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AIR FORCE RESERVE COMMAND

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COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements the provisions of AFPD 21-1, *Managing Aerospace Equipment maintenance* and AFI 21-101, *Maintenance Management of Aircraft.* It provides the group commanders a broad management framework to adjust procedures compensating for mission, facility, and geographic differences of a unit. Wing commanders or their equivalent may alter the frequency, agenda, or participants of meetings required. Paragraph **1.2.** provides specific procedures for waiver requests and proposed changes to this instruction. It applies to all Air Force Reserve Command unit equipment (UE) units and personnel.

(944FW) The OPR for this supplement is 944 LG/LGQ (CMSgt G. Plante). This supplement implements and extends guidance of Air Force Reserve Instruction (AFRCI) 21-101, 15 March 2000. The AFRCI is published word-for-word without editorial review. 944th Fighter Wing supplementary material is indicated by (944 FW) in bold face type. This supplement describes 944 FW procedures to be used in conjunction with the basic instruction. Upon receipt of this integrated supplement discard the standalone Air Force Reserve basic. This supplement applies to all organizations attached or assigned to the 944 FW.

SUMMARY OF REVISIONS

This revision reflects new and revised guidance. A thorough review by users, senior leaders, and managers should be accomplished to ensure units are operating with current guidance. Numerous changes are reflected throughout **Chapter 3**, **Chapter 4**, **Chapter 5**, **Chapter 6**, and **Chapter 7**. **Chapter 3** includes the Quality Assurance Tracking and Trend Analysis System which is the command standard for the quality assurance programs. **Chapter 6** reflects changes in the Crash/Disabled Aircraft Recovery Program, Foreign Object Damage Prevention Program (FOD) which now includes a command standard on FOD, Composite Tool Kit Management Program which address rag control procedures, and Hot Pit Refueling

Procedures. **Chapter 7** reflects updates in Combat Sortie Generation and Fuel Tank Build-up. This revision deletes the Compliance Oriented Maintenance Program (COMP) from **Chapter 3**, previous Attachment 2, Metrics, and previous Attachment 3, Maintenance Training Monthly/Quarterly Report. A(|) indicates revision from previous edition.

(944FW) This change incorporates interim change (IC) 2001-1. This change adds aircraft and instrument grease (1 tube) to the 944th Maintenance Squadron (MXS) Fuel Systems CTK (paragraph **6.19.3.1.2. (Added)**) and changes the identification numbers for the 302d Fighter Squadron (302 FS) Wheel and Tire Shop CTK (paragraph **6.19.7.1. (Added)**). A (|) indicates changes from previous edition.

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Chapter 1

MANAGEMENT PHILOSOPHY

1.1. General Maintenance Management Information. This instruction prescribes basic maintenance guidance and procedures to be used throughout Air Force Reserve Command unit equipped organizations, including those with maintenance decentralized in both the Operations and Logistics Groups. Local managers are expected to effectively use the resources assigned to ensure successful mission accomplishment. Managers may use additional maintenance management procedures not specifically prohibited by this instruction, technical order (TO) or other applicable maintenance instruction. Innovation is encouraged, however, any conflict with this guidance is prohibited without command review and waiver/variance approval. This instruction supports the Air Force Core Values and its application to maintenance professionals: **Integrity** - do the job right the first time; **Service** - mission accomplishment over personal gain; **Excellence** - put forth the best possible effort all the time.

1.2. Procedures for Waiver Requests and Proposed Changes. The unit LG/CC is responsible for all waiver requests or proposed changes to the instruction. In units with maintenance in both Operations and Logistics Groups, the LG/CC has the responsibility to staff, evaluate, and coordinate all waiver requests or changes initiated by or affecting the OG maintenance functions. Send waiver or change requests HQ AFRC/LGQ, with OG/CC concurrence when required, through the appropriate number air force (NAF)/LG. Unit requests for waiver must contain justification why the unit cannot comply with the existing guidance. Procedures for units to submit recommended changes (sample format at **Attachment 2**) to this instruction are as follows:

1.2.1. The unit LG/CC coordinates any proposed change.

1.2.2. Next the proposal is sent to the appropriate NAF/LG or his designated representatives.

1.2.3. The NAF/LGs make a recommendation if the proposal is significant enough to warrant immediate consideration or can be incorporated at the next scheduled update of this instruction.

1.2.4. After coordination and clarification with the unit, NAF/LGs forward proposals and their recommendations to HQ AFRC/LGQ for consideration.

1.3. Maintenance Standardization. The objectives of standardization are to ensure greater interoperability, improve maintenance quality, and ensure maintenance effectiveness. The LG/CC has cross functional responsibility for standardization of maintenance within the LG and OG. A strong OG/CC and LG/CC relationship is vitally important to maintenance standardization in units with maintenance functions in both the Operations and Logistics Groups. Standardization includes implementing maintenance discipline, quality, organizational structure, and philosophy to the greatest extent possible.

1.4. Equipment Readiness. Equipment readiness is key to the maintenance mission. Maintenance personnel must keep Air Force equipment in a serviceable condition, safely operable, and properly configured to meet mission requirements. Mission success is dependent upon the sustained ability to provide mission ready equipment at the time and place required. Quality maintenance is the responsibility of each maintenance supervisor and technician in prolonging equipment life and reducing defense costs.

1.5. Duty Hours. Schedule personnel for duty based on a 40-hour work week standard. Occasional overtime may be required to meet peak workloads. The following guidance establishes maximum duty periods and minimum rest periods for all personnel assigned to a maintenance activity. Group CCs may waive the following provisions during emergencies, advanced defense readiness conditions, operational readiness exercises and operational readiness inspections (ORI) if necessary to accomplish the mission.

1.5.1. Duty time begins when personnel report for duty and ends when all maintenance equipment has been secured or released to another person or crew.

1.5.2. A rest period is a block of time that gives a person the opportunity for at least eight hours of uninterrupted sleep.

1.5.3. Personnel duty time limitations are as follows:

1.5.3.1. Do not schedule maintenance people for more than 12 hours duty time and provide a rest period after their shift. Supervisors should be especially attentive to individual rest requirements when personnel transit multiple time zones. If attainable after transiting three time zones, maintainers should be given a "normal rest period." They should not be required to perform maintenance duties within the first 24 hours after arrival at the destination. If individuals were released from duty, they may be recalled to duty provided the initial duty period, time since released, and duty period following recall is 12 continuous hours or less.

1.5.3.2. At remote locations, the duty time may be extended to 16 hours with a 12-hour rest period as shown in paragraph **1.5.3.1.**, if necessary to complete the mission.

1.5.3.3. In alert force or standby duty situations where facilities are available for obtaining rest, these limitations may be exceeded. Adjust rest periods to allow for at least 8 hours of sleep when people on alert or standby are required to work.

1.5.3.4. Personnel who handle and load nuclear weapons, conventional munitions, or other explosive devices are limited to a 12-hour continuous duty period followed by a normal rest period. This rest period may not be waived for exercises or inspections.

1.5.3.5. Maintenance personnel are sometimes required to fly on missions and specified in operations orders/plans to recover and prepare the aircraft at enroute stops. Aircraft maintenance personnel inflight duties may include troubleshooting, fault analysis and isolation, airborne systems adjustment and assessment of system performance to minimize ground time. Maintenance personnel may minimize enroute downtime by identifying and researching parts, special tools ,and specialist support requirements prior to landing. When inflight duties allow a rest period during the flight, such rest periods are not considered as part of the 12 hours duty period. Aircraft maintenance personnel must be afforded consideration for needed/mandatory rest upon reaching a final destination point. If the 12 hours duty period has expired by landing time, maintenance personnel are not required to participate in the recovery of their aircraft unless mission requirements dictate the immediate turnaround of the aircraft. In all cases, 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.

1.6. Logistics Training. Maintenance, LSS supply, and transportation training is any proficiency, qualification, or certification tasking required by a technician to perform duties in their primary Air Force Specialty Code (AFSC). Overall capability of the unit depends on the state of training of aircrew and logistics personnel. Logistics training is an essential element of improving and sustaining unit capability. It is one

of the most important responsibilities assigned squadron commanders and maintenance supervisors. Training for personnel where combat skills are not reinforced in the normal generation of peacetime sorties (that is, munitions build-up teams, weapons load crews, etc.) are particularly critical and require special management attention. Commanders and supervisors provide priority support to logistics training and when competing for resources (that is, aircraft, support equipment, facilities, tools, funding, personnel, etc.). The logistics training program has equal priority with the unit's primary operational mission. Logistics training is established according to AFI 36-2201, *Developing, Managing, and Conducting Training* and AFI 21-101. AMC gained units use AMCI 21-104.

1.7. Cross-Utilization Training (CUT). The CUT program provides the work force internal flexibility by training individuals to perform tasks that are not in their primary AFSC. This training offsets periods of austere or low skill level manning and enhances combat capability by developing a broad base of skills to draw upon. Dependency upon peacetime, low man-hour skills to perform cross-utilization tasks may create a sortie production capability shortfall when supporting combat operations. CUT skills should never be a long-term fix for an AFSC shortfall, as this could impact combat capability.

1.8. Unit Committed Munitions List (UCML). The many types and configurations of air munitions that can be carried on aircraft create a significant problem in the training of weapons loading crews. HQ AFRC provides a UCML to each unit based on plans and munitions availability. The UCML is a list of primary, support, and limited-use munitions necessary to meet unit operational and training requirements and is published according to AFI 21-101. The UCML also lists authorized load crew strength and specifies minimum number of combat ready load crews required. The development and distribution of the UCML are a coordinated effort of HQ AFRC/LGMW/DOT and HQ ACC/LGS/DOT. The list of primary munitions (PM) cannot include more than ten individual munitions or munitions family groups (MFG) combined. A list of limited-use munitions may be developed at HQ AFRC or unit level as necessary. Units may request changes to these lists. Process the requests through the OG and LG with justification before sending them through the NAF to HQ AFRC. A unit appendix to the UCML is developed which contains conventional and nuclear PM and support munitions (SM) configurations to support load crew training, munitions mobility training programs, and PM configurations for combat turn-around training. Configurations are consistent with aircraft designed operational capability (DOC) statement and operational tasking. The appendix is jointly developed between the weapons standardization section and the operations weapons section, coordinated by the OG and LG, approved by the unit commander, and submitted (by letter) to HQ AFRC/DOT and LGMW within 30 days after receipt of the UCML. A copy of the appendix must also be forwarded to the appropriate NAF/LG/DO.

1.9. Support Agreements. Logistics may be tasked to support functions that are not related to the primary unit mission. Intra-service, inter-service, inter-command, and international support agreements outline the degree of support provided and the responsibilities of the supported function. The agreements must be developed and reviewed in terms of possible impact on the primary unit mission and all other existing agreements and fully coordinated with the wing XP plans function.

1.10. Maintenance Publications. The OG or LG may issue separate group operating instructions (OI) governing functional areas within their command. OIs crossing organizational structure lines are signed and approved by the wing commander with jurisdiction over both organizations and published as wing instructions. They are not published to change or supplement TOs or other directives. The appropriate safety function reviews any OI affecting munitions operations or safety. Quality Assurance coordinates

on all maintenance related publications. Develop and manage OIs according to AFI 33-360, Volume 1, *Publications Management Program*.

1.11. Overprinted Forms Control. Overprinted forms may be used. They are initiated and managed according to AFI 33-360, volume 2, *Forms Management Program*.

1.12. Maintenance Organization. Organizational structures are according to AFI 38-*101, Air Force Organization*. **Deviations to structure are not authorized without approved waiver.**

1.13. Communications and Transportation. Effective maintenance requires efficient communications and transportation. Radio-equipped vehicles must be available to expedite personnel, equipment, and materiel throughout the maintenance complex. A communication system should be selected with the capability to effectively support the maintenance communication requirements, including mobility and host base interoperability. The radio should be frequency-programmable and secure voice. Unit commanders develop communication plans according to AFI 21-101 and major command (MAJCOM) guidance, showing current needs, how they are satisfied, and the maintenance programming for future needs.

1.14. Maintenance Analysis and Information Systems. A variety of automated analysis and information systems provide maintenance supervisors at all levels with products to evaluate organizational effectiveness and to aid in the decision-making process. All maintenance personnel develop a working knowledge of these systems. Units may use automated products, forms, or displays instead of manual displays or products provided the intent of this instruction is met.

1.15. Maintenance Repair Priorities (MRP). **Table 1.1.** establishes repair priorities for on- and off-equipment.

Table 1.1. Maintenance Repair Priority (MRP) Designator.

MRP Designation	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 MSE, 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/ORI. Air evacuation, rescue, weather mission aircraft, related AGE, munitions, and MSE. All transient support, and FAA aircraft. Flight or missile crew training simulator, other training equipment or related AGE requiring repair, which is impacting, preventing, or delaying student training.
3	Primary mission aircraft, engines, air-launched missiles and related AGE, munitions and MSE, and equipment undergoing scheduled or unscheduled maintenance. Transient air vehicles not otherwise listed. Administrative aircraft within eight hours of scheduled flight or on alert status with standby crews.

4	Routine or extensive repair of primary mission aircraft related support equipment (SE). Repair cycle assets to satisfy a mission capability (MICAP) condition. Administrative aircraft undergoing scheduled or unscheduled maintenance.
5	Non-tactical or non-primary mission aircraft undergoing extensive repair. Repair cycle asset shortages required to fill a readiness spare packages (RSP) authorization.
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.

NOTES:

1. The table is intended as a guide in establishing maintenance repair priorities. It does not prohibit the LG, MXS superintendent or production superintendent from changing the maintenance repair priority when warranted. Raising or lowering maintenance repair priorities does not necessarily require a corresponding change in the supply delivery priority. Factors warranting such actions include but are not limited to:

1.1. (ISO, Phase, etc.) flow time. (2) When known maintenance actions exceed the pre-launch time of 6 hours.

1.2. Lowering the priority: (1) aircraft on the flying schedule that require excessive maintenance and cannot meet subsequent scheduled sorties. (2) Following its last sortie of the day, the aircraft is scheduled for phase, periodic, time compliance technical order (TCTO), or extensive maintenance.

2. During emergency war order (EWO) or operational exercise, the pre-planned maintenance flow determines job sequence.

3. The maintenance repair priority and supply delivery priority is normally identical. However, the production superintendent may authorize the use of a less responsive supply delivery priority when the delivery time specified is not justified.

Chapter 2

MANAGEMENT FUNCTIONS AND RESPONSIBILITIES

Section 2A—Wing Commanders Responsibilities

2.1. General. This chapter outlines specific maintenance responsibilities. With aircraft maintenance divided between the operations and logistics groups, the wing commander is the level of supervision where these two functions merge in the organization. Due to diversity of maintenance structures, responsibilities are assigned at the appropriate level as applicable.

2.2. Wing Commanders Responsibilities. The wing commander is the key 1.1. Raising the priority: (1) Expedite repair of an aircraft that is delaying scheduled maintenance individual in the application of maintenance resources to meet mission requirements. The relationship between maintenance capability and the successful accomplishment of the mission needs to be clearly understood. The wing commander should ensure maintenance is not overly tasked with details. Where maintenance resources are not available, reductions in mission requirements may be necessary. Wing commanders organize maintenance according to AFI 38-101 and assign responsibilities according to this instruction. The wing commander:

2.2.1. Sets up a close working relationship with both OG and LG commanders to ensure an understanding of the requirements and capabilities of maintenance actions in both groups. Ensures the OG and LG are communicating and cooperating to enhance the wing's maintenance and sortie generation capability.

2.2.2. Reviews the guidance provided by the LG/CC on cross-functional areas that include:

2.2.2.1. Career development for maintenance AFSCs to include functional cross-flow between operations and logistics.

2.2.2.2. Logistics training activities.

2.2.2.3. Quality Assurance Program (QAP).

2.2.2.4. Supply priority and discipline.

2.2.2.5. Compliance with Environmental Programs:

2.2.3. Ensures combined OG and LG participation in all organizational planning, programming, and budgeting actions. OG and LG involvement in unit deployment/employment planning is critical to the development of the unit's combat capability and requires close coordination with operations planning staff.

2.2.4. Establishes a balance between the OG requirement for sorties and LG maintenance capability. Establishes a joint OG and LG planning and scheduling cycle to ensure the best use of aircraft.

2.2.5. Establishes a maintenance coordination function (MCF).

2.2.6. Participates in periodic quality assurance and scheduling meetings to keep in touch with maintenance issues.

Section 2B—General Responsibilities for Group Commanders and Key Managers

2.3. General. This section outlines general maintenance responsibilities for group commanders and common responsibilities for key managers. Specific responsibilities of maintenance functions within the groups are described in separate section of this instruction.

2.4. Group Commander (GP/CC) Responsibilities. Group commanders are responsible for on/off equipment maintenance required to accomplish sortie production and the unit mission. The total production effort and management of group maintenance functions are the commander's responsibilities. In addition to GP/CC responsibilities outlined in AFI 21-101, GP/CC commanders:

2.4.1. Ensure maintenance performed is of the highest quality and accomplished in a timely manner.

2.4.2. Ensure logistics training throughout the respective group is accomplished according to the published (monthly) training plan and awaiting and or overdue backlogs are held to a minimum.

2.4.3. Ensure maintenance capability is considered in the development of the flying program. Continuous review ensures a long-term balance between maintenance capability and operational requirements. Maintenance quality and training suffer and the mission will not be met if the capability is exceeded for too long.

2.4.4. Delegate the necessary authority for support and production activities to perform assigned tasks.

2.4.5. Monitor the assignment and use of all maintenance personnel to ensure equitable distribution of skilled people among the squadrons.

2.4.6. Approve the monthly maintenance plan.

2.4.7. Control assignment of respective group facilities. Submit the necessary documents for new construction and modifications.

2.4.8. Establish a vehicle control program for their respective group.

2.4.9. Provide for management of the financial program.

2.4.10. Promote unit self-sufficiency through the use of maintenance resources according to TO 00-25-195.

2.4.11. Ensure the QAP is viable and implemented.

2.4.12. Develop an impoundment program according to **Chapter 6**. Both OG and LG commanders have authority to impound and release aircraft/equipment.

2.4.13. Ensure procedures to properly turn-in recoverable and consumable items are according to AFMAN 23-110V2CD, *USAF Supply Manual*.

2.4.14. Ensure support equipment repair cost evaluation procedures are effectively implemented according to applicable technical order.

2.4.15. Ensure a records management program is established according to AFI 33-322*, Air Force Record Management Program*, and AFMAN 37-123, *Management Records*.

2.4.16. Ensure a self-assessment program is established.

2.4.17. When applicable ensure strict adherence to command war reserve materiel (WRM) missile and precision guided munitions (PGM) control policy.

2.4.18. Ensure all personnel assigned to maintenance are used to accomplish critical wartime tasks, tank build-up, and munitions build-up before releasing them for non-maintenance duties.

2.4.19. Ensure there is a strong and positive interface between analysis and QA.

2.4.20. Establish written guidance on individual responsibilities and specific procedures for cannibalization actions. Aircraft in depot maintenance (possessed by AFMC) will not be cannibalized without approval from the applicable air logistics center (ALC) system manager.

2.4.21. Ensure effective use of the Air Force Engineering and Technical Services/Contracting Engineering Team Specialists (AFETS/CETS) according to AFI 21-101.

2.4.22. Assign office of primary responsibility (OPR) and establish procedures for OI program management and administration.

2.4.23. Ensure the Logistics Officer Orientation Training (LOOT) program is implemented (AMC gained units only).

2.4.24. Establish local procedures for management and maintenance of assigned ground training aircraft to ensure they remain useful and safe within guidelines stated in **Chapter 6**.

2.4.25. Set up an administration/technical administration function to provide support to subordinate activities. Units may elect to combine orderly room and technical administration when economy of effort and span of control warrants.

2.4.26. Coordinate unit procedures for management and maintenance of -21 equipment.

2.4.27. Assign an OPR and establish procedures for the aircraft maintenance non-tactical radio program.

2.4.28. Establish written procedures for clearing repeat and can-not-duplicate (CND) discrepancies.

2.4.29. Provide for transient aircraft, if applicable.

2.4.30. Ensures plans, scheduling, and documentation (PS&D) responsibilities outlined in **Chapter 5** are accomplished.

2.5. Vehicle Management Program. GP/CC, squadron commanders, and supervisors at all levels are responsible for ensuring compliance with the provisions of AFI 24-301, *Vehicle Operations*.

Section 2C—Specific Logistics Group Commander (LG/CC) Responsibilities

2.6. General. This section outlines specific responsibilities for the LG/CC. Detailed responsibilities of the maintenance functions of the LG are described in separate chapters of this instruction.

2.7. LG/CC Responsibilities. In addition to the common responsibilities outlined in **Chapter 2**, the LG/CC:

2.7.1. Manages the unit's aircraft maintenance QA programs and publishes unit QA program summaries.

2.7.2. Manages the units total maintenance-training program to include course development content, and application of ancillary, qualification, and maintenance training activities. Publishes monthly

training plans outlining specific course and equipment requirements along with course name, location, date, and time.

2.7.3. Ensures logistics training throughout the respective group is accomplished according to the published (monthly) training plan and that training awaiting /overdue backlogs are held to a minimum.

2.7.4. Coordinates with the OG/CC to establish unit procedures to reconcile training munitions issued for flightline requirements according to AFI 36-2217, *Munitions Requirements for Aircrew Training.*

2.7.5. Ensures procedures to properly turn-in recoverable and consumable items are according to AFMAN 23-110, Part 13, *Standard Base Supply Customer's Procedures.*

2.7.6. Ensures an orientation program is developed and conducted for all personnel newly assigned to all unit maintenance/activities. Topics may include unit mission, tasking plans, supply procedures, foreign object damage (FOD) program, general flightline and in-section safety rules, and corrosion control.

2.7.7. Designates the logistics advisor when applicable, to the Aero Club according to AFI 34-117, *Air Force Aero Club Program.*

2.7.8. Approves local manufacture requests. Approval authority may be delegated.

2.7.9. Approves user identified test measurement and diagnostic equipment (TMDE) "priority" listing.

2.7.10. Ensures a mission, design, and series (MDS)-specific fire extinguisher training program is established for personnel performing on-equipment maintenance duties.

2.7.11. Ensures the Weight and Balance and functional check flight (FCF) programs are managed by QA.

2.7.12. Ensures proper use of CETS personnel when assigned according to AFI 21-101.

2.7.13. Ensures training requests identified on AF Forms 898, **Field Training Requirements Scheduling Document**, are coordinated and approved.

2.7.14. Approves the selection of maintenance instructors in writing.

2.7.15. Ensures plans, scheduling, and documentation (PS&D) responsibilities outlined in **Chapter 5** are accomplished.

2.7.16. Sets up an administration/technical administration function to provide support to subordinate activities. Units may elect to combine orderly room and technical administration when economy of effort and span of control warrants. Technical administration:

2.7.16.1. Works with unit administration to set up an internal distribution system.

2.7.16.2. Maintains the publication library or publication sets, including technical orders, when required and ensures availability at applicable work centers.

2.7.16.3. Manages publication procurement and distribution. Ensures sub-account representatives are appointed and trained. Maintains records of authorization for all functional publication libraries and publication sets. Ensures functional publication libraries and publication sets are validated and inventoried as required.

2.7.16.4. Sets up and keeps correspondence files and unit plans.

2.7.16.5. Prepares outgoing and distributes incoming correspondence and reports.

2.7.16.6. Maintains applicable allowance standard as determined by the maintenance officer/ superintendent.

2.7.16.7. Requisitions and maintains a supply of required forms.

2.7.16.8. Ensures all supervisors have access to the directives governing their areas of responsibility. Ensures functional publications libraries and publication sets contain only required publications and that the publications are current and complete. Ensures immediate supervisors spot-check all publication sets.

2.7.16.9. Ensures maintenance flights or sections administrative procedures are established to process reports and file documents. Ensures documents and reports are correct, complete, and meet suspenses.

2.7.16.10. Establishes written procedures for clearing repeat and CND discrepancies and aircraft composite material.

2.7.17. Designates a focal point for all functional, technical, and quality assurance matters pertaining to contract aircraft maintenance.

Section 2D—Specific Operations Group Commander (OG/CC) Responsibilities

2.8. General. This section outlines specific maintenance responsibilities for the OG/CC, when required. Responsibilities of the maintenance functions within the OG are described in separate chapters of this instruction. Additionally, the Operations Support Squadron (OSS) is responsible to the operations group commander to perform all staff related functions required for the efficient accomplishment of the operations group mission. The OSS is composed of five flights: airfield, current operations, weapons and tactics, intelligence, and weather flights. Of these, the current operations flight provides all aircraft maintenance related functions required by the operations group commander.

2.9. OG/CC Responsibilities. In addition to the common responsibilities outlined in **Chapter 3**, the OG/CC:

2.9.1. Coordinates with the LG/CC to establish unit procedures to reconcile training munitions issued for flightline requirements according to AFI 36-2217.

2.9.2. Establishes written procedures for clearing repeat and CND discrepancies and aircraft composite material.

2.9.3. Coordinates with LG/CC, maintenance squadron supervisor and other base agencies as applicable for hydrazine response procedures.

2.9.4. Coordinates with LG/CC. Designates OPR for hot refuel training according to **Chapter 6**, if applicable.

2.9.5. Provides aircraft and equipment to support the maintenance-training program.

2.9.6. Provides transient aircraft support as required. (If applicable)

2.9.7. Ensures an Integrated Combat Turnaround (ICT) Program is established, if applicable. Coordinates with LG/CC and maintenance squadron supervisor for ICT support (for example scheduling, personnel, load requirements etc.).

2.9.8. Is responsible for reviewing qualifications of all assigned crews and selecting highly qualified individuals.

2.9.9. Attends periodic Quality Assurance meeting.

Section 2E—Key Managers Responsibilities

2.10. Squadron Commander Responsibilities. The squadron commander performs command functions outlined by public law, AFI 21-101, or directives common to all Air Force squadron commanders. They are responsible to their respective GP/CC for overall squadron management. In addition, the squadron commander:

2.10.1. Controls the duty assignment of newly assigned maintenance officers and senior noncommissioned officers (NCO).

2.10.2. Ensures strict adherence to technical data and management procedures.

2.10.3. Implements and manages self-assessment, retention and career motivation, security, mobility, and personnel reliability programs, as applicable.

2.10.4. Administers the squadron safety program. Coordinates with the squadron safety monitor and flights to ensure all personnel obtain the required safety training. Ensure safety information is available and personnel in hazardous areas know of safety implications. Identifies requirements to the bioenvironmental engineers, ensuring facilities meet Air Force industrial environmental standards according to AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program.*

2.10.5. Ensures personnel authorized and assigned are adequate to support the unit mission and tasking plans. If required, start adjustment actions. Unit manpower document (UMD) changes are made through the programs section. Contacts wing manpower office representatives for assistance in preparing requests for UMD adjustments.

2.10.6. Monitors additional duties, leave, training requirements, and details taking manpower from the work force. Makes necessary adjustments if required.

2.10.7. Enforces sound maintenance, supply discipline, and financial management practices.

2.10.8. Ensures compliance with Office of Personnel Management and Air Force policy directives.

2.10.9. Ensures all requests for modifications or additions to existing facilities are coordinated with the Programs and Financial Management Section.

2.10.10. Reviews EWO, mobility, contingency, and exercise plans affecting the unit and ensures appropriate measures are prescribed to meet unit responsibilities. Within the limits of security programs, the commanders inform supervisors and unit personnel of these requirements.

2.10.11. Monitors new requirements for training, equipment authorizations, special tools, work space, facilities, and manning.

2.10.12. Sets up a squadron vehicle program as required by AFI 24-301, *Vehicle Operations,* and appoints a vehicle control monitor.

2.10.13. Provides for the health, morale, and welfare of assigned personnel.

2.10.14. Serves as the squadron financial responsibility center manager.

2.10.15. Ensures upgrade training and maintenance qualification programs emphasize quality and are not primarily focused on meeting minimum upgrade time frames.

2.10.16. Has a working knowledge of automated maintenance information systems and ensures their use.

2.10.17. Ensures records required by this instruction and other governing directives are maintained according to AFMAN 37-123.

2.10.18. Ensures functional publication libraries are established and maintained according to AFI 33-360, Volume 2, *Forms Management Program.*

2.10.19. Designates a squadron mobility officer/NCO who acts as a focal point for mobility.

2.10.20. Ensures compliance with unit Environmental Protection Agency (EPA) program according to AFI 32-7042, *Solid and Hazardous Waste Compliance.*

2.10.21. Ensures turn-in of consumable/expendable XB3 material and scrap is properly accomplished. Procedures can be found in AFMAN 23-110.

2.11. Squadron Maintenance Officer/Superintendent Responsibilities. The squadron maintenance officer/superintendent is responsible to the squadron commander for maintenance production. The squadron maintenance officer/superintendent manages resources necessary to accomplish the mission. They provide necessary administration to manage assigned responsibilities. In addition to responsibilities outlined in AFI 21-101, the squadron maintenance officer/superintendent:

2.11.1. Monitors work force availability ensuring shift scheduling considers additional duties, leave, ancillary training, and work details to provide maximum capability and minimize work force degradation.

2.11.2. Provides guidance to subordinate supervisors for work force management:

2.11.2.1. Authorizes personnel to perform production inspections according to AFI 21-101, chapter 3. These individuals are specifically authorized to verify the condition of equipment or the proper accomplishment of maintenance. For example, individuals authorized to sign off Red X conditions, perform in-process inspections, or not repairable this station (NRTS) items are all considered production inspectors. An individual production inspector may be authorized to perform any or all of the above tasks; however, authorization to perform each task must be separately identified. The special certification roster (SCR) is a management tool providing supervisors with a listing of personnel authorized to perform, evaluate, and/or inspect critical work. Individuals authorized to perform production inspections are listed in maintenance information system (MIS) and on the SCR. Include the following minimum tasks on the SCR: clear Red X primary AFSC, perform in-progress inspection (IPI) primary AFSC, clear Red X CUT AFSC, perform IPI CUT AFSC, (for CUT, list by each AFSC in which the individual is authorized to clear Red X or perform IPI, that is, clear Red X pneudraulics, clear Red X Electronics), sign condition tags, authorize NRTS, sign exceptional release, authorize engine run (engine run may be sub-divided into

military and after burner), hot refueling by position, engine trim supervisor, test cell operator, and aircraft tow supervisor, borescope trainers/certifies, and personnel certified to perform borescope inspections. For large aircraft also include on the SCR: aircraft brake rider, aircraft tow vehicle driver, jacking supervisor, gear retraction position, and concurrent operations supervisor. The OG/CC or LG/CC may add other critical tasks or inspections, as they deem necessary. Identify each task on the SCR by a specific MIS course code. Civilian personnel may be approved as production inspectors based on their experience and technical expertise regardless of their assigned duty skill level position.

2.11.2.1.1. AFRC Form 176, **Request for Placement on Special Certification Roster**, is used by the work center supervisor to add an individual to the SCR. The work center supervisor ensures the individual is qualified to perform selected production inspector tasks by reviewing appropriate training documentation and experience on the assigned MDS. Flight chiefs review the individual's qualifications and forward the request to the squadron maintenance officer/superintendent for approval. Once approved the individual is authorized to perform the task indicated. The maintenance officer/superintendent or his designated representative loads the data to MIS. The request is retained for 1 day or until proper loading is verified. The work center supervisor is authorized to remove individuals as production inspectors and delete them from the SCR. MIS provides the capability for on-line review of individuals on the SCR. When maintenance services are contracted, the contract functional area chief's (FAC) appointed government technical representative reviews the SCR qualifications, and the Administrative Contract Officer (ACO) is the government's approval authority.

2.11.2.1.2. At the GP/CC option; maintenance officers and senior NCOs may clear Red X conditions, IPIs, and Red X downgrade according to 00-20-series TOs on all systems which do not have specific task certifications required by any other instruction (for example, egress, munitions, welding). GP/CC are the SCR approval authority for their respective functional area. Document GP/CC approval and update as required.

2.11.2.2. Ensures a current copy of the SCR is taken on all deployments.

2.11.2.3. Ensures the engineering data service center is used to obtain information/specifications when technical orders do not provide enough detail.

2.11.3. Ensures timely repair of delayed discrepancies, pilot reported discrepancies (PRD) and accomplishes aggressive follow-up of backordered parts. Periodically reviews on-line products.

2.11.4. Ensures PRDs and unscheduled maintenance actions are entered and completed in MIS. This includes maintenance performed in support of maintenance squadron flights; for example, removing and reinstalling components to facilitate other maintenance.

2.11.5. Is responsible for training subordinate officers.

2.11.6. Is the squadron maintenance-manning monitor. Squadron maintenance officers may appoint an alternate. The squadron maintenance manning monitor:

2.11.6.1. Ensures the MIS personnel subsystem is current and accurate. Do not change the database until approved authorization change requests or personnel actions are received.

2.11.6.2. Ensures the UMD mirrors the approved organizational structure.

2.11.6.3. Ensures the personnel data system accurately reflects personnel assignments. Maintains an updated current copy of the Unit Manpower Requirements (UMPR). Verifies accuracy of duty AFSC and position number on personnel actions. Maintain a suspense file of personnel actions and verifies approved actions have been correctly entered into the personnel data subsystem. Discards records when the UMPR is updated.

2.11.6.4. Coordinates permanent change of assignment (PCA) actions. Ensure required documentation is completed and submitted. Ensure the squadron commander and squadron administration section is briefed on all pending PCA actions.

2.11.6.5. Allocates projected gains against pending or actual vacant slots to the maximum extent possible.

2.11.6.6. Ensures sponsors have been assigned for all projected gains. Coordinates on changes/ additions to the squadron in-processing/out-processing checklist when a group in/out-processing checklist has not been developed.

2.11.6.7. Distributes projected gain/loss lists to all work centers and establishes a suspense for updates. Ensure approved personnel actions have been received for all updates then submit consolidated updates to programs section.

2.11.6.8. Provides the Programs Section with information copies of all correspondence to or from the Consolidated Personnel Office (CPO) which could impact the maintenance manning posture, that is, gain and loss notices, assignment cancellations, separations/retirements, duty assignment changes, overlaps eliminated, etc.

2.11.7. Reviews plans and ensures maintenance personnel understand and have the resources to do their part of the plans.

2.11.8. After coordinating with the appropriate Support Squadron, helps prepare and execute all plans, including support plans/checklists for contingency tasking involving the squadron.

2.11.8.1. Monitors shift manning, distribution of supervision, equipment requirements and makes necessary adjustments. Informs the squadron commander of imbalances between authorizations and number of personnel assigned or between authorized and assigned skill levels or grades.

2.11.8.2. Advises the maintenance coordination function (MCF) and the production superintendent of conditions that may disrupt the orderly and controlled execution of the maintenance plan.

2.11.8.3. Ensures support equipment enclosed in WRM or mobility kits is inspected according to TO 00-20-7.

2.11.8.4. Ensures squadron aircraft maintenance function is capable of meeting its mobility tasking.

2.11.9. Reviews and evaluates management, production, and QA reports. Initiates management actions to meet new workloads or correct reported deficiencies.

2.11.10. Ensures reparable parts are promptly processed through repair channels.

2.11.11. Ensures compliance with applicable supply procedures.

2.11.12. Monitors supply support and identify problems to the squadron commander.

2.11.13. Monitors requirements for composite tool kits (CTK), special tools, and support equipment according to **Chapter 6**.

2.11.14. Manages the squadron cannibalization program.

2.11.15. Ensures the Corrosion Control Program is implemented and properly managed.

2.11.16. Ensures the squadron training program is effective.

2.11.17. Ensures Oil Analysis Program (OAP) is monitored and administered according to this instruction and AFI 21-124, *Air Force Oil Analysis Program.*

2.11.18. Ensures procedures for identifying, recording, and clearing repeat and CND discrepancies are understood and followed.

2.11.19. Closely monitors aircraft during aircraft and equipment impoundments.

2.11.20. Ensures timely and accurate engine data is provided to the engine management element (EME) for all applicable engines.

2.11.21. Ensures records of inspection, lubrication, and maintenance of industrial equipment for maintenance facilities are maintained.

2.11.22. Ensures aircraft and support equipment is available to support the unit training effort.

2.11.23. Maintains liaison with base services having responsibility for monitoring potentially hazardous environmental conditions within maintenance areas.

2.11.24. In coordination with the QA supervisor/superintendent, ensures a viable QAP is implemented as outlined in **Chapter 3**.

2.11.25. Ensures a program for control of assigned land mobile radios (LMR) is established.

2.11.26. Ensures cross talk between all aircraft maintenance functions.

2.11.27. Manages technical administration.

2.11.27.1. Works with unit administration to set up an internal distribution system.

2.11.27.2. Maintains the publication library or publication sets when required, and ensures availability at applicable workcenters.

2.11.27.3. Manages publication procurement and distribution. Ensure subaccount representatives are appointed and trained. Maintains records of authorization for all functional publication libraries and publication sets. Ensure functional publication libraries and publication sets are validated and inventoried as required. Dispose of records according to AFMAN 37-139, *Record Disposition Schedule*.

2.11.27.4. Set up and keep correspondence files and unit plans.

2.11.27.5. Prepares outgoing and distributes incoming correspondence and reports.

2.11.27.6. Requisitions and maintains a supply of required forms.

2.11.27.7. Ensures all supervisors have access to the directives governing their areas of responsibility. Ensures functional publication libraries and publication sets contain only required publications and that the publications are current and complete. Ensures immediate supervisors spot-check all publication sets.

2.11.27.8. Ensures maintenance flights or sections administrative procedures are established to process reports and file documents. Ensure documents and reports are correct, complete, and meet suspense.

2.11.27.9. Designates production superintendents, flight chiefs, and flight line expediters.

2.11.27.10. Reviews and consolidates monthly maintenance plan.

2.11.27.11. Compiles and submits a list of tasks requiring in-process inspection (IPI) to QA for approval by GP/CC. The listing includes work unit code, nomenclature, and step (number) within the task the IPI is required. The procedures for IPIs are as follows:

2.11.27.11.1. A statement is entered in the discrepancy block of the applicable forms, "IPI required at step (number)." An IPI certifier is responsible for complying with the IPI. The person doing the task is responsible for notifying the IPI certifier at the appropriate step. The person doing the IPI enters their signature, rank, and employee number next to the IPI statement. In units with automated systems the individual performing the IPI documents the action in MIS by typing their name or employee number next to the IPI statement in the corrective action block. For maintenance actions where a different work center is required to perform an IPI, the prime work center creates a work center event (WCE) for the IPI. The individuals signing the Red X and IPI do not have to be the same.

2.11.27.12. Ensures personnel are qualified to support ICT, dual load crew operations, concurrent servicing operations, and hot refueling operations, as applicable.

2.11.27.13. In coordination with QA, establishes squadron procedures for the aircraft structural integrity program.

2.11.27.14. Periodically reviews the automated records check (ARC) or appropriate MIS screen after the flight chief validates it.

2.11.27.15. In coordination with QA, determines storage location of aircraft "G" files technical orders, if applicable.

2.11.27.16. Establishes debriefing team procedures as applicable for large aircraft.

2.11.27.17. Ensures sufficient number of personnel are engine run qualified according to AFI 11-218*, Aircraft Operation and Movement On the Ground*. Each individual designated as engine run qualified is task certified on the SCR. Certification is documented into MIS by aircraft MDS/ engine series. Maximum power setting is also documented for B-52. Training and certification are required for both individuals occupying the cockpit (except for training purposes: 7 level trainer and 5 level (PAFSC trainee).

2.11.27.18. Sets up a aircraft crash/disable recovery and reclamation capability. Ensures a unit directive is published containing specific responsibilities.

2.11.27.19. Establishes procedures for responding to and handling hot brakes.

2.11.27.20. Ensures HAZCOM and HAZMAT pharmacy programs are followed according to applicable directives.

2.12. Logistics Support Squadron Officer/Superintendent Responsibilities. The officer/superintendent is responsible to the squadron and logistics group commander. Manages resources necessary to

accomplish the mission. The LSS officer/superintendent develops and executes programs and duties outlined in paragraph **2.10.** at the direction of the group/squadron commander.

2.13. Flight Chief Responsibilities. The duties and responsibilities of the flight and section chief may be combined when applicable. The flight chief is responsible to the maintenance officer/superintendent for the management, supervision, and training of assigned personnel. The leadership, technical skill, and supervisory ability of the flight chief are key factors in the development and application of combat capability. Select flight chiefs based on leadership, management ability, and technical knowledge, regardless of AFSC. Flight chiefs:

2.13.1. Coordinate the work shift schedule with the production superintendent, and maintenance officer/superintendent to ensure sufficient people are available to support the mission.

2.13.2. Designate section supervisors.

2.13.3. Ensure operator inspections and user servicing requirements are accomplished on assigned non-powered support equipment according to TO 00-20-7.

2.13.4. Ensure the corrosion control program is implemented and properly managed.

2.13.5. Select qualified personnel to perform production inspections and forward names to the maintenance officer/superintendent for approval.

2.13.6. Review flight/section IPI requirements listing input and forward list to the maintenance officer/superintendent for consolidation and GP/CC approval.

2.13.7. Review analysis, QA, and other inspection reports to determine if adequate management actions have been taken to fix discrepancies and identify root causes.

2.13.8. Approve requirements for bench stocks and provides guidance as to the type, location, and use by one or more sections. Spot check bench stocks to evaluate adequacy, supply discipline, and housekeeping.

2.13.9. Establish requirements for vehicles and support equipment and ensure procedures for operation and maintenance are enforced.

2.13.10. Ensure maintenance is accomplished according to applicable technical data and directives.

2.13.11. Ensure reparable parts are promptly processed through repair channels.

2.13.12. Monitor shift manning and distribution of supervision and make necessary adjustments. Imbalances between authorizations and the number of personnel assigned or between authorized and assigned skill levels or grades are identified to the maintenance superintendent.

2.13.13. Ensure personnel/equipment are identified and prepared to meet mobility tasking according to AFI 10-403, *Deployment Planning*.

2.13.14. Ensure flight or section administrative procedures are established to process reports and file documents.

2.13.15. Monitor CTKs, special tool needs, and support equipment use.

2.13.16. Provide inputs to and implement maintenance plans.

2.13.17. Review and evaluate management and production reports. Start management actions to meet new workloads or correct deficiencies identified in these reports.

2.13.18. Administer the squadron safety program in the flight. Ensure all personnel obtain the required safety training. Ensure safety information is available and personnel in hazardous areas know of safety implications. Identify requirements to the bioenvironmental engineers, ensuring facilities meet Air Force industrial environmental standards according to AFI 91-301.

2.13.19. Ensure sections maintain a record of inspection, lubrication, and maintenance of industrial equipment.

2.13.20. Ensure procedures are followed to identify, record, and clear repeat and CND discrepancies.

2.13.21. Manage the flight/section portion of the FOD and Dropped Object Prevention (DOP) Program outlined in **Chapter 6** when applicable.

2.13.22. Review weekly/monthly maintenance plans.

2.13.23. Ensure tools and equipment is scheduled for calibration according to AFCSM 21-566, Volume 2, and 00-20series TOs.

2.13.24. Manage additional duties, leaves, ancillary training, and details to minimize work force degradation.

2.13.25. Enforce the squadron security program within the flight.

2.13.26. Ensure effective personnel training programs are instituted.

2.13.27. Monitor support equipment status and advise maintenance supervision of adverse impacts on flight line support or deployment capabilities.

2.13.28. Comply with TO 33K-1-100-1, any applicable calibration measurement summary (CMS), TO 00-20-14, and other applicable technical directives concerning the use, care, handling, transportation, and calibration of TMDE owned by the flight.

2.13.29. Consolidate section inputs for items requiring functional check/operational programming or calibration. Submit the listing through maintenance supervision to MSL section, then to the base supply inspection section.

2.13.30. Coordinate AGE requisitions through AGE flight chief to ensure support capability and eliminate unnecessary duplication of equipment.

2.13.31. Ensure TO files are current and maintained according to TO 00-5-2.

2.13.32. Manage tool storage and bench stock areas according to applicable directives. Ensures adequate CTKs and special tools are available.

2.13.33. Review new, revised, or changed publications and informs personnel of any significant changes. Determine if new or changed publications affect the qualifications of personnel. Ensure work center publications are current and required publications are available to meet work center needs.

2.13.34. Actively solicit inputs and promote the product improvement Reliability and Maintainability (R&M) programs.

2.13.35. Evaluate production and equipment performance to identify deficient areas and initiate corrective action.

2.13.36. Maintain housekeeping, safety, security, and environmental control standards.

2.13.37. Monitor and ensure environmental health physicals, respirator training, and initial and recurring requirements are accomplished when required for assigned personnel.

2.13.38. Evaluate skills, aptitudes, and proficiency of assigned people to develop work center training requirements. Ensure CUT requirements are identified as required by the unit mission.

2.13.38.1. The training provided should be to the degree that personnel can work with little or no assistance. Caution must be used in determining peacetime CUT requirements ensuring the units combat capability is not degraded.

2.13.38.2. Ensure CUT does not interfere with upgrade training or the qualification training of individuals not qualified on the assigned weapon system.

2.13.38.3. CUT is initially documented by the supervisor on an AF Form 797, **Job Qualification Standard Continuation/Command JQS**. Annotate the form with the words "CROSS UTILIZATION TRAINING" in the block at the bottom of the form and file in the member's AF Form 623, **Individual Training Record.** Track recurring items in MIS.

2.13.39. Review deferred discrepancies daily using MIS screens and coordinate with the production superintendent for accomplishment. Ensure accuracy of deferred discrepancy file.

2.13.40. Ensure control and storage of assigned/non-specified configuration alternate mission equipment (AME) according to AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting.*

Become proficient with, and review, MIS data records, the D-23, and other pertinent products to ensure proper asset management. Aggressively follow up on asset shortfalls and supply difficulties. Ensure pacing items affecting the mission are effectively monitored and advise higher supervision on problems requiring resolution.

2.13.41. When applicable, ensure warranty items are loaded to MIS/GO21 and deficiency reports (DR) on warranted item failures according to TO 00-35D-54.

2.13.42. Ensures mock-ups or bench sets built by the section are maintained using the T0s for the major components and non-stock-listed parts or components of equipment using applicable general equipment TOs.

2.13.43. Monitor condition and status of DLR.

2.14. Section Chief Responsibilities. (C-5 AGS Section Chief Responsibilities are defined in **Chapter 9**). The section chief is responsible to the flight chief for the management, supervision, and training of assigned personnel. The section chief is a first-line supervisor of maintenance production and, as such, is the technical authority and advisor in that area. (NOTE: If section chief is not assigned these duties, they revert to the flight chief.) Section chiefs:

2.14.1. Perform production and supervisory inspections.

2.14.2. Enforce the use of technical data. Ensure TO files are current and maintained according to TO 00-5-2.

2.14.3. Review, evaluate, and take corrective action based on QA and other inspection reports.

2.14.4. Evaluate assigned personnel and determines training needs. Track training requirements and ensure personnel attend required training. Ensure training documentation is accurate.

2.14.5. Ensures assigned equipment is maintained.

2.14.6. Set up adequate bench stocks.

2.14.7. Ensure personnel follow procedures for identifying, recording, and clearing CND, repeat, and recurring discrepancies.

2.14.8. Identify items that require functional check or calibration before installation.

2.14.9. Manage tool storage and bench stock areas. Ensure adequate CTKs and special tools are available. **Chapter 6** prescribes procedures for tool storage and control. AFMAN 23-110, Volume 2, Part 13 prescribes procedures for bench stock management.

2.14.10. Evaluate production and equipment performance to identify deficient areas. Initiate corrective action.

2.14.11. Provide required maintenance of WRM assets.

2.14.12. Maintain housekeeping, safety, security, and environmental control standards.

2.14.13. Provide planning factors to the flight chief.

2.14.14. Enforce good supply discipline.

2.14.15. Review new, revised, or changed publications and brief personnel of any significant changes. Determine if new or changed publications affect the qualifications of personnel. Ensure section publications are current and required publications are available to meet needs.

2.14.16. Actively solicit inputs and promote the product improvement and R&M programs.

2.14.17. Ensure maintenance is documented as prescribed by 00-20 series Tos and AFSCM 21-563, Volume 2, *Job Data Documentation Software User Manual.*

2.14.18. Ensure personnel and equipment are identified and prepared to meet mobility tasking according to AFI 10-403.

2.14.19. Manage the repair cycle program. Review the D23, Repair Cycle Asset Management List, and other pertinent supply products to ensure proper asset management. Advise higher level of supervision on problems requiring resolution.

2.14.20. Monitor, track, and ensure occupational/environmental health requirements and respirator training (initial and recurring) are accomplished for assigned personnel. May be tracked in MIS.

2.14.21. Determine maintenance tasks that require IPIs. Forward an IPI listing through the flight chief to the maintenance superintendent for consolidation and approval.

2.14.22. Evaluate the quality of maintenance and qualifications of personnel through observation and inspection of maintenance actions.

2.14.23. Establishes a safety program designed specifically for hazards associated with the work center according to applicable Air Force Operational Safety and Health (AFOSH) standards and other applicable directives.

2.14.24. Implement Hazardous Communication HAZCOM Program (AFOSH 48-21) and ensure:

2.14.24.1. Chemical inventory listing is accurately maintained.

2.14.24.2. Each chemical has a material safety data sheet.

2.14.24.3. HAZCOM training is conducted and documented.

2.14.24.4. Flammable and combustible liquids are maintained according to AFOSH 91-43, *Flammable and Combustible Liquid* and TO 42A2-1-4.

2.14.24.5. Paints are stored and used by shelf life expiration date.

2.14.24.6. Hazardous waste management procedures meet all federal, state, and local regulations according to AFI 32-7042, *Solid and Hazardous Waste Compliance*, 40CFR series, AFOSH 48-21, TO 42B-1-3, state, and local guidance.

2.14.24.7. Safety approved containers are used for transporting and dispensing flammable liquids according to AFOSH 91-43.

2.14.24.8. Bioenvironmental/industrial hygiene surveys are conducted annually.

2.14.24.9. Surveys are available to all personnel for review according to AFI 48-101, *Aerospace Medical Operations,* and AFOSH 161-17, *Standardized Occupational Health Program.*

2.14.25. Complies with occupational physicals and/or audiograms, if required, by survey according to AFI 48-101 and AFOSH 161-17.

2.14.26. Ensure equipment custodian account is managed according to AFMAN 23-110.

2.14.27. Ensure eyewash equipment/showers are maintained and tested according to AFOSH 91-32, *Emergency Shower and Eyewash Units*.

2.14.28. Ensure proper protective clothing and equipment is available according to AFOSH 91-31, *Personal Protective Equipment*.

2.14.29. Ensure records of inspection, lubrication, and maintenance are being maintained for industrial shop and general support equipment according to TOs 00-20-7, and 34-1-3 and applicable equipment publications.

2.14.30. Review supply documents, makes routine follow-ups through supply channels, and advise higher supervision on problems requiring resolution.

2.14.31. Ensure hoists and slings are maintained and tested according to AFOSH 91-46, *Material Handling and Storage Equipment* and OSHA directives.

Section 2F—Administration Section

2.15. Administration Section Responsibilities. This section is the administrative management center of the GP/CC. It serves as the focal point for all correspondence and reporting. Administration controls procedures as directed by the GP/CC and ensures sound administrative management systems are established.

2.15.1. Ensures a downward flow of administrative information from the Information System Flight (ISF) and other administrative agencies.

2.15.2. Act as the office of record for the GP/CC.

2.15.3. Ensures an internal/external distribution system is established and used for distribution of documents to group activities. Establishes and maintains a distribution box for each staff function and ensures distribution of all correspondence, reports, and publications.

2.15.4. Coordinates distribution requirements with the appropriate chief of ISF.

2.15.5. Performs external distribution as determined by section supervisor. Assists staff offices in determining economical, timely, and appropriate method of dispatching communications.

2.15.6. Keeps an effective correspondence and suspense file and maintains according to AFMAN 37-139.

2.15.7. Ensures the publication and distribution of OIs, schedules, directives, procedures, reports, and instructions.

2.15.8. Evaluates records management programs throughout the complex and reports weak programs to the supervisor. Assists the other agencies within the group to set up administrative offices or records and performs as the functional area records manager (FARM) for the staff.

2.15.9. Prepares all orders for the group staff.

2.15.10. Ensures administrative personnel assigned to the various sections are trained to perform all administrative functions.

2.15.11. Maintains an effective publication program. Performs as the publication manager for the group. Prevents publication of local directives that are not in compliance with the AF Publications Management Program.

2.15.12. Ensures effective control of publications and blank forms is established for the group.

2.15.13. Performs as the customer account representative (CAR) for the group staff according to AFI 37-161, *Distribution Management*. Spot-checks and inventories functional publication libraries. Trains sub-account representatives (SAR). Ensures publication sets are authorized before establishing requirements for set contents. Maintains functional publications library for staff.

2.15.14. Accomplishes or monitors the preparation of all office correspondence and reports for which the supervisor and staff are responsible and assists the staff offices on proper administrative security procedure.

2.15.15. Is the focal point for enlisted performance reports (EPR)/officer performance reports (OPR) leaving the complex and ensures timely submission.

2.15.16. Establishes a program ensuring operating instructions (OI) are reviewed annually according to AFI 33-360, Volume 1. Reviews OIs and local instructions for administrative accuracy, assigns OI numbers, coordinates with affected activities, and maintains record copies. Those that pertain to munitions or safety are reviewed by the appropriate function. The QA function performs a final evaluation (if applicable) of all maintenance instructions and checks the contents for accuracy, intent, and necessity. Operating instructions that add to higher headquarters directives are returned to the OPR to be developed as a unit supplement or instruction.

2.15.17. Performs staff assistance to other administrative offices within the staff and squadrons.

2.15.18. Oversees and coordinates the in-processing of newly assigned personnel.

2.15.19. Evaluates the quality of training provided to administrative personnel within the group. Provides assistance to ensure quality training programs are established.

2.15.20. Performs as PC III Programs Action Officer (PAO). Ensures timely input and retrieval of personnel information and reports, both military and civilian.

2.15.21. Maintains a smooth flow of information between the administrative and orderly room function to ensure continuity of operations. This includes, but is not limited to, participation, immunizations, commissary privilege cards, etc.

Chapter 3

MAINTENANCE QUALITY PROGRAM

Section 3A—Quality Assurance

3.1. General. All personnel share responsibility for quality maintenance and are expected to operate, inspect, maintain and repair aircraft and support equipment in strict compliance with applicable technical data, safety directives, and policy guidance. QA evaluates maintenance personnel and the processes they employ to determine how well these obligations and expectations are met. Cumulative results of these evaluations serve as a barometer for gauging overall health of the maintenance effort. QA evaluates maintenance quality. QA also perpetuates an environment where quality maintenance and personnel safety, equipment reliability, safety of flight, job proficiency, training, and compliance with applicable directives remain at the core of all maintenance inspections and evaluations. QA makes recommendations for improving effectiveness of the maintenance effort and serves as the unit focal point for oversight of technical activities and product improvement initiatives. Aircraft and equipment condition and personnel proficiency are validated through the QAP. The Quality Assurance Tracking and Trend Analysis System (QANTTAS) is a program developed to assist quality assurance personnel in meeting the above objective. This program is considered the command standard and AFRC units will use QANTTAS to the greatest extent possible as determined by local facilities, equipment, and local base operating procedures. QANTTAS is considered part of the maintenance information system (MIS) and may be addressed as such through this instruction.

3.2. QA Supervisor Responsibilities:

3.2.1. Makes recommendations to the appropriate GP/CC to enhance the quality of maintenance.

3.2.2. Establishes the QAP and the Product Improvement Program (PIP). Updates the QAP semiannually.

3.2.3. Is primary technical advisory agency for maintenance, assisting work center supervisors and the group commanders.

3.2.4. Coordinates with group commanders to ensure appropriate evaluations, inspections, and observations are performed during exercises, deployments, EWO, and contingencies to determine the safety of mobilization tasks and quality of maintenance. Coordinate with group commanders to determine which areas in maintenance to augment during exercises and EWO or contingencies.

3.2.5. Ensures appropriate actions are taken through the LG/CC to notify higher headquarters when deficiencies are found in Air Force or MAJCOM directives.

3.2.6. Provides input to Product Improvement Working Groups (PIWG), Repair Initiative Conference (RIC) or equivalent forums where R&M issues are evaluated.

3.2.7. Evaluates unit maintenance management procedures, including locally developed forms, preprints, publications, operating instructions, etc., for accuracy, intent, and necessity prior to submission to ISF.

3.2.8. Designates individuals to fill the following key positions:

3.2.8.1. Weight and Balance and Functional Check Flight (FCF) managers.

3.2.8.2. Product Improvement Manager (PIM).

3.2.8.3. Technical Order Distribution Office (TODO).

3.2.9. Ensures only technically qualified personnel who have the necessary communicative and interpersonal skills are assigned to QA.

3.2.10. Selects (in conjunction with squadron maintenance officers/superintendents) qualified technicians to augment QA.

3.2.11. Ensures management/evaluation of the programs in **Chapter 6** and other programs as assigned by the group commander.

3.2.12. Performs management inspections (MI), with the concurrence of the group commanders, to identify management causes on known or suspected problem areas and to determine effectiveness of maintenance management and procedures.

3.2.13. Is the unit approval authority for manufacture of locally designed special tools or equipment.

As applicable, monitors the Aircraft Structural Integrity Program (ASIP).

3.2.14. Ensure management of the configuration management process for assigned aircraft and equipment.

3.2.15. Ensures procedures for IPIs are managed according to AFI 21-101, TO 00-20 series, and this instruction.

3.2.16. Responsible for monitoring contractor performance and esuring compliance with contract requirements for each contract maintenance program in accomplishing QAE/QARP duties according to AFI 63-124, *Performance-Based Service Contracts.*

3.3. Additional Quality Assurance Responsibilities :

3.3.1. Implements the QAP and provides on-the-spot assistance in correcting identified problems.

3.3.2. Evaluates the quality of unit maintenance training.

3.3.3. Spot-checks TOs, in-use inspection work cards, checklists, and code manuals during evaluations and inspections for currency and serviceability.

3.3.4. Assists in the investigation of analysis special studies as required.

3.3.5. Maintains standardized AFTO Forms 781 master binder. Publishes, updates, and distributes a master index of all local AFTO 781 form overprints.

3.3.6. Augments the weapons standardization function in evaluating ICTs according to **Chapter 7**.

3.3.7. Evaluates on and off equipment weapons/munitions maintenance tasks, except those weapons loading tasks which require certification.

3.3.8. Verifies all discrepancies deferred for depot level maintenance.

3.3.9. Maintains current evaluator proficiency evaluations on assigned inspectors and augmentees.

3.3.10. When used, appoints a production stamp/die control monitor for maintenance (excluding precision measurement equipment laboratory (PMEL) and load crew lead seal crimpers). Monitors,

issues, and controls stamps/dies using AF Forms 7, **Certification Stamp Issue and Declaration**, and maintains appointment letters for those appointed inspectors.

3.3.11. Ensures QA inspectors perform a critical review of deficiency reports (DR).

3.4. Selection of Personnel. QA personnel have responsibilities beyond formal evaluation and inspection and must have a positive and constructive attitude toward production and management improvement. Assess their potential to perform evaluations and inspections, knowledge of management procedures, communicative skills, and ability to properly analyze inspection findings.

3.5. Augmentation. If a functional area warrants QA augmentation, technicians recommended by the squadron maintenance officer/superintendent and approved by the QA supervisor are selected. Cross-utilize assigned QA personnel to minimize the use of augmentees.

3.6. Training. The QA training program ensures personnel are qualified, trained on overall QA responsibilities, and maintain proficiency in their AFSC and area of responsibility. The QA supervisor develops an expanded AF Form 797 broken down by functional areas and programs to cover all areas of responsibility for QA personnel. AF Form 797 packages are maintained in the 623 or (other training folder for Msgt and above). The QA supervisor is not required to have an expanded AF Form 797. Personnel assigned to QA who conduct engine run evaluations may be exempt from maintaining the engine run proficiency requirement. However, they complete, as a minimum, all other portions of the engine run certification program according to AFI 11-218, *Aircraft Operation and Movement on the Ground.*

3.6.1. Document newly assigned individual's training before they do unsupervised evaluations or inspections.

3.6.2. Accomplish Cross Utilization Training (CUT) according to **Chapter 2**.

Section 3B—Quality Assurance Program (QAP)

3.7. QAP Objectives. The QAP is a formal program designed to permit the concentration of QA inspection and evaluation efforts in maintenance areas. The following concepts apply:

3.7.1. The two major areas examined are personnel proficiency and equipment condition.

3.7.2. The rating system provides a method of applying objective ratings to inspections and evaluations performed by QA.

3.7.3. Units will use the standardized format, as outlined below, for the QAP. The format emphasizes compliance-oriented maintenance. The purpose of a standardized QAP is to measure how well units are meeting or exceeding technical order and directive compliance requirements while maintaining assigned aircraft and equipment. Units will assess how well they are meeting compliance goals and look for areas of opportunity for improvement. The results of the evaluations and inspections are organized into a monthly summary as outlined in paragraph **3.17.** The following areas will be addressed in order.

3.7.3.1. Compliance with Technical Orders and Directives. Personnel at all levels are responsible and accountable for enforcing this mandatory standard.

3.7.3.2. Aircraft and Equipment Forms Documentation. Forms used to document any maintenance related action for aircraft or equipment are documented according to 00-20 series technical

orders, specific equipment technical order requirements and applicable command standards and supplements.

3.7.3.3. Aircraft and Equipment Inspection. Inspect aircraft and equipment (including munitions) according to technical orders and directives to provide the best possible safety and reliability.

3.7.3.4. Compliance and Management of Safety, Environmental, and Housekeeping Programs. Personnel at all levels are responsible for minimizing risk to equipment and personnel by reducing maintenance related mishaps.

3.7.3.5. Technical Data and Directives. Ensure all applicable technical data and directives are complete and current.

3.7.3.6. Training. Ensure training is correctly documented in certification rosters and information systems so that individuals are qualified to perform evaluated tasks. Highlight personnel proficiency shortfalls that may relate to training.

3.7.3.7. Unit Directed Programs. Any additional item units wish to add to the QAP.

3.8. Types of Evaluations and Inspections. Seven types of evaluations, inspections, or observations support the QAP: personnel evaluations (PE), technical inspections (TI), management inspections (MI), special inspections (SI), detected safety violations (DSV), technical data violations (TDV), and unsatisfactory condition reports (UCR).

3.8.1. Semiannually, QA and analysis develop minimum inspection requirements. After the GP/CC approves the requirements listing, it is distributed to all affected agencies.

3.8.2. Develop a form/format for routing purposes using existing software to incorporate inspections, evaluations, aborts, etc. for distribution. Every AFRC unit will capture and catalog minimum data elements into their database for trending, CROSSTELL, and bench- marking purposes. Units are encouraged to expand on these minimum data points and CROSSTELL them with like units where such sharing of recommendations/results would enhance maintenance quality or readiness.

3.8.3. Develop a scoring standard for inspections and evaluations within your unit Quality Assurance Program (QAP). Use appropriate tools and methods to develop/adjust standards for inspections and evaluations on a pass/fail bases.

3.9. Discrepancies. Improperly completed inspections or maintenance action (Class I): A required inspection/TO procedural item missed or improperly completed on the last inspection or maintenance

action. This category is a specific workcard item or TO step for a specific condition or action. Use sub-classifications of major or minor to indicate relative severity of the discrepancy. Readily detectable items/other discrepancies (Class II): An obvious defect, which could have been readily detected by a technician or supervisor or other discrepancies found during normal accomplishment of maintenance, but is not part of the specific inspection or maintenance technical order action. Use sub-classification of major or minor to indicate relative severity of the discrepancy.

3.9.1. Major Defect:

3.9.1.1. A discrepancy that indicates the weapon system, support system, munitions, or support equipment is considered unsafe for flight or use and is not flown or used until the unsatisfactory condition is corrected.

3.9.1.2. Non-use of current technical data.

3.9.1.3. A condition that could reasonably lead to or cause premature failure/damage to a system or prevent it from functioning properly.

3.9.1.4. A hazardous condition that could cause personal injury.

3.9.1.5. Failure to remove equipment requiring calibration from service if it has not been calibrated or the calibration due date has been exceeded.

3.9.1.6. A defect exceeding "in-service" wear limits/tolerances.

3.9.2. Minor Defect. An unsatisfactory condition that is not sufficiently urgent or dangerous enough to warrant grounding of the aircraft or discontinuing use of the equipment.

3.10. Personnel Evaluations (PE). An over-the-shoulder evaluation of a technician or supervisor accomplishing a maintenance action or inspection on aircraft, missile systems, components, or items of equipment. Units may perform after the fact personnel evaluations. Establish and document types of after the fact evaluations in the unit QAP. PEs evaluate the technician's or supervisor's job proficiency, degree of training, and compliance with technical data. Individuals performing, supervising, or evaluating maintenance tasks are subject to a PE. Limit the PE to the use of the same inspection card deck or technical data required for the job.

3.10.1. Types of PEs:

3.10.1.1. Task Evaluation (TE). A QA over-the-shoulder evaluation of maintenance technicians or supervisors during actual job performance.

3.10.1.2. Evaluator Proficiency Evaluation (EPE). Initial qualification EPEs of all QA personnel are based on one personnel evaluation and one TI. Semiannual qualification EPEs of QA augmentees is based on one personnel evaluation.

3.10.2. Conducting Personnel Evaluations. When performing a PE, the QA inspector briefs the individual on the evaluation and the rating criteria. The evaluation starts when the individual begins the task or portion of the task to be evaluated. The evaluation is complete when the job or previously determined portion of the task is finished. Critique the individual evaluated on completion or termination of the evaluation. The QA inspector may provide on-the-spot training in the area requiring improvement. The evaluation program established under the QAP does not replace supervisors responsibilities and actions for civilian employees as prescribed in AFI 36-1001, *Managing the Civilian Performance Program* and AFI 36-704, *Discipline and Adverse Actions*. When performing an evaluation, the inspector determines if the technician or supervisor performed the job as prescribed by the published technical data and in compliance with directives.

3.11. Technical Inspections (TI). A TI is an inspection of aircraft/equipment following a maintenance inspection, repair action, or a spot inspection on a piece of equipment. The TI verifies the task has been properly completed according to applicable technical data. Do TIs before equipment operation or use if operation could invalidate indications of proper job accomplishment. Limit the TI to the same inspection card deck or technical data required for the job. Normally, this inspection does not require disassembling parts, removing of stress panels and like actions. The TI for required -6 TO inspections may be accomplished by checking a portion of the required card or area. Report the condition of the equipment determined through the TI to the owning and performing work centers. Review available documents and

forms including work cards, work unit code (WUC) manuals, and checklists to determine accuracy, currency, and compliance with applicable TOs. Document discrepancies in active equipment forms (that is, AFTO Forms 781A, **Maintenance Discrepancy and Work Document**; AFTO Forms 244, **Industrial/ Support Equipment Record or AF Form 2420**, Quality Assurance Inspection Summary, for in-shop engines).

3.12. Management Inspections (MI). QA conducts management inspections at the direction of the GP/ CC. Inspections are primarily designed to identify management causes and corrective actions for known or suspected management problems. The results of QAP (TIs, PEs and SIs) inspections, negative production trends, significant incidents and other management indicators are used to determine the requirement for management inspections. Inspections are performed by an inspector, inspection team, production work centers or other base agencies, as dictated by the scope and area of the management problem. Attach a cover letter summary signed by the QA supervisor to the inspection report and route on an AF Form 1768, **Staff Summary Sheet**, or equivalent according to **Table 3.1.**

Table 3.1. Quality Assurance Report Routing.

MANAGEMENT OR SPECIAL INSPECTIONS (Routing cycle does not normally exceed 30 days.)	**QUALITY ASSURANCE ANALYSIS REFERRAL** (Routing cycle does not normally exceed 15 days.)
1. QA Supervision prepares report and forwards (NL) 5 workdays after completion of inspection).	1. QA Supervision prepares and forwards report.
2. Inspected activity or activities for corrective ac tion.	2. Appropriate supervision for corrective action.
3. Maintenance Superintendent LG/OG for re view and comment.	3. LG/OG Maintenance Superintendent with cor rective actions attached for review and action.
4. Appropriate squadron commander LG/OG for review and comment.	4. Appropriate squadron commander for review and comment.
5. Analysis for review.	5. QA Supervision for review and file.
6. QA Supervision for review and file.	

NOTES:1. Establish suspense dates to ensure the complete routing cycle is accomplished in a timely manner. Route reports to all agencies, activities, or units that participated in the inspection or contributed to the conditions of the inspection.

2. If required, use an AF Form 1768 to route reports.

3. Adjust suspense dates as required to take into account time required to reverse route reports or to route reports through multiple agencies.

3.13. Special Inspections (SI). SIs are GP/CC or QA directed inspections not covered by TIs, PEs, or management inspections. They may include, but are not limited to, CTKs, TO files, housekeeping, safety practices, FOD, etc. These inspections may be condition or procedural compliance oriented. Units determine documentation of inspections and routing of results, if necessary, of SIs. Depending upon the scope of the inspection it may be routed on an AF Form 1768, according to **Table 3.1.** SIs may be rated or non-rated, at GP/CC option.

3.14. Analysis Referrals. A referral is a procedure used to identify, investigate, and propose corrective action for management problems. The referral system is used to solve major problems. It is not used to point out minor discrepancies such as isolated MIS problems. Use AF Form 2422**, Maintenance Analysis Referral**, to initiate the referral procedure. Referrals are concise, accurate, and give managers required information for making decisions. Commanders, analysis, or QA may initiate referrals. Work centers may give inputs to analysis for possible referral action. All concerned need to annotate precise measures on how to correct the problem or corrective action taken.

3.15. Safety and Technical Violations. QA documents the following:

3.15.1. A detected safety violation (DSV) is an unsafe act by an individual observed by QA. Do not document a separate DSV on an individual undergoing a personnel evaluation since the unsafe act automatically results in a fail rating on the PE.

3.15.2. A technical data violation (TDV) is an observation by QA of an individual performing maintenance without using technical data. Do not document a separate TDV on an individual undergoing a personnel evaluation, since failure to use technical data automatically results in a fail rating on the PE.

3.15.3. Unsatisfactory condition report (UCR) is an unsafe condition other than a DSV. Charge the UCR to the work center supervisor.

3.16. Other Inspections. QA conducts the following inspections or establishes other types of inspections if required in the unit QAP:

3.16.1. Document File Inspections. Review aircraft or equipment status and historical documents. The inspection of munitions historical documents includes AFTO Forms 15, **Ammunitions Serviceability and Location Record**, for location, lot number, and condition entries. Report discrepancies found in historical documents to the appropriate supervisor. Do not correct discrepancies unless they are of historical nature and can be verified from other available documents. Highlight discrepancies and identify with the inspector initials.

3.16.2. Acceptance Inspections. Owning work centers perform acceptance inspections to determine equipment condition and adequacy of depot or contractor maintenance as prescribed by TO 00-20-1. QA may perform these inspections when directed by the LG. Submit acceptance reports as required and according to TO 00-35D-54.

3.16.3. Followup Inspections. QA re-inspects each maintenance activity receiving an "unsatisfactory" rating during a higher headquarters inspection within 30 days after the rating. The inspection verifies the adequacy of corrective actions. Document follow-up inspections on plain white paper and route according to **Table 3.1.**

3.17. Quality Assurance Monthly Summary. QA writes a monthly summary based on evaluations and inspections conducted during the month. Bullet statements are used to make the report short, concise, and to the point. Compile the summary using charts, line graphs, narratives, etc., discussing quality trends identified through inspections and evaluations. Any pertinent information or suggestions may be added. Review previous monthly summary reports to determine if inspected areas have improved or declined. Negative trends should be highlighted in the monthly summary. Cross talk between analysis and QA per-

sonnel is important and encouraged. Automated inspection products may be added to the monthly summary to provide more information to supervisors on inspection results.

3.18. Quality Assurance Quarterly Summary. Compile the summary using past monthly summaries, charts, line graphs, narratives etc., discussing quality trends identified through inspections and evaluations. Organize the QAP summary by squadrons for comparison purposes at GP/CC option.

3.19. Filing and Disposition of Reports and Forms. Files are maintained according to AFMAN 37-139.

Section 3C—Product Improvement Program (PIP)

3.20. Product Improvement Manager (PIM) Responsibilities. The PIM is the unit focal point for all aircraft maintenance deficiency reporting, technical data, and PIPs. Responsibilities include:

3.20.1. Emphasizing and promoting the PIP.

3.20.2. Monitoring the TODO and its sub-functions including the central TO file, local checklist, job guide, page supplement, workcard program, computer programs identifying number (CPIN), automated TO management system, and timely notification of priority technical data to the appropriate squadron supervisors.

3.20.3. Screening maintenance suggestions as required.

3.20.4. Submitting repair evaluation change requests on AFTO Form 135**, Source, Maintenance, and Recoverability Code Change Request (SMR).**

3.20.5. Product quality deficiency reporting to include quality, material, software, warranty and service reports, and exhibit processing according to TO 00-35D-54.

3.20.6. Performing deficiency assessments.

3.20.7. Monitoring the configuration management process including the TCTO program, one-time inspections, and modification proposals.

3.20.8. Controlling the maintenance TO improvement program as outlined in TO 00-5-1.

3.20.8.1. Investigate each report to ensure the deficiency is valid and the recommended change is a positive recommendation for improvement. Maintain a log or MIS data base for AFTO Form 22, **Technical Order Improvement Report and Reply** for control purposes.

3.20.8.2. Maintain an AFTO Form 22 suspense file. Approved AFTO Forms 22 are maintained until incorporated in the TO; however, they do not constitute authority to deviate from established technical data.

3.20.8.3. If TO improvement or material deficiency reports are returned disapproved, QA conducts a critical review to determine whether to submit additional information.

3.20.8.4. Weapons standardization function reviews all AFTO Forms 22 for weapons loading TOs.

3.20.8.5. Assign control numbers. Forwards, and tracks all AFTO Forms 22. Maintain the current GO-22 reports (F16 units also maintain the central technical order control unit status reports.)

3.20.9. Establish an Interim Contract Support (ICS) program if applicable with your MDS.

3.21. Emphasizing PIP. The PIM emphasizes and promotes deficiency reporting programs and ensures maintenance personnel in the logistics and operations groups are familiar with them. These systems, together with the day-to-day maintenance data reporting, provide an effective method of improving the reliability and maintainability of equipment.

3.22. Technical Order Distribution Office (TODO). TO 00-5-2 provides criteria for establishing levels of TO distribution activities. The TODO ensures TOs are maintained according to TO 00-5-1, and TO 00-5-2.

3.22.1. QA Central TO File. When setting up requirements for this file, give consideration to currency, adequacy, and availability of TOs to the production activities. As a minimum, this file contains pertinent general and procedural type TOs and a copy of all TCTOs pertaining to the equipment owned, operated, or maintained. This file is kept to meet QA requirements, not to duplicate all TOs within maintenance functions. Include current inspection workcards, work unit code manuals, and maintenance checklists for each type and model of equipment maintained by the aircraft maintenance functions. EXCEPTION: Those TOs used in support of one-of-a-kind equipment, transient maintenance, one-of-a-kind base support aircraft, and test, measurement, and diagnostic equipment.

3.22.2. Central AFTO Form 110, Technical Order/CPIN Distribution Record Set, or Automated Technical Order Management System (ATOMS). In addition to its designed purpose as established in TO 00-5-2, the AFTO Form 110 set (manual) or ATOMS (automated) serves as a locator for maintenance TOs.

3.22.3. Local Checklists, Workcards, Page Supplements, and Job Guides. Use of local workcards (LWC), local job guides (LJG), local page supplement (LPS), or local checklists (LCL) to accomplish maintenance on Air Force equipment places a considerable responsibility on the TODO for the safety of operations, the adequacy of procedures, and the quality of maintenance performed. Work centers thoroughly research the procedures contained in the local technical instructions. QA and work centers validate them annually for currency according TO 00-5-1. Ensure LWCs, LJGs, LPS and LCLs are reviewed for currency when source reference data changes. In addition to the requirements in TO 00-5-1, ensure checklists, job guides, page supplements, and workcards are published as follows:

3.22.3. (944FW) Approval procedures for Local Work Cards (LWC), Local Page Supplements (LPS) and Local Check Lists (LCL). The work center drafts a copy of the proposed LWC, LPS or LCL. The squadron commander signs a cover letter or staff summary sheet certifying the requirement for the proposed LWC, LPS or LCL. The workcenter submits the draft and cover letter/staff summary sheet to Quality Assurance (QA). The work center is responsible for submitting all information to be published in the LWC, LPS or LCL. QA will properly format the LWC, LPS or LCL, obtain the group commander's signature, publish and distribute the LWC, LPS or LCL.

3.22.3.1. Formatting:

3.22.3.1.1. Are normally 5 by 8 inches and punched to fit checklist-size binders. AFTO Form 26, Aircraft Inspection Work Document, can be used for workcards.

3.22.3.1.2. Sets containing more than two pages include a separate title page with the title in the center of the page. Sets containing two pages or less include the title on the top page.

3.22.3.1.3. Are assigned a four-part identification number consisting of type of data (LCL, LJG, LPS, or LWC), issuing unit, category of equipment/procedure, and the number assigned, sequentially, to each locally prepared checklist/job guide/workcard issued in that category

(that is, LWC-419FW-10-1, F-16 ENGINE BAY INSPECTION). The identification number is centered on the title page in the upper right hand corner on subsequent pages. Equipment/ procedure categories are:

3.22.3.1.3.1. 10 series: Aircraft/Engines/Propellers and Rotor Blades.

3.22.3.1.3.2. 20 series: Non-powered Aerospace Ground Equipment (AGE).

3.22.3.1.3.3. 30 series: Powered AGE.

3.22.3.1.3.4. 40 series: General safety procedures.

3.22.3.1.3.5. 50 series: Munitions.

3.22.3.1.3.6. 60 series: Miscellaneous.

3.22.3.1.4. Are dated on the title page below the title and on each subsequent page in the upper right corner below the identification number.

3.22.3.1.5. Pages are numbered in lower right corner.

3.22.3.1.6. Contain a list of source references on the reverse side of the title page.

3.22.3.1.7. Contain a list of effective pages on the reverse side of the title page.

3.22.3.1.8. Contain the signature and title of the issuing authority group commander.

3.22.3.2. QA issues changes and revisions, as necessary, to maintain currency with technical data or changes in equipment. Changes and revisions are appropriately identified and dated.

3.22.3.3. Locally developed LCL, LJG, LPS, and LWCs are issued, controlled, and inspected the same as Air Force produced technical data.

3.22.3.4. QA publishes and revises LCL, LJG, LPS, and LWC indexes. These indexes are revised as required but at least annually. Copies of indexes are distributed to all sub-accounts.

3.22.4. TO Notification. The TODO prepares a list of all changes and revisions to indexes, TOs, inspection workcards, and checklists applicable to maintenance. This list includes TO number and date of receipt. Include the list in the weekly maintenance plan. NOTE: Do not include 11N-series TOs in the list. Supervisors review the list of changes and ensure all personnel are aware a change or revision has been received. Additionally, bring immediate action and urgent action TCTOs, safety supplements, and interim supplements to the attention of key supervisors within 24 hours of receipt.

3.22.5. TO File Inspections. The QA TODO inspects other maintenance TODOs and TODAs in the maintenance complex at least annually along with performing spot checks of TO files.

3.22.6. TO File Maintenance Training. The QA TODO ensures all personnel assigned TO maintenance responsibilities are trained and qualified. If formal field training detachment (FTD) classes are unavailable, TODO provides the training.

3.23. Configuration Management Process. Configuration management includes submitting modification proposals, tracking unit concerns being worked by AFRC and lateral commands, and ensuring proper implementation of modification directives or TCTOs.

3.23.1. A modification proposal is a recommendation to change the operation, use, or appearance of Air Force equipment (also, known as form, fit, and function). Forward the modification proposal on

an AF Form 1067, Modification Proposal, to respective NAF/LGM. QA maintains a log or MIS data base on modifications.

3.23.2. Modifications to aircraft and or equipment will not be accomplished unless processed through proper channels (NAF, AFRC, and ALC).

3.23.3. Command directed temporary T1 and T2 modifications are similar to TCTOs, however, they are temporary and there is no corresponding change to technical data. The modification directive is the authority for both modification and maintenance as long as the modification is installed. QA maintains a copy of the command T1/T2 modification directives on file until they are formally rescinded.

3.23.4. The PIM reviews TCTOs, one time inspections, and command modifications to determine their applicability to unit maintained equipment, notifies the appropriate maintenance operations functions, and evaluates the quality of unit compliance actions. Responsibilities include:

3.23.4.1. Evaluating the overall unit configuration management program by reviewing technical, managerial, and documentation aspects of the program and reporting any deficiencies to the appropriate local manager or as directed in TO 00-5-15 and MAJCOM directives. Immediate action, urgent action, and safety TCTOs require particular emphasis.

3.23.4.2. Date stamping all TCTOs with the date received to establish the start of the TCTO compliance period.

3.23.4.2.1. Send copies to the base supply material storage and distribution flight, inspection section, with a suspense cover letter requesting the number of TCTO affected items in supply as required. Base supply endorses the cover letter back to the PIM and provides a copy to PS&D. PIM provides copies of each TCTO received to PS&D. Send a copy of munitions support equipment TCTOs to the munitions flight.

3.23.4.2.2. Send a copy of TCTOs for munitions or missiles to the munitions flight and munitions operations upon receipt. If parts are required from base supply or components stocked by base supply are affected, send one copy to base supply and one copy to material control, MSL, or operations squadron (OS), support flight. Do not furnish the 11N-series TCTOs to base supply, material control, or MSL.

3.23.4.2.3. Provide copies of the TCTO to the work centers doing the work. Mark these TCTOs as “working copy”. Do not place these working copies in a formal TO file.

3.23.5. QA attends all TCTO planning meetings.

3.23.6. The PIM monitors, as necessary, and documents initial compliance on TCTOs and determines depth and frequency of inspection coverage. Coverage is directly related to the complexity of the TCTO as well as to the criticality of the system or the component modified.

3.24. One Time Inspections (OTI). OTIs are a look-only or maintenance action to verify the existence of suspected equipment conditions or malfunctions. Higher headquarters, the weapon system manager, or the group commander initiates OTIs. OTIs may be equipment condition or procedural compliance oriented. OTIs are formatted according to procedures in **Chapter 6**.

3.25. AFTO Form 135. The PIM processes and controls AFTO Form 135, according to TO 00-25-195. Use a log or MIS data base to maintain the status of AFTO Forms 135. The PIM:

3.25.1. Ensures the repair change request is valid.

3.25.2. Conducts a critical review of AFTO Forms 135 returned with an unsatisfactory answer to determine whether to submit additional information.

3.25.3. Coordinates repair evaluation meetings as necessary when repair change affects several agencies.

3.26. Deficiency Reporting. Deficiency reporting is the processing and controlling of reports prescribed by TO 00-35D-54, TO 00-5-1, and AFCSM 21-578. The PIM is responsible for:

3.26.1. Ensuring compliance with TO 00-35D-54 acceptance inspection report requirements for aircraft returning from depot or contract overhaul.

3.26.2. Following criteria for submission of deficiency reports.

3.26.3. Ensuring personnel promptly submit necessary background information on suspected deficiencies.

3.26.4. Verifying each report and giving it the proper precedence and classification.

3.26.5. Screening for unit factors contributing to TO deficiencies. Acts locally on unsatisfactory conditions to ensure these deficiencies are corrected.

3.26.6. Conducting a critical review of deficiency reports returned with an unsatisfactory answer. Determine whether to submit additional information.

3.26.7. Maintaining a file of all R&M deficiencies (non-quality) reported by the maintenance units but not meeting the criteria for submission to AFMC. These deficiencies are tracked for possible submission to an applicable PIWG.

3.26.8. Overseeing exhibit processing by coordinating with Air Logistics Center (ALC), base supply, and transportation to ensure proper exhibit control and handling.

3.26.9. (Added-944FW) Originating Point (Work Center) Procedures:

3.26.9.1. (Added-944FW) Any item received from supply that meets the requirements in T.O. 00-35D-54 for submission of a Deficiency Report (DR) will have a DR submitted. Notify the Product Improvement Manager (PIM) in QA of intent to submit a DR. Complete 944 FW DR Worksheet and submit to the PIM after review by the work center supervisor. DR Worksheets are available in the 944 FW Product Improvement Handbook and in QA. Tags and shipping documents received with the failed materiel must be forwarded to the PIM.

3.26.9.2. (Added-944FW) Tag exhibits with two DD Forms 2332, Product Quality Deficiency Report Exhibit, two DD Forms 1575, Suspended Tag Materiel, and one AFTO Form 350, Repairable Item Processing Tag. Complete blocks 2 through 10 of the DD Form 2332. Enter “Q” in the condition code block of the DD Form 1575. Forward two DD Forms 1577-2, Unserviceable (Reparable) Tag Materiel, for XD2 exhibits, or a DD Form 1577, Unserviceable (Condemned) Tag Material, for XF3 exhibits, to QA. If exhibit is not available, submit informational DRs to inform the responsible agency of problems and trends with parts and equipment.

3.26.9.2.1. (Added-944FW) Special procedures for explosive exhibits. Photograph any item too dangerous or hazardous to retain. Submit the photographs with the DR for use in lieu of the

exhibit. Return such exhibits to the munitions (FK) supply account and retain them in segregated storage until shipment or disposition instructions are received.

3.26.9.3. (Added-944FW) Verify the supply document numbers and national stock numbers with the applicable maintenance supply liaison for Due-in From Maintenance tracking prior to forwarding the exhibit to the 56th Supply Squadron. Verify supply turn-in credit after DR has been processed by 56th Supply Squadron.

3.26.9.4. (Added-944FW) Secure exhibit until the DR has been completely processed by the PIM and action is directed by QA. Locate a container for shipping the exhibit. Forward the exhibit to 56th Supply Squadron exhibit holding area. Ensure that exhibits containing fuel, hydraulic fluid, oil, or any other liquids are properly drained, processed, and wrapped in a plastic bag (cap installed, holes plugged, and preservation measures taken), if practical.

3.26.9.5. (Added-944FW) Acceptance DRs. Perform acceptance inspections on all aircraft, engines or engine modules that are new, repaired, modified, or overhauled. Where required by T.O. 00-35D-54, submit a DR.

3.26.10. (Added-944FW) Screening Point – PIM Procedures:

3.26.10.1. (Added-944FW) Screens DR for validity and routes DR for certification. For acceptance DRs, QA will determine the severity and number of discrepancies that will be listed on the acceptance DR. Two or more individual discrepancies may be combined into one discrepancy at the discretion of QA.

3.26.10.2. (Added-944FW) Submits DR into USAF automated DR tracking system. All DR tracking system screens will have appropriate blocks filled in, completely and factually, with all necessary information.

3.26.10.3. (Added-944FW) Tracks DR status in USAF automated DR tracking system.

3.26.10.4. (Added-944FW) Forwards disposition instructions to 56th Supply Squadron for exhibit holding, processing and shipping.

3.26.10.5. (Added-944FW) Initiates follow-up action as prescribed by T.O. 00-35D-54.

3.26.10.6. (Added-944FW) Forwards action messages to DR originators and affected work centers.

3.27. Deficiency Assessment. Assessing unit R&M concerns is two fold. First review all unit reported R&M deficiencies and determine those caused by unit factors and local conditions versus those beyond the unit's control. Second, review available maintenance and supply trends and high man-hour consuming repairs. Analysis and base supply provide the majority of this information. The PIM also:

3.27.1. Reports unit factors contributing to a deficiency to the appropriate local agency or supervisor for resolution.

3.27.2. Identifies potential PIWG items by the letter "P" on the deficiency reports logs.

3.28. R&M Working Groups Input and Preparation. There are many improvement programs supporting the R&M efforts such as: PIP (AFI 21-118, *Improving Aerospace Equipment Reliability and Maintainability*), Repair Initiative Conference, Air Force IDEA Program, and Productivity, Reliability, Availability and Maintainability (PRAM) Program. The Component Improvement Program (CIP) and

PIWG are essential parts of the PIP. The PIM is an integral part of the information gathering and education process for CIPs and PIWGs.

3.28.1. Develop a CIP and/or PIWG input report for each system (that is, AGE, weapons, PMEL, avionics, engines, commodities, and the primary weapon system) that has an established PIWG/CIP. Rank these items according to weighed factors in AFI 21-118.

3.28.2. The PIM conducts R&M working group meetings with supervisors and technicians when it is determined beneficial to ensure quality inputs to PIWGs/CIP or to solicit ideas to enhance product improvement. These meetings are chaired by the LG or designated representative. Prepare an agenda and keep meeting minutes.

3.28.3. The PIM or designated representative attends PIWGs or provides adequate background on PIWG issues to the unit or MAJCOM representative. Distribute PIWG minutes and ALC corrective actions to the appropriate unit agencies.

3.29. Maintenance Related Suggestions. The PIM processes and controls the AF Forms 1000, **IDEA Application**, for maintenance related suggestions according to AFI 38-401, *The Air Force Innovative Development Through Employee Awareness (IDEA) Program.*

Section 3D—Functional Check Flight, Weight and Balance, Abort/Incident Programs

3.30. Functional Check Flight (FCF). The requirement for an aircraft FCF is outlined in TO 1-1-300 and the appropriate -6 technical order or a decision exercised by commanders through their maintenance officers. The OG/CC is responsible for reviewing qualifications of all assigned crews and selecting highly qualified individuals. 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. Units develop local written procedures.

3.31. Responsibilities. QA is responsible for the management and administration of the unit FCF program. Group commanders, FCF officer in charge (OIC) and crewmembers certified to perform FCFs are responsible for ensuring compliance with these procedures. In addition, establish local FCF procedures according to applicable directives and ensure these procedures are implemented on all FCFs. Publish these procedures as a wing instruction. Quality assurance:

3.31. (944FW) QA will:

3.31.1. Monitors all FCFs according to the appropriate -6 technical order, TO 1-1-300 and other pertinent directives.

3.31.2. Notifies the applicable flying squadron/PS&D as soon as possible when requesting FCF crews.

3.31.3. In conjunction with OG/CC, develops local procedures for overall management and use of FCF crews.

3.31.4. Briefs each FCF crew on the following:

3.31.4.1. Purpose of the flight.

3.31.4.2. Previous maintenance problems and discrepancies recorded on the aircraft and the system/equipment relating to the FCF.

3.31.4.3. Documentation requirements for the AFTO Form 781 series and the -6 TO, FCF checklists, when applicable.

3.31.5. Reviews aircraft weight and balance documents.

3.31.6. Maintains an information file for briefing the flight crews. As a minimum, the file contains the following items:

3.31.6.1. Mission profile for each type of assigned aircraft.

3.31.6.2. Unit directives concerning FCF procedures.

3.31.6.3. A FCF checklist for each type of assigned aircraft.

3.31.6.4. TO 1-1-300.

3.31.6.5. Map of local FCF area or route of flight.

3.31.6.6. Uses a FCF checklist during each FCF performed. During debriefing, reviews the checklist and the aircraft forms to determine if all requirements were accomplished. Forwards the FCF checklist to documentation for filing. Tape recorders may be used to provide detailed accounting of in-flight discrepancies, assist troubleshooting, and aid in debriefing. Document each discrepancy discovered during the FCF in AFTO Forms 781A. Reviews corrective action for the discrepancies found during the FCF.

3.31.6.7. Maintains a Functional Check Flight Log or MIS data base to provide information for evaluation and analysis. The log or MIS data base includes the date and time of the FCF, aircraft serial number, reason for FCF, name of debriefer, and name of aircrew commander. It also shows if the aircraft was released for flight, reasons for any non release, action taken, and date completed maintenance documents were forwarded to PS&D. Reviews the log or MIS data base monthly for trends indicating problems requiring further analysis or corrective actions.

3.31.7. (Added-944FW) Review AFTO Form 781 series prior to the FCF. Flag AFTO Forms 781 by placing "FCF" in red pencil or ink at the top of the AFTO Form 781H and at the top of the first FCF page of the AFTO Form 781A.

3.31.8. (Added-944FW) Make appropriate entries in the aircraft AFTO Form 781 pertaining to the FCF. Retain the aircraft AFTO Forms 781 binder and checklist in QA and deliver to FCF pilot during the FCF briefing.

3.31.9. (Added-944FW) Meet the pilot in debrief for a simultaneous maintenance/FCF debriefing when aircraft returns from the FCF.

3.31.10. (Added-944FW) Review and forward corrected FCF generated AFTO Forms 781A and checklist to documentation.

3.32. High Speed Taxi Checks. When a maintenance ground operational check requires aircraft movement at higher than normal taxi speeds, the aircraft is normally flown. FCFs are normally used to accomplish those checks. However, group commanders have the option to authorize high speed taxi checks (DO NOT HIGH SPEED TAXI F16 AIRCRAFT). If this option is exercised, process aircraft forms through QA using FCF procedures. Perform high speed taxi checks with qualified FCF aircrews according to applicable aircraft dash one and maintenance technical orders. QA develops an aircrew briefing checklist

specifically for high speed taxi checks, to include the required FCF briefing items and pertinent warning, cautions, etc.

3.33. Documentation. Dispose of QA program documentation according to AFMAN 37-139.

3.34. Weight and Balance. The weight and balance manager ensures compliance with appropriate technical order procedures for weighing aircraft and maintains required documents. Specialists support is provided as necessary to assist in the inventory, removal, or installation of equipment. The weight and balance technician verifies scale readings and does actual computations on the weight and balance documents. A qualified weight and balance technician supervises the preparation, leveling, and weighing of the aircraft. The QA Supervisor ensures:

3.34.1. Sufficient personnel are qualified on assigned aircraft according to TO 1-1B-50, section IV, and designated as weight and balance technicians for assigned aircraft.

3.34.2. Weight and balance inventories are completed according to applicable directives and upon return to home station from any ALC or contractor facility where extensive maintenance was performed.

3.34.3. All assigned aircraft are weighed according to applicable directives. QA maintains weight and balance documents required by TO 1-1B-40 and TO 1-1B-50 for each assigned aircraft. An approved automated weight and balance system may be used. If an approved automated weight and balance system is used, a back-up copy of all weight and balance documents is required.

3.34.4. Weight and balance documents are inspected before flight when TCTOs and modifications affect the basic aircraft weight and moment. Review computations for accuracy and proper documentation of applicable weight and balance forms.

3.34.5. Essential weight and balance data and changes to the basic weight and moment are provided to operations for appropriate mission planning.

3.34.6. Weight and balance manuals are maintained for Class I and II aircraft according to TO 1-1B-40 and 1-1B-50.

3.34.7. (Added-944FW) Any shop removing equipment from the aircraft will report the removal of such equipment to Maintenance Coordination Function (MCF) and QA for computation of aircraft weight and center of gravity (CG). Computations will be accomplished before aircraft is released for flight or aircraft weighing. When major components (i.e., engine, radar installation, gun, seat and canopy) are removed, contact QA prior to ground handling (e.g., jacking or towing).

3.34.7.1. (Added-944FW) If aircraft CG is not within limitations after equipment removal and or installation, the equipment will be installed before the aircraft is released for flight, before an aircraft is weighed, or before ground handling is started.

3.34.7.2. (Added-944FW) The shop removing and or installing equipment will document all equipment removed and or added in the Core Automated Maintenance System (CAMS) and AFTO Forms 781 and deliver that data to QA.

3.34.7.3. (Added-944FW) When an engine is replaced in an aircraft, QA must be notified of the serial number of the engine installed. This is required due to the weight differences between engines.

3.34.8. (Added-944FW) QA will:

3.34.8.1. (Added-944FW) Annotate the data on the DD Form 365-3, Chart C - Basic Weight and Balance Record, and re-compute the aircraft weight and CG upon receipt of data for removed and or added equipment.

3.34.8.2. (Added-944FW) Route the completed Time Compliance Technical Order (TCTO) and modification information for weight and balance changes to the Weight and Balance Manager. The TCTO Monitor will accomplish this routing.

3.34.9. (Added-944FW) 302 FSM will:

3.34.9.1. (Added-944FW) Review the 944 FW Standardized Load Configurations list annually and route a list of changes to QA. This list will contain loads by line number as listed in T.O. 1F-16C-1-2. This is to facilitate load weight and balance calculations and prevent an unsafe condition.

3.34.9.2. (Added-944FW) Ensure only loads listed in the 944 FW Standardized Load Configurations list are loaded on aircraft assigned to the 944 FW.

3.34.9.3. (Added-944FW) Provide personnel and equipment support for aircraft inventories and weighing.

3.34.9.4. (Added-944FW) Schedule and preprogram aircraft weight checks and inventories in the monthly and weekly maintenance plan.

3.35. Abort/Incident/IFE. Units use MIS or develop a local log or automated procedure to document abort/incidents/in-flight emergency (IFE) occurrences.

3.36. (Added-944FW) FCF Responsibilities for 302d Fighter Squadron Maintenance (FSM). 302d FSM will:

3.36.1. (Added-944FW) Notify QA of the anticipated FCF.

3.36.2. (Added-944FW) Coordinate the availability of a qualified FCF pilot with QA and 302d Fighter Squadron (FS) operations.

3.36.3. (Added-944FW) Ensure engine run and aircraft systems checks are performed (i.e., hot preflight). Any qualified maintenance personnel can accomplish these checks.

3.36.4. (Added-944FW) Notify QA when the aircraft is ready for FCF.

3.36.5. (Added-944FW) Deliver the AFTO Forms 781 binder to QA for review a minimum of two hours prior to scheduled takeoff.

3.36.6. (Added-944FW) Notify QA upon return of FCF for debriefing.

3.36.7. (Added-944FW) Retain AFTO Forms 781A, Maintenance Discrepancy and Work Document, for FCF aborts and FCFs flown but not released in the AFTO Forms 781 binder for the FCF pilot to review prior to flight. Do not transcribe AFTO Forms 781A until FCF is released.

3.36.8. (Added-944FW) Route AFTO Forms 781A pertaining to the FCF to QA after the aircraft has been released from the FCF.

3.37. (Added-944FW) FCF Responsibilities for FCF Pilot. FCF Pilot will:

3.37.1. (Added-944FW) Satisfactorily complete an annual examination given by QA. This test will include applicable material in T.O.s 1-1-300, 00-20-5, 1F-16C-6CF-1 and AFRCI 21-101.

3.37.2. (Added-944FW) Maintain FCF requirements in accordance with T.O. 1-1-300 and the applicable -6 T.O.

3.38. (Added-944FW) FCF Configurations. FCF configurations are based on the extent of maneuvering required to complete the desired checks/portions of the full FCF profile. The required FCF profile is determined by the maintenance requirement that prompted the FCF. When FCFs are accomplished to test specific equipment or systems, only applicable portions of the full FCF profile need to be accomplished. However, as much of the full profile should be accomplished on all FCFs as configuration, weather, and other factors permit. The FCF pilot will ensure that requirements of the FCF profile are compatible with aircraft stores limitations, carriage limits, angle of attack, rolling limits, and aircraft configurations. The 944th Logistics Group (LG) or Operations Group (OG) Commander must approve exceptions to the following requirements.

3.38.1. (Added-944FW) Munitions will not be carried on FCFs.

3.38.2. (Added-944FW) The configuration will be clean with symmetric missile launchers on stations 1 and 9, and may have a centerline pylon (MAU-12 or ECM adapter) on station 5, when a full FCF profile is required or is directed by either the 944 LG or OG Commander.

3.38.3. (Added-944FW) The configuration may be altered when limited profile FCFs are accomplished.

3.39. (Added-944FW) Deployed FCF Operations. During deployed operations, FCFs will be conducted under the same constraints used at home station. The detachment commander will be the only authority for deviations to wing instructions, configuration requirements, fuel load, etc. Deviations will be kept to an absolute minimum and will be approved only after close coordination between the senior maintenance representative and the detachment commander.

Chapter 4

MAINTENANCE PRODUCTION

4.1. General. This chapter outlines functions, duties, and responsibilities for both operations and maintenance squadrons to accomplish the total maintenance production effort. On and off equipment maintenance may be aligned in different areas, based on approved organizational structure. When maintenance personnel are assigned to operations, the functions are semiautonomous with the maintenance squadron. Sortie generation and sortie support flights assigned to operations are responsible for launch, service, on-equipment repair, inspection, and recovery of primary mission aircraft. These functions may be performed by elements of the aircraft generation or maintenance squadron when maintenance is consolidated in the logistics group. The functions of the maintenance squadron (MXS) consist of personnel from various AFSCs organized into flights: propulsion, avionics, test measurement and diagnostic equipment (TMDE) (if applicable), accessory maintenance, aerospace ground equipment (AGE), fabrication, armament systems, maintenance, and munitions. 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 (if applicable). Squadron maintenance leadership has the authority and responsibility to apply people and equipment to support the maintenance effort and meet the sortie commitments of the squadron.

4.2. Production Superintendent. The production superintendent is responsible for squadron on-equipment maintenance production. The maintenance officer/superintendent appoints production superintendents to cover all shifts. The production superintendent:

4.2.1. Directs the on-equipment maintenance effort through the expediter and debrief/dispatch section.

4.2.2. Is involved in developing and implementing the monthly and weekly maintenance plans and ensures resources are available to meet these plans.

4.2.3. Is the squadron point of contact for all decisions relating to aircraft maintenance production. May authorize cannibalization actions within squadron resources. Coordinates with the engine management (EM) section for engine-to-aircraft cannibalization.

4.2.4. Coordinates with other squadron production superintendents/flight chiefs and supervisors to resolve manpower shortages and other maintenance issues.

4.2.5. Conducts the daily maintenance production meeting.

4.2.6. Coordinates with the maintenance squadron propulsion flight chief and EM before performing unscheduled engine changes.

4.2.7. Determines the status of assigned aircraft. Particular emphasis is placed on not mission capable (NMC) aircraft and the actions necessary to return them to fully mission capable (FMC)/partial mission capable (PMC) status.

4.2.8. Knows the actions required under unit Emergency War Order (EWO)/contingency plans and directs aircraft generation flow, coordinating with the MCF for support required outside his or her control. Responsible for developing and keeping generation line-ups current.

4.2.9. Maintains appropriate check sheets outlining duties during disaster exercises. Is familiar with specific disaster control duties, and with the portion of AFI 32-4001, Disaster Preparedness Planning and Operations, and unit operations order (OPORD) pertaining to movement of aircraft, support equipment, and evacuation of flight line personnel.

4.3. Debrief/Dispatch Section (DDS). Debrief/dispatch tracks the location of personnel on duty and maintains liaison among the flight chiefs, expediters, and production superintendent. Acts as the communications/ information focal point using non-TAC radio, telephones, and intercoms to support the maintenance production effort. The dispatcher works for the production superintendent and ensures specialists are dispatched as required. This function also thoroughly debriefs aircrews, documents aircraft conditions, collects inflight data, and enters debrief data into MIS. Do not establish debriefing location solely for aircrew convenience. Specific debriefing procedures are according to guidance in **Chapter 6**. The dispatch section:

4.3.1. Maintains visual/automated displays showing as a minimum, status, grounding discrepancies, estimated time in commission (ETIC), configuration, fuel loads, and location of each aircraft on station maintained or supported by the unit if required locally.

4.3.2. Informs affected activities, as required, of changes in priorities, plans, and schedules.

4.3.3. Monitors the status of AGE designated as mission essential which falls below its critical levels through visual/automated displays which show location, minimum levels, and current status by type.

4.3.4. Coordinates munitions delivery priorities with expediter, flying squadrons, and munitions maintenance activities.

4.3.5. Maintains aircraft estimated time in commission (ETIC), as required locally. ETICs consist of a date and time.

4.3.6. Identifies support problems between activities to the production superintendent and dispatches appropriate maintenance agencies to provide requested support.

4.3.7. Ensures MCF is notified of mishaps involving aircraft foreign object damage (FOD), other aircraft damage, or personnel injuries.

4.3.8. Monitors ETIC for critical equipment/facilities that affect production capability.

4.3.9. Coordinates job starts and completions.

4.3.10. Maintains MIS by opening and closing aircraft discrepancies as determined by the expediter and/or maintenance technicians.

4.3.10.1. Validates the MIS to ensure accurate status.

4.3.10.2. Works closely with MCF; ensures data passed to MCF is accurate (for status reporting).

4.3.11. Assists MCF in performing required actions in emergency action checklists.

4.4. Flightline Expediter. The expediters manage their portion of assigned aircraft. Expediters control and direct resources allocated by the production superintendent to meet maintenance requirements. The expediter coordinates scheduled and unscheduled maintenance needs. The expediter, in coordination with the production superintendent, determines aircraft status and reports information to MCF and/or DDS. Expediters operate from radio-equipped vehicles. The expediter works directly for the squadron produc-

tion superintendent. Working with flight chiefs, they coordinate all maintenance actions on their assigned aircraft. The expediter is present on the flightline anytime maintenance is being performed and during all aircraft launches/recoveries. Expediters must be fully prepared to react to real world emergency or exercise situations on the flightline and take positive and decisive action as warranted. Expediters track discrepancies and take proper follow-up action. Working with the debrief/dispatch section, the expediter tracks personnel dispatched to assigned aircraft and coordinates job starts and completions. Units determine the number of expediters. Expediters do not perform duties normally the responsibility of the flight chief. Additionally expediters:

4.4.1. As a minimum, keep a copy of emergency action check sheets and base grid map in the vehicle. Reference gaining command chapters for specific guidance.

4.4.2. Review deferred jobs daily and coordinate with other expediters and production supervisor.

4.4.3. Ensure parts are ordered for assigned aircraft. The document number is relayed to the specialist, crew chief, and to the debrief/dispatch section or MCF as appropriate.

4.4.4. Relay the following to the debrief/dispatch section or MCF as appropriate:

4.4.4.1. Aircraft status to include discrepancy, work unit code (WUC), ETIC, and job completion.

4.4.4.2. Confirms aircraft are ready for flight.

4.4.4.3. Completion of jobs pre-planned by PS&D.

4.4.4.4. Fuel and munitions configuration.

4.4.4.5. Notify debrief/dispatch section or MCF as appropriate of cannibalization action and obtain a job control number, as applicable.

4.4.5. Request from the debrief/dispatch section or MCF as appropriate:

4.4.5.1. Specialist support not assigned or available and required to support maintenance production.

4.4.5.2. Additional required support, such as petroleum, oil, and lubricants (POL), fire trucks, etc.

4.4.6. Direct the movement of AGE. . Notify the AGE flight of AGE requiring maintenance.

4.5. Sortie Generation Flight. This flight consists of crew chiefs and aircraft mechanics/technicians. Common tasks are servicing, scheduled/unscheduled maintenance, preflights, basic postflights, thru flights, home station checks, special inspections, corrosion control, cleaning, ground handling, launch and recovery of aircraft, troubleshooting and adjustment, on-equipment repairs, component removal and replacement, and performing aircraft records checks.

4.6. Sortie Generation Flight Chief. The flight chief is responsible for the management, supervision, and training of assigned personnel and allocates personnel to the production effort. In addition to the common responsibilities in **Chapter 2**, the flight chief:

4.6.1. Reviews flight crew/pilot reported discrepancies (PRD) daily and ensures proper maintenance actions are taken.

4.6.2. Reviews and reconciles the cannibalization actions with aircraft AFTO Forms 781.

4.6.3. Assigns technicians to fill crew chief positions.

4.6.4. Ensures scheduled aircraft records checks are accomplished.

4.7. Crew Chiefs . Crew chiefs manage and oversee all maintenance on their aircraft. Crew chiefs keep the flight chief/expediter informed of aircraft status. Crew chiefs coordinate with expediters/production superintendent for scheduled/unscheduled maintenance requirements. Crew chiefs also:

4.7.1. Document and identify maintenance and support requirements to the expediter or flight/section chief.

4.7.2. Maintain accurate aircraft forms documentation according to TO 00-20 series.

4.7.3. Perform towing, basic postflights, preflights, thruflights, home station checks, acceptance and transfer inspections, launch/recovery, ground handling, integrated combat turns (ICT), quick turns, concurrent servicing, and configure aircraft based on specific MDS requirements.

4.7.4. Perform engine operation as required for trims, systems checks, and troubleshooting.

4.7.5. Ascertain aircraft condition from aircrew.

4.7.6. Order and document parts requirements as required.

4.7.7. Take oil samples and complete appropriate documentation.

4.7.8. Attend pre/post-dock meetings for assigned aircraft. Accompany their aircraft through scheduled inspection. During the inspection, crew chiefs work under the direction of the inspection section chief.

4.8. Specialists Section (when applicable). Common tasks for this section are aircraft systems troubleshooting and adjustments, on-equipment repairs, component removal/replacement, aircraft ground handling, aircraft launch and recovery, servicing, and cleaning. The specialist section chief performs common responsibilities as outlined in **Chapter 2**. The specialist section:

4.8.1. Actively promotes cross-talk with applicable maintenance units to obtain information on system/component repeat, recur and cannot duplicate (CND) trends. Ensures awaiting parts (AWP) for the low altitude navigation and targeting infrared for night (LANTIRN) pods are transferred to the sensor section for cross-cannibalization in support of unit production. The following shop responsibilities are as follows:

4.8.2. Maintains jet engines/systems (if applicable).

4.8.3. Maintains pneudraulics systems (if applicable).

4.8.4. Consists of the following specialty shops:

4.8.4.1. Electronic warfare systems (EWS) (if applicable).

4.8.4.1.1. Reprogramming of aircraft EW systems to include minor hardware changes.

4.8.4.1.2. Maintaining an EWS reprogramming management book in the work center. As a minimum includes:

4.8.4.1.2.1. A copy of the AF Form 1996, **Adjusted Stock Level** used to establish the applicable stock levels of programmed read only memory (PROM) in supply; six per ALQ-155 processor (CM-465).

4.8.4.1.2.2. A list of personnel trained to operate reprogramming equipment.

4.8.4.1.2.3. A letter listing individuals authorized to pick up reprogramming messages at the communications center. A copy of this letter is maintained by the base communication center. This list is updated quarterly.

4.8.4.1.2.4. A list of available support equipment and technical data.

4.8.4.1.3. Reprogramming EW system mission data. Reprogramming procedures:

4.8.4.1.3.1. For mission data updates, a nine track tape and reprogramming message is sent to the ECM section via the base communications center from HQ AFRC/DOO or WR-ALC/LNR. Routine updates may be sent by mail. The reprogramming message contains implementation and disposition instructions for previous mission data versions. Units with AN/GYQ-59 and STU III may connect directly to HQ AFRC/DOO or WR-ALC/LNR for data transfer.

4.8.4.1.3.2. Once the mission data is transferred to Raymond cassette via the autodin translator (ATU) or AN/GYQ-59 digital computer system (DCS), the section retains the nine track tape or applicable media.

4.8.4.1.4. Chaff/Flare dispenser repair is accomplished by the maintenance squadron. *EXCEPTION:* The B-52 chaff dispensers are maintained by the specialist flight (OG).

4.8.4.1.5. Units do not order alternate mission equipment (AME) kits unless directed by HQ AFRC/DOO, MEA, or appropriate NAF.

4.8.4.1.6. EWS technicians enter "AME" in the mark for field of the requisition. Additionally, all shipment documents should contain AME in the mark for field. When AME kits are received, supply issues them to maintenance, creating a due-in for maintenance (DIFM) detail. At the termination of the exercise, maintenance turns in AME kits as reparable. Supply ensures the DIFM detail is cleared and ships the reparable AME kits to the regional intermediate level maintenance (ILM) host supply account.

4.8.4.2. Bombing and Navigation (B-52) systems:

4.8.4.2.1. Participates in the wing in-flight maintenance training program for B-52 aircrews.

4.8.4.2.2. Attends wing reliability panel.

4.8.4.2.3. Maintains the following systems:

4.8.4.2.3.1. Strategic Radar System. Specified AN/APQ-166 strategic radar (SR) components to include the receiver-transmitter-modulator (RTM), radar control test panel (RCTP), and radar antenna.

4.8.4.2.3.2. Terrain Avoidance System.

4.8.4.2.3.3. Electro/Optical Viewing System. Specified AN/ASQ-151 electro-optical viewing system components to include the AN/AA-6 forward looking infrared (FLIR) scanner, and AN/AVQ-22 steerable television (STV) camera assembly.

4.8.4.2.3.4. AVTR System.

4.8.4.2.3.5. Extract and analyze in-flight fault data, as required, from aircraft data cartridge. The system avionics tester (SAT) or radar test set (RTS) is used to print out fault

data. Use of strategic mission data preparation system (SMDPS) is an alternative and is coordinated with wing DOX.

4.8.4.2.3.6. Radar Video Recorder (RVR).

4.8.4.3. Flightline avionics systems:

4.8.4.3.1. F-16 units.

4.8.4.3.1.1. Maintains attack control systems.

4.8.4.3.1.2. Maintains flight control and flight instrument systems.

4.8.4.3.1.3. Maintains communication, navigation, and penetration aid systems.

4.8.4.3.1.4. Uploads and downloads electronic pods.

4.8.4.3.1.5. Maintains Precision Attack Targeting System (PATS) pods.

4.8.4.3.1.5.1. Uploads, downloads and performs two level maintenance on PATS pods.

4.8.4.3.1.5.2. Removes and replaces Line Replaceable Units (LRUs).

4.8.4.3.1.5.3. Performs operational and BIT tests.

4.8.4.3.1.5.4. Maintains inventory control of pods and associated equipment.

4.8.4.3.2. A-10/B-52 units.

4.8.4.3.2.1. Maintains on-aircraft communication and navigation components and systems.

4.8.4.3.2.2. Maintains guidance and control components and systems.

4.8.4.4. Electro/Environmental. This function of the specialist section maintains on-aircraft electrical/environmental components and systems.

4.9. Sortie Support Flight. This flight normally consists of support and phase function. However, inspection section may be aligned in MXS, maintenance flight, at units supporting large aircraft. The inspection section responsibilities are identified in paragraph **4.64.** under the maintenance flight. The flight is responsible for ensuring sufficient support equipment and supply support is available to support the production effort. In addition, when inspection section is aligned to the flight, the flight is responsible for all facets of aircraft inspections (phase, periodic, or isochronal).

4.10. Tool/Supply Support (when applicable). Units use prescribed tool control outlined in **Chapter 6** and supply procedures outlined in **Chapter 5** and AFMAN 23-110, Vol 2, Part 13. If established the tool room function may be decentralized. This function:

4.10.1. Controls and maintains CTKs and equipment storage.

4.10.2. Controls and maintains TMDE according to TO 33-1-27.

4.10.3. Complies with TO 33K-1-100-1, any applicable calibration measurement summary (CMS), TO 00-20-14, and other applicable technical directives concerning the use, care, handling, transportation, and calibration of test, measurement, and diagnostic equipment.

4.10.4. Uses supply management products for all shops, as determined locally. Identifies problems associated with supply support and provides assistance in the resolution. Initiates follow-up action when necessary.

4.10.5. Notifies the expediter of all back ordered parts.

4.10.6. Maintains a Quick Reference List (QRL) if used.

4.10.7. Tracks and processes DIFM assets in a timely manner.

4.10.8. Issues and controls TO files located in the tool room. Work centers maintain TO files as required, according to TO 00-5-1 and TO 00-5-2.

4.10.9. Maintains an adequate bench stock. Bench stock display boards or other visual displays are used to readily identify frequently used expendable items.

4.10.10. Controls and manages aircraft tail number bin (TNB) if applicable.

4.10.11. Administers the squadron cannibalization program.

4.10.12. Initiates and reconciles cannibalization actions in the MIS. In addition to MIS documentation requirements, cannibalization actions are accomplished and recorded according to TO 00-20 series. Use AFRC Form 172, **Cannibalization Log**, to document cannibalization actions during CAMS downtime.

4.11. Propulsion Flight. The propulsion flight maintains propulsion units, components, quick engine change (QEC) kits, and propellers if applicable. The flight is responsible for jet engine intermediate maintenance (JEIM), test cell, ground engine run, engine trending and noise suppression systems (NSS), accessory/modular repair, small gas turbine, engine support equipment and engine management.

4.12. Propulsion Flight Chief Responsibilities. In addition to common responsibilities in **Chapter 2**, the flight chief:

4.12.1. Serves as the focal point for the unit's propulsion maintenance program and the senior advisor to the unit on propulsion issues.

4.12.2. Provides technical guidance as required to achieve and maintain quality propulsion systems required to support the unit mission.

4.12.3. Reviews production data to ensure propulsion units and components processed through the flight are repaired and functionally checked.

4.12.4. Works with the unit engine manager/SRAN engine monitor to ensure accurate engine and equipment reporting including engine non-mission capable-supply (ENMCS) status.

4.12.5. When directed, provides centralized propulsion QUEEN BEE or Engine Regional Repair Center (ERRC) support to other organizations.

4.12.6. If applicable, develops guidelines to comply with the QAP for propulsion units and components; works with affected agencies to determine corrective action.

4.12.7. Maintains required engines/propellers to meet mission needs.

4.12.8. Ensures accessories and QEC components are processed.

4.12.9. Determines if parts kits for recurring maintenance actions are required. If needed, kits are pre-assembled from bench stock in minimum quantities necessary to support the workload. Repair cycle assets are not included in parts kits. Unused portions of kits are returned to bench stocks.

4.12.10. Reviews and analyzes all premature engine removals, test cell rejects, and in-flight shut-downs.

4.12.11. Ensures engines and components are prepared for shipment according to applicable technical data.

4.12.12. Establishes cannibalization procedures according to TO 00-20- 2, to include coordination with the engine management section (EM). Verifies there is sufficient time remaining on all time change components before cannibalization occurs.

4.12.13. Ensures the use of AFTO Form 244 and AFTO Form 245**, Industrial/Support Equipment Record (Continuous Sheet),** or applicable automated forms on jet engine test stands and test cells, noise suppression systems, gas turbine compressor (GTC) test stand and propulsion SE.

4.12.14. Coordinates/approves all engine removals. Coordinates with production superintendent and engine management section (EM) prior to engine changes.

4.12.15. Coordinates with civil engineering to provide maintenance on noise suppression systems and test cells according to AFI 21-104, *Selective Management of Selected Gas Turbine Engines*. If the unit/squadron is a tenant, incorporate this maintenance into the host-tenant support agreement (AFI 25-201, *Support Agreement Procedures*).

4.12.16. Reviews the qualifications of personnel selected to conduct engine test cell runs.

4.12.17. Establishes a forecast list of supplementary parts requirements based on a review of repair documentation for the last six months.

4.12.18. Ensures control and maintenance of engine airlift trailers, maintenance and storage stands, and mounting adapters.

4.12.19. Follows proper reclamation and disposal procedures for engines, propellers, and components removed from crashed aerospace vehicles.

4.12.20. Ensures pre-maintenance test cell operation of engines removed for scheduled and unscheduled maintenance is accomplished to identify additional maintenance requirements when the engine condition, workload, and experience indicates that a pre-run would be beneficial.

4.12.21. Considers the following factors in the decision to perform minor engine/propeller repair or major engine/propeller maintenance:

4.12.21.1. On-hand and projected availability of additional parts required for reconditioning or periodic inspection.

4.12.21.2. Projected workdays required to return the engine/propeller to serviceable status.

4.12.21.3. Present and forecast serviceable engine/propeller availability.

4.12.21.4. Man-hours required to complete a major maintenance vice limited repair.

4.12.21.5. TCTO kit availability, time changes, and special inspections (SI) required.

4.12.21.6. Total cost to unit to approve repair verses return for overhaul cost.

4.12.22. Ensures Propulsion Flight FOD Prevention Program responsibilities are identified and followed according to **Chapter 6**, Foreign Object Damage (FOD) Prevention Program.

4.12.23. At units participating in the Engine Conditioning Monitoring Program (ECMP), ensures established guidelines are followed. Establishes custodial procedures for the ECMP computer and ensures the analysis back-up computer is available.

4.12.24. Manages the borescope training program according to the guidance in **Chapter 6**, **Section 6G**.

4.13. Engine/Propeller Removal Program. Scheduled and unscheduled engine/propeller removals are important considerations in balancing section workload with maintenance capability. The flight chief works with EM to program engine/propeller removals for the weekly and monthly maintenance plans. A 6-month plan is developed by the flight chief from EM forecast to smooth peaks and valleys in the engine/propeller maintenance workload. This plan is developed using MIS products and includes scheduled engine/propeller removals for time change, periodic inspections, TCTOs, and a factor for projected unscheduled removals.

4.14. Oil Analysis Program (OAP) (when applicable). Accurate oil sampling determines the internal condition of engines and accessories with closed-loop lubricating systems. Coordination with the OAP laboratory is required to obtain maximum benefits from OAP data when abnormal wear metal trends are indicated.

4.14.1. The propulsion flight chief:

4.14.1.1. Establishes procedures to monitor OAP trends and take required actions.

4.14.1.2. Ensures personnel are trained on wear metal limits for specific engines and sampling procedures according to TO 33-1-37.

4.14.1.3. Ensures oil samples taken at the test cell are promptly delivered to the OAP laboratory. Red cap samples are delivered immediately according to **Chapter 6** of this instruction.

4.14.1.4. Is the central point of contact for all abnormal laboratory results. Advises squadron maintenance supervision and the owning work center (OWC) of actions to take.

4.14.1.5. Forwards information to the OAP laboratory concerning actions taken as a result of OAP recommendations.

4.14.2. If the laboratory providing OAP support is not located on the same base as the supported unit, and/or the supported unit does not have NDI/OAP personnel assigned, the OAP responsibilities outlined in TO 33-1-37 are assigned to the propulsion flight. The flight chief forwards samples in a timely manner to the laboratory providing OAP support. The propulsion flight chief also:

4.14.2.1. Sets up collection points and procedures to receive and forward OAP samples to the supporting laboratory, monitors sample collection, assigns control numbers, and provides blocks of sample control numbers for use in other squadrons.

4.14.2.2. Advises squadron maintenance supervision and the owning work center of abnormal OAP trends.

4.14.2.3. Reviews elapsed times from sampling to receipt at the laboratory and the time it takes for results to return to the unit to ensure processing of samples meets mission needs.

4.15. Spare Engine Status. Flight/section chiefs maintain the status of their ready spare engines that shows the following:

4.15.1. Serial number.

4.15.2. Configuration - Enter type and position (if applicable).

4.15.3. Total time - Enter total engine time.

4.15.4. Time remaining - To periodic, reconditioning, or overhaul.

4.15.5. Preservation - Date accomplished, type and due date.

4.15.6. Remarks - Add any pertinent information about the engine.

4.16. AFRC Engine Management Guidance.

4.16.1. The AFRC Command Engine Manager (CEM) controls all engine movement, stock levels, distribution, and depot purchased equipment maintenance (DPEM) requirements, supports planning, programming, and budgeting for all command engines. The CEM monitors and takes action to maintain required unit spare engine levels within each mission design series (MDS) and engine type. CEM command authority is limited to administrative authority to direct and control engine movements, as required to support command needs, allowing efficient and effective management of the command's fleet of aircraft engines.

4.16.2. AFRC uses a single manager for engine program management actions that involve the expenditure of funds. Semiannual negotiations are conducted with supporting engine depots for a command engine repair requirement based on the annual flying hour program for each MDS for six outyears. The CEM controls the distribution of engines to fill negotiated requirements and controls the expenditure of HQ AFRC DPEM funds. To effectively and efficiently manage the DPEM account and control distribution of command engines, a control number system, administered only by the CEM or an alternate, is used. The numbered air forces (NAF) are indirectly involved in engine movements or DPEM actions due to the need for strict accountability and centralized management of the DPEM account within HQ AFRC.

4.16.3. The CEM is required to compute base stock level (BSL) and war reserve engine (WRE) levels for each engine type and unit using the Propulsion Requirement System (PRS). Actual quantities are negotiated with supporting engine depots. An official message of notification, signed at HQ AFRC/LGM level, is sent to each unit and NAF upon completion of negotiations by the CEM.

4.17. AFRC Engine Tracking, Control, and Movement Guidance:

4.17.1. General Engine Management Guidance. Prior coordination with the CEM is required for movement of engines or major sub-assemblies by a unit and prior to direct coordination between units and other MAJCOM CEMs. Prior coordination with the AFRC CEM and receiving unit is required before scheduling of Reserve airlift support (RAS). Timely and accurate Comprehensive Engine Management System (CEMS) updates by each unit are required for all engine actions.

4.17.2. DPEM Funded Engines. An AFRC engine control number is required for each depot turn-in. This control number must be entered by the unit as part of the CEMS transaction initiating the turn-in and resupply actions. AFRC will issue this number via telephone to allow discussion of the current unit status, replacement options, and required actions. Engine control numbers will be issued only by

the CEM or alternate. To speed response time to units in some cases, HQ AFRC engine functional managers for the affected engine will coordinate the issuing of a control number. For all engine movements that expend DPEM funds, units will be issued a ten-digit control number, beginning with the letters "AFR" (Example: AFR981101A). The following information is required when requesting an AFRC engine control number for DPEM funded work (primarily 2LM inputs):

4.17.2.1. Engine Type.

4.17.2.2. Unit.

4.17.2.3. Engine Serial Number.

4.17.2.4. How MAL Code.

4.17.2.5. Reasons for Removal.

4.17.2.6. Engine TSO and/or time since last 2LM visit (MDS dependent).

4.17.2.7. QDR yes/no and details (QDR number, when received by unit).

4.17.2.8. FOD yes/no and details and HQ AFRC FOD control number, if applicable.

4.17.2.9. Unit point of contact.

4.17.3. AFRC Engine Guidance for All Other Engine Movements. All engine movements, on-base and off-base, between AFRC units and other MAJCOMS, require an AFRC engine movement control number prior to transportation system actions. These movements may be for such actions as command redistribution of assets, stock level adjustments, warranty work by other than 2LM facilities, movements to/from Engine Regional Repair Centers (ERRC), deployments, and others. In some cases, the HQ AFRC functional manager for the affected engine may coordinate the issuing of a control number to speed response time to the unit, however, issuance of AFRC engine control numbers is the responsibility of the AFRC CEM or alternate. For engine movements that do not expend DPEM money, a ten digit AFRC engine control number will be issued (Examples: TF34098001, TF33398001, P103098001, TF39098001, T561598001, T567098001, P102098001, F108098001, TF33798001, F110098001, T700098001). The following information is required when requesting an engine movement control number for other than DPEM engine movements:

4.17.3.1. Engine Type.

4.17.3.2. Unit.

4.17.3.3. Engine Serial Number.

4.17.3.4. Destination.

4.17.3.5. Reason for Engine Shipment.

4.17.3.6. Unit Point of Contact.

4.17.4. Engine Status Reporting. Units with spare engine levels below authorized WRE are required to report engine status on the 15th and 30th of each month during the period of time the levels are below WRE. Units with full JEIM capability (3 level maintenance) and the TF-34 ERRC (Engine Regional Repair Center) report engine status regardless of spare levels on the 15th and 30th of each month. When required, the report will be sent directly to the units' NAF with "info" copies to applicable functional program managers at AFRC. Any readiness issues that the NAF can not solve will be

forward to the AFRC functional manager with a suggested solution. The following information is required for this report:

4.17.4.1. Unit/Location.

4.17.4.2. Spare Engine Type(s) (Report each different type separately).

4.17.4.3. Spare Engines Authorized.

4.17.4.4. On Hand.

4.17.4.5. In Shop.

4.17.4.6. In Work.

4.17.4.7. Unit WRE Level.

4.17.4.8. Ready For Installation.

4.17.4.9. Awaiting Maintenance.

4.17.4.10. Awaiting Parts.

4.17.4.11. Aircraft Holes.

4.17.4.12. Significant Engine MICAPs/status.

4.17.4.13. Other Remarks.

4.17.5. Propeller Status. C-130 units should also report the following propeller status:

4.17.5.1. Authorized Spare Props.

4.17.5.2. On Hand.

4.17.5.3. Built up/RFI.

4.17.5.4. Comments.

4.18. Unit Engine Management (EM) Program. The EM section monitors engine removals and replacements, parts tracking, engine TCTOs, and time change items (TCI), engine records and performs engine manager duties. This section combines those sections that support engine management from separate areas within the unit. The EM section may be collocated to the propulsion flight in the MXS. The EM section:

4.18.1. Coordinates with maintenance sections and PS&D on the repair or replacement of engine/components, time changes, SIs, and TCTOs.

4.18.2. Provides time change information (cycles remaining, engine operating time (EOT), etc.) on serially controlled items to the propulsion flight and PS&D for engine and engine component cannibalization actions.

4.18.3. Assists with preparation of reports, briefing slides, etc., as required.

4.18.4. Manages TCTOs on all assigned engines/modules/components. Complies with TCTO duties and responsibilities assigned to documentation section for engine items as outlined in paragraph **5.47.** Initiates AF Form 2410, **Inspection/TCTO Planning Checklist** and AF Form 2001**, Notification of TCTO Kit Requirements**, for TCTO kits/parts/tools and forwards the AF Form 2001 to the propulsion flight. Maintains TCTO folders for engine-related TCTOs according to **Chapter 5**. Keeps

records on TCTO kits and status on all engines installed in aircraft sent to depot. Units using the standard base supply system (SBSS) module of MIS follow the procedures outlined in AFCSM 21-558, volume 2, *Comprehensive Engine Management System*.

4.18.5. Manages time changes on all engines/modules/components.

4.18.6. Manages the automated component tracking system (ACTS) according to TO 00-20-5-1 series and AFCSM 21-558, volume 2. Manages the CEMS according to TO 00-25-254-1, TO 00-20-5-1-series, and AFCSM 21-558, volume 2.

4.18.7. Maintains and updates historical documents for all assigned engines/modules.

4.18.8. Provides automated management products upon request.

4.18.9. Upon engine removal, checks life limited components forecast for additional component changes, TCTOs, and SIs.

4.18.10. Accomplishes unit engine monitor duties as prescribed according to TO 00-25-254-1 and MAJCOM procedures.

4.18.10.1. Gathers all quarterly reporting information to be submitted to higher headquarters.

4.18.10.2. Performs engine monitor duties for shipment and receipt of all assigned engines, modules, related equipment, and shipping devices.

4.18.11. Verifies modular engine flying hours and manual cycles with PS&D during documents reviews.

4.18.12. Coordinates with plans and scheduling (P&S) for load/delete/change to the job standard (JST) for engine inspections and time changes.

4.18.13. Reconciles the MIS data base with CEMS central data base (CDB) according to TO 00-25-254-1. Ensures reconciliation tape is forwarded to OC-ALC via overnight express. Coordinates with the CDB to make the necessary corrections. Develops local engine tracking procedures and documentation methods to be used at deployed locations based on duration of TDYs and peculiar operating requirements to ensure data is input into the base level MIS no later than close of business day following the "as of time of occurrence" of the event (that is, part removal, installation, time update, TCTO status change, etc.) that prompted the report. Takes immediate action to correct all reporting errors and variances between the base MIS and CDB using the engine managers data list.

4.19. Unit Engine Manager/SRAN Engine Monitor. The LG/CC appoints a unit engine manager (UEM)/SRAN engine monitor (SEM) to accomplish the duties outlined in this instruction, AFI 21-104, and applicable directives. The UEM/SEM is selected from AFSC 2R1X1, 2A6X1A/B, or 250X1 (or civilian equivalent) with a seven/nine skill-level. The assistant is, as a minimum, a five skill-level from the above AFSCs. The UEM/ SEM:

4.19.1. Advises the LG/CC in administering the unit engine management program on engine logistic concepts, principles, policies, procedures, and techniques.

4.19.2. Establishes local written procedures to support engine management responsibilities by developing local engine management supplements to TO 00-25-254-1. The supplement designates local procedures and responsibilities to ensure accurate and timely reporting to CEMS, to include TCTO, time change, and documentation requirement's. Write local procedures to detect and resolve missing

sequence numbers; handling of engines, augmentors, QEC kits, tracked components, and shipping devices to include tenants, transportation, maintenance, aircraft distribution, supply, and support personnel requirements. Local procedures are coordinated with the command engine manager prior to publication.

4.19.3. Ensures data in MIS mirrors the data in the central data base. Ensures command engine management, depot and managers at all levels are making decisions on the same data.

4.19.4. Ensures deployed engine monitors are assigned and trained to perform deployed engine manager/monitor duties.

4.19.5. Ensures all engine data is reported no later than the close of business of the next business day after the transaction occurred.

4.19.6. Performs periodic quality audits to monitor accuracy and timeliness of reporting.

4.19.7. Provides CEMS training for all personnel reporting engine status, documentation, and scheduling according to AFCSM 21-558, volume 2, TO 00-25-254-1, and TO 00-20-5-1 series.

4.19.8. Maintains a jacket file of shipping documents for engine shipments and receipts to include device used to transport the engine on the document. Documents include empty shipping devices other than equipment authorization inventory data (EAID). MIS is used as the automated AF Form 2009-1, **Manual Supply Accounting Record**. Ensures shipping devices are repaired as necessary and that they are clean, complete, and serviceable prior to use.

4.19.9. Obtains command engine manager approval prior to early return of engines or modules to depot.

4.19.10. Performs duties/requirements for engine and module shipments according to AFI 24-201, *Cargo Movement*, TOs 00-25-254-1, 00-85-20, 2J-1-11, 2J-1-18, and 2-1-18.

4.19.11. Reports to CEMS receipt transaction of engines as of the date/time engines/modules are delivered from the transportation hold area and accepted at the JEIM facility. Reports to CEMS, the shipment transaction as of the date/time the engines are accepted by the Traffic Management Office (TMO) as recorded on the DD Form 1348-1A, Issue Release/Receipt Document.

4.19.12. Reports all engine, module, gearbox, and tracked item removals for any reason. Verifies all engine/module status transaction removals, installations, gains, ENMCS, work completed, test cell rejects, work stopped, work started, change in level of maintenance, awaiting disposition, intra-Air Force receipt and intra-Air Force shipments, transfer, and HOW MAL codes according to TO 00-25-254-1. Reports modular engines (that is, F-100, F-110, T-56, and TF-34) in ENMCS status when the engine/module is disassembled or assembled as much as possible and a part is needed for work to continue.

4.19.13. Verifies all update transactions (that is, times, TCTO, part removal and installations, etc.) are input before reporting an engine or module removal.

4.20. Support (if applicable). This function processes all supply requests; maintains AF Forms 2413, **Supply Control Log**, and/or operates remote devices; tracks MICAP due-outs; monitors bench stock; conducts bench stock and adjusted level reviews; and operates tool storage areas. In addition to common responsibilities outlined in **Chapter 2**, the section chief:

4.20.1. Ensures a flight due-out release point and holding bins are established and urgency of need designator (UND) "A" and urgency justification code (UJC) “BQ” requirements are verified according to **Chapter 5**.

4.20.2. Ensures forecast parts requests are submitted to supply 7 days prior to the date an engine is scheduled into the section.

4.20.3. Ensures TCTO and TCIs are ordered for the EM section.

4.21. Jet Engine Intermediate Maintenance (JEIM) (if applicable). The JEIM section stores, builds-up, tears down, modifies, and repairs engines, propellers, and quick engine change (QEC) kits, and tests components. In addition to common responsibilities in **Chapter 2**, the section chief:

4.21.1. Plans and monitors the progress of propulsion system maintenance to ensure maintenance schedules are met. Anticipates delays and material requirements to prevent schedule disruption.

4.21.2. Prepares propulsion units and components for shipment and ensures units being returned to depot are properly identified. Attaches MIS products to life-limited tracked components according to 00-20 series TOs and ensures Engine Test Trim Automated System (ETTAS) rejected components are shipped with printouts and deficiency reports (if applicable).

4.21.3. Ensures a work folder is established for each engine in periodic inspection, reconditioning, or other major maintenance. This folder contains a list of all parts, TCTOs, and time change requirements for the engine. One work order is initiated in MIS for the entire job. Separate job control number (JCN)/WCE are initiated for discrepancies found during the look phase of an inspection or subsequent to repair. Complete workorders in MIS during inspection, reconditioning, or major maintenance. Work folders contain work sheets documenting engine historical information, critical maintenance management stages, and employee numbers of technicians/supervisors completing maintenance/inspections. Work folders/sheets are supplemented to fit unit needs. Flights with small computer capabilities may use computer generated products provided they include all required information.

4.22. Test Cell and Noise Suppression System (NSS). This function tests engines to evaluate the quality of maintenance and engine performance and accomplishes engine preservation. In addition to the common responsibilities outlined in **Chapter 2**, the section chief:

4.22.1. Ensures test cell personnel accomplish minor maintenance, make adjustments to engines to ensure optimum performance, and document engine condition. The test cell supervisor ensures test cell components are calibrated on site, if practical.

4.22.2. Ensures NSS custodial responsibilities are accomplished if applicable. NSS personnel are present whenever the NSS is in use. NSS personnel do not normally perform installed engine runs. OS maintenance personnel normally position aircraft on the NSS, prepare aircraft for engine runs, and accomplish engine runs, trims, and troubleshooting on their aircraft. NSS personnel train OS maintenance personnel in NSS operating procedures. The aircraft NSS is maintained by propulsion flight personnel. The following procedures apply:

4.22.2.1. The section is aligned directly under propulsion flight supervision.

4.22.2.2. Personnel supplement OS mobility positions to provide certified engine trim personnel for unit TDY requirements.

4.22.2.3. All aircraft sent to the NSS are accompanied by a crew chief.

4.22.2.4. NSS personnel train selected OS maintenance technicians to assist in engine trim procedures during deployments.

4.22.2.5. The NSS is used to the fullest extent. Open tie down pads are only used as a secondary system when the NSS is down or to help reduce backlogs.

4.23. Accessory/Module Repair (if applicable). This section normally maintains fuel nozzles, fuel manifolds, oil pumps, accessory housings, afterburners, engine components, QEC kits, and modules. This section also operates and maintains the bearing room according to TO 44B-1-15.

4.24. Small Gas Turbine Engine (if applicable). This section normally maintains small gas turbines and gear boxes. In addition to common responsibilities outlined in **Chapter 2**, the section chief ensures personnel are certified to operate small gas turbine engines and test stands.

4.25. Engine Support Equipment (if applicable). This section normally maintains engine support equipment, including engine stands and trailers.

4.26. Scheduling and Control. Control of maintenance is necessary for timely production of serviceable engines. Production scheduling is the responsibility of the engine management section in F-16 and A-10 units. As a minimum, scheduling includes:

4.26.1. Informing the flight chief of significant problems and production delays.

4.26.2. Immediately informing the unit engine manager of engine status changes (TO 00-25-241-1).

4.26.3. Maintaining and reviewing production records to update flow times and identify problem areas.

4.26.4. Using AFRC Form 178, **Engine Workload Production**, or status board adapted to unit needs, to plan the flow of engines through the section. Use the chart to show the plan to return each engine to serviceable status and to portray workload assigned to each crew, dock, or station. It is also used to manage test cell workload and to control the number of serviceable engines in each configuration. Automated products may be used in lieu of production boards/charts. The section workload/production chart or board is posted as follows:

4.26.4.1. Group the workload of each crew or dock in one portion of the chart or board.

4.26.4.2. Enter type-model-series in the type, model, and series (TMS) column.

4.26.4.3. Identify the engine by serial number in the Serial Number column.

4.26.4.4. Identify the position configuration of the engine by checking the appropriate column.

4.26.4.5. In the first column following position configuration (column number 4), enter the engine related how malfunction code (three digit code) used for CEMS reporting. Codes can be found in applicable -06 code manuals and TO 00-25-241-1.

4.26.4.6. Show the actual progress of each phase of work.

4.26.4.7. Enter delays and causes or other pertinent information, in the "Remarks" column.

4.26.5. Monitors the status of QEC kits as they flow through the repair cycle.

4.27. Quick Engine Change (QEC) Kit Management (if applicable). QEC kits are managed as follows:

4.27.1. QEC kit removals and installations are coordinated with unit engine manager and loaded to MIS as a part number/serial number item, reflecting where installed or spared.

4.27.2. Fill out an AF Form 596, **Quick Engine Change Kit Inventory**, for repair cycle items and QEC kit unique items when an engine enters the section for tear down.

4.27.3. If TO requirements restrict reuse of items, the technician marks the AF Form 596 with an asterisk to show that a demand is placed on supply.

4.28. Avionics Flight. The avionics flight performs on/off equipment maintenance of avionics components, electronic warfare systems and sensor pods, airborne video tape recording systems, airborne photographic systems, communications systems, navigation systems, guidance and control systems, instrumentation systems, and on-equipment maintenance of assigned support equipment. The sections assigned to this flight are dependent on the weapons systems supported and the scope of maintenance responsibilities. Guidance on supply procedures are contained in **Chapter 5**.

4.28.1. Flights supporting multiple mission design series (MDS) and/or those when organized under the combat support team structure are authorized to form applicable sections below flight level to maintain effective span of control. Sections may also be consolidated for more effective use of resources. Avionics sections are authorized to perform line replaceable unit (LRU) maintenance actions within their scope of maintenance (2LM/3LM) if the required support equipment is authorized and available and if personnel are properly trained. Common section chief responsibilities are listed in **Chapter 2**. The sections authorized are:

4.28.1.1. Sensors Section.

4.28.1.2. Electronic Warfare Systems (EWS).

4.28.1.3. Automatic Test Station Section.

4.28.1.4. Bomb/Navigation Section (Bomb/Nav, B-52 only) (ref: **Chapter 7**).

4.28.1.5. Defensive Fire Control Section (DFCS, B-52 only) (ref: **Chapter 7**).

4.28.1.6. TMDE or Type IV PMEL Section (ref: **Chapter 7** for IV PMEL and **Chapter 9** for TMDE).

4.28.1.7. Communications/Navigation Section (COMM/NAV).

4.28.1.8. Guidance and Control Systems Section (GAC).

4.28.1.9. Munitions Section (applicable only to C-130, C-141, and Special Operations units).

4.29. Flight Chief Responsibilities. In addition to the common responsibilities listed in **Chapter 2**, the flight chief:

4.29.1. Ensures electronic warfare equipment is controlled and reported according to applicable directives.

4.29.2. Ensures crypto components are controlled and maintained according to National Security Agency and Air Force Intelligence Command directives (if applicable).

4.29.3. Ensures Central Integrated Test Systems (CITS) ground processors are maintained (if applicable).

4.29.4. Ensures equipment status and specialist availability are provided to debrief/dispatch section as required.

4.29.5. Performs duties of munitions flight chief as prescribed by AFI 21-201 (applicable only to C-130, C-141, and Special Operations units).

4.29.6. Ensures a Weapons Task Qualification Training program for Air Defensive System (ADS) equipped aircraft is conducted to qualify a sufficient number of maintenance personnel to perform weapons task load crew duties as prescribed by paragraph **9.10.** (applicable to all non fighter/bomber MDS).

4.30. Sensors Section. Maintains sensors systems and associated support equipment. Maintains liaison with flying/reconnaissance squadrons and specialist flights to identify and correct sensor system problems. Dispatches for on-equipment maintenance support, if applicable. Maintains one or more of the following systems:

4.30.1. Pave Penny Target Identification Set Laser (TISL) systems. Performs on/off equipment maintenance.

4.30.2. Airborne Video Tape Recorder (AVTR). Performs off-equipment maintenance. Dispatches in support of on-equipment maintenance as required.

4.30.3. Cockpit Television Sensor (CTVS). Performs off-equipment maintenance. Dispatches in support of on-equipment maintenance as required.

4.30.4. Low Altitude Navigation and Targeting Infrared for Night (LANTIRN) system. Performs off equipment maintenance on both navigation and targeting pods (if applicable).

4.30.5. Forward Looking Infrared Systems (FLIR). Performs on/off equipment maintenance.

4.30.6. Improved Weather Reconnaissance System (IWRS). Performs on/off equipment maintenance.

4.31. Electronic Warfare System (EWS). Maintains on/off aircraft electronic warfare systems and components including assigned SE which is not maintained by TMDE, if applicable. Maintains defensive systems munitions according to AFI 21-201, *Inspection, Storage, and Maintenance of Non-Nuclear Munitions*, AFI 21-202*, Combat Ammunition System Procedures*, and AFI 21-203, *Deployable Ammunition Operations Procedures*. In addition to common section chief responsibilities in **Chapter 2**, the EWS section chief:

4.31.1. Maintains electronic warfare (EW) pod, radio frequency (RF) Jammer and infrared (IR) Jammer status, histories (AFTO Form 95, Significant Historical Data), and scheduling records (if applicable).

4.31.2. Maintains inventory control of electronic countermeasures (ECM) alternate mission equipment.

4.31.3. Develops procedures in conjunction with OG/EWO and Intelligence to accomplish programming of electronic warfare systems.

4.31.4. Loads proper contingency and training configuration settings in EW pods, chaff pods, countermeasure dispensing systems, towed decoy systems, and radar warning receivers unless equipment is assigned to another repair section (if applicable).

4.31.5. Stores and controls non-installed EW pods according to directives. Transports, uploads, and downloads EW pods.

4.31.6. Monitors physical security of assigned classified publications, line replaceable units (LRU), shop replaceable units (SRU), and software.

4.31.7. Develops, along with the flying squadron, a program to verify operation of the installed radar warning receiver (RWR) systems using the guidelines in **Chapter 2**. (A10, C130 & HH60 only).

4.31.8. (AFSOC Units reference **Chapter 8**) Maintains weapons load task qualification in uploading and downloading of chaff and flare dispensers on aircraft, as required (all non-fighter/bomber MDS).

4.32. Munitions Section (applicable only to C-130, C-141, and Special Opera tions Units). Munitions sections provide the capability to forecast, requisition, report, track, receive, stockpile, inspect, assemble, deliver, deploy, turn-in, account for, transport, and dispose of nonnuclear munitions to support worldwide deployment and operations. Maintain serviceable quantities of munitions assets required to meet all mission tasking. Munitions management functions will comply with directives prescribed in AFPD 21-2, Nonnuclear and Nuclear Munitions and AFI 21-200 series instructions. AFRC units deploy for wartime or peacetime exercises/contingencies in the approved gaining command structure.

4.33. Automatic Test Station. Maintains and programs avionics components peculiar to assigned test stations and support equipment. Screens LRUs from aircraft avionics systems for serviceability and loads software as applicable. Maintains, calibrates, certifies, and performs TCTOs on assigned support equipment (SE) not maintained by TMDE or Type IV PMEL

4.34. Communication/Navigation (Comm/Nav) (when applicable). Maintains on/off aircraft communication and navigation components and systems, such as self-contained navigation systems (SCNS), weather radar, or terrain avoidance/terrain following radar, including assigned SE not maintained by Type II PMEL. Responsibilities also include maintenance of radar altimeters, Mark XII systems (AIMS), identification friend or foe (IFF) systems, direction finder equipment that is an integral part of airborne radios, secure voice systems, and global positioning system.

4.35. Guidance and Control Systems (GAC). Maintains on/off aircraft guidance and control systems including automatic flight control system, all-weather landing systems, attitude reference heading systems, instruments 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, weapons release computer systems (WRCS), Fuel Savings Advisory System (FSAS), Malfunction and Detection and Recording System (MADAR), Ground Proximity Warning System (GPWS), and navigation computers. The section also maintains compass and stability augmentation systems, flight data recorders, and assigned SE not maintained by TMDE. Maintains missile adapter group equipment when directed by flight supervision.

4.36. Historical Records. Section chiefs maintain AFTO Forms 95 on selected, significantly reparable, serialized components for which historical failure data would enhance repair. Historical records are man-

datory for SPRAM, LRU, and -6 Technical Order items. MIS maintenance history printouts and/or AFTO Forms 95 may be used. These records may be automated as prescribed by TO 00-20-5.

4.37. Organization of Avionics. As applicable, avionics sections are organized with a flight chief and repair members. These positions and duties may be duplicated or combined to achieve effective asset management and span of control. The flight chief has overall responsibility for the effective management of assigned resources. In assisting the flight chief, repair team leaders/members may be delegated some of the following responsibilities:

4.37.1. Directing and controlling the repair effort by managing all repair assets and monitoring the actions of repair team leaders.

4.37.2. Evaluating the production skills, aptitude, and proficiency of team leaders and team members.

4.37.3. Performing and documenting production and supervisory inspections.

4.37.4. Ensuring all equipment assigned is inspected, calibrated, and repaired as required.

4.37.5. Processing items into and out of the section.

4.37.6. Advising the section chief, production superintendent, expediter, and team leaders of item status.

4.37.7. Assisting the section chief in management of the DIFM program by being familiar and complying with directives to ensure ordered/received parts are documented; using, maintaining, and filing management computer records. A working copy of the D-23 sorted by location and detail number is maintained and updated. Maintaining awaiting parts (AWP) section, ensuring accurate documentation, and submitting supply assistance requests as required.

4.37.8. Tracking and monitoring MICAP status for all assigned DIFM and parts affecting section repair capabilities using the automated SBSS Reports.

4.37.9. Ensuring MIS is updated with current supply data, location changes, and DIFM status changes.

4.37.10. Managing and directing the work effort of the repair team. Is responsible for the quality of maintenance performed.

4.37.11. Ensuring assigned equipment is properly maintained, repaired, and calibrated.

4.37.12. In conjunction with maintenance supervisor, scheduling and prioritizing work for the repair team.

4.38. Production. Production priority files are used to track and control assets within the repair center. Priorities are determined by asset managers using the D-23 MIS reports and real time status of repair resources. Managers prioritize work to meet current and projected mission needs. MICAP parts receive priority repair; readiness spares packages (RSP) requirements are considered next and prioritized by their demand rates and stock levels. Peacetime operating stock (POS) restock items are normally worked as priority three, again prioritized by the demand rates and stock levels of the item.

4.39. Accessories Flight. The accessories maintenance flight repairs, maintains, modifies, locally manufactures, and inspects aircraft and associated equipment. The flight is organized into the following sections: pneudraulics; electro-environmental; fuel systems; and egress.

4.40. Flight Chief Responsibilities. In addition to the common responsibilities in **Chapter 2**, the accessories maintenance flight chief:

4.40.1. Establishes local manufacture capability. Monitors assigned local manufacture work orders.

4.40.2. Controls and correctly disposes of recoverable materials.

4.40.3. Establishes the egress training program if applicable.

4.40.4. Ensures explosives are controlled and stored in approved storage areas.

4.40.5. Coordinates with the maintenance superintendent and MCF to obtain support from the base civil engineer, medical facility, safety, bioenvironmental, and fire department. Sets up procedures to inform the base fire department when fuel systems in tank repairs are in progress.

4.41. Electro-Environmental. The section maintains aircraft on/off equipment electro-environmental system components and locally manufactures, repairs, overhauls, tests, modifies and inspects electrical components and batteries. The squadron commander may assign the lead acid battery shop to the AGE flight. Ensures lead acid battery disposal procedures meet environmental standards and are controlled for accountability purposes. In addition to the common section chief responsibilities outlined in **Chapter 2**, the section chief:

4.41.1. Maintains and repairs gaseous and cryogenic servicing units and storage tanks, to include scheduling inspections, ordering parts, and reporting status to Debrief/Dispatch Section or MCF, except for the basic trailer or chassis and user maintenance.

4.41.2. Ensures liquid oxygen (LOX) samples are taken and analyzed by the applicable agency as required.

4.41.3. Performs hot purge and pump down on LOX carts and nitrogen trailers..

4.41.4. Performs off-equipment maintenance on aircraft CO2 cylinders.

4.41.5. Maintains environmental control unit (ECU) for SRAM-modified B-52 aircraft.

4.41.6. Maintains aircraft fire extinguishers and suppression systems (if applicable).

4.42. Egress (when applicable). The egress section maintains aircraft egress systems, components, and trainers. In addition to the common section chief responsibilities outlined in **Chapter 2**, the section chief:

4.42.1. Establishes the capability to maintain aircraft ejection seats, extraction and escape systems, egress components of jettisonable canopies, explosive components of escape hatches and doors, and egress trainers.

4.42.2. Requests EOD help when egress explosive devices are damaged or suspected of being unsafe.

4.42.3. Provides storage for egress explosive items removed during maintenance.

4.42.4. Provides training as required by AFI 21-112, *Aircraft Egress and Escape Systems*.

4.42.5. Actively promotes the accuracy of the egress TCI data base and ensures applicable data products are updated anytime an egress item is replaced.

4.42.6. Coordinates with analysis to establish a monthly requirement for MIS products to aid in management of egress TCIs.

4.42.7. Safe aircraft according to 00-80-series TO and other applicable tech data.

4.43. Fuel Systems. The fuel systems section repairs, functionally checks, and inspects aircraft fuel, hydrazine, and in-flight refueling systems and components except engine installed components. In addition to the common section chief responsibilities outlined in **Chapter 2**, the section chief:

4.43.1. Ensures assigned personnel receive periodic physical examinations as established by the base medical service, TO 1-1-3, and applicable Air Force Occupational Safety and Health (AFOSH) standards. Personnel occupational physicals may be tracked in MIS.

4.43.2. Sets up controls to prevent unauthorized entry into fuel cell and hydrazine repair areas.

4.43.3. Provides build-up and repair for all unit aircraft external fuel tanks. Units established local policy to identify responsibilities for the management and storage of external and fuselage tanks.

4.43.4. Maintains in-flight refueling systems.

4.43.5. Provides safety training for hydrazine and fuel cell repair specialists, and other personnel.

4.43.6. Performs needed safety inspections and ensures facilities and equipment used for fuel cell and hydrazine repair meet engineering technical letter and TO requirements.

4.43.7. Inputs external fuel tank inspection requirements in MIS.

4.44. Pneudraulic (when applicable). This section maintains aircraft on/off equipment pneumatic and hydraulic systems components (except environmental and egress) and inflight refueling (IFR) reels and provides maintenance support for support equipment (SE). Maintains components of hydraulic test stands and pumping units. Fluid quality of hydraulic test stands and pumping units must meet the same standards as that of the weapon system to be serviced. In addition to the common section chief responsibilities in **Chapter 2**, the section also provides for local manufacture and testing of flexible hose assemblies and testing of rigid tubing.

4.45. Aerospace Ground Equipment (AGE) Flight. The AGE flight provides powered and non-powered AGE to support the unit. Powered and non-powered AGE are those items that are portable and required to directly support a weapon system or subsystem or to give a service to aid in the repair of such systems. The flight picks up, delivers, repairs, modifies, inspects, and services all AGE with the exception of non-powered munitions trailers, propulsion SE, avionics SE, gaseous and cryogenic servicing units (AGE accomplishes the basic trailer and chassis maintenance), and locally designed/procured AGE, unless locally directed. MIS is used for equipment scheduling system to the maximum extent possible. The documentation function, if decentralized to the flight, is performed by the scheduler. The flight is organized into repair and inspection, servicing, pickup and delivery, support, and non-powered AGE.

4.46. Flight Chief Responsibilities. Common flight chief responsibilities are in **Chapter 2**. Additionally, the AGE flight chief:

4.46.1. Ensures AGE maintenance is performed in a timely manner and according to applicable directives.

4.46.2. Coordinates semiannually with the production superintendent and maintenance squadron superintendent to establish types and minimum quantities of mission essential powered or non-powered AGE including powered munitions trailers. Changes in minimum quantity of AGE required nor-

mally occurs only when the number of aircraft or mission change. Mission essential AGE is tracked and the daily status reported to debrief/dispatch section and MCF. MIS or AF Form 2431, **Aerospace Ground Equipment Status Log**, is used to report AGE status. Locally developed automated forms may be used to report AGE status to debrief/dispatch section and MCF providing they include all information contained on AF Form 2431. Ensure forms are developed and processed according to AFI 37-160, volume 8.

4.46.3. In conjunction with maintenance training, establishes and monitors the AGE operator training program when special training is required. Training is documented in the appropriate automated training product or AF Form 797 as required.

4.46.4. Places seasonal usage AGE in storage.

4.46.5. Complies with procedures for the maintenance of historical documents.

4.46.6. Approves and controls AGE cannibalization. The flight chief sets up procedures for AGE support section to initiate cannibalization work orders and provides updated status on requisitions for deferred discrepancies.

4.46.7. Establishes a field numbering system and distinctly marks equipment to identify owning organization.

4.46.8. Establishes an inspection program on assigned AGE.

4.46.9. Controls fuel dispensed from issue tanks according to AFI 23-204, *Organizational Fuel Tanks*.

4.46.10. Performs spot checks of sub-pooled AGE.

4.46.11. Complies with the uniform repair and replacement criteria for AGE according to TO 00-25-240 and implemented by TOs 35- 1-24, 35-1-25, and 35-1-26.

4.46.12. Provides annual equipment inventory listings to the AFRC AGE manager by the last duty day of March (annually). Inventory listing includes all AGE maintained by the flight (power and non-powered).

4.47. Sub-pools. A sub-pool is a site other than the central AGE parking area where AGE is positioned for future dispatch. Sub-pools are set up based on mission needs, facilities, or base layout.

4.48. Tow Vehicles. AGE tow vehicles are under the control of the pickup and delivery supervisor and respond to the needs of each maintenance organization. AGE tow vehicles are radio equipped to speed the delivery of AGE. Initial radio operator familiarization is given to vehicle drivers.

4.49. Vehicle Status. If required by the flight chief, a vehicle status display is used to show the status of vehicles. Minimum information consists of vehicle type, registration number, and the vehicle and radio status.

4.50. Repair and Inspection. This section performs periodic inspections and major maintenance on AGE and section equipment. This function provides assistance to the vehicle maintenance activity for the repair of hydraulic and electrical systems on registered vehicular type AGE (W200 management codes) when requested and if it is within the section's capability. The vehicle maintenance activity provides

assistance to the AGE Flight when requested for repair of USAF management code 2000 SE (AFI 24-301, *Vehicle Operations*). The repair and inspection section:

4.50.1. Performs maintenance beyond the capability of the servicing function.

4.50.2. Notifies AGE scheduler of any changes in equipment status.

4.50.3. Corrects deferred discrepancies and discrepancies discovered during inspection.

4.50.4. Performs TCTOs as required.

4.50.5. Validates all AGE not mission capable for supply (NMCS) and other parts requests before placing a demand on the supply system.

4.50.6. Prepares AGE and section equipment for storage or shipment. This includes helping the servicing, pickup, and delivery section prepare equipment for mobility.

4.50.7. Performs corrosion inspections of AGE when work permits access to the interior of the equipment. Treats all corrosion before assembly.

4.50.8. Cleans, tags, and prepares components before routing through the repair cycle.

4.50.9. Performs AGE turbine engine minor maintenance troubleshooting and inspections.

4.50.10. Performs document reviews on equipment before releasing from the repair and inspection section.

4.50.11. Performs AGE operational checks before returning it to servicing, pickup and delivery section.

4.51. Servicing, Pickup, and Delivery. The servicing, pickup, and delivery section services, inspects, and dispatches AGE and supervises the AGE tow vehicle operation. More than one servicing, pickup, and delivery function may be set up based on mission requirements, facilities, or base layout. This section:

4.51.1. Performs servicing inspections. Services and returns all AGE to the dispatch pool.

4.51.2. Performs maintenance within their capability.

4.51.3. Cleans AGE units.

4.51.4. Prepares AGE for mobility commitments.

4.51.5. Delivers AFTO Forms 244 and 245 to scheduling for equipment being sent to the repair section.

4.51.6. Picks up and delivers all AGE except operator driven equipment (for example, bomb lifts).

4.51.7. Supervises AGE tow vehicle drivers and ensures drivers respond to the needs of maintenance. Expediters normally transmit needs directly to the dedicated AGE driver.

4.51.8. Updates vehicle status display, if required by the flight chief.

4.52. Non-Powered AGE (NPA). Non-powered AGE is normally located in the using organization unless maintenance or inspection needs dictate return to the flight. Defects are reported by equipment operators. Using organizations maintain and inspect equipment to ensure serviceability. When a separate NPA section is authorized, the section:

4.52.1. Maintains and stores non-powered AGE in excess of user needs.

4.52.2. Performs all modification or TCTOs.

4.52.3. Prioritizes maintenance based on the priorities established by the AGE scheduler. Informs the AGE scheduler of any changes of equipment status and ETICs.

4.52.4. Maintains MA2-7/M, MA2-196/M, and/or MA2-204 trailers. (If applicable).

4.53. AGE Support. The AGE support section provides TO files maintenance, supply, and scheduling support to the flight. The support section chief:

4.53.1. Supervises and trains section personnel to include the AGE scheduler and supply personnel.

4.53.2. Maintains TO files for the AGE flight according to TOs 00-5-1 and 00-5-2.

4.53.3. Manages the AGE flight's repair cycle program. Checks repair cycle assets status daily.

4.53.4. Manages the tool storage and issue area.

4.53.5. Manages the AGE flight TMDE program.

4.53.6. Manages the flight supply function. Provides parts, bench stock, and supplies according to **Chapter 5**.

4.53.7. Manages the flight scheduling function.

4.54. AGE Scheduling. The scheduler works for the support section chief and is responsible for maintaining the AGE historical records. The scheduler:

4.54.1. Plans and schedules all AGE scheduled maintenance. Prepares AGE maintenance plan unless AFCSM 21-558, volume 6 scheduling procedures are used. Maintains a current equipment scheduling report for all assigned equipment according to AFCSM 21-558.

4.54.2. Controls off-equipment work. Checks status on DIFM assets daily.

4.54.3. Keeps the delayed due to maintenance and delayed due to parts file for AGE (automated files may be used). Controls the assets located in the holding bins awaiting installation. Items placed in hold bins are identified by attached documentation (DD Form 1348-1A, AFTO Form 350, Repairable Item Processing Tag, etc.). Establishes a control method according to **Chapter 5**. This duty may be performed by the AGE supply function if assigned.

4.54.4. Schedules, controls, and documents TCTO/OTIs according to TO 00-20 series and applicable directives.

4.54.5. Monitors and reports mission essential AGE levels to the flight chief, Debrief/Dispatch Section, and MCF.

4.54.6. Monitors and tracks AGE components in other sections if repair capability does not exist within the flight.

4.54.7. Recommends cannibalization action.

4.54.8. Uses MIS work order control and reconciliation if the capability exists.

4.55. Document Management. Documents for non-powered AGE, training equipment, and common equipment items requiring very little maintenance documentation may be grouped together in a single folder or so that there is no need to keep a record folder on each individual item. When this is done, documents for similar items should be grouped together and the record information should be identifiable to particular pieces of equipment.

4.56. Fabrication Flight. The fabrication flight repairs, maintains, modifies, local manufactures, and inspects aircraft and equipment components. The flight consists of aircraft structural maintenance, metals technology, survival equipment, and non-destructive inspection (NDI).

4.57. Flight Chief Responsibilities. Common flight chief responsibilities are listed in **Chapter 2**. In addition, the fabrication flight chief:

4.57.1. Provides sufficient local manufacture capability to meet mission requirements and monitors local manufacture work order requests.

4.57.2. Ensures strict compliance with applicable directives for control and disposal of recoverable materials and hazardous waste. When assigned, the environmental manager assumes these responsibilities.

4.57.3. Establishes welder certification requirements according to AFI 21-105, *Aerospace Equipment Structural Maintenance*, and TO 00-25-252.

4.58. Aircraft Structural Maintenance. This section modifies, manufactures, repairs, inspects aircraft and support equipment, sheet metal, composite, fiberglass and plastic components, and related hardware. Maintains jigs and fixtures and master production templates for AGE and aircraft. The section manages corrosion control facilities, detects and treats aircraft and equipment corrosion, and applies decals and protective coatings. In addition to common section chief responsibilities in **Chapter 2**, the section chief:

4.58.1. Determines which structural parts or sections must be removed from damaged AGE and aircraft for repair.

4.58.2. Supervises the design and construction of special forming jigs and dies. Ensures special jigs, dies, and forming tools are protected to prevent damage.

4.58.3. Supervises the repair of honeycomb panels, skin stressed dome antennas, radomes, metal bonded, and composite materials.

4.58.4. Manufactures/tests metal tubing, conduits, and cables according to drawings and specifications.

4.58.5. Ensures aircraft corrosion and wash operations are accomplished according to **Chapter 6**.

4.58.6. Provides the capability to chemically or mechanically treat aircraft, engines, AGE, and components for corrosion.

4.58.7. Monitors the washing and corrosion inspection schedule in the weekly and monthly maintenance plans.

4.58.8. Ensures protective coatings applied to aircraft, AGE, and components are according to applicable TOs.

4.58.9. Trains and assists sections performing their own corrosion programs.

4.58.10. Schedules section personnel for annual industrial physicals according to TO 42A-1-1 and as specified in industrial hygiene/bioenvironmental surveys and other directives.

4.59. Metals Technology. This section inspects, repairs, fabricates, heat treats, plates, cleans, welds, manufactures, and tests aircraft and equipment components and tools. In addition to common section chief responsibilities in **Chapter 2** , the section chief:

4.59.1. Ensures assigned welders are certified and maintain proficiency according to AFI 21-105, *Aerospace Equipment Structural Maintenance*, and TO 00-25-252.

4.59.2. Provides and enforces the use of required safety devices. Gives safety briefings stressing the hazards of arc radiation.

4.59.3. Ensures proper materials are selected for local manufacture.

4.59.4. Observes machine tool set up procedures, machine cutting operations, operations performed by hand, and general machine section operations, such as bench assembly, fitting, and adjusting machine parts to ensure technicians follow the approved procedures.

4.59.5. Ensures special tools, jigs, and fixtures are designed, fabricated, protected, and properly stored.

4.60. Survival Equipment. This section inspects, repairs, manufactures, and repacks fabric, canvas, leather, rubber, survival equipment, escape slides, safety belts and harnesses, radiation barriers, sound proofing, toxicological suits, rubberized products and flotation equipment. Inspects, repairs, and packs personnel, recovery, drogue and deceleration parachutes. *NOTE* for C-130 units: Inspection and maintenance of cargo extraction and drop parachutes are done by aerial port activities. (*EXCEPTION*: For units where AFSC 2A7X4 is not authorized, the LG/CC or designee establishes alternate support arrangements.) In addition to common section chief responsibilities in **Chapter 2**, the section chief:

4.60.1. Evaluates the extent of damage/wear to material and equipment and decides whether to repair or replace.

4.60.2. Inspects, cleans, and tests safety belts and harnesses.

4.60.3. Manufactures, inspects, cleans, and packages aircraft thermal radiation barriers. When applicable, the section does the initial fitting of new thermal curtains to windows.

4.60.4. Repairs aircraft soundproofing materials.

4.60.5. Maintains flight clothing and organizational equipment as directed by the LG.

4.60.6. Maintains close liaison with life support personnel to determine support/workload requirements.

4.60.7. Develops IPIs for critical tasks that could result in parachute systems and flotation equipment malfunctions.

4.60.8. Inspects, repairs and modifies protective clothing/equipment.

4.60.9. Ensures accuracy of AFTO Forms 391, Parachute Log, AFTO Forms 392, Parachute Repack, Inspection and Component Record, AFTO Forms 393, Automatic Ripcord Release Log, and all applicable flotation equipment forms.

4.60.10. Ensures maintenance, inspection, and repair capability exists for life support and personnel protective equipment (personnel/recovery parachutes, flotation equipment, and protective/flight clothing) to include procurement of repair parts necessary to maintain this capability.

4.60.11. Performs preventative and minor/major maintenance on sewing machines.

4.60.12. Inspects/replaces explosive components.

4.60.13. Forecasts applicable time change requirements.

4.61. Non Destructive Inspection (NDI). The section accomplishes inspections for the determination of structural integrity of aircraft, specified components, and AGE. The section is organized into the NDI function and the OAP laboratory. In addition to the common section chief responsibilities in **Chapter 2**, the section chief:

4.61.1. Ensures capability to perform optical, penetrant, magnetic particle, ultrasonic, eddy current, and radiographic inspections.

4.61.2. Maintains liaison with the base medical service which provides occupational physicals, emergency treatments, film badge services, and acts as radiographic advisors according to AFI 48-125.

4.61.3. Controls and disposes of radiographic silver bearing material according to AFMAN 23-110, volume 6 and TO 10-1-25. Coordinates with the base medical and photo facilities to prevent duplication of disposal effort.

4.61.4. Performs NDI of aircraft, AGE, and other equipment. Inspection findings are normally limited to a description of the size, location, and type of defect discovered. NDI personnel do not make serviceability determinations except for "inspect only" TCTOs and if NDI actions constitute a completed maintenance action.

4.61.5. Sets up technique files using AFTO Forms 242, Nondestructive Inspection Data, according to TO 33B-1-1.

4.61.6. Enforces safety requirements in AFI 48-125, AFI 91 series, and all other applicable directives.

4.61.7. Sets up process control procedures according to TO 33B-1-1 and other applicable directives.

4.61.8. If OAP capability exists, the NDI laboratory chief:

4.61.8.1. Operates and maintains the OAP laboratory according to TO 33-1-37.

4.61.8.2. Processes red cap oil samples on a priority basis.

4.61.8.3. Maintains a listing of OAP monitors from all units supported by the laboratory.

4.61.8.4. Advises MCF, the propulsion flight, OWC monitor, or other OAP supported units on findings that indicate an unusual trend. Recommendations for maintenance may be provided based on past experience and applicable technical data, however, the propulsion flight chief decides corrective actions on aircraft engines.

4.61.8.5. Uses MIS to review operational and OAP times for equipment identification number and automated history during records review.

4.62. Maintenance Flight (when applicable). The maintenance flight maintains and inspects aircraft and equipment. The flight may consists of repair and reclamation (R&R), wheel and tire, aircraft inspection, and refurbishment section (aircraft specific). Unit LG determine shop locations and personnel resource utilization.

4.63. Maintenance Flight Chief Responsibilities. In addition to the responsibilities outlined in **Chapter 2**, the maintenance flight chief:

4.63.1. Monitors the inspections, repair, and storage of crash recovery equipment and develops procedures for the crash recovery program as applicable.

4.63.2. Ensures enough people are available to operate specialized equipment.

4.64. Inspection. The inspection section performs aircraft (phase, periodic, or isochronal) inspections. Each unit has a dedicated dock. The inspection section supervisor appoints dock coordinators, reviews inspection schedules, and ensures dock teams are available to meet inspection needs. Inspection section supervisor coordinates laterally with debrief/dispatch section for support when required. The inspection section develops a standardized inspection flow plan to aid in managing the progress of the inspection and to control dock personnel and support specialists. Units may use on-line maintenance information system (MIS) data in lieu of the inspection flow plan and to request specialist support. The inspection section supervisor performs common responsibilities as outlined in **Chapter 2**. The following procedures are used by inspection section supervisor:

4.64.1. The inspection section supervisor uses the AF Form 2406, **Maintenance Preplan**, AFRC Form 173, **Aircraft Inspection Flow Chart**, or computer generated product to aid in managing the progress of the inspection and to control dock personnel and supporting specialties. The flow chart is maintained by the inspection dock at the aircraft location. These forms are required for each inspection and are necessary to provide positive control of all look step inspection and fix step maintenance requirements. Information required on the AFRC Form 173 is illustrated in Figure 4.1. If an automated product is used instead of AFRC Form 173, the inspection section supervisor develops, with the technical order distribution activity (TODA), procedures to ensure the automated product remains updated with -6 requirements/workcards. Initiation of the forms should start during the pre-inspection process by entering all known requirements such as workcards, TCIs, TCTOs, deferred discrepancies, and any other items identified in the inspection package. The information required on the AFRC Form 173 can be arranged in item number sequence or in the actual inspection flow order. Subsequent entries are made as requirements are identified during the look and fix steps of the inspection, or as detected. Line entries are closed out by the inspection supervisor as the work is completed and inspected, or as transferred to AFTO Form 781 as applicable. AFRC Forms 173 entries are made as follows:

4.64.1.1. Flow chart heading: Self-explanatory.

4.64.1.2. Workcard and Item Number columns: Enter the workcard number and item numbers as applicable for all inspection card deck requirements. If all items on a particular workcard are completed by one technician, enter an asterisk in the column. Caution must be used to ensure an unaccomplished item number is reentered on the form if not completed with the rest of that workcard. For fix step discrepancies, discrepancies discovered during the technical inspection (TI), TCI, and other requirements, enter the appropriate symbol in the item column to denote the seriousness of the discrepancy. If desired, enter a brief discrepancy note in the workcard column.

4.64.1.3. Type mechanic column: Self-explanatory.

4.64.1.4. Sequence number/JCN column (optional): Each job is assigned a sequence number (by the inspection supervisor) which is entered in this column.

4.64.1.5. Employee number column: Enter employee number of the individual who completed the maintenance requirement in the larger portion of this column. For uncorrected discrepancies which are transferred to AFTO Forms 781A or 781K, Aerospace Vehicle Inspection, Engine Data, Calendar Inspection, and Delayed Discrepancy Document, enter the "letters" or "abbreviation" CF (carried forward) in the column. The inspection supervisor's initials in the smaller portion of the column indicate the work is completed and/or inspected. Supervisor's initials for CF entries indicates the delayed discrepancy is assigned a JCN/event number and transcribed to the applicable aircraft forms.

4.64.1.6. Document number column: Document number of parts on order.

4.64.1.7. Remarks column: Self-explanatory.

4.64.2. Inspection team integrity and stability are maintained to ensure people are proficient on the aircraft.

4.64.3. A status board or MIS display is used to track inspections in progress and scheduled inputs from the weekly flying and work schedule. If a status board is used the following information is shown:

4.64.3.1. Aircraft type.

4.64.3.2. Aircraft serial number.

4.64.3.3. Inspection due.

4.64.3.4. Scheduled in (date and time).

4.64.3.5. Actual start (date and time).

4.64.3.6. Scheduled out (date and time).

4.64.3.7. Aircraft crew chief's name and duty phone.

4.64.3.8. Remarks (delays, possible MICAP conditions, etc.).

4.64.4. Upon inspection completion, the dock chief complies with pre/post dock review procedures in paragraph **5.45.**

4.65. Refurbishment Section (if applicable). A refurbishment section performs interior and/or exterior refurbishment of assigned weapon systems. Refurbishment is intended to ensure the integrity of aircraft structures, coatings, or fabrics is maintained. This is accomplished either through repair or replacement. Aircraft refurbishment actions are accomplished according to applicable workcards. The refurbishment section chief ensures:

4.65.1. Local, state, and federal environmental requirements are met.

4.65.2. Flow plans are developed to ensure positive control of inspection/fix phases during the refurbishment process.

4.66. Repair and Reclamation/Wheel and Tire. As applicable, these functions may operate as separate sections. The repair and reclamation section maintains flight controls, engine controls, landing gears, doors/visors, canopies, aircraft wheel and tires, and associated equipment requiring structural or component maintenance beyond the capability of other activities. If a supply point is set up in the section, DIFM processing procedures are used. The supervisor sends issue and turn-in documents to the maintenance supply liaison section (MSL). In addition to the responsibilities outlined in **Chapter 2**, the section chief:

4.66.1. Ensures the capability to remove and replace flight control surfaces and to rig flight control systems.

4.66.2. Builds up, repairs, tests, and stores wheel and tire components.

4.66.3. Degreases wheel and tire components disassembled for NDI inspections according to TO 4W-1-61 prior to processing to the NDI laboratory.

4.66.4. Cleans, inspects, and properly stores, in a serviceable status.

4.66.5. Maintains safety equipment, such as wheel cages, in a serviceable status.

4.67. Munitions Flight (when applicable). Munitions flights provide the capability to forecast, requisition, report, track, receive, stockpile, inspect, assemble, deliver, deploy, turn-in, account for, transport, and dispose of nonnuclear munitions to support worldwide deployment. Flights perform nonnuclear munitions operations and maintain serviceable quantities of munitions assets required to meet all mission tasking. Munitions management functions will comply with directives prescribed in AFPD 21-2 and AFI 21-201.

4.67.1. AFRC Munitions Flight structure typically would consist of the Munitions Flight Chief, Munitions Material Section, and Munitions Production Section. The Material section consists of Operations (AFK), Control, Storage, and Inspection. The Production Section consists of Handling and Delivery, Precision Guided Munitions(PGM), Missiles, and General Purpose Assembly and Maintenance. Flights are authorized to form applicable sections below flight level to maintain an effective span of control. Sections may also be consolidated as required for more effective use of resources.

4.67.2. Munitions will be maintained in a war ready, serviceable condition, allowing for deployment when and where needed. Munitions in less than fully serviceable condition will be appropriately identified, reported, and returned to a serviceable condition, or disposed of as soon as possible. These actions will be in strict compliance with appropriate technical manuals, federal , state, and local laws.

4.67.3. An accountability system that documents and records inspection and maintenance actions executed in the inspection and repair of nonnuclear munitions, missiles, and munitions materiel handling equipment (MMHE) is maintained according to AFI 21-202.

4.67.4. Munitions functions maintain and report data for all munitions expended; use automated collection and reporting of data whenever possible. Account for munitions by national stock number (NSN), lot and serial number, quantity condition code, category (for example, training, war reserve materiel, and so on), and dollar amount according to AFI 21-202.

4.68. Command Missile Guidance. Command missile guidance for the use of live WRM missiles is to maintain WRM missiles in an available and reliable status using the following guidance:

4.68.1. WRM missiles are maintained in all-up-round (AUR) container storage.

4.68.2. WRM missiles will not be removed from storage, loaded or flown captive carry during peace time operations unless authorized by AFRC-GMAJCOM tasking . Peace time operations include authorized ORIs and local OREs. Guidance and control units will not be removed from WRM missiles for captive carry training use.

4.69. Armament Systems Flight. The armament systems flight performs on-and off-equipment maintenance for assigned aircraft armament systems, guns, pylons, racks, launchers, and adapters. An AFSC 2R1X1 scheduler, 2S0X1 supply specialist, and 3A0X1 information management specialist may be assigned. The flight normally consists of three sections; maintenance, AME (AME section can be included into the support function) and support. Armament systems personnel are not normally certified as load crew (LC) members. Specific guidance and responsibilities for ACC-gained units are in **Chapter 7**. AFSOC-gained units refer to **Chapter 8**.

Chapter 5

LOGISTICS MAINTENANCE SUPPORT

Section 5A—General

5.1. General. This chapter outlines the duties and responsibilities of the functions related to the support of maintenance production activities. Maintenance support provides the capability for effective planning, scheduling, and use of equipment, manpower, and facility resources. It provides maintenance and supply interface. It also provides analysis of maintenance production and operational support, data base management, oversight of aircraft maintenance training requirements, logistics planning, and management of finances, personnel, and facilities. The maintenance support functions are Plans Scheduling & Documentation (PS&D), Maintenance Supply Liaison (MSL), Analysis/Data Base Management (DBM), Training Management, Plans and Deployment, and Programs Budget and Depot Level Repairable (DLR) sections. It also addresses the Maintenance Coordination Function (MCF), Contracting, Transportation, and Logistics Supply Manger functions as well as general supply responsibilities.

5.2. Maintenance Coordinating Function (MCF). The MCF is a function of the combined wing command post. The MCF monitors the flying schedule and maintenance plan events, manages aircraft status reporting, coordinates with agencies external to aircraft maintenance functions for support and emergency action notification, and assures external communication is relayed to appropriate agencies. During emergency response and contingency/exercise events, MCF assumes greater responsibility for coordinating battle staff/unit commander director maintenance actions.

Section 5B—General Maintenance Supply Responsibilities

5.3. Supply Discipline. Supply discipline is essential for effective material management. All maintenance personnel are trained to perform supply duties related to their job. Maintenance personnel:

5.3.1. Promptly process reparable items through the repair cycle.

5.3.2. Assign a valid delivery priority to each demand placed on the supply system. Delivery priorities are identified in AFMAN 23-110, volume 2, part 13 and AFMAN 23-110, volume 2, part 2, chapter 11.

5.3.3. Take immediate action to cancel erroneous/no longer needed requests.

5.3.4. Use the proper urgency justification code (UJC) on parts requests to designate the impact and type of need. The urgency of need (UND) is the first position of the UJC and indicates the impact of the request. The use of UND “A” and “B” is restricted and must be verified by designated personnel. A valid “mark-for” must be provided with the UJC according to AFMAN 23-110, volume 2, part 2, chapter 11.

5.3.5. Use the force activity designator (FAD). A FAD is assigned to each Air Force unit based on its mission and is found in the USAF Program Document. This code is used with the UND to set the requisition priority when a part is ordered from off base sources. When a unit needs an item which is in direct support of a unit with a higher FAD, the requester provides the FAD of the supported unit.

5.3.6. The appropriate unit supply support section will verify and monitor backordered requests. The verification process is the key to preventing unwarranted mission limiting conditions, cannibalization, priority abuses, and wasted money. Verification requirements are identified in AFMAN 23-110, volume 2, part 2, chapter 11.

5.4. General Work Center Supply Requirements. Maintenance work centers:

5.4.1. Maintain AF Form 2413 or AF Form 2005, **Issue/Turn-In Request** and AF Form 2414, **Verification Worksheet**, for recording all parts ordered from base supply demand processing and verify status with the daily document register (D04) and the monthly due-out validation listing (M30). Printouts of requests made via the applicable MIS/ Standard Base Supply System (SBSS) interface may be used in lieu of AF Forms 2005/2413/2414. As parts are received, maintain and dispose of the AF Form 2005 and AF Form 2414 according to AFMAN 37-139. Line through entries on the AF Form 2413 or printout until complete page has been received, then maintain and dispose of according to AFMAN 37-139.

5.4.2. Perform follow-up action with the appropriate supply support section to resolve AWP (problems).

5.4.3. Establish procedures for controlling cross-cannibalization of reparable assets reducing AWP units.

5.4.4. Process supply items requiring buildup before issue in a timely manner.

5.4.5. Compile a list of items requiring functional check or calibration prior to installation and forward to the appropriate supply support section. Review/update at least semiannually.

5.4.6. Compile and provide a list of direct NRTS items to the appropriate supply support section for inclusion in the master direct NRTS listing as required. Review and update at least semiannually.

5.4.7. Establish a storage area for reusable containers. Consolidation with other work centers is authorized.

5.4.8. Schedule and control all repair cycle assets through the repair functions based on priorities established in **Table 1.1.**

5.4.9. Expeditiously move reparable assets from work center to work center. Ensure proper documentation and container accompany the asset through the repair cycle. Ensure the current location and due-in from maintenance (DIFM) status is loaded through the workcenter MIS/SBSS or by contacting the Repair Cycle Support Center.

5.5. Bench Check and Repair Guidance. Maintenance sections bench check items as part of the on-equipment troubleshooting process. Specific procedures for bench check and repair policy are provided in TO 00-20-3.

5.6. Repair Cycle Asset Management. The overall objective of the repair cycle is to prioritize repair of assets based on actual mission needs, to move assets through the repair cycle as quickly as possible, accomplish quality repair actions, and to maximize repair capability.

5.6.1. The repair section chief establishes a production schedule based on priorities established in **Table 1.1.** Base supply provides the Repair Cycle Asset Management Listing (D23). The D23 is pro-

vided in both maintenance location and stock number sequence. Use the D23 to manage the flow of DIFM assets in the repair cycle and to ensure the DIFM status is updated.

5.6.2. Maintenance work centers use AFTO Form 350, Part 2, to control work by establishing a file in three sections: in work (INW), awaiting maintenance (AWM), and awaiting parts (AWP). Units may elect to use the applicable MIS in lieu of an AFTO Form 350, Part 2 card file. Put the AFTO Form 350, Part 2, in the appropriate section in priority sequence. Update the file to show status of all assets and ensure MIS and the supply system reflect the current status and are accurate. Repair sections using MIS and three part production files are not required to fill out the reverse side of the AFTO Form 350 if there is a demand on supply. Treat items not having a demand placed on supply as turn-around (TRN) transactions and update the MIS and the supply system for demand data update. Use AF Form 2520, **Repair Cycle Control Log** or DD Form 1348-1A, **Issue Release/Receipt Document** to record all turn-ins.

5.6.3. The appropriate supply support section as determined locally is responsible for delivery and pickup of reparable assets from the work center when they are issued from or returned to base supply.

5.6.4. Process components requiring multiple section actions the same as other items. The owning work center of the equipment and/or repair section identify multiple section actions in Block 15 of the AFTO Form 350 and in the applicable MIS. As each section completes work, annotate Block 15 and update the applicable MIS to reflect the work was done. Move assets to the next work center/holding area as applicable and update the DIFM status code.

5.6.5. If a parts request is backordered and the unserviceable DIFM item does not limit or restrict the operational capability of the end item, remove it and send it to the applicable support flight/work center for repair, NRTS, or condemnation action and subsequent turn-in to supply (as a credit DIFM) according to TO 00-20-3.

5.6.6. Classified assets are processed in the same manner as other components, except technicians indicate on the face of the AFTO Form 350 that the item is classified and must be handled according to AFI 31-401, *Managing The Information Security Program*. The section responsible for the bench check or repair makes sure that security classification of the component is conspicuously visible. The preferred method of marking the classification on components is to stencil with paint or attach a plate with screws or rivets depicting the classification. In addition, each activity maintains a current list of personnel authorized to receive classified components. Additional guidance is found in TO 00-20-3 and AFMAN 23-110.

5.7. Control of Awaiting Parts (AWP) Assets and Cross-Cannibalization. Repair sections are responsible for storing and controlling reparable assets AWP. The following general guidance applies:

5.7.1. Make every effort not to consolidate storage areas for AWM and AWP assets. If storage space is limited, storage may be consolidated. Storage of out-sized units is negotiated between the chief of supply (COS) and maintenance squadron commander.

5.7.2. Maintenance activities request repair bits and pieces and/or determine if cross-cannibalization action is feasible. To ensure supply data base records are adjusted to reflect cross-cannibalization actions, provide the supply AWP manager the DIFM document number of the AWP end item and the due-out document numbers of bits and pieces.

5.7.3. The COS is responsible for requisitioning, lateral support, follow-up, and monitoring status of repair bits and pieces. Repair section asset managers, through the appropriate supply support section,

are responsible for documenting and conveying impacts to the base supply AWP manager if status is unacceptable.

5.8. Removal of Bit and Piece Repair Parts from Condemned Assets. Selected bit and piece repair Parts may be removed from condemned expandability, recoverability code, (ERRC) end items. Items coded "XD" are normally not condemned at the base/field level. Condemnation authority for XD assets is provided by the end item manager. Do not remove bit and piece repair Parts from XD assets being NRTS to the depot without item manager approval.

5.8.1. Once an asset is condemned, remove reparable XD coded items and XB/XF coded end items that do not exceed the 75 percent economic repair criteria. Tag removed items with the appropriate condition tag and retain to enhance local repair capability. Also remove serviceable bit and piece parts.

5.8.2. Store XB bits and pieces as operating stock or turn in to supply.

5.9. Local Manufacture. Local manufacturing is a viable part of Air Force maintenance support. Items subject to this method of supply are identified in the applicable end item TO. Specific procedures are found in AFMAN 23-110, volume 2, parts 2 and 13, and AFI 21-101. Units develop and publish procedures for the ordering, processing, manufacture, and tracking of local manufacture request. The GP/CC or designated representative approves/disapproves all local manufactures requests.

5.10. Critical Item Control. Each section supervisor is the work center critical item monitor. Critical items are identified on issue documents (DD Form 1348-1A), and the D23. Maintenance critical item monitors:

5.10.1. Through the appropriate supply section and in conjunction with base supply, determine items to add to/delete from the base critical item list.

5.10.2. Identify critical items exceeding processing time objectives and determine reasons for not meeting objectives. Bench check, repair, or NRTS critical assets before non-critical assets. Repair critical assets within their priority group. The appropriate supply support section monitors the processing time for critical items.

5.11. Supply Request Procedures. Demands are normally made through the MIS/SBSS interface, a unit supply support function, or base supply. The technician:

5.11.1. Completes AF Form 2413 or locally developed computer log to include supply document number and time ordered. Printouts of requests made via the applicable MIS/SBSS interface may be used in lieu of AF Form 2413 or computer log.

5.11.2. Refers to TO 00-20-5 and AFMAN 23-110, volume 2, part 2, chapter 11, to ensure expenditures are properly documented when ordering parts for transient aircraft. Use demand code N (non-recurring) for transient aircraft requests. Use demand code R (recurring) if the item is applicable to base assigned aircraft or if it is required for regularly scheduled transient flights.

5.12. Quick Reference Lists (QRL). QRLs provide maintenance with a quick way to identify and communicate to supply the need for a part. QRLs should only identify those fast-moving, high usage assets for primary mission air vehicles. Maintenance of the QRL is a joint effort between maintenance and sup-

ply. Review and validation are accomplished as required, but at least semiannually. Maintenance activities submit proposed additions to the QRL by stock and part number, work unit code, and technical order, figure, and index number. MSL solicits and consolidates inputs from all squadrons to initiate and distribute the QRL. Print the listing by primary air vehicle system using a user determined format.

5.13. Tail Number Bin (TNB). The TNB locations are established locally and controlled to store Parts awaiting installation and parts removed to facilitate other maintenance (FOM). Holding bins are set up by tail number, serial number, or ID number. The following general guidance is provided:

5.13.1. Place all due-out release (DOR) items in the TNB and inform the DDS/Expediter (for MICAPs) or PS&D (for BQs).

5.13.2. Inform the production superintendent/expediter/DDS of TNB assets which may prevent/satisfy a mission-limiting condition. If an item marked for a MICAP condition is used to satisfy another MICAP condition, this is a transfer not a cannibalization. If the item is in a TNB, use it, reorder the asset for the applicable, aircraft and notify the expediter of the new document number to be entered in the aircraft forms. If the MICAP due-out was created in supply prior to doing the transfer, notify Base supply to change the "mark-for" field on the due-out detail. Units update AFTO Forms 781 series as required.

5.13.3. Seal and store partially completed TCTO kits/parts in the TNB and mark the container/package with the tail number, serial number, or equipment ID number and TCTO number.

5.13.4. Work centers which possess TNB/FOM assets maintain control and security over them. Identify property placed in TNB/FOM and establish a control log by tail number, serial number, or equipment ID number. The log should contain as a minimum:

5.13.4.1. Date received.

5.13.4.2. Noun.

5.13.4.3. Document number.

5.13.4.4. Status (FOM, ISU/DOR, TCTO, etc.).

5.13.4.5. Property removal information (date, time, signature, and employee number of the person who picked up the property).

5.13.4.6. Remarks.

5.14. Status Boards. Units may use status boards to monitor MICAP requests. Status boards reflect the weapon system/serial number, NSN, noun, quantity, document number, requisition number, work unit code, depot/status, and remarks. List cause codes in the remarks field. Review and update status boards daily.

5.15. Unsatisfactory Supply Status. Work centers and the appropriate supply support section monitors supply status on all backordered parts. Submit requests for supply assistance if status is determined to be unacceptable. Coordinate requests with the applicable supply support section before sending them to base supply.

5.16. Supply Point and Buildup Items. Supply points are forward warehouses located within or near the maintenance work center. Squadron commanders, in conjunction with the COS, may establish supply

points within the maintenance complex. Items are limited to those peculiar to the individual work center. The following general guidance is provided:

5.16.1. Storage space for supply points is provided by the supported work center. Management of the supply point is by either maintenance or supply and is determined by agreement between the COS and supported squadron commander.

5.16.2. Since supply points are forward storage of COS owned assets, they are reconciled quarterly and inventoried semiannually. The work center supervisor assists base supply with these reconciliations and inventories.

5.16.3. Items requiring build-up prior to use (that is, wheels and tires) are prime candidates to be maintained on supply point and may be maintained in a built-up configuration. Items are forwarded to the appropriate work center for build-up and returned to the supply point for later issue. Use AF Form 1297, Temporary Issue Receipt, to control assets forwarded for build-up when the supply point is operated by supply. Validate hand receipts daily if over ten days old. Local procedures are established to control assets when the supply point is maintenance operated and the assets are forwarded to another organization for build-up.

5.17. Supply Assets Requiring Functional Check, Calibration, or Operational Flight Programming. Maintenance sections identify items requiring functional check, calibration, or operational flight programming prior to use. Prepare a list of items, including the repair section's organization and section code, and forward the list through the flight chief, maintenance supervisor, and the appropriate supply support section to Base Supply Inspection Section. The list is updated/validated semiannually. Supply sends items identified on the list to repair sections when functional check, calibration, or programming is due or when serviceability is doubtful.

5.18. Bench Stock. Bench Stocks are stores ERRC XB3 items kept on hand to reduce delays in maintenance productivity. The following general guidance applies:

5.18.1. Establishing a bench stock is a coordinated effort between maintenance and supply.

5.18.2. The work center supervisors develop a list with the noun, preferred part number, NSN (if available), and quantity needed. The quantity should reflect 30, 45, or 60 days expected usage. Forward the request for bench stock items to the bench stock support section (BSSS) of base supply (Ref: AFMAN 23-110).

5.18.3. Items are added, deleted, or retained based upon the users experience/ desires regardless of consumption data.

5.18.4. The BSSS or bench stock monitor does a weekly walk-through and a monthly inventory for each bench stock. Mark bins containing 50 percent or less of the authorized quantity with a red flag. Anyone can flag bins when this condition applies. Users process routine empty bin reports on their applicable MIS/Standard base Supply System (SBSS) terminals. If the property is issued, the BSSS delivers the full quantity authorized (if available). Remove red flags when the items are received. Quantities in excess of the authorized quantity may be retained on the bench stock.

5.18.5. Request bench stock assets which are not on hand and are needed immediately to perform a job through the MIS/SBSS interface. Order only the quantity required to perform the job using the appropriate delivery priority.

5.18.6. When bench stock bins are properly labeled with the required information, items such as screws, nuts, bolts, washers, etc. may be removed from the original package for ease of storage. If ample bench stock storage space is available, it is desirable to retain bench stock in its original packaging.

5.18.7. Highlight shelf-life bin and precious metal labels according to AFMAN 23-110.

5.18.8. Bin size should be proportional to the size of the property being stored to prevent damage to assets.

5.18.9. The use of bench stock shadow boards is optional. If shadow boards are used, make every effort to use unserviceable items. Identify any shelf-life or precious metal items with the same color code as used for the bin labels. If precious metal items are displayed on the shadow board, they are controlled and secured. Other methods may be used to display bench stock items (that is, pictures).

5.18.10. Further guidance on establishing, maintaining, and reviewing bench stocks is found in AFI 21-101 and AFMAN 23-110

5.19. Operating and Shop Stocks. Operating or shop stocks are any bits and pieces needed to support the maintenance work schedule not meeting the criteria of bench stock. Items include such things as random length bar stock, fabric dust covers, caps, plugs, items left over from work orders/TCTOs, and items deleted from bench stock. Also included are items that are recovered after use and are reused. These items may be stored in or near the bench stock but are not comingled. Bin labels include NSN or part number, unit of issue, noun, and shelf-life. Highlight shelf-life and precious metal items the same as bench stock. Items are controlled and monitored to avoid ordering assets already on hand. Partially used bench stock items are retained on bench stock and not placed in operating/shop stock. Identify, tag, and turn in items with no forecast use according to paragraph **5.16.**

5.20. Shelf-Life . Work centers control shelf-life items in bench stock and operating/shop stock according to AFMAN 23-110, volume 2, part 13. Shelf-life codes are normally on bench stock bin labels when received from supply. Check expiration dates on issued items and do not accept outdated items from supply. Do not open shelf-life containers until needed and use the oldest items first. Dispose of shelf-life items which are loose in the bin and the expiration date cannot be determined according to Type I shelf-life criteria. Inspect Type 2 shelf-life items according to applicable technical data.

5.21. Economic Order Quantity (EOQ) and XB3 Turn-In Procedures. Locate EOQ/XB3 pick-up point containers in or near each maintenance work center to encourage turn-in of unneeded items. The containers should be easily accessible and visible to all personnel. Turn in only XB3 items which have no expected usage by the work center. Periodically inspect containers to ensure unauthorized items are not being turned in. Procedures are outlined in AFMAN 23-110, volume 2, part 13.

5.22. Contract Maintenance. Units may ask for contract maintenance support for repair of AF equipment and spares when base repair is authorized but beyond base capability according to AFI 21-110/AFRC Supplement, *Engineering and Technical Services*.

5.23. Equipment Acquisition and Support. Equipment custodians request equipment, tools, and bench mock-ups using AF Forms 601 or 2005 according to AFMAN 23-110,. Supply provides equipment custodians a Custodian Authorization/Custody Receipt Listing (CA/CRL).

5.24. Material Deficiency Exhibit. Material deficiency exhibit issue, turn- in, and storage procedures are in TO 00-35D-54 and AFMAN 23-110, volume 2.

5.25. Reliability Improvement Warranty Program. Special procedures, as applicable, for handling reliability improvement warranty (RIW) items, Project 390 Pacer Warranty, are found in the applicable equipment technical orders. Minimal directions are also contained on high visibility labels found on the items.

5.26. Special Purpose Recoverable Authorized Maintenance (SPRAM). SPRAM assets are fault isolation spares, shop standard spares, training spares, -21 technical order (TO) spares (alternate mission equipment), test station spares, and stand alone spares. These assets are ERRC XD items which are controlled and managed as in-use supplies. A SPRAM monitor and custodian are appointed to manage these assets. The program was developed to provide Air Force logistics managers an automated system to maintain visibility and accountability for recoverable spares being used for other than their primary mission and that are not being reported through any other system. (Ref: AFMAN 23-110, volume 2, part 13).

5.27. Adjusted Stock Levels. Use AF Form 1996, **Adjusted Stock Level**, to establish supply levels for support of special projects, special operating requirements, or if existing demand data is insufficient to support mission requirements. A single occurrence of a mission limiting status is not sufficient reason to establish an adjusted stock level but may be an indicator to review demand data for accuracy. Work centers, with assistance from the appropriate supply support section, prepare AF Forms 1996 and route them through maintenance supervision for review. Specific procedures for obtaining adjusted levels are contained in AFMAN 23-110, volume 2, part 13. The appropriate supply support section maintains a master file of adjusted stock level and follow-up requests. The appropriate supply support section and work centers accomplish a validation of adjusted stock levels every 2 years according to AFMAN 23-110, volume 2.

5.28. Time Compliance Technical Order (TCTO) Kit Procedures . Ensuring availability of TCTO kits is a joint maintenance and supply responsibility according to TO 00-5-15 and AFMAN 23-110. PS&D initiates requests for kits, parts and tool requirements. Munitions control, test measurement and diagnostic equipment (TMDE), AGE, and EM perform PS&D duties for items that require TCTOs.

5.29. Pre-Planned and Time Change Item (TCI) Requirements. Accurate forecasting of TCI requirements is imperative and accomplished according to TO 00-20-1, TO 00-20-9, aircraft -6 series, and applicable commodity TOs. The following general procedures apply:

5.29.1. Items are changed on calendar time or are event driven (that is number of hours flown, rounds fired, landings, etc.).

5.29.2. For aircraft time change, PS&D generates a AF Form 2005 for the TCI and notifies the appropriate maintenance workcenter. To ensure supply has enough time to order the items, PS&D provides the AF Form 2005 to the appropriate supply support function no later than 60 days before the beginning of the required month. AF Form 2005 are provided to munitions operations (FK) 45 to 60 days before the required quarter for FK TCI requirements.

5.30. Supply Reports and Listings. Refer to AFMAN 23-110, volume 2, part 2, chapters 5 and 6 for listings.

Section 5C—Maintenance Scheduling

5.31. Plans, Scheduling, and Documentation (PS&D) Section. This section is the focal point for long range planning , forecasting and scheduling of aircraft inspections, depot level maintenance and aircraft component time change requirements in support of unit mission requirements. Manages aircraft use and inventory reporting according to applicable directives. Documentation is an integral part of all PS&D functions. PS&D maintains manual and/or automated historical maintenance data in the applicable MIS. The accuracy of entries on maintenance documents is a basic responsibility of the initiator and supervisors. Munitions control manages munitions documentation and scheduling as outlined in AFI 21-201, AFI 21-202 and AFI 21-203. These duties, in some cases, are dispersed in the unit depending upon organizational structure. The PS&D section:

5.31.1. Coordinates and publishes maintenance plans as required.

5.31.2. In conjunction with the analysis function, ensures the GP/CC is informed of aircraft availability, maintenance capability, problem areas, and deviations from maintenance schedules.

5.31.3. Performs the aerospace vehicle distribution office function (AVDO) to include the inventory portion of the status and inventory subsystem in the applicable MIS according to user manuals/guides, and AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*.

5.31.4. Ensures effective procedures are established to ensure flying hour accounting accuracy in the MIS according to applicable MIS user manuals/guides and AFI 21-103.

5.31.5. Keeps programmed depot maintenance (PDM) and other depot maintenance schedules in support of MAJCOM plans and requirements.

5.31.6. Conducts the daily scheduling meeting. Aircraft selected for operational ground training and maintenance events for the following day will be reviewed with production agencies to ensure the plan is supportable. The daily scheduling meeting may be held as a portion of the daily production meeting.

5.31.7. Develops an OI outlining procedures for aircraft document reviews according to AFI 21-101, this instruction, and unit management requirements.

5.31.8. Monitors use of aircraft and equipment to ensure unit programs and commitments are met and schedules do not conflict.

5.31.9. Serves as the scheduling processes functional advisor for other maintenance activities, providing training where needed.

5.31.10. Informs squadron or maintenance supervision of deficiencies detected during visits and assists with resolutions.

5.31.11. Ensures aircraft and equipment are scheduled to meet all training needs.

5.31.12. Reviews the weekly and monthly training schedules prior to publication to minimize impact on production and facilities.

5.31.13. Develops an OI containing specific procedures for aircraft pre-dock and post-dock inspection meetings.

5.31.14. Complies with -21 equipment accountability requirements as outlined in AFI 21-101.

5.31.15. Manages the unit's SI, TCI, and TCTO programs. Develops procedures outlining applicable MIS TCI responsibilities. This guidance details specific responsibilities for each work center/agency involved (that is, egress, survival equipment, life support).

5.31.15.1. During the TCTO pre-work meeting, discusses records entry requirements with performing work centers.

5.31.15.2. Ensures proper documentation of TCTO accomplishment and accessory time changes according to the 00-20-series technical orders.

5.31.15.3. Maintains and reports status of TCTO documents for assigned equipment according to MIS user manuals/guides, TO 00-20-4, and TO 00-5-15, as applicable.

5.31.15.4. Complies with the SBSS interface of the applicable MIS to requisition kits or parts for TCTO for aircraft, support equipment (SE), and training equipment.

5.31.15.5. Reports status of TCTOs that cannot be reported under how malfunctioned codes 793, 797, 798, 801, 802, or 911 according to applicable MIS user manuals/guides and TO 00-20 series.

5.31.15.6. Maintains (load/change/delete) the job standard master listing (JML) in the MIS (if applicable) for inspections and time changes listed in the applicable aircraft -6/commodity technical orders (that is, 11 or 14 series TOs). Work packages for periodic/phases, engine changes, and other event type inspection requirements are loaded as a work package in the applicable MIS.

5.31.15.7. The engine management (EM) section maintains the JML for engine related inspections and time changes.

5.31.15.8. JMLs for off-equipment items are maintained by the owning work center.

5.31.16. Sets up and keeps a list of locally assigned serial numbers to assist in the development of ID numbers for equipment according to TO 00-20-2. Refer to the applicable MIS user manuals/guides for loading local serial number assignment. Assists work centers in assigning ID numbers and automated tracking of inspection criteria.

5.31.17. Provides overall management and control of the maintenance deferred code listing. Maintain a current copy in PS&D at all times.

5.31.18. Establishes local procedures to ensure the non-installed engine historical documents are semi-annually reviewed for accuracy.

5.31.19. Provides functional expertise for equipment historical documents to QA during inspection/evaluations.

5.31.20. Consolidates all maintenance AFTO Forms 223, Time Change Requirement Forecast, prior to submission to the supply time change monitor for non-FK items. Periodically reviews all AFTO Forms 223 or MIS data for accuracy.

5.31.21. Assists in training life support personnel in the MIS for documentation of inspections and TCI associated with life support systems according to applicable MIS user manuals/guides.

5.31.22. In coordination with production activities, develops EWO/Single Integrated Operational Plan (SIOP), contingency, and ORI plans using AF Form 2408, **Generation Maintenance Plan**, and AF Form 2409, **Generation Sequence Action Schedule**. Maintains and distributes plans to required agencies. Where capability exists, use automated plans.

5.32. Operational Planning Cycle. The objective of the operational planning cycle is to enable the orderly execution of the unit's flying hour program consistent with operational requirements and maintenance capabilities. These procedures enhance operations and maintenance interface. Given operational requirements and maintenance considerations, schedulers negotiate a proposed annual flying plan. This plan is further refined using the guidelines contained in paragraphs **5.33.** through **5.38.** The number and length of missions/sorties is of prime consideration in planning. Principal areas of concern are in overall flying schedules, configurations, and launch and recovery patterns to enhance mission accomplishment and improve efficiency. Fleet time average should not be below the lower limit of 50 percent of the hourly increment.

5.33. Maintenance Planning Cycle. The maintenance planning cycle ensures proper and effective use of maintenance resources. Long-range planning is needed to support future needs such as quarterly flying hour programs, PDM schedules, TCTO programs, inspections, and special exercises. PS&D performs the long-range planning function. PS&D uses appropriate MIS products to determine long-range maintenance requirements. PS&D forecasts and monitors requirements for the current and next 2 months. Maintenance planning includes predictable maintenance factors based on historical data and other staff inputs, such as flow times for maintenance, turnaround times, and parts replacement schedules. Additionally, include all known operational events (that is, exercises, deployments, and surges) during maintenance planning to determine maintenance capability to meet operational needs. The monthly maintenance plan and weekly schedule are reviewed by the operations officer and maintenance officer before submission.

5.34. Flying Hour Allocation. HQ AFRC/DOTSF distributes flying hours to unit OPS GP/LOG GP no later than 49 days before the beginning of the fiscal year. Using the annual flying hour allocation:

5.34.1. The OG/CC provides to the LG/CC and affected workcenters the following requirements not later than 42 days before the next quarter:

5.34.1.1. Required flying hours and sorties, in monthly increments.

5.34.1.2. Flying days in each month.

5.34.1.3. Known and projected TDY and special mission requirements.

5.34.1.4. Configuration/munitions requirements.

5.34.2. The GP/CC and maintenance officer compute the capability of maintenance to support operational requirements. No later than 35 days before the beginning of the next quarter, the Operations

Group provides PS&D, the applicable squadron maintenance officer, and operations officer the following planning factors as applicable:

5.34.2.1. Estimated number of aircraft available by month, a projected airframe capability statement, forecast personnel capability, and the number of sorties that can be supported. Determine the capability of the maintenance workforce. Personnel capabilities are computed by the analysis section. Airframe capability is computed to support the mission using the information provided by the operations officer.

5.34.2.2. The number of sorties that can be supported for each month in the quarter.

5.34.2.3. Estimated monthly attrition factor. This factor combines the operations, weather, and material (maintenance and supply) into the overall unit attrition factor. The anticipated number of

attrition sorties is indicated based on the operations request. Attrition sorties are not assigned to a specific aircrew in the quarterly planning process. Only 51-series flying requirements are planned.

5.34.2.4. Recommended block scheduling patterns to meet operational requirements.

5.34.2.5. Statement of limitations in meeting the operational requirements.

5.35. Quarterly Scheduling. Quarterly scheduling starts with the operational requirement for flying time, airframe availability, depot, and other related scheduling data. These requirements for the scheduling cycle are provided to the applicable squadron maintenance officer and the GP/CC by the operations officer not later than 25 days before the beginning of the quarter. Maintenance officer, GP/CC, and operations officer agree on these operational requirements at the scheduling meeting preceding the quarter being scheduled. It is at this time that launch/recovery blocks, sortie flow timing, etc., are established based on training ranges (TR)/air refueling (AR) allocations.

5.35.1. Refined and adjusted monthly and weekly schedules are used to ensure the quarterly plan objectives are met. Planners should make each of these plans as detailed and accurate as possible at the time of preparation. Include known special missions, depot maintenance schedules, higher headquarters commitments, and lateral command support requirements. When deviations from the quarterly plan are required to achieve the unit objectives, make necessary adjustments to the monthly and weekly plans while keeping within unit capabilities. If a lack of resources prevents meeting requirements, resources are applied in the following sequence: higher headquarters directed mission and training.

5.35.2. The LG/CC and OG/CC co-chair a quarterly scheduling resolution meeting no later than 21 days before the next quarter. Chairmanship will not be delegated. The unit's quarterly plan is briefed to include operational requirements, support capability, and difficulties expected (if any). LG/CC and OG/CC resolve scheduling conflicts. This meeting may be held in conjunction with the weekly scheduling meeting. Wing commanders are encouraged to attend.

5.36. Monthly Scheduling. Refines quarterly requirements. Operational needs, plus the attrition factor is the basis for developing the monthly flying and maintenance plans. Use the following sequence of actions to make sure monthly scheduling results in a contracted flying schedule requirement. The scheduling process is as follows:

5.36.1. At the first weekly scheduling meeting of the month, operations officer provides maintenance officer and LG/CC with the estimated operational needs for the following month in as much detail as possible.

5.36.2. At the second weekly scheduling meeting of the month, maintenance officer and the GP/CC tells operations officer whether requirements can be met, adjustments to the proposed schedules are required, or limitations exist which may prevent successful fulfillment of requirements.

5.36.3. At the third weekly scheduling meeting formalize next month's plan during the unit commander's scheduling meeting. At the meeting:

5.36.3.1. Operations outlines past accomplishments, the degree to which mission goals are being met, problems being encountered, and detailed needs for the next month.

5.36.3.2. Maintenance presents projected maintenance capability, aircraft and equipment availability.

5.36.3.3. Alternatives and limitations are given to the commander by both operations and maintenance. If the commander is unable to achieve the needed capability, he or she decides what portion of the mission is supported and to what degree.

5.36.3.4. When the proposed monthly flying schedule is agreed upon and approved by the wing commander, it is included as a portion of the monthly maintenance schedule.

5.36.4. Included in the monthly flying and maintenance plan are:

5.36.4.1. Aircraft flying hours, total sorties, and sortie requirements for each mission design series (MDS) by unit.

5.36.4.2. Work load requirements:

5.36.4.2.1. Transient work schedule, if applicable.

5.36.4.2.2. Aircraft projected maintenance and utilization schedules including scheduled inspections, deployments, TCTOs, engine changes, time changes, contract or depot maintenance, washes, corrosion control and training.

5.36.4.2.3. Contract or depot maintenance, TCTOs, time changes, washes, and corrosion control.

5.36.4.2.4. Avionics and other off-equipment maintenance to include scheduled inspections, TCTOs, assembly, or repair operations.

5.36.4.2.5. Engine in-shop inspections.

5.36.4.2.6. Munitions, ECM, and other mission loading or configuration requirements, including ammunition changes.

5.36.4.2.7. Total ordnance requirements for aircraft support.

5.36.4.2.8. Tanks, racks, adapters, and pylons, (TRAP) and war reserve materiel (WRM) scheduled inspections, TCTOs, assembly, or repair operations.

5.36.4.2.9. QA scheduled inspections listed by type and quantity unless published separately by QA.

5.36.4.2.10. Special activities, such as commander's calls, group TDYs, and unit formations.

5.36.4.2.11. Monthly training schedules, if not published separately.

5.36.5. In addition to the overall maintenance plan, detailed support requirements are identified. The following support requirements, as applicable, may be included in the plan:

5.36.5.1. Petroleum, oil, and lubricants (POL) servicing.

5.36.5.2. Supply.

5.36.5.3. Food service.

5.36.5.4. Fire department.

5.36.5.5. Security.

5.36.5.6. Civil engineer.

5.36.5.7. Airfield operations.

5.37. Weekly Scheduling. Weekly scheduling is the final refinement to the monthly plan and results in the weekly flying and maintenance schedule. The applicable operations officer and maintenance officer review the proposed weekly flying and maintenance schedule prior to the weekly scheduling meeting. PS&D ensures distribution of the schedule to each appropriate activity and work center no later than Friday morning preceding the effective week. Once printed in the weekly flying and maintenance schedule, the aircraft or equipment is made available to meet that schedule. Once published, the weekly schedule establishes the baseline for deviation reporting. PS&D records maintenance scheduling deviations and forwards computations to analysis weekly for publication in the monthly maintenance summary. Reports flying scheduling deviations via the applicable MIS.

5.37.1. A scheduling meeting is conducted to look at past week's accomplishments and approve refinements to the coming week's schedule.

5.37.2. The applicable operations officer gives maintenance officer and GP/CC the following information not later than 2 workdays before this meeting:

5.37.2.1. Aircraft takeoff and landing times.

5.37.2.2. Configuration requirements.

5.37.2.3. Munitions requirements.

5.37.2.4. Fuel loads.

5.37.2.5. Special or peculiar mission support requirements.

5.37.2.6. Exercise vulnerability.

5.37.2.7. Deployments.

5.37.2.8. Off base missions/sorties.

5.37.2.9. Other special requirements.

5.37.3. Operations and maintenance schedulers discuss weekly needs and arrive at an acceptable, coordinated schedule.

5.37.4. OG/CC and LG/CC present the proposed flying schedule to the wing commander for approval and signature. If agreement cannot be reached by logistics and operations before the weekly scheduling meeting, the wing commander will determine which requirements are to be supported. Once approved the flying schedule is the final planning guide for both operations and logistics.

5.37.5. The flying schedule, signed by the wing commander, OG/CC, and LG/CC is a contract and is to be followed as printed or amended by coordinated changes. Commitments (AR, fighters, etc.) to other units are honored to the maximum extent possible, to allow other units to meet their mission objective. Amendments or changes must be coordinated on AF Form 2407 or other automated methods, Weekly/Daily Flying Schedule Coordination according to AFI 21-101 and this instruction.

5.37.6. Units print a weekly schedule for normal home base operations, deployments (to include a printed schedule at the deployed, weapons training, or detached site), and planned sortie surges. Included in the weekly flying and maintenance plan are:

5.37.6.1. Sortie sequence numbers, aircraft tail numbers (primary and spares), scheduled takeoff and landing times, aircraft or equipment scheduled use times, configurations, and special equipment requirements.

5.37.6.1. (944FW) The weekly flying schedule will be printed using the following list of sortie sequence numbers for each corresponding mission:

Sequence Number	Type Mission
901-930	Local Launch
931-945	Deployed
946-956	Cross Country
957-990	Surge/ORE/ORI
991-992	Functional Check Flights
993-999	Additions

5.37.6.2. Spare aircraft requirements are based on projected first sortie logistics losses. Spare requirements are computed and printed day by day in the weekly flying schedule. The following factors are used to determine spares:

5.37.6.2.1. Analysis computes spare aircraft requirements using historical first sortie logistics losses and provides this information to PS&D for use in computing spare aircraft requirements. Normal spare requirements should not exceed 20 percent (30 percent for training units owning TF coded aircraft) of aircraft committed to the flying schedule, rounded up to the next whole aircraft.

5.37.6.2.2. The computed spare requirement may be adjusted to compensate for multiple configurations and syllabus constraints.

5.37.6.2.3. Additional spares are authorized to support higher headquarters taskings and special missions (if required by the tasking).

5.37.6.2.4. Generate only the absolute minimum of spare aircraft.

5.37.6.3. 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, documents review, and deferred discrepancies.

5.37.6.4. Required pre-inspection and other maintenance meeting schedules to include minimum attendees.

5.37.6.5. Wash rack use.

5.37.6.6. Training requirements.

5.37.6.7. SE inspection/maintenance schedule by type, serial number, or identification. NOTE: The AF Form 2402, **Weekly Equipment Utilization and Maintenance Schedule**, is used as a summary of the week. The AF Form 2403, **Weekly Aircraft Utilization/Maintenance**, and AF Form 2436, **Weekly/Daily Aircraft Utilization Schedule**, are more finite in the depiction of aircraft utilization and maintenance. The AF FORM 2403 and AF FORM 2436 may be used

together or individually; whatever forms are used, all requirements are entered. Automated products may be used where capability exists.

5.38. Daily Scheduling. Daily scheduling is used to accomplish the weekly schedule.

5.39. Schedule Changes. Changes to the weekly schedule of the following types:

5.39.1. Pen-and-Ink. Pen-and-ink changes to next week's schedule prior to the end of the duty day Friday are authorized. They are non-chargeable and become part of the printed weekly flying schedule. AF Form 2407 coordination is required stating the changes are pen-and-ink.

5.39.2. Interchanges (Tail Number Swaps). Interchanges should be used to prevent reconfigurations and unnecessary expenditures of man-hours when the prime aircraft is not mission-capable by its scheduled takeoff time. Every effort is made to make the aircraft interchanges at the daily maintenance meeting the day prior to the aircraft scheduled flight and entered on the AF Form 2407. Interchanges that are made after the daily maintenance meeting and prior to the units first crew ready time the next day require an AF Form 2407 be coordinated through the required agencies. After that, normal deviation recording applies. All interchanges made at the daily maintenance meeting are entered on an AF Form 2407 for audit and analysis purposes.

5.39.3. Configuration. Configurations should be finalized at the daily maintenance meeting and documented on an AF Form 2407. To prevent excessive expenditures of man-hours, configuration changes made after the daily maintenance meeting and prior to the first crew ready time the next day require an AF Form 2407 be coordinated through the required agencies.

5.39.4. Procedures. Changes made during the daily scheduling meeting require an AF Form 2407. Changes made after the daily scheduling meeting and prior to the unit's first crew ready time the next day also require an AF Form 2407. The agency requesting the change initiates the AF Form 2407 and coordinates it through the affected production supervisor/maintenance officer and operations officer as well as required GP/CC and unit staff agencies. After coordination, the original copy of the AF Form 2407 is filed in the PS&D. PS&D inputs AF Form 2407 coordinated schedule changes into the applicable MIS operational events subsystem using the procedures in user manuals/guides.

5.40. Deferred Discrepancy. Timely accomplishment of deferred maintenance is the responsibility of the applicable flight/squadron maintenance officer/supervisor. Malfunctions or discrepancies not creating not mission capable (NMC) or partial mission capable (PMC) status and not corrected are considered deferred discrepancies and are loaded into the applicable MIS as soon as possible. Discrepancies are considered deferred as soon as they are discovered and the decision is made to defer them. Discrepancies deferred due to non-availability of parts are promptly loaded to the applicable MIS when backordered through supply. The decentralized supply support/material control enters supply data against deferred discrepancies. Notify PS&D and aircraft flight once parts are received. Discrepancies remain in an "unscheduled" status for no longer than 1 workday from the date of discovery. Discrepancies with a scheduled start date and time greater than 5 days after the date of discovery are reportable deferred discrepancies. Discrepancies scheduled but not accomplished on the date scheduled are counted and reported in the deferred discrepancies rate. Discrepancies that are AWP with a valid off base requisition are reportable deferred discrepancies. TCTOs, TCIs, SIs, and OTIs in deferred status are not reportable deferred discrepancies.

5.40.1. QA evaluates and documents discrepancies deferred for depot maintenance. Establish a dummy performing work center in the MIS (if required) for each flying squadron to load depot discrepancies.

5.40.2. Equipment discrepancy files for equipment other than aircraft may be decentralized to the proper shop.

5.40.3. The deferred discrepancy file, although centralized in the computer, is still considered two separate and distinct files: one consisting of discrepancies AWP and the other consisting of discrepancies awaiting maintenance AWM. The responsibility for maintaining AWM discrepancies in the applicable MIS lies with the technician who makes the inputs. The AWP file is maintained by decentralized supply support/materiel control.

5.40.4. Discrepancies deferred for parts:

5.40.4.1. Decentralized supply support/materiel control promptly loads the discrepancy and supply data into the applicable MIS for aircraft discrepancies which cannot be corrected due to backordered parts. Units using the SBSS module of the MIS follow procedures outlined in the applicable MIS user manuals/guides.

5.40.4.2. The decentralized supply support/materiel control notifies the production superintendent, PS&D, expediter, and DDS when parts are received.

5.40.4.3. Local procedures govern control of parts for contract logistics supported (CLS) aircraft not supported by the MIS.

5.41. Job Control Numbers, Identification Numbers, and Workcenter Codes. PS&D develops procedures for the assignment and application of job control numbers (JCN). The MIS uses year-event-identifiers instead of JCNs and uses an automatic JCN assignment feature. Procedures need to be established only for manual input of JCNs during MIS downtime and deployment processing.

5.42. Depot Programs . PS&D keeps a current serial number listing of projected inputs and outputs of aircraft and equipment into depot repair programs. This listing also contains MAJCOM directed modification or maintenance programs. PS&D uses the AFTO Form 103, **Aircraft/Missile Condition Data**, to record certified maintenance needs and forwards it according to TO 00-25-4 .

5.43. Major Maintenance Work Processing. Major maintenance may be required to repair battle or crash damaged aircraft or to accomplish major TCTOs or rework. The following procedures apply:

5.43.1. When notified of a need for major maintenance support, PS&D ensures the requirement is loaded to the applicable MIS. The production superintendent, together with the affected maintenance supervisors, determines the extent of maintenance required to return the item to a serviceable status and the estimated man hours required.

5.43.2. The operations officer coordinates with the maintenance officer who designates an overall work project manager to be responsible for the aircraft or equipment.

5.43.3. The designated work project manager, along with decentralized supply support/materiel control and affected workcenters, determines the parts required to return the end-item/system to a serviceable status.

5.43.4. If major maintenance requires depot level assistance for repair, the request should be made according to TO 00-25-107. PS&D coordinates on all TO 00-25-107 requests for AFI 21-103 reporting. Depot level assistance provided by contractor support is accomplished according to contract specifications.

5.44. Document Review and Validation. Document review and validation are done on assigned aircraft every 14 days but not more than 30 days. The documents are also reviewed before and upon completion of phase, periodic or isochronal (ISO) inspections, or other major programs such as programmed depot maintenance, depot field teams, analytical condition inspections, and fatigue tests. Accomplish a post-dock document review prior to the first flight after phase, periodic, or ISO inspection. Modular engine flying hours and manual cycles are verified with EM during documents reviews.

5.44.1. Appropriate MIS products may be used to perform the aircraft documents review.

5.44.2. During aircraft post dock the crew chief, assistant crew chief, or the dock chief is responsible for checking aircraft documents by verifying the supply document numbers and the JCNs for those discrepancies deferred due to parts and verifying the deferred discrepancy file for maintenance. The MIS on-line capability should be used to the maximum extent possible. The following documents validation methods may be used:

5.44.2.1. The crew chief, assistant crew chief, or the dock chief takes the AFTO Form 781 series and MIS products to decentralized supply support/materiel control and PS&D to do the document review.

5.44.2.2. A validation meeting is held with representation from the decentralized supply support/materiel control, PS&D, crew chief, assistant crew chief, or the dock chief.

5.44.3. Upon completion of the document review, the crew chief or flight chief reorders those required parts that are not on back order and the decentralized supply support/materiel control cancels those items identified as no longer required.

5.45. Document Management. Documentation sections keep manual/automated historical records and maintenance data essential in the planning and scheduling of maintenance. The documentation activity is an essential link in the processing of related forms for TCTOs and TCIs.

5.45.1. Individual records are kept for end items, subsystems, and components according to the TO 00-20 series, this instruction, AFMAN 37-123, AFMAN 37-139, *Records Disposition Schedule*, and the applicable -6 TOs and MIS user manuals/guides. Available MIS products are to be used in place of manual AFTO Forms 95, Significant Historical Data, to document significant historical events on aircraft and engines. File decentralized records for non-powered AGE, training equipment, and common equipment items according to AFMAN 37-123. When this is done, documents for similar items should be grouped together and the recorded information should be identifiable to particular pieces of equipment.

5.45.2. When aircraft are temporarily moved to operating locations away from the unit of assignment, send only those records necessary to ensure safety of flight and current aircraft status. Units develops operating instructions for records taken to deployed location based on duration of TDY and peculiar operating requirements. The accumulated airframe hours, TCTO status, TCI status data on installed engines, and critical components are sent from the operating location to the parent unit when pertinent documents are not sent with the aircraft.

5.46. Filing and Disposition. An important part of documentation is the establishment of files and proper disposition of records. A file (or files) for maintenance records is set up according to AFMAN 37-123, and TO 00- 20-1. Dispose of records according to AFMAN 37-139. Equipment records may be decentralized to the section owning the equipment.

5.47. TCTO Program. PS&D is responsible for administering and managing the TCTO program according to AFI 21-101, TO 00-5-15, TO 00-20-2, applicable MIS user manuals/guides, and this instruction. TCTOs and MAJCOM directed modifications and inspections are issued to provide activities with instructions for doing modifications, inspection of equipment, or installation of new equipment. Units use a combination of MIS on-line capability and background products to monitor the progress of TCTOs. TCTOs are categorized and designated for compliance at base or depot level. Since TCTOs are scheduled maintenance, they are integrated into the maintenance planning cycle. The concurrent accomplishment of TCTO work with other scheduled or unscheduled maintenance should be to the maximum extent possible. When practical, all peacetime operating stock (POS) and readiness spares packages (RSP) assets should be modified before the equipment.

5.47.1. PS&D establishes schedules for completion of commodity TCTO requirements. PS&D schedules aircraft TCTOs or on-equipment munitions type TCTOs. The engine management section (EM) schedules non-installed engine-related TCTOs and coordinates with PS&D on installed engine-related TCTOs. Each organization is responsible to ensure TCTO completion before the grounding/rescission date. The reprogramming of passive/active electronic countermeasures equipment is administered as a commodity TCTO for configuration management purposes. PS&D coordinates with the operations electronic combat pilot/electronic warfare officer before implementing any operations flight program (OFP) identification number changes (when applicable). PS&D and EM schedules and controls kit distribution for TCTOs requiring kits.

5.47.2. The munitions controller schedules, controls, and directs TCTOs for all air-launched surface attack guided missiles and associated support equipment, munitions, nuclear ordnance commodity management (NOCM) items, guidance kits, air intercept/aerial guided missiles, and air intercept/aerial rockets according to AFI 21-201. The munitions controller sends inputs for the mechanized TCTO system to PS&D. TCTOs for non-powered munitions support equipment (MSE) are managed according to the procedures outlined in AFCSM 21-568, volume 2. The munitions controller performs documentation functions as prescribed by this instruction. The munitions controller provides PS&D with information from the non-powered MSE records to enable the documentation activities to determine the number of items to be modified. PS&D makes sure munitions control receives the proper MIS automated products.

5.47.3. PMEL/auto test station manages and schedules all TCTOs on TMDE calibrated or controlled by the PMEL and or auto test station.

5.47.4. When the AGE flight is assigned a scheduler (AFSC 2R1X1), PS&D is only responsible for chairing the initial planning meeting, loading the TCTO to the applicable MIS TCTO subsystem, and ordering kits/parts/tools via the SBSS module. If the AGE flight is not assigned a scheduler, then PS&D is responsible for managing and tracking AGE TCTOs. As the owning workcenter, the AGE flight performs documentation responsibilities on AFTO Forms 95 according to TO 00-20-2.

5.48. Monitoring TCTOs. The TCTO monitors oversee the day to day status of TCTOs. Significant problems or potential delays in TCTO accomplishment detected by maintenance supervisors or TCTO

monitors are brought to the immediate attention of the GP/CC for resolution. Workcenter supervisors keep TCTO monitors informed of TCTO status and problems encountered in TCTO accomplishment. TCTO kit/part/tool status is monitored by the shop service center (SSC)/decentralized supply support and the TCTO monitor. These functions make sure that all kits/parts/tools required are available to do the TCTO.

5.49. Reporting of TCTO Status. All TCTOs are recorded in either a manual reporting system according to TO 00-20-2 or in the applicable MIS according to user manuals/guides. This includes MAJCOM directed inspections, modifications, and modification rescissions that require work, as well as base and depot TCTOs. MAJCOM directed modifications are identified by a title and command data code. Report all commodity series TCTOs in the applicable MIS. If the item does not have a serial number and it is feasible to permanently assign a number, use procedures in TO 00-20-2. For those items where it is impractical to assign numbers, for example, air chucks and pilot clip boards, use bulk quantity numbers. For example, if there are 50 air chucks to be modified, use serial numbers 1 through 50 in the MIS. The on-line capabilities of the MIS are used as status changes occur. The performing workcenters complete the on-line work order and the TCTO monitor complies with the supervisory review

5.49.1. The performing workcenter is responsible to update the MIS as status changes occur. The TCTO monitor annotates the TCTO status report as changes occur.

5.49.2. PS&D and the EM ensure all automated reports are checked according to TO 00-20-2. PS&D consolidates reports and returns them to the appropriate air logistics centers (ALC).

5.49.3. Many TCTOs require the modification of installed components. After this type of TCTO has been complied with, ensure modified components are not replaced with unmodified components. If supply issues an unmodified component, it is identified as unmodified and returned to supply.

5.49.4. Each month, PS&D and EM TCTO monitors receive a copy of the TCTO Reconciliation Listing from base supply and annotates this listing with TCTO requirements.

5.49.5. Upon receipt of a temporary (T1, T2) modification, the TCTO monitor determines the total quantity of bits and pieces required to modify affected equipment, and orders them using the SBSS module of the applicable MIS. PS&D uses the command data code instead of the TCTO number for implementation of modification into the MIS.

5.50. Management of TCTOs. PS&D (EM for engine-related TCTOs), in conjunction with QA, determines applicability of all newly received TCTOs. Upon receipt of a TCTO from QA, PS&D checks individual equipment compliance status. For engine-related TCTOs, the EM is included in determining applicability. Input of the TCTO into the MIS is done according to applicable user manuals/guides or into the manual system according to TO 00-20-2. When kits, parts, or special tools are not required, on-line work orders are prepared in the MIS for each affected end item, including spares. If a condition/inspection TCTO generates a requirement for parts, the performing work center enters the discrepancy in the AFTO Forms 781A, **Maintenance Discrepancy and Work Document**, or applicable equipment record, and orders the required parts. Completion of the inspection constitutes compliance with a condition/inspection TCTO. When kits, parts, or special tools are required, prepare and process the requirements according to applicable MIS user manuals/guides, and create the on-line work order for each affected item, including spares.

5.50.1. QA forwards copies of all TCTOs to the affected TCTO monitor (PS&D or EM). Command directed and local one time inspections (OTI)/modifications are managed and monitored in the same manner as TCTOs outlined in this instruction.

5.50.2. A TCTO planning meeting is scheduled and chaired by the PS&D or EM TCTO monitor. The TCTO monitor establishes who attends TCTO meetings.

5.50.3. The AF Form 2410 is initiated by PS&D or EM and used to record the meeting and conditions for accomplishing the TCTO. Pertinent discussion items (for example, TCTO applicability and purpose, number of units to be modified, serial or ID number of equipment, and disposition of affected components), are annotated on the AF Form 2410. All attendees sign this form at the conclusion of the planning meeting indicating agreement with conditions. PS&D/EM then accomplishes the following:

5.50.3.1. Loads/updates the TCTO into the MIS showing the current status. (As applicable)

5.50.3.2. Follows the procedures in the applicable MIS user manuals/guides, if kits, parts, or special tools are required.

5.50.3.3. Establishes a TCTO folder for each TCTO. Initiate the TCTO folder upon confirmation of load/update in the applicable MIS. Include the AF Form 2410, applicable MIS products, supply cover letter of affected items in stock, and the basic TCTO. Also, include pertinent documents affecting the TCTO (supplements, messages, notices of kit availability, supply difficulty letters, etc.). Maintain the TCTO folder and contents until the TCTO is rescinded and ensure the correct TCTO status is reflected in the MIS.

5.50.3.4. All scheduling, tracking, and day-to-day monitoring of TCTOs is accomplished by the responsible scheduling function (that is, PS&D or EM). PS&D periodically reviews the TCTO status report ensuring accurate data entry by other scheduling functions. Where errors are detected, PS&D advises the affected scheduling function and provides assistance in their correction.

5.51. Control and Transfer of TCTO Kits. When transferring equipment with outstanding TCTOs, transfer the applicable TCTO kits with the weapon system or equipment. Engine TCTO kits are maintained for aircraft installed engines on aircraft at depot locations if the engine is returning to that unit for TCTO compliance. Detailed guidance for the transfer of TCTO kits is contained in AFMAN 23-110, TO 00-5-15, and TO 00-5-1.

5.52. Interim TCTO Status Reporting. HQ AFRC may direct daily or weekly manual status reporting on TCTOs when the normal frequency of mechanized status report does not meet HQ AFRC needs for status monitoring.

5.53. Time Change Items (TCIs). PS&D has the responsibility for monitoring and consolidating projected time change needs (AFTO Form 223 or MIS). Use forecasts to make sure time change components are available before the forecast due date. PS&D is responsible for forecasting only those selected items specifically identified in TOs 00-20-9 applicable commodity TOs, and the aircraft -6 TO. PS&D is responsible for the following TCI actions:

5.53.1. Forty-five days before the required month, PS&D forecasts all items requiring time change in the applicable MIS. Additionally, PS&D provides required information to decentralized supply sup-

port. Munitions items are forecast in the MIS no earlier than 60 days but no later than 45 days before the beginning of the month in which the item is required. Forward only AF Forms 2005 to FK/FV supply. The AF Form 2005 includes the forecast date the item is to be changed. Units using the SBSS module of the MIS follow procedures in the applicable MIS user manuals/guides. EXCEPTION: Service limits of life sustaining components cartridge actuated device/propellant actuated device (CAD/PAD) items will not exceed service limits. However, units should schedule these items for replacement at the nearest scheduled inspection prior to expiration of service life established in applicable series technical orders.

5.53.1.1. Decentralized supply support/materiel control/FK/FV supply notifies PS&D when parts are available. PS&D schedules the TCI in the MIS and incorporates it in the weekly maintenance plan.

5.53.2. Upon completion, PS&D reviews the data entered by the performing workcenter and updates the suspense validation in the MIS.

5.53.3. For CAD/PAD, life sustaining items identified in the aircraft -6 TO and/or applicable commodity TOs, PS&D creates a job standard (JST) number for either the date of manufacture (DOM) or the date of installation (DOI), whichever applies, and coordinates with egress, survival equipment, and Life Support on the overall management of their TCIs. Only the JST number (DOI or DOM) that comes due first is loaded against a specific part/serial number.

5.54. Aircraft Configuration Management (ACM). ACM provides unit managers the capability to determine the actual versus approved configuration of an aircraft. The intent of the configuration management subsystem is to ensure selected serially controlled and/or TCI are properly loaded to the applicable MIS data base. Of major concern are accurate, approved part numbers, quantity per assembly/application (QPA), and next higher assembly (NHA) by work unit code. PS&D has overall responsibility for the aircraft configuration management subsystem of MIS. Specific responsibilities are defined below:

5.54.1. PS&D develops guidance assigning responsibilities to specific work centers for updating/correcting the MIS data base. When assigning these responsibilities, consideration is given to which agency performs remove and replace actions for the configured item, (that is, the Egress shop has the responsibility for CAD/PAD items, while flight line avionics has the responsibility for tracked LRUs, etc.). Additionally, this guidance establishes procedures to ensure configuration data is maintained during routine maintenance actions.

5.54.2. The actual/approved configuration is discussed during all aircraft pre-dock meetings. Items identified as out of configuration are verified during the inspection. All items out of configuration are verified during every periodic, phase, or isochronal (ISO) inspection. The verified data is provided at the postdock meeting and corrected in the MIS by the responsible work center.

5.54.3. Analysis and data base management section is responsible for the initialization and subsequent modifications of the approved configuration tables pending prior approval from HQ AFRC/LGM or the aircraft system program office (SPO) as applicable.

5.54.4. When a tracked item is installed with an Air Force part number that is not on the approved configuration table, the maintenance technician notifies data base management section. Data base management section informs HQ AFRC/LGM of the disparity. HQ AFRC/LGM researches and, upon validation, authorizes the data base management section to add the new part number to the approved table in MIS data base. Prior approval to modify the configuration table is not required if

the change is the result of a TCTO, however HQ AFRC/LGM is notified of the change via message, referencing the old data vice the new data and the TCTO number.

Section 5D—Logistics Training Management

5.55. General. The objectives of the logistics training management program are to accurately determine the units group aircraft maintenance and logistics AFSC training requirements, obtain the resources necessary to accomplish required training, and manage the unit program. Whenever possible, accomplish training away from the production environment to eliminate distractions. Training management ensures well planned specialty training and qualifications programs are established for assigned aircraft maintenance and logistics AFSCs. The training management section also assists squadron commanders and their designated training managers in coordinating and scheduling training requirements. Training performs the following:

5.55.1. Development and application: Assists in the development of upgrade and special qualification training programs.

5.55.2. Training administration:

5.55.2.1. Administers the upgrade and qualification training programs for aircraft maintenance and logistics AFSC personnel as required.

5.55.2.2. Coordinates requests for formal training, publishes class schedules, and maintains the applicable Management Information System (MIS) training subsystem.

5.55.2.3. Provides assistance to resolve training problems.

5.56. LogisticsTraining Section Responsibilities:

5.56.1. Serves as liaison between aircraft maintenance and logistics AFSCs and the Base Training Office, ensuring upgrade training and qualification training programs are conducted according to AFI 36-2201 and AFI 36-2232.

5.56.2. Acts as the single point of contact for all training matters affecting aircraft maintenance and logistics AFSCs.

5.56.3. Establishes procedures for controlling and maintaining multimedia programs and associated equipment, to include Computer Based Training Systems (CBTS).

5.56.4. Develops and annually reviews multimedia course catalog/inventory to ensure currency.

5.56.5. Properly secures and maintains CBTS (ICWTS) and related equipment in a timely manner.

5.56.6. Maintains supporting documentation for any approved reconfiguration of the CBTS.

5.56.7. Establishes a monthly training schedule that will not adversely affect the maintenance production effort, but will ensure the availability of personnel, facilities, and training devices to accomplish training requirements.

5.56.8. Coordinates training schedules and requirements with affected agencies.

5.56.9. Consolidates, schedules, and monitors AFSC training requirements for aircraft maintenance and logistics personnel.

5.56.10. Notifies the group commanders and squadron commanders of deviations to the published monthly training schedule, to include: no shows, walk ins, class cancellations, etc.

5.56.11. Coordinates requests for training conducted by field contract and Air Force Engineering and Technical Services personnel according to AFI 21-110.

5.56.12. Serves as OPR for development and control of written aircraft maintenance and logistics AFSC tests. Assigns each test a control number and secures all tests in a locked cabinet. Control access to test materials and monitors test accountability. (Tests associated with weapons load training are developed and maintained by the respective OPR.)

5.56.13. Annually coordinates and reviews local training course documents including lesson plans and tests.

5.56.14. Develops and publishes a training directive which addresses procedures for the following areas: class scheduling and MIS training subsystem products (definition, frequency to be produced, routing, distribution and updating), procedures for requesting training, personnel processing, additional local procedures, and test control procedures.

5.56.15. Submits annual screening requirement for HQ AETC initial skills, advanced, follow on, and supplemental training including training detachment (TD) and distance learning courses when directed by HQ AFRC/LGQMT or numbered air force (NAF).

5.56.16. Ensure MIS is accurate and up-to-date.

5.57. Management Information System (MIS) Training Subsystem. Training management establishes procedures to verify training completions and task qualifications before entry into the applicable MIS training subsystem. Training management also:

5.57.1. Ensures all critical tasks/special certification training requirements are identified and loaded to required personnel in the applicable MIS training subsystem.

5.57.2. Inputs additions, changes, and deletions to the training course code table and notifies affected agencies. (CAMS ONLY)

5.57.3. Develops procedures for the management and control of the applicable MIS training subsystem.

5.57.4. Loads course codes for aircraft maintenance and logistics AFSC training requirements. (CAMS ONLY) Recurring training items expire on the last day of the month training is due unless specified in other Air Force directives. Course codes for items not required by AF or MAJCOM directives are approved by the group commander or designated representative.

5.58. Scheduling Training Requirements. Training management identifies and groups personnel with similar requirements and tailors the training to meet specific needs. Training requests may be identified through a supervisor's initial evaluation, cross utilization training (CUT), training manager inputs, MIS training products, etc. Workcenter supervisors provide to training management the name and employee number of students attending subject courses. In addition, training management:

5.58.1. In the applicable MIS training subsystem, tracks requirements as determined by the group commander, workcenter supervisor, or as required by applicable directives.

5.58.2. Schedules training and ensures classrooms and instructors are available.

5.58.3. Establishes scheduled training events, either in the MIS training subsystem or as required.

5.58.4. Aircraft and equipment requirements are submitted to PS&D by the last week of the month for inclusion in the monthly scheduling plan (annex D).

5.59. Status of Training Summary. Training management provides a monthly status of training summary to the group commander to include items specified by AFRC, wing and squadron commanders as specified in AFI 21-101, and this instruction; identification and status of significant training problems and recommended corrective action; number of personnel required and qualified on special certification tasks; status of overdue training requirements; and the overall status of the upgrade training program to include the number in training by skill level and number of CDC examinations passed and failed.

5.59.1. Maintenance Monthly/Quarterly Training Summary. The wings, NAFs, and HQ AFRC are now responsible for conducting monthly/quarterly training reviews. Wing level training metrics have been identified for tracking with monthly reports forwarded to the supporting NAF not later than the 15th of each month. NAFs training technicians combine units monthly summaries and forward NAF quarterly summaries to HQ AFRC/LGQMT not later than the 15th day after the end of each quarter. We suggest all computations be performed in Excel for ease of manipulating data and creating charts for presentation. Training summaries are forwarded to HQ AFRC/LGQMT.

Section 5E—Programs & Deployment

5.60. Programs and Deployment Section. Programs and deployment is the focal point for logistics planning for aircraft maintenance and other logistics activities. Programs and deployment provides for a smooth transition from peacetime to wartime operations. This section also provides the LG/CC support in developing and maintaining programs in support of maintenance activities. It is the overall manpower, support agreements, and facilities manager for the GP/CC. It is responsible for the following:

5.60.1. Preparing a capability assessment for each tasked plan as required.

5.60.2. Reviewing and evaluating logistics capabilities (aircraft, munitions, personnel, equipment, support teams, location, facilities, transportation, pre-position assets, war consumable distribution order (WCDO), duration requirements) in relation to OPLAN requirements.

5.60.3. Evaluating OPLAN requirements with the appropriate officer/superintendents.

5.60.4. Tasking subordinate squadrons for inputs to the capability assessment, coordinating the inputs with the GP/CC; classify assessments according to AFI 31-401. As a minimum, each section consists of:

5.60.4.1. Section 1. Summarize the conditions for execution. State supported and supporting plans. State tasked UTCs, bed-down/deployment locations, required load dates, ready deployment dates, latest arrival dates, and earliest arrival dates.

5.60.4.2. Section 2. Summarize the concept of operations, the pertinent aircraft and munitions requirements, and other information involving maintenance assets (that is, enroute support teams, initial support elements, etc.). State the concept of resupply. State the availability of pre-positioned packages (PPP).

5.60.4.3. Section 3. Identify limitations to the successful implementation of each plan and related plans which might be implemented simultaneously. Include all limitations requiring resolution.

5.60.5. Briefing the assessment to squadron commanders, maintenance supervision, and others as required.

5.60.6. In conjunction with the unit security manager, ensuring unit plans personnel receive security training in communications security/operations security (COMSEC/OPSEC), classification and marking, control and accountability, destruction/emergency destruction and evacuation of classified material.

5.60.7. Assisting the senior maintenance/logistics deployment representative in site surveys.

5.60.8. In conjunction with appropriate logistics, maintenance and operations functions, reviews, maintains, and pre-plans support requirements for EWO/SIOP, contingency, and ORI plans. This includes munitions receipt, buildup, delivery requirements, pre-launch maintenance, and loading requirements.

5.60.9. Providing deployment briefings to newcomers to include all personnel assigned to logistics and maintenance functions.

5.60.10. Coordinating and providing inputs to the wing plans (XP) shop for updating the LOGMOD-B data base according to AFM 28-740, volume 2*, Contingency Operation/Mobility Planning and Execution System (COMPES)* Logistics Module - Base Level (LOGMOD-B).

5.60.11. Coordinating maintenance planning actions in support of all aircraft maintenance plans with all required activities.

5.60.12. Maintaining deployment personnel and equipment rosters. Maintaining copies of all applicable checklists required to deploy aircraft maintenance personnel and equipment.

5.60.13. Identifying procedures and coordinating with the GP/CC to ensure unit deployment managers (UDM):

5.60.13.1. Identifying qualified personnel to meet deployment commitments as specified in tasked UTCs.

5.60.13.2. Ensuring personnel readiness folders (PRF) are maintained for each member assigned.

5.60.13.3. Identifying equipment and material tasked by prescribed UTCs.

5.60.13.4. Identifying procedures for marking/packing/marshaling of tasked equipment according to AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*; AFMAN 10-401, *Operations Plan and Concept Plan Development*; and AFMAN 91-201, *Explosive Safety Standards*.

5.60.14. Monitoring and evaluating the overall maintenance readiness program. Identifying deficiencies and initiating actions to correct them.

5.60.15. Deploying a qualified UDM on all deployments of more than three assigned aircraft to provide for an effective deployment operation.

5.60.16. Providing SORTS information to the command post.

5.61. Manpower Management. The programs section monitors manpower authorizations and personnel assignments for the GP/CC and is the point of contact for manpower and manning actions in the group.

5.61.1. Manage the applicable MIS personnel subsystem, provide user training on the subsystem capabilities and output products, ensure distribution of output products to work center managers, and update the system when changes occur.

5.61.2. Ensure the UMD mirrors the authorization structure to include AFRC options and approved waivers.

5.61.3. Maintain a current copy of the group's UMPR and UMD to include applicable squadrons. Initiate and coordinate requests for changes to the UMD. The GP/CC approves requests before forwarding to the local management engineering team (MET). Proposed changes must comply with AFI 38-203, *Commercial Activities Program*, for both standard determinant factors and the establishment of additive factors. Post approved changes to the latest copy of these documents.

5.61.4. Request an analysis of personnel utilization from the analysis section for affected AFSCs when there is an indication that a change request results in an imbalance of manning or when an apparent imbalance already exists.

5.61.5. Coordinate and monitor permanent change of assignment (PCA) actions and suspense involved agencies for appropriate documentation.

5.61.6. Program periodical visits to all work centers to determine if managers:

5.61.6.1. Understand and are using available computer products.

5.61.6.2. Ensure AFSC requirements are being met.

5.61.6.3. Ensure assigned personnel are properly loaded in the personnel data subsystem of applicable MIS.

5.61.7. Ensure projected gains are equitably distributed throughout logistics and assign gains against vacant positions or projected losses to the maximum extent possible.

5.61.8. Coordinate with the analysis section to assign or change the workcenters mnemonics.

5.61.9. Monitors AFSCs which the GP/CC has designated as critical.

5.62. Support Agreements. Programs is the focal point for inputs to support agreements for the LG/ CC according to AFI 25-201, *Support Agreements Procedures*, DODI 4000.19, *Interservice, Interdepartmental, and Interagency Support* and AFRESI 10-101, *Wing Plans Procedures*.

5.63. Facilities Program Management. Programs section identifies and coordinates group facility needs; develops and forwards documents for new or additional facilities, and evaluates efficient use of present facilities.

5.63.1. Is familiar with all facilities in the maintenance complex. Maintains a facility layout for each site within the maintenance complex to include, but not limited to, building identity, usable area, function that occupies the building, number of occupants, each area within the building, and peculiar power sources.

5.63.2. Ensures new facility requirements and large modifications resulting from mission/organizational changes or assignment of new equipment are documented and forwarded through prescribed channels. In conjunction with the affected group activity and base civil engineering, develops the project documents for major construction/modifications. Coordinates on all AF Form 332, **Base Civil**

Engineer Work Request, and retains one copy of each for filing. Briefs the GP/CC on the status and priority of open AF Forms 332 prior to the facilities utilization board meeting. Monitors/coordinates telephone installation and relocation requests.

Section 5F—Financial Management

5.64. Financial Management Section. Is the resource advisor for the GP/CC for O&M/RPA funds and is a member of the Financial Working Group/Financial Management Board.

5.64.1. Analyze past and current expenses using daily computer products. Forecast expenses. Coordinate with each cost center and assess financial needs and consolidate the budgeting requirements.

5.64.2. Distribute the operating budget within the group. Coordinate the dispensing of funds with the GP/CC, managers, and other budget officials. Continuously review financial status to ensure each cost center receives equitable and necessary base-funded materials and services.

5.64.3. Monitor the status of expenses by cost center and brief unit management of unusual expenditures which may impact the unit's financial goal for the fiscal period. Inform managers on additional expenses incurred and their causes; that is, carcass charges impact to repair cycle float.

5.64.4. Brief unit management on the financial status of the group.

5.64.5. Work with all applicable agencies to identify and account for all O&M and RPA expenditures.

5.64.6. Serves as POC for the maintenance organization internal management control program. Performs annual vulnerability assessments and statements of assurances. Identifies areas that are at risk and develops corrective actions.

5.64.7. Prepare, develop, and submit budget documents, as required, for O&M/RPA operating funds, annual financial plan, and unfunded requirements. Instructions for building budgets are contained in AFI 65-601, volume 1, Budget Guidance and Procedures.

5.64.8. Identify and challenge pricing errors.

5.64.9. Determine if the work centers are effectively using resources and submitting requirements for new or advanced equipment for training in support of O& M/RPA programs.

5.64.10. Cross country and deployment/exercise preparation. Establish procedures to ensure availability of funds to support cross country aircraft repairs. Monitor and track costs and credits generated as a result of cross country aircraft repairs in order to ensure proper credits to the local O&M accounts and stock fund. Identify whether adequate funds are available for deployed operations. Establish a project fund management record (PFMR) and ORG/Shop codes with accounting and finance and supply at deployed locations prior to aircraft departing home station. Audit deployed operations, maintenance, and supply management reports to ensure proper credits and debits to the stock fund and the local O&M account. Train deployed personnel in the monitoring and posting of transactions to the AF Form 616, Fund Cite Authorization (FCA).

5.65. Cost Per Flying Hour (CPFH)/DLR Manager. The LG CPFH manager is the focal point for analysis, management, and budget preparation of the unit CPFH program, which includes depot level reparables (DLR) and flying consumable supplies. The objective of the CPFH program is to:

5.65.1. Prepare and submit financial requirements to support the CPFH program for the unit.

5.65.1.1. Use microcomputers and computer generated supply and budget products to analyze past expenses, current trends, and future requirements of the DLR systems.

5.65.1.2. Prepare unit submission to the annual Air Force Cost Analysis Improvement Group (AFCAIG) call which is used by HQ AFRC to develop the GP/CC flying hour budget for DLR and flying consumable supplies.

5.65.2. Track current program expenses and monitor status of the CPFH/DLR budget.

5.65.3. Develop methods and procedures for separating CPFH funding for DLRs and flying consumable and unit O&M funds. Methods and procedures are approved by the GP/CC.

5.65.4. Provide management a monthly status report of the CPFH program.

5.65.5. Track current CPFH operating budget to include DLRs, flying consumable supplies and obligations.

5.65.6. Track DLR cost by NRTS action, (NRTS information can be obtained from the analysis section).

5.65.7. Track current DLR cost for DIFM AWM status over 60 days.

5.65.8. Track current CPFH execution rates for DLRs and flying consumables to include reasons for significant variance from the previous month.

5.65.9. Perform staff assistance visits to ensure functional activities are effectively managing the CPFH program in the work center. (As requested by the cost center or one time a year to each cost center).

5.65.10. Determine if the work centers are effectively using resources and submitting requirements for new or advanced equipment or training in support of the CPFH program.

5.65.11. Ensure supervisors are aware of the methods and procedures for the AFCAIG process and CPFH management.

Section 5G—Supply Support

5.66. Material Supply Liaison (MSL). This function monitors the overall maintenance and supply interface, resolves supply support problems and coordinates supply related training needs. Advises maintenance managers of supply support problems regarding the maintenance efforts and recommends corrective actions. Provides dedicated supply support when warranted to maintenance production. If maintenance work center workloads do not warrant dedicated supply support, the work center personnel are trained in supply procedures. However, MSL is still responsible for the overall maintenance and supply interface. Additional guidance and procedures for supply responsibilities in aircraft maintenance units are outlined AFI 21-101 and AFMAN 23 series supply directives. In addition, the MSL:

5.66.1. Periodically visits all maintenance work centers. Identifies and recommends corrective actions on procedural or compliance problems associated with supply support, providing assistance in their resolution.

5.66.2. Identifies supply related training needs to maintenance work center supervisor.

5.66.3. Provides guidance to work center supervisors on utilization of supply management products, precious metals recovery program, shelf life management, and DIFM management.

5.66.4. In conjunction with other maintenance work centers, consolidates repair section inputs for the direct NRTS list; publishes and distributes the list to the appropriate agencies. Reviews and updates the list at least semiannually.

5.66.5. Coordinates with maintenance work centers identifying components for which there is no base level repair or diagnostic capability. Compiles a listing of these items and ensures organization section code 009DN is loaded as the repair section on the repair cycle record. Repair section code 009DN alerts maintenance technicians the component is direct NRTS and is not routed through a repair section. The last two positions (DN) are base optional, identifying the wing or organization providing the authority for direct NRTS.

5.66.6. Assists in preparing and submitting change requests for RSP authorizations. Maintains suspense file of AF Forms 1032, **WRM Spare List**. NOTE: This responsibility is normally performed by MSL when an LSM is not assigned.

5.66.7. Reviews available supply management products to manage the flow of repair cycle assets and identify potential problem items.

5.67. Logistics Supply Manager . The purpose of the Logistics Supply Manager (LSM) is to act as the staff assistant to the LG for all supply/fuels disciplines to include staff oversight of supply operations, developing training, and management of the RSP. Also, the logistics supply manager is responsible for DLR training and supply related issues for the wing/group assigned supply (2S0XX) personnel. The functions of this section perform staff assistance to the wing/group to:

5.67.1. Identify potential inspector general findings.

5.67.2. Evaluate local fuel/supply management procedures.

5.67.3. Analyze unit complaints and problems to ascertain trends and recommend required training or other corrective actions.

5.67.4. Prepare and review checklists as required to provide inputs for the supply/fuels operations of a wartime or contingency situation.

5.67.5. Analyze collected data to determine critical operational needs.

5.67.6. Provide evaluation of wing/group supply deployment procedures; identify deficiencies and provide necessary training.

5.67.7. Prepare original letters, reports, and messages in support of unit supply requirements.

5.67.8. Review and interpret Air Staff and HQ AFRC directed policy changes and develop plans for implementation.

5.67.9. Brief LG on posture and problems affecting stock fund operations and recommend corrective actions.

5.67.10. Manage the dynametric microcomputer analysis system (DMAS) which predicts combat capabilities of aircraft using operational plans, logistics resources, and performance data.

Section 5H—Maintenance Analysis

5.68. Automated Maintenance Systems Analysis (AMSA) Section . Analysis is the primary information source for the maintenance complex and is responsible for all automated maintenance systems. The term "analysis" refers to all elements of the AMSA. The AMSA is comprised of an automated maintenance systems analysis element (AFSC 2R0X1), a CAMS database manager (DBM) element (AFSC 2R0X1, or a G081 manager (AFSC 2R0X1, and 2AXXX, SEI 013 mixed). G081 management, CAMS DBM, and Analysis may be separate elements within AMSA or a single entity. AMSA functional responsibilities are centralized within the LSS and assigned personnel will be collocated. This chapter provides guidance for analysis operations. Although not all inclusive, this chapter contains analysis techniques, CAMS DBM responsibilities, and G081 management responsibilities. Small units with no analyst assigned will collect and send specified data to higher headquarters or parent wings as prescribed by headquarters, wing publications, and host/tenant support agreements. NOTE: The AMSA NCOIC will ensure all assigned personnel are fully qualified in all duties for all elements of AMSA section.

5.69. Personnel Qualifications . Analyst (AFSC 2R0X1), CAMS DBM (AFSC 2R0X1), and G081 manager (AFSC 2R0X1, and 2AXXX, SEI 013 mixed) must attend a locally determined familiarization course on at least one assigned weapon system within 3 months of initial assignment to the organization. All personnel assigned to AMSA should be familiar with the functions of maintenance units, skills and responsibilities in the maintenance organization. The 2R0X1 CDC is a good reference for basic analytical techniques.

5.70. Analysis Section Responsibilities**:**

5.70.1. Analysis is solely responsible for compiling, computing, and publishing key logistics performance indicator data for the wing and providing it to other agencies, as required. Analysis personnel must establish sound working relationships with all logistics personnel through constant communication and frequent visits to work centers. Analysis personnel should have access to all locations within the logistics group, including the MCC and flightline. AMSA is customer-oriented and will provide assistance to all logistics personnel in the area of automated systems, as well as data extraction, interpretation, and presentation. They will constantly monitor automated systems status, aircraft systems performance, and maintenance capabilities. Analysts will use the knowledge and skills taught at formal schools or learned on the job to extract data, study, analyze, manipulate, extrapolate, and present the results to managers. It is their inherent responsibility to look for trends, whether negative or positive, and inform the logistics community. Analysis will provide special studies, summaries, briefings, and presentations requested by managers in the logistics group or through accomplishment of normal duties prescribed by this instruction. Analysis will keep logistics group personnel and maintenance agencies informed of data available and any changes to reporting and/or documentation procedures. Agencies outside of maintenance may request and receive information from analysis. The following are examples, but do not limit the scope of analysis for providing information to customers: high man-hour consuming components; high failure items; cannibalized or repaired items; material and design deficiencies; attrition rates; aircraft or system reliability and capability; partial or not mission capable status drivers; and any questionable trends detected. Analysis is also responsible for the following:

5.70.2. Maintaining, monitoring, and studying current and historical data found in the various management information systems (MIS). Analyzing data and maintaining MISs are two of the major tasks of Analysis. They are charged with monitoring databases and identifying significant variations from the norm. Analysis is the primary agency for all retrieval systems used by maintenance. Analysis is

responsible for preparing and processing all background and batch retrievals. CAMS units will use the Query Language Processor (QLP) Retrieval System or Interactive Query Utility (IQU) Retrieval System. G081 units will use the Variable Information Retrieval Program (VIRP). Analysis may elect to provide the capability for selected users to write and run their own retrievals. AMSA will functionally manage G081 and CAMS and will support all tenant and satellite CAMS units loaded to their platform at the regional processing centers (RPC).

5.71. Data Integrity . Analysis is responsible for reviewing the MISs to ensure data provided to maintenance managers and supervisors is meaningful and factual. Analysis will monitor data systems for accuracy and completeness, inform the proper maintenance managers of problem areas, and help them develop procedures to correct discrepancies. Analysts will identify erroneous or missing data, mismatched coding, corrupted data, incorrect coding combinations, etc., and present these problems to the appropriate office of responsibility for correction. Analysts will not add, change, or delete information in databases for which others are responsible. The accuracy of data in these systems rests with the individuals inputting the data and their supervisors. Proper documentation procedures are in TO 00-20-2-4.

5.72. Data Integrity Program. The AMSA will oversee the data integrity team (DIT) at each unit. The charter of this group is to assure the accuracy of maintenance documentation at unit level. The main objective is to educate managers and technicians who input data on proper documentation practices. The desired outcome is to improve data integrity thereby making the MIS a viable tool for improving aircraft availability.

5.72.1. Team Composition. AMSA is office of primary responsibility (OPR). Every work center in the logistics group will have a representative (this includes operations group for ACC gained units). This representative will be a 5-level and be familiar with the weapon system. The DIT will develop a system to measure progress and a method for ensuring data is reviewed and corrected.

5.72.2. Work Center Requirements. Each supervisor will do an accuracy check daily (for the previous day) using printouts from screen #100 (CAMS) or program 8070 (G081). The accuracy check will be accomplished by marking errors and annotating corrections on the print out. The following data elements will be checked at a minimum: Work unit code (WUC), action taken (AT) code, how malfunctioned (HM) code, and when discovered (WD) code. Each MDC transaction will be checked to ensure coding is according to 00-20 series technical orders and reflects the proper action described in the discrepancy and corrective action narrative. Narratives should be descriptive and portray actual action accomplished. Errors found will be corrected in the applicable automated system. Once errors have been corrected, the print out will be turned in to the work center representative who will ensure all errors have been identified and corrected, and provide assistance, if needed, to accomplish corrections. The maintenance officer or equivalent will perform the following accuracy check daily. AFI 21-103 status reporting, using printouts from screen #459, option 3 (CAMS), or program 8020 (G081). This product will be checked to ensure maintenance and condition status codes reflect current status of each aircraft. WUCs will be checked to ensure the actual component causing status condition is being reported. Entries found in error will be annotated and corrected by coordination with the DDS/production superintendent.

5.72.3. AMSA Requirements. The analyst assigned as the DIT leader will review all products received and validate corrections. Error data will be tracked and used for measuring unit progress. Data is not reported to headquarters; use locally to determine problem areas and educate all personnel that document in any MIS.

5.72.4. The AMSA section:

5.72.4.1. Develops procedures for the deployment of the applicable MIS related hardware and software.

5.72.4.2. Processes and maintains maintenance data. Reviews data to identify areas which require further study. (Does not include data entry)

5.72.4.3. Assists managers in the application and interpretation of maintenance data. Provides forecast factors to unit as required.

5.72.4.4. Establishes according to TO 00-20-2 unit work center and MNEMONIC Codes. Publishes written guidance to control these codes. Coordinates new or revised MNEMONIC codes with affected activities for planning purposes.

5.72.4.5. Analyzes equipment performance to identify problems affecting unit mission.

5.72.4.6. Ensures timely submission of data to meet AFRC RCS suspense and ensures the validity of data submissions.

5.72.5. Managers and work center supervisors need to know their repair capability (TO 00-20-3). Analysis will monitor this program and provide capability rates or trends to Logistics managers at least monthly.

5.72.6. Analysis also provides information to programs and mobility to support manpower studies.

5.72.7. Analysis will develop attrition factors for each assigned MDS annually and provide it to maintenance scheduling.

5.73. Maintenance Analysis Referrals. Referrals are management aids for identifying, investigating, and correcting maintenance problems. They are used only when deemed necessary to effect a permanent solution to a problem that cannot be resolved by other means. Referral reports must be concise, accurate, and timely to provide maintenance managers with the required information for making decisions. Referral reports are used to start referral procedures and document corrective actions for future reference. Because of the amount of time necessary to research and properly process referrals, care should be taken to ensure formal referrals are not used for problems that can be resolved through verbal or informal communications. The unit commander decides if a problem should be formally referred or resolved in a different way. Maintenance referrals are not determined by a quota system. Referrals may be initiated by anyone within Logistics by using AF Form 2422. Submit AF Form 2422 for determining qualifications of a request. If a referral is deemed necessary, the form is sent to the Quality Assurance Section for action. Deficiency Analysis (DA) receives the form and documents the referral using a locally developed log book containing, as a minimum, date received, number of the referral, description of the problem, OPR, and office of collateral responsibility (OCR). Quality Assurance will accomplish a preliminary investigation of the suspected problem area. When a problem is specifically identified for resolution, the referral and other investigative data are sent to the appropriate maintenance supervision for review and action. The report summary may be routed to appropriate action agencies for additional investigation, and recommendations, if required. If the report is routed, action agencies will document the AF Form 2422 with their investigation results and recommended corrective actions and return the report to the Quality Assurance Section. The Quality Assurance Section will ensure all problems are sufficiently investigated, identifying specific causes and ensuring proper corrective actions are established. A copy of the completed AF Form 2422 will be routed to affected agencies for implementation. If a problem cannot be resolved or

the affected agency disagrees with the corrective action, the referral documentation, with appropriate attachments, is sent to the group commander for review and action. DA keeps a file copy of all completed referral reports.

5.74. Management Information Systems (MIS) . AFRC MISs consist of reliability and maintainability information system (REMIS), CAMS, and G081 and future data management systems. To ensure the usefulness of the MIS, maintain the integrity of the database. Specific instructions for maintaining the MIS are in the applicable user manuals/guides:

5.74.1. The MIS architecture interfaces with the standard base supply system (SBSS) at base level.

5.74.2. The AMSA has overall responsibility for system database management. Other work centers throughout the organization manage particular applications and functions applicable to their work center.

5.74.3. Requests for hardware configuration and software changes are reviewed prior to proposals being presented to the configuration control board (CCB) . The request are then coordinated and submitted through command channels according to the applicable MIS user manual procedures.

5.74.4. The AMSA section assists MIS users in developing procedures for collecting information from deployments/ exercises where MIS capability is not available. Options available are: use a compatible modem and microcomputer to interface with the applicable MIS via commercial telephone lines; or accumulate documentation on hard copies of MIS screens for input by work centers upon return to home station or mail delivery for extended deployments.

5.74.5. Develop procedures and act as the prime agency for reporting all suspected MIS hardware failures. If failures are reported, determine whether or not an operator error or hardware break has occurred. This responsibility may be decentralized.

5.74.6. Act as the POC for the equipment custodians for MIS devices, printers, and associated hardware and software. Sub-accounts can be established. This responsibility may be decentralized.

5.74.7. Monitor and control proposals or requests for additional or relocation of MIS hardware.

5.74.8. Issue user IDs and passwords to subsystem monitors or work center supervisors. Managers ensure personnel are proficient on terminal and printer operations prior to issuing them a system password. Subsystem OPRs or work center supervisors provide training on specific MIS subsystems. Work center training includes:

5.74.8.1. Resolve MIS problems beyond the capability of the users.

5.74.8.2. Control and distribute MIS products as necessary.

5.74.8.3. Ensure shift coverage in the data base management section is sufficient to meet the needs of the majority of system users.

5.74.8.4. When applicable, coordinate with subsystem managers, tenant users, and remote job entry terminal (RJET) sites on monthly maintenance of the CAMS data base. A schedule should be produced to allow the least impact on other system users.

5.74.8.5. Ensure proper use and distribution of the CAMS data base fix keys provided by HQ AFRC/LGQRI.

5.74.8.6. Maintain an up-to-date master copy of all publications pertaining to MIS policies, procedures, and programs. Ensure changes are briefed to all users.

5.75. CAMS DBM Responsibilities . The CAMS DBM will make sure each tenant CAMS unit and satellite CAMS units have access to the CAMS database and provide assistance upon request in solving all CAMS related problems. The host DBM is the sole source of coordination with the data processing center (DPC) or regional processing center (RPC) on all matters concerning CAMS. The host must ensure the DPC or RPC fully supports all requirements concerning the operation and maintenance of CAMS. The AMSA NCOIC, civilian in-charge, or OIC will ensure the host and tenant DBM responsibilities are contained in the local host/tenant agreement. Units will coordinate CAMS matters with higher headquarters as required. As a minimum, DBMs should attend an in-residence DBM course and, be thoroughly familiar with the CAMS operating environment and support programs used to maintain the database. The DBM is responsible for the following:

5.75.1. Programs. Develop local procedures governing the processing of all background and batch programs. Long running programs or any program that uses considerable system core should not be run during system prime-time unless coordinated through the local DPC or RPC. The DPC and RPC can produce a system validation table that lists valid transaction identification code (TRIC) for CAMS along with various parameters for each program, such as maximum running time, etc.

5.75.2. Schedule. Identify all routine reports and programs. Implement a schedule for processing.

5.75.3. Down-time. Coordinate scheduled system down-time with users to determine the best time to process programs or perform other database or hardware maintenance, such as preventive maintenance (PM), that will require the system to be off-line.

5.75.4. Monitoring Reports. Develop local methods for monitoring outgoing reports that are processed through the automatic or manual address system for recovery or retransmission purposes. The host DBM is responsible for ensuring the following reports and programs are processed each month according to AFCSM 21-571, volume 2*, Core Automated Maintenance System (CAMS):*

5.75.4.1. Engine Status Reporting Update (TRIC ESU). This must be the first transaction processed each month. All CAMS users will be locked out until ESU processes.

5.75.4.2. Monthly Man-Hour Summary (TRIC WAH). Process this program on the first calendar day of the month. It updates the new months assigned and available man-hours, produces a man-hour report for the previous month, and allows MPR transactions to process.

5.75.4.3. Delete History (TRIC DLH). This program removes status history and completed events from the database. DLH will be processed monthly for each gang active on the database, retaining not more than 120 days of history in the database.

5.75.4.4. Job Data Documentation (JDD) Delete History. This program transfers JDD history data from disk to tape. SHM will be processed monthly for each gang active on the database, retaining no more than 6 months of history on disk.

5.75.4.5. Difficulty Reports (DIREP). The DBM will determine whether a CAMS system problem can be corrected by the unit or must be referred to the Standard Systems Group (SSG) according to AFCSM 21-556, volume 2, *Core Automated Maintenance System Users Manual*. DBMs will maintain the most current copy of the worldwide DIREP listing and reference it before troubleshooting program errors.

5.75.4.5.1. When it is determined that the problem cannot be corrected at the local level and the problem has not been previously identified by an AF Form 1815, Difficulty Report (DIREP) Worksheet, the DBM will document the details of the problem and submit a DIREP according to AFCSM 21-556, volume 2.

5.75.4.5.2. Ensure all subsystem monitors are aware of applicable software problems identified in the DIREP listing.

5.75.4.5.3. Advise subsystem monitors on system advisory notices (SAN) and Heads Up Messages (HUMS) that might affect the operation of their subsystem and give them guidance on using and interpreting them.

5.75.5. Changes or Additions. The host DBM is OPR for local evaluation of AF Form 3215, **C4 Systems Requirement Document**, submitted for changes to CAMS from their unit or any tenant users. CSRDs will be submitted to request changes or added capabilities to CAMS according to AFI 33-103, *Requirements Development and Processing*, AFI 33-104, *Base-Level Planning and Implementation*, and AFCSM 21-556, volume 2. The user will identify requirements for a change in general, functional terms by documenting what is to be done rather than how to do it. Requirements should not be fragmented to circumvent any established level of approval for the CSRD. With the DBM's assistance, actions are taken to document the requirement, validate the need, and develop a technical solution. The DBM must thoroughly investigate and validate the requirement prior to submission to HQ AFRC. HQ AFRC/LGQ validates all CAMS CSRDs and forwards them to HQ SSG for consideration by the Function Requirements Board (FRB).

5.75.6. Control Access. DBM will control the number of terminals that can access the CAMS database and assign primary and alternate remote identifiers (ID) and transaction identification code (TRIC) security using the MIK TRIC as outlined in AFCSM 21-571, volume 2, *CAMS Database Management*. DBM monitors and controls all transaction interface processor (TIP) passwords and access levels of all DEMAND passwords issued to functional users. Terminal usage can be monitored using Transaction Monitoring and Analysis System (TMAS) reports obtained from the local DPC or RPC. Develop methods preventing unauthorized use of CAMS equipment and data within the purview of the Privacy Act (AFI 37-132, *Air Force Privacy Act Program* and AFSSI 5100, *The Air Force Computer Security (COMPUSEC) Program*). Ensure proper control of CAMS User IDs and passwords.

5.75.7. Database Maintenance. Host DBMs should schedule or run the following programs with the system off-line as stated, or as required, to ensure the integrity of the CAMS database:

5.75.7.1. Ensure a database save is accomplished daily for each gang that is active on the database. It is highly recommended that a database save be done prior to correcting database problems concerning pointer or CALC errors, or requiring the use of Data Base Editor (DBE), NDA500, or QLP/IQU with update.

5.75.7.2. Process program NDA500 once each month during scheduled downtime for early detection of pointer errors or whenever pointer errors are suspected in the database. This program also creates "database patches" in a file that must be executed from the data management routine (DMU) to correct any errors that were detected. If NDA500 fails to resolve a database problem, contact the Standard Systems Group (SSG/FAB) Field Assistance Branch (SSG/FAB).

5.75.8. Data Management Utility (DMU). It is recommended that this program be used to verify and fix errors in the database when the program NDA500 is unsuccessful. Use Data Base Editor (DBE) to

build the DMU patch and apply the patch using DMU. However, coordination with the local DPC or RPC is required before using this program.

5.75.9. QLP or IQU with Update. These programs can also be used to correct database errors, to include specific data items in a record. The use of these programs should be coordinated with the local DPC or RPC before use.

5.75.10. CAMS Downtime. Contact HQ AFRC/LGQRI if you are having downtime problems (known or estimated) that will last 72 hours or longer. Refer to AFCSM 21-556, VOL2, for specific guidelines on scheduled system downtime.

5.75.11. CAMS Recovery. Recovery procedures will be established at the local level (maintenance operating instruction (MOI), LSS commander or LG/CC policy letter, etc.). Procedures will address all responsibilities and staff or work center functions for tracking and updating the database when the system comes back on-line. The DBM should closely coordinate with DPC or RPC personnel during a system recovery. All unique recovery procedures for each MIS program and routine are covered in AFCSM 21-556, volume 1, *Core Automated Maintenance System*. Additional database and transaction recovery procedures can be found in AFCSM 21-571, volume 2.

5.75.12. Reliability Maintainability Information System (REMIS). Data from CAMS flows to the REMIS database via defense data network (DDN) under the recovered functionality, phase II (RECFU II) program. The DBM will ensure this data flows smoothly and consistently. The following actions must be accomplished according to AFCSM 21-571, volume 2:

5.75.12.1. Ensure REMIS pushdown tables loaded on the database are the most current. Responsible for the initialization and subsequent modifications of the approved configuration tables pending approval from HQ AFRC/LGQ or the aircraft systems program office (SPO), if applicable.

5.75.12.2. Check screen #877 daily for REMIS errors and coordinate with appropriate agencies to ensure all inventory, status, and utilization errors are corrected.

5.75.12.3. Check screen #881 to ensure KRE (incoming files) and KFS (outgoing files) have been created and processed with the date and time stamp. Zeros in these fields indicate a data flow problem. Coordinate with HQ AFRC/LGQRI to resolve these problems.

5.75.12.4. Check screen #690 daily for errors in Generic Configuration Status Accounting System (GCSAS). The G081 manager will coordinate with appropriate agencies to ensure errors are corrected.

5.75.13. G081 Management. This function has 2AXXX (SEI 013) and 2ROX1 personnel assigned. All units using G081 will establish a functional management element. General responsibilities include coordinating the overall use and development of G081 equipment and programs within the maintenance complex and management of the system to meet unit and AMC requirements. Personnel selected by the LG/CC or LSS commander to fill this element position should have in-depth knowledge of G081 and equipment operation. The G081 management element is responsible for the following:

5.75.13.1. Developing and maintaining an MOI for local management of G081, which as a minimum contains:

5.75.13.1.1. Unique unit requirements that provide for enhanced local management of resources (for example, ribbons, paper, etc.).

5.75.13.1.2. Contingency plans for support of critical areas during extended computer downtime.

5.75.13.2. Assisting agencies within the maintenance complex to better utilize G081.

5.75.13.3. Maintaining an up-to-date master copy of all publications pertaining to G081 policies, procedures, and programs. Ensuring changes are briefed to all users.

5.75.13.4. Ensuring integrity of the database is maintained by limiting user access to authorized work centers and personnel.

5.75.13.5. Maintaining an accurate listing of equipment locations, L-terms, and related access codes.

5.75.13.6. Maintaining a listing of which terminals can access what programs.

5.75.13.7. Assisting HQ AMC/LGQA in assigning and maintaining work center codes and mnemonics.

5.75.13.8. Acting as approval agency for the LG/CC or LSS commander on program 8033 off-base messages.

5.75.13.9. Maintaining an up-to-date list of all authorized copies of G081 access software to include authorized copies and copies in use.

5.75.13.10. Trouble Reporting. G081 management is the primary point of contact (POC) for reporting all G081-related problems. Trouble reporting is directed to G081 management element.

5.75.13.11. Coordinate with HQ AFRC/LGQRI and NAF personnel concerning hardware and software problems.

5.75.13.12. Ensure all G081 users are informed of downtimes scheduled for preventive maintenance.

5.75.13.13. Provide users the status of unscheduled downtime.

5.75.13.14. Ensure database quality and periodically examine the files to ensure data is meaningful and factual. The accuracy of input rests with the individual initiating the input. Errors are sent to the proper maintenance supervisor and staff function for correction.

5.75.13.15. Provide specialized functional or work center training to ensure computer competency at the user level. Coordinate training requirements with the Logistics Training Management Section.

5.75.13.16. Assist maintenance activities in proper application and interpretation of G081 technical publications.

5.75.13.17. Ensure a quality database is maintained via adequate and complete automated forms documentation (for example, discrepancy tracking, CANN tracking, MDC close-out, and personnel certification).

5.75.13.18. Troubleshoot and, if possible, solve G081-related problems beyond the capabilities of the functional users. If solving the problem is beyond G081 management capability, identify the problem to HQ AFRC/LGQRI and NAF for corrective action.

5.75.13.19. Ensure G081 users are aware of problems and corrective actions relating to G081.

5.75.13.20. Ensure G081 programs (8000-9000 series) are available to applicable users for output of information. Each base has specific data requirements as defined by the GP/CC or LSS commander. To accommodate these requirements, G081 provides the capability to retrieve information by building unique output products.

5.75.13.21. Coordinate with the LG/CC or LSS commander and applicable staff organizations on matters concerning interface with associated systems at base level, as directed by HQ AMC/LGQ and HQ AFRC/LGQRI.

5.75.13.22. Be responsible for loading of real time (8000-9000 series) programs for each device in the maintenance complex as requested by each user (use program 9057).

5.75.13.23. Coordinate with all maintenance areas on changing existing programs, developing new programs, and any overall G081 changes.

5.75.13.24. Act as the central point of contact within the maintenance complex for all data retrieval programs (applicable variable information retrieving program (VIRP), FOCUS, and information management system (IMS) batch.

5.75.13.25. When requested, build, test, and maintain standardized job control language (JCL) program 9029 as defined by the "HELP" Screen (Program 9051) of the respective program.

5.75.13.26. Work with all organizations to ensure effective use of the product improvement reporting portion of G081. This area should be tracked for trend analysis to identify the correlation between high failure items and action taken by AMC to repair or address these areas.

5.75.14. Maintenance Performance. A prime interest to managers is how well the unit is meeting the requirements of the flying and maintenance schedules. Maintenance performance is compared with standards, goals, and maintenance plans. The maintenance scheduling effectiveness rates are good data sources for making these comparisons. When the operational requirements have not been met, an investigation should be accomplished. The investigation should include affected work centers and a solution should be reached. If a solution is not reached then the findings should be recorded on a AF Form 2422 to determine the cause and find a solution. Work centers may give inputs to analysis for possible referral action. The following are some areas which may be considered:

5.75.14.1. Are operational requirements realistically based on availability of equipment?

5.75.14.2. What caused chargeable deviations from the flying schedule (cancellations, aborts, or early/late takeoffs)?

5.75.14.3. Do specific aircraft, equipment, systems, or subsystems contribute to a disproportionate share of deviations?

5.75.14.4. Are certain equipment types failing to perform as scheduled? Does this equipment require more or less maintenance than others?

5.75.14.5. Are there enough people to meet mission needs?

5.75.14.6. Is the demand placed on supply being handled in a timely manner?

5.75.15. Equipment/Mission Analysis. When trends are identified, further investigation may be necessary. QA, unit managers, and work center technicians may be contacted for assistance in performing these investigations. Consolidate the results in the form of briefings or interim reports, depending upon the seriousness of the trend. These reports are indications of the units ability to keep equipment in a ready status. Consider the following questions when reviewing trends:

5.75.15.1. Which systems are creating a higher or lower than normal rate as indicated by unusual NMC time, cannibalization, MTBF, etc.?

5.75.15.2. What factors are causing an increase or decrease in the rate (supply support, improper troubleshooting, etc.)?

5.75.15.3. Are specific aircraft or equipment causing trend distortions?

5.75.15.4. What systems are having high CND or repeat malfunctions?

5.75.15.5. Can the items be repaired on station?

5.75.15.6. Is the lack of training, technical data, or tools and equipment affecting certain systems?

5.75.16. Base Repair/Intermediate Repair Enhancement Program (IREP) Program. Analysis of the maintenance portion of the base repair and intermediate repair enhancement program may provide supervisors with the data needed to determine work center repair capabilities. Monitoring and evaluating the program is an important function of the analysis and data base management section. TO 00-20-3 contains information necessary for computing repair rates.

Section 5I—Transportation (when applicable)

5.76. Transportation Section . The transportation section is the focal point for all vehicle operations, traffic management, and vehicle maintenance matters. The purpose of the transportation section is to provide unit transportation support to meet any transportation requirements to mobilize, deploy, and sustain combat forces. Aircraft cargo pallet/net monitoring responsibilities are outlined in AFI 24 Series Instructions.

5.76.1. Vehicle operations is responsible for the allocation of vehicles among the wing/groups and provide temporary replacement vehicles according to AFI 24-301, *Vehicle Operations*, 24-302, *Vehicle Maintenance Management*, and established priorities.

5.76.1.1. Interprets technical data, instructions, and policies. Provides staff level guidance pertaining to transportation issues.

5.76.1.2. Coordinates between host vehicle maintenance and the owning work centers to schedule vehicles for inspections, repairs, and modifications.

5.76.1.3. Coordinates with the vehicle decontamination team as to vehicle priority.

5.76.1.4. Consolidates and provides quarterly budget inputs and requirements of vehicle maintenance and traffic management to the budget office.

5.76.1.5. Coordinates unit vehicle authorizations, distribution, and disposal with base agencies and higher headquarters. Submits annual vehicle priority according to unit needs.

5.76.1.6. Monitors unit drivers training and license issues as well as lesson plan development.

5.76.1.7. Develops unit guidance which, govern transportation functions and implements HHQ directives.

5.76.1.8. Compiles and submits transportation SORTS report. (When UTC tasked.)

5.76.2. Vehicle maintenance is responsible for inspection, repair, and modification of vehicles according to AFI 24-302.

5.76.3. Traffic management is responsible for developing and directing local procedures and training of packaging specialists, passenger and household goods specialists and traffic management personnel. The traffic management supervisors are responsible to ensure a specific number of traffic management personnel are hazardous cargo certified. The number of specific traffic management personnel is established according to AFI 10-201, *Status of Resources and Training System*. Certified personnel may provide training to non 2T0XX personnel. Manages unit 463L pallet and net program. Submits pallet and net report quarterly to HHQ.

Section 5J—Contracting Section (when applicable)

5.77. Contracting Section . The purpose of the contracting section is to serve the LSS commander with efficient management and technical direction on all matters pertaining to contracting.

5.77.1. Responsible for planning, organizing, and providing technical guidance to the staff to ensure operational capability and effectiveness.

5.77.2. Plans and establishes priorities, schedules suspense, and reviews work of contract personnel.

5.77.2.1. Serves as the focal point for all contractual issues.

5.77.2.2. Ensures implementation of higher headquarters directives.

5.77.2.3. Provides status/technical briefings to the LSS commander and other managers as required.

5.77.2.4. Ensures timely and qualitative response to all correspondence.

5.77.2.5. Visits the job sites for purpose of determining job progress and contracting responsiveness.

5.77.2.6. Serves as a member of the financial working group and facilities management boards.

5.77.3. Establishes and maintains files on unit contractual matters.

5.77.4. Exercises complete technical independence and commensurate authority to negotiate and make commitments on behalf of the organization.

Chapter 6

SPECIAL PROGRAMS

Section 6A—Impoundment of Aircraft/Equipment and Aircraft Involved in Explosive Mishaps

6.1. General. AFI 91-204, *Safety Investigations and Reports*, defines aircraft mishaps and establishes procedures for reporting such occurrences.

6.2. Impoundment Terms:

6.2.1. Impoundment/Release Authority. The GP/CC or designated representatives have authority to impound aircraft. The GP/CC or designated representative is final release authority for aircraft and equipment impoundment.

6.2.2. Impoundment. Intensified aircraft management due to system or component malfunction or failure of a serious or chronic nature. Immediate aircraft/equipment isolation and controlled personnel access is required.

6.2.3. Impoundment Officer/Senior NCO. Individual appointed by the GP/CC who is responsible for investigating impounded aircraft/equipment.

6.2.4. Investigating Officer/Senior NCO. Individual appointed by the GP/CC to investigate an inadvertent release or explosive mishap.

6.2.5. Authorized Personnel. Individuals directly involved in the management, safing, troubleshooting, or repair of an impounded aircraft.

6.2.6. Isolation Area. Area designated by the GP/CC to locate impounded aircraft/equipment. Select an isolation area away from areas of normal maintenance activity in order to permit uninterrupted, extensive repair/troubleshooting of the aircraft/equipment. Aircraft may be isolated on the flightline. Aircraft impounded on the flightline or in a hangar are highlighted using cones, ropes, or placards.

6.3. Impoundment Procedures:

6.3.1. Impound aircraft/equipment:

6.3.1.1. Following an aircraft mishap as defined in AFI 91-204.

6.3.1.2. When the GP/CC determines extraordinary measures are required to ensure the safe operating condition of a specific aircraft/equipment.

6.3.1.2. (944FW) QA personnel will investigate F-16 aircraft, jet engines, or equipment for possible impoundment under the following conditions:

NOTE: (Added) Interim Change 00-2 to AFI 21-101 created AFI 21-101, **Chapter 9**. AFI 21-101, **Chapter 9** supersedes all impoundment requirements of AFRCI 21-101. The following local impoundment procedures supplement AFRCI 21-101 by adding requirements. These additional requirements do not conflict with either AFI 21-101 or AFRCI 21-101.

6.3.1.2.1. (Added-944FW) Loss of control.

6.3.1.2.2. (Added-944FW) Uncommanded and or inadvertent firing of Emergency Power Unit.

6.3.1.2.3. (Added-944FW) Uncommanded nose wheel steering inputs.

6.3.1.2.4. (Added-944FW) Major engine component failure.

6.3.1.2.5. (Added-944FW) Accident/structural damage/fire.

6.3.1.2.6. (Added-944FW) Inadvertent gun firing.

6.3.1.2.7. (Added-944FW) Lightning strike.

6.3.1.2.8. (Added-944FW) Aircraft throttle bindings

6.3.1.2.9. (Added-944FW) Aircraft braking/anti-skid system problems.

6.3.2. Impound an aircraft by entering a Red X symbol and the reason for impoundment on the AFTO Form 781A.

6.3.2. (944FW) Reference the page and block number for the original discrepancy in the impoundment discrepancy block. Enter a red dash (-) symbol in the next open block of the AFTO Form 781A and in the discrepancy block enter "Investigation to be conducted by the impoundment official prior to release for maintenance."

6.3.3. Control and limit access to impounded aircraft/equipment and historical records.

6.3.4. The impounding authority limits maintenance on impounded aircraft/equipment to those actions required to locate and correct the impoundment discrepancy. Document authorized actions in AFTO Form 781A.

6.3.5. The GP/CC appoints an impoundment officer/senior NCO to manage the impounded aircraft/equipment. Enter the impoundment official's name on the AFTO Form 781A or equipment form.

6.3.5.1. (Added-944FW) QA will automatically become the interim impoundment official. The QA NCOIC or representative will accomplish this.

6.3.6. The impoundment officer/senior NCO determines if maintenance analysis support is required.

6.4. Responsibilities. GP/CC develops written procedures for aircraft/equipment impoundments. As a minimum:

6.4.1. Designate the impoundment officer/senior NCO as the single point of contact for impounded aircraft/equipment. The impoundment officer/senior NCO ensures only authorized personnel have access to the impounded aircraft/equipment.

6.4.2. List specific actions required during impoundments.

6.4.2.1. (Added-944FW) . Impoundment Official will:

6.4.2.1.1. (Added-944FW) If appropriate, ensure all recoverable stored data is collected prior to aircraft system operation.

6.4.2.1.2. (Added-944FW) Review the AFTO Form 781 series forms and historical document file for maintenance history. Sign off and initial the red dash symbol in the "Investigation to be conducted…" block after the forms review.

6.4.2.2. (Added-944FW) QA will:

6.4.2.2.1. (Added-944FW) Continuously monitor and provide technical assistance to the impoundment team members during troubleshooting and or repair actions.

6.4.2.2.2. (Added-944FW) Ensure either the OG/CC or LG/CC is informed of all significant findings.

6.4.2.2.3. (Added-944FW) Review aircraft forms and all corrective actions.

6.4.2.2.4. (Added-944FW) After corrective actions have been completed, report with the impoundment official, to the impoundment release authority for review of corrective actions. If impoundment is to be released, QA signs the "corrected by" block of the impoundment.

6.4.2.3. (Added-944FW) The 302 FSM will maintain cones, placards, or ropes for the isolation area.

6.5. Rules of Impoundment for Explosive Related Mishaps. When an inadvertent release or an explosive mishap is reported, the following procedures apply:

6.5.1. In-flight:

6.5.1.1. The aircrew operational procedures list the rules for aircrew personnel.

6.5.1.2. When the involved aircraft returns to the de-arm area or parking area, the aircraft is impounded. Limit maintenance actions to those required to make the aircraft safe. Inform the appropriate GP/CC and the wing/base safety office of the impoundment action. If the aircraft is returning to a non-AFRC base, the pilot complies with the intent of this instruction.

6.5.1.3. Investigate and report the incident according to AFI 91-204.

6.5.1.4. Park impounded aircraft/equipment in an isolated area.

6.5.2. Ground:

6.5.2.1. The senior ground crew member is in charge of the aircraft/equipment until relieved. Ensures involved persons remain at the scene.

6.5.2.2. Injured persons receive first attention.

6.5.2.3. Protect other aircraft or equipment located near the incident if an explosive hazard exists.

6.5.2.4. Do not change the position of any switches except as needed for safety. If applicable, perform the power-off look phase BPO, engine oil sampling, and fuel/oil servicing.

6.5.3. The investigating officer begins recovery actions for equipment lost in flight and prevents removal of equipment released or fired on the ground. Keep items in place until the investigating officer/NCO releases them. Photograph items prior to removal.

6.5.4. When investigating unit personnel cannot identify cause failure/malfunction, request AFMC/contractor technical assistance according to AFI-91-204. When assistance is requested, additional teardown of aircraft equipment is prohibited until authorized by the numbered air force or AFRC. If assistance is not provided in 3 days, numbered air forces or AFRC may release the aircraft for further base investigation.

Section 6B—End-of-Runway Inspection

6.6. General. This inspection is general in nature. It is designed to detect discrepancies, which may occur while taxiing to the end of runway (EOR), if applicable.

6.7. Team Composition. Teams consist of a team chief and other members. Units determine exact team composition.

6.7. (944FW) Team Composition. The team will consist of:

6.7.1. (Added-944FW) Team Chief. Air Force Specialty Code (AFSC) 2A3X3 or other qualified aircraft maintenance AFSC with a 7- or 9-skill level. The team chief acts as marshaler.

6.7.2. (Added-944FW) Team Members. A minimum of one AFSC 2A3X3 with a 5-skill level or higher. Additional members, if used, must be qualified to perform End of Runway Inspections and can be any aircraft maintenance AFSC. The team member(s) perform the End of Runway Inspection.

6.8. Equipment. Units establish procedures to manage the following minimum team equipment:

6.8. (944FW) Equipment. End of Runway equipment, composite tool kits, and technical data will be maintained by and stored in the 302 FSM Support Section.

6.8.1. Reflective vest (team chief).

6.8.2. Set of marshaling wands.

6.8.3. Wheel chocks.

6.8.4. Comm headset and ground cord.

6.8.5. Set of downlocks/safety pins.

6.8.6. End-of-runway checklist.

6.8.7. Fire extinguisher (according to EOR checklist).

6.8.8. CTK (if required).

6.8.9. Ladder (if required).

6.8.10. Minimum individual equipment for team members:

6.8.10.1. Ear protection.

6.8.10.2. Flashlight.

6.8.10.3. Reflective vest or belt for after sunset operations.

6.9. EOR Inspection Procedures:

6.9.1. Inspect in a designated area, near the end of the runway, marked by appropriate taxiway markings. Do not perform EOR checks "in the chocks".

6.9.2. As a minimum, the inspection includes the items listed in paragraph **6.11.**

6.9.3. The team chief carries end-of-runway inspection workcards and ensures each item is inspected as required. The team chief maintains visual/verbal contact with the aircrew during the inspection. If the aircraft is equipped with a ground intercom system, the team chief maintains verbal contact with the pilot as required by the -6 EOR inspection checklist. If the aircraft is not equipped with a ground

intercom system, ground control talker cards are used when communication with the pilot becomes necessary. Aircrew members are instructed to keep their hands in a position visible to the team chief during the EOR inspection.

6.10. Documentation. Document aircrew's debrief discrepancies discovered during the end-of-runway inspection and enter them on the AFTO Forms 781A.

6.11. Local Workcards. Units publish local inspection workcards for assigned and predominant aircraft when ALC end-of-runway workcards are not published. Publish local workcards according to AFI 21-101, TOs 00-5-1, 00-5-2, and this instruction. If ALC inspection workcards are not available, unit workcards include as a minimum:

6.11.1. Hand signals according to AFI 11-218, *Aircraft Operation and Movement on the Ground*, and applicable TOs.

6.11.2. Inspections are accomplished in sequence.

6.11.3. CAUTION: Beware of inlet and exhaust areas. Keep clear of movable surfaces.

6.11.4. Nose wheel area:

6.11.4.1. Tires for cuts, excessive wear and obvious under-inflation.

6.11.4.2. Struts for leakage and obvious under inflation.

6.11.4.3. Wheel well for fluid leaks.

6.11.4.4. Ensure downlock/safety pin(s) are removed.

6.11.4.5. Pressure gauges or indicator pins are within limits (if applicable).

6.11.5. Right/left side forward fuselage:

6.11.5.1. Security of doors and panels.

6.11.5.2. Evidence of fluid leaks.

6.11.6. Bottom of fuselage:

6.11.6.1. Security of doors and panels.

6.11.6.2. Evidence of fluid leaks.

6.11.6.3. Pressure gauges or indicator pins are within limits (if applicable).

6.11.6.4. Ground safety pins or locks removed (if applicable).

6.11.7. Bottom right/left wing:

6.11.7.1. Security of doors and panels.

6.11.7.2. Evidence of fluid leaks.

6.11.7.3. Safety pins removed from tanks, if applicable.

6.11.7.4. Main tires for cuts, excessive wear, and obvious under-inflation.

6.11.7.5. Strut for fluid leakage and obvious under inflation.

6.11.7.6. Wheel wells for fluid leaks.

6.11.7.7. Pressure gauges or indicator pins are within limits (if applicable).

6.11.7.8. Ensure downlocks/safety pins are removed.

6.11.7.9. Fuel tank cap secured (if applicable).

6.11.8. Top right/left wing:

6.11.8.1. Security of doors and panels.

6.11.8.2. Control surfaces in takeoff position.

6.11.9. Right/left side aft fuselage:

6.11.9.1. Security of doors and panels.

6.11.9.2. Evidence of fluid leaks.

6.11.9.3. Pressure gauges are within limits (if applicable).

6.11.10. Tail Section:

6.11.10.1. Security of doors and panels.

6.11.10.2. Evidence of fluid leaks.

6.11.10.3. Flight controls in takeoff position.

6.11.10.4. Ensure tail hook safety pin removed.

6.11.11. If aircraft is serviceable, give affirmative (all clear or "OK") signal to pilot. If aircraft is unserviceable, inform the pilot of the nature of the discrepancy. Pilot and maintenance technician decide to repair aircraft in place or return aircraft to parking area. If an emergency arises requiring engine shutdown and pilot evacuation, immediately signal the pilot and assist him or her in leaving the cockpit. Notify appropriate authorities via the fastest means possible.

Section 6C—Hot Refueling Procedures (if applicable).

6.12. General . 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. Refer to the following sources for additional guidance: TO 00-25-172, TO 00-25-172CL-4, TO 37A9-3-11-1CL-1, AFI 11-218, and AFOSH Standard 91-100, Aircraft Flight Line – Ground Operations and Activities. Units possessing A10, F16 or HH60 Combat Coded (CC) aircraft certified for Hot Refueling develop and maintain the capability to quickly and safely hot refuel assigned aircraft. NAF and unit commanders ensure compliance with this instruction. Units submit waiver requests to 10AF/LGM, 1700 Military Parkway, NAS FT Worth JRB TX, 76127-6200.

6.13. Prerequisites:

6.13.1. Units forward requests for MAJCOM certification through their numbered air force to HQ AFRC/LGM. Hot refueling is not accomplished until the location, equipment requirements, and personnel qualifications are initially certified by the AFRC Site Certification Team according to TO 00-25-172 and this instruction. The following information is required in the units written request prior to Hot Pit refueling site certification:

6.13.1.1. Proposed sites identified by coordinates on a map.

6.13.1.2. Each facility within the distances identified in TO 00-25-172, Table 4-2, must be identified as to its use/contents and its distance in feet from the refueling site/operation. Other refueling sites, aircraft parking area, etc., also need to be identified. All distances must be shown even if a violation exists. If there are no violations, state so in the request letter. Procedures such as aircraft taxi routes are also shown. Use arrows or dotted lines to show taxi direction, both entry and exit. Identify any local restrictions or waivers requested/needed to establish a hot pit refueling program.

6.13.1.3. State the type of equipment used for hot refueling (i.e., hose carts, truck, etc.); show the locations of any fixed fuel pits and the usual locations of carts or trucks as applicable.

6.13.1.4. State whether or not all hot refueling/ICT areas comply with the quantity-distance separation requirements of AFMAN 91-201 in relation to surrounding exposed sites/potential explosion sites.

6.13.2. Hot refueling requires detailed procedures be published in appropriate technical orders and unit developed checklists. Unit checklists include detailed procedures, normal and emergency, to meet requirements of the local environment. Forward unit checklists to 10AF/LGMA and HQ AFRC/LGMAF/LGSF for approval.

6.13.3. Units publish a supplement to this section and outline local procedures and additional precautions required for hot refueling, including hot refueling with ordnance, when authorized, according to TO 00-25-172. Forward unit supplements to 10AF/LGMA and HQ AFRC/LGMA/LGSF for approval.

6.14. Base Certification. Prior to initial implementation of hot refueling, units are certified by the AFRC Hot Refuel Site Certification Team according to TO 00-25-172. Certification involves training a cadre of instructor personnel and approving specific hot refueling sites.

6.14.1. After initial AFRC certification, unit commanders document, by position, a unit certification team to recertify existing hot refueling sites and to approve additional on-base and deployment location hot refueling sites. Additional unit certified hot refueling sites must meet requirements in TO 00-25-172. Unit certification team consists of the following:

6.14.1.1. Field grade maintenance officer as certifying official.

6.14.1.2. Representative from airfield manager's office knowledgeable of aircraft taxiways, parking ramp, and hot refuel safe distance requirements.

6.14.1.3. Maintenance AFSC member from the unit QA office knowledgeable of hot refueling procedures.

6.14.1.4. Safety member AFSC 1S071 or civilian equivalent with knowledge of site certification and hot refueling operations.

6.14.1.5. Fuels Management Flight member, AFSC 2F071/2F091/2F000.

6.14.1.6. Civil Engineering member, (Liquid Fuels Engineer) AFSC 3E472 or civilian equivalent, familiar with fuel systems requirements for hot refueling.

6.14.1.7. Fire Protection member AFSC 3E771 or civilian equivalent, familiar with Fire protection standby requirements in 00- 25-172 for Hot Refueling.

6.14.2. Identify unit-approved sites on the aircraft parking plan. The Base Civil Engineer, QA, and Operations Support Squadron (OSS) maintain copies of hot refueling sites on file. Forward record copies to HQ AFRC/LGM/CEOM/SEG/LGSWF and 10AF/LGMA.

6.14.3. Each unit Hot Pit Site is recertified by the recertification team, and approved by AFRC when one of the following occurs:

6.14.3.1. Change in MDS.

6.14.3.2. Change in refueling equipment.

6.14.3.3. Change in current sites.

6.14.4. Unit recertification team conducts recertification of hot refuel sites at least once every 5 years. Certifying official forward one copy of recertification certificate to HQ AFRC/LGM and 10AF/LGMA.

6.15. Hot Refueling Team Members:

6.15.1. Hot Pad Supervisor: Responsible for overall supervision of hot refueling operations when two or more aircraft are simultaneously hot refueled (multiple hot refueling). Possesses a 7-level or higher qualification in an aircraft maintenance AFSC and is hot refueling supervisor "A" member qualified or qualified flight engineer for the HH60. Fullfills duties as required in TO 00-25-172, Section VII.

6.15.2. Hot Refuel Supervisor "A" member: Hot refuel task qualified, possesses an aircraft maintenance AFSC, and 7-level or higher qualification or qualified flight engineer for the HH60.

6.15.3. Hot Refuel Crew "B" member: Hot refuel task qualified, possesses an aircraft maintenance AFSC and a minimum of a 5-level qualification or qualified aircrew member for the HH60.

6.15.4. Fuels Specialist, AFSC 2F0X1 "C" member: Hot refuel task qualified and a minimum of a five-level qualification.

6.15.5. Additional Hot Refuel Crew "D" member: Hot refuel task qualified, possesses an aircraft maintenance AFSC, and a minimum of a 5-level qualification. Use "D" members as required by applicable aircraft technical order/unit local checklist.

6.16. Capability. A10 and F16 fighter units with combat coded (CC) aircraft form a minimum of two qualified hot refueling crews.

6.16.1. Each base fuels management flight maintains a minimum of three hot refueling certified fuels specialists for each flying squadron authorized to conduct hot refueling.

6.16.2. Units maintain equipment required to perform hot refueling in serviceable condition. Establish, accomplish, and document periodic inspections according to applicable directives.

6.17. Training/Certification:

6.17.1. Conduct qualification training of hot refueling personnel in three distinct phases. Stress safety requirements, emergency procedures, and equipment inspection in all three phases of training. Procedures in TO 37A9-3- 11-1CL-1, TO 00-25-172, and 00-25-172CL-4 are taught to hot pad supervisors, refuel supervisors ("A" member), refuel member ("B" member), and fuels specialists ("C" member). Conduct all phases of training in joint sessions including 2F0X1 personnel and all mainte-

nance AFSCs. Jointly teach training sessions using both fuels (2F0X1) and maintenance AFSC instructors. Quality Assurance (QA) is responsible for overall evaluation of the program. QA is the training OPR for the program.

6.17.1.1. Phase I: "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.

6.17.1.2. Phase II: "Hands-on" phase. Apply information learned in Phase I to develop in-depth knowledge and proficiency in all facets of hot refueling. Include proper operation, preventive maintenance, use of hand signals, and emergency procedures. Training simulates hot refueling by performing all hot refueling tasks without aircraft engines running. Designated instructors demonstrate tasks, require trainees to perform tasks, practice emergency procedures, critique performance, and provide additional training as required.

6.17.1.3. Phase III: "Demonstration/Certification" phase. Actual demonstration of hot refueling under the supervision of designated instructors with aircraft engines running. QA or QA augmentees Train, Evaluate, and Certify (TEC) individuals upon successful demonstration of hot refueling.

6.17.2. The Operations Squadron Maintenance superintendent, in coordination with QA, identifies personnel as QA augmentees to train, evaluate, and certify personnel. The number of QA augmentees is a unit option. QA ensures augmentees conduct evaluations using procedures outlined in this instruction, applicable aircraft technical orders, and local procedures. QA augmentees are certified by a QA trainer/evaluator/certifier.

6.17.2.1. HH60 aircrew members are trained/certified according to 58 SOW formal school courseware.

6.18. Personnel Certification/Decertification:

6.18.1. Training/certification requirements for hot refuel team members, supervisors, instructors, and evaluators are outlined in **Table 6.1.** HH60 aircrew member currency is maintained according to AFI 11-2HH60.

6.18.2. Document training/proficiency for personnel performing, evaluating, supervising, or instructing hot refuel operations as follows:

6.18.2.1. Document all aircraft maintenance and 2F0X1 personnel Phase I, II, and III initial training in the Job Qualification Standard (JQS). For AFSCs where "refuel aircraft with engines operating" is not contained in the JQS, use AF Form 797, to document initial hot refuel training. Track recurring hot refuel certification in MIS.

6.18.2.2. Enter, by position, all personnel qualified to perform hot refueling on AFRC Form 176.

6.18.2.3. AFSC 2F0X1 personnel use AF Form 1098, Special Task Certification and Recurring Training, to document Phase I, II, and III initial and recurring hot refuel training. For TSgt and below, file AF Form 1098 in individual's AF Form 623.

Table 6.1. Hot Refueling Training/Certification Requirements.

TO MAINTAIN CERTIFICATION					
POSITION	REQUIRED TRAINING	CONDUCTED BY WHOM	DO WHAT	HOW OFTEN	SPECIAL REQUIRE-MENTS
QA T/E/C	I, II, III	10AF/AFRC Or Other QA T/E/C	Perform	2 Hot Refuels Annually	Annual Eval By QA NCOIC
QA Augmentee	I, II, III	QA T/E/C	Perform	2 Multiple Hot Refuels Annually	Annual Eval By QA T/E/C EPE Required
Hot Pad Super	I, II, III	T/E/C Or Augmentee	Supervise Or Perform As "A" Member	2 Multiple Hot Refuels Annually	Annual Eval By QA T/E/C
Hot Refuel A, B, C, D Member	I, II, III	QA T/E/C Or Augmentee	Perform In Any Qualified Position	2 Hot Refuels Annually	Annual Eval By QA T/E/C
Decertified Augmentee Or Hot Pad Super	Repeat II, III	QA T/E/C	Perform Supervise And Certify	2 Multiple Hot Refuels Within 60 Days Of Decert	EPE Required For Augmentee
Decertified A, B, C, D	Repeat II, III	QA T/E/C Or Augmentee	Perform	2 Hot Refuels Within 60 Days Of Decert	None
Decertified QA T/E/C	Repeat II, III	QA T/E/C	Perform Instruct And Certify	2 Hot Refuels Within 60 Days Of Decert	EPE Required
All Personnel Decertified	Repeat I, II, III	10AF/AFRC	Perform	2 Hot Refuels Within 90 Days	Determined Case-By-Case By 10AF/ AFRC
LEGEND: 1. EPE = Evaluator Proficiency Evaluation 2. T/E/C = Trainer/Evaluator/Certifier					

Section 6D—Composite Tool Kit (CTK) Management

6.19. General. The objectives of the CTK program are elimination of foreign object damage (FOD) to aircraft, engines, aircrew training devices, and support equipment and to reduce tool cost through effective control of assets. GP/CC have overall responsibility for management of the CTK program. Addi-

tional unit procedures or methods of tool control are published in a supplement/OI. Unit supplements/OIs address the following issues:

6.19.1. Procedures for warranted tool management (unit option).

6.19.2. Procedures for life support personnel that dispatch to the flightline.

6.19.2. (944FW) Life Support (302 FS/DOL) personnel who are dispatched to the flight line will follow procedures for CTK management outlined in AFRCI 21-101 as supplemented, and ACCI 11-301, Aircrew Life Support Program.

6.19.3. Procedures for control and management of replacement and consumable hand tools and other consumable items contained in CTKs.

6.19.3. (944FW) Replacement spare tools and consumables will be controlled. They will be stored in a secure location.

6.19.3.1. (Added-944FW) Consumable spare tools will be controlled and stored in a secured location if not included in bench stock. Aircraft maintenance personnel required to perform aircraft and system maintenance on the flight line are authorized to maintain a select number of consumables in the CTK:

6.19.3.1.1. (Added-944FW) 302 FSM

Inspection Section

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Crew Chiefs

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Temp Sticks, 700DEG 1 ea.

Weapons Loading

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Temp Stick, 700DEG 1 ea.

Voltage tester fuses 2 ea.

Specialist Flight

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Tape, Teflon Anti Chafe, roll 1 ea.

String, Wax Lacing, roll 1 ea.

6.19.3.1.2. (Added-944FW) 944th Maintenance Squadron (MXS)

Electro-Environmental

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Fuel Systems

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Washers, 3 sizes 10 ea.

Injection tips 3 ea.

Cup plastic 3 ea.

Litmus paper 1 roll

Grease, aircraft and instrument 1 tube

Armament Shop (Weapons Release)

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

Tape, anti-seize 1 ea.

Armament Shop (Gun Shop)

Safety Wire, roll 1 ea.

Safety Wire, roll 1 ea.

NOTE: All other work centers are allowed one roll of each required safety wire.

6.19.3.2. (Added-944FW) Consumable items which cannot be marked will be maintained in a container marked with the CTK identification number and amount of consumables contained. Consumables that can be marked will be marked with a permanent marker or engraved with CTK identification number.

6.19.3.3. (Added-944FW) Replacement of consumable items are controlled on a one for one basis. Replenish consumables at the end of each shift if depleted. Write the quantity not replenished on an AFRC Form 175, Missing/Removed Tools and Equipment.

6.19.4. Post aircraft taxi/takeoff procedures for lost tools.

6.19.4. (944FW) The person who discovered a tool or tools missing will notify MCF of the fact by the most expedient method available.

6.19.4.1. (Added-944FW) MCF will take immediate action to ensure the aircraft in question does not take off.

6.19.4.2. (Added-944FW) Establish contact with end of runway crew with instructions that affected aircraft will not take off until the 302 FS Supervisor of Flying (SOF) has been notified.

6.19.4.3. (Added-944FW) If affected aircraft has already departed, MCF will notify the SOF, if not available, notify Base Operations.

6.19.5. Procedures for transfer of CTKs at the job site.

6.19.5. (944FW) CTKs will be transferred from one individual to another only at the specific direction of supervision. When supervision directs such a transfer, both individuals will conduct a complete inventory of the CTK then report to the tool room to sign the CTK in (person leaving) and back out (person accepting responsibility). The gaining individual assumes responsibility for the CTK but cannot sign in the CTK.

6.19.6. Procedures for lost tools.

6.19.6. (944FW) Immediately notify MCF of lost tool on the flight line. In turn, MCF will notify QA. Engines will not be operated until the appropriate commander has released the aircraft.

6.19.6.1. (Added-944FW) When tools or other objects are lost on or near aircraft, impound the aircraft using directed procedures. The supervisor of the individual who lost the item will coordinate a thorough search for the item. If lost item is found the discrepancy will be cleared using proper procedures.

6.19.6.2. (Added-944FW) If a tool is lost during in-shop maintenance, the work center supervisor and the responsible individual(s) will conduct a thorough search of the work area. If the tool cannot be found, notify the applicable superintendent of the loss, the nomenclature, the CTK identifier of lost tool and the name of the supervisor performing search. The supervisor will notify MCF and QA when the equipment has been returned to the flight line or supply.

6.19.7. The series/block of CTK identification numbers.

6.19.7. (944FW) The series/block of CTK identification numbers for the 944 FW are as follows. Bar code reader system numbers are included in parenthesis.

6.19.7.1. (Added-944FW) 302 FS

APG CTK	AA-1 through AA-75 (R6FSAA-01 through AA-75)
APG Special Tools	FL-1 through FL-40, CR-1 (R6FS01XXX through R6FS25XXX)
Specialist CTK	CB-1 through CB-20 (R6FSCB-1 through CB-20)
Specialist Special Tools	SF-1 through SF-40 (R6FS26XXX through R6FS60XXX)
Inspection Flight CTK	EP-1 through EP-20 (R6FSEP-01 through EP-20)
Wheel and Tire Shop CTK	TS-1 through TS-4 (R6FSTS-01 through TS-04)
Weapons CTK	EL-1 through EL-25 (R6FS61XXX through R6FS80XXX)
Weapons Special Tools	LD-1 through LD-10 (R6FX0001 through 0999)
Life Support CTK	LS-1 through LS-20

6.19.7.2. (Added-944FW) 944 MXS

Avionics Flight

Automatic Test Stations	CI-1 through CI-10
Electronic Warfare Systems	CE-1 through CE-10
Sensors	CH-1 through CH-5
Accessories Flight	
Electro-Environmental	AE-1 through AE-50
	AC-1 through AC-30
Fuel Systems	AF-1 through AF-25; HRT-1
Pneudraulics	AH-1 through AH-30
Egress	AG-1 through AG-50
Armament Flight	
Weapons Release	EO-1 through EO-25
Gun Shop	EG-1 through EG-15
Propulsion Flight	
JEIM	JP-1 through JP-50
Test Cell	TP-1 through TP-25
Test Cell Special Tools	TC-1 through TC-50
AGE Flight	EA-1 through EA-20
Fabrication Flight	
Aircraft Structural	
Maintenance	ES-1 through ES-10
Machine Shop	EM-1 through EM-10
Welding	ED-1 through ED-10
Corrosion Control	EC-1 through EC-5
Survival Equipment	EE-1 through EE-10
NDI	EN-1 through EN-10
Munitions Flight	
Munitions Storage	EB-1 through EB-20
Staff QA	DS-1 through DS-5

6.19.8. Procedures for control of personal equipment (that is, ear defenders, headsets, etc.).

6.19.8. (944FW) The following items are the only authorized personal equipment and must have as a minimum: employee number and work center identification (ID). (Items will be engraved or marked with permanent marker.)

Headset

Ear defender

Communication Cord (Comm cord)

Reflective Belt

6.19.9. Tool control procedures for depot teams, factory representatives, and contract field teams when working on equipment within the unit.

6.19.9. (944FW) Depot teams, factory teams and contract field teams working within the unit will use unit CTKs whenever possible. Either the 944 LG or OG Commander or their designated representative will authorize any other tools used. A copy of all tool listings will be provided to the QA office prior to start of assigned project. Technicians will inventory tools at the beginning and end of each shift. Any lost tools will be reported to immediate supervisor and QA to ensure proper procedures are followed. QA will brief the appropriate field team representative on CTK procedures outlined in AFRCI 21-101, as supplemented.

6.19.10. Local procedures for rag accountability.

6.19.10.1. Rag control applies to organizations and personnel performing on-equipment aircraft maintenance, jet engine maintenance, and other areas as designated by group commanders.

6.19.10.2. (Added-944FW) The following rag control procedures will apply:

6.19.10.2.1. (Added-944FW) Rags will not be placed on bench stock. When removing rags from the tool room for disposal or cleaning, annotate the inventory with the quantity removed. When replenishing rags or returning rags from cleaning, annotate the inventory with quantity added. Rags that are removed for cleaning or disposal are exempt from the following requirements.

6.19.10.2.2. (Added-944FW) 302 FS. Rags will be signed out and returned to the maintenance support section tool room in bundles of five. Phase dock and Tire shop rags will be signed out and returned to the phase dock tool room in bundles of 25. These rags are considered tools and all requirements that apply to dispatchable tools apply to rags with two exceptions: (1) Rags are not required to be marked and (2) rags are not required to be shadowed or inlaid and may be kept in separate clean/dirty/hazardous waste rag bins that meet all applicable AFOSH standards.

6.19.10.2.3. (Added-944FW) 944 MXS Propulsion Section:

6.19.10.2.3.1. (Added-944FW) Rags may be assigned to CTKs. If rags are assigned to a CTK, they will be in bundles of 12. These rags are considered tools and all requirements that apply to tools in CTKs apply to rags with one exception: Rags are not required to be marked. Rags will be bundled with a Velcro, or some other strap. The strap will be marked with the CTK number and quantity of rags. If a rag requires replacement, the rag will be exchanged on a one for one basis from the tool room.

6.19.10.2.3.2. (Added-944FW) Rags will be signed out from the tool room by using an AFRC Form 177, Consolidated Tool Kit Inventory and Control Log. All requirements that apply to dispatchable tools apply to rags with one exception: Rags are not required to be marked. The quantity removed from the tool room will be annotated and the same quantity must be returned.

6.19.10.2.3.3. (Added-944FW) Clean, dirty and hazardous waste (if applicable) rags are kept in separate, locked bins. The term bin is intended to be generic and any closeable,

lockable container (stand alone can, Vidmar drawer, etc.) that meets all applicable AFOSH standards is acceptable. Bin keys are stored in the tool room with CTK keys.

6.19.10.2.4. (Added-944FW) Other 944 MXS shops that perform on-equipment maintenance:

6.19.10.2.4.1. (Added-944FW) Rags will be signed out from the tool storage area by using an AFRC Form 177. All requirements that apply to dispatchable tools apply to rags with one exception: Rags are not required to be marked. The quantity removed from the tool storage area will be annotated and the same quantity must be returned.

6.19.10.2.4.2. (Added-944FW) Clean, dirty and hazardous waste (if applicable) rags are kept in separate, locked bins. The term bin is intended to be generic and any closeable, lockable container (stand alone can, Vidmar drawer, etc.) that meets all applicable AFOSH standards is acceptable. Bin keys are stored with CTK keys.

6.19.10.2.5. (Added-944FW) Other 944 MXS shops that do not perform on-equipment maintenance. Clean, dirty and hazardous waste (if applicable) rags will be stored in separate, locked bins. The term bin is intended to be generic and any closeable, lockable container (stand alone can, Vidmar drawer, etc.) that meets all applicable AFOSH standards is acceptable. These bins may be unlocked any time during the shop duty day and will be locked at the end of the shop duty day. If these rags leave the shop, they will be signed out using an AFRC Form 177 or AF Form 1297, Temporary Issue Receipt, with the quantity taken from the shop annotated on the form. The same quantity must be returned to the shop. Bin keys are stored with CTK keys.

6.19.11. Procedures for control of crash recovery and hydrazine response equipment permanently stored/located in trailers or vehicles.

6.19.11. (944FW) Crash Recovery and Hydrazine response tool and equipment control procedures will follow AFRCI 21-101, **Chapter 6**, **Section 6D** to include the following:

6.19.11.1. (Added-944FW) Crash Recovery CTK/Equipment will be inventoried and signed out prior to operation by a designated individual using an AFRC Form 177. During use, the individual will maintain control and accountability of all tools/equipment. All tools/equipment will be accounted for prior to removal of aircraft from the area.

6.19.11.2. (Added-944FW) Hydrazine Response Tools/Equipment stored in vehicle will be inventoried and signed in and out daily on an AFRC Form 177. The response team chief will perform a complete inventory at the end of each response. Tools and equipment will be stored and secured when the vehicle is not in use.

NOTE: (944FW) All above listed tools and equipment will have a contents listing and an AFRC Form 177 maintained with them at all times. They will be secured when not in use. Keys for tools and equipment will be controlled using proper procedures.

6.19.12. Chit control and usage procedures.

6.19.13. Tool marking procedures (that is, etching or bar coding).

6.19.13.1. (Added-944FW) Each special tool, fixture, or piece of equipment that is attached to an aircraft in any manner will be marked in a way to make it readily visible (i.e., international orange paint and “REMOVE BEFORE FLIGHT” streamer). Exceptions to this procedure will be made on a case-by-case review by QA and are listed below. In conjunction with the above, a “red X”

entry will be made in the AFTO Form 781A that states, “SPECIAL TOOL/FIXTURE INSTALLED (give location) FOR (state reason).”

6.19.13.1.1. (Added-944FW) 302 FS/MA - Angle of Attack Torque Tester

P/N 123T105

NSN 6695-00-253-9655

Paint only, no flag

6.19.13.1.2. (944FW) (Added.) 302 FS/MA - Plate, Jacking Adapter Longeron Removal

P/N 16MTE24015

NSN 4920-01-048-5821

Paint only, no flag

6.20. CTK Terms:

6.20.1. Composite Tool Kit. Tools or equipment stored in a controlled area in order to maintain positive control and ease of inventory. Each tool in the CTK has an assigned location, either inlays cut in the shape of the tool or shadowed layout. All equipment items issued individually are silhouetted or shadowed. Ear defenders/headsets issued to an individual may be maintained in personal lockers/or tool rooms. As a minimum, these items are marked with the individual's employee number and workcenter.

6.20.2. Special Purpose CTK. Small individually issued tool kits that, because of the nature of contents, preclude shadowing or silhouetting (that is, cartridge cleaning kits, oxygen servicing kits, etc.).

6.20.3. Tool Rooms/Support Sections. Areas authorized for storage and issue of tools and equipment. Tool rooms/support sections are limited to one per workcenter or workcenter complex when feasible. When two or more workcenters operate a single tool room/support section, the squadron maintenance officer/superintendent establishes responsibilities.

6.20.4. CTK Custodian. Individuals (primary/alternate) designated in writing by flight/section chiefs to manage and control CTKs.

6.21. Guidelines for Program Management. The squadron maintenance officer/superintendent is responsible for management of the CTK program within the squadron. They monitor CTK requirements, limit the number of individuals authorized to procure tools, and ensure CTKs and designated storage areas are properly maintained.

6.21.1. Flight/section chiefs, in conjunction with maintenance officer/superintendent, determine the type, size, and number of CTKs needed in workcenters. Ensure mobility taskings and TDY requirements are considered.

6.21.2. Flight/section chiefs approve CTK contents by signing the CTK contents list. A copy of the CTK contents list remains in each CTK at all times for inventory purposes. The master copy is filed by the CTK custodian. Contents lists are broken down by drawer/section indicating the total number of items in each drawer/section of the CTK. The CTK custodian has the authority to interchange "like" items, that is, torque wrenches, which are listed by ID number on the contents lists. All changes are annotated on the CTK contents lists; initialed and dated by the approving authority.

6.21.3. CTKs are arranged to ensure contents are visible and easy to inventory. CTK contents are standardized to the maximum extent possible within functional elements of a squadron that have similar missions.

6.21.4. Equipment that is not a potential FOD hazard and not dispatched from a workcenter or tool room need not be included in a CTK; however, this equipment has designated storage locations established. Establish designated locations for common accessories, such as waveguides, attenuators, fittings, cables, adaptors, etc., not part of a CTK.

6.21.5. Industrial shop machinery accessories/attachments, that is, blades, arbors, etc., need not be assigned to a CTK. These items are maintained in designated storage locations for accountability.

6.21.6. Remove clips from tools with removable pocket clips attached prior to placement in CTKs. If chits/dog tags are attached to tools/equipment, they are secured in a manner that precludes any possibility of FOD.

6.21.7. Expendable hand tools such as blades, apexes, files, and file cleaners consumed during use may be placed on bench stock. If items are not placed on bench stock, the replacement tool procedures in paragraph **6.28.** apply.

6.21.8. Consumables placed in CTKs are added to CTK contents listings.

6.21.9. CTKs/tools are not issued for personal use.

6.21.10. Personal tools are not authorized on the flightline or in any maintenance area. For example: mini-mag flashlights, leathermans, buck knives, combination/universal tools etc.).

6.22. Marking and Tool Identification. Marking of tools provides an effective means of identifying tool ownership. Automated Tool Control System (TCS) (bar-coding) in addition to other methods of marking, may be used to speed the issue and return of CTKs and individually issued tools. This system does not replace the requirement for marking CTKs and individually issued tools. All individually issued tools and CTKs using bar-coding are still required to be clearly marked with the CTK designator according to local procedures. However, bar coding may be used in lieu of the documentation requirements of this instruction if all control and accountability requirements are met. The following procedures apply:

6.22.1. Each CTK is individually numbered. Units with multiple cabinets may elect to identify all cabinets as one CTK. Tools contained in a CTK are marked with the assigned CTK number. Fiberglass handled hammers are etched on the metal head only in a non-impact area. Small tools or items which cannot be marked, that is, drill bits, Allen wrench sets, apexes, etc., are maintained in a container marked with the CTK identification number and the number of tools contained. Items which are assembled require only one etching. *EXAMPLE:* a scribe, normally three pieces prior to assembly.

6.22.1. (944FW) When the bar code reader system is used, CTKs will have the bar code label attached in a secure manner to prevent foreign object hazard. Each separate CTK/equipment will have an individually assigned bar code label attached.

6.22.2. Tools or equipment issued individually are marked with a CTK position designator. Each item displayed is marked as outlined in local unit procedures.

6.22.3. When included in CTKs, serialized/ID numbered equipment, special tools, meters, and items listed on a CA/CRL may be etched with a CTK ID number or CA/CRL detail number. If not etched, the serial number, item ID number, or CA/CRL detail number is annotated on the CTK contents list.

6.22.4. Grease guns are marked with the military specification of the grease on the barrel, the handle and hose, or fitting of each gun. Fittings/hoses are purged of all grease prior to use when different type grease is required.

6.23. Tool Accountability and Control:

6.23.1. CTK custodians are responsible for tool/equipment accountability and control in their respective areas.

6.23.1. (944FW) When the bar code reader system is used the designated CTK custodian will ensure that personnel operating and using the system are familiar and trained in primary and alternate procedures when system is in use. CTK custodians will have the operating manual and operating instructions including CTK numbering system outline maintained in the CTK dispatch area.

6.23.2. Use AFRC Form 177, **Consolidated Tool Kit Inventory and Control Log**, AF Form 1297, or a "chit system" for control tool kit/equipment accountability.

6.23.2. (944FW) An approved bar code reader system may be used at the discretion of any applicable squadron.

6.23.3. All removed/missing tools and equipment are documented on AFRC Form 175, **Missing/ Removed Tools and Equipment**, regardless of accountability system used.

6.23.4. When a chit system is authorized, chits are controlled as tools, to include a beginning and end of shift inventory. Chit control boards are located only in secure, controlled locations, (that is, tool rooms, workcenter, etc.).

6.23.5. CTKs used in an off-equipment environment and that are not dispatched may be left open for all personnel to use during a shift. Whenever the CTK is opened/closed, it is inventoried.

6.23.6. (Added-944FW) When only one person is assigned to a work center or shift, the shift supervisor or an individual from another work center will be contacted when needed to inventory and sign in CTK.

6.24. Forms:

6.24.1. The AFRC Form 177, Consolidated Tool Kit Inventory and Control Log, is used for accountability and control of CTKs and tools. The form remains in the tool room or workcenter. A separate AFRC Form 177 is maintained for each CTK. The form is used to record CTK/tool transactions. The "out time/signature" block is annotated by the person signing out/assuming responsibility for the CTK/equipment. The "in" block is annotated when the CTK/equipment is returned by the user. The person annotating the "out" block is not the same person annotating the "in" block. However, if necessary, develop local procedures to cover in/out procedures for tool control in instances where only one person is assigned to a shift/workcenter.

6.24.1. (944FW) When the bar code reader system is used, personnel may sign for tools and equipment using an AFRC Form 177 or the automated system may be used.

6.24.2. The AFRC Form 175, **Missing/Removed Tools Equipment**, is used to annotate all removed/ missing tools and equipment and action taken on these items. A separate AFRC Form 175 is maintained for each CTK. When replacement tools are placed on order, the document number is entered in the reason block of the form. When a tool is reported missing or lost, indicate the date and time lost

tool procedures were initiated. Items removed for calibration are entered on this form. When the AFRC Form 175 is full, initiate a new form and transfer all open entries to the new form. General purpose forms or an index card may be dispatched with CTKs to show missing/removed tools only.

6.24.3. An AFRC Form 174, **Lost Tool/Object Report**, is completed for each lost tool/object unless the item is immediately recovered. The CTK custodian maintains AFRC Form 174 on suspense. Destroy suspense report when item is recovered or not found within 1 year.

6.25. Security Guidelines. A secure area is designated to store CTKs when not in use. The area is capable of being locked and provides protective measure, such as monitoring or controlled key access, to preclude access by unauthorized personnel.

6.25.1. Locks on CTKs provide a physical restraint against opening the container and prevent unauthorized removal of tools or CTKs. Locks are not required on individually issued tools and equipment located within tool rooms, or workcenters. Combination locks are not to be used on CTKs. EXCEPTION: Combination locks are authorized at GP/CC option for CTKs permanently maintained on board aircraft.

6.25.2. Dispatched CTKs are locked and secured to an immobile object when left unattended. The only exception to this requirement is CTKs locked and located within the restricted access area on the aircraft parking ramp.

6.25.3. Modifications to tool containers to meet security requirements are authorized unless the modification voids the manufacturer's warranty.

6.26. Inventories. A count of all dispatchable CTKs and equipment is performed at the beginning and end of each shift. The contents of these CTKs are not inventoried until CTKs are signed out. Contents of non-dispatchable CTKs (i.e. cabinets, toolboxes installed on aircraft) that are opened are inventoried at the beginning and end of each shift. The individual performing the inventory ensures all CTKs and individually issued equipment are on hand or accounted for. Document beginning and end of shift inventories on AFRC Form 177. When the AFRC Form 177 is full, initiate a new form and discard the completed form after at least one beginning and one end-of-shift inventory is recorded on the new form.

6.26.1. Inventory contents of CTKs prior to dispatch, upon each return, and at the completion of each job.

6.26.2. CTKs are not normally passed from one individual to another at the job site. Units develop procedures to ensure tool accountability and control are maintained when transfer occurs.

6.26.3. At least every 12 months, or when the CTK custodian changes, an inventory is conducted of all CTKs. The purpose of this inventory is to perform an extensive inspection of all tools and equipment in CTKs and is much more extensive than the daily beginning and end of shift inventory. The CTK custodian/alternates perform the inventory. When CTK custodians change, the outgoing and incoming CTK custodian perform the inventory together. Annual inventories are documented.

6.27. Lost Tool Procedures. Supervisors ensure all assigned personnel are familiar with lost tool procedures. If an item or a portion of a broken tool is discovered missing, the following procedures apply:

6.27.1. The person issued the CTK/equipment searches the immediate work area for the item. If not found, immediately notify the workcenter supervisor/flight chief, CTK custodian, and squadron maintenance officer/superintendent.

6.27.2. If an item is missing after aircraft maintenance or within the flightline vicinity, MCF/DDS/production superintendent and QA are also informed. QA notifies the applicable GP/CC of the missing tool. The aircraft is immediately impounded/grounded. A red "X" is entered on the AFTO Form 781A for all affected aircraft. Entries include a description of the item and the suspected area where the item was lost.

6.27.3. The CTK custodian or affected workcenter supervisor initiates an AFRC Form 174. The form is given to the individual's supervisor to initiate the investigation. The maintenance officer/superintendent or maintenance squadron supervisor/superintendent signs the AFRC Form 174.

6.27.4. When it is suspected that the tool has fallen into an inaccessible or unobservable aircraft location the suspect area is X-rayed to locate the lost tool. If the tool is in an inaccessible area that poses no FOD threat, can only be retrieved by major disassembly, and higher headquarters assistance is required, the QA notifies NAF/LGM. QA confers with the responsible Air Logistics Center (ALC) on appropriate action. NAF/LGM notifies the unit on action to take. If action is to leave the tool in place, the X-ray, with identification of the exact tool location and copies of all messages concerning the lost tool, is maintained in the aircraft historical file until the tool is recovered. If the aircraft MDS is one that has a programmed depot maintenance or is scheduled for depot modification, the lost tool and location is listed in the AFTO Form 345, **Aerospace Vehicle Transfer Inspection Checklist and Certification**, and the AFTO Form 103, **Aircraft/Missile Condition Data** for removal by the depot.

6.27.5. Local procedures are developed to notify the pilot when a tool is discovered missing after an aircraft has taxied. Procedures cover taxi and post-takeoff and are developed jointly by the LG/CC and OG/CC and published in a wing instruction.

6.28. Tool Replacement Procedures. A stock of spare tools is authorized. Spare and consumable tools are highly pilferable and pose an increased fraud, waste, and abuse potential. Consequently, maintenance officers/superintendents ensure controls are established according to supplements/OIs.

6.28.1. GP/CC submit a written request to the chief of supply for customer identiplates for use at the tool issue center. Only CTK custodians or designated representatives are authorized cards.

6.28.2. Limited quantities of replacement tools may be maintained in tool rooms or workcenters. The maintenance squadron superintendents authorize the tools and quantities maintained. An inventory of all replacement tools is accomplished and documented quarterly.

6.28.3. Expendable hand tools consumed may be placed on bench stock. Examples of consumable tools include saw blades, apexes, files, and file cleaners.

6.28.4. Replacement tools are not issued without receipt of the unserviceable tool or documentation indicating the tool is lost and reported according to the lost tool procedures outlined in this instruction.

6.29. Warranty/Quality Tool Program. Warranty tools are obtained at Base Supply Tool Issue Centers or local contracts with warranty tool vendor. Units establishing a warranty tool program coordinate with Base Supply and contracting. Detailed management procedures are contained in AFMAN 23-110. The following general guidelines apply:

6.29.1. When preparing background information for base contracting, ensure all MIL SPEC and other requirements are identified. Provide as much information as possible on desired strength, finish, insulation, physical dimensions, magnetic properties, laser etching, and size of letters.

6.29.2. Specify desired replacement tool requirements:

6.29.2.1. Replacement tool delivery time.

6.29.2.2. Etching of replacement tools.

6.29.2.3. Office responsible for maintaining replacement tools and number of tools stocked.

6.29.2.4. Direct contact with vendor to replace tools.

6.29.2.5. The contract should include procedures for replacement of lost tools.

Section 6E—Flash Blindness Protective Device Maintenance Program (B-52)

6.30. General. This section standardizes procedures for the maintenance, installation, inspection, and sealing of flash blindness protective devices/shields on applicable aircraft. GP/CC is responsible for ensuring effective aircraft thermal protective device maintenance is accomplished according to applicable aircraft technical manuals, maintenance directives, and the requirements of this section. Procedures for thermal flash blindness protective (PLZT) goggles are covered in ACCI 11-301*, Aircrew Life Support Program*, and applicable tech orders. Aircraft flash blindness protective devices/shields are maintained serviceable to provide optimum nuclear thermal/radiation protection to the aircrew during EWO conditions. Aircraft installed thermal and flash divider curtains/radiation barriers are synonymous and, for the purpose of this directive, are referred to as aircraft thermal protective devices/shields.

6.31. Quality Assurance. Performs random inspections of aircraft thermal protective devices/shields and associated hardware to ensure maintenance is accomplished according to applicable directives and the requirements of this section are met.

6.32. Bomber Flight. The flight chief ensures:

6.32.1. Aircraft thermal protective devices/shields and associated hardware are maintained according to applicable aircraft manuals, maintenance directives, and this section.

6.32.2. An adequate and effective training program is established in each flight to train/qualify crew chiefs to install, inspect, and when applicable, seal aircraft thermal protective devices/shields. NOTE: Thermal curtains designated for training are plainly labeled "FOR TRAINING ONLY" to preclude inadvertent use for alert or EWO purposes.

6.32.3. For all applicable units, sealing thermal protective devices/shields is not accomplished on a routine basis. However, when operational requirements dictate, crew chiefs notify aircrew life support section when flash blindness goggle container requires resealing.

6.33. Fabrication Flight. For all applicable units the fabrication flight chief ensures:

6.33.1. Aircraft thermal curtains are maintained according to applicable aircraft manuals, maintenance directives, and this section.

6.33.2. Fabrication and parachute technicians are trained and task qualified to inspect and repair thermal curtains.

6.33.3. Lead seal crimping tools are modified to reflect the unit numerical code identifier (that is, Barksdale-7) which is reflected on the lead seal after crimping.

6.34. Additional Maintenance Requirements. In addition to the inspection requirements contained in applicable aircraft/maintenance directives, the following inspection, certification, and when applicable, sealing procedures are accomplished:

6.34.1. A pre-alert inspection of all aircraft thermal curtains and associated hardware is conducted according to applicable technical data. The pre-alert inspection is documented on the AFTO Form 781A with the following statement: "Thermal Curtains Inspection Required." During the aircraft pre-alert inspection, a qualified fabric/parachute technician (AFSC 2A7X4) or crew chief (AFSC 2A5X1F) assists the aircrew in accomplishing this inspection. The aircraft commander certifies the aircraft thermal curtains for alert. Upon certification acceptance, the maintenance technician/crew chief signs the "corrected by" block of the AFTO Form 781A entry and the aircraft commander signs the "inspected by" block. NOTE: This paragraph applies during EWO/ORI generations.

6.34.2. For all applicable units, pre-deployment inspections are not required once the aircraft thermal curtains are inspected and sealed with a seal displaying the installation identifier. However, an inspection of the thermal curtains seals is accomplished and seals that are broken or not intact require reinspection and resealing of the affected thermal curtains prior to deployment.

6.34.3. For applicable units, the following sealing procedures are accomplished on alert aircraft:

6.34.3.1. All aircraft thermal curtains are sealed either in the opened/closed position or storage container, as applicable, upon certification by the aircraft commander. Appropriate aircraft flight manuals specify thermal curtains that are sealed in the opened/closed position or storage container.

6.34.3.2. Upon aircraft alert termination, a qualified parachute/fabrication technician or qualified crew chief, validates serviceability of all thermal curtains and seals in the open position. Thermal curtains remaining sealed are not reinspected. All thermal curtains are removed and sealed in appropriate storage container, if applicable.

Section 6F—IFF Mode 4 Program

6.35. General. All AFRC units will follow the gaining MAJCOM guidance involving the IFF Mode 4 program.

6.35. (944FW) Identification, Friend or Foe Mode 4 confidence checks shall be accomplished on at least 70 percent of possessed aircraft each month. Compliance is tracked in CAMS.

Section 6G— Borescope Training Program

6.36. General. This section establishes standard procedures for unit borescope certification, training, documentation, and recertification program. This program is mandatory for all activities performing borescope inspections on any type gas turbine engine.

6.37. Target Population. Only certified 5, 7, and 9 skill-level personnel may perform engine borescope inspections. Supervisors ensure only the most qualified personnel are entrusted with the responsibility of performing borescope inspections.

6.38. Training Program. Unit propulsion section and maintenance training develops and conducts formal training program. As a minimum, courses include academic and practical instruction for care, han-

dling, and usage techniques of each type of borescope equipment and accessories maintained; inspection access port locations; -6 technical order requirements and usage; fault isolation; and performance of borescope inspections for all locations/requirements for which the individual is to be certified. Upon completion of formal training, individuals are evaluated by a certifying official (an individual other than the trainer) and placed on the special certification roster (SCR).

6.38. (944FW) A lesson plan is maintained in the Propulsion Flight.

6.39. Trainers/Certifiers. The propulsion supervisor determines and the LG approves individuals designated to be borescope trainers/certifiers. Trainers/certifying officials are 7 or 9 skill level aerospace propulsion technicians (2A6X1A/B). Units are limited to three trainers/certifiers.

6.40. Documentation:

6.40.1. SCR course codes are established for initial training, annual recertification, and trainer/certifier officials.

6.40.2. Training and certification is also annotated on each individual's AF Form 623 using AF Form 797. As a minimum, AF Form 797 tasks are developed for each borescope inspection for which an individual is to be certified.

6.41. Proficiency Requirements. Propulsion work center supervisor determines proficiency requirements and ensures personnel who do not maintain proficiency are decertified and later recertified prior to accomplishing borescope inspections.

6.41. (944FW) All personnel will remain proficient by performing one rigid borescope inspection every 120 days. Inspection proficiency will be tracked in CAMS.

6.42. Annual Recertification. Each borescope qualified technician is required to be re-certified annually by a certifying official. Recertification is accomplished by having technicians demonstrate they can correctly perform the required inspection.

6.42. (944FW) Recertification and annual recertification will be accomplished by the technician demonstrating the ability to perform a rigid borescope inspection. The certifying official, who will be present during the recertification, will determine the borescope inspection criteria.

Section 6H—Aircrew/Maintenance Debriefing

6.43. General. An aggressive aircrew and maintenance debriefing program is essential to ensure malfunctions identified by aircrews are properly reported and documented. Debriefing is normally conducted at the termination of each sortie or abort. When this is not possible due to time restraints, or when the sortie is terminated at other than home station, multiple sorties may be accomplished during one debriefing.

6.43. (944FW) Aircrew/Maintenance debriefing will be accomplished immediately after each sortie or abort, regardless of aircraft status. Qualified individuals will accomplish this debriefing with specialist assistance provided as required.

6.44. Responsibilities. Commanders at all levels are responsible for compliance with this instruction. Unit commanders ensure local procedures are established to document the discrepancies and corrective

actions of all aborts and IFEs. These procedures ensure data is reviewed by the performing workcenter supervisor, operations squadron (OS) supervisor, QA, and maintenance systems analysis. Additionally, local procedures are established to ensure coordination occurs between debriefing sections and the maintenance control center (MCF) for each sortie or abort. The debrief section:

6.44.1. Ensures all daily or weekly flying schedule deviations are reported into MIS, according to applicable directives.

6.44.2. Uses operational utilization update screens to input flying time information. Units develop local procedures to ensure flying times and event history recorder (EHR) readings, IFE equipped, for home station and deployed sorties, are updated not later than the next duty day after occurrence.

6.44.3. Maintains abort/IFE documentation as determined locally to ensure an effective documentation system exists. NOTE: All units document aborts/IFEs. MIS or computer generated products may be used.

6.44.4. Ensures QA debriefs all completed or attempted operational check flight (OCF), acceptance check flight (ACF) and functional check flight (FCF). *NOTE:* Units may develop and print local forms to gather data for problem systems or bad actors.

6.45. Debriefing Function. Establish a debriefing function. The production superintendent or appointed representative ensures specialist personnel are available for each debriefing to assess weapons system performance when neccessary. The senior maintenance officer (SMO) determines the location and numbers of debriefing sections.

6.46. Debriefing References:

6.46.1. Debriefing personnel must thoroughly understand and use the minimum essential subsystem list (MESL).

6.46.2. Fault reporting guides will be used.

6.46.3. Debriefing Procedures. Debriefing personnel ensure:

6.46.3.1. Aircrews are thoroughly debriefed following the procedures outlined in AFI 21-101, AFCSM 21-574, volume 2, and completion of applicable screens in the automated debriefing subsystem. Check AFTO Form 781H, Aerospace vehicle Flight status and Maintenance block 10 (flight condition data) and block 12 (airframe time), for signature of aircraft commander or designated representative. During MIS down periods or when MIS will not be available, such as when deployed, units may use blank printouts of MIS debriefing screens or locally approved product to ensure accurate debriefing information is obtained. These printouts will then be used to upload data into MIS.

6.46.3.2. Debriefing record files are developed for each aircraft. Arrange files by aircraft ID number and include the automated debriefing sortie recap in record files for at least the latest five sorties to aid in properly identifying repeat/recur discrepancies.

6.46.3.2. (944FW) The FSM will maintain debriefing file folders in the debriefing area in accordance with AFRCI 21-101, Aircraft Maintenance Guidance and Procedures. Automated debrief recaps will be kept in the folders as specified in AFRCI 21-101.

6.46.3.3. A hard copy of the automated debriefing sortie recap is printed for each sortie, including a separate print out for each leg of cross-country missions, and placed in the individual aircraft debriefing record file. During or immediately upon completion of debriefing cross-country sorties, debriefing contacts P & S to obtain the correct sortie sequence number for each sortie when not available through the MIS.

6.46.3.4. With the assistance of technicians, previously documented discrepancies are reviewed and identified as repeat/recurs, as applicable. The debriefer annotates the aircraft forms with the word repeat and/or recurring in red as appropriate. The following are types of discrepancies:

6.46.3.4. (944FW) The Sortie Maintenance Debriefing worksheet on file will be reviewed during operations to aid in determining if there is an actual repeat or recurring discrepancy. Refer to 944 FWI 21-120, Control of Repeat, Abort, Cannot Duplicate (CND) Aircraft Discrepancies for specific guidance.

6.46.3.4.1. A repeat discrepancy on an aircraft occurs on the next sortie or attempted sortie after corrective action has been taken and the system or subsystem is used and indicates the same malfunction.

6.46.3.4.2. A recurring discrepancy on an aircraft occurs on the second through fifth sortie or attempted sortie after corrective action has been taken and the system or subsystem is used and indicates the same malfunction.

6.46.3.4.3. Cannot duplicate discrepancies (CND) are discrepancies which cannot be duplicated by maintenance personnel during troubleshooting procedures and operational checks of the systems.

6.46.3.5. A corrective action occurs when parts are removed, repaired, or when any form of troubleshooting, adjustment, or cleaning of contacts is accomplished.

6.46.3.6. A write-up in the aircraft forms requesting an inflight OPS check does not negate the identification of a repeat/recur discrepancy if the malfunction returns.

6.46.3.7. All repeat/recurs are identified on the automated debriefing sortie recaps and aircraft forms by automated method or red stamp/pen/marker, etc.

6.46.3.8. Use of the appropriate landing status codes to indicate aircraft status upon landing (if applicable):

Code	Status
code 0	Ground zero
code 1	Aircraft mission capable with no additional discrepancies.
code 2	Aircraft or system has minor discrepancies but is capable of further mission assignment within normal turn-around times.

code 3	Aircraft or system has major discrepancies in mission essential equipment that may require to further mission assignment. The discrepancy may not affect safety-of-flight and the aircraft may be not mission capable (NMC) flyable. MESL requirements determine if aircraft status is NMC or partial mission capable (PMC).
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: Debriefers enter code "8" in MIS for aircraft debriefed as code "4" or "5".

6.46.3.9. Use of the appropriate system capability code to indicate the system or subsystem capability at the completion of a sortie (if applicable):

code 0	System flown with a known discrepancy, no additional discrepancies noted. System can be used.
code 1	System used and performed satisfactorily. No maintenance required.
code 2	System used and performed satisfactorily. A minor malfunction exists, but system is capable of further mission assignment.
code 3	System performance was unsatisfactory. This system did not cause an abort.
code 4	System performance was unsatisfactory. This system caused or contributed to an abort.
code 5	System out of commission prior to takeoff.
code 6	System installed but not used.
code 7	System not installed.
code 8	Aircraft or system has suspected or known radiological/ biological contamination.

6.46.3.10. The DDS is provided with aircraft ID numbers and system work unit code (WUCs) for each aircraft debriefed code 3 using the MESL. The production supervisor makes the final determination of the mission capable status of aircraft and coordinates information with DDS.

6.46.3.10.2. (Added-944FW) Standard criteria for Red X conditions are listed below. The listing does not preclude maintenance and aircrew subjective judgments on any safety of flight condition serious enough to warrant use of a Red X under the guidelines of TO 00-20-1; AFI 21-103, Equipment Inventory, Status, and Utilization Reporting; 1F-16C-6 and AFRC 21-101, **Chapter 6** (F-16 Aircraft Impoundment). This Red X criteria listing cannot substitute for quality aircrew debriefing by a maintenance technician.

04100—Special Inspection

1. Excessive G load

2. Foreign object in cockpit

3. Hard landing

4. Aircraft failed to rotate

5. Landing gear over speed

6. Landing gear extended beyond allowable airspeed

11000—Airframe

1. Panels lost or missing in flight

2. Any unusual airframe vibration

3. Bird or lightning strike

4. Aircraft structural damage

12000—Crew Station System

1. Canopy damage or distortion

2. Canopy warning system discrepancies

3. Loose component

4. Ejection seat discrepancies

13000—Landing Gear System

1. Failure of gear to retract or extend

2. Loud thump on retraction of gear

3. Gear slow to retract

4. Unsafe landing gear conditions

5. Nose landing gear shimmy

6. Damage to wheels, tires and struts

7. Flat strut

8. Nose wheel steering inoperable

9. Whenever any aircraft arrestment or missed barrier engagement has occurred

14000—Flight Controls

1. Any unusual flight maneuvers or loss of control

2. Dual flight control failure

3. Any flight control system light or pilot fault listing that illuminate after reset action or do not reset

23000—Turbine Power Plant

1. Engine flame out or major engine component failure
2. Engine power loss, thrust loss
3. Compressor stall or stagnation
4. Engine overtemp or fire
5. Engine instrumentation malfunction
6. Engine vibration, rumble or unusual noise
7. Engine light that does not reset
8. Engine no-go indicator
9. Engine anti-ice valve

24000—Jet Fuel Starter/Emergency Power Unit

1. Jet Fuel Starter no start on Start 2
2. Fuel or oil leaks in the Jet Fuel Starter system
3. Uncommanded or inadvertent Emergency Power Unit activation

41000—Environmental Control System

1. Any malfunction in pressurization
2. Air conditioning, excluding auto temp control

42000—Electrical Power Supply

1. Generator fails to come on or reset
2. Weak or dead battery
3. Aircraft battery fail light
4. Aircraft control System Permanent Magnetic Generator failure
5. Main or Standby generator failure

44000—Lighting System

1. Landing and taxi light inop
2. Anti-collision lights or position lights (total failure)
3. Advisory warning system (Master Caution light on)
4. Total interior light failure

45000—Hydraulic and Pneumatic Power System/Supply System

1. Any leaks out of tolerance
2. Any hydraulic system malfunction
3. Any pneumatic system malfunction

Indicator malfunction

46000—Fuel system

1. External tank does not feed

2. Fuel leaks

3. Fuel indication malfunction

4. Trapped fuel or imbalance

5. Unprogrammed fuel loss

6. In-flight refueling system

47000—Oxygen

1. Oxygen regulators, low PSI

2. Fumes or odors present in oxygen

3. Oxygen pressure flux

4. Difficult to inhale or exhale

5. Liquid oxygen converter

49000—Fire Detection

1. Fire or overheat indicators

51000—Instruments

1. Pilot Static failure

2. Malfunction of primary flight and navigational instruments

3. Central Air Data Computer failure

62000—Very High Frequency (VHF) Communication

1. No transmit or receive

63000—Ultra High Frequency (UHF) Communication

1. No transmit or receive

2. Weak reception

3. Loud squeal

4. Loss of either antenna

65000—Identification Friend or Foe (IFF)

1. IFF system inop

74000—Fire Control System

1. Wide Angle Conventional Heads Up Display inop (no green display)

2. All inadvertent releases

3. All uncommanded releases

4. All lost suspension items

5. All hung munitions

6. Stores Management Systems blank or inop

97000—Explosives Devices and Components (Egress)

1. Any accidental or intentional use of system components

OTHER

1. System malfunctions of a chronic repeat/recurring nature

2. Discrepancies causing an aircraft ground abort or in-flight emergency

3. Any discrepancy causing an aircraft incident or mishap

4. Foreign object, lost or unaccounted for tools

5. Fire or explosion on the aircraft

6. When an aircraft is inadvertently serviced with the wrong type or grade of fuel, oil or hydraulic fluid

6.46.3.11. If applicable, units develop local sortie identification codes to identify types of sorties flown and reported in MIS.

6.46.3.12. If applicable, debriefers enter one of the following codes to indicate the reason for a deviation or the agency which caused a deviation:

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, MAJCOM
HQN	Higher headquarters, NAF
HQP	Higher headquarters, other
MTx	Maintenance
OPx	Operations
SUx	Supply
SYx	Sympathy
WXx	Weather
OTx	Other
xxx	Local option

NOTE: Use x for any character for local use.

6.46.3.13. Debriefing function uses aircraft fault reporting manuals, if published, during debriefing to identify fault codes and gain access to correct fault isolation procedures. Include fault codes when documenting discrepancies. Automated debrief tools, such as the computerized fault reporting system (CFRS) and integrated maintenance information system (IMIS), will be used as they become available.

6.46.3.14. If applicable, use the following system code debriefing procedures for 2.75 rocket launcher "no-fires" or SUU-20, TER-9, MER-10, or BRU-3 practice bomb "no-releases":

6.46.3.14.1. Code 2 - subsequent attempt to fire or release during the same sortie is successful.

6.46.3.14.2. Code 3 - no additional attempts or subsequent attempts to fire or release during the same sortie was made or was unsuccessful.

6.46.3.15. As applicable by mission, design, and series (MDS), complete aircraft structural integrity management information system (ASIMIS) forms for aircraft with aircraft structural integrity program (ASIP) equipment installed.

6.46.3.16. (Added-944FW) CAMS will automatically assign an Event Identification (ID) or Job Control Number (JCN). Specialists will receive a work order printout from their respective shop's CAMS terminal. During manual debriefing, event ID and or JCNs will be in accordance with 944 FWI 21-124, Assignment of Job Control Number.

6.46.3.17. (Added-944FW) In the case of ground or air aborts, aircraft emergency, and in-flight emergencies, MCF will notify QA. QA will generate and forward a Quality Assurance Tracking and Trend Analysis System (QANTTAS) worksheet to the work center responsible for the repair of the condition. The work center supervisor ensures the worksheet is completed prior to routing to the superintendent or maintenance officer/commander, who then routes the worksheet to QA. QA reviews the corrective action, enters the information into the QANTTAS and routes the worksheet to Maintenance Analysis (944 LSS/LGLA). Maintenance Analysis processes the worksheet and returns it to QA for filing. Abort information is reported in the Monthly and Quarterly QA Program Summaries.

6.46.3.18. (Added-944FW) Normally, aircrew personnel will document aborts. Because of mission requirements, when a pilot cannot document an abort discrepancy, the crew chief of the aborted aircraft may document this discrepancy. The first discrepancy will be preceded by the notation "Ground Abort" or "Air Abort," followed by the fault reporting code, then the narrative. Debriefers will initiate CAMS documentation for ground and or air aborts and in-flight emergencies. Aborts entered in CAMS will include the pilot's name, either in the "discovered by" block or at the end of the discrepancy, depending on whom entered the discrepancy on the AFTO Form 781A.

6.46.3.19. (Added-944FW) Flying time information will be entered into CAMS not later than the end of the duty day following the day of the sortie.

6.47. Deployed Procedures. Debriefing documents are completed by deployed maintenance personnel. When maintenance data system analysts are not deployed, deployed commanders designate an individual or activity to perform analysis function. Units include blank printouts of MIS debriefing screen in deployment packages for use if MIS does not become available at the deployed location. Use blank printouts as manual documentation method and forward documents to parent unit for data transcribing by the

most expeditious means available. Retain duplicates at the deployed site to aid in future debriefings. Turn-in all documents to debriefing sections upon return to home station. Use automated debrief tools, if available, as the primary debriefing instrument.

6.48. Facility. The debriefing facility should provide sufficient area and minimize noise levels to permit effective communication.

6.48.1. (Added-944FW) Debriefing actions will take place in an appropriate area. The area selected will be operationally compatible and located for quick access to the flight line. During Integrated Combat Turn (ICT) operations, debriefing for aircraft without discrepancies may be conducted at the turn site. Aircraft with maintenance discrepancies will use normal debriefing procedures. The Sortie Maintenance Debriefing worksheet used during ICT operations will be routed to the normal debrief location as soon as possible, but no later than the scheduled landing time of the next sortie.

6.49. Debriefing Aids. (Optional as determined by unit). The following enhances the debriefing process:

6.49.1. Cockpit Mock-up. Display cockpit photographs of each assigned weapon system to permit identification of indicators and switches at the debriefing station. Actual size photographs are recommended. Dash 1 technical order illustrations or computer aided design (CAD) engineering drawings may be substituted for photographs.

6.49.2. Scope Malfunction Photographs. To assist in identifying faulty scope presentations, common scope malfunctions may be identified using processed radar scope camera film. Index and maintain photographs in the debriefing facility. Maintain duplicates in the appropriate avionics shop. When used, the applicable photograph is referenced in the descriptive narrative of the fault. Revise photographs when additional scope malfunctions are identified. Units with weapon systems not equipped with scope cameras are encouraged to provide photographs using base resources.

6.49.3. Airborne Videotape Recorder (AVTR). To assist maintenance personnel and pilots in determining if a malfunction exists with an AVTR system, a video cassette recorder (VCR) and monitor may be used in each debriefing section.

6.50. Aviation Fuels Management Accounting System.

6.50.1. When aircraft are refueled at a non-AF activity, pilot places customer copy of AF Form 15, United States Air Force Invoice, in aircraft forms for return to home station. In addition, aircrews document AFTO Forms 781H, for in-flight refuels.

6.50.2. Debriefers review AFTO Form 781H, block 17, for non-AF refuels. If so annotated, debriefing personnel retain AF Form 15 for the OPS Group Invoice Control Officer (ICO) according to AFI 23-202, *Buying Petroleum Products, and Other Supplies and Services Off-Station*. If AF Form 15 is not available, a copy of the AFTO Form 781H is provided. If copies cannot be obtained, the debriefer transcribes the information contained in blocks 1, 3, 4, 5, and 6 and the refuel/defuel information contained in the applicable line of block 16 to another AFTO Form 781H. The debriefer prints their name in block 17 and enters the statement, "this is a certified true copy" in red across the top of the form.

6.50.3. During unit deployments, report fuel grade and quantity of non-AF fuel issues/defuels to home station via message or telephone, if aircraft have not returned to base by the sixth day of the following month. Report the information on AFTO Form 781H, blocks 1, 3, 4, 5, 6, 16, and 17.

6.50.4. When aircraft return to home station, debriefing collects and forwards all non-AF refuel/defuel documents to the ICO according to AFI 23-202.

Section 6I—Maintenance Communications

6.51. Maintenance Communications . Reliable, redundant, and effective communications systems are essential for efficient operation. These systems should provide accurate, timely, secure, programmable frequency and jam resistant communications needed to accomplish the maintenance mission in a fully deployed isolated mode. Develop and exercise communications-out procedures. GP/CC designated OPR has the overall responsibility to ensure adequate communications are available and manage the non-tactical radio program. People receive initial radio operating training before assuming duties involving radio operation AFI 33-106, *Managing High Frequency Radios, Land Mobile Radios, Cellular Telephones, and the Military Affiliate Radio System*. For effective flightline operation, more non-tactical radio nets are authorized when large numbers or different types of weapon systems are assigned or when host tenant agreements so specify.

6.51. (944FW) 944 LSS Plans and Deployment will ensure non-tactical radio users are trained in the proper use of non-tactical radios and will perform an annual radio equipment inventory. Radios will be removed from vehicles that will be out of service for an extended period. The radios will be maintained in a secure environment. Plans and Deployment is the single point of contact between the 944 LG, 302 FSM and the 944th Communications Flight (CF). Radios in need of repair will be returned to Plans and Deployment. Plans and Deployment will turn those radios in to the 944 CF and monitor the status while the radios are in maintenance. Plans and Deployment will pick up serviceable radios from the 944 CF and return them to the user.

6.51.1. Allowance for specific radios are shown in AS 660. Process requests for specific radio equipment to support maintenance activities according to AFMAN 23-110, *USAF Supply Manual*, and AFI 33-106.

6.51.2. GP/CC designated OPR in coordination with applicable maintenance managers, publishes procedures for a local call sign system.

6.51.2. (944FW) Radio Call Signs:

6.51.2.1. (Added-944FW) 944 FW

Call Sign	***Office***
Diablo	944 FW/CC
X-Ray 1	944 FW/XP
X-Ray 2	944 FW/XP
MOC	MCF
Emergency 1	Emergency Site Supervisor
Emergency 2	Emergency Site Supervisor
Emergency 3	Emergency Site Supervisor

6.51.2.2. (Added-944FW) 944 LG

Kachina 1	944 LG/CC
Kachina 2	944 LG/CD
Kachina 3	944 LG/LGQ, QA
Kachina 3A	944 LG/LGQ, QA Nights
Kachina 4	944 LG/LGN, Night Shift Supervisor

6.51.2.3. (Added-944FW) 944 MXS

Call Sign	***Office***
Cactus 1	944 MXS/CC
Cactus 2	944 MXS/LGM, Superintendent
Cactus 3	944 MXS/LGMC, Accessories Maintenance Flight
Cactus 4	944 MXS/LGMP, Propulsion Flight
Cactus 5	944 MXS/LGMPT, Test Cell
Cactus 6	944 MXS/LGMG, AGE Flight
Cactus 7	944 MXS/LGMCF, Fuels Systems Hydrazine Response
Cactus 7A	944 MXS/LGMCF, Fuels Systems NCOIC
Cactus 8	944 MXS/LGMV, Avionics Flight
Cactus 9	944 MXS/LGMF, Fabrication Flight
Cactus 10	944 MXS/LGMFB, Sheet Metal
Cactus 11	944 MXS/LGMR, Armament Flight
Kilo	944 MXS/LGMG, AGE Delivery

6.51.2.4. (Added-944FW) 944 MXS Munitions Flight

Cheyenne 1	944 MXS/LGMW, Munitions OIC
Cheyenne 2	944 MXS/LGMW, Munitions Superintendent
Cheyenne 3	944 MXS/LGMWC, Munitions Storage Area
Cheyenne 4	Crew #1
Cheyenne 5	Crew #2
Cheyenne 6	Crew #3
Cheyenne 7	Crew #4
Cheyenne 8	Crew #5
Cheyenne 9	Crew #6
Cheyenne 10	944 MXS/LGMWC, Production
Cheyenne 11	944 MXS/LGMWC, Material

Cheyenne 12	944 MXS/LGMWC, Supply
Scorpion	944 MXS/LGMWC, Control
HAMS	944 MXS/LGMWC, Holding Area
Stinger 3	Line Vehicle 1
Stinger 4	Line Vehicle 2
Stinger 5	Line Vehicle 3
Stinger 6	Line Vehicle 4
Stinger 7	Line Vehicle 5
Stinger 8	Line Vehicle 6
Stinger 9	Line Vehicle 7
Stinger 10	Line Vehicle 8
Stinger 11	Line Vehicle 9
Stinger 12	Line Vehicle 10
Stinger 13	Line Vehicle 11
Stinger 14	Support 12
Stinger 15	Support 13

6.51.2.5. (Added-944FW) 944 LSS

Navajo 1	944 LSS/CC
Navajo 2	944 LSS/LGL, Superintendent
Navajo 3	944 LSS/LGLT, Transportation NCOIC
Navajo 4	944 LSS/LGLT, Transportation OIC
Navajo 5	944 LSS/LGLT, Transportation Maintenance
Navajo 6	944 LSS/LGLX, Plans & Deployment
Navajo 7	944 LSS/LGLS, Supply
Navajo 8	944 LSS/LGLSP, Material Control

6.51.2.6. (Added-944FW) 302 FSM

Apache 1	302 FS/MA, OIC
Apache 2	302 FS/MA, Superintendent
Apache 3	302 FS/MAO, Sortie Generation Branch Chief
Apache A	302 FS/MAOA, A Flight Chief
Apache B	302 FS/MAOB, B Flight Chief
Apache C	302 FS/MAOC, C Flight Chief
Apache 4	302 FS/MAOW, Weapons Flight OIC

Apache 5	302 FS/MAOW, Weapons Flight Chief
Apache 6	302 FS/MAOW, Weapons Load
Apache 7	302 FS/MAOW, Weapons End of Runway
Apache 8	302 FS/MAOS, Specialist Flight Chief
Apache 9	302 FS/MAI, Sortie Support Branch Chief
Apache 10	302 FS/MAOW, Weapons Maintenance
Apache EOR	302 FS/MAO, End of Runway Crew
Apache Sup	302 FS/MAI, Support
Apache Tow	302 FS/MAO, Aircraft Tow Team
Debrief	302 FS/MAO, Debrief
Expedite	302 FS/MAO, Expediter
Red 8	302 FS/MAOS, Specialist Redball
Alert 1	Combat Turn Director
Alert 2	Combat Turn Director
Bomber 1	Combat Turn Director
Bomber 2	Combat Turn Director

6.51.3. A VHF/UHF radio is authorized to provide communications between aircraft and maintenance. Air crews may relay advance status information. Coordinate procedures for use of these radio communications with operations. The following standard maintenance notification codes reflect the status of the aircraft being reported:

6.51.3.1. Code l -- Aircraft is flyable with no additional discrepancies.

6.51.3.2. Code 2 -- Aircraft or system has minor discrepancies but is capable of further mission assignment within normal turnaround times.

6.51.3.3. Code 3 -- Aircraft or system has major discrepancies in mission essential equipment that require repair or replacement before further mission assignment.

6.51.3.4. Code 4 -- Aircraft or system has suspected or known radiological, chemical, or biological contamination.

6.51.4. Each MCF/DDS has a hotline on the secondary crash phone net. When required, direct communications lines are provided to QA, munitions control, explosive ordnance disposal, operations, base fire station, and the central security control. When mission requirements justify, a direct line to the control tower may be installed.

Section 6J—Dropped Object Prevention and Reporting Program

6.52. General. The requirements establish the Air Force Reserve Dropped Object Prevention and Reporting Program.

6.53. Definition. A dropped object is any aircraft component, cowling, door, panel, part, surface, or other item, lost or inadvertently released during aircrew operations from the beginning of engine start through flight to engine shutdown at recovery.

6.54. Responsibilities. Each unit establishes a dropped object program. The GP/CCs establish a program focusing on preventing inflight loss of objects. The unit LG quality assurance activity is designated program manager and investigating office.

6.55. Prevention. Effective prevention begins with supervisors ensuring maintenance personnel are properly trained in their AFSC of responsibility. Additionally, all maintenance personnel must be knowledgeable of command and unit requirements to prevent dropped objects from occurring.

6.55.1. Dropped object prevention starts with proper AFTO Form 781A and H documentation prior to removal and after installation of an aircraft component, cowling, door, panel, or part. Document aircraft forms according to Technical Order 00-20-1, 00-20-5, and unit instructions.

6.55.2. Personnel must ensure doors, cowlings, and panels fit properly. Place special emphasis on the condition and serviceability of all fasteners, nut plates, and latching devices as they are prime contributors to dropped objects.

6.55.3. Special attention must be given to "last minute" maintenance actions.

6.56. Investigation. Each dropped object must be thoroughly investigated by the unit LGQ as soon as the loss is discovered/reported. Every effort must be taken to determine the precise cause of the loss so permanent corrective actions can be taken. Where material failure or design deficiency is the cause, ensure quality deficiency reports (QDRS) are submitted accordingly TO 00-35D-54 with information copies to the MAJCOM and NAF/LGM. Dropped objects resulting from maintenance malpractice are referred to the applicable GP/CC for action. Dropped object incidents are included in the QA monthly and quarterly summaries.

6.57. Follow-up. Analyze incidents for unit trends and ensure corrective actions are valid and completed.

6.58. Reporting. Aircrews and maintenance personnel discovering a dropped object loss make the appropriate AFTO 781A entries. Aircrews debrief the loss to maintenance immediately after landing. LGQ investigates all dropped object incidents and LG/CC reports them by message to HQ AFRC/LGMA and respective NAFs, regardless if the loss is reportable by AFI 91-204*, Investigating and Reporting US Air Force Mishaps*. Dropped objects investigations are reported not later than five workdays after the loss using the format in paragraph **6.64.** Report the initial loss by telephone when practical to the NAF/LGM weapon system manager.

6.59. Dropped Object Reporting Message Format:

1. Dropped Object Report Number Unit, Year and Month, Followed By Sequence Number (that is, 301FW 960501).

2. Mission, Design, Series (F-16C).

3. Aircraft Tail Number (84-1248).

4. Date of Loss (15 April 96).

5. Owning Organization and Base (457FS NAS JRB FT WORTH TX).
6. Origin of Sortie.
7. Discovery Location, if Different From Origin of Sortie.
8. Item, Noun (Use Information In -4 Series Technical Order).
9. TO, Figure, Index.
10. NSN, and Part Number.
11. WUC.
12. Cost of Item.
13. Man-Hours and Cost to Repair/Replace.
14. Deficiency Report Submitted?
15. Cause of Loss.
16. Corrective Actions.
17. Recommendations.
18. POC Name, Phone Number.

Section 6K—Critical Tasks

6.60. General. A critical task is one that if not accomplished in strict accordance with applicable technical data, and could result in fatal or serious injury to personnel and/or extensive damage or destruction of valuable property. When a critical task requires more than one person, a pre-task safety briefing will be accomplished to ensure all personnel involved understand their function and are aware of all cautions and warnings associated with the task. The supervisor of the maintenance operation will be responsible for ensuring the pre-task safety briefing is given to all applicable personnel involved with the task. If pre-task safety briefing is not already available in technical data, QA will be responsible for ensuring that a pre-task safety briefing is established for each specific critical task and will apply to all MDSs.

6.60.1. Pre-task safety briefing will address the following areas as a minimum:

6.60.1.1. Required technical data for critical task.

6.60.1.2. Required equipment for critical task.

6.60.1.3. Number of personnel required to perform critical task.

6.60.1.4. Individual duties and responsibilities.

6.60.1.5. A review of all cautions and warnings associated with the critical task and any obvious safety concerns that might surface.

6.60.2. The following are examples of critical tasks that require a pre-task safety briefing prior to start:

6.60.2.1. Repair/replacement of primary and secondary flight control components, to include movement of surface during operational checks.

6.60.2.2. Jacking aircraft.

6.60.2.3. Aircraft towing.

6.60.2.4. Landing gear retraction.

6.60.2.5. Engine run-up checks.

Section 6L—Corrosion Control Program

6.61. HQ AFRC/LGM Responsibilities:

6.61.1. Is the office of primary responsibility (OPR) for the AFRC corrosion prevention program.

6.61.2. Supports the Air Force Corrosion Program Office (AFCPO) by participating in equipment evaluations, corrosion program managers meetings, advisory boards, executive counsel meetings, and field surveys. Coordinates with Air Force Materiel Command (AFMC) on the development and testing of corrosion control techniques and material.

6.61.3. Supports the Coating Technology Integration Office (CTIO) by participating in equipment evaluations, coating system evaluations, and Coating Technology Screening Committee (CTSC) meetings.

6.61.4. Represents AFRC aircraft structural maintenance workcenters at DOD/Air Force conferences and meetings.

6.61.5. Represents the command at corrosion prevention advisory boards (CPAB) for assigned weapon systems.

6.61.5.1. Emphasizes field support for specific weapon system CPAB, by requesting attendance and submission of action items.

6.61.5.2. Supports specific weapon system CPAB during investigations of airframe corrosion problems.

6.61.6. Conducts periodic command corrosion program managers meetings.

6.61.7. Conducts command corrosion surveys at a minimum of three AFRC flying units per year.

6.61.8. Ensures adequate technical training is current and available for aircraft structural maintenance technicians.

6.61.8.1. Attends 2A7X3 utilization and training workshops (U&TW).

6.61.8.2. HQ AFRC/LGQ identifies training requirements to Air Education and Training Command (AETC) to facilitate course scheduling/attendance.

6.61.9. Ensures all personnel involved in aircraft maintenance receive corrosion prevention and control training.

6.61.10. Reviews Air Force publications concerning corrosion prevention and control for adequacy and coordination with appropriate agencies.

6.61.11. Develops and issues technical and administrative instructions on the AFRC corrosion prevention and control program.

6.61.12. Stresses the importance of effective corrosion prevention on all affected systems within the command.

6.61.13. Strives to improve communication crossflow on corrosion prevention and control throughout all managerial levels in AFRC.

6.62. Corrosion Prevention and Control Manager Responsibilities:

6.62.1. Organizes, directs, and manages the wing/group corrosion prevention program according to AFIs 21-101, *Maintenance Management of Aircraft*, AFI 21-105, *Aerospace Equipment Structural Maintenance*, AFRC Supplement to TO 1-1-4, TOs 1-1-691, 1-1-8, 1-1-689, 35-1-3, applicable weapon system specific -3, -23, and this instruction.

6.62.2. Establishes corrosion prevention and control training for all aircraft and AGE maintenance personnel.

6.62.3. Develops and submits comments or recommendations for improvement of the corrosion control program to HQ AFRC/LGM.

6.62.4. Approves equipment and materials used to support the corrosion prevention and control program.

6.62.5. Submits budget requests for equipment, materials, facilities and manpower which support the unit corrosion prevention and control program.

6.62.6. Supplements AFRC corrosion control directives, as required, to maintain a sound corrosion control program.

6.62.7. When available, attends DOD, Air Force worldwide, and AFRC command corrosion program managers meetings and workshops.

6.62.8. Reviews and supplements, if required, corrosion control workcards for assigned equipment based on mission and location.

6.62.9. Attends the assigned weapon system CPAB or sends designated representative.

6.62.9.1. Coordinates with flightline maintenance (FM) flight chief on new recommendations and suggestions to enhance the unit corrosion prevention program and for submittal to CPAB.

6.62.9.2. Submits CPAB action items to HQ AFRC/LGM to maintain structural integrity of weapon system, extend service life and improve repair techniques.

6.62.10. Periodically monitors aircraft washing operations to ensure qualified products and approved processes are used.

6.63. Aircraft Structural Maintenance (ASM) Supervisor Responsibilities:

6.63.1. Ensures ASM personnel complete a corrosion inspection after each aircraft wash using AFRC Form 165, Aircraft After Wash Corrosion Inspection Checklist. Upon completion of the inspection, the ASM specialist clears the AFTO Form 781A, after-wash corrosion inspection. File disposition of AFRC Form 165 is according to AFMAN 37-139.

6.63.1.1. (Added-944FW) AFRC Form 165, Aircraft After Wash Corrosion Inspection Checklist, will be maintained in the 944 MXS Aircraft Structural Maintenance Shop (944 MXS/LGMFB) for a period of six months.

6.63.2. Ensures that only properly trained personnel operate shop corrosion prevention equipment.

6.63.3. Ensures technicians receive adequate training (formal and on-the-job) to accomplish assigned taskings, changes in inspection techniques, and advances in equipment technology.

6.63.4. Ensures no other maintenance is accomplished on the aircraft or equipment during corrosion prevention treatment when hazardous or toxic materials are in use. (Materials that require the use of specialized personal protective equipment.)

6.63.5. Procures materials and supplies to accomplish aircraft cleaning.

6.64. Flightline Maintenance Supervision Responsibilities:

6.64.1. Accomplishes a cleanliness inspection of aircraft after completion of the aircraft wash using AFRC Form 164, Aircraft Wash Cleanliness Inspection Checklist. Local requirements may be added to the cleanliness checksheet as required to enhance the unit cleanliness program. File disposition of AFRC Form 164 is according to AFMAN 37-139.

6.64.1.1. Upon completion of cleanliness inspection the flight chief clears the appropriate AFTO Form 781A entry.

6.64.1.2. The dock chief may accomplish the cleanliness inspection for isochronal/phase aircraft washes only.

6.64.1.3. (Added-944FW) AFRC Form 164, Aircraft Wash Cleanliness Inspection Checklist, will be maintained in the 302 FSM for a period of six months.

6.64.2. Manages aircraft wash rack to include maintaining equipment used during aircraft wash.

6.64.2.1. Coordinates the procurement of aircraft cleaners with the unit corrosion manager to ensure only qualified products are used during the cleaning operation.

6.64.2.2. Appoints an aircraft wash supervisor for each wash.

6.64.2.2.1. The wash supervisor uses AFRC Form 163, Aircraft Wash Supervisor's/ Employees' Checklist, to ensure adequate preparation of the aircraft, training for wash crew, and washing of aircraft occurs. AFRC Form 163 is completed once during the initial wash training process; thereafter, when work processes, equipment, materials, or conditions change.

6.64.2.2.2. The wash supervisor ensures the facility is clean and equipment is properly maintained and stored at completion of each wash.

6.64.2.2.3. (Added-944FW) AFRC Form 163, Aircraft Wash Supervisor's/Employees' Certification, will be maintained in the Wash Training folder, in the 302 FSM T.O. room, located in building 1022. Phase Dock personnel will have their AFRC 163 maintained in the Phase Inspection Office, building 999.

6.64.3. Qualifies and trains personnel in correct procedures for aircraft washing and cleaning. It is recommended that personnel assigned as wash supervisors or cleanliness inspectors attend J3AZR/ J4AZT2A753 000, Aircraft Corrosion Control, or an equivalent training course approved by HQ AFRC/LGM.

6.64.4. Coordinates the use of adequate wash rack facilities.

6.64.5. Performs washing and cleaning of assigned weapon system using aircraft wash crews.

6.64.5.1. (Added-944FW) The upper surfaces of the aircraft will be washed using maintenance stands. As a safety precaution, there will be no standing or walking on wet aircraft surfaces (reference AFOSH Standard 91-100, Aircraft Flight Line – Ground Operations and Activities, paragraph 4.2.)

6.64.6. At units using wash contractors, must be thoroughly familiar with contract specifications, applicable technical orders, and inspection acceptance criteria.

6.64.7. Procures and maintains personal protective equipment used during the wash process.

6.64.8. (Added-944FW) Aircraft after wash cleanliness inspections will be performed while the designated wash aircraft is on the wash rack. This will eliminate the returning of the aircraft to the wash rack should the aircraft wash not meet the definition of clean in AFRCI 21-101, paragraph **6.68.**, first NOTE.

6.65. Quality Assurance Responsibilities:

6.65.1. Monitors a minimum of one aircraft washing operation per quarter to ensure only qualified products and equipment are used, assigned wash crews are properly trained and qualified, plans and scheduling has scheduled washes and washes are being accomplished on-time according to schedule listed in TO 1-1-691, and checks aircraft for cleanliness, corrosion and lubrication after washing.

6.65.2. Ensures personnel attend J3AZR/J4AZT2A753 000, Aircraft Corrosion Control, or an equivalent training course approved by HQ AFRC/LGM.

6.66. Avionics Responsibilities:

6.66.1. Aircraft avionics systems and instruments are extremely critical for safety of flight and are no less susceptible to corrosion damage. All avionics work sections must be familiar with, and have available for use, TO 1-1-689.

6.66.2. Avionics maintenance personnel are responsible for inspecting and cleaning pins and sockets of disconnected electrical connectors, black boxes, inside equipment drawers, etc., for corrosion. When corrosion damage is beyond the capability of the shop, request assistance from the aircraft structural maintenance work center.

6.67. General Corrosion Prevention and Control Issues:

6.67.1. Corrosion prevention and control programs are oriented towards the preventative maintenance concept in controlling corrosion through the maintenance of protective coatings, equipment cleanliness, timely detection, and correct treatment. Prevention is the hub of an effective corrosion control program; therefore, strict adherence to corrosion prevention policies is essential.

6.67.2. It is not economically feasible to treat hardware (screws, nuts, etc.) for corrosion; therefore, replace corroded hardware as required.

6.67.3. Crossflow of information is essential to the program. This instruction authorizes all program managers direct communication with their counterparts (all echelons) on any matter pertaining to the program.

6.67.4. All maintenance personnel, regardless of AFSC, are responsible for detecting and documenting corrosion in the proper maintenance forms. Structural maintenance workcenter evaluates corrosion discrepancies to determine proper treatment or repair.

6.67.5. Corrosive Chemical Substances:

6.67.5.1. A corrosive chemical spill aboard an aircraft is one of the most potentially hazardous situations encountered by maintenance and aircrew personnel. When a chemical leak or spill occurs aboard an AFRC aircraft, immediately notify the hazardous material spill response team. Flightline maintenance personnel annotate the aircraft forms as to what type of chemical was spilled and area contaminated.

6.67.5.2. After neutralization, notify structural maintenance to perform a comprehensive corrosion inspection of the affected area.

6.67.5.3. Clean aircraft and equipment soiled with fire extinguishing materials as soon as possible after exposure, according to TO 1-1-691, chapter 9.

6.67.6. Protective Coating:

6.67.6.1. Coating systems provide protection of aircraft and aerospace ground equipment (AGE) surfaces; technical order directives determine protective coating system selection.

6.67.6.2. Maintenance painting is the application of coatings to aerospace equipment where the existing coating system is deteriorated or missing. Maintenance painting is kept to a minimum and must comply with federal, state, and local environmental regulations. Maintenance painting of aircraft accomplished solely for cosmetics is not authorized.

6.67.6.2.1. Total repainting of aircraft at field level is not authorized because of the lack of proper application facilities. When aircraft repainting is beyond the unit's capability, request assistance according to TO 00-25-107.

6.67.6.2.2. Units equipped with environmentally compliant aircraft painting facilities and adequate aircraft structural maintenance manpower are authorized to perform mid-interval overcoating of aircraft. Overcoating is accomplished no earlier than the mid-point of the coating service life. Work processes are coordinated with local environmental and bioenvironmental offices. Units operating in environmentally severe corrosion environments may request to establish a more frequent interval for mid-interval overcoating.

6.67.6.2.3. Complete overcoating of AGE/support equipment is accomplished at intervals not earlier than 5 years. Equipment items with 5 years service life on the coating system will be overcoated on an as needed basis. Assets should be scheduled into the structural maintenance workcenter for protective coating application.

6.67.6.3. To help reduce the volume of coating materials required for application of markings on equipment, units are encouraged to use sign maker equipment.

6.68. Cleaning and Washing of Aircraft:

6.68.1. A complete exterior and interior cleaning is accomplished on all aircraft as directed by TO 1-1-691 wash interval and prior to each isochronal or phase inspection.

6.68.1.1. The following entries, as a minimum, are required for an aircraft wash:

6.68.1.1.1. Aircraft taped and prepped for wash. Enter this in the forms on a red X prior to the wash. It is cleared after the cleanliness inspection is successfully completed.

6.68.1.1.2. Aircraft after-wash cleanliness inspection due. Enter this in the forms on a red dash and clear by the flightline maintenance supervision.

NOTE: Definition of clean. All references to the condition of clean pertain to the following description: To determine if surfaces are clean, a close visual inspection is accomplished to determine that all residue, oily film, and streaking have been removed. If cleanliness is questionable, a wet or dry, lint free, white towel is wiped firmly across the various surfaces. If excessive soiling of the towel occurs, the surface is not clean.

6.68.1.1.3. Aircraft after-wash corrosion inspection due. This entry is placed on a red dash and cleared by the aircraft structural maintenance workcenter.

6.68.1.1.4. Aircraft due after wash lube. Enter this in the forms on a red X.

NOTE: Proper lubrication is vital in prevention of corrosion. Lubrication prevents water intrusion in bearing cavities and causing corrosion damage. If technicians wash components between normal cleaning cycles (flightline washes), relubrication is required.

6.68.1.2. Units must adhere strictly to scheduled aircraft wash cycles.

6.68.1.2.1. Aircraft wash intervals are established in TO 1-1-691. They are designed to ensure aircraft received regular washes at intervals necessary to maintain airframe structural integrity and reduce the potential for corrosion.

6.68.1.2.2. If organizations know in advance they are scheduled to deploy their weapon system, they must ensure aircraft washes are accomplished prior to mission deployment. Units tasked with no-notice or unscheduled deployments write the aircraft wash up in the affected AFTO Form 781A using a red dash symbol. The aircraft wash is accomplished upon completion of the mission.

6.68.1.3. Units with aircraft operating near or over salt water perform clear water rinsing according to TO 1-1-691.

NOTE: When an aircraft flies over salt water below 3,000 feet, the aircrew debriefing record and AFTO Form 781A, are annotated.

6.68.2. Because it is a severe corrosion-prone area, aircraft latrine/urinal areas is kept clean**.**

6.69. Corrosion Prevention and Control Training:

6.69.1. All aircraft maintenance personnel receive locally developed corrosion prevention, control, and identification training under the direction of the corrosion manager.

6.69.2. Training is completed every 2 years except for personnel in the aircraft structural maintenance workcenter.

6.69.3. The corrosion manager or a designated representative holding a primary AFSC of 2A753 or 2A773 conducts the training.

6.69.4. The corrosion manager, in conjunction with the unit maintenance training manager, develops the training curriculum. Curriculum includes as a minimum:

6.69.4.1. Corrosion identification procedures and techniques using the most current available Air Force aircraft corrosion visual training aids and information.

6.69.4.2. Identify unit specific weapon systems and equipment corrosion prone areas.

6.69.4.3. Reporting and documenting procedures for identified corrosion.

6.69.4.4. Importance of proper selection and use of sealants, corrosion preventive compounds (CPC), and lubricants.

6.69.4.5. Proper selection and use of all cleaning materials.

6.69.5. The corrosion manager, with the assistance of the unit maintenance training manager, periodically updates training material and information.

6.69.6. Corrosion training does not replace normal on-the-job (OJT) requirements of the individuals in any career field.

6.69.7. (Added-944FW) The course code for the 944 FW Biennial Aircraft Corrosion Training is 164.

6.70. Aerospace Ground Equipment (AGE) and Support Equipment:

6.70.1. AGE workcenter personnel attend AGE corrosion training.

6.70.1.1. The corrosion manager, in conjunction with the AGE supervisor and unit maintenance training manager, develops corrosion prevention and control training curriculum.

6.70.1.2. Corrosion manager and AGE supervisor determine training interval.

6.70.2. Owning workcenter supervisor is responsible for establishing and enforcing an effective corrosion program on assigned AGE and support equipment.

6.70.2.1. Regular cleaning is the primary method of corrosion prevention. To maintain a sound corrosion control program, AGE and support equipment is cleaned during each periodic or annual inspection or more often as determined by the owning workcenter supervisor.

6.70.2.2. Aircraft structural maintenance and AGE supervisor determines repainting.

6.70.2.2.1. Surface preparation is accomplished to the maximum extent possible by owning workcenter. Work beyond the capability of AGE workcenter is scheduled with the appropriate fabrication section.

6.70.2.2.2. Repainting is accomplished by aircraft structural maintenance workcenter. Stenciling and reflectorization is accomplished by the owning workcenter.

6.70.2.2.3. Complete overcoating of equipment is accomplished at intervals of 5 years. Equipment should not be overcoated solely for the purpose of cosmetics. However, the overcoating interval may be reduced if environmental conditions dictate.

6.70.2.2.4. Personnel at units using paint contractors must be thoroughly familiar with contract specifications, applicable technical orders, and acceptance inspection criteria prior to equipment being repainted.

6.70.3. The use of corrosion preventative compounds (CPC) is encouraged.

6.70.4. Owning workcenter personnel may treat small chips in the paint with CPC. Treat larger chips in the paint according to TO 35-1-3. Surfaces with large amounts of deterioration or chips are treated

by the aircraft structural maintenance workcenter. To minimize the contrast between new and aged topcoats, the same type of paints are used.

6.70.5. (Added-944FW) The course code for the 944th Maintenance Biennial AGE Corrosion Training is 163.

6.71. Aircraft Munitions and Support Equipment:

6.71.1. Owning workcenter supervisor is responsible for establishing and enforcing an effective corrosion program on assigned munitions support equipment.

6.71.1.1. Equipment is cleaned and corrosion treated during each periodic inspection, or more often as determined by the owning workcenter, to maintain a sound corrosion prevention program.

6.71.1.2. Repainting is determined by structural maintenance and munitions supervision.

6.71.1.3. Surface preparation is accomplished to the maximum extent possible by owning workcenter. Work beyond the capability of munitions workcenter is scheduled with the appropriate fabrication section.

6.71.2. The use of corrosion preventative compounds (CPC) is encouraged.

Section 6M—Nondestructive Inspection and Oil Analysis Programs

6.72. Purpose/Definitions:

6.72.1. Nondestructive Inspection (NDI) is a group of inspection methods used to investigate the quality, integrity, properties and dimensions of the materials and components without damaging or impairing their serviceability. NDI is used to improve aircraft availability, reliability, and reduce the cost of aircraft maintenance through accurate and early detection. The primary inspection methods used in AFRC laboratories are; liquid fluorescent penetrant, magnetic particle, eddy current, ultrasonic, and radiographic.

6.72.2. Oil Analysis Program (OAP) measures and evaluates internal engine wear metal by interpreting oil analysis results. The engine condition is assessed based on the diagnosis of the probable source of the wear metal. Based upon assessment, the OAP lab makes a maintenance or operational recommendation for the user.

6.73. Nondestructive Inspection (NDI) Program:

6.73.1. HQ AFRC/LGM:

6.73.1.1. Is the office of primary responsibility (OPR) for the AFRC NDI program.

6.73.1.2. Supports the Air Force NDI Program office by participating in NDI equipment evaluations, field evaluations, NDI Intergrated Process Teams (IPT), NDI Product Improvement Teams (PIT), NDI managers meetings, and advisory boards.

6.73.1.3. Approves the establishment of command NDI laboratories to support assigned weapon systems and customers; within specific geographical areas designated by the Air Force NDI program office.

6.73.1.4. Represents AFRC NDI laboratories at DOD/Air Force conferences and meetings.

6.73.1.5. Conducts periodic command NDI meetings. Provides equipment and NDI program status briefings.

6.73.1.6. Ensures adequate technical training is current and available for NDI technicians.

6.73.1.6.1. Attends 2A7X2 utilization and training workshops (U&TW).

6.73.1.6.2. Identifies training requirements to Air Education and Training Command (AETC) to facilitate course scheduling/attendance.

6.73.1.6.3. Supports NDI design reviews during system acquisiton and Milestone III planning.

6.73.2. Nondestructive Inspection (NDI) Shop Supervisors:

6.73.2.1. Organize, direct, and manage the wing NDI program according to TO 33B-1-1 and applicable -6 and -36 technical orders.

6.73.2.2. Attends DOD, Air Force worldwide, and AFRC command NDI meetings and workshops.

6.73.2.3. Ensures only properly trained personnel with AFSC 2A7X2 operate NDI equipment.

6.73.2.4. Ensures personnel performing NDI attend the Air Education and Training Command (AETC) basic and advanced technician courses or AETC approved civilian equivalent courses.

6.73.2.5. Ensures technicians receive adequate training (formal and on-the-job) to accomplish assigned taskings, changes in inspection techniques, and advances in equipment technology.

6.73.2.6. Ensures shop instruments and equipment is not modified or used for non-NDI applications.

6.73.2.7. Enforces compliance with publications listed in **Attachment 1**.

6.74. Oil Analysis Program (OAP).

6.74.1. HQ AFRC/LGM:

6.74.1.1. Is the command OPR for the OAP.

6.74.1.2. Supports the Air Force OAP office by participating in OA equipment evaluations, field evaluations, OAP Intergrated Process Teams (IPT), OAP Product Improvement Teams (PIT), OAP managers meetings and advisory boards.

6.74.1.3. Approves the establishment of command OAP laboratories to support assigned weapon systems and customers; within specific geographical areas designated by the Air Force OAP program office.

6.74.1.4. Ensures adequate training for OAP technicians is available and current.

6.74.1.5. Identifies training requirements to Air Education and Training Command (AETC) to facilitate course scheduling/attendance.

6.74.1.6. Notifies unit LGs (in writing) of assigned spectrometers which fail to meet command 6 month correlation requirement of 90 percent.

6.74.1.7. Supports OA design reviews during system acquisiton and Milestone III planning.

6.74.2. Propulsion Shop Supervisor:

6.74.2.1. Is assigned as the primary unit OA monitor.

6.74.2.2. Assigns a unit OAP monitor when their units do not operate an oil analysis laboratory or when their units are being supported by an off-base laboratory. Do not designate NDI personnel as OAP monitors when the unit is being serviced by an off-based OAP laboratory.

6.74.2.3. Conducts OAP meetings consisting of all OAP managers and the NDI section supervisor or designated representative. The purpose of these meetings is to resolve base OA problems.

6.74.2.4. Ensures a copy of DD Form 2027, Oil Analysis Record, accompanies each engine undergoing depot maintenance.

6.74.2.5. Determines follow-on engine maintenance requirements based upon oil analysis recommendations.

6.74.3. Nondestructive Inspection (NDI) Shop Supervisor:

6.74.3.1. Is assigned as the alternate OAP monitor.

6.74.3.2. Ensures only properly trained personnel with AFSC 2A7X2 operate OA equipment.

6.74.3.3. Ensures shop instruments and equipment is not modified or used for non-OA applications.

6.74.3.4. Ensures personnel performing OA attend formal AETC OA training.

6.74.3.5. Ensures deployable (mobility) spectrometers are secured in a mobility conex before being deployed out of the OAP lab.

6.74.3.6. Ensures assigned OAP spectrometers are Joint Oil Analysis Program (JOAP) certified according to TO 33-1-37-1.

6.74.3.7. Ensures assigned OAP spectrometers maintain a 6 month correlation average of 90 percent.

6.74.3.8. Provides written reports to unit LG and higher headquarters explaining reasons for failure to meet established command correlation requirements.

6.74.3.9. Ensures the 14/30 day records check is documented on the permanent OAP record.

6.74.3.10. Ensures OAP laboratory inputs accurate and timely data into the central data base.

6.75. Oil Sampling procedures:

6.75.1. Instructions and procedures for sampling, documenting forms, reporting data, obtaining supply requirements, and taking special samples are as specified in TOs 33-1-37-1, -2, and -3.

6.75.2. Intervals for sampling requirements are specified in the applicable weapon system specific scheduled maintenance or periodic inspection document (-6).

6.75.2.1. Exceptions: Sample single engine fixed-wing aircraft after each flight if an on-base OAP lab exists. The results must be known before the next flight. If an oil sample result cannot be determined before the next flight or a situation arises due to operational constraints. Aircraft will not be flown three consecutive sorties without an oil sample taken and the results determined.

6.75.2.2. Sample A-10 aircraft after first flight of the day. During surges, quick turns, etc., sample intervals will not exceed ten engine operating hours according to -6 technical order. Sample will be taken prior to adding oil.

6.75.3. At all times sampling frequency is as specified, regardless of availability of personnel or equipment.

6.75.4. The following procedures apply when in a transient or cross-country status:

6.75.4.1. If engine oil samples become due while aircraft is gone from home station, obtain the DD Form 2026, Oil Analysis Request, and/or DD Form 2027, Oil Analysis Record, from the OAP lab and place in the aircraft records before the cross-country flight or deployment.

6.75.4.1.1. During unit deployments, deployed OAP technician hand-carries the DD Form 2027. If an OAP technician isn't included in the deployment, the unit OAP monitor ensures the copys of DD Form 2027 are delivered to the OAP lab supporting the deployment, retrieved from the supporting OAP lab upon redeployment, and delivered to the home station OAP lab as soon as possible.

6.75.4.1.2. When OA capability exists at a transient location and sample is required, the aircrew obtains sample results before departure. However, if sample results cannot be provided, the aircrew requests transient maintenance personnel ensure the results are forwarded telephonically to the next destination. The aircrew ensures a standard entry is placed in the AFTO Form 781A, before departure.

6.75.4.1.2.1. Sample entry is: "A-10 OAP sample results are unknown from previous day's flying. Results required to be known before departure from second transient location."

6.75.4.1.2.2. Aircrews ensure results are forwarded upon arrival at their next destination. The intent of this entry is to inform transient maintenance personnel of OAP sampling requirements of the aircraft. Each unit develops its own entry based on OAP requirements for its assigned aircraft.

6.75.4.1.3. When OA does not exist at a transient location, aircrews ensure samples are taken at departure base and carried to and processed at the next destination.

6.75.4.1.4. Owning unit GP/CC waiver is required for extenuating circumstances.

6.76. Operating Instructions (OI):

6.76.1. Each GP/CC publishes an OI giving detailed guidance for accomplishing the OAP. Guidance includes but is not limited to:

6.76.1.1. Designating the responsibility to the organizational maintenance unit for taking samples and establishing procedures for delivery to the OAP laboratory or dispatch point.

6.76.1.1. (944FW) The 944 FW primary Oil Analysis Program (OAP) monitor is the 944 MXS Propulsion Flight Chief. The 944 OG and LG Commander will each appoint an alternate OAP monitor in writing. Alternate OAP monitors are appointed from the 944 MXS Aerospace Ground Equipment (AGE) Flight and the 302 FSM. The alternate OAP from the 302 FSM will ensure OAP samples are delivered to the OAP laboratory. Taking of samples on uninstalled engines is the responsibility of the 944 MXS Test Cell. Taking of samples on flight line support equipment

requiring oil sampling is the responsibility of the 944 MXS AGE Flight. The aircraft crew chief taking an oil sample will annotate the oil change time on AFTO Form 781J, Aerospace Vehicle - Engine Flight Document, and on DD Form 2026, Oil Analysis Request.

6.76.1.2. Establishing a local standard for total sample response time as determined by mission requirements. Total response time is from time sample is taken until OAP lab reports results to the production super.

6.76.1.2. (944FW) The OAP laboratory will analyze the samples and call the results in to the 944 MCF. The MCF will in turn notify the Expediter. Total response time will be as soon as possible, but no later than 1 1/2 hours after sampling.

6.76.1.3. Ensuring training procedures are provided to all affected personnel within the OAP.

6.76.1.3. (944FW) Initial training of 944 FW primary and alternate OAP monitors will be conducted by the 56th Equipment Maintenance Squadron (EMS) Joint Oil Analysis Program (JOAP) Laboratory personnel, IAW LAFBI 21-103, Joint Oil Analysis Program. The 944 FW OAP and 302 FSM OAP monitors are responsible for training their respective maintenance personnel with engine oil consumption limits, engine wear metal limits and oil sampling procedures IAW applicable tech data.

6.76.1.4. Providing procedures for backup support in the event the oil analysis spectrometer is out of commission.

6.76.1.4. (944FW) The 56 EMS JOAP Laboratory is the primary OAP laboratory for the 944 FW. In the event the equipment in the primary laboratory is not available or unserviceable, the 944 MXS Non-Destructive Inspection (NDI) Laboratory can utilize their equipment to comply with the requirements for oil analysis. The 944 LG Commander may direct the 944 MXS NDI Laboratory to deploy their equipment and become the primary laboratory at a deployed location to support any deployed operations.

6.76.1.5. Providing procedures to ensure aircraft under special surveillance have samples analyzed before the next flight or engine operation.

6.76.1.5. (944FW) The OAP monitor or assistants will ensure special surveillance (Code E/Red Cap) samples are analyzed before next flight or engine operation. The OAP or assistants will make the appropriate entry or entries in the aircraft AFTO Forms 781A ensuring all maintenance actions are complied with. If the aircraft is to be put on special surveillance, an entry (Red Dash) will be made in the AFTO Form 781A stating, “Engine oil sample result unknown from previous flight. Result required to be known prior to next flight or engine operation.” This entry will be made until the aircraft can be returned to normal status. These entries can be signed off by the OAP monitor or assistants. The appropriate personnel will annotate all Code E/Red Cap on the DD Form 2026, in the remarks, when an aircraft/engine is on surveillance. The Propulsion Flight Chief’s JOAP monitoring book, located in the Engine Management Branch (EMB) office, contains abnormal JOAP trending, engine codes and aircraft on condition status (i.e., 10 hours surveillance). The Propulsion Flight Chief should use this information to advise Maintenance Supervision and MCF of maintenance actions to be taken or when aircraft/engine can be released from surveillance/local flight only.

6.76.1.6. Providing procedures to ensure aircraft under special surveillance are flown only on local flights.

6.76.1.6. (944FW) The OAP monitor or assistants will ensure aircraft under special surveillance will only be flown locally. The OAP or assistants will make the appropriate entry or entries to the aircraft AFTO Forms 781A ensuring all maintenance actions are complied with. If the aircraft is to be put on surveillance and restricted to local flying, an entry (Red Dash) will be made in the AFTO Form 781A stating, "Aircraft restricted to local flight for Code E/Red Cap JOAP." When and if the aircraft can be returned to normal flight status, then the entry can be signed off by OAP monitor or assistants.

6.76.1.7. Ensuring oil samples, when due, are taken promptly after engine shutdown and before oil servicing.

6.76.1.7. (944FW) The OAP monitor or assistants will ensure oil samples, when due, are promptly taken after engine shut down and before oil servicing.

6.76.1.8. Providing procedures to ensure an information interchange is established between the propulsion and OAP lab.

6.76.1.8. (944FW) The 944 FW OAP monitor should meet quarterly with the NCOIC of the 56 EMS JOAP Laboratory to discuss OAP related problems, issues, and training. Problems and concerns identified during this meeting will be discussed with the affected squadrons, on a quarterly basis by the 944 FW OAP monitor.

6.76.1.9. Providing procedures for including the OAP lab during aircraft records document reviews.

6.76.1.9. (944FW) During the aircraft document review, the crew chief will contact EMB to verify engine serial number, engine operating time and oil change time is correct for JOAP records. EMB sends the 56 EMS JOAP Laboratory information that will include engine serial number, engine operating time and oil times on a daily basis.

6.76.1.10. Providing procedures establishing proper communication channels regarding abnormal trends detected.

6.76.1.10. (944FW) The 56 EMS JOAP Laboratory notifies MCF and the OAP monitors if any abnormal trends are detected during sampling. The MCF will then notify the flight line Production Superintendent and Expeditor.

6.76.1.11. Providing procedures for ensuring the propulsion section sends a message to the respective ALC OAP monitor when an engine or a major component is sent to depot as a result of oil analysis.

6.76.1.11. (944FW) The Propulsion Flight Chief will send a message, as soon as possible, to the respective Air Logistics Center (ALC) OAP monitor when a major component is sent to depot as a result of oil analysis.

6.76.1.12. Sending an information copy to all messages to supporting OAP lab, HQ AFRC/LGMSS, and the OAP management office (WL-MLS/OL).

6.76.1.12. (944FW) An information copy of these messages will be sent to the OAP Laboratory, HQ AFRC/LGMSS and the OAP management office WL-MLS/OL.

Section 6N—Survival Equipment Program

6.77. General. Survival Equipment (AFSC 2A7X4) supports aircraft maintenance, aircrew members, combat controllers, pararescue and tactical air controllers through the inspection, repair, and packing of integrated personnel parachutes, drogue parachute systems, and deceleration parachutes, flotation equipment, protective equipment, emergency evacuation systems and interprets blueprints. Performs fabric work in the maintenance and repair of personnel, cargo extraction and other types of parachutes. Designs, manufactures, and repairs equipment covers, organizational clothing, survival vests, cargo nets, flotation equipment and restraining devices. Designs, manufactures, reconditions and repairs aircraft interior and related components.

6.78. HQ AFRC/LGM:

6.78.1. Is the office of primary responsibility (OPR) for the AFRC survival equipment program.

6.78.2. Supports the Air Force Survival Equipment Program by participating in equipment evaluations, executive counsel meetings, advisory boards, and field surveys.

6.78.3. Develops and coordinates policy and procedures on survival equipment functions.

6.78.4. Evaluates suggestions, technical orders, and reports such as hazard and product deficiencies which pertain to survival equipment.

6.78.5. Serves as command representative at Air Force Survival Equipment Executive Working Group meetings.

6.78.5.1. Represents AFRC at DOD/Air Force conferences and meetings.

6.78.5.2. Conducts a command survival equipment working group at least every 24 months.

6.78.5.3. Emphasizes field support for worldwide and command specific working groups, by requesting attendance and submission of agenda or action items.

6.78.6. Ensures adequate technical training is current and available for survival equipment maintenance technicians.

6.78.6.1. Attends 2A7X4 utilization and training workshops (U&TW).

6.78.6.2. HQ AFRC/LGQ identifies training requirements to Air Education and Training Command (AETC) to facilitate course scheduling and attendance.

6.78.7. Reviews Air Force publications concerning survival equipment for adequacy and coordination with appropriate agencies.

6.78.8. Develops and issues technical and administrative instructions on the AFRC survival equipment program.

6.79. Fabrication Flight Chief:

6.79.1. Encourages assigned survival equipment personnel to actively participate in the command survival equipment program.

6.79.2. Ensures daily maintenance schedule is accurate and delivered to the survival equipment shop in a timely manner.

6.79.3. Ensures special certification roster is accurate and up to date.

6.80. Survival Equipment Section Supervisor:

6.80.1. Ensures assigned unit survival equipment (including training equipment) is thoroughly inspected at intervals not to exceed the command inspection cycle.

6.80.2. Ensures access in the survival equipment section is restricted to personnel directly involved in the survival equipment inspection, maintenance, and packing operations. This is to prevent any tampering, damage, or contaminates getting onto or in life support assemblies.

6.80.3. Documents and updates component changes accomplished during periodic inspections or repacks in the MIS and annotates equipment installed forms.

6.80.4. Ensures assigned personnel attend initial and annual egress familiarization training on all aircraft containing explosive egress systems.

6.80.5. Establishes a recurring training program on infrequently maintained systems to ensure personnel proficiency levels are maintained.

6.80.6. Maintains a two person concept during the inspection and repack of ejection type personnel and drogue parachutes.

6.80.7. Coordinates with life support, combat controllers, and pararescue sections to obtain a monthly schedule of equipment requiring inspection and maintenance.

6.80.8. Develops and coordinates a workcenter specific local explosive safety storage license through wing safety.

6.80.9. Ensures only qualified repairs and modifications are performed on flight clothing and equipment according to applicable technical orders.

6.80.10. Ensures technical orders are current and personnel are aware of all supplements and changes.

6.80.11. Ensures workcenter meets prescribed working environmental conditions for personnel safety to include hazardous communication program, hazardous materials, pharmacy, and hazardous waste program.

6.80.12. Develops, implements, and documents in process inspections on critical steps and final quality checks on all completed equipment using the routine inspection criteria in the applicable technical orders. (***NOTE:*** Riggers packing live parachutes must be certified by either U.S. Army technical training course, course number: J5AZA2A754-001, or trained locally by a certified rigger.)

6.80.13. Maintains mobility containers to deploy equipment in support of bare base locations in excess of 60 days.

6.80.14. Establishes special stock levels in supply to support the repair and replacement of individual equipment (IEU) components serviced in the survival equipment workcenter. Requisitions parts or material and replaces all unserviceable components.

6.80.15. Ensures funding is forecasted for various system training and worldwide or command survival equipment working groups.

6.80.15.1. Encourages technicians to participate and attend worldwide or command survival equipment meetings and working groups.

6.80.15.2. Ensures agenda items are submitted to improve maintenance practices within the survival equipment community.

6.80.16. Represents workcenter at activities which require the use of survival equipment expertise, (that is, TCTO scheduling, maintenance meetings, etc.).

6.80.17. Identifies assets which have exceeded service life to the life support section and services component based upon decision made by life support section chief.

6.81. Life Support Supervisor:

6.81.1. Establishes servicing requirements to be accomplished by survival equipment workcenter.

6.81.2. Requests usage waivers or extensions for assets exceeding established time change and service life requirements.

6.81.3. Requisitions initial buildup of components and maintains a limited stock for mobility spares.

6.81.4. Ensures all inspected equipment is promptly removed from survival equipment workcenter.

6.81.5. Coordinates scheduling of life support equipment being serviced by survival equipment with survival equipment workcenter supervisor.

6.81.6. Conducts biannual meetings with survival equipment and egress section to discuss the overall condition of the unit life support equipment program.

Section 6O—Ground Maintenance Trainers (GMT)

6.82. General. This section prescribes procedures governing ground maintenance trainers. Ground maintenance trainers are aerospace vehicles either temporarily or permanently grounded for use in personnel training. This section does not apply to Aircraft Battle Damage Repair (ABDR) training aircraft. ABDR training aircraft are manage by SM-ALC ABDR Program Management Office. Their responsibilities and minimum guidance for maintaining ABDR aircraft are identified in AFMCI 10-202, Combat Logistics support, chapter 2 and 8, respectively.

6.82.1. Temporarily grounded aerospace vehicles are those considered excess to future operational or flying requirements. Aircraft in this category are redesignated by the addition of the prefix "G" to the basic mission design series (MDS) and are identified with assignment code "TJ". Store uninstalled equipment not required for training locally or turn in when directed by the air logistics center (ALC) system manager (SM). Before removing installed equipment, obtain approval from HQ AFRC/LGM. The SM may request removal and shipment of items in critical or short supply to support the operational force and the items are not required for the ground training program. Replacement equipment is furnished from quantities on procurement or scheduled for overhaul or repair. Removal of the equipment must not disfigure the external appearance of the aircraft.

6.82.2. Permanently grounded aerospace vehicles are those considered excess to future operation or flying requirements by Headquarters Air Force (HQ USAF). Aircraft in this category are redesignated by the addition of the prefix "G" to the basic MDS and are identified with assignment code "TX". The SM initiates the save list of items to be removed. HQ AFRC/LGM, in coordination with the unit, reviews and approves the listing ensuring the items to be removed are not required for the training program and will not disfigure the external appearance of the aircraft. After the items on the

save list have been removed, removal of additional items must be approved by HQ AFRC/LGM. Turn in all excess items not required in the training program to base supply.

6.82.3. Assign a ground maintenance trainer (GMT) crew chief. Individual must possess the technical expertise, management skills, and leadership ability to assure quality maintenance standards of equipment condition, reliability, and safety are attained. Crew chief is responsible to accomplish and/or coordinate maintenance actions for the GMT, ensure GMT documentation is accurate and complete, and be qualified to operate GMT systems and appropriate support equipment to conduct GMT maintenance.

6.82.4. Owning unit commanders, unit to which the GMT is assigned, will develop an instruction to define the scope of unit training functions for GMT use; functional responsibility for funding, operations, maintenance, and records management; and specific unit guidance.

6.82.5. The owning unit commanders are responsible for the maintenance of ground maintenance trainers used in support of training missions. Owning units that do not have organic maintenance/logistics capability will establish host tenant support agreements or memorandums of understanding assigning maintenance responsibility. GMT maintenance includes on and off equipment maintenance of active systems and subsystems and necessary actions to maintain the aerospace vehicle in a presentable condition. The degree of maintenance required for temporarily grounded aircraft will be determined by the unit commander. The commander:

6.82.5.1. Determines systems and subsystems to be operational and maintained in the same configuration as operational equipment.

6.82.5.2. Processes systems and subsystems not used for training for extended storage using the applicable technical guidance.

6.82.5.3. Ensures 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.

6.82.5.4. Develops and prepares inspection check sheets for use in inspecting the condition and safety of equipment before use and ensures inspections are performed. Prior-to-use inspections are conducted by the using organization employing a tailored weapon system pre/post dock checklist. Conducts periodic maintenance inspections at least semi-annually using a tailored Home Station Check workdeck.

6.82.5.5. Ensures accurate aerospace vehicle inventory reporting according to AFI 21-103 as required for ground trainers. Aerospace vehicles used for ground trainers are exempt from status and utilization reporting.

6.82.5.6. Ensures accurate maintenance documentation. GMT mandatory AFTO Form 781 series forms are listed in TO 00-20-5. Document maintenance actions per TO 00-20 series requirements. Use of unit operational Management Information System (MIS, G081) for GMT records management is mandatory. Owning units not having logistics capability will establish host tenant support agreements or memorandums of understanding assigning records management responsibility.

6.82.5.7. Ensures timely completion of TCTOs on systems designated for configuration management and proper configuration status accounting is maintained. Accomplish TCTOs on systems not designated for configuration management as required to ensure safety of operation or as directed by SM/ALC on aircraft coded as "TJ".

6.82.5.8. Ensures proper coordination and documentation of parts removed from permanently grounded aircraft are accomplished as follows:

6.82.5.8.1. When an item is removed or replaced, supervisors ensure this action is documented in the AFTO 781 series forms. Include the authority for removal (message number, telecon, letters, and dates, etc.) and condition of installed/replacement items.

6.82.5.8.2. When the limited save list actions have been done, forward a copy of the completed list to the documentation function. This copy becomes part of the historical records. Also forward a second copy to the appropriate ALC/SM.

6.82.5.8.3. Identify all unserviceable components furnished by ALC in a conspicuous manner (red X or red dot system).

6.82.5.8.4. Ensure weight and balance handbook requirements are complied with according to TO 1-1B-50, TO 1-1B-40, and applicable -5 series TO.

6.82.5.8.5. Ensure operating and maintenance technical data are readily accessible whenever the GMT is in use or undergoing inspection. Use of GMT G-file is mandatory. (NOTE: GMT G-file may be taylored depending on systems capability of the trainer).

Section 6P—Foreign Object Damage Prevention Program (FOD)

6.83. General. This instruction establishes objectives and assigns responsibilities and accountability for implementing and maintaining an effective Foreign Object Damage Prevention Program for aerospace systems, equipment, and components in the Air Force Reserve Command (AFRC). The intent of this program is to focus on education , prevention, and reporting of foreign object damage. It specifies responsibilities performed at each level of command. Any deviations or waivers from the requirements of this instruction must be approved by HQ AFRC/LGM. The preventable FOD standard for AFRC units is 3.0 with a goal of FOD elimination for preventable mishaps. The AFRC FOD program does not apply to associate units. Associate units comply with gaining command guidance.

6.84. HQ AFRC/LGMS:

6.84.1. Is the office of primary responsibility (OPR) for the AFRC Foreign Object Damage Prevention Program.

6.84.2. Supports the Air Force Foreign Object Damage Prevention Program.

6.84.3. Coordinates with other MAJCOMs on the development and testing of equipment and procedures for foreign object damage prevention and control.

6.84.4. Represents HQ AFRC at Industry/DOD/Air Force Foreign Object Damage conferences and meetings.

6.84.5. Emphasizes field support for specific weapon system foreign object damage prevention by requesting attendance and submission of action items.

6.84.6. Conducts periodic command Foreign Object Damage Prevention Program managers meetings.

6.84.7. Identifies training requirements to AFRC/LGQ for inclusion in Air Education and Training Command (AETC) courses for foreign object damage prevention.

6.84.8. Develops and issues technical and administrative instructions on the AFRC Foreign Object Damage Prevention Program.

6.84.9. Stresses the importance of effective foreign object damage prevention on all affected systems within the command.

6.84.10. Strives to improve communication cross flow on foreign object damage prevention and control throughout all managerial levels in AFRC.

6.85. HQ NAF/LGMA:

6.85.1. Reviews and periodically surveys wing and unit foreign object damage prevention programs for effectiveness and improved methods of detection and prevention.

6.85.2. Maintains a control log and issues control number for reporting of foreign object damage incidences on the AFRC Form 42, FOD Mishap Investigation Check Sheet. Establishes FOD control numbers as follows: NAF designator, fiscal year, and a three digit number; for example, 22AF97001.

6.85.3. Follows up on foreign object damage investigation and reporting of incidences on AFRC Form 42, FOD Mishap Investigation Check Sheet, and reporting according to AFI 91-204.

6.85.4. Represents HQ NAF at Industry/DOD/Air Force Foreign Object Damage conferences and meetings.

6.85.5. Emphasizes field support for specific weapon system Foreign Object Damage Prevention by requesting attendance and submission of action items from Groups/Wings.

6.86. Logistic Group Commander. LG/CC assigns the wing FOD prevention manager, as an additional duty, who is a full-time air reserve technician officer, SNCO, or civilian equivalent. This individual will coordinate with operations group flying safety office, host base agencies (if applicable), and other agencies (if applicable), on matters related to the Foreign Object Damage Prevention Program. They will have overall responsibility for training, monitoring, review of incidences, and coordination of the group/wings Foreign Object Damage Prevention Program. The host base FOD prevention manager has the option to direct tenant units to participate in the host unit program or to establish their own unit FOD committee.

6.87. GP/CC FOD Prevention Manager:

6.87.1. Conducts quarterly FOD prevention meetings. The prevention committee meetings will ensure the FOD prevention program is sound and meeting its needs. Recommended attendees and representatives from Operations Group (that is, Flying Safety Officer), Logistics Group, Safety, Transportation, POL, Security Forces, and other agencies as determined by their access to and use of the flightline or aircraft operating areas. Unit or host base FOD committee minutes are forward to HQ AFRC/LGMS and NAF/LGM within 15 working days. The FOD committee minutes contain the following information as a minimum:

6.87.1. (944FW) The following personnel will attend the quarterly FOD prevention meetings: 944 FW Commander or designated representative, Wing FOD Prevention Manager, Squadron FOD Monitors, QA representative and representatives from the 944 LG and 944 OG.

6.87.1.1. Place.

6.87.1.2. Date/time.

6.87.1.3. Chairperson.

6.87.1.4. Members and/or Representatives Present (Name and Organization).

6.87.1.5. Members and/or Representatives Absent (Name and Organization).

6.87.1.6. Old Business.

6.87.1.7. New Business to include all FOD incidents since last meeting.

6.87.1.8. Sweeper Status and schedule.

6.87.2. Monitors and recommends changes (as required) to squadron FOD prevention training. Those squadrons which have several types of aircraft assigned to them will each have their own FOD prevention training incorporated into one squadron training program. Training will be given to all aircraft maintainers and to those individuals such as POL and Transportation who have frequent duties on the flightline.

6.87.3. Reviews and submits all foreign object damage incidence reports to HQ AFRC/LGMS and the NAF.

6.87.4. Advises squadron commander on the appointment of squadron foreign object damage monitors.

6.87.5. Is the OPR for any wing/group instruction detailing unit unique requirements such as wearing of apparel and elements unique to the groups or wing area of operation or weapons system.

6.87.6. Ensures FOD prevention is part of the group/wing process assessment program.

6.88. Squadron Commander/Unit FOD Monitor:

6.88.1. The Maintenance Squadrons, Component Repair Squadrons, Equipment Maintenance Squadrons, and Aircraft Generation Squadrons Commanders appoint a squadron FOD monitor as an additional duty. It is recommended that this individual be available to investigate incidences and monitor areas for FOD threat potential and to ensure an effective FOD prevention program is enforced by all personnel having access to the flightline and maintenance areas. Squadrons appoint a FOD monitor who is a full time air reserve technician NCO or higher or civilian equivalent with a minimum of 8 years experience in the maintenance or logistics career field. FOD monitors are encouraged to attend the jet engine mishap investigation course.

6.88.1. (944FW) The 944 MXS and the 302 FSM will each appoint a FOD Monitor.

6.88.2. The minimum responsibilities of the squadron FOD monitor are as follows:

6.88.2.1. Inform all unit agencies of FOD hazards, ramp construction, and damage to pavement or other areas that create FOD potential. Report these deficiencies to the group/wing FOD manager and to Airfield Management.

6.88.2.2. Spot check selected areas on a regular basis and at a minimum of every 2 weeks. More frequent inspection maybe required if trends in FOD are increasing.

6.88.2.3. Establish local guidelines for frequency and location of regularly scheduled FOD walks. FOD walks should be conducted in all areas of aircraft maintenance and results documented to ensure housekeeping efforts are effective. Coordinate with Airfield Management and flight chiefs

for requirements for ramp sweepers and/or FOD walks as required. Provide documentation of schedule for sweeper or FOD walks as required

6.88.3. Educates and provides visual aids to increase awareness in housekeeping and other Foreign Object Damage Prevention Programs.

6.88.4. Ensures FOD containers are available and being used in production and operations areas.

6.88.5. Conducts unit level training in FOD prevention.

6.88.6. Ensures FOD prevention is part of the squadron process assessment program.

6.88.7. When applicable, ensures evaluated or repaired FOD is documented in the AFTO Forms 95 for aircraft, engine, or equipment according to TO 00-20-5.

6.88.8. Investigates all FOD incidents to the greatest extent possible to determine cause. The cause may be determined by visual observation, forensic analysis, or by location of the object. Submit reports in the appropriate format to the GP/CC FOD prevention manager for review.

6.89. Foreign Object Damage Program Procedures:

6.89.1. While maintenance is being performed, aircraft openings, ports, lines, hoses, and ducts will be properly plugged or capped to prevent foreign objects (FO) from entering aircraft systems.

6.89.1. (944FW) Air inlet and exhaust covers will be installed on aircraft unless aircraft is undergoing maintenance on ducts or being prepared for engine operations or flight.

6.89.2. Place a “Red X” in the aircraft 781A requiring a complete and thorough inspection after any maintenance in or around an engine inlet, air ramp, ring cowl, or auxiliary inlet door.

6.89.2. (944FW) When maintenance is performed in or around air inlet ducts:

6.89.2.1. (Added-944FW) A red X entry will be made in the AFTO Form 781A to read as follows: “Foreign object check due upon the completion of maintenance.”

6.89.2.2. (Added-944FW) The engine inlet cover should be reinstalled prior to clearing the red X in the AFTO Form 781A.

6.89.3. All maintenance production areas shall have FO containers readily accessible to workers. All vehicles normally driven on the flightline are equipped with FO containers with “FOD” stenciled in contrasting colored letters not smaller than two inches. Support shops may locally manufacture FO collection cans. All FO containers shall be emptied upon task completion or end of shift.

6.89.3. (944FW) Section supervisors are responsible for ensuring the cleanliness of their assigned areas. Hangar and shop area cleanup will be accomplished by the section assigned to the area. Ramps, hangars, and maintenance areas will be inspected daily and cleaned as required.

6.89.4. Inspection of aircraft ground handling and -21 alternate mission equipment (AME) for serviceability and proper storage (that is, aircraft forms, landing gear pins, down locks pins, streamers, hinge pin security, etc.) requires special emphasis.

6.89.5. Flight/maintenance crews must account for all equipment and personal items after each flight or maintenance action and ensure any items which become loose, damaged, or lost are documented in the aircraft AFTO Form 781A.. A “Red X” is entered for all equipment not readily found. The air-

craft shall remain in a "Red X" condition until every effort has been made to retrieve/make serviceable the weapon system or equipment and the incident is investigated.

6.89.6. Use of magnetic bars on flightline vehicles is recommended. If used, magnetic bars will be inspected and made FOD free prior to the beginning of each shift. Magnetic bars should be removed during inclement weather if considered a hazard.

6.89.7. The use of a locally manufactured tool to remove foreign objects from vehicle tires is authorized and must be identified to the vehicle by etching the tool with the vehicle ID number. This tool will be used only for removal of potential FOD from the vehicle tires. Vehicle operators will ensure their equipment is FOD free prior to operation. All loose items will be secured to prevent accidental exit from the vehicle. Tires will be checked frequently and made FOD free prior to entering flightline areas.

6.89.8. Each base will develop a local procedure governing the wearing of hats on the flightline. Climate and safety will be considered. Hats will not be worn within the danger area of an operating jet engine.

6.89.8. (944FW) Hats will not be worn within 25 feet of an operating jet engine. The cold weather watch cap or hot weather bandana/head sock may be worn within 25 feet of an operating jet engine provided that double hearing protection is worn and that the ear defenders/comm headset is worn over the watch cap/bandana/head sock.

6.89.9. All personnel will remove the AF Form 1199, Air Force Entry Control Card, when performing intake/exhaust inspections or within 25 feet of an operating jet engine. Badges will be secured to the uniform with a nylon/cotton cord at all other times; a metal clip is optional. A plastic arm band can be used in place of the nylon/cotton cord. Metal insignias will not be worn with the battle dress uniform (BDU) gore-tex jacket on the flightline or in aircraft maintenance areas unless they are secured in a clear plastic cover which is sewn to the tab. Wigs, hairpieces, metal or hard plastic hair fasteners, finger rings, necklaces, earrings, decorative hat pins, and metal hat pins of any kind, are not authorized on the flightline.

6.89.9. (944FW) Bracelets (not watches) are added to the list of items not authorized on the flight line.

6.89.10. Run-up fences will be used to the maximum extent during maintenance runs to preclude the ingestion of FOD and for personnel safety.

6.89.11. (Added-944FW) Supervisors will direct that only an essential number of tools are exposed to areas where maintenance is being performed.

6.89.12. (Added-944FW) Supervisors will ensure that personnel receive foreign object training annually and that the CAMS training database is updated upon accomplishment of such training.

6.89.13. (Added-944FW) During periods of potential high winds, authorized 1F-16C-21 engine intake and exhaust covers will be used.

6.89.14. (Added-944FW) After the completion of maintenance, an extensive job completion inspection will be made by the technicians who accomplished the maintenance to ensure no foreign objects remain in the area.

6.89.15. (Added-944FW) Wear coveralls without pockets or buttons, remove shoes, and all items from all pockets when physical entry is needed to inspect intake or exhaust areas of engines.

6.89.16. (Added-944FW) Aircraft forms or other foreign objects will not be placed on the intake shelf.

6.89.17. (Added-944FW) Aircraft will not be flown or operated with defective fasteners, improperly installed screws, etc., forward of the air inlet duct.

6.89.18. (Added-944FW) Aircraft will be placed on a red X and a thorough intake inspection will be performed when items of hardware are discovered missing forward of the air intake.

6.89.19. (Added-944FW) Engines removed from aircraft:

6.89.19.1. (Added-944FW) Open sections of the engine will be covered during repair, transportation, and non-operational periods.

6.89.19.2. (Added-944FW) Open lines and ducts will be capped and or covered as required.

6.89.19.3. (Added-944FW) Engine bay inspections will be accomplished prior to engine installation and will be documented in the AFTO Form 781A as a red X condition. Both corrected and inspected by blocks will be signed off upon completion of the engine bay inspection. Prior to engine installation, QA will be contacted as to their availability to conduct an engine bay technical inspection.

6.90. Foreign Object Damage (FOD) Investigation and Reporting:

6.90.1. FOD Investigation. All FOD incidents must be investigated to the greatest extent possible to determine cause. When a FOD incident occurs, operation on affected equipment must cease and an investigation initiated to determine the cause. The cause may be determined by visual observation, forensic analysis, or by location of the object.

6.90.1.1. All aircraft sustaining FOD damage from an unknown cause are impounded. The only exception to impoundment is nicked blades that are blendable and repairable within field level technical order limits. Even if repairable the incident must be investigated.

6.90.1.2. FOD damage which requires tear down beyond unit capabilities to determine its cause must be referred to the repair facility (depot, contractor, 2LM facility, Queen Bee, ERRC) for evaluation. Submit product deficiency report (DR) according to TO 00-35D-54 to request feedback from the repair facility. The DR should clearly request further investigation to determine cause of FOD.

6.90.1.3. (Added-944FW) The MCF will initiate a FOD procedural check sheet when a FOD incident occurs.

6.90.2. Foreign Object Damage (FOD) Reporting. All FOD incidents require reporting. The group/wing FOD manager reviews each FOD incident and prepares a detailed report (AFRC Form 42) according to this instruction and AFI 91-204. Send the report to HQ AFRC/LGM and the unit's numbered air force (NAF). FOD mishaps, which meet the reportable criteria requirements of AFI 91-204, will be jointly investigated by the unit FOD monitor, jet/turboprop engine technician, and safety office as applicable.

6.90.2.1. Units report all FOD incidents to their NAF FOD manager by telephone not later than the next duty day after the incident occurs. The NAF FOD manager assigns a FOD control number and reports the incident to the AFRC FOD manager by the second day after the incident occurs.

6.90.2.2. AFRC Form 42, FOD Mishap Investigation Check Sheet, or electronic equivalent is used to investigate and report FOD mishaps. The AFRC Form 42 is completed and forwarded to the AFRC FOD manager and NAF FOD manager within 30 days of incident.

6.90.2.2. (944FW) An AFRC Form 42, Foreign Object Damage (FOD) Mishap Investigation Checksheet, will be completed by the impoundment team chief or appropriate supervisor and routed to QA. QA will finalize and route the form to 10 AF and AFRC FOD Managers.

6.90.2.3. Units submit maintenance crosstell reports by message to HQ AFRC/LGM, NAF/LGM, and all units with like MDSs for those incidents which have fleet-wide FOD potential.

6.90.3. Transient Aircraft. When FOD is discovered on transient aircraft the squadron/unit FOD monitor will immediately notify the owning organization not later than 24 hours after discovery. An informational copy will be provided to the owning organization's safety office to ensure compliance with AFI 91-204, *Investigating and reporting US Air Force Mishaps*. AFRC aircraft transiting other bases will have the intakes inspected. Aircrews will ensure proper documentation in the AFTO Form 781A has been completed prior to engine start. If an intake inspection cannot be performed, an entry should be made in the AFTO Form 781A stating, "No intake inspection completed prior to engine start." Entry will be entered on a red dash.

6.91. FOD Accountability. The owning organization is responsible for FOD incidents on transient aircraft/engines when one of the following conditions applies:

6.91.1. FOD discovered upon arrival at a transient base with no intermediate stops.

6.91.2. FOD found during initial tear down on engine regional repair center or 2LM engines.

6.91.3. Aircraft is maintained on transient/TDY base by owning organization maintenance personnel.

6.91.4. 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.

6.91.5. HQ AFRC/LGM assigns accountability in those instances where conflict/peculiar circumstances occur.

Section 6Q—Organizational Computer Manager

6.92. General. Organizational computer manager is the focal point for microcomputer management, system planning, and networking. This manager controls and manages the unit's requirements for microcomputer systems, microcomputer networks, and funding for these systems. The squadron commander has the option to place the responsibilities of microcomputer management in any section. The manager develops local procedures on the management of microcomputers within the unit. As a minimum the following procedures are addressed: acquisition, maintenance, equipment accountability, protection and physical security, control and operations. It also addresses documentation for locally developed software programs, contingency operations, and the use of privately owned microcomputers. This manager:

6.92. (944FW) Workgroup Managers (WM) are appointed by both the 944 LG and OG Commanders for their respective groups. The WM is the focal point within their group for all computer and network systems management and planning. The WM will provide first-level support to the end users in resolving

day-to-day technical client system problems. The WM will work closely with the Wing Computer Systems Manager (CSM) and the Network Administrator on issues of life cycle management, infrastructure, information assurance, and accountability for both hardware and software.

6.92.1. Controls and validates computer systems requirements documents (CSRD) submitted for microcomputer equipment. Controls and reviews requisitions for microcomputer hardware or software for strength of justification and accuracy of documentation prior to forwarding for procurement. Standardization and expandability should be a prime consideration in the review process. Coordinates with the LG/CC and OG/CC to ensure Logistics Information Systems (LIS) functionality capabilities are not duplicated.

6.92.2. Monitors the procurement of all classes software packages. Distributes updated software and documentation throughout the operations and logistics group once changes are received from higher headquarters. Each section will maintain the latest documentation and actual software for maintenance unique software distributed to units by higher headquarters.

6.92.3. Monitors microcomputer networking plans and details the LG/CC's approach to present or future office automation.

6.92.4. Consolidates requests for microcomputer training, coordinates with training, and obtains the training quotas.

6.92.5. Monitors personnel qualifications. Personnel assigned to this section should have demonstrated knowledge of microcomputer use. Familiarity of the most widely used software programs in the unit is recommended. Knowledge of local area network (LAN) operation, electronic communications, advanced operating systems (that is, UNIX), computer diagnostics and repair, or computer programming is highly desirable. Personnel of any AFSC can be assigned to this section. Personnel currently in upgrade training should not be assigned.

6.92.6. (Added-944FW) The WM will review all AF Forms 3215, C4 Systems Requirements Document, information technology (IT) requests prior to submitting to the wing CSM. Life cycle replacements are funded by HQ AFRC Information Technology Working Group. IT requests other than life cycle replacements include work center specific software and hardware, upgrades, extended warranties, new hire requirements, and routine and remedial maintenance. Such requests will be locally funded either by the requester's organization or by the wing CSM.

Section 6R—Crash/Disabled Aircraft Recovery Program

6.93. General. The crash/disabled aircraft recovery program applies to all AFRC host and tenant organizations and is designed to recover crashed/damaged or disabled aircraft in a minimum time period consistent with the following consideration (s):

6.93.1. Requirement to open the runway for operational use.

6.93.2. Prevention of secondary damage to the aircraft.

6.93.3. Preservation of evidence for mishap or accident investigations.

6.94. Recovery Program Responsibilities. The host unit commander is responsible for implementing policy and ensuring compliance with established recovery programs. The appropriate LG/OG Squadron Maintenance Officer/Maintenance Superintendent (as determined by the unit) is responsible for establish-

ing a crash/disabled aircraft recovery program. All units (host and tenant) will publish a unit instruction containing specific responsibilities for crashed/disabled aircraft recovery. The following references as a minimum should be used/considered in developing the unit instruction Base OPLAN 32-1, AFM 32-4001, Disaster Preparedness and Planning Operations, AFM 32-4004, Emergency Response Operations, AFRCI 21-101, Aircraft Maintenance Guidance and Procedures, applicable 48 Series AFOSH standards, T.O. 00-105E-9 Aircraft Emergency Rescue Information, and aircraft specific –2 and –3 series technical orders.

6.94.1. Immediate response by the recovery crew is required during normal operating periods or duty hours. Units must develop emergency recall or mobilization rosters to identify and notify required recovery team members outside of normal operating hours.

6.94.2. Each host base has overall responsibility for recovery of crashed /disabled aircraft**.** Since AFRC tenant units are responsible for the condition of their aircraft, the tenant units must be actively involved in training, recovery, and eventual return to operational service of their aircraft. Technical expertise, tech data, MDS unique tools/special equipment, and airframe/system familiarization are the primary contributions AFRC units make to the host aircraft recovery program.

6.94.3. AFRC host units provide recovery support for all tenant units as established in support agreements (SA). Ensure Crash/Disabled aircraft recovery procedures are coordinated with the following activities, Fire Dept., Safety, CE, Readiness, EOD, Security, Bioenvironmental, Airfield manager, and local off base authorities (as required).

6.94.4. AFRC host units ensure they are capable to provide and support recovery operations for all base assigned aircraft, to include tenant aircraft. Tenant units are required to participate in host training exercises and equipment inventories. Tenant participation is oriented toward their specific aircraft and equipment expertise. Periodically use tenant aircraft (if different from hosts) for training to ensure proficiency training.

6.94.5. AFRC tenant units coordinate with the host for crash/disabled aircraft recovery support, training, exercises, and equipment inventories. Develop support agreements (SA) to document requirements.

6.94.5.1. (Added-944FW) Crash recovery will be conducted by Luke Air Force Base activities in accordance with the host-tenant support agreement and AFI 25-201, Support Agreement Procedures. When deployed, the 944th FW will provide crash recovery support when the requirement for such support has been established during pre-deployment correspondence or a during the site survey.

6.94.5.2. (Added-944FW) The 302 FSM will be responsible for removing disabled aircraft that are in a towable condition from accessible taxiways.

6.94.6. AFRC tenant units will not possess recovery equipment that duplicates host base owned assets unless authorized by the allowance standard (AS), or AFRC/LG waiver. When applicable, tenant units coordinate with other collocated tenant units to determine availability of recovery assets to prevent unnecessary duplication. Develop Support Agreements (SA) as necessary to ensure cross utilization of assets.

6.94.7. Host and tenant commanders are responsible for ensuring sufficient equipment is available for mobility/deployed operations, as authorized in the applicable allowance standards.

6.95. Vehicle/Equipment Requirements :

6.95.1. The LG/OG (as determined by the unit) determines unit vehicle/equipment requirements, within the limits provided by the allowance standard(s). Vehicle requirements to support crash recovery are identified in the unit instruction/plan.

6.95.2. Recommended Vehicle/ Equipment includes:

6.95.2.1. General purpose truck, with non-tactical radio.

6.95.2.2. Suitable Trailer and tow vehicle (for storage and transportation of recovery equipment).

6.95.2.3. Aircraft tow tractor.

6.95.2.4. Crane (i.e., 20 ton, 50 ton as applicable).

6.95.2.5. 40 ft. flatbed semi trailer and tractor (with operator).

6.95.2.6. Light cart.

6.95.2.7. Tow bars.

NOTE: When base transportation cannot support heavy equipment requirements, such as cranes and/or semi tractors and trailers, units may elect to lease from local suppliers.

6.95.3. Units will identify recovery support equipment in a local directive to ensure 24-hour availability.

6.95.3. (944FW) The following equipment will be maintained or available to support mission requirements:

6.95.3.1. (Added-944FW) Required technical data.

6.95.3.2. (Added-944FW) Tow bar.

6.95.3.3. (Added-944FW) Crash trailer containing:

6.95.3.3.1. (Added-944FW) Dolly, disabled wheel.

6.95.3.3.2. (Added-944FW) Pneumatic bag.

6.95.3.3.3. (Added-944FW) Sling, set 60” large.

6.95.3.3.4. (Added-944FW) Sling, aircraft.

6.95.3.3.5. (Added-944FW) Shovel (4 each).

6.95.3.3.6. (Added-944FW) Sledge hammer (2 each).

6.95.3.3.7. (Added-944FW) Chain (6 each).

6.95.3.3.8. (Added-944FW) Main landing gear spacer tow.

6.95.3.3.9. (Added-944FW) Hose compressor (3 each).

6.95.3.3.10. (Added-944FW) Hard hat (10 each)

6.95.3.3.11. (Added-944FW) Crash bar (1 each).

6.95.3.3.12. (Added-944FW) Blower unit.

6.95.3.3.13. (Added-944FW) Felt pad (4 each).

6.95.3.3.14. (Added-944FW) Rags bundle.

6.95.3.3.15. (Added-944FW) Cargo straps (12 each).

6.95.3.3.16. (Added-944FW) Screw bags.

6.95.3.3.17. (Added-944FW) Cloth tape.

6.95.3.3.18. (Added-944FW) Rope, spool.

6.95.3.3.19. (Added-944FW) Mattress.

6.95.3.3.20. (Added-944FW) Gloves (10 pairs).

6.95.3.3.21. (Added-944FW) Coveralls (6 pairs).

6.95.3.3.22. (Added-944FW) Chain (1670-00-516-8405) 25 feet (3 each); Chain (1670-00-778-4079) 25 feet (3 each).

6.95.3.3.23. (Added-944FW) Shackle, 1 3/4" and 2 1/2".

6.95.3.3.24. (Added-944FW) Come along, 8 K (1 each).

6.95.3.3.25. (Added-944FW) Block and tackle (4 each).

6.95.3.3.26. (Added-944FW) Tow cable (1 each).

6.95.3.3.27. (Added-944FW) Nose landing gear jack adapter.

6.96. Inspection and Inventory. Inspect all unit owned recovery equipment to include air bags, manifolds, jacks, slings, shoring, etc. for serviceability before and after each exercise. Periodic equipment inspections are accomplished per intervals established in technical orders or as a minimum semiannually. Perform operational checks according to applicable directives during exercises and/or inventory reviews. Document inspections in the MIS and on AFTO Form 244's Industrial/Support Equipment Record.

6.97. Crash Recovery Supervisor/Team Leader: (Individual determined by unit)

6.97.1. Establishes a crash/disabled aircraft recovery program and is OPR for the unit crashed /disabled aircraft recovery instruction. ***NOTE:*** Aircraft recovery efforts may require AFSC specific personnel to accomplish special tasks such as, identifying and handling of classified equipment, life support or egress systems specific tasks, etc.

6.97.1.1. (Added-944FW) Detailed instructions for the recovery of crash damaged aircraft are incorporated into locally developed Task Assignment Lists (TAL). These TALs are located inside of the Crash Recovery Trailer.

6.97.2. Develops course control documents for crash recovery training.

6.97.3. Reviews support agreements and base disaster response plans annually. Provides inputs for change as required.

6.97.4. Ensures crash/disabled aircraft recovery procedures are coordinated with the following activities, Fire Department, Safety, CE, Readiness, EOD, Security Police, Bioenvironmental, Airfield manager, and local off base authorities (as required).

6.97.5. Ensures sufficient personnel/teams are trained to support crash/disabled aircraft recovery operations. This includes:

6.97.5.1. Basic equipment operation (i.e. light carts, generators, etc.).

6.97.5.2. Familiarization with any unique characteristic for assigned aircraft; (i.e., F-16 uses hydrazine to fuel emergency power unit, C130 depleted uranium used as ballast, aircraft composites, etc.).

6.97.5.3. The use and wearing of personnel protection equipment (PPE) as determined by the base Bioenvironmental Engineer (BEE).

6.97.5.4. Unit possessed MDS composite hazard familiarization training.

6.97.6. Ensures special qualifications for personnel are identified and documented. Determines necessary individual team member qualifications for equipment operations. (i.e. towing, jacking, support equipment, etc.).

6.97.7. Ensures adequate support equipment for recovery (i.e., bags, slings, manifolds, tow bars, dunnage/shoring, etc.) is serviceable and available.

6.97.8. Semiannually conducts/participates in training exercises. Coordinates with the base Readiness office before exercises.

6.97.9. Coordinates with unit QA weight and balance manager when weight and center of gravity (CG) conditions are unknown.

6.98. Recovery Team Qualifications:

6.98.1. All team members will be qualified in basic crash/damaged aircraft recovery operations.

6.98.2. All qualifications are recorded in CFETP, AF Form 797, or Management Information System (MIS) as applicable.

6.99. Training Requirements:

6.99.1. All team members are trained in recovery procedures according to this instruction, and unit developed training guide.

NOTE: A sample training guide to aid units in developing their training plan is available on the AFRC LGM web page.

6.99.2. Initial training for all recovery team members is comprised of both academic and hands on training/exercises and should include actual lifting of an aircraft. Aircraft lifting exercises can be accomplished by using a unit owned aircraft, utilizing training hulks at AFRC owned CLSS training sites, or participating with other organizations possessing training assets. The MDS of the training aircraft is determined by the crash recovery supervisor/team leader, however, it is recommended that the team chief make an effort to vary the types of aircraft used for training.

6.99.3. Recurring training is required at least annually after recovery team members receive initial training and is comprised of both academic and hands on training/exercises. Document all training conducted.

6.99.3.1. (Added-944FW) Maintenance training NCOs for each affected flight will annotate annual and or requalification training requirements in CAMS and document under course code 206.

6.100. Environmental, Safety, and Health Hazards : The key for a developing a safe and effective crash recovery program is communication and coordination. The unit maintenance crash recovery OPR must ensure the BEE is consulted and directly involved in determining personnel health hazards, training required, and appropriate levels of Personnel Protective Equipment (PPE).

NOTE: There are two distinct phases of an aircraft mishap--initial response and recovery. Initial response teams face the probability of an aircraft fire. As the composite material burns, gases, vapors and solid particles are released into the smoke plume. Recovery team members may be exposed to fibers and respirable/inhalable dusts as aircraft parts are moved around the site or modified by cutting, breaking, twisting, or hammering.

Personnel tasked to participate in crashed or post crash response, recovery, maintenance, and/or clean up operations must be aware of all issues that may be involved. Units must insure local policies and procedures for handling crash damaged composites are addressed; to include training and personnel protective equipment (PPE).

6.101. Crash Recovery Terms:

6.101.1. Damaged Aircraft. For the purpose of this instruction, an aircraft that cannot be removed under its own power or towed while supported by its own undercarriage without sustaining secondary damage.

6.101.2. Disabled Aircraft. For the purpose of this instruction, this is an aircraft that cannot or should not be moved under its own power, but can be towed using its own undercarriage.

6.101.3. Crashed Aircraft. For the purpose of this instruction, an aircraft unable to return to designated or alternate field or missed landing resulting in major or total destruction of the aircraft.

Section 6S—Aircraft Structural Integrity Program (ASIP)

6.102. General. There are two types of data collected for the ASIP Program: the Loads/Environment Spectra Survey (L/ESS), and the individual aircraft tracking data. The L/ESS data is collected through the Malfunction Analysis Detection and Recording System (MADARS II) flight recorder. An effective structural data collection program is essential to establish, assess and support inspections, maintenance activities, repairs and modification/replacement actions required.

6.102.1. Responsibilities:

6.102.1.1. The Quality Assurance Office (QA) Responsibilities:

6.102.1.1.1. QA is the Office of Primary Responsibility (OPR) for this program and will appoint an ASIP program manager.

6.102.1.1.2. The QA office will monitor the ASIP program as required.

6.102.1.1.3. Notify the L/ESS monitor in the Aircraft Generation Squadron (AGS) of any discrepancies reported from the ASIP Program Manager.

6.102.1.1.4. Disseminate/coordinate all ASIP related tracking information from the ASIP program manager to the ISO dock chief, the L/ESS monitor and the Plans Scheduling and Documentation (PS&D) office.

6.102.1.2. ISO Dock Chief Responsibilities.

6.102.1.2.1. Establish, maintain and periodically review for accuracy an ASIP inspection board for the documentation of each aircraft's inspections. Ensure the inspection board is marked as the inspections are completed.

6.102.1.2.2. Establish preprinted dock worksheets with the required inspections, and ensure that the individuals responsible for the inspection sign off their work once completed.

6.102.1.2.3. Ensure that the ASIP inspections are required for each ISO input so that erroneous/unnecessary inspections are not accomplished (see **Attachment 2** and **Attachment 3 (ADDED)** of this OI).

6.102.1.2.4. Ensure all ASIP inspections are complied with prior to closing out the ISO inspection.

6.102.1.2.5. Coordinate all required ASIP inspections with the NDI and Sheet Metal Supervisors.

6.102.1.2.6. Periodically review the ISO workcards for latest revisions and accuracy.

6.102.1.3. Plans, Scheduling and Documentation (PS&D) Responsibilities.

6.102.1.3.1. Establish procedures and ensure that ASIP special inspections are properly loaded in the appropriate Maintenance Information System, and scheduled for all assigned aircraft.

6.102.1.3.2. Notify HQ Air Mobility Command (AMC) in the event a special ASIP inspection has not been loaded into G081, and request the programmer to create the master record.

6.102.1.3.3. Maintain and ensure the accuracy of the ISO count number and the ISO inspection number for all assigned aircraft.

6.102.1.3.4. Monitor and ensure that a master record is created for each aircraft assigned.

6.102.1.4. Aircraft Generation Squadron (AGS) Responsibilities:

6.102.1.4.1. Appoint an L/ESS monitor.

6.102.1.4.2. Provide maintenance support for the L/ESS system on all applicable aircraft.

6.102.1.4.3. Coordinate with the LG ASIP program manager for any L/ESS maintenance problems.

Section 6T—One Time Inspections

6.103. HQ AFRC/LGM, Aircraft Maintenance Division Responsibilities:

6.103.1. Determine if an OTI (command) is necessary.

6.103.2. Write the OTI using guidelines contained in paragraph **6.107.**

6.103.3. Assign data code to OTI according to paragraph **6.105.**

6.103.4. Issue OTI to all affected units and applicable numbered air forces (NAF). Provide informational copies of AFRC, NAFs, and unit OTIs and, when applicable, to HQ AFRC/DOOC, SPD, lead command, and commands possessing like equipment.

6.103.5. Maintain a data code log listing all assigned data codes, subjects, dates issued, removed from service date, and rescission date.

6.104. NAF/LGM Responsibilities:

6.104.1. Prepare and issue NAF-directed inspections as outlined in paragraph **6.107.**

6.104.2. Issue OTI to all affected units within applicable NAF and provide informational copy to HQ AFRC/LGM and other NAFs possessing like equipment.

6.104.3. Maintain a data code log listing all assigned data codes, subjects, dates issued, removed from service date, and rescission date.

6.105. Control and Assignment of Data Code:

6.105. (944FW) Absent further guidance, the 944 FW will continue to follow the procedures in AFRCI 21-101, paragraph **6.105.2.**, after transitioning from ACC to AETC gained.

6.105.1. AMC Gained Units. HQ AFRC, NAF, and unit-directed inspections are loaded into the Maintenance Information Systems (G081, CAMS etc.).

6.105.1.1. Data codes are composed of seven digits (EXAMPLE: A601275).

6.105.1.2. HQ AFRC and NAF-directed one-time inspection (OTI), the first digit (alpha) identifies the system. However, for unit-directed OTI, the first and second digit (alpha) identifies the local base code. These alpha codes are identified in Maintenance Information System (MIS).

6.105.1.3. HQ AFRC and NAF-directed OTI, the second digit (numeric) designates the originator. For example “1” denotes HQ AFRC, “2” denotes 22nd Air Force, and “4” denotes 4th Air Force.

6.105.1.4. HQ AFRC, NAF, and unit-directed OTI, the third digit (numeric) indicates the year (“6” for 1996).

6.105.1.5. HQ AFRC, NAF, and unit-directed OTI, the fourth digit (numeric) is used to designate multiple OTIs on the same Julian date starting with “1” for the first OTI of the day and following sequentially for additional OTIs.

6.105.1.6. HQ AFRC, NAF, and unit-directed OTI, the fifth, sixth, and seventh digits (numeric) denote Julian date.

6.105.2. ACC and AFSOC-Gained Units. All HQ AFRC, NAF, and unit-directed inspections are loaded into the MIS. Maintain a log of all assigned data codes and the subject of the OTI.

6.105.2.1. Data codes are composed of seven digits (example: A601001).

6.105.2.2. The first digit (alpha) designates the originator. ("A" denotes AFRC-directed OTI, "B" denotes unit LG/OG, and "C" denotes 10AF).

6.105.2.3. The second digit (numeric) indicates the year ("6" for 1996).

6.105.2.4. The third and fourth digits (numeric) represent the month ("01" for January).

6.105.2.5. The fifth, sixth, and seventh digits (numeric) denote the OTI number, starting with "001" for the first OTI of each calendar year.

6.106. OTI Compliance and Documentation. OTIs are processed and documented at unit level in the same manner TCTOs. AFTO form entries are accomplished according to 00-20 series technical orders.

6.106.1. OTIs originating at unit level are sent to all affected units and applicable NAF. Provide an informational copy to other NAFs possessing like equipment and HQ AFRC/LGMA.

6.106.2. Normally, OTIs require compliance within 10 workdays after receipt or before next flight. A consolidated list of completed inspections is submitted to the appropriate NAF and an information copy to HQ AFRC/ LGMA. The list shall include inspected aircraft by tail number, engines and support equipment by serial number, and discrepancies discovered.

6.106.3. Weapon systems/equipment which are gained or return to home station exceeding the OTI compliance period are inspected prior to next flight or prior to next use if support equipment.

6.106.4. Deficiencies discovered as a result of an OTI are reported according to TO 00-35D-54. AFTO Forms 22, **Technical Order Improvement Report and Reply**, are submitted as appropriate.

6.107. OTI Sample Format:

1. SUBJ: One-Time Inspection of (Type Aircraft/Equipment).

2. One-Time Inspection: Control number; Reference OTI driver correspondence, if applicable (that is, AFRC 071525Z JUL 97, Subject: F-16 Main Fuel Shut-Off Valve).

3. FAR is substituted for “LG” if for HQ AFRC-directed inspection.

4. 4AF, 10AF, and 22AF are substituted for “LG” if initiated by NAF.

5. LG in above example indicates logistics group commander-directed OTI.

6. 61240 in above example are the last five numbers of assigned Data Code.

7. Type: Immediate, Urgent, and Routine action safety inspection.

8. Title: Short title (not to exceed 40 characters).

9. Date: Date OTI was initiated.

10. Data Code:

11. When To Be Accomplished:

12. Remove from Service Date:

13. Rescission Date: (One year from date initiated).

14. By Whom To Be Accomplished: (AFSC).

15. Estimated Man-hours:

16. Form Entries Required: (Symbol and AFTO 781A discrepancy determined by initiator).

17. How To Be Accomplished:

18. Reporting Requirements:

19. POC:

Section 6U—Aircraft Intake/Engine Inlet/Exhaust Training and Certification Program.

6.108. General. F16 units develop and implement a comprehensive Aircraft Intake/Engine Inlet and Exhaust Training and Certification Program. The number of individuals authorized to perform intake/inlet/exhaust inspections should be sufficient to meet mission requirements, production needs, and ensure individual competency through regular performance. Squadron Maintenance Officers/Superintendents appoint certifying officials and selected maintenance instructors or AETC training detachment (TD) instructors to provide training. AFETS/CETS representatives may be used as instructors/certifiers.

6.109. Target Population. Only certified crew chiefs (2A3X3B) and engine (2A6X1A) 5, 7, and 9 level technicians perform these inspections.

6.110. Formal Training. Logistics training along with appropriate Subject Matter Experts (SME) develop and manage the course. The course is designed to train aircraft maintenance personnel on techniques required to inspect intakes/inlets and exhausts. Prior to placement on the Special Certification Roster (SCR) formal training and certification is required. (Reference **Chapter 2** for SCR use and procedures). As a minimum, courses include care and handling of equipment, applicable tech data, and fault isolation/damage assessment.

6.110. (944FW) A lesson plan will be maintained in the Propulsion Flight.

6.111. Certification Criteria. Upon completion of formal training and prior to placement on the SCR, individuals must complete a task evaluation administered by a certifying official (individual other than the instructor who administered the course). Certifying officials are the most qualified 7 or 9 level 2A6X1A, or 2A3X3B personnel designated by the Squadron Maintenance Officers/Superintendents. Units limit the number of certifiers to a minimum. Certifiers receive certification in the same manner as other technicians and maintain proficiency. Certifying officials recertify each other. If assigned, AFETS/CETS representatives should be used to certify other certifying officials.

6.112. Documentation. After completing formal training, the instructor documents the individual's training. Logistics Training develops course codes in CAMS to track the following: Formal training, initial certification, annual recertification, and identification of certifying officials.

6.113. Annual Recertification. Each certified technician is required to recertify annually. This is accomplished by having technicians perform the tasks. Quality Assurance Personal Evaluations may be used (providing the QA inspector is a certifying official) to satisfy this requirement.

6.113. (944FW) Annual recertification will be accomplished by the technician demonstrating the ability to perform an aircraft engine inlet and exhaust inspection IAW appropriate tech data. The certifying official, who will be present during the recertification, will determine the evaluation criteria.

Section 6V—Engine Blade Blending Training and Certification Program

6.114. General. F16 units develop and implement a comprehensive Engine Blade Blending Training and Certification Program. The number of individuals authorized to perform Blade Blending should be sufficient to meet mission requirements, production needs, and ensure individual competency through regular performance. Squadron Maintenance Officers/Superintendents appoint certifying officials and selected maintenance instructors or AETC TD instructors to provide training. AFETS/CETS representatives may be used as instructors/certifiers.

6.115. Target Population. Only certified crew chiefs (2A3X3B) and engine (2A6X1A) 5, 7, and 9 level technicians perform these inspections and repairs.

6.116. Formal Training. Logistics training along with appropriate SMEs develop and manage the course. The course is designed to train aircraft maintenance personnel on techniques required to inspect and repair blades. Prior to placement on the SCR formal training and certification is required. (Reference **Chapter 2** for SCR use and procedures). As a minimum, courses include care and handling of equipment, applicable tech data, and fault isolation/damage assessment.

6.116. (944FW) A lesson plan will be maintained in the Propulsion Flight.

6.117. Certification Criteria. Upon completion of formal training and prior to placement on the SCR, individuals must complete a task evaluation administered by a certifying official (individual other than the instructor who administered the course). Certifying officials are the most qualified 7 or 9 level 2A6X1A, or 2A3X3B personnel designated by the Squadron Maintenance Officers/Superintendents. Units limit the number of certifiers to a minimum. Certifiers receive certification in the same manner as other technicians and maintain proficiency. Certifying officials recertify each other. If assigned, AFETS/CETS representatives should be used to certify other certifying officials.

6.118. Documentation. After completing formal training, the instructor documents the individual's training. Logistics Training develops course codes in CAMS to track the following: Formal training, initial certification, 180 day proficiency requirements, annual recertification, and identification of certifying officials.

6.119. Proficiency Requirements. As a minimum, personnel must perform one blend repair every 180 days to maintain proficiency. Use of condemned blades is authorized to demonstrate proficiency. Workcenter supervisors ensure personnel who do not meet this requirement are decertified. Ensure all blade blend repairs accomplished on installed engines are loaded in CAMS against the engine and not the aircraft.

6.120. Annual Recertification. Each certified technician is required to recertify annually. This is accomplished by having technicians perform the task. Quality Assurance Personal Evaluations may be used (providing the QA inspector is a certifying official) to satisfy this requirement.

6.120. (944FW) Annual recertification will be accomplished by the technician demonstrating the ability to perform blade blending on a compressor fan blade IAW appropriate tech data. The certifying official, who will be present during the recertification, will determine the evaluation criteria.

Section 6W—Flexible Borescope Inspection Training and Certification

6.121. General. All units using flexible borescopes develop and implement a comprehensive Borescope Training and Certification Program. The number of individuals authorized to perform borescope inspections should be sufficient to meet mission requirements, production needs, and ensure individual competency through regular performance. Squadron Maintenance Officers/Superintendents appoint certifying officials and selected maintenance instructors or AETC TD instructors to provide training. AFETS/CETS representatives may be used as instructors/certifiers.

6.122. Target Population. Only certified crew chiefs (2A3X3X, 2A5XXX) and engine (2A6X1X) 5, 7, and 9 level technicians perform these inspections.

6.123. Formal Training. Logistics training along with appropriate SME develop and manage the course. The course is designed to train aircraft maintenance personnel on techniques required to inspect and repair blades. Prior to placement on the SCR formal training and certification is required. (Reference **Chapter 2** for SCR use and procedures). As a minimum, courses include care and handling of equipment, port locations, applicable tech data, and fault isolation/damage assessment and performance of an engine borescope inspection.

6.123. (944FW) A lesson plan will be maintained in the Propulsion Flight.

6.124. Certification Criteria. Upon completion of formal training and prior to placement on the SCR individuals must complete a task evaluation administered by a certifying official (individual other than the instructor who administered the course). Certifying officials are the most qualified 7 or 9 level 2A6X1X, 2A3X3X, 2A5X1X, or 2A5X2 personnel designated by the Squadron Maintenance Officers/Superintendents. Units limit the number of certifiers to a minimum. Certifiers receive certification in the same manner as other technicians and maintain proficiency. Certifying officials recertify each other. If assigned, AFETS/CETS representatives should be used to certify other certifying officials.

6.125. Documentation. After completing formal training, the instructor documents the individual's training. Logistics Training develops course codes in CAMS/GO81 to track the following: Formal training, initial certification, annual proficiency requirements (Exception 120 day proficiency requirement for F-16 Units), annual recertification, and identification of certifying officials. Ensure all borescope inspections are loaded against the engine in CAMS/GO81 and not the aircraft.

6.126. Proficiency Requirements. All F-16 units, using flexible borescopes, regardless of technical data requirements, as a minimum, have personnel perform one flexible borescope inspection every 120 days. All other units, have personnel perform one flexible borescope inspection annually. Workcenter supervisors ensure personnel who do not meet this requirement are decertified.

6.127. Annual Recertification. Each certified technician is required to recertify annually. This is accomplished by having technicians perform the task. Quality Assurance Personal Evaluations may be used (providing the QA inspector is a certifying official) to satisfy this requirement.

6.127. (944FW) Recertification and annual recertification will be accomplished by the technician demonstrating the ability to perform a flexible borescope inspection IAW appropriate tech data. The certifying official, who will be present during the recertification, will determine the evaluation criteria.

Chapter 7

ACC-GAINED PROGRAMS

Section 7A—Weapons Section (Not Applicable to Armament Flights and Rescue Units)

7.1. General. This chapter prescribes guidance and procedures for aircraft maintenance programs peculiar to ACC-gained bomber, fighter, and rescue units. Guidance contained in **Chapter 7** is used in addition to common procedures outlined in this instruction.

7.2. Weapons Section (when applicable). This section normally consists of three functional areas: loading, maintenance, and weapons standardization (WS). The weapons section chief will serve as the weapons manager. Maintenance sections are not formed in squadrons supporting bomber aircraft. In addition to the common responsibilities in **Chapter 2** of this instruction, the weapons section chief/weapons manager:

7.2.1. Is the senior 2W1XX and functional manager for the 2W1XX career field and ensures weapons activities can perform required combat skills in support of O-Plan tasking.

7.2.2. Works with squadron maintenance supervision to balance grades and skills between the weapons section and armament systems.

7.2.3. Designates in writing the loading standardization crew (LSC), standardize lead crew (SLC), and academic and certified combat load crew (CCLC) Instructors, and monitors their activities.

7.2.4. Monitors overall load crews status and submits a message through the OG/CC to the appropriate headquarters when the number of load crews fall below the UCML established minimums.

7.2.5. Maintains LC integrity during training and evaluations to the maximum extent possible.

7.2.6. Ensures safe and reliable loading and maintenance procedures are used. The simultaneous use of more than one load crew to accomplish ICTs or certified loading/unloading tasks on fighter aircraft is not authorized.

7.2.7. Maintains a visual display or automated product depicting the current status of assigned LCs and members.

7.2.8. Ensures load training aircraft requirements and LC proficiency evaluation schedules are developed. These schedules are included in the weekly and monthly maintenance plans. Ensures training aircraft are properly configured to support load-training requirements prior to scheduled training sessions.

7.2.9. Designates weapons expediters.

7.2.10. Ensures a checklist for each PM and SM is on hand for each assigned LC CTK.

7.2.11. Routes all AFTO Forms 22, Technical Order Improvement Report and Reply, for -33 technical orders to the WS for review.

7.2.12. Ensures supervisory post loads and maintenance inspections are performed.

7.2.13. Ensures locally manufactured equipment (LME) not included in tech data is approved for use. Weapons LME encompasses all equipment, which measures, tests, or verifies system, subsystem,

component, or item integrity. It does not include simple adapter cables and/or plugs constructed as troubleshooting aids to replace pin-to-pin jumper wires specified in technical orders. The command headquarters is the approving authority for armament LME. All equipment designed for use with nuclear weapons test and handling equipment is certified according to AFI 91-103, Nuclear Safety Certification Program. A letter is submitted through the maintenance officer and QA requesting evaluation. Upon local approval forward the letter to HQ AFRC/LGMW with a courtesy copy to HQ 10th AF/LGMM. As a minimum, the following information is required:

7.2.13.1. Description of the test equipment and its use.

7.2.13.2. Material used for construction.

7.2.13.3. Wiring diagram of test equipment and views of the completely assembled unit with wiring visible.

7.2.13.4. Approximate cost, including labor and material.

7.2.13.5. Draft of local checklist.

7.2.14. Ensures standardization of load crew CTKs by aircraft MDS to the maximum extent possible to provide optimum interoperability of load crew personnel. B-52 unit CTKs must support loading/unloading both internal and external stores. CTKs must also accommodate loading stores on all tasked alternate mission equipment (AME) configurations.

7.2.15. Ensures aircraft -6 armament system inspections are accomplished.

7.2.16. Tracks all assigned in-use AME by aircraft tail number and position installed.

7.2.16.1. Manages the Armament Equipment Status Summary (Previously HQ ACC RCS 9405 Report). Ensures armament and loading organizations provide monthly updates on all required items.

7.2.16.2. Electronically forward the completed/updated Armament Equipment Status Summary to 10th AF/LGMM and HQ AFRC/LGMW not later than the first of every month.

7.2.17. Ensures normally installed equipment (NIE) locations are updated in an automated management system.

7.2.18. Tracks F-16 acceleration monitor assemblies by aircraft tail number and position installed.

7.2.19. Ensures LC certification records/automated products are sent with LCs to TDY location if loading tasks are to be performed.

7.2.20. Ensures personnel receive required prerequisite training prior to entering initial LC training (that is, cockpit familiarization, fire fighting, AGE, etc.).

7.2.21. Ensures on-equipment functional checks on all AME and NIE, installed as a result of transfer or acceptance inspection actions, are performed.

7.2.22. Ensures appropriate follow-up actions are accomplished for all armament system malfunctions. Monitors actions taken by supporting agencies on dispensers, suspension equipment, training munitions, etc., which were involved with specific system malfunctions.

7.2.23. Ensures certified LCs are used to install/remove empty cruise missile pylons or launchers/modules on bomber aircraft.

7.2.24. Reviews UCML tasking and coordinates changes/appendices with the weapons and tactics function and the munitions flight.

7.2.25. Resolves scheduling conflicts, which affect weapons loading and ICT training programs.

7.2.26. In coordination with the OSM chief, briefs the OG/CC at least monthly on LC status, ICT program, dual loading operations, manning, equipment shortages, and other items of local interest.

7.2.27. Ensures a recognition program for LC personnel are established.

7.2.28. Develops a unit instruction in coordination with the explosive safety office and airfield management for launch and recovery of explosive loaded aircraft. Immediately-prior-to-launch/safing procedures may be performed in the aircraft parking area for unit exercises, ICT training, and for daily-use training munitions. This instruction includes the requirements to:

7.2.28.1. Arm and de-arm munitions loaded on aircraft only in approved areas.

7.2.28.2. Normally safe guns and rockets in the de-arm area before aircraft return to the parking area.

7.2.28.3. Inspect and safe unexpended munitions before fighter aircraft return to the parking area.

7.2.28.4. Isolate aircraft until munitions are safed.

7.2.29. Ensures sufficient serviceable LC training munitions are available to support both LC and ICT training programs.

7.2.30. Ensures introductory training is provided to newly assigned weapons personnel on aircraft weapons maintenance, weapons release, and gun systems.

7.2.31. Designates the number of LCs, other than the LSC and SLCs, which are certified (or qualified for items so identified in **Table 7.1.** and **Table 7.2.**) on conventional support munitions. This decision is based on unit tasking and coordinated with the OG/CC.

7.2.32. Coordinates with PS&D and the OSM Superintendent for training aircraft.

7.2.33. Monitors the unit's weapons release reliability and gun fire-out rates to determine weapons systems effectiveness. The weapons release reliability rate is calculated by dividing the number of successful releases by the number of attempts (the goal is 99 percent). The gun fire-out rate is calculated by dividing the number of successful bursts by the number of attempted bursts (the goal is 98%). Once a malfunction occurs, any further attempts for the purpose of clearing the malfunction should not be counted as attempts.

7.3. Weapons Expediter. The weapons expediter is responsible to the weapons section chief for all armament systems maintenance and loading operations. The expediter responds to maintenance priorities established by the flightline expediter and the production superintendent from a vehicle equipped with a portable or mobile radio. Additionally, the expediter:

7.3.1. Supervises/monitors on-equipment armament systems maintenance.

7.3.2. Monitors loading operations.

7.3.3. Tracks configuration of aircraft suspension equipment and munitions configuration.

7.3.4. Informs the flightline expediter of all start/stop times, status changes, delays, and extensions. Performs as many supervisory postloads and maintenance inspections as possible.

7.3.5. Tracks expenditures as follows:

7.3.5.1. Fills out an AF Form 2434, **Munitions Configuration and Expenditure Document**, on all aircraft configured and loaded to release or fire munitions. Records by serial number and location or position all armament related AME or support equipment from which munitions items are expended. An AF Form 2434 is not required for those aircraft loaded for alert or for exercises not involving flight. Locally developed forms may be used in lieu of AF Form 2434 provided they are coordinated through the munitions flight, approved by both the OG/CC and LG/CC.

7.3.5.2. Reconciles expenditures with the munitions flight at the end of the flying day. After the reconciliation, copies of expenditure documents are distributed to PS&D and the munitions flight. The documentation action block is annotated when entries are made on item historical documents.

7.3.6. Coordinates with the debrief/dispatch section/munitions controller for the delivery and pick-up of munitions items.

7.3.7. Coordinates accomplishment of all pre-planned and unscheduled maintenance requirements and inspections with the flightline expediter.

7.3.8. Monitors the safety of flightline weapons operations.

7.3.9. Initiates cannibalization documentation when installed equipment (with inspection requirements aligned to aircraft phase and flying hours, that is, pylons, bomb racks, launchers, etc.) is removed and installed on another aircraft. Use caution when installing items on aircraft with less phase time accrued than the item itself to avoid over fly of equipment inspection requirements.

7.4. Weapons Loading. All personnel assigned to the loading function:

7.4.1. Load and unload munitions or weapons in support of daily or contingency operations.

7.4.2. Install and remove armament related suspension equipment, launchers, and adapters on assigned aircraft to support configuration requirements for daily or contingency operations.

7.4.3. Perform functional/stray voltage checks required for loading operations.

7.4.4. Provide assistance to the maintenance function, when required.

7.4.5. Are certified before performing loading of conventional munitions, unless loading under the direct supervision of two certifying officials.

7.4.6. Are not certified on more than two types of aircraft, except during munitions/aircraft test programs.

7.5. Load Crew Chief. The load crew (LC) chief is responsible to the weapons section chief for weapons systems maintenance and loading of assigned aircraft. LC chiefs are NCOs with at least AFSC 2W151 (senior airmen may perform load crew chief duties when unit manning dictates, but are individually designated by the squadron maintenance officer in writing). The LC chief:

7.5.1. Controls all actions concerning the aircraft during loading and unloading (except ICT).

7.5.2. Supervises the loading and unloading of only one aircraft at a time.

7.5.3. Ensures no maintenance is performed on an aircraft, which interferes with normal loading or unloading operations.

7.5.4. Ensures required safety equipment is available, serviceable, and, if applicable, installed.

7.6. Weapons Maintenance. Personnel assigned to the maintenance (in B-52 units, these tasks are performed by loading personnel):

7.6.1. Install/remove all armament AME and normally installed equipment to facilitate other maintenance or for repair action, to include acceptance/transfer and phase inspections.

7.6.2. Perform aircraft troubleshooting and repair actions.

7.6.3. Perform aircraft armament systems functional checks and associated -6 inspection requirements.

7.6.4. Boresight aircraft guns and gun pods, as applicable.

7.6.5. Perform armament systems preflights, through-flights, and BPO inspections.

7.6.6. Perform on-equipment TCTOs.

7.6.7. Maintain qualification on designated weapons related qualification tasks for the unit. Maintenance personnel are not normally certified as LC members.

7.6.8. Performs the armament systems portions of aircraft phase inspections. In B-52 units, phase inspection tasks are performed by armament shop personnel.

7.6.9. May maintain and inspect assigned F-2 trailers.

7.7. Weapons Task Qualification. A weapons task qualification is a munitions-related task not requiring certification. Personnel receive initial and annual recurring training for these operations. Recurring training may be conducted during normal flightline operations. Training is provided by the WS and recorded in an automated system.

7.7.1. Two or more personnel in AFSC 2W1X1 may perform the following:

7.7.1.1. Install and remove impulse cartridges if the task is not accomplished as a part of a loading operation.

7.7.1.2. Install and remove chaff and flare magazines.

7.7.1.3. Load and unload BDU-33 and BDU-48 practice bombs.

7.7.1.4. Perform portions of the conventional loading checklist, which pertain to delayed flight or alert, immediately prior to launch and safing procedures.

7.7.1.5. Load and unload captive AIM-9 missiles, acceleration monitor assemblies, or air combat maneuvering instructions pods (requires three people).

7.7.1.6. Load and unload ammunition in internal/external gun systems (GAU-8 requires three people).

7.7.1.7. Perform munitions/missile isolation procedures to facilitate other maintenance.

7.7.1.8. Install/remove practice bomb adapter rack and cluster rack adapter.

7.7.1.9. Load and unload TGM-65 missiles (requires three people).

7.7.1.10. Load and unload inert GP bombs (requires three people). (Four people required for bomber aircraft).

7.7.1.11. Load and unload 2.75-inch rockets.

7.7.2. A LC member does not require qualification to perform any portion of item 1, 5, 9, or 10 if certified to load the respective parent munitions.

7.7.3. Two or more qualified personnel, other than 2W1X1 may perform only items 1, 2, 4, 5, and 7 above. In bomber units, performs transfer (mate/demate) and transports procedures involving inert training weapons.

7.8. Weapons Standardization (WS) (Does not apply to C-130 and rescue units). Weapons standardization is formed under the weapons manager. WS conducts the unit LC certification, dual loading operations (DLOs) and ICT programs and is the focal point for all related matters. The number of certified LCs and ICT qualified personnel available directly affects the unit's ability to conduct combat/contingency operations. The need for LCs and ICT teams to attain a high level of proficiency cannot be overemphasized. The key to successful combat operations is highly-trained LCs and turnaround teams who are proficient in generating assigned aircraft in configurations which support unit combat/contingency plans. The minimum number of LCs specified in the UCML must remain combat ready. Achievement of this standard may require units to certify weapons personnel who are assigned duties outside the weapons section.

7.9. Terms. The following terms apply to the weapons standardization program:

7.9.1. All-Up-Round (AUR). A munitions item which is shipped and stored in a complete, ready to use configuration. An AUR munition requires no pre-assembly or checkout prior to use.

7.9.1.1. ALL UPROUND CONTAINER (AURC). A container to ship, store, and handle AUR munitions. Some AURC are designed to load munitions directly from them onto the aircraft.

7.9.2. Certified Combat Load Crew (CCLC). CCLC is an AFRC comprehensive LC training program directly oriented toward perceived wartime taskings and skills. It is designed to train new LCs to full loading proficiency in minimum time. This is accomplished by special emphasis on combat turn procedures and less on traditional methods of training, such as "load barn" operations. CCLC is composed of three levels or phases. Once a LC has reached phase III, they are considered a combat ready LC.

7.9.2.1. PHASE I. This phase is divided into two parts. Part one consists of general aircraft and munitions orientation. Part two consists of initial load crew training. Part one is designed to teach new LCs all the basics needed to safely and reliably load munitions on bomber/fighter aircraft. This is normally done by CCLC instructors. The LSC and SLC may also instruct Part I training. Load crews are instructed on a complete munitions preparation for each munition listed on the UCML and must demonstrate proficiency for each munition that they are to be certified on. Load crews are also instructed and must demonstrate proficiency in installing, removing, and functionally checking all assigned AME/Stations. After these actions have been accomplished, initial LC training and certification is accomplished by the LSC or SLC using TO 1X-XX-33-1-2/ 1X-XX-33-2-1 loading procedures, which may include aircraft configuration, aircraft preparation, functional checks, and munitions preparation. When the LC is certified on all primary munitions

and all qualification items are accomplished (other than combat turn qualification), the LC is advanced to PHASE II training.

7.9.2.2. PHASE II. Initial combat LC training. This phase provides the necessary training for LCs to load safely and reliably under combat conditions. Load training is taught using integrated combat turn (ICT/DLO) procedures (TO 1X-XX-33-1-4/1-X-XX-33-2-1CL-X). A comprehensive lesson plan is used to train LCs for a combat environment. Loads should be performed using a representative standard conventional load (SCL) that is anticipated by unit tasking.

7.9.2.3. PHASE III. Recurring training. Proficiency is maintained primarily by using TO 1X-XX-33-1-4/1-X-XX-33-2-1CL-X procedures, however, it is important that LCs maintain some degree of proficiency using TO 1X-XX-33-1-2/1X-XX-33-2-1 procedures. Munitions preparation and aircraft preparation/functional check training (Phase I Part I), is conducted by the LSC, SLC, or designated CCLC instructors on a semiannual basis. Normal day to day operations may fulfill this requirement if monitored by an instructor. Document Phase III recurring training in an automated system. The LSC and SLC are exempt from munitions/aircraft preparation and functional check training provided they perform at least one TO 1X-XX-33-1-2/1X-XX-33-2-1 load, incorporating aircraft/munitions preparation and functional check, semiannually. (B-52 units are exempt from initial and recurring munitions prep training).

7.9.2.4. Documentation of training/certification remains essentially the same. No references to the CCLC program should be annotated on AF Forms 2435, Load Training and Certification Document.

7.9.3. Certification. The act of verifying and documenting a person's ability to load a particular type of aircraft and munitions or within established standards.

7.9.4. Certified Load Crew (LC) Member. A LC member who has been trained and certified, by position, according to this chapter.

7.9.5. Combat Ready Load Crew. A LC whose members have completed required weapons academic training, are certified on all unit primary and designated support munitions, are qualified to load applicable aircraft guns and chaff/flare systems, and are qualified to perform ICTs and/or dual LC operations, as applicable.

7.9.6. Competent Familiarity Loading (CFL). The loading of a support munitions which requires only that the person have a satisfactory fundamental knowledge of the loading operation. The performance of CFLs sets a basic level of proficiency in order to make future certification easier. Evaluation criteria in this chapter does not apply to CFLs. CFLs are accomplished annually.

7.9.7. Decertification. The removal of the certification status of a person which precludes them from loading a specific type munitions.

7.9.8. Dual Loading Operations (DLO). A conventional munitions loading operation on B-52 aircraft accomplished simultaneously by two LCs.

7.9.9. Evaluated Load. A loading task which is assessed according to the procedures in this chapter.

7.9.10. Integrated Load. The loading of two or more different types of munitions in a single loading operation.

7.9.11. Limited Use Munitions (LM). A munitions used by a unit for firepower demonstrations, test, aircrew training or like operations, but which a unit would normally not use in a war or a contingency. LMs may be designated on the UCML.

7.9.12. Loading Standardization Crew (LSC). A LC designated by the weapons section chief to administer the weapons standardization program. LSC members have certification and decertification authority.

7.9.13. Loading Task. The actions required by one crew member, in a designated position, to accomplish a munitions load.

7.9.14. Local Commander. The term "Local Commander" as used by loading tech data is the OG/CC.

7.9.15. Minimum Proficiency Requirement Loading (MPRL). The recurring loading of a munitions on which a person is certified.

7.9.16. Munitions Family Group (MFG). Munitions which are so similar that training and certification on one item in the group satisfies the requirements for the others (see **Table 7.1.** and **Table 7.2.**). The LSC/SLC personnel teach crews the major differences of applicable MFG items. After initial training on applicable individual items within the MFG, treat the MFG as a single item and document certification by one line entry in block 7 of the AF Form 2435.

7.9.17. Preload. A complete munitions and suspension equipment package ready for loading.

7.9.18. Primary Munitions (PM). A munitions tasked by a war plan and designated on the UCML.

7.9.19. Quarterly, Semiannual, or Annual Interval. A period based on three, six, or twelve calendar months, respectively. For example, a quarterly requirement accomplished any time in February is due the last day in May.

7.9.20. Standard Conventional Load (SCL). The designation which includes the number, type, and configuration of munitions required for a specific mission on an aircraft.

7.9.21. Standardized Lead Crew. A SLC certified by the LSC and assigned to WS to assist in conducting the weapons standardization program. Lead crew members have certification and decertification authority.

7.9.22. Subcrew. Two or more certified/qualified personnel who may perform specific tasks.

7.9.23. Support Munitions (SM). A munitions which could be used in support of contingency plans or directives and designated on the UCML.

7.9.24. Task Assignment List (TAL). A functional grouping of procedural steps from applicable -33 series technical orders, by crew position, to be accomplished in sequence by each crew member during a loading or ICT operation. Their purpose is to standardize and facilitate the training of unit load/ICT crews. TALs are not a replacement for TO procedures.

7.9.25. Unit Committed Munitions List (UCML). A document provided by HQ AFRC/LGMW which lists primary, support, and limited use munitions for which a unit is tasked. This document also specifies the number of combat ready LCs required to maintain an acceptable level of readiness, the number of authorized crews and the number of crews required to be formed and in training.

7.9.26. The Weapons Manager. The functional manager for the 2W1XX career field.

7.9.27. CCLC Instructor. An individual, designated in writing, to augment the LSC and SLC in conducting initial and recurring Phase 1, Part 1 training.

7.9.28. Postload Check (B-52 aircraft only). A specific power on checks\tasks accomplished prior to declaring munitions loaded B-52 aircraft mission ready.

7.10. Weapons Standardization Organization. WS is comprised of the NCOIC, the LSC, SLC(s), academic instructor and designated CCLC instructors. The LSC team chief may function as the NCOIC of WS. The academic instructor may be a member of the LSC/SLC. One lead crew is normally formed for each flying squadron, however, additional lead crews may be formed as necessary.

7.11. NCOIC Responsibilities. The NCOIC develops and conducts the weapons standardization program, sets standards, develops local policies and procedures, and interprets all technical data and directives governing the weapons standardization program. The NCOIC:

7.11.1. Coordinates with the weapons section chief to schedule crews for initial training, certification, MPRLs, quarterly evaluations and ICTs/DLOs.

7.11.2. Submits a summary of LC evaluations performed for inclusion in the QAP per **Chapter 3**.

7.11.3. Manages training munitions, components, and accessories.

7.11.3.1. Appoints a supply custodian for training munitions.

7.11.3.2. Establishes a supply point with munitions operations unit (FK/FB) for conventional training munitions.

7.11.3.3. Documents and schedules reparable discrepancies for corrective action through the appropriate munitions flight inspection section.

7.11.3.4. Forecasts annually for training munitions. When forecasting, the total requirement must be identified regardless of the items on hand.

7.11.3.5. Orders training munitions/items to meet unit needs and ensures training munitions are representative of the parent munitions item in configuration, body color, and mechanical function.

7.11.4. Develops a manual or automated system to depict LC status. When automated systems are used (unless systems are networked/modem interfaced), printed products are produced and distributed to the weapons section chief. Printed products are formatted so that manual updates may easily be made between issues. When automated systems are networked/modem interfaced with all section chiefs, printed products need not be distributed; however, a product is generated monthly for WS records. As a minimum, the LC status system reflects:

7.11.4.1. Formed crews by number and crew member position.

7.11.4.2. By individual, the next:

7.11.4.2.1. MPRL due date for each munitions.

7.11.4.2.2. Quarterly evaluation due date.

7.11.4.2.3. ICT/DLO due date.

7.11.4.2.4. CFL due date for each munitions.

7.11.4.2.5. Training due date for each weapons qualification.

7.11.5. Establishes and manages an incentive program for the recognition of deserving LCs.

7.11.6. Upon notification of a deployment or an increased state of alert, takes appropriate action to certify deploying LCs on support munitions, if required.

7.11.7. Coordinates with flying squadrons to ensure that weapon load training aircraft are properly configured and suitable for use.

7.11.8. Ensures all LCs are qualified to:

7.11.8.1. Load and unload ammunition in the internal gun systems of assigned aircraft.

7.11.8.2. Load and unload preloaded chaff/flare magazines in defensive counter-measures systems on assigned aircraft.

7.11.9. Ensure that LCs demonstrate proficiency on all capable aircraft racks/stations prior to certification according to the unit SCL.

7.11.10. Maintains a copy of all loading technical data for assigned aircraft. Training and test units need only maintain checklists for munitions listed on their UCML and those undergoing test and evaluation.

7.11.11. Develops time standards for integrated loads.

7.12. Loading Standardization Crew (LSC). The LSC works for WS NCOIC and manages the weapons standardization and evaluation program. The weapons manager evaluates and certifies the LSC according to criteria in this section. The LSC chief has at least AFSC 2W171. The LSC trains, evaluates, and certifies the SLCs and LCs in safe and reliable munitions loading procedures. The LSC:

7.12.1. Conducts and monitors training to ensure personnel maintain a high degree of proficiency in loading unit committed munitions.

7.12.2. Monitors certification and recurring training documents to ensure all LC members complete required proficiency and academic training. Takes decertification action if recurring requirements are not met.

7.12.3. Documents LC training according to paragraph **7.24.**

7.12.4. Reviews, approves, and disapproves AFTO Forms 22 which pertain to loading technical data.

7.12.5. Develops and coordinates weekly and monthly LC training schedules and provides them to PS&D.

7.12.6. Monitors lead crews in the performance of their duties.

7.12.7. Provides non-LC personnel initial and recurring weapons task qualification training which includes practical training on:

7.12.7.1. Weapons system safety devices to include proper use, installation, and removal.

7.12.7.2. Safety requirements of munitions items.

7.12.7.3. Location of weapons system explosive items used to jettison and release external stores.

7.12.7.4. Stray voltage checks, as required.

7.12.7.5. Cockpit armament system switches.

7.12.8. Monitors flightline munitions operations.

7.12.9. With assistance from the SLC, performs quarterly evaluations on all certified LCs.

7.12.10. Conducts all phases of CCLC training if the proper CCLC instructor is not available.

7.13. Standardized Lead Crews. The SLC works with the WS NCOIC and assists the LSC in training, evaluating, and certifying unit LCs in safe and reliable munitions loading procedures. They:

7.13.1. Initiate AF Forms 2435 on certified crew members.

7.13.2. Monitor certification and recurring training documents to ensure all LC members complete required proficiency and academic training. Take decertification action when recurring requirements are not met.

7.13.3. Perform quarterly evaluations with or without assistance from the LSC.

7.13.4. Conducts all phases of CCLC training if the proper instructor is not available.

7.14. Transient Aircraft. Arming, dearming and munitions unloading operations on transient aircraft may be performed by any weapons load crew certified/qualified on the munitions and aircraft. The OG/CC may direct the LSC or SLC to arm, dearm, and unload an aircraft on which they are not certified/qualified, if appropriate technical data is available. In such cases, the aircrew should be available for consultation on aircraft peculiarities. If these cannot be met, request help from higher headquarters. Local procedures are developed to control impulse cartridges removed from transient aircraft.

7.15. Academic Instructor. A highly qualified individual is assigned to administer the weapons academic training program. The instructor conducts required initial and recurring weapons academic training for all unit LC members, loading supervisors, ICT team members and other personnel who maintain specific weapons task qualifications. The academic instructor may assist in conducting practical training. The instructor may be a member of the LSC/SLC.

7.16. Training Facilities. Practical training is conducted in a facility dedicated to LC training. The facility is of sufficient size to accommodate fighter aircraft, required training munitions and associated support equipment. It is recommended that bomber aircraft have dedicated load training facilities, however, where not practical, inside facilities should be provided to the maximum extent possible during periods of extreme inclement weather. Adequate office space and an academic classroom with appropriate heating and cooling are required in the practical training area.

7.17. Academic Training. Initial academic training is completed before the start of practical training. Recurring academic training is administered annually. It may also be part of training and recertification for failed loadings. Training requirements and course control documents are coordinated with the maintenance training section.

7.17.1. Course control documents are tailored to unit needs. The following items are covered as a minimum:

7.17.1.1. Publications.

7.17.1.2. Safety.

7.17.1.3. Security.

7.17.1.4. Aircraft familiarization.

7.17.1.5. Munitions.

7.17.1.6. AGE/support equipment familiarization.

7.17.1.7. Test equipment.

7.17.1.8. Special tools.

7.17.1.9. Handling equipment.

7.17.2. Load crew (LC) academic training may fulfill the requirements for explosive safety training if the requirements of AFI 91-202, The United States Air Force Mishap Prevention Program, are included.

7.17.3. All LC members, loading supervisors, and other personnel who maintain specific weapons task qualification are required to complete initial and recurring academic training. Administer recurring academic training annually. Document academic training in an automated system.

7.18. Practical Training. Practical training starts when academic training is complete.

7.18.1. The LSC or SLC administers practical training to each LC member on required munitions and aircraft. They ensure practical training duplicates the operational conditions to the maximum extent possible and stress requirements such as ICTs, safety wiring and sealing, controlled access and weapon custody receipt, and transfer procedures.

7.18.2. If a specific type or model of munitions has been requisitioned but not received, any type or model of the basic item may be used for LC training until receipt of the munitions. The differences are briefed to the LCs.

7.18.3. LCs must be familiar with munitions serviceability criteria and munitions tie down procedures in TO 11-1-38 . Blanket rejection of training munitions during load training is not authorized. Munitions may not be rejected solely because they are inert.

7.18.4. Initial SM training is accomplished in conjunction with initial PM training and certification. When a new PM or SM is designated, crews are certified or CFL trained as soon as practical after receipt of training items.

7.18.5. LC members are familiarized with the operation of all available AGE and support equipment which may be used during loading operations, even if the items are not used on a routine basis. Training on items such as the AIM-120 missile directly from the AUR container using the ADU-537 A/E missile/munitions loading adapter is conducted during initial training/certification.

7.18.6. In bomber units, LC members and loading supervisor (including weapons expediters) are trained to perform weapons systems fault isolation and troubleshooting within the guidelines of the weapons system safety rules and applicable loading/troubleshooting technical procedures.

7.19. Task Assignment List (TAL). WS develops unit TALs. TALs are used during training for all loading operations. MPRLs, quarterly evaluations, and quarterly ICTs are not considered training operations. The following guidelines establish minimum responsibilities of individual crew members.

7.19.1. Three-member LCs:

7.19.1.1. Crew member number one is the LC chief and is in charge of the loading operation and positions cockpit switches during functional checks.

7.19.1.2. Crew member number two performs the pylon/rack preparation and operates test equipment during functional checks.

7.19.1.3. Crew member number three performs munitions preparation and operates the bomblift truck during loading operations.

7.19.2. Four-member LCs:

7.19.2.1. Crew member number one is the LC chief and is in charge of the loading operation, positions the cockpit switches, and attaches stores to the pylon/rack.

7.19.2.2. Crew member number two performs the pylon/rack preparation, operates test equipment during functional checks, and assists in loading of stores.

7.19.2.3. Crew member number three performs munitions preparation.

7.19.2.4. Crew member number four performs racks/pylon preparation, operates test equipment during functional checks, and operates the bomblift truck.

7.20. Certification/Decertification. The following guidelines are used to establish the loading standardization and evaluation program:

7.20.1. Certification and training requirements for LCs are based on the following:

7.20.1.1. Except the LSC and SLCs, LC members are not certified on more than 10 munitions. Dual position certification of LC members is authorized; however, they may not be certified on more than 10 munitions. Personnel certified on two separate MDS aircraft alternate quarterly and ICT requirements between the two tasked aircraft. Proficiency requirements are accomplished on both aircraft per paragraph **7.20.**

7.20.1.2. LC members are certified (or qualified for items so identified in **Table 7.1.** and **Table 7.2.**) on all PMs.

7.20.1.3. The LSC and SLCs are certified (or qualified for items so identified in **Table 7.1.** and **Table 7.2.**) on all SMs to provide a training base for upgrading other unit LCs.

7.20.1.4. The LSC is certified (or qualified for items so identified in **Table 7.1.** and **Table 7.2.**) on unit LMs. The weapons Section Chief determines the number of additional LCs trained and certified on limited use munitions.

7.20.2. A minimum of two certifying officials are required to evaluate three or four member LCs.

7.20.3. Current certification of a LC member is valid worldwide. Permanent change of station (PCS) does not require recertification by the gaining unit if the individual is certified on the same munitions, aircraft, and position. Units develop procedures to ensure that the AF Form 2435 is provided to the individual prior to PCS departure.

7.20.4. Individuals are decertified/disqualified if they:

7.20.4.1. Fail an evaluation as outlined in paragraph **7.22.**

7.20.4.2. Fail to complete a required evaluation (QE, MPRL, etc.). If an individual is TDY, on emergency leave, incapacitated, or involved in an unannounced local or higher headquarters exer-

cise, rescheduled/excused UTA, or if loading operations are canceled due to inclement weather, that person (and LC, if applicable) need not be decertified/disqualified if the current month's MPRL/evaluation requirements and all past due evaluations are completed within 30 days of the member's return to duty.

7.20.4.3. Fail to accomplish required recurring academic or Phase I Part I CCLC training. Individuals are administratively decertified/ disqualified on all UCML items until training is completed. The weapons section chief may extend this requirement up to 30 days.

7.20.5. Internal and external conventional munitions configurations on bomber aircraft are considered separate certification tasks.

7.20.6. After initial certification the LSC should rotate positions during MPRLS to maintain a high degree of efficiency. By rotating positions during MPRLS the LSC is awarded a “blanket certification” whereas they are initially certified by position but may load in other positions without additional documentation. The LSC are the only individuals that may be awarded “blanket certification.”

7.21. Minimum Proficiency Requirement Loading (MPRL):

7.21.1. All certified LCs perform proficiency loads monitored by the LSC or SLC. Proficiency loads performed by the LSC are monitored by the wing weapons manager. Post-load inspections of un-monitored weapon loadings do not meet these proficiency requirements.

7.21.2. Intervals for MPRL: LCs load all conventional munitions for which they are certified at least semiannually. One half of the conventional PMs are loaded quarterly. ICT/DLO procedures may be used to fulfill these requirements. However, loads should be rotated through all PMs. Realistic integrated configurations, compatible with unit tasking and the aircraft flight manual, are used during the proficiency loads.

7.22. Quarterly Evaluations . The LSC or SLC evaluates each LC once a quarter on one of the unit PMs (all unit PMs are used on a rotating basis). ICT/DLOs procedures may be used to fulfill this requirement. LC integrity should be maintained for these evaluations. LCs failing to accomplish quarterly evaluations are decertified on all munitions unless exempted according to paragraph **7.20.4.2.** Quarterly evaluations are not required for the LSC or SLC.

7.23. Evaluation Criteria. The following criteria applies to initial certification, MPRLs, and quarterly evaluations:

7.23.1. Exceeded time standard results in a failed rating for the LC chief. Failure to meet time standards on an ICT/DLO results in disqualification for the LC chief only if caused by the LC.

7.23.2. More than three errors per crew member results in a failed rating for the individual.

7.23.3. A safety or reliability error results in a failed rating for the individual.

7.23.4. The lack of technical proficiency results in a failed rating for the individual.

7.23.5. For integrated loads, the evaluator may elect decertification on any one or all munitions loaded. When the same rating is not applied to all munitions loaded during an integrated load, separate evaluation forms are filled out.

7.23.6. Failure of a LC to demonstrate proficiency need not result in formal decertification if the crew immediately reaccomplishes the same load satisfactorily within the same UTA.

7.23.7. Failure of a LC to meet CCLC munitions preparation or aircraft preparation/functional check training are causes for disqualification. Requalification may be accomplished, without aircraft loading, upon completion of the applicable training.

7.24. Documentation:

7.24.1. LC certification, decertification, ICT/DLO qualification, quarterly evaluations, MPRLs, CFLs, and ICTs/DLOs are documented on AF Forms 2435. Separate forms are prepared for each person by crew position and MDS aircraft. When the standardized weapons LC management software program is used, imbedded documentation may be used instead of these corresponding requirements. This form is completed as follows:

7.24.1.1. Blocks 1 through 6 - Self-explanatory.

7.24.1.2. Block 7 - Each applicable munitions from the unit UCML is listed on a separate line. Group PMs, SMs and LMs (if applicable) together, and separate the groups by a blank line. A separate entry is made for ICT/DLO qualification, if applicable. CBU type munitions, that utilize the same dispenser, may be grouped as a single line item (CBU-52/58/71 recorded as SUU-30). Munitions which employ different fin configurations may be documented on a single line entry (MK82 AIR/SE/LD documented as MK-82).

7.24.1.3. Block 8 - Dates are entered upon certification/ICT/DLO qualification. Dates are not entered for CFLs.

7.24.1.4. Blocks 9 and 10 - Self-explanatory. These blocks are also used to record ICT/DLO disqualification.

7.24.1.5. Block 11 - Signatures of certifying officials are entered only upon certification after completion of blocks 7 and 8. Signatures are not entered for CFLs or ICTs/DLOs.

7.24.1.6. Block 12:

7.24.1.6.1. List munitions in the same format as outlined in paragraph **7.24.1.2.**

7.24.1.6.2. Enter the date the MPRL, CFL, quarterly evaluation, or ICT/DLO was accomplished in the applicable month column.

7.24.1.6.3. Enter one of the following codes in the month column if the required loads are not completed and paragraph **7.20.4.2.** applies: temporary duty (TD), leave (LV), incapacitated (ED), or exercises (EX). Weather canceled (OX) or rescheduled/excused UTA (RS). The letter "E" is placed after the date for the quarterly evaluation regardless of rating.

7.24.1.6.4. If the AF Form 2435 is reaccomplished, only the most current information and dates are entered. If the latest date is from a previous calendar year, it is entered on the appropriate line immediately to the left of the Jan column. The top of the front page is annotated with "record reaccomplished" and dated.

7.24.2. Quarterly evaluations are documented on AFRC Form 171, **Integrated Combat Turnaround (ICT) Evaluation**, or AF Form 2419, **Routing and Review of Quality Control Reports**. Route completed forms as a minimum to:

7.24.2.1. Weapons section chief.

7.24.2.2. OSM Chief.

7.24.2.3. LSC (for file).

7.24.3. LC records are kept by the LSC and include only the following documents:

7.24.3.1. AF Form 2435 for each crew member.

7.24.3.2. AFRC Form 171 or AF Form 2419 recording the most current quarterly evaluation.

7.24.4. LC certification records are sent with the crew to TDY locations if loading tasks are to be performed. Reproductions of the actual records may be used to fulfill this requirement. If automated products are used to depict LC status, copies of this product may be used instead of the certification records if the following statement is added after the last entry on each product: "AF Form 2435 has been reviewed, the member is certified/qualified on the items listed on this product." This statement is followed by the signature of a certifying official and date.

7.24.5. Academic and qualification training are documented in an automated system.

7.24.6. AF Form 2426, Training Request and Completion, and AF Form 2419, **Routing and Review of Quality Control Reports**, are not required for initial certification or MPRLs, but may be used as a local option.

7.25. Load Crew Composition. LCs consist of three or four persons as possessing the primary AFSC of 2W1X1 as follows:

7.25.1. Three member crews - A/OA-10, F-16.

7.25.2. Four member crews - B-52

7.26. Munitions Load Time Standard. All munitions listed in a single block comprise a family group for the respective aircraft mission type. The load time standards apply to all operational users of the munitions/aircraft listed and are the minimum proficiency requirements for weapons LCs. Units may establish more restrictive standards for local use. All items require certification according to this chapter, except as noted. HQ AFRC/LGMW establishes MFGs and time standards for use in test projects and time standards for munitions/aircraft not listed.

7.26.1. Instructions (**Table 7.1.** and **Table 7.2.**). The standard load times are for the respective single store, an applicable aircraft station functional check, and installation of impulse cartridges, if required. An additional 10 minutes is allowed for each added aircraft station check (except missile stations) on fighter aircraft. An additional 7 minutes is allowed for each like store added to fighter aircraft loads. Load times are additive when more than one type of munitions is loaded on fighter aircraft. For example, if an F-16 to be loaded with two AIM-9s and a BLU-52, the LC is allowed 25 minutes for the first AIM-9, 7 minutes for the second AIM-9, and 25 minutes for the BLU-52, for a total of 57 minutes. Units should develop optimum time standards for integrated loads.

7.26.2. The time standard for all ICTs is 45 minutes. When full chemical warfare gear is worn allow an additional 10 minutes.

Section 7B—Armament Flight (Does not apply to Rescue Units)

7.27. Armament Flight. The armament systems flight performs on-and off-equipment maintenance for assigned aircraft armament systems, guns, pylons, racks, launchers, and adapters. An AFSC 2R1X1 scheduler, 2S0X1 supply specialist, and 3A0X1 information management specialist may be assigned. The flight normally consists of three sections; maintenance, AME (AME section can be included into the support function) and support. Armament systems personnel are not normally certified as load crew (LC) members.

7.28. Flight Chief Responsibilities. In addition to common responsibilities in **Chapter 2**, the flight chief:

7.28.1. Sets up and monitors gun room security and explosive licenses if required.

7.28.2. Performs AME and special purpose recoverables authorized to maintenance (SPRAM) accountability and control requirements. Develop procedures (in coordination with the weapons manager and the weapons flight chief) governing accountability and control of AME. In B-52 units SPRAM accountability is not required.

7.28.3. Supports WRM rack, adapter, pylon, launcher, and gun maintenance requirements.

7.28.4. Identifies, by NSN, all aircraft armament systems components requiring acceptance inspections to base supply.

7.28.5. Develops and implements a recognition program for assigned personnel. (OPTIONAL).

7.28.6. Appoints technical order and publication monitors to maintain files.

7.28.7. Coordinates with the weapons manager/weapons flight chief to identify individuals and their minimum task qualification requirements, to support the weapons flight during contingencies/exercises. Qualifications may include installation/removal of all assigned aircraft NIE/AME, weapons release/gun system functional checks and troubleshooting. During contingencies/exercises, these personnel are responsible to the weapons flight chief.

7.28.7.1. Assists the weapons manager in recommending distribution of wing 2W1X1 personnel to satisfy on and off equipment weapons release and gun system needs.

7.28.8. Ensures personnel doing weapons related tasks receive initial training and recurring training annually.

7.29. Maintenance. Maintains weapons release/gun system components and associated equipment. An NCOIC is assigned for the overall management.

7.29.1. Schedules and performs all inspections, TCTOs, time changes, maintenance and repair actions for aircraft armament systems components and AME, including AME items preloaded with munitions for contingencies.

7.29.2. Advises the flight chief of any factors limiting the maintenance capability.

7.29.3. Maintains WRM assets.

7.29.4. Files equipment historical records (AFTO Forms 95) for AME, aircraft guns, and weapons systems NIE, if decentralized. Historical records may be automated. Hard copy files may be maintained for those portions of historical records that are automated. Records are maintained and dispose of according to AFMAN 37-139.

7.29.5. Coordinates with the PS&D for equipment requiring in-shop inspections. (When possible, calendar NIE inspections are scheduled in conjunction with the nearest aircraft hourly inspection within the calendar interval.) Include schedules in the weekly and monthly maintenance plans.

7.29.6. Performs off-equipment acceptance/transfer inspections on aircraft, to include NIE and AME. These inspections include:

7.29.6.1. A parts integrity inspection.

7.29.6.2. A complete electrical and mechanical check to include associated cables.

7.29.6.3. Updating the historical records for each item.

7.29.7. Maintains and inspects ammunition loading assemblies/systems and replenishers. The munitions maintenance section (MMS) or AGE flight maintains the chassis portion.

7.29.8. Maintains task qualification for those personnel supporting the weapons flight during contingencies/exercises.

7.29.9. In coordination with the PS&D, requisition parts to satisfy time change requirements for aircraft armament or gun system components not identified in the applicable aircraft -6 TO.

7.29.10. Accounts for, stores, and controls AME.

7.29.10.1. Forward status of all assigned AME on a monthly basis to the Weapons Manager.

7.29.11. Maintains F-2 type trailers (if applicable) for mobility. Trailers placed in-use receive pre/post-use serviceability inspections. Develop periodic inspection requirements (maximum interval of 18 months) for trailers in storage.

7.29.12. Performs the off-equipment (in fighter units), or on/off equipment (in B-52 bomber units) portions of aircraft phase inspections that pertain to armament systems.

7.30. Alternate Mission Equipment Section. This section accounts for, stores, and controls AME in support of the operations squadron.

7.30.1. Forward status of all assigned AME on a monthly basis to the weapons manager.

7.30.2. Unpacks/packs assigned AME in storage.

7.30.3. Lists assets as SPRAM if required.

7.30.4. Develops procedures (in coordination with the weapons manager and weapons flight chief) governing accountability and control of AME.

7.31. Support. Stores and maintains required tools and equipment and manages the supply/bench stock functions for the shop. Support:

7.31.1. Performs user calibration and maintenance on shop TMDE.

7.31.2. Coordinates with the precision measurement equipment laboratory (PMEL) ensuring calibration requirements are met.

7.31.3. Maintains supply management documents (for example, D04, D18, D19, Q13).

7.31.4. Maintains the master ID listing.

7.31.5. Manages consumables.

7.31.6. Manages residual and bench stock.

7.31.7. Maintains CTKs, tool storage area, and test equipment.

7.31.8. Ensures locally manufactured equipment (LME) not included in tech data is approved for use. Weapons LME encompasses all equipment which measures, tests, or verifies system, subsystem, component, or item integrity. It does not include simple adapter cables and/or plugs constructed as troubleshooting aids to replace pin-to-pin jumper wires specified in technical orders. The unit LG/CC is the approving authority for weapons LME. A letter is submitted through QA requesting evaluation. As a minimum, the following information is required:

7.31.8.1. Description of the test equipment and its use.

7.31.8.2. Material used for construction.

7.31.8.3. Wiring diagram of test equipment and views of the completely assembled unit with wiring visible.

7.31.8.4. Approximate cost including labor and material.

7.31.8.5. Draft local checklist.

Section 7C— Weapons Section (Applies to Rescue Units Only)

7.32. Weapons Section (Applies to rescue units only). This section normally consists of three functional areas: loading, maintenance, and support (functional areas may be combined as determined by local facilities, equipment, and manning). In addition to the common responsibilities in **Chapter 2** of this instruction, the weapons section chief:

7.32.1. Designates, in writing, the weapons academic instructor and monitors their activities.

7.32.2. Ensures safe and reliable loading and maintenance procedures are used.

7.32.3. Designates weapons expediters.

7.32.4. Routes all AFTO Forms 22, **Technical Order Improvement Report and Reply**, for -33 technical orders to the WS for review.

7.32.5. Ensures supervisory post loads and maintenance inspections are performed.

7.32.6. Ensures locally manufactured equipment (LME), not included in tech data, is approved for use. Weapons LME encompasses all equipment which measures, tests, or verifies system, subsystem, component, or item integrity. It does not include simple adapter cables and/or plugs constructed as troubleshooting aids to replace pin-to-pin jumper wires specified in technical orders. The command headquarters is the approving authority for armament LME. All equipment designed for use with nuclear weapons tests and handling equipment is certified according to AFI 91-103, *Nuclear Safety Certification Program*. A letter is submitted through the maintenance officer and QA's requesting evaluation. Upon local approval, forward the letter to HQ AFRES/LGMW with a courtesy copy to HQ 10th AF/LGMM. As a minimum, the following information is required:

7.32.6.1. Description of the test equipment and its use.

7.32.6.2. Material used for construction.

7.32.6.3. Wiring diagram of test equipment and views of the completely assembled unit with wiring visible.

7.32.6.4. Approximate cost including labor and material.

7.32.6.5. Draft of local checklist.

7.32.7. Ensures aircraft -6 armament system inspections are accomplished.

7.32.8. Tracks all assigned in-use AME by aircraft tail number and position installed.

7.32.9. Ensures normally installed equipment (NIE) locations are updated in an automated management system.

7.32.10. Ensures on-equipment functional checks on all AME and NIE, installed as a result of transfer or acceptance inspection actions, are performed.

7.32.11. Ensures appropriate follow-up actions are accomplished for all armament system malfunctions. Monitors' actions taken by supporting agencies on dispensers, suspension equipment, training munitions, etc., which were involved with specific system malfunctions.

7.32.12. Develops a recognition program for deserving weapons personnel. (Optional)

7.32.13. Monitors the unit's weapons release reliability and gun fire-out rates to determine weapons systems effectiveness.

7.32.14. Sets up and monitors gun room security and explosive licenses if required.

7.32.15. Performs AME and special purpose recoverables authorized to maintenance (SPRAM) accountability and control requirements. Develop procedures governing accountability and control of AME.

7.32.16. Supports WRM rack, and gun maintenance requirements.

7.32.17. Identifies, by NSN, all aircraft armament systems components requiring acceptance inspections to base supply.

7.32.18. Appoints technical order and publication monitors to maintain files.

7.33. Weapons Expediter Duties. The expediter responds to maintenance priorities established by the flight line expediter and the production superintendent from a vehicle equipped with a portable or mobile radio. Additionally, the expediter:

7.33.1. Supervises/monitors on-equipment armament systems maintenance.

7.33.2. Monitors loading operations.

7.33.3. Tracks configuration of aircraft and suspension equipment and munitions configuration.

7.33.4. Informs the flightline expediter of all start/stop times, status changes, delays, and extensions. Perform as many supervisory postloads and maintenance inspections as possible.

7.33.5. Tracks expenditures as follows:

7.33.5.1. Fill out an AF Form 2434, Munitions Configuration and Expenditure Document, on all aircraft configured and loaded to eject or fire munitions. Record by serial number and location or position all armament related equipment from which munitions' items are expended. An AF Form

2434 is not required for aircraft loaded for alert or for exercises not involving flight. Locally developed forms may be used instead of AF Form 2434 provided they are coordinated through the munitions flight, and approved by the maintenance commander.

7.33.5.2. A reconciliation of expenditures is accomplished with the munitions section at the end of the flying day. After the reconciliation, copies of expenditure documents are distributed to PS&D and the munitions section when required. The documentation action block is annotated when entries are made on item historical documents.

7.33.6. Coordinates accomplishment of all pre-planned and unscheduled maintenance requirements and inspections with the flightline expediter.

7.33.7. Monitors the safety of flightline weapons operations.

7.33.8. Initiates cannibalization documentation when installed equipment (with inspection requirements aligned to aircraft phase and flying hours, i.e., bomb racks) is removed and installed on another aircraft. Use caution when installing items on aircraft with less phase time accrued than the item itself to avoid over fly of equipment inspection requirements.

7.34. Weapons Loading . All personnel assigned to the loading function:

7.34.1. Load and unload munitions or weapons in support of daily or contingency operations.

7.34.2. Install and remove armament related suspension equipment on assigned aircraft to support configuration requirements for daily or contingency operations.

7.34.3. Perform functional/stray voltage checks required for loading operations.

7.34.4. Install/remove all armament AME and normally installed equipment to facilitate other maintenance or for repair action, to include acceptance/transfer and phase inspections.

7.34.5. Perform aircraft weapons related troubleshooting and repair actions.

7.34.6. Perform aircraft armament systems functional checks and associated -6 inspection requirements.

7.34.7. Boresight aircraft guns as applicable.

7.34.8. Perform armament systems preflights, through-flights, and BPO inspections.

7.34.9. Perform on-equipment TCTOs.

7.34.10. Perform the armament systems portions of aircraft phase inspections.

7.35. Weapons Task Qualification. A weapons task qualification is a munitions related task not requiring certification. Personnel receive initial and annual recurring training for these operations. Recurring training may be conducted during normal flightline operations. Training is provided by the academic's instructor and recorded in an automated system.

7.35.1. Two or more personnel in AFSC 2W1X1 may perform the following:

7.35.1.1. Install and remove impulse cartridges.

7.35.1.2. Install and remove chaff and flare magazines.

7.35.1.3. Perform portions of the conventional loading checklist that pertain to delayed flight or alert, immediately prior to launch and safing procedures.

7.35.1.4. Load and unload helicopter pyrotechnics

7.35.1.5. Install/remove and load/unload helicopter gun systems (GAU-2, M-60 and M-240).

7.35.2. Two or more qualified personnel, other than 2W1X1 may perform only items **7.35.1.1.** and **7.35.1.2.**

7.36. Transient Aircraft. Arming, dearming, and munitions loading/unloading operations on transient aircraft may be performed by any weapons person task qualified on the munitions and aircraft.

7.37. Academic Instructor. A highly qualified individual is assigned to administer the weapons academic training program. The instructor conducts required initial and recurring weapons academic training for all unit weapons personnel, loading supervisors, and other personnel who maintain specific weapons task qualifications.

7.38. Training Facilities. Adequate office space and an academic classroom with appropriate heating and cooling are required for weapons academics training.

7.39. Academic Training. Initial academic training is completed before the start of weapons task qualifications training. Recurring academic training is administered annually. Training requirements and course control documents are coordinated with the maintenance training section.

7.39.1. Course control documents are tailored to unit needs. The following items are covered as a minimum:

7.39.1.1. Publications.

7.39.1.2. Safety.

7.39.1.3. Security.

7.39.1.4. Aircraft familiarization.

7.39.1.5. Munitions.

7.39.1.6. AGE/support equipment familiarization.

7.39.1.7. Test equipment.

7.39.1.8. Special tools.

7.39.1.9. Handling equipment.

7.39.2. Weapons academic training may fulfill the requirements for explosive safety training if the requirements of AFI 91-202, The United States Air Force Mishap Prevention Program, are included.

7.39.3. All weapon personnel, loading supervisors, and other personnel who maintain specific weapons task qualification are required to complete initial and recurring academic training. Administer recurring academic training annually. Document academic training in an automated system.

7.40. Maintenance. Maintenance section maintains and performs on and off-equipment maintenance for assigned aircraft armament systems and guns. An AFSC 2R1X1 scheduler, 2S0X1 supply specialist, and 3A0X1 information management specialist may be assigned. Maintenance:

7.40.1. Schedules and performs all inspections, TCTOs, time changes, maintenance and repair actions for aircraft armament systems components and AME.

7.40.2. Maintains WRM assets.

7.40.3. Files equipment historical records (AFTO Forms 95) for aircraft guns and weapons systems NIE, if decentralized. Historical records may be automated. Hard copy files may be maintained for those portions of historical records that are automated. Records are maintained and dispose of according to AFMAN 37-139.

7.40.4. Coordinates with the PS&D for equipment requiring in-shop inspections. (When possible, calendar NIE inspections are scheduled in conjunction with the nearest aircraft hourly inspection within the calendar interval.) Include schedules in the weekly and monthly maintenance plan.

7.40.5. Performs off-equipment acceptance/transfer inspections on aircraft, to include NIE and AME. These inspections include:

7.40.5.1. A parts integrity inspection.

7.40.5.2. A complete electrical and mechanical check to include associated cables.

7.40.5.3. Updating the historical records for each item.

7.40.6. In coordination with the PS&D requisitions parts to satisfy time change requirements for aircraft armament or gun system components not identified in the applicable aircraft -6 TO.

7.40.7. Accounts for, stores, and controls AME.

7.40.8. Unpacks/packs assigned AME in storage.

7.40.9. Lists assets as SPRAM if required.

7.41. Support. Stores and maintains required tools and equipment and manages the supply/bench stock functions for the shop. Additional responsibilities are outlined in **Chapter 4** of this instruction. Support:

7.41.1. Performs user calibration and maintenance on shop TMDE.

7.41.2. Coordinates with the precision measurement equipment laboratory (PMEL) to ensure calibration requirements are met.

7.41.3. Maintains supply management documents (for example, D04, D18, D19, Q13).

7.41.4. Maintains the master ID listing.

7.41.5. Manages consumables.

7.41.6. Manages residual and bench stock.

7.41.7. Maintains CTKs, tool storage area, and test equipment.

Section 7D—Combat Sortie Generation (Not applicable to Rescue and Training units)

7.42. General . The sortie generation process can best be described as a series of sortie cycles. Each cycle consists of two basic components, flying and aircraft generation. The logistics effort to accomplish regeneration is divided into aircraft servicing, fueling, munitions loading, and essential repairs. These can be compressed through pre-positioning resources, the division of work, and the use of combat turnaround procedures. The number of certified LCs and ICT qualified personnel available directly affects the unit's ability to conduct combat/contingency operations. Accordingly the need for LCs and ICT teams to attain a high level of proficiency cannot be over emphasized. Achievement of this standard may require units to certify weapons personnel who are assigned duties outside the weapons section.

7.42.1. Terms:

7.42.1.1. Aircrew Quick-Turn. In this form of turnaround the aircrew remains at or near the combat turn area during aircraft servicing/rearming. Subsequent missions do not require the aircrew to accomplish extensive replanning or complex briefing. Maintenance, intelligence, weather data, and operations briefing/debriefings are accomplished on the flightline using guidance contained in applicable MAJCOM directives and unit procedures. Tasking information, along with required planning materials, are readily available in the designated combat turn area (CTA), or at the aircraft. ***NOTE:*** Aircrews may be used to assist in ICT or CTO operations as directed by the ATS or as designated by unit operating procedures.

7.42.1.2. Combat Turn Area (CTA). An area designated and approved for maintenance, loading and servicing of aircraft for combat operations. The area may consist of hardened aircraft shelters (HAS), aircraft flow-through arches/revetments or an open ramp, and may include a munitions holding area. A CTA normally includes the operating area for one squadron of aircraft.

7.42.1.3. Combat Turnaround Operations (CTO). The entire regeneration cycle for a mission capable aircraft to include servicing, munitions loading, fueling and minor maintenance operations. The emphasis is to accomplish these operations in the most expeditious manner consistent with the operational environment.

7.42.1.4. Dual Loading Operation (DLO). Simultaneous conventional munitions loading on bomber aircraft by two certified LCs.

7.42.1.5. Hard Broke Area. An area designated for the CTA to park aircraft that require more than 4 hours for completion of maintenance actions.

7.42.1.6. Quick Fix Area. An area within the CTA designated for parking aircraft that require more than 30 minutes, but less than 4 hours, for completion of necessary maintenance actions.

7.42.2. Key Personnel and Responsibilities**:**

7.42.2.1. Combat Turn Director (CTD). CTDs are designated and qualified maintenance officers or senior NCOs with maintenance related AFSC. The CTD has overall responsibility for all maintenance personnel and resources dedicated to a CTA; have complete authority to establish priorities and expend resources to ensure maximum sortie production; request assistance in resolving problems beyond the capability of assets dedicated to the CTA. In conjunction with the OLO (if used), the CTD determines if aircraft are capable of meeting mission requirements and weigh all decisions against the priority of the mission(s) being generated (for example, whether to continue or terminate operations in the face of hazards/safety risks).

7.42.2.2. Aircraft Turn Supervisor (ATS). ATSs are highly trained and qualified seven level (minimum) maintenance NCOs responsible for supervising ICT/BCT operations. ATS will only

supervise one ICT/BCT at a time. The ATS supervises ICTs by using the appropriate -4CL tech data; ensure the ICT/BCT progresses safely and on schedule; terminate actions when hazards jeopardize the safety of personnel or equipment; maintain communication with the CTD; maintains communication with the appropriate flightline supervisor and MCF; ensures sufficient serviceable material and equipment are available and properly positioned for the ICT/BCT; coordinates with the CTD for POL, equipment support/replacement; and the movement of munitions/fuel tanks into the CTA.

7.42.2.3. Operations Liaison Officer (OLO). The OLO advises the CTD on aircraft capability to perform missions and advises the CTD on all NMC aircraft. Additionally, the OLO assists in resolving aircrew problems, fragmentary order requirements, and operations functions.

7.42.2.4. Munitions Liaison Officer (MLO). A munitions officer or senior NCO designated to assist the unit mission-planning cell.

7.42.3. Concept of Operations. Combat Turnaround Operations (CTO) may include Integrated Combat Turnarounds (ICT), Bomber Combat Turnarounds (BCTs) or Dual Loading Operations (DLOs) (Bombers Only) which may provide units operational flexibility in managing resources and a rapid means of turning mission ready aircraft under emergency combat conditions. The effectiveness of a units CTO and ICT program is determined by the degree of support from commanders, maintenance, operations and all support agencies involved. CTO and ICT procedures must be tailored to reflect and support theater deployment locations, wartime requirements, and concepts of employment. They impose a high degree of risk and require additional personnel and resources to be readily available at designated locations to be successful. ICTs are accomplished according to applicable aircraft ICT technical data procedures approved by the system safety engineering analysis (SSEA) as defined in TO 00-25-172. ***NOTE*:** ICT procedures were designed and approved for operations conducted under emergency combat conditions and will only be executed during actual combat/contingency conditions or combat/contingency training exercises. Given the inherent dangers associated with ICTs, they are not intended for use during daily operations or routine sortie surges.

7.42.4. Tasking. The Weapons Manager in conjunction with the Maintenance Supervisor/Superintendent coordinates with the OG/CC to determine the number of ICT teams to be trained and qualified to achieve the units ICT operational capability. This can best be determined by assessing the wing's combat sortie generation requirements based on current war plans, potential deployment locations, projected war time sortie rates, etc. Bomber units may elect to perform DLOs and/or BCTs.

7.42.5. Training Requirements. Units will establish an operating instruction outlining CTO program management and training responsibilities. This program should be thoroughly planned and practiced/choreographed to meet current requirements and adjust to future unit combat sortie production needs.

7.42.5.1. ICT management, training and qualification are a function and responsibility of the WS. ICT procedures and CTOs should be built around the operational environment, mission, Air Tasking Orders (ATOs), and expected operations for which a unit is designated to deploy or support during actual war time contingencies or taskings. The key to an effective ICT program is the involvement, support, and cooperation of all agencies involved. The WS sets standards, develops local policies and procedures, and interprets all technical directives governing the ICT program. The weapons manager coordinates with other agencies to establish the unit ICT program. A highly qualified 2A3XX representative assists in developing and implementing a program which:

7.42.5.1.1. Is consistent with unit tasking.

7.42.5.1.2. Provides initial ICT academic and practical training for LCs, aircraft maintenance personnel, and ATSs.

7.42.5.1.3. Ensures deploying units personnel are familiar with their beddown location and the operational environment, for example, hardened aircraft shelter, flow through, open ramp, etc.

7.42.5.1.4. Ensures all PMs are used.

7.42.5.1.5. Ensures initial and recurring evaluations of ICT qualified personnel (except CTDs) are performed.

7.42.5.1.5.1. The weapons manager in conjunction with the QA supervisor determines the number of QA augmentees for evaluating ICTs. The senior WS evaluator has final authority on the overall ICT rating.

7.42.5.1.5.2. QA augmentees must complete ICT academic requirements.

7.42.5.1.5.3. Evaluates LCs quarterly and non-LC personnel semiannually.

7.42.5.1.6. Disqualifies personnel that fail to complete required ICT evaluations unless exempted according to paragraph **7.22.** LC members disqualified on ICTs are not considered combat ready. ICT disqualification does not necessarily result in munitions decertification.

7.42.5.1.7. Units accomplish ICTs on a continuing basis in order to maintain a high level of proficiency/readiness utilizing TO 33-1-4 procedures.

7.42.5.1.8. As a minimum, the Load Standardization Crew (LSC), Squadron Lead Crews (SLC), Weapons Standardization (Academics) ICT Instructor, and the 2A3XX representative are fully ICT qualified to provide a “training” capability. Additional qualified personnel and ICT teams are required to provide an “operational” capability.

7.42.5.1.9. The ICT time standard is 45 minutes. The WS in conjunction with the Maintenance Supervisor/Superintendent with OG/CC approval may increase the time standard as necessary to account for munitions assembly, hanging external fuel tanks or uncommon munitions configurations providing the time standard does not exceed 60 minutes. ICT timing begins when the aircraft is first chocked on the ICT spot or CTA and ends at the completion of the Final Aircraft Preparation Procedures of the applicable aircraft tech order or checklist.

7.42.5.2. BCT or DLO management, training and qualification are a function and responsibility of the WS. BCT or DLO procedures and CTOs should be built around the operational environment, mission, Air Tasking Orders (ATOs), and expected operations for which a unit is designated to deploy or support during actual wartime contingencies or taskings. The key to an effective BCT or DLO program is the involvement, support and cooperation of all agencies involved. The WS sets standards, develops local policies and procedures, and interprets all technical directives governing the BCT or DLO program. The weapons manager coordinates with other agencies to establish the unit BCT or DLO program.

7.42.5.2.1. When DLO procedures are performed the following conditions are adhered to:

7.42.5.2.1.1. Both internal and external or dual bay loading is required.

7.42.5.2.1.2. Both LC chiefs:

7.42.5.2.1.2.1. Check the aircraft AFTO Form 781 for aircraft and armament system status.

7.42.5.2.1.2.2. Are present during the pre-task briefing.

7.42.5.2.1.2.3. Verify all previously loaded munitions are in pre-maintenance status.

7.42.5.2.1.2.4. Verify cockpit switches are properly positioned during aircraft preparation.

7.42.5.2.1.2.5. Checks off each step as they are accomplished in separate checklists.

7.42.5.2.1.3. Each LC conducts loading operations from separate trailers positioned on opposite sides of the aircraft.

7.42.5.2.1.4. Postload power-on checks are not accomplished until all munitions are loaded and bay connections accomplished.

7.42.5.2.1.5. Both LC chiefs ensure the conventional system switches/controls are properly positioned and verifies the conventional munitions status and inventory during postloading inspection.

7.42.5.2.2. The weapons manager in conjunction with the QA supervisor determines the number of QA augmentees for evaluating BCT/DLOs. The senior WS evaluator has final authority on the overall ICT rating.

7.42.5.2.3. QA augmentees must complete BCT/DLO academic requirements.

7.42.5.2.4. QA augmentees do not have weapons loading certification/decertification authority.

7.42.5.2.5. Bomber units performing BCT or DLO operations uses locally developed time standards.

7.42.6. Evaluation Criteria (BCT, DLO, ICT):

7.42.6.1. Exceeded time standard results in a failed rating for the team.

7.42.6.2. More than three errors per team member result in a failed rating for the individual.

7.42.6.3. A safety or reliability error results in a failed rating for the individual.

7.42.6.4. Lack of technical proficiency results in a failed rating for the individual.

7.42.6.5. For integrated loads, the evaluator may elect decertification on any one or all munitions loaded. When the same rating is not applied to all munitions loaded during an integrated load, separate evaluation forms are filled out.

7.42.6.6. Failure of a team or team member to demonstrate proficiency need not result in formal decertification/disqualification if the team or team member reaccomplishes the same turn/load satisfactorily within the same day or UTA.

7.42.7. Documentation (BCT, DLO, ICT):

7.42.7.1. The senior WS evaluator initiates documentation. A single report for the entire team consisting of all discrepancies is documented on AF Form 2419 or AFRC Form 171. QA does not initiate duplicate documentation.

7.42.7.2. Record Documentation of LC personnel according to paragraph **7.24.**

7.42.7.3. Record Documentation of Non LC personnel in an automated system.

7.42.7.4. Route completed forms as a minimum to:

7.42.7.4.1. Weapons Manager.

7.42.7.4.2. OSM Chief.

7.42.7.4.3. QA (for inclusion into QANTTAS).

7.42.7.4.4. WS for file.

7.42.8. Maintenance. To regenerate aircraft rapidly for ICT, DLO, and BCT operations, resources (people, equipment, spares, and consumables) are pre-positioned to the maximum extent possible. Designated areas or aircraft parking spots for ICT, BCT, or DLO operations should be separated from normal aircraft parking areas. Battle damaged and Non Mission Capable (NMC) aircraft are directed to a designated aircraft hard broke or fix area. As NMC aircraft turn MC, they are released to the CTD for regeneration. The division of work, coupled with the pre-positioning of logistics resources, allows the regeneration effort to focus on a specific task and place priority on the most available aircraft.

7.42.8.1. With the exception of hanging external fuel tanks on fighter aircraft, no maintenance, inspections or configuration changes other than those specified in the applicable -4CL are performed on ICT, DLO or BCT aircraft without SSEA, MAJCOM, and USAF/ILMW Approval.

7.42.8.2. An ATS are on location at each designated ICT or BCT aircraft parking spot or location to supervise the entire operation from start to finish. The ATS is a “safety monitor” and will only supervise one BCT or ICT at a time using the applicable -4CL.

7.42.9. Inspections. In order to enhance aircraft availability, aircraft specific dash 6 and other applicable AF technical data may allow units to discontinue phase/periodic and calendar inspections, as well as time changes (with the exception of life-sustaining items) during actual combat or contingency operations. Consult applicable technical data for minimum requirements. Ground crew systems checks are terminated except when specifically requested by aircrews. End of runway inspections may be suspended to enhance survivability if authorized by applicable AF technical data. In addition, combat/contingency inspection criteria/repair procedures identified in appropriate technical data should be utilized. Units must obtain MAJCOM approval prior to using combat/contingency -6 inspection criteria.

7.42.10. Manpower. The manpower available to regenerate aircraft may also be increased during combat sortie generation operations. First, cross utilization of skilled personnel may be employed to ensure maximum productivity. Second, direct sortie production functions may be augmented. If required, programs are developed to identify, train, and qualify augmentees. Augmentees’ availability at deployed bases must be considered by deploying units. Finally, indirect support such as meals, transportation, and sanitation should be provided to the maximum extent possible at the aircraft generation locations. Augmentees for aircraft or flightline operations or functions will have required safety/explosive safety training for all applicable tasks or functions they are to perform.

7.42.11. Aircraft Configurations. To optimize munitions support, the number of aircraft munitions configurations are minimized and standardized as much as possible. Munitions are preassembled to the greatest extent possible. Configuration changes may be performed during CTO and training/exercises (including CERIs) providing the applicable functional checks are performed to ensure the safety

and reliability of the weapons system. Fuel flow may be simulated during a BCT or ICT to facilitate applicable leak/transfer and jettison checks if applicable. For ICT and BCT procedures armament system configuration changes are limited to the restrictions listed in the -4CL.

7.42.12. General Procedures:

7.42.12.1. Qualified maintenance personnel will develop and maintain a quick fix capability to accomplish on-the-spot flight line repairs of support and armament suspension equipment.

7.42.12.2. The regeneration flow of aircraft begins when the aircrew reports aircraft status (prior to landing if possible).

7.42.12.3. Returning aircraft will taxi to a cursory check area (when used) to confirm status. The cursory check are accomplished with the engines running. Upon completion, the aircraft are directed to the Hot Pits, ICT spot or appropriate recovery location.

7.42.12.4. MC aircraft selected to fly another sortie during the same flying period are turned by using applicable CTO procedures. Since ICT, BCT, and DLOs are inherently more hazardous and require more personnel than other aircraft turnaround procedures, they are only used when essential to meet the demands of high sortie rates requiring munitions loading and not daily flying or sortie surge.

7.42.12.5. Hot Pit Refueling. Aircraft may taxi to the hot refueling area prior to returning to the aircraft parking ramp or ICT spot. Specific criteria for hot pit refueling are contained in **Chapter 6**.

7.42.13. Operations Group Responsibilities. The OG/CC and Squadron Commanders develop local aircrew procedures consistent with the combat turnaround procedures in this chapter, and ensure operations, maintenance, and support agencies fully support the ICT program and CTO. To reduce the time spent in each element of the sortie cycle and ensure aircrews are available for the maximum number of sorties, the guidance listed below applies.

7.42.13.1. Mission preplanning is accomplished by non-flying qualified personnel whenever possible. Units will use the period of time from initial tasking to commencement of contingency operations/ hostilities to accomplish aircrew mission planning, target study, intelligence updates, tactics briefings, etc., to reduce manpower requirements during periods of peak flying activity. Procedures are developed to minimize aircrew requirements for mission preparation. Units develop the capability to provide all mission planning information (weather, and intelligence) to aircrews at mission planning/briefing locations and CTAs.

7.42.13.2. Briefing guides will contain only the essential items needed to perform the mission. A mission/flight briefing is conducted prior to the first flight of the day. Subsequent briefings are reduced to mission essential items such as tactics and weapons employment, as determined by the mission flight lead.

7.42.13.3. If reaction time requires, aircrews use locally developed and approved scramble (quick-reaction) checklists during launches unless more complete checks are necessary for systems that have open write-ups or are undergoing maintenance. Weapon system specific alert launch checklists are used when published.

7.42.13.4. Units coordinate local air traffic control (ATC) procedures that minimize flight and ground time during departures and arrivals.

7.42.13.5. Procedures are established to have aircraft maintenance status called in as soon as possible. Aircrews will actively participate in ICTs/CTOs where possible to reduce turn times. Procedures are developed to ensure that maintenance and intelligence debriefings are conducted as near as possible to the aircraft turnaround location. Reconnaissance units develop appropriate procedures for intelligence debriefings.

7.42.13.6. Units will employ procedures that ensure the optimum scheduling of aircrews. Sufficient numbers of aircrews are trained/designated as flight lead so that all missions can be launched in two-ship formations if necessary. Supervisor of flying duties/responsibilities are defined and practiced in context with combat sortie generation operations. During exercises and actual contingency combat operations, aircrew members are only tasked for combat mission flying and duties in direct support of mission accomplishment such as SOF, Functional Check Flights (FCF), Operations Liaison Officer, or Mission Planning Cell. Unit OG/CCs identifies augmentee requirements, and augmentees are integrated into peacetime training.

7.42.13.7. Procedures are developed to ensure adequate combat mission reporting, and provides the required flexibility during combat sortie generation operations. Maximum use of inflight mission reports and formatted checklists is encouraged. Debrief items are reported per MAJCOM directives. Format and type of reports submitted are according to AFP 102-2, Volume I. Unit intelligence will have the capability to accomplish debriefings at or near combat turn areas when required. This includes the capability to relay the data to a centralized collating facility. A van with appropriate communications equipment may be configured to provide plane-side or mobile briefing/debriefing support.

7.42.14. Logistics Subfunctions. The logistics subfunctions of maintenance, munitions, fuels, transportation and supply are major factors in supporting combat operations. Personnel are scheduled to provide optimum assistance in the sortie generation effort. Equipment and resources are pre-positioned, when appropriate. ICTs will receive priority for resources over all other flightline operations.

7.42.14.1. Munitions support functions are managed to support surge efforts. At the appropriate alert warning, predetermined loads are assembled, preloaded as applicable, and delivered to loading or holding areas. The munitions controlling agency, through the munition liaison officer/NCO, monitors the projected need for complete round munitions.

7.42.14.2. Repair cycle items determined by the commander to be mission essential, and best accommodate the CTO concept, may be pre-positioned at supply points in the maintenance area performing most remove-and-replace maintenance. Total base assets, to include the Readiness Spares Kit (RSP) and Base Level Self Sufficiency (BLSS) spares may be utilized to fill pre-positioned authorizations.

7.42.14.3. If supply points are used, they are operated in accordance with the provisions of AFMAN 23-110, Vol 2, Part 2, chapter 24. Direct mission support activities are augmented as necessary for combat sortie generation. Personnel identified as augmentees are trained for cross utilization.

7.42.14.4. Issues from these supply points are immediately called into base supply. Supply initiates immediate replacement action with an appropriate delivery priority.

7.42.14.5. Maintenance workcenter supervisors ensures expeditious movement of reparable assets through the repair cycle.

7.42.14.6. Fuel support procedures are consistent with the requirement to reduce ground time and increase system reliability by eliminating aircraft shutdown and subsequent restart.

Section 7E—Avionics

7.43. Bomb/Navigation (Bomb/Nav B52). Maintains bomb/nav systems and components, bomb/nav unit test equipment, and assigned test equipment which is not maintained by Type II PMEL. The bomb/nav unit equipment is flight line test equipment for the purpose of determining the status of line replaceable unit (LRU). The LRU that is removed for system troubleshooting does not need to be processed by production control to be checked. Additionally, B-52 units accomplish the following:

7.43.1. Strategic Radar System. Specified AN/APQ-166 strategic radar (SR) components to include the receiver-transmitter-modulator (RTM), radar control test panel (RCTP), and radar antenna.

7.43.2. Terrain Avoidance System.

7.43.3. Electro/Optical Viewing System. Specified AN/ASQ-151 Electro-optical Viewing System components to include the AN/AA-6 forward looking infrared (FLIR) scanner, and AN/AVQ-22 steerable television (STV) camera assembly.

7.44. Defensive Fire Control (DFCS B52). Maintains the defensive fire control systems and components including assigned test equipment which is not maintained by PMEL or avionics TMDE. This includes components such as turrets mounted guns, computers, receiver-transmitters, sights, power supplies, compressors, and desiccators. Assigned personnel use applicable aircraft technical orders that tell when maintenance may be performed with munitions installed.

7.45. Type IV PMEL. Calibrates, certifies, and maintains TMDE according to the supported weapon system's calibration and measurement summary (CMS). Sufficient storage and work space is assigned adjacent to avionics test stations. In addition to common shop chief responsibilities, the type IV PMEL lab chief:

7.45.1. Ensures production control duties are performed.

7.45.2. Establishes procedures for scheduling, controlling and directing TCTO on supporting TMDE. Units develop instructions for the management of AME and MSPE (-21 equipment) according to AFI 21-103, Equipment Inventory, Status, and Utilization Reporting.

7.46. Bomb/Navigation (Bomb/Nav B52). Maintains bomb/nav systems and components, bomb/nav unit test equipment, and assigned test equipment which is not maintained by Type II PMEL. The bomb/nav unit equipment is flight line test equipment for the purpose of determining the status of line replaceable unit (LRU). The LRU that is removed for system troubleshooting does not need to be processed by production control to be checked. Additionally, B-52 units accomplish the following:

7.46.1. Strategic Radar System. Specified AN/APQ-166 strategic radar (SR) components to include the receiver-transmitter-modulator (RTM), radar control test panel (RCTP), and radar antenna.

7.46.2. Terrain Avoidance System.

7.46.3. Electro/Optical Viewing System. Specified AN/ASQ-151 Electro-optical Viewing System components to include the AN/AA-6 forward looking infrared (FLIR) scanner, and AN/AVQ-22 steerable television (STV) camera assembly.

7.47. Defensive Fire Control (DFCS B52). Maintains the defensive fire control systems and components including assigned test equipment which is not maintained by PMEL or avionics TMDE. This includes components such as turrets mounted guns, computers, receiver-transmitters, sights, power supplies, compressors, and desiccators. Assigned personnel use applicable aircraft technical orders that tell when maintenance may be performed with munitions installed.

7.48. Type IV PMEL. Calibrates, certifies, and maintains TMDE according to the supported weapon system's calibration and measurement summary (CMS). Sufficient storage and workspace is assigned adjacent to avionics test stations. In addition to common shop chief responsibilities, the type IV PMEL lab chief:

7.48.1. Ensures production control duties are performed.

7.48.2. Establishes procedures for scheduling, controlling and directing TCTO on supporting TMDE. Units develop instructions for the management of AME and MSPE (-21 equipment) according to AFI 21-103, Equipment Inventory, Status, and Utilization Reporting.

7.48.3. Maintains Precision Attack Targeting System (PATS) pods.

7.48.4. Uploads and downloads PATS pods on aircraft.

7.48.5. Removes and replaces Line Replaceable Units (LRUs).

7.48.6. Performs operational and BIT tests.

7.48.7. Maintains inventory control of pods and associated equipment.

Section 7F—Rescue Units

7.49. General. This section prescribes responsibilities, guidance and procedures for maintenance operations peculiar to Rescue Units to ensure mission accomplishment.

7.49.1. Production Superintendent. The production superintendent is responsible to and works for the maintenance squadron commander, the maintenance squadron senior maintenance office, or the maintenance squadron superintendent, as determined by the senior maintenance officer. The production superintendent is responsible for squadron maintenance production to include all the tasks outlined in the production superintendent portion of **Chapter 4** of this instruction. All maintenance and support personnel while working on-aircraft maintenance production fall under their authority.

7.49.2. Expediters. The expediters work for the production superintendent and are responsible for all the functions identified in **Chapter 4** of this instruction outlined as expediter duties.

7.49.3. Specialist Dispatch. The specialist dispatch functions as outlined in **Chapter 4** of this instruction may be accomplished by the expediter.

7.49.4. Debrief. The debrief process may be accomplished on the flightline with the expediter, assigned crew chief, and flight crew member with knowledge of the discrepancies of the sortie being debriefed.

7.49.5. Plans and Scheduling (P&S). The plans and scheduling function is responsible for input of debrief discrepancies into the MIS.

7.49.6. Maintenance Control Function. Unit commander at locations without a command post will determines the location of the MCF.

Section 7G—Expediter Additional Requirements

7.50. General . This section outlines additional requirements for expediters in ACC-Gained units. Expediters will maintain a copy of the following in expediter vehicles:

7.50.1. MESL (Mission Essential Subsystem List).

7.50.2. SCL (Standard Configuration Listing) as applicable.

7.50.3. QRL (Quick Reference Listing) for aircraft parts.

7.50.4. Listing of Radio Call Signs (Unit Option).

7.50.5. Copies of Emergency Action Response Teams Rosters with phone numbers.

7.50.6. Aircraft Mishap Plans (As locally required).

7.50.7. Applicable Operating Instructions.

7.50.8. Copy of Current Weekly and Monthly Flying and Maintenance Plans.

7.50.9. Work Unit Code Manual (-06).

7.50.10. Visual aid (automated product, or board) that indicates aircraft serial number, location, priority, estimated time in commision, status, configuration, fuel load and remarks.

7.50.11. Base Grid Map.

7.50.12. Emergency Action Checklists.

Section 7H—F16 External Fuel Tank Build-Up

7.51. F16 External Fuel Tank Build-Up : The aircraft fuel system repair section is responsible for training and managing the maintenance portion of the WRM external tank build-up program. Personnel tasked to perform WRM external tank build-up regardless of AFSC receive initial training either locally by fuels systems repair personnel or by AETC Training Detachment (TD). Personnel who have prior WRM external tank training are exempt from the initial training course. Annual refresher training for WRM external fuel tank build-up is required for all personnel except AFSC 2A6X4, Aircraft Fuels System Repair. Fuel tank build-up accomplished during local exercises, deployments, or other training events may be used to satisfy the annual training requirement. Document all training using AF Form 797/ MIS as appropriate.

Table 7.1. Fighter Aircraft Munitions Load Time Standards.

Family Group	A/OA10	F16	Remarks
AIM9	25	25	Note 1
AIM 120		35	Note 1
AGM45		35	
AGM65	35	35	Note 1, 2

AGM88		35	
BLU52	25		
BLU107		35	
BLU109	35	35	
CBU87/89/102	35	35	
GBU10/11/12	35	35	Note 2
GBU24		35	Note 2
GBU27		35	Note 2
M117/M118/M129 MK81/82/83/84	35	35	Note 6
MK82SE/M117R	35	35	Note 6
MK36/M117D	35	35	
MK82/84AIR	35	35	Note 6
SUU25	30	30	Note 5
TMU28		35	Note 2
Chaff/Flares	20	10	Note 5, 7
2.75" Rockets	35	35	Note 5
20mm/30mm	35	30	Note 5

NOTES: 1. No time is allowed for the functional check of additional missile launchers.

2. Add 15 minutes for each additional store/LAU117.

3. Time is for one LAU117 (any method). The time for loading one preloaded LAU88 is 45 minutes; two LAU88's, 60 minutes; single missile out of container, 35 minutes; for a single missiles 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.

4. Includes a short flight circuit test (FCT), such as: F16, 75060/W11; check; etc. When a long FCT is to be included in a loading operation, add the time standard listed in the applicable dash 6 tech order to the time standard.

5. Personnel may be task-qualified instead of certification.

6. Add 5 minutes for each fuze extender used.

7. Time is for one module, magazine or ejector channel. Add 5 minutes per each additional module, magazine, or ejector channel.

Table 7.2. B-52 Munitions Load Time Standards.

Family Group	Internal	External	Remarks
ClipIn Munitions	70		Note 1
AGM84A Missile		45	
AGM86B/C Pylon		70	Note 9

AGM86B Missile	70	70	
AGM86B Payload	60	60	
AGM142A Missile		60	
CSRL	60		Note 9
MK55/56/60/63		40	Note 8
GBU10/12		40	Note 8
MK82/M117/MK36/ MK62 MK84 EXT/SUU30	40	40	Note 5
MK52	40	40	Note 6, 7
POSTLOAD CHECKS			
Dual Bay	70		Note 2
Single Bay/Pylon	40	40	Note 2

NOTES: 1. No time is allowed for the functional check of additional missile launchers.

2. Add 15 minutes for each additional store/LAU117.

3. Time is for one LAU117 (any method). The time for loading one preloaded LAU88 is 45 minutes; two LAU88s, 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.

4. Includes a short flight circuit test (FCT), such as: F16, 75060/W11; check; etc. When a long FCT is to be included in a loading operation, add the time standard listed in the applicable dash 6 tech order to the time standard.

5. Add 3 minutes for each store.

6. Add 5 minutes for each store.

7. HSAB units may add MK52 to mine family group.

8. Add 10 minutes for store.

9. Preload.

Chapter 8

AIR FORCE SPECIAL OPERATIONS COMMAND (AFSOC) GAINED PROGRAMS

8.1. General. This chapter consolidates procedures and programs peculiar to AFSOC gained units as necessary to ensure a smooth transition from peacetime to wartime operations.

8.2. Aircraft Installed Engine Run Training . Follow procedures in AFSOCI 21-106, *Maintenance Management of Aircraft* to qualify and certify maintenance personnel to operate aircraft installed engines.

8.3. Aircraft APU or GTC Operation Training. Follow procedures in AFSOCI 21-106 to qualify and certify maintenance personnel to operate APU or GTC on assigned aircraft.

8.4. Engine Test Facility Operator Training. Follow procedures in AFSOCI 21-106 to qualify and certify maintenance personnel to operate aircraft engines on test cell.

8.5. Local Workcards, Checklists, and Job Guides:

8.5.1. For workcards, use AFTO Form 26, **Aircraft Inspection Work Card**. Use AFSOC Form 26 as the inspection work card cover sheet.

8.5.2. For checklists, use AFSOC Form 30, **Equipment Checklist**. Use AFSOC Form 29, **Equipment Checklist Cover**, as the equipment checklist cover sheet. The cover sheet reflects the purpose of the checklist and conditions under which it is used.

8.6. Aircraft Battle Damage Repair Program (ABDR). The LG/CC is responsible for developing and maintaining the wing ABDR program according to AFI 21-105, *Aerospace Equipment Structural Maintenance*, AFSOCI 21-103, *Aircraft Battle Damage Repair Program*, TO 1-1H-39, *Aircraft Battle Damage Repair*, and this instruction. If additional guidance is necessary, unit OIs are published.

8.7. Physical Configuration Audits (PCAs). For MDSs that have an approved configuration baseline (either complete or partial), QA conducts a PCA at every other Isochronal inspection and whenever possession of an aircraft is transferred between units.

NOTE: The PCA should not impede the inspection process. Both gaining and losing units conducts the PCA for aircraft being transferred. No configuration audits are required on MDSs for which no approved configuration baseline exists. Other than part number disparities, variations from the approved baseline requires immediate resolution of the variation by removal or reconfiguring or by documentation through the modification process defined in DODR 5000-2, Defense Acquisition Management, Publication and Procedures. If the unit initiates a modification proposal to document a variation, the unit is not required to remove or reconfigure the variation unless the modification proposal is disapproved. Modification proposals are initiated from the unit discovering the disparity by preparing AF Form 1067 and submitting it through the NAF to HQ AFRC/LGMA.

8.8. Air Defensive Systems (ADS) Flare/Chaff Dispensing Systems. Avionics personnel, AFSC 2A1X7, perform functional checks on flare/chaff dispensing systems and implement the unit weapons task qualification training program (WTQT). Maintains qualification for flare/chaff loading/unloading.

8.8.1. The following guidance further outlines responsibilities:

8.8.1.1. In accord with Maintenance Squadron supervision, ensures a highly qualified 2A1X7 is selected and designated in writing, as the weapons task qualification manager to administer the activities. The appointed individual must receive initial training from a qualified loading standardization crew (LSC) to ensure he/she has sufficient knowledge of the weapons qualification tasks to detect and correct potential safety and reliability errors.

8.8.1.2. The weapons task qualification manager, AFSC 2A1X7, will administer and maintain an effective weapons task qualification training (WTQT) program for ADS equipped aircraft. Program will consist of the weapons task qualification training manager and academic instructors/trainers capable of providing academic and practical weapons task load crew training as required.

8.8.1.3. Weapons Task Qualification Training Manager (WTQM) appoints and trains additional instructors/trainers to conduct initial and recurring load crew training. The appointed WTQM evaluates and requalifies instructors/trainers semiannually. Any maintenance AFSCs, with proper training and task qualification, may load/unload flares/chaff.

8.8.1.4. Academic Instructor. Ensure highly qualified individuals are selected and assigned to administer the weapons task qualification academic training program. These instructors conduct and document required initial and recurring weapons academic training for all unit personnel who maintain specific weapons task qualifications.

8.8.1.5. Training Facilities. An academic classroom with appropriate heating and cooling is required for weapons academics training.

8.8.1.6. Academic Training. Completion of initial academic training is required prior to the start of any practical weapons task qualifications training. Recurring academic training is administered annually. Recurring practical task qualification is administered annually as a minimum; unit will determine any more stringent intervals. Training requirements and course control documents are coordinated with the maintenance training section and wing weapons safety office. Document academic and practical training in an automated system.

8.8.1.7. Course control documents are tailored to unit needs. The following items are covered as a minimum:

8.8.1.7.1. Publications.

8.8.1.7.2. Safety.

8.8.1.7.3. Security.

8.8.1.7.4. Aircraft familiarization.

8.8.1.7.5. Munitions Familiarization and Emergency Procedures.

8.8.1.7.6. AGE/support equipment familiarization.

8.8.1.7.7. Test equipment.

8.8.1.7.8. Special tools.

8.8.1.7.9. Handling equipment as required.

8.8.1.8. Weapons task qualification academic training may fulfill the requirements for explosive safety training if the requirements of AFI 91-202, The United States Air Force Mishap Prevention Program, are included.

8.8.1.9. A load crew member qualified on a specific task on a specific mission, design, series (MDS) aircraft is considered qualified to perform that task on all series of that MDS; however, the member must be familiarized with differences within the MDS (e.g., cockpit switch locations) through practical demonstration or briefing.

8.8.1.10. Track and document munitions expenditures as follows: Initiate AF Form 2434, **Munitions Configuration and Expenditure Document**, on all aircraft loaded to eject or fire munitions. Record location or position from which munitions items are expended. A reconciliation of expenditures is accomplished concurrently with the munitions custodian at the end of the flying day. Upon reconciliation, copies of expenditure documents are maintained by the munitions custodian as required. Locally developed forms may be used instead of AF Form 2434 provided they are coordinated through the munitions custodian and approved by the Maintenance Commander and Information Management function.

8.9. Identification of Munitions-Loaded Aircraft. Aircraft armament placards are required for AFSOC gained units. When munitions are loaded on aircraft, specific entries are required in aircraft AFTO Form 781A, **Maintenance Discrepancy and Work Document**, according to TO 00-20-5 and applicable AFSOC supplement. Verify munitions status of aircraft by checking armament placard and AFTO Forms 781A before performing any maintenance. If an aircraft is explosives-loaded, certain munitions must either be unloaded or safed for maintenance according to TO 11A-1-33. Develop local checklists for handling munitions-loaded aircraft according to AFMAN 91-201, *Explosives Safety Standards*, and AFI 91-202, *The USAF Mishap Prevention Program*.

8.10. Sensors Section. In addition to the duties outlined in **Chapter 4**, the sensor section provides off equipment maintenance support for night vision devices.

8.11. Non-powered AGE/Mission Support Equipment Section. This section is located within the AGE flight of the MXS. In addition to the responsibilities of the non-powered AGE section as outlined in **Chapter 4** of this instruction, this section stores, inspects, inventories, controls, and performs on/off-equipment maintenance on - 21 equipment and alternate mission equipment (AME) according to AFI 21-103, *Aircraft and Missile Equipment Accountability and AFSOCI 21-105 Aircraft Equipment Accountability (PA)*.

8.12. Munitions Section (where applicable). Provides the capability to forecast, requisition, report, track, receive, stockpile, inspect, assemble, deliver, deploy, turn-in, account for, transport, and dispose of nonnuclear munitions to support worldwide deployment and operations. Maintain serviceable quantities of munitions assets required to meet all mission tasking. Munitions management functions will comply with directives prescribed in AFPD 21-2, *Nonnuclear and Nuclear Munitions*, and AFI 21-200 series instructions. AFRC units will deploy for wartime or peacetime exercises/contingencies in the approved gaining command structure.

8.13. Aircraft Debriefing. Use AFSOC Form 25, **Debriefing and Recovery Data**, for manual documentation if MIS is not available.

8.14. AFSOC Form 24. The AFSOC Form 24, **Quality Services Evaluation/Inspection**, may be used to document technical inspections.

Chapter 9

AMC-GAINED UNITS

9.1. General. This chapter outlines programs, procedures and/or responsibilities unique to AMC-gained aircraft units.

9.1.1. In addition to the requirements of this instruction, AMC managers/supervisors comply with AMC Instruction 21-104.

9.2. Sortie Support Flight (SSF) Chief. In addition to the flight/section chief duties and responsibilities outlined in **Chapter 2** of this instruction, the SSF flight chief is responsible for the following:

9.2.1. Managing and maintaining all -21/780 equipment according to AFI 21-103.

9.2.2. Centrally managing all aerial refueling drogue assemblies.

9.2.3. Ensuring assigned personnel are trained and equipped to perform their jobs.

9.2.4. Scheduling sufficient personnel to adequately support flightline maintenance activities.

9.2.5. Ensuring all assigned non-powered AGE is properly maintained, inventoried, and controlled.

9.3. Aircraft Generation Squadron (AGS). Aircraft generation is the cumulative effort required to launch and recover missions. It includes activities that generate sorties and train personnel to generate sorties, and is predominantly accomplished in an on-equipment environment. Units will sustain capability to accomplish sortie generation for peacetime and wartime taskings. A typical sortie generation sequence usually begins with recovery of an aircraft from another mission. Because aircraft recovery and generation activities are directly related, effective aircraft recovery is the first step in successful aircraft generation.

9.3.1. On-equipment maintenance transcends the maintenance structure, both within and between group organizations. On-equipment maintenance is performed to prevent equipment/system failures, repair them when they occur, and improve airframe availability and reliability. This section focuses on how on-equipment work is initiated and processes for accomplishing that work.

9.3.2. Launching and recovering aircraft. Squadron commanders, maintenance supervisors/squadron maintenance officers and superintendents provide organizational leadership and direction. Production superintendent directs the total flightline production effort; expediters closely control their aircraft repair activities; and production teams accomplish maintenance. Prioritize personnel and equipment resources to most effectively meet the mission through use of the daily maintenance and flying schedule. Production team members identify aircraft/equipment deficiencies in performance of their duties. These deficiencies, in the form of jobs, are assigned job numbers, and repair priorities are aligned to most effectively meet mission requirements.

9.4. Production Team Maintenance (PTM). (Does not apply to C-130) PTM integrates multiple AFSCs into teams that generate, launch, and recover aircraft. This pushes authority and responsibility for production decisions to the flightline where the aircraft generation resources are available. PTM is AMC's decentralized maintenance concept, and is designed to place people required for sortie generation on the flightline. All units use the PTM concept. PTM integrates aircraft maintenance AFSCs into teams that generate aircraft. In AMC, these teams are identified down to the SGF level and consist of mixed

APG/specialist personnel. The SGF OIC/flight chief are responsible for concentrating on long-term health of assigned aircraft; organizing, training, and equipping personnel; and overall flight management and personnel issues. They accomplish all of these tasks through section chiefs, production superintendent, expeditor, and aircraft crew chiefs (ACE). Under PTM, Production Superintendents are responsible for controlling and directing the daily flightline maintenance production and focus on today and tomorrow, fulfilling their duties through expediters, ACEs, and flight personnel. An ACE is designated for each aircraft assigned, with sufficient assistants assigned to cover each shift. ACEs/assistants are responsible for coordinating their aircraft maintenance activities with the expediter and should accompany their aircraft through all phases of maintenance. The debrief/dispatch section coordinates and disseminates information, and dispatches resources not available on the flightline as outlined in **Chapter 4** of this instruction.

9.5. Sortie Support Flight (SSF). Sortie Support provides required support to flightline maintenance and generation activities by maintaining all squadron CTKs/special tools, test equipment, TOs, bench stock, -21/780 equipment, and vehicles. SSFs provide centralized management of assets; however, CTKs/bench stock may be collocated with and provide decentralized support for each SGF.

9.6. Sortie Generation Flight (SGF). Sortie generation is responsible for servicing, inspecting, maintaining, launching, and recovering assigned aircraft, and ensures all mobility requirements are met.

9.7. SGF Section Chief. The SGF Section Chief works for the SGF flight chief and shares responsibilities outline in paragraph **2.13.** and **9.4.**

9.8. Malfunction Detection, Analysis, and Recording (MADAR) System (C-5 Units Only). Units with MADAR will use it to the fullest extent possible. In addition, maintenance supervision appoints a MADAR monitor who:

9.8.1. Reviews maintenance data recorder (MDR) files with the data formatting equipment (DFE) function as necessary for potential problem areas.

9.8.2. Ensures that current film packs/data tapes are being used.

9.8.3. Ensures corrective actions are taken on trend data advisory messages (TDAMs).

9.8.4. Advises senior maintenance managers of all MADAR management problems.

9.8.5. Has overall responsibility for maintaining, storing, and requisitioning film packs/data tapes.

9.8.6. Meets terminating aircraft as directed by the expediter and changes MDR tapes.

9.8.7. Removes mission print out unit (POU) data and delivers it to documentation. Ensures completion of data required on the MDR flight data tape label prior to installation.

9.9. Tanker Airlift Control Center/Logistics Operations Center (TACC/LOC). The TACC/LOC is AMC's logistics command and control function responsible for AMC-tasked missions, as prescribed in AMCI 21-108, Logistics Support Operations. NOTE: AMC aircraft "CHOP'd" (change of operational control) to another command--such as for European Tanker Task Force (TTF) or Pacific TTF duty--receive their taskings and recovery/support through the respective theater command headquarters (USAFE, PACAF, CENTAF, etc.). The LOC is comprised of LOCS and LOCC staff functions.

9.9.1. The LOCS staff function is responsible for planning, validating, sizing, sourcing, tasking, and managing logistics resources for Special Assignment Airlift Mission (SAAM), Joint Airborne/Air Transportability Training (JA/ATT), Joint Readiness Training Center (JRTC), exercise, and contingency missions.

9.9.2. LOCC controllers serve as the single POC for tasking logistics resources, through the wing MACC, in support of NMC aircraft away from home station. The MCC is the single, maintenance POC for LOCC recovery actions, once tasked by the TACC/LOC.

9.10. KC-135 Alert Crew Chiefs. At KC-135 units, "Alert Crew Chiefs" (any flightline AFSC) may be required to meet Single Integrated Operations Plan (SIOP) "alert" duties. Although Alert Crew Chiefs may be selected from among a unit's flying crew chiefs (FCCs), there is no requirement for an Alert Crew Chief to be an FCC.

9.10.1. Alert Crew Chiefs must be at least a senior airman and meet the following FCC qualifications:

9.10.1.1. Be familiar with aircraft systems. They operate, troubleshoot, service, and perform maintenance that several specialties (that is, electrics, propulsion, etc.) would normally perform. They are required to have substantially more knowledge, experience, and maturity than their peers.

9.10.1.2. Be qualified in the following: engine run, door/ramp operation, refuel/defuel supervisor, concurrent servicing supervisor, tow team supervisor (for C-5 aircraft must be staff sergeant or above), LOX/GOX/nitrogen servicing (as applicable), all applicable powered/nonpowered age operation, tire/brake change, and chemical warfare defense. Additionally, FCCs must have advanced systems training (follow-on training for KC-135) within 6 months of their appointment as a FCC. Units may add FCC requirements and/or qualifications to the program to fit their unit missions.

9.10.1.3. Receive life support training according to AMCI 11-301, *Aircrew Life Support (ALS) Program*, and attend the altitude chamber passenger course. No longer a requirement.

9.10.2. Maintenance supervision ensures there are "alert bags" available for all alert crew chiefs. Minimum bag contents include: one winter weight flight jacket, one flight suit, and one pair of flight gloves. ***NOTE:*** Alert crew chiefs will don "alert bag" clothing only during an actual EWO launch. Maintenance Supervision also ensures alert crew chiefs are issued helmet liners and that helmet shells are available to outfit each alert crew chief prior to assuming alert duties (number of liners issued is limited to two alert crew chiefs per "Alpha" sortie).

9.11. Air Defensive Systems(ADS) Flare/Chaff Dispensing Systems. Avionics personnel, AFSC 2A1X7, perform operational checks on flare/chaff dispensing systems and implement the unit Weapons Task Qualification Training Program(WTQT). Maintains qualification for flare/chaff loading/unloading.

9.11.1. The following guidance further outlines responsibilities:

9.11.2. In accord with maintenance squadron supervision, ensures a highly qualified 2A1X7 is selected and designated in writing as the WTQM to administer the activities. The appointed individual must receive initial training from a qualified WTQM to ensure he or she has sufficient knowledge of the weapons qualification tasks to detect and correct potential safety and reliability errors.

9.11.3. The WTQM, AFSC 2A1X7, administers and maintains an effective Weapons Task Qualification Training (WTQT) program for ADS equipped aircraft. Program will consist of the WTQM and academic instructors/trainers capable of providing academic and practical weapons task load crew training as required.

9.11.4. The WTQM appoints and trains additional instructors/trainers to conduct initial and recurring training. The appointed WTQM evaluates and requalifies instructors/trainers semiannually. Any maintenance AFSCs, with proper training and task qualification, may load/unload flares/chaff.

9.11.5. Academic Instructor. Ensure highly qualified individuals are selected and assigned to administer the weapons task qualification academic training program. These instructors conduct and document required initial and recurring weapons academic training for all unit personnel who maintain specific weapons task qualifications.

9.11.6. Training Facilities. An academic classroom with appropriate heating and cooling is required for weapons academics training.

9.11.7. Academic Training. Completion of initial academic training is required prior to the start of any practical weapons task qualifications training. Recurring academic training is administered annually. Recurring practical task qualification is administered annually as a minimum, unit will determine any more stringent intervals. Training requirements and course control documents are coordinated with the maintenance training section and wing weapons safety office. Document academic and practical training in an automated system.

9.11.8. Course control documents are tailored to unit needs. The following items are covered as a minimum:

9.11.9. Publications.

9.11.10. Safety.

9.11.11. Security.

9.11.12. Aircraft familiarization.

9.11.13. Munitions Familiarization and Emergency Procedures.

9.11.14. AGE/support equipment familiarization.

9.11.15. Test equipment.

9.11.16. Special tools.

9.11.17. Handling equipment as required.

9.11.18. Weapons task qualification academic training may fulfill the requirements for explosive safety training if the requirements of AFI 91-202, *The United States Air Force Mishap Prevention Program*, are included.

9.11.19. An individual qualified on a specific task on a specific mission, design, series (MDS) aircraft is considered qualified to perform that task on all series of that MDS; however, the member must be familiarized with differences within the MDS (e.g., cockpit switch locations) through practical demonstration or briefing.

9.11.20. Track and document munitions expenditures as follows: Initiate AF Form 2434, Munitions Configuration and Expenditure Document, on all aircraft loaded to eject or fire munitions. Record

location or position from which munitions items are expended. A reconciliation of expenditures is accomplished concurrently with the munitions custodian at the end of the flying day. Upon reconciliation, copies of expenditure documents are maintained by the munitions custodian as required. Locally developed forms may be used instead of AF Form 2434 provided they are coordinated through the munitions custodian and approved by the Maintenance Commander and Information Management function.

9.11.21. Identification of Munitions-Loaded Aircraft. It is essential to know aircraft munitions status. Many restrictions do apply when performing maintenance on explosives-loaded aircraft. When munitions are loaded on aircraft, specific entries are required in aircraft forms AFTO Form 781H, Aerospace Vehicle Flight Status and Maintenance Document, and AFTO Form 781A, Maintenance Discrepancy and Work Document, according to TO 00-20-5. Verify munitions status of aircraft by checking AFTO Forms 781A/H before performing any maintenance. If an aircraft is explosives-loaded, certain munitions must either be unloaded or safed for maintenance according to TO 11A-1-33. Develop local checklists for handling munitions-loaded aircraft according to AFMAN 91-201, *Explosives Safety Standards*, and AFI 91-202, *The USAF Mishap Prevention Program*.

9.12. Test, Measurement, and Diagnostic Equipment (TMDE) Flight. Provides logistics support, repair, calibration, and certification of designated support equipment (SE). TMDE Flight Supervision:

9.12.1. Complies with provisions of TOs 00-20-14, 33-1-27, 33-1-32, and 33K-1-100-1; AFI 21-113, *Air Force Metrology and Calibration (AFMETCAL) Program*; and AFR 88-4, chapter 10, *Criteria for Air Force Precision Measurement Equipment Laboratory (PMEL) Design and Construction* (to be superseded by AFMAN 32-1094).

9.12.2. Ensures measurement standards are in compliance with Air Force measurement standards maintained by the Aerospace Guidance and Metrology Center (AGMC) and other National Institute of Standards and Technology (NIST) approved sources.

9.12.3. Ensures technician qualifications to receive calibration "K" stamps. Issues stamps and ensures their use according to TO 00-20-14.

9.12.4. Establishes and maintains a TODA.

9.12.5. PMEL Supervision:

9.12.5.1. Certifies, calibrates, repairs, and aligns TMDE.

9.12.5.2. Tracks and controls laboratory production, average daily production, workable backlog, and total backlog.

9.12.5.3. Reviews all deferred and open maintenance.

9.12.5.4. Ensures environmental charts or recordings are accomplished, and all out-of-tolerance conditions are documented.

9.12.5.5. Inspects, calibrates, and repairs torque wrenches and tensiometers.

9.13. PMEL Reports. Accomplish RCS: HAF-LG(SA)7808, Precision Measurement Equipment Laboratory (PMEL) Report (AFTO Form 80), semiannually, as required by TO 00-20-14 and additional AGMC requirements. Submit two copies with all attachments. Send one copy to AGMC and the other to HQ AMC/LGQ. Employ PAMS management reports to the fullest extent possible when submitting it.

9.13.1. The TMDE materiel control section includes production control and maintenance supply liaison (MSL). AFSCs 2R1X1 and 2S0X1 are normally assigned. This section ensures customer TMDE is properly accounted for through the use of a PMEL customer hand receipt. It establishes equipment awaiting maintenance (AWM), in work (INW), awaiting parts (AWP), hold for technical data or standards (HOLD), and outgoing equipment areas. This section expedites turn-in of repairable assets; ensures the TMDE status file or production report reflects current status of all TMDE submitted for maintenance or calibration; and monitors and resolves overdue equipment issues.

9.13.2. TMDE production control is responsible for scheduling support.

9.13.3. Schedules on-site support when not practical to move TMDE to the PMEL.

9.13.4. Trains TMDE coordinators on their responsibilities within the Air Force metrology and calibration (AFMETCAL) program.

9.13.5. Prepares monthly PAMS equipment schedules and distributes them prior to the first of each month. The equipment schedule is corrected by each work center and returned to the TMDE Flight.

9.13.6. Provides work centers with a quarterly master ID listing for all supported equipment.

9.13.7. Processes all TMDE shipped off-base for calibration or repair and return. All TMDE is accountable property with an expiration date (date-due calibration) and it must be shipped by traceable means. All TMDE items are shipped through the flight according to TO 00-20-14 and other applicable publications. The production control section ships using these guidelines:

9.13.7.1. Prepare DD Form 1149, Requisition and Invoice or Shipping Document, for each shipment. All copies of the DD Form 1149 are stamped with the letters “TMDE.” The form will contain the words “DO NOT POST” in item 4, and “SUPPLY INSPECTION NOT REQUIRED—SHIP BY TRACEABLE MEANS ONLY”; and either “CONTAINS HAZARDOUS MATERIAL” or “CONTAINS NON-HAZARDOUS MATERIAL.” In section B.

9.13.7.2. Contact destination organization to coordinate shipping data.

9.13.7.3. Request shipment priority according to the uniform materiel movement and issue priority system (UMMIPS) policy in AFI 24-201 .

9.13.7.4. Arrange for delivery of the TMDE, DD Form 1149, AFTO Form 350, and the AF Form 537, PME Shipping, to the packing and crating activity.

9.13.7.5. Retain two legible copies of the DD Form 1149, Requisition and Invoice/Shipping Document, signed by packing and crating. Ensure these copies contain sufficient information to identify the owner or user, part number, NSN, ID or label number, nomenclature, and the document number assigned by the transportation activity. Keep one copy of the DD Form 1149 until the shipment is returned to the owner or user; mark the other as "Advance Copy" and mail it to the organization receiving the shipment.

9.13.7.6. When notified of return shipment, place the “Advance Copy” of the DD Form 1149 from the shipping organization in a suspense file. Notify the traffic management office if shipping time exceeds standards commensurate with the shipping priority used.

9.13.7.7. Receive and pick up shipments from the transportation activity.

9.13.7.8. Reconcile the “Advance Copy” DD Form 1149 with the shipped DD Form 1149 and clear the suspense.

9.13.7.9. Sign the "Advance Copy" and mail it to the originator.

9.13.7.10. Update the master ID listing and route the TMDE through designated representative for inspection.

9.13.7.11. TMDE maintenance supply liaison (MSL). MSL manages maintenance-supply actions and provides assistance to other flight personnel to resolve supply problems. It also:

9.13.7.11.1. Verifies and monitors urgency justification codes (UJC) and standard reporting designator (SRD) codes.

9.13.7.11.2. Tracks and controls the section AWP program.

9.13.7.11.3. Files and maintains the DO4, *Daily Document Register*, according to TO 00-20-14. Complies with AGMC requirements as necessary. Submits separate copies to AMC and AGMC. Employs PAMS management reports to the fullest extent possible.

9.14. Munitions Flight (when applicable). Munitions Flights provide the capability to forecast, requisition, report, track, receive, stockpile, inspect, assemble, deliver, deploy, turn-in, account for, transport, and dispose of nonnuclear munitions to support worldwide deployment and operations and maintain serviceable quantities of munitions assets required to meet all mission tasking. Munitions management functions will comply with directives prescribed in AFPD 21-2 and AFI 21-200 series instructions.

9.15. Forms Prescribed. AFRC Forms: 42, 163, 164, 165, 171, 172, 173, 174, 175, 176, 177 and 178.

JAMES E. SHERRARD III, Maj Gen, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

ACCI 21-165, *Aircraft Flying and Maintenance Scheduling Effectiveness*

ACCR 66-10, *Electronic Warfare Equipment Reporting and Control*

AFI 10-201, *Status of Resources and Training System*

AFI 10-403, *Deployment Planning*

AFI 11-202V3, *General Flight Rules*

AFI 11-218, *Aircraft Operation and Movement on the Ground*

AFI 11-401, *Flight Management*

AFI 13-201, Air Fo*rce Airspace Management*

AFPD 21-3, *Technical Orders*

AFI 21-103, *Equipment Inventory Status, and Utilization Reporting*

AFI 21-105, *Aerospace Equipment Structural Maintenance*

AFI 21-110, *Engineering and Technical Services*

AFI 21-112, *Aircraft Egress and Escape System*

AFI 21-124, *Air Force Oil Analysis Program*

AFI 21-201, *Inspection, Storage, and Maintenance of Non-Nuclear Munitions*

AFI 21-202, *Combat Ammunition System Procedures*

AFI 21-203, *Deployable Ammunition Operations Procedures*

AFI 21-206, *The Global Asset Positioning Program*

AFI 21-208, *Munitions Forecast, Allocation, and Buy Budget Processes*

AFI 21-401, *Engineering Data Storage, Distribution, and Control*

AFI 23-111, *Management of Government Property in the Possession of the Air Force*

AFI 23-204, *Organizational Fuel Tanks*

AFI 24-201, *Cargo Movement*

AFI 24-301, *Vehicle Operations*

AFI 24-302, *Vehicle Maintenance Management*

AFI 24-303, *Commander/Air Force Vehicle Integrated Management System and Consolidated Analysis and Reporting System*

AFI 25-201, *Support Agreement Procedures*

AFI 31-101, *The Air Force Installation Security Program*

AFI 31-401, *Information Security Program Management*

AFI 32-1024, *Standard Facility Requirements*

AFI 32-4001, *Disaster Preparedness Planning and Operations*

AFI 32-4002, *Hazardous Material Emergency Planning and Response Program*

AFI 33-106, *Managing High Frequency Radios, Land Mobile Radios, Cellular Telephones and the Military Affiliate Radio System*

AFI 330360V2, *Forms Management Program*

AFI 34-217, *Air Force Aero Club Program*

AFI 34-232, *Aero Club Operations*

AFI 36-704, *Discipline and Adverse Actions*

AFI 36-1001, *Managing the Civilian Performance Program*

AFI 36-2201, *Developing, Managing, and Conducting Training*

AFI 36-2217, *Munitions Requirements for Aircrew Training*

AFI 38-203, *Commercial Activities Program*

AFI 38-401, *The Air Force Innovative Development Through Employee Awareness (IDEA) Program*

AFI 65-601V1, *Budget Guidance and Procedures*

AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs*

AFI 91-202 , *The U. S. Air Force Mishap Prevention Program*

AFI 91-204, *Safety Investigations and Reports*

AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*

AFM 28-740 Vol II, *Contingency Operation/Mobility Planning and Execution System (COMPES) Logistics Modules Base Level (LOGMOD-B): A200N/ZZ, Users Manual*

AFM 66-279, *Core Automated Maintenance System (CAMS)*

AFM 136-824V1, *Combat Ammunition System - Base (CAS-B): D078V/IS, Computer Operation Manual*

AFMAN 10-401V1, *Operation Plan and Concept Plan Development and Implementation*

AFMAN 23-110, *USAF Supply Manual*

AFMAN 23-110V2PT13, *Standard Base Supply Customers Procedures*

AFMAN 36-2105, *Officer Classification*

AFMAN 91-201, *Explosives Safety Standards*

AFOSHSTD 127-66, *General Industrial Operations*

AFOSHSTD 161-9, *Exposure to Radiofrequency Radiation*

AFP 136-13, *Conventional Munitions Employment Planning*

DOD 5100.76M, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*

DODI 4000.19, *Interservice, Interdepartmental, and Interagency Support*

References (Added-944FW)

ACCI 11-301, *Aircrew Life Support Program*

AFOSH Standard 91-100, *Aircraft Flight Line – Ground Operations and Activities*

LAFBI 21-103, *Joint Oil Analysis Program*

944 FWI 21-120, *Control of Repeat, Abort, Cannot Duplicate (CND) Aircraft Discrepancies*

944 FWI 21-124, *Assignment of Job Control Numbers*

Acronyms

ABDR--Aircraft Battle Damage Repair

ACM--Aircraft Configuration Management

ACMI--Air Combat Maneuvering Instrumentation

ACTS--Automated Component Tracking System

AF--Air Force

AFETS--Air Force Engineering and Technical Service

AFI--Air Force Instruction

AFOSH--Air Force Occupational Safety and Health

AFPD--Air Force Policy Directive

AFRC--Air Force Reserve Command

AFSC--Air Force Specialty Code

AFTO--Air Force Technical Order

AGE--Aerospace Ground Equipment

AGETS--Automated Ground Engine Test System

AGM--Air Surface Attack Guided Missile

AGS--Aircraft Generation Squadron

AHE--Automated History Reports

AID--Accident, Incident and Deficiencies

AIS--Automatic Intermediate Stations

ALA--Ammunition Loading Assemblies

ALC--Air Logistics Center

ALCS--Airborne Launch Control System

ALI--Awaiting Laboratory Input

ALS--Ammunition Loading System

AME--Alternate Mission Equipment

AMQP--Aircraft Maintenance Qualification Program

APG--Airplane General

AR--Aerial Refueling

ARC--Automated Records Check

ART--Air Reserve Technician

AS--Allowance Standard

ASE--Avionics Support Equipment

ASIP--Aircraft Structural Integrity Program

ASM--Automated Scheduling Module

ATD--Aircrew Training Devices

ATS--Automatic Test Station

AUR--Accomplishment Utilization Report

AUR--All Up Round

AVDO--Aerospace Vehicle Distribution Office

AVS--Aerospace Vehicle Status Report

AVTR--Airborne Video Tape Recorder

AWI--Awaiting Installation

AWM--Awaiting Maintenance

AWP--Awaiting Parts

BAI--Backup Aircraft Inventory

BFD--Battery Firing Device

BITE--Built-in Test Equipment

BLIS--Base Level Inquiry System

BPO--Basic Postflight

CA/CRL--Custodian Authorization/Custody Receipt Listing

CAD--Cartridge Activated Device

CAMS--Core Automated Maintenance System

CAR--Customer Account Representative

CAS-B--Combat Ammunition System - Base

CCLC--Certified Combat Load Crew

CCB--Configuration Control Board

CEMS--Comprehensive Engine Management System

CETS--Contractor Engineering and Technical Services

CFL--Competent Familiarity Loading

CFT--Contract Field Team

CIC--Controlled Item Code

CIP--Component Improvement Program

CLS--Contract Logistics Supports

CMS--Calibration Measurement Summary

CND--Cannot Duplicate

COMSEC--Communications Security

COS--Chief of Supply

CSC--Central Security Control

CTK--Composite Tool Kit

CTOCU--Central Technical Order Change Unit

CTVS--Cockpit Television Sensor

CUT--Cut Utilization Training

CW--Chemical Warfare

DBM--Data Base Manager

DFCS--Defensive Fire Control System

DIFM--Due-in From Maintenance

DIREP--Difficulty Report

DLR--Depot Level Reparable

DLO--Dual Loading Operation

DOC--Designed Operational Capability

DOD--Department of Defense

DOE--Due-out Exist

DOI--Date of Installation

DOM--Date of Manufacture

DOR--Due-out Release

DR--Deficiency Report

DSV--Detected Safety Violation

DUO--Due-out

EAID--Equipment Authorization Inventory Data

ECM--Electronic Countermeasures

EDM--Emergency Destruction of Munitions

EM--Engine Management Section

ENMCB--Engine Not Mission Capable-Both

ENMCM--Engine Not Mission Capable-Maintenance

ENMCS--Engine Not Mission Capable-Supply

EOD--Explosive Ordnance Disposal

EOR--End of Runway

EPE--Evaluator Proficiency Evaluation

EPR--Enlisted Performance Report

ERRC--Expendability, Recoverability, Repairability Category (code)

ERRC--Engine Regional Repair Center

ESS--Electrical Standards Set

ETIC--Estimated Time in Commission

ETTAS--Engine Test Trim Automated System

EWO--Emergency War Order

EWS--Electronic Warfare System

FAD--Force Activity Designator

FCF--Functional Check Flight

FK--Air Force Stock Record Account Number Prefix (munitions)

FMC--Fully Mission Capable

FO--Foreign Object

FOD--Foreign Object Damage

FOL--Forward Operation Location

FOM--Facilitate Other Maintenance

FS--Flying Squadron

FTD--Field Training Detachment

GOX--Gaseous Oxygen

GTAV--Ground Training Aerospace Vehicle

GTC--Gas Turbine Compressor

HPO--Hourly Post Flight

ICT--Integrated Combat Turnaround

IDAS--Intrusion Detection Alarm System

IFE--Inflight Emergency

IFFIdentification, Friend or Foe

IG--Inspector General

IM--Item Management

IPI--In-Process Inspections

IRSP--In-place Readiness Spares Packages

INW--In-Work

IPI--In-Process Inspection

IR--Infrared

ISO--Isochronal

JCN--Job Control Number

JDD--Job Data Documentation

JML--Job Standard Master Listing

JQS--Job Qualification Standard

JST--Job Standard

LANTIRN--Low Altitude Navigation and Targeting Infrared for Night

LC--Load Crew

LG--Logistics Group

LIMFAC--Limiting Factors

LME--Locally Manufactured Equipment

LOI--Logistics Operating Instruction

LOX--Liquid Oxygen

LRU--Line Replaceable Unit

LSC--Loading Standardization Crew

LSS--Logistics Support Squadron

MADAR--Malfunction Detection, Analysis and Recording System

MAJCOM--Major Command

MASO--Munitions Accountable System Officer

MCF--Maintenance Coordination Function

MDC--Maintenance Data Collection

MDR--Materiel Deficiency Report

MDS--Mission, Design, and Series

MEP--Munitions Employment Plan

MER--Multiple Ejection Rack

MESL--Mission Essential Subsystems List

MET--Management Engineering Team

MFG--Munitions Family Group

MICAP--Mission Capability

MIS--Maintenance Information Systems

MMHE--Munitions Materiel Handling Equipment

MOB--Main Operating Base

MCC--Maintenance Control Center

MPRL--Minimum Proficiency Requirement Loading

MRSP--Mobility Readiness Spares Package

MS--Maintenance Squadron

MSA--Munitions Storage Area

MSE--Munitions Support Equipment

MSL--Maintenance Supply Liaison

MSPE--Maintenance Safety and Protection Equipment

MTBF--Mean Time Between Failure

MTBM--Mean Time Between Maintenance

MTF--Maintenance Training Flight

NAF--Numbered Air Force

NCO--Non-Commisioned Officer

NDI--Non-destructive Inspection

NHA--Next Higher Assembly

NIE--Normally Installed Equipment

NMC--Non-Mission Capable

NOCM--Nuclear Ordnance Commodity Management

NRTS--Not Reparable This Station

NSN--National Stock Number

NSS--Noise Suppression System

OAP--Oil Analysis Program

OFP--Operational Flight Program

OG--Operations Group

OI--Operating Instruction

OJT--On the Job Training

OPORD--Operations Order

OPR--Officer Performance Report

ORI--Operational Readiness Inspection

OS--Operations Squadron

OSS--Operations Support Squadron

OTI--One Time Inspection

OWC--Owning Workcenter

P&S--Plans and Scheduling

PAA--Primary Authorized Aircraft

PAD--Propellant Actuated Device

PAO--Programs Action Officer

PCA--Physical Configuration Audits

PCS--Permanent Change of Station

PDM--Programmed Depot Maintenance

PE--Periodic Inspection

PE--Personnel Evaluation

PFMR--Project Fund Management Record

PIM--Product Improvement Manager

PGM--Precision Guided Munitions

PIP--Product Improvement Program

PIWG--Product Improvement Working Group

PM--Primary Munitions

PMC--Partial Mission Capable

PMEL--Precision Measurement Equipment Laboratory

POL--Petroleum, Oil, and Lubricants

POS--Peacetime Operating Stock

PROM--Programmed Read Only Memory

PS&D--Plans Scheduling and Documentation

PTM--Production Team Maintenance

PWC--Performing Workcenter

QA--Quality Assurance

QANTTAS--Quality Assurance Tracking and Trend Analysis System

QAP--Quality Assurance Program

QEC--Quick Engine Change

QLP--Query Language Processor

QPA--Quantity Per Application

QRL--Quick Reference List

RACC--Reparable Asset Control Center

RCM--Repair Cycle Monitor

RCS--Reports Control Symbol

RCSS--Repair Cycle Support Section

RDD--Required Delivery Date

REMIS--Reliability, Maintainability, Information System

RF--Radio Frequency

RLP--Remote Line Printer

R&R--Repair and Reclamation

RSD--Reparable Support Division

RSP--Render Safe Procedure

RSP--Readiness Spare Packages

RWR--Radar Warning Receiver

SBSS--Standard Base Supply System

SCL--Standard Conventional Load

SCR--Special Certification Roster

SE--Support Equipment

SEI--Special Experience Identifier

SGA--Selective Generation Aircraft

SGF--Sortie Generation Flight

SI--Special Inspection

SM--Support Munitions

SM-ALC--Sacramento Air Logistics Center

SMI--Storage Monitoring Inspection

SMO--Squadron Maintenance Officer

SPO--System Program Office

SRA--Specialized Repair Activity

SRD--Standard Reporting Designator

SRU--Shop Replaceable Unit

SSEA--Systems Safety Engineering and Analysis

SSF--Sortie Support Flight

STAMP--Standard Air Munitions Package

TA--Table of Allowances

TAD--Tactical Armed Deployment

TAL--Task Assignment List

TCI--Time Change Item

TCTO--Time Compliance Technical Order

TODS--TO Distribution Sub-account

TCS--TCTO Status Report

TDI--Time Distribution

TDV--Technical Data Violation

TE--Task Evaluation

TEC--Type Event Code

TI--Technical Inspection

TICARRS--Tactical Interim CAMS and REMIS Reporting System

TIN--Turn In

TISEO--Target Identification System Electro Optical

TISL--Target Identification System Laser

TMDE--Test Measurement and Diagnostic Equipment

TMO--Traffic Management Office

TMRS--Tactical Missile Record System

TNB--Tail Number Bin

TO--Technical Order

TODA--Technical Order Distribution Activity

TODO--Technical Order Distribution Officer

TOFCN--Technical Order Field Change Notice

TPFDD--Time Phased Force Deployment Document

TR--Training Ranges

TRAP--Tanks, Racks, Adapters, and Pylons

TRIC--Transaction Identification Code

TRN--Turnaround Transaction

UCML--Unit Committed Munitions List

UCR--Unsatisfactory Condition Report

UGT--Upgrade Training

UJC--Urgency Justification Code

UMD--Unit Manning Document

UND--Urgency of Need Designator

UPMR--Unit Personnel Management Roster

UTA--Unit Training Assembly

UTC--Unit Type Code

UXO--Unexploded Ordnance

VGH--Velocity, Gravity, and Height

WCE--Work Center Event

WRCS--Weapons Release Control System

WRM--War Reserve Materiel

WSF--Weapons Standardization Flight

WTD--Weapons Training Detachment

WTR--Workable TCTO Report

WTS--Weapons Training Site

WUC--Work Unit Code

Abbreviations and Acronyms (Added-944FW)

ACC—Air Combat Command

AETC—Air Education and Training Command

CF—Communications Flight

CG—center of gravity

CSM—Computer Systems Manager

EMB—Engine Management Branch

EMS—Equipment Maintenance Squadron

FS—Fighter Squadron

FSM—Fighter Squadron Maintenance

FW—Fighter Wing

IAW—in accordance with

ID—Identification

IT—information technology

JOAP—Joint Oil Analysis Program

MXS ——Maintenance Squadron

NCOIC—NCO in Charge

OIC—Officer in Charge

SOF—Supervisor of Flying

UHF—Ultra High Frequency

VHF—Very High Frequency

WM—Workgroup Manager

Attachment 2

AFRCI 21-101 RECOMMENDED CHANGES (FORMAT)

Unit:

Dated:

Reference: Chapter, paragraph , page.

Proposed Correction: (How you feel it should read)

Justification: (Rational)

Urgency: (Need immediate attention, should be addressed at next update)

Unit POC: (Name, office symbol, DSN)

Unit LG/CC Signature:

1st Indorsement: NAF/LG OR designated representatives concurrance with recommended change: (Concur/Nonconcur) or make recommendation.

Urgency: (NAF Position)

NAF/LG Signature:

Attachment 3 (Added-944FW)

INTERIM CHANGE 2001-1 TO AIR FORCE RESERVE COMMAND INSTRUCTION 21-101/944 FW SUPPLEMENT

IC 2001-1 TO AFRCI 21-101/944 FW SUP, AIRCRAFT MAINTENANCE GUIDANCE AND PROCEDURES

22 AUGUST 2001

SUMMARY OF REVISIONS

This change incorporates interim change (IC) 2001-1. This change adds aircraft and instrument grease (1 tube) to the 944th Maintenance Squadron (MXS) Fuel Systems CTK (paragraph **6.19.3.1.2. (Added)**) and changes the identification numbers for the 302d Fighter Squadron (302 FS) Wheel and Tire Shop CTK (paragraph **6.19.7.1. (Added)**). An asterisk (*) indicates changes from previous edition.

6.19.3.1.2. (Added) 944th Maintenance Squadron (MXS)

*Fuels Systems

.032 Safety Wire, roll 1 ea.

.020 Safety Wire, roll 1ea.

Washers, 3 sizes 10 ea.

Injection tips 3 ea.

Cup plastic 3 ea.

Litmus paper 1 roll

*Grease, aircraft and instrument 1 tube

6.19.7.1. (Added) 302 FS

*Wheel and Tire Shop CTK TS-1 through TS-4 (R6FSTS-01 through TS-04)