DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE GLOBAL STRIKE COMMAND

AFI 21-101_AFGSCSUP_AFGSCGM2016-01

11 October 2016

MEMORANDUM FOR AFGSC Wings, MXGs and Squadrons

FROM: HQ AFGSC A4
841 Fairchild Ave
Barksdale, LA 71111

SUBJECT: Air Force Global Strike Command Guidance Memorandum to AFI 21-101_AFGSCSUP, *Aircraft and Equipment Maintenance Management*

1. By Order of the Commander, Air Force Global Strike Command, this AFGSC Guidance Memorandum immediately implements changes AFI 21-101_AFGSCSUP, *Aircraft and Equipment Maintenance Management*. This Guidance Memorandum changes previously published guidance implemented under AFI 21-101 AFGSCSUP dated 26 October 2015. The attachment to this memorandum is revised to reflect key changes and additions as follows; added B-1 Software Analysis Section's purpose, functions, responsibilities and requirements. Modified Supplementary part requirement forecast to exclude B-1 MDS in paragraph 4.11.13. Revised to reflect current Operational Plans and Capabilities due to the Centralization of 2R1X1 Personnel from MUNS to MXGs & Missile Maintenance Squadrons (MMSs). This memorandum provides for continued use of the instruction until the revised AFI 21-101_AFGSCSUP is published. Compliance with this memorandum is mandatory. To the extent its directions are inconsistent with AFGSC publications, the information herein prevails, IAW AFI 33-360, *Publications and Forms Management*.

2. In advance of a rewrite of AFI 21-101_AFGSCSUP, the attachment to this memorandum provides guidance changes that are effective immediately.

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

LAWRENCE S. KINGSLEY, SES, DAF
Director, Logistics, Engineering
and Force Protection

Attachment:
Guidance Changes

Attachment

Guidance Changes

3.14. **(Added)** The software analysis section processes and analyzes B-1 Central Integrated Test System (CITS) or CITS Deployable Diagnostic System (CDDS) data, as applicable, in order to provide timely and accurate information to aid the maintenance effort, identify software discrepancies to the appropriate OPRs, and identify trends to maintenance supervisors and assigned engineers. B-1 units address all software deficiencies/anomalies associated with aircraft diagnostics using the CDDS. A Software Analysis team, comprised of maintenance technicians compares data extracted from the CITS via the CDDS to ensure accuracy and validity of the data in support of airframe availability. This section works closely with maintenance analysis functions in order to identify trends in system performance. Demonstrated knowledge and ability should be of primary importance in assigning personnel to this section; however, each flightline avionics AFSC shall be represented. All assigned personnel should have performed in their AFSC within the last 3 years. (T-3).

3.14.1. **(Added)** As a minimum, the responsibilities of this section are to:

3.14.1.1. **(Added)** Analyze and establish the accurate status of all reported CITS Maintenance Codes (CMC)/Reference Designator Indicators.

3.14.1..2. **(Added)** Identify to appropriate maintenance supervisors and engineers adverse system/maintenance trends.

3.14.1.3. **(Added)** Identify/Report CITS/CDDS software deficiencies via Product Quality Deficiency Reporting (PQDR) through the Joint Deficiency Reporting System (JDRS) web site.

3.14.1.4. **(Added)** Setup, maintain, repair, and update CDDS server network; update CPIN software when required; remove, repair or replace computers and components.

3.14.1.5. **(Added)** Assist maintenance technicians in identifying and reporting Ground Readiness Test (GRT) deficiencies.

3.14.1.6. **(Added)** Provide CITS/CDDS information products, as required, to support the production effort.

3.14.1.7. **(Added)** Assist/train maintenance technicians to use CITS/CDDS maintenance reports in troubleshooting malfunctions.

3.14.1.8. **(Added)** Maintain historical data for each assigned aircraft in accordance with the RDS.

3.14.1.9. **(Added)** Compile CDDS aircraft data and submit to appropriate system engineers via U. S. Army Aviation and Missile Research Development and Engineering Center (AMRDEC) or Aircraft Structural Integrity Management Information System (ASIMIS).

3.14.1.10. **(Added)** Retrieve and analyze the debrief report from the CDDS in support of each sortie debrief. Analyze new, analysis-coded and data-dependent maintenance codes to determine whether maintenance action is required. If required, notify applicable maintenance flight of the discrepancy. Provide Debrief section a list of CITS/CDDS reported aircraft malfunctions/faults requiring a workcenter event (job control number) to be entered into IMDS/AFTO Form 781A.

4.11.13. **(Added)** Establish a forecast list of supplementary part requirements based on a review of repair documentation for the preceding 6 months and ensure adequate stock of the items are available as applicable to the MDS (not applicable to B-1 MDS). **(T-3).**

Table 4.1. (Replace) Wing-Retained Tasks.

F118-100 Engine
Remove and replace #1 Bearing/Sump Components
Remove and replace Front Frame
Remove and replace Fan Stator Case
Remove and replace Fan IGV Flap
Remove and replace Fan Blade and Stator Vane
Remove and replace Gear Box, Wear Sleeve and Radial Drive Shaft
Remove and replace Aft Fairing and Center Body
Remove and replace PTO Coupling and carbon Seal
Remove and replace Fuel Manifold/Nozzle
Remove and replace Splitter Panels
Remove and replace Compressor Blades
Remove and replace Turbine Frame
F101 Engine
Remove and replace Accessory Gearbox
Remove and replace Augmentor Assembly
Remove and replace Compressor Blades
Remove and replace Exhaust Nozzle Assembly
Remove and replace Fan Blades
Remove and replace Fan Stator Assembly
Remove and replace LPT Blades (Stage 2 Only)
Remove and replace Turbine Frame Assembly
Remove and replace VSV Actuator
Remove and replace Front Frame

15.1.3.1.2. **(Deleted).**

15.1.4.1.1.1. **(Added)** The PS&D functional will ensure that all decentralized positions (to include MUNS) will be equitably filled to authorized positions/skill levels so as to not impact or impede the decentralized work center's productivity. Note: In the event that there are not enough

personnel to assign personnel full-time to the decentralized work center, the Wing's PS&D functional will ensure that personnel are assigned on a priority basis so that each work center has at least one 2R1X1 personnel assigned to the decentralized work center. In addition, currently assigned personnel will provide appropriate support to accomplish decentralized function(s), until personnel can be assigned full time.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 21-101

21 MAY 2015

AIR FORCE GLOBAL STRIKE COMMAND Supplement

26 OCTOBER 2015

Maintenance

AIRCRAFT AND EQUIPMENT MAINTENANCE MANAGEMENT

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)

Supersedes: AFI21-101, 26 July 2010 — Pages: 383

OPR: AFGSC/A4MX — Certified by: AFGSC/A4V (Donald. C. Robison, GS-14)

Supersedes: AFI21-101_AFGSCSUP, 28 February 2012 — Pages: 383

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.

(AFGSC) AFI21-101, *Aircraft and Equipment Maintenance Management,* is supplemented as follows: This supplement prescribes policies and procedures governing aerospace equipment maintenance management for Air Force Global Strike Command (AFGSC). It applies to organizations and personnel that maintain aircraft, aircraft systems, equipment, support equipment, and components. Contracted maintenance requirements will be stated in the Performance Work Statement (PWS). This publication applies to the Air National Guard (ANG) and the Air Force Reserve Command (AFRC) Classic Associations. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional's chain of command to **AFGSC.A4MX.workflow@us.af.mil.** 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, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. 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. Units will publish a single supplement to consolidate local policies mandated by the AFI and this supplement. Units may develop separate Operating Instructions as long as they are referenced in their AFI 21-101 supplements. Supplements must be routed to the OPR of this publication for coordination prior to certification and approval. AFGSC A4/7 is the Tier (AFGSC)1 and Tier 2 waiver authority for this publication.

SUMMARY OF CHANGES

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

(AFGSC) This document is substantially revised and must be completely reviewed in its entirety. This revision aligns the supplement to the basic instruction and incorporates changes from previous Guidance Memorandum; additionally, all tiering has been added to the end of

each applicable paragraph. This instruction has all chapters renumbered with the exception of chapter one. Please note changes to the following programs/guidance: Addressed non-contingency operation requirements for RWR Checks, changed category and reporting requirements for Hangar Queen Process. Consolidated the Aircraft Structural Integrity Program responsibilities and adopted AFI 21-101 guidance for Mission Ready Technician; redefined/clarified Thermal Curtain and Borescope inspection processes. Removed majority of the hangar door program guidance, this information now resides in AFI 91-203; supplemented contracting guidance to align with parent. Incorporated ASM, NDI, and LO responsibilities from AFGSCI 21-105. Provided requirements for MXG to report monthly status for equipment deemed critical for aircraft generation to manage and inspect engine 3000 and 4000 transport trailers. Added extensive guidance for weapons load procedures and responsibilities.

Chapter 1— MANAGEMENT PHILOSOPHY AND POLICY **14**

1.1. Introduction. 14

1.2. Organization. 14

1.3. Maintenance Concept. 14

1.4. Aircraft Maintenance Tactics, Techniques and Procedures (TTP). 15

1.5. Aircraft and Equipment Readiness. 15

1.6. Maintenance Discipline. 15

1.7. Communications Security (COMSEC)/Controlled Cryptographic Item (CCI) Accountability. 16

1.8. Environmental Compliance. 16

1.9. Publications. 16

1.10. Maintenance Training. 16

1.11. Modification Management. 16

1.12. Maintenance Information Systems (MIS). 17

1.13. General Safety Guidance. 17

1.14. Duty Shifts and Rest Periods. 18

1.15. Communications. 18

1.16. Maintenance Repair Priorities. 19

Table 1.1. Maintenance Repair Priority Designators. 19

1.17. Associate Unit Program/Total Force Integration (TFI). 20

1.18. Performance-Based Activities. 21

1.18. (AFGSC) Performance-Based Activities. 21

Chapter 2— GENERAL RESPONSIBILITIES FOR COMMANDERS AND KEY LEADERS 23

2.1. General. 23

Table 2.1. (Added-AFGSC) Military Grades and Civil Service Grade Equivalents. 23

2.1. (AFGSC) General. 23

2.2. Wing Commander (WG/CC) Responsibilities. 23

Table 2.2. (Added-AFGSC) AFSC Levels and Civil Service AFSC Level Equivalents. 23

2.3. Wing Vice Commander (WG/CV) Responsibilities. 24

2.4. Maintenance Group Commander (MXG/CC) Responsibilities. 24

2.5. Deputy Maintenance Group Commander (MXG/CD) will: 30

2.6. MXG Superintendent Responsibilities. 30

2.7. Wing Weapons Manager (WWM). 31

2.8. Squadron Commander (SQ/CC) Responsibilities. 36

2.9. Maintenance Supervision Responsibilities. 37

2.10. Flight Commander/Flight Chief (Flight CC/Chief) or Aircraft Maintenance Unit (AMU) Officer in Charge (OIC)/Chief. 39

2.11. Production Superintendent (Pro Super). 42

2.12. Section NCOIC/Chief. 42

Chapter 3— AIRCRAFT MAINTENANCE SQUADRON (AMXS) 46

3.1. General. 46

3.2. Maintenance Supervision Responsibilities. 46

3.3. Aircraft Maintenance Unit (AMU). 46

3.3. (AFGSC) Aircraft Maintenance Unit (AMU). 46

3.4. AMU OIC/Chief Responsibilities. 46

3.5. Production Superintendent (Pro Super). 47

3.6. Flightline Expediter. 48

3.7. Aircrew and Maintenance Debrief Section. 49

Table 3.1. Landing Status Codes. 50

Table 3.2. System Capability Codes. 50
Table 3.3. Deviation Cause Codes. 51
3.8. Aircraft Section. 51
3.9. Specialist Section. 52
3.9. (AFGSC) Specialist Section. 52
3.10. Weapons Section. 54
3.10. (AFGSC) Weapons Section. 54
3.11. Support Section. 61
3.12. AMU Decentralized Materiel Support (DMS). 62
3.13. (Added-AFGSC) Software Analysis Section (B-2 units). 62
Chapter 4— MAINTENANCE SQUADRON (MXS) 64
4.1. General. 64
4.2. Maintenance Supervision Responsibilities. 64
4.3. MXS Production Superintendent (Pro Super). 64
4.4. Accessories Flight. 65
4.5. Aerospace Ground Equipment (AGE) Flight. 71
4.6. Armament Flight. 74
4.7. Avionics Flight. 75
4.7. (AFGSC) Avionics Flight. 75
Figure 4.1. Example Index Numbers. 76
4.8. Fabrication Flight. 80
4.9. Maintenance Flight. 85
4.9. (AFGSC) Maintenance Flight. 85
4.10. Munitions Flight. 89
4.11. Propulsion Flight. 89
Table 4.1. (Added-AFGSC) Wing-Retained Tasks. 99
4.12. Test, Measurement, and Diagnostic Equipment (TMDE) Flight (N/A to the ARC). 99
4.13. (Added-AFGSC) Signature Diagnostics Flight. 102

Chapter 5— MAINTENANCE OPERATIONS **103**

5.1. General. 103

5.2. Maintenance Operations (MO). 103

Table 5.1. (Added-AFGSC) DIT Data. 117

5.3. Maintenance Training (MT). 119

5.3. (AFGSC) Maintenance Training (MT). 119

5.4. Programs and Resources (P&R). 120

Chapter 6— QUALITY ASSURANCE (QA) **121**

6.1. General. 121

6.1. (AFGSC) General. 121

6.2. Responsibilities. 121

6.2. (AFGSC) Responsibilities. 121

6.3. QA Superintendent Responsibilities. 122

6.4. Chief Inspector Responsibilities. 124

6.5. Quality Assurance Inspector Responsibilities. 125

6.6. Quality Assurance Inspector Training. 125

6.7. Maintenance Standardization and Evaluation Program (MSEP). 126

6.8. MAJCOM-approved QA database. 138

6.8. (AFGSC) MAJCOM-approved QA database. 138

Table 6.1. (Added-AFGSC) Main Categories. 139

Table 6.2. (Added-AFGSC) Discrepancy Categories. 140

6.9. QA Product Improvement Programs (PIP). 140

6.10. Configuration Management (CM) and Modification Management. 142

6.10. (AFGSC) Configuration Management (CM) and Modification Management. 142

6.11. Technical Order Distribution Office (TODO). 142

6.12. One-Time Inspections (OTI) program. 145

6.13. Functional Check Flights (FCFs) to include Operational Check Flights (OCFs). 145

6.13. (AFGSC) Functional Check Flights (FCF) to include Operational Check Flights (OCF). 145

6.14. Inflight Operational Checks. 147
6.15. High Speed Taxi Checks. 147
6.16. Weight and Balance (W&B) Program. 147
Chapter 7— IMPOUNDMENT PROCEDURES 149
7.1. Aircraft and Equipment Impoundment. 149
7.2. Specific Guidance. 149
7.2. (AFGSC) Specific Guidance. 149
7.3. Impoundment Authorities. 149
7.4. Impoundment Official Responsibilities. 150
7.5. Mandatory Impoundments. 150
7.6. Impoundment Procedures. 151
7.7. Rules of Impoundment Specifically for Explosive-Related Events/Mishaps. 152
Chapter 8— TOOL AND EQUIPMENT MANAGEMENT 154
8.1. Tool and Equipment Management. 154
8.2. Guidelines for Program Management. 154
8.3. General Program Guidelines. 155
8.4. TMDE Management Guidelines. 158
8.5. Tool Accountability. 159
8.6. Tool and Equipment Marking and Identification. 161
8.7. Locally Manufactured, Developed, or Modified Tools and Equipment. 163
8.8. Tool Room Operations and Security. 165
8.9. Lost Item/Tool Procedures. 165
Chapter 9— MATERIEL MANAGEMENT SUPPORT 168
9.1. General. 168
9.1. (AFGSC) General. 168
9.2. Decentralized Materiel Support. 168
9.3. Supply Discipline. 168
9.4. Parts ordering. 168
9.5. Backorder review and validation. 170

9.6. Parts processing. 170
9.7. Readiness Spares Package (RSP) Review. 170
9.8. Bench Stock. 170
9.9. Consumable Readiness Spares Package (CRSP). 171
9.10. Shop Stock. 171
9.10. (AFGSC) Shop Stock. 172
9.11. Operating Stock. 172
9.11. (AFGSC) Operating Stock. 172
9.12. Work Order Residue. 172
9.12. (AFGSC) Work Order Residue. 172
9.13. Adjusted Stock Levels. 172
9.14. Shelf-life Items. 172
9.15. Equipment Items. 173
9.16. Special Purpose Recoverable Authorized Maintenance (SPRAM). 173
9.17. Supply Assets Requiring Functional Check, Calibration, or Operational Flight Programming. 173
9.18. Time Compliance Technical Order (TCTO) Kit Procedures. 173
9.18. (AFGSC) Time Compliance Technical Order (TCTO) Kit Procedures. 173
9.19. Supply Points. 174
9.20. Local Manufacture. 174
9.21. DIFM Management. 174
9.22. Tail Number Bins (TNB). 176
9.22. (AFGSC) Tail Number Bins (TNB). 176
9.23. CANN actions. 177
9.24. Bench Check and Repair Policy. 177
9.25. Maintenance Turn-Around (TRN) Record Update Processing. 177
9.26. Buildup Items. 177
9.27. Deficiency Report (DR) Exhibits. 178
9.28. Destruction of TOP SECRET Material. 178

9.29. Certifying Items Associated With Explosives. 178

9.30. (Added-AFGSC) Repair Network Enhancement Program (RNEP). 178

Chapter 10— MUNITIONS POLICY AND WEAPONS LOAD CREW PROGRAM 179

10.1. AF Munitions Policy. 179

10.2. Unit Committed Munitions List (UCML), Test/Training Munitions List (TTML). 179

10.3. Weapons Load Crew Training Program (WLCTP). 180

10.4. Loading Standardization Crew (LSC). 183

10.4. (AFGSC) Loading Standardization Crew (LSC). 183

10.5. Weapons Academic Instructor. 184

10.6. Lead Crews. 185

10.7. Training Facilities/Aircraft. 185

10.8. Weapons Academics. 185

10.9. Practical Training. 187

10.10. Task Assignment List (TAL). 188

10.11. Munitions Aircraft Loading Certification/Decertification. 189

10.12. Proficiency Review Period. 192

10.13. Minimum Required Proficiency Load. 192

10.14. Load Crew Semi-Annual Evaluations (SAE). 193

10.15. Documenting Load Crew Certification/Decertification/Qualification. 193

10.16. Weapons Task Qualification. 194

10.17. Munitions Load Time Standards. 196

Table 10.1. Fighter Aircraft Munitions Family Group and Munition Load Time Standards (in minutes). 197

Table 10.2. Bomber Aircraft Munitions Family Group and Munition Load Time Standards. .. 198

Table 10.3. Remote Piloted/Special Mission Aircraft Munitions Family Group and Munition Load Time Standards. 199

10.18. (Added-AFGSC) Dual Loading Operations (DLO). 199

10.19. (Added-AFGSC) Transient Aircraft Responsibilities. 200

Chapter 11— ADDITIONAL MAINTENANCE REQUIREMENTS AND PROGRAMS 201

11.1. Facility Housekeeping and Contamination Control. 201

11.2. Personal Wireless Communications Systems (PWCS) Management. 201

11.3. Special Certification Roster (SCR). 201

11.3. (AFGSC) Special Certification Roster (SCR). 202

Table 11.1. Mandatory Special Certification Roster (SCR) and Prerequisites (T-1). 203

Table 11.1. (AFGSC) Mandatory Special Certification Roster (SCR) and Prerequisites. (T-2.) 207

11.4. Aircraft Grounding. 208

11.5. Ramp Inspection Program. 209

11.6. Red Ball Maintenance. 209

11.7. Maintenance Recovery Team (MRT): 210

11.8. Foreign Object Damage (FOD) Prevention Program. 210

11.9. Dropped Object Prevention (DOP) Program. 220

11.9. (AFGSC) [DEV] Dropped Object Prevention (DOP) Program. 220

11.10. Aircraft Structural Integrity Program (ASIP). 222

11.11. Identification Friend or Foe (IFF) Program. 223

11.12. Radar Warning Receiver (RWR)/Radar Threat Warning (RTHW) Testing. 223

11.13. Cannibalization Program. 224

11.14. Hangar Queen Aircraft. 225

11.14. (AFGSC) Hangar Queen Aircraft. 225

11.15. Ground Instructional Trainer Aircraft (GITA). 228

11.16. Aircraft Inlet/Intake/Exhaust Certification. 232

11.17. Engine Run Training and Certification Program. 232

11.18. Engine Blade Blending Training and Certification Program. 242

11.19. Engine Flexible Borescope Inspection Training and Certification Program. 243

11.20. Flying Crew Chief (FCC) Program. 244

11.21. Maintenance of Flash Blindness Protective Devices. 251

11.22. WRM External Nestable Fuel Tank Build-Up (NFTBU). 251

11.23. Protective Aircraft Shelters (PAS). 252

11.24. Combat Sortie Generation..... 252

11.25. Hot Refueling Procedures..... 253

11.25. (AFGSC) Hot Refueling Procedures..... 253

Table 11.2. (Added-AFGSC) Hot Aircraft Refueling Training/Certification Requests..... 258

11.26. Aircraft Rapid/Hot Defueling..... 258

11.27. 406 MHz Emergency Locator Transmitter (ELT) Systems..... 259

11.28. Crash Damaged or Disabled Aircraft Recovery (CDDAR) Program..... 259

11.29. Aircraft Battle Damage Repair (ABDR) (N/A to ARC)..... 261

11.30. Egress/Cockpit Familiarization Training..... 262

11.31. Aircraft Defensive Systems Loading Program..... 263

11.32. Aircraft and Equipment Decontamination..... 268

11.33. Senior Leader Mission Generation (SLMG) Course..... 269

11.34. (Added-AFGSC) Maintenance Resource Management (MRM)..... 269

11.35. (Added-AFGSC) Hangar Door Program..... 269

11.36. (Added-AFGSC) Deicing/Anti-icing Training..... 270

11.37. (Added-AFGSC) Maintenance Flash..... 270

Chapter 12— MAINTAINING COMMERCIAL DERIVATIVE AIRCRAFT (CDA) 271

12.1. Background Information and Objective..... 271

12.2. AF/A4L will:..... 271

12.3. The Program Manager (PM) will:..... 271

12.4. Lead Commands will:..... 272

12.5. Units will:..... 272

12.6. Maintenance Personnel Requirements..... 272

12.7. Deviations/Changes to Inspection Requirements, Time Change Intervals, and Component/Aircraft Overhaul..... 272

12.8. Air Force Modifications to CDA and Components..... 273

12.9. Certification Basis for CDA..... 273

Chapter 13— CENTRALIZED REPAIR FACILITIES (CRF) 274

13.1. Introduction..... 274

13.2. Organization. 274
13.3. CRF Production Requirements. 274
13.4. Maintenance Squadron (EMS, CMS, MXS) Operations Officer/MX SUPT will: . 274
13.5. CRF Enterprise Information Management. 274
13.6. Mission Generation Network Support. 275
13.7. Documentation. 275
13.8. Metrics. 275
13.9. Agile Combat Support (ACS). 275
Chapter 14— AIRCRAFT AND EQUIPMENT MAINTENANCE CONTRACT SURVEILLANCE 276
14.1. Contract Surveillance. 276
14.2. Responsibilities. 276
14.3. Training Requirements. 280
14.3. (AFGSC) Training Requirements. 280
14.4. Quality Assurance Surveillance Plan (QASP). 280
14.5. COR Inspections. 282
14.5. (AFGSC) COR Inspections. 282
14.6. Surveillance Schedule. 284
Table 14.1. Proposed QASP Layout. 285
Chapter 15— MAINTENANCE PLANS, SCHEDULING AND DOCUMENTATION (PS&D) 288
15.1. Responsibilities: 288
15.1. (AFGSC) Responsibilities. 288
15.2. Data Documentation. 292
15.3. Configuration, TCTO, SI and TCI Management. 300
15.4. ENGINE MANAGEMENT (EM). 313
15.5. Maintenance and FHP Planning Cycle. 319
15.6. Contingency and Expeditionary Responsibilities. 328

Attachment 1— GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 330

Attachment 2— AIRCRAFT COMMANDER FEEDBACK ON FCC 373

Attachment 3— QUARTERLY FCC REPORT FORMAT 374

Attachment 4— ANNUAL FCC REPORT 375

Attachment 5— FCC SDAP REQUEST 376

Attachment 6— FOREIGN OBJECT DAMAGE (FOD) REPORT 377

Attachment 7—(Added-AFGSC) SAMPLE MONTHLY ACTIVITY REPORT 378

Attachment 8—(Added-AFGSC) MAINTENANCE RECOVERY TEAM (MRT) TASKING CHECKLIST 379

Attachment 9—(Added-AFGSC) MAINTENANCE RECOVERY TEAM (MRT) CHIEF RESPONSIBILITIES 381

Attachment 10—(Added-AFGSC) MAINTENANCE RECOVERY TEAM (MRT) CHIEF TASKING CHECKLIST 383

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 mutally 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.

1.6.1. 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).**

1.7. 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.

1.9.1. Develop, control, and maintain functional checklists, at a minimum, each functional checklist is titled and dated. Functional checklists are not 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.

1.10. 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.

1.11. 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.

1.11.1. 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.

1.13.1.1. **(Added-AFGSC)** Aviation Safety Action Program (ASAP). During the course of day-to-day maintenance operations, unnecessarily hazardous situations can go by that are witnessed, but never reported. These un-reported hazards could lead to an actual mishap if steps are not taken to prevent them from re-occurring. This is where ASAP can be used as a helpful tool for all maintainers to prevent mishaps from occurring. ASAP is a web-based, self-reporting system that provides individuals a proactive, non-retribution, and identity-protected means to report and address errors, hazardous situations and events, and/or high risk activities not identified by other reporting means prior to an actual mishap. Individuals wishing to create an ASAP report or find out more information about this program can visit **www.safety-masap.com** or call the local safety office.

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. **(AFGSC)** Personal electronic or communication devices (e.g., cell phones, portable music/video players, electronic games, tablets, etc.) are prohibited on the flightline, munitions areas, hangars, and/or other industrial work areas. This prohibition does not include common areas such as office areas, break or locker/ready rooms. Government

equipment issued for the performance of official duties are exempt from this prohibition. **(T-3)**.

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.
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. (AFGSC) Performance-Based Activities. Support Agreement Management. See AFI 25-201, *Intra-Service, Intra-Agency, and Inter-Agency Support Agreements Procedures*. Performance-based activities (contractor, MEO, and HPO) cannot negotiate and sign support agreements. The government program management office will negotiate, coordinate and control support agreements for supported workloads. MEOs and HPOs are authorized to negotiate, coordinate, and control support agreements pertinent to their functional area, but shall not without written approval of the government program management office. **(T-2)**.

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. **(AFGSC)** For maintenance contracts, the contract program manager is the designated focal point for all organizational, functional, and technical questions pertaining to each contract. Focal points for MAJCOM owned contracts concerning aircraft maintenance/support related programs are program managers located within in HQ AFGSC/A4V and HQ AFGSC/A4M. Focal points for base level contracts will be the applicaibale MXG/HG contract program manager. Program manager is the designated person with the responsibility to monitor/provide oversite functions for the contract. **(T-2)**.

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

1.18.1.2. **(AFGSC)** Specified in **Chapter 14**.

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).

1.18.1.3. **(AFGSC)** Specified in **Chapter 14**.

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.

Table 2.1. (Added-AFGSC) Military Grades and Civil Service Grade Equivalents.

Grade	Civil Service Grade Equivalents
SrA through TSgt	WG-8 or higher
MSgt through SMSgt	GS-9, WS-8, WG-11or higher
CMSgt/Maintenance Officer	GS-11, WS-10 or higher

2.1. (AFGSC) General. For the purpose of this supplement only, the following equivalencies in **Table 2.1** and **Table 2.2** will be used by civilian personnel assigned to the MXG.

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

Table 2.2. (Added-AFGSC) AFSC Levels and Civil Service AFSC Level Equivalents.

AFSC Level	Civil Service AFSC Level Equivalents
5 Skill Level	WG-8 or higher
7 Skill Level	GS-9, WS-8, WG-9 or higher
9 Skill Level	GS-11, WS-10 or higher

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).**

2.2.2. **(AFGSC)** [DEV] The 582 HG/CC will ensure (WG/CC) compliance responsibilities for this Paragraph for UH-1N maintenance operations assigned to the 582 HG at FE Warren, Malmstrom, and Minot AFBs.

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. **(AFGSC)** [DEV] The 582 HG/CC will ensure (WG/CC) compliance responsibilities for this paragraph and **sub-paragraphs 2.2.4.1, 2.2.4.2, and 2.2.4.3** for UH-1N maintenance operations assigned to the 582 HG at FE Warren, Malmstrom, and Minot AFBs

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).**

2.2.5. **(AFGSC)** Ensure the publication contains a plan adequately covering Crash Damage or Disabled Aircraft Recovery (CDDAR) capabilities for all aircraft that frequently transit the base (3 or more times per month). This plan will include coordination and agreements with applicable local emergency/medical and security services, contract functions, in-theater aircraft wings, MAJCOMs, and other branches of service, etc. Consider establishing an agreement with local airports to further enhance rapid response capability. **(T-2)**.

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:

2.4.1. 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).**

2.4.5.1. **(Added-AFGSC) Note**: Adverse weather procedure checklists will be located in the MOC and Production Super vehicles. **(T-2)**.

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).**

2.4.15. **(AFGSC)** Designate specific equipment deemed critical for aircraft generation to include reporting and mitigation, and establish MELs for portable test equipment. Review serviceability and repair status on a monthly basis. At a minimum MXG will ensure all equipment tracked by SORTS readiness reporting system will be included in this review. **(T-2)**.

2.4.15.1. **(Added-AFGSC)** Send copy of serviceability and repair status on a monthly basis to A4VA workflow by the last duty day of the month. **(T-2)**.

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).**

2.4.31. **(AFGSC)** Ensure OAP program processes are developed IAW AFI 21-124. **(T-2).**

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).**

2.4.38. 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).**

2.4.38.1. Ensure aircraft and equipment sun shades are maintained IAW AFI 21-136, *Aircraft Sunshade Management*. **(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).**

2.4.51. 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-AFGSC)** Ensure Maintenance Operations Center develops procedures to ensure Geographical Location (GEOLOC) codes for on/off-station possessed aircraft are updated / correct in IMDS location subsystem. **(T-2)**.

2.4.56. **(Added-AFGSC)** Conduct a "MXG Standup" meeting. The meeting topics should include, as a minimum, supply drivers, aircraft status, impounded and Hangar Queen Aircraft, munitions production, flying and maintenance schedule shortfalls and deviations. Minimum attendees should include, AMU Supervision, MUNS supervision, Operations Officer/Maintenance Superintendent, MOC, MXO PS&D, Analysis and QA. Daily meetings are highly encouraged; however MXG/CC may determine meeting frequency. **(T-3)**.

2.4.57. **(Added-AFGSC)** Ensure procedures are established to maintain sufficient eTool availability for technical order viewing. **(T-2)**.

2.4.58. **(Added-AFGSC)** Determine requirement to attend local Production Superintendent/Expediter Course. **(T-3)**.

2.4.59. **(Added-AFGSC)** [**B-52 units**], ensure a written program is developed for 3000/4000 series trailers that includes as a minimum, who owns by CACRL, inspects/maintains by type, manages, and stores trailers. **(T-2)**. The established procedures will ensure:

2.4.59.1. **(Added-AFGSC)** Trailer forms and MIS documentation are complete, accurate, and accomplished for all maintenance and scheduled inspections. **(T-2)**.

2.4.59.2. **(Added-AFGSC)** Engine trailer status is accurately reflected in both the maintenance forms and the MIS. **(T-2).**

2.4.60. **(Added-AFGSC)** Ensure Hangar Door Program processes and procedures are complied with as outlined in **paragraph 11.35**.

2.4.61. **(Added-AFGSC)** The MXG/CC is the certifying official for unit-level welding examinations. This responsibility may be delegated IAW TO 00-25-252, *Aeronautical Equipment Welding*.

2.4.62. **(Added-AFGSC)** [B-2] Establish LO maintenance program.

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).**

2.6.2. **(Added-AFGSC)** MXG Superintendent will approve the selection of maintenance instructors. **(T-2)**.

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).**

2.7.1. **(AFGSC)** Inform the MXG/CC and affected SQ/CC and/or Operations Officer of any issues or problems affecting load crew status, Dual Loading Operations (DLO), projected manning, equipment, and other items of concern. **(T-2)**.

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).**

2.7.2.1. **(Added-AFGSC)** Review and validate all Munitions Forecasts submitted by WS and the Armament Flight prior to submission to MAJCOM. **(T-2)**.

2.7.2.2. **(Added-AFGSC)** Training munitions: Authorized quantities of training munitions are posted in the Air Force Standard For Non-Expendable Air Munitions Training Authorizations maintained on the AF Portal. The standards are located in the policy folder/AFI 21-201/attachment 1. These numbers reflect the maximum munitions required exclusively for weapons load crew certification and recurring training (WLT). These munitions are forecasted by the WS and assigned to weapons load training (W1) accounts. Munitions required for DLO training must be forecasted on the unit sortie surge account. **(T-2)**.

2.7.2.3. **(Added-AFGSC)** Units may request additional quantities of munitions than specified on these tables but will not be allocated munitions unless sufficient quantities are available to do so. The UCML/TTML will be the source document for WLT munitions requirements and authorizations. **(T-2)**.

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.

2.7.4. **(AFGSC)** LSC Team Chief will be a 2W171 with a minimum grade of TSgt. Squadron Lead Crew Chief will be 2W171. Provide load crew training and certification program guidance and monitor overall certification/training for all 2W1s assigned to a unit. **(T-2)**.

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).**

2.7.12. 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.

2.7.16.1. 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.

2.7.16.1.1. **(Added-AFGSC)** Notification will be made via email to HQ AFGSC/A4WA workflow: **afgsc.a4wa.workflow@us.af.mil**. **(T-2)**.

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

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

2.7.17.1.1. **(Added-AFGSC)** If a malfunctioning munitions item (live or inert) causes a mishap refer to para **7.7.4** **(T-2)**.

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).**

2.7.23.1. 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.

2.7.24. 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-AFGSC)** Develop weapons load crew swap out actions to ensure a continuous loading operation for bomber generations to prevent re-accomplishment of completed loading steps (5 BW will establish and distribute B-52 Load Crew Swap Out Actions). Unit Training Plan will include the following: **(T-2)**.

2.7.30.1. **(Added-AFGSC)** The on-duty team chief will complete an emergency procedures briefing with oncoming crew. **(T-2)**.

2.7.30.2. **(Added-AFGSC)** The on-duty and on-coming team chief will ensure the applicable forms entries are completed to reflect aircraft status prior to leaving the load site, (ie. CES installed, seals installed, etc.) **(T-2)**.

2.7.30.3. **(Added-AFGSC)** On-duty load team chief and on-coming load team chief will coordinate transfer of classified material with the weapons expeditor. **(T-2)**.

2.7.30.4. **(Added-AFGSC)** On-duty weapons load crew(s) will fully brief on-coming weapons load crew(s) as to the status of the loading operation. As a minimum, the briefing will include a summary of loading steps performed, problems resolved, problems pending resolution, FRAG requirements and weapons bay configurations. **(T-2)**.

2.7.30.4.1. **(Added-AFGSC)** Both 2 men inventory of all safety gear/dust caps/covers and straps. **(T-2)**.

2.7.30.4.2. **(Added-AFGSC)** Both 3 men will perform a transfer of CTK/tools and equipment IAW this instruction. **(T-2)**.

2.7.30.4.3. **(Added-AFGSC)** Both 4 men will brief a status of all AGE and trailers on the load site. **(T-2)**.

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).**

2.9.13. **(AFGSC)** Coordinate with Weapons Standardization Superintendent to ensure sufficient training aircraft are provided to support Weapons load crew training program. **(T-2)**.

2.9.14. Ensure deferred maintenance, Pilot Reported Discrepancy (PRD), and back-ordered parts are properly managed. **(T-1).**

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

2.9.15.1. Maintenance Supervison 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.

2.9.16. 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).**

2.9.20. **(Added-AFGSC)** Review monthly maintenance plan inputs and forward to MXO PS&D for publication. **(T-2)**.

2.9.21. **(Added-AFGSC)** Review UMD manpower authorizations, changes to authorizations, and functional activity codes (FAC) and workcenter alignment. **Note:** All FACs may not be identified in the organizational chart as they appear on the Unit Manning Document (UMD). Organizational charts reflect AFI 38-101 requirements, and some sub-functional areas (below flight level) may not be depicted. **(T-3)**.

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 assessmentswith 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).**

2.10.26.1. Team with Decentralized Materiel Support (DMS)/Flight Service Center (FSC) to conduct a quarterly reconciliation of all DIFM assets and follow up on delinquent DIFMs and document action taken to correct identified discrepancies. **(T-1).**

2.10.26.2. Flight CC/Chief or AMU OIC/Chief will identify lost assets that require Reports of Survey (ROS) and accomplish IAW AFMAN 23-220 and AFI 23-101 and forward to Maintenance Supervision for review and processing. **(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 responsibles are outlined in the applicable chapter of this instruction.

2.12. Section NCOIC/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)**.

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).**

3.2.9. **(Added-AFGSC)** Ensure full and timely utilization of the On-Board Test System (OBTS)/OBTS Ground Processor (OGP) systems to support the production efforts of the B-2 units. **(T-3)**.

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.

3.3. (AFGSC) Aircraft Maintenance Unit (AMU). If assigned, AMUs may also contain a Communication section. **(T-2)**.

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).**

3.4.5. **(Added-AFGSC)** Chair a daily AMU maintenance production meeting. **(T-2)**.

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).**

3.5.1. **(AFGSC)** Reconciles flying debrief recaps with operations to close out flying periods. **(T-3)**.

3.5.2. Sign the Exceptional Release (ER) IAW TO 00-20-1 when authorized by the MXG/CC IAW **Chapter 11** and **Table 11.1** 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).**

3.5.5. 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).**

3.5.8. 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).**

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

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).**

3.6. 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).**

3.6.2. 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. **(AFGSC)** WUC manual may be electronic. **(T-2)**.

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).**

3.6.6. **(AFGSC)** Maintain an OAP status on each assigned aircraft showing all lab recommendation codes next to the aircraft/engine serial numbers. Prior to commencing the flying day, verify status of aircraft or engines on special surveillance. **(T-2)**.

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).**

3.6.12. **(Added-AFGSC)** Notify MOC and Pro Super when aircraft are ready for flight (crew ready and crew show), engine start, taxi, block-in, and aircraft configuration (e.g., fuel, munitions, cargo). **(T-3)**.

3.7. Aircrew and Maintenance Debrief Section. Debrief is conducted at the termination of each sortie/mission or when a sortie/mission is aborted. Aircraft scheduled for turn-around sorties/missions need not be debriefed if returned in landing status Code 1 or 2. However, debriefing is required, regardless of landing status, after the last flight of the day for each aircrew. MAJCOMs operating RPAs will develop and publish debrief procedures for Remote Split Operations in their supplements or addendum for both aircraft and ground control stations to adequately capture all maintenance discrepancies. The Debrief Section will:

3.7.1. Use aircraft fault reporting manuals and include fault codes when documenting discrepancies in the aircraft forms. **(T-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).**

3.7.2. 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.

3.7.6. 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-AFGSC)** A discrepancy requesting an in-flight operational check of a maintenance action will not be counted as a repeat or recur if a sortie was flown and the discrepancy operationally checked was not corrected by the maintenance action. Any subsequent sortie that the discrepancy returns on will NOT follow repeat/recur guidelines if an in-flight operational check is requested. **(T-2)**.

3.7.6.3. **(Added-AFGSC)** The Debrief checklist will document in-flight refueling boom strike/fuel overspray information. As a minimum, identify Air Refueling Wing, tanker

call sign, tanker tail number, air refueling track, air refueling time (Zulu) and refueling track events. **(T-3)**.

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 IAWAFI 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. **(AFGSC)** See AFGSCI 21-165, *Aircraft Flying and Maintenance Scheduling Procedures*, for MAJCOM Deviation Cause Codes.

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 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	STATUS
Code 2	System used and performed satisfactorily. A minor malfunction exists, but system is capable of further mission assignment.
Code 3	System performance was unsatisfactory. This system did not cause an abort.
Code 4	System performance was unsatisfactory. This system caused or contributed to an abort.
Code 5	System out-of-commission prior to takeoff.
Code 6	System installed but not used.
Code 7	System not installed.
Code 8	Aircraft or system has suspected or known radiological/biological contamination.

Table 3.3. Deviation Cause Codes.

CODE	DEVIATION REASON
ATx	Air Traffic
GAA	Ground Abort, before engine start, maintenance
GAB	Ground Abort, after engine start, before taxi, maintenance
GAC	Ground Abort, after taxi, maintenance
HQT	Higher Headquarters
HQN	Higher Headquarters, NAF
HQP	Higher Headquarters, other
MTx	Maintenance
OPx	Operations
SUx	Supply
SYx	Sympathy
WXx	Weather
OTx	Other
Xxx	MAJCOM/local use
Note: Use x for any character for MAJCOM/local use.	

3.8. Aircraft Section. The Aircraft Section is the primary work center responsible for maintaining assigned aircraft. This section performs tasks to include servicing, scheduled and unscheduled maintenance, pre-flights, thru-flights, basic post-flights, home station checks, special inspections, corrosion control, cleaning, ground handling, launch/recovery of aircraft, troubleshooting and adjustment, on-equipment repairs and component removal/replacement, documenting maintenance actions, and managing aircraft forms. AMUs with 18 or more Primary Aerospace Vehicle (Aircraft) Inventory (PAI) aircraft may have two Aircraft Sections. The Aircraft Section consists of Aircraft Technicians. Refer to **Chapter 11** 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. Perform ground handling, servicing, -6 inspections, alert duties, maintenance ground tests, corrosion control, lubrication and maintenance and modification preparations, as applicable, on the assigned aircraft/system. **(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).**

3.8.1.4. **(Added-AFGSC)** Perform helicopter vibration analysis in flight. **(T-3)**.

3.8.1.5. **(Added-AFGSC)** Conduct OJT training/certifying as required. **(T-3)**.

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. (AFGSC) Specialist Section. Specialist will provide support for Phase Inspections as required and attend Phase Pre-Dock meetings to provide specialist support if required. **(T-3).**

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).**

3.9.2.2. **(Added-AFGSC)** Perform Mode-IV checks on 100 percent of IFF-equipped possessed aircraft every 2 months or IAW MDS -6 requirements. Document operational checks in the MIS. **(T-3).**

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).**

3.9.3.4. **(Added-AFGSC)** Transport and load ECM pods. **(T-3).**

3.9.3.5. **(Added-AFGSC)** Verify operation of the installed RWR/RTHW systems. **(T-3).**

3.9.3.6. **(Added-AFGSC)** Load/maintain chaff magazines. **(T-3).**

3.9.3.7. **(Added-AFGSC)** Coordinate Line Replaceable Unit (LRU) cannibalization actions in support of annual USM-464 End-to-End testing with the B-52 EWS section in the Avionics Flight. **(T-3).**

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).**

3.9.5. 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).**

3.9.6.1. **(Added-AFGSC)** Maintain and inspect refueling receptacle systems for large aircraft. **(T-3).**

3.9.6.2. **(Added-AFGSC)** Perform maintenance on munitions loading and handling equipment with discrepancies that exceed the munitions flight repair capabilities. **(T-3).**

3.9.7. **(Added-AFGSC) Communications Section.** This section is responsible for Ground Control Element and Network Management systems troubleshooting, on-equipment repairs, component removal and replacement, classified item management, servicing, and cleaning. The section may include Communications and Network Management technicians. When

used, the communication specialist expediter coordinates maintenance priorities with the Production Superintendent and Flightline Expediters. **(T-3).**

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, a 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. (AFGSC) Weapons Section. The WWM determines numbers of weapons load crews required to be certified on single missile loading/unloading of internal/external AGM 86/B.

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.

3.10.1.12.1. **(Added-AFGSC)** Inspect 25 percent of assigned Aircraft Armament CTKs and support equipment for serviceability, at least quarterly, and initiate corrective action as required. Schedule and track inspections to ensure 100 percent of CTKs and support equipment will be checked over a one-year time-frame **(T-2).** Document inspection results and use for follow-up action and reference as necessary. **(T-3).**

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 (TM) 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-AFGSC)** Ensure introductory training is provided to newly assigned personnel on aircraft familiarization, safe for maintenance, explosive safety, weapons release systems safety prior to performing duties (included in Master Training Plan). **(T-2).**

3.10.1.28. **(Added-AFGSC)** 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. The WWM may reduce minimum CTK requirements in non-CC coded units. 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-2).**

3.10.1.29. **(Added-AFGSC)** Maintain current copy of task assignment listing (TAL) for assigned aircraft. **(T-2).**

3.10.1.30. **(Added-AFGSC)** Retain copies of completed AF Form 2430s, *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).**

3.10.1.31. **(Added-AFGSC)** Ensure AME and SPRAM accountability (on hand and accounted for) and control requirements are met IAW AFI 21-103. **(T-2).**

3.10.1.32. **(Added-AFGSC)** Ensure all armament systems components requiring acceptance inspections are identified to LRS by NSN**. (T-2).**

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.

3.10.2.6.2. 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:

3.10.4.2.1. 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 Sections** (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).**

3.11. Support Section. The Suppot 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).**

3.13. (Added-AFGSC) Software Analysis Section (B-2 units). The software analysis section processes and analyzes B-2 OBTS or OGP data, as applicable, in order to provide timely and accurate information to aid the maintenance effort, identify software discrepancies to the appropriate OPRs, and identify trends to maintenance supervisors and assigned engineers. B-2 units address all hardware and software deficiencies/anomalies associated with aircraft diagnostics using the OBTS, and the OGP. A team of maintenance technicians compares data extracted from the OGP, and the OBTS paper tape to ensure accuracy and validity of the data in support of airframe availability. This section works closely with maintenance analysis functions in order to identify trends in system performance. Demonstrated knowledge and ability should be of primary importance in assigning personnel to this section; however, each flightline avionics AFSC should be represented. All assigned personnel should have performed in their AFSC within the last 3 years. **(T-3).**

3.13.1. **(Added-AFGSC)** As a minimum, the responsibilities of this section are to:

3.13.1.1. **(Added-AFGSC)** Analyze and establish the accurate status of all reported Reference Designator Indicators. **(T-3).**

3.13.1.2. **(Added-AFGSC)** Identify to appropriate maintenance supervisors (and engineers, if assigned to the unit), adverse system/maintenance trends. **(T-3).**

3.13.1.3. **(Added-AFGSC)** Identify/Report OBTS/OGP software deficiencies via Software System Trouble Report (SSTR) program through OGP Lab at Tinker AFB, OK. **(T-3).**

3.13.1.4. **(Added-AFGSC)** Assist maintenance technicians in identifying and reporting Ground Readiness Test deficiencies. **(T-3).**

3.13.1.5. **(Added-AFGSC)** Provide OBTS/OGP information products, as required, to support the production effort. **(T-3).**

3.13.1.6. **(Added-AFGSC)** Assist/train maintenance technicians to use OGP maintenance reports in troubleshooting malfunctions. **(T-3).**

3.13.1.7. **(Added-AFGSC)** Maintain historical data for each assigned aircraft in accordance with the RDS. **(T-3).**

3.13.1.8. **(Added-AFGSC)** Analyze data-dependent maintenance codes to determine whether maintenance action is required. Generate, retrieve, and analyze the debrief report from the OGP in support of each sortie debrief. Provide Debrief section a list of OBTS reported aircraft malfunctions/faults to be entered into IMDS/AFTO Form 781A. **(T-2).**

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).**

4.4.1.4. **(Added-AFGSC)** Owning agency monitors and reports status of aircraft liquid and gaseous servicing carts in repair status to OO/Maintenance Superintendent. **(T-3).**

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).

4.4.2.3. **(AFGSC)** At locations where no E&E backshop support is available, CO2 cylinder system maintenance will be performed by AFE. **(T-3).**

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.

4.4.2.5. **(AFGSC)** AGE will maintain Absorbed Glass Matt batteries (e.g. OPTIMA batteries). **(T-3).**

4.4.2.6. **(Added-AFGSC)** Maintain, repair, orders parts, and keep historical records on the gaseous and cryogenic portion of aircraft oxygen/nitrogen gaseous and cryogenic servicing units. Maintain historical records in accordance with the RDS. **(T-3).**

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:

4.4.3.1.1. 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).**

4.4.3.1.3. 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.

4.4.3.1.5. **(Added-AFGSC)** AFE personnel will locate inadvertent beacon activation on the flightline for the B-52. **(T-2).**

4.4.3.1.5.1. **(Added-AFGSC)** During B-52 contingency operations, AFE personnel are responsible to configure personnel locator beacons in the correct mission configuration and theater requirements, or as directed by Crisis Action Team or Special Instructions. **(T-2).**

4.4.3.1.6. **(Added-AFGSC)** Stop all egress maintenance/inspections when lightning is within five nautical miles of the installation (including in-shop, hangar, HAS, etc.). This will be confirmed through Maintenance Operations Center (MOC). Continuing an explosive operation in a lightning protected facility is not prohibited, however, it should not be performed unless priority aircraft are involved and approved by MXG Commander or Deputy. **(T-3).**

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.

4.4.3.2.6.3. 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).**

4.4.3.2.9.2.1. **(Added-AFGSC)** Egress Section will maintain a decentralized Jacket File for each aircraft assigned. Jacket File will include the following: **(T-2).**

4.4.3.2.9.2.1.1. **(Added-AFGSC)** Binder Spine - Aircraft assigned Serial Number.

4.4.3.2.9.2.1.2. **(Added-AFGSC)** Front Cover - Delayed Discrepancies.

4.4.3.2.9.2.1.3. **(Added-AFGSC)** Tab A - PRA or 5th Gen equivalent (Cross reference sheet stating digital location of data).

4.4.3.2.9.2.1.4. **(Added-AFGSC)** Tab B - Completed In-Shop Maintenance Flow Sheet(s).

4.4.3.2.9.2.1.5. **(Added-AFGSC)** Tab C - Completed Major Inspection Flow sheet(s) (i.e. 36 month, etc.), or equivalent (if Mission Design Series applicable).

4.4.3.2.9.2.1.6. **(Added-AFGSC)** Tab D - Egress Configuration Screen (IMDS 257 or 5th Generation equivalent), current Manual CAD/PAD collection sheets.

4.4.3.2.9.2.1.7. **(Added-AFGSC)** Tab E - Completed Time Change Item Replacement Sheets (i.e. Locally generated, AFTO 781E or equivalent).

4.4.3.2.9.2.1.8. **(Added-AFGSC)** Tab F - Significant Historical Data (AFTO Form 95 or equivalent, Depot/PDM package and A/R, 107, TAR or EAR Responses).

4.4.3.2.9.2.1.9. **(Added-AFGSC)** Tab G - Misc. (i.e. PAIR, Extension Letters, etc.).

4.4.3.2.9.2.1.10. **(Added-AFGSC)** Tab H - AF Form 2411, Inspection

Document.

4.4.3.2.9.2.2. **(Added-AFGSC)** Documents will be maintained IAW AFIMS disposition requirements.

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.

4.4.4. 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 equivelents) 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).**

4.4.4.2. 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.

4.4.4.3. **(Added-AFGSC)** Ensure assigned personnel receive periodic physical examinations as established by the base medical service as required IAW TO 1-1-3. Track periodic physical examinations in the MIS. **(T-3).**

4.4.5. Hydraulic Section. The Hydraulic Section performs on- and off-equipment maintnenance 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-AFGSC)** Local manufacture and test hose assemblies and test rigid tube assemblies. **(T-3).**

4.4.5.1.4. **(Added-AFGSC) Note**: CRF personnel are now responsible for repair, overhaul, and bench check flight control, landing gear, and hydraulic power system components (e.g., brakes, struts, accumulators, reservoirs, actuators). **(T-2).**

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).**

4.5.1.2.1. **(Added-AFGSC)** Using organizations are responsible to inspect and service oil and hydraulic servicing carts prior to use. Servicing carts will be located in the using organization unless maintenance or inspection requirements dictate returning the carts to AGE flight. **(T-3).**

4.5.1.2.2. **(Added-AFGSC)** AGE does not maintain non-powered MMHE (with the exception of LHMA, MOLT, and ram assemblies), propulsion SE, vehicle SE, non-powered dock stands, and avionics SE. **(T-2)**

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 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-AFGSC)** Ensure AGE is used to support aircraft and/or flightline operations. Operations outside aircraft or flightline use that exceed 48 hours require MAJCOM A4V coordination and/or approval. **(T-2)**

4.5.1.8. **(Added-AFGSC)** Ensure semi-annual equipment inventory listings are submitted to the respective MAJCOM AGE functional manager by the end of fiscal year close out (e.g. 30 Sep). Listings must identify as a minimum all AGE maintained by the flight, all supply requisition/due-out information, average mission capable rate for preceding 12 months and most current MEL. **(T-2)**

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.

4.5.2.1.1. 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).**

4.5.2.9. 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. **(AFGSC)** Ensure MIS is used to schedule and document AGE painting.

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-AFGSC)** Enforce proper use of approved cleaning compounds IAW TO 35-1-3 and the QPL/QPD. Obtains QPLs from Corrosion Prevention and Control Program Manager and use them in conjunction with applicable TOs to verify all compounds on-hand are authorized for use on designated equipment.

4.5.2.16. **(Added-AFGSC)** Ensure tone-down procedures are followed as described in AFGSCI 21-105, *Structural Maintenance and Corrosion Control Programs*.

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).**

4.5.4.6. 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).**

4.6.2. Armament Maintenance Section. The Armanment 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-AFGSC)** Ensure compliance with hazardous material and hazardous waste management and air emissions record keeping as required for environmental compliance IAW installation ESOHMS/EMS policy/guidance and applicable environmental requirements and guidance. **(T-3).**

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).**

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

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. (AFGSC) Avionics Flight. Organization of the Avionics Sections. Avionics sections are organized with a section chief, production superintendents, repair monitors, team leaders, and

repair team members. The section chiefs have overall responsibility for the effective management of their assigned resources**. Note:** Duties may be combined. **(T-3).**

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-AFGSC)** Ensure central integrated test systems (CITS) central ground processors (CGP) are maintained. (B-1 units only)

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. **(AFGSC)** Communication Navigation Mission Systems Section:

4.7.7.1.1. **(Added-AFGSC)** Performs off-equipment maintenance and/or CND screening on communication and navigation components and systems, including assigned SE, 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 function IAW TO 33K-1-100-2-CD-1. **(T-3).**

4.7.7.1.2. **(Added-AFGSC)** Maintains radar altimeters, Mark XII systems (AIMS), IFF systems, direction finder equipment that is an integral part of airborne radios, secure voice systems, long range aids to navigation (LORAN), and global positioning systems. **(T-3).**

4.7.7.1.3. **(Added-AFGSC)** Maintains typical COMM/NAV systems including high frequency (HF), ultra-high frequency (UHF), very high frequency (VHF), IFF, automatic direction finder (ADF), VOR/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. **(T-3).**

4.7.7.2. Radio Frequency (RF) Multiplexing Section.

4.7.7.3. Instrument and Flight Control Systems (IFCS).

4.7.7.3.1. **(Added-AFGSC)** Performs off-equipment maintenance on guidance and control systems, to include 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. **(T-3).**

4.7.7.3.2. **(Added-AFGSC)** Maintains compass and stability augmentation systems (SAS), weapons release computer systems (WRCS), flight data recorders (FDR), maintains fuel savings advisory systems (FSAS), Malfunction, Detection, Analysis and Recording Subsystem (MADAR), Doppler systems, navigational computers, loads environment spectra survey (LESS) recorder systems, ground proximity warning systems (GPWS), and assigned SE not maintained by TMDE flight. **(T-3).**

4.7.7.3.3. **(Added-AFGSC)** Maintains engine test cell aircraft instrumentation and test equipment designated user responsibility in TO 33K-1-100-2-CD-1. (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 and systems to include assigned SE not maintained by the TMDE function. **(T-3).**

4.7.7.3.4. **(Added-AFGSC)** Maintains typical 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. **(T-3).**

4.7.7.3.5. **(Added-AFGSC)** Instrument and Flight Control Systems (IFCS) is authorized to perform on-equipment maintenance. **(T-3).**

4.7.7.4. Weapons Control System Section.

4.7.7.5. Sensors Section.

4.7.7.6. Electronic Warfare System (EWS) Section.

4.7.7.6.1. **(Added-AFGSC)** Maintains inventory control and storage of EWS AME. **(T-3).**

4.7.7.6.2. **(Added-AFGSC)** Loads contingency and training configuration settings provided by Lead Command or wing EWO. **(T-3).**

4.7.7.6.3. **(Added-AFGSC)** Performs emergency and routine reprogramming of ALQ-155/Sensor Integration, ALQ-172 and ALR-46 systems. Performs ALQ-155 Control Indicator Programmer (CIP) alignment and checkout. **(T-3).**

4.7.7.6.4. **(Added-AFGSC)** Maintains the ALQ-172 and ALQ-155/AME hot mockups and associated test equipment. **(T-3).**

4.7.7.6.5. **(Added-AFGSC)** Performs EW LRUs CND screening. **(T-3).**

4.7.7.6.6. **(Added-AFGSC)** Performs periodic ALQ-172, ALQ-155, ALQ-122 and ALR-46 EW systems USM-464 End-to-End testing IAW applicable TOs. **(T-3).**

4.7.7.6.7. **(Added-AFGSC)** Maintains USM-464 Test Set and associated test equipment. **(T-3).**

4.7.7.6.8. **(Added-AFGSC)** Performs electronic warfare portion of aircraft phase inspections, as required. **(T-3).**

4.7.7.6.9. **(Added-AFGSC)** When assigned on-equipment maintenance responsibilities, the section develops a program to verify operation of installed Radar Warning Receiver (RWR) systems using the guidelines of **Chapter 11**. **(T-2)**.

4.7.7.6.10. **(Added-AFGSC)** Electronic Warfare Systems (EWS) Section is authorized to perform two-level maintenance (2LM) if the required support equipment is authorized and on-hand. Repairs for 2LM are limited to: could not duplicate and bench check serviceable screening; wing-level TCTOs; lines replaceable unit operational flight program loads; cross cannibalization of shop-replaceable units; and replacement of minor bits and pieces. Repairs beyond these require approval from appropriate authority (MAJCOM, depot). **(T-3).**

4.7.7.7. Avionics Intermediate Section.

4.7.7.7.1. **(Added-AFGSC)** Maintains, programs and performs TCTOs on avionics components specific to assigned test stations and support equipment. **(T-3).**

4.7.7.7.2. **(Added-AFGSC)** Maintains, calibrates, certifies and performs TCTOs on assigned SE not maintained by the TMDE function. **(T-3).**

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.

4.7.7.12. Offensive Avionics Section.

4.7.7.12.1. **(Added-AFGSC)** Maintains offensive avionics systems and associated support equipment. **(T-3).**

4.7.7.12.2. **(Added-AFGSC)** Performs off equipment maintenance on limited AVTR system maintenance (e.g., cleaning and demagnetizing heads; aligning remote control units), AN/ASW-55 Data Link Pod. **(T-3).**

4.7.7.12.3. **(Added-AFGSC)** Performs off equipment maintenance on LRUs not coded for 2LM repair for AN/ASQ-176 Offensive Avionics Systems (OAS), AN/APQ-166 Strategic Radar (SR), and AN/ASQ-151 Electro-optical Viewing System (EVS). **(T-3).**

4.7.7.12.4. **(Added-AFGSC)** Performs maintenance and calibrations for AN/APM-440 Radar Test Set (RTS), AN/ASM-661 Transmitter/Modulator Assembly Test Set (TMATS), AN/ASM-470 STV camera and FLIR scanner test set, and AN/ASM-691A Data Link Pod test set. **(T-3).**

4.7.7.12.5. **(Added-AFGSC)** Performs classified purge operations on circuit cards requiring declassification and performs Demagnetizer (P/N 3000-6) maintenance and calibration. (2BW only). **(T-3).**

4.7.7.12.6. **(Added-AFGSC)** Also includes Cockpit Television Sensor. **(T-3).**

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).**

4.8.1.3. **(AFGSC)** Corrosion prevention, corrosion control requirements, wash rack procedures, and established paint schemes are prescribed in the AFGSCI 21-105.

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:

4.8.2.1. 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).**

4.8.3. 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. **(AFGSC)** Ensure all journeyman, craftsman (SSgt and TSgt) or civilian equivalent welders assigned to the Aircraft Metals Technology section are certified IAW TO 00-25-252 to perform welding operations in the following base metal groups: I (Carbon and Low Alloy Steel), II (Stainless Steels), IV (Aluminum Base Alloys). Additional metal groups can be added to support specific weapon system requirements through the unit supplement to this instruction if necessary. **(T-2).**

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).**

4.8.3.1.1. 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-AFGSC)** AFGSC/A4V will designate the Fabrication MAJCOM Functional Manager (MFM) as the Aircraft Metals Technology Program manager.

4.8.3.1.4. **(Added-AFGSC)** The designated MFM will manage the AFGSC welder certification program IAW TO 00-25-252, *Certification of Military Aircraft, Missile & Support Equipment Welders*, and this instruction.

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).**

4.8.3.4. **(Added-AFGSC)** Coordinate requests for an ALC or other qualified organization to qualify welders. If qualification and certification is accomplished locally, coordinate certification requirements with the Non Destructive Inspection (NDI) section to ensure X-Ray capability exists. **(T-3).**

4.8.3.5. **(Added-AFGSC)** Ensure the Observing Official is a 7-level Aircraft Metals Technology technician or civilian equivalent welder and properly documents DD Form 2757, *Welding Examination Record*. The Observing Official will sign block 13. **(T-3).**

4.8.3.6. **(Added-AFGSC)** Ensure a 7-Level Aircraft Metals Technology technician or civilian equivalent welder performs a complete visual inspection as the Testing Official. The Testing Official (not the NDI technician) will sign and date block 20. **(T-3).**

4.8.3.7. **(Added-AFGSC)** Ensure a qualified Non Destructive Inspection technician performs radiographic inspection and properly documents DD Form 2757. The NDI technician will complete blocks 14-18. **(T-3).**

4.8.4. Nondestructive Inspection (NDI) Section. Performs NDI of aircraft, engines, AGE, other equipment and manages the Oil Analysis Program (OAP). Inspection findings are limited to a description of the size, location, and type of any defect discovered. NDI personnel do not make serviceability determinations except for "inspect only" TCTOs and if NDI actions constitute a completed maintenance action. In addition to the applicable Section NCOIC/Chief responsibilities in **Chapter 2** of this instruction, the NDI Section NCOIC/Chief will:

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).**

4.8.4.1.1. 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).**

4.8.4.2. Advise Maintenance Supervision, MOC and the owning work center of abnormal OAP trends. **(T-1).**

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).**

4.8.4.9.2. The name of the person who interpreted the radiography. **(T-1). Note:** Radiography identification procedures will be followed IAW TO 33B-1-1.

4.8.4.9.2.1. 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-AFGSC)** Ensure accurate oil analysis data is distributed to the central Air Force database by the 15th and last day of every month. **(T-3).**

4.8.4.12. **(Added-AFGSC)** Ensure all deployable spectrometers are properly secured and protected before being deployed out of the OAP Laboratory. **(T-3).**

4.8.4.13. **(Added-AFGSC)** Perform and document daily (every duty day) standardization checks IAW applicable technical orders on all assigned spectrometers. **Exception:** three duty days prior to deployment for a specific spectrometer and three duty days after receipt of a spectrometer returning from deployment. **(T-3)**

4.8.4.14. **(Added-AFGSC)** Ensure all assigned spectrometers are left in standby mode when analysis is not being conducted. **(T-3).**

4.8.4.15. **(Added-AFGSC)** Develop a local checklist for analyzing correlation samples, checklist will be developed IAW TO 00-5-1. **(T-3).**

4.8.4.16. **(Added-AFGSC)** Ensure all assigned oil analysis spectrometers are Joint Oil Analysis Program approved and certified IAW TO 33-1-37-1, *Joint Oil Analysis Program Laboratory Manual, Vol I, Introduction, Theory, Benefits, Customer Sampling Procedures, Programs and Reports*. **(T-3)**

4.8.4.17. **(Added-AFGSC)** Request contractor repair through the Air Force OAP Office whenever an oil analysis spectrometer cannot be repaired locally or is out of service due to maintenance for more than 24 hours. **(T-3). Note:** AFGSC/A4V will designate the Fabrication MAJCOM Functional Manager (MFM) as the NDI/OAP program manager. The designated program manager will ensure responsibilities outlined in Paragraph 4.2. of AF 21-124. **(T-2).**

4.8.4.18. **(Added-AFGSC)** Comply with contingency operations in TO 33-1-37-2, *Joint Oil Analysis Program Laboratory Manual, Vol II, Spectrometric and Physical Test Laboratory Operating Requirements and Procedures*, when no back up oil analysis spectrometer is available locally. **(T-3). Note:** AFGSC/A4V is responsible for overall LOASM program management within the command. AFGSC/A4V will designate the Fabrication MAJCOM Functional Manager (MFM) as the LOASM program manager. The designated program manager will: **(T-2)**

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).**

4.8.5.7. **(Added-AFGSC)** [B-2] Maintain a comprehensive training plan that ensures assigned personnel develop and maintain proficiency in all facets of LO coatings/materials, composite repair, signature assessment and aircraft inspection techniques. **(T-3).**

4.8.5.8. **(Added-AFGSC)** Ensure no other maintenance is accomplished on aircraft, equipment, or within environmentally controlled/cordoned off areas when hazardous/toxic materials are in use that requires the use of specialized personal protective equipment. In the event specialized respiratory protection equipment is required, personnel will be properly fitted for the equipment and trained in its use IAW AFOSH Std 48-137, *Respiratory Protection Program*. **(T-3).**

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. (AFGSC) Maintenance Flight. Propulsion specialists assigned to the Maintenance Flight will perform engine receiving, engine acceptance inspections, and 7-level requirements.

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.

4.9.2.1. 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:

4.9.3.1. 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).**

4.9.4.5. Provide PS&D with an inspection document record upon completion of the inspection. **(T-1).**

4.9.4.5. **(AFGSC)** Units that use an alternate means for maintenance discrepancy documentation (gig-sheets, work control documents (WCD), locally developed lists, etc.) must ensure that these documents are annotated and filed IAW TO 00-20-1. **(T-3).**

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-AFGSC)** Utilize a status board (may be electronic display) to track in-progress and scheduled inspections. Ensure the status board/display shows the following information: **(T-3).**

4.9.4.7.1. **(Added-AFGSC)** Aircraft type. **(T-3).**

4.9.4.7.2. **(Added-AFGSC)** Aircraft serial number. **(T-3).**

4.9.4.7.3. **(Added-AFGSC)** Inspection type and when due (sequence). **(T-3).**

4.9.4.7.4. **(Added-AFGSC)** Scheduled in (date and time). **(T-3).**

4.9.4.7.5. **(Added-AFGSC)** Actual start (date and time). **(T-3).**

4.9.4.7.6. **(Added-AFGSC)** Scheduled out (date and time). **(T-3).**

4.9.4.7.7. **(Added-AFGSC)** Remarks (status of aircraft, delays, possible MICAP conditions, etc.). **(T-3).**

4.9.4.7.8. **(Added-AFGSC)** Safety/danger considerations (power/hydraulic applications, stress panels removed, aircraft on jacks, Weight and Balance, etc.). **(T-3).**

4.9.4.8. **(Added-AFGSC)** Develop a plan to ensure maintenance is documented if IMDS-CDB is down; units may use an AF Form 4367, *Aircraft Discrepancy Gig Sheet*, AF Form 4366, *Aircraft Inspection Flow Chart*, or a locally developed/approved worksheet. Documentation must be tracked to ensure all discrepancies have been cleared or transferred to AFTO Form 781-series /MIS IAW TO 00-20-1 and TO 00-20-2. These documents will be treated the same as aerospace vehicle documents and filed with the inspection historical documents. **(T-3).**

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.

4.9.5.11. 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.

4.9.5.14. **(Added-AFGSC)** Ensure aircraft intake inspections are performed on transient aircraft IAW MDS -6 TO requirements. **(T-3).**

4.9.5.15. **(Added-AFGSC)** Ensure personnel are trained and strictly adhere to Master Chip Detector (MCD) inspection requirements specified in the respective TOs. **(T-2).**

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.

4.11.1. 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).**

4.11.1.3.1. 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. **(AFGSC)** The Propulsion, Maintenance Flight or UH-1N contract maintenance within MOS/MO will coordinate with the engine manager to ensure accurate engine status reporting. **(T-3).**

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).**

4.11.3.1.1. 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.

4.11.3.6.1.3. **(Added-AFGSC)** Also include the total operating time of old and new components. **(T-2).**

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. Minium 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-AFGSC)** Jet Engine specialists will be appointed as engine monitors for both on-station and deployed locations. Monitors will receive training annually, and prior to deployment. Engine monitors will report engine status changes to EM no later than the end of each duty day. **(T-3).**

4.11.3.10. **(Added-AFGSC)** Engine shipping documents received from EM will be used to adjust Custodian Authorization/Custodian Receipt List inventory as engine spare levels change. **(T-3).**

4.11.3.11. **(Added-AFGSC)** The Engine Manager NCOIC or assistant will contact MXS Production Superintendent and AMXS Production Superintendent for engine maintenance assistance as necessary. **(T-3).**

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).**

4.11.4.6. **(Added-AFGSC)** Ensure that hush house and test cell status is updated or verified in the RAMPOD tracking system whenever the status of these pieces of equipment changes. **(T-2).**

4.11.4.6.1. **(Added-AFGSC)** Assign a primary and alternate custodian to gain RAMPOD access for test cell and hush house -107 reporting and status updates. **(T-2).**

4.11.4.6.2. **(Added-AFGSC)** RAMPOD custodians are required to request engineering support using the RAMPOD system. Custodians are required to change the test cell and hush house status whenever associated equipment status changes. **(T-2).**

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.

4.11.9.1. 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).**

4.11.10. **(Added-AFGSC)** Propulsion Flight metrics - At a minimum develop, review, analyze, and post metrics in a prominent place. See HQ ACC/A4M web site for metrics. Units may establish additional metrics at their discretion. **Note:** AFGSC will continue to use the ACC site. **(T-2).**

4.11.11. **(Added-AFGSC)** Units without full intermediate level repair capability will perform the tasks outlined in **Table 4.1**. if the required support equipment and expertise is authorized and on-hand. Repairs above and beyond those listed require approval from HQ AFGSC/A4VA Aircraft Systems Branch. All other engines are returned to their assigned Centralized Repair Facility or Depot/equivalent. **(T-2).**

4.11.12. **(Added-AFGSC)** Determine kit requirements (and procedures for maintaining kits if established) 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. **(T-2).**

4.11.13. **(Added-AFGSC)** Establish a forecast list of supplementary part requirements based on a review of repair documentation for the preceding 6 months and ensure adequate stock of the items are available as applicable to the MDS. **(T-3).**

4.11.14. **(Added-AFGSC)** Determine if pre-maintenance test cell runs are required for all engines removed. **(T-3).**

4.11.15. **(Added-AFGSC)** Ensure personnel qualified to operate the NSS IAW **Chapter 11** are present whenever the NSS is in use. If required, provide NSS personnel to augment AMXS deployment requirements. **(T-2).**

Table 4.1. (Added-AFGSC) Wing-Retained Tasks.

F118-100 Engine
Remove and replace #1 Bearing/Sump Components
Remove and replace Front Frame
Remove and replace Fan Stator Case
Remove and replace Fan IGV Flap
Remove and replace Fan Blade and Stator Vane
Remove and replace Gear Box, Wear Sleeve and Radial Drive Shaft
Remove and replace Aft Fairing and Center Body
Remove and replace PTO Coupling and carbon Seal
Remove and replace Fuel Manifold/Nozzle
Remove and replace Splitter Panels
Remove and replace Compressor Blades
Remove and replace Turbine Frame

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. **(AFGSC)** Forward a copy of the monthly QP activity summary to HQ AFGSC Precision Measurement Equipment Laboratory (PMEL) Functional. Electronic transmission preferred. The activity summary should arrive to the HQ AFGSC PMEL Functional not later than 10 calendar days after the end of the month. **(T-2). Note:** (Monthly QP activity summary not required for AMIC contracted labs)

4.12.1.2.4.1. The report format shall comply with TO 00-20-14 and meet local requirements. **(T-2).**

4.12.1.2.4.1. **(AFGSC)** The summary should include as a minimum:

4.12.1.2.4.1.1. **(Added-AFGSC)** Average backlog for the month and the 6 month average. **(T-2).**

4.12.1.2.4.1.2. **(Added-AFGSC)** Monthly average of percent of inventory overdue calibration. **(T-2).**

4.12.1.2.4.1.3. **(Added-AFGSC)** Monthly average of percent of inventory awaiting parts. **(T-2).**

4.12.1.2.4.1.4. **(Added-AFGSC)** Monthly average of percent of inventory on hold. **(T-2).**

4.12.1.2.4.1.5. **(Added-AFGSC)** Environmental Control System (ECS) performance (temperature and relative humidity) for each monitor in use. ECS data shall include percent in tolerance for the last 12 months and percent in tolerance for the latest month. **(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.

4.12.1.5.2. **(Added-AFGSC)** Notify the owning work center of Test Measurement and Diagnostic Equipment (TMDE) status change to awaiting parts and backorder/delivery status of parts on order. **(T-3).**

4.12.1.5.3. **(Added-AFGSC)** Monitor and control AWP TMDE using LRS-generated and internally generated reports. Store parts received for AWP items with the end item. Attach a copy of source document of outstanding requisitions with AWP TMDE. **(T-3).**

4.12.1.5.4. **(Added-AFGSC)** Maintain records and source documents for repair parts used in equipment belonging to reimbursable work centers. Submit monthly reports to the TMDE flight chief to facilitate processing of requests for reimbursement. Maintain records in accordance with the RDS. Records are not necessary if the reimbursable unit's supply account is used for purchasing their own repair parts. **(T-3).**

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.

4.12.1.6. **(AFGSC)** Review and track technical order improvement reports and Deficiency Reports (DRs) for compliance IAW (TOs 00-5-1 and 00-35D-54). **(T-3).**

4.13. (Added-AFGSC) Signature Diagnostics Flight. (Whiteman AFB only) The Signature Diagnostics (SD) Flight is a separate flight within the 509th Maintenance Squadron and is an Air Force approved deviation from the standard Maintenance Squadron organization. The flight consists of military and civilian contracted personnel that perform on-aircraft inspections, measurements and analysis critical to the signature confidence and survivability of the B-2A stealth bomber using radio frequency diagnostic tools and physical inspections of the Low Observable (LO) characteristics of the fleet. **(T-3).**

4.13.1. **(Added-AFGSC)** Flt CC/Chief Responsibilities. In addition to common responsibilities, the Flt CC/Chief will: **(T-3).**

4.13.1.1. **(Added-AFGSC)** Ensure the discovery of and correct prioritization of defects and verify repairs to the LO systems on the aircraft. **(T-3).**

4.13.1.2. **(Added-AFGSC)** Ensure the B-2 fleet maintains stealth characteristics and meets mission requirements through enhancing fleet health and providing up to date information to the B-2 Weapons System Team (WST) about the current status of the aircraft's signature. **(T-3).**

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).**

5.2.1.4.1. **(Added-AFGSC)** Ensure data is valid prior to AFGSC 0901 report submission for AFGSC requirements. Ensure data trend analysis report is provided to AFGSC/A4M Analysis function. **(T-2).**

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).**

5.2.1.8.1. IMDS units will use code "XXXX", and G081 units will use "CCCC" for classified locations. **(T-1).**

5.2.1.8.2. The MO OIC/SUPT will ensure any deploying unit loads all equipment into the IMDS-CDB AEF subsystem (G081 units are exempt). **(T-1).**

5.2.1.9. 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).**

5.2.1.10. Participate in the review of base level repair capability IAW TO 00-20-3, AFI 21-123, and supplements. **(T-1).**

5.2.1.11. Publish wing notification requirements for munitions-loaded or unloaded aircraft. **(T-2).**

5.2.1.12. Publish local radio call signs for maintenance LMR networks. **(T-1).**

5.2.1.12. **(AFGSC)** The MOC publishes local procedures for establishing new requirements and/or changes. Any new requirements and/or changes must be coordinated with base Personal Wireless Communications System (PWCS) Manager to prevent call sign duplications. **(T-3).**

5.2.1.13. **(Added-AFGSC)** Ensure current Aircraft Generation flow plans are coordinated with 8th Air Force Task Force 204 (8 AF/TF 204) for review and approval. **(T-2).**

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.

5.2.2.1. 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).**

5.2.2.1.1.1. Utilize the Enhanced Maintenance Operations Center (EMOC). **(T-1). Exception:** For those units using G081, the use of EMOC is optional.

5.2.2.1.1.1.1. 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.

5.2.2.1.1.1.2. 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).**

5.2.2.1.2. Aircraft maintained or supported by the unit but not on station will also be tracked (aircraft cross country etc.). **(T-1).**

5.2.2.1.3. Coordinates maintenance on the alert force, if applicable. **(T-1).**

5.2.2.1.4. Ensure status boards depicting aircraft status and location comply with Security Program guidelines. **(T-1).**

5.2.2.1.5. Monitor the status and ETIC of MEL-designated AGE if it falls below critical levels. **(T-1).**

5.2.2.1.6. Monitor the status of ECM and sensor pods IAW AFI 10-201, *Status of Resources and Training System*. **(T-1).**

5.2.2.1.6.1. 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).**

5.2.2.1.6.2. Classify information IAW AFI 31-401, *Information Security Program Management*.

5.2.2.1.7. 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).**

5.2.2.1.7.1. The MOC will verify aircraft status and ETIC using the MIS before reporting it. **(T-1).**

5.2.2.1.7.2. **(Added-AFGSC)** Track Crew Ready, Crew Show, Engine Start and Taxi Times. **(T-3).**

5.2.2.1.8. Inform affected activities of changes in priorities, plans, and schedules. **(T-1).**

5.2.2.1.9. Coordinate on changes to the operations schedule with applicable agencies by use of AF Form 2407. **(T-1).** The MOC will:

5.2.2.1.9.1. Ensure all deviations to the daily operations schedule are reviewed and accurately reported. **(T-1).**

5.2.2.1.9.2. Forward a copy of each AF Form 2407 and the daily flying schedule, with all annotated deviations, to MMA. **(T-1).**

5.2.2.1.10. Request support services outside the scope of the MXG (e.g., standby fire fighting 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).**

5.2.2.1.10.1. Coordinate on all aircraft engine runs and all aircraft ground movements conducted by maintenance personnel prior to execution. **(T-1).**

5.2.2.1.11. Develop, implement, and maintain functional checklists. **(T-1).**

5.2.2.1.11. **(AFGSC)** Review functional checklists every 12 months and document the review on AF Form 2411, *Inspection Document*. This requirement is separate from the QA functional checklist review. **(T-3).**

5.2.2.1.11.1. 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.

5.2.2.1.11.2. For OPLAN 8010 notification, use the plan implementation checklists.

5.2.2.1.11.2.1. Use unit OPLANs as a guide in developing these checklists.

5.2.2.1.11.2.2. Checklists contain those actions required to be taken by functional area(s).

5.2.2.1.11.2.3. The MOC will maintain checklists that implement all approved MAJCOM and local requirements. **(T-2).**

5.2.2.1.12. Coordinate munitions delivery priorities with flying units and munitions maintenance activities/control, when tasked. **(T-1).**

5.2.2.1.12.1. 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).**

5.2.2.1.12.1.1. The MOC will provide agencies with the aircraft type, tail number, location, type of explosives, and arming status. **(T-1).**

5.2.2.1.13. 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).**

5.2.2.1.14. Monitor and manage reporting of Hangar Queen aircraft/systems IAW **Chapter 11** of this instruction. **(T-1).**

5.2.2.1.15. Notify Flightline Expediters of OAP code “C” and “E” conditions. **(T-1).**

5.2.2.1.16. Ensure facilities and visual aids meet the following minimum standards:

5.2.2.1.16.1. A completely enclosed room with air conditioning and heating. **(T-1).** An observation room is permitted.

5.2.2.1.16.1.1. Doors to the MOC and the observation room will be either mechanically or electrically locked to control access. **(T-1).**

5.2.2.1.16.2. Isolate MOC electrical power circuits and provide a standby power source and emergency lighting. **(T-1).**

5.2.2.1.16.2.1. The MOC will establish procedures to operate standby power sources. **(T-1).**

5.2.2.1.17. Maintain the status and location of all transient aircraft. **(T-1).**

5.2.2.1.17.1. Post the priority of each transient aircraft on the status board, based on the maintenance priorities listed in **Table 1.1** **(T-1).**

5.2.2.1.17.2. Coordinate with the appropriate agency for aircraft maintenance support. **(T-1).**

5.2.2.1.17.3. 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).**

5.2.2.3. **(Added-AFGSC)** Maintain overall management and control of the IMDS-CDB location subsystem and aircraft status reporting (including IMDS-CDB/ Reliability and Maintainability Information System (REMIS) updates and corrections). **(T-2).**

5.2.2.3.1. **(Added-AFGSC)** Ensure the accuracy of WUCs for aircraft status updates. The use of __000 or ___00 or ___99 (not otherwise code WUCs) will not be used when a more specific WUC is available. **(T-2).**

5.2.2.4. **(Added-AFGSC)** Participate in the DIT. Provide data error rates with a breakdown of errors to Maintenance Analysis weekly and attend DIT meetings. **(T-2).**

5.2.2.4.1. **(Added-AFGSC)** Validate IMDS TRIC EST, Summarized/Detailed/Current Status Inquiry, "Equipment Designator Detailed Status" type inquiry, weekly as part of the DIT process. As a minimum, ensure accuracy of aircraft status, WUCs and GEOLOCs in IMDS. **(T-2).**

5.2.2.5. **(Added-AFGSC)** Reconcile uncompleted sorties (using Uncompleted Operational Events -- TRIC UOL) daily in the MIS and coordinate with PS&D to resolve any issues. **(T-2).**

5.2.2.6. **(Added-AFGSC)** Ensure aircraft boards are conspicuously marked to show Hangar Queen status and include date of last flight, ETIC, and expected fly date. **(T-3).**

5.2.2.7. **(Added-AFGSC)** The MOC senior coordinator or representative will attend the daily production/scheduling meeting. **(T-3).**

5.2.2.7.1. **(Added-AFGSC)** The MOC senior coordinator will establish a proficiency training program for weapons system coordinators to familiarize personnel with every aspect of MOC operation. **(T-3).**

5.2.2.7.2. **(Added-AFGSC)** Personnel assigned to the MOC will be capable of reporting aircraft status from the MESL and operating MIS remote devices before assuming unsupervised duties. **(T-3).**

5.2.2.8. **(Added-AFGSC)** Notifies appropriate agencies (e.g., Pro Super, flightline expediters, fuel cell maintenance, munitions control, hush house/test cell, etc.) of severe weather warnings. **(T-3).**

5.2.2.9. **(Added-AFGSC)** Notifies the wing safety office, QA, and wing FOD monitor of mishaps involving aircraft FOD, aircraft damage, or injuries resulting from aircraft maintenance. **(T-3).**

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.

5.2.3.1. 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.

5.2.5.1. 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).**

5.2.5.1.1.1. **(AFGSC)** When the analyst is not located in the AMU, they will still spend time in the AMU daily. **(T-2).**

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).**

5.2.5.1.2.1. **(Added-AFGSC)** Attend AMU scheduling/production meetings. (T-2).

5.2.5.1.2.2. **(Added-AFGSC)** The following are attrition and spare factors computations.

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 Supervison to provide monthly airframe, facility and personnel capabilities (as required), attrition, and spare factors for use in planning the annual FHP. **(T-1).**

5.2.5.1.5.1. MAJCOMs will publish attrition and spare factors computations in a supplement to this instruction.

5.2.5.1.5.1.1. MMA will use MAJCOM supplement guidance to calculate attrition and spare factor computations. **(T-1).**

5.2.5.1.5.2. MMA will provide required data to populate the Mx CAP2 model, when used. **(T-1).**

5.2.5.1.5.2.1. **(Added-AFGSC)** Attrition Factor. Attrition computation is based on unit historical data from previous similar flying months. When computing attrition, use the total sorties lost in a particular category. Do not use the difference between the sorties lost and those sorties added to make up for the losses. For additional guidance and samples for computing the attrition factor see AFGSCI 21-165. **(T-2).**

5.2.5.1.5.2.2. **(Added-AFGSC)** Spare Computation. MDSA computes annual spare aircraft requirements by month, using historical aircraft first sortie logistics losses and provides this information to the MO PS&D for use in computing spare aircraft requirements. The computation formula for computing spare factors is Historical First Sortie Deletions/Cancellation divided by historical first sorties scheduled. For additional guidance and samples for computing the attrition factor see AFGSCI 21-165. **(T-2).**

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 Supervison. **(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).**

5.2.5.1.7.1.1. **(Added-AFGSC)** Review Debriefing Sortie Recap (TRIC DRC, summary and detailed report) for all scheduled flyers and spares from the previous day. Compare sortie recaps to Summarized/Detailed Status for an Equipment-ID (TRIC EST, options 3 or 5), Code-3 Fix Time Report (TRIC FTR), and Maintenance Snapshot Inquiry (TRIC QMS) to validate code-3 breaks. Ensure subsystem on DRC and FTR matches the WUC on EST and QMS. Also ensure EST has WUC out to the 5th position to the greatest extent possible. Work with MOC and debrief sections to correct mismatches daily. **(T-2).**

5.2.5.1.7.1.2. **(Added-AFGSC)** Ensure all "NONE FOUND" entries on FTR are investigated and corrected, paying special attention to landing time on DRC vs grounding times on EST option 3 or 5. **(T-2).**

5.2.5.1.7.1.3. **(Added-AFGSC)** Compare QMS to detailed DRC for all pilot reported discrepancies (PRDs). Ensure WUC subsystem matches on both products, and is applicable for the discrepancy recorded. **(T-2).**

5.2.5.1.7.1.4. **(Added-AFGSC)** Ensure all deviations on detailed DRC are properly documented by comparing DRC and AUR. To the greatest extent possible, ensure all maintenance deviations have an associated event ID. Contact MOC or debrief sections, as applicable, for corrections daily. **(T-2).**

5.2.5.1.7.1.5. **(Added-AFGSC)** Ensure all uncompleted flight data on the Accomplishment Utilization Report (TRIC AUR) or TRIC UOL is reviewed daily. **(T-2).**

5.2.5.1.7.1.6. **(Added-AFGSC)** Ensure all repeat/recurs (using TRIC PRD and QRE) are validated and investigated for short term (less than 90 days) and long term trends. **(T-2).**

5.2.5.1.7.1.7. **(Added-AFGSC)** Review maintenance debriefing data to track in-flight discrepancies and deviations on each aircraft. Review aircraft status inputs from the MOC for WUC accuracy. Closely monitor fix time on Code 3 breaks and report results to AMU supervision. **(T-2).**

5.2.5.1.7.1.8. **(Added-AFGSC)** Special Studies: MMA will provide results of investigations, analyses, or studies to work centers. Specific studies are provided to the requester, and a file copy is retained for future reference. **(T-2).**

5.2.5.1.7.1.9. **(Added-AFGSC)** Validate CANN documentation in IMDS-CDB weekly, with AMU supply and inform AMU supervision of its accuracy. If errors exist, reconcile with supply a more frequent validation may be required if recurring problems present themselves. Include errors in monthly DIT rates.

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).**

5.2.5.1.9. 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).**

5.2.5.1.10.1. **(Added-AFGSC)** Each unit's MDSA section should develop a deployment package. The package should identify equipment and supplies required for each type of deployment commitment, i.e., bare-base operation, limited communications, or full-blown operation. Things to consider when developing this package are the equipment needed to operate the Integrated Maintenance Data System (IMDS) i.e., personal computers, printers, modems, cables, and quantity required. MDSA should also identify required software, i.e., InfoConnect, word-processing, spreadsheet, database, etc. How many days or months of office supplies are required? Also needed are lists of points of contact at base level, MAJCOM, deployed Headquarters and units, and manuals on

operating the IMDS. Units should also have written manual backup procedures for IMDS documentation. Manual documentation is the last resort for collecting data. Gather all applicable instructions and manuals the deployed analyst may need. In addition, wing or command level analysts at deployed locations are encouraged to contact their replacement(s) at the earliest possible time to inform them of any training or job knowledge requirements needed to perform the assigned duties at the deployed location(s). **(T-2).**

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).**

5.2.5.2.1.5. **(Added-AFGSC)** Ensure documentation of local familiarization course in the AF Form 797, *Job Qualification Standard Continuation,* area of Training Business Area (TBA). **(T-2).**

5.2.5.2.2. **(Added-AFGSC)** The MMA section NCOIC is responsible for the overall effectiveness of the AMU analysis program. To improve the overall effectiveness of the dedicated analyst program, analysts should be rotated as necessary. **(T-2).**

5.2.5.2.2.1. **(Added-AFGSC)** Establish and coordinate plans for rotating 2R0X1 personnel through various duty positions within MMA to increase field knowledge and experience. **(T-2).**

5.2.5.2.2.2. **(Added-AFGSC)** Rotate database managers every 12-18 months to ensure all 2R0X1 personnel are fully trained and have experience in this vital area. **(T-2).**

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).**

5.2.5.3.1. **(AFGSC)** Any request to modify/create new functionality within IMDS-CDB must be documented on an Information Technology System Requirements Document (ITSRD) on the AFLCMC/HIAM web site at **https://extranet.gunter.af.mil/il/ilm/C4RD/Current.asp**. All requests to modify/create new functionality within IMDS-CDB will be IAW AFSCM 21-556 Vol 2. **(T-2).**

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.

5.2.5.3.2.1.1. **(Added-AFGSC)** PS&D is responsible for overall management of aircraft operational event, special inspection, time change, TCTO, aircraft equipment transfer, GCSAS, and aircraft inventory subsystems. Coordinate with MMA on the AEF subsystem. **(T-2).**

5.2.5.3.2.1.2. **(Added-AFGSC)** The EM section is responsible for overall management and control of scheduled/unscheduled engine maintenance events concerning engine inspections, engine time changes, engine TCTOs, and engine equipment.

5.2.5.3.2.1.3. **(Added-AFGSC)** The MOC is responsible for overall management and control of the location subsystem and aircraft status reporting (IMDS-CDB and REMIS corrections).

5.2.5.3.2.1.4. **(Added-AFGSC)** Avionics section is responsible for overall management and control of the Automatic Test Reporting System (ATERS) (IMDS-CDB/REMIS corrections). **(T-2).**

5.2.5.3.2.1.5. **(Added-AFGSC)** The Programs and Resources Flight is responsible for overall management and control of the personnel management subsystem. This includes loading, deleting, and updating of maintenance personnel records in IMDS. **(T-2).**

5.2.5.3.2.1.6. **(Added-AFGSC)** Egress section is responsible for overall management and control of the egress configuration management. (IMDS-CDB/REMIS corrections). **(T-2).**

5.2.5.3.2.1.7. **(Added-AFGSC)** The MSL (if applicable) is the liaison between the IMDS-CDB host database manager and the Enterprise Supply-Solutions (ES-S), formerly known as the Standard Base Supply System or SBSS. MSL will assist users to resolve ES-S transactions issues (e.g., supply rejects) for correction and work with the host Supply and/or IMDS host database manager to initiate a DIREP in case of a program problem. **(T-2).**

5.2.5.3.2.1.8. **(Added-AFGSC)** MTS is responsible for overall management and control of the training management subsystem. **(T-2).**

5.2.5.3.2.1.9. **(Added-AFGSC)** 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. **(T-2).**

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.

5.2.5.3.3.1.1.1. **(Added-AFGSC)** IMDS DBMs/MMA section will maintain a listing of outside ELC users. Requests must have an access expiration date. Update, add, change or remove ELC guest users upon expiration date, re-assignment, separation, or retirement. **(T-2).**

5.2.5.3.3.2. Analysis personnel provide expertise on IMDS-CDB/G081 for resolution of problems beyond the work center's and sub-system monitors' control.

5.2.5.3.3.2.1. **(Added-AFGSC)** Ensure IMDS-CDB users are aware of problems relating to their subsystems through sub-system monitor notification, including all releases and System Advisory Notices (SANs). Maintain a SAN file. **(T-2).**

5.2.5.3.3.3. Support is provided to tenant organizations and users.

5.2.5.3.3.3. **(AFGSC)** Ensure that all ELC tenant users are supported. DBM support requirements will be identified in a MOA or the Host Tenant Support Agreement.

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.

5.2.5.3.3.6.1. **(Added-AFGSC)** Notify IMDS-CDB users and subsystem managers of unscheduled downtime status as soon as possible. When an extended computer outage occurs, DBMs notify sub-system managers of computer off-line time and determine if manual backup procedures are necessary to input data. **(T-2).**

5.2.5.3.3.6.2. **(Added-AFGSC)** Notify Lead Command of extended unscheduled MIS downtime (over 24 hours), or when experiencing problems beyond the capabilities of the unit's DBM. Units experiencing problems beyond the capabilities of the host DBM will notify the platform manager or the alternate. **(T-2).**

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.

5.2.5.3.3.9. 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).

5.2.5.3.3.9.1. **(AFGSC)** Notify AFGSC/A4MX MAJCOM DBM within 24 hours of mishap.

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.

5.2.5.3.3.11. 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.

5.2.5.3.3.11.1.1. **(Added-AFGSC)** IMDS DBMs/MMA section will use IMDS TRIC PRB, Master Profile Manager, to verify DBM profile access. **(T-2).**

5.2.5.3.3.11.2. **(Added-AFGSC)** IMDS DBMs/MMA section will restrict specific TRICs or options within TRICs on written request from the subsystem manager or when the DBM deems it necessary. **(T-2).**

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. **(AFGSC)** The DBM will notify AFGSC/A4M, providing rationale for leaving the TRIC in the off status. **(T-2).**

5.2.5.3.3.13. **(Added-AFGSC)** At a minimum, IMDS-CDB Users Group/DIT meeting will be combined and held quarterly. Establish an IMDS-CDB Users Group to identify user problems, provide on the spot training to correct user documentation problems, and to discuss other issues relating to operation of the system. IMDS subsystem managers and workcenter DIT monitors will attend the meeting. An agenda will be published and sent to all work centers prior to all meetings. Analysis will publish meeting minutes and send to all work centers. As a minimum, meeting minutes will include: new agenda, old agenda, attendees,

and non-attendees. **(T-2).**

5.2.5.3.3.14. **(Added-AFGSC)** Implement procedures in case of inadvertent entry of classified information into MIS IAW AFCSM 21-571, volume 2 guidelines. **(T-2).**

5.2.5.3.3.15. **(Added-AFGSC)** When IMDS-CDB is unavailable, the DBM, subsystem mangers, and squadron personnel will implement manual backup procedures for accumulating IMDS-CDB data. The data will be updated in IMDS-CDB when the system becomes available. Manual procedures include documentation on paper copies of IMDS-CDB screens, AFTO 349, *Maintenance Data Collection Record*, and sortie maintenance debriefing documents. **(T-2).**

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).**

5.2.5.3.5.2.1. **(Added-AFGSC)** Section chiefs of the appropriate work center will appoint a primary and alternate section DIT monitors in writing to MMA. **(T-2).**

5.2.5.3.5.3. MAJCOMs/MMA will determine the frequency of DIT meetings.

5.2.5.3.5.3. **(AFGSC)** DIT will hold quarterly meetings. A senior Maintenance leader designated by the MXG/CD will chair the DIT meeting. Analysis will publish meeting minutes and send to squadron leaders (MXG, AMXS, MXS, etc.) and all work centers. As a minimum, meeting minutes will include: new agenda, old agenda, attendees, and non-attendees. **(T-2).**

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.

5.2.5.3.5.5.3.4.1. **(Added-AFGSC)** If automated systems are not available. Workcenter DIT monitors will count the documentation errors by Data Detailed Record (DDR) and send counts to Analysis. Only one error can be charged for each DDR; however, multiple DDR errors will be broken down by category. DIT data, as a minimum, will include the items in **Table 5.1**: **(T-2)**

Table 5.1. (Added-AFGSC) DIT Data.

a.	DDRs checked
b.	DDRs in error
c.	number of DDRs corrected
d.	breakdown of errors on JCN
e.	discrepancy narrative
f.	action taken code
g.	when discovered code
h.	units produced
i.	corrective action narrative
j.	HMAL
k.	Type MX

5.2.5.3.5.5.4. **(Added-AFGSC)** Establish 5 duty day suspense to correct errors and report back to the DIT. **(T-2).**

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-AFGSC)** Deficiency analysts will be a 5- or 7- level and should have at least 6 months experience on the weapon system. At least one of the deficiency analysts assigned will be a SSgt with one of the following specialties: aircraft maintenance, off-equipment avionics, flightline avionics, or propulsion. Other skills may be included to effectively analyze specific functions of an aircraft weapon system. Ensure candidates have sufficient writing and administrative skills to perform the job. Deficiency analysts will be rotated 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. Deficiency analysts will:

5.2.5.5.1. **(Added-AFGSC)** Review debriefing data and abort information daily to assist in the identification of problem aircraft or systems. **(T-2).**

5.2.5.5.2. **(Added-AFGSC)** Review deferred discrepancy (using IMDS TRICs EVL and/or DOM) lists for technical errors or negative trends. **(T-2).**

5.2.5.5.3. **(Added-AFGSC)** Review repeat/recur discrepancy lists (using IMDS TRICs DRC/QRE/PRD) for potential problems. **(T-2).**

5.2.5.5.4. **(Added-AFGSC)** Review high CND rates and incidents for inadequate troubleshooting or technical data problems. **(T-2).**

5.2.5.5.5. **(Added-AFGSC)** Review aircraft scheduling deviations (using IMDS TRICs DRC and AUR) for negative maintenance practices and trends that impact work force and workload stability.

5.2.5.5.6. **(Added-AFGSC)** Attend QA and Product Improvement Working Group (PIWG) meetings and provide trend data as needed. **(T-2).**

5.2.5.5.7. **(Added-AFGSC)** Deficiency analysts will not be utilized as a full time DIT monitor. **(T-2).**

5.2.5.6. **(Added-AFGSC)** Maintenance Analysis Referrals: MMA is the OPR and will assign a referral number and maintains a log of all referrals. The log should reflect the referral number, initiating agency, date, subject, and action taken. QA should assist unit managers and work center technicians to perform investigations and recommend corrective actions. Route through the affected agencies for comments, with the final addressee as the MMA section. Retain copies and indicate whether additional monitoring or follow-up action is necessary. Provide a completed study to each MXG QA. **(T-2).**

5.2.5.7. **(Added-AFGSC)** Each wing/unit has a AFGSC-A4M 0901 report template specifically designed for its MDS(s) and reporting requirements. Use of the templates is mandatory, the templates must not be modified in any manner. External data links are expressly forbidden, because they adversely affect data upload. Templates can be obtained from the AFGSC/A4MX Analysis section. Templates may be changed by AFGSC/A4MX based on HQ AFGSC reporting requirements. Please inform HQ

AFGSC/A4MX (Analysis section) as soon as you are aware of any situation that may cause a late transmission. **(T-2).**

5.2.5.7.1. **(Added-AFGSC)** The AFGSC-A4M 0901 report is transmitted to HQ AFGSC/A4MX monthly. Transmit the report NLT 1400CT on the eighth calendar day following the month being reported. **(T-2).**

5.2.5.7.2. **(Added-AFGSC)** The MXG/CC Executive Summary is transmitted to HQ AFGSC/A4MX monthly. Transmit the report NLT 1400CT on the 10th calendar day following the month being reported. **(T-2).**

5.2.5.8. **(Added-AFGSC)** AFGSC/A4M Analysis Function will develop standards for all AFGSC owned aircraft for the following indicators: Mission Capable, Total Non-mission Capable Maintenance Rate, Total Non-mission Capable Supply Rate, 12 Hour Fix Rate, Total Abort Rate, Flying Scheduling Effectiveness Rate, Maintenance/Operations Deviation Rate, Cannibalization Rate, Repeat - Recur rate, and Break Rate. Final AFGSC/A4 approved standards will be submitted to AF/A4L. **(T-2).**

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. (AFGSC) Maintenance Training (MT). To provide a standard yet flexible (fit squadron unique mission) maintenance training program, Unit Training Manager (UTM) should be physically located (work) in the units they support to ensure they understand that unit's mission and training requirements. Maintenance Training will appoint each UTM to one or more units, as manning dictates, to manage unit commanders' training programs. **(T-2).**

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).**

5.3.1. **(AFGSC)** Training requirements may be satisfied through AETC in-resident classes, TD, MT, Mobile Training Team (MTT), AF Institute of Technology (AFIT), CDC, AFETS, civilian institutions, Computer Based Training (CBT), Video Tele-Training (VTT), Regional Training Centers (RTC), Maintenance Qualification Centers (MQC), Advanced Distributed Learning Service (ADLS), the Environmental, Safety, and Health Training Network (ESOHTN),or any combination thereof. **(T-2).**

5.3.2. Serve as the single point of contact for all training matters affecting maintenance. **(T-1).**

5.3.2. **(AFGSC)** Coordinate training course control documents (CCD) for explosive safety training through the wing weapons safety office annually. **(T-2).**

5.3.2.1. **(Added-AFGSC)** Ensure all maintenance personnel (AFSC 2A7X3/2A7X5 personnel are exempt) receive annual Corrosion Prevention and Control training. CBT training is available and is the preferred method. Additionally, annual training will include specific excerpts in regard to local/unique corrosion factors. **(T-2).**

5.3.2.1.1. **(Added-AFGSC)** Training will be documented in IMDS. **(T-2)**

5.3.2.1.2. **(Added-AFGSC)** Training programs will be forwarded to MAJCOM Corrosion Prevention and Control Program Manager for review and approval. **(T-2)**

5.3.3. The MT Chief will maintain administrative responsibility for UTMs whether UTMs are centralized or decentralized. **(T-1).**

5.3.4. **(Added-AFGSC)** All AFSC and CDC waiver packages will be coordinated through the MTS for concurrence/recommendation before processing to Base Training Office for processing. **(T-2).**

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. (AFGSC) General. In those units where contractor personnel, regardless of type of contract, perform maintenance functions, every effort should be made to co-locate all aircraft maintenance government Contracting Officer Representative (CORs) with the MXG QA. In small efforts, where the COR function is performed as an additional duty, the COR will be appointed as an augmentee and may remain with the assigned unit. **(T-2).**

6.1.1. **(Added-AFGSC)** CORs, and personnel who oversee CORs, such as QA superintendent and Chief Inspectors must be trained, managed and evaluated IAW **Chapter 14**. **(T-2). Note:** These requirements are only necessary if a contract currently needs surveilling.

6.1.2. **(Added-AFGSC)** For munitions units not aligned under a maintenance group or geographically separated from parent group, the QA munitions inspectors may be directly responsible to the assigned squadron commander. This will be documented by a delegation letter from the group commander. **(T-3).**

6.1.3. **(Added-AFGSC)** The MXG may assign QA augmentees for shops with unique requirements (i.e. Egress, NDI, etc.). The MXGs will develop a training plan for augmentees, if assigned. Additionally, EPEs will be accomplished annually on augmentees. **(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. (AFGSC) Responsibilities. QA authorizations are based on tasks described in the Air Force Manpower Standard. The MXG/CC has the option of centralizing, certain programs e.g.

Wing Inspection Team (WIT) members, Self-Assessments, COR etc. However, while centralized control of these programs is desirable and often necessary, management of excessive programs diminishes QA's ability to administer functions required by this chapter. Commanders should consider augmenting UMD-authorized QA personnel to fulfill obligations of locally imposed programs. Additional QA authorizations must be funded utilizing existing manpower resources. **(T-3).**

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).**

6.2.2. 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).**

6.2.3. 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-AFGSC)** QA will perform a final review of all aircraft forms initiated since the last flight prior to the first flight on Hangar Queen Aircraft. **(T-2).**

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. **(AFGSC)** Publish a list of approved job standards managed by QA at least annually. **(T-3).**

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).**

6.4.9. **(AFGSC)** Perform semi-annual inspections. **(T-3).**

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. **(AFGSC)** Maintain a master binder for each MDS assigned. **(T-3).**

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).**

6.5.2. **(AFGSC)** This includes Graduate Assessments. **(T-3).**

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 minium, 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.

6.6.2. **(AFGSC)** Chief Inspector conducts all QA evaluator proficiency evaluations **Exception:** Para **6.6.9** **(T-2).**

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 unit's 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.

6.7.2.7.1.1. **(Added-AFGSC)** AFGSC Key Task List (KTL) will only be waived with MXG/CC approval. Include, as a minimum, the following categories on the unit KTL if applicable: **(T-2)**

6.7.2.7.1.2. **(Added-AFGSC)** Engine final inspection (JEIM) (propulsion shop). **(T-2).**

6.7.2.7.1.3. **(Added-AFGSC)** Engine bay inspections prior to engine installation. (Only applies to bay-type engine aircraft). **(T-2).**

6.7.2.7.1.4. **(Added-AFGSC)** Engine, after installation. **(T-2).**

6.7.2.7.1.5. **(Added-AFGSC)** Engine rigging at time of installation (when required). **(T-2).**

6.7.2.7.1.6. **(Added-AFGSC)** Engine throttle at time of installation. **(T-2).**

6.7.2.7.1.7. **(Added-AFGSC)** On F118-100 engines, anytime maintenance is performed on the variable stator vane system (JEIM). **(T-2).**

6.7.2.7.1.8. **(Added-AFGSC)** Phase Inspections: MXG/CC will authorize percentage of workcards/inspection items to evaluate for each inspection area (APG, HYD, E/E, etc.). These areas will be identified in the MSEP. **(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. **(AFGSC)** Air Force and AFGSC established Routine Inspection List (RIL) items will be evaluated in conjunction with MSEP review. **(T-2).**

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:

6.7.2.8.4.1. 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).**

6.7.2.8.4.26. **(Added-AFGSC)** Aircraft status reporting. **(T-2).**

6.7.2.8.4.27. **(Added-AFGSC)** Aircraft engine intake/exhausts inspections. **(T-2).**

6.7.2.8.4.28. **(Added-AFGSC)** Weapons, flightline and backshop maintenance. **(T-2).**

6.7.2.8.4.29. **(Added-AFGSC)** Weapons maintenance and munitions build-up. **(T-2).**

6.7.2.8.4.30. **(Added-AFGSC)** Technical order management (inspection of a TO library). **(T-2).**

6.7.2.8.4.31. **(Added-AFGSC)** TO spot inspection (inspection of a single TO pulled off a shelf). **(T-2).**

6.7.2.8.4.32. **(Added-AFGSC)** OAP program (to include sampling procedures, documentation, etc.).

6.7.2.8.4.33. **(Added-AFGSC)** Egress maintenance (except for egress tasks that require mandatory follow-up). **(T-2).**

6.7.2.8.4.34. **(Added-AFGSC)** Paint/corrosion control maintenance. **(T-2).**

6.7.2.8.4.35. **(Added-AFGSC)** Borescope program and procedures. **(T-2).**

6.7.2.8.4.36. **(Added-AFGSC)** Flight control rigging procedures and primary flight control rigging tasks as designated in aircraft MDS-specific technical data. **(T-2).**

6.7.2.8.4.37. **(Added-AFGSC)** Cannibalization aircraft review, i.e. Warning tags, 781A documentation, aircraft condition, etc. **(T-2).**

6.7.2.8.4.38. **(Added-AFGSC)** Support Equipment (SE defined in TO 00-20-1). **(T-2).**

6.7.2.8.4.39. **(Added-AFGSC)** Aircraft Jacket File Forms. **(T-2).**

6.7.2.8.4.40. **(Added-AFGSC)** Tail Number Bins (TNB)/Facilitate Other Maintenance. **(T-2).**

6.7.2.8.4.41. **(Added-AFGSC)** Facility Inspection. **(T-2).**

6.7.2.8.4.42. **(Added-AFGSC)** Aircraft weapons systems reconfiguration activities (installation/removal of racks, adapters, launchers, pylons, etc.) **(T-2).**

6.7.2.8.4.43. **(Added-AFGSC)** Engine blade blending. **(T-2).**

6.7.2.8.4.44. **(Added-AFGSC)** Uninstalled engine test cell operation. **(T-2).**

6.7.2.8.4.45. **(Added-AFGSC)** Engine magnetic chip detector and oil filter inspection. **(T-2).**

6.7.2.8.4.46. **(Added-AFGSC)** Engine run hush house facility, test cell, and aircraft/engine run trim pad foreign object inspection. **(T-2).**

6.7.2.8.4.47. **(Added-AFGSC)** 2W1X1 inspector(s) will inspect, as a minimum, 10 percent of all scheduled maintenance and a sampling of completed unscheduled maintenance in aircraft armament each month. **(T-3).**

6.7.2.8.4.48. **(Added-AFGSC)** Aircraft weapons suspension and Alternate Mission Equipment**. (T-2).**

6.7.2.8.4.49. **(Added-AFGSC)** Nuclear Certified Equipment (NCE) identified for use in nuclear operations on unit NCE list. **(T-2).**

6.7.2.8.4.50. **(Added-AFGSC)** Inspect a minimum of 10 percent of aircraft every quarter for cleanliness and lubrication after wash.

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).**

6.7.3.2. **(AFGSC)** The E&I Plan will be reviewed and updated quarterly. **(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. **(AFGSC)** AFGSC standardized AQLs are found on the AFGSC A4/7 External SharePoint site. These standardized AQLs may be adjusted more stringent than AFGSC standard, but not more lenient without AFGSC/A4MX concurrence. AFGSC/A4MX in conjunction with MXG QAs will perform annual AFGSC common and MDS standardized AQL reviews. **(T-2).**

6.7.4.1.1. MAJCOMs may develop standardized AQLs by weapon system and establish procedures to review at least annually.

6.7.4.1.2. 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.

6.7.4.2.2.1. **(Added-AFGSC)** Zonal observation items are CAT II. **(T-2).**

6.7.4.2.2.2. **(Added-AFGSC)** QA reviews CAT II major discrepancies quarterly to determine if frequency of items identified warrants inclusion in technical orders. If so, QA submits an AFTO Form 22, *Technical Manual Change Recommendation and Reply*, or develops a local work card or checklist. **(T-2).**

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).**

6.7.6.1.3.1. **(Added-AFGSC)** Ensure a Personnel Evaluation (PE) is accomplished annually on all technicians that perform maintenance to include MTS instructors who sign off tasks, not to exceed 12 months from the time the individual performed their last PE. **(T-2)**

6.7.6.1.3.2. **(Added-AFGSC)** Traditional Reservists and Drill Status Guardsmen performing maintenance will receive a rated PE every 36 months or sooner. **(T-2).**

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).**

6.7.6.1.5.2.2. **(AFGSC)** Errors committed by the team member(s) and not detected by the team chief/supervisor will also be attributed to the team chief/supervisor. Team evaluations are rated the same as PEs. **(T-2).**

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 indivduals 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.

6.7.7.3.1. 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 6.7.10.7.1** 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).**

6.7.12.2. **(AFGSC)** AMU Supervision will also attend. MXG/CC will determine agenda for MSEP meeting (e.g. KTL/RIL, AQL/baselines, QVI, PE, DSV/TDV/UCR, SI review etc.) **(T-3)** .

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. (AFGSC) MAJCOM-approved QA database. Currently units may use QA2000, QA2006, SharePoint, or any other database that captures all mandatory requirements listed in this parent paragraph. **Note:** Units will transition to an AFGSC or AF standardized database

when it becomes available. However, units must coordinate with AFGSC/A4MX prior to database transition. Units that want to use a database other than the standardized database will require AFGSC/A4V approval. **(T-2).**

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)

6.8.8. **(AFGSC)** The Assessment Sub-Category may be adjusted to each different airframe, but the main categories will remain the same throughout the command. Those categories are located at **Table 6.1** **(T-2).**

Table 6.1. (Added-AFGSC) Main Categories.

Main Category		Main Category	
A	Ground Handling	H	Munitions
B	On Aircraft Inspection	I	Management Programs (such as Hangar Queen, Forms, etc.)
C	Off Aircraft Inspection	J	Environmental Compliance
D	On Equipment Maintenance	K	Training
E	Off Equipment Maintenance	L	Technical Order Distribution Account
F	Support Equipment	M	Other Inspection/ Observation
G	Aerospace Ground Equipment		

6.8.9. AQL/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).

6.8.13. **(AFGSC)** Correlates with the "Malfunction Codes" in the applicable -06 manual, but is more general in nature since it is not used to report maintenance actions in IMDS-CDB. These categories are located at **Table 6.2**. **(T-2).**

Table 6.2. (Added-AFGSC) Discrepancy Categories.

Code	Category	Code	Category	Code	Category
1	Safety	8	Incorrect Servicing	15	Documentation Error
2	Foreign Object	9	Incorrect Installation or Application	16	Failed to Operate
3	Leak	10	Corroded	17	Unsafe or Unfit to Operate
4	Loose or Missing Hardware	11	Cut or Punctured	18	No Defect
5	Broken or Damaged	12	Dirty or Contaminated	19	Lack of Technical Proficiency/System Knowledge
6	Chafed or Worn	13	Binding, Stuck or Jammed	20	Failed to comply with TO steps/Instructions
7	Out of Tolerance	14	Overdue	21	Failed to detect a Major Discrepancy

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's 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-AFGSC)** Identify potential PIWG items by the letter "P" on the DR logs. **(T-2).**

6.9.5.1.10. **(Added-AFGSC)** Forward consolidated proposed PIWG/Weapons System Review (WSR) items to the appropriate MAJCOM system functional manager for approval. **(T-2).**

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 initator. **(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).**

6.9.5.3. 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).**

6.10. 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. (AFGSC) Configuration Management (CM) and Modification Management. The PIM will Monitor the configuration management process. **(T-3).**

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).**

6.10.1. **(AFGSC)** If the TCTO or modification affects nuclear certified products, as defined in AFI 91-103, *Air Force Nuclear Safety Design Certification Program*, TODO's will: **(T-2)**

6.10.1.1. **(Added-AFGSC)** Forward a copy to the unit Weapon Safety Manager for review. **(T-2).**

6.10.1.2. **(Added-AFGSC)** Verify all items annotated as nuclear certified, are correctly listed at ttps://**wwwmil.nwc.kirtland.af.mil/MNCL/index.cfm**

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-AFGSC)** PMEL TCTOs are reviewed by the TMDE flight. **(T-2).**

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.

6.11.1.3.1. **(AFGSC)** Distribute TCTO copies within 1 duty day of QA date stamp. **(T-2).**

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).**

6.11.4.1. 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).**

6.11.4.2. 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).**

6.11.5. 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).**

6.11.10. **(Added-AFGSC)** Coordinate with AFGSC/A4MX when establishing eTool requirements. **(T-2).**

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. (AFGSC) Functional Check Flights (FCF) to include Operational Check Flights (OCF). The requirement for an aircraft FCF is driven primarily by MDS specific technical orders. However, the decision to perform an OCF can be exercised by commanders at all levels.

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).**

6.13.2. 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).**

6.13.2.2. 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).**

6.13.2.5.1. 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).**

6.13.3. FCF-qualified QA Inspectors will:

6.13.3. **(AFGSC)** The QA/QC FCF qualified inspector 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).**

6.13.3.3.1. 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).**

6.13.3.6. **(Added-AFGSC)** Debrief all FCF crews to determine if all requirements were accomplished. **(T-2).**

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:

6.13.4.1. 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.

6.13.6. MAJCOMs will issue instructions for FCF procedures away from home station.

6.13.6. **(AFGSC)** Coordinate required FCF through owning MXG/CC, off-station transient alert and off-station QA sections. If no off-station agencies exist, owning MXG/CC and owning OG/CC issue guidance directly to aircraft commander and off-station maintenance personnel. **(T-2).**

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).**

6.16.3.1. **(AFGSC)** W&B qualified/certified technicians who perform actual aircraft weighs must perform a weigh annually to maintain proficiency. This must be tracked and documented by the W&B authority. **(T-2).**

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).**

6.16.3.3. Procedures are established for routing completed TCTO and modification information for W&B changes. **(T-1).**

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).**

6.16.3.5. 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. **(AFGSC)** The Weight and Balance authority will be the most qualified W&B technician in QA. **(T-2)**.

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).**

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. (AFGSC) Specific Guidance. Units will use AFGSC Form 147, *QA Impoundment Record.* **(T-2).**

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).**

7.2.4. **(Added-AFGSC)** Aircraft impounded will be statused as NMC for the discrepancy that drove the impound and will remain in a NMC condition until the aircraft is released from impound by the Impoundment Release Official. **(T-2)**

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).**

7.4.3. Control and track access of personnel to impounded aircraft or equipment. **(T-1).**

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.

7.6.1. 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).**

7.6.3.2. 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).**

7.6.4. 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.

7.6.5. 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).**

7.6.7. 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. **(AFGSC)** Coordinate required transient aircraft impoundments through owning MXG/CC, off-station transient alert and off-station QA sections. Impoundment Release Authority will be coordinated between owning MXG/CC and the transient location MXG/CC. If no off-station agencies exist, owning MXG/CC and owning OG/CC issue guidance directly to aircraft commander and off-station maintenance personnel. **(T-2).**

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.

7.7. 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:

8.2.1. Standardized procedures for security, control, and accountability of tools and equipment. **(T-1).**

8.2.1. **(AFGSC)** If lead seals are kept in CTK; lead seals include the following, lead, tool-less Roto, or other approved sealing devices listed in applicable TOs. **(T-2).**

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).**

8.2.4. Procedures for control and management of replacement, expendable and consumable hand tools, HAZMATs, and other items contained in CTKs. **(T-1).**

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).**

8.2.6. Procedures for lost or missing tools. **(T-1).**

8.2.6. **(AFGSC)** Include: notification and management actions for lost tools/items relative to post aircraft taxi and take-off. **(T-2).**

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.

8.2.10. 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).**

8.2.15.1. 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).**

8.3.1.1. CTK custodians are responsible for tool, HAZMAT, and consumable asset accountability and control. **Exception:** A separate person may be designated as the HAZMAT monitor.

8.3.2. Flight CC/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).**

8.3.3. 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).**

8.3.5.1. 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).**

8.3.6. A Master Inventory List (MIL) will be required for each CTK or series of identical CTKs. **(T-1).**

8.3.6. **(AFGSC)** Dispatchable support equipment (SE) or special tools (ST) inventory must match MIL in TAS, TC-MAX (or equivalent AFGSC-approved database). The dispatchable SE/ST will follow the same rules for broken/missing items as outlined in paragraph **8.8.2** **(T-2).**

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).**

8.3.6.5. 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.

8.3.6.6. 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).**

8.3.6.7.1.1. 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).**

8.3.6.7.1.1. **(AFGSC)** If a locally generated form is used; the form will be standardized by the MXG and used by all sections in the MXG. **(T-2).**

8.3.6.7.1.2. Pencil/pen may be used for hard copy MIL documentation and erased/lined through when cleared.

8.3.6.7.2. The EID will be removed from any permanently removed item/tool. **(T-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.

8.3.6.7.4. The CTK custodian has the authority to interchange "like" (form, fit, function) items.

8.3.7. Equipment and accessories that do not present a FOD potential and will not leave the work center, support section, or tool room, need not be included in a CTK; however, this equipment must have designated storage locations established. **(T-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. **(AFGSC)** Annotate removed items on MIL and in TAS, TC-MAX (or equivalent AFGSC-approved database). **(T-2).**

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).**

8.3.11.1. Personally-purchased tools are not authorized. **(T-1).**

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-AFGSC)** Layout Dye will be controlled through TAS, TC-MAX (or equivalent AFGSC-approved database) to ensure only qualified 7-level or above can obtain for marking damaged fan/compressor blades or marking dented tubing. **(T-2).**

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. **(AFGSC)** TC-MAX is an AFGSC-approved TAS database.

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).**

8.5.1.2. 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).**

8.5.1.3. **(AFGSC)** When TAS, TC-MAX (or equivalent AFGSC-approved database) is not available use AFGSC Form 140, *CTK Inventory and Control Log*.

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. **(AFGSC) [DEV]** MXG/CC may approve the use of the AFGSC Form 140 during temporary conditions such as local generation exercises for shift inventory. **(T-2)**

8.5.2.1. Shift inventories must be documented by both outgoing and incoming personnel. **(T-1).**

8.5.2.2. CTKs present during tool room shift inventories do not need to be opened for inventory.

8.5.2.3. **(Added-AFGSC) [DEV]** Units may establish a program for secure sealing of low-use tools. This method involves identifying items that ordinarily require counting during shift inventories, and sealing the items with a physical indicator to speed inventory by avoiding unnecessary counting. Tools that are not signed-out for 45 calendar days or more are considered low use. Examples are drill bit kits, Allen key sets, and tap and die sets, files, etc. Inventory the identified low-use items any time they are returned from a job and seal them in a way that prevents opening without breaking the seal (i.e. computer label sticker, lead seal, plastic zip strip, etc.). Label the item with the signature of individual performing tool count, date counted and sealed, number of pieces, tool kit number or item number. The low-use sealed items are only required to be verified as "present" during daily shift inventories as long as the seal is intact. The seal remains valid as long as the item is unused and the seal remains secure, or until the next annual CTK inventory. Low use items will be identified on the appropriate MIL. **(T-2)**

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).**

8.5.4. 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).**

8.5.5.2. 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).**

8.5.5.6. 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.8.6.1.1. 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).**

8.6.1.1.2. 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).**

8.6.2.1. 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).**

8.6.5. 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).**

8.7. 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).**

8.7.1. 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).**

8.7.2. 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.

8.7.3. 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.

8.7.3.1.1.3. 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).**

8.8.1.2. 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. **(AFGSC)** When an item/tool is discovered missing after an aircraft has taxied maintenance (i.e. Expediters, Pro-supers, ship supervisors, etc.) will notify MOC, who in turn notifies appropriate agencies to recall the aircraft if necessary. **(T-2).**

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. **(AFGSC)** The AFGSC Form 145, *Lost Tool/Object Report*, will be initiated and routed if the item is not found within 1 hour of initial notification. (**Note:** The AFGSC 145 must be completed even if the lost tool/item is found 1-hour past the initial notification). **(T-2)**

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).**

8.9.2.5.1.1. **(AFGSC)** Also ensure AFTO Form 103, *Aircraft/Missile Condition Data*, is annotated for depot to remove the item/tool. **(T-2).**

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. **(AFGSC)** Units will use the AFGSC Form 145, *Lost Tool/Object Report*. Use of an electronic AFGSC Form 145 is authorized for routing purposes. Units will develop local procedures to ensure proper tracking, reporting and accountability for all AFGSC Forms 145 that are initiated/issued. The completed original Lost Tool/Object report must be submitted to QA within 5 duty days from date of initiation for filing. Additionally, a copy of the report may be filed and maintained by the Wing FOD Monitor if the Wing CV has assigned responsibility for tracking lost tools/items. Maintain the original report in QA for one year. **(T-2).**

8.9.2.6.2.1. **(Added-AFGSC)** CTK custodians will inform QA when lost tools are found after the AFGSC Form 145 has been closed out. The CTK custodian will retain the AFGSC Form 145 in accordance with the RDS. QA will inform the Wing FOD manager when lost tools are found. **(T-2).**

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.

9.1. (AFGSC) General. Guidance outlined in **paragraph 9.2 through 9.22** sufficiently identify specific responsibilities and outline unique DMS requirements necessary to support wing level maintenance and mission generation operations. However, bases may develop shop/unit/ squadron requirements in their supplements.

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:

9.4.1. 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).**

9.4.6. **(AFGSC)** Maintenance scheduling and supporting agencies may utilize the AF Form 2005, *Issue/Turn-In Request*, capability in MSAT.

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).**

9.5. 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.

9.8.1.2. 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.

9.8.1.6. Identify and control the issue and turn-in of hazardous materials/items on bench stock listings. **(T-1).**

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. (AFGSC) Shop Stock. Maintain a master inventory of items. **Note:** Assets cannot be commingled. **(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.

9.11. (AFGSC) Operating Stock. Maintain a master inventory of items. **Note:** Assets cannot be commingled. **(T-2).**

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.

9.12. (AFGSC) Work Order Residue. Maintain a master inventory of items. **Note:** Assets cannot be commingled. **(T-2).**

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. (AFGSC) Time Compliance Technical Order (TCTO) Kit Procedures. Supply TCTO Kit Monitor will schedule and chair a monthly TCTO kit reconciliation meeting with wing TCTO monitor. **(T-2).**

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).**

9.20.2.2. Identifying the approval authority for local manufacture requests. **(T-1).**

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. (AFGSC) Tail Number Bins (TNB). The designation for AGE due out release items is Hold Bin. **(T-2).**

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.

9.30. (Added-AFGSC) Repair Network Enhancement Program (RNEP). [Formally IREP] MXG/CC with LRS coordination may implement a RNEP. The RNEP provides a forum to evaluate current aircraft weapons systems resource and support status, highlight specific problem areas, focus on local repair initiatives to include the AFREP processes, and discuss ways to improve the overall repair cycle process.

9.30.1. **(Added-AFGSC)** If an RNEP is established, MXGs in coordination with LRS should agree upon key discussion areas such as, Top CANN Items, Repair Network Bottlenecks, AWP Summary, Lost Assets, AFREP processes, etc.

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.

10.2.2. 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).**

10.2.3. 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.

10.3.2. 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.

10.3.3.2.1.1. **(AFGSC)** Load crew training munitions (conventional/nuclear) and components are inspected on a 180-day interval by the WS to ensure training munitions mirror parent munition to the maximum extent possible. Develop a formal agreement with the munitions flight addressing periodic inspection, maintenance, and refurbishment requirements. **(T-2).**

10.3.3.2.1.2. **(Added-AFGSC)** A properly annotated AFTO Form 350, *Repairable Item Processing Tag,* accompanies munitions and munitions components when they are turned in to the munitions flight for repair. **(T-2).**

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. **(AFGSC)** Manage WLT training munitions, components, and accessories by establishing a supply point with munitions (Munitions Operations) for conventional training munitions. For nuclear training munitions, WS will coordinate with MUNS for training assets. **(T-2)**.

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 fuze 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).**

10.3.4. **(Added-AFGSC)** Coordinate with the weapons section NCOICs to schedule crews for initial training, certification, minimum proficiency requirement loading (MPRL), and semi-annual evaluations (SAE) training. The WS superintendent will document monthly scheduling effectiveness (quarterly for ARC) and submit a summary letter for inclusion in the MSEP, including as a minimum: **(T-2)**

10.3.4.1. **(Added-AFGSC)** Load Crew Scheduling and Training Effectiveness (MPRL/SAE) (non-applicable to ARC): **(T-2)**

10.3.4.1.1. **(Added-AFGSC)** Crews scheduled versus completed training events (non-applicable to ARC). **(T-2).**

10.3.4.1.2. **(Added-AFGSC)** Passed versus failed evaluations. **(T-2).**

10.3.4.1.3. **(Added-AFGSC)** Problems/trends which detracted from scheduling and training. **(T-2).**

10.3.5. **(Added-AFGSC)** Coordinate with the Maintenance Supervision to ensure availability of training aircraft. **(T-3).**

10.3.6. **(Added-AFGSC)** Upon notification of a deployment or an increased state of alert, take appropriate action to certify load crews on support munitions if required. **(T-2).**

10.3.7. **(Added-AFGSC)** Maintain a copy of all applicable AF loading TOs for assigned MDS aircraft. **(T-2).**

10.3.8. **(Added-AFGSC)** Coordinate with the AMU Production Super to ensure WLT aircraft are properly configured and safe for use. **(T-3).**

10.3.9. **(Added-AFGSC)** Develop time standards for integrated loads. **(T-3).**

10.3.10. **(Added-AFGSC)** Ensure MAJCOM Mandatory Course List (MMCL) requirements are met. **(T-2).**

10.3.11. **(Added-AFGSC)** Inspect 25 percent of WS tools and equipment for serviceability, at least quarterly, and initiates corrective action as required. Schedule and track inspections to ensure 100 percent of tools and equipment will be checked over a one-year time-frame. **(T-2).** Document inspection results and use for follow-up action and reference as necessary. **(T-3).**

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. (AFGSC) Loading Standardization Crew (LSC). Conduct and monitor training to ensure personnel maintain proficiency in loading unit-committed munitions. **(T-2).**

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).**

10.4.3. **(Added-AFGSC)** Monitor certification and recurring training documents for accuracy and to ensure all load crew members complete required proficiency and academic training. The LSC takes decertification action if recurring requirements are not met. **(T-2).**

10.4.4. **(Added-AFGSC)** Review and coordinate on all loading related AFTO Forms 22 IAW TO 00-5-1. **(T-2).**

10.4.5. **(Added-AFGSC)** Develop and coordinate weekly and monthly load training aircraft requirements with the PS&D. This paragraph does not apply when the unit is using a permanently assigned load crew trainer. **(T-2).**

10.4.6. **(Added-AFGSC)** Monitor and evaluate lead crews in the performance of their duties. **(T-2).**

10.4.7. **(Added-AFGSC)** Provide non-load crew personnel initial and recurring weapons task qualification training, including practical training on: **(T-2).**

10.4.7.1. **(Added-AFGSC)** Weapons system safety devices to include proper use, identification, installation and removal. **(T-2).**

10.4.7.2. **(Added-AFGSC)** Munitions item safety requirements. **(T-2).**

10.4.7.3. **(Added-AFGSC)** Location of weapons system explosive items used to jettison and release external stores. **(T-2).**

10.4.7.4. **(Added-AFGSC)** Stray voltage checks, as required. **(T-2).**

10.4.7.5. **(Added-AFGSC)** Location and position of cockpit armament system switches. **(T-2).**

10.4.8. **(Added-AFGSC)** Perform spot inspections and evaluate flightline munitions/explosive handling, loading and postloading operations, and provide MPRL/qualification credit to the maximum extent. Augment wing inspection/evaluation teams during local exercises to assess munitions loading capabilities and activities. **(T-2).**

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).

10.6.3. **(Added-AFGSC)** Initiate and maintain Load Training and Certification Document in web-based WLCMT for certified crew members. **(T-2).**

10.6.4. **(Added-AFGSC)** One lead crew is normally formed for each AMU, but additional lead crews can be formed as needed. Lead crews return to an AMU for contingencies, deployments, generations and exercises. WS does not need to be formed in organizations that do not load munitions requiring certification providing the requirements of the weapons task qualifications are met, to include academic, practical, and recurring training. In organizations with no WS, the weapons function will be responsible for the weapons standardization program. In a wing, WS is administratively assigned to the MO but works directly for the WWM (NA for ARC). **(T-2).**

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.

10.9.1. **(Added-AFGSC)** If a specific type or model of munition has been requisitioned but not received or not available, any type or model of the basic item may be used for load crew training until receipt of the munition. LSC/lead crew personnel will teach the major differences between training and WRM munitions. **(T-2).**

10.9.2. **(Added-AFGSC)** Load crews must be familiar with munitions serviceability criteria and munitions tie- down procedures in TO 11-1-38, *Non-nuclear Munitions, Positioning and Tie-Down Procedures*, and, as applicable, TO 11N-B1004-1, *Nuclear Weapons Tie-Down Procedures*. Blanket rejection of training munitions during load training is not authorized, and munitions will not be rejected solely because they are inert. **(T-2).**

10.9.3. **(Added-AFGSC)** Initial support munitions (SM) / limited use munitions (LM) training may be accomplished concurrently with initial primary munitions (PM) training and certification, but will be accomplished within 30 days (90 days for ARC) of completion of initial training/certification. When a new PM, SM or LM is designated on the

UCML/TTML, LSC and lead crews require certification within 30 days (90 days for ARC) after receipt of training items. **(T-2).**

10.9.4. **(Added-AFGSC)** Load crew members will be familiar with the operation of AGE which may be used during loading operations, even if the items are not used on a routine basis. Training on AGE should be conducted by the base AGE Flight prior to initial training. **(T-2).**

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).**

10.11.1.8.1. **(Added-AFGSC)** Internal, external, integrated, and single missile/bomb nuclear loads will be rotated monthly within each quarter. Launcher will include post-load checks. **Note**: (ARC only) One-half of the MFGs for which an individual is certified must be loaded quarterly (100 percent semi-annually) to maintain certification and provide evaluation of load crew proficiency. **(T-2).**

10.11.1.8.2. **(Added-AFGSC)** [B-52] Those crews certified for single missile loading/unloading will alternate between internal, external air to ground missiles. **(T-2).**

10.11.1.8.3. **(Added-AFGSC)** Load Configurations. All munitions loads will be authorized load configurations IAW the applicable MDS flight manual or valid SEEK EAGLE flight clearance. **(T-2).**

10.11.1.8.3.1. **(Added-AFGSC)** For initial training a load requiring multiple munitions will be performed on all applicable AME. **(T-2).**

10.11.1.8.3.2. **(Added-AFGSC)** Multiple munitions will be loaded during each evaluation to ensure the load crew demonstrates proficiency on loading/unloading each tasked configuration (adjacent stations, upper/lower stations, shoulder/centerline stations, etc.). **(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 month 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)**.

10.14. 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).**

10.14.8. **(Added-AFGSC)** LSC, lead crews, and load crews will annually perform a munitions loading operation within the UCML/TTML while wearing the ground crew chemical-defense ensemble. Credit may be given during exercises provided a full load is completely evaluated. **(T-2).**

10.14.9. **(Added-AFGSC)** [B-52] Internal and external aircraft conventional munitions loads will be documented separately. **(T-2).**

10.14.10. **(Added-AFGSC)** [B-52] Alternate loads between internal and external stations to the maximum extent possible. Nuclear SM's (certified crews), are loaded/accomplished at least quarterly. **(T-2).**

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.

10.16.1. 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.

10.16.7.5. 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.

10.17.1.1. **(Added-AFGSC)** MFG or MFG items will be entered in block 7 of the AF Form 2435, *Load Training and Certification Document*. MFGs are listed as a single entry using MFG type e.g. JDAM for GBU-38/31/54. Treat the MFG as a single entity and document certification or decertification using one line entry in blocks 9 and 10 after initial training on applicable items within the MFG. If individuals cannot be trained on all MFG items during initial certification training, list individual munitions that were trained and certified on as separate items in block 9 and 10. Once individuals complete certification on all MFG items, use MFG as single entry. MPRLs will be documented in blocks 12. Entries in block 12 will be annotated by using the MFG with individual munitions items listed under the MFG designator e.g. JDAM, GBU-38, GBU-31, GBU-54. Use the monthly blocks to document the date on which the MPRL was completed. When a member is decertified on a MFG item they will be decertified on all MFG items. If the UCML/TTML contains more than one item from **Table 10.2** and items are separated between Primary, Support, and Limited use list only the item/items the individual is certified to load. **(T-2).**

10.17.1.2. **(Added-AFGSC)** B-52 document preloaded pylon/CSRL, single bomb/missile, and Internal/external as separate entries in block 7 of AF Form 2435 or locally devised form e.g. AGM-86B S/M INT or AGM-86 S/M Ext. **(T-2).**

10.17.1.3. **(Added-AFGSC)** B-2 document preloaded RLA and single bomb as separate entries in block 7 of AF Form 2435 or locally devised form e.g. B-61/83 RLA and B-61/83 S/B. For Smart Bomb Rack Assembly munitions use separate entry in block 12 e.g. GBU-38 SBRA. **(T-2).**

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
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.
2. 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.			

10.18. (Added-AFGSC) Dual Loading Operations (DLO). DLO is only applicable to conventional munitions loading operations. DLOs are the primary method for rapid munitions loading/unloading and are authorized. Initial DLO qualification consists of academic and practical training. **(T-2).**

10.18.1. **(Added-AFGSC)** Both internal and external or external only (B-52) or dual bay (B-2) loading is required. **Exception:** Single missile AGM-86 is not authorized for DLO. **(T-2).**

10.18.2. **(Added-AFGSC)** The following minimum conditions will be included in unit DLO training plan. **(T-2).**

10.18.2.1. **(Added-AFGSC)** The lead load crew chief will check the aircraft AFTO Form 781 and verify aircraft and armament system status prior to start of the load and brief status during the pre-task briefing. **(T-2).**

10.18.2.2. **(Added-AFGSC)** Lead load crew chief will verify cockpit switches are properly positioned during aircraft preparation. **(T-2).**

10.18.2.3. **(Added-AFGSC)** Both load chiefs are present during the pre-task briefing. **(T-2).**

10.18.2.4. **(Added-AFGSC)** Both will verify all previously loaded munitions are in pre-maintenance status. **(T-2).**

10.18.2.5. **(Added-AFGSC)** Both will check off each step as they are accomplished in "their" applicable loading checklist. **(T-2).**

10.18.3. **(Added-AFGSC)** Load crews conduct independent loading operations from single or separate trailers. **Note:** Loading and fueling operations will not be performed simultaneously due to the hazard of the aircraft settling. **(T-2).**

10.18.4. **(Added-AFGSC)** Post-load power-on checks are not accomplished until all munitions are loaded**. (T-2).**

10.18.5. **(Added-AFGSC)** Load crew chiefs ensure that the conventional system switches/controls are properly positioned and verify the conventional munitions status and inventory during post-loading inspection. **(T-2).**

10.18.6. **(Added-AFGSC)** Initial DLO qualification consists of academic and practical training. Recurring training will be conducted annually. **(T-2).**

10.19. (Added-AFGSC) Transient Aircraft Responsibilities. Arming, de-arming, and munitions loading/unloading will only be accomplished on transient aircraft to facilitate required maintenance actions. In such cases, these operations on transient aircraft may be performed by any weapons load crew certified/qualified on the munition and aircraft. The MXG/CC may direct the LSC or a lead crew to arm, de-arm, and unload an aircraft on which they are not certified/qualified, if appropriate technical data and support equipment is available. In such cases, the aircrew will be available for consultations on aircraft to verify flight worthiness of load configuration, and to perform cockpit portions of required functional/stray voltage checks. If these cannot be met, request help from owning unit(s)/higher headquarters. Local procedures must be developed to control impulse cartridges removed from transient aircraft. **(T-2).**

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. (AFGSC) Special Certification Roster (SCR). Use AFGSC Form 64, *Request for Special Certification*, to add personnel to the SCR. Use of an electronic AFGSC Form 64 is authorized for routing purposes. An electronic signature (initials and date) will be used in Part I (TO Block), Part IV (NAME/GRADE/DUTY TITLE Block) and Part V (GROUP COMMANDER Block). **(T-2).**

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.

11.3.6.2. 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)**.

11.3.7. **(AFGSC)** For civilian equivalents addressed in **Table 11.1** refer to **Table 2.1**

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). (Note 1)
2	Exceptional Release (ER)	
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

Table 11.1. (AFGSC) Mandatory Special Certification Roster (SCR) and Prerequisites. (T-2.)

	A	B
ITEM	Mandatory SCR Item Titles	Prerequisites
37	Tow Team Supervisor	SSgt or higher, minimum 5 Skill level AFSC 2AXXX with a minimum of 6 months weapons systems experience (Note: 2) SrA with 12 months weapons systems experience (Note: 1)
38	MICAP Approval	MSgt or higher, minimum 7-level (or civilian equivalent) (Note: 2).

39	CANN Authority (refer to Chapter 11)	MSgt or higher, minimum 7-level (or civilian equivalent) (Note: 1).
40	NRTS and Serviceability Tag	SSgt or higher, minimum 7-level (or civilian equivalent) (Notes: 2, 3, and 4).
41	Jacking supervisor on bombers, and UH-1N.	SSgt or higher, minimum 5-skill level (or civilian equivalent), and 1 year flightline experience. (Note: 2)
42	Gear Retraction supervisor (This person is the only individual that can authorize gear handle movement)	SSgt or higher, minimum 5 skill level (or civilian equivalent), and 1 year flightline experience. (Note: 2)
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/NCOIC or Flight commander/chief. 4----Munitions inspectors who are trained and certified may annotate serviceability tags for munitions items (TO 11A-1-10).		

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).**

11.7. 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.

11.7.1. **(AFGSC)** MXGs at a minimum will ensure the following Maintenance Recovery Team (MRT) procedures are accomplished: **(T-2)**

11.7.1.1. **(Added-AFGSC)** MRT Chief (Lead technician selected to recover aircraft) performs responsibilities outlined in **Attachment 8** and completes MRT Chief Tasking Checklist at **Attachment 10. (T-2).**

11.7.1.2. **(Added-AFGSC)** MXGs develop and publish local MRT requirements in addition to these procedures if required. At a minimum MXGs will ensure MRT Chief is briefed and understand MRT chief responsibilities listed on **Attachment 9**. **(T-2).**

11.7.1.3. **(Added-AFGSC)** Ensure the MOC is informed of personnel and equipment deployed on MRT and status of the recovery. **(T-2).**

11.7.1.4. **(Added-AFGSC)** Ensure MXG notifies applicable AFGSC/A4VY WST when aircraft becomes stranded. **(T-2).**

11.7.2. If required, establish multiple command MOUs/MOAs/collaboration necessary to achieve efficient aircraft recovery.

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.

11.8.2.1. **(Added-AFGSC)** [**DEV]** Domestic Object Damage: Any damage to an aircraft engine, aircraft system or equipment caused by internal failure of a component. **(T-2).**

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.

11.8.3.4. 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).**

11.8.3.6.3. Metal insignias/badges will not be worn on the flightline. **(T-1).**

11.8.3.6.3.1. **(Added-AFGSC)** Remove or stow restricted area badge within 25 feet of operating engine(s). Ensure line badge clips are secured to prevent loss. For those individuals using the cord/rope for security, pass the chord/rope through the clip eyelet. **(T-2)**. **Exception:** Line badges completely secured inside of an

armband pouch do not need to be removed. **(T-2).**

11.8.3.6.4. Wigs, hairpieces, metal hair fasteners, earrings, or any other jewelry/loose items that may fall off without notice, are not authorized on the 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).**

11.8.3.9. **(AFGSC)** Establish rivet replacement procedures for local operation of assigned weapons systems. Include them as part of the FOD orientation/familiarization for personnel working in these areas. Include work order residue control procedures for all maintenance performed in and around intake areas. **(T-2).**

11.8.3.9.1. **(Added-AFGSC)** Structural maintenance shops will develop a local Sheet Metal Instruction checklist identifying procedures for repair/replacement of rivets located in aircraft intakes. All material removed from and installed on the aircraft will be documented and verified by a 7-level. The checklist will be completed on the job site and turned into QA within 24 hours of repair completion. **(T-3).**

11.8.3.9.1.1. **(Added-AFGSC)** Tools and hardware used during the task will be annotated on the checklist. **(T-3).** Ex., tools going into/out of the inlet are documented and accounted for by the 7 level.

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. **(AFGSC)** Units will develop local guidance for FOD walks, to include applicable areas and when the FOD walks are required. As a minimum, FOD walks will be performed prior to the first sortie of each day. **(T-2).**

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.

11.8.3.16. **(AFGSC)** If FOD check points are not illuminated during periods of darkness, vehicle operators will use a flashlight during vehicle FOD inspection. **(T-3).**

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.

11.8.3.21. **(AFGSC)** When any FO is suspected to be in an inaccessible area follow procedures for inaccessible item/tool in **Chapter 8**.

11.8.3.22. **(Added-AFGSC)** Documenting FOD inspections on engines shut down for "red ball" maintenance is not required. **(T-3)**.

11.8.3.23. **(Added-AFGSC)** FOD inspections performed on uninstalled test cell engines will be documented on the test cell worksheet. **(T-3).**

11.8.3.24. **(Added-AFGSC)** B-2 units will develop Aircraft Engine Run Hush House/Trim Pad Pre-Run FOD Worksheets and procedures. **(T-2).**

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).**

11.8.4.2.7. **(Added-AFGSC)** Budget for and allocate funds to support the wing's FOD program. **(T-2).**

11.8.4.3. Tenant Unit FOD Prevention Responsibilities. The host base FOD Prevention Program Manager will incorporate tenant units in the host unit program. **(T-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).**

11.8.5.3. 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-AFGSC)** Ensure evaluated or repaired FOD is documented in CEMS automated history (E407) or AFTO Form 95, IAW TO 00-20-1. **(T-2).**

11.8.6. 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.

11.8.6.3.2. **(AFGSC)** If no evidence of FOD impact is found upstream in the engine, submit DR/mishap report(s) IAW AFI 91-204 and TO 00-35D-54. **(T-2).**

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.

11.8.6.3.5. **(Added-AFGSC)** Found during JEIM maintenance for maximum operating time. **(T-2).**

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.

11.8.6.4.4.1. **(Added-AFGSC)** Blade blending procedures for

installed/uninstalled engines/modules: **(T-2).**

11.8.6.4.4.1.1. **(Added-AFGSC)** Notify the Wing/Center FOD Monitor prior to blade blending anytime FOD is identified, other than for minor sand nicks or scratches (i.e. blending with emery cloth). **(T-2).**

11.8.6.4.4.1.2. **(Added-AFGSC)** Fill out Blade Blending/FOD Damage worksheet or applicable form with the following information; engine serial number, stage number, number of blades blended, depth of damage before and after blend, area of damage and employee number/stamp number of maintenance personnel. **(T-2).**

11.8.6.4.4.1.3. **(Added-AFGSC)** Notify EM section and forward Blade Blending/FOD Damage worksheet or applicable form to EM section for filing. The EM section will transcribe information provided in the Blade Blending/FOD Damage worksheet into the applicable engine/module records (i.e., AFTO Form 95; if applicable) and CEMS, IAW TO 00-20-1. **(T-2).**

11.8.6.5. Preventable FOD over $50K incurred at ETS or on trim pad will be chargeable. **(T-1).**

11.8.6.5. **(AFGSC)** Preventable FOD incurred at test cell will be chargeable towards rate regardless of cost. **(T-2).**

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. **(AFGSC)** AFGSC/A4V will assign accountability in those instances where conflict/peculiar circumstances occur. **(T-2).**

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).**

11.8.6.7.1. 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.

11.8.6.7.1. **(AFGSC)** All FOD incidents exceeding $50K will be reported to AFGSC using the command standard format and the local base safety office. FOD incidents under $50K will be tracked locally and reviewed by the wing CV and FOD manager every 6 month for trends, these incidents require phone or e-mail notification to **FGSC.A4VA.Workflow@us.af.mil**

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. **(AFGSC)** Wing FOD/DOP managers will submit AFGSC FOD/DOP Incident Worksheet within 72 hours of any FOD/DOP incident. Additionally, all incidents must be annotated within the AFGSC Unit FOD Report spreadsheet. The monthly report must be completed in its entirety and submitted via email to the AFGSC/A4VA FOD inbox on a monthly basis no later than the 10th calendar day of each month. E-mail to **FGSC.FOD@BARKSDALE.AF.MIL**

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.

11.8.6.8. **(AFGSC)** Parent wings are responsible for the FOD prevention program of detachments. Parent wings will collectively report FOD rates. **(T-2).**

11.8.6.8.1. **(Added-AFGSC)** Wing rates are computed monthly. Each wing FOD manager will submit by the 10th of each month FOD-DOP WORKBOOK to **AFGSC.A4VA.Workflow@us.af.mil.** The report will include monthly cumulative data. A fiscal year roll up will be provided NLT 15 Oct

11.8.6.8.1.1. **(Added-AFGSC)** Causes of Preventable and Non-Preventable FODs. **(T-2).**

11.8.6.8.1.2. **(Added-AFGSC)** Cumulative cost of Preventable and Non-Preventable FODs. **(T-2).**

11.8.6.8.1.3. **(Added-AFGSC)** MDS flying hours. **(T-2).**

11.8.6.8.1.4. **(Added-AFGSC)** Calculated unit FOD rate by MDS and current cumulative fiscal year FOD rate. **(T-2).**

11.8.6.9. **(Added-AFGSC)** FOD accountability will be in accordance with the following guidance:

11.8.6.9.1. **(Added-AFGSC)** When transient/deployed aircraft incur FOD, the host unit will conduct the investigation and notify the owning organization within 72 hours. **(T-2).** If the owning organization's maintainers are deployed with the aircraft and the FOD appears to be a direct result of transient/deployed unit negligence, the owning organization will conduct the investigation. During deployed operations where mixed unit crews are flying or maintaining aircraft, FOD incidents will be charged to unit receiving flying hour credit. **(T-2).**

11.8.6.9.2. **(Added-AFGSC)** The owning organization is responsible for FOD incidents on transient aircraft/engines when one of the following conditions applies: **(T-2).**

11.8.6.9.2.1. **(Added-AFGSC)** FOD discovered upon arrival at a transient base with no intermediate stops or prior to any engine run. **(T-2).**

11.8.6.9.2.2. **(Added-AFGSC)** FOD found during initial tear down on "Queen Bee/ERRC" engines. **(T-2).**

11.8.6.9.2.3. **(Added-AFGSC)** Aircraft is maintained on transient/TDY base by owning organization maintenance personnel. **(T-2).**

11.8.6.10. **(Added-AFGSC)** The preventable FOD standard is 1.0. **Note:** Tenant units will use their parent unit FOD standard. **(T-2).**

11.8.6.11. **(Added-AFGSC)** The unit safety representative in coordination with the wing FOD manager will submit mishap reports IAW AFI 91-204.

11.8.6.12. **(Added-AFGSC)** Each unit will establish their own FOD control number(s) as follows: wing designator, fiscal year, and a three-digit number; for example, 5BW15001. **(T-2).**

11.8.6.13. **(Added-AFGSC)** FOD discovered by transient alert facilities or by depot and contractor facilities during acceptance inspections will be charged to the base from which the aircraft last departed if a FOD inspection was not accomplished/documented. The owning organization will be charged if there were no intermediate stops. FOD incidents caused by transit bases, depot or contractors, will be referred to the responsible command for determination of accountability. **(T-2).**

11.8.6.14. **(Added-AFGSC)** Wings will submit maintenance cross-tell reports by message to HQ AFGSC/A4VA and to all units with like MDSs for those incidents that have FOD potential for the fleet. **(T-2).**

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).**

11.8.7.2. 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. (AFGSC) [DEV] Dropped Object Prevention (DOP) Program. Missing minor hardware (bolts, nuts, rivets, fasteners, etc.) 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.

11.9.1.1. **(AFGSC)** The wing DOP monitor will identify and develop training standards. Maintenance personnel involved in on-equipment maintenance will receive DOP training. **(T-2).**

11.9.1.1.1. **(Added-AFGSC)** Annotate Dropped Object Prevention (DOP) training in the appropriate training records or in IMDS-CDB. Training should include, but is not limited to, inspection, installation, removal, and repair procedures for aircraft panels, doors, access covers, cowlings, etc. Also, include in training the care of panel latches, fasteners, nut plates, and other locking devices. Security of hardware, particularly those causing a high incidence of dropped objects, will be high interest items on flight crew walk-around. **(T-2).**

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. **(AFGSC)** In-flight dropped object incidents will be immediately brought to the attention of the wing DOP monitor and QA. Quality Assurance or the Wing DOP monitor will investigate each dropped object incident. **(T-2).**

11.9.2.1. Every effort needs to be made to determine the precise cause to ensure positive corrective action is accomplished. Anytime a materiel or design deficiency is the cause, or suspected cause, a DR will be submitted IAW TO 00-35D-54, even when an exhibit is not available. **(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-AFGSC)** Initial dropped object report will be made to the MAJCOM via telephone, e-mail, or message within 24 hours of occurrence. If it involves casualties, property damage, or if adverse publicity is likely, report IAW AFI 10-206. The wing DOP monitor notifies the base/wing safety office of all dropped objects. Units will maintain reports for a minimum of 24 months (may be electronic). **(T-2).**

11.9.3.3. **(Added-AFGSC)** Follow-up final report will be made to the MAJCOM within 3 duty days after the occurrence. The final format will be used as listed in **Attachment 10**.

11.9.4. **(Added-AFGSC)** The Wing DOP monitor will submit quarterly reports to AFGSC (i.e. Oct, Nov and Dec data will be reported in Jan, NLT the 15th). These reports will contain the following data: Number of incidents, number preventable/non-preventable, submitted during that quarter. **(T-2).**

11.9.4.1. **(Added-AFGSC)** A summary of DOP incidents will be briefed in conjunction with the quarterly FOD meeting. **(T-2).**

11.9.4.2. **(Added-AFGSC)** DOP Incidents are classified as preventable and non-preventable, both are reportable. All preventable incidents will be chargeable. DOPs are considered preventable except those listed below: **(T-2).**

11.9.4.2.1. **(Added-AFGSC)** Caused by natural environment or wildlife. This includes but not limited to hail, ice, animals, insects, sand, and birds. Report this type of damage IAW AFI 91-204. Do not include these in the DOP rates. **(T-2).**

11.9.4.2.2. **(Added-AFGSC)** Caused by material 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. **(T-2).**

11.9.4.2.3. **(Added-AFGSC)** Helicopter damage caused by rocks, stones, wood, or other objects during low hover operations or unimproved runway operations are considered non-preventable, provided mission parameters were not exceeded. **(T-2).**

11.9.4.3. **(Added-AFGSC)** DOP program report number (unit, year, and month, followed by sequence number -- example, 509BW-150501). **(T-2).**

11.9.4.4. **(Added-AFGSC)** Wing rates are computed monthly. Each wing DOP manager will submit monthly reports to AFGSC using the FOD-DOP WORKBOOK by email or upload to AFGSC FOD/DOP Community of Practice (CoP). The report will include monthly cumulative DOP data. A fiscal year roll up is provided to AFGSC NLT 15 October. **(T-2).**

11.9.4.5. **(Added-AFGSC)** The DOP standard is 2.0. Wing DOP rates are computed by MDS as follows: Total number of preventable incidents ÷ total number of sorties, X

1,000 = DOP rate. [Example: 17 Incidents ÷ 11684.0 sorties = 0.00145498 X 1000 (sortie rate) = 1.45498 or 1.5.]. **(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:

11.10.1. 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-AFGSC)** Roles and responsibilities apply to B1, B-2, B-52 and UH-1N.

11.10.4.1. **(Added-AFGSC)** AFGSC/A4VA is the MAJCOM POC for ASIP.

11.10.4.2. **(Added-AFGSC)** The MXG/CC or equivalent will ensure an effective ASIP is established and appoint a SNCO as the MXG ASIP Manager. **(T-2).**

11.10.4.3. **(Added-AFGSC)** ASIP Manager Will:

11.10.4.3.1. **(Added-AFGSC)** Develop effective measures to capture and report ASIP aircraft usage data (L/ESS and IAT) to achieve the required data capture rates. **(T-2).**

11.10.4.3.2. **(Added-AFGSC)** Develop procedures to collect and submit ASIP aircraft usage data (e.g. computer files downloaded from a flight data recorder, tapes obtained from a flight data recorder, "bubble sheets"). **(T-2).**

11.10.4.3.3. **(Added-AFGSC)** Coordinate with the MDS MAJCOM OPR to obtain feedback on data capture rates and to implement corrective actions as needed to achieve the required rates. **(T-2).**

11.10.4.3.4. **(Added-AFGSC)** Identify maintenance activities (ASIP Monitors) responsible for changing and submitting storage media. **(T-2).**

11.10.4.4. **(Added-AFGSC)** Maintenance activities (ASIP Monitors) responsible for ASIP aircraft usage data collection and evaluation will collect and submit ASIP aircraft usage data IAW local ASIP publications, TOs and this instruction. **(T-2).**

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.

11.11.1.1.1. **(Added-AFGSC)** IFF Mode IV Checks for contingency missions: Perform Mode IV check on all applicable aircraft prior to first sortie of the day (or prior to placing on alert status). When an aircraft is found to have a malfunctioning Mode IV system, the Aircraft Commander will then determine course of action based on operational needs and requirements. **(T-2)**

11.11.1.1.2. **(Added-AFGSC)** IFF Mode IV Checks for non CONUS and Transoceanic sorties: Perform Mode IV checks on all applicable aircraft prior to aircraft leaving CONUS airspace to include transoceanic sorties. When an aircraft is found to have a malfunctioning Mode IV system, the Aircraft Commander will then determine course of action based on operational needs and 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. **(AFGSC)** B-2s and B-52s have on-board diagnostic and internal testing capabilities. **(T-2).**

11.12.1.1.1. **(Added-AFGSC)** B-2 and B-52 aircraft are exempt from non-contingency operations. **(T-2).**

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.

11.13.3. 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).**

11.13.3.1. 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).**

11.13.4. 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).**

11.13.6. 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).**

11.13.6.1. 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)**.

11.14. Hangar Queen Aircraft.

11.14. (AFGSC) Hangar Queen Aircraft. AFGSC Hangar Queen Management Program.

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. **(AFGSC) Note:** Hangar Queen Aircraft reporting is a separate process from the No Fly inspection requirements outlined in TO 00-20-1.

11.14.1.1. **(Added-AFGSC)** The MXG/CD (or higher) is the cannibalization approval authority for Hangar Queen Aircraft.

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).**

11.14.2.1. **(AFGSC)** When an aircraft becomes Category 1 Hangar Queen; brief aircraft maintenance and supply status weekly to the MXG/CC. Category 1 aircraft are managed locally. **(T-3).**

11.14.2.2. Category 2: Aircraft that have not flown for 60 to 89 calendar days. **(T-1).**

11.14.2.2. **(AFGSC)** When an aircraft becomes Category 2 Hangar Queen; continue to brief aircraft maintenance and supply status weekly to the MXG/CC. Category 2 aircraft are managed locally. **(T-3).**

11.14.2.3. Category 3: Aircraft that have not flown for 90 or more calendar days. **(T-1).**

11.14.2.3. **(AFGSC)** When an aircraft becomes a Category 3 Hangar Queen, assign a SNCO or officer (or civilian equivalent) to manage the Hangar Queen Aircraft. Brief aircraft maintenance and supply status at the daily wing standup meeting. Units will report aircraft tail number(s) monthly to AFGSC/A4VY with the estimated delivery dates for top down-time driver (AWP) parts. **(T-2).**

11.14.2.3.1. **(Added-AFGSC)** Units will send reports to applicable Weapons System Team AFGSC/A4VY (see **Paragraph 11.14.9** for HQ reporting). **(T-2).**

11.14.2.3.2. **(Added-AFGSC)** Cease all cannibalization, transfer, and diversion actions on CAT 3 Hangar Queen aircraft. **(T-2).**

11.14.3. All aircraft placed on higher HHQ alert status are exempt from the Hangar Queen Management Program and reporting throughout the duration of alert status/posturing.

11.14.3. **(AFGSC)** Aircraft in "PJ" or "PR" possession identifier code are exempt from Hangar Queen reporting. Aircraft regained from possession code PJ or PR and aircraft being removed from alert or immediate response are authorized a 10 calendar day grace period for Hangar Queen reporting. **(T-2).**

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.

11.14.5. **(Added-AFGSC)** Units will develop Hangar Queen Procedures that cover any local unit responsibilities. **(T-2).**

11.14.6. **(Added-AFGSC)** Hangar Queen Exceptions.

11.14.6.1. **(Added-AFGSC)** Aircraft permanently assigned and possessed in TX code or with a "G" prefix are exempt from Hangar Queen reporting.

11.14.6.2. **(Added-AFGSC)** Aircraft regained from depot possession which have not flown for 30 consecutive days and fall within the 10 calendar day grace period are still locally managed as Hangar Queens. **(T-2).**

11.14.7. **(Added-AFGSC)** Hangar Queen Reporting.

11.14.7.1. **(Added-AFGSC)** Report all CAT 3 Hangar Queen aircraft within 24 hours of effective date of entering Hangar Queen CAT 3 status. MO will provide Hangar Queen reports to AFGSC/A4VY appropriate weapons system team via message/coordinated email. **(T-2).**

11.14.7.1.1. **(Added-AFGSC)** Subject of the message/coordinated email, with appropriate aircraft tail number information, will be: CAT 3 HANGAR QUEEN STATUS AIRCRAFT XX-XXXX.

11.14.7.1.2. **(Added-AFGSC)** Include the following information in HQ reporting message:

11.14.7.1.2.1. **(Added-AFGSC)** Aircraft MDS. **(T-2).**

11.14.7.1.2.2. **(Added-AFGSC)** Aircraft tail number. **(T-2).**

11.14.7.1.2.3. **(Added-AFGSC)** Owning unit. **(T-2).**

11.14.7.1.2.4. **(Added-AFGSC)** Date last flown. **(T-2).**

11.14.7.1.2.5. **(Added-AFGSC)** Reason for potential Hangar Queen. **(T-2).**

11.14.7.1.2.6. **(Added-AFGSC)** Status. **(T-2).**

11.14.7.1.2.7. **(Added-AFGSC)** Pacing action. **(T-2).**

11.14.7.1.2.8. **(Added-AFGSC)** Parts required. **(T-2).**

11.14.7.1.2.9. **(Added-AFGSC)** Estimated fly date. **(T-2).**

11.14.7.1.2.10. **(Added-AFGSC)** Include the following Total Not Mission Capable Supply (TNMCS) information also: **(T-2).**

11.14.7.1.2.10.1. **(Added-AFGSC)** EDD(s). **(T-2).**

11.14.7.1.2.10.2. **(Added-AFGSC)** WUC(s). **(T-2).**

11.14.7.1.2.10.3. **(Added-AFGSC)** NSN(s). **(T-2).**

11.14.7.1.2.10.4. **(Added-AFGSC)** Document Number. **(T-2).**

11.14.7.1.2.10.5. **(Added-AFGSC)** Requisition Number. **(T-2).**

11.14.7.1.2.10.6. **(Added-AFGSC)** Off base requisition (s). **(T-2).**

11.14.7.1.2.11. **(Added-AFGSC)** Identify any assistance required from AFGSC/A4V.

11.14.7.1.2.12. **(Added-AFGSC)** A point of contact with telephone number.

11.14.7.1.2.13. **(Added-AFGSC)** A plan for recovery.

11.14.7.1.3. **(Added-AFGSC)** MO will send a message/coordinated email to the AFGSC/A4VY appropriate Weapons System Team when CAT 3 aircraft has been released from Hangar Queen status. **(T-2).**

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.

11.15.1. 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)**.

11.15.2.3.1. "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. **(AFGSC)** All job data documentation (JDD) maintenance actions will be documented in IMDS for permanently grounded GITA. **(T-2).**

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).**

11.15.4.2.8.1. 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).**

11.15.4.2.10.1. 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. **(AFGSC)** The designated individual will:

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).**

11.15.4.2.12.5.1. **(AFGSC)** Ensure their aircraft has a current set of AFTO Form 781-series maintained IAW TO 00-20-1. **(T-2).**

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).**

11.15.4.2.12.5.2. **(AFGSC)** Perform a thorough forms review a minimum of every 30 calendar days. **(T-3).**

11.15.4.2.12.5.3. **(Added-AFGSC)** Ensure their aircraft is scheduled for and undergoes preventive maintenance requirements. **(T-2).**

11.15.4.2.12.5.4. **(Added-AFGSC)** Monitor the status of removed parts and parts on order. **(T-2).**

11.15.4.2.12.5.5. **(Added-AFGSC)** Maintain required -21 equipment. **(T-2).**

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. **(AFGSC)** Establish written minimum operational systems guidelines and general maintenance requirements (wash interval, paint interval, etc.) for group training aircraft. **(T-2).**

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.

11.15.5.3. 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. **(AFGSC)** All units will have an installed and uninstalled aircraft/engine intake/inlet/exhaust training and certification programs. MXGs will identify certification frequency requirements Program is applicable to B-1s, B-2s, B-52s, and Helicopters. **(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).**

11.17.1.4.2. 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)**.

11.17.5.1.1. **(AFGSC)** Installation and removal of aircraft restraining devices or ballast load (if applicable).

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. **(AFGSC)** A minimum of 25 questions between the two parts (emergency and normal procedures), covering all subject areas. **Note:** Special consideration should also be given to emergency shutdown procedures for specific types of engine operations such as sound suppresser, trim pad, or hush house. **(T-2).**

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 datarequiring 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. **(AFGSC)** At least three starts are required to confirm individual capability to operate engines. **(T-2).**

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.

11.17.5.2.1. **(AFGSC)** Use of Simulators. Maintenance Training Section (MT) notifies the wing simulator training officer of Aircrew Training Devices (ATD) requirements. See AFI 21-101 and AFI 21- 101_AFGSCSUP for alternate evaluation/certification procedures if training devices are not available. **(T-3).**

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. **(AFGSC)** Phase 3 Practical Demonstration will be evaluated by a certifying official who did not teach Phase 1 or Phase 2 to the trainee. **(T-2).**

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).**

11.17.6. 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. **(AFGSC)** Initial Evaluation is comprised of a Phase 3 Practical Demonstration evaluated by a Certifying Official as long as individual still meets 90 calendar day proficiency requirements. **(T-2).**

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).**

11.17.7. **(AFGSC)** Track the following in the MIS : **(T-2).**

11.17.7.1. **(Added-AFGSC)** Annual engine run certification by MDS and Engine Type; indicate power settings. **(T-2).**

11.17.7.2. **(Added-AFGSC)** Engine Run Certifier by MDS and Engine Type; indicate power settings. **(T-2).**

11.17.8. Proficiency. MAJCOMs will determine proficiency requirements for maintenance personnel authorized to operate installed engines.

11.17.8. **(AFGSC)** To maintain proficiency, personnel qualified to run installed engines will perform at least one engine run every 90 calendar days. Certifying officials must also meet the 90 calendar day proficiency requirements. **(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).**

11.17.10.6. **(AFGSC)** On-equipment practical evaluation will include demonstrating knowledge of normal and emergency procedures to a certifying official. **(T-2).**

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. **(AFGSC)** Personnel qualified to run aircraft APU will perform at least one APU run every 180 calendar days. Certifying officials must also meet the 180 calendar day proficiency requirement. **(T-2).**

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).**

11.17.14.4.1.1. **(AFGSC)** Functions include engine system operation.

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. **(AFGSC)** Tests are developed by the test cell/small gas section chief or AFETS/CETS. The tests are controlled by the MTS. A minimum of 25 questions between the two parts (emergency and normal procedures), covering all subject areas. This test will be developed and controlled using the same criteria as other test developed for use by the MTS. **(T-2).**

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 datarequiring 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. **(AFGSC)** Phase 3 Practical Demonstration will be evaluated by a certifying official who did not teach Phase 1 or Phase 2 to the trainee. **(T-2).**

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).**

11.17.14.4.3.6. **(Added-AFGSC)** Engine trim, troubleshooting, and leak check procedures. **(T-2).**

11.17.14.4.3.7. **(Added-AFGSC)** Fire control panel operations IAW paragraph **11.17.15** **(T-2).**

11.17.14.4.3.8. **(Added-AFGSC)** Test stand/engine preparation (including proper restraint). **(T-2).**

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. **(AFGSC)** To maintain proficiency, personnel qualified to run uninstalled engines on test stands and cells will perform at least one uninstalled engine run on a test stand or cell every 90 calendar days. Certifying officials must also meet the 90 calendar day proficiency requirements. **(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).**

11.17.14.7. **(Added-AFGSC)** Track the following in MIS if test cell is operational:

11.17.14.7.1. **(Added-AFGSC)** Annual uninstalled engine run certification by Type Make Series Modification (TMSM). **(T-2).**

11.17.14.7.2. **(Added-AFGSC)** Annual uninstalled Engine Run Certifier by TMSM. **(T-2).**

11.17.14.7.3. **(Added-AFGSC)** 90 calendar day uninstalled engine run proficiency requirements. **(T-2)**.

11.17.14.8. **(Added-AFGSC)** Crew Size. The minimum requirements for uninstalled engine run crew are:

11.17.14.8.1. **(Added-AFGSC)** Minimum crew size is three personnel, except for small gas test stand that requires a minimum of two personnel. **(T-2).**

11.17.14.8.1.1. **(Added-AFGSC)** One crew member must be engine run certified and will be responsible for engine operation/trim. **(T-2).**

11.17.14.8.1.2. **(Added-AFGSC)** One individual, other than the engine run certified person, is test stand operator qualified and fire control panel trained. **(T-2).**

11.17.14.8.1.3. **(Added-AFGSC)** Others, if not test stand/small gas test stand qualified, are briefed by the engine run certified person. As a minimum, the briefing includes emergency procedures and hazardous areas such as intake, exhaust, turbine/starter plane of rotation, high voltages, etc. **(T-2).**

11.17.15. Fire Control Panel Operation in NSS. This section applies to all NSS designed for enclosed aircraft and uninstalled engine operation (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).**

11.17.15.4. **(AFGSC)** Track Hush house and T-9/T-10/T-11 fire control panel annual recertification in the MIS. **(T-2).**

11.17.16. **(Added-AFGSC)** Track Engine Trim Box Certifiers. **(T-2).**

11.17.16.1. **(Added-AFGSC)** Units will develop local procedures to track run proficiency requirements in the MIS. **(T-2).**

11.17.16.2. **(Added-AFGSC)** Supervisors will ensure individuals who fail to maintain proficiency are decertified. **(T-2).**

11.17.17. **(Added-AFGSC)** Engine run procedures: Units will ensure the following:

11.17.17.1. **(Added-AFGSC)** Establish unit engine run guidance, at a minimum include maximum RPM limitations for parking areas and other high traffic/congested areas. Also include minimum fuel loads or any local restrictions for engine runs. **(T-2).**

11.17.17.2. **(Added-AFGSC)** The fire chief determines if a fire fighting vehicle stands by in the immediate vicinity when an aircraft is in an isolated area. **(T-2).**

11.17.17.3. **(Added-AFGSC)** During preserved engine runs and engine runs for fuel/oil line and component leak checks this requirement will have a fire fighting vehicle standing by and will be released at the discretion of the production superintendent. When used, this vehicle remains in position until the integrity of the fuel/oil system is verified. A standby fire fighting vehicle is not required during external fuel tank leak and transfer checks. Ensure adequate lighting is used during night engine runs to facilitate leak detection. **(T-2).**

11.17.17.4. **(Added-AFGSC)** Notify the control tower and fire department anytime cartridge starts are scheduled. **(T-2).**

11.17.17.5. **(Added-AFGSC)** Use a qualified pilot team on B-52 aircraft when more than four engines are run above idle. **(T-2).**

11.17.18. **(Added-AFGSC)** Maintenance personnel are not authorized to taxi aircraft. **(T-2).**

11.18. Engine Blade Blending Training and Certification Program.

11.18.1. General. All units will have a comprehensive training program to ensure technical standards are met, and proficiency is maintained. **(T-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).**

11.18.3.4. **(Added-AFGSC)** Initial engine blade blending certification. **(T-2).**

11.18.4. Certification Criteria. Certifying officials will be selected IAW criteria established in **Table 11.1** of this instruction. **(T-1).**

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. **(AFGSC)** MXG/CC will select maintenance instructors or TD instructors to provide training, (AFETS/CETS may be used as alternate instructors). As a minimum, courses will include care and handling of the equipment, all borescope/port locations to include all inspection requirements and procedures, all applicable technical data, fault isolation/damage assessment/defect size determination, and performance of an actual engine borescope. **(T-2). Note**: If applicable, assigned AFETS/CETS should be used to certify other certifying officials.

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.

11.19.2.1. **(AFGSC)** After completing formal training, the instructor signs off the individual's ITP within TBA. Ensure that all borescope inspections are loaded against the engine and not the aircraft. **(T-2).**

11.19.2.1.1. **(Added-AFGSC)** MT will ensure the following course codes are tracked in the MIS. **(T-2).**

11.19.2.1.1.1. **(Added-AFGSC)** Formal training borescope course. **(T-2).**

11.19.2.1.1.2. **(Added-AFGSC)** Proficiency requirement. **(T-2).**

11.19.2.1.1.3. **(Added-AFGSC)** Annual recertification. **(T-2).**

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. **(AFGSC)** Borescope proficiency for personnel maintaining aircraft with event-driven inspections only is 180 calendar days. Work center supervisors ensure personnel who do not meet minimum requirements are decertified and must be recertified by completing annual recertification requirements. **(T-2).**

11.19.2.2.1. **(Added-AFGSC)** Annual Recertification. Each borescope-qualified technician is required to be recertified by a certifying official. This is accomplished by having technicians demonstrate proper inspection requirements, as well as, use and care of equipment. **(T-2).**

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.

11.19.2.3. **(AFGSC)** Certified individuals who PCS to the same MDS and engine TMSM may by-pass the formal training course. These individuals must be re-certified by a certifier prior to being added to the SCR. Carry over the date of original class completion from previous documentation (certificate, training record, MIS printout). **(T-2).**

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.

11.19.2.4. **(AFGSC)** Personnel using borescopes for non-engine type inspections (behind ejection seats, wing boxes, etc.) are not required to follow Engine Flexible Borescope Inspection Training and Certification Program procedures, but must be trained at a minimum on the proper use, handling and care of borescopes. Training must be annotated in training records. **(T-2).**

11.19.2.5. **(Added-AFGSC)** Special attention must be given to current safety TCTO/risk mitigating borescope inspections. Address background, technical procedures, and potential failure modes. **(T-2).**

11.19.2.5.1. **(Added-AFGSC)** All current TCTO and risk mitigating borescope inspections will be task evaluated by the certifying official. **(T-2).**

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. **(AFGSC)** FCC program is currently not authorized within AFGSC.

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 for 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 11.20.5.11.2.1** 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.

11.21.2. **(Added-AFGSC)** Aircraft Maintenance Squadron Responsibilities.

11.21.2.1. **(Added-AFGSC)** Ensure aircraft thermal protective devices, shields, and associated hardware is maintained IAW aircraft TOs and this instruction. **(T-2).**

11.21.2.2. **(Added-AFGSC)** Establish a program to train and qualify individuals to install, inspect, and when required, seal aircraft thermal protective devices and shields. **(T-2).**

11.21.2.3. **(Added-AFGSC)** Ensure procedures are developed that address the following:

11.21.2.3.1. **(Added-AFGSC)** Management of condemned thermal curtains used for training. **(T-2).**

11.21.2.3.2. **(Added-AFGSC)** Pre-generation inspection of thermal-protective devices. **(T-2).**

11.21.2.3.3. **(Added-AFGSC)** Sealing and certification of thermal-protective devices. **(T-2).**

11.21.3. **(Added-AFGSC)** AFE Flight/Section Responsibilities:

11.21.3.1. **(Added-AFGSC)** Train and task qualify AFE technicians to inspect and repair thermal protective devices and shields. **(T-2).**

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 exsisting publications (e.g. grounding/ventilation, mods, ect.).

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.

11.24.1. **(AFGSC)** Coordinate updates or any new generation plans with Eighth Air Force Task Force 204 (8AF/TF 204) for evaluation. 8AF/TF 204 will forward its recommendation(s) to AFGSC and other appropriate agencies for review/approval. Reference AFGSCI 13-520-SV3, *(U) Bomber Nuclear Generation and Regeneration*, for more guidance.

11.24.2. **(Added-AFGSC)** Unit generation flow plans will be evaluated annually. AMUs, MOC, QA, Wing Weapons Manager (WWM), and PS&D will ensure effective use of resources. PS&D will notify Wing Plans when Generation Flow Plans require modification.

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. (AFGSC) Hot Refueling Procedures. Units will initiate hot refueling certification process with site location owning MAJCOM and the site location, i.e. (notify PACAF before initiating Hot Pit refueling certification requirements at Diego Garcia). Additionally, notify AFGSC/A4VY, A4MX and A4RX upon initiation of hot refueling certification process. **(T-2).**

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'sAirfield 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 equivilent.

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.

11.25.1.4.1. 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. **(AFGSC)** QA will forward the following items listed in para **11.25.1.5.5** through **11.25.1.5.5.5** to the AFGSC/A4MX Aircraft Policy Branch **4MX.workflow@barksdale.af.mil**

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).**

11.25.1.5.5. **(Added-AFGSC)** A Certification Approval Request memo from MXG/CC to AFGSC/A4V. **(T-2).** Ensure memo addresses requirement for affected MAJCOMs IAW TO 00-25-172. The memo will contain the following:

11.25.1.5.5.1. **(Added-AFGSC)** List of the certification team members that participated in the survey (see sub-paragraphs to **11.25.1.2**) **(T-2).**

11.25.1.5.5.2. **(Added-AFGSC)** Ensure each question listed in sub-paragraphs

to **11.25.1.3** are addressed. **(T-2).**

11.25.1.5.5.3. **(Added-AFGSC)** A Copy of the new consolidated Hot Pit site certification listing IAW paragraph **11.25.2** The listing will address each item detailed in sub-paragraphs to **11.25.2** **(T-2).**

11.25.1.5.5.4. **(Added-AFGSC)** Local Checklists (LCL) for approval. Checklists must contain maps of Hot Pit sites, with details for pit set-up. This map should mirror map in site certification plan. **(T-2).**

11.25.1.5.5.5. **(Added-AFGSC)** Address local published procedures and additional precautions, IAW paragraph **11.25.4** **(T-2).**

11.25.1.5.5.6. **(Added-AFGSC)** AFGSC/A4V is the MAJCOM Hot Refueling certification approving authority. **(T-2).**

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 identifed 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.

11.25.12. **(Added-AFGSC)** Training and certification requirements for hot refuel team members are outlined in **Table 11.2** **(T-2).**

11.25.12.1. **(Added-AFGSC)** Personnel are decertified if they miss any semi-annual proficiency requirement or annual special requirement. Personnel can also be decertified by any hot/aircraft-to-aircraft refueling supervisor, squadron/immediate supervisor, or on QA's recommendation to the owning supervision any time one of these individuals sees an unsafe act or demonstrated lack of proficiency on the part of any hot/aircraft-to-aircraft refueling team member. **(T-2).**

Table 11.2. (Added-AFGSC) Hot Aircraft Refueling Training/Certification Requests.

Position	Required Qualification Training	Proficiency Requirements	Special Requirements
Squadron Certifier	Phases I, II, III	Hot Refuel Semi-Annually	Annual Evaluation and one time PE by QA Chief Inspector
Pad Supervisor	Phases I, II, III	Multiple Hot Refuel Semi-Annually	Annual Evaluation by QA or SC
Refuel A,B,C,D Member	Phases I, II, III	Hot Refuel Semi-Annually, "C" Annually	Annual Evaluation by QA or SC
Decertified Squadron Certifier or Pad Supervisor	Repeat Phases II, III		Recertification must be started within 90 calendar days or Phase I will also be completed PE by QA Chief Inspector
Decertified A,B,C,D	Repeat Phases II, III		Recertification must be started within 90 calendar days or Phase I will also be completed
Note : 1. PE - Personnel Evaluation 2. SC - Squadron Certifier			

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:

11.28.2.1.2.1. 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 exsisting tech-data.

11.28.2.3.3. Develop, manage, and maintain AS needed to sustain a weapon systems 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.

11.30.1.7. 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-AFGSC) Maintenance Resource Management (MRM). MRM is a course designed to immerse all personnel into the culture and knowledge of human factors philosophy focusing on the importance, requirements, and implementation of MRM principles into daily maintenance activities. Error reduction efforts through human factors will be used to improve processes, reduce maintenance errors, decrease maintenance induced damage, and decrease on-the-job-injuries. This will be done by integrating the technical skills of maintenance personnel with interpersonal skills and basic human factors knowledge along with operational risk management in order to improve communication, effectiveness, and safety in maintenance operations.

11.34.1. **(Added-AFGSC)** The MAJCOM MRM course will consist of a one-time block of instruction taught using the course material currently documented at the AFGSC Maintenance Training site ttps://org1.eis.af.mil/sites/afgsc/cops/Training/default.aspx

11.34.1.1. **(Added-AFGSC)** MT will be MXG POC for MRM training. **(T-3).**

11.34.2. **(Added-AFGSC)** MXGs may supplement MRM courses to address local base level requirements. **(T-2).**

11.34.3. **(Added-AFGSC)** All military personnel with maintenance AFSC (2AXXX, 2M0XX, 2WXXX, 21A, or 21M) are required to receive MRM training, regardless of current duty position. Government civilians working in maintenance are also required to have MRM training. **(T-2)**.

11.34.4. **(Added-AFGSC)** Ensure course completion is tracked in the applicable MIS. **(T-2).**

11.34.5. **(Added-AFGSC)** AFGSC/A4M Maintenance training manager is the MRM POC. **(T-2).**

11.35. (Added-AFGSC) Hangar Door Program.

11.35.1. **(Added-AFGSC)** General. This section establishes supplemented procedures for management of powered hangar doors. Powered Hangar Doors as it applies to this program

are any powered hangar/shelter/hush-house/nose-dock type doors used for aircraft, engine or vehicle entry/exit. See AFI 91-203 hangar door operations and safety requirements.

11.35.2. **(Added-AFGSC)** MXG/CC is responsible for the Hangar Door Program and must ensure that an assessment of all hangar doors is accomplished annually. Assessment of hangar doors will be completed using operational risk management tools and will address hazards outlined in AFI 91-203.

11.35.2.1. **(Added-AFGSC)** Ensures that a hands-on OJT program is developed for all personnel who operate electric and manual hangar doors. As a minimum, training will include door operations, hazard awareness/abatement, and emergency procedures. **(T-2).**

11.35.2.2. **(Added-AFGSC)** Ensures detailed hangar door operating checklists are developed and posted at each hangar door control panel. Checklist shall include step-by-step procedures and list the names of the building custodians. **(T-2). Exception:** Do not post checklist on Hush House doors. Post a sign at each door control panel stating, "Operate doors IAW TO 33D4-6-645."

11.35.3. **(Added-AFGSC)** Pinch Point, Crush Area and Powered Door Movement Area Marking. MXG/CC ensures all areas that pose a potential pinch point or crush area must be marked to ensure no one enters the area during door operation. Identify these pinch point, crush areas and powered door movement areas IAW AFI 91-203. **(T-2).**

11.35.4. **(Added-AFGSC)** MXG/CC will ensure policy is developed for cold weather hangar/PAS door closure procedures that adequately prevent fire suppression systems from freezing. **(T-2).**

11.36. (Added-AFGSC) Deicing/Anti-icing Training. Deicing/Anti-icing training will be documented IAW AFI 91-202.

11.37. (Added-AFGSC) Maintenance Flash. MAJCOM and MXGs may use Maintenance Flashes to clarify or bring attention to maintenance related issues/concerns. QA should be the POC for developing and disseminating Maintenance Flashes at the base level. If used, Flashes will be standardized within the MXGs, and at minimum should cover, background, concern/condition and corrective action regarding the maintenance issue. **Note:** Maintenance Flashes are considered advisory in nature. **(T-3).**

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).**

13.4.6. 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).**

13.7. 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*.

14.2. 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.

14.2.2. 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:

14.2.4.1. 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).**

14.2.4.3. 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).**

14.2.5. 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. **(AFGSC)** The Chief COR position may be established if required.

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).**

14.2.5.13.1. Within five duty days of filling COR vacancies, the Chief COR will forward the COR nomination letter to the PCO/ACO. **(T-2).**

14.2.5.14. 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).**

14.2.5.17. 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 surveilled has a COR assigned to ensure contract surveillance is accomplished. **(T-2).**

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).**

14.2.5.21. 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).**

14.2.5.22. Develop and publish a monthly schedule of COR surveillance activities (label as FOUO). **(T-2).**

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).**

14.2.5.22.2. 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).**

14.2.5.27.1. 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).**

14.2.6. 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.

14.2.6.1. 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).**

14.2.6.1.6. 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).**

14.3. 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. (AFGSC) Training Requirements. IG personnel evaluating COR functions should attend initial contract surveillance related training offered at base contracting offices. **(T-2).**

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.

14.3.1.1. **(Added-AFGSC)** All CORs, Chief CORs (if assigned) and COR superintendents surveilling aircraft, aircraft related, aircraft trainer maintenance and contracts will adhere to the following training requirements:

14.3.1.1.1. **(Added-AFGSC)** Refresher training for full-time CORs will take place immediately upon any changes/modifications to the contract, PWS, PP, or technical risk. This training will be provided by the QAPC, or appropriate agency. **(T-3).**

14.3.1.1.2. **(Added-AFGSC)** Accomplish recurring training. Re-accomplish initial contract surveillance related training every three years. **(T-3).**

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).**

14.4. 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.

14.4.2. 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**.

14.4.3. 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).**

14.4.4. 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. **(AFGSC)** COR/Chief COR (if assigned) will complete a Monthly Activity Report (MAR) that should include inspections/evaluations/audits results for that month, with a summary of deficiencies noted and any trends identified. It is also recommended to include any CAR updates, a summary of the business relationship with the contractor, and Chief COR comments. See **Attachment 7** for the suggested content and format for a MAR. MAR will be routed to the applicable AFGSC functional. **(T-2).**

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. **(AFGSC)** Corrective Action Requests will be initiated by CORs when appropriate. CARs are issued when the contractor fails to meet a Service Summary requirement, for major nonconformance, or when the contractor fails to correct minor nonconformance in a timely manner. Contractors may use AFGSC Form 100, *Corrective Action Report (CAR)*, for suggested CAR content and format. **(T-2).**

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.

14.4.5.2. 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.

14.5. 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. (AFGSC) COR Inspections. Minimum Equipment Condition (EC), Quality Control (QC) Evaluation, Program Management (PM), Customer Comment (CC), "As Observed" discrepancies and Inspections, will be determined by review of the requirements identified in the Service Summary and risk associated with non-performance of elements of the PWS. **(T-2).**

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).

14.5.2.1. 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.

14.5.2.1. **(AFGSC)** Minimum In-progress Inspection (IP) areas will be determined by review of the Services Summary of the PWS and could include Technical Orders, Consolidated Tool Kits, Locally Manufactured and/or Spare Tools, Hazardous Materials Management, Aircraft and Equipment Forms, Test, Measurement, and Diagnostic Equipment, Bench Stock, and IMDS inspections. **(T-2).**

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.

14.5.3. 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.

14.5.4. 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-AFGSC)** Discrepancy Categories. To ensure consistency when determining severity of discrepancies, the following definitions and criteria apply to technical and observation area inspections: **(T-2).**

14.5.7.1. **(Added-AFGSC)** . 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. Any major discrepancy will result in an automatic unacceptable. **Note:** The COR will 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. To clarify the COR should intercede to prevent one of the above occurrences from happening but may still write up a major finding even though the jeopardizing action was never taken due to their intercession. **(T-2).**

14.5.7.2. **(Added-AFGSC)** Minor Discrepancy. An unsatisfactory condition that requires repair or correction but does not endanger personnel, affect safety of flight, jeopardize equipment reliability, or warrant discontinuing a process or equipment operation. **Note:** If the COR determines it is appropriate, minor discrepancies that consist of a grouping of like deficiencies; for example, a bench stock with 6 co-mingled bins, 10 bins not flagged, and 4 bins with torn labels may be documented as one discrepancy against the observation guide. **(T-2).**

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.

14.6.1. 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).**

14.6.2. 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.

14.6.3.2. 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)	32.1004, (a) & (b) &(e)(1)(ii)			
Performance Preparation and Administration				

- Identify MFT and COR responsibilities				
- Identify procedures to ensure contractor's QC System is effective				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. (AFGSC) Responsibilities. Unit PS&D will supplement this chapter to ensure standardization of key processes and effective program management. PS&D will provide functional guidance to AGE/Armament/Munitions sections. PS&D will conduct SAVs on sections that are involved with scheduling processes, and will ensure that appropriate training is given to individuals to assist with their requirements. Additionally, PS&D will perform a SAV annually to ensure scheduling & documentation processes are properly executed. PS&D is overall responsible for notifying the MXG/CC of fleet availability and management issues that may jeopardize mission success. As a minimum, current paper copies or electronic versions of technical orders 00-5-15, 00-20-1, 00-20-2 00-20-9, 00-25-4, 00-25-107, applicable -6, and 11/14 series will be available in PS&D. **(T-2).**

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.

15.1.2.1.4.1. **(Added-AFGSC)** The agency requesting the change initiates the AF Form 2407 and coordinates it through the affected production superintendent, AMU OIC/NCOIC, AMXS maintenance operations, OS director of operations officer, operations group, munitions control, maintenance group, and wing staff agencies, as applicable (e.g., MOC, PS&D, etc.). **(T-3).** For additional AF Form 2407 coordination guidance see AFGSCI 21-165.

15.1.2.1.4.2. **(Added-AFGSC)** Both the OG and MXG commander (or group

level representative, designated in writing by group commander) will approve all AF Form 2407 changes that add aircraft and/or sorties or increase the flying window. Squadron commander(s) (or designated representative) will approve all other AF Form 2407 changes that affect them. **(T-3).** For additional AF Form 2407 guidance see AFGSCI 21-165. **(T-2).**

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).**

15.1.3.1. **(AFGSC)** Units will automate new AFTO Form 95 and maintain them in the MIS. This approach eliminates duplication and provides a single source repository. If current AFTO Form 95 documents are partially automated, then complete automation is highly encouraged. When the AFTO Forms are completely automated and reconciled for 100% accuracy, destroy the duplicate hard copies. Units that choose to maintain the original hard copies, will document the hard copy with an entry that states, "History as of this date is automated and maintained in the MIS." Also, the first entry of the continuation/automated AFTO Form 95 will be documented with an informational entry, "Previous history as of this date is maintained in the aircraft jacket file or decentralized file." **(T-2).**

15.1.3.1.1. **(Added-AFGSC)** Notify item manager when items are received and the AFTO Form 95 is missing for proper disposition instructions.

15.1.3.1.2. **(Added-AFGSC)** All 2R1X1s will be centralized physically in the MXG MO PS&D Section, but will provide decentralized support as appropriate **(T-2).**

15.1.3.2. Maintain historical maintenance data within the MIS. **(T-0).**

15.1.3.2. **(AFGSC)** In conjunction with MDSA, MO PS&D will develop manual JCN block assignment and procedures. IMDS-CDB uses year-event-identifiers instead of JCNs, and uses an automatic JCN assignment feature. The procedures need to be established only for manual input of JCNs during IMDS-CDB downtime and deployment processing. **(T-2).**

15.1.3.3. Develop wing maintenance plans using MIS aircraft/system historical data input by all maintenance personnel. **(T-1).**

15.1.4. The PS&D NCOIC/Chief (or equivalent) will:

15.1.4.1. Act as the wing 2R1XX functional manager. **(T-2).**

15.1.4.1.1. **(Added-AFGSC)** Perform initial evaluations for all incoming 2R1XX personnel. Initial interviews will be documented on the ITP journal in TBA, or on an AF Form 623A, *On-the-Job Training Record Continuation Sheet*, and filed in the individual's training record IAW AFI 36-2201 and Lead Command supplements. **(T-2).**

15.1.4.1.2. **(Added-AFGSC)** [MINOT AFB only] Provide functional manager support to 91 MW for TSgts and below only. **(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. **(AFGSC)** [MINOT AFB only] 91 MW maintenance management scheduling personnel will serve a minimum of 24 months for continuity; they then become subject to AFI 21-101 rotation guidance. **(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)**.

15.1.4.4. Develop and sustain the PS&D MTP IAW AFI 36-2201 and AFI 36-2650. **(T-1)**.

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).**

15.1.4.4.3. **(Added-AFGSC)** Units may develop a familiarization training outline that correlates to required weapon system knowledge with PS&D duties, and coordinate with maintenance supervision, production superintendent or MTF personnel to provide familiarization training that achieves outlined objectives. **Note**: Units may use already developed courses or portions of, (eg. Crew Chief Course) that meets FAM training intent instead of developing a course specifically to fulfill intent. **(T-2).**

15.1.4.4.4. **(Added-AFGSC)** Units will ensure that newly assigned 2R1X1 personnel receive weapon system familiarization training, if not already familiar, through the MTF/TD within 3 months of assignment. If courses are not available, coordinate with the appropriate maintenance activity for familiarization training. Document familiarization training in the individual's training record. For ARC, PS&D will attend the course within 6 months of assignment to the unit. **(T-2).**

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-AFGSC)** Ensure 2R1X1 personnel performing scheduling functions in sections where 2R1X1 personnel are not assigned (i.e. armament, AGE) either permanently or temporarily are trained in day-to-day scheduling tasks. Ensure an AF Form 797, or equivalent is developed for each required area, and ensures training is provided. The unit 2R functional will establish training procedures and ensure coordination is accomplished with the respective workcenter section chief. **(T-2).**

15.1.4.8. **(Added-AFGSC)** No less than two assigned maintenance schedulers will have access to the REMIS MIS. Ensure host wing PS&D provides REMIS coverage for each decentralized scheduling office (e.g., TFI, AGE, etc.). Airmen with PCS orders or within 6 months of DOS do not count towards unit's requirement due to the long turn time to get REMIS access. AVDO and TCTO monitors will use REMIS, in addition to IMDS, to manage their programs. **(T-2).**

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. **(AFGSC)** PS&D will coordinate with the applicable AFGSC/A4V weapon system team aircraft manager when developing PDM schedule/listing. **(T-2).**

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).**

15.1.6.1.1. **(Added-AFGSC)** Maintenance schedulers are centralized (physically) in the MO PS&D section, but should have a work space in the AMU. **(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).**

15.1.6.2.1. 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).**

15.2. 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).**

15.2.1.2. **(AFGSC)** Annual inspections are required for hard copy/manually maintained items. Automated AFTO Form 95 items will be reconciled to ensure all required items are tracked and loaded with a historical header using IMDS screen 390. QLP programs developed by data base managers are recommended to identify missing 95 tracked items and/or missing AHE header record. **(T-2).**

15.2.1.2.1. **(Added-AFGSC)** Automated history is the primary method for maintaining individual historical documents. Aircraft and component MIS history will be saved to file/disk and placed into the jacket file only for permanent equipment transfer or when requested (e.g., accident/safety investigation board). Ensure history files are not corrupt prior to placing them into the jacket file. Maintain a back-up file until the gaining unit confirms receipt. Ensure AFTO Form 95s are printed and shipped with item for overhaul. **(T-2).**

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).**

15.2.2.3.12. 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)**.

15.2.3.2.1.1. **(Added-AFGSC)** If the aircraft has been away from home station and the last documents review exceeds 60 calendar days, an ADR will be accomplished within 3 duty days after return. A document review will be performed on aircraft prior to assuming alert/IR. For aircraft on alert/IR, document reviews may be done at the alert/IR facility. **(T-2).**

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)**.

15.2.3.2.3. For CANN aircraft, conduct ADRs at least every 30 days. **(T-2)**.

15.2.3.2.3.1. **(Added-AFGSC)** Forms will be transcribed IAW TO 00-20-1, additionally print a new set of automated Aircraft AFTO Form 781-series prior to starting the ADR process. **(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)**.

15.2.3.4.3. 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)**.

15.2.3.4.4. Units will coordinate with DMS/LRS to run a tail number inquiry to validate backorders and correct any discrepancies discovered. **(T-2)**.

15.2.3.4.5. 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.

15.2.3.4.5.2. **(Added-AFGSC)** Aircraft Section (DCC or Alternate), Section NCOIC and Flight Chiefs will reconcile the on-line Automated Records Check (ARC) with aircraft AFTO Form 781-series to ensure the forms and MIS match. DCC initiate actions to correct discrepancies, sign off the ADR JCN in the MIS and forward to PS&D for filing. Replace the old ADR package with the most current/recently completed ADR package in the Jacket File. **(T-2).**

15.2.3.4.5.3. **(Added-AFGSC)** Discrepancies with a scheduled start date and time greater than 5 calendar days after the date of discovery are deferred. **(T-2).**

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.

15.2.4.2. 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).**

15.2.4.2.1.2. 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. **(AFGSC)** Out-of-configuration Inspection/Time Change/TCTO items with established life limits will be resolved prior to post-docking the aircraft. Unresolved issues will be brought to AMXS/MXS/MO supervision immediately, and resolved prior clearing the inspection suspense validation. **(T-2).**

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)**.

15.2.4.3.2. 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).**

15.2.4.3.4.1. The responsible work center will correct verified erroneous data and "out of configurations" in the MIS prior to post-dock. **(T-2).**

15.2.4.3.5. 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).**

15.2.5. 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)**.

15.2.5.1.2. 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. Validate that any TCTO/TCI/SI not complied with will not ground the aircraft before releasing the aircraft back to flightline maintenance personnel. **(T-2).**

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.

15.2.6. 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.

15.2.6.3. 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)**.

15.3.1.5.1. **(Added-AFGSC)** Units will use Maintenance Scheduling Application Tool (MSAT) or future HAF standardized Aircraft Maintenance Scheduling Mission Support Application to facilitate the management of MIS data. **(T-2).**

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)**.

15.3.2.1.1. 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).**

15.3.2.2. **(AFGSC)** Tracked items that have an established life limit will be highlighted to the MXG/CD if the issue cannot be resolved immediately for necessary actions. **(T-2).**

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.

15.3.2.4. PS&D will coordinate the daily resolution of IMDS configuration management notices with the appropriate maintenance section utilizing the applicable MIS screen. **(T-1)**.

15.3.2.4.1. Uncorrected discrepancies will be briefed weekly at the daily production/scheduling meeting and forwarded to the appropriate maintenance supervision for corrective action. **(T-2)**.

15.3.2.4.2. **(Added-AFGSC)** PS&D will notify the MXG/CC of ACM, TCI and safety of flight issues that require immediate resolution. **(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).**

15.3.2.6. **(Added-AFGSC)** Establish data cleansing procedures to ensure uninstalled time change items with associated JSTs are deleted from the database on a quarterly basis. Coordinate with DBM for assistance with auto-cleansing via use of a QLP. **(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).

15.3.3.1.4. **(Added-AFGSC)** Armament, AGE, Munitions and Engine Management (EM) TCTO monitors will keep MO PS&D informed of problems. MO PS&D will assist when necessary. **(T-2).**

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)**.

15.3.3.2.3.1.1. **(Added-AFGSC)** PS&D monitors completion of commodity TCTOs and coordinates with performing work centers to ensure compliance within specified time limits. PS&D establishes schedules for completion of installed commodity TCTOs with companion aircraft TCTOs. PS&D schedules aircraft TCTOs. The EM section schedules non-installed engine-related TCTOs and coordinates with PS&D on installed engine related TCTOs. The munitions squadron PS&D will manage TCTOs for all air-launched surface attack guided missiles and associated support equipment, munitions, nuclear ordnance commodity management items, guidance kits, air intercept/aerial guided missiles and air intercept/aerial rockets. **(T-2).**

15.3.3.2.3.2. **(Added-AFGSC)** PS&D will email applicable Modification Manager or Production Management Specialist the IMDS TCTO Data Code Inquiry (TRIC TCI) for each applicable TCTO 150 calendar days prior to rescission date.

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.

15.3.3.3.1.2. 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)**.

15.3.3.3.2.2.3.1. **(Added-AFGSC)** QA will provide a copy of the IMT FORM 82, Certificate-Proofing TCTOs/Kits to the TCTO monitor for filing in the TCTO folder. **(T-2).**

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)**.

15.3.3.3.2.3.2. 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)**.

15.3.3.3.2.3.4.1. **(Added-AFGSC)** TCTO monitors will request a REMIS Master TCTO Record from the TCTO POC identified in the published

TCTO and reconcile it with IMDS prior to deleting Data Codes from IMDS. If discrepancies are noted, forward a copy of the MIS product to the TCTO POC to update REMIS. Delete from IMDS when IMDS and REMIS match. **(T-2).**

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).**

15.3.3.3.2.4.1. **(Added-AFGSC)** If TCTOs are loaded in IMDS manually; the TCTO monitor will contact the TCTO POC and request a REMIS Master TCTO Record. This record will be used to reconcile all data elements between IMDS and REMIS in order to eliminate system interface errors during TCTO resync reporting to REMIS. **Note**: Units must not manually load TCTOs into the MIS without first contacting single manager and/or equipment specialist to let them know that TCTO was never loaded. **(T-2).**

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)**.

15.3.3.3.2.8.1. 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)**.

15.3.3.3.2.13.1. **(Added-AFGSC)** Annotations to the original MIS product and/or separate tracking sheet used to monitor TCTO status is sufficient. Repetitive printing/filing Screen #525 in the TCTO folder is not required. Upon completion of TCTO, run a part number listing to ensure no additional parts applicable to the TCTO were gained or loaded into the MIS. Print a new MIS product and file in TCTO folder. **(T-2).**

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)**.

15.3.4.1.2. **(Added-AFGSC)** Schedulers will monitor -6 and associated technical orders to ensure time change/inspection frequencies align and support the maintenance concept of the weapon system. Scheduled maintenance requirements that do not align with the established maintenance concept and affect aircraft availability will be identified and forwarded to the Product Improvement Working Group (PIWG) for consideration and/or resolution. Aligning maintenance requirements will eliminate additional downtime and increase aircraft availability.

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)**.

15.3.4.2.2. 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)**.

15.3.4.2.4.1.1. 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)**

15.3.4.2.4.1.3. **(Added-AFGSC)** Units have the option to load JSTs with frequencies less than 30 calendar days/50 hours. **(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).

15.3.4.2.4.3. 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)**.

15.3.4.2.4.3.1. **(AFGSC)** Units will use MSAT during quarterly reviews and ensure accurate data in the MIS. **(T-2).**

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)**.

15.3.4.3.3.3.3. Submit consolidated forecasts to the appropriate Lead Command representative with an info copy to munitions operations. **(T-2)**.

15.3.4.3.3.3.4. Forward any quarterly updated forecasts to munitions operations. **(T-2)**.

15.3.4.3.3.4. **(Added-AFGSC)** The Air Crew Flight Equipment section will manage Aircrew Flight Equipment (AFE) items not tracked as installed on-equipment. **(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)**.

15.3.4.3.4.1. Ensure a copy of approved waivers are placed in the affected aircraft's forms and removed when no longer required. **(T-1).** 15.3.4.3.4.1. Maintain and monitor a suspense copy of the extension request and follow up prior to the grounding date of the TCI. **(T-1)**.

15.3.4.3.4.2. 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)**.

15.3.4.3.4.3. 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).**

15.3.4.3.5.2. Inform FSC of any "mark for" changes or items no longer required. **(T-2).**

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)**.

15.3.4.3.6.3.1. **(AFGSC)** Careful consideration must be given when ordering CAD/PAD items 6 to 9 months early e.g., if a cluster of TCIs that are due at the 9th month mark and additional TCIs are due on the 10th or 11th month, the aircraft will be scheduled for additional major maintenance closer to the time change items that are due in the 9th month period. Therefore, it may be more cost effective not to schedule TCIs too early. Instead, consider the most effective grouping of TCIs. This concept balances the 9 month rule with cost effectiveness. However, aircraft availability for deployments and contingency

operations is the determining factor in deciding to group TCIs into a single down period. **(T-2).**

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)**.

15.3.4.3.6.5. **(Added-AFGSC)** If a TCI is authorized an over-fly limit and part is received; then TCI will be considered due for replacement at the HPO, Phase, PE, HSC, or ISO inspection nearest to the replacement date without exceeding authorized over-fly limits in applicable technical orders. **(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).**

15.3.4.3.8.1. **(Added-AFGSC)** Ensure the part number, serial number, position, reference designator, and lot number (as applicable) are loaded. For Calendar TCIs check the Date of Manufacture (DOM), Date of Installation (DOI), frequency and due dates to ensure they are accurate. For hourly, start, or cycle tracked TCIs, verify the DOI. To verify time remaining, subtract current operating time /starts cycles, from the frequency. **(T-2).**

15.3.4.3.9. Coordinate management of respective TCIs with applicable maintenance and operation work centers. **(T-1)**.

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)**.

15.3.4.3.11.1. **(AFGSC)** Agencies requesting changes or updates to the need-date of any cartridge actuated device/propellant actuated device (CAD/PAD) item must coordinate with PS&D and MASO in sufficient time to preclude emergency issue requests. Refer to AFI 21-201 for emergency issue and contingency issue requests. **(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)**.

15.3.4.3.12.1. Validate current requirements against the annual forecast and make corrections based on aircraft utilization. **(T-2)**.

15.3.4.3.12.1. **(AFGSC)** PS&D will submit an updated quarterly forecast when the need date for parts are outside of the calendar quarter which the parts were forecasted for on the annual forecast. PS&D then forwards it with the adjusted totals to munitions operations for ordering of the additional assets. **(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)**.

15.3.6. 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)**.

15.3.6.1.5. **(Added-AFGSC)** Refer to AFI 21-103 for additional information on "temporary loans." **(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)**.

15.3.6.2.2.4. **(Added-AFGSC)** Special IMDS procedures are required to minimize loss of data associated with aircraft transfer/data migration. The TBE process is used for unit-to-unit transfers, 3WO process is used for PDM-to-unit transfers and unique IMDS procedures are required when PDM visits result in a MDS/SRD change (e.g., B-2A to B-2B). Contact IMDS DBM for support. **(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.

15.4. 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)**.

15.4.1.2.3. 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).**

15.4.1.2.7.3. **(Added-AFGSC)** Inspections tracked by flight hours must also be loaded in CEMS. **(T-2).**

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)**.

15.4.1.2.10. Accomplish quarterly TCTO status reviews and reconciliations IAW TO 00-25-254-1. **(T-1)**.

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)**.

15.4.1.2.13.1. **(AFGSC)** Units utilizing the Standard Base Supply System (SBSS) module of IMDS-CDB will follow procedures in AFCSM 21-568, *Time Compliance Technical Order (TCTO), Software User Manual*, and AFCSM 21-579, *Maintenance-Supply Interface, Software User Manual*. **(T-2).**

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)**.

15.4.1.2.16.2. 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. **(AFGSC)** Contractors appoint a primary and an alternate engine manager responsible for the engines assigned to the SRAN under the maintenance contract and to ensure base engine manager (BEM) duties 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)**.

15.4.1.3.10.1. **(AFGSC)** Obtain AFGSC engine manager approval prior to returning engines to depot or 2LM. **(T-2).**

15.4.1.3.10.2. **(Added-AFGSC)** Add Engine Control Number Procedures. Prior to returning engines to depot, the following procedures will be used to obtain control number approval from AFGSC/A4V Engine Manager. Unit will send an e-mail to HQ AFGSC/A4VA engine management and functional manager.

Request will include the following information: Unit, From (requestor's name), Phone Number, Date, Engine Type, Engine Serial Number, Current Engine Operating Time, Time Remaining, Detailed Discrepancy (provide detailed description of the discrepancy that requires depot repair). **(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 equivenent 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)**.

15.4.1.3.14. Verify all update transactions (e.g., times, TCTO, part removal and installations) are input before reporting an engine removal or installation. **(T-2)**.

15.4.1.3.15. **(Added-AFGSC)** Engine Manager or assistant Engine Manager will monitor engine spares, monitor all CANN actions and coordinate CANN actions with AMXS and MXS production supervision as appropriate. Additionally, the Engine Manager NCOIC and assistant will monitor the shipment preparations; ie., pack and wrap for MXG. MO/MXOM will provide advice to the MXG/CC's ET&D program, as required. **Note**: AFSC 2A6X1 and 2R1X1 may be substituted for each other as required, IAW with Engine Management AF Manpower Standards Table. **(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. **(AFGSC)** Refer to AFI11-102_AFGSCSUP, *Flying Hour Program Management,* and AFGSCI 21-165, *Aircraft Flying and Maintenance Scheduling Procedures*.

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.

15.5.1.5.1. 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)**.

15.5.1.5.3. 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.

15.5.2. 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)**.

15.5.2.1. 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)**.

15.5.2.3.1. The assessment will provide first look maintenance capability projections in a monthly format IAW MAJCOM guidance. **(T-2)**.

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).

15.5.2.4.2. 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.

15.5.3.1. MAJCOMs will develop procedures to ensure the objectives of the annual maintenance planning cycle are met.

15.5.3.1. **(AFGSC)** Refer to AFGSCI 21-165.

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.

15.5.3.1.2. 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.

15.5.3.2. 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:

15.5.3.2.1. 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).**

15.5.3.3. 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 into consideration aircraft required for training. **(T-2)**.

15.5.3.3.2. A projected airframe capability statement. **(T-2)**.

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-AFGSC)** OSS Current Operations Flight presents the coordinated annual plans to the MXG and OG CCs for coordination prior to final approval from the wing commander. All Approved plans will be forwarded to AFGSC/A4MX, and serve as the annual flying hour program contract. **(T-2).**

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.

15.5.4.1. MAJCOMs will develop procedures to ensure the objectives of the Quarterly Planning cycle are met.

15.5.4.1. **(AFGSC)** Refer to AFGSCI 21-165.

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. **(AFGSC)** Refer to AFGSCI 21-165.

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.

15.5.5.2. The monthly flying and maintenance plan schedule refines the quarterly plan by combining all aspects of aircraft utilization and will include:

15.5.5.2.1. 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)**.

15.5.5.2.1.1. Do not assign attrition sorties to a specific aircrew/mission for the monthly planning process. **(T-2)**.

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)**.

15.5.5.2.8. 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)**.

15.5.5.3. 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.

15.5.5.3.2. 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)**.

15.5.5.5. 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.

15.5.6. Weekly Scheduling. The weekly schedule is the final refinement to the monthly plan and results in the weekly flying and maintenance schedule.

15.5.6.1. MAJCOMs will develop procedures to ensure the objectives of the weekly scheduling process are met.

15.5.6.1. **(AFGSC)** Refer to AFGSCI 21-165.

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):

15.5.6.2.1. Aircraft takeoff and landing times. **(T-2).**

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).**

15.5.6.3. 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. **(AFGSC)** AMU PS&D will de-conflict the flying and maintenance pages with the AF Form 2402, *Weekly Equipment Utilization and Maintenance Schedule*/AF Form 2401, *Equipment Utilization and Maintenance Schedule*, to ensure they match prior to submission to MXO PS&D. The published AF Form 2402/2401 should reflect the unit's planned action for each aircraft each flying day. Maintain AF Forms in accordance with the RDS. **(T-2).**

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.

15.5.6.3.2. Spare aircraft requirements. **(T-2)**. Spare requirements are printed by day for each maintenance unit. Generate only the absolute minimum of spare aircraft.

15.5.6.3.3. 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. **(AFGSC)** Refer to AFGSCI 21-165.

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)**.

15.5.6.4. 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)**.

15.5.6.5. 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)**.

15.5.6.7.1. 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.

15.5.6.8. PS&D will distribute the schedule to each appropriate activity and work center NLT time determined in MAJCOM supplements to this AFI. **(T-2)**.

15.5.6.8.1. Weekly schedules may be published electronically provided local security requirements are met.

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.

15.6.1.5.4.3. **(AFGSC)** Use AFGSCI 21-165 for computing MSE.

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)**.

JOHN B. COOPER
Lieutenant General, USAF
DCS/Logistics, Engineering, and Force Protection

LAWRENCE S. KINGSLEY, SES, DAF
Director, Logistics, Installations
and Mission Support

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

(Added-AFGSC) AFGSC Form 100, *Corrective Action Report (CAR)*

(Added-AFGSC) AFGSC Form 122, *Abort /IFE Record*

(Added-AFGSC) AFGSC Form 140, *CTK Inventory and Control Log*

(Added-AFGSC) AFGSC Form 145, *Lost Tool/ Object Report*

(Added-AFGSC) AFGSC Form 147, *Quality Assurance Impoundment Record*

(Added-AFGSC) AFGSC Form 64, *Request for Special Certification*

(Added-AFGSC) AFGSCI 13-520-SV3, *(U)Bomber Nuclear Generation and Regeneration,* 1 March 2012

(Added-AFGSC) AFGSCI 21-105, *Structural Maintenance and Corrosion Control Programs*, 11 January 2012

(Added-AFGSC) AFGSCI 21-165, *Aircraft Flying and Maintenance Scheduling Procedures*, 21 March 2013

(Added-AFGSC) AFI11-102_AFGSCSUP, *Flying Hour Program Management,* 1 February 2010

(Added-AFGSC) DD Form 2757, *Welding Examination Record*

FAR Part 1.602-2(d), Part 42, *Contract Administration and Audit Services*

FAR Part 46, *Quality Assurance*

29 CFR 1910.1200(f), *Occupational Safety and Health Standards, Toxic and Hazardous Substances,* 26 Mar 2012

DOD Procedures, Guidance and Information (PGI) 201.602-2, 21 Apr 2014

DOD Mandatory Procedure *(MP) 5301.602-2(d),* 1 Oct 2014

DODD 3150.02, *DOD Nuclear Weapons Surety Program*, 24 Apr 2013

DODI 5100.76, *Safeguarding Sensitive Conventional Arms, Ammunition, and Explosives (AA&E),* 28 Feb 2014

JP 1-02, *Department of Defense Dictionary of Military and Associated Terms,* 8 Nov 2010

(Added-AFGSC) AF Form 2435, *Load Training and Certification Document*

(Added-AFGSC) AF Form 4366, *Aircraft Inspection Flow Chart*

(Added-AFGSC) AF Form 4367, *Aircraft Discrepancy Gig Sheet*

(Added-AFGSC) AFTO Form 350, *Repairable Item Processing Tag*

AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems,* 8 Mar 2007

AFPD 21-1, *Maintenance of Military Materiel,* 25 Feb 2003

AFPD 24-2, *Preparation and Movement of Air Force Materiel*, 27 Apr 2013

AFPD 90-8, *Environment, Safety, and Occupational Health,* 2 Feb 2012

AFECD, *The Air Force Enlisted Classification Directory,* 31 Oct 2013

AFOSHSTD 48-20, *Occupational Noise and Hearing Conservation Program,* 10 May 2013

AFI 10-201, *Status of Resources and Training Systems,* 19 Apr 2013

AFI 10-206, *Operational Reporting,* 11 Jun 2014

AFI 10-207, *Command Posts,* 11 Jun 2014

AFI 10-252, *Defense Readiness Reporting System,* 9 Aug 2012

AFI 10-401, *Air Force Operations Planning and Execution,* 7 Dec 2006

AFI 10-403, *Deployment Planning and Execution,* 20 Sep 2012

AFI 10-404, *Base Support and Expeditionary (BAS&E) Site Planning,* 21 Jan 2015

AFI 10-703, *Electronic Warfare Integrated Reprogramming,* 4 Jun 2014

AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations,* 24 Jan 2007

AFI 11-202 V3, *General Flight Rules,* 7 Nov 2014

AFI 11-212, *Munitions Requirements for Aircrew Training,* 23 Aug 2013

AFI 11-218, *Aircraft Operations and Movement on the Ground,* 28 Oct 2011

AFI 11-235, *Forward Area Refueling Point (FARP) Operations,* 15 Dec 2000

AFI 11-301 V1, *Aircrew Flight Equipment (AFE)) Program,* 25 Feb 2009

AFI 11-301 V2, *Maintenance and Configuration Requirements for Mobility Air Forces (MAF) Aircrew and Aircraft-Installed Aircrew Life Support Equipment (ALSE),* 20 Dec 2013

AFI 11-401, *AviationManagement,* 20 Dec 2010

AFI 13-201, *Airspace Management,* 21 Aug 2012

AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination,* 30 May 2013

AFI 20-110, *Nuclear Weapons-Related Materiel Management,* 23 Oct 2014

AFI 20-115, *Propulsion Management for Aerial Vehicles,* 12 Feb 2014

AFI 20-117, *Repair Network Integration (RNI),* 10 Dec 2014

AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting,* 26 Jan 2012

AFI 21-110, *Engineering and Technical Services, Management and Control,* 12 Apr 2012

AFI 21-113, *Air Force Metrology and Calibration (AFMETCAL) Management,* 23 Mar 2011

AFI 21-118, *Improving Air and Space Equipment Reliability and Maintainability,* 2 Oct 2003

AFI 21-123, *Air Force Repair Enhancement Program (AFREP),* 27 Sep 2012

AFI 21-124, *Oil Analysis Program,* 14 Mar 2013

AFI 21-131, *Joint Oil Analysis Program,* 26 Mar 2014

AFI 21-200, *Munitions and Missile Maintenance Management*, 2 Jan 2014

AFI 21-201, *Conventional Munitions Management,* 9 Apr 2014

AFI 21-203, *Nuclear Accountability Procedures*, 18 Sep 2014

AFI 21-204, *Nuclear Weapons Maintenance Procedures,* 28 Aug 2014

AFI 23-101, *Air Force Materiel Management,* 8 Aug 2013

AFI 23-111, *Management of Government Property in Possession of the Air Force,* 23 Oct 2013

AFI 23-201, *Fuels Management*, 20 Jun 2014

AFI 23-204, *Organizational Fuel Tanks,* 24 Jul 2012

AFI 24-203, *Preparation and Movement of Air Force Cargo,* 13 Apr 2007

AFI 24-302, *Vehicle Management*, 26 Jun 2012

AFI 25-101, *Air ForceWar Reserve Materiel (WRM) Guidance and Procedures,* 14 Jan 2015

AFI 25-201, *Intra-Service, Intra-Agency, and Inter-AgencySupport Agreements Procedures,* 18 Oct 2013

AFI 31-101, *Integrated Defense* (FOUO), 8 Oct 2009

AFI 31-401, *Information Security Program Management,* 1 Nov 2005

AFI 32-7001, *Environmental Management,* 4 Nov 2011

AFI 32-7042, *Waste Management,* 7 Nov 2014

AFI 32-7086, *Hazardous Materials Management,* 4 Feb 2015

AFI 33-115, *Air Force Information Technology (IT) Service Management*, 16 Sep 2014

AFI 33-150, *Management of Cyberspace Support Activities*, 30 Nov 2011

AFI 33-200, *Information Assurance (IA) Management*, 23 Dec 2008

AFI 33-360, *Publication and Forms Management,* 25 Sep 2013

AFI 33-580, *Spectrum Management,* 17 Jan 2013

AFI 33-590, *Radio Management*, 8 Apr 2013

AFI 34-117, *Air Force Aero Club Program,* 1 Oct 2014

AFI 36-2101, *Classifying Military Personnel,* 25 Jun 2013

AFI 36-2201, *Air Force Training Program,* 15 Sep 2010

AFI 36-2605, *Air Force Military Personnel Testing System,* 24 Sep 2008

AFI 36-2650, *Maintenance Training*, 20 May 2014

AFI 36-2818, *The USAF Maintenance Awards Program,* 27 Nov 2007

AFI 36-3017, *Special Duty Assignment Pay (SDAP) Program,* 10 Jun 1994

AFI 36-3802, *Personnel Readiness Operations,* 23 Feb 2009

AFI 38-101, *Air Force Organization,* 16 Mar 2011

AFI 38-203, *Commercial Activities Program,* 20 Jun 2008

AFI 48-109, *Electromagnetic Field Radiation (EMFR) Occupational & Environmental Health Program,* 1 Aug 14

AFI 48-137, *Respiratory Protection Program,* 15 Jul 2014

AFI 62-601, *USAF Airworthiness,* 11 Jun 2010

AFI 63-101/20-101, *Integrated Life Cycle Management,* 07 Mar 2013

AFI 63-104, *The SEEK EAGLE Program,* 21 Jan 2005

AFI 63-125, *Nuclear Certification Program,* 8 Aug 2012

AFI 63-131, *Modification Management,* 19 Mar 2013

AFI 63-138, *Acquisition of Services, 21 May 2013*

AFI 63-140, *Aircraft Structural Integrity Program,* 1 Apr 2014

AFI 63-501, *Air Force Acquisition Quality Program,* 31 May 1994

AFI 64-117, *Air Force Government-Wide Purchase Card (GPC) Program,* 20 Sep 2011

AFI 84-103, *U.S. Air Force Heritage Program,* 27 Oct 2004

AFI 90-803, *Environmental, Safety, andOccupational Health Compliance Assessment and Management Program,* 24 Mar 2010

AFI 90-821, *Hazard Communication,* 27 Jan 2014

AFI 90-1001, *Responsibilities for Total Force Integration,* 29 May 2007

AFI 91-101, *Air Force Nuclear Weapons Surety Program,* 13 Oct 2010

AFI 91-103, *Air Force Nuclear Safety Design Certification Program,* 17 Nov 2010

AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs,* 23 Apr 2013

AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapon Systems,* 11 Dec 2012

AFI 91-202, *The US Air Force Mishap Prevention Program,* 05 Aug 2011

AFI 91-203, *Air Force Consolidated Occupational Safety Instruction,* 15 Jun 12

AFI 91-204, *Safety Investigations and Reports,* 12 Feb 2014

AFI 91-205, *Non-Nuclear Munitions Safety Board,* 12 Apr 2012

AFCSM 21-556 V2, *Intro to IMDS CDB,* 1 Mar 2005

AFCSM 21-558, *Comprehensive Engine Management System,* 1 Nov 2013

AFCSM 21-564 V2, *Status and Inventory Reporting Software User Manual,* 1 May 2006

AFCSM 21-574 V2, *Automated Debriefing,* 1 Mar 2005

AFCSM 21-579 V2, *Maintenance supply Interface*, 1 Oct 2005

AFPAM 10-100, *Airman's Manual,* 1 Mar 2009

AFMAN 10-401, V2, *Planning Formats and Guidance*, 1 May 1998

AFMAN 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Environment*, 7 Jul 2011

AFMAN 20-116, *Propulsion Life Cycle Management for Aerial Vehicles*, 7 Feb 2014

AFMAN 20-118, *Repair Network Integration (RNI) Operations*, (when published)

AFMAN 23-122, *Materiel Management Procedures*, 8 Aug 2013

AFMAN 23-220, *Reports of Survey for Air Force Property*, 1 Jul 1996

AFMAN 24-204_IP, *Preparing Hazardous Materials for Military Air Shipments*, 3 Dec 2012

AFMAN 32-1084, *Facility Requirements*, 20 Apr 2012

AFMAN 33-153, Information Technology (IT) Asset Management (ITAM), 19 Mar 2014

AFMAN 33-283, *Communications Security (COMSEC) Operations*, 3 Sep 2014

AFMAN 33-363 *Management of Records*, 1 Mar 2008

AFMAN 48-125, *Personnel Ionizing Radiation Dosimetry*, 4 Oct 2011

AFMAN 91-201, *Explosives Safety Standards*, 12 Jan 2011

AFMAN 91-221, *Weapons Safety Investigations and Reports*, 8 Nov 2010

AFMAN 91-223, *Aviation Safety Investigations and Reports*, 16 May 2013

AFI 23-123V1, *Materiel Management Reference Information, 8 Aug 2013*

AFH 23-123V3, *Air Force Equipment Management*, 8 Aug 2013

AFH 63-1402, *Aircraft Information Program*, 19 Mar 2001

AFPAM 90-803, *Risk Management (RM) Guidelines and Tools*, 11 Feb 2013

MIL-STD-1760E, *DOD Interface Standard,Aircraft/Store Electrical Interconnection System*, 24 Oct 2007

MIL-HDBK-516C, *DOD Handbook,Airworthiness Certifcation Criteria*, 12 Dec 2014

MP5301.602-2(d) *Designation, Assignment, and Responsibilities of a Contracting Officer's Representative (COR)*, 1 Oct 2014

TO 00-5-1, *AF Technical Order System*, 1 Oct 2014

TO 00-20-5-1-3, *Instructions for Jet Engine Parts Tracking of OC-ALC/LPA Managed Engines*, 1 Mar 2007 TO 00-5-15, *Air Force Time Compliance Technical Order Process*, 1 Jan 2010

TO 00-5-16, *Software Managers and User's Manual for the USAF Automated Computer Program Identification Numbering System (ACPIN)*, 1 Jan 2009

TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*, 1 Apr2013

TO 00-20-2, *Maintenance Data Documentation,* 1 Sep 2010

TO 00-20-3, *Maintenance Processing of Reparable Property and the Repair Cycle Asset Control System,* 1 Jan 09

TO 00-20-9, *Forecasting Replacement Requirements for Selected Calendar and Hourly Time Change Items,* 14 Mar 14

TO 00-25-4, *Depot Maintenance of Aerospace Vehicles and Training Equipment,* 15 Jan 2012

TO 00-20-14, *AF Metrology and Calibration Program,* 30 Aug 2014

TO 00-25-107, *Maintenance Assistance,* 15 Jul 09

TO 00-25-113, *Conservation and Segregation of Critical Alloy and Precious Metal Bearing Parts and Scrap,* 15 Sep 2013

TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding,* 4 Jun 2014

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),* 21 Nov 2013

TO 00-25-195, *AF Technical Order System Source, Maintenance and Recoverability Coding of Air Force Weapons Systems, and Equipment,* 6 May 2011

TO 00-25-240, *Uniform Repair/Replacement Criteria for USAF Support Equipment (SE),* 1 Aug 03

TO 00-25-252, *Intermediate Maintenance and Depot Level Maintenance instructions-Aeronautical Welding,* 1 Sep 2009

TO 00-25-254-1, *Comprehensive Engine Management System (CEMS) (D042) Engine Status, Configuration, and TCTO Reporting Procedures,* 15 June 2000

TO 00-25-254-2, *System Manual Comprehensive Engine Management System for DSD: D042*,

1 Dec 2013

TO 00-35D-54, *USAF Deficiency Reporting and Investigating and Resolution,* 1 Nov 2011

TO 00-85-20, *Engine Shipping Instructions,* 1 Jun 2014

TO 00-105E-9, *Aircraft Emergency Rescue Information (Fire Protection),* 31 Mar 2011

TO 00-110A-1 *Guidelines for Identification and Handling of Aircraft and Material Contaminated with Radioactive Debris,* 31 Mar 02

TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells,* 21 Jun 2013

TO 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment,* 29 May 2010

TO 1-1B-50, *Basic Technical Order for USAF Aircraft Weight and Balance,* 1 Apr 08

TO 1-1H-39, *Aircraft Battle Damage Repair General Technical Manual,* 28 Feb 14

TO 1-1-300, *Maintenance Operational Checks and Check Flights,* 15 Mar 2012

TO 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment,* 29 May 2014

TO 2-1-18, *Aircraft Engine Operating Limits and Factors,* 6 Sep 2013

TO 2J-1-18, *Preparation for Shipment and Storage of Gas Turbine Engines*, 15 Jul 2013

TO 4W-1-61, *Maintenance and Overhaul Instruction - All Types Aircraft Wheels,* 2 Dec 2013

TO 11A-1-33, *Handling and Maintenance of Explosive Loaded Aircraft,* 1 Nov 2012

TO 11A-1-10, *Air Force Munitions Surveillance Program and Serviceability Procedures,* 2 Aug 2014

TO 11A-1-60, *General Instructions Inspection of Reusable Munitions Containers and Scrap Material Generated from Items Exposed to or Containing Explosives*, 15 May 2014

TO 11A-1-63, *Munitions Assembly Procedures—Inspection And Assembly Of Conventional Munitions*, 29 Oct 2014

TO 11C15-1-3, *Chemical Warfare Decontamination Detection and Disposal of Decontamination Agents*, 28 Feb 04

TO 11D1-3-8-1, *Portable Power Driven Decontamination Apparatus*, 15 May 2013

TO 11N-3150-8-1, *USAF DIAMONDS Policy and Procedures*, 31 May 2013

TO 31R2-1-251, *General Instructions Transmission of False Distress Signals on Emergency Frequencies,* 11 Sept 05

TO 15X-1-102, *General Care and Cleaning of Oxygen Gauges and Oxygen Device Related Test Equipment,* 31 Jul 2012

TO 31S5-4-ETOOL-1, *eTool Set Up and Management*, 1 Jan 2014

TO 32-1-101, *Use and Care of Hand Tools and Measuring Tools,* 28 Jun 2014

TO 33-1-27, *Logistic Support of Precision Measurement Equipment,* 17 Aug 2013

TO 33-1-37-1, *Joint Oil Analysis Program Laboratory Manual, Volume I*, 15 Sep 2014

TO 33-1-37-2, *Joint Oil Analysis Program Laboratory Manual, Volume II,* 30 Aug 2013

TO 33-1-37-3, *Joint Oil Analysis Program Laboratory Manual, Volume III,* 30 Aug 2013

TO 33B-1-1, *Nondestructive Inspection Methods Basic Theory,* 15 May 2014

TO 33B-1-2, *Nondestructive Inspection General Procedures and Process Controls,* 15 Mar 2012

TO 33K-1-100-2-CD-1, *TMDE Calibration Interval Technical Order and Work Unit Code Reference Guide,* 30 Nov 2014

TO 34-1-3, *Inspection and Maintenance of Machinery and Shop Equipment,* 12 Jun 2014

TO 35-1-3, *Corrosion Prevention and Control, Cleaning, Painting, and Marking of USAF Support Equipment,* 26 Apr 2014

TO 35-1-4, *Processing and Inspection of Support Equipment for Storage and Shipment*, 8 Jun 2013

TO 35-1-24, *Air Force Economic Repair/Replacement Criteria For Selected Warner Robins Logistics Complex(ALC) Managed Support Equipment (SE)*, 10 May 2013

TO 35D-1-2, Technical Manual - Maintenance Instructions WIPB - Miscellaneous Munitions Handling and Support (Munitions Related) , 23 Apr 2014

TO 35D-2-2, *Munitions Materiel Handling equipment Miscellaneous And Locally Manufactured – Armament Related*, 16 Jun 2014

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*, 31 Dec 1984

TO 42B1-1-18, *General Procedures, Handling of H-70 (Hydrazine – Water Fuel*), 3 Jun 2013

TO 44B-1-15, *General Instructions - Jet Engine Anti-friction Bearing Handling, Removal, Cleaning, Inspecting, and Installation at Jet Engine Base Maintenance Facilities*, 10 Feb 2011

TO 42E1-1-1, *Aviation Hose and Tube Manual*, 1 Jul 2013

TTP 3-3, *Aircraft Maintenance*, 4 Feb 2015

Prescribed Forms

AF Form 596, *Quick Engine Change Kit Inventory*

AF Form 726, *Transient Aircraft Service Record*

AF Form 861, *Base/Transient Job Control Number Register*

AF Form 2001, *Notification of TCTO Kit Requirements*

AF Form 2400, *Functional Check Flight Log*

AF Form 2401, *Equipment Utilization and Maintenance Schedule*

AF Form 2402, *Weekly Equipment Utilization and Maintenance Schedule*

AF Form 2403, *Weekly Aircraft Utilization/Maintenance Schedule*

AF Form 2407, *Weekly/Daily Flying Schedule Coordination*

AF Form 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

(Added-AFGSC) 2LM—Two Level Maintenance

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 Aquisition 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

(Added-AFGSC) AMIC—Acquisition Management & Integration Center

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

(Added-AFGSC) BEM—Base Engine Manager

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

(AFGSC) 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

(Added-AFGSC) CO—Contracting Officer

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

(AFGSC) DDR—Data Detailed Record

DDTS—Data Display Training Set

DECC—Defense Enterprise Computer Center

DEROS—Date Eligible for Return from Overseas

DEV—Deviation

DFARS—Department of Defense Federal Acqusition 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

(AFGSC) DOM—Date of Manufacture

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

(Added-AFGSC) ECS—Environmental Control System

(Added-AFGSC) ELC—Enterprise Location Code defines a unique IMDS database for each base

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—Electrommagnetic 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

(Added-AFGSC) FAC—Functional Activity Code

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

(Added-AFGSC) FSE—Flying Schedule Effectiveness

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

(AFGSC) GITA—Ground Instructional Training 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

(Added-AFGSC) HG—Helicopter Group

HHQ—Higher Headquarters

HOW MAL—How Malfunction

HPO—Hourly Post-flight / High Performance Organization

(AFGSC) HPO—Hourly Post-flight Inspection

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

(AFGSC) MC—Mission Capable

MCD—Magnetic Chip Detectors

MCE—Mission Control Element

(Added-AFGSC) MCL—Master Course Listing

MDF—Mission Data File

MDS—Mission Design Series

MEL—Minimum Equipment Level

(AFGSC) 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

(AFGSC) 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

(AFGSC) MSE—Maintenance Scheduling Effectiveness

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

(Added-AFGSC) OBTS—On-Board Test System

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

(Added-AFGSC) OGP—OBTS Ground Processor

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

(AFGSC) PM—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

(AFGSC) PWCS—Personal Wireless Communications System

PWS—Performance Work Statement

QA—Quality Assurance

QAPC—Quality Assurance Program Coordinators

(AFGSC) QAPC—Quality Assurance Program Coordinator

QAR—Quality Assurance Representative

QASP—Quality Assurance Surveillance Plan

QC—Quality Control /Quality Check

QE—Quarterly Evaluation

QEC—Quick Engine Change

(Added-AFGSC) QLP—Query Language Processor

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

(Added-AFGSC) RCP—Repair Cycle Processing

RCT—Repair Cycle Time

RDM—Requirements Determination Module

(Added-AFGSC) RDS—Records Disposition Schedule

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

(AFGSC) SBSS—Standard Base Supply System

SCL—Standard Conventional Load

SCR—Special Certification Roster

(Added-AFGSC) SD—Signature Diagnostics

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

(Added-AFGSC) ST—Special Tools

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

(Added-AFGSC) TNMCS—Total Not Mission Capable Supply

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

(AFGSC) WST—Weapons System 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

(Added-AFGSC) Aerospace Equipment—refers to weapon systems and equipment such as aerospace vehicles, equipment, missiles, nuclear weapons, Test Measurement and Diagnostic Equipment (TMDE), trainers, training equipment, engines, flight support equipment (FSE), industrial plant equipment, all related support equipment (SE).

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.

(Added-AFGSC) All-Up-Round (AUR)—A munition item which is shipped and stored in a complete, ready to use configuration. An AUR munition requires no pre-assembly.

(Added-AFGSC) All-Up-Round Container (AURC)—A container used to ship, store, and handle AUR munitions. Some AURCs are designed to load munitions directly from them onto an aircraft.

Alternate Mission Equipment (AME)—Equipment identified to a higher end-item, not listed in the table of allowance. Normally, -21 equipment.

(Added-AFGSC) Appoint—To select an individual to fill a position/create a position, all instances when the word "appoint" will require written documentation i.e. Appointment letter.

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.

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.

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.

(Added-AFGSC) Designate—To select and set aside for a specific duty, position or purpose. Designations will not require documentation.

Dispatchable CTK—CTK issued out and is designed to be used outside the work center.

(Added-AFGSC) Dual loading operations (DLO)—A conventional munitions loading operation on bomber aircraft accomplished simultaneously by two load crews.

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.

(Added-AFGSC) eTool—electronic Tool; Mobile workstation (laptop) used to view electronic TOs.

Evaluated Load—A loading task that is assessed according to **Chapter 10** of this instruction.

(Added-AFGSC) F118-100—The General Electric F118 is a non-afterburning turbofan engine derived from the GE F110 afterburning turbofan specially developed for the B-2 Spirit stealth bomber.

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.

(Added-AFGSC) G-File—Hard copy or electronic TO library carried on aircraft.

(Added-AFGSC) Hangar Queen—An aircraft that has not flown for more than 30 consecutive days.

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).

(Added-AFGSC) Integrated Load—The loading of two or more different types of munitions in an authorized configuration during a single operation.

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.

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.

(Added-AFGSC) Limited Use Munition (LM)—May include, but is not limited to, munitions used by a unit for firepower demonstrations, test, aircrew training or like operations. LMs may include munitions which may be used in a war or a contingency. LMs are designated on the UCML/TTML. WWM determines the number of crews to be certified.

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.

(Added-AFGSC) Monthly, Bi-Monthly, Semiannual, or Annual Intervals—Requirements will be accomplished by the last day of the scheduled month

Munitions Decertification—Removal of the certification status of a person that precludes them from loading a specific type munitions or MFG.

(Added-AFGSC) Munitions Family Group (MFG)—A designated grouping of munitions based on similarity of either physical characteristics or procedural commonality. Certification on a MFG is accomplished during initial training on each tasked munition within the MFG (subject to availability of training munitions) then maintained through the MPRL process.

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

(Added-AFGSC) Postload Checks—Power-on checks and/or tasks required by technical data prior to declaring munitions-loaded on aircraft mission ready.

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.

Primary Aerospace Vehicle Authorization (PAA)—The number of aircraft authorized to a unit for performance of its operational mission. The primary authorization forms the basis for the allocation of operating resources to include manpower, support equipment, and flying-hour funds.

Primary Aerospace Vehicle Inventory (PAI)—The aircraft assigned to meet the primary aircraft authorization. Includes PMAI, PTAI, PDAI and POAI.

(Added-AFGSC) Primary Munition (PM)—Munitions which will be the primary weapons used by the unit to execute test/training or their DOC war plan and are designated on the UCML/TTML.

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.

(Added-AFGSC) Support Munition (SM)—A munition which may be used in support of contingency plans or directives and is designated on the UCML/TTML. WWM determines the number of crews (other than LSC/Lead Crew) to be certified**.**

(Added-AFGSC) T-9—Phase hangar at Whiteman AFB.

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.

(Added-AFGSC) TF 204—Task Force 204 is an Air Force nuclear command center responsible for the day-to-day capability provided by bombers and (Reconnaissance in Support of Nuclear Operations) RISNO assets.

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.

Total Asset Visibility—The capability to provide users with timely and accurate information on the location, movement, status, and identity of units, personnel, equipment, materiel, and supplies. It also includes the capability to act upon that information to improve overall performance of the Department of Defense's logistic practices.

(Added-AFGSC) UH-1N—The UH-1N (Iroquois) is a light-lift utility helicopter used to support security surveillance of off-base nuclear weapons convoys, response to search and rescue operations, and medical evacuation and transport.

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.

(Added-AFGSC) Zulu (time)—More commonly known as "GMT" (Greenwich Mean Time).

Attachment 2

AIRCRAFT COMMANDER FEEDBACK ON FCC

Figure A2.1. Aircraft Commander Feedback on FCC.

MEMORANDUM FOR <Unit Designation/Office Symbol> Date
<Street>
<Base, State, and Zip Code>
FROM: <Aircraft Commander>
<Street>
<Base, State, and Zip Code>
SUBJECT: Aircraft Commander Feedback of the Flying Crew Chief (FCC)
Was the FCC knowledgeable of the aircraft and the systems? a - Extremely knowledgeable c - Lacks knowledge b - Sufficient knowledge d - Not observed
Did the FCC know the status of PMC and NMC discrepancies? a - Always c - Rarelyb - Most of the time d - Never
Did the FCC perform duties willingly and enthusiastically? a - Always
c - Never b - Sometimes d - Not Observed
What type of working relationship did the FCC have with the aircrew? a - Outstanding c - Fairb - Good d - Poor
Rate the overall maintenance support provided by the FCC:a - Outstanding c - Fairb - Good d - Poor
This FCC was: a - An asset to the FCC program c - Just getting by b - A hard worker, but needs more experience d - Detriment to the FCC program
Remarks: POC is <FCC Program Manager's Name, office symbol, duty phone number>.
<signed>Aircraft Commander
Note: Please fold and return to the squadron FCC Program Manager upon return to home station.

Attachment 3

QUARTERLY FCC REPORT FORMAT

Figure A3.1. Quarterly FCC Report Format.

MEMORANDUM FOR 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-AFGSC)

SAMPLE MONTHLY ACTIVITY REPORT

Date
MEMORANDUM FOR (Office symbol for Contracting Office)
(Office symbol for Quality Assurance Function)
(Office symbol for Program Management Office)
(Office symbol for AFGSC Functional)

FROM: (Office symbol for Contracting Officer Representative/ Chief COR)

SUBJECT: Monthly Activity Report for Month, Year

1. Site Audit Report(s): (Synopsis of functional area audit)
Insert audit reports, if applicable, here
2. Technical Inspections:
Insert spreadsheet with all inspection results
Provide summary of results:
Technical Inspections 50 ea
Over The Back 6 ea
Total 56 ea
Unsatisfactory 5 ea
4. Deficiency Reports/Summary:
Summarize the audit/evaluation/inspection results and identify any trends within the month or from previous months.
5. CAR Status Report:
Update status from any current or previously issued CAR here.
6. Charts:
If applicable, insert any data analysis here.
7. Special Interest Items (SII):
Insert the findings from Special Interest Items here.
8. Action Items:
If analysis of the audit/evaluation/inspection results identifies adverse trends, develop an action plan and insert here.
9. COR Comments:
Insert COR comments here.
10. Summary of Business Relationship:
Insert any comments that characterize the nature of the business relationship between CORs and the contractor here.

SIGNATURE BLOCK, Rank/Grade, USAF
Contracting Officer Representative/ Chief COR

Attachment 8 (Added-AFGSC)

MAINTENANCE RECOVERY TEAM (MRT) TASKING CHECKLIST

Table A8.1. Maintenance Recovery Team (MRT) Tasking Checklist.

1. The MRT POC will: 1.1. Record the following: 1.1.1. Aircraft MDS and tail number. 1.1.2. Location. 1.1.3. Point of contact (POC) and phone number. 1.1.4. All discrepancies requiring support. 1.1.5. Type of and desired skill level of needed technician. 1.1.6. Parts requirements. 1.1.7. Equipment requirements (including tools, testers, etc.) 1.1.8. Mode of transportation and projected date/time of departure. Evaluate capabilities and determine the best mode of transportation (military airlift, commercial, or government vehicle). 1.1.9. Passport/Visa/Immunization requirements for personnel. 1.2. Contact the applicable maintenance supervision to review requirements and request support from the responsible units to assemble an MRT. 1.3. Brief MRT personnel concerning their duties and responsibilities. Ensure the MRT chief understands the responsibilities Emphasize the following: 1.3.1. The MRT is required to call the home station MOC upon arrival to provide a phone number where they can be contacted. 1.3.2. The MRT is responsible for their equipment and parts: 1.3.2.1. Verify necessary parts are available. Open each container to ensure the right part(s) are in the box prior to departure. 1.3.2.2. Check special tools, support and test equipment for serviceability prior to departure. 1.4. Ensure TDY orders are generated for MRT. Consider the following authorizations and provide as required: 1.4.1. Mission Route Support (MRS) or Mission Essential Personnel (MEP). 1.4.1.1. MRS permits the bumping of cargo to allow space for the MRT and their equipment. 1.4.2. Advance per diem. 1.4.3. Commercial travel. 1.4.4. Rental 1.4.5. Variations: 1.5. Direct the responsible shop to order the required parts and the applicable unit to select the required equipment items. If requirements are not known, make contact with the AC/flight engineer/ crew chief to determine what items are required. 1.5.1. Items too large or heavy will be processed by the responsible shop and given to the TMF for shipment. (If required, coordinate will applicable WST for additional assistance) 1.5.2. If parts cannot be sourced locally, consider directing cannibalization. 1.6. Commercial transportation of a MRT and equipment is, in many cases, the most expeditious method. Consider the following: 1.6.1. Airline: 1.6.2. Surface (bus, rail, and limousine). 1.6.3. Air Express Small Package Service.

1.7. Coordinate transportation requirements with TMF. Review the following:
1.7.1. Destination, and priority.
1.7.2. Selected mode of transportation and itinerary.
1.7.3. Names for MRT personnel and nomenclature of equipment items and parts.
1.7.4. Authorization for excess baggage allowance if necessary.
1.7.4. Record TCNs, government bills of lading (GBL), and any applicable billing or shipment numbers.
Note: Shipment of large or heavy items by commercial airline mandates prior coordination with airline personnel by MOC or the MRT. To maintain control of parts/equipment, they must be hand-carried or checked as baggage. If an item is not accepted as carry-on luggage or checked as baggage, purchase of an extra seat to accommodate it must be considered and is recommended. (Airline policies apply) Advance coordination with the airline is the key to a successful movement without unnecessary delays.
1.8. Maintain contact with the MRT or the unit responsible for the parts/equipment shipment to ensure that all resources arrive in time to make the scheduled departure.

Attachment 9 (Added-AFGSC)

MAINTENANCE RECOVERY TEAM (MRT) CHIEF RESPONSIBILITIES

Table A9.1. Maintenance Recovery Team (MRT) Chief Responsibilities.

1. Prior to Departure. The MRT chief will: 1.1. Receive complete MRT briefing. 1.2. Read and understand all MRT chief responsibilities. 1.3. Ensure all personnel on the MRT are prepared and aware of their part in recovery actions. 1.4. Ensure all equipment/parts/tool kits/technical orders are properly prepared for shipment. 1.4.1. Verify necessary parts are available. Open containers to ensure the right part(s) are in the box. 1.4.2. Check special tools, support and test equipment for serviceability. 2. Upon Arrival. The MRT chief will: 2.1. Contact home station MRT POC. 2.2. Report to the mission commander and/or MOC. 2.3. If possible, debrief air crew and make initial determination of discrepancy. 2.4. Compute MRT duty day: 2.4.1. Emphasize safety. 2.4.2. Your initial duty day begins at the time you reported to work prior to MRT tasking. The total duty day (home station duty, travel, and recovery site duty) will not exceed 12 hours without approval from owning MXG/CC and/or the group commander at the deployment site. These MXG/CCs may also grant duty time extensions allowing up to a 16 hour duty day for any team member. Technicians will be afforded a minimum 8 hours uninterrupted rest. 2.4.3. MRT work starts immediately upon arrival unless duty day has expired en route. 2.4.4. Normal work/rest period at recovery site is 12 hours of work, followed by 12 hours of rest. The 12-hour work period may be extended with concurrence of the Owning MXG/CC and/or the group commander at the deployment site. Do not overwork your team and compromise safety. You are responsible for their care. 2.4.5. If any questions arise consult the AC, group commanders, and senior maintenance representative. 2.5. Report to home station MRT POC with the following information. 2.5.1. Specific discrepancies. 2.5.2. Estimated time in-commission (ETIC). 2.5.3. Billeting room/phone (if applicable). 2.5.4. Expiration time of MRT duty day. 3. During recovery, report to the MRT POC to the following schedule: 3.1. Upon initial assessment of actual discrepancy. 3.2. If maintenance/supply status changes. 3.3. As additional requirements become known (parts, equipment, expertise, etc. 3.4. At the end of shift or upon job completion. 4. Upon completion of recovery. The MRT chief will: 4.1. Assemble all parts/equipment/tools and prepare them for return shipment. Reparable assets brought with you or shipped to you from your home unit must be returned to your unit. Reparable assets issued at the recovery location will require turn-in at the recovery location. If in doubt about disposition, contact the home station MRT POC.

5. Upon return to home station. The MRT chief will notify MRT POC of return

Attachment 10 (Added-AFGSC)

MAINTENANCE RECOVERY TEAM (MRT) CHIEF TASKING CHECKLIST

Table A10.1. Maintenance Recovery Team (MRT) Chief Tasking Checklist

1. Team Chief:		
Name	Rank	AFSC
2. Other Personnel:		
Name	Rank	AFSC
3. Recovery Location:		
4. Aircraft Type:		
5. Tail Number:		
6. Mission Number:		
7. Next Destination:		
8. Mission Commander:	Room#	Phone:
9. Operations Officer/MX SUPT:		
10. Communications at Recovery Site:		
11. Specific Discrepancies:		
12. Equipment Required:	Item:	TCN:
13. Part(s) Required: NSN: TCN:		
a. Nomenclature:		
b. Have required parts been bench checked before packing?		Y / N / NA
14. Tool Kits Required:	Kit Number:	TCN:
15. Support Acft Tail No:		
16. Mission Number:		
17. Show Time:		
18. Orders Prepared?		Y / N
19. ETD:		
20. Passport/Visa required?		Y / N
21. Required Clothing/Money/Shot Records/etc.:		
22. Military Travel Request (MTR) prepared?		Y / N