2. Crew member number two will assist crew member number one in performing the aircraft preparation and loading munitions. **(T-1).**

10.10.5.2. Three member load crews. (AC-130U/W, A/OA–10, F–15, F–16, F-22A, F-35 and MQ-9).

10.10.5.2.1. Crew member number one will be the load crew chief and is in charge of the loading operation. **(T-1).**

10.10.5.2.2. Crew member number two will perform aircraft preparation, load munitions, and assist as required. **(T-1).**

10.10.5.2.3. Crew member number three will perform munitions preparation, operate the bomblift truck, and assist as required. **(T-1).**

10.10.5.3. Four member load crews. (B–1, B–2, and B–52).

10.10.5.3.1. Crew member number one will be the load crew chief and is in charge of the loading operation. **(T-1).**

10.10.5.3.2. Crew member number two will perform the aircraft preparation and

assist as required. **(T-1).**

10.10.5.3.3. Crew member number three will perform munitions preparation and assist as required. **(T-1).**

10.10.5.3.4. Crew member number four will operate the bomb lift truck and assist as required. **(T-1).**

10.11. Munitions Aircraft Loading Certification/Decertification.

10.11.1. Certification. These guidelines are used to establish the weapons standardization program. A minimum of one certifying official is required for two-person load crews. A minimum of two certifying officials are required to evaluate three and four-member load crews. Certification and training requirements are as follows:

10.11.1.1. LSC, lead crew and load crew personnel will be certified by position. **(T-1).**

10.11.1.2. Personnel must be certified before loading live conventional munitions, unless loading under the direct supervision of a minimum of two certifying officials. **(T-1).**

10.11.1.3. Personnel must be certified before loading war reserve nuclear weapons. **(T-1).**

10.11.1.3.1. Certified load crews may be evaluated by using war reserve weapons if the weapons are scheduled for loading or movement.

10.11.1.4. LSC, lead crews, and load crews will be certified on all PMs. **(T-1). Exception:** AFGSC units follow **paragraph 3.7.5** of this instruction for nuclear PM requirements.

10.11.1.4.1. The LSC and lead crews are certified on all SMs to provide the cadre for future certification of unit load crews. **(T-1).**

10.11.1.4.2. The LSC is certified (or qualified for items so identified by unit tasking) on unit LMs. **(T-1).**

10.11.1.4.3. The WWM determines the number of additional load crews trained and certified on support and/or limited use munitions. **(T-1).**

10.11.1.5. Load crews can only be certified on up to 15 total MFGs (primary, support, limited). **(T-1).**

10.11.1.6. Dual position (LSC and lead crew) or dual MDS (LSC only) certification is authorized; however, personnel will not be certified on more than 15 UCML/TTML primary MFGs. **(T-1).**

10.11.1.6.1. Proficiency requirements are accomplished on both aircraft IAW this chapter.

10.11.1.6.2. Personnel who are dual position certified will ensure they comply with MPRL and Semi-Annual Evaluations (SAE) requirements in both positions for which they are certified; they will not alternate between the two. **(T-1).**

10.11.1.6.3. In the dual or secondary position, personnel will only load munitions for which they are certified, and will comply with requirements stated above. **(T-1).**

10.11.1.6.4. Only dual certify in the MFGs required to meet mission requirements. **(T-1). Note:** ARC dual position certification of full time technician's or dual MDS (LSC only) certification of load crew members is authorized; however, they will not be certified on more than 15 MFGs. **(T-1).**

10.11.1.7. Load crew member certification is valid worldwide with gaining WWMs concurrence. Reassignment does not necessarily require recertification by the gaining unit if the individual is certified on the same munitions, aircraft, and load crew position; and if MPRL or SAE requirements are current.

10.11.1.7.1. Units will develop procedures to ensure load crew certification status is provided to the individual prior to Permanent Change of Station (PCS) departure. **(T-3).**

10.11.1.8. Units will alternate loading operations on different AME configurations for same munitions. **(T-2).**

10.11.1.9. Personnel certified to load nuclear weapons on aircraft, will perform weapons transfer and tie-down procedures to and from trailers, WS3 vaults, and support stands for which load standardization training has been established and conducted IAW this instruction. **(T-2).** These actions are not required as separate certification items.

10.11.2. Decertification. Document decertification and/or disqualification actions in the WLCMT or MAJCOM-approved equivalent. **(T-1).** Decertify and disqualify individual load crew members if they:

10.11.2.1. Fail to complete a required evaluation (SAE, MPRL, Qualification). **(T-1).**

10.11.2.1.1. If a load crew member is on TDY, emergency leave, incapacitated, or involved in an unannounced local or higher headquarters exercise/contingency operation, do not decertify or disqualify the member providing the current SAE/MPRL/Qualification requirements (plus all past-due evaluations) are completed within one month of returning to duty (two months for ARC). **Exception**: Members who fail to complete a required MPRL on a certification item within a 6-month period, (3 months for short tour locations), will not be decertified on the particular item(s) until the expiration of the 6-month certification period, at which time practical training must be re-accomplish for recertification. **(T-1)**. **Note**: (ARC only) Provisions in this paragraph also apply when individuals are excused/rescheduled from a Unit Training Assembly (UTA) and when loading operations are cancelled due to inclement weather.

10.11.2.2. Fail to accomplish recurring academic training. **(T-1).**

10.11.2.2.1. All personnel exceeding the 15-month interval will not operate, handle, transport, maintain, or load munitions until academic training is accomplished. **(T-1).**

10.11.2.3. Fail an evaluation due to the following criteria (applies to initial certification, MPRLs, Quarterly's and SAEs):

10.11.2.3.1. Safety Error. **(T-1).** A violation of safety publications, TO warnings, etc., any unsafe act (personal injury or death). Evaluators will immediately intervene to prevent such acts. **(T-1).**

10.11.2.3.2. Reliability Error. **(T-1).** A violation of TO requirements that could reasonably lead to damage/premature failure of equipment, prevent safe reliable operation of weapons system or weapon release, or intervention by the evaluator to prevent such violations.

10.11.2.3.3. Lack of technical proficiency. **(T-1).** Any load crew member failing to demonstrate technical proficiency results in a failed rating.

10.11.2.3.3.1. A crew member exceeding three technical order errors results in a fail rating for lack of technical proficiency.

10.11.2.3.4. Time standard. **(T-1).** Exceeded time standard results in a failed rating for the load crew chief.

10.11.2.3.4.1. If the time standard is exceeded for other load crew member's lack of technical proficiency, the Load Team Chief does not need to be decertified. Time standard will not be applied to flightline evaluations. **(T-1).**

10.11.2.4. When a member is decertified on a munition, the member will be decertified on all items within the MFG. **(T-1).** Personnel may recertify on any MFG item. **Note:** Bomber units may certify by loading methods for nuclear munitions. This will be accomplished by documenting the munition method in block 7 of the 2435. EXAMPLE, AGM-86/B Pylon, AGM-86/B CSRL, B-61/83 RLA, B-61/83 S/B etc.

10.11.2.4.1. For integrated loads, the evaluator may decertify on all munitions or a specific munition loaded. When the same rating is not applied to all munitions loaded during an integrated load, the load crew records will be annotated accordingly. **(T-2).**

10.11.2.4.2. A failure for safety or reliability does not result in complete retraining/recertification for the loading task. At the discretion of the evaluator, sub-task retraining or thorough critique may be used to satisfy retraining/recertification requirements.

10.12. Proficiency Review Period. Immediately following initial certification, crews will load one-third of all munitions monthly for a minimum of three months, after which the LSC or lead crew will recommend to the WS SUPT to place them in the normal bi-monthly evaluation cycle (NA for short tour locations, ARC, and part-time contractors). **(T-1).**

10.13. Minimum Required Proficiency Load. All certified load crews will perform proficiency loads and be evaluated by the LSC or a lead crew. **(T-1).**

10.13.1. Each munition an individual is certified to load, regardless if it is a primary, support or limited use munition, will be loaded at least once within a six-month period (three-month period for short tour locations). **(T-1).**

10.13.1.1. One third of the required munitions will be loaded bi-monthly (monthly for short tour locations) to demonstrate crew proficiency. **(T-1).**

10.13.1.2. WWM will ensure munitions with multiple configurations such as JDAM MFG, AIM-9 L/M/X are loaded in different months to provide adequate munitions coverage during the year. **(T-1).**

10.13.1.2.1. Dual-status technicians in Classic Associations will load to the

above standard. **(T-1)**.

10.13.1.2.2. Traditional Guard and Reserve members in Classic Associations will load to the ARC standard. **(T-1).**

10.13.1.2.3. ARC and RegAF members assigned to Active Associations. All UCML/TTML tasked munitions will be loaded/evaluated within a time-frame not to exceed 12 months. **(T-1).**

10.13.2. MPRL credit may be given during any certified loading operations on the flightline provided complete MPRL requirements are performed and evaluated by WS personnel not to exceed 1 MPRL credit per SAE (quarterly evaluation for short tour locations). MPRL credit during flightline evaluations is only authorized when loading live munitions, Dummy Air Training Missiles (DATM), or D-2 type inert munitions.

10.13.3. In units where no munition training assets exist (Cluster Bomb Unit CBU-105, M129, etc.) difference training will be provided prior to initial certification and during recurring academics training. **(T-1).**

10.13.4. Load crews in air defense/air superiority units perform proficiency loads bi-monthly using all committed primary munitions. **(T-1).**

10.13.5. Nuclear-tasked units. LSC, lead crews, and load crews will load nuclear PMs monthly. **(T-1).**

10.13.5.1. Only one type of munition within a MFG requires loading each month.

10.13.6. Load crew integrity must be used to the maximum extent possible. **(T-3).**

10.13.6.1. **(ARC Only)** Certified Load Crew Chiefs may perform MPRLs in any position provided they load under the supervision of LSC/lead crew using inert training munitions only. This stipulation applies at home station only. No MPRL credit is given to those individuals during evaluations unless loading in the position for which they are certified. This enables units the flexibility to evaluate remaining crew members when a member may not be available to form a full crew and will only be used as a necessary.

10.13.7. Load crews will annually perform an evaluated load while wearing the ground crew CWDE using 33-1-2/33-2-1 procedures. **(T-2).** Credit may be given during exercises provided operations are evaluated by WS personnel. **(T-2)**.

10.13.7. **(Added-AETC)** AETC load crews are not required to perform an evaluated load wearing the ground crew CWDE.

10.14. Load Crew Semi-Annual Evaluations (SAE). The LSC evaluates each load crew once semi-annually on at least one of the unit PMs (SM or LM if no PM listed); all unit PMs will be used on a rotating basis. **(T-1).**

10.14.1. SAE's are not required for lead crews.

10.14.2. Load crews failing to accomplish semi-annual evaluations on all munitions will be decertified unless exempted IAW provisions in this chapter. **(T-1).**

10.14.3. If an integrated load is accomplished as the SAE (e.g., AIM-9, -120), document the SAE accordingly.

10.14.4. There is no need to document both SAE and MPRL. **Note:** (ARC Only) CSO (A- 10, F-15, F-16) and DLO (bombers only) procedures may be used to fulfill these requirements provided the entire load is evaluated.

10.14.5. Certified Load Team Chiefs may perform SAEs in any position provided they load under the supervision of LSC or lead crew using inert conventional training munitions only. This requirement applies at home station only.

10.14.6. No SAE credit will be given to those individuals during evaluations unless loading in the position for which they are certified. **(T-1).** This enables units the flexibility to evaluate remaining crew members when a member may not be available to form a full crew and will only be used as a necessary.

10.14.7. The letter "E" will be placed after the date for the semi-annual evaluation regardless of rating. **(T-1).**

10.15. Documenting Load Crew Certification/Decertification/Qualification.

10.15.1. The LSC will manage load crew certifications, qualifications, SAEs (quarterly evaluation for short tour locations), and MPRLs by means of the WLCMT or MAJCOM approved equivalent. **(T-1).**

10.15.1.1. All decertification and subsequent recertification actions must be documented on AF Form 2435 via WLCMT or MAJCOM approved equivalent process. **(T-1).**

10.15.2. Enter one of the following codes in the month column, as applicable, if required loads are not completed and provisions of this chapter apply: Temporary Duty (TD), Emergency Leave (LV), Incapacitated (ED), Exercises/Contingency (EX), or Weather (WX). **(T-1).**

10.15.2.1. Code outs will not be used as a substitute for ineffective scheduling. **(T-1).** WWM has final decision authority on coding disputes.

10.15.2.2. RPA contractor personnel who deploy immediately after weapons load certification are not required to be coded out monthly.

10.15.2.3. Members who have completed all required training and have an annotated AF Form 2419 are not required to be coded out for the duration of TDY.

10.15.2.3.1. Member will be decertified IAW **paragraph 10.11.2.1.1.** of this instruction upon return from TDY. **(T-1).**

10.15.3. Route AF Form 2419 after semi-annual evaluations (quarterly for short tour locations) to the Weapons Section NCOIC/Chief, Operations Officer/MX SUPT, WWM, and the WS SUPT. **(T-1).**

10.15.4. Send printouts from the WLCMT or MAJCOM-approved equivalent product with the crew to TDY locations if loading tasks are to be performed. **(T-1).**

10.15.4.1. The following statement will be added after the last entry on each product: "AF Form 2435 reviewed; the member is certified/qualified on the items listed on this product." **(T-1).** This statement is followed by the signature and date of a WS certifying official.

10.15.5. Academic and practical training will be tracked and documented in a MIS,

however the WLCMT or MAJCOM-approved equivalent may be used for this purpose. **(T-2).**

10.16. Weapons Task Qualification. A weapons task qualification is a munitions-related task that does not require certification. Individuals require both initial/recurring weapons academics and initial/annual practical qualification training for these tasks.

10.16. (AETC) Weapons Task Qualification. Conduct initial training on properly configured aircraft suitable for use; do not perform any other maintenance on the aircraft during training. **(T-2).** Document training in the WLCMT, or the MIS. **(T-2).** Weapons task qualification trainers will be fully qualified 2W151 or civilian equivalent. **(T-2).** (**Note:** Each weapons task qualification item uses a separate course code.)

10.16.1. All individuals will receive full task qualification training to include use of the checklist. **(T-1).**

10.16.2. Recurring practical training should be conducted during normal flightline operations to the maximum extent possible.

10.16.3. Training is provided, documented and tracked by WS.

10.16.4. Checklist Qualification. Indicates that the person with the checklist is trained, knowledgeable and in-charge of the overall operation or task.

10.16.4.1. Members must possess a minimum 5-skill level to be checklist qualified. **(T-1).**

10.16.5. Full scale inert/training munitions (e.g., BDU-50/TGM-65/CATM-120/M129). If load crew personnel are certified on a munition, they are considered qualified (by position certified, except #1 position) on its inert version.

10.16.5.1. In the event the load crew member is not certified on an SM or LM, then load crew personnel will require annual training on the inert/training version and it will also be tracked as a qualification. **(T-1).**

10.16.6. Two or more qualified personnel in AFSC 2W1X1 (or civilian equivalent) shall be required to perform the following tasks:

10.16.6.1. Practice Bombs: load and unload BDU-33, BDU-48 and MK-106. **(T-2).**

10.16.6.2. Load and unload ammunition in internal and external gun systems (the GAU-8 requires three people). **(T-2). Exception:** Personnel do not load GAU-2, GAU-18, GAU-21, or M240 machine guns and are authorized to unload ammunition only during Hot Gun emergency or gun jams that require safing prior to maintenance actions.

10.16.6.3. Load and unload single 2.75 rockets. **(T-2).**

10.16.6.4. Load and unload Miniature Air Launched Decoy (MALD) (three person minimum). **(T-2).**

10.16.6.5. Load and unload captive AGM-114 missiles (M36). **(T-2).**

10.16.7. Two or more qualified personnel in any aircraft maintenance AFSC shall be required to perform the following tasks (members must be qualified in all aspects of task to

be performed; i.e., aircraft prep, rack/launcher prep, munitions prep, etc.):

10.16.7.1. Install and remove impulse cartridges if the task is not accomplished as a part of a loading operation. **(T-2).**

10.16.7.2. Load/unload pyrotechnics. **(T-2).**

10.16.7.3. Install and remove chaff and flare magazines and other defensive countermeasures. **(T-2).**

10.16.7.4. Perform portions of the conventional loading checklist pertaining to delayed-flight or alert, and IPL/safing procedures. **(T-2). Note:** Removal of dome cover(s) is not considered IPL and does not require initial/recurring academics.

10.16.7.4. **(AETC)** Only 2W1 personnel will perform immediately prior to launch (IPL) on munitions requiring certification except during exercise or contingency operations when additional non-2W1 personnel may be qualified to perform IPL.

10.16.7.5. Perform munitions/missile isolation procedures to facilitate other maintenance on conventional loaded aircraft only. **(T-2).**

10.16.7.6. Install and remove CATM/DATM-9 missiles (must have three personnel minimum and one person must be checklist qualified). **(T-1)**.

10.16.7.7. Install and remove Acceleration Monitor Assemblies (AMA) and Airborne Instrumentation System (AIS) pods. Academics are not required for AMA and AIS pods. (Minimum crew size per TO directives). AMA and AIS qualification training is a one-time trained item that will be entered on an AF Form 797. **(T-1)**.

10.16.7.8. **(ANG alert facilities only)** Install and remove Argon (TMU-72 coolant tank) in AIM/CATM-9. **(T-1).**

10.16.8. A Load Team Chief may perform in any crew member position when loading inert/training munitions if certified on the parent munition. **(T-1).**

10.16.8.1. The two and three members can only perform those positions for which they are certified or qualified. **(T-1).**

10.17. Munitions Load Time Standards. All munitions listed in a single block comprise a MFG for the respective aircraft mission type. The load time standards apply to all operational users of the munitions or aircraft listed and are the minimum proficiency requirements for weapons load crews.

10.17.1. Units may establish more restrictive standards for local use.

10.17.2. Unless otherwise noted in **Table 10.1, Table 10.2,** or **Table 10.3**, the WS SUPT shall determine and set load time standards for qualification items, for integrated loads (including nuclear, if tasked), and for loads performed wearing CWDE. **(T-3).**

10.17.3. All items require certification IAW this chapter, unless otherwise indicated.

10.17.4. The standard load times, from the MFG **Table 10.1, Table 10.2,** and **Table 10.3** are standard load times for initial and recurring training and evaluations for the respective single store (including full munitions preparation) and installation of impulse cartridges, if required.

10.17.4.1. Except for BRU-57, an additional 10 minutes is allowed for each added aircraft station check on fighter aircraft, if performed as part of an evaluated load.

10.17.4.2. An additional 7 minutes is allowed for each like store added to fighter aircraft loads.

10.17.4.3. Load times are additive when more than one type of munition is loaded on fighter aircraft. For example, if an F-16 is to be loaded with two AIM-9s and a MK-82, the load crew shall be allowed 20 minutes for the first AIM9, 7 minutes for the second AIM-9, and 25 minutes for the MK-82, for a total of 52 minutes.

10.17.4.4. Loads may be accomplished without full munitions preparations; however, more restrictive time standards must be developed.

10.17.4.5. Units may develop optimum time standards for integrated loads (including nuclear, if tasked).

Table 10.1. Fighter Aircraft Munitions Family Group and Munition Load Time Standards (in minutes).

MUNITIONS FAMILY GROUP	A-10	F-15	F-16	F-22	F-35	REMARKS
AIM-9 L/M/X	20	20	20	30	20	Note 6
AIM-120		25	25	40	25	Note 6
AGM-65	25	25	25			Note 1, 2, 6
AGM-88			25			Note 6
AGM-154 (JSOW)		25	25			Note 1, 5, 6
AGM-158 (JASSM)		25	25			Note 1, 6, 9
B-61		90	90			Note 3
CBU-87/89	25	25	25			Note 6
CBU-103/104/105/107 (WCMD)	25	25	25			Note 5, 6
GBU-10/12/51	25	25	25		25	Note 6
GBU-24/27, EGBU-24/27		30	25			Note 1, 6
GBU-28, EGBU-28		35				Note 1, 6, 9
MUNITIONS FAMILY GROUP	A-10	F-15	F-16	F-22	F-35	REMARKS

GBU-31/32/38/54/56 (JDAM)	25	25	25	35	25	Note 5, 6
GBU-39/53 (SDB)		25	25	40	25	Note 6, 7
MK81/82/83/84/110 Low Drag (LD)	25	25	25	25		Note 4, 6
MK82/MK84 High Drag (HD)	25	25	25			Note 4, 6
QUALIFICATIONS	A-10	F-15	F-16	F-22	F-35	REMARKS
20MM/30MM/25MM	X	X	X	X	X	
ADM-60 (MALD)			X			
ALE-50/70			X		X	
CHAFF/FLARES	X	X	X	X	X	
M129/PDU-5B	X	X	X			
ROCKETS (2.75)	X		X			
SUU-25	X		X			

Notes:

1. Add 15 minutes for each additional store or LAU-117.
2. Time is for one LAU-117. The time for loading one pre-loaded LAU-88 is 45 minutes; two LAU-88s, 60 minutes; single missile out of container, 35 minutes; for a single missile that must be transferred out of the container, 50 minutes; for three missiles out of the container, 60 minutes; for three missiles in their containers, 90 minutes.
3. Includes a short flight circuit test (FCT), such as F-16, 75060/W-11; or F-15E, A/E24T-199 check. When a long FCT is to be included in a loading operation, add the time standard listed in the applicable -6 tech order to the time standard.
4. Add 5 minutes for each fuze extender used.
5. F-16 add 35 minutes if BRU-57 functional check is performed as part of the load.
6. Add 10 minutes if functional check is to be accomplished as part of the load evaluation.

7. Time standard for a preloaded carriage system is 40 minutes.

8. Add 5 additional minutes when loading AGM-158/GBU-28 on F-15E Station 5.

Table 10.2. Bomber Aircraft Munitions Family Group and Munition Load Time Standards.

MUNITIONS FAMILY GROUP	B-1	B-2	B-52 INT	B-52 EXT	REMARKS
AGM-86			85	95	Note 1, 2, 5
AGM-154		40			Note 1, 3, 4, 7
AGM-158	50	50		50	Note 1, 4, 7
B-61/B-83		45	85		Note 1, 2, 6
CBU-87/89	40		40	40	Note 1, 3, 7
CBU-103/104/105/107 (WCMD)	40			40	Note 1, 4, 7
GBU-10/12				40	Note 3, 7
GBU-28		50		40	Note 3, 4, 7
GBU-31/38/54 (JDAM)	40	40		40	Note1, 4, 7
MK-56/60/62/63/65 (Mines)	40	40	25	40	Note 1, 3, 7
MK-82LD/83LD/84LD/M117/BLU-109/110 (GP LD)	40	40	25	40	Note 1, 3, 7
MK82A, MK84A (GP HD)	40	40		40	Note 1, 3, 7
QUALIFICATIONS	B-1	B-2	B-52-I	B-52-E	REMARKS
ADM-160 (MALD)				X	
ALE-50	X				
CHAFF/FLARES	X			X	
M129			X	X	

Notes:

1. Pre-load; time standard 40 minutes for preloaded B-1 CBM, MPRL and SECBM.

   B-52/B-2 add 40 minutes for each additional preload CSRL/RLA or Pylon on the B-52.

   B-52 post-load for one missile: Add 50 minutes for AGM-86B, 60 minutes for AGM-86D, and 70 minutes for AGM-86C. Add 5 minutes for each additional missile. B-2 post-load check add 20 minutes if accomplished as part of the load.

3. Add 3 minutes for each additional store Non MIL-STD-1760E capable store.

   Exception: Add 10 minutes per store for GBU/EGBU 10/12/28.

4. MIL-STD-1760E; Add 5 minutes per additional store. Exception:

   B-52 add an additional 5 minutes per store if MIL-STD-1760E cable installation is required. B-1 and B-52, for AGM-158 load, add 20 minutes per additional store.

   B-2, for the AGM-158 load, the first store is 50 minutes; add 20 minutes per additional store. The LSC will develop a local time standard for the 8th weapon.

5. Time for single missile loading is 70 minutes per store.

6. Time for single bomb is 40 minutes, add additional 15 minutes per store; B52 add 40 minutes for post load check if part of load. B-2 add 20 minutes if post-load check is performed as part of the load.

7. B-2 add 20 minutes if post load checks are performed part of the load.

   B-1 add 45 minutes if status checks are performed as part of the load. N/A for B-52.

Table 10.3. Remote Piloted/Special Mission Aircraft Munitions Family Group and Munition Load Time Standards.

	MQ-1	MQ-9	AC-130U, W, and J	REMARKS
AGM-114	20	20		Note 1, 2
AGM-176 (SOPGM)			30	
GBU-12		25		Note 1, 2
GBU-38/GBU-54		25		Note 1, 2
GBU-39			45	
QUALIFICATIONS				REMARKS
25MM/30MM			X	
CHAFF/FLARES			X	

Notes:

1. Add 15 minutes for each additional store or M299.
2. Add 10 minutes if functional check is to be accomplished as part of the load evaluation.

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-1)**. Units will:

11.1.1. Ensure Bioenvironmental Engineering (BE) approved workplace-housekeeping procedures are employed to prevent the spread of contamination within a work center. **(T-1).**

11.1.2. Emphasize controlling the source of the contamination and ensure workplace personnel follow proper work procedures, PPE use, and hygiene practices. **(T-1).**

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 AFI 91-203. **(T-1)**.

11.2. Personal Wireless Communications Systems (PWCS) Management.

11.2.1. Maintenance Communications. Reliable, redundant, and effective communications systems are essential for efficient maintenance operations. These systems should provide accurate, timely, secure, programmable frequency and jam resistant communications needed to accomplish the maintenance mission in a fully deployed and isolated mode. The MXG/CC has the overall responsibility to ensure adequate PWCS communication support is available to support mission requirements.

11.2.2. Commanders or designated representative will implement and comply with the PWCS management requirements IAW AFI 33-590, AFI 33-580, *Spectrum Management*, AFI 33-200, and AFMAN 33-153, *Information Technology (IT) Asset Management(ITAM).* **(T-1).** 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 33-590, AFI 33-580, AFI 33-200, and AFH 23-123V3, *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-1).**

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 ASs so specify.

11.3. Special Certification Roster (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 personnel 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. 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. MXG/CC will approve items identified in **Table 11.1**, Note 1. **(T-1).**

11.3.1.1. The Squadron Operations Officer/MX SUPT approves individuals in their primary AFSC based on their experience and technical expertise regardless of their assigned skill or position. 7-skill level personnel may be certified outside their primary AFSC only when specific CUT task qualification is documented in their training records.

11.3.1.2. AFE personnel certified to clear "Red-X" discrepancies must be annotated on the SCR. **(T-1).**

11.3.1.2.1. Requests to add and remove AFE personnel from the SCR will be generated by the AFE SUPT and coordinated through the OG/SUPT and MXG/SUPT prior to addition to the SCR. **(T-2).**

11.3.1.3. The SCR will be reviewed and signed semi-annually by the Squadron Operations Officer/MX SUPT to verify all entries are current and accurate and to ensure task certifications have been completed. **(T-1).**

11.3.1.3.1. The Squadron Operations Officer/MX SUPT will coordinate with the AFE SUPT to validate currency of AFE personnel on the SCR (if applicable). **(T-1).**

11.3.1.4. MXG/SUPT will review and sign SCR actions for those individuals administratively assigned to MO (QA, AFREP, etc.). **(T-1).**

11.3.1.4.1. MXG/SUPT will coordinate with the Field Training Detachment (FTD) CC/SUPT to validate currency of FTD personnel on the SCR. **(T-1).**

11.3.1.5. WWM will review and sign WS SCRs. **(T-1).**

11.3.2. TFI units will establish a process for approving SCR additions in a MOA/MOU to provide visibility across participating organizations. **(T-1).**

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. Operations Officer/MX SUPT or equivalent will retain file copies of approved waivers. **(T-1)**.

11.3.3.1.1. Approved waiver file copies may be discarded if SCR specifically identifies task as waived in the MIS. **Note:** For ANG, the approved waiver file must be maintained by Maintenance Supervision or equivalent until the SCR is updated and signed by the MXG/CC (see **paragraph 11.3.1.1** of this instruction).

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 (2W0XX certified munitions inspectors are exempt from these requirements).

11.3.4. MAJCOM Waiver Policy. If local conditions require assignment of other than 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** of this instruction then the MXG/CC (or equivalent) must request a waiver from the MAJCOM. **(T-2).**

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/Chiefs and Section NCOICs/Chiefs will review each individual's qualifications prior to recommending approval to perform SCR tasks to the appropriate approval level. **(T-1)**.

11.3.6.1. AF Form 2426, *Training Request and Completion Notification* 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 training section to update the MIS.

11.3.6.1. **(AETC)** Units may use AETC Form 666, *Change to Inspector/Special Certification Listing*.

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 Unit Training Manager IAW AFI 36-2650, loads the approved name into the MIS.

11.3.6.4. Flight CCs/Chiefs and Section NCOICs/Chiefs will retain their copy of AF Form 2426 or MAJCOM-approved form until they verify proper loading. **(T-1)**.

11.3.6.5. Appointment letters are not required if loaded in MIS.

11.3.6.5.1. Work center supervisor, AMU/Flight supervision, Operations Officer/MX SUPT, 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-2)**.

Table 11.1. Mandatory Special Certification Roster (SCR) and Prerequisites (T-1).

	A	B
ITEM	Mandatory SCR Item Titles	Prerequisites
1	All Systems "Red-X" (no egress, welding, munitions, fuel cell (in-tank work))	MSgt or higher (or civilian equivalent).

2	Exceptional Release (ER)	(Note 1)
3	"Red-X" Down Grade	
4	All Systems IPI (no egress, welding, munitions, fuel cell in-tank work)	
5	Installed Engine Run Certifying Officials	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. One year minimum engine-run experience on applicable MDS (not applicable at short tour locations). (Note 1) MXG/CC may waive qualified TSgts. MAJCOMs will determine and document AFSC and skill level requirements for 5th Generation aircraft.
6	Aircraft Inlet/Intake/Exhaust Certifying Officials	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. One year minimum experience on applicable MDS/TMS (not applicable at short tour locations). (Note 1) MAJCOMs will determine and document AFSC and skill level requirements for 5th Generation aircraft.
7	Flexible Borescope Certifying Officials	
8	Engine Blade Blending Certifying Officials	
9	"Red-X" by Primary AFSC (PAFSC) and MDS (For multiple MDSs, list separately)	SSgt or higher, minimum 7-skill level or civilian equivalent (includes MXG/CC-appointed exceptional SrA per paragraph **11.3.3**.). (Note 2)
10	IPI by PAFSC and MDS (For multiple MDSs, list separately)	

11	“Red-X” and/or IPI - Limited	5-skill level personnel certified on limited tasks as determined by the unit (Note 1); 5-level Certified Weapons Load Crew Chiefs on loading tasks only. (Note 2)
12	“Red-X” and/or IPI - CUT (For multiple MDSs, list separately), for tasks outside PAFSC	SSgt or higher, minimum 7-skill level (or civilian equivalent), Use for personnel certified on tasks in other AFSCs through CUT training. (Note 2)
13	NWRM packaging	Minimum 7-skill level (or civilian equivalent) (Notes 4 and 5). 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 MDS	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). (Note 2). 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	Minimum 5-skill level 2A3X3/7/8, 2A5X1/2/4, and 2A6X1 or civilian equivalent. (Note 2). MAJCOMs will determine and document AFSC and skill level requirements for personnel performing blade blending on 5th Generation aircraft.

16	Hot Refueling PAD Supervisor/"A" Member	Minimum 5-skill level, 2AX5X (or civilian equivalent), with a minimum of 1 year flightline maintenance experience. (Note 2)
17	Hot Refueling Team Member (“B” or “D” member)	Flightline maintenance AFSC, with a minimum of 1 year flightline maintenance experience. (Note 2)
18	Aircraft to Aircraft Refueling Supervisor	Minimum 5-skill level with a minimum of 1-year weapon system experience. (Note 2)
19	Uninstalled Engine Operations (Test Stand and ETS) Run by TMS	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 (N/A to short tour assignments). If previously qualified on a different TMS, the 6-month experience requirement may also be waived. (Note 2). MXG/CC may waive 5-skill level SrA with minimum of 6 months’ time on applicable TMS.
20	Uninstalled Engine Run Certifying Officials by TMS	Fully qualified/certified TSgt or higher 2A671 AFSC, civilian equivalent, contractor, or AFETS/CETS personnel with a minimum of one year engine run experience on the applicable TMS. (One year run experience not applicable to short tour assignments). The MXG/CC may waive qualified SSgts and may authorize MT uninstalled engine run instructors as certifying officials. (Note 1)
21	Aircraft Inlet/Intake/Exhaust Certifications	Minimum 5-skill level, 2A3X3/7/8, 2A5X1/2/4, and 2A6X1 (or civilian equivalent). (Note 2). MAJCOMs will determine and document AFSC and skill level requirements for 5th Generation aircraft.

22	Engine Flexible Borescope Inspections	Minimum 5-skill level 2A3X3/8, 2A5X1/2/4, and 2A6X1 (or civilian equivalent). (Note 2). MAJCOMs will determine and document AFSC and skill level requirements for 5th Generation aircraft.
23	Chief Servicing Supervisor (Heavy Aircraft/Commercial Derivative Aircraft)	Minimum 5-skill level with 1 year weapons system experience. (Note 2). Time requirement may be waived by MXG/CC in short tour/en route locations.
24	Concurrent Servicing Supervisor (Fighter Aircraft)	For A-10, F-15, F-16, F-22A aircraft, minimum 7-skill level with a minimum of 1 year weapons system experience. (Note 2). Time requirement may be waived by MXG/CC in short tour locations.
25	W&B Certified/Clear Red X (refer to TO 1–1B-50)	7-skill level (or civilian equivalent), with a minimum of 1 year time on weapon system (Note 2). Time requirement may be waived by MXG/CC.
26	Impoundment Authority (refer to **Chapter 7** of this instruction)	(Note 1)
27	CANN Authority	
28	Auxiliary Power Unit (APU) Operation	3-skill level or higher maintenance AFSC. (Note 2)
29	Calibration Limitation Approval (refer to TO 00-20-14)	SSgt or higher, minimum 7-skill level (or civilian equivalent). (Notes 2 and 3)
30	CDDAR Team Chief	MSgt or higher or civilian equivalent. (Note 1). MXG/CC may waive grade requirement.

31	Weapons Task Qualification Manager (WTQM)	TSgt or higher, minimum 7-skill level AFSC 2A871X or 2AX7X (or civilian equivalent). (Note 1)
32	Weapons Task Qualification Crew (WTQC)	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). (Note 2)
33	NSS and T-9/T-10/T-11 /T-12/T-20 sound suppressor Fire Control Panel	SrA or higher, (or civilian equivalent) with AFSC 2A6X1 must have a minimum 6 months experience. (Note 2)
34	Aircraft Rapid/Hot Defueling Supervisor	Minimum 5-skill level, 1 year of flightline experience, with 6 months weapon system experience. (Note 2)
35	Clear Red-X when a lost item/tool cannot be located (refer to **Chapter 8** of this instruction)	Operations Officer/MX SUPT or above. (Note 1)
36	Aircraft APU Run Certifying Officials	7-skill level (or civilian equivalent), or a fully qualified/certified contractor or AFETS/CETS representative. (Note 1). MXG/CCs may also waive qualified 5-skill level SSgts.

Notes:

1----Approved by MXG/CC

2----Approved by Operations Officer/MX SUPT

3----Operations Officer/MX SUPT may delegate approval authority to the AMU OIC/SUPT or Flight CC/Chief.

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. Definition. Aircraft grounding is an administrative action taken to prohibit aircraft from flying because of a specific condition related to the aircraft or based on requirements of a directive. Implemented from a higher echelon of command (MAJCOM/CC) when conditions in multiple aircraft, engines, missiles, munitions, or related installed flight equipment create a sufficient risk to personal injury or equipment damage which warrant fleet grounding until the matter can be properly investigated and resolved.

11.4.1.1. This section does not apply to conditions which are clearly limited to the affected unit/base (e.g., lost tool, fluid contamination, aircraft/equipment damage of known origin, or other strictly local event). In these circumstances, the affected unit follows the impoundment procedures specified in **Chapter 7** of this instruction.

11.4.2. Initial Investigation. The owning MXG/CC or equivalent will direct QA to develop a local OTI IAW TO 00-20-1 and this instruction. **(T-1)**.

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-1).**

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, the MXG/CC will discuss aircraft grounding with the WG/CC and forward a recommendation to the MAJCOM. **(T-1)**.

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-1)**.

11.4.3. Grounding Authority. The approved procedures for grounding aircraft or stand-down for operational reasons are determined and executed IAW AFI 11-401. **(T-1)**.

11.4.3.1. Notification and final reporting for grounding and release status will be accomplished IAW AFI 10-206, *Operational Reporting.* **(T-1)**.

11.4.3.2. Annotate aircraft grounding in the aircraft forms IAW TO 00-20-1. **(T-1).**

11.5. Ramp Inspection Program. Public Law 99-661 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.

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 to this instruction.

11.5.1.2. AMC/A4M 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 will 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 (e.g., 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-1).**

11.6.2. Maintenance repair actions must be cleared in the MIS as soon as possible. **(T-1).** 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-1)**.

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. **(T-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-1).**

11.6.5.1. Procedures must require MIS entry of Red Ball maintenance actions as soon as the MIS becomes operable. **(T-1).**

11.6.5.1.1. **(Added-314AW)** The Pro Super and Expediter will ensure the following:

11.6.5.1.1.1. **(Added-314AW)** If G081 is not available or down for extended periods, all data will be tracked on AFTO Form 349, *Maintenance Data Collection Record*, and sortie maintenance debriefing documents, or approved local forms. See **paragraph 5.2.5.3.3.6.7.2.** for input procedures when MIS is available.

11.6.6. **(Added-314AW)** Parts required during "Red Ball" maintenance will be ordered with a priority designator of two.

11.6.7. **(Added-314AW)** All tools, rags, parts, hardware and TOs/checklists will be accounted for and Foreign Object Damage (FOD) prevention procedures will be completed prior to an exceptional release (ER).

11.7. Maintenance Recovery Team (MRT): 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.

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 not mission capable (NMC) while off station (other than at an Air Force base that has the capability), the closest AETC base having the maintenance capability for that specific MDS aircraft 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)** Maintenance capability is defined as currently possessing and maintaining the specific MDS aircraft. For example, aircraft affected by a modernization program effort that become NMC while away from home station, the closest AETC base with the capability is responsible for supporting aircraft recovery.

11.7.3.2. **(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).**

11.7.3.3. **(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).** NAS Pensacola maintenance is not responsible for maintenance recovery team (MRT).

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.sddc.army.mil**).

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. The owning and supporting bases will reconcile unique requirements (transportation, CANN, budget, etc.).

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 AFI 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** of this instruction.

11.7.8. **(Added-AETC)** AETC aircraft that do not fall in the categories identified in paragraph **11.7.3** of this instruction, will follow transient maintenance procedures in AFI 21-101.

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-1)**. 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/CV 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-1).**

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-1).**

11.8.3.1.2. At no time will items, (e.g., aircraft forms binders, Video Tape Recorder (VTR) tapes, checklists, tools) be placed in or on engine intakes. **(T-1). 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** of this instruction. **(T-1).**

11.8.3.2. Technicians will install intake plugs, or tape and barrier paper (as required by technical data) prior to performing maintenance in or around engine intakes. **(T-1).**

11.8.3.2.1. Technicians will ensure engine inlet run-up screens and anti-personnel guards are used IAW applicable weapon system TOs. **(T-1).**

11.8.3.3. Covers (e.g., 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. Technicians will wear a pocketless, zipperless, buttonless bunny-suit, cloth over-booties or stocking feet, and will remove boots whenever physical entry into an aircraft intake or exhaust is required. **(T-1).**

11.8.3.5.1. Suits are not required to be worn if personnel do not physically enter these areas. A rubber mat may be used instead of cloth over-booties or removing boots if MDS technical data directs.

11.8.3.5.2. When performing intake inspections while wearing a CWDE, pockets

will be emptied and all accessories removed. **(T-1).**

11.8.3.5.2.1. During exercises/inspections, the CWDE will be removed and the bunny-suit will be utilized. **(T-1).**

11.8.3.5.2.2. CWDE will be worn during "real world" situations only to minimize the potential for FOD and intake damage. **(T-1). Note:** During "real world" situations, if CWDE metal zippers are exposed, cover them with any type of tape and account for the tape upon completion of the inspection.

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-1).** 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-1).**

11.8.3.6.2. Restricted area badges will be removed when performing intake/inlet/exhaust inspections if personnel physically enter these areas. **(T-1).**

11.8.3.6.2. **(AETC)** Restricted area badge cords do not need to be subdued for contractor or civil service personnel.

11.8.3.6.3. Metal insignias/badges will not be worn on the flightline. **(T-1).**

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 flightline. **(T-1).**

11.8.3.6.5. Escorts of visiting personnel will ensure FOD prevention measures are taken. **(T-1).**

11.8.3.7. Discard readily removable (slide or pressure fit) pocket clips from tools (e.g., flashlights, continuity testers, small screwdrivers) prior to placement in tool kits. **(T-1).**

11.8.3.7.1. Do not disassemble/damage tools for sole purpose of removing clips, rubber switch guards, etc.

11.8.3.8. All maintenance production areas must have FO containers readily accessible. **(T-1).**

11.8.3.8.1. All vehicles primarily driven on the flightline must be equipped with secured and lidded FO containers. **(T-1). Note:** Permanently affixed FO containers must be approved by Vehicle Management prior to installation IAW AFI 24-302.

11.8.3.9. Control all work order residue used on or around aircraft, uninstalled engines, and AGE. **(T-1).**

11.8.3.10. Rags will be controlled and accounted for IAW **Chapter 8** of this instruction. **(T-1).**

11.8.3.10.1. Rag control applies to all organizations and personnel performing aircraft, missile, munitions, and equipment maintenance.

11.8.3.11. FOD walks are mandatory to remove FO from ramps, runways, maintenance areas and access roads.

11.8.3.11.1. In addition, mechanical/vacuum sweepers, magnetic bars or sweeping by hand are highly encouraged to supplement FOD walks.

11.8.3.12. 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-1).**

11.8.3.12.1. An informational copy of the FOD report must be provided to the owning organization's safety office/FOD monitor to ensure compliance with AFI 91-204. **(T-1).**

11.8.3.12.2. 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-1).** If discovered any other time at one of the aforementioned locations, it will be tracked/charged to the ALC or CRF. **(T-1).**

11.8.3.13. Ensure local FOD Prevention Program addresses the elimination of FOs to include aircraft cockpits and flight decks before and after flight. **(T-1).**

11.8.3.13.1. When an item is lost on or in the vicinity of aircraft or equipment, lost item/tool procedures in **Chapter 8** of this instruction will be followed. **(T-1).**

11.8.3.13.2. The MXG/CC will coordinate with the OG/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-1).**

11.8.3.13.3. These procedures will be documented in the wing tool/equipment management publication referenced in **paragraph 10.2** of this instruction. **(T-1).**

11.8.3.14. 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.

11.8.3.15. 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.

11.8.3.15.1. Units will account for -21 equipment and covers IAW AFI 21-103. **(T-1).**

11.8.3.15.2. Weapons Expediters must ensure all mission specific safing gear is controlled and accounted for to preclude loss and potential FOD. **(T-1).**

11.8.3.16. Vehicle operators will stop and perform a visual FOD inspection on all equipment and tires prior to entering the flightline areas. **(T-3). Note:** Wing CVs are the waiver authority for this requirement.

11.8.3.17. Grounding wires/points:

11.8.3.17.1. Two allen head screws, or equivalent, will be utilized to secure cable to grounding clip. **(T-1).**

11.8.3.17.1.1. Screw heads will be coated with sealant or screws will be staked in order to prevent screws from backing out. **(T-1).**

11.8.3.17.1.2. Unused screws will be removed. **(T-1).**

11.8.3.17.2. All grounding points will be kept clean of debris at all times and should be a high interest item for FOD walks. **(T-1).**

11.8.3.18. 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).**

11.8.3.19. 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)**.

11.8.3.20. Remove metal identification bands from all tubing (except aircraft installed egress system components) and cables on the aircraft.

11.8.3.20.1. 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.

11.8.3.20.2. Do not remove manufacturer installed metal identification bands from hydraulic hoses.

11.8.3.20.3. Mark hydraulic lines IAW TO 42E1-1-1, *Aviation Hose and Tube Manual.*

11.8.3.21. Use X-ray, borescope, and other equipment to locate FO in inaccessible areas.

11.8.4. FOD Prevention Responsibilities.

11.8.4.1. The WG/CV will be assigned as the FOD Prevention Program Manager and will appoint a qualified TSgt (or above) in a maintenance AFSC, civilian equivalent or contractor if designated by SOW or PWS, to the position of FOD Monitor. **(T-1).**

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-1).**

11.8.4.2. The WG/CV will:

11.8.4.2.1. Ensure all personnel actively support the FOD Prevention Program. **(T-1).**

11.8.4.2.2. Provide local guidance to ensure each FOD mishap is investigated and action taken to solve any underlying problems. **(T-1).**

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-1).**

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-1).**

11.8.4.2.5. Ensure FOD prevention is part of QA inspections. **(T-1).**

11.8.4.2.6. Coordinate with the airfield manager to identify and properly mark FOD check points. **(T-1).**

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-1)**.

11.8.4.3.1. Tenant units should establish their own FOD Prevention Program, but will still participate in the host program and comply with host program requirements. **(T-1)**.

11.8.5. FOD Monitor. The Wing FOD Monitor's office should be located within QA or at the discretion of the WG/CV. **(T-3).** The Wing FOD Monitor, at a minimum, will:

11.8.5.1. Inform all wing agencies of FOD hazards. **(T-1).**

11.8.5.2. Develop wing procedures to document and perform spot checks of selected areas weekly. **(T-1).**

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-1).**

11.8.5.4. Monitor and recommend changes to FOD prevention training. **(T-1).**

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-1).**

11.8.5.4.2. Units will ensure an initial FOD awareness and responsibilities briefing is given to all newly assigned personnel. **(T-1).**

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-1).**

11.8.5.6. **(Added-AETC)** The FOD monitor will receive training from wing safety on mishap reporting procedures and requirements. **(T-2).**

11.8.5.7. **(Added-AETC)** The FOD monitor will assist wing safety in mishap investigations. **(T-2).**

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-1).**

11.8.6.1.1. Upon notification, the MOC will immediately notify the Wing FOD Monitor. **(T-1).**

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-1).**

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 AFI 91-204 and TO 00-35D-54. **(T-1).**

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-1).**

11.8.6.2.3. Mark container or package in red with the following statement, "FOD mishap investigation required." **(T-1)**.

11.8.6.3. FOD incidents are classified as preventable and non-preventable. Only preventable FOD over $50K (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 AFI 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 AFI 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 incidences that result in a blade blending requirement IAW applicable tech-data.

11.8.6.5. Preventable FOD over $50K incurred at ETS or on trim pad will be chargeable. **(T-1).**

11.8.6.6. Appropriate MAJCOM offices will assist in resolving any questionable FOD issues, (i.e., preventable or non-preventable).

11.8.6.6. **(AETC)** The HQ AETC/A4M 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-1).**

11.8.6.7. **(AETC)** Report FOD incidents to HQ AETC/A4MSP via SharePoint at the following link: **https://eis.aetc.af.mil/hq/A47/A4M/FOD/default.aspx**.

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** of this instruction.

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 AFI.

11.8.6.7.2. **(AETC)** Ensure coordination between the appropriate group commander and wing safety on mishap reports affecting aircraft or maintenance. **(T-2).**

11.8.6.7.2.1. **(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.

11.8.6.7.2.2. **(Added-AETC)** If maintenance does not concur with wing safety recommendations, the MXG/CC (equivalent MA) will submit justification for nonconcurrence to HQ AETC/A4M 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).**

11.8.6.8. FOD rates are computed by MDS as follows: Number of Preventable FODs (damage exceeding $50K) ÷ Aircraft Flying Hours X 10,000 = FOD Rate. **Note:** ALCs compute FOD rates as follows: Number of Preventable FODs (damage exceeding $50K) ÷ 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-1).**

11.8.7.1. The WG/CV will chair the meeting, if required, and will determine minimum required attendees. **(T-1).** The purpose of this meeting is to identify negative trends and develop and execute action plans to resolve them.

11.8.7.1.1. The MXG/CC (or equivalent) will chair the meeting in the absence of the WG/CV. **(T-2).**

11.8.7.1.1. **(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/CV.

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 airframe, 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 (e.g. 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, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment*, for bird strike clean-up procedures and AFMAN 91-223 for bird strike reporting procedures.

11.9. Dropped Object Prevention (DOP) Program. A dropped object is any aircraft part, component, surface, LO coating exceeding 8 inches in any dimension 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 AFI 91-204. **Note:** Missing Chaff/Flare/Decoy end-caps are not reportable dropped objects.

11.9.1. Responsibilities. All units, which fly, service, or maintain aircraft, need to develop a DOP Program with the following provisions:

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/CV serves as the Wing DOP Program Manager and will appoint a Wing DOP Monitor. **(T-1).**

11.9.2. Investigation. The DOP Monitor will investigate each dropped object incident. **(T-1).**

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. **(T-1).**

11.9.2.2. Investigation results will be distributed to each appropriate work center for inclusion in personnel training and education programs. **(T-1).**

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-1).**

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-1).**

11.9.3.2. **(Added-AETC)** Report dropped objects to HQ AETC/A4MAT via SharePoint at the following link: **https://eis.aetc.af.mil/hq/A47/A4M/DOP/default.aspx**.

11.9.3.2.1. **(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 (L/ESS) data is collected via flight data recorders of instrumented aircraft to evaluate the loads spectrum. The Individual Aircraft Tracking (IAT) 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 L/ESS and IAT aircraft usage data programs are established by applicable MDS-specific TOs and AFI 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). HQ AETC/A4MA is the command OPR for Lead Command aircraft and HQ AETC/A4MS is the OPR for ASIP data collection systems.

11.10.1. Publish ASIP roles and responsibilities for each assigned weapon system IAW AFI 63-140.

11.10.2. Ensure operational units continuously meet authorized reporting requirements established by SPOs.

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 SPO 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.

11.10.5. **(Added-314AW)** The ASIP Project Officer (PO) will:

11.10.5.1. **(Added-314AW)** Act as the main correspondence for ASIP issues and information received from WR-ALC, Robins AFB, GA and ensure timely input of ASIP data into Automated Inspection, Repair, Corrosion, & Aircraft Tracking (AIRCAT) and/or Inspection, Crack/Corrosion and Repair Reporting (ICARR).

11.10.5.2. **(Added-314AW)** Maintain an ASIP continuity book. Establish ASIP training requirements and methods of training documentation.

11.10.5.3. **(Added-314AW)** Monitor monthly Structural Health Monitoring (SHM) flight data capture rates to include missing files. Reconcile flight information in AIRCAT and initiate corrective actions when the capture rate drops below the required minimum.

11.10.5.4. **(Added-314AW)** Monitor the ASIP to ensure compliance with AFI 63-140, AFI 21-101, AFI 21-101 AETC Sup I, all applicable aircraft specific technical orders, and this instruction.

11.10.6. **(Added-314AW)** The Maintenance Operations Officer (MOO) will:

11.10.6.1. **(Added-314AW)** Appoint a Primary and Alternate ASIP monitor for their respective Mission Design Series (MDS).

11.10.6.2. **(Added-314AW)** Ensure that all ASIP monitors have AIRCAT/ICARR access commensurate with their responsibilities.

11.10.7. **(Added-314AW)** ASIP monitors will:

11.10.7.1. **(Added-314AW)** Submit SHM flight data to AIRCAT no later than the end of the next duty day.

11.10.7.2. **(Added-314AW)** Track missing SHM information and correct or reconcile as necessary IAW Technical Order (TO) 1C-130-101, *Aircraft Usage Report Instructions*, chapter 4.

11.10.7.3. **(Added-314AW)** Backup SHM data monthly as a minimum.

11.10.7.4. **(Added-314AW)** Current ASIP monitors within the affected sections will provide initial MDS-specific training to new ASIP monitors.

11.10.8. **(Added-314AW)** Deployed/Off-Station requirements:

11.10.8.1. **(Added-314AW)** The off-station/deployment Maintenance Superintendent will ensure C-130J flight data is stored using deployed laptops or computers provided by the host location. Upon return to home station, the flight data will be loaded into AIRCAT; unless previously uploaded at the off- station/deployment location. If off-station/deployment location cannot support flight data upload, every effort should be made to contact home-station in order to update AIRCAT IAW T.O 1C-130J-6, Chapter 2D.

11.11. Identification Friend or Foe (IFF) Program.

11.11.1. MAJCOMs will establish an IFF Program for aircraft in their command (if equipped).

11.11.1.1. MAJCOM programs will identify additional requirements necessary to ensure status of IFF systems meets mission requirements.

11.11.2. The MXG/CC will appoint an IFF Program Manager for IFF systems cryptographically keyed by MXG personnel (if equipped). **(T-1).**

11.11.2.1. Equipped aircraft will be checked prior to its first sortie of the day during contingency operations. **(T-1).**

11.12. Radar Warning Receiver (RWR)/Radar Threat Warning (RTHW) 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).

11.12.1.1. MAJCOMs will determine non-contingency system functional check requirements necessary to ensure RWR/RTHW systems are maintained operationally ready to meet mission requirements IAW the MDS MESL or equivalent.

11.12.1.1. **(AETC)** Perform periodic radar warning receiver/radar threat warning checks for noncontingency missions as outlined in applicable dash-6 TOs.

11.12.2. The MXG/CC will appoint a RWR/RTHW Manager (if equipped). **(T-1).**

11.12.2.1. The RWR/RTHW Manager will coordinate test procedures with the Wing Electronic Warfare Officer (EWO) and the MXS, if applicable. **(T-2).**

11.12.2.2. The RWR/RTHW Manager will ensure each unit accomplishes the required minimum number of checks as defined below. **(T-1).**

11.12.2.2.1. For contingency missions, the RWR/RTHW Manager will coordinate with the EWO/Electronic Combat Officer (ECO) 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 RWR/RTHW system prior to flight, the 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 1.1** of this instruction and AFTTP 3.3. for additional guidance.

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, C-E equipment, AGE, TMDE, serviceable uninstalled pods, and guns.

11.13.2. **(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.

11.13.2.1. **(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 approved by the MXG/CC or equivalent and tracked in the MIS and SCR (see **Table 11.1** of this instruction). **(T-1).**

11.13.3. **(AETC)** The propulsion function supervisor, in coordination with the EM, will authorize engine-to-engine CANNs. **(T-2).** 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-1).** These personnel are typically Pro Supers.

11.13.3.2. Those who are authorized to approve CANNs will not further delegate their responsibility. **(T-1).**

11.13.3.3. **(Added-AETC)** Only the DOM, or equivalent, can authorize CANN actions for COMBS-provided parts. **(T-2).**

11.13.4. If an assembly is cannibalized to satisfy a condition caused by lack of bits and pieces (e.g., 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 (e.g., 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-1).**

11.13.5.1. The CA will notify the appropriate supply activity to change the "mark-for" components in the document number. **(T-1).**

11.13.5.2. The CA will also ensure complete documentation is accomplished for each CANN action. **(T-1).**

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-1).**

11.13.6. **(AETC)** When CANN of CAD or PAD items is approved, the cannibalization authority (CA) will follow procedures for serially controlled components. **(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-1).**

11.13.7. Installed engines are not end items; installed engines are considered a LRU (e.g. similar to a radar component, gun, seat, canopy, radio, multifunction display unit, etc.).

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 Cartridge/Propellant Activated Device (CAD/PAD) cannibalization actions are considered "High-Risk" and should not be performed unless priority aircraft are involved (i.e. higher headquarters/alert status), or lack of ready equipment will impede mission accomplishment.

11.13.8.2. To ensure system integrity and validation of the explosive CAD/PAD listing, cannibalization of egress explosive components and/or seats will not be accomplished without the approval of the MXG/CC or MXG/CD. **(T-3).**

11.13.8.3. After cannibalization actions, Red X discrepancies in the aircraft AFTO Form 781As will not be cleared until the MIS is verified. **(T-1).**

11.13.8.3.1. **(2A6X3)** Egress personnel will accomplish this action. **(T-1).**

11.13.8.4. CANN actions involving parts from Aircraft Battle Damage Repair (ABDR) aircraft, AF Museum Aircraft, Maintenance Training Devices (MTDs), GITA, TAA, or DLADS will not be accomplished without authorization from the SPO. **(T-1).**

11.13.8.4.1. Parts will not be removed from static display/AF Museum Aircraft except as authorized by AFI 84-103. **(T-1).**

11.13.8.4.2. If the part is approved for CANN, it must not be put into service until all necessary inspections (e.g., NDI, pressure checks, operational checks, TCTOs) have been accomplished using specific guidance from the IM to ensure proper serviceability. **(T-1).**

11.13.8.5. Units will not CANN parts from aircraft possessed by AFMC (B or D possession codes) without first obtaining approval from the applicable PM. **(T-1).**

11.13.8.6. 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 approval. **(T-2)**.

11.13.8.7. **(Added-314AW)** The following actions will be taken when CANN action is

deemed necessary:

11.13.8.7.1. **(Added-314AW)** The CANN Authority (CA) will:

11.13.8.7.1.1. **(Added-314AW)** Assess assigned aircraft for source of the part. If a candidate aircraft is not available within the 314 AMXS, all CANN actions will be coordinated with appropriate owning agency for any outside resources.

11.13.8.7.1.1.1. **(Added-314AW)** Coordinate with the 19 MXS Pro Super (MIKE 1) and the owning AMXS Pro Super if there is a possible candidate aircraft undergoing an isochronal inspection or refurbishment before any CANN actions occur.

11.13.8.7.1.1.2. **(Added-314AW)** Coordinate with 19 AMXS Production for a possible CANN candidate for 19 AMXS possessed aircraft if necessary.

11.13.8.7.1.2. **(Added-314AW)** Request a CANN number from MOC and then proceed with CANN action if a viable candidate exists.

11.13.8.8. **(Added-314AW)** It is the responsibility of the agency that initiated the CANN to reinstall all removed parts to include returning the aircraft to the proper configuration and performing all leak and operational checks unless otherwise agreed upon.

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)** Report aircraft in Hangar Queen according to AETCI 21-105. **(T-2).**

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)** QA will perform a review of aircraft forms/MIS prior to first flight out of Hangar Queen. **(T-2).**

11.14.1.3. **(Added-AETC)** As a minimum, include an operational check flight (OCF) in the first flight following a category 3 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 ten days immediately following DFT/CFT repair or maintenance; however, if an aircraft is not flown after the tenth day, the ten 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-1).**

11.14.2.2. Category 2: Aircraft that have not flown for 60 to 89 calendar days. **(T-1).**

11.14.2.3. Category 3: Aircraft that have not flown for 90 or more calendar days. **(T-1).**

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 would 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). Permanently assigned GITA are those aircraft that are not maintained in airworthy condition. Active GITA are maintained in system/subsystem operational condition for purposes of maintenance training and normally carried in possession codes as outlined in AFI 21-103 or AFI 16-402. Inactive GITA are permanently grounded for use in personnel training. This section does not apply to ABDR training aircraft. ABDR training aircraft are managed by AFSC/LGPM (ABDR PO). This chapter does not apply to training equipment maintained by CLS contracts administered by commands other than AETC.

11.15. (AETC) Ground Instructional Trainer Aircraft (GITA). This section does not apply to aircraft that are primarily used for flying training. Aircraft entering into possession code TJ must be mission capable. **(T-2).** Possession code TJ will not be used to mask NMC time. **(T-2).** Maintenance will not be performed on aircraft in TJ. **(T-2).** Aircraft in possession code TJ are used for training purposes only. **(T-2).**

11.15.1. Temporarily Grounded GITA (active). Temporarily grounded aircraft are subject to recall to the active fleet.

11.15.1.1. 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).**

11.15.1.2. Units are responsible for storing uninstalled or removed equipment that is not required for training. **(T-1).**

11.15.2. Permanently Grounded GITA (inactive). Permanently grounded aircraft are those declared excess to future operations or flying requirements by higher headquarters. Aircraft in this category will be re-designated by the addition of the prefix "G" to the basic MDS. **(T-1).**

11.15.2.1. Training Aid Aircraft (TAA) are considered Permanently Grounded GITA (inactive). Aircraft in this category, at a minimum, require an aircraft fuselage that was previously in the AF inventory as an aircraft. TAAs will be re-designated by the addition of the prefix "T" to the basic MDS. **(T-1).**

11.15.2.1.1. Assigned aircraft 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).**

11.15.2.1.2. Aircraft used for training are not terminated from the AF inventory IAW AFI 16-402.

11.15.2.1.3. Questions about the designation of an aircraft used for training should be directed to the MAJCOM AVDO.

11.15.2.2. Permanently grounded missiles retain their original MDS without a prefix.

11.15.2.3. Upon assignment of a permanently grounded GITA/TAA, the MXG/CC or equivalent will contact the applicable MAJCOM to coordinate "save list" requirements identified by the applicable PM. **(T-2)**.

11.15.2.3. **(AETC)** In coordination with the trainer maintenance activity, the commander of the training squadron to which the GITA is assigned (82 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 dash-21 items necessary to provide adequate safety and protection for the equipment (i.e., covers, plugs, pins, lock devices).

11.15.2.3.1. “Save list” items removed will be turned into LRS for shipment. **(T-2).**

11.15.2.3.2. 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).**

11.15.2.3.3. 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).**

11.15.2.3.4. All unserviceable items furnished by ALC will be marked/identified as “unserviceable” in a conspicuous manner (e.g., 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. 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-1).**

11.15.4.2. Ensure maintenance support of GITA/TAA used for training. **(T-1).** Units that do not have organic maintenance capability will establish a Support Agreement (SA) or MOA assigning maintenance responsibility for GITA/TAA training use. **(T-1).**

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-1).**

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

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

11.15.4.2.6. 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.

11.15.4.2.7. 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.

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-1).**

11.15.4.2.7.2. Conduct periodic maintenance inspections using a tailored work deck. **(T-1)**.

11.15.4.2.8. 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-1).**

11.15.4.2.8. **(AETC)** Provide an informational copy of all memorandums to 2 AF/TTOC-T workflow and the applicable logistics support function.

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-1).**

11.15.4.2.9. Air and space vehicle inventory will be reported IAW AFI 21-103 as required for ground trainers. **(T-1).** Aircraft used for ground trainers are exempt from status and utilization reporting.

11.15.4.2.10. Maintenance actions will be documented IAW TO 00-20-1. **(T-1).**

11.15.4.2.10. **(AETC)** Use of the MIS is not required for “permanently grounded” GITAs.

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-1).**

11.15.4.2.11. Ensure timely completion of TCTOs on systems designated for configuration management and proper configuration status accounting is maintained.

11.15.4.2.11.1. 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. TCTOs are not maintained on TAA.

11.15.4.2.12. Ensure proper coordination and documentation of parts removed from training aircraft are accomplished as follows:

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-1).** Include the authority for removal (e.g., 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-1).**

11.15.4.2.12.3. W&B handbook requirements will be maintained IAW TO 1-1B- 50 and applicable -5 series TOs. **(T-1).**

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-1).**

11.15.4.2.12.5. MXG/CC will designate a GITA/TAA Manager as an additional duty. **(T-1).**

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-1).**

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-1).**

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.

11.15.5. 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-1).** 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-1)**. TCTO upgrades are not required on TAA.

11.16. Aircraft Inlet/Intake/Exhaust Certification.

11.16.1. MAJCOMs will determine MDS applicability, certification frequency requirements, and the requirement to implement an Aircraft Inlet/Intake/Exhaust Certification program IAW **Table 11.1** of this instruction.

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. Units will track these programs on the SCR when implemented. **(T-1).**

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-1)**.

11.17.1.1. The MXG/CC is responsible for ensuring the MT develops and manages an effective engine run certification program. **(T-1)**.

11.17.1.2. All maintenance personnel authorized to start and operate aircraft engines, APUs, and uninstalled engines will be trained and certified to operate engines at TO determined power settings. **(T-1)**.

11.17.1.3. Aircraft engine motoring will only be performed by qualified engine run personnel. **(T-1)**. **Exception:** Rotary wing maintenance personnel qualified through OJT may motor engines as long as the rotor brake will prevent the rotors from turning.

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-1).**

11.17.1.4.1. **(AETC)** Refer to AETCIs 21-103 and 21-112, 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-1).** 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-1).**

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 (GS) type TO and engine run checklist. **(T-1).**

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. Installed Engine Run Personnel. Prior to entering engine run training, personnel will meet the following requirements:

11.17.2.1. Personnel will be selected IAW criteria established in **Table 11.1** of this instruction. **(T-1).** MXG/CCs may designate contractors in writing to run aircraft engines.

11.17.2.2. Qualified to operate the aircraft APU as applicable. **(T-1).**

11.17.2.3. Qualified as a brake operator. **(T-1).**

11.17.2.4. Qualified in basic radio and interphone systems operation. **(T-1).**

11.17.3. Certifying Officials. Certifying official certification requirements are listed in **Table 11.1** of this instruction.

11.17.3.1. Instructor Pilots (IP) can also be used as certifying officials during the practical engine-run demonstration.

11.17.3.2. Certifying officials must maintain proficiency in the same manner as other technicians; certifying officials must re-certify each other. **(T-1).**

11.17.4. Instructors. Individuals selected as instructors will hold the rank of SSgt or above and possess a 7-skill level in one of the following AFSCs: 2A3X3/7/8, 2A5X1/2/4, 2A6X1 or civilian equivalent, a qualified contractor, or AFETS/CETS personnel. **(T-1).**

11.17.4.1. AFI 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-1).**

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-1).** 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 characteristics, 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 and qualified in aircraft marshaling signals IAW AFI 11-218. **(T-1)**.

11.17.5.1.2. A thorough review of TO procedures with emphasis on and notes, cautions, and warnings. **(T-1).**

11.17.5.1.3. Engine/APU operation, to include normal operational parameters and limitations. **(T-1).**

11.17.5.1.4. Ensuring aircraft, engine, and APU emergency procedures are memorized. **(T-1).**

11.17.5.1.5. UHF/VHF radio operation, Air Traffic Control (ATC) tower procedures, and emergency radio transmissions. **(T-1).**

11.17.5.1.6. A two-part closed book examination (students will successfully complete part I before taking part II). **(T-1).** 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 bold face emergency procedures or all emergency procedures identified in applicable technical data requiring a passing score of 100 percent. **(T-1).**

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-1).**

11.17.5.1.7. Personnel failing the written/computer-based examination will receive additional instruction before being re-tested. **(T-1).**

11.17.5.1.8. Students will not be given the same Part II test during re-testing efforts. **(T-1).**

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-1).**

11.17.5.2. Phase 2. **(T-1).** Phase 2 is simulator training. All maintenance personnel requiring engine run certification will receive simulator training on each specific aircraft MDS and APU. **(T-1).**

11.17.5.2.1. Training will be accomplished in an Aircrew Training Device (ATD), Cockpit Trainer (CPT), simulator, Maintenance Training Devise (MTD) or approved Technology Development (TD) trainer. **(T-1). Note:** If any of the above are not

available, a similar MD 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-1).**

11.17.5.2.2.2. UHF/VHF radio operation, ATC tower procedures, and emergency radio transmissions. **(T-1).**

11.17.5.2.2.3. Normal APU, engine start, run, and shutdown procedures. **(T-1).**

11.17.5.2.2.4. Augmentor or thrust reverser operation (as applicable). **(T-1).**

11.17.5.2.2.5. Applicable aircraft systems/subsystems normal operating parameters. **(T-1).**

11.17.5.2.2.6. Ensure TO emergency bold face items are memorized. **(T-1).**

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-1).**

11.17.5.3. Phase 3. **(T-1).** 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-1).** For fighter-type aircraft, it is preferable to conduct the evaluation in a 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-1).**

11.17.5.3.2. UHF/VHF radio operation, ATC tower procedures, and emergency radio transmissions. **(T-1).**

11.17.5.3.3. Normal APU, engine start, run, and shutdown procedures, including notes, cautions, and warnings. **(T-1).**

11.17.5.3.4. Augmentor or thrust reverser operation as applicable, including notes, cautions, and warnings. **(T-1).**

11.17.5.3.5. Applicable aircraft systems/subsystems normal operating parameters, including notes, cautions, and warnings. **(T-1).**

11.17.5.3.6. Ensure TO emergency bold face items are memorized. **(T-1).** Instructors will evaluate the student on response time and ability to handle emergency situations. **(T-1).**

11.17.5.3.7. Egress procedures. **(T-1).** MAJCOM/Lead Command, TO, and checklist procedures for the applicable MDS will be demonstrated without error. **(T-1).**

11.17.5.3.7. **(AETC)** Simulator or cockpit trainers are not required for initial engine run qualification on UH/TH-1 and HH-60 helicopters.

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, oil or component leaks. (**Note:** The base fire chief will determine the need for a vehicle based on AFI 32-2001, *Fire Emergency Services (FES) Program.*)

11.17.5.5. **(Added-AETC)** Maintenance personnel (Federal Aviation Administration (FAA)-certified mechanics only) are permitted to taxi aircraft assigned to 306 FTG at the 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 knowledge of normal and emergency procedures to a certifying official by operating one of the following: ATD, CPT, authorized TD trainer (if assigned or available), or aircraft as appropriate. **(T-1).**

11.17.6.1. Personnel failing the written examination will receive additional instruction before being re-tested. **(T-1).**

11.17.6.2. Students will not be given the same Part II test during re-testing efforts. **(T-1).**

11.17.6.3. After a second failure of the two-part closed book examination, the individual will be decertified. **(T-1).**

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-1).**

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-1)**. **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-1).**

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-1).**

11.17.8. Proficiency. MAJCOMs will determine proficiency requirements for maintenance personnel authorized to operate installed engines.

11.17.8. **(AETC)** The engine run proficiency requirement is 90 days. **(T-2).**

11.17.8.1. Units will track run proficiency requirements in the MIS. **(T-1).**

11.17.8.2. Supervisors will ensure individuals who fail to maintain proficiency are decertified. **(T-1).**

11.17.8.2.1. Decertified individuals will recertify IAW **paragraph 11.17.6** of this instruction. **(T-1).**

11.17.9. Engine run certification tests are controlled items and will be handled IAW AFI 36-2605, *Air Force Military Personnel Testing System*, and administered only by MT personnel. **(T-1).**

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-1).**

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 AFI.

11.17.10.2.1. Part I - Students will be given a written/computer based examination on all bold face emergency procedures or all emergency procedures identified in applicable technical data requiring a passing score of 100 percent. **(T-1).**

11.17.10.2.2. Students will successfully complete Part I before taking Part II. **(T-1).**

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-1).**

11.17.10.3. Personnel failing the examination will receive additional instruction before being re-tested. **(T-1).**

11.17.10.4. Students will not be given the same Part II test during re-testing efforts. **(T-1).**

11.17.10.5. After a second failure of the two-part closed book examination, the individual will be decertified. **(T-1).**

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-1).**

11.17.10.5.2. Individuals must attend all three phases of initial training prior to being recertified. **(T-1).**

11.17.10.6. Personnel must then accomplish an on-equipment practical evaluation for certification completion. **(T-1).**

11.17.10.7. Personnel will be recertified annually using the initial certification procedures. **(T-1).**

11.17.10.7.1. 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-1).**

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 auxiliary power unit (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-1).**

11.17.12.2. Supervisors will ensure individuals who fail to maintain proficiency are decertified. **(T-1).**

11.17.13. Certification tests are controlled items and will be handled IAW AFI 36-2605 and administered only by MT personnel. **(T-1).**

11.17.14. Uninstalled Engine Operation on Test Stands and Cells (includes Jet Fuel Starter (JFS)/APU uninstalled operations). All personnel identified for uninstalled engine run qualification will complete an uninstalled engine run training program prior to certification. **(T-1).** 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** of this instruction.

(T-1).

11.17.14.2. Certifying Officials. The MXG/CC will designate qualified TSgts or higher 2A671 AFSC (or civilian equivalent) or fully qualified/certified contractors or AFETS/CETS personnel, to serve as certifying officials IAW criteria established in **Table 11.1** of this instruction. **(T-1).**

11.17.14.3. Instructors. Individuals selected as instructors will be 7-skill level SSgts or above with a 2A6X1 AFSC (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-1).**

11.17.14.4. Training. Uninstalled engine run training will consist of the following three phases:

11.17.14.4.1. Phase 1. **(T-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-1).**

11.17.14.4.1.2. Thorough familiarization of control cabs, NSSs, ETSs, and T-9 fire suppression control panels (if applicable). **(T-1).**

11.17.14.4.1.3. Thorough review of TO procedures with emphasis on notes, cautions, and warnings. **(T-1).**

11.17.14.4.1.4. Uninstalled engine operation to include normal operating parameters and limitations. **(T-1).**

11.17.14.4.1.5. Ensuring uninstalled engine emergency procedures are memorized. **(T-1).**

11.17.14.4.1.6. Local communication procedures. **(T-1).**

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 bold face emergency procedures or all emergency procedures identified in applicable technical data requiring a passing score of 100 percent. **(T-1).**

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-1).**

11.17.14.4.1.8. Personnel failing the examination will receive additional instruction before being re-tested. **(T-1).**

11.17.14.4.1.9. Students will not be given the same Part II test during re-testing efforts. **(T-1).**

11.17.14.4.1.10. After a second failure of the two part closed book examination, the individual will be decertified. **(T-1).**

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. **(T-1).**

11.17.14.4.1.10.1.1. Individuals must attend all three phases of initial training prior to being recertified. **(T-1).**

11.17.14.4.2. Phase 2. **(T-1).** 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-1).**

11.17.14.4.2.2. Proper uninstalled engine bold face emergency procedures, including notes, cautions, and warnings (engine not operating). **(T-1).**

11.17.14.4.2.3. Knowledge of normal uninstalled engine operating limits, including notes, cautions, and warnings. **(T-1).**

11.17.14.4.2.4. Augmentor or thrust reverser operation (as applicable), including notes, cautions, warnings and emergency procedures. **(T-1).**

11.17.14.4.3. Phase 3. **(T-1).** 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-1).** 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-1).**

11.17.14.4.3.2. Emergency communication procedures. **(T-1).**

11.17.14.4.3.3. Normal uninstalled engine start, run, and shutdown procedures, including notes, cautions, and warnings. **(T-1).**

11.17.14.4.3.4. Augmentor or thrust reverser operation (as applicable), including notes, cautions, and warnings. **(T-1).**

11.17.14.4.3.5. Proper emergency procedure corrective actions during all bold face uninstalled engine emergency conditions. **(T-1).**

11.17.14.5. Recertification. Recertification for certifying officials and uninstalled engine run qualified personnel will be accomplished annually. **(T-1).**

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-1).**

11.17.14.5.1.2. Passing a control cab evaluation demonstrating knowledge of normal and emergency procedures to a certifying official. **(T-1).**

11.17.14.5.1.3. Completing a practical engine run demonstration. **(T-1).**

11.17.14.5.2. Personnel failing the written examination will receive additional

instruction before being re-tested. **(T-1).**

11.17.14.5.3. Students will not be given the same Part II test during re-testing efforts. **(T-1).**

11.17.14.5.4. After a second failure of the two part closed book examination, the individual will be decertified. **(T-1).**

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-1).**

11.17.14.5.4.2. Individuals must attend all three phases of initial training prior to being recertified. **(T-1).**

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-1).**

11.17.14.6.1.1. Decertified individuals will recertify IAW **paragraph 11.17.14.5** of this instruction**. (T-1).**

11.17.15. Fire Control Panel Operation in NSS. This section applies to all NSS designed for enclosed aircraft and uninstalled engine operation (e.g., 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-1).** The following certification requirements will apply:

11.17.15.1. Meet criteria established in **Table 11.1** of this instruction. **(T-1).**

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-1).**

11.17.15.2.2. Emergency procedures, including local notification procedures. **(T-1).**

11.17.15.3. NSS supervisor, contractor, AFETS/CETS personnel or individual designated by the NSS supervisor will serve as certifying official(s). **(T-1).**

11.17.15.4. Annual recertification of NSS Fire Suppression System certified personnel will be accomplished utilizing the same criteria as initial certification. **(T-1).**

11.17.15.5. **(Added-AETC)** When operating a hush house without a fully operational fire suppression system, the following procedures will apply:

11.17.15.5.1. **(Added-AETC)** T-10 Hush House Fire Suppression System. The T-10 hush house is still considered operational with one bottle depleted or inoperable. If more than one bottle is depleted or inoperable, or the system is not functioning properly, hush house engine run operations will cease. Notify HQ AETC/A4MSP, DSN 487-9061, who will process a waiver request to the Warner Robins Air Logistics Center (WR-ALC).

11.17.15.5.2. **(Added-AETC)** Other Hush House and Test Stand Fire Suppression Systems. The fire suppression system must be fully operational. If a bottle is depleted or inoperable, or the system is not functioning properly, engine run operations will cease. Notify HQ AETC/A4MSP, DSN 487-9061 who will process a waiver request to WR-ALC.

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-1).** The number of individuals authorized to inspect and repair blades should be sufficient to meet mission requirements and production needs. Personnel will be certified IAW criteria established in **Table 11.1** of this instruction. **(T-1).** 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. As 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-1).**

11.18.2.2. Prior to placement on the SCR, the formal blade blending training (MT or TD course) and initial engine blade blending certification will be mandatory. **(T-1).**

11.18.3. MXG/CCs will appoint maintenance, TD, or AFETS/CETS personnel as instructors and ensure the following certification and proficiency requirements are tracked in the MIS by course code:

11.18.3.1. Formal training, engine blade blending course. **(T-1).**

11.18.3.2. Annual engine blade blending recertification. **(T-1).**

11.18.3.3. 180-day engine blade blending proficiency. **(T-1).**

11.18.4. Certification Criteria. Certifying officials will be selected IAW criteria established in **Table 11.1** of this instruction. **(T-1).**

11.18.5. **(Added-AETC)** F-16 and F-35 units will ensure technicians maintain proficiency and are recertified annually. **(T-2).**

11.18.6. **(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-1)**. Certification procedures described here are only for engine borescope certification.

11.19.1.1. Training will be annotated in training records. **(T-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 (e.g., behind ejection seats, wing boxes, etc.) 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. 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 a 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, *Special Duty Assignment Pay Program*. **(T-1).**

11.20.2. The FCC program only applies to personnel assigned to positions on the Unit Manning Document with a “C” prefix for the DAFSC.

11.20.3. The following situations would 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 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-1).**

11.20.4.2. The mission must be one where FCCs are required to fly by higher authority written policies (e.g., special airlift missions, alert missions, special operations) or by TO to perform in-flight maintenance (e.g., helicopter). **(T-1).**

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 a 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 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. XPM will:

11.20.5.5.1. Coordinate and obtain approval/disapproval from MAJCOM for Installation Manpower and Quality 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 effect 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, AFI 36-2101, *Classifying Military Personnel*, and this instruction. **(T-1).**

11.20.5.6.2. Ensure FCCs fly only when required for the mission. **(T-1).**

11.20.5.6.3. Appoint and remove personnel from the FCC Program IAW AFI 36-2101. **(T-1)**.

11.20.5.6.3.1. Assign FCCs for a minimum of one year, unless removed fore cause. **(T-1).**

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-1).** 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 a Unit FCC Program Manager. **(T-1).**

11.20.5.7. Unit FCC Program Managers will:

11.20.5.7.1. Track status and prepare unit reports. **(T-1).**

11.20.5.7.2. Ensure personnel possess the appropriate SEI for their MDS aircraft. **(T-1).**

11.20.5.7.3. Provide a letter to their Installation Manpower and Quality 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-1).**

11.20.5.7.3.1. The letter will contain the unit designation, function account code, AFSC, position number, and a POC. **(T-1).**

11.20.5.7.4. Ensure FCCs and assistant FCCs are aligned in a duty position with a "C" prefix by initiating an AF Form 2096, *Classification/On-the-Job Training Action*, or special order. **(T-1).**

11.20.5.7.5. Counsel FCCs and assistant FCCs on SDAP termination (AFI 36-3017, Table 3 lists reasons for termination). **(T-1).**

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 shall receive SDAP. **(T-1).**

11.20.5.7.6. Review, update, and authenticate the monthly SDAP roster. **(T-1).** 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 AF Form 2096 or special order must be submitted to the Military Personnel Section (MPS). **(T-1)**.

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-1).**

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 (MEP) status. **(T-1). 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-1).**

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-1).** 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-1).**

11.20.5.7.12. Maintain a Unit FCC Program Manager's Continuity Book. **(T-1).** 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-1).**

11.20.5.7.12.2. Unit FCC Program Manager appointment letter, AF Form 2096 or special orders. **(T-1).**

11.20.5.7.12.3. Manpower correspondence assigning "C" prefix AFSC. **(T-1).**

11.20.5.7.12.4. Quarterly and annual FCC status reports, SDAP position requests and miscellaneous FCC and SDAP correspondence. **(T-1).**

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-1).**

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-1).**

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-1).**

11.20.5.8. Installation Manpower and Quality Office will:

11.20.5.8.1. Forward ACN to MAJCOM to add, delete, or change "C" prefixes on AFSCs existing on the UMD. **(T-1).**

11.20.5.9. En route supervisors will:

11.20.5.9.1. Not assign FCCs to work other en route aircraft. **(T-2).** However, FCCs left at an en route location and awaiting transportation may be assigned to work other en route aircraft (N/A to ANG).

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 FCC and aircraft commander on a work/rest plan and transportation to/from quarters. **(T-2).**

11.20.5.10. Aircraft commanders (ACs) will:

11.20.5.10.1. Establish with the FCC and en route supervisor a work/rest plan based on maintenance and mission requirements. **(T-2).**

11.20.5.10.1.1. The AC will be the primary decision authority to determine when the FCC begins a rest cycle for the next mission. **(T-2)**.

11.20.5.10.2. Upon arrival at en route locations, determine the FCC's ability to safely and effectively perform their duties. **(T-2).**

11.20.5.10.2.1. In making this determination, consider the duration of the flight, the ability of the FCC's to rest during the flight, and the quality of the rest the FCC's experienced during the flight. The FCC's primary job is preparing the aircraft (e.g., inspect, service, aircraft forms maintenance) for the next mission. FCCs do not automatically enter crew rest with the aircrew upon arrival at an en route/transient location unless the duty day was exceeded.

11.20.5.10.3. If the FCC's safety is jeopardized by fatigue, the FCC's duty day must end. **(T-2).**

11.20.5.10.4. Ensure crew integrity for quarters is maintained and inform the FCC of billeting location. **(T-2).**

11.20.5.10.4.1. Any official business required by the FCC interrupts the FCCs rest period. This includes official business conducted by phone. Any interruptions must be made only under the most exceptional circumstances.

11.20.5.10.5. Provide feedback on the FCC's performance using **Attachment 2** of this instruction and return it to the Unit FCC Program Manager upon return to home station. **(T-1).**

11.20.6. FCC qualifications and responsibilities.

11.20.6.1. Primary FCC qualifications and responsibilities.

11.20.6.1.1. Primary FCCs should be a SSgt or TSgt 5- or 7-skill level.

11.20.6.1.2. As a minimum, the Primary FCC must be qualified and certified on the following MDS applicable items:

11.20.6.1.2.1. Possess a SEI of the aircraft assigned to the FCC. **(T-2).**

11.20.6.1.2.2. Refuel/defuel member and supervisor; concurrent servicing supervisor (as applicable). **(T-2).**

11.20.6.1.2.3. Tow member, tow supervisor, and tow brake operator. **(T-2).**

11.20.6.1.2.4. LOX/GOX servicing, nitrogen and tire servicing. **(T-2).**

11.20.6.1.2.5. Tire and brake change; launch; recovery; marshalling; pre-flight, thru-flight and post-flight inspection. **(T-2).**

11.20.6.1.2.6. APU operation/quick air start system. **(T-2).**

11.20.6.1.2.7. Engine run. **(T-2).**

11.20.6.1.2.8. Kneeling operation and cargo door/ramp/visor operation on applicable MDS. **(T-2).**

11.20.6.1.2.9. All applicable powered/non-powered AGE. **(T-2).**

11.20.6.1.2.10. Qualified to operate, troubleshoot, service, and perform maintenance on their aircraft's critical systems as required by the MAJCOM. **(T-2).**

11.20.6.2. Assistant FCC qualifications and responsibilities.

11.20.6.2.1. 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).**

11.20.6.2.2. As a minimum, the Assistant FCC will be qualified and certified on the following MDS applicable items:

11.20.6.2.2.1. Refuel/defuel member. **(T-2).**

11.20.6.2.2.2. Tow member and tow brake operator. **(T-2).**

11.20.6.2.2.3. LOX/GOX servicing, nitrogen and tire servicing. **(T-2).**

11.20.6.2.2.4. Tire and brake change; launch; recovery; marshalling; pre-flight, thru-flight and post-flight inspection. **(T-2).**

11.20.6.2.2.5. APU operation/quick air start system. **(T-2).**

11.20.6.2.2.6. Cargo door/ramp/visor operation on applicable MDS. **(T-2).**

11.20.6.2.2.7. All applicable powered/non-powered AGE. **(T-2).**

11.20.7. Work/rest plan (see **Chapter 1** of this instruction).

11.20.7.1. The FCC flies in MEP 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. The AC makes the final determination of the FCC's duty day based on criteria established in **paragraph 11.20.5.10.2.1** of this instruction.

11.20.7.2. FCC's must be afforded adequate rest during each 24 hour period. **(T-2)**.

11.20.7.2.1. Rest is defined as the condition which allows an individual the opportunity for a minimum of 8 hours of uninterrupted sleep in a 24-hour period. Any interruption should be made only under the most exceptional circumstances.

11.20.7.3. Maximum shifts under normal conditions are 12 hours, but may be extended for mission requirements.

11.20.7.3.1. The AC is the decision authority for extended shifts; extensions should only be approved during or for exceptional situations or circumstances.

11.20.7.3.2. FCC's will not be required to work longer than 16 hours in any 24-hour period and must be given 8 hours of uninterrupted rest following extended work shifts. **(T-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.

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 and operations for sustainment of flash blindness protective devises (e.g. cleaning, repairing, installing, inspecting, storing, packaging, and sealing) 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.

11.22. WRM External Nestable Fuel Tank Build-Up (NFTBU). MAJCOMs will ensure units sustain the capability to support assigned wartime taskings. External NFTBU 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** of this instruction). 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 particular Mission Capability (MISCAP) statement and DOC statement IAW AFI 10-401, *Air Force Operations Planning and Execution*, 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 NFTBU 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 NFTBU 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 NFTBU team augmentees. **Note:** The applicable independent NFTBU UTC Manpower Force Packaging System (MANFOR) 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 ensure units 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 (e.g. grounding/ventilation, mods, etc.).

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 (CSO). 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 on 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. MAJCOMs will define 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. 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 00-25-172CL-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 Turn-Around Procedures, Aircraft Fuel Servicing Unit Type GRU 17/E Pantograph PACAF Type IV Hydrant Servicing*, and AFI 91-203. **Exception:** N/A to AFSOC maintenance units; AFSOC hot refueling procedures are performed by operations and fuels personnel only.

11.25.1. Maintenance 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-1)**.

11.25.1.1. Site Certification. MAJCOMs will develop hot pit refueling site certification requirements.

11.25.1.2. As a minimum, MAJCOM requirements will identify a base site certification team consisting of the following:

11.25.1.2.1. Field grade maintenance officer as the site certifying official.

11.25.1.2.2. Representative from OSS's Airfield Operations Flight, knowledgeable of aircraft taxiways, parking ramp, and hot refuel safe distance requirements.

11.25.1.2.3. Maintenance member with AFSC 2AXXX from MXG/QA.

11.25.1.2.4. Wing Ground Safety member, minimum SSgt with AFSC 1S071 or civilian equivalent, task qualified in site certification and knowledgeable of hot refueling operations.

11.25.1.2.5. AFSC 2F071 Fuels Management Flight Member or civilian equivalent.

11.25.1.2.6. Civil engineering member with AFSC 3E271 or civilian equivalent familiar with aircraft ramp requirements for hot refueling.

11.25.1.2.7. Fire protection member with a minimum AFSC 3E771 or civilian equivalent familiar with fire protection standby requirements in TO 00-25-172 for hot refueling.

11.25.1.3. The following questions will be addressed as part of the site certification:

11.25.1.3.1. Has the aircraft been approved by System Safety Engineering Analysis (SSEA) for hot pit refueling?

11.25.1.3.2. Is adequate area provided to position the aircraft safely (evaluate ability to reposition due to wind direction)?

11.25.1.3.3. Is the ramp level to prevent drainage that could cause environmental impact? Request the fire department dump water to verify flow, if questionable.

11.25.1.3.4. Is the location adequate for the number of aircraft to be serviced?

11.25.1.3.5. Has a hot brake holding area been established?

11.25.1.3.6. Is there proper clearance between the hot pit area and hot brake holding area to prevent conflict?

11.25.1.3.7. 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?

11.25.1.3.8. Is the hot pit adequately clear of the aircraft/vehicle traffic area?

11.25.1.3.9. Is the hot pit and cursory check area of the ramp clear of FOD potential?

11.25.1.3.10. Does the location provide for rapid access of emergency equipment and egress of aircraft/equipment?

11.25.1.3.11. Are adequate grounding points available?

11.25.1.4. QA will maintain site certification documentation and a master listing of hot pit sites administered by the MXG.

11.25.1.4. **(AETC)** [*Kirtland AFB*] The 58/OG maintains site certification documentation.

11.25.1.4.1. QA will forward a new consolidated hot pit site certification listing to respective MAJCOMs any time sites are added, changed, or deleted. **(T-1).**

11.25.1.5. Each unit hot refueling site will be certified by a unit certification team, and approved by MAJCOM, when one of the following occurs:

11.25.1.5.1. Construction of new hot refueling sites. **(T-1).**

11.25.1.5.2. Change in the unit MDS, or when an additional MDS is acquired. **(T-1).**

11.25.1.5.3. Change in refueling equipment. **(T-1).**

11.25.1.5.4. Changes in the certified site areas which affect/change the previous certification. **(T-1).**

11.25.2. Hot pit site master listing. **(T-1).** This listing must contain the following information for all hot pit sites on the installation:

11.25.2.1. All sites must be identified by coordinates on a map. **(T-1).**

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-1)**.

11.25.2.1.2. Other refueling sites, aircraft parking areas, etc., also need to be identified and all distances must be shown even if a violation exists. **(T-1)**.

11.25.2.1.3. The request cover letter will state if there are no violations. **(T-1)**.

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.

11.25.2.1.5. Address any restrictions to normal operations and actions required IAW TO 00-25-172.

11.25.2.2. State the type of equipment used for hot refueling at each site, (e.g., hose carts, truck). **(T-1).**

11.25.2.2.1. Show the location of any fixed fuel pits and usual location of cart or truck if used. **(T-1)**.

11.25.2.2.2. Unit-approved sites will be identified on the aircraft parking plan. **(T-1).**

11.25.2.2.3. OSS, CE and QA and will maintain copies of hot refueling sites on file. **(T-1).**

11.25.2.3. State whether or not all hot refueling areas comply with the quantity-distance separation requirements of 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 (LCL). Unit LCLs will be developed IAW **Chapter 6** of this instruction and include detailed procedures, normal and emergency, to meet requirements of the local environment. **(T-1).**

11.25.3.1. Units will forward LCLs to their MAJCOM for approval. **(T-2).**

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-1).**

11.25.5. AMXS tasked to perform hot refueling operations will ensure hot refueling crews are available to meet mission requirements. **(T-1).** MXS maintenance personnel may be utilized.

11.25.6. Hot Refueling Team Members and Duties.

11.25.6.1. 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).

11.25.6.1.1. Individual will possess a 5-skill level or higher qualification in an aircraft maintenance AFSC and be hot refueling supervisor "A" member qualified. **(T-2).**

11.25.6.1.2. Supervisors must have full view and control of multiple hot refueling operations. **(T-1)**.

11.25.6.2. Refuel supervisor "A" member. Individual will be refuel task qualified,

capable of supervising hot refuel crew, possess an aircraft maintenance AFSC 5-skill level qualification and 1 year of flightline aircraft maintenance experience. **(T-2).**

11.25.6.3. Refuel crew "B" member. Individual will be task qualified, possess a flightline maintenance AFSC, and 1 year of flightline maintenance experience. **(T-2).**

11.25.6.4. Fuels specialist with 2F0X1 AFSC, "C" member. Individual will be refuel task certified on the specific facility/equipment, and task qualified for aircraft hot refueling. **(T-2).**

11.25.6.5. Additional refuel crew “D” member. Individual will be task qualified, possess a flightline maintenance AFSC, and have at least 1 year of flightline maintenance experience. **(T-2).** Use “D” members as required by applicable aircraft technical data.

11.25.7. Hot refueling team members and QA certifying officials/evaluators may be multi-MDS qualified when more than one weapons system is permanently assigned to a squadron.

11.25.7.1. After initial certification on each MDS, personnel must update their hot refueling currency by performing hot refueling on any weapon system. **(T-1)**.

11.25.7.2. Section NCOICs/Chiefs will ensure personnel maintain proficiency on each assigned MDS. **(T-1).**

11.25.8. Conducting Hot Refueling Training, Certification and Documentation. [For additional information, refer to AFI 11-235, *Forward Area Refueling Point (FARP) Operations*]. Qualification training of hot refueling personnel will be conducted in three distinct phases. **(T-1).** The three hot refueling qualification training phases are as follows:

11.25.8.1. 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 ordnance loaded, when authorized.

11.25.8.2. 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-1).** 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-1)**.

11.25.8.3. Phase 3. “Demonstration/Certification” phase. Trainees will demonstrate hot refueling under the supervision of designated certifying officials with aircraft engine(s) running. **(T-1)**. The Squadron Certifying Officials will certify individuals upon successful demonstration of hot refueling. **(T-1)**. If Phase 3 training has not been completed within 30 days (N/A to ANG) of Phase 2 training, Phase 2 training must be repeated. **(T-1)**.

11.25.8.4. Qualification training will:

11.25.8.4.1. Stress safety requirements, emergency procedures and equipment inspection in all three phases of training. **(T-0).**

11.25.8.4.2. 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-1).**

11.25.8.4.3. Allow Phase 2 and Phase 3 training to be conducted utilizing joint sessions including 2F0X1 AFSC personnel and all maintenance AFSCs. **(T-1)**.

11.25.8.4.4. Utilize both fuels (2F0X1) and maintenance AFSC instructors for joint sessions.

11.25.8.4.5. Be conducted by MT (QA if MT not available). **(T-1).**

11.25.8.5. QA hot pit certifying officials and QA hot pit certifier augmentees (squadron certifying officials) will train, evaluate, and certify unit personnel. **(T-1).**

11.25.8.5.1. QA hot pit certifying officials will ensure augmentees conduct evaluations using procedures outlined in this instruction, applicable aircraft TOs and local procedures. **(T-1)**.

11.25.8.6. Hot pit certifying officials will be approved by the MXG/CC and tracked on the SCR. **(T-1)**.

11.25.9. Document training for personnel performing, evaluating, supervising or instructing hot refuel operations as follows:

11.25.9.1. Document all aircraft maintenance and 2F0X1 AFSC personnel Phases 1, 2, and 3 initial training in the TBA. **(T-1).**

11.25.9.1.1. For AFSCs where "refuel aircraft with engines operating" is not contained in the TBA, use AF Form 797/MIS to document initial hot refuel training. **(T-1).**

11.25.9.1.2. Track recurring hot refueling certification in the MIS. **(T-1).**

11.25.9.2. 2F0X1 AFSC personnel will use the TBA/AF Form 1098, *Special Tasks Certification and Recurring Training*, to document Phases 1, 2, and 3 initial/recurring hot refuel training. **(T-1). Note:** Fuels (2F0X1) certifying officials will be appointed by the LRS/CC IAW AFI 36-2201.

11.25.10. Track hot refueling members, by position, on the SCR. **(T-1).**

11.25.11. Unique proficiency, certifying, and decertifying actions for hot refuel team members will be outlined in MAJCOM supplements/addendums.

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.

11.26.1.1. Rapid defueling operations are considered hot defueling operations whenever the provider/source aircraft has an engine running.

11.27. 406 MHz Emergency Locator Transmitter (ELT) Systems.

11.27.1. Aircraft maintenance functions must register and track status of fixed-mounted aircraft 406 MHz ELT systems. **(T-0).**

11.27.2. In accordance with DODI 3002.02, USAF 406 MHz ELT systems must be registered in the DOD JSETS database. **(T-0).**

11.27.2.1. The POC for JSETS registration is the Personnel Recovery Mission Software (PRMS) Help Desk at **PRMSMail@jricp.osis.gov.**

11.27.3. The governing agencies are the Joint Personnel Recovery Agency (JPRA) and the Electronic Services Command at Hanscom AFB, MA. Refer to AFI 10-207, *Command Posts,* for Command Post or C2 function responsibilities regarding 406 MHz ELT and Personal Locator Beacon (PLB) systems.

11.27.4. Ensure procedures are established to update the ELT registration database whenever 406 MHz ELT–equipped aircraft are transferred to other commands/ wings, ELTs that are taken out of service, removed for maintenance or destroyed. **(T-0).**

11.28. Crash Damaged or Disabled Aircraft Recovery (CDDAR) Program.

11.28.1. WG/CCs responsible for active airfields/runways will implement a CDDAR Program IAW TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual***. (T-1).** 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 AFI 91-202 and AFI 91-204. **(T-1).**

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 A4MA and/or A4MMP 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 Allowance Standard (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.

11.28.2.2. 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. Provide approved tech-data outlining equipment procedures to safely respond and/or recover aircraft from a CDDAR event.

11.28.2.3.2. Provide timely engineering support to facilitate resolution of unique CDDAR events which cannot be resolved by existing tech-data.

11.28.2.3.3. Develop, manage, and maintain AS needed to sustain a weapon system for peace-time and war time operations IAW AFI 23-101.

11.28.2.4. WG/CCs responsible for active airfields/runways will:

11.28.2.4.1. Collaborate to develop a publication IAW AFI 33-360, that assigns specific responsibilities and procedures to implement a CDDAR program IAW TO 00-80C-1. **(T-1).**

11.28.2.4.1.1. The following additional references are to be used in developing the publication: AFI 10-206, AFI 10-2501; AFI 21-103, AFI 91-203, TO 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information* and this instruction.

11.28.2.4.2. Ensure CDDAR responsibilities and procedures are coordinated with Fire Emergency Services, Wing Safety, CES, LRS, SFS, MDS, OSS, and other on/off-base agencies, as applicable. **(T-1).**

11.28.2.4.3. Ensure wings with geographically-separated units/auxiliary fields outline support requirements in their publication. **(T-1).**

11.28.2.5. MXG/CC or equivalent will:

11.28.2.5.1. Ensure CDDAR mobility UTC equipment requirements are available to deploy and accounted for on an AS (if applicable). **(T-1).**

11.28.2.5.2. 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-1).** Units must identify vehicles and SE designated to support CDDAR recovery in a local publication to ensure 24-hour availability. **(T-2).**

11.28.2.5.3. Ensure as a minimum, units with a CDDAR requirement possess sufficient equipment to accomplish a recovery of the assigned MDS aircraft. **(T-1).** Refer to TO 00-80C-1 for specific requirements.

11.28.2.5.4. Establish an in-flight emergency response capability. **(T-1).**

11.28.2.5.5. Participate in CDDAR training exercises. **(T-1).**

11.28.2.5.6. Manage base level CDDAR equipment to minimize duplication of resources. **(T-1).**

11.28.2.5.7. Ensure an annual CDDAR equipment inventory is completed and an inventory report containing CDDAR excess and shortage equipment items is sent to MAJCOM CDDAR OPR annually, NLT 30 Sep. **(T-1).**

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-1).**

11.29. Aircraft Battle Damage Repair (ABDR) (N/A to ARC). 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.

11.29.1. Responsibilities:

11.29.1.1. 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 AFI 21-103.

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 (CONOPS) and ensure CONOPS covers unit plans for repair of battle/crash damaged aircraft during combat operations.

11.29.1.3.3. Address ABDR in mission need statements for new weapon systems that support or engage in combat operations.

11.29.1.3.4. Incorporate ABDR in command war planning documents.

11.29.1.3.5. Task AFMC ABDR UTCs to support OPLANs.

11.29.1.3.6. Develop plans for the reception and employment of AFMC ABDR teams at the onset of hostilities.

11.29.1.3.7. Formalize integration and beddown requirements in applicable base support plans (BSP) IAW AFI 10-404.

11.29.1.3.8. USAFE and PACAF will store and maintain serviceability, accountability and status reporting to include Financial Improvement and Audit Readiness (FIAR) reporting of AFMC owned and provided WRM ABDR trailers IAW established procedures.

11.29.1.3.9. Provide unit level weapon-system-specific tools (other than common hand tools) and equipment needed to repair battle/crash damaged aircraft.

11.29.1.3.10. Provide technical support to the ABDR Technical Support Office for live fire or similar testing.

11.29.1.3.11. 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.

11.29.1.4. Unit Responsibilities. Units will:

11.29.1.4.1. Document all aircraft battle damage on an AFTO Form 97, *Aerospace Vehicle Battle Damage Incident Debrief/Assessment Record*. **(T-1).** Instructions for filling out the AFTO Form 97 are found in TO 1-1H-39. This form is to be completed even if no - 39 ABDR TO type repairs are performed.

11.29.1.4.2. Completed forms will be forwarded to the Defense Systems Information Analysis Center (DSIAC). **(T-1).** CLASSIFIED messages must be sent to SIPR: **96tg.olacdsiac@afmc.smil.mil** and UNCLASSIFIED messages must be sent to NIPR: **96tg.olasdsiac.af97AForms@us.af.mil** for filing in the historical archives. **(T-1).**

11.30. Egress/Cockpit Familiarization Training.

11.30.1. All non-egress personnel who access aircraft cockpits with egress systems must complete initial and refresher familiarization training. **(T-1).**

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-1).**

11.30.1.3. Personnel not requiring initial training will attend refresher training when they become due. **(T-1).**

11.30.1.4. Initial egress familiarization training will be hands-on using an aircraft. **(T-1).**

11.30.1.4.1. Units desiring to use an aircraft maintenance trainer instead of an aircraft must submit a request through the MXG/CC to the MAJCOM/Lead Command for approval/disapproval. **(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-1).**

11.30.1.5.1. Non-egress personnel may administer training media (slide show/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), will conduct initial egress familiarization training. **(T-1). Exception:** MT personnel may conduct 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 AFI 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 TRSS listed on the Defense Imagery at **http://www.defenseimagery.mil**. **(T-1).**

11.30.1.8. Individuals overdue for annual egress familiarization training will not access aircraft cockpits until they complete familiarization training. **(T-1).**

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-1).**

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-1).**

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-1).**

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. MAJCOMs will designate/approve units with no 2W1 AFSCs assigned authorization to install/remove chaff/flare on unique mission aircraft (N/A to units loading non-explosive chaff IAW approved tech-data).

11.31.2. Authorized units will establish a program to train and qualify personnel to perform these tasks IAW procedures outlined in AFI 21-201 and this chapter. **(T-1).**

11.31.3. Units will work with the installation WSM and Airfield Operations Flight to develop written instructions for handling chaff/flare-loaded aircraft IAW AFMAN 91-201 and AFI 91-202. **(T-1).**

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 AFMAN 91-201. **(T-1).**

11.31.4. The MXG/CC will appoint a 7-skill or 9-skill level individual with maintenance AFSC as the Weapons Task Qualification Manager (WTQM). **(T-1). Note:** Units with 2W1 AFSCs assigned will comply with training/qualification requirements in **Chapter 10** of this instruction. **(T-1).**

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-1).**

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-1).** 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-1).**

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-1). 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-1).**

11.31.5.1.2.1.1. A course code will be loaded in the MIS to identify trained personnel and qualification status. **(T-1).**

11.31.5.1.2.2. Establish time standards for initial and recurring loading tasks. **(T-1).**

11.31.5.1.2.2.1. Lead wings will develop time standards for each MDS

for qualification purposes. **(T-1).**

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 (DS) equipment type, qualification date, and date(s) recurring training is due. **(T-1).**

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-1).**

11.31.5.1.2.4.1. The WTQM will evaluate and re-certify WTQC members annually. **(T-1).** WTQC members will be tracked on the SCR. **(T-1).**

11.31.5.1.3. Review and approve/disapprove AFTO Form 22s that pertain to chaff/flare loading technical data. **(T-2).**

11.31.5.1.4. Develop a local Task Assignment Lists (TAL) by utilizing lead wing-developed MDS-specific TALs for use during training for all chaff/flare loading operations. **(T-1).** A TAL is derived from applicable MDS munitions load checklist (TO 33-1-20-series) and identifies the load crewmember's responsibilities by step.

11.31.5.1.5. Ensure chaff/flare loading CTKs are standardized to the maximum extent possible. **(T-1).**

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-1).**

11.31.5.1.6. Coordinate the scheduling of personnel for chaff/flare load training. **(T-1).**

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 (RTC), if applicable, to obtain chaff/flare dispensing system-equipped aircraft for training purposes. **(T-1).**

11.31.5.1.8. Ensure training magazines match the characteristics and "feel" of live magazines (e.g., 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-1).** 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-1). One WTQC member will be required to conduct practical training. **(T-1).**

11.31.5.2.2. Monitor personnel qualifications to ensure required academic and practical training is complete. **(T-1).**

11.31.5.2.2.1. Disqualify individuals if recurring requirements are not met. **(T-1).**

11.31.5.2.3. Spot-check personnel to evaluate proficiency. **(T-1).**

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-1).**

11.31.5.2.4. Develop/coordinate training schedules and provide to PS&D for inclusion in the appropriate schedule (e.g., monthly, weekly). **(T-1). Note:** En route WTQMs forward training requirements to the unit training manager, who coordinates for ground training aircraft with the RTC.

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-1).**

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 the TBA. **(T-1).**

11.31.6.4. Academic and practical training must be provided during initial and recurring load qualification training. **(T-1).**

11.31.6.4.1. Academic training is required before practical training is accomplished. **(T-1).**

11.31.6.4.2. Initial practical training must be completed within 14 days of successfully completing initial academic training. **(T-1).**

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-1).**

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-1). Note:** Weapons task qualification academic training may fulfill the requirements for explosive safety training if the requirements of AFI 91-202 are included.

11.31.6.5. Academic training is administered every 12 months. **(T-1).** 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-1).**

11.31.6.5.2. Aircraft and munitions familiarization. **(T-1).**

11.31.6.5.3. Safety, security, and emergency procedures. **(T-1).**

11.31.6.5.4. Support, test, handling equipment, and special tools familiarization. **(T-1).**

11.31.6.5.5. TALs and aircraft specific 33-1-2 series TOs must be available at the load-training site. **(T-1). Note:** Training course control documents will be coordinated annually through the Wing Safety and MT. **(T-1).**

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 (e.g. cockpit switch locations). **(T-1).**

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-1).**

11.31.7. Disqualifying Chaff/Flare Load Personnel. Disqualification will be documented in the TBA and the qualification status system. **(T-1).**

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-0).**

11.31.8.1.2. If current technical data is available, then qualified personnel may perform chaff/flare load operations. **(T-1).**

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 AMS/CC at en route 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 en route locations) identifying personnel selected to perform the task, aircraft type and (if applicable) number of aircraft to be de-armed and unloaded. **(T-1).**

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-1).**

11.31.9.3. Before loading chaff/flares, review the AFTO Form 781C, *Avionics Configuration and Load Status Document*, for defensive systems inspection status. **(T-1).**

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 AFI 21-201, Chapter 7. **(T-1).**

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 Combat Ammunition System (CAS). **(T-1).**

11.31.11. Additional Requirements (as applicable).

11.31.11.1. Document DS software version data and aircraft inspections (e.g., 90-, 120-, or 180-day checks) on AFTO Form 781C. **(T-1).**

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 (e.g., ALE-47, OFP XXXX, MDF XXXX).

11.31.11.2.1. If a system contains multiple OFPs, list all applicable versions (e.g., 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-1).**

11.31.12.1. Units will only perform chaff/flare build-up in facilities/locations approved by the installation WSM IAW AFMAN 91-201. **(T-1).**

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-1).**

11.32. Aircraft and Equipment Decontamination.

11.32.1. Maintenance organizations need to have the Ability to Survive and Operate (ATSO) 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 AFMAN 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Environment.* **(T-1).**

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: AFI 91-203, AFI 10-2501,, AFPAM 10-100, *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. Senior Leader Mission Generation (SLMG) Course

11.33.1. The MAJCOM Senior Leader Maintenance Course has been replaced with the Senior Leader Mission Generation (SLMG) Course which is aligned as a component of Pre- Command Training at Air University, Maxwell AFB, AL. The SLMG Course will be mandatory for Wing CCs/CVs, OG/CCs, MXG/CCs, MSG/CCs, and their equivalent which must be completed within 6 months of assignment. **(T-2)**. MAJCOM/CV is the waiver authority for attendance. Registration for SLMG will be accomplished along with registration for Pre-Command Training. **(T-2)**.

11.34. (Added-AETC) AETC Training Groups:

11.34.1. **(Added-AETC)** Technical Training Wing Responsibilities. This section does not apply to Training Detachments (TDs) (see paragraph **11.34.4**). 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 AFI 21-101 and this supplement in a training environment. **(T-2).** Coordinate the instruction with HQ AETC/A4M prior to implementation. **(T-2).** The instruction will address:

11.34.1.1. **(Added-AETC)** How maintenance programs and the requirements of AFI 21-101 and this supplement will be applied while executing the technical training mission. **(T-2).**

11.34.1.2. **(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).**

11.34.1.3. **(Added-AETC)** The duties and responsibilities the training group will follow to meet the requirements of AFI 21-101 without mandating/requiring unnecessary and clearly non-value added tasks to be accomplished. **(T-2).**

11.34.1.4. **(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). Note**: See paragraph

3.10.6 for specific armament contractor responsibilities for trainer maintenance activities at Sheppard AFB.

11.34.1.5. **(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.

11.34.2. **(Added-AETC)** Trainer Maintenance Responsibilities. Trainer maintenance managers are responsible for managing the maintenance function. They will: **(T-2).**

11.34.2.1. **(Added-AETC)** Ensure support for the maintenance mission is included in plans, programs, and host tenant agreements.

11.34.2.2. **(Added-AETC)** Ensure training equipment is operational to training requirements.

11.34.2.3. **(Added-AETC)** Coordinate on the monthly training schedule (when it is published separately from the maintenance plan).

11.34.2.4. **(Added-AETC)** Coordinate items of equipment exempt from annual inspection requirements with the FC prior to approval.

11.34.2.5. **(Added-AETC)** Ensure applicable AETC trainer maintenance goals and standards are met.

11.34.2.6. **(Added-AETC)** Develop an instruction, if not already included in the instruction required by paragraph **11.34.1**, to address the following functions/programs: **(T-2).**

11.34.2.6.1. **(Added-AETC)** Programs and policies contained in AFI 21-101, Chapter 1.

11.34.2.6.2. **(Added-AETC)** MOC.

11.34.2.6.3. **(Added-AETC)** Quality assurance or control.

11.34.2.6.4. **(Added-AETC)** Supply support.

11.34.2.6.5. **(Added-AETC)** Maintenance scheduling to include TCTO and TCI procedures.

11.34.2.6.6. **(Added-AETC)** CANN program.

11.34.2.6.7. **(Added-AETC)** Product improvement.

11.34.2.6.8. **(Added-AETC)** Training and certification requirements.

11.34.2.6.9. **(Added-AETC)** FOD.

11.34.2.6.10. **(Added-AETC)** Tools and equipment.

11.34.2.6.11. **(Added-AETC)** Documentation.

11.34.2.6.12. **(Added-AETC)** Logistics support for training devices designed or manufactured by AETC.

11.34.2.6.12.1. **(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.

11.34.2.6.12.2. **(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.

11.34.3. **(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.

11.34.4. **(Added-AETC)** Training Equipment Management. This section prescribes procedures for managing training equipment at 982d Training Group (982 TRG) TDs. Management must be thoroughly familiar with the TD support mission and functionally manage the local planning, scheduling, controlling, and directing of maintenance in support of that mission.

11.34.4.1. **(Added-AETC)** TD Responsibilities**.** TDs will accomplish maintenance for equipment assigned in support of the training mission and TD personnel will perform all maintenance within their capability. Maintenance assistance beyond TD capability may be requested according to this publication and applicable 00-series TOs. Each TD will perform the functions of maintenance operations and QA to the degree required for effective maintenance management. The host commander will provide additional support in these areas as outlined in this supplement and as negotiated in support agreements. As a minimum, TDs will: **(T-2).**

11.34.4.1.1. **(Added-AETC)** Ensure sound and effective maintenance practices are implemented within the TD. Institute a maintenance management program designating TD instructor responsibilities in specified areas to ensure timely and effective completion of required maintenance actions.

11.34.4.1.2. **(Added-AETC)** Require strict adherence to technical data and management procedures.

11.34.4.1.3. **(Added-AETC)** Ensure timely accomplishment of TCTO kit-proofing.

11.34.4.1.4. **(Added-AETC)** Take necessary actions to move TD equipment as required.

11.34.4.1.5. **(Added-AETC)** Designate personnel to clear Red-X conditions on training equipment.

11.34.4.1.6. **(Added-AETC)** Negotiate with the host commander to establish

procedures for obtaining maintenance and funding support.

11.34.4.1.7. **(Added-AETC)** Refer training equipment maintenance problems beyond the capability of the TD, host unit commander and CLS contract through the 373d Training Squadron, Material Management Element (982 TRG/TXFM) to the 982d Maintenance Squadron, Logistics Support Function (982 TRSS/LGML).

11.34.4.1.8. **(Added-AETC)** Request depot assistance according to TO 00-25-107 and coordinate through the 982 TRSS/LGML or training resource function.

11.34.4.1.9. **(Added-AETC)** Coordinate TD equipment CANN requests from non-982 TRG activities with the 982 TRG/TXFM and 982 TRSS/LGML to satisfy host requirements. (TD managers will not approve CANN of TD trainers.)

11.34.4.1.10. **(Added-AETC)** Ensure a listing of all line replacement units (LRU), AGE, and TD test equipment is furnished to 982 TRG/TXFM who will, when requested, provide a copy to the 982 TRSS/LGML or training resource function for commodity TCTO management.

11.34.4.1.11. **(Added-AETC)** Designate personnel authorized to sign DD Form 1577, *Unserviceable (Condemned) Tag - Materiel*; DD Form 1577-2, *Unserviceable (Reparable) Tag - Materiel*; DD Form 1574, *Serviceable Tag - Materiel*; AF Form 979, *Danger Tag*; AF Form 980, *Caution Tag*; and AF Form 981, *Out of Order Tag*. (DD Forms 1577, 1577-2, and 1574 are prescribed by Mil-Std 129P(3), *Military Marking for Shipment and Storage*. AF Forms 979, 980, and 981 are prescribed by AFI 91-203.

11.34.4.1.12. **(Added-AETC)** Ensure compliance with the local hazardous material management program.

11.34.4.2. **(Added-AETC)** Maintenance Management Program. TD managers will designate primary and alternate instructors to monitor maintenance functional responsibilities to ensure timely and effective maintenance is performed. **(T-2).** Maintenance functional responsibilities include technical data, configuration management and modification, trainer utilization and maintenance documentation, equipment inspection scheduling, QA and instructors. (Paragraphs **11.34.4.2.1** through **11.34.4.2.6** provide details of these responsibilities.)

11.34.4.2.1. **(Added-AETC)** The technical data monitor will: **(T-2).**

11.34.4.2.2.1. **(Added-AETC)** Manage and establish a TO account (to include eTO/eTool) according to TO 00-5-1.

11.34.4.2.2.2. **(Added-AETC)** Coordinate with TD QA monitor to ensure requirements are established for inspecting TD TO files.

11.34.4.2.2.3. **(Added-AETC)** Review and manage AFTO Forms 22 according to TO 00-5-1 and this supplement. Forward AETC trainer-related forms through the TD QA monitor for review, then to the 982 MXS/LGML for approval. Route all other forms through the host QA or support function. For TOs maintained under a CLS contract, submit AFTO Forms 22 directly to the CLS project officer.

11.34.4.2.2.4. **(Added-AETC)** Ensure technical data is current and accurate according to TO 00-5-1.

11.34.4.2.2.5. **(Added-AETC)** Ensure local checklists and work cards are developed according to TO 00-5-1 and AFI 21-101.

11.34.4.2.2.6. **(Added-AETC)** Forward TCTOs on affected equipment to the TD QA for review. Maintain a copy of TCTOs until they are accomplished.

11.34.4.2.2.7. **(Added-AETC)** Ensure personnel are notified of changes to technical data.

11.34.4.2.2. **(Added-AETC)** The configuration management and modification monitor will: **(T-2).**

11.34.4.2.2.1. **(Added-AETC)** Ensure CANN between TD-possessed trainers is properly documented.

11.34.4.2.2.2. **(Added-AETC)** Ensure TCTOs and modifications are accomplished as follows:

11.34.4.2.2.2.1. **(Added-AETC)** Upon notification from the documentation section that a TCTO kit was shipped, ensure the kit is not charged to the host base supply account. If the kit is not received within 30 days of the shipping date, notify the documentation section.

11.34.4.2.2.2.2. **(Added-AETC)** Ensure instructors inventory the contents of TCTO kits against the TCTO parts list. Notify the documentation section of any shortages in kits.

11.34.4.2.2.2.3. **(Added-AETC)** Coordinate with the host base for assistance in completing the TCTO if accomplishment is beyond TD capability. Notify the 982 MXS/LGML and 982 MXS/LGMX, if assistance cannot be obtained.

11.34.4.2.2.2.4. **(Added-AETC)** Ensure TCTOs are accomplished as soon as possible after receipt of the complete kit, parts, or tools. Refer to TO 00-5-15, *Air Force Time Compliance Technical Order Process,* to determine service removal dates. Send requests for deviation to the documentation section with complete justification.

11.34.4.2.2.2.5. **(Added-AETC)** Ensure TCTO action (including work done by depot or contractor teams and kit proofing) is documented on the appropriate AFTO form. Notify the documentation section of completed or partially completed TCTO actions. (Provide an informational copy to the 982 MXS/LGML and 982 MXS/LGMX.) Include the TCTO number, status (partial or complete), and serial number of the training equipment or commodity item. If partial compliance is reported, include the reason for the partial compliance with an estimated date for completion. Report compliance status changes the same way. The documentation section will enter TCTO actions into the MIS.

11.34.4.2.2.3. **(Added-AETC)** Document compliance with command-directed modifications, using the procedures in paragraphs 11.34.4.2.2.2 through

11.34.4.2.2.2.5. Substitute the title of the command-directed modification for the TCTO number in the completion message.

11.34.4.2.3. **(Added-AETC)** The trainer utilization and maintenance documentation monitor will: **(T-2).**

11.34.4.2.3.1. **(Added-AETC)** Ensure a trainer inventory is accomplished and reported according to AFI 21-103.

11.34.4.2.3.2. **(Added-AETC)** Ensure trainer forms and records are maintained according to TO 00-20-1.

11.34.4.2.3.3. **(Added-AETC)** Establish a trainer document file for each engine and item of training equipment. Include the following:

11.34.4.2.3.3.1. **(Added-AETC)** Active AFTO Forms 244, *Industrial/Support Equipment Record*, and AFTO 781 series forms, as applicable.

11.34.4.2.3.3.2. **(Added-AETC)** Serial number detail listing (Air Force Computer System Manual (AFCSM) 21-568, *Time Compliance Technical Order (TCTO), Software User Manual*, *Volume 2*), when received from the 982 TRSS/LGMX trainer maintenance function.

11.34.4.2.3.3.3. **(Added-AETC)** Automated history listing or duplicate AFTO Form 95 and other documents, as applicable.

11.34.4.2.3.4. **(Added-AETC)** Maintain a complete inventory listing to include all support equipment, recoverable components, and trainer baseline TOs.

11.34.4.2.3.5. **(Added-AETC)** Validate accuracy and completeness of completed AFTO Forms 244 and AFTO 781 series forms according to TO 00-20-1, as applicable, before forwarding them to the documentation section for filing.

11.34.4.2.3.6. **(Added-AETC)** Obtain a nonreporting work center code from the host production analysis activity.

11.34.4.2.3.7. **(Added-AETC)** Obtain a block of EIDs from the host plans and scheduling activity and ensure submitted AFTO Forms 350 include assigned EIDs. Furnish a block of EIDs to the TD QA for use in documenting discrepancies found during inspections.

11.34.4.2.4. **(Added-AETC)** The equipment inspection scheduling monitor will: **(T-2).**

11.34.4.2.4.1. **(Added-AETC)** Ensure TD training equipment, SE, and TMDE requiring calendar inspection is included in equipment inspection scheduling.

11.34.4.2.4.2. **(Added-AETC)** Create a master listing or data base product of assigned equipment and required inspections, using one of the following:

11.34.4.2.4.2.1. **(Added-AETC)** An MIS listing with ID numbers furnished by the host unit.

11.34.4.2.4.2.2. **(Added-AETC)** An automated AGE scheduling program.

11.34.4.2.4.2.3. **(Added-AETC)** A local product for managing, scheduling, and tracking non-Category 1 training equipment preventive maintenance inspections.

11.34.4.2.4.3. **(Added-AETC)** Ensure one copy of the master listing or data base product is reviewed, verified, and validated by the TD manager. Ensure the listing is forwarded to the host agency within 5 days after creation or receipt.

11.34.4.2.4.4. **(Added-AETC)** Ensure TMDE items requiring calibrations are processed through the host base PMEL or TMDE branch. Use the applicable PMEL or TMDE branch product to manage, schedule, and track TMDE items.

11.34.4.2.4.5. **(Added-AETC)** Ensure calendar inspections or calibrations are performed. After completion, enter the next due date in red or update the listing.

11.34.4.2.4.6. **(Added-AETC)** Maintain a training equipment status control board or log for all assigned reportable training equipment. Information must include a serial number, type, current supply status, expected time in commission (ETIC), and remarks column. The TD manager will determine the status of other training equipment and SE to be displayed.

11.34.4.2.5. **(Added-AETC)** QA Responsibilities. The QA will: **(T-2).**

11.34.4.2.5.1. **(Added-AETC)** Perform spot-check quality evaluations on trainers, mockups, and AGE items, ensuring (as a minimum) each item is inspected at least annually. Inspection findings will be documented on AF Form 2419, *Routing and Review of Quality Control Reports* or AF Form 2420, *Quality Control Inspection Summary*. Document Red-X discrepancies on AFTO Form 244, using EIDs. Route the finding documentation through the TD manager.

11.34.4.2.5.2. **(Added-AETC)** Obtain a block of EIDs from the TD maintenance data collection monitor for use in documenting discrepancies discovered during QA quality evaluations.

11.34.4.2.5.3. **(Added-AETC)** Help instructors perform transfer or acceptance inspections for training equipment.

11.34.4.2.5.4. **(Added-AETC)** Review TCTOs received with instructors to ensure required modifications to training equipment are addressed. If modifications are not addressed but are required, notify the trainer maintenance function. Send information copies to the 982 MXS/LGML and 982 MXS/LGMX.

11.34.4.2.5.5. **(Added-AETC)** When required, submit trainer materiel deficiency reports through the host quality function IAW TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*. Send information copies to the 982 MXS/LGML and 982 TRG/TXFM.

11.34.4.2.5.6. **(Added-AETC)** When required, submit AFTO Forms 22 through the host quality function to the 982 MXS/LGML for approval.

11.34.4.2.5.7. **(Added-AETC)** Inspect all trainer forms at least once each quarter to ensure accurate and effective documentation of maintenance actions.

Bring errors to the attention of the responsible instructor. Annotate the training equipment inspection in the supervisory review block of AFTO Form 244. Annotate inspections of GITAs on a separate AFTO Form 244 and insert the form in the AFTO 781 series maintenance folder for the applicable GITA.

11.34.4.2.5.8. **(Added-AETC)** Check completed AFTO Forms 244 and AFTO 781 series forms for accuracy and completeness before forwarding them to the documentation section.

11.34.4.2.6. **(Added-AETC)** Instructor Responsibilities**.** Instructors will perform spot-check quality evaluations and perform maintenance within their capability. Additionally, they will: **(T-2).**

11.34.4.2.6.1. **(Added-AETC)** Report all unsatisfactory equipment conditions through QA.

11.34.4.2.6.2. **(Added-AETC)** Submit modification proposals, as required, through the configuration management and modification monitor. No modification will be authorized unless approved by the owning command or the ALC having engineering and support responsibility for the affected equipment.

11.34.4.2.6.3. **(Added-AETC)** Document all maintenance according to TO 00-20-1.

11.34.4.2.6.4. **(Added-AETC)** Maintain equipment forms current and according to TO 00-20-1. Keep these forms on the training equipment.

11.34.4.2.6.5. **(Added-AETC)** Accomplish trainer equipment inventory reporting according to AFI 21-103.

11.34.4.2.7. **(Added-AETC)** TCTO Kit-Proofing. Accomplish TCTO kit-proofing at TDs as directed by HQ AETC/A4M. Coordinate through 982 MXS/LGML and 982 MXS/LGMX. Identify required actions beyond the capability of the TD and host unit. **(T-2).**

11.34.4.2.8. **(Added-AETC)** Movement of Training Equipment**.** When 982 MXS/LGML, 982 TRG/TXFM, 2 AF/TTOC-T workflow, or HQ AETC/A4RMV directs movement of equipment, the applicable unit commander will ensure the following actions are taken: **(T-2).**

11.34.4.2.8.1. **(Added-AETC)** The losing unit will:

11.34.4.2.8.1.1. **(Added-AETC)** Perform a transfer inspection according to TO 00-20-1 to include a power-on operational check of all powered trainers.

11.34.4.2.8.1.2. **(Added-AETC)** Perform a complete inventory using the applicable trainer TO. Annotate shortages (to include support equipment) on trainer records and include the turn-in documents in the trainer documentation file.

11.34.4.2.8.1.3. **(Added-AETC)** Ensure equipment is clean, and attach the appropriate condition tag.

11.34.4.2.8.1.4. **(Added-AETC)** Include applicable trainer TOs, manuals, and

trainer document files with the shipped equipment.

11.34.4.2.8.1.5. **(Added-AETC)** Ensure trainer covers and shipping containers are marked with proper ID and information as directed by the 982 MXS/LGML and 982 TRG/TXFM equipment monitors.

11.34.4.2.8.1.6. **(Added-AETC)** Inform the host LRS commander of the impending movement.

11.34.4.2.8.1.7. **(Added-AETC)** Delete the items of equipment from the master equipment ID listing and the equipment schedule when transferred or NLT the end of the month.

11.34.4.2.8.1.8. **(Added-AETC)** Transfer unaccomplished TCTO kits according to TOs 00-5-15 and 00-20-1.

11.34.4.2.8.1.9. **(Added-AETC)** Initiate a loss message according to AFI 21-103 within 48 hours after turning equipment over to host agencies for shipment.

11.34.4.2.8.1.10. **(Added-AETC)** Notify 982 MXS/LGML and 982 TRG/TXFM of all movements.

11.34.4.2.8.2. **(Added-AETC)** The gaining unit will:

11.34.4.2.8.2.1. **(Added-AETC)** Perform an acceptance inspection according to TO 00-20-1 to include a power-on operational check of all powered trainers.

11.34.4.2.8.2.2. **(Added-AETC)** Perform a complete inventory using applicable trainer TOs and the trainer documentation file. Report shortages to 982 MXS/LGML and 982 TRG/TXFM for follow-up action, as necessary.

11.34.4.2.8.2.3. **(Added-AETC)** Notify the host LRS commander of received equipment.

11.34.4.2.8.2.4. **(Added-AETC)** Add received equipment to the master equipment ID listing and MDS equipment schedule through the host base, using ID numbers provided by the training resource function equipment monitor.

11.34.4.2.8.2.5. **(Added-AETC)** Initiate a gain message according to AFI 21-103 within 48 hours after receiving equipment. Notify the 982 MXS/LGML and 982 TRG/TXFM of all movements.

11.34.4.2.9. **(Added-AETC)** Training Aids. Maintenance requirements for training aids are determined locally. **Note:** Maintain any operational systems being used per applicable technical data.

11.35. (Added-AETC) Aircraft Vibration Signature/Trend Analysis:

11.35.1. **(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-130 aircraft. The AETC VPMO is located at Kirtland AFB NM, Hangar 1001, Island C, Room 205. The VPMO can be reached at DSN 246-9802, FAX DSN: 246-9872, or via email: **58MXG.C-130VibrationProgram@us.af.mil**.

11.35.2. **(Added-AETC)** Procedures: Aircraft Maintenance Units (AMU) will: **(T-2).**

11.35.2.1. **(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).

11.35.2.2. **(Added-AETC)** AMUs will accomplish a vibration signature on all aircraft before input for Programmed Depot Maintenance (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).

11.35.2.3. **(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).

11.35.2.4. **(Added-AETC)** Prior to Phase/ISO inspection, accomplish vibration signatures on all helicopter and C-130 aircraft (excluding C-130J). Download and review vibration structural life and engine diagnostics (VSLED) 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.

11.35.2.5. **(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.

11.35.2.6. **(Added-AETC)** Accomplish a vibration signature within 25 flight hours after any major rotating component replacement. See paragraphs 11.35.3 through 11.35.6.5 for specific component listings by aircraft type (excluding C-130J and aircraft modified

with an operational HUMS/IVHMS system).

11.35.2.7. **(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, mail 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).

11.35.2.8. **(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.

11.35.2.9. **(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.

11.35.2.10. **(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.

11.35.2.11. **(Added-AETC)** When a vibration signature is waived (not accomplished) or deferred (postponed), the AMU vibration program manager will place an entry in the aircraft forms stating that the signature has been waived or deferred with a reference to the justification for the waiver or deferral, as well as notify the VPMO of same justification.

11.35.3. **(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).**

11.35.3.1. **(Added-AETC)** UH-1N: Combining Gearbox (Full Signature).

11.35.3.2. **(Added-AETC)** Tail Drive Shaft (Drive-Train/Hanger Bearing Signature).

11.35.3.3. **(Added-AETC)** Hanger Bearing (Drive-Train/Hanger Bearing Signature).

11.35.3.4. **(Added-AETC)** Tail Boom (Drive-Train/Hanger Bearing and Ground Signature).

11.35.3.5. **(Added-AETC)** 42° Gearbox (Drive-Train/Hanger Bearing and Ground Signature).

11.35.3.6. **(Added-AETC)** Main Drive Shaft (Ground Signature).

11.35.3.7. **(Added-AETC)** Main Transmission/Gearbox (Full Signature).

11.35.3.8. **(Added-AETC)** Main Rotor Head (Full Signature).

11.35.3.9. **(Added-AETC)** 90°/Tail Rotor Gearbox (Ground signature).

11.35.3.10. **(Added-AETC)** Tail Rotor Head (Ground Signature).

11.35.4. **(Added-AETC)** HH-60G Aircraft Components. The major rotating components and type of signature required for the HH-60G aircraft are as follows: **(T-2).**

11.35.4.1. **(Added-AETC)** Tail Drive shaft (Ground Signature).

11.35.4.2. **(Added-AETC)** Input Module (Full Signature).

11.35.4.3. **(Added-AETC)** Accessory Module (Full Signature).

11.35.4.4. **(Added-AETC)** Intermediate gearbox (Ground Signature).

11.35.4.5. **(Added-AETC)** Main Transmission/Gearbox (Full Signature).

11.35.4.6. **(Added-AETC)** Main Rotor Head (Full Signature).

11.35.4.7. **(Added-AETC)** Tail Rotor Gearbox (Ground Signature).

11.35.5. **(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-DS-1.

11.35.6. **(Added-AETC)** C-130 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, but a propeller balance verification will be performed (RAAF PBS or otherwise) within 25 flight hours after a propeller is replaced and/or incurs significant repair. The major rotating components for the C-130 aircraft are as follows:

11.35.6.1. **(Added-AETC)** Engine power package.

11.35.6.2. **(Added-AETC)** Engine turbine.

11.35.6.3. **(Added-AETC)** Reduction gearbox.

11.35.6.4. **(Added-AETC)** Torque meter.

11.35.6.5. **(Added-AETC)** Propeller.

11.35.7. **(Added-AETC)** Responsibilities: AMU's will: **(T-2).**

11.35.7.1. **(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 11.35.2.2 through 11.35.2.5 of this instruction.

11.35.7.2. **(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.

11.35.7.3. **(Added-AETC)** The AMU vibration program manager or alternate will:

11.35.7.3.1. **(Added-AETC)** Ensure a fully qualified individual performs the entire signature/vibration analysis procedure and operates the vibration measuring equipment on all assigned aircraft.

11.35.7.3.2. **(Added-AETC)** Forward all signature check data to the VPMO.

11.35.7.3.3. **(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.

11.35.7.4. **(Added-AETC)** The debrief section will: **(T-2).**

11.35.7.4.1. **(Added-AETC)** Ensure each aircraft vibration discrepancy is annotated on a vibration debrief checklist (VDCL) (see **Attachment 8**, 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. Maintain the VDCL in the aircraft AFTO Forms 781 series until the vibration discrepancy is cleared.

11.35.7.4.2. **(Added-AETC)** Request the aircrew completes the VDCL form and turns it over to the debrief section if the vibration is discovered in flight.

11.35.7.5. **(Added-AETC)** The AETC VPMO will: **(T-2).**

11.35.7.5.1. **(Added-AETC)** Review all signature check data and provide recommendations when necessary with-in three hours of receiving and analyzing data.

11.35.7.5.2. **(Added-AETC)** Produce a quarterly report of all vibration discrepancies with corrective actions by the tenth working day following the close of the quarter.

11.35.7.5.3. **(Added-AETC)** Send the quarterly report to all AMU vibration program managers and HQ AETC/A4MA.

11.35.7.5.4. **(Added-AETC)** Provide all necessary training to fulfill the requirements of this supplement.

11.36. (Added-AETC) Deferred Discrepancy Management:

11.36.1. **(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 dash-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. U n i t s Deferred discrepancies are separated into three distinct categories: awaiting maintenance (AWM), awaiting parts (AWP), and awaiting depot (AWD), as follows:

11.36.1.1. **(Added-AETC)** (Updated) 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 dash-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. Deferred discrepancies are separated into three distinct categories: awaiting maintenance (AWM), awaiting parts (AWP), and awaiting depot (AWD), as follows:

11.36.1.1.1. **(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. During aircraft document reviews (ADRs), the owning flight or section will resolve any differences between the aircraft forms and the deferred listing.

11.36.1.2. **(Added-AETC)** AWP Discrepancy Management. AWP discrepancies are discrepancies deferred due to non-availability of assets. Establish a valid dueout date for all AWP discrepancies. The performing flight or section will:

11.36.1.2.1. **(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.

11.36.1.2.2. **(Added-AETC)** Ensure the supply data is loaded into the MIS by the decentralized material support (DMS), forward asset support training (FAST), or authorized maintenance function.

11.36.1.2.3. **(Added-AETC)** Ensure assets ordered have the same EID as the original maintenance discrepancy.

11.36.1.3. **(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.

Chapter 12

MAINTAINING COMMERCIAL DERIVATIVE AIRCRAFT (CDA)

12.1. Background Information and Objective. The USAF procures CDA for various missions. These aircraft are originally Type Certificated (TC) to FAA regulations/orders; carry an FAA Standard Airworthiness Certificate and have FAA-approved aircraft maintenance manuals. All USAF-managed aircraft, and associated modifications, must meet the requirements of AFI 62-601, *USAF Airworthiness*, AFI 63-131, *Modification Management*, and AFI 63-101/20-101. 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. To ensure safety and support, FAA-certificated modifications are performed on CDA. For maintenance and operations of CDA the AF will use AF-managed TOs or FAA-approved aircraft maintenance manuals and FAA regulations called out in 14 CFR Parts 43 and 91 as a guide.

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.

12.3.2. When FAA manuals are used, issue technical data for configuration items and inspection requirements that are not approved by the FAA.

12.3.3. Review evaluations from the Lead Commands concerning Airworthiness Directives (AD), Service Bulletins (SB), Customer Bulletins (CB), All Operator Letters (AOL), and Aircraft Service Changes (ASC) and will determine extensions for each, if required.

12.3.4. For CDA which maintain an FAA (TC), 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 AF-approved equivalent.

12.3.5. Establish a maintenance plan with the Lead Command for aircraft originally TC'd by the FAA, but will not maintain an FAA Airworthiness Certificate or be maintained by FAA-certificated mechanics.

12.3.6. Follow AFI 63-131 for modification requests and approvals.

12.3.7. Obtain airworthiness approvals IAW AFI 62-601, *USAF Airworthiness*.

12.3.8. Coordinate with the FAA Military Certification Office (MCO) for approval of modifications that affect commercial derivative aircraft configuration IAW USDOT/FAA Order 8110.101, *Type Certification Procedures for Military Commercial Derivative Aircraft*.

12.3.9. For AF organically-maintained CDA 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:

12.3.9.1. The AD and/or SB involved.

12.3.9.2. The Supplemental Type Certificate (STC) number.

12.3.9.3. Other FAA approval.

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 operational safety, suitability, and effectiveness (OSS&E) of the systems and end-items prior to implementation.

12.4.2. Assists ALC in determining additional inspection and component time-change requirements, intervals, documentation and publication update requirements.

12.4.3. Review evaluations from their field units on ADs, SBs, CBs, AOLs, or ASCs and make recommendations to the aircraft's PM.

12.5. Units will:

12.5.1. Evaluate ADs, SBs, CBs, AOLs, or ASCs and make recommendations to their Lead Commands, as required. **(T-1).**

12.5.2. Assist Lead Commands and the PM to determine additional inspection intervals and requirements. **(T-1).**

12.5.3. Comply with FAA ADs as directed by the PM. **(T-1).**

12.6. Maintenance Personnel Requirements. For AF-managed aircraft that maintain an FAA TC, maintenance personnel shall meet the FAA requirements and procedures to maintain airworthiness. **(T-0).** Air Force maintenance technicians and activities do not require FAA certification.

12.6.1. Maintenance may be performed by non-certificated FAA mechanics, provided they are supervised by FAA certificated mechanics.

12.6.2. Any annual or progressive inspection program, major repair, or major alternation will have an FAA certificated mechanic with an Inspection Authorization (IA) sign off on the aircraft’s return to service. **(T-0).**

12.6.3. For CDA that do not maintain a civil airworthiness certificate, maintenance is not required to be completed by an FAA-certificated mechanic. However, a maintenance plan detailing the maintenance personnel requirements shall be established between the PM and the Lead Command.

12.6.3.1. The plan shall address as a minimum the training requirements, the level of effort allowed (e.g. specific maintenance tasks as identified in the Original Equipment Manufacturer (OEM) maintenance manuals)), and tasks that shall be performed by FAA-certified mechanics, repair stations, or the OEM.

12.6.3.2. The maintenance plan will be approved by the PM with coordination by a local FAA Flight Standards District Office. **(T-1).**

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 OEM and approved by the FAA. When deviation from the OEM 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-1).**

12.8. Air Force Modifications to CDA and Components. AF modifications to CDA and components are developed following procedures outlined in AFI 63-131. All AF modification requests require coordination with the PM who will provide assistance in determining applicable requirements, forms and coordination necessary to correctly disposition aircraft and component modification requests.

12.9. Certification Basis for CDA. Elements of the certification basis for any CDA which are not met via FAA certification shall be satisfied by compliance with approved military airworthiness requirements derived from MIL-HDBK-516C, *DOD Handbook, Airworthiness Certifcation Criteria*. CDA whose primary mission is the transport of passengers shall be FAA TC; FAA certification of these CDA passenger carrying aircraft shall be 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 Air Force 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 and, when published, AFMAN 20-118.

13.2. Organization. CRFs will be established within existing maintenance organizations (EMS, CMS, MXS), minimizing requirements for overhead and support. **(T-1).** 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 AFI, AFI 20-117, and, when published, AFMAN 20-118. **(T-1).**

13.3. CRF Production Requirements. AFMC will provide CRF production goals through the supply chain manager/repair network manager. CRF production requirements will be determined by capability and capacity (CAP 2) calculations IAW AFI 20-117.

13.4. Maintenance Squadron (EMS, CMS, MXS) Operations Officer/MX SUPT will:

13.4.1. Ensure the Node Manager (NM) executes enterprise production duties as outlined in AFI 20-117 and, when published, AFMAN 20-118. **(T-1). Exception:** AFSOC and ANG A4 manage CRF C-2 production requirements.

13.4.2. Ensure the NM identifies and up-channels negative trend data that impacts CRF repair/RNI CAP2 to the MAJCOM and RNM. **(T-1)**.

13.4.3. Provide CRF node performance, CAP2, and commodity status reports and metrics as defined in AFI 20-117, and, when published, AFMAN 20-118. **(T-1).**

13.4.4. Ensure the NM utilizes the information management systems prescribed in AFMAN 20-118 when published to provide timely status reports and receive workload requirements/ changes for commodity group repairs supported by the CRF. **(T-1).**

13.4.5. Identify systemic distribution, transportation and supply difficulties and coordinate with base LRS leadership and/or upchannel concerns to the RNM and MAJCOM CRF/Functional Manager for resolution. **(T-1).**

13.4.5. **(AETC)** AETC Centralized Repair Facilities POC is HQ AETC/A4MS.

13.4.6. Follow established procedures to ensure the rapid movement of retrograde and sustainment assets between CRF and MGN supported units IAW AFI 23-101.

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 AFMAN

20-118 to provide repair data and ensure enterprise visibility. **(T-1).**

13.6. Mission Generation Network 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 the resources required to perform MGN maintenance tasks for assigned weapon systems.

13.6.1. Rotable Pools. Customer Wait Time (CWT) and transportation constraints may drive the establishment of a Centralized Rotable Pool (CRP) for Class VII end items such as engines and pods to meet established weapons system availability goals. Use of a rotable pool can enhance mission capability by placing serviceable assets closer to the user when the repair capability is centralized off base. Rotable pool size, compared to support unit spare levels, will be determined during deliberate planning between the appropriate RNM, and MAJCOMs.

13.6.2. 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 should 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-1).**

13.6.3. **(Added-AETC)** Accomplish T-38/J85 retained task requirements IAW TO 1T-38-2-6, 2J-J85-116 series and in 2J-J85-111-1 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 flame holder.

13.6.3.1. **(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.

13.6.3.2. **(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).**

13.6.3.3. **(Added-AETC)** Perform preventative maintenance to include safety of flight items, reliability centered maintenance (RCM).

13.6.3.4. **(Added-AETC)** Perform condition inspections on all removed engine parts IAW applicable technical orders.

13.6.3.5. **(Added-AETC)** Process all reparable components removed as a result of a retained task IAW TO 00-20-3.

13.7. 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, AFI 21-103, and when published, AFMAN 20-118. **(T-1).**

13.7.1. Pod asset inventory, status and reporting requirements. CRFs and supported

units will update RAMPOD daily in accordance with AFI 21-103 to include Tracking Control Numbers (TCN) and/or commercial carrier name if applicable as well as shipment date of transitory assets. **(T-1).** Shipping container status and locations are maintained in RAMPOD and must be kept current by the organization that physically possesses custodial responsibility. **(T-1).**

13.8. Metrics. CRFs will report performance against metrics IAW AFMAN 20-118 when published. **(T-1).**

13.9. Agile Combat Support (ACS). AFI 10-401 covers the procedures and standards governing AEF/ACS, and other required support to Combatant Commands. It also requires Air Staff and MFMs to publish FAM Guidance governing UTC posturing and deployment support strategies. CRFs support intermediate level maintenance requirements for in-garrison and deployed operations IAW approved Air Staff/MAJCOM FAM Guidance.

Chapter 14

AIRCRAFT AND EQUIPMENT MAINTENANCE CONTRACT SURVEILLANCE

14.1. Contract Surveillance.

14.1.1. 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 AFI 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. The DOD COR Handbook is a good supplemental resource to assist CORs in performing contract surveillance: **http://www.acq.osd.mil/dpap/cpic/cp/acquisition_of_services_policy.html.**

14.1.2. 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 performance-based activity quality requirements essential to ensure integrity of aircraft and equipment maintenance-related services.

14.1.3. Applicability. This chapter is applicable to service contracts awarded to accomplish aircraft and equipment maintenance and/or functions supporting aircraft and equipment (e.g. wash, Periodic Inspection (PE)/Isochronal Inspection (ISO), transient alert, and aircraft trainer maintenance). Oversight of COMBS, CLS, and CFT contracts is accomplished IAW AFI 63-501, *Air Force Acquisition Quality Program*.

14.1.3. **(AETC)** This chapter establishes procedures for surveilling aircraft maintenance, aircraft-related trainer maintenance and transient maintenance contracts within AETC. It applies to all AETC organizations responsible for surveilling aircraft maintenance, aircraft- related (e.g., AGE, munitions, PMEL, etc.), aircraft-related trainer maintenance and transient maintenance contract activities including AETC supported AFMC awarded CLS contracts.

14.1.4. **(Added-AETC)** CLS Contract Management. CLS contracts outline COR duties and responsibilities in the applicable Quality Assurance Surveillance Program (QASP) and are not subject to the requirements contained in AFI 21-101 and this supplement if the procurement contracting officer (PCO) appoints Defense Contract Management Agency (DCMA) to administer the contract. Duties and responsibilities are further defined by the individual ACO and DCMA Inst 8210.2, *Aircraft 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.

14.1.4.1. **(Added-AETC)** Some AETC aircraft are supported by partial CLS contracts such as the T-1, T-6 and T-38. The COR surveying these contracts will: **(T-2).**

14.1.4.1.1. **(Added-AETC)** Be thoroughly familiar with the CLS concept and the applicable CLS PWS.

14.1.4.1.2. **(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 (SPD), in coordination with HQ AETC, determines the implementation of technical directives.

14.1.4.1.3. **(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 HQ AETC program manager to the ACO for the contract. The FC and Chief COR are not empowered to make contractual decisions.

14.1.4.1.4. **(Added-AETC)** Attend program management review and technical interchange meetings as scheduled by the ACO or SPD, if applicable.

14.1.5. **(Added-AETC)** Oversight of AFMC awarded COMBS, CLS, and contract field team (CFT) contracts. IAW with AFI 63-501, AFMC is required to coordinate with using activities to identify quality objectives related to products or services being acquired. CORs and the HQ AETC functional will provide AFMC inputs as required/requested to develop a tailored QASP to meet the surveillance and documentation procedures for COMBS CLS contract.

14.1.5.1. **(Added-AETC)** AFMC PCO/ACOs consult with AETC/A4M for COMBS, CLS, or CFT acquisitions to determine if DCMA involvement in contract administration/oversight meets the needs of MAJCOMs and field units.

14.1.5.2. **(Added-AETC)** When contract oversight is delegated to field units, AFMC PCO/ACOs coordinate all requests for field-level COR support, to include QASP development, through the applicable AETC/A4M.

14.2. Responsibilities.

14.2.1. MAJCOMS may designate a program management function to manage the requirements for each command's unique aircraft and equipment contract requirements IAW AFI 63-138.

14.2.1. **(AETC)** HQ AETC/A4PM (HQ AETC/A4MA for CLS contracts) is the designated program management function.

14.2.2. Procuring Contracting Officer/Administrative Contracting Officer (PCO/ACO). 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 performance-based activity. The responsibility and authority of an ACO is derived by a delegation from a PCO.

14.2.3. 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. See Multi-Functional Team (MFT) described in AFI 63-138.

14.2.4. Functional Commanders/Functional Directors (FC/FD). The FC/FD is the government's functional authority for the contracted function and retains responsibility for the success or failure of the contracted function. FCs execute management and oversight

responsibilities of the acquisition process and provides oversight for delivery of acquired services. In addition to the responsibilities outlined in AFI 63-138, the FC/FD will:

14.2.4. **(AETC)** The FC is responsible for a contracted functional area in an applicable squadron, group, or wing level. For example, if the AGE function is contracted, the MXS Squadron Commander is the FC. If an entire maintenance group is contracted, the wing commander will determine who will serve as the FC.

14.2.4.1. Keep up-to-date on mission changes that could cause a contract modification. **(T-1).**

14.2.4.2. Review problem areas identified by CORs and coordinate with the PCO/ACO and Program Manager to resolve problems. **(T-1).**

14.2.4.2. **(AETC)** If the problem cannot be resolved, request assistance through HQ AETC/A4PM and AETC COR Functional.

14.2.4.3. Review, approve, and sign monthly surveillance schedules before the beginning of the upcoming monthly surveillance period. **(T-1).**

14.2.4.4. Review all Corrective Action Requests (CARs) and approve end-of-month summaries. **(T-1).**

14.2.4.5. If a Chief COR is assigned locally, the FC/FD will fulfill the role as supervisor. **(T-1).**

14.2.4.6. If required, fill Chief COR position with an individual that possesses the technical expertise applicable to the maintenance contract requiring surveillance. **(T-2).**

14.2.4.6.1. Within five duty days of filling Chief COR vacancies, the FC/FD will ensure a COR nomination letter is forwarded to the PCO/ACO. **(T-1).**

14.2.4.7. Participate as a voting member on Incentive Fee/Award Fee Review Boards. **(T-2).**

14.2.4.8. **(Added-AETC)** The FC will designate the Chief COR to administratively fulfill the role of a Ground Government Flight Representative (GGFR), reference DCMA 8210.1C (AFI 10-220). A GGFR is not required at those contract locations with an assigned Government Flight Representative (GFR), (e.g., 21 FTS). Surveillance and reporting of contractor performance will be conducted IAW AFI 21-101, this instruction, PWS and the QASP.

14.2.5. Chief COR. When large contracts require multiple CORs, MAJCOMs may assign a Chief COR. In addition to the COR supervisor responsibilities identified in PGI 201.602 and MP5301.602-2(d), the Chief COR will:

14.2.5. **(AETC)** All contract surveillance activities will include a Chief COR.

14.2.5.1. Establish/maintain a COR file by maintaining COR records (mods, minutes, invoices, inspection results, etc.) and Memorandum for Record(s) (MFR) on significant issues relating to the contract. **(T-2).**

14.2.5.2. Inform the ACO in writing of any changes to the contract scope. **(T-2).**

14.2.5.3. Ensure timely government comment/approval of any draft deliverables

required by the contract/order. **(T-2).**

14.2.5.4. Promptly report performance issues to ACO in writing. **(T-2).**

14.2.5.5. Verify adequate corrective actions are taken to resolve problems. **(T-2).**

14.2.5.6. Ensure hours worked by performance-based activity are the hours billed in performance-based activity invoices. **(T-2).**

14.2.5.7. Notify ACO if contract costs will exceed amount programmed for contract. **(T-2).**

14.2.5.8. Report any invoiced costs which are not appropriately charged to the contract. **(T-2).**

14.2.5.9. Validate sufficient funding is available before providing certification for invoice payment. **(T-2).**

14.2.5.10. Use Wide Area Work Flow system (WAWF) to validate the accuracy of financial figures submitted by the performance-based activity prior to the government paying for services. **(T-2).**

14.2.5.11. Develop performance requirements in pre-award activities when requested. **(T-2).**

14.2.5.12. Assist with contract closeout. **(T-2).**

14.2.5.13. Fill COR vacancies or new COR positions with individuals possessing aircraft and equipment technical expertise applicable to the maintenance contract requiring surveillance. **(T-2).**

14.2.5.13. **(AETC)** Notify HQ AETC/A4MMR 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. HQ AETC/A4M will advertise military COR vacancies, coordinate with the chief COR, and select personnel to fill vacant military positions.

14.2.5.13.1. Within five duty days of filling COR vacancies, the Chief COR will forward the COR nomination letter to the PCO/ACO. **(T-2).**

14.2.5.13.2. **(Added-AETC)** For civil service CORs, provide HQ AETC/A4MMR with the name, grade, years of experience, and position of civil service employees when they are selected to fill vacant COR positions.

14.2.5.13.3. **(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.

14.2.5.14. Assist the PCO/ACO in providing an assessment on COR performance when requested. **(T-2).**

14.2.5.15. Monitor conflicts of interest or ethical compromise. **(T-2).**

14.2.5.15.1. In instances of COR ethical compromise, the Chief COR will inform the PCO/ACO immediately and recommend the termination of COR designation when appropriate. **(T-2).**

14.2.5.16. Ensure CORs receive required surveillance training and attain technical qualification in the appropriate areas before performing evaluations, inspections, or surveillance duties unsupervised. **(T-2).**

14.2.5.16. **(AETC)** Familiarize CORs with the contracting officer (CO) led, MP5301.602-2(d) training requirements while the COR is awaiting formal training.

14.2.5.16.1. **(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 business area (TBA) training records. **(T-2).** In large units, this responsibility may be delegated to the COR superintendent, or equivalent.

14.2.5.16.2. **(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 TBA training records. **(T-2).**

14.2.5.16.3. **(Added-AETC)** Chief CORs are required to have an initial PE evaluation if they will be performing surveillance duties. **(T-2).** Document the evaluation in the TBA training record. **(T-2).**

14.2.5.17. Ensure development of a Quality Assurance Surveillance Plan (QASP), prior to source selection that effectively measures and evaluates performance-based activity performance throughout the life of the functional contract requirement. **(T-2).**

14.2.5.18. Ensure each area surveyed has a COR assigned to ensure contract surveillance is accomplished. **(T-2).**

14.2.5.18. **(AETC)** Alternate CORs who do not possess maintenance-related AFSCs are authorized if the COR organization does not possess the specific expertise (for example, environmental, safety) (provided the alternate COR possesses the qualifications).

14.2.5.19. Annually review and revise surveillance checklists, evaluation guides, etc. for currency and completeness. **(T-2).**

14.2.5.20. Review PWS/SOW-required performance-based activity-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).**

14.2.5.20. **(AETC)** Conduct periodic reviews, at least every two years, of performance-based publications/procedures to ensure they continue to meet all contractual requirements.

14.2.5.20.1. **(Added-AETC)** Contractors performing PWS services falling within the purview of DCMA 8210.1C (AFI 10-220), Chapter 5, may elect to develop a single comprehensive ground operating procedure (GOP). 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.

14.2.5.20.2. **(Added-AETC)** Ensure the following documents are reviewed, to include comments and recommendations, when applicable. Coordinate with HQ AETC/A4PM and AETC COR Functional and, as applicable, prior to approval and implementation.

14.2.5.20.2.1. **(Added-AETC)** Locally procured maintenance contracts. Ensure copies of modifications and amendments to contracts are forwarded through the ACO, as applicable, and to HQ AETC/A4PM and AETC COR Functional.

14.2.5.20.2.2. **(Added-AETC)** PWS for all aircraft maintenance, aircraft-related maintenance, aircraft-related trainer maintenance and transient maintenance contracts.

14.2.5.21. Coordinate performance-based activity initiated waiver requests of PWS/SOW standards tied to AF regulatory requirements (AFIs, TOs, etc.), through the FC/FD, PCO/ACO, and MAJCOM/A4 staff. **(T-2).**

14.2.5.21. **(AETC)** Waivers to AFIs, TOs, and other AF/DoD directives will be coordinated at unit level and forwarded to the appropriate HQ AETC A4 functional area for review. **(T-2).** The Chief COR is responsible for coordinating on all modifications. The Chief COR will ensure copies of modifications and amendments to the contract are forwarded through the FC, ACO, and HQ AETC/A4PM.

14.2.5.21.1. **(Added-AETC)** Waiver requests to PWS aircraft fleet standards/requirements will be reviewed by the Chief COR. The Chief COR will provide a recommendation and forward waiver requests to HQ AETC/A4PM for review and recommendation. HQ AETC/A4PM will coordinate HQ Staff review and provide a recommendation to the Chief COR. The Chief COR will then forward waiver requests to the appropriate/responsible wing commander for final approval/disapproval.

14.2.5.22. Develop and publish a monthly schedule of COR surveillance activities (label as FOUO). **(T-2).**

14.2.5.22. **(AETC)** After determining annual surveillance requirements, CORs will develop a monthly schedule of surveillance activities.

14.2.5.22.1. Distribute the schedule to the FC/FD and PCO/ACO for approval prior to the beginning of the surveillance month. **(T-2).**

14.2.5.22.1. **(AETC)** The schedule must be completed prior to the beginning of the month it covers. (T-2).

14.2.5.22.2. Maintain copies of all schedules on file for the life of the contract. **(T-2).**

14.2.5.23. Ensure discrepancies discovered by CORs are documented in the appropriate aircraft or equipment forms and MIS. **(T-2).**

14.2.5.23.1. Ensure CORs follow-up performance-based activity corrective and preventive actions. **(T-2).**

14.2.5.24. Accomplish Corrective Action Requests (CARs) for submission to the FC/FD for review and PCO/ACO issuance when performance-based activity performance does not meet contractual requirements. **(T-2).**

14.2.5.25. When required, develop Independent Government Estimates (IGEs) and evaluate performance-based activity proposals, providing comments and recommendations to the FC/FD and PCO/ACO. **(T-2).**

14.2.5.26. Verify and validate performance-based activity submitted performance indicators in end-of-month summaries; specifically, leading and lagging indicators, monthly logistics indicator report, PAMs, CEMS, or other MIS-derived metrics where the performance-based activity accomplishes the MIS function. **(T-2).**

14.2.5.27. Assist the PCO/ACO in determining quality system requirements and review the performance-based activity inspection system, quality program or other means used to control quality and comply with contract requirements. **(T-2).**

14.2.5.27. **(AETC)** Place special emphasis on the comprehensiveness and adequacy of the contractor's quality inspection 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 Federal Acquisition Regulation (FAR) 52.246-4, and the contractor's inspection system and applicable contractor derived policies, directives, or regulations.

14.2.5.27.1. Submit comments through FC/FD and PCO/ACO for disposition. **(T-2).**

14.2.5.28. When required, accomplish annual Contractor Performance Assessment Rating System (CPARS) reports for submission to the FC/FD for review and PCO/ACO for final input. **(T-2).**

14.2.5.29. Ensure the Government meets its SOW or PWS contractual obligations. **(T-0).**

14.2.5.30. Ensure Government Furnished Equipment/Government Furnished Property (GFE/GFP) provided, is managed, maintained, accountable and used IAW contract/PWS requirements (FAR Part 45) and applicable Technical Order standards. **(T-0).**

14.2.5.31. Ensure COR duties/responsibilities are properly addressed in EPRs/appraisals. **(T-2).**

14.2.5.32. **(Added-AETC)** Provide assistance to the installation environmental management office in mishap and incident reporting, as required.

14.2.5.33. **(Added-AETC)** Verify statistical information provided by the contractor concerning the standards specified in the 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.

14.2.5.34. **(Added-AETC)** For non HQ AETC awarded aircraft maintenance, aircraft related, aircraft related trainer maintenance and transient maintenance contracts, the Chief COR will forward a draft copy of the PWS and QASP to A4PM and COR Functional for review prior to release of a new solicitation or request for proposal (RFP). The Chief

COR will ensure that no non-aircraft maintenance related functions or responsibilities are included in the PWS.

14.2.5.35. **(Added-AETC)** Assist HQ AETC/A4M/A4PM, the FC and the ACO in determining contract cost estimates, when requested.

14.2.6. Contracting Officer Representative (COR). The COR observes then documents the performance-based activity's overall performance and provides the PCO/ACO with documentation that identifies contractual compliance or noncompliance.

14.2.6. **(AETC)** 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.

14.2.6.1. Some COR responsibilities outlined in MP5301.602-2(d) have been assigned to the Chief COR, when assigned. The COR will:

14.2.6.1.1. Complete mandatory training requirements prior to performing surveillance duties unsupervised. **(T-0).**

14.2.6.1.2. Be knowledgeable of the specifications of the contract. **(T-1).**

14.2.6.1.3. Maintain proficiency in contract assessment methods. **(T-1).**

14.2.6.1.4. Be knowledgeable of the procedures for documenting surveillance. **(T-1).**

14.2.6.1.5. Perform surveillance according to the QASP. **(T-1).**

14.2.6.1.5. **(AETC)** Report observations through the chief COR to the FC, ACO, HQ AETC/A4PM (HQ AETC/A4MA for CLS contracts).

14.2.6.1.6. Review applicable incoming/outgoing official government and performance-based activity correspondence. **(T-1).**

14.2.6.1.7. Maintain proficiency in the MIS used by the performance-based activity and surveillance activities. **(T-1).**

14.2.6.1.8. Evaluate performance-based activity effectiveness in mishap investigations. **(T-1).**

14.2.6.1.9. Ensure weapon system discrepancies discovered are documented in the appropriate aircraft or equipment forms, and applicable MIS. **(T-1).**

14.2.6.1.10. **(Added-AETC)** Evaluate and recommend contract modification.

14.3. Training Requirements. Training requirements are specified by MP5301.602-2(d), ACO/Quality Assurance Program Coordinators (QAPC) led training, and MAJCOM unique requirements. FCs, and CORs will complete all training requirements within 90 days of assignment. **(T-1).**

14.3. (AETC) Training Requirements. FCs will complete the HQ AETC/A4M functional commander executive training session within 90 days of assignment. **(T-2).** The ACO provides training required by Air Force Federal Acquisition Regulation Supplement (AFFARS), Part 46, MP5346.103, to CORs. 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 HQ AETC/A4M. All training requirements must also be documented in the Contracting Officer Representative Tracking (CORT) tool.

14.3.1. MAJCOM Training. MAJCOMs may determine additional initial and recurring COR training requirements as needed to ensure CORs remain technically competent on new or changed contract surveillance tasks, requirements, or concepts, along with updated FAR, DFARS, AFFARS, and MAJCOM policies related to contract oversight.

14.3.1. **(AETC)** COR sections coordinate with HQ AETC/A4MMR to obtain formal school training quotas.

14.3.1.1. **(Added-AETC)** All, Chief COR's, COR superintendents and CORs surveilling aircraft, aircraft related, aircraft trainer maintenance and CLS COMBS contracts shall adhere to the following training requirements: **(T-2).**

14.3.1.2. **(Added-AETC)** COR Initial Training Requirements. Complete AETC COR Course 393AET0066-002, blocks I and II, quality assurance program coordinator (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. **Note:** COR's surveilling only transient maintenance, engine, PMEL, trainer maintenance or Air Force Academy contracts are not required to complete block II of course 393AET0066-002.

14.3.1.3. **(Added-AETC)** COR Annual Refresher Training. Complete HQ AETC/A4MMR developed CBT Annual Refresher Training NLT 120 days of posting (October of each year) on the HQ AETC/A4MMR SharePoint link.

14.3.1.4. **(Added-AETC)** COR Recurring Training. Reaccomplish course 393AET0066-002, Block I or Block II in-residence or via distance learning every 3 years.

14.3.1.5. **(Added-AETC)** Chief COR/Superintendent Initial Training Requirements. Complete COR course 393AET0066-002, QAPC led training, CO led training, DAU CLM 003*and* DAU CLC 222 within 90 days of assignment. **Note:** Chief COR's and superintendents surveilling only transient maintenance, engine, PMEL, trainer maintenance or Air Force Academy contracts are not required to complete course 393AET0066-002.

14.3.1.6. **(Added-AETC)** Chief COR/Superintendent Annual Refresher Training. Complete HQ AETC/A4MMR developed CBT Annual Refresher Training NLT 120 days of posting (October of each year) on the HQ AETC/COR SharePoint link.

14.3.1.7. **(Added-AETC)** Chief COR/Superintendent Recurring Training. Reaccomplish course 393AET0066-001 in-residence or via distance learning every 3 years.

14.3.2. CORs requiring special certification will comply with the requirements in **Table 11.1** of this instruction. **(T-1).**

14.3.3. CORs performing surveillance in hazardous areas or on hazardous tasks where specific training/safety requirements are prescribed (e.g., fuels, munitions, egress, etc.), will be trained on all associated safety requirements prior to performing the surveillance. **(T-1).**

14.3.4. **(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 FC and Chief COR as necessary. Report FCF pilot surveillance evaluations directly to the Chief COR.

14.4. Quality Assurance Surveillance Plan (QASP). The purpose of a QASP is to provide a planned process for surveilling the performance-based activity's actual performance and comparing that performance against 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 inspection, and the frequency of inspection. The results of those inspections become the basis for documenting performance-based activity performance.

14.4.1. The QASP provides CORs with information to identify acceptable performance and potential reasons for any non-compliance. The QASP should be a "living" document (i.e., increase or decrease surveillance intensity based on performance/confidence in the performance-based activity) and revised throughout the life of the contract as performance warrants.

14.4.1. **(AETC)** Ensure the QASP is developed to effectively measure contractor performance according to applicable guidance/requirements (AFIs, TOs, PWS, contractor's quality system, contractor's proposal, locally directed inspections, and associated baselines, etc.). **(T-2).**

14.4.2. Although contractual regulatory requirements provide specific items to be included in a QASP, they do not provide guidance on format, surveillance requirements, or guidance on QASP development. The basic format of an aircraft and equipment QASP incorporates contractual regulatory requirements and unique aircraft and equipment requirements into the sections of Performance Planning & Preparation, Performance Assessment Surveillance, Performance Results Analysis & Reporting, and Performance Follow-up. In addition, organizations are responsible to ensure QASP requirements contained in FAR Part 46, DFARS 246.4, AFI 38-203, *Commercial Activities Program*, and AFI 63-138 are integrated within the following sections (See **Table 14.1**). The Automated Requirements Roadmap Tool (ARRT) can be used to prepare the QASP (and contract documents) for all performance- based acquisitions for services. ARRT is available for download at: **http://sam.dau.mil/ARRTRegistration.aspx**.

14.4.2. **(AETC)** Submit revised/updated QASPs to HQ AETC/A4PM (n/a for CLS contracts) for approval prior to implementation. Chief CORs will ensure the QASP conforms to **Table 14.1** format. As a minimum, QASPs will be updated every two years and will be signed by the FC and Chief COR.

14.4.3. Documenting and reporting involves the documentation of individual inspections, monthly reporting of all scheduled inspections, documentation of performance-based activity non-conformance, and annual CPARS reporting.

14.4.3.1. Documenting individual inspections. TIs, Program Management (PM) Inspections, Customer Comment (CC) Inspections, "as observed," and Follow-up Inspections are documented using MAJCOM0-designated and/or QASP required surveillance forms. CORs are required to document discrepancies as soon as they are discovered using the applicable form and will subsequently notify the performance-based

activity as soon as the surveillance is completed. **(T-1).**

14.4.3.1. **(AETC)** Use AETC Form 447, *Routing and Review of COR Reports* or locally generated form (or electronic equivalents) to document discrepancies. Document discrepancies as soon as they are discovered, and notify the contractor as soon as the surveillance is completed. 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 inspection is recorded. Initials or electronic signatures do not constitute contractor concurrence with the surveillance findings; just that they have been notified by the government of inspection results. Contractor representative refusal to initial inspection record will be so noted by the COR.

14.4.4. End of month surveillance summary. The COR prepares a monthly summary to document COR surveillance activities at the end of each month. The format includes SS items inspected, non-Service Summary (SS) items, CC Inspections, "as observed" discrepancies, along with any submitted CARs and the status of all outstanding CARs not closed out. The content, format, and routing of the end of month surveillance summary is determined by each MAJCOM.

14.4.4. **(AETC)** Units surveilling aircraft and aircraft related trainer maintenance contracts will develop a monthly summary of COR surveillance activities and, for those contracts AETC has program oversight, provide a copy to HQ AETC/A4PM and COR Functional NLT the 15th workday of the month. **(T-2).** Include all FCF pilot surveillance inspections. List all scheduled inspections not completed and provide an explanation for each one (see **Attachment 9**). Send a copy of the summary to the ACO, FC, or as applicable. Maintain copies of all summaries on file for the life of the contract. **Note:** Compute individual inspections, technical area, program management (PM) area and overall results as follows: Total number of inspections rated conforms, divided by the total number of inspections, multiplied by 100 percent.

14.4.5. Corrective Action Request (CARs). Once the end of month summary is completed, the COR drafts a 1st Notice, 2nd Notice, or CAR, as determined applicable, for each SS or non-SS item that does not meet the contractual standard. The COR forwards the CAR to the FC/FD for review and the PCO/ACO for evaluation and subsequent issuance to the performance-based activity. CARs require the performance-based activity to identify the nonconformity's root cause, a reasonable corrective action, and a "get-well" date. The PCO/ACO, in consultation with the FC/FD and COR, then evaluate the performance-based activity's response.

14.4.5. **(AETC)** Forward all surveillance documentation/reviews to the ACO for review within 15 workdays after the end of each month. **(T-2). Note:** Contractor performance not meeting contract standards determined to be government caused will not generate a corrective action request (CAR). However, the Chief COR will document on the end of month summary the government reason for not generating CAR in the area of contractual non-conformity. AETC Form 448, *Corrective Action Request,* or locally generated form will be used to submit CARs.

14.4.5.1. If the performance-based activity's actions cited in their CAR response fails

to correct the area of non-conformance, the COR ensures initiation of another CAR for any subsequent surveillance rating periods in the same non-conforming area. The COR may continue to hold open a current CAR. The COR tracks and reports all newly issued CARs in the end of month surveillance summary.

14.4.5.1. **(AETC)** If successive CARs do not result in contractual conformity, FC/Chief COR/ACO may recommend issuing an AETC Form 451, *Contract Discrepancy-Invoice Reduction Notification* or locally generated form.

14.4.5.2. If any areas of non-conformance are not corrected, it is the responsibility of the FC/FD to contact the PCO/ACO or government program office to initiate discussion with corporate headquarters or issue a cure notice. In extreme circumstances a show cause notice or a contract termination notice may be required as determined by the FC/FD and PCO/ACO.

14.4.6. Annual Contractor Performance Assessment Rating System (CPARS). For performance-based activities without a program management function, the COR in coordination with the FC/FD and PCO/ACO accomplish annual performance-based activity performance reporting using the CPARS. CORs use information from the end of month surveillance summary reports and CARs to complete the annual CPARS report.

14.4.6. **(AETC)** The Chief COR will be responsible for drafting the annual CPARS and will coordinate with AETC/A4PM prior to submission to the ACO.

14.5. COR Inspections. Surveillance inspections must ensure CORs are "sampling" performance-based activity services and not acting, or giving the appearance of acting, as the performance-based activity's quality control. Performance-Based Service Acquisition (PBSA) principles denote COR sampling levels are at a much lower rate than the inspections levels of a performance-based activity quality system.

14.5.1. CORs predominately use the periodic inspection concept described in the DOD COR Handbook. However, CORs may use the 100 percent inspection concept on maintenance tasks that are critical or rarely performed. Since the FAR, DFARS, AFFARs, and contracting AFIs are silent on inspection definitions and use of inspection methodologies, this AFI prescribes aircraft and equipment COR surveillance be accomplished using Technical Inspections, Program Management Inspections, Customer Comments Inspections, "as observed" discrepancies, and Follow-up Inspections.

14.5.2. Technical Inspections (TI). Validating technical requirements of a contract are accomplished by performing TIs. Any maintenance task accomplished in accordance with technical guidance, (e.g., TO, work-card, OEM manual, etc.) qualifies for COR surveillance under the TI concept. TIs may be performed while maintenance is being performed (In-progress (IP) inspection) or after maintenance is completed (equipment condition (EC) inspection and Quality Control (QC) evaluation inspection).

14.5.2. **(AETC)** Include these requirements in the QASP and the monthly surveillance schedule. **Note:** The chief COR may elect to do QC follow-up inspection on observation work areas as well.

14.5.2.1. In-progress Inspection (IP). IP inspections consist of the evaluation of the maintenance task items, review aircraft and/or equipment forms, validate MIS

documentation, check for technical data usage and currency; check for tool usage and care; and validate after maintenance FO checks of the work area etc. MAJCOMs will determine minimum IP surveillance requirements/frequencies, and rating criteria.

14.5.2.2. Equipment Condition (EC) Inspections. EC inspections consist of the evaluation of visually available inspection items, review aircraft and/or equipment forms, and MIS documentation applicable to the job being surveilled. MAJCOMs will determine minimum EC inspection surveillance requirements/frequencies, and rating criteria.

14.5.2.3. Quality Control (QC) Evaluation Inspections. QC evaluation inspections are technical inspections that are accomplished concurrently with the performance-based activity's QC to verify the QCs ability to readily detect technical deficiencies of in-progress work and equipment condition. MAJCOMs will determine minimum QC evaluation inspection surveillance requirements/frequencies, and rating criteria.

14.5.2.4. **(Added-AETC)** In-Progress (IP) and Equipment Condition (EC) Inspections. CORs accomplish technical inspections by evaluating the following: **(T-2).**

14.5.2.4.1. **(Added-AETC)** Check a minimum of 50 percent of the required inspection items. Ensure that when evaluating only a portion of the required inspection items that surveillance documentation identifies those steps/items not evaluated. Normally, disassembly of a part, removal of a stress panel, or similar actions are not necessary to accomplish a technical inspection.

14.5.2.4.2. **(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 and current technical data usage; tool usage/serviceability/TMDE calibration date; and after maintenance Foreign Object (FO) checks of the area in which the task was performed.

14.5.2.4.3. **(Added-AETC)** Minimum technical area surveillance requirements and frequencies for aircraft and munitions are identified in **Attachment 9**. Minimum surveillance technical area inspection requirements and frequencies for training wings (TRW) are in **Attachment 11**. The ACO, Chief COR and FC, using the contract as a guide, jointly determine any additional surveillance requirements.

14.5.2.4.3.1. **(Added-AETC)** Minimum technical area surveillance requirements for stand-alone transient maintenance activities are identified in **Attachment 12**. Stand-alone transient maintenance functions are defined as those contracts where the primary function is to perform transient maintenance services.

14.5.2.4.3.2. **(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 (to include the contractor's QC/QA) and establish technical inspections as required. As a minimum, include an adequate percentage of each contractor QC/QA inspection requirements.

14.5.2.4.4. **(Added-AETC)** Technical Inspection ratings. Technical inspections will be rated as either conforms or non-conforms. Assign non-conforms ratings

when one of the following conditions occurs:

14.5.2.4.4.1. **(Added-AETC)** A step serious enough to adversely affect the performance of the equipment involved is omitted or improperly completed.

14.5.2.4.4.2. **(Added-AETC)** A major or Red X discrepancy is detected.

14.5.2.4.4.2.1. **(Added-AETC)** CORs use judgment and experience to determine major discrepancies. Categorize major discrepancies IAW paragraph **6.7.4.3.1** and **6.7.4.3.2**.

14.5.2.4.4.3. **(Added-AETC)** The performance threshold, if established, is not met.

14.5.2.4.4.4. **(Added-AETC)** Assign a technical rating inspection as acceptable when the total number of minor discrepancies does not exceed the applicable baseline or AQL contained in the quality control/assurance requirements of the contract.

14.5.2.4.4.5. **(Added-AETC)** CORs at units operating from with a SS will ensure that applicable standards identified in the SS are considered during the development of technical inspection requirements.

14.5.2.4.4.6. **(Added-AETC)** CORs will use judgment and experience in determining minor discrepancies. Categorize minor discrepancies IAW paragraph **6.7.4.4** and **6.7.4.4.2**.

14.5.2.5. **(Added-AETC)** GITA/Trainer Maintenance Surveillance.

14.5.2.5.1. **(Added-AETC)** GITA. In surveillance of GITA aircraft, Chief CORs will ensure a balance between, safety, reliability, and economy. In the absence of military or commercial technical data, Chief CORs will determine through surveillance if contractors employ commercial best practices by using the most current version of Federal Aviation Administration Advisory Circular 43.13A/B or other applicable OEM guidance.

14.5.2.5.2. **(Added-AETC)** Trainers. Chief 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 AETC COR Functional.

14.5.2.5.3. **(Added-AETC)** GITA and trainers in hangers and parking areas located at 318 TRS and 982 MXS will not be considered flight lines, but will still adhere to AFI 91-203.

14.5.2.5.4. **(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.

14.5.3. Program Management (PM) Inspections. PM inspections are similar to IG

inspections where CORs assess performance-based activity work center's ability to manage program areas they are contractually responsible for. Minimum PM inspection surveillance requirements will be determined by each MAJCOM.

14.5.3. **(AETC)** Minimum PM surveillance requirements for flying units are found in **Attachment 10**. Minimum requirements for TRWs are found in **Attachment 13**. Accomplish program management inspections utilizing PM inspection guides for each work center. **(T-2).**

14.5.3.1. **(Added-AETC)** Minimum PM surveillance requirements for stand-alone transient maintenance contracts are found in **Attachment 14**. 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 system requirements) and establish any additional PM inspections that may be required.

14.5.3.2. **(Added-AETC)** COR activities surveilling AETC maintenance contracts not specifically addressed in this section will use **Attachment 10** and **Attachment 13** as guides (when applicable) and the PWS to identify PM surveillance requirements. If PM requirements are not listed in **Attachment 10** and **Attachment 13**, use the PWS to determine the surveillance requirements that apply to a specific contract.

14.5.3.3. **(Added-AETC)** Surveil work areas by performing inspections within each work area and assigning an overall rating, or perform inspections on 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 inspected. Characterize each program and/or work area as either conforms or nonconforms.

14.5.3.3.1. **(Added-AETC)** COR organizations with less than 10 contactor workcenters will accomplish PM inspections by performing inspections of individual programs and will assign a rating to each program. The Chief COR, with approval of the FC, will establish minor discrepancy baselines or AQLs for each program evaluated and maintain documentation to support the baselines or AQLs. (T-2). Characterize each program as conforms if minor discrepancy baselines or AQLs were not exceeded 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 PM report of inspection results for organizations with less than 10 contractor workcenters is provided in **Table 14.2** of this instruction.

14.5.3.3.2. **(Added-AETC)** Conform ratings for PM inspections are earned when an inspected workcenter has no major discrepancies identified and the number of minor discrepancies is less than 7. The Chief COR, with approval of the FC, may consider it appropriate to adjust the baseline or AQL up or down based on the size of the PM work area or because workcenters/functions have been combined. However, the Chief COR will first consult the PWS for applicable minor discrepancy AQLs. If no AQLs are present, the Chief COR will coordinate with the contractor's quality system documents and quality 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.

14.5.3.4. **(Added-AETC)** CORs use judgment and experience to determine major and/or minor discrepancies. Categorize major/minor discrepancies IAW paragraph **6.7.4.3.1** and **6.7.4.3.2**. (for major discrepancies) and IAW paragraph **6.7.4.4** and **6.7.4.4.2** (for minor discrepancies).

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 observation guide.) When grouping these types of deficiencies, ensure surveillance techniques are applied consistently across inspection areas.

14.5.3.5. **(Added-AETC)** Evaluation Guides. The Chief COR will review evaluation guides annually and 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.

14.5.3.5.1. **(Added-AETC)** Evaluation guides should contain minimum inspection areas or items and should not include overwhelming requirements that may cause an over inspection of a particular area. (**Note:** Area inspections are not limited to the evaluation guide content.) Annotate evaluation guides with the following statement: "Area inspection is not limited to the content of evaluation guide."

14.5.3.6. **(Added-AETC)** General Evaluation Guides. Chief CORs will develop a general guide to identify minimum requirements. **(T-2).** General guides are used with the applicable PM work area evaluation guide for the inspected work area.

14.5.3.6.1. **(Added-AETC)** Supply Procedures. If applicable, CORs will sample supply and Air Force Repair Enhancement Program (AFREP) management products/aids quarterly during applicable PM work area inspections 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.

14.5.3.6.2. **(Added-AETC)** Environmental Plans and Programs. Establish a PM work area guide to effectively monitor 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.

14.5.3.6.3. **(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.

14.5.3.6.4. **(Added-AETC)** Contractor Quality. The Chief COR will develop a workcenter specific PM Evaluation Guide that evaluates the service provider's quality system. Include PWS requirements, contractor's quality system requirements and any contractor's regulations/ policies/procedures developed at the corporate or local level that are part of the contractor's proposed quality system.

14.5.3.6.5. **(Added-AETC)** Tool and equipment management.

14.5.3.6.6. **(Added-AETC)** FO prevention.

14.5.3.6.7. **(Added-AETC)** Housekeeping procedures. Ensure all applicable areas and facilities are included, such as flight line, hangar, maintenance facilities, and jet engine operating areas.

14.5.3.6.8. **(Added-AETC)** TO/eTool maintenance.

14.5.3.6.9. **(Added-AETC)** MIS and forms documentation focusing on accuracy and completeness of the data entered (i.e., job data, work unit code, etc.). A MIS data accuracy guide is available at the following SharePoint link: **https://eis.aetc.af.mil/hq/A47/A4M/A4MM/A4MMA/Portal%20Manager%20Monthly%20Verification/Forms/AllItems.aspx**

14.5.3.6.10. **(Added-AETC)** PMEL Automated Management System (PAMS) automated oil analysis, and any other automated system that includes aircraft or equipment information when applicable.

14.5.3.6.11. **(Added-AETC)** Facilities Management. Includes physical security, conservation of utilities and fire prevention.

14.5.3.7. **(Added-AETC)** Workcenter Specific Evaluation Guides. Chief CORs/CORs will develop inspection guides to identify unique workcenter program requirements. **(T-2).** Examples would be PMEL, egress, munitions, PS&D, analysis, quality assurance/control that have workcenter programs not normally found in other workcenters. CORs, when developing workcenter specific evaluation guides, must ensure they are developed IAW the performance thresholds in the SS, and the minimum requirements identified in this supplement **(T-2).** Also, review **Attachment 12** and **Attachment 13** for possible addition of PM areas to the surveillance program.

14.5.3.8. **(Added-AETC)** If functions or workcenters have been combined within an organization, develop a single evaluation guide that encompasses the combined

functions/workcenters. Combined functions/workcenters normally share common elements such as CTK, TOs, etc. Functions collocated in the same facility are not considered combined.

14.5.3.9. **(Added-AETC)** Contractor QC Evaluations. All units, to include CLS, are encouraged to perform QC technical inspections of PM work areas. These inspections may be follow-up or concurrent with QC inspections, and they may be performed in conjunction with other inspection requirements. When performed in conjunction with other inspection requirements, document each inspection independently. Include these requirements in the QASP, and the monthly surveillance schedule.

14.5.3.10. **(Added-AETC)** Munitions. Evaluation guides for munitions activities will be developed utilizing the applicable PWS and **Attachment 15, Table A15.1**, Munitions Surveillance Critical Items list. **(T-2)**.

14.5.4. Customer Comment (CC) Inspections. Oftentimes Government employees are customers of performance-based activity provided services. As such, CC inspections; although not a primary surveillance method, is a valuable surveillance tool in enabling CORs assess a performance-based activity's performance. MAJCOMs will determine the scope and applicability of CC inspections.

14.5.5. "As Observed" discrepancies. As-observed discrepancies are not inspections, rather they are discrepancies "observed by" CORs that are not associated with a scheduled inspection. Subsequently, they are not scheduled inspections and are not calculated into the monthly rating of any 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. MAJCOMs will determine the scope, applicability, and documentation procedures of "as observed" inspections.

14.5.6. Follow-up Inspections. Follow-up inspections verify the performance based activity's response/closure of a CAR. Specifically, follow-up inspections ensure the performance-based activity's quality system has determined the root cause and implemented corrective actions to eliminate future non-conformities. The COR will schedule follow-up inspections as needed to determine the viability of the performance-based activity's quality system.

14.5.7. **(Added-AETC)** Safety. Document violations of Occupational Safety and Health Administration (OSHA) or AFI 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. 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 and PCO/ACO.

14.5.8. **(Added-AETC)** Documentation File Inspections. Rate documentation file inspections for aircraft, support equipment, and engines. **(T-2).** The inspections include review of the status and historical documents (include documents in the MIS). 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:

14.5.8.1. **(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 inspections. CORs must ensure unsafe or unfit for operation conditions are represented by Red X entries and these entries are properly cleared. **(T-2).**

14.5.8.2. **(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.

14.5.8.3. **(Added-AETC)** A major discrepancy or more than three minor discrepancies for each ten pages (e.g., 1 to 10 pages, three minors; 11 to 20, six minors). The chief COR may lower the baseline for minor discrepancies on support equipment if appropriate.

14.6. Surveillance Schedule. The COR will ensure all contract requirements are surveilled at least once annually. **(T-1).** Typically, this includes surveilling all SS items monthly along with non-SS SOW or PWS requirements.

14.6. (AETC) Surveillance Schedule. Chief CORs will include key non-SS items into PM evaluation guides to meet this requirement. Key non-SS items that are not incorporated into PM evaluation guides will be scheduled for surveillance as required.

14.6.1. After determining annual surveillance requirements, CORs will develop a monthly schedule of surveillance activities. The schedule must be completed prior to the beginning of the month it covers. **(T-1).**

14.6.1. **(AETC)** Ensure contractor hours of operation are surveilled on a random basis to include all shifts, weekends, and holidays the contractor works.

14.6.1.1. **(Added-AETC)** See **Attachment 16** for a template that may be used for COR surveillance schedule development. In addition, see **Attachment 17** for a template that may be used in developing/documenting the monthly surveillance report.

14.6.2. The FC/FD will review and sign the monthly surveillance schedule and ensure the PCO/ACO is provided a copy before the start of the upcoming month's surveillance. **(T-1).**

14.6.2.1. Changes to the monthly surveillance schedule within the month being surveilled must first be coordinated and approved by the FC/FD and ACO. **(T-1).**

14.6.2.2. When approved, the COR must post changes to the schedule as they occur and send copies to the FC/FD and PCO/ACO. **(T-1). Note:** MAJCOMs may approve surveillance scheduling on a quarterly basis for organizations with unique/minimal surveillance requirements that do not warrant monthly scheduling.

14.6.3. CORs will adjust surveillance activities commensurate with performance-based activity's performance and level of risk to the Government should the performance-based activity not perform in an acceptable manner. **(T-1).**

14.6.3.1. If a particular function of the performance-based activity'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 should be reduced.

14.6.3.1. **(AETC)** When it is determined surveillance is not required in an observation area based on a continuing record of acceptable performance by the contractor, the Chief COR, with the approval of the FC and CO, will make a note in the monthly summary. Surveillance of an observation will not be skipped for more than one prescribed period (month, quarter, etc.). **Note:** This is not applicable to technical inspection requirements.

14.6.3.2. Conversely, surveillance of that function should increase if performance-based activity 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.

14.6.4. If minimum 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 inspection category is required.

Table 14.1. 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				AFI 38-203
- Incorporate management approaches used to address/validate Acquisition Strategy				AFI 21-101
- Panel (ASP) objectives & goals				AFI 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				AFI 21-101
- Identify financial withholding process for performance based services (if any)	32.10 04, (a) & (b) & (e)(1)(ii)			
Performance Preparation and Administration				
- Identify MFT and COR responsibilities				
- Identify procedures to ensure contractor's QC System is effective				AFI 21-101 AFI 38-203

- 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				AFI 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				AFI 38-203
Section B – Performance Assessment Surveillance				
Identify Surveillance Assessment Requirements				AFI 21-101
- Technical inspections				
- Work center program management inspections				
- Unscheduled inspections				
- “As observed” inspections				

- Customer complaint inspections				
- Non-Service Summary related inspections				
Identify Monthly Schedule Procedures				AFI 21-101
Section C – Performance Results Analysis and Reporting				
End of Month Summary Procedures				
- Technical and work center program management inspections				
- Non Service Summary inspections				
Procedures for reporting results of MAJCOM Inspections				AFI 21-101
Procedures for Financial Reporting				AFI 21-101
- WAWF invoicing				
- Cost reimbursable				
- Contractor submitted proposals				
- Contractor REA adjustments				
Corrective Action Procedures for Non-Conforming				AFI 21-101
- CARs				
- Corporate letters, cure notice, show cause, etc.				

- CPARs				
CPARS Reporting Procedures				AFI 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				AFI 21-101
- TIs, PM inspections, CC inspections, “as observes,” and Follow-up inspections				
- CARs				
- MAJCOM Inspections				
- Corporate letters, Cure notice, Show Cause, etc.				
Procedures for Closing out Substandard Contractor Performance Items				AFI 21-101

Chapter 15

MAINTENANCE PLANS, SCHEDULING AND DOCUMENTATION (PS&D)

15.1. Responsibilities:

15.1.1. AF/A4L will:

15.1.1.1. Develop and distribute the MxCAP2 model and supporting guidance. The MxCAP2 model establishes a standardized and empirically supported process for projecting MDS-specific, wing-level maintenance capability and capacity. It provides maintenance units the ability to accurately develop and support flying hour projections and accommodate FHP reflows. **Note:** For additional information on the MxCAP2 model contact: **usaf.pentaton.af-a4.mbx.a4lm-workflow@mail.mil** or AF/A4LM at DSN 227-2228, Comm: (703) 697-2228. For technical support contact: **MxCAP_2_Team@bah.com**, Mon-Fri, 0900-1700 EST, DSN: 224-8314, Comm: (703) 614-8314.

15.1.2. MAJCOMs will:

15.1.2.1. Supplement this instruction to establish minimum requirements for the following:

15.1.2.1.1. Time Compliance Technical Order (TCTO) folders and monthly/weekly utilization and maintenance schedules.

15.1.2.1.2. Publish MAJCOM procedures for verification of configuration items.

15.1.2.1.3. Determine whether to ship removed engines to depot or induct into CRF repair.

15.1.2.1.4. Determine routing and approval for AF Form 2407.

15.1.2.2. Ensure MAJCOM Master Course Listing includes 2R1 weapon system familiarization courses and establish timelines for attendance.

15.1.3. PS&D will:

15.1.3.1. Maintain historical documents and maintenance data essential for the development of wing plans, schedules and analysis of historical maintenance events. **(T-1).**

15.1.3.2. Maintain historical maintenance data within the MIS. **(T-0).**

15.1.3.2. **(AETC)** ALIS Prognostics and Health Management System is used to manage and monitor life expectancy and cycles for the F-35 aircraft to include deferred discrepancy management within ALIS.

15.1.3.3. Develop wing maintenance plans using MIS aircraft/system historical data input by all maintenance personnel. **(T-1).**

15.1.3.4. **(Added-AETC)** Be the wing's single point of contact for aircraft UTE reporting. Coordinate with operations scheduling not later than the second workday of the month to ensure data entered into the IMDS-CDB/GO81 matches between maintenance

and operations scheduling. **(T-2).** Coordinate any corrections or changes to data with all applicable agencies.

15.1.3.5. **(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).**

15.1.3.6. **(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. A file copy of fiscal year annual projections will be maintained according to the Air Force RDS.

15.1.3.7. **(Added-AETC)** Load weekly operational schedules into the MIS once approved 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, *Aircraft Deviation Record***,** and distribute it to the MOC. See **Attachment 18** for instructions on completing AETC Form 206C. **(T-2).**

15.1.3.8. **(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).

15.1.3.9. **(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.

15.1.4. The PS&D NCOIC/Chief (or equivalent) will:

15.1.4.1. Act as the wing 2R1XX functional manager. **(T-2).**

15.1.4.2. 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 (N/A to ARC). **(T-2)**.

15.1.4.2.1. This rotation plan applies to TSgts and below as well as 3- or 5-skill level personnel of any rank. **(T-3).**

15.1.4.3. Evaluate the performance of decentralized work centers quarterly. **(T-2)**.

15.1.4.3.1. During the visit, ensure historical documents are properly maintained and review and discuss the 2R1X1 training and rotation plan with each section NCOIC. **(T-2).**

15.1.4.3.2. Provide formal written reports of deficiencies found during the visits to the MO OIC/SUPT and applicable section NCOIC. **(T-2)**.

15.1.4.3.2.1. Deficiencies will not be closed until validated by the MO OIC/SUPT (N/A to ANG). **(T-2)**.

15.1.4.3.3. **(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 Work Center Job Qualification Standard (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)**

15.1.4.4. Develop and sustain the PS&D MTP IAW AFI 36-2201 and AFI 36-2650. **(T-1)**.

15.1.4.4. **(AETC)** In addition, adhere to requirements in AETCI 21-103. **(T-2)**

15.1.4.4.1. Provide/schedule assigned personnel weapon system familiarization, core task/certification, and proficiency training and evaluation. **(T-1)**.

15.1.4.4.1.1. Document familiarization training in the individual's TBA. **(T-1).**

15.1.4.4.2. Ensure civil service training is conducted IAW applicable local bargaining agreements and contractor maintenance organizations comply with training plans established in the PWS, SOW, or Performance Requirements Statement (PRS). **(T-1).**

15.1.4.5. Provide SME on all maintenance scheduling issues and equipment historical document AFTO Form 95, *Significant Historical Data*) management to Quality Assurance (QA) during inspection/evaluations. **(T-1)**.

15.1.4.6. Designate the Maintenance Scheduling Application Tool (MSAT) administrator from within PS&D (for units utilizing IMDS only). **(T-1).**

15.1.4.7. **(Added-AETC)** Participate in all wing scheduling meetings representing MO PS&D responsibilities. **(T-2).** For contract and civil service units, the DOM will determine appropriate representation at wing scheduling meetings.

15.1.4.8. **(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. **(T-2).**

15.1.4.8.1. **(Added-314AW)** Standardized flying windows, specific surge rules, quiet hour coordination, and minimum turn times will be published in the Weekly Flying Schedule.

15.1.5. The Wing AVDO will:

15.1.5.1. Complete AVDO duties IAW AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*, and maintain the inventory and utilization portion of the MIS Inventory, Status and Utilization subsystem. **(T-1).**

15.1.5.2. Oversee the aircraft transfer/depot program. **(T-1)**. The Wing AVDO will:

15.1.5.2.1. Coordinate any changes to the transfer/depot/DFT/CFT programs with the AMXS/AMU and all affected agencies. **(T-1).**

15.1.5.2.2. Generate AFTO Form 103, *Aircraft/Missile Condition Data,* to record certified maintenance needs for PDM aircraft IAW TO 00-25-4, *Depot Maintenance of Aerospace Vehicles and Training Equipment,* coordinate it with PS&D, QA, and AMXS maintenance supervision. **(T-1).**

15.1.5.2.3. Coordinate all assignment/possession code changes through the MAJCOM AVDO IAW AFI 21-103 and AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination.* **(T-1).**

15.1.5.3. 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-1)**.

15.1.5.3.1. This listing will contain all Lead Command-directed modification and maintenance programs. **(T-1)**.

15.1.5.3.2. The Wing AVDO will publish these schedules in monthly schedules and quarterly maintenance plans. **(T-2)**.

15.1.6. AMXS/AMU Dedicated Scheduler will:

15.1.6.1. Be assigned to MO and provide dedicated support to AMXS/AMU (N/A for ARC/AFSOC). **(T-2).**

15.1.6.2. Attend and actively participate in daily, weekly, and monthly scheduling, and quarterly and yearly planning programs and meetings. **(T-2).**

15.1.6.2. **(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).**

15.1.6.2.1. Inform AMXS/AMU supervision of maintenance capabilities or limiting factors that could affect maintenance production. **(T-2)**.

15.1.6.3. Coordinate with AMXS/AMU supervision and Operational Squadron (OS) operations schedulers when scheduling AMU aircraft to meet flying requirements. **(T-2)**.

15.1.6.4. Provide a listing of JCNs for following week's scheduled maintenance. **(T-1)**.

15.1.6.4.1. This list will be used to track Maintenance Scheduling Effectiveness (MSE). **(T-1)**.

15.1.6.4.2. PS&D will determine causes of missed maintenance for reporting MSE. **(T-1).**

15.1.6.5. Manage TCTOs, TCIs, and SIs (including installed engine inspections) for aircraft assigned to their appointed AMXS/AMU. **(T-1).**

15.1.7. **(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).**

15.1.8. **(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 in accordance with paragraph **15.5.6.3.1.2** of this instruction. **(T-2).**

15.1.8.1. **(Added-AETC)** The OS commander will ensure realistic schedules are developed and meet training objectives without jeopardizing fleet health.

15.1.8.2. **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.

15.1.8.3. **(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.

15.1.8.4. **(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.

15.1.8.5. **(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.

15.1.9. **(Added-AETC)** Operations Support Squadron (OSS) Operations Scheduling. OSS Operations Scheduling will: **(T-2).**

15.1.9.1. **(Added-AETC)** Obtain range, airspace, tanker support, and/or flying commitments.

15.1.9.2. **(Added-AETC)** Coordinate (to include confirmation) on all military training routes. (A locally designated representative may be outside this function.)

15.1.9.3. **(Added-AETC)** Manage air refueling tracks and finalize air refueling requirements per AFI 11-221, *Air Refueling Management (KC-10 and KC-135)*.

15.1.9.4. **(Added-AETC)** Receive intercommand and intracommand tasking (airlift channel missions) and disseminate the tasking to OSs.

15.1.9.5. **(Added-AETC)** Monitor (by MDS) the wing's progress toward planned monthly and annual UTE rates and flying hour program (FHP) accomplishment.

15.1.9.6. **(Added-AETC)** Ensure the wing's annual flying hour plan is developed with assistance from maintenance scheduling.

15.1.10. **(Added-AETC)** Flying Squadron Operations Officer. The squadron operations officer will: **(T-2).**

15.1.10.1. **(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.

15.1.10.2. **(Added-AETC)** Notify PS&D once the PFT conference date is known (not required for "T" designated aircraft).

15.1.10.3. **(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.

15.1.10.4. **(Added-AETC)** Compute operations attrition factors used to develop the PFT plan.

15.1.10.5. **(Added-AETC)** Assess the suitability of a PMC or restricted aircraft to complete sortie or mission objectives.

15.2. Data Documentation

15.2.1. Maintenance Historical Documentation.

15.2.1.1. Maintenance historical documentation will be accomplished in accordance with TO 00-20-1 which outlines the requirements to capture and record the significant maintenance actions on aerospace vehicles and equipment. **(T-1).**

15.2.1.2. Historical documentation will be entered and tracked in the authorized MDS MIS. **(T-1).** When the MIS is not available, historical documentation will be documented and tracked on the AFTO Form 95, or equivalent. **(T-1).**

15.2.1.3. 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.

15.2.2. 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 AFMAN 33-363. **(T-1).**

15.2.2.1. MAJCOMs will standardize MDS-specific requirements not captured in this instruction in supplements and addendums to this instruction.

15.2.2.2. Aircraft jacket files will be maintained in PS&D and standardized IAW the master aircraft historical file developed by the PS&D NCOIC. **(T-1).**

15.2.2.2.1. 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 etc.).

15.2.2.2.1.1. Decentralized records are filed by and are the responsibility of the owning work center.

15.2.2.2.1.2. Historical "pulled" 781 series forms will be filed by and remain the responsibility of PS&D while contained in the jacket file. **(T-1). Note:**

The accuracy of maintenance document entries is a basic responsibility of the initiator and supervisors.

15.2.2.2.1.2.1. A pulled set of AFTO Form 781-series aircraft forms is defined as the documents/forms that were closed out and removed "pulled" from the aircraft forms binder. These inactive sets of forms provide the historical documentation of maintenance actions completed in support of a specific flying period. Pulled forms contain more detail than is typically store in the MIS and may be needed to support mishap investigations or other administrative maintenance action reviews and will be retained as part of the jacket file for the period of time specified in AFRIMS. **(T-1).**

15.2.2.2.2. PS&D will list all historical records, including those decentralized in their file plan or office of record. **(T-1).**

15.2.2.2.2.1. 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-1).**

15.2.2.2.3. Wing-assigned aircraft jacket files may be maintained electronically, however, they must mirror the standardized master aircraft jacket file in organization and appearance. **(T-1)**.

15.2.2.2.3.1. Slight variations in composition are allowed between different MDS weapons systems located within the same wing.

15.2.2.3. MXG/CC may identify additional local items for inclusion in aircraft jacket files. Aircraft jacket files as a minimum will include:

15.2.2.3.1. Packages for one complete inspection cycle. **(T-1).** Units may download paperless inspections to automated storage media from MIS for filing in aircraft jacket files.

15.2.2.3.2. Last FCF documentation (e.g. FCF certification letter/FCF checklist). **(T-1).**

15.2.2.3.3. Last depot package. **(T-1).**

15.2.2.3.4. Transfer packages. **(T-1).**

15.2.2.3.5. Applicable weapon system -6 TO AFTO Form 95s. **(T-1).**

15.2.2.3.6. W&B records. **(T-1).**

15.2.2.3.7. Engine Records. **(T-1).**

15.2.2.3.8. Document review records/checklists. **(T-1).**

15.2.2.3.9. NDI records. **(T-1).**

15.2.2.3.10. AF Form 2411, *Inspection Document* (or equivalent). **(T-1).**

15.2.2.3.11. Annual aircraft jacket file review checklist. **(T-1).**

15.2.2.3.11. **(AETC)** Units may attach an AF Form 2411, *Inspection Document,*

to the front of 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.

15.2.2.3.11.1. **(Added-AETC)** During aircraft jacket file annual review, P&S will accomplish the following minimum requirements: **(T-2).**

15.2.2.3.11.2. **(Added-AETC)** Ensure all items requiring an AFTO Form 95 (or automated version) according to the applicable dash-6 TO are complete, accurate and filed appropriately. (AFTO Form 95 is prescribed by TO 00-20-1. Refer to this publication for guidance on filling out the form.)

15.2.2.3.11.3. **(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 and PAD verification.

15.2.2.3.11.4. **(Added-AETC)** Ensure there is a copy of the last records check and copies of the last inspection packages. Refer to paragraph **15.2.5**.

15.2.2.3.12. Authorized TO variances. **(T-1).**

15.2.2.3.13. Requests for assistance meeting the requirements for retention as historical records IAW TO 00-25-107, *Maintenance Assistance*, or equivalent/like MDS specific requirements for retention of documents as historical records. **(T-1). 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.

15.2.2.3.14. Pulled AFTO Form 781-series aircraft forms. **(T-1).**

15.2.2.3.14.1. Units using 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-1).**

15.2.2.3.14.2. Units not required to use a MIS will use aircraft forms and maintain the current and last 3 months' worth of pulled aircraft forms. **(T-1).**

15.2.2.3.14.3. Pulled 781 forms will be filed in the aircraft jacket file 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-1).**

15.2.2.3.14.4. Sets of forms may or may not include an AFTO Form 781J/K. AFTO Forms 781J/K will be included in the set of forms they were pulled with and retained for the same period of time. **(T-1).**

15.2.2.3.14.5. When PS&D discovers the AFTO Form 781-series missing during filing in the aircraft jacket file, a missing-forms letter will be sent to the appropriate Operations Officer/MX SUPT of the maintenance unit responsible for pulling the forms with a 5 duty-day suspense. **(T-2).**

15.2.2.3.14.5.1. If a response is not returned within 5 duty days, notify the applicable maintenance unit supervision. **(T-2).**

15.2.2.3.14.5.2. If the forms cannot be located, file the missing forms letter, endorsed by the Operations Officer/MX SUPT in the aircraft jacket file in place of the missing forms. **(T-2).** See TO 00-20-1 for missing form procedures and AFMAN 33-363 for records management and disposition instructions.

15.2.2.4. Annual jacket file review. Review aircraft jacket files annually using a locally-developed PS&D checklist. **(T-1).**

15.2.2.4.1. The last completed checklist will be kept on file in each aircraft jacket file. **(T-1).**

15.2.3. 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.

15.2.3.1. MAJCOMs will standardize the MIS/on-line products used to perform ADR on like-MDS weapons systems. **(T-1)**.

15.2.3.1.1. Units using MDS-specific laptop forms (e.g., IMIS, ALIS, etc.) must develop procedures to ensure intent of ADRs is implemented. **(T-1)**.

15.2.3.2. 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*, and AFTO Form 95 generated by the MIS will constitute fully automated series). **(T-1)**.

15.2.3.2.1. 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-1)**.

15.2.3.2.2. ADRs will also be accomplished when an aircraft is transferred, deployed for more than 30 days, before and after scheduled inspections (PH or ISO), before and after storage and after fatigue tests. **(T-1)**.

15.2.3.2.2. **(AETC)** Accomplish an ADR before and after a scheduled PE and HPO. **(T-2). Exception*:*** ADRs are not required before and after an HPO on the "T" designated aircraft that fall under the phase concept and the HPO on the H-1 helicopter unless the ADRs are on the normal cycle.

15.2.3.2.3. For CANN aircraft, conduct ADRs at least every 30 days. **(T-2)**.

15.2.3.2.3. **(AETC)** Accomplish an ADR upon removal from CANN status. **(T-2).**

15.2.3.3. Units will develop and publish an ADR checklist for use by home station and deployed units. **(T-1).**

15.2.3.3.1. 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-1).**

15.2.3.4. ADR Procedures.

15.2.3.4.1. PS&D will create a JST for ADRs on a red dash symbol and ensure it is loaded against all assigned aircraft. **(T-3)**.

15.2.3.4.2. 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-1)**.

15.2.3.4.2. **(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 with a scheduled start date and time greater than 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 IMDS-CDB, 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).**

15.2.3.4.3. 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)**.

15.2.3.4.3. **(AETC)** The maintenance technician will clear the ADR JCN in the AFTO Form 781A, *Maintenance Discrepancy and Work Document*, and in the MIS. **(T-2).** PS&D will ensure the next due date is correct before clearing the suspense. **(T-2).**

15.2.3.4.4. Units will coordinate with DMS/LRS to run a tail number inquiry to validate backorders and correct any discrepancies discovered. **(T-2)**.

15.2.3.4.4. **(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.

15.2.3.4.5. Maintenance personnel will correct all discrepancies discovered during the ADR, prior to signing off the ADR JCN. **(T-1).**

15.2.3.4.5.1. 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-1).** Once all the uncorrected discrepancies are documented in the AFTO Forms 781-series the ADR can be signed off as complete.

15.2.4. Pre-Dock Meetings. PS&D personnel will:

15.2.4.1. 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)**.

15.2.4.1.1. 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.

15.2.4.1.1. **(AETC)** AETC units will determine locally if pre- and post-dock meetings are required based on the requirements in AFI 21-101.

15.2.4.2. Host meetings and notify the appropriate Operations Officer/MX SUPT and flight supervisors of any recurring problems with attendance. **(T-2)**. Prior to the pre-dock meeting, PS&D will:

15.2.4.2.1. Determine pre-dock meeting attendees. **(T-2).**

15.2.4.2.1.1. The following personnel will attend the meeting as a minimum: PS&D, Pro Super, Inspection Dock NCOIC, aircraft crew chief, DMS, and EM representative. **(T-2).**

15.2.4.2.1.1. **(AETC)** The egress function (when CAD and PAD TCIs or TCI verifications are scheduled) will attend the pre-dock meeting. **(T-2).**

15.2.4.2.1.2. Include other agencies as required for performance of the work package.

15.2.4.2.2. 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).**

15.2.4.2.2. **(AETC)** PS&D will forward the AF Form 2410 to EM. EM will:

15.2.4.2.2.1. **(Added-AETC)** Annotate all engine-related TCTOs, TCIs, inspections, or any major or minor maintenance action required during the aircraft's scheduled downtime.

15.2.4.2.2.2. **(Added-AETC)** Return the AF Form 2410 to PS&D after completion.

15.2.4.2.3. Identify requirements for kits or parts. **(T-2).**

15.2.4.2.4. List all DDs to be accomplished during the inspection on the AF Form 2410 keeping the original JCN. **(T-2)**.

15.2.4.2.5. Incorporate all requirements against the aircraft into a work package. **(T-2).**

15.2.4.2.6. List specialist tasks required in addition to normal inspection needs. **(T-2)**.

15.2.4.2.7. Develop a list of items identified as out-of-configuration for

verification/correction during the inspection. **(T-2).**

15.2.4.2.7.1. 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)**.

15.2.4.3. 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)**.

15.2.4.3.1. Agency representatives will inform PS&D of limiting factors that might affect the schedule. **(T-2)**.

15.2.4.3.1. **(AETC)** Identify known availability of parts and (or) kits required to complete scheduled actions on AF Form 2410.

15.2.4.3.2. PS&D will discuss aircraft configuration during all aircraft pre-dock meetings. **(T-2).**

15.2.4.3.3. Wings will use the AF Form 2410, or locally-developed product to record additional information discussed during the pre-dock meeting. **(T-2)**.

15.2.4.3.3.1. 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).**

15.2.4.3.3.2. Provide a copy to the Inspection Dock NCOIC or equivalent for use during the post-dock meeting. **(T-2)**.

15.2.4.3.4. PS&D will provide a copy of the applicable "out of configuration" MIS products (e.g. IMDS screen 810 and 990; G081, screen 8110; serial number checklists) to Inspection Dock NCOIC in pre-dock package for verification/correction. **(T-2).**

15.2.4.3.4. **(AETC)** Units may utilize the Acft Verification Worksheet in MSAT.

15.2.4.3.4.1. The responsible work center will correct verified erroneous data and "out of configurations" in the MIS prior to post-dock. **(T-2).**

15.2.4.3.4.1. **(AETC)** Develop a list of items identified as out-of-configuration for verification/correction during the inspection. PS&D will request IMDS DBM process screen 942, Actual Configuration Set-up, using the ID number of the aircraft. Once accomplished, PS&D must run an IMDS screen 990. For G081 users, view screen 8110. For non-configuration tracked aircraft, compile a list of missing serially controlled items and coordinate/forward them to dock chief for verification.

15.2.4.3.5. As a minimum, the following will also be discussed at the pre-dock meeting:

15.2.4.3.5.1. The type and number (if applicable) of the inspection to be performed. **(T-2).**

15.2.4.3.5.2. Validation of current aircraft and engine operating times. **(T-2).**

15.2.4.3.5.3. Parts in the TNB that require aircraft installation. **(T-2).**

15.2.4.3.5.4. Any known post inspection fuel cell work required. **(T-2).**

15.2.4.3.5.5. Date the aircraft is to be ready for the flightline to accept back. **(T-2).**

15.2.4.3.5.6. All known engines requiring replacement. **(T-2).**

15.2.4.3.5.7. Review of the aircraft forms open discrepancies including DDs and develop a joint plan to work as many discrepancies as feasible/applicable. **(T-2).**

15.2.4.3.5.8. Any inspections that will require maintenance personnel to stop work (e.g., NDI shop requirements) and when the maintenance dock needs to be clear of personnel to perform the inspections. **(T-2).**

15.2.4.3.5.9. All meeting attendees will sign the AF Form 2410. **(T-2).**

15.2.4.3.5.10. **(Added-AETC)** Following the meeting, schedule all actions listed on the AF Form 2410 in the MIS.

15.2.5. Post-Dock Meetings. Units will hold a post-dock meeting as soon as possible after the inspection but no later than before the functional check flight (FCF) or first flight. **(T-2).** PS&D will:

15.2.5.1. 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:

15.2.5.1.1. 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)**.

15.2.5.1.1. **(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).**

15.2.5.1.1.1. **(Added-AETC)** Ensure all discrepancies discovered during the look phase of the inspection have been entered into the MIS according to TO 00-20-1.

15.2.5.1.1.2. **(Added-AETC)** Review the MIS to ensure corrected discrepancies and inspection card items are properly documented.

15.2.5.1.1.3. **(Added-AETC)** Ensure scheduled actions listed on AF Form 2410 are properly documented.

15.2.5.1.1.4. **(Added-AETC)** Change the delivery destination for parts ordered, but not yet received during the inspection.

15.2.5.1.2. 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 HPO 1 will be replaced by the

next HPO1 and the HPO2 will be replaced with the next HPO2, etc.).

15.2.5.1.3. The Inspection Dock NCOIC will return the completed serial number verification sheet to the PS&D representative. **(T-2).**

15.2.5.1.4. The Inspection Dock NCOIC or designated representative and the aircraft crew chief or equivalent will perform an aircraft documents review. **(T-2).**

15.2.5.1.5. 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).**

15.2.5.1.5.1. Any action that was scheduled but not complied with will be annotated on the AF Form 2410 (used at the pre dock meeting) with the reason why it was not performed. **(T-2).**

15.2.5.1.5.2. alidate that any TCTO/TCI/SI not complied with will not ground the aircraft before releasing the aircraft back to flightline maintenance personnel. **(T-2).**

15.2.5.1.5.3. **(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).**

15.2.5.1.6. Verify all parts placed on order during the inspection but not received have valid document numbers. **(T-1).**

15.2.5.1.7. 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-1).**

15.2.5.1.7.1. If maintenance actions previously identified for completion 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. **(T-1).**

15.2.5.1.8. PS&D will file the completed AF 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-1).** Electronic versions may be saved to digital media.

15.2.5.1.9. **(Added-AETC)** After a complete validation of all records, make the final entries on AF Form 2410. **(T-2).**

15.2.6. MIS (G081/IMDS) extended downtime (more than 48 hours).

15.2.6.1. If the MIS is not available for more than 48 hours, maintenance organizations will use the most current data contained in Maintenance Scheduling Application Tool (MSAT) for IMDS units and "Global Reach" system products for G081 units.

15.2.6.1.1. MSAT usage may continue in a digital format as long as updates can be made and retained.

15.2.6.2. If data cannot be retained by MSAT or Global Reach, the use of AFTO Form 349, *Maintenance Data Collection Record*, or electronic equivalent will be initiated for use in data collection/completion. **(T-2).**

15.2.6.2.1. 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).**

15.2.6.2.2. The AFTO Form 349 or electronic equivalent will be used to update applicable MIS products once brought back online. **(T-2).**

15.2.6.2.3. 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).**

15.2.6.2.4. After all changes have been verified in the MIS, destroy the AFTO Form 349 or electronic equivalent.

15.2.6.2.5. **(Added-314AW)** DBMs will notify the AMU debrief sections when expecting extended G081 downtime. In turn, the debrief sections will notify the workcenter supervisors and initiate manual back-up procedures.

15.2.6.3. 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)**.

15.2.7. Aerospace Vehicle and Equipment Mishap Response Procedures:

15.2.7.1. 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** of this instruction. **(T-1).**

15.2.7.2. 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-1).** Include any additional significant historical data, and other decentralized records. **(T-2).**

15.2.7.3. EM will download and impound engine records from the applicable MIS and CEMS. **(T-1).**

15.3. Configuration, TCTO, SI and TCI Management

15.3.1. Responsibilities. MAJCOMs will establish PS&D requirements and responsibilities to support work centers who's AFSCs require scheduling functions for the equipment they maintain (e.g. Egress, Armament, and Aerospace Ground Equipment, Fuels) in a supplement to this instruction. **(T-1).**

15.3.1.1. PS&D will provide work centers who's AFSCs require scheduling functions (e.g. Egress, Armament, and Aerospace Ground Equipment, Fuels) SME training support and oversight of scheduling products necessary to ensure configuration data integrity is maintained. **(T-1).** PS&D will:

15.3.1.2. Outline procedures for ordering hazardous materials for TCIs and TCTOs (e.g. batteries). **(T-2)**.

15.3.1.3. 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)**.

15.3.1.4. Ensure EM processes all IMDS suspense validations for engines and engine components. **(T-2)**.

15.3.1.5. Use MSAT to audit SI, TCI, and TCTO MIS data weekly (IMDS units only). **(T-1).**

15.3.1.6. Validate that data errors are corrected with appropriate personnel and updated in the MIS weekly. **(T-1).**

15.3.1.7. Submit MSAT trouble tickets at **https://midtier.gunter.af.mil/**, call the Field Assistance Branch at DSN 596-5771, or email **team4@gunter.af.mil** to correct program deficiencies. **(T-1)**.

15.3.2. 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. Of major concern are accurate, approved part numbers, Quantity per Assembly (QPA) and Next Higher Assembly (NHA) items by WUC/LCN. PS&D has overall responsibility for the Equipment Configuration Management (ECM) or Aircraft Configuration Management (ACM) subsystem of the MIS and will provide assistance to maintenance personnel (IMDS units only). **(T-1).** The performing work center supervisor and PS&D conduct supervisory reviews of configuration change, TCTO, SI and TCI events using MIS on-line capabilities. **(T-1).** 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 processes engines and engine components in applicable engine information system. **(T-1)**.

15.3.2.1. 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-1)**.

15.3.2.1. **(AETC)** The configuration tables (F-16s and CV22B) are electronically pushed to each unit from REMIS as aircraft configuration changes occur. Items not accessed or visible during routine field-level maintenance should be identified to Lead Command and ALC managers for removal from the configuration management table.

15.3.2.1.1. Items not accessed or visible during routine field-level maintenance shall be identified to Lead Command and AFSC managers for disposition. **(T-1)**.

15.3.2.2. 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-1).**

15.3.2.3. 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.

15.3.2.3.1. **(Added-AETC)** For those aircraft that do not currently have an established configuration table, use IMDS screen 810 to validate the installed items against the data in the MIS.

15.3.2.4. PS&D will coordinate the daily resolution of IMDS configuration management notices with the appropriate maintenance section utilizing the applicable MIS screen. **(T-1)**.

15.3.2.4. **(AETC)** Accomplish configuration verification during PE/PH/ISO inspections on those installed part number and serial number items identified in the aircraft specific dash-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.

15.3.2.4.1. Uncorrected discrepancies will be briefed weekly at the daily production/scheduling meeting and forwarded to the appropriate maintenance supervision for corrective action. **(T-2)**.

15.3.2.5. When out of configuration items or missing serially-tracked items are discovered, establish a single DD for the "out-of-configuration" condition. **(T-2)**.

15.3.2.5.1. Additionally, add a MIS WCE for each WUC/LCN and part/serial number item requiring verification to the single DD. **(T-2).**

15.3.3. 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 Federal Aviation Administration (FAA) Air Worthiness 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. Consider concurrent accomplishment of TCTO work with other unscheduled or scheduled maintenance (e.g., PH, ISO, HSC, HPO). Manage TCTOs using the MIS, TO 00-5-15 and specific MAJCOM instructions.

15.3.3.1. PS&D is responsible for managing all assigned weapon system TCTO programs and will monitor/provide oversight of all aircraft, weapon system, AGE and commodity TCTOs to ensure all compliance requirements are met. **(T-1).**

15.3.3.1.1. Munitions-related TCTOs will be managed by the munitions scheduler (if assigned) and engine-related TCTOs will be managed by EM schedulers. **(T-1).**

15.3.3.1.2. PMEL TCTOs will be managed by the owning agency with PS&D

oversight. **(T-1).**

15.3.3.1.3. The parent technical training center manages and schedules all TCTOs for training equipment assigned to a training detachment or Mobile Training Team (MTT).

15.3.3.2. PS&D will review MIS products weekly to ensure proper documentation and management by owning and managing TCTO agencies. **(T-1).**

15.3.3.2.1. When an error is detected, PS&D will inform affected work centers and provide assistance to correct the discrepancy IAW TO 00-20-2. **(T-1).**

15.3.3.2.2. Units will complete an annual TCTO status review. **(T-1).**

15.3.3.2.2.1. 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-1)**.

15.3.3.2.2.2. If REMIS or equivalent access is not available, request a REMIS Master TCTO report or equivalent from the MAJCOM MDS WST/SPO 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)**.

15.3.3.2.2.3. Once all status errors are corrected, and reconciliation is complete and verified, IMDS units can delete the TCTO from the MIS. G081 automatically retires TCTOs 60 days after rescission, and all equipment shows as complete.

15.3.3.2.2.3.1. Document completion on AF Form 2411. **(T-1).**

15.3.3.2.3. PS&D will brief the MXG/CC (or equivalent) weekly on unaccomplished TCTOs that are within 60 days of grounding. **(T-1)**.

15.3.3.2.3.1. Significant problems or potential delays in TCTO accomplishment will be brought to the immediate attention of the MO OIC/SUPT and MXG/CC (or equivalent). **(T-2)**.

15.3.3.2.4. PS&D will chair a TCTO review meeting attended by all TCTO owning and managing agencies after the monthly supply TCTO reconciliation meeting. These meetings may be combined. **(T-1)**.

15.3.3.2.4.1. PS&D will discuss the supply reconciliation, supply status, scheduling factors, current TCTO status and anticipated problems for all active TCTOs. **(T-2)**.

15.3.3.2.4.2. PS&D will produce meeting minutes on the AF Form 2410 and distribute to all affected agencies. **(T-3).**

15.3.3.2.5. Depot-level TCTOs, excluding commodities, will be loaded and tracked in the MIS for auditing compliance and applicability. **(T-1).**

15.3.3.2.5.1. Depot-level engine TCTOs will be loaded in CEMS only. **(T-1).**

15.3.3.2.5.2. Units shall ensure dual reporting of completed depot-level TCTOs

is prevented. **(T-1)**.

15.3.3.2.5.3. All field-level companion TCTOs for commodities must be loaded in the MIS. **(T-1).**

15.3.3.2.6. PS&D will monitor, track, and administer all applicable Computer Program Identification Numbers (CPINS) as commodity TCTOs for configuration management purposes. **(T-1)**.

15.3.3.2.6.1. PS&D will coordinate reprogramming of all passive/active aircraft internal and external electronic warfare systems and equipment with the wing EWO or equivalent before implementing any CPIN changes. **(T-1)**.

15.3.3.2.6.2. PS&D will coordinate with EM before issuing NSS/ETS CPINS. **(T-1).**

15.3.3.2.7. When TCTOs are directed for items without serial numbers, assign permanent serial numbers IAW TO 00-20-2 and AFI 23-101. **(T-1)**.

15.3.3.2.7.1. 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).

15.3.3.2.8. Control and Transfer of TCTO Kits. Units will transfer aircraft or equipment, with any TCTOs still pending completion, with their applicable TCTO kits. **(T-1)**.

15.3.3.2.8.1. 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).**

15.3.3.2.8.2. Transfer TCTO kits IAW AFI 23-101, TO 00-5-15 and TO 00-5-1. **(T-1).**

15.3.3.3. Specific TCTO Responsibilities.

15.3.3.3.1. QA personnel will:

15.3.3.3.1.1. Review all new and revised technical data and TCTO's for completeness, accuracy and applicability. **(T-1).** Inform applicable work centers of changes and up channel any problems discovered during this review.

15.3.3.3.1.1. **(AETC)** Performing work centers assist QA in accomplishing an initial review of the TCTO.

15.3.3.3.1.2. Determine if the TCTO impacts W&B. **(T-1)**.

15.3.3.3.1.3. Distribute copies of TCTOs to the managing agency, performing work centers, and LRS. **(T-2)**.

15.3.3.3.1.4. Provide a supply cover letter requesting the number of items in supply (including WRM) affected by the TCTO. **(T-2).**

15.3.3.3.1.5. Report all deficiencies in technical instructions and kit-proofing to the appropriate TCTO manager IAW TOs 00-5-1 and 00-5-15. **(T-1).**

15.3.3.3.1.6. Attend TCTO planning meetings. **(T-2)**.

15.3.3.3.1.7. Provide technical support to performing work centers. **(T-3)**.

15.3.3.3.2. PS&D personnel will:

15.3.3.3.2.1. Determine the total number of end items applicable to the TCTO. **(T-1).**

15.3.3.3.2.1.1. Items that are assigned with the same Mission Design Series, WUC, Part Number, etc., but are not applicable to the TCTO will be loaded in "22" status. **(T-1)**. This ensures accurate accountability that all equipment has been verified as being affected or not applicable to TCTO.

15.3.3.3.2.2. Chair a TCTO planning meeting with attendees from QA, owning and performing work centers and Flight Service Center (FSC)/LRS IAW AFMAN 23-122, Chapter 4. **(T-1).**

15.3.3.3.2.2.1. Record meeting minutes on AF Form 2410, or locally-developed product and provide an overall plan to implement the TCTO. **(T-2)**.

15.3.3.3.2.2.2. 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)**.

15.3.3.3.2.2.3. All attendees sign the AF Form 2410, or locally developed product, at the conclusion of the planning meeting indicating agreement with the conditions. **(T-1)**.

15.3.3.3.2.3. Establish and maintain a TCTO folder for each active TCTO. **(T-1)**.

15.3.3.3.2.3.1. TCTO folders will be standardized and include the basic TCTO and any supplements, completed AF Form 2410, or locally developed product, AF Form 2001**,** (if required), messages and the supply cover letter from QA. **(T-2)**.

15.3.3.3.2.3.1. **(AETC)** COMBS contracts do not require compliance with AFI 21-101; therefore, they are not required to complete the AF Form 2001, *Notification of TCTO Kit Requirements*.

15.3.3.3.2.3.2. 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-1)**.

15.3.3.3.2.3.2.1. Move the folder to an inactive TCTO file. **(T-1)**.

15.3.3.3.2.3.2.2. The TCTO managing agency will maintain the folder until the TCTO is rescinded in the applicable TO index. MIS TCTO records will be deleted (scheduled to retire for G081users) at that time. **(T-1)**.

15.3.3.3.2.3.3. TCTOs will not be deleted from the MIS *prior* to the rescission date. **(T-1)**.

15.3.3.3.2.3.4. Validate in REMIS that no additional requirements have been submitted or extensions applied. **(T-1)**.

15.3.3.3.2.4. 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-1).**

15.3.3.3.2.4. **(AETC)** PS&D will load TCTO supplements that require additional work, change existing maintenance procedures, or place additional demands on supply.

15.3.3.3.2.5. Use the Integrated Logistics System-Supply (ILS-S) to order required kits/parts/tools IAW MIS manuals. **(T-1)**.

15.3.3.3.2.5.1. 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).**

15.3.3.3.2.5.2. For locally obtained parts, prepare an AF Form 2001 listing each item by NSN, noun and quantity required. **(T-2).**

15.3.3.3.2.6. Assign ID numbers to kits as they are received. **(T-1).**

15.3.3.3.2.6.1. 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-1).**

15.3.3.3.2.6.2. The LRS/Supply Flight Service Center TCTO monitor will ensure kits and/or parts are assembled prior to release. **(T-1)**.

15.3.3.3.2.7. Control and release TCTO kits from LRS. **(T-1).**

15.3.3.3.2.8. Notify appropriate MAJCOM, by message, when local managers anticipate a problem with TCTO compliance within prescribed time limits. **(T-1)**.

15.3.3.3.2.8. **(AETC)** Send messages to HQ AETC/A4M.

15.3.3.3.2.8.1. 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.

15.3.3.3.2.8.2. The message will be endorsed by MXG/CC (or equivalent) prior to submission to MAJCOM. **(T-2).**

15.3.3.3.2.9. 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-1)**.

15.3.3.3.2.10. Schedule, track and monitor TCTO accomplishment. **(T-1)**.

15.3.3.3.2.10.1. 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)**.

15.3.3.3.2.11. Review suspense validation or equivalent inputs prior to processing TCTO suspenses and updating the MIS. **(T-1)**.

15.3.3.3.2.12. Update equipment/aircraft TCTO status as changes occur. **(T-1)**.

15.3.3.3.2.13. Annotate back-up MIS products as changes occur. **(T-1)**.

15.3.3.3.2.14. Ensure TCTOs are scheduled for completion prior to expiration or grounding date whichever comes first. **(T-1)**.

15.3.3.3.2.15. Schedule all workable TCTOs for accomplishment prior to permanent equipment transfer or storage input. **(T-2)**.

15.3.3.3.2.16. 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; place the TCTO in a workable status once the operating time is reached. **(T-2).**

15.3.3.3.2.16.1. Document the JST number in the TCTO notes.

15.3.4. SI and TCI Management:

15.3.4.1. Job Standard Master Listing (JML) Management.

15.3.4.1.1. 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-1)**.

15.3.4.2. Develop a matrix/chart depicting the total number of SIs and TCIs to be loaded in the MIS for each assigned aircraft/system. **(T-1)**.

15.3.4.2.1. 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)**.

15.3.4.2.1. **(AETC)** AGE and armament schedulers will maintain their appropriate JML.

15.3.4.2.2. For units using G081, Lead Command weapon system managers must maintain master inspection and time change requirements. **(T-2)**.

15.3.4.2.3. Once Master Job Standard Numbers (MJSNs) are fielded for a weapon system, local PS&D will review TO 00-20-2, *Maintenance Data Documentation* for MJSN procedures. **(T-1)**.

15.3.4.2.4. 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-1)**. PS&D will:

15.3.4.2.4.1. Load JSTs for all aircraft/systems -6 TOs special/scheduled inspections with frequencies greater than 30 days or 50 hours in the MIS. **(T-1)**.

15.3.4.2.4.1. **(AETC)** Include these inspections in maintenance planning cycles.

15.3.4.2.4.1.1. Load Periodic Inspection (PE), PH, engine changes and

other event type inspections (e.g., hard landing) as a JST in the MIS as they occur. **(T-1)**.

15.3.4.2.4.1.2. Provide training for maintaining JSTs as necessary. **(T-2)**

15.3.4.2.4.2. Perform a semi-annual review of the JML and all JSTs for accuracy and currency. **(T-1)**.

15.3.4.2.4.2.1. Review matrix/chart depicting the total number of SIs and TCI requirements to be loaded in the MIS for each assigned aircraft/system. **(T-1)**.

15.3.4.2.4.2.2. 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-1)**.

15.3.4.2.4.2.3. Units may create JSTs in the MIS to automate required documentation of repetitive or complex tasks (e.g. engine change, tire change, phase inspection, flight control maintenance).

15.3.4.2.4.2.3. **(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).**

15.3.4.2.4.2.3.1. **(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.

15.3.4.2.4.2.3.2. **(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.

15.3.4.2.4.2.3.3. **(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.

15.3.4.2.4.2.3.4. **(Added-314AW)** Initiator will:

15.3.4.2.4.2.3.4.1. **(Added-314AW)** Submit all proposed locally developed preprints, forms/lists, and job flow packages to the 314 MXG QA office using locally developed preprints, forms/list, and Preprint Authorization Letter (**Attachment 32**) for coordination and approval. Proposals must be properly coordinated within the initiator's unit and routed through the MOO or Maintenance Superintendent (MX SUPT).

15.3.4.2.4.2.3.5. **(Added-314AW)** Squadron Maintenance Supervision will ensure:

15.3.4.2.4.2.3.5.1. **(Added-314AW)** Locally developed preprints, forms/lists, and job flow packages have been reviewed for content, accuracy, necessity, and compliance with applicable directives.

15.3.4.2.4.2.3.5.2. **(Added-314AW)** Locally developed preprints, forms/lists, and job flow packages are used for their intended purpose, documented IAW applicable directives filed, or disposed of as required.

15.3.4.2.4.2.3.5.3. **(Added-314AW)** Coordination with QA for deletion of any locally developed preprints, forms/lists, and job flow packages.

15.3.4.2.4.2.3.6. **(Added-314AW)** MXG QA Office will ensure:

15.3.4.2.4.2.3.6.1. **(Added-314AW)** Submitting squadron MOO or MX SUPT have reviewed all proposals.

15.3.4.2.4.2.3.6.2. **(Added-314AW)** That proposed locally developed preprints, forms/lists, and job flow packages do not duplicate existing preprints, forms/lists, or job flow packages.

15.3.4.2.4.2.3.6.3. **(Added-314AW)** That locally developed preprints and forms/lists have a date on each page so the previous version can be easily identified and purged.

15.3.4.2.4.2.3.6.4. **(Added-314AW)** That a control number is assigned to each approved/disapproved locally developed preprint and forms/lists.

15.3.4.2.4.2.3.6.5. **(Added-314AW)** Coordination with PS&D to have the most current and approved job flow packages updated in the G081 database.

15.3.4.2.4.2.3.6.6. **(Added-314AW)** A master file copy of approved locally developed preprints and forms/lists used within the maintenance complex is maintained until the next review.

15.3.4.2.4.2.3.7. **(Added-314AW)** PS&D will ensure:

15.3.4.2.4.2.3.7.1. **(Added-314AW)** All QA approved job flow packages are loaded in the automated system.

15.3.4.2.4.2.3.7.2. **(Added-314AW)** Outdated versions of each job flow package are identified and purged to ensure the most current version of each package is maintained in the G081 database. This will be accomplished after coordination and approval by the QA office. ***NOTE***: Headquarters directed and TO-driven packages developed by PS&D do not require QA approval.

15.3.4.2.4.3. Monitor the inspection and time change subsystems in the MIS. **(T-1)**.

15.3.4.2.4.3.1. Perform a monthly review of all inspections, SIs and TCI JSTs for each assigned aircraft (Quarterly for (ARC). **(T-1)**.

15.3.4.2.4.3.2. 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-1).**

15.3.4.2.4.3.3. Document the review and ensure corrections are made to the MIS. **(T-2)**.

15.3.4.2.4.3.4. 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.

15.3.4.3. PS&D will manage the assigned weapon systems TCI program. **(T-1)**. PS&D Personnel will:

15.3.4.3.1. 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, AFI 21-201, *Conventional Munitions Maintenance Management* or identified as Federal Supply Group (FSG 13) and Materiel Management Code AQ Items. **(T-1).**

15.3.4.3.2. Establish a JST for both the Date of Manufacture (DOM) and Date of Installation (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-1)**.

15.3.4.3.2.1. Load only the DOI or DOM JST that comes due first, in the MIS against a specific part or serial number. **(T-1)**.

15.3.4.3.2.2. As a minimum, when the DOI and DOM frequencies are identical, maintain the JST for the DOM. **(T-1)**. (N/A for G081 units)

15.3.4.3.3. At least annually, meet with Egress and Aircrew Flight Equipment (AFE) activities to verify each aircraft's egress data. **(T-1)**.

15.3.4.3.3.1. Document the annual verification on the AF Form 2411 maintained in the aircraft jacket file. **(T-1)**.

15.3.4.3.3.2. 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-1)**.

15.3.4.3.3.3. Forecasting of CAD/PAD items for long-term CAD/PAD spare requirements will be accomplished by Ogden Air Logistics Complex (OO-ALC) through use of the Requirements Determination Module (RDM) to extract installation and due dates from REMIS. **(T-1).**

15.3.4.3.3.3.1. When CAD/PAD items or forecast requirements are not visible within the maintenance data system (e.g., CLS managed components), units will forecast for TCIs IAW TO 00-20-9 and AFI 21-201. **(T-1)**.

15.3.4.3.3.3.2. Validate and consolidate TCI forecasts for items listed in TO 00-20-9, commodity TOs, and aircraft specific -6 TOs. **(T-1)**.

15.3.4.3.3.3.2. **(AETC)** Validation will include, as a minimum, ensuring all items are accounted for and quantities needed are correct. **(T-2).**

15.3.4.3.3.3.3. Submit consolidated forecasts to the appropriate Lead Command representative with an info copy to munitions operations. **(T-2)**.

15.3.4.3.3.3.3. **(AETC)** Submit a copy of annual consolidated forecasts to HQ AETC/A4MS. **(T-2).**

15.3.4.3.3.3.4. Forward any quarterly updated forecasts to munitions operations. **(T-2)**.

15.3.4.3.4. Initiate, validate, and submit TCI extension requests to the Air Force Sustainment Center (AFSC) item manager (IM) with an info copy to munitions operations. **(T-1)**.

15.3.4.3.4. **(AETC)** Submit extension requests as early as 45 days, but NLT 30 days prior to grounding. **(T-2).** 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.

15.3.4.3.4.1. Ensure a copy of approved waivers are placed in the affected aircraft's forms and removed when no longer required. **(T-1).**

15.3.4.3.4.2. Maintain and monitor a suspense copy of the extension request and follow up prior to the grounding date of the TCI. **(T-1)**.

15.3.4.3.4.3. Refer to Technical Orders 00-20-1 and 00-20-9 for additional guidance on TCI extensions and maintain a copy of the AFSC/System Program Director (SPD) approved message until the item is replaced. **(T-1)**.

15.3.4.3.4.4. EM will generate engine TCI extension requests and coordinate through the Command Engine Manager to the appropriate Engine Program Office in AFLCMC. **(T-1)**.

15.3.4.3.5. Perform monthly reconciliation of all TCIs with LRS. **(T-2)**.

15.3.4.3.5.1. The reconciliation will consist of 100 percent validation of existing due-outs. **(T-2).**

15.3.4.3.5.1. **(AETC)** Units supplied by COMBS are not required to accomplish a complete physical inventory.

15.3.4.3.5.2. Inform FSC of any "mark for" changes or items no longer required. **(T-1).**

15.3.4.3.6. Monitor and requisition TCI requirements based on projected equipment utilization. **(T-1)**.

15.3.4.3.6.1. Order parts using ILS-S, if available unless otherwise specified in -11, -14 and -6 TOs. **(T-1).**

15.3.4.3.6.2. TCIs are considered due for replacement at the HPO, PH, PE, HSC or ISO inspection nearest to the replacement date IAW TO 00-20-1. **(T-1)**. **Note:** life sustaining or CAD/PAD TCIs cannot exceed replacement interval in applicable -6 and commodity TOs without an approved extension/waiver from the SPO/appropriate item manager.

15.3.4.3.6.3. Notify the Munitions Flight of the need to order munitions items IAW TO 00-20-9 and AFI 21-201. **(T-1)**.

15.3.4.3.6.3.1. Serviceable CAD/PAD TCIs components will not be turned into munitions operations until the remaining service life reaches 9-months or less. **(T-1).** Serviceable CAD/PAD TCIs components with less than 9-months service life remaining will not be reissued. **(T-1)**.

15.3.4.3.6.3.2. Maintenance plans must reflect replacement dates to coincide within the 9-month parameter. **(T-2)**.

15.3.4.3.6.4. Order non-CAD/PAD or engine TCIs IAW AFI 23-101. **(T-1)**.

15.3.4.3.6.4. **(AETC)** Ensure TCI requirements are backordered and/or submitted to LRS up to 60 days in advance of the scheduled replacement. **(T-2).**

15.3.4.3.7. Schedule the time change in the MIS and incorporate it in the monthly/weekly/ quarterly maintenance schedule. **(T-2)**.

15.3.4.3.8. Review the data (DOM, DOI, LOT number, JST, and Due Date) entered by the performing work center and ensure the suspense validation is updated in the MIS when the time change is completed (N/A for G081). **(T-1).**

15.3.4.3.9. Coordinate management of respective TCIs with applicable maintenance and operation work centers. **(T-1)**.

15.3.4.3.9. **(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 not repairable this station (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 and PAD items and engine modules where replacement frequency or type make series modification (TMSM) may vary for different part numbers or for designated dash-6 TO components for which historical documents are maintained.

15.3.4.3.10. 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)**.

15.3.4.3.10.1. These components will not be over flown without an approved waiver from the appropriate item manager. **(T-2)**.

15.3.4.3.10.1.1. A copy of approved waivers must be maintained in the affected aircraft's forms and removed when no longer required. **(T-1).**

15.3.4.3.11. Prepare TCI forecasts IAW TO 00-20-9. **(T-1)**.

15.3.4.3.11.1. Provide squadron Operations Officers/MX SUPTs a forecast for non-munitions items for their supply section. **(T-2)**.

15.3.4.3.12. To facilitate quarterly requisitioning, P&S will submit the quarterly validated time-change AFTO Form 223, Spreadsheet, or IMDS/G081 generated forecast to the MASO between 45 and 60 calendar days (CONUS) or between 90 and 120 calendar days (OCONUS) before the next calendar year quarter IAW Table 7.3, OCONUS and CONUS Time Change Requisitioning Schedule IAW AFI 21-201. **(T-2)**.

15.3.4.3.12. **(AETC)** PS&D will verify the availability of TCIs with the MASO according to AFI 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 AFI 21-201. **(T-2).**

15.3.4.3.12.1. Validate current requirements against the annual forecast and make corrections based on aircraft utilization. **(T-2)**.

15.3.5. Major Maintenance Work Processing. PS&D will:

15.3.5.1. Coordinate on all TO 00-25-107 requests for AFI 21-103 reporting. **(T-2)**.

15.3.5.1.1. 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.

15.3.5.1.2. PS&D will make the appropriate possession code changes in MIS when AFI 21-103 messages have been released. **(T-1)**.

15.3.5.1.3. Depot-level assistance provided by contractor support will be accomplished IAW contract specifications. **(T-1)**.

15.3.5.2. Develop procedures in conjunction with QA for routing all major maintenance requests to ensure all affected parties are informed. **(T-2)**.

15.3.5.3. Conduct an initial meeting upon arrival of a DFT to validate maintenance

support requirements are in place. **(T-2)**.

15.3.5.3.1. The meeting will be documented on an AF Form 2410, or locally-developed product. **(T-2)**.

15.3.5.3.2. PS&D will initiate/accomplish all purpose possession identifier changes in the MIS. **(T-1)**.

15.3.5.3.3. Once work is completed, PS&D will ensure appropriate possession codes are changed and a completed copy of the work package is placed in the aircraft jacket file. **(T-1)**.

15.3.5.3.3.1. PS&D will document significant historical data on the appropriate AFTO Form 95 IAW 00-20 series TOs. **(T-1)**.

15.3.5.3.4. **(Added-314AW)** Pro Supers will:

15.3.5.3.4.1. **(Added-314AW)** Have access to AIRCAT to the fullest extent possible.

15.3.5.3.4.2. **(Added-314AW)** Serve as point of contact for all depot-level repair requests.

15.3.5.3.4.3. **(Added-314AW)** Coordinate with 19 MXS Pro Super to determine if local repair capability exists. Once required repairs are determined to be beyond technical data/base repair capabilities, assist AFETS representatives in preparing the Technical Assistance Request (TAR) IAW TO 00-25-107.

15.3.5.3.4.4. **(Added-314AW)** Coordinate TAR, Unscheduled Depot-Level Maintenance (UDLM), and One-Time Flight Authorization (OTFA) through AFETS and QA for MXG/CC approval. Coordinate UDLM with Maintenance Operations Flight (MXG) Maintenance Operations Officer/Superintendent (MXO). MXG/CC or designee approval is required prior to submission of all TARs.

15.3.5.3.4.5. **(Added-314AW)** Ensure required parts/materials are requisitioned.

15.3.5.3.4.6. **(Added-314AW)** Monitor status and all logistics concerning materials and potential scheduling of depot maintenance teams, as required.

15.3.5.3.4.7. **(Added-314AW)** Ensure appropriate work centers are briefed on all support issues for repairs to include hangar space, materials, and tools.

15.3.5.3.5. **(Added-314AW)** 314 MXG/AFETS will:

15.3.5.3.5.1. **(Added-314AW)** Maintain an AIRCAT account. Evaluate the need for a TAR whenever a repair action is deemed beyond technical order requirements and assist in developing a repair action plan.

15.3.5.3.5.2. **(Added-314AW)** Coordinate approval through QA and MXG Supervision before submitting all TARs, UDLMs, and OTFAs and notify the owning AMU of pending requests.

15.3.5.3.5.3. **(Added-314AW)** Submit TAR, UDLM, and OTFA requests via AIRCAT and monitor AIRCAT for disposition notification. Notify and

coordinate repair or inspection disposition throughout entire process with the following agencies as required:

15.3.5.3.5.3.1. **(Added-314AW)** 314 MXG CC/CD/CCC.

15.3.5.3.5.3.2. **(Added-314AW)** 314 MXG/MXGQ.

15.3.5.3.5.3.3. **(Added-314AW)** 314 MXG/MXO.

15.3.5.3.5.3.4. **(Added-314AW)** 314 AMXS/MXA.

15.3.5.3.5.3.5. **(Added-314AW)** AETC/A4MAC.

15.3.5.3.5.3.6. **(Added-314AW)** 19 MXS (as applicable). Note - For Inspection, Corrosion and Repair Reporting (ICARR) inputs, contact the 19 MXS.

15.3.5.3.5.3.7. **(Added-314AW)** Lockheed-Martin (as applicable).

15.3.5.3.5.4. **(Added-314AW)** Coordinate with depot engineers and host depot field team or contract field team as required by UDLM or TAR disposition.

15.3.5.3.6. **(Added-314AW)** 314 MXG/QA will:

15.3.5.3.6.1. **(Added-314AW)** Review and forward TAR, UDLM, and OTFA requests to MXG Supervision for approval and, if approved, notify the respective AMU and AFETS.

15.3.5.3.7. **(Added-314AW)** 314 MXG MXO will:

15.3.5.3.7.1. **(Added-314AW)** Coordinate UDLM request with appropriate HQ agencies for funding approval and to expedite a depot field team arrival.

15.3.5.3.7.2. **(Added-314AW)** Monitor and review all UDLM, and OTFA requests.

15.3.5.3.7.3. **(Added-314AW)** Coordinate/schedule UDLM.

15.3.5.3.7.4. **(Added-314AW)** Coordinate hangar space for UDLM if required.

15.3.5.3.8 **(Added-314AW)** Contract Field Team (CFT) /Depot Field Team (DFT) Maintenance Procedures.

15.3.5.3.8.1. **(Added-314AW)** AMU Pro Super will:

15.3.5.3.8.1.1. **(Added-314AW)** Notify AFETS, QA, and PS&D when aircraft require depot-level engineering assistance for repairs deemed beyond technical orders or field-level capabilities.

15.3.5.3.8.1.2. **(Added-314AW)** Ensure QA is notified upon completion of CFT/DFT maintenance.

15.3.5.3.8.2. **(Added-314AW)** AFETS will:

15.3.5.3.8.2.1. **(Added-314AW)** Evaluate the need for depot-level engineering assistance.

15.3.5.3.8.2.2. **(Added-314AW)** Gain approval from MXG supervision/QA

when aircraft require depot-level engineering assistance for repairs deemed beyond technical order or field-level capabilities.

15.3.5.3.8.2.3. **(Added-314AW)** Once approved, submit request through AIRCAT for CFT/DFT support.

15.3.5.3.8.2.4. **(Added-314AW)** Attend pre/postdock meetings.

15.3.5.3.8.3. **(Added-314AW)** QA will:

15.3.5.3.8.3.1. **(Added-314AW)** Attend pre/postdock meetings.

15.3.5.3.8.3.2. **(Added-314AW)** Conduct tool inventories prior to and after CFT/DFT maintenance is complete as agreed upon in the Statement of Work agreement.

15.3.5.3.8.3.3. **(Added-314AW)** Ensure completion of repairs performed by CFT/DFTs as agreed upon in the Statement of Work.

15.3.5.3.8.3.4. **(Added-314AW)** Notify PS&D of CFT/DFT completion.

15.3.5.3.8.4. **(Added-314AW)** PS&D will:

15.3.5.3.8.4.1. **(Added-314AW)** Coordinate and schedule predock/postdock meetings with CFT/DFT, QA, AMXS/MXA, AMU Production, AFETS, and other agencies, as required.

15.3.5.3.8.4.2. **(Added-314AW)** Ensure depot field team or repairing agency provides a certificate of completion or AFTO Form 95, *Significant Historical Data* (as applicable) at the postdock meeting.

15.3.6. Transfer Inspections.

15.3.6.1. Units will perform gaining/losing transfer inspections IAW TO 00-20-1, MAJCOM guidance and this instruction. **(T-1)**.

15.3.6.1.1. In conjunction with QA, develop a local JST/work package for both gaining and losing aircraft and equipment transfer. **(T-2)**.

15.3.6.1.1.1. This JST/work package 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 AFI 21-103 and MAJCOM specific transfer requirements. **(T-2)**.

15.3.6.1.1.2. Include all historical records (e.g. NDI records, Egress records, W&B records, OAP records, strut records) and other applicable items. **(T-2).**

15.3.6.1.2. Losing PS&D ensures all actions are completed in the MIS prior to permanently transferring an aircraft to another unit. **(T-2)**.

15.3.6.1.3. Losing PS&D conducts a transfer pre-dock meeting one duty day prior to start of the aircraft transfer. **(T-2)**.

15.3.6.1.4. 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)**.

15.3.6.2. Losing PS&D will complete a total verification of all TCIs installed on the transferring aircraft. **(T-2)**.

15.3.6.2.1. Verify the correct computation of all due dates/hour/cycles based on DOM, DOI, installed times, or equivalent factors. **(T-2).**

15.3.6.2.2. For IMDS units only:

15.3.6.2.2.1. Ensure the IMDS-REMIS synchronization programs are processed and errors are corrected prior to transfer. **(T-2)**.

15.3.6.2.2.2. Ensure an up-to-date Transfer of Equipment (TRE) report and an AFTO Form 95 with current engine trend and performance data are placed in the aircraft jacket file. **(T-2)**.

15.3.6.2.2.3. Ensure a backup copy is maintained until receipt is verified by the gaining unit. **(T-2)**.

15.3.6.3. 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 AFI 21-103. **(T-1)**.

15.3.7. Acceptance Inspections. Units perform acceptance inspections IAW TO 00-20-1, MAJCOM guidance and this instruction.

15.3.8. **(Added-AETC)** Inspection Requirements. Due to the type, variety, and frequency of scheduled and 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 mission capable (MC) rates.

15.3.9. **(Added-AETC)** Inspection Scheduling. Input aircraft into inspection according to the + (plus) or – (minus) standards designated in the appropriate dash-6 TO.

15.3.10. **(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).**

15.4. ENGINE MANAGEMENT (EM).

15.4.1. 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.

15.4.1.1. The MXG/CC will:

15.4.1.1.1. Ensure EM is the wing focal point for both the Engine Trending and Diagnostics (ET&D) and Engine Health Management (EHM+) program when applicable. **(T-1)**.

15.4.1.1.2. Appoint in writing a qualified 2A6X1, minimum 7-skill level, (or civilian equivalent) technician to manage the EHM+ program IAW AFI 20-115. **(T-1)**. **Exception:** 2A6X1 or 2R1X1, minimum7-skill level for ARC.

15.4.1.2. EM will:

15.4.1.2.1. Manage the MIS and CEMS IAW AFI 21-101, AFI 20-115, AFI 23-101, TO 00-25-254-1, TO 00-25-254-2, *System Manual–Comprehensive Engine Management System for DSD: D042*, TO 00-20-5-1-3, *Instructions for Jet Engine Parts Tracking of OC-ALC/LPA Managed Engines*, AFCSM 21-558, *Comprehensive Engine Management System*, and applicable aircraft -6 TOs. **(T-1)**.

15.4.1.2.2. Coordinate with Propulsion Flight CC/Chief and organization leadership to support WRE requirements. **(T-2)**.

15.4.1.2.2. **(AETC)** Units will compute requirements using TSR IAW AFMAN 20- 116. **(T-2).**

15.4.1.2.3. Ensure plans, schedules, and maintenance actions are documented on assigned engines. **(T-1)**.

15.4.1.2.4. Provide TCI information (cycles remaining, Engine Operating Time (EOT), etc.) on serially-controlled items to the Propulsion Flight and AMXS/AMU for engine and engine component CANN actions. **(T-1)**.

15.4.1.2.5. Ensure all engine SIs are loaded in MIS against the engine, not against the aircraft. **(T-1)**.

15.4.1.2.6. Ensure all engine/module inspections/TCIs tracked by EOT, Calculated Cycles (CCY), Total Accumulated Cycles (TAC), etc., are loaded/tracked in the MIS and CEMS databases. **(T-1)**.

15.4.1.2.7. Ensure serial numbers erroneously input into CEMS are followed by a Possessor Change (6D) Transaction Condition Code (TCC). **(T-1)**.

15.4.1.2.7.1. After the TCC has successfully processed, notify the CEMS Program Management Office (PMO) help desk stipulating the serial number was erroneously input and should be deleted from CEMS, **CEMS.PMO.HELPDESK@us.af.mil.** **(T-1).**

15.4.1.2.7.2. A matrix by engine type should be developed to depict specific inspection and TCI quantities for each TMSM. Inspections tracked by flight hours must be loaded in the MIS. **(T-1).**

15.4.1.2.8. Comply with TCTO duties and responsibilities for engine items IAW this chapter. **(T-1).**

15.4.1.2.9. 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-1)**.

15.4.1.2.9. **(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).**

15.4.1.2.10. Accomplish quarterly TCTO status reviews and reconciliations IAW TO 00-25-254-1. **(T-1)**.

15.4.1.2.10. **(AETC)** The Engine Regional Repair Center (ERRC) facility at Laughlin AFB does not need to submit the quarterly TCTO and inventory reports. This requirement is for the user of the engines.

15.4.1.2.11. Maintain records on TCTO kits and status for all engines installed on aircraft sent to depot. **(T-2).**

15.4.1.2.12. Manage time changes on all engines and engine components. **(T-1)**.

15.4.1.2.12.1. 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 **15.2** and **15.3** of this instruction). **(T-1)**.

15.4.1.2.13. Reconcile all TCIs during the monthly TCI meeting with PS&D and LRS. **(T-2)**.

15.4.1.2.13.1. Reconciliation will consist of 100 percent validation of existing due-outs and a complete physical inventory of all issued TCIs. **(T-1)**.

15.4.1.2.13.2. Inform FSC of any "mark for" changes or items no longer required. **(T-2).**

15.4.1.2.14. Maintain and update historical documents for all assigned engines, modules, and major assemblies that are not managed by a Performance Based Logistics (PBL) or contractually thru a CLS contract. **(T-1)**.

15.4.1.2.15. Check life-limited components forecast for additional component changes, TCTOs and SIs on all removed engines. **(T-1)**.

15.4.1.2.16. Coordinate with the propulsion Flight CC/Chief 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)**.

15.4.1.2.16.1. 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)**.

15.4.1.2.16.1. **(AETC)** The ERRC facility at Laughlin AFB may use the E102 and E407 Comprehensive Engine Management System (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.

15.4.1.2.16.2. 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, AMU and the MAJCOM engine manager. **(T-2)**.

15.4.1.2.17. Publish scheduled engine changes in the weekly and monthly maintenance schedule. **(T-2)**.

15.4.1.2.18. Verify engine total time versus aircraft total time, flying hours and manual cycles with PS&D during aircraft document reviews. **(T-1)**.

15.4.1.2.19. Maintain the portion of the JML for engine inspections and time changes. **(T-1)**.

15.4.1.2.19.1. 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)**.

15.4.1.2.20. Establish a CEMS and MIS contingency plan for when either or both systems are down for more than 48 hours. **(T-1)**.

15.4.1.2.20.1. The plan will include procedures for retaining data in date-time order for input when MIS/CEMS operation resumes. **(T-1).** The plan will also address both home station and deployed procedures. **(T-1)**.

15.4.1.2.21. Develop local engine tracking procedures and documentation methods to be used at deployed locations. **(T-1)**.

15.4.1.2.21.1. 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-1)**.

15.4.1.2.21.2. 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-1)**.

15.4.1.2.22. Accomplish UEM duties IAW AFI 20-115, TOs 00-25-254-1/-2, and this instruction. **(T-1)**.

15.4.1.2.22.1. Act as liaison to the SRAN engine manager when part of a tenant unit is supported by the host base engine manager. **(T-1)**.

15.4.1.2.22.2. Provide the primary SRAN engine manager all quarterly reporting information required for submission to higher headquarters. **(T-2)**.

15.4.1.3. SRAN Engine Manager. The MXG/CC (or equivalent), will appoint a SRAN engine manager (if a host), or a UEM (if a tenant), in writing to accomplish the duties IAW 00-25-254 TOs and this instruction. **(T-1)**. The SRAN engine manager will:

15.4.1.3. **(AETC)** Contractors appoint an engine manager and alternate to perform the primary duties for the engines assigned to the stock record account numbers (SRAN) under the maintenance contract to ensure base engine manager (BEM) and unit engine manager (UEM) duties outlined in current directives and technical orders are accomplished. **(T-2).**

15.4.1.3.1. Be selected from AFSC 2R1X1 or 2A6X1, minimum 7-skill level (or civilian equivalent). **(T-1)**.

15.4.1.3.1.1. The assistant will be a minimum 5-skill level from the same AFSCs or civilian equivalent. **(T-2).**

15.4.1.3.1.2. Both individuals will be aligned under EM. **(T-1)**.

15.4.1.3.2. 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-1)**.

15.4.1.3.3. Act as the single point of contact between the unit, MAJCOM and MMA for EM questions. **(T-2)**.

15.4.1.3.4. Establish written procedures to support EM responsibilities IAW AFI 20-115 and this instruction. **(T-1)**. Unit procedures must:

15.4.1.3.4.1. Specify responsibilities of affected work centers for accurate and timely MIS/CEMS reporting of TCTO, SI, TCI, and other documentation requirements (e.g., borescope inspections, blade blending, CANN actions). **(T-1)**.

15.4.1.3.4.2. Ensure engine, module, and component data is reported to EM no later than close of business the first duty day after the event (e.g., part removal, installation, time update, TCTO status change). **(T-1)**.

15.4.1.3.4.3. Address tenant, transportation, maintenance, aircraft distribution, supply, and support personnel requirements and be coordinated with the MAJCOM EM prior to publication. **(T-2)**.

15.4.1.3.5. Request Initialization Decks (I-Deck) for engines and major modules (cores, High Pressure Turbine (HPT), Low Pressure Turbine (LPT), fans, etc.), to include embedded parts, part number, serial number, EOT, inspections, active TCTOs and TCIs, from CEMS Central Data Base (CDB) and ensure data in the MIS matches the CEMS CDB. **(T-1)**.

15.4.1.3.6. Ensure deployed engine monitors are identified and trained to perform duties while deployed. **(T-1)**.

15.4.1.3.6.1. 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)**.

15.4.1.3.7. Perform engine manager duties for shipment and receipt of all assigned engines. **(T-1)**.

15.4.1.3.8. Perform periodic quality audits to monitor accuracy and timeliness of reporting. **(T-1)**.

15.4.1.3.9. Perform annual EM training for all affected personnel (back shop, test cell, flightline, aircraft maintenance scheduler, etc.) who report engine status or are responsible for engine documentation and scheduling IAW AFCSM 21-558, Vol 2; TO 00-25-254-1/2 and TO 00-20-1. **(T-1).**

15.4.1.3.10. Maintain a jacket file of engine shipping documents and receipts. **(T-1)**.

15.4.1.3.10.1. Obtain MAJCOM EM approval prior to returning engines to CRF/depot. **(T-2)**.

15.4.1.3.11. Perform duties and requirements for engine shipments IAW AFPD 24-2, *Preparation and Movement of Air Force Materiel*, AFI 20-115, and TOs 00-85-20, *Engine Shipping Instructions*, 2J-1-18, and 2-1-18-WA-1, *Aircraft Engine*

Operating Limits and Factors. **(T-1)**.

15.4.1.3.11.1. 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.

15.4.1.3.12. The work folder will transfer with the engine. **(T-1).**

15.4.1.3.12.1. A copy will be maintained by the losing organization until verification of receipt by gaining unit. **(T-1).**

15.4.1.3.12.2. Gaining units will maintain the work folders and ship the documents with the engine to depot when appropriate. **(T-1).**

15.4.1.3.12.2.1. Gaining units will retrieve a copy of the previous EAWP from the Data Repository Center (DRC) or equivalent data in the applicable MIS upon receipt of the engine. **(T-1).**

15.4.1.3.12.2.2. EAWP users are required to send completed EAWP files to the DRC or MIS equivalent within 3 duty days of EAWP close-out. **(T-1).**

15.4.1.3.13. The SRAN EM will report the following in CEMS:

15.4.1.3.13.1. 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-1)**.

15.4.1.3.13.2. Shipment transactions with the "as of" date and time the engine(s) physically leave the base. **(T-1)**.

15.4.1.3.13.2.1. Once engine is received at gaining unit, ensure trailer and adapter are transferred in MIS. **(T-1)**.

15.4.1.3.13.3. All engine and tracked item removals, installations, and engine status changes. **(T-1)**.

15.4.1.3.13.4. 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 AFI 20-115 and TO 00-25-254-series. **(T-1)**.

15.4.1.3.13.4. **(AETC)** As applicable, use the Integrated Base Engine Management System (IBEMS) to process inputs from IMDS-CDB to CEMS, such as removals, installs, updates, status changes, etc.

15.4.1.3.14. Verify all update transactions (e.g., times TCTO, part removal and installations) are input before reporting an engine removal or installation. **(T-2)**.

15.5. Maintenance and FHP Planning Cycle.

15.5.1. 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 UTE rate standards and goals.

15.5.1. **(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.

15.5.1.1. 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. **(T-2)**.

15.5.1.2. AMC units tasked by the 618th Air and Space Operations Center (AOC) will adhere to Commander, Air Force Forces (COMAFFOR) Apportionment and Allocation Process (CAAP) policies and procedures. **(T-1).**

15.5.1.3. The annual plan, detailed by month, will evaluate the capability of maintenance to support the annual FHP. **(T-1)**.

15.5.1.4. When developing the annual plan, units will utilize the MDS specific MxCAP2 model, if available. **(T-1)**.

15.5.1.5. Maintenance Plans and Schedules. 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.

15.5.1.5. **(AETC)** Schedules will be standardized among the same MDS, but may vary slightly between MDSs.

15.5.1.5.1. Plans will be developed, coordinated and consolidated jointly by the Operations OSS's Current Operations Flight Scheduling, and PS&D. **(T-1)**.

15.5.1.5.2. 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 before being approved by the WG/CC. **(T-1)**.

15.5.1.5.2. **(AETC)** For the 479 FTG, 336 TRG, 306 FTG and 80 FTW, the OG/CC may approve plans and schedules for the WG/CC.

15.5.1.5.3. Plans and schedules may be published via electronic means (e.g. web pages, SharePoint®, or e-mail) provided operations security is not compromised.

15.5.1.5.4. Normal daily operations and training schedules are For Official Use Only (FOUO) and should not be restricted to classified systems.

15.5.1.5.5. **(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 PA.

15.5.1.5.6. **(Added-AETC)** Assignment of Flying Hours and UTE Rate Requirements. HQ AETC/A3R will allocate flying hours and document annual UTE

rates, primary aircraft inventory (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.

15.5.1.5.6.1. **(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. 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 (CPFH) monies and personnel. Backup aircraft inventory (BAI), attrition reserve, and excess aircraft do not earn CPFH 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.

15.5.1.5.7. **(Added-AETC)** MAJCOM Coordination. HQ AETC/A3R is the OPR for the AETC flying hour PA. On the basis of the annual student production goals published in the program guidance letter, HQ AETC/A3R and 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. 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.

15.5.1.5.8. **(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).**

15.5.2. 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 task MMA to provide PS&D with an airframe capabilities assessment. **(T-2).** This assessment will take into account personnel, facilities, and airfield infrastructure for each aircraft maintenance organization (N/A to AMC). **(T-2)**.

15.5.2. **(AETC)** First look requirements will be due to HQ AETC/A4MMA by 31 October of each year. **(T-2).** For example, requirements would be due on 31 October 2014 (the first

month of FY 15) for consideration in the FY 16 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.

15.5.2.1. In wings operating aircraft supported by the MxCAP2 model, PS&D and MMA will coordinate with the AMXS Operations Officer/MX SUPT to establish local requirements, responsibilities and procedures for utilizing the MxCAP2 model to develop, sustain or reflow FHP/contingency requirements. **(T-1).**

15.5.2.2. The assessment will be provided to PS&D NLT the last workday of March. **(T-2)**. **Note:** AMC units tasked by the 618 AOC will adhere to the COMAFFOR CAAP policies and procedures.

15.5.2.3. PS&D will provide copies of the capability assessment to each OS scheduling section and maintenance supervision. **(T-1)**.

15.5.2.3. **(AETC)** 2 Aircraft availability (AA) 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 HQ AETC/A3R and AETC/A4M specific additional support, items, or personnel needed to meet requirements and mitigate losses.

15.5.2.3.1. The assessment will provide first look maintenance capability projections in a monthly format IAW MAJCOM guidance. **(T-2)**.

15.5.2.3.1. **(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.

15.5.2.3.1.1. **(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. 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.

15.5.2.3.2. The assessment will include operational requirements, an assessment of maintenance's 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)**.

15.5.2.4. 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:

15.5.2.4.1. Sortie UTE Rates (N/A to AMC units). **(T-2).** Compute UTE rates by month for the entire fiscal year (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).

15.5.2.4.1. **(AETC)** HQ AETC/A4/7 computer 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 HQ AETC/A4M/A3R and each wing.

15.5.2.4.1.1. **(Added-AETC)** HQ AETC/A3R will use this rate as a guide to develop the AETC PA, using the maximum sustainable UTE rate as an upper control limit. HQ AETC/A3RA 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.

15.5.2.4.1.2. **(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.

15.5.2.4.1.3. **(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 HQ AETC/A3RA with an informational copy to HQ AETC/A4MMA. **(T-2).**

15.5.2.4.1.4. **(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.

15.5.2.4.1.4.1. **(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.

15.5.2.4.1.4.2. **(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 wings annual FHP developed IAW paragraph **15.5.3.1.3** of this instruction and maintained on file at HQ AETC/A3RA. There may be instances where local training or mission requirements dictate deviating from the monthly programmed utilization after the monthly plan is complete.

15.5.2.4.2. 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.

15.5.2.4.3. 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.

15.5.2.4.4. Inspection dock capability. **(T-2).**

15.5.2.4.4.1. Compute the number of PH/ISO inspections to be accomplished for each maintenance unit, by month, for the entire FY in order to meet operational requirements.

15.5.2.4.4.2. 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.

15.5.2.5. Once compiled, first look packages will be presented to the OG and MXG/CCs before being presented to the WG/CC. **(T-1).**

15.5.3. Annual Maintenance Planning Cycle.

15.5.3. **(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.

15.5.3.1. MAJCOMs will develop procedures to ensure the objectives of the annual maintenance planning cycle are met.

15.5.3.1. **(AETC)** Due to the nontypical nature of the flying operation at the United States Air Force Academy (USAFA), unit maintenance and operations must develop a joint instruction that outlines the scheduling process they will follow, using AFI 21-101 and this supplement as a guide. **(T-2).**

15.5.3.1.1. 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.

15.5.3.1.1. **(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.

15.5.3.1.2. Due to the unpredictable nature of most future AMC mission requirements, units tasked by 618 AOC 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.

15.5.3.1.3. **(Added-AETC)** The development of an annual wing flying plan, in monthly increments, to carry out the annual PA sortie, mission, or hourly requirements (the annual UTE rate) is the first step in the planning process. Each monthly plan is executed by weekly plans designed to meet the programmed monthly UTE rate.

15.5.3.1.4. **(Added-AETC)** Fleet Time Management:

15.5.3.1.4.1. **(Added-AETC)** Goal. The goal of fleet time management is to ensure a balanced inspection dock flow that will support the AETC programmed allocation (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. **Note**: Aircraft Fleet time will not be updated until the phase package is completed in the MIS. **(T-2).** All aircraft can benefit by balancing the flying commitment across the entire fleet regardless of the inspection method.

15.5.3.1.4.2. **(Added-AETC)** The keys to successful fleet time management are managing individual aircraft flying hours, ensuring a balanced mix of long and short duration inspections, and using realistic planning factors.

15.5.3.1.4.3. **(Added-AETC)** Spreading and bunching flying hours between aircraft creates the potential for several aircraft to run out of inspection hours at close to the same time. This will cause a PE dock backlog or not having any aircraft with low enough PE hours remaining until inspection, leaving the dock empty for a period of time and causing the average fleet time to drop.

15.5.3.1.4.4. **(Added-AETC)** Fleet time is the average number of flying hours per aircraft remaining until the next scheduled inspection. Plan the annual inspection dock flow to parallel the annual flying hour program as closely as possible, using the total PE or phase (PH) inspection required for the fiscal year. **(T-2).**

15.5.3.1.4.4.1. **(Added-AETC)** A prudent plan considers current fleet time posture and number of required inspections based on the flying hour program and the unit's desired fleet time posture. Balance large month-to-month fluctuations in the annual flying hour program with inspection hours produced over a 2- or 3-month period to eliminate the accordion effect of spreading and bunching aircraft PE hours on the MIS TDI report. **(T-2).**

15.5.3.1.4.4.2. **(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).**

15.5.3.2. 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:

15.5.3.2. **(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).**

15.5.3.2.1. PS&D will provide updated capabilities which are computed by MMA and the PDM schedule. **(T-2)**.

15.5.3.2.2. OSS will provide the:

15.5.3.2.2.1. Required flying hours and estimated sorties and missions in monthly increments. **(T-2)**.

15.5.3.2.2.2. Flying days in each month. **(T-2)**.

15.5.3.2.2.3. Aircraft and aircrew alert requirements. **(T-2)**.

15.5.3.2.2.4. Known and projected TDYs and special mission requirements. **(T-2)**.

15.5.3.2.2.5. Configuration and munitions requirements. **(T-2).**

15.5.3.2.2.6. **(Added-AETC)** Number of O&M days. Identify holidays, exercises, and other no-fly days.

15.5.3.2.2.7. **(Added-AETC)** Monthly historical attrition.

15.5.3.2.2.8. **(Added-AETC)** Annual scheduled sorties or missions to include projected known FCF, OCF, and ferry sorties or missions.

15.5.3.2.2.9. **(Added-AETC)** Sorties or missions and hours required for deployments.

15.5.3.2.2.10. **(Added-AETC)** Average scheduled sorties or missions required per O&M day.

15.5.3.2.2.11. **(Added-AETC)** Daily flying schedule block patterns.

15.5.3.2.2.12. **(Added-AETC)** Available daylight hours.

15.5.3.2.2.13. **(Added-AETC)** Anticipated aircraft gains and transfers.

15.5.3.2.2.14. **(Added-AETC)** Projected number of students.

15.5.3.2.2.15. **(Added-AETC)** Estimated munitions usage.

15.5.3.2.2.16. **(Added-AETC)** Support sorties or missions.

15.5.3.2.2.17. **(Added-AETC)** Instructor pilot (IP) and programmed student levels.

15.5.3.3. 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:

15.5.3.3.1. Estimated number of aircraft available by month taking in consideration aircraft required for training. **(T-2)**.

15.5.3.3.2. A projected airframe capability statement. **(T-2)**.

15.5.3.3.2. **(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 aerospace vehicle distribution officer [AVDO] will notify HQ AETC/A4M [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 use one of the following:

15.5.3.3.2.1. **(Added-AETC)** 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.

15.5.3.3.3. Forecasted personnel capability, taking into consideration required training for maintenance personnel. **(T-2)**. (N/A to contract maintenance organizations).

15.5.3.3.4. The number of supportable sorties for each month. **(T-2)**.

15.5.3.3.5. An estimated monthly attrition factor (N/A to AMC units) provided by MMA. **(T-2)**.

15.5.3.3.5.1. This factor combines operations, weather and materiel (maintenance and supply) factors.

15.5.3.3.5.2. Maintenance is responsible for adding the attrition factor to

operational requirements.

15.5.3.3.6. A recommended block scheduling pattern. **(T-2)**.

15.5.3.3.7. A statement of limitations. **(T-2)**.

15.5.3.4. **(Added-AETC)** When the annual plan is completed, forward one copy each to HQ AETC/A3, HQ AETC/A3RA, HQ AETC/A4/7, 19 AF and HQ AETC/A4MMA by the 10th calendar day of September. **(T-2).** Use the format at **Attachment 19** 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, HQ AETC/A3R will work to resolve these disconnects prior to the first scheduled adjustment.

15.5.3.4.1. **(Added-AETC)** When HQ AETC changes planned requirements as reflected in the PA, reflow the unflown portion of the annual plan for the remaining months (**Attachment 18**). Changes in the PA may change the PAI, ASD/AMD, or UTE rate for the remainder of the fiscal year.

15.5.3.4.2. **(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.

15.5.3.4.2.1. **(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.

15.5.3.4.2.2. **(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.

15.5.3.4.2.3. **(Added-AETC)** The WG/CC will forward a copy of the change to the annual plan (**Attachment 19**) to HQ AETC/A3, HQ AETC/A3RA, HQ AETC/A4/7, 19 AF and HQ AETC/A4MMA, 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.

15.5.4. 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.

15.5.4. **(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 designated aircraft assigned), the annual plan may substitute for the quarterly plan and be used as a long-range plan.

15.5.4.1. MAJCOMs will develop procedures to ensure the objectives of the Quarterly Planning cycle are met.

15.5.4.2. The OS Operations Officer will provide these requirements to maintenance supervision and PS&D NLT 25 days before the beginning of the quarter. **(T-2)**.

15.5.4.3. Maintenance supervision and the OS Operations Officer will discuss these requirements at the scheduling meeting before the quarter being planned. **(T-2)**.

15.5.4.4. Schedulers will ensure quarterly plans are as detailed and accurate as possible. **(T-2).**

15.5.4.4.1. Plans should include known special missions, PDM schedules, Higher Headquarters (HHQ) commitments and lateral command support requirements.

15.5.4.4.2. 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-1)**.

15.5.4.4.2.1. Specific locally-developed codes will be used to identify inspections, SI, TCI, and TCTO on the AF Form 2401. **(T-2)**.

15.5.4.4.3. As a minimum, the quarterly plan will show the next 3 months planned sorties and known maintenance requirements. **(T-1)**.

15.5.4.4.3.1. Known maintenance requirements include all maintenance events that impact aircraft availability and require management attention to ensure proper Time Distributed Index (TDI) flow.

15.5.4.4.3.2. Multiple maintenance events should be bundled for completion during a single aircraft downtime event to the greatest extent possible.

15.5.4.4.3.2.1. The goal is to reduce the number of times per month an aircraft is removed from the schedule for scheduled maintenance, thus increasing aircraft availability.

15.5.4.4.3.2.2. 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)**.

15.5.4.4.3.3. 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)**.

15.5.4.4.3.4. 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)**.

15.5.4.4.3.5. 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)**.

15.5.4.4.4. Revise weekly schedule and monthly plan to meet the quarterly plan objectives while staying within the maintenance capability. **(T-2)**.

15.5.4.4.5. Use the following priority to determine which objectives to support if a lack of resources prevents meeting requirements:

15.5.4.4.5.1. Alert commitments. **(T-2).**

15.5.4.4.5.2. HHQ directed missions. **(T-2).**

15.5.4.4.5.3. Training. **(T-2).**

15.5.4.5. The OG/CC and MXG/CC (or equivalent) chair a quarterly meeting NLT 14 days before the next quarter.

15.5.4.5.1. 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)**.

15.5.4.5.2. 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)**.

15.5.4.5.3. The plan will be posted so it may be viewed by both maintenance and operations. **(T-2)**.

15.5.5. Monthly Maintenance and FHP Planning.

15.5.5.1. MAJCOMs will develop procedures to ensure the objectives of the monthly planning cycle are met.

15.5.5.1. **(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.

15.5.5.1.1. Include predictable maintenance factors based on historical data along with other inputs, such as flow times for maintenance, turnaround times

and parts replacement schedules.

15.5.5.1.2. MAJCOMs will develop maintenance scheduling effectiveness guidance in their supplements to this AFI.

15.5.5.1.2. **(AETC)** Maintenance Scheduling Effectiveness (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 15.1**. will be used to compute the MSE rate. See **Table 15.1**. 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.

15.5.5.1.2.1. **(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 identification (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.

15.5.5.1.2.2. **(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 work center event (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).**

15.5.5.1.2.2.1. **(Added-AETC)** Maintenance cancelled due to severe weather, weather diverts, aircraft not able to return to base due to maintenance malfunction, or impounded aircraft.

15.5.5.1.2.2.2. **(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.

15.5.5.1.2.3. **(Added-AETC)** When computing MSE, record detailed reasons for missing scheduled maintenance actions. **(T-2).** A low MSE rate may indicate a unit is experiencing turbulence on the flight line, in the back shops or even other areas outside of maintenance (i.e., operations, supply, etc.). This

indicator is primarily used as feedback to maintenance managers on the success and adherence to scheduled maintenance plans and the wing's ability to support these actions.

15.5.5.1.2.4. **(Added-AETC)** The MXG/CC may select additional areas for local scheduling effectiveness tracking (**Table 15.1**, Item 12).

Figure 15.1. (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 15.1. (Added) 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 3 (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	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.

15.5.5.2. The monthly flying and maintenance plan schedule refines the quarterly plan by combining all aspects of aircraft utilization and will include:

15.5.5.2. **(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 (11 x 8 1/2")*, or AF Form 2401. **(T-2).**

15.5.5.2.1. 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)**.

15.5.5.2.1. **(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 20** for instructions on completing AETC Form 206.

15.5.5.2.1.1. Do not assign attrition sorties to a specific aircrew/mission for the monthly planning process. **(T-2)**.

15.5.5.2.1.1. **(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.

15.5.5.2.1.1.1. **(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 20**). 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).**

15.5.5.2.1.1.2. **(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-.15) = 1177 sorties or missions to schedule. For sorties or missions, round up any part to the next whole number.

15.5.5.2.1.1.3. **(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).**

15.5.5.2.1.1.4. **(Added-AETC)** Type of sorties or missions.

15.5.5.2.1.1.5. **(Added-AETC)** Number of sorties or missions and hours.

15.5.5.2.1.1.6. **(Added-AETC)** Anticipated munitions, photo, electronic countermeasure configurations, and estimated munitions expenditures or ammunition changes.

15.5.5.2.1.2. **(Added-AETC)** If AETC Form 206 is not used, units will include the following information in their monthly plan:

15.5.5.2.1.2.1. **(Added-AETC)** Annual UTE position data compared to the wing's current annual plan (**Attachment 18**).

15.5.5.2.1.2.2. **(Added-AETC)** Student timeline position, current and projected.

15.5.5.2.1.2.3. **(Added-AETC)** Percentage of attrition by category.

15.5.5.2.1.2.4. **(Added-AETC)** Total sorties or missions and hours required as listed in wing's annual plan (**Attachment 19**).

15.5.5.2.1.2.5. **(Added-AETC)** Total sorties or missions and hours scheduled.

15.5.5.2.1.2.6. **(Added-AETC)** Number of aircraft required to support the schedule.

15.5.5.2.1.2.7. **(Added-AETC)** Anticipated configurations in accordance with syllabus requirements.

15.5.5.2.1.3. **(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 20** and **Attachment 18** for instructions on completing AETC Form 206A, *Weekly Flying Coordination* 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:

15.5.5.2.1.3.1. **(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 2,803 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), 1,400 of 1,402 sorties or missions scheduled were flown. The third weekly sortie or mission request should then be adjusted to prevent an overfly. Subtract the 1,400 sorties or missions flown from the 2,102 monthly requirement. This leaves a commitment of 702 required sorties or missions. Using the same 25 percent attrition factor, only 936 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.

15.5.5.2.1.3.2. **(Added-AETC)** High Attrition Application. During the same 12-day period, 1,000 of 1,402 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.

15.5.5.2.2. Monthly maintenance requirements (as required). **(T-2).**

15.5.5.2.3. Transient work schedule, if applicable. **(T-2)**.

15.5.5.2.4. 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)**.

15.5.5.2.5. SE scheduled inspections, contract or depot maintenance, TCTOs, time changes, DDs, washes and corrosion control. **(T-2)**.

15.5.5.2.6. Avionics and other off-equipment maintenance scheduled inspections, TCTOs, assembly or repair operations. **(T-2)**.

15.5.5.2.7. Engine/module 6-month removal forecast and in-shop inspection requirements. **(T-2)**.

15.5.5.2.7. **(AETC)** In-shop maintenance requirements will be published. Completing the AETC Form 520, *Engine Maintenance and Inspection Forecast*, fulfills engine requirements.

15.5.5.2.8. Munitions, photo, ECM and other mission loading or configuration requirements, including ammunition changes. **(T-2)**.

15.5.5.2.9. Total ordnance requirements for aircraft support. **(T-2)**.

15.5.5.2.10. Tanks, Racks, Adapters and Pylons (TRAP) and WRM scheduled inspections, TCTOs, assembly or repair operations. **(T-2)**.

15.5.5.2.11. Monthly training schedules, if not published separately. **(T-2)**.

15.5.5.2.12. Detailed support requirements (e.g. POL servicing, supply, food service, fire department, security, civil engineer, and airfield operations requirements). **(T-2).**

15.5.5.2.13. All known operational events (e.g., exercises, deployments, surges) to determine maintenance's capability to meet operational needs. **(T-2)**.

15.5.5.2.14. **(Added-AETC)** Other items as directed by the wing commander.

15.5.5.3. Monthly planning cycle requirements.

15.5.5.3.1. NLT the first weekly scheduling meeting of the month, the OS Operations Officer will provide maintenance supervision and PS&D with the estimated operational needs for the following month in as much detail as possible. **(T-2)**.

15.5.5.3.1.1. 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)**.

15.5.5.3.1.2. 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.

15.5.5.3.1.2. **(AETC)** Other impacting events such as safety briefings, commander's calls, scheduled exercises, and TDY will also be included.

15.5.5.3.2. The OS Operations Officer and maintenance supervision will review their applicable portion of the monthly maintenance plan and weekly schedule prior to submission to PS&D. **(T-2)**.

15.5.5.3.3. NLT the second weekly scheduling meeting of the month, AMXS maintenance supervision will notify the OS Operations Officer 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).**

15.5.5.3.4. 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)**.

15.5.5.4. WG/CC's monthly scheduling meeting.

15.5.5.4.1. OS scheduling will outline past accomplishments, status of flying goals, problems encountered and detailed needs for the next month. **(T-2)**.

15.5.5.4.2. PS&D will outline projected maintenance capability and aircraft/equipment availability. **(T-2)**.

15.5.5.4.3. If conflicts arise between operational requirements and maintenance capability, present alternatives and limitations, the MXG/CC (or equivalent), OG/CC and WG/CC will decide what portion of the mission to support and to what degree. **(T-2)**.

15.5.5.4.3. **(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.

15.5.5.4.3.1. **(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. 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.

15.5.5.5. 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.

15.5.5.5. **(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 (**Figure 15.2**), or the plan may be included as an annex to the last weekly schedule of the preceding month. **Note: Figure 15.2**. shows a sample calendar for planning and scheduling of monthly meetings.

15.5.5.5.1. **(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 HQ AETC/A3RA who will coordinate adjustment requests with HQ AETC/A4M, 19 AF, HQ AETC/A4P and 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:

15.5.5.5.1.1. **(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.

15.5.5.5.1.2. **(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 HQ AETC/A3RA their programmed reflow (**Attachment 19**). The approval authority is HQ AETC/A3R.

15.5.5.5.2. **(Added-AETC)** The calendar in **Figure 15.2** 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.

Figure 15.2. (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 and next month's plan.	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.	

15.5.6. Weekly Scheduling. The weekly schedule is the final refinement to the monthly plan and results in the weekly flying and maintenance schedule.

15.5.6. **(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 signed 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.

15.5.6.1. MAJCOMs will develop procedures to ensure the objectives of the weekly scheduling process are met.

15.5.6.1.1. 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-1)**. Overdue and uncorrected discrepancies will be briefed weekly during a daily production/scheduling meeting chaired by the MXG/CD (or equivalent). **(T-2)**.

15.5.6.2. NLT 2 workdays before the weekly scheduling meeting, the OS Operations Officer will provide maintenance supervision the following information (as required for missile units):

15.5.6.2. **(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 21** for instructions on completing AETC Form 206A. Schedulers may use AETC Form 208, *Weekly Scheduling Request*, to consolidate flight requests.

15.5.6.2.1. Aircraft takeoff and landing times. **(T-2).**

15.5.6.2.1. **(AETC)** Takeoff times must be coordinated and agreed to by both maintenance and operations.

15.5.6.2.2. Configuration requirements. **(T-2).**

15.5.6.2.3. Munitions requirements. **(T-2).**

15.5.6.2.4. Fuel loads. **(T-2).**

15.5.6.2.5. Special or peculiar mission support requirements. **(T-2).**

15.5.6.2.6. Alert requirements. **(T-2).**

15.5.6.2.7. Exercise vulnerability. **(T-2).**

15.5.6.2.8. Deployments. **(T-2).**

15.5.6.2.9. Off-base sorties. **(T-2).**

15.5.6.2.10. On-equipment training requirements. **(T-2).**

15.5.6.2.11. Other special requirements. **(T-2).**

15.5.6.2.12. All mission unique requirements are annotated by OS Operations Officers on the weekly and daily flying schedule. **(T-2).**

15.5.6.2.13. **(Added-AETC)** Date and type mission.

15.5.6.2.14. (**Added-AETC)** Scheduled utilization and maintenance actions by aircraft and equipment serial number, to include sortie sequence number.

15.5.6.2.15. **(Added-AETC)** Estimated requirements for petroleum, oil, and lubricants when required, to include number of trucks, refueling pits, and times required.

15.5.6.2.16. **(Added-AETC)** Aircraft and equipment required to support ground-training requirements.

15.5.6.3. Home and deployed units will publish a weekly schedule. **(T-1)**. Include the following in the weekly flying and maintenance schedule:

15.5.6.3. **(AETC)** PS&D will produce and deliver a reproducible or electronic copy of the weekly utilization and maintenance schedule, on Friday of the week preceding the effective week. **(T-2).** Use an Air Force general purpose form, locally approved form, or locally developed spreadsheet to build the weekly schedule.

15.5.6.3.1. 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.

15.5.6.3.1. **(AETC)** Schedules 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.

15.5.6.3.1.1. **(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).**

15.5.6.3.1.2. **(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.

15.5.6.3.1.3. **(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.)

15.5.6.3.1.3.1. **(Added-AETC)** Local sorties: 001-298.

15.5.6.3.1.3.2. **(Added-AETC)** Additions: 300-598.

15.5.6.3.1.3.3. **(Added-AETC)** Return from out and back (O&B), off-station, and XC sorties: 600-698.

15.5.6.3.1.3.4. **(Added-AETC)** FCF and OCF: 700-728.

15.5.6.3.1.3.5. **(Added-AETC)** Ferry Sorties: 730-748.

15.5.6.3.1.3.6. **(Added-AETC)** HQ AETC tasking's: 750-798.

15.5.6.3.1.3.7. **(Added-AETC)** Weather evacuations: 800-898.

15.5.6.3.1.4. **(Added-AETC)** If it is known that an aircraft cannot and will not be MC (NMC conditions), do not identify the NMC aircraft as a prime flier or a spare on the weekly flying schedule. **(T-2).**

15.5.6.3.2. Spare aircraft requirements. **(T-2)**. Spare requirements are printed by day for each maintenance unit. Generate only the absolute minimum of spare aircraft.

15.5.6.3.2. **(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.

15.5.6.3.2.1. **(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 tasking's. 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:

15.5.6.3.2.1.1. **(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. These factors will be provided to the appropriate maintenance scheduling function. The following is an example how to determine the spare factor:

a. First sortie or mission maintenance cancels		.10
b. First sortie or mission supply cancels		.03
c. First sortie or mission GAs		.05
d. Spare factor	=	.18 (18 percent)

15.5.6.3.2.2. **(Added-AETC)** The spare factor is determined by adding the total logistics cancellation and ground abort (GA) percentage factors for the planning period. Contact maintenance analysis for these rates.

15.5.6.3.2.3. **(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.

15.5.6.3.2.4. **(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 15.5.6.3.2.2, that is, 12 x .18 = 2.16 (number of spares required is 3).

15.5.6.3.3. 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)**.

15.5.6.3.4. Required pre-inspection and other maintenance/scheduling meetings. **(T-2)**.

15.5.6.3.5. Wash rack use. **(T-2)**.

15.5.6.3.6. On-equipment training requirements. **(T-2)**.

15.5.6.3.7. AGE inspections or maintenance schedule by type and ID number. **(T-2)**.

15.5.6.3.8. MAJCOMs will develop standardized procedures to record and coordinate changes to the weekly schedule using an AF Form 2407. Include minimum approval levels for approving changes to the weekly schedule.

15.5.6.3.8. **(AETC)** Changes to the printed weekly flying and utilization schedules require coordination and approval by the MXG/CC and OG/CC. **Exception:** Pure maintenance actions scheduled in the weekly schedule require MXG/CC coordination and approval only. **(T-3).** The total number of sorties or missions and aircraft serial numbers, except when using the replacement rule in paragraph **15.5.6.7.3.3.3** will remain the same without incurring a deviation. Requirements may necessitate the conversion of O&B and XC sorties or missions to local sorties or missions or vice versa. Once the changes are made, normal deviation reporting applies. **Note:** Only launches by the parent maintenance organization are accountable in sortie scheduling effectiveness (SSE) computations.

15.5.6.3.8.1. **(Added-AETC)** Use AF Form 2407 to document weekly schedule changes 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 nonavailability.) Deviations to the weekly schedule apply and are recorded even though a change is made using the AF Form 2407. (AF Form 2407 is a coordination sheet used to document the receipt of the changed information by all affected agencies.) The activity requesting the change will initiate AF Form 2407 and ensure coordination with all affected activities. A detailed reason for the schedule change will be included on AF Form 2407. **Note:** Munitions configuration changes require an AF Form 2407, regardless of when the action is initiated.

15.5.6.3.8.1.1. **(Added-AETC)** Units will publish local AF Form 2407 routing procedures in a supplement to this instruction. **(T-3).**

15.5.6.3.8.1.1.1. **(Added-314AW)** AF Form 2407 Routing Procedures:

15.5.6.3.8.1.1.1.1. **(Added-314AW)** The agency requesting the change will initiate the AF Form 2407 with a detailed reason for the schedule change. The AF Form 2407 will be routed via electronic means using the LRAFB 2407 Routing distribution list. The agency approving the change will digitally sign the AF Form 2407 with an approved or disapproved and coordinate the change via electronic means using the LRAFB 2407 Routing distribution list.

15.5.6.3.8.2. **(Added-AETC)** After coordination, PS&D will update the MIS for changes made before the daily scheduling meeting, and the MOC will update the MIS with changes made after the daily scheduling meeting. **(T-2).** In addition, the MOC will annotate all changes in red on the weekly schedule maintained in the MOC. **(T-2).** Maintenance analysis will use the MIS to review for trends and include the results in monthly summary reports. Commanders and schedulers will use trend results to identify and correct problems and to assist in building and executing future plans. Maintenance analysis will return the annotated schedules with (AF Forms 2407) to PS&D or the MOC (established locally) for filing.

15.5.6.3.8.3. **(Added-AETC)** For deployed operations, develop a weekly flying schedule, including aircraft tail numbers for the first lines and spares.

Times entered in this schedule will be listed as "TBD". On the day of flying the schedule will be finalized and confirmed to operations and the maintenance operations center not later than 2 hours prior to the first on-status/take-off time. The new published schedule derived from the ATO, is applicable to all affected organizations and no AF Form 2407 is required to implement the new schedule. All changes after the new schedule has been published, up to the first unit crew show time, will be documented and coordinated on an AF Form 2407. Normal deviations will be recorded against all sorties using the new published schedule derived from the ATO.

15.5.6.3.9. 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)**.

15.5.6.3.9.1. Changes made during the daily scheduling meeting also require an AF Form 2407. **(T-2)**.

15.5.6.3.9.2. The agency requesting the change initiates the AF Form 2407 and coordinates it IAW MAJCOM procedures. **(T-2)**.

15.5.6.3.10. **(Added-AETC)** Estimated requirements for petroleum, oil and lubricants, when required, to include number of trucks, refueling pits, and times required.

15.5.6.3.11. **(Added-AETC)** Aircraft and equipment to support ground training requirements.

15.5.6.4. The OS Operations Officer 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-1)**.

15.5.6.4. **(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 2 workdays before the meeting. **(T-2).**

15.5.6.4.1. **(Added-AETC)** Maintenance and operations schedulers will discuss weekly needs and arrive at an acceptable, coordinated schedule for the group commander's review.

15.5.6.5. The approved schedule will be submitted to PS&D for compilation and a complete copy provided to the WG/CC. **(T-3)**.

15.5.6.6. 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)**.

15.5.6.6.1. 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).**

15.5.6.6.2. 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)**.

15.5.6.7. 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-1)**.

15.5.6.7. **(AETC)** The weekly meeting will be convened no later than 1200 on Friday. **(T-2).** 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. The WG/CC will sign the weekly plan. File the original signed copy in PS&D, and maintain it according to the Air Force RDS.

15.5.6.7.1. The schedule will be followed as printed or as amended by coordinated changes. **(T-1)**.

15.5.6.7.2. Coordinated changes do not negate reporting deviations IAW MAJCOM guidance.

15.5.6.7.3. **(Added-AETC)** Deviations.

15.5.6.7.3.1. **(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. (See **Table 15.2** for common deviation determinations.) 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 19** 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).**

15.5.6.7.3.1.1. **(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).**

15.5.6.7.3.1.2. **(Added-AETC)** Deviation reporting is applicable to all AETC-possessed aircraft. When an aircraft ground-aborts and the abort is associated with a cancellation, multiple deviations will be recorded, but the maintenance cancellation will not be computed in SSE (see **Table 15.2**,

item 12). **(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.

15.5.6.7.3.2. **(Added-AETC)** Chargeable Deviations. These are variations to the flying schedule that are within the control of the local authority. Chargeable deviations are as follows:

15.5.6.7.3.2.1. **(Added-AETC)** Engine Running Crew Change (ERCC). ERCC sorties or missions printed in the weekly schedule that are not flown (paragraph **15.5.7.8**) 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:

15.5.6.7.3.2.1.1. **(Added-AETC)** The aircraft is required to be shut down to facilitate maintenance actions.

15.5.6.7.3.2.1.2. **(Added-AETC)** Repairs are made while operations maintains control of the aircraft.

15.5.6.7.3.2.1.3. **(Added-AETC)** The sortie or mission can be launched to meet mission requirements.

15.5.6.7.3.2.2. **(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. The following are examples of what will normally be classified as a GA:

15.5.6.7.3.2.2.1. **(Added-AETC)** If a ground aborted aircraft is replaced by a spare and the spare can meet mission requirements, the original aircraft is coded as a deviation code of SP with the applicable cause code in the MIS.

15.5.6.7.3.2.2.2. **(Added-AETC)** If a spare aircraft is available for an aborted aircraft, but the spare cannot meet mission requirements and the sortie or mission is not flown, a cancellation will also be recorded against the responsible agency (maintenance or operations) as determined locally.

15.5.6.7.3.2.2.3. **(Added-AETC)** 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.

15.5.6.7.3.2.2.4. **(Added-AETC)** GAs are only chargeable against the prime aircraft; that is, only one GA is chargeable per sortie or mission line. Additional GAs (spares) against the same sortie or mission are documented as nonchargeable for SSE. GAs on FCFs or OCFs are nonchargeable.

15.5.6.7.3.2.2.4.1. **(Added-AETC)** Additions. Additions are aircraft or sorties/missions added to the weekly schedule that are not on the previously printed schedule and are outside the nonchargeable replacement windows. Additions will be recorded against the agency requesting the addition. **(T-2).**

15.5.6.7.3.2.2.4.2. **(Added-AETC)** Additions that exceed the current number of 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).**

15.5.6.7.3.2.2.5. **(Added-AETC)** Cancellations. An aircraft or 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:

15.5.6.7.3.2.2.5.1. **(Added-AETC)** Maintenance cancel is an aircraft or sortie not flown for maintenance reasons that occur prior to aircrew arrival.

15.5.6.7.3.2.2.5.2. **(Added-AETC)** Operations cancel is an aircraft or sortie not flown for operations reasons that occur prior to aircrew arrival.

15.5.6.7.3.2.2.5.3. **(Added-AETC)** Supply cancel is an aircraft or sortie not flown for supply reasons to include a Partially Mission Capable Supply or Not Mission Capable Supply condition, or for late Supply or POL delivery, that occurs prior to aircrew arrival.

15.5.6.7.3.3. **(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:

15.5.6.7.3.3.1. **(Added-AETC)** Weather Additions. Additions to the daily portion of the schedule may be required to compensate for higher-than-projected weather losses. When weather losses occur, sorties may be added back into current and subsequent weekly schedules, as necessary, to bring the student timeline and CT requirements back to even without incurring any chargeable deviation. These provisions are applicable any time during the execution of the annual FHP. Nonchargeable weather cancels or additions will not be used in sortie scheduling effectiveness computations. **(T-2). Note:** Off-station, weather-cancelled sorties may be added back on a one-for-one basis at the off-station location.

15.5.6.7.3.3.2. **(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.

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

15.5.6.7.3.3.4. **(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.

15.5.6.7.3.3.5. **(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).**

15.5.6.7.3.3.6. **(Added-AETC)** Other Category (OT). OT deviations to the weekly schedule that are not normally ascribed against maintenance, operations or supply are as follows:

15.5.6.7.3.3.6.1. **(Added-AETC)** 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 (paragraph **15.5.6.7.3.3.6.8**), 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.

15.5.6.7.3.3.6.2. **(Added-AETC)** Incentive and familiarization flights flown at the XC location of a deployed unit. These are considered flown as scheduled.

15.5.6.7.3.3.6.3. **(Added-AETC)** Sorties or missions not flown due to:

15.5.6.7.3.3.6.3.1. **(Added-AETC)** 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.

15.5.6.7.3.3.6.3.2. **(Added-AETC)** 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.

15.5.6.7.3.3.6.3.3. **(Added-AETC)** 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 **15.5.6.7.3.2**).

15.5.6.7.3.3.6.3.4. **(Added-AETC)** Recommendation from the Supervisor of Flying or equivalent for safety concerns based on the quantity of birds in the area.

15.5.6.7.3.3.6.3.5. **(Added-AETC)** Ferry Sortie or mission requirements.

15.5.6.7.3.3.6.4. **(Added-AETC)** Aircraft grounded or restricted from a scheduled mission because of an immediate action TCTO or one-time inspection.

15.5.6.7.3.3.6.5. **(Added-AETC)** Deviations resulting from a WG/CC-directed exercise, including force protection conditions.

15.5.6.7.3.3.6.6. **(Added-AETC)** Notification of an unscheduled WG/CC safety briefing.

15.5.6.7.3.3.6.7. **(Added-AETC)** 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.

15.5.6.7.3.3.6.8. **(Added-AETC)** Another scheduled aircraft's abort or cancellation sympathy.

15.5.6.7.3.3.6.9. **(Added-AETC)** 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 **15.5.10** of this instruction.

15.5.6.7.3.3.6.10. **(Added-AETC)** ERCC sorties or missions added for incomplete training. These are nonchargeable if added during the same week a training event was lost.

15.5.6.7.3.3.6.11. **(Added-AETC)** 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.

Table 15.2. (Added-AETC) Common Deviation Determination Guide.

ITEM	A	B	C	D
		Is the Deviation		
	Event	Recorded in IMDS-CDB/G081?	Calculated in SSE?	Remarks
1	A sortie or mission is added to the flying schedule (excluding OCFs or FCFs and XC return).	Yes	Yes	
2	A sortie or mission is added for an OCF or FCF.	No	No	OCFs and FCFs are considered flown as scheduled
3	A sortie or mission is cancelled.	Yes	Yes	Once the decision is made to cancel the sortie or mission, it is a cancellation. If a decision is made after the cancellation to fly the sortie or mission, it becomes an added line.
4	A sortie or mission is determined to be noneffective.	No	No	This is not a deviation. This determination is made by operations and has no bearing on SSE.
5	A spare aircraft printed on the flying schedule is used in a printed line.	Yes		
6	An aircraft on the printed schedule is swapped with an aircraft in another printed line.			

7	An aircraft not printed in the flying schedule is used in a printed line. Excluding aircraft already flown that day such as an OCF/FCF or XC return.		Yes	Only one deviation is recorded for the added aircraft. The result is the same as adding an aircraft as a spare, and then interchanging it into a printed line.
8	An aircraft not printed in the flying schedule is added as a spare.	Not unless flown	Not unless flown	This only counts in SSE computations if used.
9	An aircraft not printed in the flying schedule that has flown that day is used in a printed line.	Yes	No	Examples include previously flown OCF or FCF aircraft and XC returns.
10	A ground abort is replaced with another aircraft or spare from the printed schedule.		Yes	The first ground abort is computed in SSE. The second and subsequent ground aborts on a single line are not computed in SSE.
11	A printed aircraft ground-aborts and is replaced with an aircraft NOT on the printed schedule. The second aircraft also ground-aborts and the original aircraft is fixed and flies the sortie or mission.			Record a chargeable deviation against the original aircraft and a nonchargeable against the second aircraft.
12	A printed aircraft ground-aborts and there is no spare to fly the line			Record a chargeable ground abort in IMDS-CDB/G081 against the original aircraft and is computed in SSE. A maintenance cancellation will also be recorded against the line but is not calculated in SSE.

15.5.6.8. PS&D will distribute the schedule to each appropriate activity and work center NLT time determined in MAJCOM supplements to this AFI. **(T-2)**.

15.5.6.8. **(AETC)** Units 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).**

15.5.6.8.1. Weekly schedules may be published electronically provided local security requirements are met.

15.5.7. **(Added-AETC)** Flying the Schedule.

15.5.7.1. **(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 **15.5.6.3.8** of this instruction.

15.5.7.2. **(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 it's rescheduling. Operations scheduling will notify the MOC and flight line production superintendent by 2200 regarding which schedule to use. **(T-2).**

15.5.7.3. **(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).**

15.5.7.4. **(Added-AETC)** Late Launch:

15.5.7.4.1. **(Added-AETC)** If a scheduled sortie or mission does not launch within 1 hour (4 hours for Altus, Kirtland, Little Rock, Fairchild AFBs, and Ft Rucker only) 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.

15.5.7.4.2. **(Added-AETC)** If the printed tail number is a ground abort and is replaced with a spare that does not take off within 1 hour (4 hours for Altus, Kirtland, Little Rock, Fairchild AFBs, Ft Rucker only) 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).**

15.5.7.4.3. **(Added-AETC)** If no spare is available and an aircraft is added or the

original aircraft launches after the 1-hour window (4 hours for Altus, Kirtland, Little Rock, Fairchild AFBs, Ft Rucker only) 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.)

15.5.7.5. **(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.

15.5.7.6. **(Added-AETC)** Interchanges:

15.5.7.6.1. **(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. PS&D and/or 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.

15.5.7.6.2. **(Added-AETC)** Interchanges prior to the start of the flying period will be documented on an AF Form 2407. Record all interchanges in the MIS. PS&D will update the MIS for interchanges made before the daily scheduling meeting, and the MOC will update the MIS on any interchange made after the meeting and be notified of all interchanges. **(T-2).**

15.5.7.6.3. **(Added-AETC)** Interchanges occur prior to aircrew arrival at the aircraft. Spares occur after aircrew arrival at the aircraft.

15.5.7.7. **(Added-AETC)** O&B or XC Sorties or Missions:

15.5.7.7.1. **(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).**

15.5.7.7.2. **(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 converted nonchargeably, but the back portion will be recorded as a chargeable ops add if flown. **(T-2).** Conversely, locals may be converted to O&B or XC. Convert local sorties to O&B or XC as follows; record the out portion as nonchargeable. 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).**

15.5.7.8. **(Added-AETC)** Engine Running Crew Change (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 in accordance with the aircraft-specific technical guidance before the aircraft may relaunch. **(T-2).**

15.5.7.9. **(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. However, for reporting purposes in IMDS this will be loaded as two separate lines, but will be debriefed and counted as one sortie. **(T-2).**

15.5.7.10. **(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.

15.5.7.11. **(Added-AETC)** Sortie Modifier. 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 modifiers (see definition) then the following rules for utilization documentation apply:

15.5.7.11.1. **(Added-AETC)** Only the last mod will have a landing status documented.

15.5.7.11.2. **(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).

15.5.7.11.3. **(Added-AETC)** All pilot reported discrepancies (PRD's) will be documented against the last mod of the sortie. **Exception:** PRD before flight (RED BALL) will be loaded against the first sortie mod.

15.5.7.11.4. **(Added-AETC)** All mods will use the same aircraft utilization code.

15.5.7.11.5. **(Added-AETC)** When a sortie mod is documented, the detailed debrief flight data will be documented in the MIS against the last mod only.

15.5.8. **(Added-AETC)** Planned Surge.

15.5.8.1. **(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).**

15.5.8.2. **(Added-AETC)** Maintenance and operations must work together with the FC, 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.

15.5.8.3. **(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 19**) and divide that number by the number of O&M days in that month.

15.5.8.4. **(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.

15.5.8.5. **(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.

15.5.8.6. **(Added-AETC)** There are limitations on the frequency and duration of a surge for civil service and contract activities. Specifically, surging will not be employed for more than 2 days in a monthly flying period. **(T-2).** Waivers must be submitted to HQ AETC/A3 and HQ AETC/A4 for approval.

15.5.9. **(Added-AETC)** Combat Generation. Generations are conducted as outlined in applicable Air Force guidance and unit plans. Scheduling procedures are as follows: **(T-2).**

15.5.9.1. **(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.

15.5.9.2. **(Added-AETC)** Before publishing the air tasking order (ATO), determine the total number of aircraft that maintenance can support versus operational requirements.

15.5.9.3. **(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.

15.5.9.4. **(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.

15.5.10. **(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.

15.5.10.1. **(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.

15.5.10.2. **(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 HQ AETC/A3R by the AETC Commander.

15.6. Contingency and Expeditionary Responsibilities.

15.6.1. Responsibilities of Contingency/Expeditionary (Cont/Exp) units (i.e., maintaining non-assigned aircraft). **Note:** This does not include AMC-established en route stations.

15.6.1.1. Most planning and scheduling is the responsibility of units with assigned aircraft and is provided through reachback 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-1)**.

15.6.1.2. Cont/Exp PS&D will conduct the following programs as outlined below:

15.6.1.2.1. ADR pre- and post-dock meetings acceptance inspections (from DFT/CFTs) and the major work program. **(T-1)**.

15.6.1.2.1.1. Cont/Exp PS&D will use the procedures developed by the aircraft-owning organizations. **(T-1)**.

15.6.1.2.1.2. If aircraft from multiple bases/units are supported, procedures do not have to be standardized.

15.6.1.3. Ensure discrepancies noted by the aircraft-owning PS&D for the ACM, TCI and SI programs are corrected. **(T-1)**. Cont/Exp PS&D will not develop programs independent of the aircraft owning organization. **(T-1)**.

15.6.1.4. Develop local coordination procedures for contingency aircraft affected by Immediate and Urgent Action (I/UA) TCTOs. **(T-1)**.

15.6.1.5. When notified by the aircraft-owning organization of an I/UA TCTO, the Cont/Exp PS&D will host a TCTO meeting. **(T-1)**.

15.6.1.5.1. The purpose of the meeting is to determine if the Cont/Exp unit has the maintenance capability to perform the TCTO.

15.6.1.5.1.1. Invite AMU, QA and affected work centers. Cont/Exp will notify the Expeditionary Maintenance Group Commander (EMXG/CC) of

the unit's capability to perform the TCTO. **(T-1)**.

15.6.1.5.1.2. Develop and implement local tracking methodology to track TCTO completion. **(T-1)**.

15.6.1.5.1.3. Update MIS when the aircraft-owning Cont/Exp PS&D loads the requisite JST/JCNS. **(T-1)**.

15.6.1.5.1.4. 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-1).**

15.6.1.5.2. Cont/Exp PS&D will only maintain aircraft I/UA TCTO files while active. **(T-1)**.

15.6.1.5.2.1. Once TCTOs are completed and loaded in MIS, records will be sent to home station for filing. **(T-1)**.

15.6.1.5.2.2. A TCTO meeting is not necessary for Routine Action aircraft TCTOs.

15.6.1.5.3. A full TCTO program IAW this chapter is required for AGE and other special equipment which is assigned to the contingency unit. **(T-1)**. This is intended to cover equipment that does not rotate with aviation packages.

15.6.1.5.4. Monthly and weekly maintenance planning. Cont/Exp PS&D will produce maintenance plans detailing all known maintenance requirements for the upcoming month/week. **(T-1)**.

15.6.1.5.4.1. This plan will detail by tail number, due date, JST and a description of the scheduled maintenance required for the time period. **(T-1).**

15.6.1.5.4.1.1. Use of the AF Form 2401 is not required.

15.6.1.5.4.1.2. The list will be published 2-days prior to the covered time period, coordinated through maintenance supervision, and approved by the EMXG/CC. **(T-3)**.

15.6.1.5.4.2. The weekly schedule will additionally identify those actions which will be deferred. **(T-1)**.

15.6.1.5.4.2.1. It will specifically identify if the action is deferred for mission requirements or due to a lack of capability. **(T-1)**.

15.6.1.5.4.2.2. Actions which are not identified as "pre-deferred" are expected to be accomplished during the upcoming week.

15.6.1.5.4.3. 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.

15.6.1.6. 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.

15.6.1.7. Cont/Exp PS&D will develop procedures with home station AVDOs to

communicate and ensure AVDO responsibilities are performed. **(T-1)**.

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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AF Form 2407, *Weekly/Daily Flying Schedule Coordination*

AF Form 2408, *Generation Maintenance Plan*

AF Form 2409, *Generation Sequence Action Schedule* AF Form 2410, *Inspection/TCTO Planning Checklist* AF Form 2411, *Inspection Document*

AF Form 2419, *Routing and Review of Quality Control Reports* AF Form 2426, *Training Request and Completion Notification* AF Form 2430, *Specialist Dispatch Control Log*

AF Form 2434, *Munitions Configuration and Expenditure Document*

Adopted Forms

AF Form 55, *Employee Safety and Health Record*

AF Form 623, *Individual Training Record*

AF Form 797, *Job Qualification Standard Continuation* AF Form 847, *Recommendation for Change of Publication* AF Form 1067, *Modification Proposal*

AF Form 1098, *Special Tasks Certification and Recurring Training*

AF Form 1297, *Temporary Issue Receipt*

AF Form 2096, *Classification/On The Job Training Action*

AF Form 2411, *Inspection Document*

AF Form 3215, *Information Technology/National Security Systems Requirements Document*

AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply*

AFTO Form 66, *TMDE Bar Codes (polyester Film)* AFTO Form 82, *TCTO Verification Certificate* AFTO Form 95, *Significant Historical Data*

AFTO Form 103, *Aircraft/Missile Condition Data* AFTO Form 242, *Nondestructive Inspection Data* AFTO Form 244, *Industrial/Support Equipment Record*

AFTO Form 349, *Maintenance Data Collection Record*

AFTO Form 375, *Selected Support Equipment Repair Cost Estimate* AFTO Form 781, *Arms Aircrew/Mission Flight Data Document* AFTO Form 781A, *Maintenance Discrepancy and Work Document* AFTO Form 781C, *Avionics Configuration and Load Status Document*

AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance Document*

AFTO Form 781J, *Aerospace Vehicle - Engine Flight Document*

AFTO Form 781K, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document*

DD Form 1348-6, *DOD Single Line Item Requisition System Document*

DD Form 1610, *Request and Authorization for TDY Travel of DOD Personnel*

DD Form 2861, *Cross-Reference*

Abbreviations and Acronyms

ABDR—Aircraft Battle Damage Repair

AC—Aircraft Commander

ACC—Air Combat Command

ACFT—Aircraft

ACM—Aircraft Configuration Management

ACN—Authorization Change Notice

ACO—Administrative Contracting Officer

ACPINS—Automated Computer Program Identification Number System

ACR—Authorization Change Requests

ACS—Agile Combat Support

AD—Airworthiness Directives

ADCC—Assistant Dedicated Crew Chief

ADF—Automatic Direction Finder

ADPE—Automated Data Processing Equipment

ADR—Aircraft Document Review / Ammunition Disposition Report

ADS—Automated Data System

AEF—Aerospace Expeditionary Force

AETC—Air Education and Training Command

AF/A4L—Air Force Directorate of Logistics

AFCSM—Air Force Computer Systems Manual

AFE—Aircrew Flight Equipment

AFETS—Air Force Engineering and Technical Service

AFFARS—Air Force Federal Acquisition Regulation Supplement

AFI—Air Force Instruction

AFJMAN—Air Force Joint Manual

AFLCMC/EBH—Air Force Life Cycle Management Center, Munition Division

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFMETCAL—Air Force Metrology and Calibration Program

AFNCC—Air Force Network Control Center

AFORMS—Automated Forms

AFOSH—Air Force Occupational Safety and Health

AFOSHSTD—Air Force Occupational Safety and Health Standards

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

AFPLS—Air Force Primary Standards Laboratory

AFRC—Air Force Reserve Command

AFREP—Air Force Repair and Enhancement Program

AFRIMS—Air Force Records Information Management System

AFSATCOM—Air Force Satellite Communications

AFSC—Air Force Specialty Code/Air Force Sustainment Center

AFSOC—Air Force Special Operations Command

AFIT—Air Force Institute of Technology

AFRL—Air Force Research Laboratory

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

AGETS—Automated Ground Engine Test Set

AGM—Air Surface Attack Guided Missile

AHRS—Attitude Heading Reference System

AIMS—Air Intercept Missile System

AIRCAT—Automated Inspection, Repair, Corrosion, and Aircraft Tracking

AIS—Aircraft Instrumentation System

ALC—Air Logistics Complex

ALIS—Autonomic Logistics Information System

AMA—Acceleration Monitor Assemblies

AMC—Air Mobility Command

AME—Alternate Mission Equipment

AMU—Aircraft Maintenance Unit

AMOG—Air Mobility Operations Group

AMQP—Aircraft Maintenance Qualification Program

AMS—Air Mobility Squadron

AMXS—Aircraft Maintenance Squadron

ANG—Air National Guard

AOC—Air and Space Operations Center

AOL—All Operator Letters

AOR—Area of Responsibility

A/P—Airframe/Powerplant

APU—Auxiliary Power Unit

AQL—Acceptable Quality Level

ARC—Air Reserve Component / Automated Records Check

ART—AEF Reporting Tool

ARRT—Automated Requirements Roadmap Tool

AS—Allowance Standard

ASC—Aeronautical Systems Center

ASIP—Aircraft Structural Integrity Program

ASIMIS—Aircraft Structural Integrity Management Information System

ASM—Aircraft Structural Maintenance

ATC—Air Traffic Control

ATD—Aircrew Training Devices

ATERS—Automatic Test Reporting System

ATO—Air Tasking Order

ATSO—Ability To Survive and Operate

AUR—Accomplishment Utilization Report / All-Up-Round

AURC—All-Up-Round Container

AVDO—Aerospace Vehicle Distribution Office

AVTR—Airborne Videotape Recorder

AWBS—Automated Weight and Balance System

AWM—Awaiting Maintenance

AWP—Awaiting Parts

BCS—Bench Check Serviceable

BE—Bioenvironmental Engineering

BOW—Bill of Work

BPO—Basic Post-Flight

BRA—Bomb Rack Assembly

BRU—Bomb Rack Unit

BSL—Basic Systems Listing

CA—Cannibalization Authority / Combat Support Coded

CAAP—COMAFFOR Apportionment and Allocation Process

CAC—Common Access Card

CA/CRL—Custodian Authorization/Custody Receipt Listing

CAD—Computer Aided Design

CAD/PAD—Cartridge/Propellant Activated Device

CALCM—Conventional Air Launched Cruise Missile

CANN—Cannibalization

CAMS-FM/G081—Core Automated Maintenance System-For Mobility

CAR—Corrective Action Request

CAS—Combat Ammunition System

CASS—Centralized Aircraft Support System

CAST—Combat Armament Support Team / Command Aircraft Systems Training

CAT I—Category I

CAT II—Category II

CATM—Captive Air Training Munition

CB—Customer Bulletins

CBM—Carriage Conventional Bomb Module

CBM+—Condition-Based Maintenance Plus

CBRNE—Chemical, Biological, Radiological, Nuclear and high-yield Explosive

CBT—Computer-Based Training

CBU—Cluster Bomb Unit

CC—Commander

CCD—Course Control Document

CC—Controlled Cryptographic Item/Customer Comment

CCMS—Compass Call Mission Simulator

CCY—Calculated Cycles

CD—Command Disable / Deputy Commander (e.g., MXG/CD)

CDA—Commercial Derivative Aircraft

CDB—Central Database

CDC—Career Development Course

CDDAR—Crash Damaged, or Disabled Aircraft Recovery

CE—Civil Engineer / Communications Electronics

CEMP—Comprehensive Emergency Management Plan

CEMS—Comprehensive Engine Management System

CETS—Contractor Engineering and Technical Services

CFACC—Combined Forces Air Component Commander

CFETP—Career Field Education and Training Plan

CFT—Conformal Fuel Tank / Contract Field Team

CGO—Continuing Government Organization

CGP—Central Ground Processors

CHPMSK—Centralized High Priority Mission Support Kit

CIP—Control Indicator Programmer

CITS—Central Integrated Test System

CJCSI—Chairman of The Joint Chiefs of Staff Instruction

CL—Checklist

CLS—Contract Logistics Support

CSLE—Customer Support Liaison Element

CM—Configuration Management

CMS—Calibration Measurement Summaries/Component Maintenance Squadron

CND—Can Not Duplicate

COMAFFOR—Commander, Air Force Forces

Cont/Exp—Contingency/Expeditionary

COMBS—Contractor Operated and Maintained Base Supply

COMSEC—Communications Security

CONUS—Continental United States

CONOPS—Concept of Operations

COR—Contracting Officers Representative

COTR—Contracting Officer Technical Representative

CO2—Carbon Dioxide

CPARS—Contractor Performance Assessment Rating System

CPINS—Computer Program Identification Numbering System

CPT—Cockpit Trainer

CRF—Centralized Repair Facilities

CRP—Centralized Rotable Pool

CRSP—Consumable Readiness Spares Package

CSA—Client Support Administrators

CSO—Concurrent Servicing Operation

CSRL—Conventional Stores Rotary Launcher

CSS—Concurrent Servicing Supervisor / Chief Servicing Supervisor

CTK—Composite Tool Kit

CTVS—Cockpit Television Sensor

CUT—Cross Utilization Training

CV—Vice Commander

CVR—Cockpit Voice Recorder

CW—Chemical Warfare / Complied With / Continuous Wave

CWDE—Chemical Warfare Defense Equipment

CWO—Combat Wing Organization

CWT—Customer Wait Time

DAFSC—Duty Air Force Specialty Code

DATM—Dummy Air Training Missiles

DBM—Database Manager

DCC—Dedicated Crew Chief

DCMA—Defense Contract Management Agency

DD—Delayed Discrepancy

DDR—Daily Demand Rate

DDTS—Data Display Training Set

DECC—Defense Enterprise Computer Center

DEROS—Date Eligible for Return from Overseas

DEV—Deviation

DFARS—Department of Defense Federal Acquisition Regulation Supplement

DFAS—Defense Finance & Accounting Service

DFT—Depot Field Team

DIAMONDS—Defense Integration and Management of Nuclear Data Services

DIFM—Due-in From Maintenance

DISA—Defense Information System Agency

DIREP—Difficulty Report

DIT—Data Integrity Team

DLA—Defense Logistics Agency

DLIR—Downward-Looking Infrared Radar

DLO—Dual Loading Operation

DMS—Decentralized Materiel Support

D04—Daily Document Register

D18—Priority Monitor, Report

D23—Repair Cycle Asset Management Listing

DOC—Designed Operational Capability

DOD—Department of Defense

DOI—Date of Installation

DOM—Date of Manufacture / Director of Maintenance

DOP—Dropped Object Prevention

DOR—Due-Out Release

DR—Deficiency Report

DRC—Data Repository Center

DLADS—Defense Logistics Agency Disposition Service

DRU—Direct Report Unit

DS—Defensive Systems

DSN—Defense Switching Network

DSS—Decentralized Supply Support

DSV—Detected Safety Violations

DVR—Document Validation Report

eTools—Electronic Tools

E&E—Electro-Environmental

E&HWG—Environmental and Health Working Group

EA—Electronic Attack

EAID—Equipment Authorization Inventory Data

EAWP—Engine Automated Work Package,

EC—Equipment Condition

ECM—Electronic Countermeasures

ECM—Equipment Configuration Management

ECO—Electronic Combat Officer

ECP—Entry Control Point

ECSS—Expeditionary Combat Support System

ED—Incapacitated

EDSC—Engineering Data Service Center

EHM+—Engine Health Management

EHR—Event History Recorder

EI—Evaluation and Inspection

EID—Event Identification Description / Equipment Identification Designator

EIP—Equipment Inoperative for Parts

ELT—Emergency Locator Transmitter

EM—Engine Management/Emergency Management

EMFR—Electromagnetic Field Radiation

EMOC—Enhanced Maintenance Operations Center

EMS—Equipment Maintenance Squadron / Environmental Management System

EMXG/CC—Expeditionary Maintenance Group Commander

ENMCS—Engine Not Mission Capable for Supply

ES-S—Enterprise Solution-Supply

EOD—Explosive Ordnance Disposal

EOR—End of Runway

EOT—Engine Operating Time

EPA—Environmental Protection Agency

EPE—Evaluator Proficiency Evaluation

EPR—Evaluator Proficiency Report

ER—Exceptional Release

ERRC—Expendability, Recoverability, Reparability Code

ESOH—Environment Safety and Occupational Health

ESOHMS—Environment, Safety, and Occupational Health Management System

ESP—Expeditionary Site Plan

ESTA—En Route Support Team Advanced

ETS—Engineering Technical Service

ETTAS—Engine Test Trim Automated System

ETIC—Expected Time in Commission

ETIMS—Enhanced Technical Information Management System

ET&D—Engine Trending and Diagnostics

EVS—Electro-optical Viewing System

EW—Electronic Warfare

EWO—Emergency War Order/Electronic Warfare Officer

EWS—Electronic Warfare System

EX—Exercises/Contingencies

EXPRESS—Execution and Prioritization of Repair Support System

FAA—Federal Aviation Administration

FAD—Force Activity Designator

FAM—Functional Area Manager

FAR—Federal Acquisition Regulation

FARP—Forward Area Refueling Point

FC/FD—Functional Commander/Functional Director

FCC—Flying Crew Chief

FCF—Functional Check Flight

FCT—Flight Circuit Test

FDR—Flight Data Recorder

FEMS—Facility and Equipment Management System

FHP—Flying Hour Program

FIAR—Financial Improvement and Audit Readiness

FIT—Facility for Interoperability Testing

FK—Air Force Stock Record Account Number Prefix (munitions)

FLIR—Forward-Looking Infrared Radar

FO—Foreign Object

FOA—Field Operating Unit

FOD—Foreign Object Damage

FOL—Forward Operating Location

FOM—Facilitate Other Maintenance

FOUO—For Official Use Only

FSA—Functional Systems Administrators

FSAS—Fuel Savings Advisory System

FSC—Flight Service Center

FSG—Federal Supply Group

FSL—Full Systems Listing

FSR—Field Service Representatives

FTD—Field Training Detachment

FUD—File Update Mode

FV—Air Force Stock Record Account Number Prefix (munitions)

FW—Fighter Wing

FY—Fiscal Year

GACP—Global Ammunition Control Point

GBL—Government Bill of Lading

GBU—Guided Bomb Unit

GCSAS—Generic Configuration Status Accounting Subsystem

GEOLOC—Geographical Location

GFE—Government Furnished Equipment

GITA—Ground Instructional Trainer Aircraft

GLSC—Global Logistics Support Center

GMAW—Gas Metal Arc Welding

GOX—Gaseous Oxygen

GP—Group

GP/CC—Group Commander

GPC—Government Purchase Card

GPS—Global Positioning System / Groups

GPWS—Ground Proximity Warning System

GS—General Schedule

GSAS—Generation Sequence Action Schedule

GTAW—Gas Tungsten Arc Welding

GSU—Geographically Separated Units

HAF—Headquarters, US Air Force

HAZMAT—Hazardous Material

HC/D—Hazard Class Division

HF—High Frequency

HHQ—Higher Headquarters

HOW MAL—How Malfunction

HPO—Hourly Post-flight / High Performance Organization

HPT—High Pressure Turbine

HQ—Headquarters

HSC—Home Station Check

IA—Inspection Authorization

IAT—Individual Aircraft Tracking

IAW—In Accordance With

ID—Identification

IDEA—Innovation Development through Employee Awareness

I-Deck—Initialization Deck

IDS—Intrusion Detection Systems

IETM—Interactive Electronic Technical Manuals

IFCS—Instrument and Flight Control Systems

IFE—In-Flight Emergency

IFF—Identification Friend or Foe

IFR—In Flight Refueling

IG—Inspector General

IGE—Internal Government Estimates

ILM—Intermediate Level Maintenance

ILS—S—Integrated Logistics Systems-Supply

IM—Item Manager

IMDS—Integrated Maintenance Data System

IMDS-CDB—Integrated Maintenance Data System-Central Data Base

IMIS—Integrated Maintenance Information System

INS—Inertial Navigation System

INW—In Work

IP—Instructor Pilot

IPCOT—In-Place Consecutive Overseas Tour

IPI—In-Process Inspection

IPL—Immediately Prior to Launch

IPMS—Information Processing Management System

IRADS—Infrared Acquisitions/Designation System

IREP—Intermediate Repair Enhancement Program

IRSP—In-place Readiness Spares Packages

ISO—Isochronal Inspection

I/UA—Immediate and Urgent Action

ISU/DOR—Issue/Due-Out Release

JCALS—Joint Computer-Aided Acquisition and Logistics Support

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

JETSC—Jet Engine Test Stand Calibrator

JFACC—Joint Forces Air Component Commander

JFS—Jet Fuel Starter

JML—Job Standard Master Listing

JPRA—Joint Personnel Recovery Agency

JQS—Job Qualification Standard

JST—Job Standard

JTIDS—Joint Tactical Information Distribution System

JUMPS—Joint Uniform Military Pay System

KTL—Key Task List

LAN—Local Area Network

LANTIRN—Low Altitude Navigation and Targeting Infrared for Night

LCAT—Logistics Compliance Assessment Team

LCL—Local Checklist

LCN—Logistics Control Number

L/ESS—Loads/Environment Spectra Survey

LIMFAC—Limiting Factor

LJG—Local Job Guides

LM—Limited-use Munition

LME—Locally Manufactured Equipment

LMR—Land Mobile Radio

LN2—Liquid Nitrogen

LO—Low Observable

LOLA—Live Ordnance Loading Area

LORAN—Long Range Aid to Navigation

LOX—Liquid Oxygen

LPS—Local Page Supplement

LPT—Loaded Pylon Test / Low Pressure Turbine

LRE—-Launch Recovery Element

LRS—Logistics Readiness Squadron

LRU—Line Replaceable Unit

LSC—Load Standardization Crew

LSP—Logistics Support Plan

LV—Leave

LWC—Local Work Cards

M30—Monthly Due-Out Validation Listing

MADAR—Malfunction Detection, Analysis, and Recording System

MAJCOM—Major Command

MALD—Miniature Air Launched Decoy

MANFOR—Manpower Force Packaging System

MASO—Munitions Accountable System Officer

MC—Mission Capable

MCD—Magnetic Chip Detectors

MCE—Mission Control Element

MDF—Mission Data File

MDS—Mission Design Series

MEL—Minimum Equipment Level

MMA—Maintenance Management Analysis

MEP—Mission Essential Personnel

MEO—Most Efficient Organization

MER—Multiple Ejection Rack

MESL—Minimum Essential Subsystems List

MFG—Munitions Family Group

MFM—MAJCOM Functional Manager

MFR—Memorandum for Record

MFT—Multi-Functional Team

MGN—Mission Generation Networks

MI—Management Inspection

MICAP—Mission Capable

MISCAP—Mission Capability

MIL—Master Inventory List

MILSPEC—Military Specification

MIS—Maintenance Information Systems

MJSN—Master Job Standard Numbers

MMCL—MAJCOM Mandatory Course List

MMA—Maintenance Management Analysis

MMHE—Munitions Materiel Handling Equipment

MOA—Memorandum of Agreement

MOC—Maintenance Operations Center

MOF—Maintenance Operations Flight

MO—Maintenance Operations

MOU—Memorandum of Understanding

MPPEH—Management of Materiel Potentially Presenting an Explosive Hazard

MPS—Military Personnel Section

MPRL—Minimum Required Proficiency Load

MQC—Maintenance Qualification Centers

MRSP—Mobility Readiness Spares Package

MRT—Maintenance Recovery Team

MRRT—Munitions Rapid Response Team

MSA—Munitions Storage Area

MSAT—Maintenance Scheduling Application Tool

MSE—Maintenance Scheduling Effectiveness

MSE—Munition Support Equipment

MSEP—Maintenance Standardization & Evaluation Program

MSG—Mission Support Group

MSIM—Mission Simulator

MSK—Mission Support Kit

MSPE—Maintenance Safety and Protection Equipment

MT—Maintenance Training

MTD—Maintenance Training Device

MTP—Master Training Plan

MTR—Military Travel Request

MTT—Mobile Training Team

MUNS—Munitions Squadron

MX—Maintenance

MxCAP2—Maintenance Capability and Capacity (model)

MXG—Maintenance Group

MXG/CC—Maintenance Group Commander

MXG/CD—Maintenance Group Deputy Commander

MXS—Maintenance Squadron

MX SUPT—Maintenance Superintendent

NAF—Numbered Air Force

NAS—National Aerospace Standard

NATO—North Atlantic Treaty Organization

NBCC—Nuclear, Biological, Chemical and Conventional

NCE—Nuclear Certified Equipment

NCOIC—Non-Commissioned Officer in Charge

NDI—Nondestructive Inspection

NFTBU—Nestable Fuel Tank Build-Up

NEW—Net Explosive Weight

NHA—Next Higher Assembly

NIE—Normally Installed Equipment

NLT—Not Later Than

NMC—Non Mission Capable

NMCS—Not Mission Capable - Supply

NPA—Non-Powered AGE

NRTS—Not Repairable This Station

NSN—National Stock Number

NSS—Noise Suppression System

NWRM—Nuclear Weapons-Related Materiel

O&M—Operations and Maintenance

OAP—Oil Analysis Program

OAS—Offensive Avionics System

OBOGS—On-Board Oxygen Generating Systems

OCF—Operational Check Flight

OCONUS—Outside Continental U.S.

OCR—Office of Collateral Responsibility

OEM—Original Equipment Manufacturer

OFP—Operations Flight Program

OG—Operations Group

OG/CC—Operations Group Commander

OI—Operating Instruction

OIC—Officer in Charge

OJT—On-the-Job Training

O/M—Organizational Maintenance

OO-ALC—Ogden Air Logistics Complex

OPLAN—Operational Plan

OPR—Office of Primary Responsibility

ORE—Operational Readiness Exercises

OSAT—Oil System Awareness Training

OSHA—Occupational Safety and Health Administration

OS—Operational Squadron

OSS—Operations Support Squadron

OSS&E—Operational Safety Suitability and Effectiveness

OTI—One Time Inspection

OTS—Over-The-Shoulder

OWC—Owning Work Center

PAA—Primary Aerospace Vehicle (Aircraft) Authorized

PACAF—Pacific Air Forces

PAFSC—Primary AFSC

PAI—Primary Aerospace Vehicle (Aircraft) Inventory

PAMS—PMEL Automated Management System

PAS—Protective Aircraft Shelter / Personnel Assignment System (Code)

PATEC—Portable Automatic Test Equipment Calibrator

PBL—Performance Based Logistics

PBR—Percent of Base Repair

PBSA—Performance-Based Service Acquisition

PCO—Procuring Contracting Officer

PCS—Permanent Change of Station

PDM—Programmed Depot Maintenance

PE—Personnel Evaluation/Periodic Inspection

PGM—Product Group Manager

PH—Phase

PIM—Product Improvement Manager

PIP—Product Improvement Program

PKI—Public Key Infrastructure

PM—Primary Munition/Program Manager

PMA—Portable Maintenance Aids

PMAP—Performance Management Assessment Program

PMC—Partially Mission Capable

PME—Precision Measurement Equipment

PMCB—Partially Mission Capable - Both (maintenance & supply)

PMCM—Partially Mission Capable - Maintenance

PMCS—Partially Mission Capable - Supply

PMEL—Precision Measurement Equipment Laboratory

PMI—Preventive Maintenance Inspection/ Program Management Inspection

PMO—Program Management Office

PMP—Program Maintenance Package

PO—Program Office

POC—Point of Contact

POL—Petroleum, Oil, and Lubricants

POMX—Point Of Maintenance

PPC—Possession Purpose Code

PPE—Personal Protective Equipment

PSC—Production Support Center

PR—Program and Resources

PRD—Pilot Reported Discrepancy

PRMS—Personnel Recovery Mission Software

PRP—Personnel Reliability Program

PRS—Performance Requirements Statement

PS&D—Plans, Scheduling, and Documentation

PWCS—Personal Wireless Communications Systems

PWS—Performance Work Statement

QA—Quality Assurance

QAPC—Quality Assurance Program Coordinators

QAR—Quality Assurance Representative

QASP—Quality Assurance Surveillance Plan

QC—Quality Control /Quality Check

QE—Quarterly Evaluation

QEC—Quick Engine Change

QP—Quality Program

QPA—Quantity Per Assembly

QPD—Qualified Product Database

QPL—Quality Products List

QRC—Quick Reaction Checklists

QRL—Quick Reference List

QIMSS—Quality Information Management Standard System

QVI—Quality Verification Inspections

RAM—Radar Absorbent Material

RAMPOD—Reliability, Availability, Maintainability for Pods

RAP—Rack, Adapter, Pylons

RASCAL—Rapid Assistance Support for Calibrations

RCM—Reliability Centered Maintenance

RCT—Repair Cycle Time

RDM—Requirements Determination Module

REA—Request for an Equitable Adjustment

RegAF—Regular Air Force

REMIS—Reliability and Maintainability Information System

RFA—Requests for Assistance

RIL—Routine Inspection List

RN—Repair Network

RNI—Repair Network Integration

RNM—Repair Network Manager

RPA—Remotely Piloted Aircraft

RSO—Remote Split Operations

RSP—Readiness Spares Package

RTC—Regional Training Center

RTHW—Radar Threat Warning

RTS—Radar Test Set

RTOK—Re-Test O.K.

RWR—Radar Warning Receiver

R&M—Reliability and Maintainability

R&R—Repair and Reclamation

SA—Support Agreement

SAE—Semi-Annual Evaluations

SARSAT—Search and Rescue Satellite Aided Tracking

SAS—Stability Augmentation Systems

SATCOM—Satellite Communication

SAV—Staff Assistance Visit

SB—Service Bulletins

SBSS—Standard Base Supply System

SCL—Standard Conventional Load

SCR—Special Certification Roster

SDAP—Special Duty Assignment Pay

SE—Support Equipment

SEI—Special Experience Identifier

SF—Standard Form

SGNSC—Self Generating Nitrogen Servicing Cart

SI—Special Inspection

SIPRNET—Secret Internet Protocol Router Network

SIT—System Interface Test

SM—Single Manager / Support Munitions

SMAW—Shielded Metal Arc Welding

SME—Subject Matter Expert

SMR—Source of Maintenance and Recoverability

SNCO—Senior Non-Commissioned Officer

SORTS—Status of Resources and Training System

SOT—Status of Training

SOW—Statement of Work

SPD—System Program Director

SPINS—Special Instructions

SPM—System Program Manager

SPO—System Program Office

SPRAM—Special Purpose Recoverables Authorized Maintenance

SQ—Squadron

SQ/CC—Squadron Commander

SR—Service Report / Strategic Radar

SRAN—Stock Record Account Number

SRD—Standard Reporting Designator

SRU—Shop Replaceable Unit

SS—non-Service Summary

SSEA—System Safety Engineering Analysis

STC—Supplemental Type Certificate

SUPT—Superintendent (Enlisted Duties)

SY—Sympathy

TAA—Training Aid Aircraft

TAC—Total Accumulated Cycles

TACAN—Tactical Air Navigation

TACC—Tanker/Airlift Control Center

TAL—Task Assignment List

TAR—Tactical / Theater Airborne Reconnaissance System

TAS—Tool Accountability System

TBA—Training Business Area

TC—Type Certified

TCAS—Traffic Collision Avoidance System

TCC—Transaction Condition Code

TCI—Time Change Item

TCN—Transportation Control Number

TCS—TCTO Status Report

TCTO—Time Compliance Technical Order

TD—Training Detachment/Temporary Duty

TDI—Tamper Detection Indicators/Time Distribution Index

TDV—Technical Data Violation

TDY—Temporary Duty

TEC—Type Event Code

TEMS—Turbine Engine Monitoring System

TER—Triple Ejection Rack

TF—Training Funded

TFI—Total Force Integration

TFCU—Transportable Field Calibration Unit

TI—Technical inspections

TIN—Turn In

TISL—Target Identification Set Laser

TK—Tool Kit

TMATS—Transmitter/Modulator Assembly Test Set

TMDE—Test Measurement and Diagnostic Equipment

TMF—Traffic Management Flight

TMS—Type Make Series

TNB—Tail Number Bin

TNO—Theater Nuclear Option

TO—Technical Order

TODA—Technical Order Distribution Account

TODO—Technical Order Distribution Office

TRAP—Tanks, Racks, Adapters, and Pylons

TRE—Transfer of Equipment

TRIC—Transaction Identification Code

TRN—Turnaround Transaction

TRSS—Training Support Squadron

TSC—Technical Support Center

TTML—Test/Training Munitions List

TTP—Tactics, Techniques & Procedures

UAV—Unmanned Aerial Vehicle

UCAV—Unmanned Combat Aerial Vehicle

UCI—Unit Compliance Inspection

UCML—Unit Committed Munitions List

UCR—Unsatisfactory Condition Report

UDM—Unit Deployment Manager

UEC—Unit Environmental Coordinator

UEM—Unit Engine Manager

UHF—Ultra High Frequency

UJC—Urgency Justification Code

UMD—Unit Manning Document

UND—Urgency of Need Designator

UPMR—Unit Personnel Management Roster

USAF—United States Air Force

USAFE—United States Air Forces in Europe

UTA—Unit Training Assembly

UTC—Unit Type Code

UTE—Utilization (rate)

UTM—Unit Training Manager

VHF—Very High Frequency

VTR—Video Tape Recorder

VTT—Video Tele-Training

W&B—Weight and Balance

W&T—Wheel and Tire

WAWF—Wide Area Work Flow System

WBT—Weapons Bay Tank

WCE—Work Center Event

WES—Work Event Separator

WG—Wing / Wage Grade

WG/CC—Wing Commander

WG/CV—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

WMP—War Mobilization Plan

WRCS—Weapons Release Computer System

WRE—War Reserve Equipment / War Readiness Engine

WRM—War Reserve Materiel

WRMO—War Reserve Materiel Officer

WS—Weapons Standardization

WSM—Weapon System Manager

WST—Weapons Systems Team

WS3—Weapons Storage and Security System

WTQC—Weapons Task Qualification Crew

WTQM—Weapons Task Qualification Training Manager

WWID—Worldwide Identification (code for TAS)

WWM—Wing Weapons Manager

WX—Weather

WUC—Work Unit Code

XOCL—Logistics Readiness Division

Terms

Aircraft Impoundment—Isolation of an aircraft due to an unknown malfunction or condition making it unsafe for flight.

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.

Aircraft Maintenance Qualification Program (AMQP)—Conducts training in an environment that is not in competition with sortie production. Ensures personnel arrive at their work center with the necessary skills to be immediately productive.

Aircrew Training Device (ATD)—Weapons systems simulator or designated training aircraft.

AF Portal Gadgets—Computer displays that provide the functional capability to track and update asset status.

Aircraft B-Status Possession Codes—Sample B-status codes (specified in AFI 21-103): BJ=crash/battle damage awaiting AFMC assist/decision; BK=command programmed maintenance; BL=extended transit maintenance; BN=crash damaged (unit repairable); BO=battle damage; BQ=major maintenance awaiting AFMC decision/action; BR= major maintenance awaiting parts; BT=aerospace vehicle transfer; BU=depot level maintenance; BW=weather/bird strike damage awaiting AFMC assist/decision; BX=weather/bird strike damage repairable by unit.

Aircraft D-Status Possession Codes—Sample D-status codes (specified in AFI 21-103): DJ=awaiting depot level maintenance work; DK=contract work; DL=depot delivery flight; DM=undergoing depot level maintenance; DO=programmed depot maintenance; DR=post depot/contractor maintenance.

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.

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.

Bench Stocks—Stores of expendability, recoverability, reparability coded (ERRC) XB3 items kept on-hand in a work center to enhance maintenance productivity.

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.

Certified Load Crew Member—A load crew member trained and certified by position according to **Chapter 10** of this instruction.

Class I and Class II Aircraft—Classification categories used when calculating aircraft's weight and balance.

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—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®, etc.), 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 and/or external tests and measurements using portable equipment. The goal of CBM+ is to perform maintenance only when internal/external sensors indicate the need instead of performing maintenance on a periodic basis.

Contracting Officer Representative (COR)—A COR is an individual designated in accordance with DFARS subsection 201.602-2 and authorized in writing by the contracting officer to perform specific technical or administrative functions.

Corrosion Control Facility—A facility where activities are conducted to treat, prevent or repair corrosion control for aircraft or associated components and equipment; these activities include wash, treatment, repair, stripping, and repainting processes. Corrosion control shops also support vehicles, weapons and munitions, and avionics shops. Additionally, it provides space for the corrosion control shop which includes preparation and drying areas, abrasive blasting rooms, paint booths for mixing and/or applying paint, tool storage, lockers, and administrative areas.

Course Control Documents (CCD)—Set of documents that dictate how a course is taught. These documents include a course training standard, course chart, and a plan of instruction.

Crash Damaged or Disable Aircraft Recovery (CDDAR)—The ability to move damaged or disabled aircraft using specialized equipment

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 email 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, etc.

CTK custodian (Added-314AW): The primary will be an NCO or designated civilian. The alternate may be an Airman or designated civilian. The flight commander or flight chief will designate primary and alternate custodians in writing. A waiver to have a senior airman as the primary custodian will be approved by the maintenance operations officer/superintendent (or equivalent) on a case-by-case basis.

Customer Wait Time (CWT)—CWT 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. CWT 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—Maintenance consisting of those on- and off-equipment tasks performed using the highly specialized skills, sophisticated shop equipment, or special facilities of a supporting command; commercial activity; or inter service agency at a technology repair center, centralized repair facility, or, in some cases, at an operating location. Maintenance performed at a depot may also include organizational or intermediate level maintenance as negotiated between operating and supporting commands.

Dispatchable CTK (Added-314AW)—CTK or items issued out and is designed to be used outside the work center.

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** of this instruction.

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 Combat Ammunition System (CAS) system 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, etc.

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

Immediately Prior to Launch (IPL)—Specific tasks accomplished immediately prior to launching an aircraft.

In-Process Inspection (IPI)—Inspection performed during the assembly or reassembly of systems, subsystems, or components with applicable technical orders.

Inadvertent Release—Uncommanded launch or release of a store or ordnance, or launch/release of a store/ordnance other than those selected when a launch/release command was generated (i.e.; 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, etc., with every item having an assigned location (e.g., flashlights, ladders).

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.

Job Flow Packages (Added-314AW)— Job flow packages developed using the automated management system are loaded or printed when needed to automate required documentation of repetitive complex tasks; such as, engine change, phase inspection, and flight control maintenance. As a minimum, any Red X symbol condition generated during the performance of an inspection will be entered into the automated maintenance management system.

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).

Locked Out or Tag Out—Energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which or through which a lock can be affixed. Tag out devices, shall be substantial enough to prevent inadvertent or accidental removal.

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 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.

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/mission production to meet assigned mission requirements.

Minimum Required Proficiency Load (MPRL)—Recurring loading of munitions for which a person is certified.

Munitions Decertification—Removal of the certification status of a person that precludes them from loading a specific type munitions or MFG.

Normally Installed Equipment (NIE)—Bomb racks, 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-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.

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.

Organizational Level Maintenance—Maintenance consisting of those on-equipment tasks normally performed using the resources of an operating command at an operating location.

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

Possession Purpose Code (PPC)—Also known as Purpose Identifier Code, it is a two-letter code that indicates ownership (possession) of the asset. For example, "BQ" = major maintenance awaiting AFMC decision/action; "CC" = combat; "DO" = depot level maintenance possession for depot work; etc.

Preprints (Added-314AW)— These are existing aircraft, trainer, or support equipment (SE) forms overprinted to record recurring maintenance tasks.

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.

Production Superintendent (Pro Super)—Senior NCO responsible for squadron maintenance production. Directs the maintenance repair effort.

Programmed Depot Maintenance (PDM)—Maintenance activities requiring skills, equipment, or facilities not normally possessed by operating locations.

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.

Queen Bee—A facility that performs engine repair for a specified region.

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.

Reclama—A request to a duly constituted authority to re-consider its decision or its proposed action (see JP 1-02).

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.

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.

Repeat Discrepancy—One repeat discrepancy occurs on the next sortie or attempted sortie after corrective action has been taken and the system or sub-system indicates the same malfunction when operated.

Retrograde—Returning assets (particularly reparable assets) from the field to their source of repair.

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.

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.

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 (e.g., launch kits, recovery kits, cartridge cleaning kits, oxygen servicing kits, etc.).

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.

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.

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 (TAL)—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 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.

Tool rooms/support sections (**Added-314AW)—**Areas authorized for storage and issue of tools and equipment. Tool rooms/support sections are limited to one per work center. NOTE: Sub-located CTKs are authorized; however, the main tool room/support section will strictly control these CTKs.

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.

Unintentional Release—Store or ordnance launched or released through pilot error.

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/training requirements.

Unmanned Aerial Vehicle (UAV)—An unmanned aircraft that is either remotely piloted (e.g., Predator) or programmed (e.g., Global Hawk).

Urgency Justification Code (UJC)—Two-digit code used to reflect the impact and type of need. The urgency of need designator (UND) fills the first position of the UJC. Use of UND 1, A and J is restricted and is verified by designated personnel.

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.

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 1 (Added-AETC)

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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TO 33-1-37-2, Joint Oil Analysis Program Manual Volume 2 Spectrometric And Physical Test Laboratory Operating Requirements And Procedures, 30 August 2013

Prescribed Forms

AETC Form 138, Lost Tool or Item Investigation Record

AETC Form 199, Foreign Object Damage (FOD) Incident Investigation

AETC Form 206, Monthly Flying Coordination

AETC Form 206A, Weekly Flying Coordination

AETC Form 206C, Aircraft Deviation Record

AETC Form 208, Weekly Scheduling Request

AETC Form 246, Inspection Workcard Control

AETC Form 403, Landing Gear/Flight Control Malfunction History

AETC Form 447, Routing and Review of COR Reports

AETC Form 448, Corrective Action Request

AETC Form 450, Customer Compliant Record

AETC Form 451, Contract Discrepancy-Invoice Reduction Notification

AETC Form 453, Nondestructive Inspection History

AETC Form 520, Engine Maintenance and Inspection Forecast

AETC Form 666, Change to Inspector/Special Certification Listing

AETC Form 1042, CTK Tool Checklist

AETC Form 1158, Cannibalization Control Register

AETC Form 1236, Request for Improving/Changing AETC Maintenance Publications

Adopted Forms

DD Form 1574, Serviceable Tag – Materiel

DD Form 1577, Unserviceable (Condemned) Tag – Materiel

DD Form 1577-2, Unserviceable (Reparable) Tag – Materiel

DD Form 2026, Oil Analysis Request

AF Form 68, Munitions Authorization Record

AF Form 979, Danger Tag

AF Form 980, Caution Tag

AF Form 981, Out of Order Tag

AF Form 2001, Notification of TCTO Kit Requirements

AF Form 2401, Equipment Utilization and Maintenance Schedule

AF Form 2407, Weekly/Daily Flying Schedule Coordination

AF Form 2410, Inspection/TCTO Planning Checklist

AF Form 2411, Inspection Document

AF Form 2419, Routing and Review of Quality Control Reports

AF Form 2420, Quality Control Inspection Summary

AF Form 2426, Training Request and Completion Notification

AF Form 2430, Specialist Dispatch Control Log

AF Form 2434, Munitions Configuration and Expenditure Document

AF Form 3153, General Purpose (11” x 8 1/2”)

AFTO Form 95, Significant Historical Data

AFTO Form 102, Munitions Inspection Document

AFTO Form 244, Industrial/Support Equipment Record

AFTO Form 781, ARMS Aircrew/Mission Flight Data Document

AFTO Form 781A, Maintenance Discrepancy and Work Document

AFTO Form 781B, Communication Security Equipment Record

Abbreviations and Acronyms

AA—Aircraft availability

ACES II—Advance Concept Ejection System II

ACO—Administrative contracting officer

ADF—Automatic direction finder

ADR—Ammunition distribution request/Aircraft Document Review

ADS—Automated data system

AFREP—Air Force Repair Enhancement Program

AFSATCOM—AF satellite communication

AFSC—Air Force specialty code

AGE—Aerospace ground equipment

AHRS—Attitude heading reference system

AI—Aircrew instructor

AIR—Air tasking order

ALC—Air logistics center

ALIS—Autonomic Logistics Information System

AMD—Average mission duration

AME—Alternate mission equipment

AMU—Aircraft maintenance unit

APU—Auxiliary power unit

AQL—Acceptable quality level

AR—Action request

ASD—Average sortie duration

ASIP—Aircraft structural integrity program

ASM—Aircraft structural maintenance

ATERS—Automatic test reporting system

AUR—All up round

AVDO—Aerospace vehicle distribution officer

AWD—Awaiting depot

AWM—Awaiting maintenance

AWP—Awaiting parts

BAI—Backup aircraft inventory

BEM—Base engine manager

BPO—Basic post flight

CAD—Cartridge actuated device

CANN—Cannibalization

CAR—Corrective action request

CAS—Combat ammunitions system

CASS—Centralized aircraft support system

CAST—Combat armament support team

CCI—Controlled cryptographic items

CDB—Central database

CEMS—Comprehensive Engine Management System

CFT—Contract field team

CLS—Contractor logistics support

CMRS—Conventional munitions restriction and suspension

CND—Cannot duplicate

CO—Contracting officer

COMBS—Contractor operated and maintained base supply

COMSEC—Communication security

CONUS—Continental United States

COR—Contracting officer representative

CORT—Contracting officer representative tracking

COTS—Commercial off the shelf

CPFH—Cost per flying hour

CR—Contractor regulation

CSO—Combat systems officer

CT—Continuation training

CTK—Consolidated tool kit

CVR—Cockpit voice recorder

DBM—Database manager

DCMA—Defense contract management agency

DD—Delayed discrepancy

DDN—Defense data network

DIFM—Due in from maintenance

DIT—Data integrity team

DLM—Depot level maintenance

DMS—Decentralized material support

DNIF—Duty not involving flying

DOM—Director of maintenance

DOP—Dropped object program

DR—Deficiency report

DV—Distinguished visitor

DVR—Document validation report

EA—Electronic attack

EC—Equipment condition

ECM—Electronic countermeasure

ECP—Entry control point

EID—Equipment identification designator

ELT—Emergency locator transmitter

EM—Engine management

EMS—Environmental management system

EOD—Explosive ordnance disposal

ERRC—Engine Regional Repair Center

ESOH—Environmental safety and occupational health

ESOHMS—Environmental, safety, and occupational health management system

ET&D—Engine trending and diagnostics

ETIC—Expected time in commission

EWO—Emergency war order

EWS—Electronic warfare system

FAST—Forward asset support training

FC—Functional commander

FCF—Functional check flight

FDR—Flight data recorder

FHP—Flying hour program

FO—Foreign object

FOD—Foreign object damage

FSAS—Fuel savings advisory system

FUD—File update mode

GA—Ground abort

GCS—Ground control system

GCSAS—Generic Configuration Status Accounting Subsystem

GGFR—Ground Government Flight Representative

GITA—Ground instructional trainer aircraft

GOP—Ground Operation Procedure

GPC—Government purchase card

GPS—Global positioning system

GPWS—Ground proximity warning system

HAZMAT—Hazardous material

HF—High frequency

HPC—Historical property custodian

HPO—Hourly post flight

HSC—Home station check

IAD—Inventory adjustment

HSTC – **(Added-314AW)** High Speed Taxi Check

IBEMS—Integrated Base Engine Management System

ID—Identification

IFCS—Integrated instrument and flight control system

IFF—International friend or foe / Introduction to fighter fundamentals

ILS—Instrument landing system

IMDS—Integrated maintenance data system

IMIS—Integrated maintenance information system

INS—Inertial navigation system

IP—In progress/Instructor pilot

IPL—Immediately prior to launch

ISO—Isochronal

IUID—Item unique identification

JCN—Job control number

JDD—Job data documentation

JML—Job master listing

JOAP—Joint oil analysis program

JST—Job standard

KTL—Key task list

LESS—Loads environmental spectra survey

LME—Locally manufactured equipment

MA—Maintenance authority

MASO—Munitions accountability system officer

MC—Mission capable

MDS—Mission design series

MEL—Minimum equipment level

MFE—Maintainer fabricated enclosure

MIL—Master inventory list

MIS—Maintenance information system

MLIR—Monthly logistics indicator report

MMA—Maintenance management analysis

MMHE—Munitions material handling equipment

MO—Maintenance operations

MOA—Memorandum of agreement

MOC—Maintenance operations center

MRM—Maintenance resource management

MRT—Maintenance recovery team

MSE—Maintenance scheduling effectiveness

MSEP—Maintenance standardization evaluation program

MT—Maintenance training

MTP—Master training plan

NDI—Nondestructive inspection

NIE—Normally installed equipment

NMC—Non mission capable

NRTS—Not repairable this station

NSN—National stock number

OAP—Oil analysis program

OCF—Operational check flight

OJT—On the job training

O&M—Operations and maintenance

OS—Operations Squadron

OSHA—Occupational Safety and Health Administration

OSS—Operations Support Squadron

OT—Other

OTI—One-time inspection

PA—Programmed allocation

PAI—Primary aircraft inventory

PAIR—Production aircraft inspection requirement

P&S—Plans and scheduling

PAD—Propellant actuated device

PAMS—PMEL automated management system

PCO—Procurement contracting officer

PDM—Programmed depot maintenance

PE—Periodic maintenance / personnel evaluation

PFT—Programmed flying training

PH—Phase

PII—Pre-issue inspection

PIM—Product improvement manager

PIT—Pilot instructor training

PIWG—Product improvement working group

PM—Program management/Program manager

PMC—Partial mission capable

PMEL—Precision measurement equipment laboratory

PMI—Preventive maintenance inspection

PRA—Planning requirement

PRD—Pilot reported discrepancies

PS&D—Plans, Scheduling and documentation

PWS—Performance work statement

QA—Quality assurance

QAPC—Quality assurance program coordinator

QASP—Quality assurance surveillance program

QC—Quality control / quality check

QEC—Quick engine change

RCM—Reliability Centered Maintenance

RDS—Records Disposition Schedule

RDO—Re-distribution order

RPC—Regional processing center

REMIS—Reliability and maintainability information system

RFP—Request for proposal

RIL—Routine inspection list

RMI—Return munitions inspection

RNEP—Repair network enhancement program

ROS—Report of survey

RPC—Regional processing center

RPM—Revolutions per minute

RTSC—Retained Task Service Center

RWR—Radar warning receiver

SAS—Stability augmentation system

SATCOM—Satellite communication

SBSS—Standard base supply system

SE—Support equipment

SEI—Special experience identifier

SI—Special inspection

SPD—System program director

SOF—Special operations forces

SRAN—Stock record account numbers

SS—Service summary

SSE—Sortie scheduling effectiveness

TACAN—Tactical air navigation

TAL—Task assignment list

TAR—Technical assistance request

TAS—Tool accountability system

TBA—Training business area

TCAS—Traffic collision avoidance system

TCI—Time change item

TCTO—Time change technical order

TDI—Time distribution index

TDY—Temporary duty

TM—Technical manual

TMDE—Test measurement and diagnostic equipment

TMSM—Type make series modification

TRG—Training group

TRIC—Transaction identification code

TRW—Training wing

TSR—Target serviceable requirement

TTML—Test training munitions list

UCML—Unit committed munitions list

UEM—Unit engine manager

UHF—Ultra high frequency

UPT—Undergraduate pilot training

UTE—Utilization

USAFA—United States Air Force Academy

VDCL—Vibration debrief checklist

VECP—Value engineering change proposal

VHF—Very high frequency

VOR—VHF omni directional range

VPMO—Vibration program management office

VSLED—Vibration structural life and engine diagnostics

WCE—Work center event

WJQS—Work center job qualification standard

WLCMT—Weapons load crew management tool

WRCS—Weapons release computer system

WRE—War readiness engine

WS—Weapons standardization

WUC—Work unit code

XC—Cross country

Terms

Additions—Sorties or missions or aircraft flown, but not printed, on the weekly utilization and maintenance schedule for a given day.

Adjustment—A formally coordinated change to a unit's annual FHP. An adjustment changes the total annual allocation and usually results in a reflow.

Assist—May perform all or parts of the task, but must be closely supervised by certified personnel.

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.

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.

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).

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.

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.

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.

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.

Cancellation—A scheduled aircraft or sortie that is not flown for any reason other than a ground abort.

Certification—A documented formal review of an individual's training and experience with demonstration of adequate task proficiency.

Civilian Equivalent—Any civilian (DoD or contractor) who occupies an egress duty position and has completed all egress training as defined by AFI 36-2101, Classifying Military Personnel (Officer and Enlisted), this AFI, 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.

Cross-country (XC) mission—A scheduled mission planned to remain overnight at other than home station or auxiliary field.

Decertification—Documented removal of an individual's certification.

Designated certifying official—A properly certified military or civilian equivalent egress production inspector or 2A690/2A600 (with 2A673 as a secondary AFSC).

Deviation—A departure from the printed weekly utilization and maintenance schedule.

Egress augmentee—Any non-egress person who performs or assists in egress maintenance tasks.

Egress final—Verification of total system integrity.

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.

Egress Personnel—Military 2A6X3 Aircrew Egress Systems and civilian equivalent personnel.

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.

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.

First-go sortie—The first scheduled takeoff for a single or group of aircraft.

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.

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.

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.

Interchange—Printed aircraft tail number swaps made to the daily portion of the weekly schedule.

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.

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 (AFI 11-401, Aviation Management).

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.

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.

Non-egress personnel—Other-than-egress personnel, such as egress maintenance augmentees, QA inspectors, and COR.

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.

Operation and maintenance (O&M) days—The number of calendar days in a year, month, or week minus Saturdays, Sundays, and Federal holidays.

Operations adds—Sorties or missions added by operations to the weekly schedule.

Operations squadron—Synonymous with flying squadron, fighter squadron, training squadron, or airlift squadron.

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.

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.

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.

Recertification—Revalidation of an individual's certification.

Reconstitution reserve—Aircraft currently stored, but planned to return to operation. Commonly referred to as flyable storage aircraft.

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.

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.

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.

Safe—Actions necessary to prevent or interrupt complete or partial operation of the egress system.

Scheduled sorties or missions—The sum of required and attrition sorties or missions.

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.

Sortie—The definition of a sortie is outlined in AFI 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 AFI 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.

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.

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.

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.

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.

Student sorties or missions—Sorties or missions necessary to accomplish the current syllabus of instruction.

Support sorties or missions—Nonstudent sorties or missions required in support of the mission by AFI 11-401; AFI 11-202, Volume 2, Aircrew Standardization/Evaluation Program; and the applicable AETC 51-series directives.

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.

"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.

Total aircraft inventory (TAI)—Aircraft assigned to operating forces for mission accomplishment. Includes PAI, attrition, BAI, and reconstitution reserve.

Turnaround time—The time from takeoff to takeoff for the same aircraft.

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.

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>

Was the FCC knowledgeable of the aircraft and the systems?

a - Extremely knowledgeable
b - Sufficient knowledge
c - Lacks knowledge
d - Not observed

Did the FCC know the status of PMC and NMC discrepancies?

a - Always
b - Most of the time
c - Rarely
d - Never

Did the FCC perform duties willingly and enthusiastically?

a - Always
b - Sometimes
c - Never
d - Not Observed

What type of working relationship did the FCC have with the aircrew?

a - Outstanding
b - Good
c - Fair
d - Poor

Rate the overall maintenance support provided by the FCC:

a - Outstanding
b - Good
c - Fair
d - Poor

This FCC was:

a - An asset to the FCC program
b - A hard worker, but needs more experience
c - Just getting by
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 HQ MAJCOM/A4L Date

FROM: <Unit Designation/Office Symbol>

<Street>

<Base and Zip Code>

SUBJECT: <State fiscal quarter (e.g., FY98/3)> Quarterly Flying Crew Chief Report (RCS: HAF-A4L(Q&A)0011)

In accordance with 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 HQ MAJCOM/A4L or DOM Date

FROM: <Unit Designation/Office Symbol>

<Street>

<Base and Zip Code>

SUBJECT: <state fiscal year (e.g., FY98)> Annual Flying Crew Chief Report RCS: HAF-A4L(Q&A)0011)

In accordance with 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 HQ MAJCOM/A4L or DOM Date.

ROM: FROM: <Unit Designation/Office Symbol>

<Street>

<Base and Zip Code>

SUBJECT: Flying Crew Chief (FCC) SDAP Positions <Increase/Decrease> Request

In accordance with <unit designations> requests <increase or decrease> of <state quantity of positions>.
Provide brief justification; include comments about force structure changes, additional mission requirements, etc.
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, etc.)

Owning Unit, Base and MAJCOM

MDS and Tail Number (N/A for ETS incidents)

Engine Type, Make, 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 (Added-AETC)

TABLE A7.1 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 (ECP) is required. If ECP is established, use an access control log.	
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 8 (Added-AETC)
SAMPLE VIBRATION DEBRIEF CHECKLIST

Table A8.1. 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 9 (Added-AETC)

AIRCRAFT AND MUNITIONS TECHNICAL INSPECTION REQUIREMENTS

A9.1. (AETC) Aircraft and Munitions Inspection Requirements. **Table A9.1** 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 A9.1. Aircraft and Munitions Inspection Requirements.

ITEM	A	B	C
	Categories	Frequency	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	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 24-month seat	1	

ITEM	A Categories	B Frequency	C Notes
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	
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	

ITEM	A Categories	B Frequency	C Notes
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	

ITEM	A Categories	B Frequency	C Notes
		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	
52	Area FO inspection (FO walks)	4	10
53	Historical static display	1	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 (RMI), SI, movement, pre-issue inspection (PII)	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.

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 AFI 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 10 (Added-AETC)

FLYING UNIT OBSERVATION WORK AREA REQUIREMENTS

A10.1. (AETC) Work Area Requirements. Schedule periodic surveillance requirements on a random yet adequately distributed basis. See **Table A10.1** 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 observation work area 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 A10.1. 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

ITEM	A Work Areas	B Frequency
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	Nondestructive inspection (NDI)	Q
23	Transient maintenance	Q
24	Post dock	Q
25	CASS (if applicable)	Q
26	AGE	Q
27	Battery	Q
28	Egress	Q
29	Pneudraulics	Q
30	Machine	Q
31	Paint (includes paint hanger 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

ITEM	A Work Areas	B Frequency
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 11 (Added-AETC)

TRAINING WING (TRW) TECHNICAL INSPECTION CATEGORIES AND FREQUENCIES

A11.1. Inspection Requirements. **Table A11.1** 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 A11.1. 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 AQLs.

Attachment 12 (Added-AETC)

TRANSIENT MAINTENANCE TECHNICAL INSPECTION REQUIREMENTS

A12.1. Inspection Requirements. Table A12.1 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 A12.1. Transient Maintenance Technical Inspection Requirements.

ITEM	A	B	C
	Categories	Frequency	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 13 (Added-AETC)

TRW QUARTERLY OBSERVATION WORK AREA REQUIREMENTS

A13.1. (AETC) Work Area Requirements. The following list of work area requirements should be used as a guide. CORs identify actual observation area 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.

A13.1.1. **(AETC)** Data management and analysis.

A13.1.2. **(AETC)** Maintenance operations center.

A13.1.3. **(AETC)** Plans and scheduling.

A13.1.4. **(AETC)** Quality control/assurance.

A13.1.5. **(AETC)** Documentation.

A13.1.6. **(AETC)** Training management (including plans).

A13.1.7. **(AETC)** Repair cycle monitor function.

A13.1.8. **(AETC)** Maintenance supply liaison.

A13.1.9. **(AETC)** Electro/mechanical.

A13.1.10. **(AETC)** Avionics—guidance and control.

A13.1.11. **(AETC)** Avionics—communication/navigation.

A13.1.12. **(AETC)** Precision Measurement Equipment Laboratory (PMEL).

A13.1.13. **(AETC)** Plating.

A13.1.14. **(AETC)** Sheet metal.

A13.1.15. **(AETC)** Welding (includes chemical cleaning).

A13.1.16. **(AETC)** Engine management.

A13.1.17. **(AETC)** Engine.

A13.1.18. **(AETC)** Meteorological maintenance.

A13.1.19. **(AETC)** Auto flight control and instrument.

A13.1.20. **(AETC)** Airborne missile maintenance.

A13.1.21. **(AETC)** Ground missile maintenance.

A13.1.22. **(AETC)** Cryogenics maintenance and environmental.

A13.1.23. **(AETC)** AGE.

A13.1.24. **(AETC)** Battery.

A13.1.25. **(AETC)** Bomb navigation.

A13.1.26. **(AETC)** Electronic trainer.

A13.1.27. **(AETC)** Pneudraulics.

A13.1.28. **(AETC)** Machine.

A13.1.29. **(AETC)** Corrosion.

A13.1.30. **(AETC)** Paint (includes paint hangar and disposal of hazardous waste).

A13.1.31. **(AETC)** Defensive fire control.

A13.1.32. **(AETC)** B-1B avionics.

A13.1.33. **(AETC)** Tactical sensor.

A13.1.34. **(AETC)** F-15 avionics.

A13.1.35. **(AETC)** F-16 avionics.

A13.1.36. **(AETC)** Weapons maintenance.

A13.1.37. **(AETC)** Weapons suspension equipment storage area.

A13.1.38. **(AETC)** Precision imagery/audio.

A13.1.39. **(AETC)** Munitions programs (control/management programs).

A13.1.40. **(AETC)** Munitions stockpile inspection/maintenance.

A13.1.41. **(AETC)** Munitions accountability/custody accounts.

Attachment 14 (Added-AETC)

TRANSIENT MAINTENANCE OBSERVATION WORK AREA INSPECTION REQUIREMENTS

A14.1. Surveillance Requirements. 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. See **Table A14.1** for the required inspection areas and their frequencies.

Table A14.1. Transient Maintenance Inspection Requirements.

ITEM	A	B	C
	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 15 (Added-AETC)

MINIMUM ESSENTIAL CRITICAL ITEMS

A15.1. Munitions Surveillance Guides. Table A15.1 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 A15.1. Munitions Surveillance Critical Items.

ITEM	A	B	C
	Minimum Critical Items	Frequency	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	1,5
5	Ammunition disposition request (ADR)	Q	1,6
6	Stockpile inventories	SA	1,7
7	Inventory adjustments (IAD)	SA	1,8
8	Combat ammunition system (CAS) levels	SA	1,9
9	Custody account inventories	Q	1,10
10	Conventional munitions restriction and suspension (CMRS)	SA	1,11
11	Due-in-for-maintenance (DIFM)	Q	1,12
12	Management of courtesy storage and courtesy storage agreements	SA	1,13

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 observation evaluation guide.

2. Review documentation and CAS report AM496A—Certificate of Transfer.

3. Make sure all required letters are current and contain mandatory elements.

4. Review the Unsatisfied RDO Listing (AMI24A) to ensure there are no overdue RDOs.

5. Review Requisition Status Report (AMI05A) and ensure follow-up actions are completed. Ensure initial and weekly follow-up actions are documented.

6. Review the monthly reconciliation of the ADR file against the Air-to-Surface Munitions Directorate web site and CAS AM191A query ADR. Ensure disposition determination is completed NLT 60 days from submittal.

7. Review CAS count sheets, inventory results letter, and CAS Report AM427I - Inventory Accuracy Report. Ensure there are no overdue inventories and that discrepancies are tracked and corrected with a minimum of 98% inventory accuracy rate.

8. IADs certified and approved at the appropriate level. Ensure report of survey (ROS) or report of loss is accomplished as required.

9. Review CAS reports AM507A - Custody Account Listing and AMC12A – Level Reconciliation Listing, and ensure CAS levels and allocations distributed from MAJCOM are identical.

10. Review CAS report AM507A - Custody Account Listing, CAS count sheets, and inventory results letters. Ensure there are no overdue inventories and discrepancies are tracked and corrected. Ensure ROS are accomplished as required.

11. Review all notification documentation and CMRS to verify all past and present munitions users affected by CMRS have been notified.

12. Review CAS report AM535A - DIFM Status. Ensure DIFM’s are cleared within 15 days.

13. Review certification/recertification documentation, verify they are not outdated and current munitions requirements are listed.

Attachment 16 (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 #).

SDS	Number of Scheduled Inspections	Comments
#1 – (SDS description)		
#2 – (SDS description)		
#3 – (SDS description)		
#4 – (SDS description)		
#5 – (SDS description)		
#6 – (SDS description)		
#7 – (SDS description)		
#8 – (SDS description)		
#9 – (SDS description)		
Non-SDS Items	PWS Ref	Comments
(Non-SDS description)		
(Non-SDS description)		
(Non-SDS description)		

2. This inspection schedule is not for release to the contractor.

//SIGNED//

Chief COR signature

Date

1st Ind, (functional commander office symbol)

Approve/Disapprove

//SIGNED//

Functional Commander signature

Attachment 17 (Added-AETC)

MONTHLY COR SURVEILLANCE REPORT TEMPLATE

MEMORANDUM FOR (ACO office symbol)

FROM: (COR office symbol)

SUBJECT: Monthly Surveillance Report

1. Attached are the results of COR scheduled surveillance for (month/year).

SDS	# of Scheduled Inspections	# of Acceptable Inspections	# of Un-acceptable Inspections	Monthly Rating	Contract Standard
#1 – (SDS description)					
#2 – (SDS description)					
#3 – (SDS description)					
#4 – (SDS description)					
#5 – (SDS description)					
#6 – (SDS description)					
#7 – (SDS description)					
#8 – (SDS description)					
#9 – (SDS description)					

Non-SDS Items	# of Scheduled Inspections	# of Acceptable Inspections	# of Un-acceptable Inspections	Monthly Performance	Contract Standard
#1 – (SDS description)					
#1 – (SDS description)					
#1 – (SDS description)					

2. Scheduled Inspections Not Completed – During this month, one of the scheduled inspections for SDS item #2 was not completed due to equipment non-availability. All other scheduled inspections identified in the inspection schedule were completed.

3. CAR Tracking

a. Issued CARs – During this month, there were two CARs generated in the following areas:

- SDS #3; issued CAR # 0906

- SDS #8; issued CAR # 0907

b. Closed CARs – CAR#0903 on SDS#1 was issued on 5 Jun 14 because the gym staff had exceeding SDS standard of 3 customer complaints in one month. The contractor had proposed a 30 Jun 14 get well date. After a 30-day review of gym staff customer comments it appears the contractor has adequately resolved the problem. CAR closed effective 9 Jul 14. AETC Form 450, Customer Compliant Record, may be used to document a customer compliant.

c. Open CARs – As of the date of this report, the following CARs are still open and pending contractor corrective action in order to meet contract standards.

CAR Tracking #	Description of CAR	Contractor Proposed "Get-Well" Date	Current CAR Status	Comments

0904	SDS #9 - Bowling center is not meeting customer satisfaction standards	30 Jul 14	Open	Bowling center is failing to make satisfactory progress in meeting contract standard. The majority of complaints are on day-shift. Contractor is bringing the night-shift manager to day- shift
0905	SDS #5 - Lodging staff not meeting housekeeping cleaning standards	30 Aug 14	Open	Six customer complaints concerning dirty rooms were received by lodging customers during the month of June. Contractor cites they are having problems recruiting and retaining qualified staff and are implement a more comprehensive training program

4. Trend analysis. Based upon a review of the last 12 months of COR and contractor QC inspection records, the following trends are of interest:

SDS #9; This is the third time during this contract year (CAR#s 0901, 0902, & 0904) that the Bowling Center has exceeded the SDS standard of no more than 3 customer complaints per month. Previously issued CARs have had temporary but not lasting results on the bowling center.

Bowling Center Grounds Maintenance. Although not an SDS item, COR surveillance has revealed that grounds maintenance around the bowling center has not met contract standards for five out of the last eight months. Recommend that this be assigned a CAR in order to get positive resolution on this issue.

//SIGNED//

Chief COR signature

1st Ind, (functional commander office symbol)

Approve/Disapprove

//SIGNED//

Functional Commander signature

Attachment 18 (Added-AETC)

INSTRUCTIONS FOR COMPLETING AETC FORM 206C

A18.1. (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.

A18.2. (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:

A18.2.1. **(AETC) MDS.** Aircraft MDS.

A18.2.2. **(AETC) Squadron.** OS number designation.

A18.2.3. **(AETC) Sorties Required.** Number of required sorties or missions (from AETC Form 206A, Block 4a).

A18.2.4. **(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.

A18.2.5. **(AETC) Acft CAP.** Number of prime fliers and spare aircraft (from AETC Form 206A, Block 5a).

A18.2.6. **(AETC) MX Cancel.** Total number of aircraft cancelled from the schedule.

A18.2.7. **(AETC) Ops Add.** Total number of operational sorties or missions added.

A18.2.8. **(AETC) Ops Cancel.** Total number of operational sorties or missions cancelled.

A18.2.9. **(AETC) WX Add.** Total number of weather adds.

A18.2.10. **(AETC) WX Cancel.** Total number of weather cancels.

A18.2.11. **(AETC) Oth Add.** Total number of other adds.

A18.2.12. **(AETC) Oth Cancel.** Total number of other cancels.

A18.2.13. **(AETC) FCF.** Total number of FCFs or OCFs flown for that date.

A18.2.14. **(AETC) Ferry.** Total number of ferry sorties or missions flown for that date.

A18.2.15. **(AETC) Local Sorties.** Total local sorties or missions flown for deviation reporting.

A18.2.16. **(AETC) Total Sorties.** All sorties or missions flown.

A18.3. (AETC) Lower Part of AETC Form 206C. Enter the following in the lower part of the Form:

A18.3.1. **(AETC) Acft Serial No.** Aircraft ID number.

A18.3.2. **(AETC) Spare.** Yes or No.

A18.3.3. **(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."

A18.3.4. **(AETC) Work Unit Code.** The work unit code (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.

A18.3.5. **(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.

A18.3.6. **(AETC) Time Out.** The time the aircraft deviated.

A18.3.7. **(AETC) Event ID.** The four-character sequence number.

A18.3.8. **(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.

A18.3.9. **(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.

A18.3.10. **(AETC) Corrective Action.** Describe the corrective action.

A18.3.11. **(AETC) Subtotal.** Number of chargeable (C) and nonchargeable (N) deviations per row.

A18.3.12. **(AETC) Total.** Summarizes total chargeable (C) and nonchargeable (N) deviations.

Attachment 19 (Added-AETC)

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 MISSIONS	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
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 **15.5.5.5.1.**)

3. POC IS (name), (office symbol) and (DSN).

(Note: Based on the flying operation, use only sorties and ASD or missions and AMD.)

Attachment 20 (Added-AETC)

INSTRUCTIONS FOR COMPLETING AETC FORM 206, MONTHLY FLYING COORDINATION

A20.1. (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.

A20.1.1. **(AETC) Block 1a.** Planned cumulative data for hours, sorties, or missions and UTE to date.

A20.1.2. **(AETC) Block 1b.** Actual cumulative data for hours, sorties, or missions and UTE flown to date.

A20.1.3. **(AETC) Block 1c.** Variance cumulative data or delta for the fiscal year. The difference between Blocks 1a and 1b.

A20.2. (AETC) Student Event Time-Line Position (Block 2): (**Note:** For students not tracked by time-line position, this data is not required.)

A20.2.1. **(AETC) Block 2a.** Current student event time-line position.

A20.2.2. **(AETC) Block 2b.** Projected student event time-line position based on flying the planned month's UTE.

A20.3. (AETC) Attrition Data (Block3):

A20.3.1. **(AETC) Block 3a.** Planned cumulative attrition (sorties, missions, or hours).

A20.3.2. **(AETC) Block 3b.** Actual cumulative attrition (sorties, missions, or hours) experienced.

A20.3.3. **(AETC) Block 3c.** Variance cumulative attrition or delta (sorties, missions, or hours).

A20.4. (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.

A20.4.1. **(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, required 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.

A20.4.2. **(AETC) Block 4b.** Percentage of projected maintenance losses.

A20.4.3. **(AETC) Block 4c.** Percentage of projected losses for supply.

A20.4.4. **(AETC) Block 4d.** Percentage of projected operational losses.

A20.4.5. **(AETC) Block 4e.** Percentage of projected losses due to factors other than maintenance, supply, or operations.

A20.4.6. **(AETC) Block 4f.** Total attrition factor used for additions to the monthly plan.

A20.5. (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.

A20.5.1. **(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.

A20.5.2. **(AETC) Block 5b.** The number of sorties or missions the attrition factor will be applied against.

A20.5.3. **(AETC) Block 5c.** Equals Block 5b (1 - Block 4f).

A20.5.4. **(AETC) Block 5d.** The sum of Blocks 5a and 5c.

A20.6. (AETC) Forecast UTE Data (Block 6):

A20.6.1. **(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.

A20.6.2. **(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.

A20.7. (AETC) Sortie Breakdown (Block 7). Monthly plan as follows:

A20.7.1. **(AETC) Block 7a.** Local sorties or missions scheduled, separated by student, support, and total.

A20.7.2. **(AETC) Block 7b.** Off-station sorties or missions scheduled, separated by student, support, and total.

A20.7.3. **(AETC) Block 7c.** FCF, ferry sorties, or missions scheduled, separated by student, support, and total.

A20.7.4. **(AETC) Block 7d.** Total sorties or missions scheduled, separated by student, support, and total.

A20.8. (AETC) Remarks. Free area. To be used as needed.

Attachment 21 (Added-AETC)

INSTRUCTIONS FOR COMPLETING AETC FORM 206A, WEEKLY FLYING COORDINATION

A21.1. (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.

A21.1.1. **(AETC) Block 1a.** Planned monthly cumulative hours, sorties, missions, and UTE up to the as-of date.

A21.1.2. **(AETC) Block 1b.** Actual monthly cumulative hours, sorties, missions, and UTE up to the as-of date.

A21.1.3. **(AETC) Block 1c.** Monthly comparison of any variance or delta experienced during the attainment of the monthly goal for hours, sorties, missions, and UTE.

A21.2. (AETC) Student Event Time-Line Position (Block 2): (Note: For students not tracked by time-line position, this data is not required.)

A21.2.1. **(AETC) Block 2a.** Current event position.

A21.2.2. **(AETC) Block 2b**. Projected event position based on the weekly flying schedule.

A21.3. (AETC) Attrition Data (Block 3):

A21.3.1. **(AETC) Block 3a.** The planned or added attrition of the monthly plan.

A21.3.2. **(AETC) Block 3b.** The actual attrition experienced.

A21.3.3. **(AETC) Block 3c.** Any variance or delta of attrition planned and experienced.

A21.4. (AETC) Sortie Data (Block 4):

A21.4.1. **(AETC) Block 4a.** The required sorties or missions for each day of the week and total.

A21.4.2. **(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.

A21.4.3. **(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.

A21.4.4. **(AETC) Block 4d.** The sum of Blocks 4a and 4c equals total scheduled for each day of the week.

A21.5. (AETC) Planning Data: (Note: For maintenance and operations schedulers.)

A21.5.1. **(AETC) Block 5a.** The number of prime and spare aircraft required to support the flying schedule for each day of the week.

A21.5.2. **(AETC) Block 5b.** The number of aircraft off-station (O&B, XC, or deployed) that are still possessed.

A21.5.3. **(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.

A21.5.4. **(AETC) Block 5d.** The last takeoff time of the last sortie or mission for each day of the week.

A21.5.5. **(AETC) Block 5e.** The last land time for each day of the week.

A21.6. (AETC) Sortie Breakdown. By student and support sorties or missions for each day of the week, as follows:

A21.6.1. **(AETC) Block 6a.** Locals planned (to include a total).

A21.6.2. **(AETC) Block 6b.** Off-station scheduled (to include a total).

A21.6.3. **(AETC) Block 6c.** FCF, OCF, ferry, or any other maintenance or cost of business type sorties or missions (to include a total).

A21.6.4. **(AETC) Block 6d.** Summary of the totals by day.

Attachment 22 (Added-314 AW)

ASSIGNED NINE DIGIT WORLDWIDE IDENTIFICATION CODES

1.1. The following list contains the first four characters of the nine digit worldwide identification codes for the indicated flights/sections. Flights/sections will add the remaining five characters as they choose. Any additions or deletions to this list will be coordinated through the QA office.

314 MXG Quality Assurance	LPQA
314 AMXS Support Flight	LPBA
373 DET 4 (AETC)	LPOL
48 AS Loadmaster	LPJL
62 AS Flight Engineer/Loadmaster	LPLM
19 MXG Mobility Kit	LPMB
19 MXG Quality Assurance AFREP	LPGW
19 MXG Quality Assurance	LPAG
19 MXG TA	LPOT
19 AMXS Green AMU	LPGS
19 AMXS Silver AMU	LPSS
19 MOS Training	LPMO
19 MXS AGE Flight	LPMG
19 MXS Avionics Flight	LPMV
19 MXS E & E	LPFN
19 MXS Fuels	LPCF
19 MXS Metals Tech	LPFM
19 MXS Maintenance Flight	LPMT
19 MXS Munitions Flight	LPMW
19 MXS NDI	LPFN
19 MXS Pneudraulics	LPCP
19 MXS Engine Regional Repair Center	LPER
19 MXS Propulsion Flight	LPMP
19 MXS TMDE Flight	LPMD
19 MXS Refurb	LPFR
19 MXS Structural Maintenance	LPFS
19 OSS JI	LPOJ
19 OSS Aircrew Flight Equipment (Life Support)	LPFE
41 AS Loadmaster	LPSM
53 AS Flight Engineer/Loadmaster	LPBL
61 AS Flight Engineer/Loadmaster	LPGN

Attachment 23 (Added-314AW)

AUTHORIZATION/APPROVAL FOR LOCALLY MANUFACTURED TOOL

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 314TH AIRLIFT WING (AETC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Date

MEMORANDUM FOR (INITIATOR'S SQUADRON SUPERVISION)

314 MXG/MXGQI
IN TURN

FROM: Initiator Squadron & Office Symbol

SUBJECT: Request for Authorization/Approval for Locally Manufactured Tool

1. Nomenclature, description, and purpose of locally manufactured tool.

2. Justification for locally manufactured tool.

3. List references, i.e. tech. data, and title, example (TO 1C-130B-2-10, *Utility Systems*)

FIRST MI LAST NAME, Rank, USAF
Duty Title of Requester

Approved/Disapproved

FIRST MI LAST NAME, Rank, USAF
Duty Title, Quality Assurance Flight

Attachment:
Mandatory Photographs

cc:
Initiating Squadron Supervision Initiator

Attachment 24 (Added-314AW)

314 MXG - AIRCRAFT WEIGHT & BALANCE PREP SHEET

AIRCRAFT TAIL NUMBER _____

Step #		Task	Date/ Time	Emp. #
1.		SERVICING		
	1A.	All 4 Engine and APU oil tanks must be serviced to normal capacity IAW applicable TO.		
	1B.	Verify aircraft fuel tanks with foam are refueled full, and then defueled, drained, and pogoed using applicable publications. **NOTE**: On aircraft equipped with foam in tanks, pogo should be terminated when the fuel flow decreases to a slow drip. Only one pogo is required.		
	1C.	Liquid oxygen converter must be serviced to normal capacity IAW applicable TO.		
	1D.	All hydraulic reservoirs must be serviced to normal capacity IAW applicable TO.		
2.		INVENTORY		
	2A.	Accomplish an equipment inventory IAW TO 1-1B-50, AFI 11-2C-130V3, ADDENDA A, Table 2.1, AFI 11-2C-130J, Volume 3, ADDENDA A, Table 2.1. *and* AF Form 4076, *Aircraft Dash 21 Equipment Inventory* in the back of the AFTO Form 781 series binder. Request equipment as necessary to fill shortages from appropriate agencies (i.e. fleet services, life support, etc.)		
	2B.	Ensure equipment is installed or stowed in the proper location.		
3.		CLEANING		
	3A.	Wash Aircraft.		
	3B.	Clean inside of aircraft, including waste containers.		
	3C.	Ensure all excess water and puddles are removed. Examples: cargo door, all wheel wells, and flap well areas.		
4.		CONFIGURATION		
	4A.	Configure aircraft to a C-2 configuration IAW AFI 11-2C-130V3 ADDENDA A, with the exception that the steward, emergency, and extra equipment must be removed.		
	4B.	Tow aircraft to designated weigh location and position on scales.		
	4C.	Ensure aircraft flaps are full up (0% extended) and cargo ramp and door are closed as soon as possible after the wash to allow water to drain. Also, the air deflector doors, the APU door, and all other mechanical doors, hatches, and windows must be closed after final positioning of the aircraft on the scales.		
	4D.	Install strut locks on both fwd MLG (If applicable).		
	4E.	Level aircraft IAW T.O. 1C-130J-5-2.		

Attachment 25 (Added-314AW)

AIRCRAFT/EQUIPMENT IMPOUNDMENT CHECKLIST

ALL PURPOSE CHECKLIST		PAGE 1 OF 1 PAGES	
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA AIRCRAFT/EQUIPMENT IMPOUNDMENT CHECKLIST		OPR 314 MXQI	DATE
NO.	REFERENCES: AFI 21-101, AETC Sup I and 314 MXGOI 21-105	C/W	N/A
A.1	Impoundment Authority directs impoundment and designates and impoundment official. Impoundment Authority Name:_____ Impoundment Official Name:_____	☐	☐
A.2	Impoundment Official will: A.2.1 Notify Maintenance Operations Center (MOC)/Quality Assurance (QA) MOC Controller Name:_____ QA Name:_____	☐	☐
	A.2.2 Ensure a Red X symbol is placed in the applicable AFTO Form/IMT 781A/electronic equivalent or AFTO IMT 244 with the following statment, " Aircraft or Equipment is impounded. No maintenance will be performed unless authorized by the impoundment official. The impoundment Official is _____. See page _____, Item _____ for reason of impoundment"	☐	☐
	A.2.3. Control access to impounded aircraft or equipment and determine if any entry control point (ECP) is required. If an ECP is established, use an access control log.	☐	☐
	A.2.4. Notify PS&D of aircraft impoundment. Additionally, instruct PS&D to lock G081 if desired by impoundment official.	☐	☐
	A.2.5. Ensure maintenance is limited until the cause of impoundment is determined.	☐	☐
	A.2.6. Review a system history analysis of the aircraft /equipment systems suspected of causing the problem(s).	☐	☐
	A.2.7. Review the AFTO Form 781A and G081 daily to ensure all maintenance actions are cleared IAW T.O. 00-20-1. When G081 is locked out, use the AFTO Form 349 to track all maintenance actions and load into G081 as soon as it is unlocked.	☐	☐
	A.2.8. Ensure all parts suspected of failure are placed in a Tail Number Bin (TNB) for possible quality deficiency report (QDR) exhibits.	☐	☐
	A.2.9. Record all actions pertaining to the aircraft or equipment impoundment on 314 MXG Form 105, Quality Assurance Impoundment Record.	☐	☐
	A.2.10. Ensure completion of AETC Form 403, Landing Gear/Flight Control Malfunction History (if applicable).	☐	☐
	A.2.11. Conduct a daily brief for 314 MXG leadership covering as much information as possible.	☐	☐
	A.2.12. Meet with QA to discuss completeness of actions taken prior to briefing the releasing authority.	☐	☐
	A.2.13 Prepare a complete written report of the impoundment findings, if directed by the impoundment releasing authoriy. Copies will be provided for the applicable Maintenance Supervision, 314 MXG/CC/CD/CCC, releasing authority, and QA.	☐	☐
A.3	Impoundment Release Authority will clear or direct the impoundment to be cleared in the applicable aircraft or equipment forms and determine if an OCF or FCF is necessary or required.	☐	☐

AF IMT 2519, 19911101 V5 PREVIOUS EDITIONS ARE OBSOLETE.

Attachment 26 (Added-314AW)

314 MXG Form 105, *QUALITY ASSURANCE IMPOUNDMENT RECORD*

QUALITY ASSURANCE IMPOUNDMENT RECORD

1. REPORT NO.	2. DATE	3. SQUADRON/BASE	4. PILOT'S NAME	5. DSN PHONE	6. FLIGHT CONTROL PROBLEM ☐ YES ☐ NO
7. ACFT TYPE/ ENG/ PROP	8. TAIL NO./ SERIAL NO.	9. NAME OF MOC PERSON NOTIFIED	10. TIME NOTIFIED		11. IFE ☐ YES ☐ NO

12. QA MONITOR *(Name and Duty Phone)*	13. IMPOUNDMENT OFFICIAL *(Name and Duty Phone)*	14: ENG/PROP TRANSFERRED
DAYS	DAYS	a. TRANSFERRED TO *(Name, Rank, Duty Section)*
SWINGS	SWINGS	b. TRANSFERRED TO (Signature)
MIDS	MIDS	c. DATE / d. TIME
15. DISCREPANCY		e. TRANSFERRED BY *(Name, Rank, Duty Section)*
		f. TRANSFERRED BY *(Signature)*
		g. DATE / h. TIME

16. PQDR/MDR DATA *(Applicable Tech Order)*	19. PQDR/MDR NUMBER	20. PART NUMBER
17. TECH ORDER FIGURE/INDEX / 18. WUC	21. NOMENCLATURE	

22. MANAGEMENT INFORMATION	YES	NO
MAINTENANCE FACTOR	☐	☐
MATERIAL FAILURE	☐	☐
REQUEST DEFICIENCY REPORT	☐	☐

23. CORRECTIVE ACTION

314 MXG FORM 105, 20120924 314 MXG/MXGQI

24. QA COMMENTS OR FINDINGS	28. ENGINE DATA *(Required on all engine flameouts or shutdowns)*		
	ENG SERIES	ENG SN	TOT
	TSO	TALO	TEC
	FC SN	EC SN	WUC
	TSI		
25. FCF/OCF *(If applicable)*	LEGEND: TOT =TOTAL OPERATING TIME/CYCLES; TSO =TIME/CYCLES SINCE OVERHAUL; TALO =TIME/CYCLES AT LAST OVERHAUL; TEC =TOTAL EQUIVALENT CYCLES; FC SN =FUEL CONTROL SERIAL; EC SN =ENGINE CONTROL SERIAL; TSI =TIME/CYCLE SINCE INSTALLED		
	ALL OTHER BLOCKS ARE SELF EXPLANATORY		
	NOTE: ALL BLOCKS IN THIS SECTION ARE NOT APPLICABLE TO ALL ENGINES. THE BLANK BLOCKS MAY BE USED FOR ENGINE UNIQUE DATA.		
	29. EXPLANATION IF NOT RELEASED *(If applicable)*		
26. FCF/OCF RELEASED ☐ YES ☐ NO / 27. FCF/OCF PILOT'S SIGNATURE			

314 MXG FORM 105, 20120924 *(REVERSE)*

Attachment 27 (Added-314AW)

314 MXG Form 78, *Aircraft Maintenance Investigation Worksheet*

AIRCRAFT MAINTENANCE INVESTIGATION WORK SHEET					QA INCIDENT NUMBER
DATE	TIME OF INCIDENT		ACFT TAIL NUMBER		LOCATION
SENIOR INDIVIDUAL	UNIT	WUC	JOB CONTROL NUMBER		INSPECTOR
DISCREPANCY OCCURRED	TAKE OFF	IN-FLIGHT	ON GROUND	LANDING	

TYPE		GROUND/AIR ABORT		ANIMAL STRIKE		LOAD MALFUNCTION		PERSONNEL INJURY
		FUEL SPILL		DROPPED OBJECT		GROUND EMERGENCY		OTHER

CURRENT DISCREPANCY

CORRECTIVE ACTIONS

ADDITIONAL COMMENTS

ESTIMATED REPAIR COST		REQUIRED DATA CHECKLIST	Y	N	ROUTING COORDINATION
PARTS		HISTORY SCREEN ATTACHED			NAME
INSERT MAN-HOURS HERE LABOR (Man - Hours) x		LRAFB FORM 79 AND/OR 78 ATTACHED			NAME
MISCELLANEOUS COSTS	$	TO REFERENCE(S) ATTACHED			NAME
ESTIMATED TOTAL COST	$	WING SAFETY RELEASE C/W			NAME

314 MXG FORM 78 20140129 314 MXG/MXGQI

Attachment 28 (Added-314AW)

314 MXG Form 79, *Incident Investigation Witness Statement*

INCIDENT INVESTIGATION WITNESS STATEMENT

DATE	LOCATION	PERSONAL INJURIES REPORTED
NAME AND RANK OF WITNESS	SQUADRON/SHOP	SUPERVISOR ON DUTY

DAMAGED OBSERVED

DAMAGE CAUSED BY

OTHER CONTRIBUTING FACTORS

NAME OF OTHER WITNESSESS

NAME OF OTHER WITNESSESS

STATEMENT OF WITNESS

SIGNATURE/RANK OF WITNESS ISSUING STATEMENT

QUALITY ASSURANCE INTERVIEW NOTES

REMARKS *(Date of follow up)*

ROUTING/COORDINATION		ESTIMATED COST OF DAMAGE			
AMU SUPERINTENDENT		WING SAFETY INVOLVED	☐ YES ☐ NO		
QA CHIEF INSPECTOR/SUPERINTENDENT		FURTHER INVESTIGATION REQUIRED	☐ YES (If yes see remarks) ☐ NO		
MXG SUPERINTENDENT		DATE RESOLVED			
RETURN TO QA		ATTACHMENTS	☐ YES ☐ NO	PICTURES	☐ YES ☐ NO

314 MXG Form 79, 20140220

Attachment 29 (Added-314AW)

314 MXG Form 80, *Cost Estimate Worksheet* (Front)

COST ESTIMATE WORKSHEET

1. DATE DAMAGE IDENTIFIED	2. MOC NOTIFIED TIME/NAME	3. QA NOTIFIED TIME/NAME
4. SQUADRON INCURRING	5. DAMAGED AIRCRAFT/EQUIPMENT TYPE /	6. SERIAL/TAIL NUMBER
7. CAUSE OF DAMAGE		
8. G081 JOB CONTROL NUMBER	QA INCIDENT NUMBER	9. DOCUMENT NUMBER/DR
10. BACKSHOP SUPPORT REQUIRED ☐ YES ☐ NO		11. SHOPS REQUIRED
12. TOTAL MAN HOUR REQUIRED		

PARTS REQUIRED FOR REPAIR

1. NOMENCLATURE		2. NSN	3. WUC
4. PART NUMBER	5. TO	6. FIGURE	7. INDEX
8. QUANTITY	9. UI	10. COST	11. COST EXCHANGE
12. SUPPLY DOCUMENT NUMBER		13. PART TOTAL COST	
14. NOMENCLATURE		15. NSN	16. WUC
17. PART NUMBER	18. TO	19. FIGURE	20. INDEX
21. QUANTITY	22. UI	23. COST	24. COST EXCHANGE
25. SUPPLY DOCUMENT NUMBER		26. PART TOTAL COST	
27. NOMENCLATURE		28. NSN	29. WUC
30. PART NUMBER	31. TO	32. FIGURE	33. INDEX
34. QUANTITY	35. UI	36. COST	37. COST EXCHANGE
38. SUPPLY DOCUMENT NUMBER		39. PART TOTAL COST	
40. NOMENCLATURE		41. NSN	42. WUC
43. PART NUMBER	44. TO	45. FIGURE	46. INDEX
47. QUANTITY	48. UI	49. COST	50. COST EXCHANGE
51. SUPPLY DOCUMENT NUMBER		52. PART TOTAL COST	

BREAKDOWN OF MAN HOUR AND PARTS REQUIRED FOR REPAIR

OWNING ORGANIZATION MAN HOURS REQUIRED												
ALL SHOPS MAN HOURS REQUIRED	SHOP		HOURS (A)		SHOP		HOURS (B)		SHOP		HOURS	
TOTAL OF ALL LABOR HOURS (D=A+B+C)		X _____ PER HOUR = (E=Dx$_____)						TOTAL PARTS AND MATERIALS (F=Part Total Costs 13+26+39+52+....)				
OVERALL TOTAL LABOR PARTS AND MATERIALS (G=E+F)												

314 MXG Form 80, *Cost Estimate Worksheet* (Back)

PARTS REQUIRED FOR REPAIR CONT.			
53. NOMENCLATURE		54. NSN	55. WUC
56. PART NUMBER	57. TO	58. FIGURE	59. INDEX
60. QUANTITY	61. UI	62. COST	63. COST EXCHANGE
64. SUPPLY DOCUMENT NUMBER		65. PART TOTAL COST	
66. NOMENCLATURE		67. NSN	68. WUC
69. PART NUMBER	70. TO	71. FIGURE	72. INDEX
73. QUANTITY	74. UI	75. COST	76. COST EXCHANGE
77. SUPPLY DOCUMENT NUMBER		78. PART TOTAL COST	
79. NOMENCLATURE		80. NSN	81. WUC
82. PART NUMBER	83. TO	84. FIGURE	85. INDEX
86. QUANTITY	87. UI	88. COST	89. COST EXCHANGE
90. SUPPLY DOCUMENT NUMBER		91. PART TOTAL COST	
92. NOMENCLATURE		93. NSN	94. WUC
95. PART NUMBER	96. TO	97. FIGURE	98. INDEX
99. QUANTITY	100. UI	101. COST	102. COST EXCHANGE
103. SUPPLY DOCUMENT NUMBER		104. PART TOTAL COST	
105. NOMENCLATURE		106. NSN	107. WUC
108. PART NUMBER	109. TO	110. FIGURE	111. INDEX
112. QUANTITY	113. UI	114. COST	115. COST EXCHANGE
116. SUPPLY DOCUMENT NUMBER		117. PART TOTAL COST	
118. NOMENCLATURE		119. NSN	120. WUC
121. PART NUMBER	122. TO	123. FIGURE	124. INDEX
125. QUANTITY	126. UI	127. COST	128. COST EXCHANGE
129. SUPPLY DOCUMENT NUMBER		130. PART TOTAL COST	

314 MXG FORM 80, 20120522 314 MXG / MXGQI

Attachment 30 (Added 314AW)

Local Manufacturing Worksheet

DEPARTMENT OF THE AIR FORCE
314TH MAINTENANCE GROUP (AETC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

DATE_____

MEMORANDUM FOR 19 LRS/LGRMCM

FROM: _____

SUBJECT: Local Manufacture Worksheet

1. Request the following items to be Local Manufactured.

Document Number: _____

NSN: _____

ITEM: _____

QTY: _____

2. The following items are required to make this item.

NSN:_____UI:_____QTY: _____

NSN:_____UI:_____QTY: _____

NSN:_____UI:_____QTY: _____

3. The following items are required IAW AFI 21-101.

( ) AF IMT FORM 2005 ( ) AF IMT FORM 601

( ) DD FORM 1348-6, as required ( ) Drawing, sample or Technical Data, as required

( ) AFTO FORM 350 for items requiring multiple sections

Requestor's Name: _____(Print)_____(Sign)_____ Date _____

Approving Official: _____(Print)_____(Sign)_____ Date _____

Quality Assurance: _____(Print)_____(Sign)_____ Date _____

Supply: _____(Print)_____(Sign)_____ Date _____

Attachment 31 (Added 314AW)

Deficiency Report Routing Worksheet (Front)

Control Number: (print on both sides if possible)

Deficiency Report Routing Worksheet
Originator
Ensure each item is checked off once complete using the "[ ]" space provided

[ ] Originator's name/phone number: _____/_____

[ ] Nomenclature: _____

[ ] National Stock Number: _____

[ ] Part Number: _____

[ ] Serial Number: _____

[ ] Work Unit Code: _____

[ ] Tail Number/Job Control Number: _____/_____

[ ] Supply Document Number: _____

[ ] Malfunction Defect Code (not "How Malfunction Code"): _____

[ ] Date deficiency was discovered: _____

[ ] Time since install when deficiency was identified: _____

[ ] T.O. Task and Step of failure: _____

[ ] Deficiency: DO NOT STATE 'INOP', be specific (These will be refused and returned to the originator):

_____

_____

[ ] State condition of item as delivered from supply: (i.e. arrived undamaged in undamaged container).

Supply

[ ] Ensure all steps above are completed and checked off (clearly print name):_____

[ ] Validate/Include (at least one) Yellow tag (DD Form 1574)

[ ] Was exhibit repaired or new: _____

[ ] Location and date if repaired: _____

[ ] Ensure two properly annotated brown tags (DD Form 1575) are placed with exhibit

[ ] Annotate exhibit cost: _____

[ ] Provide one properly annotated AFTO Form 350 Tag (if GO81 is used ensure discrepancy block is corrected.

[ ] Ensure all connectors and plugs are capped/plugged as required (ensure items marked 'Sensitive Electronic Device' have an ESD cap)

29 Nov 2012

Deficiency Report Routing Worksheet (Back)

Control Number: (Print on both sides if possible)

PIM

Verify the following:

[ ] All 'Originator' and 'Supply' items are checked off
[ ] Exhibit has all required caps/plugs
[ ] PN on exhibit matches PN on this checklist
[ ] NSN on exhibit matches NSN on this checklist
[ ] Discrepancy on AFTO Form 350 tag is clear, concise, and matches the discrepancy on this checklist
[ ] PN/NSN/SN on yellow tag (DD Form 1574) matches this checklist and the exhibit

Perform the following:

[ ] Load DR into DR Tracker
[ ] Load DR into JDRS
[ ] Print exhibit label
[ ] Print two copies of report
[ ] Print two Product Quality Deficiency Report Exhibit tags (DD Form 2332)
[ ] Place half of all above items into a packaging envelope and the other half inside the container.

Notes:

29 Nov 2012

Attachment 32 (Added 314AW)

Sample Preprint Authorization Letter

DEPARTMENT OF THE AIR FORCE
314TH AIRLIFT WING (AETC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Date

MEMORANDUM FOR: 314 MXG/MXQI
(INITIATOR'S SQUADRON SUPERVISION)

FROM: Initiator Squadron & Office Symbol

SUBJECT: Request for Authorization/Approval Locally Developed Preprints, Forms/Lists, and Job Flow Packages

1. Description and purpose of locally developed preprints, forms/lists, and job flow packages.

2. Justification for locally developed preprints, forms/lists, and job flow packages.

3. List of references.

4. Control Number _____. (Leave blank for QA office use only).

FIRST MI LAST NAME, Rank, USAF
Duty Title of Requester

Approved/Disapproved

FIRST MI LAST NAME, Rank, USAF
314 MXG Quality Assurance Superintendent

Attachment:
Sample copy of items requiring approval

cc:
Initiator's Squadron Supervision