BY ORDER OF THE COMMANDER
AIR FORCE MATERIEL COMMAND

AIR FORCE MATERIEL COMMAND
INSTRUCTION 21-100 VOLUME 2

22 JANURARY 2024
AIR FORCE SUSTAINMENT CENTER
Supplement

22 JULY 2025

Maintenance

DEPOT MAINTENANCE PRODUCTION

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: This publication is available for downloading or ordering on the e-Publishing website at www.e-Publishing.af.mil

RELEASABILITY: There are no releasability restrictions on this publication

---

OPR: HQ AFMC/A4MY

Certified by: HQ AFMC/A4M
(Col Jennifer M. Barnard)

Supersedes: AFMCI 21-100, 7 June 2022

Pages: 59

(AFSC)

OPR: AFSC/A4M

Certified by: AFSC/A4M/R
(Mr. Jeffrey Bobbitt)

Supersedes: AFMCI 21-100, 7 June 2022
AFSCMAN 21-102, 5 April 2021

Pages: 167

This instruction implements Air Force Policy Directive (AFPD) 21-1, *Maintenance of Military Materiel*, and provides directive guidance for maintenance management at the Air Force Materiel Command (AFMC) Centers organic depots as it applies to aircraft and associated aerospace equipment. Air Force Materiel Command Instruction (AFMCI) 21-100 is comprised of three volumes: Volume 1, *Depot Maintenance Principles*; Volume 2, *Depot Maintenance Production*; Volume 3, *Depot Maintenance Production Support*. A Volume and Chapter breakout is provided in Attachment 2. For policies and procedures used in planning and administering depot level contract maintenance programs, refer to Air Force Instruction (AFI) 63-101/20-101, *Integrated Life Cycle Management,* and DAFI 63-138, *Acquisition of Services*. This publication does not apply to United States Space Force, Air Force Reserve, or Air National Guard units. This

publication applies to all AFMC military and civilian members and those with contractual obligation to comply with Air Force publications. However, if an AFRC unit is assigned or associated with AFMC where AFMC is the lead this guidance would be applicable to the AFRC unit. Headquarters (HQ) AFMC and Centers will develop supplements to implement the requirements of this instruction at their level and provide them to the Office of Primary Responsibility (OPR) of this instruction for review and approval before publishing. Supplements and addendums to this instruction will be written in accordance with Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Processes and Procedures*, and must be provided to the OPR of this publication for review and approval prior to publication. Supplements are submitted to Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration, Maintenance Division (AFMC/A4/10/A4M) @ AFMC.A4M.Workflow@us.af.mil Center level Supplements must identify and document all Center required deviations (applicability, variance, exception, and differences in organizational placement of responsibilities/processes) in their supplement and addendums with the abbreviation (DEV). Place the (DEV) entry after the paragraph number and directly preceding the affected text, such as (AFSC) (DEV) Use the..., or (ADDED-AFSC) (DEV) Use the...). Only current and verified technical data, as authorized by Technical Order (TO) 00-5-1, *Air Force Technical Order System*, will be used for depot maintenance. All contractor requirements in this instruction must be included in a contract/grant/agreement to be enforceable. Refer recommended changes and questions about this publication to the OPR using Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication* (or equivalent). Route DAF Forms 847 (or equivalent) from the field through the Center to the appropriate Major Command (MAJCOM) functional manager. Ensure that all records created as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed In Accordance With (IAW) Air Force Records Disposition Schedule (RDS), which is in the Air Force Records Information Management System (AFRIMS). This publication requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by 5 USC 301, *Departmental Regulations*; 5 USC Chapter 53, *Pay Rates and Systems*, Chapter 55, *Pay Administration*, Chapter 81, *Compensation for Work Injuries* and Executive Order 9397, *Numbering System for Federal Accounts Relating to Individual Persons*. The applicable System of Record Notice T7335, Defense Civilian Pay System, is available at: https://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570184/t7335/. The waiver approval authority for requirements throughout this instruction is the publication Approving Official. Submit requests for waivers through the appropriate chain of command to the Publication OPR for consideration, using DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval* (or equivalent). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

(AFSC) Air Force Materiel Command Instruction (AFMCI) 21-100_Air Force Sustainment Center (AFSC) Supplement, is comprised of three volumes: Volume 1, *Depot Maintenance Principles*; Volume 2, *Depot Maintenance Production*; Volume 3, *Depot Maintenance Production Support*. This Supplement provides directive guidance for depot maintenance management. This Supplement applies to the Air Logistics Complexes (ALCs) and other units deemed appropriate. Missions within AFSC that are not organized under the standard Wing Organization concept for Aircraft Maintenance Management IAW AFI 38-101, *Manpower and Organization*, are

considered Non-Standard Organizations (NSOs). NSOs require deviations (applicability, variance, and/or differences in organizational placement of responsibilities/processes) from AFMCI 21-100 and this supplement. Deviations to provide/scope applicability for NSO logistics/maintenance in an addendum to the Center supplement is approved by AFMC/A4M, in accordance with (IAW) DAFMAN 90-161, *Publishing Processes and Procedures.* Therefore, NSOs will follow the addendum only, not the parent AFMCI nor this AFSC Supplement. The AFSC Software Directorate (AFSC/SW) is identified as an NSO and is not organized as a standard organization IAW AFI 38-101. This Supplement does not apply to the United States Space Force. Refer recommended changes and questions about this Supplement to the Supplement's OPR using the Air Force Sustainment Center (AFSC) Form 847, *Recommendation For Change Of Depot Maintenance Management (DMM)*. Route AFSC Form 847s from the field through the appropriate functional chain of command. Local instructions, supplements and addendums to this instruction may be written in accordance with (IAW) Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Processes and Procedures* but must be provided to the OPR of this supplement for review and approval prior to publication. The waiver authority for this Supplement is AFSC/A3/4. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force. IAW Records Disposition Schedule (RDS) Table & Rule: T21-05 R 02.00, "*Depot Maintenance and Inspection Records*": records pertaining to the major overhaul of aircraft, missiles, propulsion, guidance, or other end-item system equipment at the ALCs will be retained for 7 years after completion of the maintenance and repair work or longer as determined by the ALC/CC. Once records exceed the retention duration, the records can either be moved to an unofficial status or be disposed.

SUMMARY OF CHANGES

This instruction has been substantially revised and restructured into three volumes and must be reviewed in its entirety. Major changes include the incorporation of Guidance Memorandums, corrections, clarifications, and relevant information from other directives.

(AFSC) This supplement has been substantially revised and restructured into the three volumes of AFMCI 21-100 "Depot Maintenance Management" and must be reviewed in its entirety. The requirements and instructions for Requirement Review and Depot Determination (R2D2), Capital Investment Program (CIP), Air Force Materiel Command Depot Maintenance Capacity & Utilization Measurement, and ALC Engineering Roles and Responsibilities have been realigned and will soon publish in AFSCI 20-101 "Depot Processes and Programs Management"

CHAPTER 1

DEPOT MAINTENANCE PRODUCTION LABOR ENTRY

1.1. Time and Attendance (TAA) Standards.

1.1.1. The Depot Maintenance Accounting and Production System (DMAPS) TAA is an information system that processes labor and attendance for Consolidated Sustainment Activity Group-Maintenance (CSAG-M) funded employees. The development and evolution of TAA has been predicated on the idea of having a standard means of entering labor transactions with minimal effort from the affected employee.

1.1.2. The goal for production labor data entry is accurate and properly formatted data through extensive on-line validation at the field element level such as Employee or Resource Control Center (RCC), Job Order Number (JON), Work Order, Operation Number, Environmental/Hazard (EH) Codes, proper leave, and overtime authorizations, etc. This is accomplished using extensive validation files and tables. TAA is an application of hours available: direct hours worked by Cost Center (CC) on each job order, indirect hours worked by cost center, and nonproductive (e.g., annual, sick, etc.) hours by cost center. For additional guidance, reference AFMCI 65-101, *Depot Maintenance Accounting and Production System-Financial Policy and Procedures for Depot Maintenance.*

1.1.3. HQ Air Force Sustainment Center (AFSC) will develop, implement, and maintain a standardized TAA system that will ensure the following labor standards are achieved.

1.1.3.1. Accurately record work and leave hours based upon an established tour of duty including alternative work schedule/flextime hour information. This requires pre-approved or positive acknowledgment from the approving official that the employee worked the established tour, and that TAA data is approved.

1.1.3.2. Record and report the number of hours of leave by type, credit hours, and compensating time used.

1.1.3.3. Collect actual hours or days worked and other pay related data, i.e., piecework, fee basis units/dollars, and differentials for each employee.

1.1.3.4. Collect data on employees who work temporarily in other or multiple pay classifications.

1.1.3.5. Capture actual labor data in hours, fractions of hours, or other units of measure as required.

1.1.3.6. Collect TAA data on a pay period basis (e.g., daily, weekly, biweekly).

1.1.3.7. Collect labor distribution hours based on the required classification code structure to include JON and Labor Operation (i.e., Task/Work Breakdown Structure).

1.1.3.7. When employees transact labor into TAA, the associated transactional data is then fed to the maintenance production and accounting systems for related processing.

1.2. System User Access. TAA has two basic areas of access: Default and TAA responsibilities.

1.2.1. Default access to TAA will be granted to all TAA users based on the granting of network access via a Department of Defense (DD) Form 2875, *System Authorization Access Request*, that is maintained at the sites and will require a Common Access Card (CAC) to access TAA. Default access users receive only the basic screens in TAA to transact labor and can only view AFMCI21-100V2 22 JANUARY 2024 their own information. Default access defaults the employee id field to the user logged onto the system.

1.2.2. All users are expected to log into TAA and associate their CAC card with the Employee Identification (ID) they are assigned upon creation in TAA.

1.2.2.1. **(Added-AFSC)** Accounts become locked after 30 days of inactivity from receipt of their Employee ID and inactivity in TAA for 30 days. For all civilian employees, there should never be inactivity for 30 days as they are required to ATTEST their labor every two weeks for payroll certification.

1.2.2.2. **(Added-AFSC)** Extended leave and deployment could be exceptions. However, TAA is web-based and can be accessed from any MIL site. Site TAA OPRs can unlock accounts.

1.2.3. For TAA responsibilities and any additional need for information or access, use DD Form 2875 to gain access to TAA.

1.2.3. **(AFSC)** Initiate the DD Form 2875 in the user's work area. Send the DD Form 2875 through the supervisor and security manager to the TAA functional OPR to get user access established. The TAA functional OPR will maintain a copy of the DD Form 2875.

1.2.4. Employee removal from TAA.

1.2.4.1. For employees with DEFAULT access that leave the Depot Maintenance arena, an email or ticket will be sufficient to notify the TAA OPR to have the employee removed.

1.2.4.2. For employees with ELEVATED access that leave the Depot Maintenance arena, a DD2875 for deletion should be submitted to the TAA OPR to have employee removed.

1.2.4.3. For employees with ELEVATED access that work assignments change and ELEVATED access is no longer needed can be changed via email to the TAA OPR. Upon receipt of DD Form 2875, email or ticket to the TAA OPR, action will be taken within 3 BUSINESS days.

1.3. TAA OPR Responsibilities.

1.3.1. TAA OPR provide customer support using the System Administration capability assigned in TAA.

1.3.2. TAA customer support includes but is not limited to user notification of system problems, issued via the System Message and Daily Labor Correction Process (DLCP) Message; finalizing 'New Hire' employees record; breaking CAC associations; unlock accounts.

1.3.2.1. **(Added-AFSC)** Access to the following tables is limited to the TAA OPRs and is not all inclusive.

1.3.2.2. **(Added-AFSC)** Agency Tour of Duty. Sets the earliest and latest time that labor can be transacted.

1.3.2.3. **(Added-AFSC)** Client Application. Required for WEB Services.

1.3.2.4. **(Added-AFSC)** Holiday/Mass Leave Table. Generates leave charges for Holiday, Annual, Administrative, Furlough and Forced Annual for each CIVILIAN employee. Leave may be generated for full, half, or partial day. Furlough must be full days; Holiday can be full or half days. Before Mass Leave can be transacted, the holiday must reside on the ta_hol_tbl.

1.3.2.5. **(Added-AFSC)** Pattern Table. Sets a 14-day pay period schedule with shift start times, lunch start and duration and core hours when applicable to an AWS1-8.

1.3.2.6. **(Added-AFSC)** RCC Table. Provides capability to add, modify or delete an RCC. Adding an RCC consists of shift start and stop, lunch start and stop for all 3 shifts. To add an RCC, it must exist on the ta_difms_shop_tbl. The schedule built only applies to AWS = 0. Updating the schedule for an RCC is the quickest and easiest way to update the schedules of the employees assigned to the RCC.

1.3.2.7. **(Added-AFSC)** Identify Employee Types for inclusion in TAA.

1.3.2.7.1. **(Added-AFSC)** All CSAG-M funded employees must be in TAA.

1.3.2.7.2. **(Added-AFSC)** All Civilian employees with CSAG-M Fund Code: 6Z = Robins, 6L = Tinker, 6M = Hill, Kadena and all Operating locations. Many of the fields on the New Hire form are self-explanatory but the following fields MUST identify the data below.

Table 1.0. **(Added-AFSC)** Civilian New Hire Form Data

TAA Emp Type: 1 = Per Annum (GS,NH) Fulltime, 6 = Part-time Per Annum (GS,NH) TAA Emp Type: 3 = Per Diem (WG, WL, WS) Fulltime, 4 = Part-time Per Diem (WG,WL,WS) Payroll Prefix: 111 (means data will be sent to BOTH DCPS and DIFMS) Assignment Cd: 0 = Supervisor requires Indirect JON 2 = Overhead requires Indirect JON 4 = Standing Leave (i.e., KG) 7 = Direct JON 9 = Bulk JON

Transacts Labor = Check if Mechanic

1.3.2.7.3. **(Added-AFSC)** Military employees funded by CSAG-M: 6Z = Robins, 6L = Tinker, 6M = Hill, Kadena and all Operating locations. Many of the fields on the New Hire form are self-explanatory but the following fields MUST identify the data below. No SSN required

Table 1.1. **(Added-AFSC)** Military New Hire Form Data

TAA Emp Type: 0 = Military Officer (Funded); 9 = Military Enlisted (Funded) TAA Emp Type: 2 = Military Officer (Unfunded); 5 = Military Enlisted (Unfunded) Payroll Prefix: 111 (for Military 111 means data will be sent to DIFMS ONLY)) Assignment Cd: 0 = Supervisor requires Indirect JON (X5310…) 2 = Overhead requires Indirect JON (X5310…) 9 = Bulk JON

1.3.2.7.4. **(Added-AFSC)** Reimbursable employees identified by AFSC/FZ and funded by CSAG-M: 6Z = Robins, 6L = Tinker, 6M = Hill, Kadena and all Operating locations. Many of the fields on the New Hire form are self-explanatory but the following fields MUST identify the data below.

Table 1.2. **(Added-AFSC)** Reimbursable Employee New Hire Form Data

TAA Emp Type: 1 = Per Annum (GS,NH) Fulltime, 6 = Part-time Per Annum (GS,NH) Payroll Prefix: 111 (means data will be sent to BOTH DCPS and DIFMS) Assignment Cd: 0 = Supervisor requires Indirect JON (Y611021…) 2 = Overhead requires Indirect JON (Y611023…)

1.3.2.7.5. **(Added-AFSC)** DOCAT employees work against Organic Contracts. Orgs Business Office will provide some information needed for the employee. No SSN Required

Table 1.3. **(Added-AFSC)** DOCAT Employees Data

TAA Emp Type: 8 = Non-ALC Employee (Contractor) Payroll Prefix: 111 (means data will be sent to DIFMS ONLY) Hourly RATE: From CONTRACT Assignment Cd: 0 = Supervisor requires Indirect JON (X511021…) 2 = Overhead requires Indirect JON (X511023…) Transacts Labor = Check if Mechanic

1.3.2.7.6. **(Added-AFSC)** Intern positions, such as PAQ and SMART, NOT funded by CSAG-M but performing labor. These type Intern positions are NOT funded by CSAG-M but they are allowed to work labor in their assigned organization (RCC). Overtime must be approved by their funding source. Employee must have schedule. NO SSN required.

Table 1.4. **(Added-AFSC)** Intern Positions Data

TAA Emp Type: 7 = Free Labor (Unfunded) Payroll Prefix: 111 (means data will be sent to DIFMS only DIFMS) Assignment Cd: 2 = Overhead requires Indirect JON (X511023…) Do NOT check Transact Labor as this will create 85 errors when no labor is transacted

1.3.2.8. **(Added-AFSC)** Employee Master Maintenance allows the user to add, modify or delete an Employee's Master Record or backdate an existing Employee Master Record. TAA OPRs should be responsible for adding, modifying, and deleting employees.

1.3.2.9. **(Added-AFSC)** TAA OPRs are responsible to perform periodic monitoring of those groups that have the most privilege. TAA OPRs are responsible to monitor the TAA error tables in their site's database.

Table 1.5. **(Added-AFSC)** TAA OPRs Data

Fem_wo_in_error_tbl Its_wo_in_error_tbl Other_error_tbl Pdm_wo_in_error_tbl Rsc_in_error_tbl

1.3.2.10. **(Added-AFSC)** TAA OPRs are responsible for researching and correcting any employee on the Tour of Duty Sync Report specifically built to allow corrections to be made to an employee's records to prevent errors or payroll issue. Any correction made to an employee's schedule after the first workday has processed will require a check of the employee's previous days of labor. Employees added to TAA after the first Sunday of the pay period are generally effective on the first Sunday. TAA processing that day will create all days of the employee's schedule back to the effective date. However, it will NOT add LABOR to those days. The Supervisor or Timekeeper MUST add the labor.

1.3.2.11. **(Added-AFSC)** Inquiries in TAA, check your Inquiries Menu. Inquiries can be restricted to 'need to know'. Listed below are a few of the Inquiries. Check with your TAA OPRs.

1.3.2.12. **(Added-AFSC)** Employee Data Action Inquiry, used by TAA OPRs to research recent Employee Master or Employee Schedule Update Actions.

1.3.2.13. **(Added-AFSC)** Employee Labor Summary, shows an employee's labor by day, by month.

1.3.2.14. **(Added-AFSC)** Employee Labor Master, shows an employee's Employee Master Record data such as employee type, assignment code, skill code, etc.

1.3.2.15. **(Added-AFSC)** Employee Schedule, shows PRIOR, CURRENT and FUTURE schedule for an employee.

1.3.2.16. **(Added-AFSC)** Leave Inquiry, formulated like the Processed Labor Inquiry that shows LEAVE usage for a certain time frame.

1.3.2.17. **(Added-AFSC)** MER Table (Master Employee Record), provides leave balances, hourly rate, series, etc. Restricted to the Responsible Supervisor of the employee; the employee themselves.

1.3.2.18. **(Added-AFSC)** Tour of Duty Sync, shows all employees whose FRONT END in TAA (what you see) does not match BACK END of TAA (Batch processing). Can affect how your employee's process.

1.3.2.19. **(Added-AFSC)** Transaction Data shows all labor transactions or authorizations entered in TAA.

1.4. TAA Supervisory Responsibilities. Supervisors and Timekeepers must maintain employee time records on a timely basis in TAA.

1.4. **(AFSC)** This includes checking employee records in TAA to ensure their tour of duty (TOD) is correct. Schedules that do not match schedules in DCPS will result in the employee being charged leave or LWOP. Not correcting any labor record in error BEFORE the pay period ends will impact the employee. Unauthorized Overtime errors (22) will mean the employee will not receive overtime pay; Unaccounted for Errors (85) means the Supervisor will not be able to Certify the employee's time nor will the employee be able to Attest their own time.

1.4.1. It is the responsibility of the Supervisor or Timekeeper to notify the TAA OPR of any employee who retires or resigns outside of the Depot Maintenance organization, or transfers to another base as soon as an effective date has been determined.

1.4.2. Supervisory Employee Master Maintenance is the maintenance capability assigned to supervisors/timekeepers and 'alternate supervisors' to allow them to make limited changes to their employees' master record. The Social Security Number (SSN) field is greyed out to accommodate American Federation of Government Employees (AFGE) concerns about the access to SSNs.

1.4.3. Certification and Attestation of time in TAA.

1.4.3.1. Supervisors are responsible for the accuracy and certification of employee timesheets. ONLY Supervisors are allowed to CERTIFY employees time. The certification of time and attendance is an authorization for the expenditure of government funds.

1.4.3.2. Employees are responsible for reporting their time accurately and must ATTEST to the accuracy of this time.

1.4.3.2.1. **(Added-AFSC)** Certification and Attestation of time and attendance data used to create the file for DCPS should be completed by Tuesday following TAA payroll run:

Table 1.6. **(Added-AFSC)** Certification and Attestation of Time & Attendance data

WR-ALC – 1700ET OC-ALC – 1600CT OO-ALC – 1500MT Any problems found will have to be corrected using the Prior Pay Adjustment transaction in TAA. Payroll records will be stored electronically IAW AFRIMS guidance.

1.4.3.2.2. **(Added-AFSC)** For review purposes use the Labor/Leave/Labor Review screen that can be viewed by each civilian employee (Civilian Supervisors, Civilian Timekeepers, other Civilian employees) throughout the pay period. Any employees with errors that have not been corrected will appear on the TAA "Missing" Report. Employees will not be able to Attest their time nor will their supervisor be able to certify their time.

1.5. Labor Collection and Labor Processing.

1.5.1. Transacting and non-transacting are the two employee categories in TAA.

1.5.1.1. **(Added-AFSC)** Transacting employees are those employees considered to be DIRECT labor and are required to perform daily labor transactions (i.e., ITS/PDMSS/FEM/JON Labor) in TAA. Direct labor must be transacted by the employee performing the work and the employee must account for their entire workday.

1.5.1.2. **(Added-AFSC)** Direct labor is labor that increases the value of utility of a product by altering the composition, condition, conformation, or construction of the product or that provides a service directly to the customer rather than in support of other direct labor in the Depot Maintenance; can be accurately, consistently, and economically identified to a product, group of products or customer; and is supported by official work requests and authorized by prescribed Work Authorization Document (WAD) indicating the specific nature of work to be done. There are reporting instances that refer to this direct labor as duty code '.11'.

1.5.1.3. **(Added-AFSC)** Indirect labor covers that labor performed in a direct shop that does not meet the criteria for direct labor. Indirect JONs are 12-digit JONs with position 6 and 7 providing the classification of the labor and position 8 and 9 providing readily identifiable projects.

1.5.1.4. **(Added-AFSC)** Production Overhead (POH) is labor expended by personnel performing above the direct shop level in the Production Divisions.

1.5.1.5. **(Added-AFSC)** General and Administrative (G&A) is labor expended outside the production divisions in support of Depot Maintenance.

1.5.2. Labor Transactions.

1.5.2.1. **(Added-AFSC)** The ITS (Q302, Impresa, LDMS), PDMSS (Q302, Impresa) or FEM/PMEL Labor windows are used to account for an INDIVIDUAL employee's actual time spent working on a single trackpoint/workorder with a single TAA labor transaction.

1.5.2.2. **(Added-AFSC)** The JON labor transaction allows for labor to be transacted for INDIRECT JONs or DIRECT JON. Permanent JONs can be transacted on this screen but there is no COMPLETE so no earned hours would occur. Temporary JONs can be transacted on this screen which would result in EARNED HOURS. Temporary JONs can also be transacting via ITS/PDMSS Labor screen which would result in EARNED HOURS.

1.5.2.3. **(Added-AFSC)** Transacting employees are required to enter labor transactions to account for their work schedule but, at a minimum, a labor stop must be transacted within the last 15 minutes of their workday.

1.5.3. Inventory Tracking System (ITS) (Q302, Impresa, Lean Depot Management System) Transactions.

1.5.3.1. **(Added-AFSC)** TAA has been designed to provide START/DELAY/COMPLETE status transactions back to ITS allowing ITS to track shop floor as an asset is moving through the repair cycle. (TAA does NOT use START transactions in its internal processing).

1.5.3.2. **(Added-AFSC)** Steps for single mechanic performing work on single task. Mechanic will transact a START (status back to ITS) to begin work on new task or resume work on a delayed task using a BAR-CODED ITS WCD. Mechanic will transact a DELAY or COMPLETE to stop work on a task. (End-of-shift stops are transacted as DELAY with' RLO' Shift Change code or 'R00'-TAA Labor Stop.)

1.5.3.3. **(Added-AFSC)** Steps for multiple mechanics performing work on single task. First Mechanic is required to transact a START to begin new task or resume delayed task during a BAR-CODED ITS WCD. Subsequent Mechanics working same task NOT required to transact a START. Subsequent Mechanics will transact DELAY = 'R00' when ready to stop their labor. 'R00' transactions MUST be transacted prior to the ORIGINAL Mechanic transacting an actual DELAY or COMPLETE. ('R00' delay transactions are never sent to ITS). To avoid confusion, recommend only the FIRST Mechanic (who transacted the START) should transact the DELAY or a COMPLETE after all subsequent mechanics have transacted their 'R00' labor stop.

1.5.3.4. **(Added-AFSC)** TAA Delay codes for ITS labor, except for 'R00', are the same delay codes that have been approved for use within ITS. Another use of the 'R00 code is when a mechanic performs work on a second item while the first item is also in work such as an automated mechanic or tester. If the labor standard includes observation time, the first item is coded as DELAY = 'R00' allowing the mechanic to log work on the second item and continuing the flow time in ITS for the first item.

1.5.3.5. **(Added-AFSC)** Tracking of Reworked Items. ITS has the capability to send defective items to TAA when they must be reworked. The labor performed on these defective items will be charged to the JON X51112614000. Indirect JONs do not result in any earned hours.

1.5.3.6. **(Added-AFSC)** Closures. Closure of 'A' documents (WCDs ending in 'A'). Start/End Consumes must be transacted in TAA before closure transaction is performed in ITS. Use 'A' Start Consume to begin WCD closure and 'B' End Consume when completed. If Consume transactions are not performed in TAA before the ITS input, the mechanic will not be able to perform CONSUME transactions in TAA.

Table 1.7. **(Added-AFSC)** Closure Data

Closure of 'D', 'F', 'P' and 'T' documents (WCDs ending in 'D', 'F', 'P' and 'T'). - Close the WCD by completing the 'Close' trackpoint at the end of the WCD. - Not all 'D" documents are transacted as CLOSED in TAA. Closure of 'R' and 'W' documents (WCDs ending in 'R' or 'W'). • Close the WCD by completing the "CLOSE" trackpoint as 'X' = Serviceable, 'Y' = Unserviceable or 'Z' = Condemned.

1.5.4. Programmed Depot Maintenance Scheduling System (PDMSS) Transactions (Q302, IMPRESA).

1.5.4.1. **(Added-AFSC)** TAA has been designed to provide START/LOGON/LOGOFF/DELAY/COMPLETE status transactions back to PDMSS allowing PDMSS to track the asset as it is moving through the repair cycle. TAA does NOT use the START/LOGON transactions for anything other than to send a STATUS transaction to PDMSS. View any workload that is still logged onto using the TAA/Inquiries/PDMSS Work in Process screen.

1.5.4.2. **(Added-AFSC)** Steps for single mechanic performing work on single task. Mechanic will transact a START (status back to PDMSS) to begin work on new operation; LOGON for previously started operation or END DELAY to resume a delayed operation. Mechanic will transact a START DELAY, LOGOFF or COMPLETE to end work on an operation.

1.5.4.3. **(Added-AFSC)** Steps for multiple mechanics performing work on single operation. First Mechanic is required to transact a START for new work or LOGON for previously started operation using a PDMSS WCD. Subsequent Mechanics working same task will transact LOGON to begin work on the operation. Subsequent Mechanics will transact LOGOFF prior to the original mechanic's ending transaction as DELAY or COMPLETE. To avoid confusion, recommend only the FIRST Mechanic transact the DELAY or a COMPLETE after all subsequent mechanics have transacted their LOGOFFs to end work.

1.5.5. Facility and Equipment Maintenance (FEM) Labor Transactions.

1.5.5.1. **(Added-AFSC)** TAA is not designed to provide status transactions to FEM, so no START transaction is needed.

1.5.5.2. **(Added-AFSC)** Steps for single mechanic performing work on single task. Mechanic will transact a LABOR STOP or LABOR COMPLETE using a FEM Workorder.

1.5.5.3. **(Added-AFSC)** Steps for multiple mechanics performing work on single workorder. All mechanics will transact a LABOR STOP EXCEPT one Mechanic will need to transact LABOR STOP or LABOR COMPLETE after all other LABOR STOPS have been performed.

1.5.6. JON Labor Transactions.

1.5.6.1. **(Added-AFSC)** JON labor screen is used to account for one person's actual time spent on direct or indirect JON.

1.5.6.2. **(Added-AFSC)** For Permanent JONs (System designator = 7), if workload is planned at the trackpoint/operation level and individuals transact at the JON level rather transacting trackpoint/operation level completions, EARNED HOURS will NOT be calculated for the RCCs planned on the JON.

1.5.6.3. **(Added-AFSC)** For Temporary JONs (System designator = 7), if workload is planned at the trackpoint/operation level (i.e., in ITS or PDMSS) and individuals transact at the JON level rather than at the trackpoint/operation level, EARNED HOURS will be calculated for the RCCs planned in G004L as actual hours accumulate with those RCCs. Upon JON closure in G004L, any remaining planned hours that were not earned will be calculated up to the RCC planned hours

1.5.6.4. **(Added-AFSC)** Indirect JONs (System designator = 2) will accumulate actual hours but there are NO EARNED HOURS for indirect JONs.

1.5.6.5. **(Added-AFSC)** 'Standing' JON (Non-transaction employees). Non-transacting employees are not required to transact labor throughout the day to account for their time in TAA. Individuals in this circumstance will have their actual time systematically charged to the JON indicated in their Employee Master Record.

1.5.7. Group Processing.

1.5.7.1. **(Added-AFSC)** Group processing transactions are used to systematically calculate and distribute an employee's actual labor hours to multiple trackpoints/operations/JONs via single TAA transaction. Group processing is designed to account for labor hours against repetitive type tasks with small labor standards. Group processing only distributes an employee's actual hours across the operations/tasks included in the transaction. EARNED HOURs for ITS/PDMSS workload is EARNED based on the planned hours for that operation/task when COMPLETES are transacted.

1.5.7.2. **(Added-AFSC)** Each group transaction will contain at least two and a maximum of 40 trackpoints/operations. Group Processing should be used to group 'like' workloads (similar labor

standards). If dissimilar labor standards are grouped together, the distribution of actual hours will result in the larger labor standards receiving most of the actual hours applied and the smaller labor standards receiving minimal hours applied (could be zero).

1.5.8. Bulk Processing.

1.5.8.1. **(Added-AFSC)** Bulk processing is designed around the concept of 'many employees working on many items. It was developed to simulate TAA labor transactions in process RCCs such as plating, heat-treat, and cleaning where it is not practical to have individuals perform continual labor transactions under previously described process scenarios.

1.5.8.2. **(Added-AFSC)** Bulk processing is used for labor accumulation against trackpoints/operations ONLY.

1.5.9. Bulk Requirements.

Table 1.8. **(Added-AFSC)** Bulk Requirements Data

Bulk RCCs must be identified in TAA.
TAA OPRs will make this change via RCC Table.
Employees assigned to the BULK RCC will be assigned to the standing JON 888888888888.
PDMSS workload must be entered each day Bulk Employees work using the Labor/Leave/Bulk Processing/PDMSS BULK Processing.
Transactions should contain operations with sufficient labor standards to cover all BULK employees schedule hours available for the processing day.
COMPLETES are the only statuses processed through Bulk Processing.
Bulk transactions are sent NRT to PDMSS and forwarded to DDS during nightly processing. ITS does not receive any BULK statuses

Table 1.9. **(Added-AFSC)** BULK Application Data.

TAA calculates a BULK Prorate Factor for each BULK RCC where workload was transacted.
Bulk Prorate Factor is based on TOTAL employee available hours DIVIDED by the TOTAL base hours of the BULK workload transacted.
Employee expended hours are calculated by multiplying each workload entry by the BULK Prorate Factor of the Bulk RCC and systematically distributed to individual labor hours as actual hours expended against the Bulk Labor.
Employees in a BULK RCC but NOT assigned to the Bulk JON (888888888888) but performing labor on Bulk items must transact via the JON Labor Screen using the BULK JON (888888888888).
Employees assigned to the BULK RCC, and BULK JON must transact JON LABOR STOP against the BULK JON if they perform labor on workload that is NOT BULK related.

1.5.10. Other TAA Transactions.

1.5.10.1. **(Added-AFSC)** Leave

1.5.10.1.1. **(Added-AFSC)** DCPS is the system of record for leave and will determine how the leave will process. Leave should be input to TAA as requested by the employee and approved by the Supervisor. It is the responsibility of employees to know their leave balances. TAA provides leave balances as a courtesy based on balances received from DCPS after payroll processing and can be viewed on Inquiries/MER Table. Leave codes are described in the drop-down menu on the leave screen in TAA; via the HELP menu in TAA and in the TAA DMAPS TAA Software User's (SUM) Manual. The SUM can be found at: https://usaf.dps.mil/teams/DMxHIA/DMAPS/Forms/AllItems.aspx?id=%2Fteams%2FDMxHIA%2FDMAPS%2FTime%20and%20Attendance%20%2D%20TAA%20%28Production%29%20Library%2FTAA%20System%20Documentation%2FTAA%20Documentation%202022%2FTAA%5FUser%5FSUM&viewid=07882c5a%2D2865%2D4226%2Da9b4%2Da0de3e147c7d

1.5.10.1.2. **(Added-AFSC)** Supervisors and/or timekeepers can enter leave as soon as it has been requested to ensure it is input in a timely manner.

Table 1.10. **(Added-AFSC)** Leave Data

Leave can be input in advance of the leave with start date up to last day of the FUTURE pay period.
AF Policy is leave is taken in quarter hour increments and will be entered into TAA in quarter hour increments.
Leave Duration can be entered in one transaction as small as .25 hours up to maximum of 992.00 hours.
TAA will count down the duration of leave based on the employee's tour of duty schedule.
Leave transaction can be entered in one transaction for MULIPLE employees belonging to the Responsible Supervisor if all conditions of the leave transaction are the same, effective date, leave type, leave duration, leave start time.

1.5.10.1.3. **(Added-AFSC)** Some leave codes request additional identification which is annotated in the Family/Rep/Env Codes field once the LEAVE TYPE has been entered. Family codes covering the Family Medical Leave Act (FMLA) will be entered using the Family/Rep/Env Codes field. This is very important in keeping track of Family Leave in DCPS which can have limitations in certain cases. There are specified Leave types that require additional identification by using the Family/Rep/Env Code Fields. LN can have 'PH' Preventative Health and 'PS' identifies Weather and Safety conditions. LS is used with PW to identify Wounded Warrior condition.

1.5.10.1.4. **(Added-AFSC)** Traumatic Leave. Until notification is received from Personnel approving Traumatic Leave, the employee MUST use personal LEAVE (or LWOP). Check Injury Date to determine how to input to TAA. Current pay period LU and subsequent LT can be transacted on the Leave Screen; prior pay period date must be entered using Prior Pay Adjust Labor screen. Day of Injury (LU) transaction must be entered prior to any follow-on LT

transactions. Injury number is determined by day of injury and identified by Personnel. Each LT transaction will require the 4-digit injury number.

1.5.10.1.5. **(Added-AFSC)** Holiday Leave.

1.5.10.1.5.1. **(Added-AFSC)** Mass Leave is input by the TAA OPR at each site. This leave includes normal government holidays and any additional holidays (full or partial) identified by Executive Order.

1.5.10.1.5.2. **(Added-AFSC)** 'In lieu of' Holiday Determination. All fulltime employees are entitled to an 'in lieu of holiday' when a holiday falls on a non-workday. In such cases, the employee's holiday is the basic workday IMMEDIATELY PROCEDING the non-workday. Exceptions: (1) If the non-workday is Sunday (or an 'in lieu of' Sunday), the next basic workday is the 'in lieu of' holiday; (2) If Inauguration Day falls on a non-workday, there is no provision for an 'in lieu of' holiday; (3) If the head of an agency determines that a different 'in lieu of' holiday is necessary to prevent an 'adverse agency impact,' he or she may designate a different 'in lieu of' holiday for full time employees under compressed work schedules. (See www.opm.gov)

1.5.10.1.5.3. **(Added-AFSC)** Definitions of leave types are referenced in DoD FMR 7000.14, Volume 8, Chapter 3, and DODI1400.25V630_AFI26-815.

1.5.10.2. **(Added-AFSC)** Loan Transactions.

1.5.10.2.1. **(Added-AFSC)** Loans for DIRECT LABOR were updated to allow true loans to occur.

1.5.10.2.2. **(Added-AFSC)** WCDs are built with workload data performed by task or operation. This workload data contains the PLANNED RCC where the work is expected to be performed. TAA Labor Screens (PDMSS, ITS, FEM) label this information as PLANNED RCC with PERFORMING RCC field following. PLANNED RCC is greyed out, PERFORMING RCC field is active but hitting SUBMIT without entering data in PERFORMING RCC will guarantee the hours and status will go to the CORRECT RCC in DDS. This is important in the calculation of EARNED HOURs. If PERFORMING RCC is has RCC entered that is different from the PLANNED RCC, the RCC will NOT receive EARNED HOURS.

1.5.10.2.3. **(Added-AFSC)** Long term RCC reassignments should be done via the Employee Master Record.

1.5.11. Hours Worked Outside of Schedules.

1.5.11.1. **(Added-AFSC)** TAA covers several categories of Overtime, Compensatory Time, Credit Hours and Holiday Work.

1.5.11.2. **(Added-AFSC)** The Responsible Supervisor is responsible for authorizing Overtime worked, Compensatory Time worked, Credit Hours worked and Holiday Worked. Procedures will be established at each site based on existing labor agreements.

1.5.11.3. **(Added-AFSC)** Overtime. If an employee transacts labor BEFORE their scheduled shift start (PRESHIFT), AFTER the end of their scheduled shift (POSTSHIFT) or on a non-workday (SUPPLEMENTAL), TAA will require an authorization transaction prior to the transaction period to avoid 'Unauthorized Overtime" errors (85 error). These authorizations are needed for TAA to provide the appropriate Type Hour Code (OS, OU, OC, OX) that both DIFMS and DCPS will need to accurately process the labor and subsequent pay.

1.5.11.4. **(Added-AFSC)** Compensatory Time. If an employee transacts labor BEFORE their scheduled shift start (PRESHIFT), AFTER the end of their scheduled shift (POSTSHIFT) or on a non-workday (SUPPLEMENTAL), TAA will require an authorization transaction prior to the transaction period to avoid 'Unauthorized Overtime" errors (22 error). These authorizations are needed for TAA to provide the appropriate Type Hour Code (CE, CC) that both DIFMS and DCPS will need to accurately process the labor and subsequent pay.

1.5.11.5. **(Added-AFSC)** Credit Hours. If an employee transacts labor BEFORE their scheduled shift start (PRESHIFT), AFTER the end of their scheduled shift (POSTSHIFT) or on a non-workday (SUPPLEMENTAL), TAA will require an authorization transaction prior to the transaction period to avoid 'Unauthorized Overtime" errors (22 error). These authorizations are needed for TAA to provide the appropriate Type Hour Code (CD) that both DIFMS and DCPS will need to accurately process the labor and subsequent pay.

1.5.11.6. **(Added-AFSC)** Holiday Work. Holiday work transactions for scheduled workdays must be made on a valid holiday. The work must be performed DURING a scheduled workday that falls on a holiday; must be within the employees' regularly scheduled shift; and must be transacted as HOLIDAY WORK (HG, HF, HS, HT). Any work performed after regular shift hours MUST be transacted as Overtime or Compensatory Time. If not authorized prior to labor processing, an error will occur. These authorizations are needed for TAA to provide the appropriate Type Hour Code (HG, HF, HS, HT, HC) that both DIFMS and DCPS will need to accurately process the labor and subsequent pay.

1.5.11.6.1. **(Added-AFSC)** Corrections that must be made due to Unauthorized Holiday Work must be entered via the DLCP. The Responsible Supervisor or Timekeeper must enter the holiday indicator (LH) first. Then follow with HG, HF, HS, HT, or HC. Holiday hours worked must be paid by Holiday Pay, but once an employee has met the hours of his/her tour (i.e., 8, 9, 10), then any additional hours can be paid as Overtime/Compensatory Time. (Ref: DoD FMR, 7000.14, Volume 8, Chapter 3).

1.5.11.6.2. **(Added-AFSC)** Holiday work transactions entered using the Prior Pay Labor Adjustment must only reflect the hours worked on the Holiday or 'in-lieu of' Holiday. The LH transaction cannot be present on the Prior Pay Labor Adjustment screen for the hours worked.

1.5.11.6.3. **(Added-AFSC)** Holiday work transactions are not authorized for intermittent employees.

1.6. Contingency Procedures.

1.6.1. HQ AFSC will establish a site contingency operation when the TAA system or segments of the system are temporarily unavailable.

1.6.1.1. Labor Contingency.

1.6.1.1.1. **(Added-AFSC)** TAA data will be collected and retained during periods of system unavailability and will be transacted complete in TAA when system access is restored. Use AF Form 3126 or local electronic equivalent document as a TAA Data Collection Record to be used when TAA is available.

1.6.1.1.2. **(Added-AFSC)** Supervisor or Timekeeper will ensure the data is entered into TAA at the earliest opportunity. All tasks COMPLETED during the downtime must be transacted COMPLETE in TAA to allow DDS to calculate EARNED HOURs.

1.6.1.2. Payroll Contingency.

1.6.1.2.1. **(Added-AFSC)** During a contingency when input of T&A is not possible, the DMAPS PMO TAA SME contacts their respective AFIMSC, NGB or HQ AFRC point of contact who will coordinate with AFAFO. AFAFO will contact DFAS-Indianapolis payroll office to submit a request for an emergency time code (RX); paying each employee 80 hours or their normal scheduled hours. Regular Emergency Time is used when a situation precludes receipt of an SDA file or manual DCPS T&A input.

1.6.1.2.2. **(Added-AFSC)** When the system becomes available the employees & timekeepers must make all necessary corrections; the employee will input any leave or premium forms, annotate any leave or premium hours and then concurs their timesheet. Once the timesheet is concurred, the supervisor reviews the information, approves/disapproves all leave and premium documentation, reviews the timesheet for accurate timecard annotations and certifies the record. Review DCPS User Manual, Chapter 6 (Emergency Time H6-22) for more information.

1.7. TAA Batch Processing.

1.7.1. The scheduling of TAA Labor processing affects when labor/leave transactions are processed. HQ AFSC will develop processing procedures for the following.

1.7.1. **(AFSC)** All ALCs currently process TAA after midnight.

1.7.2. First shift employees.

1.7.2. **(AFSC)** First shift employee transactions are processed the evening of the day that is worked.

1.7.3. Second shift employees.

1.7.3. **(AFSC)** Second shift employee transactions are processed the evening of the day that is worked; however, overtime/compensatory transactions are processed if stopped before labor processing starts at that site. Otherwise, the overtime/compensatory transactions are suspended until the next day's processing.

1.7.4. Third shift employees.

1.7.4. **(AFSC)** Third shift employee transactions for the 3rd shift are suspended until the evening of the day FOLLOWING the shift start.

1.7.5. **(Added-AFSC)** Saturday labor includes second shift overtime from Friday, all third shift transactions from Friday night, and all three shifts from Saturday. This labor process occurs on Sunday morning, normally at 0900AM at each site when their third shift from Saturday has completed the last tour of duty.

1.7.6. **(Added-AFSC)** During all TAA processing, shop floor personnel can still transact Labor, but the DLCP (Daily Labor Correction Process) screens are locked for any changes until processing has completed.

1.7.7. **(Added-AFSC)** As the result of processing, TAA creates a daily labor detail file (ZH140D02 or ZH440D02) that is sent to DIFMS. This requirement is documented in ICD TAAS/DIFMS-A. DISA Application Support Team will work any processing errors or notify the programming resource for assistance. Daily labor Processing occurs at each site as following: Robins Mon-Fri 1230AM ET (1130PM CT); Tinker Mon-Fri 1230AM CT; Hill Tues-Fri 1200AM MT (0100AM CT).

1.7.8. **(Added-AFSC)** TAA Early Payroll Processing. There are times that DCPS will require the TAA Payroll file (ZE332D01) earlier than the normal Monday date. This requires coordination with DISA Application Support and Programming Support. Hill does not have a MONDAY schedule; labor is processed on Tuesday to include Sunday and Monday labor and would not require DATE CARD update. Robins and Tinker both have a Monday Schedule which would require DATE CARD update if Monday schedule is skipped.

1.8. Related System Processing. System processing for production labor is accomplished through TAA and various maintenance production systems (e.g., Q302-ITS, IMPRESA-ITS, LDMS-ITS, Q302-PDMSS, Impresa-PDMSS, FEM, Job Order Production Number Master System (JOPMS/G004L). This processing is also related to several other systems which handle payroll, financial, and management information: Defense Industrial Management System (DIFMS), Defense Civilian Payroll System (DCPS) and DMAPS Data Store (DDS).

1.8.1. **(Added-AFSC)** TAA is production-oriented, operational information system whose purpose to provide a standard automated means of collecting and reporting labor data. Processing data feeds to/from TAA are described in the following paragraphs.

1.8.1.1. **(Added-AFSC)** Programmed Data Maintenance Scheduling System (PDMSS). PDMSS is the Air Force system for management of serialized report items applicable to aircraft and missile workloads. PDMSS is used to construct an operational level network showing all tasks and their relationships to other tasks required to complete the depot modification and/or depot repair of an aircraft or missile.

1.8.1.2. **(Added-AFSC)** ICD Q302/TAAS-B v.3, PDMSS Workload data to TAA. ICD TAAS/Q302-A v.4, NRT PDMSS Statuses from TAA.

1.8.2. **(Added-AFSC)** Inventory Tracking System (ITS). G337 is the Air Force system for management of depot programmed exchangeable items, engines, and route consumable item report.

1.8.3. **(Added-AFSC)** ICD Q302/TAAS-A v.3, ITS Workload data to TAA. ICD TAAS/Q302-B v.4, NRT ITS Statuses from TAA.

1.8.4. **(Added-AFSC)** Lean Depot Management System (LDMS). LDMS is used to track and manage avionic repair performed at Robins and Tinker. LDMS collects depot maintenance data, performs serial number tracking, and tracks CNDs for R&M analysis.

1.8.5. **(Added-AFSC)** ICD G300/TAAS-A v.1, LDMSS ITS Workload data to TAA (Tinker, Robins). ICD TAAS/G300-A v.1, LDMSS Statuses extracted by LDMSS from TAA.

1.8.6. **(Added-AFSC)** Maintenance Business System Modernization (MABSM/Impresa). IMPRESA is a web-based, CAC-enabled, full scale Enterprise Resource Planning (ERP) systems. It is a government owned COTS system with Oracle infrastructure and provides highly integrated business modules supporting the management of depot maintenance, repair, and overhaul activities.

1.8.6.1. **(Added-AFSC)** ICD MABSM/TAAS-B v.1, MABSM/PDMSS Workload data to TAA (Hill only). ICD TAAS/MABSM-B v2, NRT PDMSS Statuses from TAA.

1.8.6.2. **(Added-AFSC)** ICD MABSM/TAAS-A v.2, MABSM/ITS Workload data to TAA (Hill only). ICD TAAS-MABSM-A v.5, NRT ITS Statuses from TAA.

1.8.7. **(Added-AFSC)** Facility and Equipment Maintenance (FEM). FEM is the Air Force system for management of facilities and equipment maintenance for all sites. Precision Measurement Equipment Laboratory (PMEL) workload is managed through FEM and linked to direct ‘C’ JONS and indirect Cost Class Iv ‘S’ JONs used for the maintenance of RCC equipment.

1.8.8. **(Added-AFSC)** Defense Industrial Financial Management System (DIFMS). DIFMS is a financial management/accounting/logistics system supporting Depot Maintenance (DM) business areas. DIFMS provides core financial systems management, financial reporting, funds control, general ledger management, receipts management, payments management and cost management functions. DIFMS interfaces directly with Defense Civilian Pay System (DCPS) of which the SSN

is the primary employee identifier. The justification for the use of the SSN is DoDI 1000.30, Enclosure 2, Paragraph 2.c.(7) "Federal Taxpayer Identification Number".

1.8.8.1. **(Added-AFSC)** As part of its cost management functions, DIFMS is the system that maintains JONs and RCCs. DIFMS provides valid direct/indirect JONs and RCCs to TAA via two daily interface files MS204D01 - valid JONs and MS204D09 - valid RCCs. These files are processed into TAA using the AFDAILY Job.

1.8.8.2. **(Added-AFSC)** Direct JONs are created in G004L and then sent to DIFMS for final processing. Indirect JONs such as Production Overhead work, G&A work, etc., are created in DIFMS. Labor cannot be transacted in TAA if the appropriate JON has not been provided to TAA. For complaints of 'Invalid JON', TAA OPR should always check the ta_difms_jon_tbl.

1.8.8.3. **(Added-AFSC)** JONs built in DIFMS can be restricted for use in certain RCCs. TAA OPRs need to check ta_difms_jonshop_tbl to work issues.

1.8.8.4. **(Added-AFSC) ZH**140D01/ZH440D01 files provide labor information for DIFMS to calculate costs of labor.

1.8.9. **(Added-AFSC)** Defense Civilian Payroll System (DCPS). DCPS is the standard payroll system used by the Department of Defense and services CSAG-M employees at the ALCs and Kadena AB. The entitlement process in TAA ensures each employee has enough reported Labor to match his/her assigned schedule for each day. This processing is performed to fill unaccounted for Labor periods, not corrected through the on-line correction process, with a unique JON (7G0ER0R) to identify the record as missing time (portion of an employee's schedule not charged to either a customer or a Leave type). Each employee's Labor is summarized within like groups to reduce the volume of records sent per employee per day as specified by DCPS interface requirements. Each Labor record is validated to ensure proper pay entitlement coding in accordance with the DCPS Eligibility Table, employee data, and Tour of Duty (TOD) information. Once processing is complete, a file is provided for further DIFMS processing, identifying any corrected missing time records or any records corrected in Entitlement processing. Also, once processing is complete, ZE332D01 file is sent to DCPS.

1.8.9.1. **(Added-AFSC)** Procedures to follow for ZE332D01 for files sent from the sites to DCPS: Normally the ZE332D01 file is created on 'PAYROLL MONDAY'. The Entitlement process begins at each site as follows: Robins 1200ET, Tinker 1200CT (1300ET), Hill 1100MT (1300ET), Kadena SUNDAY 0500CT(0600ET) . When the Entitlement process is completed, the Support Team will process the DCPSFTP job that sends the file to DCPS. DCPS will be expecting the file by 1530ET. If the ZE332D01 file from ANY site will not arrive by 1530ET, Support Team will need to notify DFAS/DCPS IMMEDIATELY.

1.8.9.2. **(Added-AFSC)** TAA Supplemental Runs give users a last chance to fix an employee's time in TAA. Corrections will write to the ta_pper_chg_tbl and will be pulled into ZE405D01 file that is sent to DCPS and immediately processed by DCPS. Check with your TAA OPR to get the time the Supplemental Runs process.

1.8.9.3. **(Added-AFSC)** Payroll Contingency Process. In the past Sites have experienced issues making network connectivity to the TAA database to run ENTITLEMENT. There have been times when the payroll file has been received at DFAS/DCPS very late though before 2000ET processing. Should a site experience this issue, DISA APP Support will immediately notify DFAS/DCPS of possible problems. Contact the DFAS/DCPS POCs to discuss the possible need for EMERGENCY TIME to be processed for that site.

1.8.9.4. **(Added-AFSC)** TAA Supplemental Runs give users a last chance to fix an employee's time in TAA. Corrections will write to the ta_pper_chg_tbl and will be pulled into ZE405D01 file that is sent to DCPS and immediately processed by DCPS. Check with your TAA OPR to get the time the Supplemental Runs process.

1.8.9.5. **(Added-AFSC)** Prior Pay period adjustments. TAA maintains 26 pay periods that can have adjustments made to ensure employees get paid correctly. There are two parts to prior pay period adjustments, Prior Period Adjust Labor and Prior Period TOD Changes. Ensure on Adjust Labor screens that a proper JON is entered in JON field,
CORRECT 31026A31A000, INCORRECT RF000006992364J4932NC3, any record that starts with RG, RF, RT, RS,OS,OU,CE would be incorrect. DIFMS will be looking for a VALID JON. TAA OPR monitor your ta_pper_chg_tbl.

1.8.9.6. **(Added-AFSC)** Emergency Time. Emergency Time (RX) is requested by DCPS whenever the ZE332D01 file has failed to arrive at DCPS by 1530ET. Emergency Time will ensure the employee gets paid the hours matching their DCPS schedule but any other exceptions that were transacted in TAA will not be in DCPS, exceptions such as leave, overtime, compensatory time or night differential pay. Anytime RX is applied to an employee, if there is time for a Supplemental Run on Tuesday before final DCPS processing (2000ET), time must be RESENT from TAA.

1.8.9.7. **(Added-AFSC)** DIFMS-DCPS Payroll Reconciliation. DCPS sends the Gross Pay File (MS236D30) for each site's resulting pay to DIFMS. DIFMS then runs a reconciliation of the pay data against the labor data that has been sent by TAA. DIFMS also receives the ZE300D02 file, SSN to Employee Number Cross Reference to help identify employees that are in the Gross Pay File. If DIFMS finds PAY DATA for an employee, the reconciliation process will create an error that must be corrected by AFSC/FZ for DIFMS to know how to apply the pay.

1.8.9.8. **(Added-AFSC)** Master Employee Record (MER) files are received from DFAS/DCPS and loaded on the TAA Batch Servers at each site. The Master Employee Record (MER) Extract-Format 2 DCPS-P6631D01, TAA named MER21. The MER21 contains grades, series, step and pay rate among other data elements. The Biweekly Master Employee Record/Leave Extract DCPS-P6722D01, TAA named MER31. The MER31 contains leave balances.

1.9. Other Systems associated with TAA.

1.9.1. RCC Skill Code System (RSC).

1.9.1. **(AFSC)** A module of the Integration Engine (IE) that is the tool used to align RCCs and Skill Codes. TAA receives updates via a database link from IE/DDS. RCCs and Skill codes must match to be used on labor transaction codes.

1.9.2. JOPMS/G004L.

1.9.2. **(AFSC)** Temporary Workloads are always planned in JOPMS/G004L. G004L is the Air Force system for planning and management of Temporary workloads.

1.9.3. Depot Cost and Schedule Tool (DCAST).

1.9.3. **(AFSC)** Extracts data from TAA to produce reports used on the shop floor. Data pull is documented in TAAS/DCAST-A.

1.9.4. Integration Engine/DMAPS Data Store (IE/DDS).

1.9.4.1. **(Added-AFSC)** Provides a relational database repository allowing a variety of functional end users to inquire and retrieve production information.

1.9.4.1.1. **(Added-AFSC)** DDS is the system of record for earned hours and calculates those earned hours during nightly processing. For PERMANENT JONs, DDS uses planned data (hours) from the production systems and status transactions of COMPLETE. For TEMPORARY JONs, DDS calculates earned hours based on the actual hours transacted up to the number of hours planned for the Temporary JON. TAA creates the DDSSTAT file for DDS to use by pulling data from the ta_dds_out_tbl during batch processing IAW ICD TAAS/CONEN/DDSS-B.

1.9.4.1.2. **(Added-AFSC)** DDS provides closed JONs to TAA via a stored procedure IAW ICD DDSS/TAAS-A. TAA will delete data from the ta_wo_opn_tbl when data matches are found.

CHAPTER 2

WORK CONTROL DOCUMENTS AND TECHNICAL DATA

2.1. Work Control Document (WCD). Timely and complete workload planning is essential to accomplishing the depot production process. Workload planning is reflected in the WCDs. To develop accurate, efficient, and effective WCDs, it is critical to integrate all workload planning and technical requirements that support the maintenance production functions.

2.1. (AFSC) This chapter provides process and procedures for depot work and the control and use of technical data in compliance with Air Force policy. This chapter also provides guidance for processing, handling, and storage of WCDs, and supersedes all other guidance pertaining to WCDs if a conflict exists.

2.1.1. The WCD is the official record for work including control, identification, certification, and routing of items. ***WCDs are not technical data.*** The WCD is an instructional document summarizing sequenced steps and the TO references for processing the item. WCDs are developed by authorized planner/Industrial Engineering Technicians (IETs) IAW approved technical data. The WCD is the record documenting that the task was performed by certified technicians IAW authorized technical data. If conflicts exist between the WCD and the technical data, the technical data will prevail. WCDs provide a complete audit trail of work performed. WCDs must be auditable to the technician's training record. All critical tasks must be listed and certified as a separate line item on the WCD. HQ AFSC will:

2.1.1. **(AFSC)** The WCD is an official and authorized document with the technical data reference. All programmed and nonprogrammed work will be performed on an approved WCD. No work will be performed without an approved WCD. The WCD is the official record for work including control, identification, inspection, and routing of operations. Locally Manufactured/Modified Tools and Equipment (LM/MT&E) work may use a WCD or similar (See Volume 2 Chapter 3 for further guidance using the new AFSC Form 005, *Locally Manufactured/Modified Tools and Equipment (LM/MT&E) Control Document* in lieu of a WCD, if applicable). A WCD shall be developed for all programmed and temporary workloads which ensures there is a complete audit trail of work performed. The ALCs performing host tenant support workloads, including PM type support workloads not included in FEM, can develop procedures for documenting maintenance actions accomplished by certified technicians. The amount of detail and technical data references on WCDs is determined by the PPPT. Unpredictable WCDs that are developed and processed thru the MWR system are not required by the PPT unless requested. Operation number will be unpredictable, or O&A as determined by the MWR system.

2.1.1.1. Ensure WCDs are developed for all programmed and temporary workloads.

2.1.1.1.1. WCDs will be auditable and meet the requirements of Air Force Manual (AFMAN) 63-143, *Centralized Asset Management Procedures*, TO 00-5-1, TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*, and TO 00-25-4, *Depot Maintenance of Aerospace Vehicles and Training Equipment*. WCDs will contain all the data elements necessary to comply with

maintenance data documentation requirements IAW TO 00-20-2, *Maintenance Data Documentation*.

2.1.1.1.2. WCDs will be reviewed and correlated to Production Acceptance Certification (PAC) tasks. WCDs will be reviewed and updated to reflect compliance with the standard labor classification criteria. For additional detail, reference **Volume 1, Chapter 4** of this instruction.

2.1.1.1.2.1. **(Added-AFSC)** WCDs, job plans, or other documents controlling the routing and management of workload performed by AFSC maintenance groups will be reviewed based upon the following: unforeseen workload changes, quality deficiencies, changes to Technical Data, statistically significant labor standard variances, statistically significant rework, continuous process improvement, and occurrences of an AFSC Form 957. When an inactive WCD is going to be reinstated, a review will be accomplished prior to placing them back in use. The WCD review will be documented on an AFSC Form 500. Local supplements may be developed as required. **Note:** Partnership workloads will be accomplished IAW the Implementation Agreement (IA).

2.1.1.1.2.2. **(Added-AFSC)** (Aircraft Planned Workloads). For those organizations supporting LRDP (ref AFMAN 63-143), the aircraft WCD/Labor Standard reviews will be considered accomplished during the ERRP. Local supplements may be developed as required.

2.1.1.1.2.3. **(Added-AFSC)** When the SOW changes, WCDs shall be created/edited to ensure that all existing and emerging requirements are captured from SPM SOW and associated technical data to prevent missed work.

2.1.1.1.2.4. **(Added-AFSC)** WCD review on NWRM will be performed annually. The review shall follow the procedures outlined in AFI 20-110 and AFI 20-110 AFMCSUP. The NWRM review will be documented on AFSC Form 500.

2.1.1.1.2.5. **(Added-AFSC)** When ‘IAW’ is used on a WCD, the technical data must be open or (downloaded and open) and in use. It is acceptable to have the technical data, given the environmental conditions (e.g., confined space, windy conditions, etc.) and for safety reasons, within a reasonable distance. When approached, the technician will have correct and approved technical data open to the applicable area in work. The performing technician will be able to point to the task being accomplished in the technical data but need not be on the exact page. Critical tasks/operations identified by the Production Planning Team (PPT)/PPPT will be IAW tasks/operations covered by technical data.

2.1.1.1.2.6. **(Added-AFSC)** Service Unique Technical Data. Workloads with multiple versions of service unique (e.g. Navy, Marines) technical data will list the service name in the header on each page of WCD (e.g., Air Force, Navy, …) and incorporate an additional “watermark” visual control that is easily displayed on all WCD pages to alert mechanics to service unique technical requirements and reduce the risk of utilizing incorrect technical data.

2.1.1.1.2.6.1. **(Added-AFSC)** When using a blank AFSC959 (Handwritten) form it will be required to stamp or annotate in RED INK and highlight (any color) in the header and the description block to alert mechanics of service unique technical requirements for a dual visual control on all WCD pages to reduce the risk of utilizing incorrect technical data.

2.1.1.1.2.7. **(Added-AFSC)** All warnings, cautions, and notes will be reviewed prior to performing the task or at the beginning of each shift. Review verification status pages, when present, to check the verification status before attempting to use any procedure IAW TO 00-5-3.

2.1.1.2. Ensure each Air Logistics Complex (ALC) designates WCD focal points who will serve as the OPR for WCD program directives and will assist all production groups with program requirements.

2.1.1.3. Ensure all maintenance performed by AFSC personnel is reviewed to identify critical maintenance tasks/operations and verify inspection codes for accuracy.

2.1.1.3.1. Critical tasks/operations are any tasks/operations that affect form, fit, and function, and has an inspection/certification identified by the Production Planning Team (PPT).

2.1.1.3.2. If there are PPT disagreements on critical tasks, the Cognizant Engineering Authority (CEA) will be contacted, and the response documented.

2.1.1.4. Ensure standardized methods are documented to denote status on WCDs and to certify that work has been accomplished and completed as required by specific technical data.

2.1.1.5. Develop, implement, and maintain standardized procedures to manage and control the methods used to certify/stamp WCDs.

2.1.2. Pre-Production Planning Team (PPPT). The PPPT is the initial process for developing WCD.

2.1.2. **(AFSC)** Each ALC will ensure a planner is included in the initial stages of early acquisitions.

2.1.2.1. **(Added-AFSC)** Pre-Production Planning, New Workload. The SPO/SCM Engineering Authority chairs the PPPT. For each new programmed/negotiated workload, the ALC/CC requires establishment of PPPT composed of Planning Element Chief or designee, IET (Maintenance Planner), Complex/Group Business Office, SPO/SCM Engineering Authority, DEA, Complex Production Engineering, RC/CC Production Supervisor(s) or designee(s), QA, PAC Manager, and NDI Level III inspector. Other representatives determined by the SPO/SCM Engineering Authority, Planning element Chief/designee, and/or Complex Production Engineer as required include but are not limited to the following: (DLA, material support specialist, safety, bioenvironmental, Nuclear Weapons Resource Officer (NWRO), scheduling, training, etc.). Team members will attend PPPT meetings.

2.1.2.2. **(Added-AFSC)** The SPO/SCM Engineering Authority or designee will chair the PPPT. Pre-production personnel are responsible for the initial resource development and identification of

critical end items for exchangeables and brochure required critical tasks for aircraft, workplace facility layouts, process flow charts, BOM requirements, work breakdown structure and associated WCDs, labor standard operations, identification of training and certification requirements for production personnel, review of all hardware and software technical data, review of all associated equipment and hand tools, review of all special processes, finalization of direct cost, and reporting of shortfalls that prohibit organic start and requesting work authorization documents (WADs) for programmed/negotiated workload start. **Note**: It is important that the planning team members have a thorough working knowledge of the maintenance industrial repair/overhaul process. In addition, a thorough understanding of all maintenance organizations and their responsibility to each other is required.

2.1.2.3. **(Added-AFSC)** For organizations operating under the LRDP, the strategic team created will fulfill the requirement for the PPPT.

2.1.3. Production Planning Team (PPT). The purpose of the PPT is to further develop, plan and refine workload requirements as they pertain to WCDs.

2.1.3. **(AFSC)** The PPT is chaired by the IET. The PPT team is composed of, at a minimum, the IET and each affected RCC Production Supervisor or their designee. When the WCD review involves a new industrial process or a deviation from an established industrial process, the IET will coordinate with the ALC Production Engineering and determine if Production Engineering attendance is necessary. When the WCD review involves NDI tasks, the IET will coordinate with ALC Production Engineering and, together, determine if NDI Level III inspector attendance will be requested. Additionally, the IET will determine necessary attendance for other representatives to include ALC Production Engineering, PM/SCM Engineer (Weapon System Engineering Authority) or DEA (Delegated Engineering Authority), Production Controller/Scheduler, QA, safety, bioenvironmental, etc. If invited to attend the PPT, each responsibilities attendance will be considered mandatory. A physical, “face-to-face” meeting is not required for formal coordination; virtualization of this meeting is authorized.

2.1.4. Types of WCDs. Only authorized types of WCDs will be used for production maintenance.

2.1.4. **(AFSC)** The following are examples of authorized WCDs. WCDs comparable to Inventory Tracking System (ITS), LDMS, AFSC Form 959, and AFSC Form 173, shall comply with the requirements of this supplement.

2.1.4.1. **(Added-AFSC)** AFSC Form 959, ITS (G337), IMPRESA, Networks made to order (MTO), Maximo (G029), AFSC Form 173, or PDMSS (G097), and Management Planning and Control System (MPCS) formally known as D012, or contractor equivalent are used for workloads processed through production maintenance. The WCD will be attached to the item throughout the production process or will be placed in a designated location for those items where attachment is not practical (reference 2.3.).

2.1.4.2. **(Added-AFSC)** Sequential Tasks. Tasks are accomplished and certified in step-by-step sequences; however, deviation is permissible based on the nature of the task. The deviation will not create a conflict with the technical data source and integrity of the task accomplishment will

not be compromised. Any task determined by the PPT as requiring sequential steps shall have the following or equivalent statement on the WCD or definitized list: “Tasks must be accomplished and certified in step-by-step order”.

2.1.4.3. **(Added-AFSC)** AFSC Form 173, MDS/Project Operation Assignment.

2.1.4.3.1. **(Added-AFSC)** All unpredictable AFSC Forms 173 will process through MWR for approval.

2.1.4.3.2. **(Added-AFSC)** Initiator submitting the unpredictable MWR will determine the technical data reference.

2.1.4.4. **(Added-AFSC)** A Work Emergency is defined as a situation when MRT/Planner/PAOs are not available to approve WCDs, causing a work stoppage or a delay in aircraft flow time. To prevent a work emergency, the production supervisor will generate and apply their P stamp on a hand scribed WCD, using AFSC 959 or equivalent. The Aircraft Logistics Specialist (ALS) or designee shall also stamp the WCD which authorizes the task to be performed. The MRT/Planner/PAO approval must occur the first business day following this condition to approve and comply with coordination requirements on the WCD.

2.1.4.5. **(Added-AFSC)** Definitized List. A definitized list supplements AFSC Form 173. It shall be auditable and traceable back to the AFSC Form 173 operation number and tail number of the Aircraft. Definitized lists must be updated, and the task description must agree with the source AFSC Form 173. It provides a detailed step-by-step breakdown of the process. MIS that are eWCD capable will be used as the permanent record for definitized lists for AFSC Form 173s. In areas where eWCD is not available, AFSC approved WCDs and Definitized lists shall be attached to the AFSC Form 173 as the permanent record.

2.1.4.6. **(Added-AFSC)** The AFSC Form 173 will be assigned an inspection code applicable to the work being accomplished as determined by the PPT. AFSC Form 173 header cards for definitive guides containing multiple skills may be coded as administrative. The person stamping the source AFSC Form 173 is certifying that the tasks/operations on the definitized list are stamped and dated. If the PPT determines that the header card is an administrative task/operation, the scheduler will certify that all certification blocks on the definitized guide have been stamped and dated by ‘C’ stamping the WCD.

Table 2.3. (Added-AFSC) Instructions for Completing Unpredictable/Hand Scribed AFSC Form 173.

The instructions provided below are the mandatory and basic requirements for completing a hand scribed (pen and ink) AFSC Form 173. These instructions will also apply for the same elements and data fields for an unpredictable AFSC Form 173 when it is generated through an approved AFMC data system (i.e., PDMSS (G097). When the electronic generated version of the AFSC Form 173 does not have blocks numbered and arranged as described above, local procedures should be developed to ensure essential elements are captured and accountability is maintained by the creation of a complete audit trail. Mandatory entries are identified as REQUIRED and are identified specifically when required. Any person initiating an AFSC Form 173 should make every effort to complete as many blocks as possible when knowledgeable of the requirement.

BLOCK #	**TITLE**	**CONTENT**
1	DATE	REQUIRED – INITIATOR. Date initiated.
2	SKILL CODE	REQUIRED - Primary skill code required to complete 2 the task/operation.
3	OPERATION NUMBER	REQUIRED - SCHEDULER. Operation number will be unpredictable or O&A as determined by the MRT.
4	WPN ID	REQUIRED - Job Order Number for the aircraft.
4A	FUND CD	AS REQUIRED
5	STANDARD HOURS	REQUIRED - PLANNER: Planner reviews defect, verifies data, checks for follow-on maintenance, and applies an estimated standard.
6	TYPE	AS REQUIRED
7	NO. WKRS	REQUIRED - Number of workers required to do the task.
8	AREA	Location of discrepancy on the A/C.
9	MAT	AS REQUIRED
10	CONTROL NO.	AS REQUIRED
11	JD	AS REQUIRED
12	WORK CATEGORY DESCRIPTION	REQUIRED - Work Category Description (Unpredictable, O&A, Shakedown, etc.)
13	WK CAT CD	AS REQUIRED
14	MAJ JOB	AS REQUIRED
15	CREW CODE	AS REQUIRED

16	MISSION DESIGN SERIES	AS REQUIRED
17	ACFT SERIAL NO	AS REQUIRED
18	ACFT TIME	AS REQUIRED
19	RESOURCE CONTROL CENTER	REQUIRED - Resource Control Center (coincides with skill).
20	TY MA	AS REQUIRED
21	STD RPTING DESG	AS REQUIRED
22	DATE COMPLETED	MECHANIC. Numeric Day, Month, Year (DD/MM/YY).
23	WORK UNIT	REQUIRED - 5 digits, alphanumeric code used to identify the system (SYS), subsystem (SUB), and component (C) which are being worked.
24	ACT	AS REQUIRED
25	WHEN DISC	AS REQUIRED
26	HOW MAL	3-digit numeric code used to describe the equipment malfunction.
27	NO. UNITS	AS REQUIRED
28	WK SPEC	AS REQUIRED
29	INSP CODE	REQUIRED - SUPERVISOR/MRT PLANNER: PAC certification code.
30	FAC CD	System Requirement for Capacity Utilization.
31	DESCRIPTION STAMP	REQUIRED - INITIATOR: Detailed description of discrepancy and technical data reference.
31A	“Corrective Action”	“Description of Corrective Action Required”
32	ACTUAL HOURS	AS REQUIRED
33	DRAWING NO.	AS REQUIRED
34	DETAIL PLAN	AS REQUIRED
35	DELAY CODE	AS REQUIRED
36	MECHANIC	REQUIRED - PRODUCTION MECHANIC:

		PAC Code identified in Block 29 indicates level of certification/inspection required. The mechanic stamps and date after completion of the operation/task.
37	PRODUCTION CERTIFIER	REQUIRED - PRODUCTION MECHANIC: When PAC Code identified in Block 29 indicates Secondary Certification required. The mechanic stamps and dates after completion of the operation/task.
38	QUALITY INSPECTOR	Quality Q stamps and dates at completion of verification/inspection when specified in Block 29.
39	SCHEDULER	REQUIRED - SCHEDULER: Stamp and date document after verification to indicate that all required entries been completed and certification blocks have been stamped as required.
40	NO.	REQUIRED - INITIATOR: Name. Mechanic, Planner, Supervisor.
41	ENG TIME	AS REQUIRED
42	ENG SERIAL	AS REQUIRED
43	YR/MFR	AS REQUIRED
44	ENG MOS/TMS	AS REQUIRED
45	TCTO CODE	AS REQUIRED
46	INSTALL/REMOVE	AS REQUIRED
47	ITEM	AS REQUIRED
48	PART NO.	AS REQUIRED
49	ITEM SERIAL NO.	AS REQUIRED
50	ITEM TIME	AS REQUIRED

2.1.4.7. **(Added-AFSC)** Electronic WCDs. HQ AFMC approved computer systems generated WCDs without hard copies are authorized and encouraged as long as the accuracy and integrity of the documents can be maintained, and the minimum documentation is accomplished as required by this and other applicable instructions. Automated Data Processing System (ADPSs) that have the capability, electronic completion, and certification of WCDs shall include PAC and supervisory certifications. These systems must have sufficient built-in safeguards (e.g., Personal Identification Numbers (PINs), electronic signatures, passwords, firewalls, etc.) to ensure system

integrity and security are maintained and that a reliable audit trail is maintained. The records shall be maintained IAW Air Force Records Information Management Systems (AFRIMS).

2.1.4.8**. (Added-AFSC)** Contractor Supplied WCDs. Contractor supplied/distributed WCDs used by AF personnel shall be utilized IAW AFMCI 21-100 V2 AFSCSUP. Local supplements may be developed to address unique contractor WCD requirements (e.g., form number, design, format, etc.).

2.1.4.9. **(Added-AFSC)** PPT Review of Contractor WCDs. The PPT Review of Contractor's WCDs. The PPT review of contractor WCDs shall consist of the Planner, applicable Production RC/CC, Controller/Scheduler, and designated workload QAS. Additional representation from the following organizations should be considered wherever a contractor's WCD is reviewed: Safety, Bio-environmental, and the contractor. The PPT review shall ensure technical data is identified and available, applicable critical tasks/operations are identified, and personnel have the required skills to perform the maintenance task.

2.1.4.10. **(Added-AFSC)** Level of Effort and other Non-MISTR (Management of Items Subject to Repair)/Non-PDM (Programmed Depot Maintenance) Workloads. The AFSC Form 959 will be used when no end item product is produced and no other official WCD process is feasible. Local procedures may be developed on how this form will be used and filled out for these specific requirements.

2.1.5. Technical Information on WCDs.

2.1.5.1. Technical Data Usage Requirement.

2.1.5.1. **(AFSC)** All WCDs requiring PAC certification (i.e., M, I, E, T, and N Coded) must contain the technical data reference applicable to the work being performed. Dual stamp codes are authorized.

2.1.5.1.1. **(Added-AFSC)** General maintenance tasks/operations not covered by technical data and performed by mechanics shall require the statement "Technical Data Not Required" or equivalent noted on the WCD(s).

2.1.5.1.2. **(Added-AFSC)** Technical data on the WCD may reference additional TOs or drawings necessary to accomplish the task. Due to space constraints on AFSC Form 173, the primary TOs may be the only ones referenced on the WCD. When the primary technical data applies to every sub-operation of the repair process, it is not necessary to repeat the technical data reference for each sub-operation. Other technical data referenced in the primary technical data are not required to be listed on the suboperation line. Sub-operations that require the use of independent technical data shall be referenced in the suboperation description block. Any sub-operation not listing independent technical data shall revert back to the primary technical data.

2.1.5.2. Specifications and Tolerances on WCDs.

2.1.5.2. **(AFSC)** Specifications, tolerances, and any similar information verbatim from the governing technical data into any WCD will be held to an absolute minimum. The intent must not be to enable using WCDs in lieu of the official technical data. Justification for inclusion of this type of data on WCDs is based on a significant gain in efficiency and/or productivity, or a clear reduction in the chance of using the wrong specifications or tolerances or avoids possible misinterpretation or miscalculations of these values. Specifications/tolerances are not to be confused with military specifications (MIL-SPECs), stock numbers, or part numbers.

2.1.5.2.1. **(Added-AFSC)** WCD operations determined critical by the PPT or identified as 'IAW' shall not have any specification, tolerance, or other similar information identified within the task description block. The responsible planning organization shall maintain a control log of all WCDs containing specifications and tolerances. At a minimum, this log will identify the WCD control number and date of last PPT review, technical data number, basic date, the change date, and change number. If the technical data changes, the WCD shall subsequently be changed.

2.1.5.2.2. **(Added-AFSC)** The planner shall manually update all changes to WCDs on the production floor and annotate the statement ("**Note**: WCD specification updated due to a technical data change.") or equivalent statement in red at the top of the WCD header page. It does not have to be in red if electronically applied.

2.1.5.2.3. **(Added-AFSC)** The planner shall notify the production organization identifying the applicable WCD was updated because of a recent technical data change.

2.1.5.2.4. **(Added-AFSC)** Process engineering, planning, and RC/CC Supervisor are responsible for reviewing technical data changes and determining the impact to WCDs containing specifications and tolerances.

2.1.5.3. Data Collection on WCDs.

2.1.5.3. **(AFSC)** Provisions will be made to annotate measurements, laboratory/test/reports results, entries on AFTO Form 95, and time changes and calendar inspection items complied with on the WCD or attached data sheet when such annotation is required IAW TO 00-20-1. Requirements can be generated by technical data, the PPT, work specifications, quality plans, or when a precise audit trail is needed. Data sheets used to annotate measurements or laboratory/test/reports results will be attached to the WCDs.

2.1.5.4. Inspection/Certification Codes.

2.1.5.4. **(AFSC)** These are codes utilized for determining the type of Inspection/Certification required on a WCD. The only authorized inspection/Certification Codes are listed in Table 2.2.

Table 2.2. (Added-AFSC) Inspection/Certificate Codes

The codes identified below are the only inspection/certification codes authorized for use on depot maintenance WCDs or enter maintenance stamp number on electronic WCDs. Any maintenance personnel that certify depot maintenance WCDs will stamp and date each required certification. Stamp impression must be legible and will not obliterate any other stamp impression already applied to the document. Only stamps issued by the applicable organization
Stamp Monitor will be used for the certification of depot maintenance WCDs (**See Note 1**).

Code	Description
M	Requires certification by ONE PAC Certified Mechanic.
E	Requires certification by TWO PAC Certified Mechanics. For end product certifications.
I	Requires certification by TWO PAC Certified Mechanics. For in-process certifications.
N	Requires certification by ONE NDI PAC Certified Mechanic.
Q	Requires certification by ONE QA Specialist for inspection/verification.
D	Identifies required review by a Defense Contract Management Agency (DCMA) inspector/evaluator.
X	Certification not required. This code will be used for tasks that are administrative in nature. This code will NOT be applied to any maintenance task or any task requiring technical data. Tasks that are administrative in nature include but are not limited to those that are: informational in nature, used for scheduling (trigger operations) tasks, non-maintenance related time tracking, etc. When the X certification/verification code is used the technical data usage statement 'No Technical Data Required', or equivalent, does not have to be annotated on the WCD.

Note:
1. - Dual inspection codes are acceptable
2. **-** On tasks/operations where secondary certification has been determined, the E code is used when technical data conformance can be verified after work completion. The I code is the most critical of all inspection/certification codes and shall not be skipped over to perform another dependent operation. The I code is used when technical data conformance cannot be verified after work completion.

2.1.5.5. Critical Task/Operation Identification.

2.1.5.5. **(AFSC)** Maintenance performed by AFSC personnel will be reviewed to identify critical maintenance tasks/operations. Critical tasks/operations designated for secondary PAC certification must be listed and stamped as separate line item. The SPO/SCM Engineering Authority may be contacted and required to respond to the production planning team as needed. The PPT identifies critical tasks/operations as any task/operation that affect form, fit, and function, and has an inspection/certification identified. If not done correctly, it can result in one of the following conditions:

2.1.5.5.1. **(Added-AFSC)** A catastrophic failure of an end item.

2.1.5.5.2. **(Added-AFSC)** An end item failure that may affect 'safety of flight'.

2.1.5.5.3. **(Added-AFSC)** Where end item failure may present an imminent safety/health hazard or affect a life support system.

2.1.5.5.4. **(Added-AFSC)** Any failure of a critical safety item (CSI).

2.1.5.5.5. **(Added-AFSC)** Any item containing TO direction for addition or removal of software [Computer Program Identification Number (CPIN) loading or removal] which, if not performed, would compromise functionality and/or foreign or national security.

2.1.5.6. Secondary Certification.

2.1.5.6. **(AFSC)** Secondary certification (i.e., second set of eyes) is required for all critical tasks/operations and can also be used as a designated inspection tool to: help control problem/high dollar tasks, foreign object (FO)/closing inspections, and QDRs; provide measurement; improve processes. Secondary certification shall be accomplished on the applicable WCD task/operation using either an 'E' or 'I' PAC certification codes. The 'I' secondary PAC inspection code is not to be restricted to the in process inspection (IPI) that is mandated by MAJCOM, TO, or local management directives but will be used when technical data conformance cannot be verified after task/operation completion. Where secondary certification is required for tasks that are visual in nature (i.e., FOD inspections), the secondary certification is accomplished and documented by an authorized IPI inspector other than the technician performing the specific step of a task that requires the IPI. The following can be considered when identifying secondary certification:

2.1.5.6.1 **(Added-AFSC)** Cautions and warnings which may have associated tasks/operations that are critical in nature.

2.1.5.6.2. **(Added-AFSC)** Other items in the technical data that meet the criticality criteria.

2.1.5.6.3. **(Added-AFSC)** Mishaps and other safety reports/alerts, and investigations involving the workload that identify critical areas.

2.1.5.6.4. **(Added-AFSC)** Previously identified problem areas from similar workloads.

2.1.5.6.5. **(Added-AFSC)** Deficiency reports, especially category one, and other customer feedback. **Note:** There are some SSQ tasks that do not allow secondary certification. In addition, there are those where it is impossible to inspect or witness the accomplishment of the task. Mandatory SSQ tasks/operation, except those that are non-critical, must be considered when identifying requirements along with any other sources that are available for specific workloads.

2.1.5.6.6. **(Added-AFSC)** Production closures of end items that will be installed on aircraft, aircraft closures, non-enclosed areas where safety of flight could be compromised and major component mating operations. A WCD task/operation or definitized list for performing a rag/FO inspection will be used. Include the statement 'Rag/FO inspection C/W' on the WCD. Production closure of end items that require closing/rag/FO inspections do not require a separate WCD or definitized list. ALCs may use an equivalent rag/FO inspection statement on the WCDs and definitized list. If technical data or TO provide guidance, a separate rag/FO inspection task/operation is not required. The technical data or TO will be annotated as 'IAW' on WCDs. Area will be immediately temporarily/permanently secured following the closing/installation inspections.

2.1.5.6.7. **(Added-AFSC)** After the initial work planning process is complete, the first level supervisor or higher has the primary responsibility for identifying additional operations for secondary certification requirements. The IET (maintenance planner) must work closely with the responsible supervisor to ensure all critical items identified in the technical data are included. Changes in workload requirements and technical data must be carefully screened for tasks/operations that meet the criticality criteria.

2.1.5.7. Multi-Task/Operation, Task/Operation, and Team Task/Operation Certification.

2.1.5.7. **(AFSC)** For Multi-Task/Operation, aka "short stamping", Task/Operation, and Team Task/Operation Certification. Multi-task/Operation, Task/Operation and Team Task/Operation Certification. Local procedures must be developed to document work completion for tasks that are accomplished by several individuals and/or for all work finished by more than one person due to shift change. When possible, the same individual or crew should perform multitask/operation work to maintain continuity. For multi-task/operation, task/operation, and team task/operation certifications, the person performing the last task/operation must certify on the WCD that the portion they performed was done correctly and verifies all previous tasks/operations have been stamped. All team members that are PAC certified who performed specific portions of the task/operations will be documented so that accountability can be maintained.

2.1.5.8. Changing Inspection/Certification Codes.

2.1.5.8. **(AFSC)** Inspection/certification codes can only be changed, in-work, by the following functions:

2.1.5.8.1. **(Added-AFSC)** Production supervisor can perform a one-time upgrade to an inspection/certification code if a secondary certification is desired. The production supervisor will also affix a 'P' stamp and date above the inspection block or locally identified area.

2.1.5.8.2. **(Added-AFSC)** A QAS can add a 'Q' code above block 29 of the AFSC Form 173 or in the 'Other/Insp' (third column) of the definitized list. On the AFSC Form 959, the QAS can add a 'Q' in block 20, third column identified with a 'Q'. On an ITS equivalent WCD, the QAS will add a 'Q' to the right of the current certification code block. All 'Q' entries will be done in red. The QAS will affix a stamp and date next to the manually entered 'Q' code on the applicable WCD. For downgrade of 'Q' coded WCDs or definitized lists, reference local guidance if applicable.

2.1.5.8.3. **(Added-AFSC)** Downgrades to an inspection/certification code. If the inspection code is a critical task coded as an 'I' or 'E', the planner, production supervisor, and QA shall stamp and date the WCD. Also place an informational note, in red, in the task description block or designated area. For a permanent downgrade to critical operations, the PPT must review and coordinate on the AFSC Form 500.

2.1.5.8.4. **(Added-AFSC)** Applicable only to MISTR workloads, prior to handwritten tasks/operations being added to WCDs on shop floor, the PPT will review and coordinated on an

AFSC Form 500. **Note**: During off-shift hours and weekends, the PPT may review and coordinate on the AFSC Form 500 on the next available workday.

2.1.5.8.5. **(Added-AFSC)** FCF and maintenance operational checks documentation will be IAW TO 00-20-1 and TO 1-1-300, Maintenance Operational Checks and Check Flights.

2.1.6. Rework data collection and analysis are essential to promoting efficient and effective processes. Rework is any work that is being re-accomplished to repair or replace failed material or end items or to correct a work discrepancy where the discrepancy is the direct result of incorrect workmanship after the acceptability or completion of the work task/operation or end item has been stamped on the WCD by production personnel.

2.1.6.1. Documentation of Rework.

2.1.6.1. **(AFSC)** The WCD is flagged with one red diagonal line drawn through the inspection certification block of the specific WCD operation where the workmanship defect or deficiency exists. Stamp and date the task description block inserting an informational note explaining the reason for rework. When it is necessary to rework an item, the item and the accompanying WCD retreat to the first step requiring re-accomplishment then the normal sequence is followed to completion.

2.1.6.2. Rework WCD.

2.1.6.2. **(AFSC)** A rework WCD is generated that includes all operations/tasks that must be re-accomplished and is attached to the original WCD. All rework operations/tasks are re-accomplished, stamped, and dated. Production count is not taken for rework.

2.1.6.2.1. **(Added-AFSC)** All WCDs used for rework will contain the header information of the original WCD. WCDs will be annotated ‘REWORK’ on the header of the WCD in red.

2.1.6.2.2. **(Added-AFSC)** Electronically generated rework WCDs do not require ‘REWORK’ in red.

2.1.7. Routed Items. Routing may be classified as either job routing or process routing. Routing may involve multiple RCCs/CCs) or may occur within a single shop.

2.1.7.1. Job Routing.

2.1.7.1. **(AFSC)** AFSC Form 137, or automated system produced equivalent shall be used when designated by the PPT to furnish routing and data to/from aircraft and support shops. When items are aircraft specific, the MDS and complete aircraft serial number (i.e., C130J 86-0092) shall be included along with the item control number, part number, and item serial number. AFSC Forms 137 is not to be used in lieu of a WCD. If the routed item work to be accomplished requires the performance of a maintenance task, an approved WCD will be developed or provided to the mechanic/technician for performance and certification of the maintenance task identified. Items routed between organizations using routed order documents require the tasked organizations to

develop a WCD in compliance with this supplement. Retention of AFSC Form 137 is not required as a depot historical record for aircraft or support shops since all work performed will be documented and certified on approved WCDs.

2.1.7.2. Process Routing.

2.1.7.2. **(AFSC)** Process routing consists of forwarding an item to a process shop and is an integral part of the overall repair effort but is not considered a job route. A process shop is defined as a depot maintenance function that provides conditioning support on component assemblies and materials, or essential support services for end items being repaired by other depot maintenance organizations. The following are examples of candidates for process routing: cleaning, plating, heat treat, welding, battery servicing, grinding, machining, NDI, check/test, and minor maintenance.

2.1.8. Non-programmed work.

2.1.8. **(AFSC)** Non-programmed work is work authorized by AFSC Form 206. AFSC Form 206 requiring maintenance shall have an approved WCD. The G004L-L3 will not be used as the WCD.

2.1.8.1. **(Added-AFSC)** The responsible planning organization will maintain the completed form(s) electronically or a completed hard copy form(s). The Planner will maintain the completed AFSC Form 500 as part of the permanent record. The AFSC Form 500 is the final and official record of the PPT and documents the issues/concerns discussed. Attach any required documentation to AFSC Form 500 as needed that supports the PPT (i.e., AFSC Form 957, Work Control Document (WCD) Change Request). A round table is not required for formal coordination.

2.1.8.2. **(Added-AFSC)** The AFSC Form 500, or contractor equivalent will be used to document review of contractor supplied WCDs. A round table is not required for coordination. Completing AFSC Form 500 electronically is encouraged. Instructions for completing AFSC Form 500 are provided in Table 2.4.

Table 2.4. Instructions for Completing an AFSC Form 500.

The instructions provided below are the mandatory and basic requirements for completing AFSC Form 500.		
BLOCK #	**TITLE**	**CONTENT**
	Date	Enter date in upper right hand Block.
1	Identify WCD Control Number(s)	Enter the task, Operation(s) and/or product number (PDN), i.e., 67387A, 00069B. If PDN has not been assigned by 801/206, enter – TBDI and the NSN, P/N Weapon System.

2	Identify WCD Number/Operations(s)	Enter the DCD and/or WCD number, i.e., Y0001R, I000D. If child WCDs are supporting a master/parent WCD in block 1, enter supporting child WCD control number in Block 2. (**See Note 1**)
3	Primary Format Used	Select appropriate box. If the system is not listed, select OTHER and enter system in the next Block, i.e., MPCS (D012).
4	Planning Reason	Select appropriate box to indicate type meeting. If not listed, select OTHER and enter type in next Block.
5 - 9	Check appropriate box for each question	Select appropriate box to the right of each question. If additional questions and/or information are required other than those in Blocks 5 – 9, annotate in Block 9. Justification N/A or NO selection for Blocks 5 – 9 can also be annotated in Block 9.
10	Comments	Annotate all PPT/PPPT supporting documentation and detailed meeting information, (e.g., PPPT/PPT Chairperson name, document changes to WCD, critical tasks/operations and justification, IAW TO info, tools, manpower, equipment, labor hours, AFMC Form 202s, AFTO Form 252s, process orders, etc.). Annotate in the block the list of attendees. (**See Note 2**)
11	Identify PPT Names and Phone Numbers	Electronic/manual signature is authorized. Each electronic AFSC Form 500 will contain entire name and contact phone number, select CONCUR, NONCONCUR or N/A, and sign and date electronically. The last member to sign electronically will email AFSC Form 500 to the appropriate planner. For hand scribed AFSC Form 500, each PPT/PPPT member will enter name and contact phone number, select CONCUR, NONCONCUR or N/A, and sign and date.
		The last member to sign will submit form to the appropriate planner.

Note:
1 – Separate AFSC Form 500 maybe developed for each child WCD.
2 - Date can be entered in the 'NAME' block along with name or 'CONTACT PHONE' block along with phone number. AFSC Form 500 must be signed and dated to be considered complete. If Block 10 is accomplished manually, please ensure all blocks are completed and that it is signed and dated in the 'SIGNATURE' block. Also, PAC manager/monitor can sign in Block 10 if required.
3 – List of attendees: Date can be entered in the 'NAME' block along with name or 'CONTACT PHONE' block along with phone number. Then click 'EMAIL' button at top of form which will set up an email with the AFSC Form 500 as attachment to send to next 'PPT' member. AFSC Form 500 must be signed and dated to be considered complete. If Block 10 is accomplished annually, please ensure all blocks are completed and that it is signed and dated in the 'SIGNATURE' block. If all signature blocks are filled and there is a requirement for the PAC manager/monitor to sign the AFSC Form 500 then they may sign in Block 10h, 'Other' if required.

2.1.8.3. **(Added-AFSC)** Due to space constraints on AFSC Form 173, the primary TOs may be the only ones referenced on the WCD. When the primary technical data applies to every sub-operation of the repair process, it is not necessary to repeat the technical data reference for each sub-operation. Other technical data referenced in the primary technical data are not required to be listed on the suboperation line. Sub-operations that require the use of independent technical data shall be referenced in the suboperation description block. Any sub-operation not listing independent technical data shall revert back to the primary technical data.

2.1.8.4. **(Added-AFSC)** WCD operations determined critical by the PPT or identified as 'IAW' shall not have any specification, tolerance, or other similar information identified within the task description block.

2.1.8.5. **(Added-AFSC)** The responsible planning organization shall maintain a control log of all WCDs containing specifications and tolerances. At a minimum, this log will identify the WCD control number and date of last PPT review, technical data number, basic date, the change date, and change number. If the technical data changes, the WCD shall subsequently be changed.

2.1.8.6. **(Added-AFSC)** The planner shall manually update all changes to WCDs on the production floor and annotate the statement ("**Note**: WCD specification updated due to a technical data change.") or equivalent statement in red at the top of the WCD header page. It does not have to be in red if electronically applied.

2.1.8.7. **(Added-AFSC)** The planner shall notify the production organization identifying the applicable WCD was updated because of a recent technical data change.

2.1.8.8. **(Added-AFSC)** Production Engineer, IET (maintenance planner), and RC/CC Supervisor are responsible for reviewing technical data changes and determining the impact to WCDs containing specifications and tolerances.

2.1.8.9. **(Added-AFSC)** Data Collection on WCDs. Provisions will be made to annotate measurements, laboratory/test/reports results, entries on AFTO Form 95, and time changes and calendar inspection items complied with on the WCD or attached data sheet when such annotation is required IAW TO 00-20-1. Requirements can be generated by technical data, the PPT, work specifications, quality plans, or when a precise audit trail is needed. Data sheets used to annotate measurements or laboratory/test/reports results will be attached to the WCDs. [Computer Program Identification Number (CPIN) loading or removal] which, if not performed, would compromise functionality and/or foreign or national security.

2.1.9. Deficiency Report (DR) Data. Deficiency data reported IAW TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution (DRI&R)*, to include aircraft/engine acceptance discrepancies must be analyzed by the Production Group Quality Assurance (QA) Office. Technical data and WCD problems contributing to reported defects must be corrected. Changes to these documents must be formally requested and tracked to ensure effectiveness as part of the corrective actions as appropriate. The QA program must provide feedback to managers and supervisors.

2.1.10. Condemned Parts WCD Documentation.

2.1.10. **(AFSC)** Condemned Parts WCD Documentation. When a part is condemned, the technician condemning the part will stamp and date the appropriate WCD certification block, enter in the specific task/operation description block the word ‘condemned’, and include the word ‘condemned’ on the first page of the WCD. No technician documentation is required for operations that will not be completed due to parts condemned.

2.1.11. WCD Change Request Procedures.

2.1.11. **(AFSC)** AFSC Form 957 is prescribed to identify additions, deletions, and corrections to an existing WCD and may also be used to recommend action be taken to create a new WCD. Electronic systems capable of generating the same requirements of the AFSC 957 may be used.

2.1.11.1. **(Added-AFSC)** The person identifying the need for a change on the WCD will initiate the request to planning by completing AFSC Form 957, Part 1. For administrative changes (e.g., typos, spelling, grammar, etc.), this process is not required.

2.1.11.2. **(Added-AFSC)** When changes to a RC/CC are required, both the old RC/CC and new RC/CC supervisors’ signatures will be required. Both the old RC/CC and new RC/CC supervisors’ CAC enabled acknowledgment will be required when using local electronic systems.

2.1.11.3. **(Added-AFSC)** The supervisor will forward the request to the appropriate planning organizations.

2.1.11.4. **(Added-AFSC)** The responsible IET (maintenance planner) will complete the following actions within 15 working days: (**Note**: If the request cannot be corrected/completed with 15 working days, attach, or add comments/justification to the AFSC Form 957 indicating reasoning for the correction/completion delay.)

2.1.11.5. **(Added-AFSC)** Complete Part II of the request indicating the request was accepted or explain why the request was not accomplished.

2.1.11.6. **(Added-AFSC)** Input changes to the WCD as required.

2.1.11.7. **(Added-AFSC)** Maintain AFSC Form 957 electronically or in planning jacket.

2.1.12. Roles and Responsibilities. HQ AFSC will develop and document roles and responsibilities for the following:

2.1.12.1. PPT.

2.1.12.1. **(AFSC)** PPT will:

2.1.12.1.1. **(Added-AFSC)** Assist in the development of the WCD for programmed workloads.

2.1.12.1.2. **(Added-AFSC)** Provide and receive input between Groups for routed items.

2.1.12.1.3. **(Added-AFSC)** Review inspection/certification codes, technical data, and safety requirements.

2.1.12.1.4. **(Added-AFSC)** Identify in the WCD any task as determined as critical using the definition of a CSI as guidance. A CSI is defined as a part, an assembly, installation equipment, launch equipment, recovery equipment, or support equipment for an aircraft or aviation weapon system if the part, assembly, or equipment contains a characteristic where any failure, malfunction, or absence of which could cause a catastrophic or critical failure resulting in the loss or serious damage to the aircraft or weapon system, an unacceptable risk of personal injury or loss of life, or an uncommanded engine shutdown that jeopardizes safety. CSIs include items determined to be ‘life limited’, ‘fracture critical’, ‘fatigue sensitive’, etc. Damage is considered serious or substantial when it would be sufficient to cause a ‘Class A’ accident or a mishap of severity category I. The determining factor in CSIs is the consequence of failure not the probability that the failure or consequence would occur. Items formerly identified as ‘flight safety part’, ‘flight critical part’, ‘flight safety critical aircraft part’, or ‘safety of flight item’ are considered CSIs.

2.1.12.1.5. **(Added-AFSC)** Identify tool, equipment, ground handling, and mockup requirements as required. Review all applicable technical data and determine the availability and adequacy of the above items.

2.1.12.2. IET Planner.

2.1.12.2. **(AFSC)** IET/Planner will:

2.1.12.2.1. **(Added-AFSC)** Develop WCDs from approved technical data. This instruction or other directives do not authorize use of unapproved or uncontrolled technical data of any kind. The

procedures as documented in this supplement will be carefully followed and supported to ensure products and services meet all technical requirements.

2.1.12.2.2. **(Added-AFSC)** Ensure all MWRs are processed through the MWR system process.

2.1.12.2.3. **(Added-AFSC)** Serve as chairperson of the PPT.

2.1.12.2.4. **(Added-AFSC)** Ensures development, preparation, revision, and review of WCDs and definitized lists, and the accuracy of their technical contents. When informed of technical data, SOW, and work scope changes, WCDs will be reviewed and updated as required.

2.1.12.2.5. **(Added-AFSC)** Notifies the scheduling function, production supervisor, and engineering function as appropriate when revisions are made to WCDs that directly impact the form, fit, or function of the operation process.

2.1.12.2.6. **(Added-AFSC)** Performs a review and update of WCDs when work scope, technical data, or engineering changes are processed with the applicable PPT members to ensure they contain all steps necessary for tasks/operations performed by the mechanics. The IET/Planner will review affected WCDs to ensure accuracy and currency. Review of WCDs will include confirmation of the availability of complete and accurate technical data, that the work process complies with all applicable requirements, and validation of inspection codes. This review will be documented on AFSC Form 500.

2.1.12.2.7. **(Added-AFSC)** Maintains an electronic or hard copy file of all WCD change requests (i.e., AFSC Form 957) IAW paragraph 2.1.11.

2.1.12.2.8. **(Added-AFSC)** Shall access the applicable Process Order.

2.1.12.2.9. **(Added-AFSC)** After the appropriate Production Engineer develops/approves the process order and ensures a validation/verified was performed, the IET (maintenance planner) shall ensure the process order number is identified on the required WCD/ task operation.

2.1.12.2.10. **(Added-AFSC)** Participates in the AFMC Form 202 process and maintains documentation, electronically or hard copy, as required by AFMCMAN 63-1202.

2.1.12.2.11. **(Added-AFSC)** Maintains and stores the latest electronic or hardcopy WCD/work package.

2.1.12.2.12. **(Added-AFSC)** Electronic Reviews. Reviews without hard copies are authorized and encouraged as long as the accuracy and integrity of the documents can be maintained, and the minimum documentation is accomplished as required by this and other applicable instructions. The process must have sufficient built-in safeguards (e.g., PINS, electronic signatures, passwords, firewalls, etc.) to ensure system integrity and security are maintained and that a reliable audit trail is maintained. The records must be maintained as prescribed in AFRIMS.

2.1.12.3. Production Supervisor.

2.1.12.3. **(AFSC)** Production Supervisor will ensure.

2.1.12.3.1. **(Added-AFSC)** Subordinates are familiar with the directives governing their duty assignments.

2.1.12.3.2. **(Added-AFSC)** The most recent authorized technical data is used.

2.1.12.3.3. **(Added-AFSC)** Personnel are advised of any significant changes in new, revised, or changed technical data.

2.1.12.3.4. **(Added-AFSC)** Emphasis is placed on all changes that are critical or safety related (i.e., cautions/warnings).

2.1.12.3.5. **(Added-AFSC)** New, revised, or changed technical data is reviewed to determine if it affects the qualifications/certifications of personnel and the entries on the WCDs or definitized lists.

2.1.12.3.6. **(Added-AFSC)** If these areas are impacted, steps are taken to bring both personnel and WCDs into conformance with the new requirements. The supervisor shall notify the training and planning organizations of any significant changes.

2.1.12.3.7. **(Added-AFSC)** Attendance at the PPT meeting.

2.1.12.3.8. **(Added-AFSC)** Assistance in the development of WCDs as needed.

2.1.12.3.9. **(Added-AFSC)** Review of the WCD/work package documentation for confirmation of inspection and certification codes IAW requirements and critical tasks/operations.

2.1.12.3.10. **(Added-AFSC)** Identification and review of PAC tasks and secondary certification requirements on the WCD for accuracy. Coordinate with the Group PAC Manager to ensure PAC tasks relate to the work described in the WCD operation task description block.

2.1.12.3.11. **(Added-AFSC)** Review of new, revised, or changed publications. Provide recommendations to the planning team concerning revisions to WCDs.

2.1.12.3.12. **(Added-AFSC)** Availability of required technical data in the work center.

2.1.12.3.13. **(Added-AFSC)** Review of completed WCDs for accuracy and completeness. Ensure all rework documentation is attached if applicable. Ensure completed WCDs and all required supporting documentation are available to the Production Controller/Scheduler.

2.1.12.3.14. **(Added-AFSC)** In conjunction with the Production Controller, prepare routing documents when none are preprinted.

2.1.12.3.15. **(Added-AFSC)** Notification to QA prior to accomplishing tasks/operations requiring ‘Q’ stamp

2.1.12.4. Maintenance Technician/Mechanic.

2.1.12.4. **(AFSC)** Maintenance Technician/Mechanic will:

2.1.12.4.1. **(Added-AFSC)** Certify completion of a PAC inspection/certification coded task by stamping and dating the WCD. When a task/operation listed on a WCD is not or will not be accomplished, an annotation of not required (NR), not applicable (NA), previously complied with (PCW) or satisfactory as is (SAI), will be indicated in the applicable task/operation description block. The IET (maintenance planner) is the only one authorized to delete a planned requirement for any planned/unplanned operation for aircraft/missiles or commodities.

2.1.12.4.2. **(Added-AFSC)** Any aircraft specific technician annotating on a WCD an operation as NR, NA, PCW, or SAI, will notify the Production Supervisor or IET (maintenance planner) so the applicable task/operation can be deleted as required. Place an informational note in the task description block explaining why the task was not accomplished. The technician will stamp and date the WCD in the task description block, not the PAC certification block. When a task/operation listed on a WCD is NR, NA, PCW, or SAI, the planner will stamp and date in the applicable task/operation block, not the PAC certification block. The IET (maintenance planner) is not required to stamp individual steps identified as NR, NA, PCW, or SAI on definitized guides.

2.1.12.4.3. **(Added-AFSC)** (Exchangeables/Local Manufacture Only). For MISTR and temporary 206 workloads, the supervisor or IET (maintenance planner) is not required to be notified. The MISTR/temporary workload which has 100 percent mandatory operations requiring a WCD modification of NR, NA, PCW, or SAI, the technician will annotate the WCD operation as NR, NA, PCW, or SAI, and will provide explanation why the operation was not accomplished, stamp and date the WCD in the task/operation description block, not the PAC certification block. For WCDs which are not 100 percent mandatory and is governed by inspection criteria that have required/not required blocks on the WCD, do no need to provide annotation to the operation. The technician will stamp the appropriate required/not required block.

2.1.12.4.4. **(Added-AFSC)** When a WCD contains consecutive operations that will not be required, a large hand scribed ‘Z’ shall be lined out through the operations. The mechanic shall include within the ‘Z’ a statement describing the reason the marked out operations are not required. The technician will stamp and date beside the statement.

2.1.12.4.5. **(Added-AFSC)** Ensure all stamps and dates on WCDs are clear and legible. Any date format is acceptable providing the date can be determined. The month may be identified using alpha or numerical characters (e.g., Jan, Feb, Mar, or 01, 02, 03, etc.).

2.1.12.4.6. **(Added-AFSC)** A technician who makes a documentation error or stamps or dates a WCD illegibly or in error, shall write in red 'VOID' across the impression. The technician shall enter the correct documentation and re-enter a legible stamp or date.

2.1.12.4.7. **(Added-AFSC)** Submit a 'Request for Change to WCD' to Planning through the supervisor for WCD discrepancies using AFSC Form 957.

2.1.12.4.8. **(Added-AFSC)** Initiate a WCD/MWR or notify the supervisor when stumble-on (unpredictable, unplanned) tasks/operations are identified to ensure a WCD is created to identify all disturbed systems and follow-on maintenance actions.

2.1.12.4.9. **(Added-AFSC)** Document the AFTO Forms 781 and other aircraft forms IAW TO 00-20-1 when required.

2.1.12.4.10. **(Added-AFSC)** Notify supervisor prior to accomplishing tasks/operations requiring 'Q' stamp.

2.1.12.5. Production Controller/Scheduler.

2.1.12.5. **(AFSC)** Production Controller/Scheduler will:

2.1.12.5.1. **(Added-AFSC)** Serve as a member on the PPT when requested.

2.1.12.5.2. **(Added-AFSC)** Purge in-process WCDs and reprint when notified by the IET (maintenance planner).

2.1.12.5.3. **(Added-AFSC) Note**: In areas that have a Records Section, production controller/scheduler will forward completed WCDs to the Records Section where the documents will be retained electronically or hard copy.

2.1.12.5.4. **(Added-AFSC)** Prepare, in conjunction with the Production Supervisor, routing documents when none are preprinted.

2.1.12.5.5. **(Added-AFSC)** Enter item serial number on the WCD when the item is delivered for work when applicable.

2.1.12.5.6. **(Added-AFSC)** Distribute and receive WCDs when applicable.

2.1.12.5.7. **(Added-AFSC)** Review, stamp (Scheduler 'C' stamps), and date the completed WCDs to ensure all required certification blocks have been stamped and dated. If the WCD is not complete or contains documentation errors, notify the production supervisor for correction. The scheduler will not process D6M (i.e., sell) transaction for end items prior to reviewing and 'C' stamping WCDs. A local procedure can be developed for aircraft process (for the amount of time for the scheduler to complete).

2.1.12.5.8. **(Added-AFSC)** Local procedures can be developed for scheduler to review multiple ‘173 cards’ and stamp/date on one ‘173 card’ to certify review.

2.1.12.6. QA.

2.1.12.6. **(AFSC)** Quality Assurance (QA). When required, QA will serve as a member of the PPT and assist in the development of the WCD by identifying quality (Q) inspection code and any other quality requirements contained in the QAP for that workload.

2.1.12.7. ALC Production/Process Engineering.

2.1.12.7. **(AFSC)** ALC Production/Process Engineering will:

2.1.12.7.1. **(Added-AFSC)** Provide input to the PPT for the development of the WCDs by identifying critical characteristics used in the identification of critical tasks/operations for that workload including those associated with CSIs.

2.1.12.7.2. **(Added-AFSC)** Attend or designate a representative to the PPPT and PPT meetings.

2.1.12.7.3. **(Added-AFSC)** Prepare and maintain Process Orders.

2.1.12.7.4. **(Added-AFSC)** Process Orders are locally developed technical data used at the ALCs. The intent must not be to develop and use a process order(s) in lieu of official technical data that is available and can be used. If the Process Order coordination process creates a work stoppage, group engineering will notify the production supervisor/IET (maintenance planner) to initiate an AFMC Form 202. A Process Order may be developed:

2.1.12.7.4.1. **(Added-AFSC)** When there is a unique requirement to describe specific applications, procedures, techniques, shop practices, and methods to complement approved technical data.

2.1.12.7.4.2. **(Added-AFSC)** Establish procedures for locally designed equipment, fixtures, templates, etc.

2.1.12.7.4.3. **(Added-AFSC)** Establish procedures for equipment operation where COTS manuals are not available or are inadequate.

2.1.12.7.4.4. **(Added-AFSC)** Combine requirements from multiple sources of technical data into one procedure from existing technical data.

2.1.12.7.4.5. **(Added-AFSC)** Establish alternative procedures to prevent production delays due to the configuration of the aircraft, missile, or commodity during depot maintenance (i.e., systems/components inoperable or disassembled for long periods of time).

2.1.12.7.5. **(Added-AFSC)** Development of Process Orders. The appropriate engineering organization will use Process Order Development and Display System (PODDS) to develop Process Orders. Process Orders will be controlled as technical data in production areas. The

applicable engineering organization shall maintain the Process Order master file. The Process Order number will be determined locally. A Process Order shall be prepared IAW Figure 2.1.

2.1.12.7.6. **(Added-AFSC)** The applicable Production Engineering organization and the PPT shall determine Process Order requirements. The applicable Production Engineering organization is the OPR for the development, control, monitoring, distribution, and deletion of Process Orders. Production Engineering can request technical expertise from organizations as required.

2.1.12.7.7. **(Added-AFSC)** If a Process Order contains verbatim TO information, the Process Order will be reviewed each time the subject TO is changed for currency. If the Process Order does not contain verbatim TO information, the Process Order will be reviewed every two years for currency. The OPR will update process orders as required and the distribution function will update the master Process Order index.

2.1.12.7.8. **(Added-AFSC)** A Process Order containing verbatim technical data information shall have the technical data number, basic date, change date, and change number identified under the heading 'Reference Publications' or other similar title.

2.1.12.7.9. **(Added-AFSC)** Development of Process Orders. The appropriate engineering organization will use Process Order Development and Display System (PODDS) to develop Process Orders. Process Orders will be controlled as technical data in production areas. The applicable engineering organization shall maintain the Process Order master file. The Process Order number will be determined locally. A Process Order shall be prepared IAW Figure 2.1.

2.1.12.7.10. **(Added-AFSC)** If the technical data change results in a change to the Process Order, the following statement or equivalent shall be entered on the Process Order '**Note**: Process Order Updated Due to a Technical Data Change.'

2.1.12.7.11. **(Added-AFSC)** The Process Order shall be updated to reflect the latest technical data change dates and change numbers even if there were no changes affecting the procedures contained on the process order. If no Process Order procedures have been affected, process engineers may update the title page with technical data version date and change number without re-coordinating the entire Process Order.

2.1.12.7.12. **(Added-AFSC)** Process Orders containing technical data (i.e., torque values, dimensions, tolerances, and specifications) shall be monitored to ensure that when technical data changes are made the applicable Process Order is reviewed and updated. Engineering, planning, and production are responsible for reviewing technical data changes and determining the impact to Process Orders.

2.1.12.7.13. **(Added-AFSC)** Process Orders shall not compromise form, fit, or function of an aircraft/missile or commodity.

2.1.12.7.14. **(Added-AFSC)** Local procedures may be developed for Process Engineers to make Process Order 'Red Line' Changes.

2.1.12.7.15. **(Added-AFSC)** The applicable process engineering organization will ensure the Process Order contains the required 'Warnings, Cautions, and Notes'.

2.1.12.7.16. **(Added-AFSC)** Process Order Scientific and Technical Information (STINFO) Markings. Markings on Process Orders will be IAW DAFI 61-201.

2.1.12.7.17. **(Added-AFSC)** Distribution Statement. If the Process Order is tied to a TO, use the same stringent distribution statement as the TO. If the Process Order is tied to more than one TO, use the most stringent distribution statement among the TOs. If the Process Order is not tied to a TO or any other document incorporating a distribution statement, the developing engineering office will assign the appropriate distribution statement. Reference TO 00-5-1 to determine and assign the applicable distribution statement.

2.1.12.7.17.1. **(Added-AFSC)** Export Control Warning. Use 'WARNING—Export Controlled'.

2.1.12.7.18. **(Added-AFSC)** Prior to Process Order formal implementation and distribution, the applicable engineering organization will schedule a formal Process Order validation/verification (VAL/VER). The VAL/VER will be performed by production and requires 100 percent hands-on performance of all procedural (e.g., operational, maintenance, calibration, equipment set-up, etc.) tasks contained within the Process Order. The Process Order VAL/VER will be documented and maintained by the applicable engineering organization. **Note:** Process Orders developed prior to this change are exempt from performance of VAL/VER as the Process Orders have been in use in maintenance production areas.

Figure 2.1. Guidelines for Preparing a Process Order.

General Information - This section provides information about the overall process. Process orders are either oriented to a specific process or to a component. Content depends upon the complexity and criticality of the process. If a process order contains verbatim technical data information, the technical data number, basic date, change date, and change number shall be identified under the heading 'Reference Publications' or other similar title.

Process oriented:

- Process references.
- Military/commercial standards that apply.
- Quality plan.
- Other directives and operating procedures that applies.
- The typical production sequence or flow.
- The method or procedure to qualify the process (e.g., first article, certification team, etc.).
- Process controls that will be used.
- The method and frequency of sampling.
- Specific quality requirements.
- Limits for product characteristics.
- Any general parameters that apply.
- Equipment.
- The equipment capabilities and work environment.
- The installation requirements and qualification.
- Preventive maintenance requirements.
- The procedure for qualification of the process and approval methodology.
- List of process operation sheets and/or other procedure specifications.
- Non-conforming material or process results.
- List of applicable Process Operation Sheets (POS) and/or Procedure Specifications.

Component oriented:

- Title.
- Name of part/process POS as applicable.
- Date of original issue.
- Reaffirmed date.
- Revision number.
- The part number(s) the process order supports.
- The technical data that applies.
- Clear and concise instructions on how to perform the operations on the components (Note: All requirements must be consistent with the applicable technical data).
- Any critical considerations or other workmanship criteria (secondary certification may be required on the WCD).

Procedure: This is the how-to instruction to include cautions and warnings that apply.

- TO reference will be identified to the specific TO paragraph when verbatim information is utilized.
- Specific component repair equipment parameter settings.

Safety Notes: Identifies any steps or materials that present safety hazards to include environmental impact.

Figure 2.1. Cont. Guidelines for Preparing a Process Order.

Coordination: List the coordination required for the process order.
Not necessarily in this order, however as a minimum, the following organizations will coordinate, sign, and date the process order:
- Production
- Planning
- Quality Assurance
- Safety
- Applicable Engineering Organization
- As required, other organizations may be requested to coordinate, sign, and date the process order.

Local procedures shall be developed for the coordination of electronic generated Process Orders and WCDs.
The completed process order is approved by the applicable Production Engineer of the responsible engineering function by signing block 13. This organization is the OPR for the process order.

Note: The completed process order is approved by the applicable process engineer of the responsible engineering function by signing block 13. This organization is the OPR for the process order.

2.1.12.8. WCD Focal Point.

2.1.12.8. **(AFSC)** WCD Focal Point will be the central focal point for administering the WCD Program on all Industrial Engineering Technician (IET) training and reporting requirements, interpret policy guidance, and provide functional support.

2.1.13. Stamps. Stamps are used by maintenance personnel to denote status on WCDs. Maintenance stamps will be issued to maintenance personnel to certify, by stamping and dating, that the work has been accomplished and completed as required by specified technical data. **Note:** Electronic stamps are acceptable. Use of initials and employee numbers are not permitted. HQ AFSC will develop:

2.1.13.1. Procedures to maintain control of maintenance stamps will include, at a minimum, the following:

2.1.13.1.1. Designation of organization responsible for issue and control of stamps.

2.1.13.1.2. Administrative procedures/criteria for request, control, accountability, revocation and recall of stamps.

2.1.13.1.3. Documentation of request, issue receipt relocation, loss, and annual inventory of stamps.

2.1.13.1.4. Only stamps issued and controlled through the organization Stamp Monitor will be used for the certification/verification of depot maintenance.

2.1.14. Electronic Stamps. HQ AFSC will develop, implement, and maintain standardized procedures for the issue, use, and control of electronic stamps.

2.1.14.1. **(Added-AFSC)** AFSC approved computer systems generated WCDs without hard copies are authorized and encouraged as long as the accuracy and integrity of the documents can be maintained, and the minimum documentation is accomplished as required by this and other applicable instructions.

2.1.14.2. **(Added-AFSC)** ADPSs that have the capability, electronic completion, and certification of WCDs shall include PAC and supervisory certifications. These systems must have sufficient built-in safeguards (e.g., PINS, electronic signatures, passwords, firewalls, typed maintained. The records shall be maintained IAW AFRIMS.

2.1.15. The stamps listed below have mandatory issue and use requirements and may only be issued to and used for the purpose specified.

2.1.15.1. Maintenance Stamp (M).

2.1.15.1. **(AFSC)** (M) Maintenance Stamp. A stamp issued to production maintenance personnel for certifying accomplished maintenance tasks. (M) stamps will not be used to certify work unless the mechanic has met all required qualification and training requirements identified under the PAC Program.

2.1.15.2. Scheduler Stamp (C).

2.1.15.2. (C) Scheduler Stamp. Issued to the scheduler to ensure all required certification blocks have been completed.

2.1.15.3. Non-Destructive Inspection (NDI) Stamp (N).

2.1.15.3. **(AFSC)** (N) NDI Stamp. Issued to NDI PAC certified mechanics. Mechanics must be trained and qualified in NDI maintenance tasks prior to being issued an (N) stamp.

2.1.15.4. Production Supervisor Stamp (P).

2.1.15.4. **(AFSC)** (P) Production Supervisor Stamp. Issued to production supervisors to certify or change inspection codes on maintenance WCDs. Stamps are required for WCD related responsibilities.

2.1.15.5. Planning Stamp (IET).

2.1.15.5. **(AFSC)** (IET) Planning Stamp. Issued to the IET (maintenance planner) to verify or change requirements on maintenance WCDs. Stamps are required for WCD related responsibilities

2.1.15.6. Test Technician Stamp (T).

2.1.15.6. **(AFSC)** (T) Test Technician Stamp. Issued to qualified and PAC certified test operators whose function is to test weapon systems components IAW technical data, specification, safety, and other applicable directives.

2.1.15.7. Quality Stamp (Q).

2.1.15.7. **(AFSC)** (Q) Quality Stamp. Issued to the QAS to ensure certification and verification of inspection, when required, on WCDs are complete. Stamps are required for WCD related responsibilities

2.1.15.8. Required Inspection Stamp (RII).

2.1.15.8. **(AFSC)** (RII) Required Inspection Item. A stamp issued to select aircraft Quality Assurance Specialists that have been trained on AFSCI 62-603, *Military Repair Station Program* and applicable Federal Aviation Administration (FAA) requirements. RII inspectors are responsible to observe critical tasks that, if not performed properly, or is done with improper parts or materials, could result in a failure, malfunction, or defect, endangering the safe operation of the aircraft. RII tasks are determined by the organization and identified on a RII List specific to the affected FAA certified Commercial Derivative Aircraft. RII inspectors will stamp the WCD along with technicians upon satisfactory completion of task. RII tasks cannot be waived. All RII inspectors shall be listed on a special certification roster.

2.1.15.9. Final Inspector Stamp (FI).

2.1.15.9. **(AFSC)** (FI) Final Inspector Stamp. A stamp issued to select commodity subject matter experts that are skilled technicians, trained on AFSCI 62-603 and applicable Federal Aviation Administration (FAA) requirements. FI inspectors are responsible to inspect and verify proper repair/overhaul of Military Repair Station (MRS) components that require FAA certification. MRS components must be stamped by an FI inspector to be deemed serviceable. (FI) stamps certifies the repaired/overhauled component meets MRS and FAA airworthiness requirements and is returned to service. All FI inspectors shall be listed on a special certification roster.

2.1.15.10. Maintenance Review Team (MRT) and Project Administration Officer (PAO) Stamps (Program Office use only).

2.1.15.10. **(AFSC)** (MRT) and (PAO) Stamps. Stamps are issued to designated members of the MRT to certify authorization for work. Hand scribed AFSC Form 173 WCDs are not considered approved and cannot be used to perform maintenance unless stamped and dated by the MRT or IET (maintenance planner). Electronic signatures and dates using PDMSS are acceptable.

2.2. Technical Data. Technical data used in depot maintenance must be complete, accurate, effective, and efficient. Maintenance personnel, at all levels, are responsible to report deficiencies and make improvements in a timely manner, where applicable. When work cannot be performed using the TO as written, an authorized deviation must be processed and approved IAW the procedures in Air Force Materiel Command Manual (AFMCMAN) 63-1202, *Air Force Materiel Command Engineering Technical Assistance Request (ETAR) Process*.

2.2. (AFSC) It is the responsibility of maintenance personnel at all levels, including SPO personnel, to ensure deficiencies are reported in a timely manner and improvements made when authorized. The AFTO Form 22, Technical Manual (TM) Change Recommendation and Reply, is processed IAW TO 00-5-1 or the AFMC Form 202 and is sent to the appropriate engineering/planning function which processes the request IAW AFMCMAN 63-1202. Engineering ‘red-line’ changes to technical data already in sustainment shall have an AFMC Form 202, and AFTO Form 252, stamped special handling, if needed authorizing the use of the 'red-line' TO. For contractor engineering ‘red-line’ changes to the contractor CMM when the Air Force is performing as a partner under a Contractor Logistics Support (CLS) agreement, a letter from the contractor engineer shall be required authorizing the use of the ‘red-line’ changes to a contractor developed and distributed CMM.

2.2.1. Only current and verified Technical Data will be used for depot maintenance. Process and procedures on the use and control of Technical Data will be IAW TO 00-5-1.

2.2.2. HQ AFSC will develop procedures to control other forms of technical data when extracts are made (e.g., engineering drawings/Mylars, D-2 drawings, process specifications, Commercial Maintenance Manuals [CMMs], Commercial Off The Shelf [COTS] products, etc.) IAW AFI 63-101/20-101. These procedures will be approved by the AFSC/CC. For additional information reference TO 00-5-1, paragraphs 3.11.4. and 7.4.

2.2.3. Technical Data Extracts. Extracts are ‘printed or downloaded’ copies of any technical information including contractor technical data from authorized electronic repositories/databases or from authorized paper technical data libraries, (e.g., copies of TOs, Process Orders, Mil-Stds, a Special Handling (SH) Air Force Technical Order (AFTO) Form 252, *Technical Order Publication Change Request*, Engineering drawings/blueprints, Mylars, Electronic Work Instructions, Technical Manual Work Instructions, Process Specifications, etc.). Technical Data downloaded from authorized repositories and/or paper technical data are considered organizational property. At no time will technical data or portions of technical data be copied, e- mailed or provided to an unauthorized user (contractor, individual, etc.).

2.2.3. **(AFSC)** If formal TOs are not available or the use of electronic TOs is too impractical for a specific task, a locally printed TO extract may be used for seven calendar days, verified, and stamped for additional use. Locally printed technical data extracts are engineer drawings/Mylar, D-2 drawings, process specifications, commercial maintenance manuals (CMMs), COTS, 202's DTAR, SQAR etc.

2.2.3.1. Use of written CEA technical data is authorized when there is no formalized technical data available.

2.2.3.2. Use of unapproved technical data (e.g., notes, Statements of Work [SOWs], WCDs, manuals, drawings, emails, etc.) including uncontrolled copies of formal TOs is prohibited.

2.2.3.3. Work Specs (e.g., SOWs, etc.) are not an authorized source of technical data. The contractor's SOW may be considered an authorized source of technical data when approved by the cognizant or System Program Office (SPO)/ Supply Chain Manager (SCM) Engineering Authority.

2.2.4. Specific TOs take precedence over general TOs. When specific TOs does not contain procedures or processes (e.g., cleaning, plating, etc.), general TOs containing this information will be used. If there is a difference in requirements between these documents, the more stringent requirement applies.

2.2.5. The current version of TOs will always be used. For all dual based TOs (i.e., hard copies and electronic distribution), the units will consider the 'medium of primary use' at the point of maintenance as the current version. For aircraft in storage at Aerospace Maintenance and Regeneration Group (AMARG), use the technical data prescribed by the requesting authority.

2.2.6. When a depot production area is required to perform maintenance using a TO identified as 'preliminary', the Program Manager/Supply Chain Manager (PM/SCM) Chief Engineer will authorize the use of the 'preliminary' TO IAW TO 00-5-3, *Air Force Technical Order Life Cycle Management.*

2.2.7. Technical Data Procedures. HQ AFSC will develop, implement, and maintain technical data procedures for the following:

2.2.7.1. Technical data extracts.

2.2.7.1. **(AFSC)** Technical data extracts and pages of technical data are permitted. This includes digital technical data where portions are printed. The requirements for control of technical data extracts are as follows:

2.2.7.1.1. **(Added-AFSC)** The technical data title page will be printed, dated, and stamped with a maintenance stamp.

2.2.7.1.2. **(Added-AFSC)** Personnel not assigned a maintenance stamp will legibly print their first name initial and last name on the technical data title page.

2.2.7.1.3. **(Added-AFSC)** The required pages from technical data will be attached and/or placed in a binder under the technical data title page.

2.2.7.1.4. **(Added-AFSC)** Extended use extracts will be reviewed for currency minimally every seven calendar days. If the extract is needed for more than seven calendar days, line out the old date and write the new date in on the technical data title page. For compliance purposes, repeat this process every seven calendar days until no longer needed.

2.2.7.1.5. **(Added-AFSC)** Anyone authorized and able to print technical data extracts may print an extract for another authorized individual lacking the ability to do so. The recipient of the extract is responsible for the control and currency of the technical data extract.

2.2.7.1.6. **(Added-AFSC)** If multiple extracts are required, the extracts can be placed into a binder with an index sheet. The index sheet will be maintained in the front of the binder and will identify all the technical data extract numbers contained within the binder. The index sheet will be stamped and dated showing required currency review checks of the documents contained within the binder. There is no need to stamp and date each extract maintained within the extract binder. If a technical data extract is removed from the binder, the removed extract must be reviewed, stamped, and dated again.

2.2.7.1.7. **(Added-AFSC)** Printed technical data extract will also contain a required supplement, AFMC Form 202, AFTO Form 252, stamped special handling if necessary, if it affects the maintenance processes being performed.

2.2.7.1.8. **(Added-AFSC)** Any extract not dated, not stamped, or does not have the printed name of the individual and date on the technical data title page is considered an ‘uncontrolled copy’.

2.2.7.2. Engineering Drawings.

2.2.7.2. **(AFSC)** Engineering Drawings. Anyone authorized and able to print engineering drawings may print an extract for another authorized individual lacking the ability to do so. The recipient is responsible for the control and currency of the document. The recipient of the drawing will stamp and date the top front side of the document. If the recipient of the drawing is not assigned a maintenance stamp, the individual will legibly print their first name, initial, and last name, and date on the top front side of the drawing. Extended use extracts will be reviewed for currency minimally every 90 calendar days. If the extract is needed longer than 90 calendar days, line out the old date and write the new currency revalidation date on the drawing. Engineering drawings no longer needed will be destroyed and disposed of properly.

2.2.7.2.1. **(Added-AFSC)** If multiple drawing extracts are required, the extracts can be placed in a binder with an index sheet. The index sheet will be maintained in the front of the binder and will identify all drawing extract numbers contained within the binder. The index sheet will be stamped

and dated showing required currency review checks of the documents contained within the binder.

2.2.7.2.2. **(Added-AFSC)** There is no need to stamp and date each extract maintained within the extract binder. If a drawing extract is removed from the binder, the extract will be reviewed and stamped again.

2.2.7.3. Mylars.

2.2.7.3. **(AFSC)** Mylars. Anyone authorized and able to print mylars may print an extract for another authorized individual lacking the ability to do so. The recipient is responsible for the control and currency of the document. Mylars will be labeled with a piece of tape reflecting the review date along with a stamp. If the recipient of the mylar is not assigned a maintenance stamp, the individual will print their first name, initial, and last name, and date on tape. If the mylar is needed greater than 90 days, line out the old date and write the new currency revalidation date on the mylar tape. Mylars no longer needed will be returned to the owning organization.

2.2.7.3.1. **(Added-AFSC)** Archived Drawings/Mylars. When a drawing or mylar is no longer required for current workload(s) but will be used in the future, these documents will be placed in an archive area for storage. A master inventory listing will be maintained of all documents placed in an archived area.

2.2.7.3.2. **(Added-AFSC)** If a specific drawing or mylar is required to be used again, currency will be validated prior to reuse by production. The document will be signed out using the AF Form 614, Charge Out Record, or the use of a sign-out control log.

2.2.7.4. Process Specifications.

2.2.7.4.1. **(Added-AFSC)** Contractor Managed Process Specifications (PSs). PSs will be placed in a numbered binder. Binders will contain a PS inventory sheet in the front of the binder. This inventory sheet will identify title, PS number, version, and version date, and will be stamped and dated by the contractor who is required to review, update, and keep PSs current. If the contractor does not have a stamp, the contractor shall date, print first name, initial, and last name on the inventory sheet.

2.2.7.4.2. **(Added-AFSC)** Planning Managed PSs. PSs will be placed in numbered binders. Binders will contain a PS inventory sheet in the front of the binder. This inventory sheet will identify title, PS number, version, and version date, and will be stamped and dated by the planner who is required to review, update, and keep PSs current.

2.2.7.4.3. **(Added-AFSC)** Production Managed PSs. PSs will be placed in numbered binders. Binders will contain a PS inventory sheet in the front of the binder. This inventory sheet will identify title, PS number, version, and version date, and will be stamped and dated by the RC/CC supervisor or designee who is required to review, update, and keep PSs current.

2.2.7.4.4. **(Added-AFSC)** PS Use. Technicians will sign out required PS binder using the AF Form 614 (i.e., 'pinky'). Technicians will follow all Tech Data sign-out procedures.

2.2.7.4.5. **(Added-AFSC)** If a technician must use only one PS contained in a PS binder, the technician will verify currency via the index sheet (i.e., resolve any currency conflicts prior to use with PS POC), sign out the required PS on the AF Form 614, and place the AF Form 614 within the binder in the exact sequence where the PS was removed from. Technician will follow all Tech Data sign-out procedures for removing a PS from a binder.

2.2.7.4.6. **(Added-AFSC)** If a technician makes a copy of any PS, the technician will verify PS currency via the PS inventory sheet (i.e., resolve any currency conflicts prior to use with PS POC), the technician making the copy will stamp and date PS on PS front page controlling PS as a Technical Data extract. It is recommended to not copy any PS unless absolutely necessary for mission accomplishment and if permissible by the contractor. Contractually, these documents can be proprietary and reproduction may not be permissible.

2.2.7.4.7. **(Added-AFSC)** Process Specification Annual Inventory/Review. All PSs shall receive an annual review to ensure the PSs are complete and current. When there are too many PSs in a library to permit inventory during a single month, the PS POC may establish an incremental schedule to ensure a complete inventory of all PSs within the year. Such incremental reviews are considered 'within the year' if completed within the proper month even if the completion date is more than 365 days since the last inspection.

2.2.7.4.7.1. **(Added-AFSC)** Annual PS inventory documentation must identify the PSs inventoried, date performed, and the name of the responsible individual. The PS POCs will perform a full PS page check of all paper PSs ensuring no pages of a PS are missing.

2.2.7.4.7.2. **(Added-AFSC)** Inventory PS discrepancies must be resolved, and requisition missing PSs and PSs increments as required.

2.2.7.5. Other Authorized Technical Data.

2.2.7.5. **(AFSC)** The contractor's provided data and source data as defined in TO 00-5-3, are authorized for use provided the SPO/SCM Engineering Authority has approved their use and the production planning team (PPT) has concurred the data is valid for performing the work required. Referencing of this type of data on a WCD is considered valid proof of authorization for use. The SPO/SCM Engineering Authority shall ensure currency of contractor technical data and determine the disposition of contractor's technical data after the contract has ended.

2.2.7.6. Disposition of Technical Data Extracts.

2.2.7.6. **(AFSC)** Personnel disposing of technical data and related TO file documentation including personnel utilizing TO extracts will follow disposition procedures IAW TO 00-5-1. If the document is classified, destroy IAW DoDM 5200.01, *DoD Information Security Program,* Volume 3, and AFI 16-1404, Air Force Information Security Program. CD-ROMS will have both surfaces scratched before recycling. **Note**: Highlighting on a technical data extract is permissible.

What is not allowed are notes and/or annotating any type of dimension, tolerance, specification, part number, etc. on the extract. Only highlighting of the extract is allowed.

2.2.7.6.1. **(Added-AFSC)** The TO extract may be placed in recycle or regular trash receptacles as a whole document if marked 'Distribution is Unlimited' on the title page. However, if the TO has a distribution limitation statement, it shall be recycled by placing different parts of the extract in different recycle bins, torn into three or more pieces or shredded and placed in one bin, or incinerated. Proprietary data must always be shredded before recycling.

2.2.7.6.2. The SPO/SCM Engineering Authority will determine the disposition of contractor technical data after contracts ends.

2.2.7.7. Technical Data Availability.

2.2.7.7.1. **(Added-AFSC)** O&M technical data procedures for operation, trouble shooting, repairing, removing, installing, manufacturing, calibrating, or servicing action must be available and used at the job site IAW TO 00-5-1. General TOs and Methods and Procedures Technical Orders (MPTOs) do not need to be at the job site except when there is contractor support. All MPTOs listed in the SOW and directive upon the contractor must be readily available at the job site.

2.2.7.7.2. **(Added-AFSC)** Used at the job site. Technical data shall be in the area where the work is being performed i.e., work bench, aircraft stall, dock, machine shop, etc. The job site is determined by the nature of the task.

2.2.7.8. Reclamation removal work packages, copies of TO extracts IAW TO 00-5-1 and 309th AMARG specific instructions.

2.2.7.8.1. **(Added-AFSC)** To meet requirements for aircraft in storage at 309th AMARG, TO 1-1- 686, *Desert Storage, Preservation and Process Manual for Aircraft, Aircraft Engines, and Aircraft Auxiliary Power Unit Engines*, will be used for procedures and specifications addressed (e.g., landing gear strut extension, aircraft tire pressures, aircraft towing procedures, etc.).

2.2.7.8.2. **(Added-AFSC)** The 309th AMARG will develop, implement, and maintain processes and procedures that addresses Desert Operations unique program requirements and route to AFSC/A4M for review and approval. The 309th AMARG will develop a TO IAW TO 00-5-1 that addresses unique Desert Operation processes of reclamation, demilitarization, and disposal.

2.2.7.9. TO Changes and Authorized Deviations. When work cannot be performed using the TO as written, an authorized deviation must be processed and approved.

2.2.7.9.1. **(Added-AFSC)** AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply*. This form provides the mechanism by which improvements and corrections to TO deficiencies may be made. TO 00-5-1 provides detailed instructions on the routing of TO deficiency submissions. It is the responsibility of the individual discovering a TO deficiency to initiate an AFTO Form 22.

2.2.7.9.2. **(Added-AFSC)** AFMC Form 202, *Engineer Technical Assistance Request*. Use the AFMC Form 202 to furnish technical data for conditions or procedures beyond published authority under work stoppage and nonwork stoppage conditions, and when technical data does not exist and must be developed, approved, and provided to maintenance technicians. Use procedures IAW AFMCMAN 63-1202 for the preparation, use, and control of AFMC Form 202.

2.2.7.9.3. **(Added-AFSC)** AFTO Form 252, *Technical Order Publication Change Request*. An approved AFTO Form 252 may be issued because of an approved AFMC Form 202 when a TO change is required to provide the correct or newly developed data necessary to resolve an actual or anticipated work stoppage. The completed AFTO Form 252 is stamped Special Handling (SH252), processed, and inserted into the TO as detailed in AFMCMAN 63-1202, and used until replaced by the formal TO update.

2.2.7.9.4. **(Added-AFSC)** AF Form 3925, *Engineering Order (EO)*. An EO is used to document changes to engineering drawings IAW AFMCMAN 63-1202.

2.2.7.10. Posting TO Changes. Changes to TOs must be monitored and documented, ensuring no process is compromised. The organization responsible for posting changes to TOs will publish and provide a list of changes to the appropriate engineering organization, production supervisor, and planning organization.

2.2.7.10. **(AFSC)** Changes to TOs may require changes to the WCDs and process orders. The planning, production, and engineering organizations are jointly responsible for reviewing the TO changes and the determination of WCD impacts. Changes to WCDs and process orders shall be accomplished within fifteen working days after formal posting of the TO change.

CHAPTER 3

TOOL AND EQUIPMENT MANAGEMENT

3.1. Introduction. The primary focal point of this program is the individual tool user; however, it is necessary to have support, training, and constant emphasis from all levels of management for the program to be effective.

3.2. Program Objectives. The objectives of the tool and equipment program is to reduce tool cost through strict effective control, security, and accountability of assets, and to prevent and eliminate Foreign Object Damage (FOD) to aircraft, engines, missiles, training, and support equipment (SE). Commanders, and key leaders are responsible for standardization in executing an effective tool program. The tool management program outlined represents the minimum program requirements.

3.3. Responsibilities.

3.3.1. Tool Control Manager (TCM) Responsibilities. HQ AFSC will ensure a TCM position is established at each ALC. The selected individual will be appointed in writing. The TCM will serve as a liaison between the tool program, the ALC, and the respective Groups. TCM responsibilities will include but are not limited to:

3.3.1.1. Policy implementation.

3.3.1.2. Lost tool program management.

3.3.1.3. Monitoring of loaned tools.

3.3.1.4. Monitoring of QA findings for trends.

3.3.1.5. Developing corrective action plans for systemic tool issues.

3.3.1.6. Brief the ALCs on the tool program status, if required.

3.3.2. HQ AFSC will ensure the ALCs manage and maintain a supply of common hand tools and other items necessary to accomplish depot maintenance.

3.3.2. **(AFSC)** Maintenance Support Group/Authorized Contractor (MXSG/AC) is responsible to maintain a supply of common hand tools and other items as required to satisfy normal daily demands for the following:

3.3.2.1. **(Added-AFSC)** Replacement of unserviceable items.

3.3.2.2. **(Added-AFSC)** Issue of temporary items.

3.3.2.3. **(Added-AFSC)** Issue of permanent items.

3.3.2.4. **(Added-AFSC)** Determine reorder points using the authorized tool management system.

3.3.2.5. **(Added-AFSC)** Label bins with the NSN or part number, nomenclature, and bin location.

3.3.2.6. **(Added-AFSC)** Manage assigned TMDE IAW TO 00-20-14.

3.3.2.7. **(Added-AFSC)** Assemble requested tool kits utilizing an established template.

3.3.2.8. **(Added-AFSC)** Issue tool kits using the TKCRL as the permanent record of issue.

3.3.2.9. **(Added-AFSC)** Control TKCRL IAW this chapter.

3.3.2.10. **(Added-AFSC)** Maintain a file copy of turned-in kit TKCRL IAW 3.5.4.5.

3.3.2.11. **(Added-AFSC)** Issue no more than one ITK per technician on a permanent basis except as authorized.

3.3.2.12. **(Added-AFSC)** Ensure no credit is given against any TKCRL for any unmarked or misidentified tools turned into the tool center.

3.3.2.13. **(Added-AFSC)** Support maintenance group TDY teams with necessary tools and TMDE on a short term loan for the duration of the TDY.

3.3.2.14. **(Added-AFSC)** Notify the maintenance groups of all overdue tools.

3.3.2.15. **(Added-AFSC)** Tool crib/centers will not issue tools individually from DTKs. When a recurring need exists for common tools to be issued individually (e.g., hammers, screwdrivers, pliers, drills, wrenches to perform routine, housekeeping or facility tasks within the work center), add the tools to a TK.

3.3.3. **(Added-AFSC)** Maintenance Group Responsibilities.

3.3.3.1. **(Added-AFSC)** Designate custodial responsibility for production managed tool cribs/centers.

3.3.3.2. **(Added-AFSC)** Prepare documentation justifying specific hand tool requirements.

3.3.3.3. **(Added-AFSC)** Notify the MXSG tool crib/center in writing of a TK requirement before the employee’s projected start/need date. At a minimum, the request will provide the employee's name, employee's ID number, phone number, RC/CC, and the required template.

3.3.4. **(Added-AFSC)** Warranty Tool Management. The purpose of a warranty tool management program is to ensure high quality industrial-strength warranted tools are available for use in aircraft and equipment activities. Warranty tools shall be purchased using a GPC or through local contracts with a warranty tool vendor. Units desiring to establish a warranty tool program must coordinate the program through both the supply and contracting squadrons. Detailed management procedures

are contained in AFI 23-101. MXSG/AC will maintain an active warranty tool program. No attempt to repair and/or modify any warranty tool will be made by either users or program managers.

3.3.5. **(Added-AFSC)** Modifications to tool containers/kits are authorized if approved through local manufactured tool procedures, or unapproved if modifications void the manufacturer's warranty or renders the container/kit unserviceable.

3.3.6. **(Added-AFSC)** Tool Acquisition. All tool purchases must be reported to authorized tool manager or MXSG for input into the FEM for accountability and tracking purposes. Ensure tools are not acquired by any organization other than MXSG/Authorized Contractor/TCM without written approval (i.e., email will suffice).

3.3.7. **(Added-AFSC)** Depot Field Teams (DFTs). Depot On-Site Contractor Augmentee Team (DOCAT) employees performing depot maintenance functions will be issued tools from tool crib/PSC and will comply with all applicable tool control instructions.

3.3.8. **(Added-AFSC)** Tool Crib Center/Center Operations.

3.3.8.1. **(Added-AFSC)** Limit tool issue sections to no more than one per work center. Establish procedures to ensure custodial control. Set up tool rooms to ensure accountability.

3.3.8.2. **(Added-AFSC)** The tool crib/tool issue center must be capable of being locked and afford protective measures such as monitoring, 24-hour coverage, or controlled key access. Tool issue center supervisor authorizes access to tool rooms for ALC only. When all CTKs/TKs are not capable of being secured in the tool room/tool issue center, the section tool issue center/supervisor will design a process to prevent the unauthorized use or access to tools and equipment. Due to space and facility limitations, it may not be possible to store oversized tool kits in the tool room/tool issue center/crib.

3.3.8.3. **(Added-AFSC)** Tool cribs/tool issue centers will be in a secured and controlled area and will be used for the purpose of maintaining and stocking tooling/equipment, locally manufactured, modified, or special end item unique tools and equipment. Tool crib/tool issue center will be secure so that the only access is through lockable doors. The tool crib/tool issue center supervisor authorizes access to the tool crib/center. Tool cribs/tool issue centers may store, order, and/or issue consumable or expendable type items needed to support the production efforts of a particular unit or weapon system.

3.3.9. **(Added-AFSC)** Overdue Tool Reporting. The tool crib/tool issue center will notify the supervisor/mechanics and the Group TCMs of delinquent tools utilizing FEM/MIS reports. Supervisors are responsible to check the tool crib/tool issue center and notify employees that have delinquent tools. Employees with delinquent loaned tools will not be allowed to check out additional tools until the delinquent tool has been recovered. Tool management employees may also post a list regarding over-due tools at the tool crib or issue point.

3.4. Tool Accountability.

3.4.1. Tool Kit (TK) custodians are responsible for tool and equipment accountability and control. When a person signs for a tool or piece of equipment, the individual is accountable for the item until it is returned to its proper location. Accountability transfers back to the TK custodian through a representative or tool room employee.

3.4.1. **(AFSC)** Employees responsible for government property will complete AFSC Form 311, Certificate of Responsibility for Government Property.

3.4.2. TK Custodian. Supervisors serving as a TK custodian will be designated in writing. Alternate TK custodians will be designated in writing and the documentation will be maintained at the tool crib.

3.4.2. **(AFSC)** TK custodians are responsible for tool, HAZMAT, and consumable asset accountability and control. Exception: A separate person may be designated as the HAZMAT monitor.

3.4.3. HQ AFSC will ensure all units utilize a command approved Maintenance Information Systems (MIS) for accountability and control of tools and equipment. Aircrew Flight Equipment (AFE) Sections will follow guidance in AFMAN 11-301V1, *Aircrew Flight Equipment (AFE)*. The approved MIS will be used to:

3.4.3. **(AFSC)** All units must utilize TAS, FEM, or other approved ALC MIS for accountability and control of tools and equipment. Contractors and civil service organizations are not required to use TAS/FEM. Aircrew Flight Equipment (AFE) Sections will follow guidance in AFI 11-301V1.

3.4.3.1. Track the issuance and receipt of all assigned tools, equipment, tool kits, Hazardous Material (HAZMAT) items, and TOs.

3.4.3.2. Track authorizations/restrictions for special tools/equipment by individual.

3.4.3.3. Track spare, lost, and damaged (removed) tools.

3.4.3.4. Develop and manage TK inventories.

3.4.3.5. Develop and manage deployment kits (i.e., import/export).

3.4.3.6. If the approved MIS is not available (i.e., at a deployed location), units may use one of the following methods: AF Form 1297, *Temporary Issue Receipt*, or vendor supplied system for Point of Use (POU) machines.

3.4.4. **(Added-AFSC)** MXSG/AC is the only authority that can change ‘like’ (i.e., form, fit, or function) tools/items. When permanently changing a group RC/CC, ensure information (i.e., tool card) provided to the tool crib/center has been updated for the purpose of tracking loaned tools and equipment.

3.5. Tool Kits.

3.5.1. Tool Kit (TK). A container used to store tools or equipment and to maintain positive control and ease of inventory. TKs will be standardized to the maximum extent possible by template and have an accompanying Tool Kit Custody Receipt Listing (TKCRL).

3.5.2. TK Types:

3.5.2.1. Consolidated Tool Kit (CTK). Tool kits issued to a supervisor for use by one or more individuals in a work center.

3.5.2.2. Individual Tool Kit (ITK). A standardized collection of tools organized by task, skill, work area, or a combination thereof which is issued to an individual.

3.5.2.3. Dispatchable Tool Kits (DTK). Tool kits designed for checkout will be taken to a job site with one individual responsible for the tool kit.

3.5.3. Tool Set (TS) Guidance. Tools and equipment issued from the tool crib/center which contains multiple parts, sizes, attachments, or fittings. TSs (e.g., socket set, tap and die sets, etc.) do not require a template/TKCRL but will have an accompanying inventory list.

Table 3.1. **(Added-AFSC)** Tool Set Inventory List.

TYPE	ISSUED TO	FOR USE BY	TKCRL REQUIRED	TOOL CHECK-OUT METHOD
CTK	Supervisor	Crew	Yes	AF Form 3136, General Purpose Form, or electronic equivalent
DTK	Supervisor or Employee	Employee or Crew	Yes	Tool Card or AF Form 1297, Temporary Issue Receipt
ITK	Supervisor or Employee	Employee or Crew	Yes	N/A
TS	Supervisor or Employee	Employee or Crew	No	Tool Card or AF Form 1297

3.5.3.1. Counting Pieces in a set. Tool sets are identified on the TKCRL by total number of items in the set.

3.5.3.2. The tool set case/container will be counted as part of the set.

3.5.4. HQ AFSC will develop, implement, and maintain standardized procedures for the following:

3.5.4.1. TK Content/Design Determination. TK contents will be standardized by skill, task, mission, work area, or a combination thereof to the maximum extent possible.

3.5.4.1.1. **(Added-AFSC)** ALC tool request forms or equivalent MIS is used to establish a new template or to revise or delete an established template. Each type of standardized template will be assigned a template number.

3.5.4.1.2. **(Added-AFSC)** The ALC tool request form or equivalent MIS is initiated by the supervisor and will include the following: a complete list of required tools, NSNs, nomenclatures, issue quantities, drawer locations/bins (e.g., Drawer 1, Drawer 2, Drawer A, Drawer B, etc.) with all required signatures before they are forwarded to the Group/Squadron TCM. Supporting commercial data (e.g., source, part number, catalogue page or screen print, etc.) will be provided for adding non-stock listed tools.

3.5.4.2. TKCRL management.

3.5.4.2. **(AFSC)** A TKCRL is required for each TK. The MXSG/AC will prepare a TKCRL for each kit. The minimum TKCRL contents of the listing are name of TK owner, NSN/item number, marking requirement (the Y/N column), template identification number, kit identification number, nomenclature/description, quantity issued, date of issue, and tools listed by drawer location. Electrically insulated tools shall be listed on the TKCRL using the words "…Electrically Insulated - 1000V".

3.5.4.3. TK issue.

3.5.4.3. **(AFSC)** An appointment must be made with tool crib/center prior to TK issue and turn-in. During TK issue, both the issuing tool representative and the receiving employee will verify each tool listed on the TKCRL for accuracy of tools issued, serviceability, and proper TK marking, and will also ensure the TKCRL and TK quantities match and are accurate to include drawer locations. The employee and tool crib attendant will sign the TKCRL. The tool crib/center will retain a copy of the tool request form and the master (i.e., official) TKCRL shall be signed by the employee which will be maintained by the tool crib. Supervisors will submit tool requests through Group/Squadron TCM.

3.5.4.4. Template change.

3.5.4.4. **(AFSC)** Template changes are accepted once a year if needed and submitted through the Group/Squadron TCMs. When more than one change is required during the year, it shall only be for new workloads and/or a change of workload. If the additional template change is for any other purpose, a letter of justification will need to be provided from the squadron director to the group/squadron TCM for approval. Templates may be changed to ensure the right number of tools, proper tool to complete a given task, skill or work area, or a combination thereof to attain configuration control/standardization. Template changes will be documented on the tool request form and forwarded to the Group/Squadron TCM. The Group/Squadron TCM will forward any required template changes to the tool warehouse/tool issue center so the template can be updated.

3.5.4.5. TK turn-in transfer.

3.5.4.5. **(AFSC)** Ensure employees turn-in or transfer tool kits in the tool center prior to RC/CC reassignment, task changes requiring a different template, or termination of employment. The TK will be turned into the tool crib/center or transferred to the supervisor prior to reassignment. The tool room attendant and employee will inventory the kit for accuracy of tools returned and proper TK marking. Tool attendant will sign an FEM (or other approved MIS) transaction report. A copy will be provided to the employee for the TK turn-in receipt once all tools have been accounted for. Supervisors or designee will account for all items on the supplemental list prior to turning in tool kits to the MXSG/AC. Supplemental items will be turned in to the issue point. Tool kits may be re-assigned to another employee as long as the following steps are taken: The Tool Request Form with the required signatures must be sent to the main tool crib. The group/squadron TCM or supervisor of the employee turning in the tool kit will perform a Supervisor Inspection IAW this chapter.

3.5.4.6. Non-mobile cabinets.

3.5.4.6. **(AFSC)** For TKs that use drawers of a workbench, workstation, cabinet or Vidmar to store assigned tools, clearly mark each drawer that is part of the TK. TK drawers will be marked (e.g., 1, 2, 3, B, C, etc.). Excess drawers may be used for other shop requirements provided they are labeled as such and contents do not violate other AF or MAJCOM instructions.

3.5.4.7. Shadow/silhouette.

3.5.4.7.1. **(Added-AFSC)** Each tool, item of equipment, or consumable contained in a TK shall have an assigned location identified either by inlay cuts in the general shape of the item, shadowed layout, label, or silhouette. No more than one item is stored in a cutout, shadow, or silhouette except for tools issued in sets such as drill bits, hex wrenches, apexes, or paired items (e.g., gloves, booties, etc.). Electrically insulated tools shall be kept together and segregated from non-insulated tools within toolkits; the area of a toolkit where electrically insulated tools are stored shall be demarcated with a sharply contrasting border or made of foam that sharply contrasts in color from that used for non-insulated tools. This will be accomplished in four years (25% per year) from the date of this publication.

3.5.4.7.2. **(Added-AFSC)** The Maintenance Support Group/Authorized Contractor is responsible for foaming/shadowing of all new TKs ordered. Additional requests may be made for foaming/shadowing support through this organization. Cut-out will facilitate ease of inventory and be in the general ‘shape of the item’ within plus or minus one inch variance. Finger holes are authorized in cutouts as long as they do not take away from the shape of the tool.

3.5.4.8. CTK used by more than one person.

3.5.4.8. **(AFSC)** Tools used/removed from a CTK used by more than one person will be tracked by either AF Form 3136, AF Form 3126, General Purpose, electronic equivalent, or by using an electronic keyed device on a CTK and swiping the tool card to sign in or out of the CTK. The electronic product will need to be able to provide a list of items currently signed out and to whom. At a minimum, the following information will be annotated on the form/log: tool nomenclature,

date out/in, legible name of the borrower, list of items, and the person's signature. The form/log shall be maintained for a minimum of 60 days. Chits are not authorized.

3.5.4.9. Locking/securing TKs.

3.5.4.9.1. HQ AFSC will ensure all individuals will secure/lock tools, TK, and equipment anytime the tool or TK is left unattended to eliminate unauthorized personnel access.

3.5.4.9.1. **(AFSC)** MXSG/AC will ensure each TK can be locked to prevent unauthorized access which may be accomplished by using tool containers that have an integral locking system or any other locking device (i.e., padlocks cables or a lock bar).

3.5.4.9.1.1. **(Added-AFSC)** If tools or equipment can be removed from a TK without an employee's knowledge, then the TK is not secured.

3.5.4.9.1.2. Locks are not required on tools and equipment that are stored within secured tool rooms or work centers.

3.5.4.9.2. Identification tags or dust caps attached to tools/equipment will be secured in a manner that will preclude any possibility of FOD.

3.5.4.9.3. Tool kit locks will be used to provide a physical barrier to opening the container lid, drawer, or door and prevent the unauthorized removal of tools.

3.5.4.9.4. Dispatchable tools, equipment, and TKs are required to be locked and/or secured when left unattended.

3.5.4.9.4. **(AFSC)** Tools and equipment shall never be secured to the exterior of an aircraft. Tool kits located within the controlled movement area are required to be locked when unattended and not in use but do not need to be secured to another object. Common accessories, backshop test stations/stand accessories, TMDE, and support equipment hooked up to an aircraft, end item, or equipment that requires extensive set-up time to perform a task are not required to be secured/locked if left unattended for short periods of time.

3.5.4.10. CTK/DTK key security.

3.5.4.10. **(AFSC)** Supervisors or designated representatives must lock up CTK/DTK keys and maintain separate sign out logs or MIS. When an employee is temporarily assigned a TK for use, the TK key will be checked out using a sign out log. Use AF Form 3126, AF Form 3136, or a locally created log with the following information to include legible name, date key issued, date key turned in, and kit number. Tools removed from a TK issued to a single individual are not required to be signed out.

3.5.4.11. Test, Measurement and Diagnostic Equipment (TMDE) in TKs.

3.5.4.11. **(AFSC)** The owning organization's TMDE monitor will be responsible for routing precision measurement equipment (PME) items for calibration. PME items maintained in a TK will either be individually shadowed within the TK or be placed in containers. If placed in containers, the container will be controlled as a tool. TMDE monitors will issue a receipt to be kept in the TK for tools removed for calibration, certification, or repair.

3.5.4.12. Supplemental Listing. The supplemental listing is a listing of all items kept in TKs that are not listed on the TKCRL.

3.5.4.12. **(AFSC)** Supplemental listings will contain at a minimum: the NSN and/or part number if available, nomenclature, size, quantity, marking requirements, drawer location, and TK identification designator (ID). The supplemental listing will be signed and dated by both the employee and the supervisor immediately after the last entry on the listing. A copy of the supplemental listing will be kept with the TKCRL and on file by the supervisor. Use AF Form 3126, AF Form 3136, or equivalent. Inventory, control, and lost tool procedures will apply to supplemental items.

3.5.4.12.1. **(Added-AFSC)** Maintenance stamps and their caps, when maintained in the ITK, will be shadowed and entered on the supplemental listing as stamp and cap, if applicable. Maintenance stamps will not be marked with ITK number.

3.5.4.12.2. **(Added-AFSC)** Stamps with caps, if included, will have the stamp number marked on the cap. Maintenance stamps and caps are not personal items and will not be included in a personal drawer.

3.5.4.13. Removed and/or broken tools.

3.5.4.13. **(AFSC)** Removed and/or broken tools/items shall be documented in FEM if they cannot be replaced immediately. For DTKs and dispatchable support equipment/dispatchable special tools containing multiple parts, document the missing, removed, and/or broken tools/items on an AFMC IMT 61, Missing/Removed Tools and Equipment. A tool request will be generated for an out of stock tool and a printout will be placed in the TK until the tool can be issued/replaced. Tool Crib/Center will remove the ID from any permanently removed tool/item. A permanently removed tool/item without a planned replacement) constitutes a change to the inventory.

3.5.4.14. Replacement tools. Replacement tools will not be issued without receipt of the unserviceable tool or documentation indicating the tool is lost and reported.

3.5.4.14. **(AFSC)** If previously issued serviceable tools are to be used as replacement tools, completely remove any prior assigned marking before placing in spare storage. A limited stock of replacement tools will be maintained by the MSG/Authorized Contractor. The supervisor will ensure quantities and types of tools in stock are not excessive and/or co-mingled. Tool bin labels will include NSN or part number, unit of issue, item description, and minimum bin levels. Stock levels may be adjusted in 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. Items that are subject to wear and breakage may be maintained in the tool issue center to replace unserviceable items.

3.5.4.15. Tool Disposal. Ensure tools are disposed through the Defense Logistics Agency Disposition Services (DLADS) or demilitarization contractors.

3.5.4.15. **(AFSC)** The Maintenance Support Group/Authorized Contractors will maintain transfer documentation for all DLA Disposition Services transfers.

3.5.4.16. Safety Concerns.

3.5.4.16.1. Flashlights, lanterns, portable lighting devices and light sources will conform to the requirements of TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, when used during servicing operations, TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells,* when used during fuel cell maintenance, and Defense Explosive Safety Regulation (DESR) 6055.09_ AFMAN 91-201, *Explosives Safety Standards*, when used in explosive environments. **Note:** Aircraft and equipment TOs may dictate additional restrictions.

3.5.4.16.1.1. **(Added-AFSC)** Electrically insulated tools (EIT). Tools required for compliance with NFPA 70E, Electrical Workplace Safety, and UFC 3-560-01, Operation and Maintenance: Electrical Safety, shall meet serviceability requirements in ASTM F1505 Section X4. Tools must have legible markings that show manufacturer name and voltage rating. Tools must have legible markings that show they meet ASTM F1505, Standard Specification for Insulated and Insulating Hand Tools, and/or IEC 60900, Live Working - Hand Tools for Use up to 1000 VAC and 1500 VDC, and have been certified by a nationally recognized testing laboratory (NRTL), e.g., Factory Mutual, Underwriters Laboratories, Verband der Elektrotechnik (VDE) Institute. Foreign NRTL certification is acceptable; many electrically insulated tools are certified by VDE Institute. Do not issue electrically insulated tools unless they meet ASTM F1505 and/or IEC 60900 and are certified by an NRTL. Remove tools from service when any manufacturer markings become illegible. Inspect and replace EIT IAW with manufacture guidelines (i.e., insulation with scratches, dents, holes, gouges, tears, chips, burns, evidence of melting or is separating from metal portions may require replacement). EIT requires replacement if insulated grips are loose at all or if insulation has been discolored by impact, bending, sustained pressure, heating, or radiation exposure (e.g., sunlight, ultraviolet light).

3.5.4.16.1.2. **(Added-AFSC)** Each ALC will establish procedures to store electric shock-protective rubber gloves and sleeves IAW Volume 1, Chapter 3.

3.5.4.16.2. For deployment purposes, ensure equipment, tools, and HAZMAT items are properly identified, prepared, and documented IAW AFI 10-403, *Deployment Planning and Execution*.

3.5.4.16.3. Discard removable (i.e., slide on) pocket clips from tools (e.g., flashlights, continuity testers, small screwdrivers, etc.) when possible, prior to placement in tool kits used in critical FOD areas. Do not disassemble/damage tools for sole purpose of

removing clips (i.e., tape measures), rubber switch guards, etc. The sharp edge of blades will not be exposed when not in use (e.g., buried in foam, put in a container, etc.).

3.5.4.17. Temporary loaned tools.

3.5.4.17.1. **(Added-AFSC)** Temporary Loaned Tools, Tool Kit, Common Accessories, and Support Equipment. Tool cribs/centers will ensure tools issued on an as-needed basis will be returned to the issue point. The authorized tool management system will be used by all tool cribs/centers to ensure an audit trail exists on all items on loan. Items containing multiple parts will have an attached inventory list and total piece count. A photo of the items, including the case, can be considered an inventory. The issuing tool center and the individual obtaining the loan will perform a joint issue and return inventory.

3.5.4.17.2. **(Added-AFSC)** During the duration of the loan, the individual signing for the loaned item must perform all required inventory and user maintenance actions. A hand receipt or computer tracking system will be used to track to whom the tool was loaned. Temporary loaned tools will only be loaned to employees and supervisors with a valid tool card. Tools checked out from the tool crib or PSC may be stored in the employee's ITK but not in their personal drawer. These tools items will not be on loan for more than 30 calendar days.

3.5.4.17.3. **(Added-AFSC)** Loaned tools will be recorded on AFSC Form 307, Temporary Loan Record.

3.5.4.18. Other items in TKs.

3.5.4.18.1. HAZMAT. All tools containing HAZMAT (e.g., grease guns, shrouded tools/equipment, etc.) will follow AFI 90-821, *Hazardous Communication (HAZCOM) Program,* and local ALC guidance.

3.5.4.18.2. Consumables. Consumables may be placed in TKs and will be identified on the supplemental listing.

3.5.4.18.2. **(AFSC)** Consumables may be placed in TKs and shall be identified on the supplemental listing. Examples of consumables include safety wire, adhesive, wire bundle lacing, solder, etc. Do not include common hardware items such as bolts, nuts, and/or screws unless required as tools. Supervisor approval is required before any consumable is added to a TK and will be marked according to this supplement. Consumables in a tool kit will be shadowed, marked, and identified by nomenclature, size (if applicable), and quantity on the tool kit supplemental listing. The technician and their supervisor will initial and date the changes on supplemental listing.

3.5.4.18.3. Expendables.

3.5.4.18.3. **(AFSC)** Expendable items are items that must be frequently replaced due to high use, excessive wear, breakage, or otherwise become unfit for use. Supervisor approval is required before any expendable is added to a tool kit and shall be controlled IAW this chapter. Expendables

in a tool kit will be shadowed (i.e., inlaid, silhouetted, or outlined), and identified by nomenclature, size (if applicable), and quantity on the tool kit TKCRL or supplemental listing. One-for-one swap of tools does not have to occur on a daily basis. Items requiring replacement due to usage or breakage will be exchanged on a one-for-one basis as soon as possible. A stock of broken or worn tools may be returned as one-for-one swap items. Inventory and lost tool procedures will apply to expendable items. Every attempt will be made to recover and return all pieces of broken expendable tools to tool crib/PSC prior to replacement. If the tool or a significant portion (as determined by the supervisor) is lost, a copy of a completed AFMC Form 310 must be presented before a replacement tool may be issued.

3.5.4.18.4. Personal Items.

3.5.4.18.4. **(AFSC)** A technician's personal items (e.g., rings, wallet, watches, etc.) may be stored in an ITK, however technicians are limited to one personal drawer. The drawer must be clearly labeled 'Personal' and will only contain personal items. This drawer will not be subject to inspection during a regular TK inspection.

3.5.4.18.5. Personal Protective Equipment (PPE).

3.5.4.18.5. **(AFSC)** For PPE stored in a toolbox, refer to Volume 1, Chapter 3, Personal Protective Equipment Stored in Toolboxes.

3.5.4.18.5.1. **(Added-AFSC)** A drawer or an additional tool box/container is authorized for protective equipment and inclement weather apparel, and must be clearly labeled 'Personal Protective Equipment'. PPE containers are subject to toolbox inspections. PPE kept in ITKs will be marked with the ITK number. PPE not stored in an ITK will be marked with the employees' last name, first initial, and stored in a personal or PPE locker. **Note:** Shop PPE is PPE intended for shop use (i.e., face shield for shop use at a drill press) will be marked with the shop symbol.

3.5.4.18.5.2. **(Added-AFSC)** Non-disposable PPE kept in an ITK will be shadowed and labeled with the ITK number and annotated on the supplemental listing. Non-disposable PPE not stored in an ITK will be stored in a PPE locker or personal locker and will be marked with last name and first initial of individual. PPE contained in shop area (e.g., thermal gloves for oven, face shields for pedestal grinder, etc.) will be marked with shop symbol/identifier for traceability. Surgical gloves, ear plugs, and non-prescription safety glasses are common types of disposable PPE. The final decision whether a PPE item is disposable, or not, rests with the ALC Tool Manager. PPE that is not permanently issued to an individual and is cleaned by a laundry service does not require marking (i.e., coveralls and lab coats).

3.5.4.18.6. Personal Tools. Personally purchased tools (e.g., mini-mag flashlights, Leatherman's, buck knives, etc.) are NOT authorized on the flightline or in any maintenance area.

3.6. Markings and Traceability.

3.6. **(AFSC)** Mark tools or equipment that a work center assigns/issues to individuals. Do not etch or write on electrically insulated tools unless the manufacturer authorizes marking; use only those methods of marking specifically authorized and documented in writing from the manufacturer.

3.6.1. Marking of TKs. Marking of TKs, equipment, and tools will be done by a method that is legible. Tools, common accessories, support equipment, and Custodian Inventory Report (CIR) equipment issued individually or as part of a tool kit will be marked prior to issue with the ALC code and a number identifying it to the proper tool issue center, Production Support Center (PSC), or back shop. ALC tool marking codes are as follows:

3.6.1.1. 309 AMARG – AM

3.6.1.2. OO-ALC, Hill AFB – HL

3.6.1.3. OC-ALC, Tinker AFB – OC

3.6.1.4. WR-ALC, Robins AFB – WR

3.6.2. HQ AFSC will develop, implement, and maintain standardized tool marking procedures for the following:

3.6.2.1. Grease guns, dispensing cans, spray bottles, pump oilers, and similar containers.

3.6.2.1. **(AFSC)** Permanently mark (i.e., by etching or other means) grease guns, dispensing cans, spray bottles, pump oilers, and similar containers with the type of grease, fluid, or other liquids and MIL-SPEC of the contents. If the MIL-SPEC is subdivided into Grades, Classes, or Types, include that information on the permanent marking. If no MIL-SPEC exists, mark the item with the manufacturer's name and part number/NSN from the applicable material safety data sheet/safety data sheet (MSDS/SDS). Keep hoses and fittings separate for each type of grease. **Note:** If containers are used to hold or apply substances classified as hazardous materials, ensure labeling requirements of AFI 90-821, 29 CFR 1910.1200(f), Hazardous Communications, and local directives. Ensure local directives comply with requirements of AFI 90-821 and have been properly vetted with appropriate community functional personnel and local union representatives.

3.6.2.2. Fiberglass handled hammers.

3.6.2.2. **(AFSC)** Fiberglass handled hammers are marked IAW TO 32-1-101, Use and Care of Hand Tools and Measuring Tools.

3.6.2.3. TKs, tools, and dispatchable equipment.

3.6.2.3. **(AFSC)** TKs, tools, and dispatchable equipment that may possess a unique serial/tracking number must be marked with an ID number. If the item cannot be marked, etched, or stamped, annotate the additional designator on the TKCRL.

3.6.2.4. TMDE.

3.6.2.4. **(AFSC)** TMDE will be marked with AFTO Form 66, TMDE Bar Codes (Polyester Film), bar code number for tracking purposes in the FEM/MIS.

3.6.2.5. Tools/items that are assembled and are not intended to be disassembled during use.

3.6.2.5. **(AFSC)** These Tools/items require only one mark/etch/stamp and one entry in the TKCRL/supplemental listing (e.g., scribes, flashlights, grease guns, feeler gauges, etc.). Tools/items requiring disassembly prior to storage will list the total number of disassembled pieces on the TKCRL/supplemental listing. The disassembled pieces will be marked separately or stored in a container if too small/impractical to mark. If tools/items are disassembled during storage, all items need to be accounted for via shadowing and quantity listed on the TKCRL or supplemental listing.

3.6.2.6. Tools/items requiring disassembly prior to storage.

3.6.2.7. Unserviceable tools and tools removed from TKs.

3.6.2.7. **(AFSC)** Remove the ID from unserviceable tools and tools removed from the TK, with the exception of warranty tools where removal of ID would void the tool warranty, and update FEM/MIS.

3.6.2.8. Program Owned Tooling/Support Equipment (SE).

3.6.2.8. **(AFSC)** Program Owned Tooling/Support Equipment (SE). Programs built around shared tooling to meet modification requirements across the fleets and reduce overall costs, i.e., F35/F-22. Control of these items is critical to aircraft safety. Since this tooling/SE is ‘program owned’, the ALC marking codes are not required as mentioned in paragraph 3.6.1. and shown in Table 3.1. The ALCs should develop local procedures for managing ‘program owned’ tooling and support equipment.

3.6.2.9. All TKs will be assigned a TK ID and each tool in the TK will be marked with the TK Identification (ID) number prior to initial issue.

3.6.2.9. **(AFSC)** All TKs will be assigned a TK ID and each tool in the TK will be marked (excluding tools on the Non-Marked listing) with the TK ID number prior to initial issue. Tools being replaced by tool crib/center personnel will be marked prior to replacement. Tools will be laser marked, where possible, and is the preferred method.

3.6.3. Tools impractical or too small to mark.

3.6.3.1. Tools impractical to mark (e.g., hacksaw blades, rulers, due to method of use, size, or composition of material) will be identified by an ‘N’ on TKCRL or supplemental listing.

3.6.3.2. Tools too small to mark will be placed in a marked container. Containers (e.g., cases, pouches, tubes, boxes, etc.) will be shadowed and marked with the TK number and

quantity. Containers count as part of the kit.

3.6.3.3. Tools will be controlled, and lost tool procedures will apply.

3.6.4. **(Added-AFSC)** Container Marking. Containers (e.g., cases, pouches, tubes, boxes, etc.) will be shadowed and marked with the TK number and quantity. Lids or caps will be marked and listed on TKCRL/supplemental listing only if they can be separated from the container making two individual pieces. If an identification number becomes illegible, the TK owner will remark container by end of shift. Counting Pieces in a set. Tool sets are identified on the TKCRL by total number of items in the set. For example, a hex wrench set - 9 each hex wrenches plus container is a total of '10 pieces'; '9 pieces plus case' is also acceptable." To ensure compliance.

3.6.5. **(Added-AFSC)** Clecos, and other similar holding devices are considered tool items and will be controlled and subject to inventory and lost tool procedures. Clecos will be shadowed in the TK either individually, in containers, or on trays

3.6.5.1. **(Added-AFSC)** If Clecos must remain on an aircraft or component for multiple shifts, an informational note will be made in aircraft record and/or in a paper Work Control Document (WCD) task description block of the specific WCD operation number where the Clecos were installed; use the turnover block for eWCDs. This installation note will be stamped and dated by the technician who installed (or counted) the Clecos on the aircraft or component. When the Clecos are removed, another informational note will be made indicating Clecos were removed. The removal statement will be stamped and dated by the technician that removed (or counted) the Clecos. Total quantity of Clecos installed/removed will be reflected in the respective WCD informational notes.

3.6.5.2. **(Added-AFSC)** Exemptions from the aircraft record and/or WCD accountability requirements in paragraph 3.6.5.1. are authorized when the following requirements are met.

3.6.5.2.1. **(Added-AFSC)** Shop to be exempted is not designated as a FOD-critical area..

3.6.5.2.2. **(Added-AFSC)** WCDs have specific FO inspection tasks prior to closing or release to a FOD critical area, which are locally identified.

3.6.5.2.3. **(Added-AFSC)** MXG/CC/CL performs risk assessment IAW AFI 90-802, concludes risk is low, and requests exemption via written memorandum subject to ALC/QA Chief concurrence (1st indorsement) and ALC/CD/DV approval (2nd indorsement). The memorandum shall affirmatively state that that the three conditions above are true.

3.7. Inventory and Inspection Requirements. HQ AFSC will develop, implement, and maintain standardized procedures for tool inventory and inspection to include the following:

3.7.1. TK Custodian Daily Inventory.

3.7.1. **(AFSC)** TK Custodian Daily Inventory. The person who is responsible for the tool kit will perform an inventory when the tool kit is opened (start of shift), at the completion of a logical

sequence of work (defined as a job, task, work step), movement to another area, and end of workday (end of shift). When the kit is opened (start of shift) and at the end of shift, the inventory will be documented on AFSC Form 309. Additionally, perform a visual inventory of all TKs prior to operation of aircraft or equipment when maintenance actions are performed (e.g., engine run, landing gear retraction, flight control operational checks) and upon return to a tool crib/center.

3.7.1.1. **(Added-AFSC)** During duration of a loaned tool, the individual signing for the tool must perform all required inventory and user maintenance actions.

3.7.1.2. **(Added-AFSC)** Conduct a comprehensive inventory of all tools, non-CA/CRL equipment when the TK custodian changes. The purpose of this inventory is to perform an extensive inspection of all tools and non-CA/CRL equipment to include condition, identification markings, and accuracy of the MIL/TK/CRL Supplemental listing. Inspect all tools for serviceability IAW TO 32-1-101. Consolidated tool kit/Tool kit (CTK/TK) custodians document these inventories. The inventory will be documented in FEM/MIS or on a general purpose form.

3.7.2. On-Site TK Transfer Inventory.

3.7.2. **(AFSC)** On-Site TK Transfer Inventory [Procedures for transfer of tools and TKs at the job site (on-site transfers)]. TKs are not normally passed from one individual to another at the job site; however, mission needs occasionally require this action to occur. Ensure tool accountability and control is maintained when transfer occurs between the individuals. As a minimum, the individuals involved in the transfer will accomplish a joint inventory and document accordingly.

3.7.2.1. **(Added-AFSC)** The Supervisor, Wage Leader, or designated representative will perform the end of shift inventory of a CTK used by more than one individual.

3.7.2.2. **(Added-AFSC)** The end of shift inventory will be documented on an AFSC Form 309. **Note**: Upon returning to the work area after sheltering for real-world/exercise events, an immediate and complete inventory of all TKs will be conducted.

3.7.3. Long Term TK Storage Inspections.

3.7.3. **(AFSC)** Long Term TK Storage Inspections. Groups requiring long term storage will establish secure areas for TK storage. The TK Custodian or designated representative shall inspect using the supervisor's criteria in this chapter and seal TKs before being placed in long term storage. While in storage, the TKs shall be inspected 18 months for inventory content and corrosion prevention. Ensure TMDE in a TK is sent to PMEL for calibration upon removing the TK from long-term storage. Document the inspections on an AFSC Form 309 or in FEM/MIS.

3.7.4. Tool Crib/Room/PSC Inventory.

3.7.4. **(AFSC)** Tool Crib/Room/PSC Inventory (or Authorized Contractor). Perform a visual inventory of all TKs and equipment when issued for use and when returned.

3.7.4.1. **(Added-AFSC)** The annual inventory of tools and equipment will be documented by attaching a cover letter to the inventory listing used to conduct the inventory.

3.7.4.2. **(Added-AFSC)** The annual inventory listing will contain the following information: tool crib/center inventoried, date the inventory was conducted, names of the individuals who participated in the inventory, discrepancies found, corrective actions taken, and the supervisor's name and signature.

3.7.5. TK Annual Inspections.

3.7.5. **(AFSC)** An annual comprehensive inventory/inspection shall be conducted of all assigned tools, tool kits, common accessories, TMDE, and support equipment. At a minimum, the inventory shall entail tool location, nomenclature, ID number, and tool quantity. The purpose of this inventory is to perform an extensive inspection to include: condition, identification markings, and accuracy of inventory. Inspect all tools for serviceability IAW TO 32-1-101. A record copy of the inventory listing and inspection results will be kept in the tool room. Document the inventory on an inventory listing, an AFSC Form 309, or in a MIS. The date of the inventory will be documented and kept on file at tool room according to local procedures and used to track when the next annual inspection is due.

3.8. Supervisory Inspections. Supervisors are responsible for ensuring all tool kits assigned to them and their subordinates are inspected at least once every 365 days. The supervisor's inspections will include verification of the TKCRL and supplemental listing against the tool kit contents as well as ensuring each item has a matching identification number. The supervisor or designated representative must inspect toolboxes under their control to ensure:

3.8.1. All items are properly shadowed/inlayed/silhouetted/outlined except for tools inside a Point of Use Station (POUS).

3.8.2. All items are properly marked or etched excluding TMDE and items too small and impractical to mark/etch.

3.8.3. Kit content matches.

3.8.4. Tool kit is free of foreign objects.

3.8.5. No more than one personal drawer is used, and only personal items will be stored in the personal drawer.

3.8.6. All tools are serviceable and if not, ensure proper documentation and replacement action is taken.

3.8.7. TMDE is not overdue for calibration IAW TO 00-20-14, *Air Force Metrology and Calibration Program*.

3.8.8. Procedures for requiring a second party or on-duty supervisor inspection of TKs when

conditions warrant a single person shift. The same individual that signs out a TK cannot sign it back in.

3.9. Procedures for Lost/Found Tool Items. HQ AFSC will develop, implement, and maintain standardized procedures for lost/found tool items to include:

3.9.1. Lost tools.

3.9.1. **(AFSC)** Lost. Tools identified as missing from a TK will be reported immediately to the supervisor. If a lost tool/item or portion of the tool/item is not found after a thorough search and within one hour, an AFMC Form 310 or MIS will be initiated by the immediate supervisor of the employee who lost the tool/item. The supervisor will also contact the squadron/group TCM immediately for official reporting. The tool/item owner will document the loss on page two of AFSC Form 309 if the tool/item was part of TK. The lost tool/item package (i.e., AFMC Form 310) has a seven workday suspense back to the group TCM once it is issued. The squadron/group TCM will ensure the AFMC Form 310 is complete and has been properly coordinated. Reference DoD 7000.14-R Financial Management Regulation; Volume 12/Chapter 7: Financial Liability For Government Property Lost, Damaged, Destroyed, or Stolen, if applicable. If the item is not located, Squadron Director or Deputy shall determine when the search may be discontinued.

3.9.2. Found tools.

3.9.2. **(AFSC)** Found tools. If at any time during the investigation the item/tool is found and retrieved, notify the Squadron Director/Commander and tool crib supervisor (if applicable), Group TCM, maintenance control, QA, first line supervisor, or equivalent of the owning work center. Tools found prior to completion of the lost tool reporting process will be returned to the TK owner. Tools that are found after the lost tool investigation and reporting process have been completed shall be returned to the tool crib if a replacement tool has already been issued. Recovered tools returned to tool crib shall be either de-marked and returned to stock if serviceable or properly disposed of if unserviceable. Lost items procedures also applies to TOs and stamps.

3.9.3. Aircraft specific requirements.

3.9.3. **(AFSC)** Aircraft Specific requirements. Aircraft/equipment thought to contain a lost tool/item during the depot maintenance process will be documented by initiating a WCD and transferred to the aircraft forms as a Red ‘X’ discrepancy and informational note referencing the AFMC Form 310 report number for Lost on Aircraft (LOA) at the point when the AFTO Form/IMT 781 or equipment forms are re-initiated. Local instructions may be developed to include Not Lost on Aircraft (NLOA) and LOA procedures.

3.9.3.1. **(Added-AFSC)** If the aircraft is in flight test, ensure a Red X is placed on the AFTO Form 781A, a lost tool package is initiated, and the procedures of this supplement are followed. The AFMC Form 310 report number will be referenced/documented in the corrective block of the AFTO Form 781A when clearing the discrepancy.

3.9.3.2. **(Added-AFSC)** The lost tool package, to include the AFMC Form 310 should accompany the aircraft forms to home station.

3.9.4. Cross group lost tool procedures.

3.9.4. **(AFSC)** Cross Group Lost Tool Procedures. If a tool is lost across groups or in an area not usually assigned to the TK owner, the immediate supervisor or alternate supervisor of that area must be notified along with their applicable TCM. This will ensure supervisors are aware of a lost tool in their area of responsibility so appropriate lost tool procedures may be taken. Note: The employee who lost the tool will report to their owning organization's TCM for accomplishment of the lost tool report. The TCM will supply a courtesy copy to the TCM of the affected area. (For example: An EMXG employee loses a tool in AMXG. The EMXG employee would notify the AMXG supervisor and AMXG TCM. The EMXG TCM would initiate the lost tool/item report and would also provide a courtesy copy to the AMXG TCM. The AMXG TCM will provide a copy of the Lost Tool Report to the Forms and Records section.)

3.9.5. Lost tool in an inaccessible aircraft area.

3.9.5. **(AFSC)** Lost tool in an inaccessible aircraft area. When it is suspected that the tool/item has fallen into an inaccessible or unobservable aircraft area, perform a NDI or use borescope equipment to locate the lost tool.

3.9.5.1. **(Added-AFSC)** If the tool/item is in an inaccessible area that poses no FOD threat and the action is to leave the tool/item in place, the x-ray (or equivalent) with the identification of the exact tool location and copies of all information concerning the lost tool are maintained in the aircraft historical file until the tool/item is recovered.

3.9.5.2. **(Added-AFSC)** If the aircraft MDS is one that has a PDM or is scheduled for depot modification, the lost tool/item and location is listed in the AFTO Form 345, Aerospace Vehicle Transfer Inspection Checklist and Certification, for removal by the depot.

3.9.6. Off-base reporting.

3.9.6. **(AFSC)** Off-base reporting. Deployed TDY teams will coordinate with the host base director or equivalent on all lost tools/items not found. An AFMC Form 310 will be completed and a copy provided to the appropriate TCM IAW local publications.

3.10. Rag Control.

3.10.1. A rag is defined as a remnant of cloth purchased in bulk or a standardized, commercial quality, vendor-supplied shop cloth used in general industrial, shop, and flightline operations. Cheesecloth is considered a rag; however, paper products/paper towels are not considered rags. Any paper products/rags used will meet FOD program requirements and the base Hazardous Waste Management Plan and be IAW AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*.

3.10.2. HQ AFSC will develop, implement, and maintain standardized procedures to ensure positive control of rags.

3.10.2.1. **(Added-AFSC)** Units will ensure positive control of rags. Units shall establish specific requirements for control of paper products/rags when used in a closure or final assembly. Any paper products/rags used shall meet FOD program requirements and the base Hazardous Waste Management Plan and IAW AFMAN 32-7002, Environmental Compliance and Pollution Prevention. Each ALC shall be responsible to ensure cloth rags are controlled and accounted for when used in maintenance processes that require closure procedures or final assembly.

3.10.2.2. **(Added-AFSC)** In FOD critical areas, the rag issue point will verify and record the number of cloth rags issued to an individual in a written or electronic tracking log. Cloth rags shall be returned to the issue point or functional equivalent, counted, and verified. When cloth rags are returned, the individual receiving them shall annotate in the tracking log that the items have been returned. AFMC Form 310 shall be used for any cloth rag that cannot be found.

3.10.2.3. **(Added-AFSC)** Marking or identifying each shop rag with a TK number is not necessary. Issue and receipt procedures will be established to ensure positive control and accountability of each rag that leaves a TK area. Some recommended methods of shop rag control include:

3.10.2.3.1. **(Added-AFSC)** Issuing rags on a ‘one-for-one’ swap.

3.10.2.3.2. **(Added-AFSC)** Issuing a predetermined number of rags with TKs and include them on the TK contents listing.

3.10.2.3.3. **(Added-AFSC)** Issuing rags in pre-packaged containers with the number of rags marked on each container.

3.10.2.4. **(Added-AFSC)** Rags will not be cut or torn in order to produce multiple pieces of standardized rags, commercial quality cloths/rags, or vendor-supplied shop cloths/rags.

3.10.2.5. **(Added-AFSC)** All employees performing maintenance in FOD critical areas on aircraft, engines, and accessories, or providing a service to these organizations will perform an inspection of the work area prior to closing out a task or moving to another area to ensure that cloth rags have not been inadvertently left in the area.

3.11. Electronic Tools (E-Tools).

3.11.1. Electronic Tools (eTools). eTools are portable electronic devices (PEDs) (such as a laptop computer or handheld device) that operate in a disconnected mode and/or, are certified to inter-operate on AF networks, are mission critical because they are the primary method for viewing electronic technical publications, and, in some cases, are used to exchange maintenance data with an approved MIS at the point of maintenance.

3.11.2. HQ AFSC will develop, implement, and maintain standardized procedures to maintain positive control of assigned eTools to included:

3.11.2.1. Management of eTools IAW TO 00-5-1, TO 31S5-4-eTool-1, *eTool and Commercial Mobile Device Set up and Management*, and **Volume 1, Chapter 1** of this instruction.

3.11.2.2. Tracking dispatchable eTools in command approved system.

3.11.2.3. Ensuring only serviceable eTools with current technical data are available for checkout.

3.11.2.4. Making maximum use of eTool warranties.

3.11.2.5. Ensuring eTools are used for official and authorized purposes IAW TO 31S5-4-eTool-1, 17 Series instructions, and **Volume 1, Chapter 1** of this instruction.

3.11.2.5.1. No unauthorized files or software (e.g., games, mp3s) will be loaded onto any e-Tool.

3.11.2.5.2. No unauthorized external media devices will be used to retrieve data from removable hard drives.

3.11.2.6. Coordination with the local Cybersecurity Liaison and/or Information System Security Managers to identify published local guidance on restrictions for the use of eTools/PEDs in classified processing areas.

3.11.2.7. Development of procedures for shipping TOs, eTools, and required support equipment needed to ensure eTools availability to support Depot Field Teams.

3.12. Equipment and Accessories.

3.12.1. It is not necessary to include in a TK equipment and accessories which do not present a FOD potential and will not leave the work center, support section, or tool room. However, such equipment and accessories must have designated storage locations established. AFSC will develop, implement, and maintain standardized procedures for equipment and accessories to include the following:

3.12.1.1. Accountability.

3.12.1.1. **(AFSC)** Equipment and accessories must have designated storage locations established. Designated locations may be work areas or stations. Equipment that is used outside the work center will be accounted for utilizing a general purpose form or electronic equivalent for sign out/sign in. The equipment and shop machinery accessories used within the work center in the line of sight from its designated storage location is not required to be signed out.

3.12.1.2. Marking.

3.12.1.2. **(AFSC)** Equipment will be marked with a number identifying it to the proper tool issue center, PSC, or backshop. Equipment with multiple pieces will have an inventory listing and total piece count to account for all pieces. A photograph showing all total pieces can be substituted as an inventory listing. The owning organizational supervisor or designated representative will document and sign a yearly inventory of non-CA/CRL equipment.

3.12.1.2.1. **(Added-AFSC)** The ALCs shall establish designated locations for test equipment and common accessories (e.g., waveguides, attenuators, fittings, cables, adapters, etc.) that are not part of a TK. At a minimum, designated locations will be labeled to identify the contents.

3.12.1.3. Storage.

3.12.1.3. **(AFSC)** Shop equipment will be secured when not in use in designated storage locations (e.g., secured building, caged areas, cabinets, etc.). Shop machinery accessories/attachments will be kept and stored in a neat and orderly fashion. At a minimum, storage cabinets and/or drawers will be labeled to identify the contents as 'Shop Machinery Accessories/Attachments'.

3.12.1.4. Inventory.

3.12.1.5. Industrial shop machinery accessories/attachments.

3.12.1.5. **(AFSC)** Industrial shop machinery accessories/attachments (e.g., blades, arbors, chucks, gears, etc.) need not be controlled as tools, however such items will be maintained in a neat and orderly fashion in a designated storage location for accountability. At a minimum, storage cabinets/drawers will be labeled to identify the contents.

3.13. Temporary Duty (TDY) Teams. HQ AFSC will develop, implement, and maintain procedures for the issue, receipt, and control of TKs used to support TDY teams and tool control procedures for TDY personnel. Tools issued to personnel to support TDYs will be tracked in the command approved MIS.

3.13.1. **(Added-AFSC)** Procedures to issue, receipt, and control TKs used to support TDY teams and tool control procedures for TDY personnel. Tools issued to personnel to support TDYs shall be tracked in FEM or equivalent.

3.13.2. **(Added-AFSC)** Tools used to support a TDY, only if taken from an existing CTK or ITK, will have an AF Form 1297 documenting tool NSN, nomenclature, and quantity of tools. AF Form 1297 will be with the tools to serve as a TKCRL and a copy of the AF Form 1297 will be included in the existing kit to ensure accurate inspection and inventory records are maintained. All copies will be signed by the employee and supervisor, and a line will be drawn through the unused portion of the listing. If TMDE is included in the tools taken TDY, a copy of the AF Form 1297 will be given to the PME monitor for their records. All inventories of such tools will require AFSC Form 309 for the daily and supervisor's inventories.

3.13.3. **(Added-AFSC)** Tools checked out of a tool crib/PSC to support a TDY will be requested on a tool request form and tracked in the FEM. A TKCRL will accompany the tool kit. TKs

remaining at TDY locations will be inventoried and transferred between team chiefs on a tool request form. A copy of the tool request form will be forwarded to the issuing tool crib by the returning team chief upon return. While TDY, team chiefs will coordinate with the issuing tool crib on broken/replacement tools.

3.14. Point Of Use Station (POUS). POUS may be identified as a vending machine type of equipment, a cabinet, a Vidmar, a locker system, a controlled room, a toolbox, or any combination of the various types. HQ AFSC will develop, implement, and maintain standardized procedures for POUS.

3.14.1. **(Added-AFSC)** POUS Inspections. POUS machines shall be inventoried by the owning organization on a quarterly basis and identity tags verified for content. The POUS database or inventory shall, at a minimum, capture the part number, nomenclature, minimum or maximum stock levels, and quantity on hand of each item contained in the POUS, and shall have an auditable process. The database shall also allow the user to capture any required inspections. POUS used as CTKs will be inspected using CTK guidelines.

3.14.2. **(Added-AFSC)** POUS containing tools, common accessories, support equipment, consumables, and CA/CRL equipment will be identified, managed, and documented, and must be secured by the owning organization's contracting officer's representative (COR) or contractor.

3.14.3. **(Added-AFSC)** POUS may be used to control and account for various types of items to include, but not limited to, tools, common accessories, support equipment, consumables, CA/CRL items, hardware, parts, absorbent pads, PPE, TMDE and office type supplies (e.g., serviceable tags, plastic bags, Kimwipes, pens, notebooks, etc.).

3.14.4. **(Added-AFSC)** Consumable items in a POUS will be managed to ensure material is not pilfered. High pilferable items will be identified and may be placed in a POUS. High pilferable items requires a 'one-for-one' swap. Supervisors will monitor reports to identify high pilferable items.

3.14.5. **(Added-AFSC)** The POUS database shall, at a minimum, capture the part number, nomenclature, minimum or maximum stock levels, and quantity on hand of each item contained in the POUS, and shall have an auditable process. The database shall also allow the user to capture any required inspections.

3.14.6. **(Added-AFSC)** Tools to include TMDE contained in a POUS must be in a section which limits access to only tools for that transaction.

3.14.7. **(Added-AFSC)** Expendable tools in POUS are not allowed in Functional Test Flight, Engine Test Cells, and Fuel Cell maintenance areas

3.14.8. **(Added-AFSC)** Organizations may place expendable tools in commercial vending machines (i.e., POUS) in production areas if, at minimum, the following steps are taken:

3.14.8.1. **(Added-AFSC)** The POUS must only issue one item at a time (e.g., a drawer full of drill bits, etc.) or the number of items the mechanic requested.

3.14.8.2. **(Added-AFSC)** Process must be auditable to the number of items each mechanic is withdrawing from the vending machine.

3.14.8.3. **(Added-AFSC)** A 'one-for-one' swap will be required in these areas, however the mechanic is still responsible for the number of expendable tools in the mechanic's possession and is required to comply with lost tool/item procedures if an expendable tool is lost.

3.14.9. **(Added-AFSC)** PPE may be stored in a POUS.

3.14.10. **(Added-AFSC)** Cloth rags will not be stored in POUS within critical FOD areas.

3.14.11. **(Added-AFSC)** Titanium Engine Blade Blending or Oxygen System Use. Tools/expendable items used for titanium engine blade blending or oxygen system maintenance will be kept in special purpose kits separate from other tools. In addition to normal TK identification, kits will be marked 'For Titanium Engine Blade Blending Only'. For tools utilized in oxygen system maintenance, mark the kits with the following statement: 'For Oxygen System Use Only'.

3.15. Maintenance Support Group (MXSG)/Authorized Contractor Tool Crib. HQ AFSC will develop, implement, and maintain procedures for MSG/Authorized Contractor Tool Crib operations within the ALCs.

3.15. **(AFSC)** Shrouded tool/equipment compliance: Tools or equipment used IAW TO 1-1-8, Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment, will be properly cleaned, disposed of, and/or stored IAW local ALC procedures and/or local manufacture procedures.

3.15.1. **(Added-AFSC)** Tool Replacement Procedures. A stock of spare tools is authorized to replace broken, worn, or missing tools to prevent unnecessary work delays. Spare and expendable tools are highly pilferable and pose an increased fraud, waste, and abuse potential.

3.15.2. **(Added-AFSC)** Conduct annual inventories of the main tool room, tool issue, and temporary loan centers using the FEM/MIS reports. Inventory results will be analyzed and retained by the tool control function to identify and implement corrective actions.

3.15.3. **(Added-AFSC)** Prepare inventory adjustment variance reports from periodic inventories. Inventory adjustments will be reviewed and approved by the tool management function. The variance report will be retained for not less than one year.

3.15.4. **(Added-AFSC)** An end of shift inventory is required for all areas that temporarily loan tools, tool kits, common accessories, TMDE and support equipment. Document the inventory on an inventory listing, an AFSC Form 309, or in a MIS.

3.15.5. **(Added-AFSC)** DTKs. DTKs assigned and maintained within a tool crib/center will require an AFSC Form 309 to document inspections as follows: When the DTK is issued and returned to the tool crib/PSC during the same shift/day, the responsible mechanic along with the tool crib/PSC attendant will perform a joint inventory. If the DTK is not returned during the same shift/day, the responsible mechanic will complete all required inspections and initial page one of the AFSC Form 309. Pages two and three may be used as required and page two will be used to document lost tools. At least once every 365 days, the tool crib/center supervisor or designee must inspect the DTKs assigned to a PSC/tool crib and document on page four of AFSC Form 309.

3.16. Locally Manufactured/Modified Tools and Equipment (LM/MT&E). LM/MT&E is defined as items (to include fixtures) developed, manufactured, modified, and controlled by the ALCs. HQ AFSC will develop, implement, and maintain standardized procedures for the management of LM/MT&E.

3.16. **(AFSC)** LM/MT&E items (e.g. X numbered tools and associated drawings) can be utilized during DoD Organic Depot Maintenance Activities, that also include any Depot Level Maintenance (DLM) performed by any Depot Field Team (DFT), Depot On—Site Contract Augmentee Teams (DOCAT), or other designated Depot Maintenance Activities performing maintenance and/or inspection of systems or equipment at locations other than a designated depot facility. LM/MT&E intended for use outside designated depot facilities or for Air Force Release, drawings will be in full compliance with AFMCI21-401 Section 2.5 Drawing and Engineering Order Authorization sub-sections 2.5.6, 2.5.7, 2.5.8, and the entirety of Section 5 Engineering Order. LM/MT&E does not include tools authorized in specific formal DOD T.O. data or aircraft/engine/commodity end items.

3.16.1. **(Added-AFSC)** Procedures. All LM/MT&E used on aerospace equipment must be approved by the MXG/EN (Group Engineering Office) or their designated representative. This procedure does not apply to local manufacture, modification or design of tools authorized in specific technical data. As requested by engineering, Safety coordinates on LM/MT&E. Production Engineering will review items and requirements for applicability, soundness, correct markings, and current configuration based upon any of the following: shop requested modification, related process improvements (CPI or IPC), related PO change beyond admin, related process quality rejections/NCMR/related production impoundments, LM/MT&E item failures or safety incidents or rework, any related situation that could impact its performance, or any item dormant for 5 years prior to next proposed use.

3.16.2. **(Added-AFSC)** Requests for approval of LM/MT&E must include a description of the item and its intended use, a list of materials required, cost, and procedures for manufacturing the tool. Include photos, sketches and/or drawings. The engineering office will have access to sketches and/or drawings, photos and documentation of all approved LM/MT&E. Tools/equipment identified and approved for construction in a formal DOD T.O. are considered pre-approved and do not require approval. Production shops shall ensure that all tools and equipment that is utilized in the processes in their shops that are not referenced in technical data have been authorized by LM/MT&E review procedures. All LM/MT&E will be marked with a tracking number that link the item back to the approving engineering section’s record package.

3.16.3. **(Added-AFSC)** Each MXG will utilize a tracking system and a local publication to approve and account for LM/MT&E.

3.16.4. **(Added-AFSC)** All LM/MT&E must meet applicable Air Force Occupational Safety and Health (AFOSH), explosive safety, and USAF standards.

3.16.5. **(Added-AFSC)** Tools listed and issued to a TK will not be modified. Dressing or sharpening of tools is allowed IAW TO 32-1-101 and does not constitute a modification. When LM/MT&E are added to TKs the tracking number will be documented on the supplemental listing and will be marked with the TK ID. LM/MT&E too small or impractical to mark will fall under the guidance of paragraph. 10.8.12 of this supplement.

3.16.6. **(Added-AFSC)** When LM/MT&E has been determined no longer serviceable or required by Process Engineering, the tool will be turned into DLADs following local procedures. The LM/MT&E will be removed from the modified tool/equipment database. All markings will be removed from LM/MT&E prior to delivery to DLA for disposal.

3.16.7. **(Added-AFSC)** Roles and Responsibilities for LM/MT&E.

3.16.7.1. **(Added-AFSC)** Production/Process Engineer will:

3.16.7.1.1. **(Added-AFSC)** Apply roles and responsibilities from AFSCI 21- 104, Industrial Process Control.

3.16.7.1.2. **(Added-AFSC)** Determine and document applicable technical requirements described in paragraph 3.16.7.1.8. All technical requirement documents will be provided to the applicable scheduler for an auditable file upon completion of the job.

3.16.7.1.3. **(Added-AFSC)** At no time shall the item condition affect form, fit, or function of an aircraft, engine, missile, or commodity without receiving proper documented coordination and approval from the Program Office/Supply Chain Engineering Authority. When Production/Process Engineering is not the engineering authority, contact the Program Office/Supply Chain Engineering Authority to approve use of LM/MT&E.

3.16.7.1.4. **(Added-AFSC)** Determine and document technical data requirements (including configuration management of technical data) as appropriate. Technical data requirements may include: technical orders, specifications, standards, drawings, engineering change orders, process orders, storage, marking, first article testing, etc. When Production/Process Engineering is not the engineering authority, clarifications and/or deviations from technical data (e.g. technical orders, drawings) require an approved AFMC Form 202. Ensure items manufactured are identified by a unique drawing number, with a corresponding revision letter, and differentiating part numbers for each: dash, find, or detail on the drawing. At a minimum all blueprints and/or drawings provided will include all information necessary to manufacture the part without relying on the local planning or manufacturing functions to supply engineering judgment. Required information includes, but is not limited to, the following: complete dimensioning of every feature on every part, complete tolerances on every dimension, and complete surface finish requirements on every surface. If the

drawing requires the purchase of an off-the shelf component it must call out the item by: original manufacturer's part number and either original manufacturer's name, or original manufacturer's CAGE code, or both. If the drawing requires processing in accordance with any industry or Government standard, that standard and its applicable revision will be called out. The drawing will define all applicable materials, alloys, and conditions for each detail that is to be manufactured. Use of generic terms such as "aluminum" or "metal" should not be used. Similarly, the use of equivalency statements should not be used. Threaded features should include a complete class code. Welded joints should include instructions on joint preparation and shall either include the type of filler rod to be used or the mechanical properties of the filler rod. If the engineering function intends for any manufacturing limitations to exist, they should include them on the face of the drawing. If a part is to be manufactured from the 3-D solid model the face of the drawing shall include an unambiguous note to define the location of all relevant engineering data the part is to be manufactured from.

3.16.7.1.5. **(Added-AFSC)** Determine verification requirements of raw material conformity. Determine if raw stock certificate of conformance is required or if lab verification of raw materials is required.

3.16.7.1.6. **(Added-AFSC)** Ensure end items requiring testing are sent to a qualified lab (e.g. Quality Verification Center (QVC), Metallurgy Lab). The results of the inspection or testing will be provided to the applicable scheduler for an auditable file.

3.16.7.1.7. **(Added-AFSC)** Perform validation to ensure the LM/MT&E satisfies the intended function. When appropriate, include the Program Office/Supply Chain Engineering Authority in the validation process.

3.16.7.1.8. **(Added-AFSC)** If the LM/MT&E requires certification/calibration, identify the PME program using form AFTO 45, Request for Calibration Responsibility Determination.

3.16.7.2. **(Added-AFSC)** IET/Planner (or Production if the shop doesn't have an IET/Planner) will:

3.16.7.2.1. **(Added-AFSC)** Utilize the AFSC Form 005 "*LM/MT&E Control Document*" or AFSC Form 137, (when a WCD is not used IAW all the requirements in Chapter 7), that will include the following requirements: RCC, Task #, task description (e.g., water jet, blast, machine, weld, heat treat, plating, NDI, paint), utilize mechanic PAC stamp(s) if available, if not utilize name of mechanic(s) that performed the task, mechanic(s) signature, date task was completed.

3.16.7.2.2. **(Added-AFSC)** Ensure process sequence steps are noted on drawings, when applicable.

3.16.7.2.3. **(Added-AFSC)** Coordinate proposed updates/additions/substitutions with the Production/Process Engineer.

3.16.7.2.4. **(Added-AFSC)** When the Production/Process Engineer is the engineering authority, proposed updates/additions/substitutions made to technical data must be coordinated with the

Production/Process Engineer, otherwise, coordinate with the Program Office/Supply Chain engineering authority.

3.16.7.2.5. **(Added-AFSC)** Ensure raw material certifications are tracked and recorded. When raw material cannot be specifically identified as to type, hardness, number, etc., as requested, analysis and proper identification by a qualified lab (e.g. Quality Verification Center (QVC), Metallurgy Lab) is required. When Production/Process Engineering is not the engineering authority, contact the Program Office/Supply Chain Engineering Authority for clarification of raw material verification requirements. Otherwise, the Production/Process Engineer will determine raw material verification requirements.

3.16.7.3. **(Added-AFSC)** Production Controller/Scheduler will:

3.16.7.3.1. **(Added-AFSC)** Apply all roles and responsibilities from Volume 2, chapter 2 of this instruction. In particular, receive completed WCDs (or similar) for each part and retain electronically or hard copy in an auditable file IAW applicable AFRIMS records disposition schedule.

3.16.7.3.2. **(Added-AFSC)** Receive all technical data documentation for each part from the Production/Process engineer and retain electronically or hard copy in an auditable file (with the applicable WCD or similar) IAW applicable AFRIMS records disposition schedule.

3.16.7.4. **(Added-AFSC)** Quality Assurance Specialist will: Apply all roles and responsibilities from Volume 3 Chapter 8.

3.17. Training.

3.17.1. For a strong, viable tool and equipment management program, all personnel who use tools and equipment in their daily work requirements must receive appropriate training. This training must stress all aspects of tool control including individual responsibilities and the consequences of noncompliance. Training programs can be a combination of classroom instruction, on the job training (OJT), and supervisory briefings.

3.17.2. Training Requirements. Each ALC will use CHPMAS0004500SU - Tool Control and Accountability Program (Initial) for initial training and CHPMAS0004501DL - Tool Control and Accountability Program (Refresher) for refresher training. The Command courses can be modified to include local procedures. All employees who work with tools and equipment, including QA, and the immediate supervisor will receive the initial and refresher tool control training. Initial training will be requested within 30 days of assignment to a maintenance position. Refresher training is required triennially (i.e., every 36 months) for employees or supervisors of employees who use tools and/or equipment in their work centers.

3.17.3. Documentation. All tool and equipment management training will be documented in the Training Scheduling System-Production Acceptance System (TSS-PAC).

3.18. Supervisor Initial Work Center Briefing.

3.18.1. HQ AFSC will develop, implement, and maintain standardized procedures to ensure supervisors conduct an initial work center specific tool and equipment management briefing with newly assigned individuals prior to first time use of tools/equipment or within 30 days of assignment. Briefing will include accountability procedures and lost and found tool/item procedures at a minimum.

3.18.1. **(AFSC)** Supervisors will conduct an initial work center specific tool and equipment management briefing with newly assigned individuals prior to first time use of tools/equipment or within 30 days of assignment. Supervisors will cover accountability procedures and lost and found tool/item procedures at a minimum. Work center briefings will be documented on a form of choice and available on file if requested. Supervisors will ensure all assigned personnel are familiar with lost, found, and missing tool procedures.

3.18.2. Ensure all individuals including contractors in TDY status, or those that are transferred or loaned from another unit, receive a work center briefing prior to initial use of tools/equipment in that area.

3.18.2. **(AFSC)** All newly assigned personnel (i.e., temporary, contractors, transferred, and those on loan to the production areas) will receive a work center specific tool and equipment briefing emphasizing policies and procedures.

CHAPTER 4

FOREIGN OBJECT DAMAGE PREVENTION AND DROPPED OBJECT PREVENTION PROGRAMS

4.1. Foreign Object Damage (FOD) Prevention and Dropped Object Prevention (DOP) Programs.

4.1.1. FOD is any damage to an aircraft, engine, aircraft system, component, tire, munitions, or SE caused by foreign objects which may or may not degrade the required safety and/or operational characteristics of the aforementioned items. The two categories of FOD areas are critical and non-critical. FOD critical areas are where mission-critical maintenance is performed (e.g., on-aircraft, jet engine, missile munitions, electronics, commodities, fuel cell, major sub-assembly, support equipment, and any other mission-critical areas where strict FOD controls are required). Non-critical FOD areas are areas not defined previously. HQ AFSC will identify and document critical/non-critical FOD areas.

4.1.1.1. **(Added-AFSC)** AFSC/A3/4 will provide policy and procedures for establishing and monitoring the AFSC FOD/DO Awareness and Prevention Program. These programs are designed to increase awareness to reduce or eliminate dropped objects and any foreign objects that could damage an aircraft, aerospace component, or aerospace support equipment operated at any AFSC depot, detachment, or remote operating location. FOD/DO awareness and prevention will be an integral part of all AFSC QA Programs. GSUs will follow their assigned ALC's FOD/DO Program.

4.1.1.2. **(Added-AFSC)** Applicability. The FOD/DO Program applies to all personnel in the AFSC organizations, tenants, and contracted services that work in, on, around, or travel through areas near operational aircraft, engines, munitions, missiles, drones, space systems, support equipment, AGE, trainers, or components thereof, and includes personnel operating vehicles and equipment on flightlines, runways, taxiways, parking ramps, and in aircraft hangars or maintenance areas.

4.1.1.3. **(Added-AFSC)** Industrial manufacturing and MSG-Plant Management shop areas such as but not limited to HVAC, machine shops, pattern wood shop, tool warehouse and lifting device, welding shops, plating tank areas, flame spray shops, etc., are considered non-critical FOD areas of the FOD program requirements. However, cleanliness with regards to housekeeping requirements remain to prevent work debris migration outside the manufacturing shop area. Personnel working in these areas are still required to accomplish initial and refresher FOD training.

4.1.2. A dropped object (DO) is any aircraft part, component, surface, or other item lost during aircrew operations, unless intentionally jettisoned, from engine start to engine shutdown.

4.1.3. HQ AFMC/A4/10 is the OPR for the AFMC FOD/DOP Programs and will ensure effective FOD/DOP programs are established. All personnel (military, civilian, and contractors) working in, on, around, or traveling through areas near aircraft, munitions, Aerospace Ground Equipment (AGE), engines, or components thereof will comply with

FOD/DOP program requirements.

4.2. FOD/DOP Program Responsibilities. The primary Command FOD/DOP Program Manager is assigned to HQ AFMC/A4M.

4.2.1. The Command FOD/DOP Program Manager will:

4.2.1.1. Clarify policy and assist units in resolving FOD/DOP issues.

4.2.1.2. Work with other Major Command (MAJCOM) FOD/DOP Program Managers to resolve FOD/DOP issues between the Complexes, Centers, and owning Commands.

4.2.1.3. Develop FOD/DOP incident reporting procedures.

4.2.1.4. Maintain the AFMC Propulsion Management Sharepoint site and provide reports to the HQ AFMC/A4/10 when requested.

4.2.1.5. Establish the Command FOD Rate Standard. The AFMC FOD Rate Standard for AFSC and subordinate units is 3.0.

4.2.1.5.1. FOD rates for each ALC will be computed as follows: Number of Preventable FODs (damage exceeding $50K) ÷ Aircraft flying hours X 1,000 = FOD rate. Aircraft flying hours will be computed using acceptance flights, Functional Check Flights (FCF), ground runs, and the number of un-installed engine test cell runs.

4.2.1.5.2. The FOD Rate Formula as shown in Table 4.1 will be used by AFSC and subordinate units to calculate AFMC FOD rates.

Table 4.1. AFMC FOD Rate Formula.

$\frac{\text{Preventable FODs (> \$50K Damage)}}{\text{Aircraft Flying Hours}}$ X 1000 = FOD Rate

4.2.2. HQ AFSC will:

4.2.2.1. Assign a Center FOD/DOP Program Manager.

4.2.2.2. Develop, implement, and maintain detailed guidance and procedures to supplement the Command FOD/DOP Program. Directives will outline organizational responsibilities for each ALC, ABW, and any units which fly, service, or maintain aircraft.

4.2.2.3. Develop and implement a FOD/DOP training program. For additional guidance, reference AFI 36-2650, *Maintenance Training*, and AFI36-2650_AFMCSUP, *Maintenance Training*.

4.2.2.4. Develop, implement, and maintain standardized procedures to collect FOD/DOP incident reports from tenant organizations.

4.2.2.5. Follow Command FOD/DOP incident reporting procedures.

4.2.2.6. Investigate FOD/DOP incidents from transient aircraft and provide the home station FOD/DOP Program Manager with sufficient data to generate a report for trending and tracking purposes.

4.2.2.7. Investigate each FOD/DOP incident to determine the precise cause and ensure positive corrective action is accomplished. When a materiel or design deficiency is the cause, or suspected cause, a DR will be submitted IAW TO 00-35D-54 even when an exhibit is not available.

4.2.2.8. Establish a process to report cut tires to airfield management upon discovery so the taxiways and runways can be inspected for possible foreign objects.

4.2.2.8.1. **(Added-AFSC)** Report all cut tires to airfield management immediately and inspect the aircraft taxi route from the parking ramp up to the taxiway for possible FO.

4.2.2.8.2. **(Added-AFSC)** Airfield management should inspect taxiways and runways for possible FO.

4.2.2.9. Develop, implement, and maintain detailed guidance and procedures to supplement the Command FOD/DOP Programs. Directives will outline ALC organizational responsibilities for flightlines, runways, taxiways, parking ramps, and outside maintenance areas that are shared with the ABW and tenant units.

4.3. Additional AFSC Responsibilities. HQ AFSC will ensure detailed guidance is developed, implemented, and maintained for the following:

4.3.1. AFSC FOD/DOP Monitor.

4.3.2. Air Base Wing (ABW)/ALC FOD/DOP Monitor.

4.3.2.1. **(Added-AFSC)** The ABW/CD and/or the ALC/CD will appoint a TSgt (or above), civilian, or contractor if designated by the Performance Work Statement (PWS), with at least one year experience in the maintenance field to the position of FOD/DO monitor and their name will be posted in a prominent place within the unit on a locally developed visual aid. The ABW and ALC FOD/DO Monitor can be the same person if agreed upon between the ABW and ALC.

4.3.2.2. **(Added-AFSC)** An alternate ABW/ALC FOD/DOP PM shall also be appointed in writing and meet all the qualification requirements of the ALC FOD Monitor. The FOD Monitor/alternate FOD Monitor may also be a maintenance officer. The FOD Monitor may be assigned on a fulltime basis, reporting directly to the ALC/CD.

4.3.2.3. **(Added-AFSC)** The ABW/ALC FOD/DO Monitor will be responsible for:

4.3.2.3.1. **(Added-AFSC)** Administration of the FOD/DO awareness and prevention program.

4.3.2.3.2. **(Added-AFSC)** Review all applicable program instructions, supplements, and FOD checklists. Validate locally developed self-inspection checklists within 30 days of assigned duties.

4.3.2.3.3. **(Added-AFSC)** Ensure all FOD/DO incidents are reported IAW current applicable directives to AFSC/A3/4 through AFSC/A3/4 Workflow within 24 hours. FOD/DO Monitors will submit initial and final FOD/DO reports by using the AFMC Propulsion Management SharePoint site.

4.3.2.3.3.1. **(Added-AFSC)** ABW/ALC FOD/DOP PM shall provide the AFSC DOP Manager an initial DO report via e-mail to AFSC/A3/4 Workflow within 24 hours of occurrence. In addition, if it involves casualties, property damage, or if adverse publicity is likely, report IAW AFMAN 10-206, Operational Reporting (OPREP). The safety office shall be notified of all dropped objects within 24 hours of occurrence unless it involves casualties, property damage, or if adverse publicity is likely, and then the safety office shall be notified immediately.

4.3.2.3.3.2. **(Added-AFSC)** ABW/ALC FOD/DOP PM shall provide the AFSC FOD Prevention Manager an initial FOD report via e-mail to AFSC/A3/4 Workflow within 24 hours of occurrence. The final report will be submitted to the AFSC FOD Prevention Manager via email after the investigation is complete. Reports shall be retained for a minimum of 24 months. FOD Monitors will submit initial and final FOD reports by using the AFMC Propulsion Management SharePoint site.

4.3.2.3.3.3. **(Added-AFSC)** ALC/Wing DOP Monitor shall provide the AFSC DOP Manager a final dropped object report via e-mail to AFSC/A3/4 Workflow. Reports shall be retained for a minimum of 24 months. The DOP report format listed in AFMCI 21-100, Volume 2, Chapter 4, shall be followed. DOP Monitors will submit initial and final DO reports by using the AFMC Propulsion Management SharePoint site.

4.3.2.4. **(Added-AFSC)** Review the ALC FOD/DO incidents and analyze the reports and other data for trends that identify areas requiring management action.

4.3.2.5. **(Added-AFSC)** GSUs will report and coordinate any known or suspected FOD/DO occurrence on the flightline, runways, taxiways, or parking ramps to the host base FOD Monitor.

4.3.2.6. **(Added-AFSC)** Coordinate FO prevention needs with the airfield manager and other organizations when construction is in progress on or near maintenance areas or other areas where FOD incidents may occur.

4.3.2.7. **(Added-AFSC)** Inform all organizations of all FOD hazards.

4.3.2.8. **(Added-AFSC)** Provide FOD/DO information and items of interest to FOD focal points in subordinate organizations (i.e., the Group and Squadron focal points shall share information).

4.3.2.9. **(Added-AFSC)** Develop a standard FOD continuity book requirement for all FOD focal points. Continuity book requirements shall be developed that permits a newly appointed person to comply with existing policy and procedures with minimum assistance. The requirements shall be outlined in local publications. The continuity book may be hard copy or in electronic format.

4.3.2.10. **(Added-AFSC)** Review and update the FOD continuity book based on requirements as outlined in local publications.

4.3.2.11. **(Added-AFSC)** The ABW FOD/DO Monitor will develop processes and procedures to collect FOD/DO incident reports from tenant organizations.

4.3.3. FOD/DOP Focal Point.

4.3.3.1. **(Added-AFSC)** Each Group/CC, Squadron/CC or CD, or deputy or civilian equivalent, in an on/off equipment maintenance function shall appoint in writing a FOD Prevention Focal Point for their organization. The CCs of units with flying operations shall appoint in writing a DO Prevention Focal Point for their organization. The FOD/DO Focal Point shall:

4.3.3.1.1. **(Added-AFSC)** Be at least a Staff Sergeant (SSgt) possessing an aircraft, missile, or related maintenance Air Force Specialty Code, or a civilian possessing an aircraft, missile, or related maintenance background.

4.3.3.1.2. **(Added-AFSC)** Conduct periodic FOD spot checks and report observations to the first line supervisor of the area of responsibility and to the Group quality organization. These observations may be entered into LEAP but will not be counted for the QA required inspections. The frequency of the FOD spot checks by each Focal Point will be specified in local FOD supplements.

4.3.3.1.3. **(Added-AFSC)** Review all applicable program instructions, supplements, and FOD checklists. Validate locally developed self-inspection checklists within 30 days of assigned duties.

4.3.3.1.4. **(Added-AFSC)** Review AI reports for adverse negative trends and make recommendations to the FOD Monitor.

4.3.3.1.5. **(Added-AFSC)** Review and update the FOD program continuity books. **Note**: Develop a continuity book IAW local instructions, if one is not available at time of assignment.

4.3.3.1.6. **(Added-AFSC)** Attend the Base FOD Program Committee meetings when requested by the ABW/ALC FOD/DOP PM.

4.3.3.1.7. **(Added-AFSC)** Assist supervisors in developing FOD awareness and prevention briefings.

4.4. Foreign Object Damage (FOD) Prevention Program.

4.4.1. The AFSC FOD Prevention Program must address, at a minimum, the following:

4.4.1.1. Capping and plugging.

4.4.1.1.1. **(Added-AFSC)** Capping and plugging of all openings, ports, lines, hoses, electrical connections, and ducts on aircraft, engines, munitions, missiles, drones, space systems, support equipment, AGE, trainers, or components to prevent FOs from entering these systems.

4.4.1.1.2. **(Added-AFSC)** Measures to prevent infiltration of debris into exposed areas/open systems of the airframe shall be used during tasks/operations where debris (e.g., shavings, turnings, drillings, etc.) is generated. Use suitable covers, such as paper, tarps, or foam inserts, to catch and contain debris and limit the migration into areas with limited accessibility and/or visibility. For example, cover environmental control system bays and top of aircraft where panels have been removed.

4.4.1.2. Standardized flight line clothing policy.

4.4.1.2. **(AFSC)** A standardized flightline clothing policy to include the wearing of hats, berets, wigs, hairpieces, badges, jewelry, passes, etc. aimed at FOD prevention.

4.4.1.3. Procedures for jewelry and other items worn in maintenance areas.

4.4.1.3. **(AFSC)** All personnel shall follow guidelines for the proper wearing of finger rings and other jewelry as outlined in DAFMAN 91-203, *Air Force Occupational Safety, Fire and Health Standards*, and the work center job safety analysis IAW DAFI 91-202, which apply to personnel entering a designated maintenance area usually indicated by yellow lines or other required markings. This includes administrative and support personnel visiting the work areas for any length of time.

4.4.1.4. Procedures for escorting visiting personnel.

4.4.1.4. **(AFSC)** Escorts of visiting personnel shall ensure FOD prevention measures are taken and brief visitors IAW locally developed checklist.

4.4.1.5. Procedures for the control of work order residue.

4.4.1.6. Teardown processes.

4.4.1.6.1. **(Added-AFSC)** Tear-down processes (i.e., those processes that will completely tear down the item prior to return to service) to include the following processes are not required to have components capped or plugged during the following operations: blast, cleaning, coordinate

measuring machine, disassembly, heat treat, induction inspection, machining, NDI processes, plasma spray, plating, and welding.

4.4.1.6.2. **(Added-AFSC)** Components that cannot be inspected 100 percent to ensure FO free will still require open cavities to be capped, covered if required, plugged, taped off, etc. All components will be inspected for FO prior to reassembly. Any assembly that requires minor repair will be capped and plugged at all times.

4.4.1.7. Procedures to control work area foreign objects.

4.4.1.8. Procedures to ensure pilots and aircrew account for all equipment and personal items.

4.4.1.8.1. **(Added-AFSC)** All personnel will follow basic MDS tech order aircraft safe-for-maintenance and local FOD prevention procedures before entering the aircraft cockpit, cabin or flightdeck.

4.4.1.8.2. **(Added-AFSC)** Footwear of all personnel will be inspected for imbedded debris in the sole portion and any debris removed before entering the aircraft cockpit. Aircrew members will ensure small loose items (i.e., items smaller than the standard pencil/pen) are in pockets equipped with a method to ensure positive closure to prevent items from falling out. Recommend placing small items together in a small bag or container able to be closed before placing them in the pocket to create a redundant method of containment. The use of writing devices with the least amount of small items that could fall off (e.g., pocket clips, erasers covers, etc.) is also recommended.

4.4.1.9. FOD walks/sweeps.

4.4.1.9.1. **(Added-AFSC)** FOD walks or sweeps are mandatory within designated FOD critical areas. Local publications will outline frequency and areas of responsibility.

4.4.1.9.2. **(Added-AFSC)** FOD walks will be accomplished prior to towing aircraft through FOD noncritical areas to ensure damage does not occur to aircraft.

4.4.1.9.3. **(Added-AFSC)** FOD walks shall be conducted in such a fashion as to ensure the removal of debris from aircraft, facilities, and support equipment. An area that has undergone a FOD walk shall be left in a FOD-free condition. FOD walks shall not be limited in scope to allow FOs or debris to remain within an area where a FOD walk has been conducted (e.g., omitting the aircraft or focusing exclusively on support equipment).

4.4.1.10. Standardized procedure to obtain FOD incident reports from tenant organizations.

4.4.1.11. FOD discovered during Depot/Functional Flight Test.

4.4.1.11.1. **(Added-AFSC)** In addition to the initial reporting procedures, the ALC FOD monitor, or designated authority will notify the owning unit NLT 24 hours after occurrence of all FOD incidents discovered during DM/FT of aircraft, missiles, drones, engines, or components. The Command FOD manager will notify the owning MAJCOM. All evaluated and repaired FOD will

be annotated in applicable WCDs, AFTO Form 781 or AFTO Form 95 IAW TO 00-201, or CEMS IAW TO 00-25-254-1, Comprehensive Engine Management System Engine Configuration, Status and TCTO Reporting Procedures.

4.4.1.11.2. **(Added-AFSC)** At the point in an investigation a FOD incident is determined, the ALC FOD monitor, or alternate shall coordinate with the Impoundment Official and ALC Safety Official to ensure a team of appropriate personnel investigate each incident of FOD. If the FOD mishap is chargeable, the ALC Safety Office shall establish an investigation team which will perform procedures developed by the FOD investigation team and submit a report to the ALC ABW/ALC FOD/DOP PM.

4.4.1.11.3. **(Added-AFSC)** For all maintenance areas designated as FOD critical areas, watches, rings, necklaces, chains, and other jewelry shall not be worn while performing maintenance. Wigs, hairpieces, etc. shall be securely attached to the individual so that it cannot be separated from the individual. Climate and safety will be considered.

4.4.1.12. FOD discovered upon removing aircraft from Long-Term Storage at 309 AMARG.

4.4.1.12.1. **(Added-AFSC)** A formal FOD report is not required if the FOD was discovered upon removing the aircraft from long-term storage and was annotated in historical records prior to induction to AMARG.

4.4.1.12.2. **(Added-AFSC)** In the event FOD is discovered upon removing aircraft from long-term storage and cannot be verified through historical records, the AMARG FOD focal point will provide a courtesy notification of the FOD to the Command FOD manager. The FOD will not be charged against the ALC FOD rate.

4.4.1.13. FOD procedures before and after engine runs.

4.4.1.13.1. **(Added-AFSC)** Prior to engine start, the ramp area within 25 feet of the intake will receive an FO inspection. Each engine intake and exhaust will receive an FO inspection after any engine intake or exhaust maintenance. Prior to engine start and after engine shut down to include maintenance and test cell runs, each engine intake and exhaust will receive a FOD inspection.

4.4.1.13.2. **(Added-AFSC)** Hats shall not be worn within the danger area of an operating jet engine.

4.4.1.13.3. **(Added-AFSC)** All personnel will empty their pockets and remove all accessories when entering and/or performing intake/exhaust inspections. Wear pocketless and buttonless coveralls when physical entry is needed to inspect engine intake or exhaust areas. Inspect shoes and wear booties prior to entering intake and exhaust areas.

4.4.1.13.4. **(Added-AFSC)** Badges will be secured with the following type of devices: plastic armband; nylon neck cord, or button with nylon macramé that can be securely affixed to the outer garment. The use of metal on these items should be kept at a minimum, (i.e., clip or spiral key

ring) and if used; ensure that it cannot be separated from the cord. Badges will also be removed when required by an AFI or TO, or a hazardous situation is identified.

4.4.1.14. Proper use of FOD Containers.

4.4.1.14. **(AFSC)** All maintenance production areas must have FOD containers accessible to workers when area trash/collection cans are not feasible. The FOD containers shall have the acronym 'FOD' stenciled in contrasting letters no smaller than two inches. All FOD containers regardless of location will be emptied when full or once a day.

4.4.1.15. Vehicles and towed equipment.

4.4.1.15.1. **(Added-AFSC)** Vehicles driven on the flightline must be equipped with a FOD container with a lid, flap, or cover secured to the container. The FOD container shall be secured to keep it from tipping over.

4.4.1.15.2. **(Added-AFSC)** All government owned vehicles, contractors, privately owned vehicles, and any other vehicle operators, will perform a FOD inspection on all towed equipment, vehicles, vehicle tires, and open cargo areas of vehicles prior to entering the runway, taxiway, and flightline. When inspecting tires, ensure a roll-over check is completed to ensure the entire surface is inspected for FOD including the unseen area in contact with the pavement.

4.4.1.15.3. **(Added-AFSC)** Vehicles driven on the flight-line must be equipped with a FO removal tool. The tool will be permanently marked with the identification number assigned to the vehicle and added to AF Form 1800, *Operator's Inspection Guide and Trouble Report*, for inventory and accountability.

4.4.1.15.4. **(Added-AFSC)** Vehicle operators departing the paved surface will perform a FOD inspection on all equipment and vehicle tires immediately upon re-entering the paved surface of runways, taxiways, flightlines, and aircraft parking ramp areas.

4.4.1.16. Grounding Cables.

4.4.1.16.1. **(Added-AFSC)** Clips on aircraft and AGE require grounding cables.

4.4.1.16.2. **(Added-AFSC)** Clips shall have un-used screws removed and remaining screws coated with a thread locking compound.

4.4.1.17. Removal of ID tags and bands.

4.4.1.17.1. **(Added-AFSC)** Remove metal identification bands from all tubing (except aircraft installed egress system components) and cables on the aircraft. Additionally, remove identification bands from cargo tie-down chains/devices prior to use around aircraft. However, factory installed ID tags attached to cargo chains/devices will remain on the chain/device to identify the type being used.

4.4.1.17.2. **(Added-AFSC)** Do not remove manufacturer identification bands from hydraulic hoses. Hydraulic lines will be marked IAW TO 42E1-1-1, *Organizational, Intermediate and Depot Maintenance Aviation Hose and Tube Manual*. Leave inspection and load tolerance tags attached.

4.4.1.17.3. **(Added-AFSC)** Electrostatic discharge (ESD) sensitive equipment requires the use of ESD caps/covers IAW TO 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance, and Test of Electrical Equipment*. Local ESD directives and technical data may outline stricter controls.

4.4.1.18. Publicity.

4.4.1.18. **(AFSC)** Publicity is a key element of an effective FOD Program. Information on posters and other materials to establish and maintain an awareness of the need to prevent FOD/DO can be obtained from the FOD Monitor. Competitive programs in FOD/DO awareness and prevention between wing, group, squadron, and shops are strongly encouraged.

4.5. FOD/DOP Reporting procedures.

4.5.1. The AFMC Propulsion Management Sharepoint site will be used by AFSC and subordinate units to report all FOD/DO incidents. Use of the site ensures the reports are properly structured and all pertinent information is captured. The site will automatically notify the AFMC and AFSC FOD/DOP monitors when reports are generated, changed, or closed. The site provides for the following:

4.5.1.1. 24 Hr. Notifications. Used to meet the 24-hour reporting requirement when additional information is still being gathered for the initial report. If the 24-hour notification is used, an initial report must be generated within two weeks of the date of the incident.

4.5.1.2. Initial Reports. Uploaded to the AFMC Propulsion Management site by the reporting unit. Initial reports will be created within 24 hours of the FOD/DOP incident and will remain open until the incident investigation is completed.

4.5.1.3. Updates to reports. If significant information is collected on a FOD/DOP incident, updates can be made to an open report prior to the final closure of the report.

4.5.1.4. Final Reports. The FOD/DOP report is marked final and closed in the AFMC Propulsion Management site by the reporting unit after the incident investigation is completed.

4.5.2. The AFSC FOD/DOP Manager will:

4.5.2.1. Ensure HQ AFMC/A4M receives an initial FOD/DOP notification/report within 24 hours of the occurrence. The final report will be submitted after the investigation is complete. Initial and final FOD/DOP reports are submitted via the AFMC Propulsion Management Sharepoint site. Reports will be maintained for a minimum of 24 months.

4.5.2.1.1. **(Added-AFSC)** Contact ABW/ALC FOD/DOP PM on all FOD related issues and incidents within eight hours of occurrence. FOD focal points will channel up all information through the next higher FOD focal point until the ABW/ALC FOD/DOP PM is notified.

4.5.2.1.2. **(Added-AFSC)** Reports from the FOD monitor are due to AFSC/A3/4 within 24 hours of the incident's occurrence. FOD/DO Monitors will submit initial and final FOD/DO reports by using the AFMC Propulsion Management SharePoint site.

4.5.2.2. Provide monthly ALC FOD rates to HQ AFMC/A4M. Updates will be made using the AFMC Propulsion Management Sharepoint, Monthly FOD Reporting site.

4.5.2.2. **(AFSC)** Coordinate with the applicable group FOD/DO focal point/investigation team to ensure findings are provided on all open incidents which will allow for monthly updates to AFSC/A3/4 Workflow and HQ AFMC.

4.5.2.3. Notify the owning organization within 24 hours when FOD/DO is discovered on a transient aircraft, depot input/output, Engine Regional Repair Center (ERRC), or Centralized Repair Facility (CRF) engine. An informational copy of the FOD/DOP report must be provided to the owning organization's safety office and FOD/DOP monitor to ensure compliance with Department of the Air Force Instruction (DAFI) 91-204, *Safety Investigations and Reports*. Aircrews must ensure proper documentation in the AFTO Form 781A, *Maintenance Discrepancy and Work Document*, or electronic equivalent has been completed. If the FOD/DO is discovered during the receiving/induction inspection at depot, ERRC, or CRF engine, it will be tracked/charged to the owning MAJCOM unit.

4.5.2.4. **(Added-AFSC)** Clarify policy and assist units with resolving FOD/DO issues.

4.5.2.5. **(Added-AFSC)** Work with other MAJCOM FOD/DO Managers to resolve FOD/DO issues between the ALC and the owning command.

4.5.2.6. **(Added-AFSC)** Maintain status of action items from previous AFSC FOD/DO meetings. **Note**: Action items are carried in an 'open' status until closed or completed.

4.5.2.7. **(Added-AFSC)** Document and track until closure all FOD/DO occurrences per MDS since last meeting.

4.5.2.8. **(Added-AFSC)** Document and track FOD/DO metrics showing cumulative FOD data and trends from the beginning of the FY.

4.5.2.9. **(Added-AFSC)** Document and track customer reported FO, FOD, and DO on aircraft, missiles, drones, engines, or other components and equipment processed at the ALCs within TO 00-35D-54.

4.5.2.10. **(Added-AFSC)** Collect and distribute lessons learned from other MAJCOM, base, ALC, and unit FOD program committees to include photographs and descriptions of 'show-and-tell' items of interest if applicable (e.g., FOD damage, FO found during FOD walk, DO, etc.).

4.6. FOD Classifications. FOD incidents are classified as preventable and non-preventable. Only preventable FOD over $50K (parts and labor) will be chargeable to the FOD rate.

4.6.1. FODs are considered preventable except when:

4.6.1.1. Caused by natural environment or wildlife. This includes hail, ice, animals, insects, sand, and birds. Report this type of damage IAW DAFI 91-204.

4.6.1.2. Caused by internal engine materiel failure if damage is confined to the engine.

4.6.1.3. Caused by materiel failure of an aircraft component if the component failure is reported as a DR using the combined mishap DR reporting procedures of DAFI 91-204 and TO 00-35D-54.

4.6.1.4. Found during depot overhaul for maximum operating time.

4.6.2. Preventable FOD over $50K incurred at test cell or on trim pad will be chargeable to the FOD rate.

4.7. FOD/DOP Investigations. Each FOD/DO incident will be investigated to determine the cause and preventive action. Immediately remove from service any aircraft, missile, drone, support equipment, engine, or component rendered unsafe for use when known or suspected FOD/DO is discovered. HQ AFSC will develop, implement, and maintain FOD/DOP investigation procedures.

4.7.1. **(Added-AFSC)** The investigating team shall send FOD/DO reports electronically to AFSC/A3/4 workflow within 24 hours confirmation that an incident occurred.

4.7.2. **(Added-AFSC)** Each unit will establish its own FOD/DO control numbers.

4.7.3. **(Added-AFSC)** Coordinate with FOD/DO focal point and safety to ensure a team of appropriate personnel investigates each FOD/DO incident that is not reportable under DAFI 91-204. If the investigation reveals circumstances determined to be a mishap IAW DAFI 91-204, immediately involve the ALC and ABW Safety offices to lead the investigation and provide all known details to date.

4.7.4. **(Added-AFSC)** All DCMA managed units at contracted facilities will report FOD/DO incidents to the Command FOD/DO Manager.

4.7.5. **(Added-AFSC)** Review maintenance records for items that may have contributed to the FOD/DO incidents.

4.7.6. **(Added-AFSC)** Use X-ray, borescope, and other state-of–the-art equipment to locate FO in an inaccessible area.

4.7.7. **(Added-AFSC)** Perform a thorough inspection of the aircraft for missing aircraft components (e.g., screws, rivets, fasteners, etc.) for installed engine FOD. Perform a thorough inspection of the run pad or ramp area and within 25 feet of the aircraft intake for FOD damage that occurred during aircraft ground runs. For FOD incidents discovered after flight, perform a thorough inspection of the parking location, taxiways, and where the aircraft launched from, for FO sources that may have attributed to the incident.

4.7.8. **(Added-AFSC)** For any aircraft sustaining engine FOD caused by an unknown source, extend the vari ramps, thoroughly inspect all accessible components and areas within the vari ramps cavity, close vari ramps, X-ray vari ramps, and lower louver areas IAW applicable TO. Compare the X-rays with previous X-rays of the aircraft to determine movement or missing items.

4.7.9. **(Added-AFSC)** Perform an inspection of the uninstalled engine, test stand, test equipment, etc., for FO sources for FOD that occurred at the test facility.

4.7.10. **(Added-AFSC)** Immediately perform a tool kit and equipment inventory upon discovery of FOD and review recent Lost/Item Reports for relevance to FOD incidents.

4.7.11. **(Added-AFSC)** Coordinate with supply personnel who has access to the D043A supply system to determine costs of parts and pieces when figuring cost of FOD damage. Contact the Command FOD Manager for further assistance if required.

4.7.12. **(Added-AFSC)** Contact the Command FOD manager if owning MAJCOM or unit directs shipment of the damaged engine before the investigation is completed. The Command FOD manager will coordinate the completion of the FOD investigation with the owning MAJCOM or unit.

4.7.13. **(Added-AFSC)** A locally developed impoundment FOD checklist should be used to enhance FOD investigations.

4.7.14. **(Added-AFSC)** ALCs will reimburse owning units for FO related damage incurred which was found to be caused by ALC negligence. The Group/Squadron responsible for the reimbursement will be determined by the Command FOD Manager.

4.7.15. **(Added-AFSC)** When FOD is discovered on a transient aircraft, depot input/output, Engine Regional Repair Center (ERRC), or Centralized Repair Facility (CRF) engine, the ABW/ALC FOD Program Monitor will notify the AFSC FOD Program Manager and the owning organization within 24 hours. An informational copy of the FOD report must be provided to the owning organization’s safety office/FOD monitor to ensure compliance with DAFI 91-204 and aircrews must ensure proper documentation in the AFTO Form 781A or an electronic equivalent has been completed.

4.8. FOD/DOP Training. HQ AFSC will ensure initial, and refresher FOD/DO awareness and

prevention training are conducted and documented for all personnel who, in the performance of their assigned duties, work in or travel through maintenance areas, flightline areas, etc. For additional guidance, reference AFI 36-2650_AFMCSUP.

4.8.1. **(Added-AFSC)** Conduct and document initial and refresher FOD/DO awareness and prevention training for personnel who, in the performance of their assigned duties, work in or travel through maintenance areas, flightline areas, etc. The Maintenance Training Office at OOALC is the lead training organization for developing and updating HQ AFMC Maintenance FOD/DO training.

4.8.2. **(Added-AFSC)** Initial training will consist of formal classroom training. Use HQ AFMC course for the FOD/DO awareness training. Personnel will receive initial FOD awareness and prevention training within 30 days of assignment to the work center.

4.8.3. **(Added-AFSC)** Refresher training is required every 36 months.

4.8.4. **(Added-AFSC)** Local training shall be developed to augment the FOD training courses that identify local procedures, requirements and directives. The ALCs, with several types of aircraft assigned and/or possessed (i.e., PDM aircraft) will have all aircraft incorporated into one complex training program. Training should emphasize the following minimum FOD/DO awareness and prevention subjects:

4.8.4.1. **(Added-AFSC)** Lessons learned and common causes of FOD and those which are peculiar to the type of aircraft, other sub-assemblies, support equipment, engines, or components assigned to or serviced by the organization.

4.8.4.2. **(Added-AFSC)** Procedures unique to the assigned and/or possessed aircraft.

4.8.4.3. **(Added-AFSC)** Hardware and tool control and accountability policies for end of task, end of shift, and transfer at work site.

4.9. Supervisor Briefing. HQ AFSC will ensure maintenance supervisors conduct the following FOD/DOP briefings:

4.9.1. Initial work center briefing.

4.9.1. **(AFSC)** Supervisors will ensure newcomers receive a briefing on work center specific FOD/DO awareness and prevention practices prior to starting work in their assigned work area. Work center FOD/DO briefings will be documented. Ensure individuals who are TDY, transferred, or loaned from other units receive a work center FOD/DO briefing prior to beginning work in the area.

4.9.2. Quarterly briefing.

4.9.2.1. **(Added-AFSC)** Supervisors shall brief personnel who accomplish on-equipment or off-equipment maintenance tasks in the performance of their assigned duties quarterly and retain personnel attendance records for one year.

4.9.2.2. **(Added-AFSC)** Include the briefing as part of the unit's periodic news or staff meetings. Include a review of the committee minutes of the last meeting, any incident investigation finding which concluded since last quarter, and any unique requirements that could affect FOD/DO awareness and prevention if applicable.

4.10. FOD/DOP Committee Meetings.

4.10.1. HQ AFSC will ensure quarterly FOD/DOP committee meetings are held and will designate mandatory attendees.

4.10.1.1. **(Added-AFSC)** At a minimum, the following will attend the quarterly base FOD/DO Prevention Committee meetings: ABW/CD, ABW and ALC Monitor, designated Union representative, ALC Maintenance Training, Flight Test representative, and ALC Tool Control Manager.

4.10.1.2. **(Added-AFSC)** The FOD/DO Awareness and Prevention Committee agenda shall include but is not limited to:

4.10.1.2.1. **(Added-AFSC)** Status of actions on items from previous meetings. Action items are carried in an "open" status until all actions or corrections are closed out or completed.

4.10.1.2.2. **(Added-AFSC)** FOD/DO occurrence since last meeting.

4.10.1.2.3. **(Added-AFSC)** Customer reported FOD, and DO on aircraft, missiles, drones, engines, or other components and equipment processed at any AFSC facility.

4.10.1.2.4. **(Added-AFSC)** Assignment of specific action and responsibilities.

4.10.1.2.5. **(Added-AFSC)** FOD/DO awareness and prevention program status, improvement, recommendations, and/or suggestions, including initiatives and suggestion reviews.

4.10.1.2.6. **(Added-AFSC)** Tool control and accountability issues.

4.10.1.2.7. **(Added-AFSC)** Lessons learned from other Complexes, MAJCOM, bases and units FOD/DO awareness and prevention committees.

4.10.1.2.8. **(Added-AFSC)** Meeting Minutes. In addition to the agenda items, the minutes will include as a minimum a list of attendees and absentees. Attendees list will identify the ALC FOD monitor and provide functional address symbol and duty phone number for all personnel. Meeting minutes will be made available to FOD committee members.

4.10.2. Units will conduct monthly FOD/DOP Committee Meetings whenever the unit

exceeds the Command FOD rate standard. Monthly meetings will continue until the unit completes three consecutive months without exceeding the standard. The FOD meeting may be combined with other meetings.

4.10.3. HQ AFSC will set the FOD/DOP meeting agenda.

CHAPTER 5

MAINTENANCE OPERATION CENTER AND AEROSPACE VEHICLE DISTRIBUTION OFFICER

5.1. Maintenance Operations Center (MOC). The MOC monitors and coordinates maintenance production and execution of the flying and maintenance schedules while maintaining visibility of aircraft status. Through coordination with the maintenance units, the MOC communicates priorities for competing limited resources (e.g., fuel or calibration docks, wash racks, and dispatched specialists from the maintenance squadrons) based on maintenance priorities. The exchange of information between squadrons and the MOC must be sufficient in detail to allow the MOC to comply with reporting requirements and to identify potential problems. The MOC will maintain a '24/7' hour operation with a minimum manning requirement of two personnel per shift. HQ AFSC will develop, implement, and maintain standardized processes and procedures for the following MOC responsibilities.

5.1.1. IAW DAFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*, and TO 00-20-02, the Maintenance Debrief will enter all flying hour information into Reliability and Maintainability Information System (REMIS) No Later Than (NLT) the next duty day after the occurrence. All FCFs will be updated in REMIS and installed engine times will be updated in the Comprehensive Engine Management System (CEMS), G081, or the Integrated Maintenance Data System (IMDS), as applicable.

5.1.2. Ensure reliable, redundant, and effective maintenance communications systems are in place.

5.1.2.1. Local radio call signs are published for maintenance Land Mobile Radio (LMR) networks.

5.1.2.2. Maintain Comm/MIS/Cyber out procedures to include loss of radios, Local Area Network (LAN), and phone.

5.1.2.3. Personnel will receive initial radio operating training before assuming duties involving radio operation.

5.1.2.4. Each MOC will have a hotline on the secondary crash phone net.

5.1.3. Ensure aircraft status and Estimated Time for Completion (ETIC) are properly reported.

5.1.4. Inform affected activities of changes in priorities, plans, and schedules.

5.1.5. Coordinate on changes to the flying schedule with applicable agencies.

5.1.6. Ensure all deviations to the flying schedule are reviewed and accurately reported.

5.1.7. Notify the safety office, QA, and the FOD monitor of mishaps involving aircraft FOD

and aircraft damage.

5.1.8. Request support services (e.g., standby firefighting capability, airfield water and snow removal, fueling and defueling services, civil engineering support, control tower clearances for ground movement of aircraft and equipment, etc.).

5.1.9. Monitor the progress of aircraft Functional Check Flights (FCFs).

5.1.10. Develop, implement, and maintain functional checklists. Functional checklists are required for use during actions such as aircraft crash, flight line fire, severe weather warning or evacuation, runway closure, and any other unusual circumstances deemed necessary.

5.1.10.1. **(Added-AFSC)** Use unit operational plans as a guide in developing the checklists. Checklists contain those actions required to be taken by functional areas.

5.1.10.2. **(Added-AFSC)** The MOC maintains checklists IAW ALC local guidance.

5.1.11. Notify flightline supervision and/or Post Dock supervision of Oil Analysis Program (OAP) code C and E conditions IAW **Volume 2, Chapter 9** of this instruction.

5.1.12. Maintain visual aids and displays, either electronic or manual, to show the status, ETIC, and location of each aircraft on station.

5.1.12.1. **(Added-AFSC)** Ensure status boards depicting aircraft status and location comply with program security guidelines. The visual aids will provide ready access to critical data. Computer terminals may be used in place of visual aids. Visual aids will display the following:

5.1.12.2. **(Added-AFSC)** Aircraft Status will be displayed IAW local MIS. Any changes to the aircraft status will be reported to the MOC immediately.

5.1.12.3. **(Added-AFSC)** Flying Schedule. Display the individual aircraft scheduled for flight each day with the following information columns, as a minimum, aircraft serial number, takeoffs, and remarks. Any changes to the flying schedule will be reported to the MOC immediately.

5.1.13. HQ AFSC will ensure all squadrons coordinate and gain MOC approval on all aircraft engine runs, fuel requests, and all aircraft ground movements conducted by maintenance personnel prior to execution.

5.2. MOC Personnel Responsibilities. HQ AFSC will develop, implement, and maintain procedures for MOC personnel.

5.2.1. **(Added-AFSC)** The MOC senior coordinator or representative will attend the production/scheduling meeting and establish a proficiency training program for MOC operations to familiarize personnel with every aspect of the MOC operations.

5.2.1.1. **(Added-AFSC)** Assist in overall management of the MOC and enforce radio and telephone discipline.

5.2.1.2. **(Added-AFSC)** Oversee all status and aircraft location displays and computer systems for timely and correct entries.

5.2.1.3. **(Added-AFSC)** Monitor hard copy publications, checklists, plans, instructions, regulations, recall rosters, and schedules by conducting an annual review.

5.2.1.4. **(Added-AFSC)** Ensure the MOC is secure at all times (i.e., no unauthorized personnel; personnel allowed entry are escorted until departure).

5.2.1.5. **(Added-AFSC)** Be knowledgeable of procedures for real world and exercise conditions and be able to react as required.

5.2.2. **(Added-AFSC)** MOC Controllers will:

5.2.2.1. **(Added-AFSC)** Interpret and analyze weather information received from the Weather Flight and react in the appropriate manner as required.

5.2.2.2. **(Added-AFSC)** Act as the focal point and controlling agency for the protection and preservation of resources.

5.2.2.3. **(Added-AFSC)** Prepare daily reports/briefings reflecting information as needed.

5.2.2.4. **(Added-AFSC)** MOC Personnel will have experience on at least one assigned weapons system.

5.3. MOC Facilities. The MOC should be located near the flight line. The facilities must meet and maintain the following minimum standards.

5.3.1. Completely enclosed room with air conditioning and heat.

5.3.1.1. An observation room is permitted.

5.3.1.2. Doors to the MOC and the observation room will be either mechanically or electrically locked to control access.

5.3.2. Electrical power circuits will be isolated.

5.3.2.1. Provide a standby power source and emergency lighting.

5.3.2.2. Establish procedures to operate standby power sources.

5.3.3. Local Aircraft Production Engineering will ensure the MOC is informed of all limiting factors to production caused by facilities and ramp maintenance.

5.4. Aerospace Vehicle Distribution Officer (AVDO). HQ AFSC will appoint an AVDO to ensure aircraft status is properly reported and maintained IAW DAFI 21-103_AFMCSUP, *Equipment Inventory, Status, and Utilization Reporting*, AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination,* and TO 00-20-2. AVDO responsibilities include but are not limited to:

5.4.1. AVDOs will report all assignment/possession changes IAW DAFI 21-103 AFMCSUP, TO 00-20-2, and to the Air Force Materiel Command, Air, Space, and Cyberspace Operations, Test and Evaluations Division (HQ AFMC/A3F).

5.4.2. AVDOs will enter all flying hour information into REMIS NLT the next duty day after the occurrence IAW DAFI 21-103_AFMCSUP and TO 00-20-2.

5.4.3. AVDOs will assist units with the proper documentation and classification of Ground Instructional Training Aircraft (GITA) and training aid aircraft (Reference Volume 2, Chapter 11 of this instruction).

CHAPTER 6

ENGINE MANAGEMENT

6.1. Engine Management (EM). EM is responsible for monitoring and developing strategies to sustain the health of the engine and aircraft fleet. EM monitors engine removals and replacements, component tracking, engine Time Compliance Technical Order (TCTOs) and Time Change Items (TCIs), engine records in the MIS, CEMS, and REMIS. Also perform engine manager duties; ensure engine inventory control and management procedures are developed for each engine Stock Record Account Number (SRAN); manage unit efforts to maintain adequate engine support for mission requirements. HQ AFSC will:

6.1.1. Develop, implement, and maintain a standardized engine management program IAW AFI 63-101/20-101 and TO 00-25-254-1, *Comprehensive Engine Management System Engine Configuration, Status and TCTO Reporting Procedures*.

6.1.2. Manage the MIS and CEMS IAW AFI 63-101/20-101, AFI 10-201, *Force Readiness Reporting*, DAFI 23-101, *Materiel Management Policy*, TO 00-25-254-1, TO 00-20-2, and applicable aircraft dash-6 TOs.

6.1.3. Coordinate engine management processes, procedures, local policy and Operating Instructions (OIs) with HQ AFMC/A4M Command Engine Manager (CEM) prior to publication.

6.1.4. Establish and document a self-assessment program to monitor accuracy and timeliness of reporting after all engine status changes and/or required action IAW TO 00-25-254-1.

6.1.5. Plan, schedule, and document maintenance actions on possessed engines.

6.1.6. Ensure each ALC designates engine management responsibilities in an Engine Management OI to include each engine SRAN to address engine inventory control and management procedures. As a minimum, procedures must:

6.1.6. **(AFSC)** The MXG/CC or equivalent will appoint an engine SRAN Manager or a unit engine manager and alternate where applicable to comply with DAFI 63-101/20-101 and TO 00-25-254-1. Due to the unique complexity of the ALCs, the location of the SRAN Engine Manager will be identified in their local guidance.

6.1.6.1. Specify responsibilities of affected work centers for accurate and timely MIS and CEMS reporting of TCTOs, Special Inspections (SIs), TCIs, and other documentation requirements (e.g., borescope inspections, blade blending, and CANN actions).

6.1.6.2. Ensure engine, module, and component data is reported to SRAN Engine Manager NLT close of business the first duty day after the event (e.g., part removal, installation, time update, and TCTO status change) IAW TO 00-25-254-1 and TO 00-20-2.

6.1.6.3. Specify responsibilities and procedures for Engine Health Management (EHM)

and Engine Trending and Diagnostics (ET&D) IAW AFMAN 20-116 *Propulsion Life Cycle Management for Aerial Vehicles*.

6.1.6.4. Specify a CEMS and MIS contingency plan for when either or both systems are down for extended periods (more than 48 hours). The plan will include procedures for retaining data in date-time order for input when MIS/CEMS operation resumes.

6.1.7. Ensure ALCs appoint a primary and alternate SRAN Engine Manager to monitor engine removals and replacements, component tracking, engine TCTOs and TCIs, engine records in the MIS, CEMS, and perform engine manager duties IAW AFI 63-101/20-101 and TO 00-25-254-1.

6.1.8. Ensure SRAN Engine Managers attend the Air Education and Training Command (AETC) Engine Management Training Course prior to assuming duties.

6.1.8.1. SRAN Engine Managers may attend the Oklahoma City Air Logistics Complex (OC-ALC) developed Depot Maintenance Engine Management Training Course in place of the AETC Engine Management Training course provided the prerequisite CEMS/PMO CEMS Training Course has been completed.

6.1.8.2. Training Plans. A training plan will be developed to ensure engine management section personnel who report engine status or are responsible for engine documentation and scheduling comply with management responsibilities IAW TO 00-25-254-1, TO 00-
20-1, and TO 00-20-2.

6.2. SRAN Engine Manager. HQ AFSC will ensure the SRAN Engine Manager will:

6.2.1. Act as the single point of contact between the ALC and CEM for SRAN Engine Management issues/concerns.

6.2.1.1. **(Added-AFSC)** The SRAN engine manager is selected from AF Specialty Code 2R1X1 or 2A6X1 with at least a 7- or 9-skill level or civilian equivalent. The assistant will be at least a 7-skill level from the same AF Specialty Codes or civilian equivalent.

6.2.1.2. **(Added-AFSC)** Advise the MXG/CC on administration of the base SRAN Engine Manager Program, and engine maintenance concepts, principles, policies, procedures, and techniques within the maintenance group.

6.2.2. Comply with AFI 63-101/20-101, TO 00-25-254-1, and all other applicable instructions and technical data.

6.2.3. Ensure all engine/module inspections/TCIs tracked by Engine Operating Time (EOT), Calculated Cycles (CCY), Total Accumulated Cycles (TAC), etc. are loaded/tracked in the MIS and CEMS.

6.2.4. Manage time changes and provides TCI information [e.g., cycles remaining, EOT, etc.] on serially controlled items to propulsion maintenance for engine and engine component Cannibalization (CANN) actions.

6.2.5. Manage TCTOs on all possessed engines and components both installed and removed. Comply with TCTO duties and responsibilities for engine items. Maintain records on TCTO kits and status for all engines installed on aircraft sent to depot Verify engine total time in CEMS against an approved MIS. Reconcile aircraft engine record times in the CEMS database.

6.2.6. Ensure aircraft, engine records, and MIS and CEMS database reconciliation occurs after maintenance actions are complete and prior to aircraft, engine, and/or life-limited serially tracked component leaves the overhaul repair facility.

6.2.7. Perform periodic self-inspections to monitor accuracy and timeliness of reporting.

6.2.8. Manage time changes on all engines and “life-limited and serially tracked” components.

6.2.9. Ensure all engine SIs are loaded in MIS against the engine, not the aircraft.

6.2.10. Ensure duties and requirements for engine shipments, protection, and storage are performed IAW Department of the Air Force Policy Directive (DAFPD) 24-6, *Distribution and Traffic Management*, AFI 63-101/20-101, TO 00-85-20, *Engine Shipping Instructions*, TO 2J-1-18, *Preparation for Shipment and Storage of Gas Turbine Engines*, and TO 2-1-18, *Aircraft Engine Operating Limits and Factors*.

6.2.11. Maintain a jacket file of engine shipping documents IAW AFI 33-322.

6.2.12. Maintain and update historical documents for all assigned engines, modules, and major assemblies in the MIS IAW TO 00-20-1 and TO 00-20-2.

6.2.13. **(Added-AFSC)** Manage/monitor the Complex/Wing/Center ET&D and EHM programs when applicable.

CHAPTER 7

AIRCREW EGRESS SYSTEMS MAINTENANCE AND AIRCREW FLIGHT EQUIPMENT PROGRAMS

7.1. Egress Maintenance Program. HQ AFSC will develop, implement, and maintain an effective and standardized Aircrew Egress Systems Maintenance Program to include:

7.1.1. Egress personnel are responsible for all egress systems maintenance and must be trained and certified before being authorized to maintain or inspect aircraft egress systems. Nonegress personnel, who are augmented are also responsible for egress maintenance IAW **paragraph 7.5.2** of this chapter.

7.1.2. All personnel will use the Demand Response Team when directed by TOs, during any task requiring the removal/installation of explosive components, and during egress final inspections. Compose teams of individuals who are certified to perform egress maintenance. At least one team member must be a certified egress journeyman.

7.1.3. Egress personnel will perform the removal/installation of parachutes/survival kits from all Advanced Concept Ejection Seat (ACES) II and Martin Baker (i.e., MK-16 series) equipped aircraft.

7.1.4. Egress personnel will perform the removal and installation of emergency oxygen cylinders, lines, and quick disconnects attached to ejection seats.

7.2. Facilities.

7.2.1. The installation commander or equivalent will provide an enclosed shop facility, separated from other inhabited buildings or areas whenever possible, for off-equipment egress maintenance.

7.2.2. Egress facilities will have limited access to ensure system integrity and be properly licensed for explosive component storage. Explosives will be listed on an AF Form 2047, *Explosive Facility License*, and maintained within the Egress Section.

7.2.3. Facilities must be large enough to accommodate the average number of egress components requiring maintenance and storage at any one time. (See DAFMAN 32-1084, *Standard Facility Requirements*).

7.2.4. The egress section licensed explosive facility will not exceed the licensed Net Explosive Weight (NEW) capacity for each Hazard Class Division (HC/D) without approval from the Wing Weapons Safety Office. Reference DESR 6055.09_AFMAN 91-201 for additional restrictions.

7.2.5. Only egress section personnel will be authorized unescorted entrance to the egress licensed explosive location.

7.2.6. All off-equipment ejection seat maintenance will be accomplished in the Egress Section maintenance facility.

7.3. Safety Requirements.

7.3.1. Personnel will strictly adhere to all safety requirements outlined in DESR 6055.09_AFMAN 91-201, AFI 91-202, *The US Air Force Mishap Prevention Program*, DAFI 11-209, *Participation in Aerial Events*, and all 11A-, 11P-, 13A- series and aircraft specific TOs.

7.3.2. Operators of an explosive laden vehicle must have completed and be current on Egress Explosive Safety Training and qualified on the vehicle being driven IAW AFI 24-301, *Ground Transportation*.

7.3.3. The use of safety pins without an appropriate streamer properly attached is strictly forbidden. Only authorized flight safety pins will be installed on aircraft egress systems. Substitute safety devices are strictly prohibited.

7.4. Classification Training.

7.4.1. Egress personnel will meet mandatory training requirements contained in DAFI 36-2670, *Total Force Development* (or inter-service equivalent), the Career Field Education and Training Plan (CFETP) or AFMC Egress Civilian Training Plan (CTP), and this instruction.

7.4.2. Government and contractor Egress maintenance personnel who possess, as a minimum, one year of experience within the last three years performing Egress intermediate and organizational level maintenance, repair, inspections, etc., may be considered for a waiver to the classification training requirements. Waiver request will be submitted to the Command Egress functional manager for review. The Command Egress functional manager will then forward the waiver request to the Headquarters Air Force (HAF) 2A6X3 Career Field Manager for final approval/disapproval. If the waiver is disapproved, the individual must complete classification training.

7.5. Initial Certification of Egress and Non-Egress Personnel.

7.5.1. Once classification training is complete, egress personnel must successfully complete an AETC egress technician course for the specific aircraft to be maintained. **EXCEPTION**: ACES II-trained and certified egress technicians being reassigned to another base or unit maintaining ACES II-equipped aircraft are not required to complete the organizational maintenance (on-equipment) egress training course. Whether or not these individuals attend the course is the decision of the egress workcenter supervisor.

7.5.2. Non-Egress personnel augmenting egress technicians and Quality Assurance personnel who perform egress evaluations must successfully complete an AETC Egress technician course for the specific aircraft to be maintained. Where no formal AETC Egress training is available, units will develop local Egress training requirements with final approval by HQ Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration,

Resource Integration Division, Workforce Development Branch (AFMC/A4PT). Classification training is not mandatory for these individuals.

7.5.3. All personnel are certified to perform egress maintenance by demonstrating adequate proficiency to a designated certifying official in the egress systems workcenter. Certification pass/fail criteria will be established by the egress workcenter supervisor. Document certification IAW DAFI 36-2670, and the requirements as detailed in **Volume 1, Chapter 4** of this instruction.

7.5.4. Quality Assurance personnel who perform egress evaluations must annually demonstrate adequate proficiency to inspect maintenance tasks to the Egress Shop Supervisor. The Egress Shop Supervisor will act as the qualifying official. Document the proficiency in TSS-PAC.

7.5.5. Newly assigned uncertified egress personnel may assist in performing egress systems maintenance. These personnel will never clear (sign off) AFTO Form 781-series, WCDs, or condition tags.

7.6. Decertification.

7.6.1. Decertify any individual who fails to demonstrate adequate proficiency or who has a documented administrative action that could adversely affect job performance.

7.6.2. Decertify non-egress personnel who have not been recertified in the past 180 days.

7.6.3. Decertify egress personnel after not having performed egress maintenance for more than 18 months. Instruction and inspecting egress maintenance is not considered performing maintenance.

7.6.4. Document decertification IAW DAFMAN 36-2689, *Training Program*, and **Volume 1, Chapter 4** of this instruction.

7.7. Recertification.

7.7.1. The purpose of recertification is to ensure personnel still maintain the required knowledge and skills to safely maintain and/or inspect egress systems.

7.7.2. Recertify egress maintenance and inspection certified personnel after not having performed egress maintenance or inspections for at least 18 months.

7.7.3. Recertification procedures are identical to initial certification procedures and will be accomplished IAW **paragraph 7.5.3**. Document recertification IAW DAFMAN 36-2689 and **Volume 1, Chapter 4** of this instruction.

7.8. Egress/Cockpit Familiarization Training. All non-egress personnel who access aircraft cockpits with operational egress systems installed must complete initial and refresher familiarization training. The intent of egress familiarization training is to ensure non-egress personnel are aware of the hazards associated with an egress system and what to do if a hazard exists. As a minimum, initial and refresher (24 month) egress/cockpit familiarization training will

include location and installation procedures of egress system safety devices, cockpit entry/exit procedures, procedures for determining whether an egress component is expended, emergency procedures associated with an expended egress component, and local maintenance concerns identified by the egress workcenter supervisor.

7.8.1. The egress workcenter supervisor will review and validate all egress familiarization training documents at least every 24 months.

7.8.2. New personnel to the unit will receive initial familiarization training prior to accessing aircraft cockpits unless last duty position involved same mission/design aircraft as current duty position. Personnel not requiring initial training will attend refresher training when they become due. Individuals overdue for 24-month (biennial) egress familiarization training will not access aircraft cockpits until they complete familiarization training.

7.8.3. Initial egress familiarization training will be hands-on using an aircraft.

7.8.3.1. Units desiring to use an aircraft maintenance trainer instead of an aircraft must submit a waiver request from the Maintenance Group Commander (MXG/CC) through Air Force Sustainment Center, Logistics Directorate (AFSC/LG) to AFMC/A4/10/A4M for approval/disapproval.

7.8.4. Refresher familiarization training will be conducted every 24 months (biennially) using an aircraft, maintenance trainer, or media which is approved and designated by the egress workcenter supervisor.

7.8.4.1. Non-egress personnel may administer training media (slide show/video) during refresher familiarization training.

7.8.4.2. Direct students to the egress section if technical assistance is required and/or questions are raised concerning course subject matter.

7.8.5. Only egress personnel, certified on assigned egress system(s), will conduct initial egress familiarization training. **EXCEPTION:** Maintenance Training Flight personnel may conduct initial egress familiarization training provided they complete the AETC Egress classification course and the AETC egress technician course for the specific aircraft to be maintained.

7.8.6. Training media must have the approval of the MAJCOM Functional Manager (MFM) or be the current media produced by the 367 Training Support Squadron (TRSS), Hill AFB, Utah.

7.8.7. Units with unique, experimental, or test aircraft requirements.

7.8.7.1. If training courses are not available through AETC, units must use interagency training before considering non-government training sources.

7.8.7.1.1. If courses in both sources are not available, units will establish a documented training program that meets the intent of this instruction.

7.8.7.1.2. Training will be conducted by the most qualified personnel and must be approved by the MFM prior to implementation.

7.9. Egress Systems Inspections and Documentation.

7.9.1. A certified egress production inspector will inspect any disturbed integral part of the egress system. The inspection must be an egress final inspection unless another inspection is prescribed by technical data.

7.9.2. All systems Red X provisions. Only certified egress personnel will clear (sign off) egress system discrepancies listed in the aircraft forms and in WCDs.

7.9.3. **(Added-AFSC)** When escape system damage/repairs exceed TO limits, request maintenance assistance IAW TO 00-25-107 through the appropriate Lead Command Weapon System Manager with an informational copy to the Lead Command Egress System Manager.

7.9.4. **(Added-AFSC)** Aircraft placed on static display must be rendered safe IAW TO 00-80G-series, Make Safe Procedures For Public Static Display, and DAFMAN 91-201.

7.9.5. **(Added-AFSC)** Aircraft utilized for local maintenance training, fire department training, and aircrew extraction training will be made ‘safe’ IAW aircraft-specific TOs. If TO procedures do not exist, contact the Lead Command for guidance

7.10. Cannibalization Actions.

7.10.1. Egress system component Cartridge Actuated Device/Propellant Actuated Device (CAD/PAD) cannibalization actions are considered “High Risk” and should not be performed unless priority aircraft are involved (i.e., higher headquarters/alert status) or lack of ready equipment will impede mission accomplishment.

7.10.2. To ensure system integrity and validation of the explosive CAD/PAD listing, cannibalization of egress components and/or seats will not be accomplished without the approval of the Maintenance Group or Deputy Group Commander (or equivalent).

7.10.3. After cannibalization actions, Red X discrepancies in the aircraft AFTO Forms 781A or equivalent will not be cleared until REMIS is reviewed to ensure the correct configuration of the aircraft CAD/PAD items that were cannibalized.

7.11. Aircrew Flight Equipment (AFE) Program. HQ AFSC will manage AFE related maintenance programs IAW AFMAN 11-301V1, AFMAN 11-301V2, *Management and Configuration Requirements for Aircrew Flight Equipment (AFE)*, and all applicable TOs.

7.11.1. AFE personnel (i.e., Air Force Specialty Code 1P0X1, including civilian equivalents) will be trained IAW AFMAN 11-301V1.

7.11.2. AFE personnel will remove/install parachutes/survival kits from all non-ejection seat equipped aircraft.

7.11.3. AFE personnel will retain all administrative control over ACES II survival kits and personnel parachutes (i.e., documentation of all time changes in the IMDS) and tracking of serially controlled items stored within survival kits and serially controlled items on the personnel parachute assembly.

7.11.4. AFE personnel will maintain control over spare survival kits and personnel parachutes within their facility.

7.11.5. The AFE Superintendent (i.e., Air Force Specialty Code 1P0X1 or civilian equivalent) is the focal point concerning parachute/survival kit system technical issues.

CHAPTER 8

MAINTAINING COMMERCIAL DERIVATIVE AIRCRAFT

8.1. Background Information and Objective. The AF procures Commercial Derivative Aircraft (CDA) for various missions. These aircraft are intended to conform to Federal Aviation Administration (FAA) Type Certificates (TC), Supplemental Type Certificates (STC), and designs. The AF maintains these aircraft according to civil airworthiness standards using AF maintenance systems, facilities, equipment, mechanics, and "Meet the Intent" procedures as addressed in Air Force Sustainment Center Instruction (AFSCI) 62-603, *Military Repair Station Program*. They must meet FAA requirements when modifying these aircraft to maintain configuration control and ensure flight safety.

8.1.1. A CDA is any fixed or rotary wing aircraft procured as an FAA type certificated item acquired by the military.

8.1.2. Modifications, repairs, and overhauls accomplished by organic or commercial depot maintenance activities to AF CDA having FAA certification will not cause the aircraft to lose its FAA certification. All depot maintenance activities and organizations associated with CDA must comply with the respective TOs, aircraft manuals, FAA certified Part 145 repair station manual, and/or AFSC qualified ALC Military Repair Station (MRS) manual as applicable.

8.2. Depot Maintenance Requirements for CDA. HQ AFSC will develop, implement, and maintain procedures for depot maintenance activities performing modifications, repairs, and overhauls on CDA to include the following:

8.2. **(AFSC)** AFSC will comply with the requirements for CDA listed in AFSCI 62-603, Military Repair Station Program. Additionally, AFSC will adhere to the following AFMC CDA requirements:

8.2.1. Certification Requirements. Organic depot maintenance will be performed on CDA in an organic FAA certified Part 145 Repair Station or AFSC qualified ALC MRS.

8.2.2. Inspection Requirements. Depot maintenance accomplished either organically or commercially on CDA will comply with inspection requirements approved by the Original Equipment Manufacturer (OEM) or authorized CEA.

8.2.3. Deviations from Inspection Requirements. When deviations from inspection requirements or intervals is justified, proposed changes will be sent to the PM for evaluation by the CEA.

8.2.4. Component Overhaul and Time Change Intervals. Under normal operational conditions use the manufacturer's component overhaul and time change intervals for CDA and its installed equipment. Special emphasis will be placed on Extended Operations (ETOPS) certificated CDA to ensure that all time change intervals are met and that maintenance/overhaul actions do not put ETOPS certification or airworthiness at risk. CEA approval will be required for any situation that results in exceeding the FAA approved intervals.

8.2.5. Airframe Overhaul. Overhaul of CDA during Programmed Depot Maintenance (PDM)will be IAW approved and accepted aircraft maintenance manuals and/or Instructions for Continued Airworthiness. For issues that exceed the FAA approved maintenance instructions, seek approval from the CEA. The PM determines the PDM cycle intervals and related work requirements IAW TO 00-25-4, and the aircraft -6 inspection manual. General requirements and related time intervals include all major elements of the aircraft.

8.2.6. Aircraft and Component Modifications. The FAA issues a STC for a change to a type design. For AF designed modifications to CDA and components, obtain AF approval IAW AFI 63-101/20-101. Obtain FAA certification for CDA IAW FAA Order 8110.101A, *Type Certification Procedures for Military Commercial Derivative Aircraft*. FAA Form 8110-12, *Application for Type Certificate*, with engineering data attached, will be sent to the FAA Military Certification Office (MCO).

8.2.6.1. After approving the engineering prototype installation (and flight test, if required), the FAA issues the certification or STC. The PM receives the FAA certification or STC for an AF-designed modification. Contractors will obtain the FAA certification or STC for a contractor-designed modification.

8.2.6.2. All modifications to CDA will comply with AFPD 62-6, *USAF Airworthiness*. Such modifications are required to keep the Weapon System (WS) or aircraft in compliance with FAA standards and to maintain FAA certification.

CHAPTER 9

OIL ANALYSIS PROGRAM

9.1. Purpose. Oil Analysis is the process of analyzing oil and other fluids used to lubricate or operate mechanical equipment, evaluating the condition of the fluid or the equipment from which the fluid originated, and recommending maintenance actions to the equipment operating activity.

9.1.1. An Oil Analysis Program (OAP) ensures timely and accurate oil analysis support through the strategic location of oil analysis laboratories and the standardization of procedures, data elements, analytical instrumentation, and diagnostic techniques.

9.1.2. The Joint Oil Analysis Program (JOAP) is a combined effort of the Army, Navy and Air Force to set-up and maintain a standard program. Oil analysis requires a centrally managed program and the integration of AF OAP and JOAP plans. For further guidance reference AFI 21-131, *Joint Oil Analysis Program*.

9.2. Objectives. The overall objective of the AF OAP is to detect oil-wetted air and space equipment failures before serious malfunction or secondary damage occurs. HQ AFSC will develop, implement, and maintain procedures addressing the specific objectives of the AF OAP and JOAP programs listed below:

9.2.1. Improve the operational safety, readiness, and economy of military equipment using onboard and off-board oil analysis, a condition-monitoring concept that relies on the detection and measurement of wear-metals in the fluid.

9.2.2. Collect and analyze oil analysis data to increase the effectiveness of oil analysis techniques in the diagnosis of potential equipment failures and lubricant condition; to provide wear metal and lubricant physical property data to the various weapons system managers and others, as required.

9.2.3. Ensure oil analysis plans and operations are integrated (where practical) to provide:

9.2.3.1. Standard laboratory techniques, procedures, data, calibration standards, and analytical instruments.

9.2.3.2. Inter-service oil analysis support to all military departments.

9.2.3.3. The most cost–effective means of determining the condition of lubricants, fluids, and mechanical system using various analytical techniques.

9.3. Guidance. The OAP helps aircraft technicians and supervisors to make informed, conditionbased, preventive maintenance decisions, and can reduce equipment costs, increase equipment availability, and reduce in-flight risk. This is primarily achieved by monitoring the concentration of wear metals in fluids used to lubricate or power mechanical systems. To monitor engine health, the OAP uses a variety of testing mechanisms. These include Atomic Emission (AE) spectrometric wear metal analysis, Magnetic Chip Detectors (MCD), MCDs with on-board

sensors, and nondestructive microanalysis systems (e.g., Scanning Electron Microscope/Energy Dispersive Xray [SEM/EDX], Chip Check). To the extent deemed cost effective, EOT will be used as the standard time interval between oil analysis sampling when in-service engines are equipped with an Engine Monitoring System (EMS) or other operating time recorders. For engines without EMS or other operating time recorders, oil analysis trending intervals will be standardized based upon Engine Flying Hours (EFHs).

9.3.1. Responsible activities must ensure the resultant data is accurate and given promptly to all customers so they can effectively monitor the condition of their equipment.

9.3.2. Laboratory operation.

9.3.2.1. Each OAP laboratory must be certified IAW TO 33-1-37-1, *Joint Oil Analysis Program Manual*, *Volume I, Introduction, Theory, Benefits, Customer, Sampling Procedures, Programs And Reports, and* TO 33-1-37-2, *Joint Oil Analysis Program Manual*, *Volume II, Spectrometric And Physical Test Laboratory Operating Requirements and Procedures.*

9.3.2.2. AF OAP laboratories must provide oil analysis services at no charge for all US Government, North Atlantic Treaty Organization (NATO), and friendly Foreign Military Sales (FMS) aircraft. These services include analyzing oil samples from transient aircraft IAW applicable technical data within the AF OAP laboratory capabilities.

9.3.2.3. HQ AFSC will ensure OAP laboratories periodically evaluate response times to optimize support of the customer.

9.4. Roles and Responsibilities.

9.4.1. AFMC is the lead MAJCOM for the AF OAP and Air Force participation in the JOAP. AFMC is also responsible for oil analysis Research, Development, Test and Evaluation (RDT&E). Air Force Life Cycle Management Center, Propulsion Directorate, Propulsion Sustainment Division, Strategic Planning and Sourcing Office (AFLCMC/LPSZC) is the OPR for AF OAP guidance coordination and implementation within AFMC.

9.4.2. HQ AFSC will:

9.4.2.1. Provide guidance necessary to execute the AF OAP and ensures all subordinate organizations understand and properly execute AF OAP and JOAP responsibilities.

9.4.2.2. Ensure ALCs establish a Complex OAP POC for complying with AFMC OAP responsibilities to include the following:

9.4.2.2.1. Establish or relocate OAP laboratories to support the AFSC mission. Coordinates establishment or relocation with the AF OAP Manager.

9.4.2.2.2. Ensure laboratories provide the depot a computer-generated printout/record, for each engine undergoing scheduled maintenance or overhaul.

9.4.2.2.3. Ensure laboratories process and evaluate samples IAW TO 33-1-37-1/-2.

9.4.2.2.4. Ensure proper training of AF OAP laboratory technicians. This includes identifying training requirements to AETC.

9.4.2.2.5. Ensure assigned shop instrumentation and equipment is not modified or used for non-OAP applications without AF OAP Office approval.

9.4.2.2.6. Ensure AF OAP and JOAP requirements are included in planning, programming, and budgeting process. This includes providing needed funds, personnel, facilities, and other esources to maintain an effective program.

9.4.2.2.7. Ensure a Memorandum of Agreement (MOA) defining notification and documentation procedures is developed between the host base and ALC OAP laboratories when an ALC provides transient alert support and/or support to aircraft outside the depot.

9.4.2.2.8. Support equipment evaluations and field surveys for the AF OAP Office.

9.5. Reporting and Measurement. All laboratories must collect and report metrics to the AF OAP Manager IAW TOs 33-1-37-1 and 33-1-37-2.

CHAPTER 10

DEPOT FIELD TEAMS

10.1. Depot Field Teams (DFT).

10.1.1. A DFT is an individual or group designated to perform depot level maintenance and/or inspection of systems or equipment, such as aircraft, commodities, and engines, at a place other than the depot facility.

10.1.1. **(AFSC)** Workloads may be identified by, but not limited to, the System Program Manager (SPM), Material Group Manager (MGM), Product Group Manager (PGM), or higher authorities. Operating activities will forward their request for maintenance assistance for work requirements directly to their designated ALCs.

10.1.2. A collaborative effort between AFLCMC and AFSC is necessary to ensure proper coordination of DFT requirements and provide enhanced warfighter support.

10.1.3. All records created because of the DFT requirements process must be maintained IAW AFI 33-322 and disposed of IAW the AFRIMS RDS.

10.2. HQ AFLCMC will:

10.2.1. Ensure Systems Program Offices (SPOs) provide request for DFT assistance to the appropriate Air Logistics Complex Business Office (ALC/OB) in the form of a Statement of Work (SOW).

10.2.2. The SOW will include the Mission Design Series/Type Model Series (MDS/TMS), type of work, location, estimated timeframe, specific repair/manufacture instructions (TO references, AFMC Form 202, *Engineer Technical Assistance Request,* instructions, etc.) and justification for organic accomplishment.

10.2.3. Ensure an approved DFT request received from the ALC/OB includes Job Order Quantity (JOQ), estimated total labor cost, material cost and workload duration in calendar days.

10.2.4. Ensure funding is approved and forwarded to the appropriate ALC/FM.

10.3. HQ AFSC will:

10.3.1. ALC/OB serves as the single point of contact and control for all matters related to DFT workload to include:

10.3.1.1. DFT request approval, to include JOQ, estimated labor cost, material cost, and workload duration in calendar days, is forwarded to the appropriate SPO.

10.3.1.2. Verification of funding and release of a work authorization.

10.3.1.2.1. **(Added-AFSC)** Specifically, within the Workload and Analysis Section, the Workload Element serves as the OPR for DFTs. The ALC/OB staff works in conjunction with various production groups and staff office representatives throughout the ALCs to develop official workload positions, decisions, plans, and/or responses. All matters affecting potential changes in DFT maintenance workload are directed or referred to the ALC/OB or designated POC for action and/or official response. Such matters includes, but limited to, the following:

10.3.1.2.1.1. **(Added-AFSC)** TO 00-25-107, *Maintenance Assistance*, DFT support requirements.

10.3.1.2.2. **(Added-AFSC)** Project orders and all other workload funding/authorization instruments (AFMC Form 181, Project Order, AF Form 185, Project Order, DD Form 448, Military Interdepartmental Purchase Request, etc.).

10.3.1.3. **(Added-AFSC)** This process is not intended to inhibit informal communications between System Program Offices (SPOs) or other customers and the affected production areas, but is necessary to ensure proper coordination of workload actions and efficient business processes that lead to enhanced warfighter support.

10.4. **(Added-AFSC)** Documentation Requirements.

10.4.1. **(Added-AFSC)** The SPO provides ALC/OB or designated POC with a workload offer in the form of a Statement of Work (SOW). The SOW will include the MDS/type model series (TMS), type of work, location, estimated timeframe, specific repair/manufacture instructions (TO references, AFMC Form 202, *Nonconforming Technical Assistance Request and Reply*, instructions, etc.) and justification for organic accomplishment.

10.4.2. **(Added-AFSC)** The production group workload section provides ALC/OB or designated POC with a cost estimate. The cost estimate will include number of people, job order quantity (JOQ) expressed in depot production standard hours, labor cost, material cost, travel cost, other cost, and limiting factors when applicable. Cost estimates for DFT organic work will use labor and material costs appropriate to the weapon system the DFT will be supporting (published weapon systems DFT sales rate).

10.5. **(Added-AFSC)** Procedures.

10.5.1. **(Added-AFSC)** DFT Request. ALC/OB or designated POC receives request for DFT assistance (i.e., SOW) from the SPO.

10.5.2. **(Added-AFSC)** DFT Request Processing.

10.5.3. **(Added-AFSC)** ALC/OB or designated POC forwards request for DFT assistance (i.e., SOW) to the Production Group Workloading Section.

10.5.4. **(Added-AFSC)** Production Group. Workloading section sends DFT request (i.e., SOW) to the pre- planning/screening review team (planners, schedulers, engineers, financial personnel, and other personnel as deemed necessary).

10.5.5. **(Added-AFSC)** Pre-planning Actions. The pre-planning review team reviews and identifies requirements to determine DFT supportability. DFT requirement aspects to identify include but are not limited to the following:

10.5.5.1. **(Added-AFSC)** Repair Plan. A methodical procedure to accomplish the requested repair/correction.

10.5.5.2. **(Added-AFSC)** Material Requirement List. A list of material required to accomplish the requested repair/correction.

10.5.5.3. **(Added-AFSC)** Technical Data. Information (e.g., specifications, tolerances, etc.) required to accomplish the requested repair/correction.

10.5.5.4. **(Added-AFSC)** Manning for DFT. Specified skills and number of personnel needed for the DFT.

10.5.5.5. **(Added-AFSC)** Tooling/Support Equipment. A list of common tools, specialized tools, and support equipment required for the DFT.

10.5.5.6. **(Added-AFSC)** Production Acceptance Certification (PAC) Requirements. PAC program requirements/qualifications needed for the DFT members.

10.5.5.7. **(Added-AFSC)** Quality. Assure procedures used provide a service or product that will satisfy the customer.

10.5.5.8. **(Added-AFSC)** Personnel Selection/Notification. Notify selected DFT members.

10.5.5.9. **(Added-AFSC)** Internal POCs. Identify supporting ALC POCs for DFT.

10.5.5.10. **(Added-AFSC)** Customer Relations. Provide required information to the host unit to support the DFT.

10.5.5.11. **(Added-AFSC)** Environmental Issues. Review tasks and site for environmental compliance.

10.5.6. **(Added-AFSC)** Request Approval. Pre-planning review team results are provided to the Production Group Workloading Section.

10.6. **(Added-AFSC)** DFT Funding Request Processing.

10.6.1. **(Added-AFSC)** The Production Group Workloading section forwards DFT approval with review team results in the form of a cost estimate to the ALC/OB. The cost estimate will include

number of people, JOQ (expressed in depot production standard hours), workload duration in calendar days, labor cost, material cost, travel cost, other cost, and limiting factors, when applicable. Only material cost for non-stock listed, disposable items will be processed (e.g., fabrication of bonded composite/metal patches, splash mold fittings, etc.). All field operating units are responsible to acquire stock listed items through the supply system. All manufacturing requirements for NSN items received by the ALCs in support of a DFT will require a request for quotation (RFQ) and be processed through the appropriate ALC/OB RFQ Workflow or designated POC.

10.6.2. **(Added-AFSC)** DFT Funding Request Approval.

10.6.3. **(Added-AFSC)** The SPO approves and forwards funding to ALC/FM via an AFMC Form 181 into the Automated Project Order System (J025A) and an AFSC Form 206, *Temporary Work Request*, which will be utilized to establish an "A" (direct cost) and possible "T" (material cost, if required to support DFT) work order within the Job Order Production Master System (JOPMS) G004L.

10.6.4. **(Added-AFSC)** The ALC/FM may accept a letter of intent (LOI) for emergencies only to fund workload in advance of funding receipt where customer-driven workload needs to be performed to meet flow days and effectively use available capability.

10.7. **(Added-AFSC)** Post DFT Request Approval.

10.7.1. **(Added-AFSC)** After receipt of DFT funding, Production Group Workloading section notifies the appropriate Planning/Production Squadron personnel to begin DFT preparatory actions.

10.7.2. **(Added-AFSC)** After receipt of DFT funding, the Production Group Workloading section provides ALC/OB with DFT composition (military, civilian, or a combination) and the estimated start and completion dates for the associated DFT work.

10.7.3. **(Added-AFSC)** The DFT will not deploy until receipt of full funding or approved LOI, associated JON in G004L, and host site provides parts availability notification, if applicable.

10.8. **(Added-AFSC)** Execution.

10.8.1. **(Added-AFSC)** All official responses for DFT workload declinations must include the appropriate Production Group Office concurrence/approval. Any DFT workload declination will be sent to ALC/OB (i.e., the Workloading Section) for official approval of the declination by the ALC/CC/Vice Director.

10.8.2. **(Added-AFSC)** Any SOW received by ALC/OB will be considered an official workload offer.

10.8.3. **(Added-AFSC)** Any cost estimate received by ALC/OB from the applicable Production Group will be considered an official notification of workload acceptance.

10.8.4. **(Added-AFSC)** ALC/OB has a responsibility to ensure the integrity of all ALC aircraft workload cost estimates. All cost estimates must reflect the appropriate published weapon systems DFT sales rates and mirror the work outlined in the customer SOWs.

10.8.5. **(Added-AFSC)** The following requirements will impact the DFT estimated start and completion dates provided by the Production Group Workloading Sections:

10.8.6. **(Added-AFSC)** The receipt of cost estimates from the Production Group Workloading Sections.

10.8.7. **(Added-AFSC)** The receipt of funding from the customer (i.e., SPO).

10.8.8. **(Added-AFSC)** Confirmation of parts/tooling availability at host site.

10.8.9. **(Added-AFSC)** ALC/FM or designated POC may accept a LOI for emergencies only to fund workload but may incur limited costs in advance of funding receipt only for authorized programs for which customer funds are available. LOIs to fund workload are valid for no more than 30 days from date of issuance and should be provided to ALC/OB or designated POC on official letterhead from the requesting organization and be signed by the Life Cycle Management Center-designated, management-level personnel representing both the program management and funds management offices. Upon expiration, if customer funding has not been received, work must immediately cease and no additional cost may be incurred.

10.9. **(Added-AFSC)** Work Control Documents (WCDs).

10.9.1. **(Added-AFSC)** When a DFT is designated to perform maintenance/inspection of systems or equipment at a place other than the depot facility, the responsibilities listed below are assigned to ensure WCD establishment and control. All DFT WCDs are considered official documents and are governed by existing regulatory guidance.

10.9.2. **(Added-AFSC)** Responsible Production Planner will:

10.9.3. **(Added-AFSC)** Ensure authorized WCDs established for planned DFT work are provided to the Lead DFT mechanic/technician prior to team departure to maintenance/inspection location.

10.9.4. **(Added-AFSC)** Ensure “blank” hard copies of AFSC Form 959, *Work Control Document*, are included in the WCD package that is provided to the Lead DFT mechanic/technician for use in documenting unpredictable DFT work. All required information needed on the “blank” AFSC Form 959 will be hand scribed by the DFT mechanic/technician.

10.9.5. **(Added-AFSC)** Upon request, coordinate any needed engineering assistance requests (Engineering Technical Assistance Requests 107 Process) when TO defined instructions do not exist for an unpredictable DFT identified discrepancy.

10.9.6. **(Added-AFSC)** Responsible Lead DFT Mechanic/Technician will:

10.9.6.1. **(Added-AFSC)** Review WCD package prior to team departure to maintenance/inspection location to ensure all needed WCDs (planned and "blank" AFSC Form 959) are included and notify responsible planner of any WCDs that need to be added to the package.

10.9.6.2. **(Added-AFSC)** Contact responsible supervisor/planner during the DFT visit to maintenance/inspection location to request submission of any needed engineering assistance requests (Engineering Technical Assistance Requests 107 Process) when TO defined instructions do not exist for an unpredictable DFT identified discrepancy.

10.9.6.3. **(Added-AFSC)** Ensure all revisions to the originally planned WCD are documented on AFSC Form 959. Ensure the AFSC Form 959 is attached to the original WCD during the DFT visit to the maintenance/inspection location.

10.9.6.4. **(Added-AFSC)** Ensure required information (Engineering Technical Assistance Requests 107 Process) is hand scribed on the AFSC Form 959 used to allow documentation of unpredictable DFT work during the DFT's visit to the maintenance/inspection location.

10.9.6.5. **(Added-AFSC)** Upon the DFT's return to the depot, ensure the completed WCD package is submitted to the appropriate office of responsibility, i.e., group work loading, planning, or scheduling.

10.10. **(Added-AFSC)** Rework.

10.10.1. **(Added-AFSC)** As a result of an acceptance inspection deficiency report (DR), if it is determined that the depot should send a DFT to correct discrepancies, all cost (including travel) for a rework DFT will be charged to the responsible squadron and not the customer. Material costs will also be charged to the responsible RC/CC. No earned hour credit to a JON or charges to a customer will be made.

10.10.2. **(Added-AFSC)** In the TAA portion of the DMAPS, the labor for this effort will be exception to duty code 26 with special project code subshred 14 (Misc. Defective Asset Rework, X51112614000) in the responsible RC/CC (i.e., the RC/CC that accepts responsibility for the deficiency). Planning may establish a "dummy" T-JON in G097 for the purpose of generating rework WCDs.

10.11. **(Added-AFSC)** Depot Field Team (DFT) Pre-Departure Briefing.

10.11.1. **(Added-AFSC)** The Maintenance Group should brief DFT team members prior to departure to ensure the team understands the scope/requirements of the mission and their roles/responsibilities (e.g., overtime requirements, sick leave procedures, chain of command, transportation, tool control, interim reporting, return procedures, etc.) during the trip.

10.11.2. **(Added-AFSC)** Maintenance Groups will brief the appropriate personnel prior to team departure to ensure DFT labor production transactions are accurately performed at the JON level in the TAA system.

CHAPTER 11

GROUND INSTRUCTIONAL TRAINER AIRCRAFT

11.1. Permanently Assigned Ground Instructional Trainer Aircraft (GITA). Permanently assigned GITA are those aircraft that are not maintained in airworthy condition. Active GITA are maintained in system/subsystem operational condition for purposes of maintenance training and normally carried in possession codes as outlined in DAFI 21-103 or AFI 16-402. Inactive GITA are permanently grounded for use in personnel training.

11.1.1. This section does not apply to Aircraft Battle Damage Repair (ABDR) training aircraft. ABDR training aircraft are managed by Air Force Sustainment Center, Logistics Directorate, Depot Maintenance Operations Division, Depot Maintenance Processes and Productivity Branch (AFSC/LZDB). This chapter does not apply to training equipment maintained by Contract logistics Support (CLS) contracts administered by commands other than AETC.

11.2. Temporarily Grounded GITA (active). Temporarily grounded aircraft are subject to recall to the active fleet.

11.2.1. Only those items requested by the PM are considered for removal. If the item does not affect training and if approved by the Maintenance Group Commander (MXG/CC) or equivalent, the part will be removed and turned in as per the instructions of MXG/CC or equivalent.

11.2.2. Units are responsible for storing uninstalled or removed equipment that is not required for training.

11.3. Permanently Grounded GITA (inactive). Permanently grounded aircraft are those declared excess to future operations or flying requirements by higher headquarters. Aircraft in this category will be re-designated by the addition of the prefix “G” to the basic MDS.

11.3.1. Training Aid Aircraft are considered Permanently Grounded GITA (inactive). Aircraft in this category, at a minimum, require an aircraft fuselage that was previously in the AF inventory as an aircraft. Training Aid Aircraft will be re-designated by the addition of the prefix “T” to the basic MDS.

11.3.1.1. Assigned aircraft are not maintained in airworthy condition, and only the system/subsystem required for the specific training requirements will be maintained in operational condition for purposes of required maintenance/organizational training.

11.3.1.2. Aircraft used for training are not terminated from the AF inventory IAW AFI 16-402.

11.3.1.3. Questions about the designation of an aircraft used for training should be directed to the MAJCOM AVDO.

11.3.2. Permanently grounded missiles retain their original MDS without a prefix.

11.3.3. Upon assignment of a permanently grounded GITA/Training Aid Aircraft, the MXG/CC or equivalent will contact AFSC/LG to coordinate "save list" requirements identified by the PM.

11.3.3.1. “Save list” items removed will be turned into Logistics Readiness Squadron (LRS) for shipment.

11.3.3.2. If an item on the “save list” is not removed, the reason for not removing it will be annotated and coordinated with the applicable MAJCOM.

11.3.3.3. If items on the “save list” are required for training and an unserviceable item will suffice, units will coordinate with the applicable MAJCOM for receipt of the unserviceable items.

11.3.3.4. All unserviceable items will be marked/identified as “unserviceable” in a conspicuous manner (e.g., Red X or Red dot system).

11.4. GITA Program Requirements. The GITA program will, at the minimum, address the scope of training functions for GITA/Training Aid Aircraft use, functional responsibility for funding, operations, maintenance, and records management. HQ AFSC will:

11.4. **(AFSC)** The ALCs will develop, implement, and maintain an effective GITA program IAW with this chapter.

11.4.1. Determine use of MIS for permanently grounded GITA records management.

11.4.2. Coordinate “save list” requirements/changes with the PMs.

11.4.3. Develop, implement, and maintain an effective GITA program for use at the ALCs to ensure the MXG/CCs accomplish the following:

11.4.3.1. Develop an installation publication or supplement to define the scope of training functions for GITA/TAA use, functional responsibility for funding, operations, maintenance, and records management.

11.4.3.2. Ensure maintenance support of GITA/Training Aid Aircraft used for training. Units that do not have organic maintenance capability will establish a Support Agreement or MOA assigning maintenance responsibility for GITA/Training Aid Aircraft training use.

11.4.3.2.1. GITA maintenance includes on- and off-equipment maintenance of active systems and subsystems and necessary actions to maintain the aircraft in a safe and presentable condition.

11.4.3.2.2. Training Aid Aircraft require minimal maintenance on systems/subsystems used to meet training requirements and should be maintained in a safe and presentable condition.

11.4.3.3. Determine which system and subsystem are required to support the training. Consider present, future, and cross-utilization of systems when making determinations. These systems will be maintained in the same configuration as operational equipment.

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

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

11.4.3.6. Ensure standard maintenance practices regarding inspection appearance, cleanliness, ground safety, and prevention of corrosion are met. Corrosion control procedures are outlined in TO 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment*.

11.4.3.7. Develop and prepare inspection technical data check lists for use in inspecting the condition and safety of equipment before use and ensure inspections are performed.

11.4.3.7.1. Prior-to-use inspections will be conducted by the using organization employing a tailored weapon system pre-/post-dock checklist.

11.4.3.7.2. Conduct periodic maintenance inspections using a tailored work deck.

11.4.3.8. Prepare a separate memorandum for each GITA/Training Aid Aircraft, addressed to the appropriate PM for the aircraft and inform them of the systems and subsystems that will be maintained in operational configuration.

11.4.3.8.1. When changes in requirements occur, initiate a new memorandum.

11.4.3.8.2. Ensure copies of all GITA/ Training Aid Aircraft memorandums are provided to the MAJCOM AVDO.

11.4.3.9. Ensure air and space vehicle inventory will be reported IAW DAFI 21-103 as required for ground trainers. Aircraft used for ground trainers are exempt from status and utilization reporting.

11.4.3.10. Ensure maintenance actions are documented IAW TO 00-20-1.

11.4.3.10.1. Owning units not having maintenance capability will establish MOAs or Memorandums of Understanding (MOUs) with organizations which can provide maintenance support.

11.4.3.11. Ensure timely completion of TCTOs on systems designated for configuration management and proper configuration status accounting is maintained.

11.4.3.11.1. Accomplish TCTOs on systems not designated for configuration management as required to ensure safety of operation or as directed by the PM.

11.4.3.11.2. TCTOs are not maintained on Training Aid Aircraft.

11.4.3.12. Ensure proper coordination and documentation of parts removed from training aircraft are accomplished as follows:

11.4.3.12.1. When an item is removed or replaced, supervisors will ensure this action is documented in the aircraft forms. Include the authority for removal (e.g., message number, telecon, letters, and dates) and condition of installed/replacement items.

11.4.3.12.2. When the limited save list actions have been done, a copy of the completed list will be forwarded to the appropriate PM and the local documentation function which will be added to the Training Aid Aircraft historical record.

11.4.3.12.3. Weight and Balance (W&B) handbook requirements will be maintained IAW TO 1-1B-50, *Joint Technical Manual Organizational, Intermediate and Depot Maintenance Aircraft Weight and Balance*, and applicable -5 series TOs.

CHAPTER 12

ADDITIONAL PROGRAM REQUIREMENTS

12.1. Fleet Grounding/Removal from Service/Restricted Operations.

12.1.1. On occasion, units may discover conditions in multiple aircraft, engines, missiles, munitions, or related installed flight equipment of sufficient risk to personal injury or equipment damage that warrant fleet grounding, removal from service, or restricted operations of their assigned aircraft until the matter can be properly investigated and resolved.

12.1.2. In certain cases, the Weapon System (WS) PM versus an operational unit will discover a materiel condition with fleetwide impact and will recommend the MAJCOM/CC ground their assigned aircraft, or, in some instances direct immediate grounding IAW authority granted to the WS PM in TO 00-5-15, *Air Force Time Compliance Technical Order Process.*

12.1.3. Definitions.

12.1.3.1. Fleet Grounding. An administrative action taken to prohibit a "fleet of aircraft" from flying because of a specific condition related to the aircraft or based on requirements of a directive. Implemented from a higher echelon of command (MAJCOM/CC) when conditions in multiple aircraft, engines, missiles, munitions, or related installed flight equipment create a sufficient risk to personal injury or equipment damage which warrant "fleet grounding" until the matter can be properly investigated and resolved.

12.1.3.2. Removed from Service. Denotes an aircraft with an overdue One Time Inspection (OTI), immediate or urgent action TCTO. Remove from service dates are noted within the applicable OTI. May also be used to indicate status of weapon system components, Support Equipment, and Real Property Installed Equipment.

12.1.3.3. Restricted Operations. An aircraft maintenance and condition status that applies to singular aircraft which are restricted from specifically assigned unit wartime, training, test, or other missions. These aircraft maintain a partially mission capable or non-mission capable maintenance status as determined by the MDS Minimum Essential Subsystems List (MESL). Aircraft with restricted operations may or may not be mission capable depending on the MDS MESL requirements.

12.1.4. HQ AFSC will develop, implement, and maintain standardized procedures when depot maintenance support is requested for units with fleet grounding, removal from service, or restricted operations of aircraft, engines, or major end items in the possession of the depots. For additional guidance, reference *DAFMAN 11-401*, *Aviation Management*.

12.1.4.1. **(Added-AFSC)** Documentation

12.1.4.2. **(Added-AFSC)** Annotate Aerospace Equipment forms IAW TO 00-20-1.

12.1.4.3. **(Added-AFSC)** Grounding Authority. Major Command Commanders (MAJCOM/CCs) may direct grounding of MDS-specific or all aircraft within their commands for maintenance reasons. When a MAJCOM has lead command aircraft responsibility, MAJCOM/CCs may recommend grounding of all aircraft within an MDS-specific fleet. Notification will be provided IAW AFMAN 10-206. Return to normal operations will be initiated by the commander directing the original grounding. The authority for grounding may be delegated by MAJCOMs in supplements to this and other governing AFIs but not lower than MAJCOM/A4s. (**Note**: ANG will follow grounding authority guidance IAW DAFMAN 11-401, *Aviation Management*.)

12.1.4.3.1. **(Added-AFSC)** In the case of a deployed unit that is not assigned/attached to a MAJCOM, the grounding decision will be made by the Joint Force Air Component Commander/Combined Force Air Component Commander (JFACC/CFACC).

12.1.4.4. **(Added-AFSC)** Release from grounding.

12.1.4.4.1. **(Added-AFSC)** When a grounding condition requires SPM involvement, the SPM engineering function will investigate and recommend a course of action to the submitting MAJCOM IAW TO 00-5-15. The MAJCOM/A4 will consult with the MAJCOM/CC to confirm conditions for the release from grounding via the following methods: For Unclassified Messages: Official non-secure internet protocol router (NIPR) email, digitally signed, and encrypted using the CAC PKI. For Classified Messages: Official secure internet protocol router (SIPR) email. If the corrective action is published as an immediate action TCTO or other certified repair data, individual aircraft compliance constitutes their return to service. If aircraft are grounded by a HAF authority, then coordinate for release through AF/A4L.

12.1.4.4.2. **(Added-AFSC)** If the corrective action is issued as a routine TCTO or no corrective action is required for unaffected aircraft (i.e., after investigation, the situation does not pose imminent risk to the entire fleet), the affected MAJCOM/CC will issue a follow-on email to affected units/commands releasing the grounding order and specifying conditions for returning to flying operations.

12.1.4.4.3. **(Added-AFSC)** Units will annotate release from grounding by clearing the discrepancy IAW TCTO/repair data and/or TO 00-20-1. If the corrective action is deferred to a routine TCTO, next phase/isochronal, etc., clear the discrepancy IAW MAJCOM/A4 direction and enter the appropriate data for the deferred job.

12.1.4.4.4. **(Added-AFSC)** Final reporting for grounding and release status will be accomplished IAW AFMAN 10-206 AFMCSUP.

12.2. Cannibalization Program. Cannibalization (CANN) is the authorized removal of a specific assembly, subassembly, or part from one weapon system, support system, or equipment end item for installation on another end item to satisfy an existing supply requisition and to meet priority mission requirements with an obligation to replace the removed item. CANN actions may be necessary when a condition prevents the accomplishment of a mission, and the required assets are not immediately available from supply. When authorizing a CANN, the expenditure of manhours and potential damage to equipment must be weighed against the expected benefit. HQ

AFSC will develop, implement, and maintain standardized procedures for authorizing and minimizing CANN actions, including identifying and reporting to AFLCMC if the action was necessary to support programmed or unprogrammed workload. See **Volume 2, Chapter 7** of this instruction for CANN actions involving egress equipment.

12.3. Aircraft and Equipment Decontamination. HQ AFSC will develop a decontamination program IAW MDS specific technical data and the following references: DAFMAN 91-203, *Air Force Occupational Safety, Fire and Health Standards*, and TO 00-110A-1, *Guidelines for Identification and Handling of Aircraft and Material Contaminated with Radioactive Debris (Fallout).*12.4. Weight and Balance (W&B) Program.

12.4. Weight and Balance (W&B) Program.

12.4.1. HQ AFSC will ensure the ALCs develop, implement, and maintain standardized procedures governing the W&B program IAW TO 1-1B-50. applicable MDS TOs and this instruction.

12.4.1. **(AFSC)** The ALC's will develop, implement, and maintain standardized procedures governing the W&B program IAW TO 1-1B-50, *Joint Technical Manual Organizational, Intermediate and Depot Maintenance Aircraft Weight and Balance* applicable MDS TOs and this instruction and as a minimum will ensure:

12.4.1.1. **(Added-AFSC)** Appointing W&B Authorities at Group-level.

12.4.1.2. **(Added-AFSC)** Ensure appropriate Group Quality Assurance oversight of W&B Program.

12.4.2. **(Added-AFSC)** The W&B Authority will:

12.4.2.1. **(Added-AFSC)** Ensure W&B technicians are trained and qualified.

12.4.2.2. **(Added-AFSC)** Ensure sufficient personnel are qualified on assigned aircraft IAW TO 1-1B-50 and applicable MDS TOs and applicable special certification roster (SCR) training.

12.4.2.3. **(Added-AFSC)** Ensure the SCR reflects certification of appointed Authority. Technician training/certification will be documented in TSS/PAC.

12.4.2.4. **(Added-AFSC)** Ensure all assigned aircraft are weighed IAW applicable directives. Keep W&B documents required by TO 1-1B-50 for each assigned aircraft. Use the Automated Weight and Balance System (AWBS) and keep a back-up copy of all W&B documents.

12.4.2.5. **(Added-AFSC)** Ensure procedures are written for routing completed TCTO and modification information for W&B changes.

12.4.3. **(Added-AFSC)** W&B Technicians Responsibilities

12.4.3.1. **(Added-AFSC)** Verify scale readings and accomplish/oversee the actual computations. Supervise the preparation, leveling and weighing of the aircraft IAW MDS specific –2 and –5 series TOs and TO 1-1B-50.

12.4.3.2. **(Added-AFSC)** Inspect W&B documents before initial FCF and before flight when locally accomplished modifications affect the basic aircraft weight and moment. Review computations for accuracy.

12.4.3.3. **(Added-AFSC)** Keep W&B documents required by TO 1-1B-50 for each assigned aircraft.

12.4.3.4. **(Added-AFSC)** Use the Automated Weight and Balance System (AWBS).

12.4.3.5. **(Added-AFSC)** W&B qualified technician inspects W&B documents before flight when locally accomplished modifications affect the basic aircraft weight and moment. Review computations for accuracy.

12.5. Test Cells and Hush Houses. HQ AFSC will ensure the ALCs assign a primary and alternate custodian that will establish an account and utilize the Agile Combat Support Management Tool (ACSMT) in the Web Applications Software Products (WASP) site https://wasp.cce.af.mil/ACSMT for TO 00-25-107, *Maintenance Assistance*, reporting and status updates of engine test stands or hush house equipment. ETARs shall be reported using the AutoTAR system at https://afsc202.robins.af.mil/.

12.6. AMARG Reclamation and Disposal. HQ AFSC will develop, implement, and maintain standardized processes and procedures to address unique AMARG reclamation and disposal operations.

(Added-AFSC)
JEFFREY R. SICK, SES, DAF
Air Force Sustainment Center, A3/4 Director

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

Title 5, United States Code § 301, *Department Regulations*

Title 5, United States Code § Chapter 53, *Pay Rates and Systems*

Title 5, United States Code § Chapter 55, *Pay Administration*

Title 5, United States Code § Chapter 81, *Compensation for Work Injuries*

AFPD 21-1, *Maintenance of Military Materiel*, 1 August 2018

AFPD 62-6, *USAF Airworthiness*, 16 January 2019

DAFPD 24-6, *Distribution and Traffic Management*, 12 October 2022

DAFI 11-209, *Participation in Aerial Events*, 20 May 2021

DAFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, 1 November 2022

DAFI 21-103_AFMCSUP, *Equipment Inventory, Status and Utilization Reporting*, 10 May 2023

(Added-AFSC) DAFI 23-101 AFMCSUP, *Materiel Management Policy*, 10 December 2021

DAFI 23-101, *Materiel Management Policy*, 22 October 2020

DAFI 36-2670, *Total Force Development*, 25 June 2020

DAFI 91-204, *Safety Investigations and Reports*, 10 March 2021

AFI 10-201, *Force Readiness Reporting*, 22 December 2020

AFI 10-403, *Deployment Planning and Execution,* 17 April 2020

AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*, 27 September 2019

(Added-AFSC) AFI 20-110 AFMCSUP, *Nuclear Weapons-Related Materiel Management*, 5 April 2024

(Added-AFSC) AFI 20-110, *Nuclear Weapons-Related Materiel Management*, 4 June 2018

AFI 21-131, *Joint Oil Analysis Program*, 26 March 2014

AFI 24-301, *Ground Transportation*, 22 October 2019

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFI 36-2650, *Maintenance Training*, 22 June 2022

AFI 36-2650_AFMCSUP, *Maintenance Training*, 3 March 2023

AFI 63-101/20-101, *Integrated Life Cycle Management*, 30 June 2020

(Added-AFSC) ASTM F495*, In-Service Care of Insulating Gloves and Sleeves, Section 8*, 15 June 2024

(Added-AFSC) ASTM F1505, *Standard Specification for Insulated and Insulating Hand Tools*, 1 November 2016

DAFI 63-138, *Acquisition of Services*, 2 January 2024

(Added-AFSC) AFI 90-802, *Risk Management*, 4 October 2023

AFI 90-821, *Hazard Communication (HAZCOM) Program*, 13 May 2019

AFI 91-202, *The US Air Force Mishap Prevention Program,* 12 March 2020

(Added-AFSC) DAFMAN 11-401, *Aviation Management*, 27 October 2020

DAFMAN 32-1084, *Standard Facility Requirement*, 15 January 2020

DAFMAN 36-2689, *Training Program*, 31 March 2023

DAFMAN 90-161, *Publishing Processes and Procedures*, 18 October 2023

DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards*, 25 March 2022

(Added-AFSC) DoD FMR 7000.14-R, *Department of Defense Financial Management Regulation*, 1 March 2024

(Added-AFSC) DoDI 1000.30, *Reduction of Social Security Number (SSN) Use Within DoD*, 30 November 2022

(Added-AFSC) DoDI 1400.25, *Civilian Personnel Management*, 1 December 1996

(Added-AFSC) DoDM 5200.01, *DoD Information Security Program,* 28 July 2020

(Added-AFSC) AFMAN 10-206, *Operational Reporting* (*OPREP)*, 1 Sep 2020

(Added-AFSC) AFMAN 10-206, *Operational Reporting (OPREP) AFMCSUP*, 21 Dec 2018

AFMAN 11-301V1, *Aircrew Flight Equipment (AFE)*, 31 May 2023

AFMAN 11-301V2, *Management and Configuration Requirements for Aircrew Flight Equipment (AFE)*, 13 February 2020

AFMAN 20-116, *Propulsion Life Cycle Management for Aerial Vehicles*. 13 April 2022

AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, 4 February 2020

AFMAN 63-143, *Centralized Asset Management Procedures*, 18 December 2020

AFSCI 21- 104, *Industrial Process Control*, 29 October 2024

DESR 6055.09_AFMAN 91-201, *Explosives Safety Standards*, 6 June 20-20

AFMCI 65-101, *Depot Maintenance Accounting and Production System-Financial Policy and Procedures for Depot Maintenance*, 17 June 2014

AFMCMAN 63-1202, *Engineering Technical Assistance Request (ETAR) Process,* 30 September 2022

AFSCI 62-603, *Military Repair Station Program,* 3 June 2022

Executive Order 9397*, Numbering System for Federal Accounts Relating to Individual Persons*

FAA Order 8110.101A, *Type Certification Procedures for Military Commercial Derivative Aircraft*, 25 February 2015

(Added-AFSC) IEC 60900, *Live Working – Hand Tools for Use up to 1000 VAC and 1500 VDC*, 1 Jun 2018

(Added-AFSC) NFPA 70E, *Electrical Workplace Safety*, 13 May 2023

TO 00-110A-1, *Guidelines for Identification and Handling of Aircraft and Material Contaminated with Radioactive Debris (Fallout).* 4 August 2021

TO 00-5-1, *Air Force Technical Order System*, 11 September 2023

TO 00-5-3, *Air Force Technical Order Life Cycle Management,* 29 November 2023

TO 00-5-15, *Air Force Time Compliance Technical Order Process,* 28 July 2023

TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*, 26 September 2022

TO 00-20-2, *Maintenance Data Documentation*, 23 August 2023

TO 00-20-14, *Air Force Metrology and Calibration Program*, 30 November 2023

TO 00-25-4, *Depot Maintenance of Aerospace Vehicles and Training Equipment*, 15 September 2022

TO 00-25-107, *Maintenance Assistance*, 15 August 2022

TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 22 December 2023

(Added-AFSC) TO-00-25-234, *General Shop Practice Requirements for The Repair, Maintenance, And Test Of Electrical Equipment*, 09 Jan 2020

TO 00-25-254-1, *Comprehensive Engine Management System Engine Configuration, Status and TCTO Reporting Procedures*, 1 February 2022

TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution (DRI&R),* 15 August 2022

(Added-AFSC) TO 00-80G-series, *Make Safe Procedures for Public Static Display,* 15 April 2016

TO 00-85-20, *Engine Shipping Instructions*, 1 July 2022

TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*, 28 March 2022

(Added-AFSC) TO 1-1-300, *Acceptance Functional Check Flight and Maintenance Operational Checks,* 15 December 2023

TO 1-1B-50, *Joint Technical Manual Organizational, Intermediate and Depot Maintenance Aircraft Weight and Balance*, 12 September 2023

(Added-AFSC) TO 1-1-686, *Desert Storage, Preservation and Process Manual for Aircraft, Aircraft Engines, and Aircraft Auxiliary Power Unit Engines*, 24 March 2020

TO 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment,* 22 July 2022

TO 2-1-18, *Aircraft Engine Operating Limits and Factors*, 1 January 2023

TO 2J-1-18, *Preparation for Shipment and Storage of Gas Turbine Engines*, 1 November 2022

TO 31S5-4-ETOOL-1, *eTool and Commercial Mobile Device Set up and Management,* 1 September 2023

(Added-AFSC) TO 32-1-101, *Use and Care of Hand Tools and Measuring Tools,* 19 August 2023

TO 33-1-37-1, *Joint Oil Analysis Program Manual, Volume I, Introduction, Theory, Benefits, Customer Sampling Procedures, Programs and Reports*, 15 September 2014

TO 33-1-37-2, *Joint Oil Analysis Program Manual, Volume II, Spectrometric and Physical Test Laboratory Operating Requirements and Procedures*, 15 June 2022

(Added-AFSC) TO 42E1-1-1, *Aviation Hose and Tube Manual*, 30 July 2007

(Added-AFSC) UFC 3-560-01, *Operation and Maintenance: Electrical Safety*, 24 July 2017

Prescribed Forms

(Added-AFSC) AFSC Form 005, *Locally Manufactured/Modified Tools and Equipment (LM/MT&E) Control Document*

(Added-AFSC) AFSC Form 137, *Routed Order*

(Added-AFSC) AFSC Form 173, *MDS/Project Operation Assignment*

(Added-AFSC) AFSC Form 206, *Temporary Work Request*

(Added-AFSC) AFSC Form 307*, Temporary Loan Record.*

(Added-AFSC) AFSC Form 309, *AFSC Tool Control Inventory Record*

(Added-AFSC) AFSC Form 500, *Pre-Production and Pending Proposal AT WCD Checklist*

(Added-AFSC) AFSC Form 847, *Recommendation For Change Of Depot Maintenance Management (DMM)*

(Added-AFSC) AFSC Form 957, *Work Control Document (WCD) Change Request*

(Added-AFSC) AFSC Form 959, *Work Control Document*

Adopted Forms

(Added-AFSC) DD Form 448, *Military Interdepartmental Purchase Request*

DD Form 2875, *System Authorization Access Request (SAAR)*

DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval*

DAF Form 847, *Recommendation for Change of Publication*

(Added-AFSC) AF Form 185, *Project Order*

(Added-AFSC) AF Form 614, *Charge Out Record*

AF Form 1297, *Temporary Issue Receipt*

(Added-AFSC) AF Form 1800, *Operator's Inspection Guide and Trouble Report*

AF Form 2047, *Explosive Facility License*

(Added-AFSC) AF Form 3126, *General Purpose*

(Added-AFSC) AF Form 3136, *General Purpose (11 x 8 ½")*

(Added-AFSC) AF Form 3925, *Engineering Order (EO)*

(Added-AFSC) AFTO Form 45, Request for Calibration Responsibility Determination

(Added-AFSC) AFTO Form 95, *Significant Historical Data Record*

AFTO Form 252, *Technical Order Publication Change Request*

(Added-AFSC) AFTO Form 345, *Aerospace Vehicle Transfer Inspection Checklist and Certification*

AFTO Form 781A, *Maintenance Discrepancy and Work Document*

(Added-AFSC) AFMC Form 181, *Project Order*

AFMC Form 202, *Engineer Technical Assistance Request*

(Added-AFSC) AFMC Form 310, *Lost/Found Item Report*

FAA Form 8110-12, *Application for Type Certificate*

Abbreviations and Acronyms

ABDR—Aircraft Battle Damage Repair

(Added-AFSC) ABW—Air Base Wing

ACES—Advanced Concept Ejection Seat

ACSMT—Agile Combat Support Management Tool

(Added-AFSC) ADPS—Automated Data Processing System

AE—Atomic Emissions

AETC—Air Education and Training Command

(Added-AFSC) AF—Air Force

(Added-AFSC) AFAFO - Air Force Accounting and Finance Office

AFE—Aircrew Flight Equipment

AFGE—American Federation of Government Employees

AFI—Air Force Instruction

(Added-AFSC) AFIMSC – Air Force Installation & Mission Support Center

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFMCI—Air Force Materiel Command Instruction

AFMCMAN—Air Force Materiel Command Manual

(Added-AFSC) AFOSH—Air Force Occupational Safety and Health

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFTO—Air Force Technical Order

AFSC—Air Force Sustainment Center

AFSCI—Air Force Sustainment Center Instruction

AGE—Aerospace Ground Equipment

(Added-AFSC) AI—Activity Inspection

ALC—Air Logistics Complex

ALC/OB—Air Logistics Complex Business Office

(Added-AFSC) ALS – Aircraft Logistics Specialist

AMARG—Aerospace Maintenance and Regeneration Group

ANG—Air National Guard

AVDO—Aerospace Vehicle Distribution Officer

(Added-AFSC) AWBS – Automated Weight and Balance System

(Added-AFSC) BOM—Bill of Material

CAC—Common Access Card

CAD/PAD—Cartridge Actuated Device/Propellant Actuated Device

(Added-AFSC) CAGE - Contractor And Government Entity

CANN—Cannibalization

CC—Cost Center

(Added-AFSC) CC—Commander

CCY—Calculated Cycles

CDA—Commercial Derivative Aircraft

CEA—Cognizant Engineering Authority

CEM—Command Engine Manager

CEMS—Comprehensive Engine Management System

CFETP—Career Field Education and Training Plan

CIR—Custodian Inventory Report

CLS—Contract Logistics Support

CMM—Commercial Maintenance Manual

(Added-AFSC) CND – Computer Network Defense

(Added-AFSC) COR—Contracting Officer's Representative

COTS—Commercial Off the Shelf

(Added-AFSC) CPIN—Computer Program Identification Number

(Added-AFSC) CPPM—Cost and Production Performance Module (H033)

CRF—Centralized Repair Facility

CSAG-M—Consolidated Sustainment Activity Group-Maintenance

(Added-AFSC) CSI—Consolidated Serviceable Inventory

(Added-AFSC) CSI—Critical Safety Item

CTK—Consolidated Tool Kit

CTP—Civilian Training Plan

DAF—Department of the Air Force

DAFI—Department of the Air Force Instruction

DAFMAN—Department of the Air Force Manual

DAFPD—Department of the Air Force Policy Directive

DCAST—Depot Cost and Schedule Tool

(Added-AFSC) DCMA – Defense Contract Management Agency

DCPS—Defense Civilian Payroll System

DD—Department of Defense

DDS—DMAPS Data Store

(Added-AFSC) DEA - Data Exchange Annex

DESR—-Defense Explosive Safety Regulation

(Added-AFSC) DFAS—Defense Finance and Accounting Service

DFT—Depot Field Team

DIFMS—Defense Industrial Management System

(Added-AFSC) DISA—Defense Information System Agency

(Added-AFSC) DLA—Defense Logistics Agency

DLADS—Defense Logistics Agency Disposition Services

DLCP—Daily Labor Correction Process

(Added-AFSC) DM—Depot Maintenance

DMAPS—Depot Maintenance Accounting and Production System

DO—Dropped Object

(Added-AFSC) DO CAT—Depot On-Site Contract Augmentee Team

(Added-AFSC) DoD—Department of Defense

DOP—Dropped Object Prevention

DR—Deficiency Report

DTK—Dispatchable Tool Kit

EFH—Engine Flying Hours

EH—Environmental/Hazard

EHM—Engine Health Management

(Added-AFSC) EIT – Electrically Insulated Tools

EM—Engine Management

EMS—Engine Monitoring System

EOT—Engine Operating Time

(Added-AFSC) ERP – Enterprise Resource Planning

ERRC—Engine Regional Repair Center

(Added-AFSC) ERRP—Engineering Requirements Review Process

(Added-AFSC) ESD—Electrostatic Discharge

ETAR—Engineering Technical Assistance Request

ETIC—Estimated Time for Completion

ET&D—Engine Trending and Diagnostics

eTOOLS—Electronic Tools

ETOPS—Extended Operations

(Added-AFSC) eWCD – Electronic Work Control Document

FAA—Federal Aviation Administration

FCF—Functional Check Flight

FEM—Facility and Equipment Maintenance

FI—Final Inspector

(Added-AFSC) FMLA—Family Medical Leave Act

FMS—Foreign Military Sales

(Added-AFSC) FO—Foreign Object

FOD—Foreign Object Damage

(Added-AFSC) FT-Functional Test

(Added-AFSC) FY—Fiscal Year

(Added-AFSC) G&A—General and Administrative

GITA—Ground Instructional Trainer Aircraft

(Added-AFSC) GSU—Geographically Separated Unit

HAF—Headquarters Air Force

HAZMAT—Hazardous Material

HC/D—Hazard Class Division

HQ—Headquarters

(Added-AFSC) HQ AFMC – Headquarters Air Force Materiel Command

(Added-AFSC) HVAC—Heating, Ventilation, and Air Conditioning

(Added-AFSC) IA—Implementation Agreement

(Added-AFSC) ICD - Interface Control Document

IAW—In Accordance With

ID—Identification

(Added-AFSC) IE—Integration Engine

IE/DDS—Integration Engine/DMAPS Data Store

IMDS—Integrated Maintenance Data System

IET—Industrial Engineering Technician

ITK—Individual Tool Kit

ITS—Inventory Tracking System

(Added-AFSC) JFACC/CFACC - Joint Force Air Component Commander/Combined Force Air Component Commander

JOAP—Joint Oil Analysis Program

JON—Job Order Number

JOPMS—Job Order Production Number Master System

JOQ—Job Order Quantity

LAN—Local Area Network

(Added-AFSC) LDMS – Lean Depot Management System

(Added-AFSC) LEAP—Logistics Evaluation Assurance Program

LM/MT&E—Locally Manufactured/Modified Tools and Equipment

LMR—Land Mobile Radio

(Added-AFSC) LOI – Letter of Intent

(Added-AFSC) LRDP—Logistics Requirements Determination Process

LRS—Logistics Readiness Squadron

(Added-AFSC) LWOP—Leave Without Pay

(Added-AFSC) MABSM – Maintenance Business System Modernization

MAJCOM—Major Command

MCD—Magnetic Chip Detector

MCO—Military Certification Office

MDS—Mission-Design Series

(Added-AFSC) MER—Master Employee Record

MESL—Mission Essential Subsystems List

MFM—MAJCOM Functional Manager

(Added-AFSC) MIL-SPEC – Military Specification

MIS—Maintenance Information Systems

(Added-AFSC) MISTR—Management of Items Subject to Repair

MOA—Memorandum of Agreement

MOC—Maintenance Operation Center

MOU—Memorandum of Understanding

(Added-AFSC) MPCS – Management Planning and Control System

(Added-AFSC) MPTO – Methods and Procedures Technical Order

MRS—Military Repair Station

MRT—Maintenance Review Team

(Added-AFSC) MTO – Made To Order

(Added-AFSC) MWR—Maintenance Work Request

MXG/CC—Maintenance Group Commander

(Added-AFSC) MXSG—Maintenance Support Group

(Added-AFSC) NA – Not Applicable

NATO—North Atlantic Treaty Organization

NDI—Non-Destructive Inspection

NEW—Net Explosive Weight

(Added-AFSC) NGB – National Guard Bureau

(Added-AFSC) NIPR – Non-Secure Internet Protocol Router

NLT—No Later Than

(Added-AFSC) NR-Not Required

(Added-AFSC) NRT—Near Real Time

(Added-AFSC) NRTL – Nationally Recognized Testing Laboratory

(Added-AFSC) NSN—National Stock Number

(Added-AFSC) NWRM—Nuclear Weapons-Related Materiel

(Added-AFSC) NWRO – Nuclear Weapons Resource Officer

(Added-AFSC) O&M—Operations and Maintenance

OAP—Oil Analysis Program

OC-ALC—Oklahoma City Air Logistics Complex

OEM—Original Equipment Manufacturer

OI—Operating Instruction

OJT—On the Job Training

OPR—Office of Primary Responsibility

OTI—One Time Inspection

PAC—Production Acceptance Certification

PAO—Project Administration Officer

(Added-AFSC) PAQ—Production Analysis Quantity

(Added-AFSC) PCW – Previously Complied With

PDM—Programmed Depot Maintenance

PDMSS—Programmed Depot Maintenance Scheduling System

PED—Portable Electronic Device

(Added-AFSC) PIN – Personal Identification Number

PM—Program Manager

(Added-AFSC) PMEL—Precision Measurement Equipment Laboratory

(Added-AFSC) PMO—Program Management Office

PO—Program Office

(Added-AFSC) POC—Point of Contact

(Added-AFSC) PODDS – Process Order Development and Display Ssytem

(Added-AFSC) POH—Production Overhead

POUS—Point of Use Station

PPE—Personal Protective Equipment

PPPT—Pre-Production Planning Team

PPT—Production Planning Team

(Added-AFSC) PS – Process Specification

PSC—Production Support Center

(Added-AFSC) Q302—Depot Maintenance Consolidated Database

QA—Quality Assurance

(Added-AFSC) QAP—Quality Assurance Plan

(Added-AFSC) QAS—Quality Assurance Specialist

(Added-AFSC) QVC – Quality Verification Center

(Added-AFSC) R&M—Reliability and Maintainability

RCC—Resource Control Center

(Added-AFSC) RC/CC - Responsibility Center/Cost Center

RDS—Records Disposition Schedule

RDT&E—Research, Development, Test and Engineering

REMIS—Reliability and Maintainability Information System

(Added-AFSC) RFQ—Request for Quote

RII—Required Inspection Stamp

RSC—RCC Skill Code System

(Added-AFSC) RSCS—RCC/Skill Code Application System

(Added-AFSC) SAI—Serviceable As Is

(Added-AFSC) SAI – Satisfactory As Is

SCM—Supply Chain Manager

(Added-AFSC) SCR—Special Certification Roster

(Added-AFSC) SDA – Source Data Automation

SE—Support Equipment

SEM/EDX—Scanning Electron Microscope/Energy Dispersive X-ray

SH—Special Handling

SI—Special Inspection

(Added-AFSC) SIPR – Secure Internet Protocol Router

(Added-AFSC) SMART—Specific, Measurable, Attainable, Realistic, Timely

(Added-AFSC) SME—Subject Matter Expert

SOW—Statement of Work

(Added-AFSC) SPM—System Program Manager

SPO—System Program Office

SRAN—Stock Record Account Number

SSN—Social Security Number

(Added-AFSC) SSQ—Special Skills Qualification

STC—Supplemental Type Certificate

(Added-AFSC) STINFO – Scientific and Technical Information

TAA—Time and Attendance

(Added-AFSC) TAAS - Time And Attendance System

TAC—Total Accumulated Cycles

TC—Type Certificates

TCI—Time Change Item

TCM—Tool Control Manager

TCTO—Time Compliance Technical Order

TDY—Temporary Duty

TK—Tool Kit

TKCRL—Tool Kit Custody Receipt Listing

TMS—Type Model Series

TMDE—Test, Measurement and Diagnostic Equipment

TO—Technical Order

(Added-AFSC) TOD – Tour of duty

TRSS—Training Support Squadron

TS—Tool Set

TSS-PAC—Training Scheduling System-Production Acceptance Certification

(Added-AFSC) USAF—United States Air Force

(Added-AFSC) VDE – Verband der Elektrotechnik Institute

(Added-AFSC) VAL/VER – Validate & Verify

W&B—Weight and Balance

WASP—Web Applications Software Products

(Added-AFSC) WAD—Work Authorization Document

(Added-AFSC) WBS—Work Breakdown Structure

WCD—Work Control Document

WS—Weapons System

Office Symbols

(Added-AFSC) ABW/CD – Air Base Wing Vice Commander

(Added-AFSC) AF/A4L - Air Force Logistics

AFLCMC/LPSZC—Air Force Life Cycle Management Center, Propulsion Directorate, Propulsion Sustainment Division, Strategic Planning and Sourcing Office

AFMC/A4/10—Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration

AFMC/A4/10/A4PT—Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration, Resource Integration Division, Workforce Development Branch

AFMC/A4/10/A4M—Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration, Maintenance Division

AFMC/A4/10/A4MY—Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration, Maintenance Division, Aviation Support Equipment, Depot Maintenance Policy, and Maintenance Training Branch

(Added-AFSC) AFSC/FZRD – Cost Accounting Division (WCF)

AFSC/LG—Air Force Sustainment Center, Logistics Directorate

(Added-AFSC) AFSC/A4M – Depot Maintenance Division

AFSC/LZDB—Air Force Sustainment Center, Logistics Directorate, Depot Maintenance Operations Division, Depot Maintenance Processes and Productivity Branch

(Added-AFSC) ALC/CC – Air Logistics Complex Commander

(Added-AFSC) ALC/CD – Air Logistics Complex Vice Commander

(Added-AFSC) ALC/DV – Air Logistics Complex Vice Director

(Added-AFSC) ALC/OB – Air Logistics Complex Business Operations

(Added-AFSC) ALC/QA – Air Logistics Complex Quality Assurance

(Added-AFSC) MXG – Maintenance Group

(Added-AFSC) MXG/CCs – Maintenance Group Commanders

(Added-AFSC) MXG/CL – Chief of Logistic

(Added-AFSC) MXG/EN – Maintenance Group Engineering Office

(Added-AFSC) MXSG/AC – Maintenance Support Group / Aircraft

Terms

Capability—The ability to execute a specified course of action.

(Added-AFSC) Clecos—A quick-release, industrial fastener used for holding sheet metal to facilitate welding or riveting.

(Added-AFSC) Compression—Maximize depot maintenance production delivery through acceleration as well as suspension of routine peacetime work package tasks accomplishing only the absolute minimum depot maintenance essential to the safety of flight and only modifications essential to the weapon's war mission configuration

(Added-AFSC) Compression work package—The minimum depot maintenance tasks or modifications essential to the weapon's war mission configuration.

Cognizant Engineering Authority—An organization or individual delegated engineering authority by the USAF Technical Airworthiness Authority.

Contingency—A situation requiring military operations in response to natural disasters, terrorists, subversives, or as otherwise directed by appropriate authorities to protect U.S. interests.

(Added-AFSC) Corrosion Control Facility—A facility where activities are conducted to treat, prevent or repair corrosion control for aircraft or associated components and equipment; these activities may include wash, treatment, repair, stripping, and repainting processes. Corrosion control shops also support vehicles, weapons and munitions, and avionics shops. Additionally, it provides space for the corrosion control shop which includes preparation and drying areas, abrasive blasting rooms, paint booths for mixing and/or applying paint, tool storage, lockers, and administrative areas.

Depot Maintenance—Any action performed on materiel or software in the conduct of inspection, repair, overhaul, or the modification or rebuild of end-items, assemblies, subassemblies, and parts that requires extensive industrial facilities, specialized tools and equipment, or uniquely experienced and trained personnel that are not available in lower echelon-level maintenance activities, and is a function and, as such, is independent of any location or funding source and may be performed in the public or private sectors (including the performance of interim contract support or contract logistic support arrangements. Depot-level maintenance and repair also includes the fabrication of parts, testing, and reclamation, as necessary; the repair, adaptive modifications or upgrades, changes events made to operational software, integration and testing; and in the case of either hardware or software modifications or upgrades, the labor associated with the application of the modification.

(Added-AFSC) Depot maintenance capability—The aggregation of all resources (including facilities, skilled personnel, tools, test equipment, drawings, technical publications, ongoing training, maintenance personnel, engineering support, and spare parts) required for performing depot level maintenance.

Engineering Technical Assistance Request (ETAR)—The document and process for organizations to request and receive disposition instructions, from the cognizant engineering organization, when published technical data is inadequate for the task at hand.

(Added-AFSC) Maintenance Requirements Work Package—The MRWP is a sectionalized requirements document developed to identify the depot level maintenance tasks required to

maintain AF systems in mission ready status. MRWPs are prepared at least two years prior to the execution year. Requirements are based on need and not on the availability of funds.

(Added-AFSC) Manufacturing—The making of something, normally from raw materials, by hand or, especially, by machinery, often on a large scale and with division of labor.

(Added-AFSC) Mobilization—The act of assembling and organizing national resources to support national objectives in time of war or other emergencies.

(Added-AFSC) National technology and industrial base—The persons and organizations that are engaged in research, development, production, or maintenance activities conducted within the United States and Canada.

Organic—Assigned to and forming an essential part of a military organization.

Organic depot maintenance—Maintenance performed by a military service under military control using government owned or controlled facilities, tools, test equipment, spares, repair parts, and military or government civilian personnel.

(Added-AFSC) Public—private partnership—An agreement between an organic depot maintenance activity and one or more private industry or other entities to perform work or utilize facilities and equipment. Program offices, inventory control points and logistics commands may be parties to such agreements.

(Added-AFSC) Source of repair—An industrial complex (organic or commercial) with required technical capabilities to accomplish repair, overhaul, modification, or restoration of specific types of military hardware or software.

(Added-AFSC) Surge—The act of expanding an existing repair depot maintenance repair capability to meet increased requirements by adjusting shifts or by adding equipment, spares, repair parts, and skilled personnel to increase the flow of repaired or manufactured materiel to the using activity or for serviceable storage.

(Added-AFSC) Test program set—An interface that links a unit under test to the test equipment and a software program to initiate, maintain, and execute a test or series of automatic tests.

Workload—An amount of work, usually specified in direct labor hours or workdays, that relates to specific weapon systems, equipment, components, or programs and to specific services, facilities, and commodities.

Attachment 2

VOLUME/CHAPTER BREAKDOWN

Table A2.1. Volume/Chapter Breakdown.

VOLUME 1 DEPOT MAINTENANCE PRINCIPLES	VOLUME 2 DEPOT MAINTENANCE PRODUCTION	VOLUME 3 DEPOT MAINTENANCE PRODUCTION SUPPORT
Chapter 1	**Chapter 1**	**Chapter 1**
Depot Maintenance Management Principles	Depot Maintenance Production Labor Entry	Depot Maintenance Work Measurement
Chapter 2	**Chapter 2**	**Chapter 2**
Roles and Responsibilities	Work Control Documents and Technical Data	Depot Maintenance Production Support
Chapter 3	**Chapter 3**	**Chapter 3**
Safety, Security, and Housekeeping	Tools and Equipment Management	Operational Workloading, Planning, and Scheduling Control
Chapter 4	**Chapter 4**	**Chapter 4**
Maintenance Training	Foreign Object Damage/Dropped Object Prevention Programs	Sunshade Management
Chapter 5	**Chapter 5**	**Chapter 5**
Impoundment	Maintenance Operation Center and Aerospace Vehicle Distribution Officer	Depot Maintenance Plant Management
Chapter 6	**Chapter 6**	**Chapter 6**
Workplace Communications and Maintenance Cyber Discipline	Depot Engine Management	Material Management
Chapter 7	**Chapter 7**	**Chapter 7**
Additional Program Requirements	Aircrew Egress Systems Maintenance Program	Functional Check Flight Program
	Chapter 8	**Chapter 8**
	Maintaining Commercial Derivative Aircraft	Quality Assurance

	Chapter 9	
	Oil Analysis Program	
	Chapter 10	
	Depot Field Teams	
	Chapter 11	
	Ground Instructional Trainer Aircraft	
	Chapter 12	
	Additional Program Requirements	