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OF THE OSAN AIR BASE

DEPARTMENT OF THE AIR FORCE
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PACIFIC AIR FORCES COMMAND
Supplement

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Supplement

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AIRCRAFT AND EQUIPMENT
MAINTENANCE MANAGEMENT

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Department of the Air Force Instruction (DAFI) 21-101, *Aircraft and Equipment Maintenance Management*, and DAFI21-101_PACAFSUP, are supplemented as follows: This supplement provides guidance for prescribed policies and procedures governing aerospace equipment maintenance management applicable to all assigned and attached to Osan Air Base (AB). Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with (IAW) the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the DAF Form 847, *Recommendation for Change of Publication;* route DAF Forms 847 from the field through the appropriate functional chain of command. 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 DAF.

SUMMARY OF CHANGES

This document has been revised and should be completely reviewed. Major changes include: clarification of inspection intervals; monthly inspections will be accomplished within 30 days of the previous inspection and weekly inspections will be accomplished 7 days of the previous inspection. Personnel will not use personal electronic devices to take photos on the flight line, munitions maintenance areas, hangars and (or) other industrial work areas. Specification of unauthorized photography and releasability procedures of authorized imagery. Criteria and authorization of dark blue shorts in lieu of the Operational Camouflage Pattern (OCP) trousers in industrial areas, such as the flight line, hangars, and munitions areas. Additions to AGE sub-pool locations. Implementation of Defense Property Accountability System (DPAS) applicable forms, references, and resources; incorporation of the Maintenance and Utilization (M&U) Module Interim Guidance. Delegation authority criteria to the QA Superintendent (QA SUPT) for locally prepared publications. Implementation of housekeeping procedures. Implementation of prohibiting the placement or hanging of items on the pitot probe of an aircraft. Clarification of Foreign Object Damage (FOD) checkpoint(s) requirements for Personal Transportation Devices (PTD) and Personally Owned Vehicles (POV). Implementation of Incident Reporting and specification of details that constitute reporting requirements.

1.4.1. **(Added)** Inspection intervals. Monthly inspections will be accomplished within 30 days of the previous inspection. Weekly inspections will be accomplished within 7 days of the previous inspection.

1.15.3.1. **(Added)** The use of personal electronic devices is strictly prohibited on the flight line and in industrial areas within the Maintenance Group complex. Wired/wireless in-ear/over-ear headphones, ear buds, Bluetooth earpieces, etc., are not authorized for use on the flight line. Personal electronic devices on the flight line are governed by the Local MXG Policy Letter located on the Quality Assurance (QA) SharePoint. **https://usaf.dps.mil/sites/osan/51FW/51MXG/MXQ/SitePages/51%20MXG%20QA%20Home.aspx?csf=1&web=1&e=PmMuB3&CID=144971ee-cbc3-4ddc-b9f2-d820b62b9373**. **Exception:** medical hearing aids are authorized.

1.15.3.2. **(Added)** Land Mobile Radios (LMRs), cell phones, and other Portable Electronic Device (PEDs) will not be used under any circumstance within 10 feet of any munitions, explosive loaded aircraft, or munitions trailer.

1.15.3.3. **(Added)** Personnel will not use personal electronic devices to take photos on the flight line, munitions maintenance areas, hangars and (or) other industrial work areas. Personnel will use a unit funded electronic device to take authorized photographs.

1.15.3.3.1. **(Added)** All photography will be reviewed by 51st Fighter Wing (51 FW) Advanced Programs Office (51 FW/APO) or designated representatives within the 51st Maintenance Group (51 MXG) and 51st Operations Group (51 OG) immediately after capture and prior to downloading or printing any photographs. Contact 51 FW/APO at 784-7308, 36th Fighter Squadron (36 FS) Operations Desk at 783-3639, or 51st Maintenance Group Quality Assurance (51 MXG/MXQ) at 784-4215 to schedule the photo review.

1.15.3.3.2. **(Added)** The following photography is NOT authorized:

1.15.3.3.2.1. **(Added)** Any deviations from the approved purpose, date, and location.

1.15.3.3.2.2. **(Added)** Aerial photography and photography inside of aircraft crew stations, unless directed by 107 Engineering Technical Assistance Request.

1.15.3.3.2.3. **(Added)** Close up photos of munitions, pods, serial numbers, part numbers, and/or open panels.

1.15.3.3.2.4. **(Added)** Identification (ID) badges (e.g., restricted area badge, common access card, etc.), aircrew mission materials, or classified equipment.

1.15.3.4. **(Added)** Imagery is not publicly releasable unless cleared by 51st Fighter Wing Public Affairs (51 FW/PA). This publication does not authorize imagery to be posted publicly (e.g., social-media sites, messaging applications, chatrooms, Discord servers, etc.) without first receiving review and approval from 51 FW/PA.

1.20. (Added) Suspected Malware on Electronic Support Equipment (SE). Immediately discontinue use of any device suspected of malware and notify the unit Technical Order Distribution Account (TODA) Manager and Support Section Supervisor. Unit TODAs will notify the Technical Order Distribution Office (TODO) and coordinate with the 51st Communications Squadron (51 CS) to have the devices scanned and validate the integrity of the equipment.

2.1.3. **(Added)** The MXG/CC has authorized the wear of dark blue shorts in lieu of the OCP trousers in industrial areas, such as the flight line, hangars, and munitions areas outside of climate-controlled environments and when the ambient high temperature is forecast to meet or exceed 80 degrees Fahrenheit. Maintenance Operations Center (MOC) will make radio all-calls to inform personnel when the forecast is expected to meet or exceed 80 degrees Fahrenheit for the wear of shorts. The dark blue shorts will not be worn anywhere outside the prescribed duty location or Entry Control Point to include during transit to and from the duty location. However, short duration trips into flight line adjacent work center environments with the intent of returning to the flight line, hangars, and munitions areas outside of climate-controlled environments is acceptable. The only dark blue shorts authorized for wear will be purchased/issued through the Defense Logistics Agency's Tailored Logistics Support Program at **https://www.dla.mil/TroopSupport/ConstructionandEquipment/Spec-Ops-marinelifesaving/**. They are certified as fully compliant with all specifications. No other suppliers are approved for organizational/unit purchases.

2.4.1.3.1. **(Added)** The focal point will be 51 MXG/MXQ.

2.4.2.19.1. **(Added)** Units will determine eTools requirements and forward to 51st Maintenance Group Technical Order Distribution Office (51 MXG/TODO).

2.4.2.20.3. **(Added)** During post CANN/Hangar Queen doc reviews, applicable Fighter Generation Squadron (FGS) Sortie Generation Leadership will consult airframe specific -6 manuals and coordinate with 51st Maintenance Group Commander (51 MXG/CC) or 51st Maintenance Group Deputy Commander (51 MXG/CD) to determine if an Operational Check Flight (OCF) or Functional Check Flight (FCF) is required.

2.4.2.20.4. **(Added)** Each shift, work center supervisors will review aircraft/system forms and Maintenance Information Systems (MIS) documentation accomplished by their personnel. Ensure that aircraft/systems and equipment status is correctly reflected in the forms and MIS.

2.4.2.20.5. **(Added)** Accomplish an Aircraft Document Review on all Cannibalization (CANN) and Hangar Queen Aircraft prior to flight.

2.4.2.55.1. **(Added)** Technicians will follow procedures per the applicable aircraft technical data.

2.4.3.15.1. **(Added)** Repeat/Recur and Can Not Duplicate (CND) Discrepancies Clearing Procedures. When clearing a Repeat/Recur and CND discrepancy, the FGS Supervision will ensure an adequate corrective action was accomplished and the following procedures are strictly adhered to. This review will be documented in the AFTO Form 781A, *Maintenance Discrepancy and Work Document*, on a red dash. For 1st time repeat/recurs, this review will be cleared by a 7-level technician. For 2nd time repeat/recurs, this review will be completed by the Production Superintendent. For 3rd time repeat/recurs, the Officer In Charge (OIC)/Superintendent will complete the review.

2.4.3.15.2. **(Added)** Aircraft forms, Integrated Maintenance Data System-Central Data Base (IMDS-CDB) and other source documents will be thoroughly reviewed using a minimum 90-day look back. Consult with Air Force Engineering and Technical Support (AFETS)/Tech Reps/System Program Office (SPO) for additional technical assistance as necessary.

2.4.3.15.3. **(Added)** Parts removed for most probable cause will be bench checked if capability exists, and AFTO Form 350, *Repairable Item Processing Tag*, will be annotated with Repeat/Recur or CND (in red lettering) as applicable.

2.12.19.1. **(Added)** Procedures for Aircraft -21 Covers:

2.12.19.1.1. **(Added)** -21 equipment assigned to an aircraft will be identified by the tail number (Example: A2080 or 82-2080).

2.12.19.1.2. **(Added)** Each -21 equipment set will be assigned to an aircraft and will be inspected semi-annually. These inspections will be tracked by the FGS on Squadron-developed forms.

2.12.19.1.3. **(Added)** FGS -21 monitors will store and account for excess and spare -21 equipment.

2.12.19.1.4. **(Added)** External Fuel Tank (EFT) hardware kits will be tracked in TCMax® by support sections.

2.12.19.2. **(Added)** Procedures for Weapons Alternate Mission Equipment (AME)/Normally Installed Equipment (NIE):

2.12.19.2.1. **(Added)** Gun hold back tool will be etched with the serial number of the gun unit. Gun safety pin will be marked to the assigned aircraft. Chaff/flare safety pin will be assigned to the owning squadron. All other AME pins do not require markings. All weapons related pins will have streamers with a minimum length of 8 inches, maximum length of 12 inches (exception: A-10 Gun safety pin is allowed to be 18 inches).

2.12.24.1. **(Added)** Peacetime: Users must return MHU-83 series and MJ-1 series bomb lifts to Aerospace Ground Equipment (AGE) Flight No Later Than (NLT) every seven calendar days for a complete service inspection. For service inspections on AGE located within the munitions storage area, equipment may remain in the area. However, Munitions Control and the AGE flight will coordinate for completion within the munitions storage area.

2.12.24.2. **(Added)** Contingency/Exercise: Post exercise, units will return MHU-83 series and MJ-1 series bomb lifts to AGE for 7-day inspection NLT the first duty day after ENDEX.

4.5.1.8. **(Added)** AGE personnel will notify MOC of possible AGE contamination.

4.5.1.8.1. **(Added)** AGE Flight leadership in coordination with FGS(s) and MOC will determine any aircraft that could be possibly contaminated using all available documentation.

4.5.1.8.2. **(Added)** AGE personnel will notify FGS(s) of fluid sample results as soon as they are known.

4.5.2.19. **(Added)** The AGE Superintendent or equivalent may develop a policy that increases frequency of the Nuclear Certified Equipment (NCE) service inspection based on operational requirements.

4.5.5. **(Added)** 51 FW AGE sub-pools:

4.5.5.1. **(Added)** 25 FGS sub-pool is located on Hardstand A-12.

4.5.5.2. **(Added)** 36 FGS sub-pool is located on Hardstand A-11. Additional sub-pool is also located on the pad in front of Building 1665 and Building 1666 (Bravo Diamond).

4.5.5.3. **(Added)** Non-powered AGE sub-pool is located on Hardstand A-10.

4.5.5.4. **(Added)** Liquid Oxygen (LOX) Carts sub-pool is located on the pad next to GEN 12.

4.5.5.5. **(Added)** TDY/Deployment units can identify sub-pool locations as needed with coordination through the Airfield Manager and MOC.

4.5.5.6. **(Added)** 51 FW sub-pool is located on hardstand next to Building 1101 (Charlie Diamond).

4.5.5.7. **(Added)** AGE refueling station/sub-pool is located on Hardstand A12-1A.

4.5.5.8. **(Added)** AGE Flight leadership in coordination with FGS(s) and MXS will determine any aircraft that could be possibly contaminated using all available documentation.

4.9.5.11.1. **(Added)** Transient Alert Section will perform End-of-Runway (EOR) Inspection per LJG-51MXG-07, *Servicing and Ground Handling of Transient Aircraft*, **Chapter 7**. (See paragraph 6.2.11. for publication SharePoint link.)

4.9.5.12.1.1. **(Added)** Transient aircraft Arm/De-Arm/Hung/Unsafe Gun/Munitions will be performed per requirements in OSANABI 21-112, *End of Runway (EOR)/Explosive Loaded Aircraft, Hung Ordnance/Gun System Malfunction Procedures, and Hung Ordnance/Gun System Malfunction Impoundment* and OSANAB Form 56, *Combat Catch Checklist.*

4.11.1.16.2.1. **(Added)** Oil Analysis Program (OAP) trends are monitored through coordination with the Nondestructive Inspection (NDI) lab and those trends are briefed quarterly to the 51 MXG and Squadron leadership teams. The Analysis office is the POC for this briefing.

4.11.3.1.1.1. **(Added)** While 51 MXG does not have a Propulsion Flight, serial number inventories are still completed through use of the local Engine Management (EM) serial number worksheet.

5.2.5.1.16.5.4. **(Added)** 51st Maintenance Group Maintenance Operations Center (51 MXG/MOC) will notify Wing Weapons Manager (WWM) and 51st Munitions Squadron Senior Enlisted Leader (51 MUNS/SEL) for all incidents involving explosive loaded aircraft. All documents for incidents involving explosive laden aircraft will be routed through WWM, Weapons Safety, and 51st Munitions Squadron (51 MUNS) leadership.

5.2.8.3.6.6. **(Added)** The following procedures establish manual Job Control Number (JCN) for documentation of all maintenance actions performed on aerospace vehicles and associated equipment when the IMDS-CDB/DPAS is down for an extended period, or when operating under a manual documentation system while deployed. Manual JCN listing is located on the QA SharePoint.
https://usaf.dps.mil/sites/osan/51FW/51MXG/Quality%20Assurance/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2Fosan%2F51FW%2F51MXG%2FQuality%20Assurance%2FShared%20Documents%2FManual%20Job%20Control%20Numbers%20%28JCNs%29&viewid=ac1a6f6f%2D5c57%2D4d18%2Dac2a%2D6acf5967c601.

5.2.8.3.6.6.1. **(Added)** In the event of IMDS-CDB/DPAS being down for an extended period of time, the manual JCNs/event IDs located on the QA SharePoint will be used. See **paragraph 5.2.8.3.6.6**.

5.2.8.3.6.6.1.1. **(Added)** The AFTO Form 349, *Maintenance Data Collection Record*, will be used to document maintenance actions during MIS outages (e.g., longer than one shift). For DPAS outages, the AF Form 2430, *Specialist Dispatch Control Log*, will be used to document maintenance actions. Additional instructions of the DPAS M&U Module Interim Guidance is available at: **https://usaf.dps.mil/teams/afdpassemis/Policy/Forms/AllItems.aspx?id=%2Fteams%2Fafdpassemis%2FPolicy%2FOfficial%20DPAS%20M%26U%20Interim%20Guidance&viewid=70921748%2De9a0%2D499e%2Da7d7%2D29e095e5ccd0**.

6.2.11. **(Added)** Group-level publications/forms will be posted on the QA SharePoint. Emergency and Functional Forms/Checklists are located at the following: **https://usaf.dps.mil/sites/osan/51FW/51MXG/Quality%20Assurance/MXG%20Functional%20Checklists/Forms/AllItems.aspx**. Local publications (to include Local Checklists (LCL), Local Job Guides (LJG), Local Page Supplements (LPS), etc.) are located at the following: **https://usaf.dps.mil/sites/osan/51FW/51MXG/MXQ/LocalPublications/Lists/51%20MXG%20Local%20Publications/AllItems.aspx?npsAction=createList**.

6.3.4.2. **(Added)** The QA Superintendent (QA SUPT) is appointed 51 MXG/CC limited delegated authority as approving official of the DAF Form 673, *Department of the Air Force/Form Action Request*, for locally prepared publications. The criterion for delegated authority only applies for minor changes of the locally prepared publication that do not affect the safety of personnel, aircraft, or equipment (e.g., grammatical correction, format/layout adjustment, content reorganization, and reference updates). Any significant changes that add or remove content from the locally prepared publication require 51 MXG/CC approval.

6.12.1.1.1. **(Added)** An OCF will be conducted any time the 51 MXG/CC determines a confidence flight is required to ensure maintenance action effectiveness or system reliability.

6.12.7. **(Added)** OCF/FCF Program.

6.12.7.1. **(Added)** All OCF aircraft forms will be delivered to QA prior to flight with a current 380 screen for final review. QA will review the aircraft forms prior to OCF and ensure the reason for the OCF does not constitute a reason for an FCF IAW Technical Order (TO) 1-1-300, *Maintenance Operational Checks and Check Flights*, or Mission Design Series (MDS) specific -6 TOs and -1 Flight Manuals.

6.12.7.2. **(Added)** OCFs are limited to normal flight manual actions and aircraft maneuvers until all OCF actions are complete. The aircraft may be flown in conjunction with other missions and training requirements once all specific requirements for the OCF are accomplished.

6.12.7.3. **(Added)** Every effort will be made by 51 MXG/MXQ to brief OCF pilots at the squadron operations desk. At a minimum, the OCF pilot will call 51 MXG/MXQ at (784-4215) to receive a briefing on the reason for the OCF, maintenance performed, and flight profile (if required) or other pertinent information concerning the OCF.

6.12.7.4. **(Added)** The request to waive an FCF will be made through the 51 MXG/MXQ office. QA will forward to 51 OG/CC and 51 MXG/CC for approval.

6.12.7.5. **(Added)** Production Superintendents will notify the QA FCF manager the day prior to an FCF to ensure that both Basic Postflight/Preflight (BPO/PR) and Aircraft Forms Quality Verification Inspections (QVIs) can be accomplished prior to FCF.

6.12.7.6. **(Added)** The Production Superintendent or Expediter will deliver all current and pulled aircraft forms (back to the last flight) to the QA office for review NLT 8 hours prior to launch. Plan for 2 hours for every 100 pages of AFTO Form 781A's to ensure a thorough review. Also, an additional forms review will be conducted post exceptional/conditional release. Aircraft Forms QVIs are required prior to each FCF attempt.

6.12.7.7. **(Added)** BPO/PR QVIs will only be accomplished after all maintenance has been completed and documented. QVI will be conducted NLT 8 hours prior to launch. BPO/PR QVIs are only required prior to first OCF/FCF attempt.

6.12.7.8. **(Added)** The FCF pilot and a qualified FCF technician will sign the DD Form 365-4, *Weight and Balance Clearance Form F*, prior to FCF.

6.12.7.9. **(Added)** FGSs will configure aircraft for FCFs. The FCF configuration for A-10 is as follows: all munitions downloaded, variable ballast installed, and all pylons (station 6 is optional) and launchers removed. FCF configuration for F-16 is: No munitions, both wing tip launchers match and no pylons or pods installed.

6.12.7.10. **(Added)** 51 OG/CC and 51 MXG/CC will determine FCF requirements on a case-by-case basis for aircraft that experience a ground or flight related mishap as defined in DAFI 91-204, *Safety Investigations and Reports*.

6.15.3.3.2. **(Added)** 51st Maintenance Group Technical Order Distribution Office (51 MXG/TODO) will forward new Time Compliance Technical Orders (TCTO) to QA Weight and Balance (W&B) personnel for review to determine if W&B changes are required.

6.15.3.3.3. **(Added)** For TCTOs that require W&B changes, Plans, Scheduling, and Documentation (PS&D) will load a red dash Work Center Event (WCE) into the TCTO work package.

6.15.3.3.4. **(Added)** When the TCTO is completed on an aircraft, the technicians enter a red X in the forms and MIS stating, "Weight and Balance update required for TCTO" and notify QA W&B technicians. The aircraft will not be flown until the aircraft W&B records are updated.

6.15.3.4.1. **(Added)** Aircraft weapons configurations will be loaded per the published weekly flying schedule or approved Standard Conventional Load (SCL). QA W&B Manager will ensure that proposed configurations are approved IAW DAFI 63-101/20-101, *Integrated Life Cycle Management*, and that there is a valid DD Form 365-4, on file. Any deviation from these configurations requires approval by QA W&B, WWM, and 51 MUNS. Deviations must be approved NLT 24 hours prior to approved flying schedule.

6.15.5. **(Added)** Whenever technicians make permanent changes that affect the aircraft basic weight and/or center-of-gravity, they will notify QA W&B technicians so the aircraft W&B records can be updated. The aircraft will not be flown until the W&B records are updated.

7.2.1.3. **(Added)** For Cockpit Foreign Object (FO) recovery procedures. The following must be completed (51 MXG/CC or designated person may approve deviations from this procedure at their discretion).

7.2.1.3.1. **(Added)** 51 MXG Functional Checklist 350, *FO/Suspected FO in Cockpit Investigation Checklist 350* (A- 10), and 51 MXG Functional Checklist 351, *FO/Suspected FO in Cockpit Investigation Checklist 351* (F-16), checklists will be utilized any time there is FO or suspected FO in the cockpit. This checklist will be routed to the 51 MXG/MXQ office for filing with the applicable 51 MXG Functional Checklist 145, *Lost Tool/Object Report*.

7.2.1.3.2. **(Added)** 51 MXG/CC, or designated representative, will sign off red X for cockpit.

7.2.1.4. **(Added)** Engine Impoundment:

7.2.1.4.1. **(Added)** Aircraft impoundment, which can be positively identified to the engine, shall be released with a statement in the Corrective Action block stating, "Aircraft Impoundment cleared and transferred to engine serial number EXXXX." Release can only be accomplished once the engine is removed from the aircraft.

7.4.4. **(Added)** Impound official will send an e-mail daily to 51 MXG leadership on status of impound (including non-duty days if Aircraft is worked).

7.4.5. **(Added)** Insert an AFTO Form 781A, impoundment preprint (with red border) in front of the active AFTO Form 781A.

7.4.6. **(Added)** Ensure all components requiring impoundment are listed on the 51 MXG Functional Checklist 403, *Impoundment Checklist*, (see paragraph 6.2.11. for publication SharePoint link.) or OSANAB Form 55, *Impoundment Checklist*, with assigned control number prior to clearing the aircraft impoundment.

7.4.7. **(Added)** QA will maintain copy of 51 MXG Functional Checklist 403, or OSANAB Form 55., and 51 MXG Functional Checklist 145. (See paragraph 6.2.11. for publication SharePoint link.)

7.6.3.4.1. **(Added)** Ensure all recoverable data is collected prior to operating systems that may dump stored information.

7.6.4.2.1. **(Added)** Verify all “suspected” parts are sent to back-shop. An AFTO Form 350 bordered in red with the word "IMPOUNDED OPR: (Impoundment Official Name), (phone)" written on the bottom of the tag will be attached with each part removed from an impounded aircraft/equipment. Coordinate with the QA office and contact the back shops work center prior to determining the disposition of any parts. All suspected parts should be considered for deficiency reporting through the product improvement office.

7.6.4.2.2. **(Added)** Back-shops/Armament will follow procedures outlined in DAFI 21-101, Chapter 7, DPAS M&U Module, *Implementation Interim Guidance Version 8.7,* paragraph 3.17. (**https://usaf.dps.mil/teams/afdpassemis/Policy/Forms/AllItems.aspx?id=%2Fteams%2Fafdpassemis%2FPolicy%2FOfficial%20DPAS%20M%26U%20Interim%20Guidance&viewid=70921748%2De9a0%2D499e%2Da7d7%2D29e095e5ccd0**), and 51 MXG Functional Checklist 403 (**https://usaf.dps.mil/sites/osan/51FW/51MXG/Quality%20Assurance/MXG%20Functional%20Checklists/Forms/AllItems.aspx**) or OSANAB Form 55, for all equipment directly involved in an aircraft impoundment once removed from the aircraft. An AFTO Form 350, bordered in red, will be attached to equipment immediately after removal from the aircraft and will be processed and documented as per applicable TO 00-20-XX series.

7.6.4.3. **(Added)** Ensure that the preprinted AFTO Form 781A for impoundment and a copy of the 51 MXG Functional Checklist 145 (if applicable) is filed in the aircraft's jacket file. (See paragraph 6.2.11. for publication SharePoint link.)

7.6.6.1. **(Added)** Finalized Impoundment reports will be delivered to 51 MXG/MXQ (either electronic (PDF) or hard copy) NLT 5 duty days after clearing impoundment.

7.6.11. **(Added)** Isolate equipment by affixing a placard stating, "Equipment Impounded." For equipment that has a control panel, the placard will be affixed as close as possible to the panel. Impounded equipment will be isolated from equipment that is serviceable or awaiting maintenance. Monitor maintenance actions until completion of impoundment. Support sections are responsible for maintaining the security of impounded equipment.

8.2.2.1. **(Added)** All tools and equipment will, at a minimum, be inspected every 180 days for corrosion, physical defect, serviceability, and lubrication as required.

8.2.3.1.1. **(Added)** Support sections will separate unserviceable warranty tools from non-warranty tools.

8.2.5.2. **(Added)** Guidance for flight line turnover of Composite Tool Kit (CTK)/Tool/Equipment items. Production Superintendents can authorize flight line turnover of CTK/Tool/Equipment items to provide continuity on aircraft requiring extensive maintenance.

8.2.5.3. **(Added)** The individual accepting responsibility for the CTK and any other tools will do a thorough inventory and complete a TCMax® produced hand receipt (TCMax® hand receipt can be interchanged with DAF Form 1297, *Temporary Issue Receipt*, or locally developed product). A Senior Noncommissioned Officer (SNCO), or sortie generation cell chief will verify turnover inventory is accomplished and will provide his/her minimum signature and employee number on the hand receipt if used.

8.2.5.4. **(Added)** The TCMax® produced hand receipt will be returned to the tool section immediately upon completion.

8.2.5.5. **(Added)** Technicians will take the hand receipt into the support section for turnover.

8.2.8.1.1. **(Added)** Units will control and track which items have been issued to their personnel.

8.2.8.2. **(Added)** Members will maintain accountability for all individually issued and personally purchased equipment and will be marked IAW DAFI 21-101_PACAF SUP, paragraph 8.2.8.1.; In the event that one of these items becomes lost or missing, follow applicable lost tool procedures (refer to **paragraph 8.9** and sub-paragraphs of this publication).

8.2.9.4. **(Added)** Issuance of rags not located in CTKs will be tracked in TCMax®.

8.2.9.5. **(Added)** Pre-packaged rags placed inside of CTKs will have the number of rags and Equipment Identification Designator (EID) clearly marked on the package and will be annotated on the Master Inventory Listing (MIL).

8.2.9.6. **(Added)** Rags identified as “clean replacement rags” or “dirty unserviceable rags” need to be stored in separate, labeled, secured containers. Inventories are required for “clean replacement rags” and “dirty unserviceable rags.” Rags will be issued as a one-for-one swap and access will be limited to Support Section personnel and CTK Monitors.

8.2.10.1. **(Added)** Limitation on numbers of personnel procuring tools will be controlled by CTK custodian on a case-by-case basis.

8.2.12.1. **(Added)** Field Service Representatives (FSRs)/Depot Field Teams (DFTs)/Contract Field Teams (CFTs) are authorized to utilize 51 MXG unit's tools/equipment, at the discretion of squadron leadership.

8.2.12.2. **(Added)** If these teams perform maintenance to 51 MXG aircraft with their own tools/equipment, and their Contracting Officer Representative (COR) does not inspect them, PS&D and/or squadrons will notify 51 MXG/MXQ so that FSRs/DFTs/CFTs tools/equipment can be inspected prior to contracted maintenance and upon completion of contracted maintenance.

8.2.13.2. **(Added)** Because of the necessity to disperse assets in wartime and simulated wartime periods, tools and equipment are authorized to be sub-located into decentralized CTKs. The tool turnover procedures below will be followed when mission needs occur, such as local exercises, IG inspections lasting more than one day, and during contingencies.

8.2.13.3. **(Added)** The CTK custodian will designate a Protective Aircraft Shelter (PAS)/GEN for each sub-located CTK, which will be input in TCMax®. Items moved to the sub-location will be signed-out in TCMax® to the decentralized CTK. FGS supervision will designate a CTK custodian for each shift who will be responsible to control and account for all items in the decentralized CTK.

8.2.13.4. **(Added)** Tools/CTKs will be secured in a predetermined location within the PAS/ Hardened Aircraft Shelter (HAS) when not signed out.

8.2.13.5. **(Added)** Decentralized CTKs will be inventoried at each shift change.

8.2.13.6. **(Added)** Support personnel will conduct 180-day inspections on decentralized CTKs.

8.2.13.7. **(Added)** Sign-out/turnover procedures:

8.2.13.7.1. **(Added)** The individual signing out the CTK will sign out keys for a sub-located CTK and complete a 100% inventory.

8.2.13.7.2. **(Added)** Support personnel will issue the CTK to the individual in TCMax®.

8.2.13.7.3. **(Added)** During turnover, the CTK will be inventoried by support personnel, the individual who currently has the CTK checked-out, and the person who is signing-out the CTK.

8.2.13.7.4. **(Added)** During contingency operations and exercises, HAWG/CELL bosses are authorized the authority to turnover CTKs and will be the primary representative to perform flight line turnover of CTKs.

8.2.13.2. **(Added)** Procedures for Tool Turn-in:

8.2.13.2.1. **(Added)** When the CTK is ready for turn-in, 100% inventory of the CTK will be completed by Support personnel or designated representative, and the individual who has the CTK signed out. Support personnel will take possession of the CTK keys and return it to the Support section. Finally Support personnel will sign-in the CTK in TCMax®, giving Support accountability of the CTK.

8.2.13.2.2. **(Added)** Support personnel will be the primary means of turning-in CTKs. Designated CTK turn-over/turn-in representatives should only be utilized when Support personnel are unavailable.

8.2.14.2. **(Added)** Crash recovery equipment used infrequently and stored in crash trailers will be designated as a CTK and will have a monthly inventory and inspection when not used. When used, the trailer will be signed out in TCMax® and a complete inspection and inventory of all assets will be conducted at the beginning and end of the crash recovery operations.

8.2.15.2. **(Added)** When situations warrant a single-person shift for support sections, the tool room inventory during turn-in will be conducted by an NCO or higher that did not sign-out tools from that support section during that shift. This could be a Production Superintendent, Expediter, Shift Lead, member of another unit's support section, etc. **Under no circumstances** will the same individual that signs out the CTK room sign it back in.

8.2.16.1. **(Added)** Access to tool rooms will be limited to support personnel and key personnel. Key personnel will be identified in writing by the tool room/Support Section (Non-Commissioned Officer In Charge) NCOIC.

8.3.6.6.1.1. **(Added)** Requests to not etch items that are not listed in **paragraph 8.3.6.6.1.2**; will be approved by the QA SUPT.

8.3.6.6.1.2. **(Added)** The following items have been identified and approved by QA, as too small to be marked, etched, or stamped with a Worldwide Identification (WWID): Apex bits, drill bits, jeweler's files, and allen wrenches.

8.3.6.6.1.3. **(Added)** Items that cannot be marked, etched, or stamped due to tool function will be maintained in a container or as part of a set and will not be individually issued.

8.5.2.1.1. **(Added)** The same individual that signs out the CTK/equipment will not sign it back in. For example, oncoming personnel shall log into TCMax® database and sign in the CTK, then oncoming personnel will issue out the CTK to themselves.

8.5.5.7.1. **(Added)** Units that bring TOs, eTools, and associated SE with eTools to support mobility requirements will ensure that those items are updated IAW TO 00-5-1, *AF Technical Order System*.

8.6.1.1.1.1. **(Added)** Perform spare tools inventory every 90 days.

8.6.1.1.2.1. **(Added)** Utilize 51 MXG Functional Checklist 145 for lost tool reporting of spare tools, if applicable.

8.6.1.2.1.4. **(Added)** The WWID designator will be etched as outlined below on tools.

Table 8.1. (Added) Worldwide Identification Codes.

25th Fighter Generation Squadron		5lst Maintenance Group	
Sortie Support Flight	OPAA	QA	OPQA
Phase Support	OPMA	AFREP	OPGF
36th Fighter Generation Squadron		WSS	OPML
Sortie Support Flight	OPAB	MOC	OPMO
Phase Support	OPMA	25th Fighter Squadron	
51st Maintenance Squadron		Aircrew Flight Equipment	OPFA
Accessories Flight	OPMC	36th Fighter Squadron	
AGE Flight	OPMG	Aircrew Flight Equipment	OPFB
Avionics Flight	OPMV	5th Reconnaissance Squadron	
Fabrication Flight	OPMF	5th RS	BD5R
Metals Tech Section	OPFM	51st Munitions Squadron	
Structural Maintenance Section	OPFS	Armament	OPMR
NDI Section	OPFN	Conventional/Pre-Load	OPMX
Maintenance Flight	OPMT	Precision Guided Munitions (PGM)	OPMM
Propulsion Section	OPMP	MSEM	OPME
TMDE Flight	OPMD	Flight Line Delivery	OPLD
Transient Alert Section	OPTT	Inspection	OPMI
Wheel and Tire Section	OPTW	Storage	OPMS
Fuels Section	OPCF	51st CES Barrier Maintenance	
Egress Section	OPCG	51st CES Barrier Maintenance	OPBM*
Hydraulics Section	OPCP	Storage	OPMS
Electrical and Environmental (E&E) Section	OPCE		
*This Section is not required to use TCMax® by DAFI 21-101. Tools will be etched with this code for accountability purposes.			

8.6.1.2.2. **(Added)** Ensure all calibrations for Test, Measurement, and Diagnostic Equipment (TMDE) items are current and labels are properly documented. Labels must be legible and serviceable: if the Master ID Listing provided by Precision Measurement Equipment Laboratory (PMEL) (digital or paper copy) and the TMDE calibration labels are in conflict, then the Master ID Listing on the item will be the guide for its calibration requirements. Otherwise, contact PMEL for the most up-to-date guidance, and/or to update or replace the TMDE labels.

8.6.1.4.5.2. **(Added)** Feeler gauges will be marked with the number of blades within the tool.

8.6.1.4.6. **(Added)** Permanently assigned vehicles will have all tools/items marked with the EID and will be annotated on AF Form 1800, *Operator's Inspection Guide and Trouble Report*. Temporarily assigned vehicles will have all tools/items marked with the registration number and annotated on AF Form 1800. If lost or misplaced, these items will be reported IAW lost tool/item procedures (refer to **paragraph 8.9** and sub-paragraphs of this publication).

8.7.4. **(Added)** 51 MXG/CD, 51st Maintenance Group Senior Enlisted Leader (51 MXG/SEL), or the QA SUPT are designated to approve locally manufactured, developed, or modified tools and equipment. This approval will be in writing.

8.7.5. **(Added)** Request for new tool approval must include a description, diagram or picture of the item, intended use, and list of materials required. Additionally, requests will contain the required ratings of the materials used to manufacture the item (weight, pressure, power, etc.). The intent of this requirement is to ensure that all materials used to manufacture the tools will safely function under required voltages, loads, pressures, etc.

8.7.6. **(Added)** Locally Manufactured Equipment (LME) or Locally Manufacture Tools (LMT) placed in CTKs/Tool Kits (TKs) will be identified on the MIL with the applicable 51 MXG number assigned to the tool, or a reference to the applicable TO giving local manufacture guidance.

8.7.7. **(Added)** Units will maintain approved paperwork for all LMTs that are in use by their sections.

8.7.8. **(Added)** The Weapons Standardization Section (WSS) Superintendent will maintain a copy of all local manufactured tool paperwork in the Weapons Standardization (WS) Master CTK binder for all loading related LMT items.

8.9.2.1.1.1. **(Added)** Upon notification of a lost tool/item, the Production Superintendent or equivalent will determine if a quick freeze is required, and if so, contact MOC to initiate 51 MXG Emergency Checklist 112, *Lost Tool/FO on Aircraft/Quick Freeze Checklist* (see paragraph 6.2.11. for publication SharePoint link.). If the lost tool/item is not found after 1 hour, the Production Superintendent will notify MOC to initiate Quick Freeze procedures.

8.9.2.1.1.2. **(Added)** MOC will transmit all pertinent information about the Quick Freeze over all radio nets to assist in immediate location of the item. Ensure Squadron Operations and Munitions Control is notified upon Quick Freeze implementation and is aware of location and item involved.

8.9.2.1.1.3. **(Added)** Once a Quick Freeze is initiated, only aircraft movement in the affected areas will cease until the Quick Freeze is terminated. If the Quick-freeze is related to lost/missing/dropped objects, then the Production Superintendent/Expediter will ensure a thorough search of the affected area(s) is performed to expedite aircraft movement.

8.9.2.1.1.4. **(Added)** During the Quick Freeze, if it is determined that the missing item is not in a general area/sector, the Production Superintendent may determine an alternate taxi route for all unaffected aircraft and notify Squadron Operations.

8.9.2.1.1.5. **(Added)** If the item is found, the Quick Freeze will be terminated by the Production Superintendent in conjunction with Squadron Operations. If the item is not found, the Quick Freeze can only be terminated by the 51 MXG/CC or designated representative.

8.9.2.3.4. **(Added)** QA will assign a lost tool/item tracking number and provide to MOC. Once a tracking number has been assigned, the report must be completed even if the lost tool is found. The completed 51 MXG Functional Checklist 145 (see paragraph 6.2.11. for publication SharePoint link.) must be submitted digitally to the QA org box within 5 duty days from the date of initiation for filing. If there is cockpit FO associated with the lost item/tool the applicable cockpit FO checklist (51 MXG Functional Checklist 350 for A-10 and 51 MXG Functional Checklist 351 for F-16. See paragraph 6.2.11. for publication SharePoint link.) will need to be turned in with the report. QA files/maintains the original report for one year.

8.9.2.6.2.1. **(Added)** For lost tools/items that were not found, the Squadron Operations Officer/Maintenance Superintendent or higher will sign completed report. For lost tool/items that were found, the Squadron OIC/Production Superintendent can sign the completed report.

9.17.2.1.1. **(Added)** All Local Manufacture (LM) of parts will be limited to items that are mission essential, as determined by LM Approval Authorities. This will be documented using the 51 MXG Functional Checklist 404, *Local Manufacture Request*, (See paragraph 6.2.11. for publication SharePoint link.) or the OSANAB Form 50, *Local Manufacture Request*.

9.17.2.1.2. **(Added)** Squadron Superintendents and higher are approval authorities LM parts unless part LM is specifically authorized by technical data. Requests for LM are made through the requesting squadron's LM approval authority to the fabricating squadron's approval authority.

9.17.2.1.3. **(Added)** If LM approval authorities are not available, Production Superintendents can get verbal authority so that manufacturing work can begin. LMEs/LMTs will not be installed on aircraft/equipment until LM paperwork is signed by approval authorities.

9.17.2.3.2. **(Added)** Coordinate LM requests using the 51 MXG Functional Checklist 404 (**https://usaf.dps.mil/sites/osan/51FW/51MXG/Quality%20Assurance/MXG%20Functional%20Checklists/Forms/AllItems.aspx**) or OSANAB Form 50. Additional LM paperwork includes DD Form 1348-6, *Single Line Item Requisition System Document*, AF Form 2005, *Issue/Turn-in Request*, AFTO Form 350, Tech Data information for the part, engineering drawings, and an IMDS printout of the JCN, to include a WCE for each work center involved in the manufacture. The requesting organization will initiate the request and paperwork.

9.17.2.3.3. **(Added)** Upon notification of LM request, the fabricating LM approval authority will verify Source, Maintenance, Recoverability (SMR) code and, if required, the fabricating element will request proper depot disposition to authorize local manufacture.

9.17.2.4.2. **(Added)** The requesting organization will, if possible, provide a sample part, TO information, and/or drawings of the LM item, and assist in identifying and obtaining required materials.

9.17.2.4.3. **(Added)** The prime manufacturing shop will verify if all material is on hand. If not, they will coordinate with requesting organization to procure required bits and pieces.

9.17.2.4.4. **(Added)** The manufacturing shop will provide appropriate National Stock Numbers (NSN) and the requester will submit AF Form 2005 to their supply section to acquire material.

9.17.2.5.1. **(Added)** The requesting organization will document a job for all work centers involved in the manufacturing process, with IMDS JCN/DPAS Work Order and tag information.

9.17.2.5.2. **(Added)** After LM has been approved and completed; the fabricating LM approval authority will ensure the depot requisition is canceled.

9.19.5.8. **(Added)** Panels removed to Facilitate Other Maintenance (FOM) will be stored on padded panel racks or on the floor with a barrier material between them. Panels may be stored in the HAS/GEN only if they accompany the aircraft and are properly tagged. Parts removed to FOM will be stored on pads in FOM.

11.1.4. **(Added)** The following additional procedures will be included within unit-published housekeeping procedures.

11.1.4.1. **(Added)** Equipment (e.g., stands, ladders, AGE, etc.) will not be left unattended within aircraft wing tip clearance area in facilities or within 10 feet of the aircraft.

11.3.1.6. **(Added)** Air Reserve Component (ARC) personnel assigned to 51 MXG will be placed on the Special Certification Roster (SCR) before performing tasks which require SCR approval.

11.6.5.1.1. **(Added)** In the event that MIS/IMDS/DPAS is down, units will utilize local manual JCNs. See **paragraph 5.2.8.3.6.6**. Personnel will utilize AFTO Form 349 to document items requiring entry into MIS, and AF Form 2430 to document items requiring entry into DPAS. FGS expediters, phase dock chiefs, and/or back-shop shift leads will maintain AFTO Form 349 and/or AF Form 2430 that require entry into MIS/DPAS. Once MIS/DPAS is available, personnel will utilize the AFTO Form 349 and/or AF Form 2430 to enter maintenance actions into MIS/DPAS. Section NCOICs will ensure proper entry into MIS/DPAS.

11.8.3.1.4. **(Added)** At no time will items (such as aircraft forms binders) be placed on or hung from the pitot probe of an aircraft. Note: Does not apply to -21 equipment or SE designed to be attached to the pitot probe.

11.8.3.3.1. **(Added)** -21 equipment will be removed no earlier than 30 minutes prior to scheduled crew show time and installed within 30 minutes of engine shut down. Additionally, covers will be removed no earlier than 30 minutes prior to maintenance runs, and reinstalled within 30 minutes of engine shut down. If personnel leave the aircraft area, all covers will be installed.

11.8.3.6.6. **(Added)** Hats will not be worn on the flight line. Exceptions are cold weather hats, fleece caps, stocking caps, bicycle safety helmets, navy bump helmets/safety bump cap, tank driver helmets, and combat helmets.

11.8.3.6.7. **(Added)** Ponchos will not be worn within 50 feet of the intake of an operating aircraft.

11.8.3.8.1. **(Added)** Store all loose hardware in draw string (cloth) bags or zip lock plastic bags and annotate the bag with the quantity of each item (i.e., five bolts, five nuts). Furthermore, annotate the bag with the serial number of the aircraft, uninstalled engine, AGE, and/or off equipment component. If bags are reused, line through all previous information.

11.8.3.10.2.1. **(Added)** Squadrons will submit a memorandum to the Wing FOD Monitor that outlines their FOD walk plan to cover their specific area of responsibility. (See **Attachment 14**).

11.8.3.10.2.2. **(Added)** All squadrons (including TDY and tenant units/squadrons) will ensure FOD walks are accomplished within 2 hours prior to take off on each flying day and during the day as needed in their assigned parking areas, hangars and adjacent taxiways. Units/squadrons with no daily flying schedule will accomplish FOD walks at the start of each duty day. (See **Attachment 14**).

11.8.3.10.2.3. **(Added)** FOD sweepers/bosses are to be used in all aircraft movement areas in the Alpha Diamond, Draggins Lair, and Bravo Diamond (when aircraft are taxied in this area), in addition to daily FOD walks. They will be used prior to the first take off and for a minimum of 1 hour per day, weather permitting. Any section not in possession of this equipment will coordinate with other sections to the maximum extent possible to meet this guidance.

11.8.3.10.2.4. **(Added)** EOR crews will conduct a FOD walk of the arm and de-arm areas prior to aircraft arrival and after aircraft departure.

11.8.3.10.2.5. **(Added)** Only aircraft/munitions tow vehicles and two-wheel drive fire department vehicles are authorized to use chains on taxiways or ramps. The tow vehicle operator may use chains only when towing and snow or ice accumulation warrants the need. All vehicle operators are responsible for ensuring chains are of closed link design (no "C" or "S" links) and checked for FOD potential before each use.

11.8.3.10.2.6. **(Added)** Studded snow tires are not authorized on any vehicle driven on the flight line.

11.8.3.10.2.7. **(Added)** All PTDs (e.g., bicycles, scooters, etc.) and POVs will stop and inspect their PTD or POV to ensure that all items are secured and do not pose a safety or debris risk to personnel or aircraft prior to entering the flight line areas. All PTDs and POVs shall stop at designated FOD checkpoint(s) and perform a roll over tire check to remove any FO from tires. The roll over FOD check shall be conducted IAW DAFMAN 91-203, *Air Force Occupational Safety Fire and Health Standards*, and DAFI 13-213_OSANABSUP, *Airfield Driving*, requirements.

11.8.3.10.2.8. **(Added)** All PTDs and POVs will inspect their PTD or POV to ensure that all items are secure and do not pose a safety or debris risk to personnel or aircraft and perform a roll over tire check to remove any FO from tires prior to exiting any parking location.

11.8.3.12.4. **(Added)** Aircrew will account for all items taken into cockpits. Any items that become lost will be debriefed and documented in the AFTO Form 781A's.

11.8.3.13.1. **(Added)** Prior to engine start during ice FOD conditions, as a minimum, clear an area three feet in radius of all standing water, slush, snow, and ice directly below the intake.

11.8.3.13.2. **(Added)** During F-16 engine runs while in an icing condition, position a qualified individual safely in front and to the side of the aircraft to function as an ice observer and to watch for ice formation on the intake lip. Spotter must remain outside the intake danger zone and must ensure stable footing.

11.8.3.14.1.1. **(Added)** Affix a brightly colored "REMOVE BEFORE FLIGHT" streamer to all covers and safety pins. Mark them with the aircraft tail number.

11.8.4.1.2. **(Added)** Each Squadron commander will forward a copy of the letter appointing their squadron FOD/DOP Committee representatives and alternates containing the individual's name, rank, duty phone, e-mail address, office symbol, and DEROS to the Wing FOD/DOP Prevention Monitor.

11.8.4.1.2.1. **(Added)** Flight Chiefs may appoint flight FOD/DOP representatives to assist the squadron representative, letters of appointment for those flight representatives will be maintained in the squadron continuity binder.

11.8.4.1.2.2. **(Added)** Engine FOD analysis, whether Failure Analysis System Technology (FAST) or Scanning Electron Microscope (SEM), will be funded by the supported FGS's Flying Hours Program funds.

11.8.4.1.3. **(Added)** A FOD bulletin board will be kept at each unit location. One centrally located board may cover all work centers located in a single building. Placement is at the discretion of the individual squadron, but the location must provide the greatest visual access to personnel. Squadrons are responsible for obtaining and maintaining the bulletin board. The space on the bulletin board may be shared, however, the following items must be displayed:

11.8.4.1.3.1. **(Added)** Wing FOD Monitor Poster

11.8.4.1.3.2. **(Added)** FOD Reporting POC Poster

11.8.4.1.3.3. **(Added)** FOD Responsibility map (**Attachment 13**)

11.8.4.1.3.4. **(Added)** Most recent FOD Flash

11.8.4.1.3.5. **(Added)** Most recent FOD Prevention Poster

11.8.4.2.2.1. **(Added)** Aircraft parts involved in a FOD mishap will be held for investigation until cleared by the Wing FOD Monitor and Flight Safety. For FOD incidents of unknown cause, it is recommended to use a FAST FOD kit, at the discretion of the Wing FOD Monitor and/or the QA SUPT.

11.8.5.4.3. **(Added)** Squadron FOD Committee representatives will ensure a FOD continuity binder or digital file is maintained and set up IAW the master binder in the Wing FOD Monitor's office. This will also serve as the unit's deployable FOD binder.

11.8.5.7. **(Added)** 51 FW/CD and Wing FOD Monitor will promote a wing wide quarterly FOD Prevention Poster contest, FOD Fighter of the Quarter contest, and Golden Bolt Awards. All FOD recognition program winners will receive a coin, one-day pass, and certificate of recognition from the 51 FW/CD.

11.8.5.7.1. **(Added)** The Golden Bolt: The object will have the words, "GOLDEN BOLT" written on it and includes the phone number of the Wing FOD Monitor. The object shall NOT be placed in the vicinity of any taxiing aircraft and/or within 25' of any aircraft intake. Additionally, the Wing FOD Monitor must always have view of the object while placed on the Airfield. Personnel finding the object will return it to the Wing FOD Monitor. There may be up to three Golden Bolt winners per quarter.

11.8.5.7.2. **(Added)** FOD Fighter of the Quarter: Supervisors or unit FOD Monitors may submit nominations in memorandum format to the Wing FOD Monitor by the last day of the quarter. The FOD Council and/or the Wing FOD Monitor will select the winner based on the likelihood that the action taken by the individual will prevent a FOD mishap.

11.8.5.7.3. **(Added)** FOD Prevention Poster of the Quarter: Supervisors or Unit FOD Monitors may submit nominees in memorandum format and FOD Prevention Poster entries to the Wing FOD Monitor by the last day of the quarter. The FOD council and/or Wing FOD Monitor selects the winner.

11.8.8.1. **(Added)** Report all bird strikes to Flight Safety through MOC and/or Command Post. Do not clean bird remains until sample has been taken by Flight Safety or QA.

11.9.2.3.1. **(Added)** Dropped object incidents will be immediately reported to MOC, who will initiate 51 MXG Emergency Checklist 110, *Dropped Object Checklist*, (See paragraph 6.2.11. for publication SharePoint link.) and notify the Wing DOP Monitor and QA. QA and/or the Wing DOP Monitor will assist the unit in investigating each dropped object incident.

11.11.3.1. **(Added)** When Identification Friend or Foe (IFF) MODE IV/MODE C checks are required, the location will be with aircraft in chocks prior to taxi.

11.12.2.3.2. **(Added)** Squadrons will not modify or delete any -6 test results that were collected.

11.13.9. **(Added)** FGS Supervision will designate a CANN Manager. Specific Dedicated Crew Chief (DCC)/CANN Manager responsibilities:

11.13.9.1. **(Added)** CANN Manager will schedule a forms review with Plan and Scheduling before the aircraft enters CANN status and perform records checks every seven days, thereafter.

11.13.9.2. **(Added)** CANN Manager will review aircraft forms and IMDS daily to ensure that all CANN actions are documented in the AFTO Form 781As, to include document numbers, references, and CANN numbers and all completed maintenance actions have been properly cleared.

11.13.9.3. **(Added)** Inspect the aircraft and ensure that all connectors/lines disconnected during component removal from the night prior are capped or covered. If items were not covered, inform the owning shops of the discrepancy.

11.13.9.4. **(Added)** Inspect the aircraft for leaks and area around the aircraft for FO; clean up leaks and empty the drip pans as required. If leaks and/or FO are found that were obviously left from maintenance, inform the owning shops.

11.13.9.5. **(Added)** Verify IMDS-CDB, AFTO Form 781A, and Supply match each other. Provide feedback to owning shops of discrepancies noted.

11.13.9.6. **(Added)** Whenever possible, correct delayed discrepancies and perform time changes, TCTOs and/or scheduled maintenance, as required. Exception: battery cap checks may be delayed until the aircraft is being rebuilt.

11.13.9.7. **(Added)** IMDS-CDB will be the primary source of data used in CANN data compilations. The CANN Log will be used as manual back-up system for CANN actions accomplished during IMDS-CDB downtime and will be entered into IMDS-CDB when available. The maintenance systems analysis section chief will develop procedures to verify IMDS-CDB CANN data prior to reporting.

11.14.2.2.1.1. **(Added)** A rated aircraft forms inspection will be conducted upon entering category 2 Hangar Queen status and every 30 days after until Hangar Queen status is cleared.

11.22.2.1.3. **(Added)** Refer to Nestable Fuel Tank Build-Up (NFTBU) local training plan for all 51 MXG NFTBU training requirements.

11.25.4.1. **(Added)** Hot Pit Refueling Procedures for Osan AB are outlined in MDS specific TOs, LJG-51MXG-10, *Aircraft Hot Refueling*, (see **paragraph 6.2.11** for publication SharePoint link) and the 51 MXG/MXQ Master Hot Pit Certification package.

11.28.2.6.1.1. **(Added)** Ensure a minimum of three personnel are available for all In-Flight Emergency (IFE)/Ground Emergency (GE) initial responses.

11.28.2.6.1.2. **(Added)** Ensure that the on-scene commander or senior fire department official has released the aircraft before employing the crash recovery crew.

11.28.2.6.1.3. **(Added)** Develop and maintain a logbook or file to record scenario types and equipment employed. Ensure only those personnel who were involved are credited with completion of training requirement when actual aircraft emergencies are used to satisfy the intent of quarterly training requirements.

11.28.2.6.1.4. **(Added)** The crash recovery crew will tow emergency aircraft clear of the active runway or taxiways. If required to respond to another IFE/GE; the owning organization will tow locally assigned aircraft to their specific parking location. The crash recovery crew will tow transient aircraft to parking location.

11.28.2.6.1.5. **(Added)** The crash recovery supervisor will determine equipment and/or support requirements for crashed and disabled aircraft after a physical assessment of the aircraft.

11.28.2.8. **(Added)** Crash Recovery will tow aircraft off the runway and park at the nearest location (e.g. Doorstop, EOR, Base Operations Ramp). Crash Recovery will not tow aircraft back to original parking spot unless the IFE aircraft is the last aircraft down for local flying.

11.42. (Added) Incident Reporting.

11.42.1. **(Added)** Report suspected incidents to the 51 MXG MOC and the respective unit's QA immediately. Follow-up incident reporting must be accomplished within 24 hours.

11.42.2. **(Added)** Determination of reporting an incident will be made by the organization that has overall ownership of the aircraft or equipment (i.e., if an FGS damages a power cart while towing it, AGE will be notified and will determine the reportability of the incident).

11.42.3. **(Added)** An incident can be defined as a "near accident;" an occurrence other than an accident, associated with the operation of an aircraft, vehicle or equipment, which affects or could affect the safety of operations.

11.42.4. **(Added)** The following is a list of incidents that must be reported to the MOC. It is not all-inclusive and may be supplemented if an event is considered significant:

11.42.4.1. **(Added)** Aircraft damage where the cause is not immediately associated as being routine, when determined by maintenance supervision.

11.42.4.2. **(Added)** FOD.

11.42.4.3. **(Added)** Munitions: Dropped, Hung, Exploded, or Damaged.

11.42.4.4. **(Added)** GEs.

11.42.4.5. **(Added)** Bird Strikes.

11.42.4.6. **(Added)** Component Damage.

11.42.4.7. **(Added)** SE Damage.

11.42.4.8. **(Added)** Hazardous Material Spills.

11.42.4.9. **(Added)** Personnel Injury.

11.42.4.10. **(Added)** Vehicle Damage.

11.42.4.11. **(Added)** Other. (Incidents deemed appropriate to be reported.)

11.42.4.12. **(Added)** Class II and Class III Fuel Spills.

11.42.4.13. **(Added)** Dropped Object.

11.42.4.14. **(Added)** Wire Harness and Metal Line/Tube Chafing.

14.1.3.4.1. **(Added)** Establish a system to ensure daily review of AF Form 2434, *Munitions Configuration and Expenditure Document*. Closely monitor all rounds counts, munition firings on

AF Form 2434 daily, and special occurrence and event driven time change requirements (guns, bomb racks/missile launcher firings) during Armistice and Contingency to ensure no inspections exceed TO requirements.

14.2.2.3.14.7. **(Added)** Pulled aircraft forms will be filed by PS&D within 10 duty days of the "from" date on the aircraft forms.

14.5.6.3.1.2. **(Added)** Sortie sequence numbers will utilize the established sequence numbers located in **Attachment 14**.

Chapter 16 (Added)

SINGLE-PERSON LAUNCH AND RECOVERY (SPL/R).

16.1. (Added) F-16 Single-Person Launch and Recovery (SPL/R). To utilize personnel in the most efficient manner, trained personnel are authorized to perform SPL/R procedures, IAW TO 1F-16CG-6WC-1-11, *Combined PreFlight/PostFlight, End-of-Runway, ThruFlight, Launch and Recovery, Alert Inspections, Quick Turnaround, Basic PostFlight, and Walkaround Before First Flight of Day Inspection Workcards*.

16.2. (Added) Qualifications, Training and Certification for SPL/R Personnel.

16.2.1. **(Added)** The prerequisite for SPL/R is qualified SrA or higher, unless waived by FGS Superintendent/OIC, with current qualification on normal, two-person aircraft launch and recovery.

16.2.2. **(Added)** SPL/R training must be conducted and documented on each person and must be certified by a 7-level qualified SPL/R person.

16.2.3. **(Added)** The certifier will not be the same person as the trainer and the certifier must visually watch the person perform the SPL/R prior to documenting the trainee's training records.

16.2.4. **(Added)** The SPL/R training and certification will be documented in the individual's electronic training records for Work Center Job Qualification Standard (WJQS).

16.2.5. **(Added)** Training must place special attention on aircraft danger areas, safety awareness and response to "Red Ball" maintenance IAW DAFI 21-101.

16.3. SPL/R Guidelines. (Added)

16.3.1. **(Added)** SPL/R will only be used if specialist and Weapons personnel are needed for maintenance, training, or other functions as determined by the Production Superintendent and FGS supervision.

16.3.2. **(Added)** SPL/R is NOT authorized for aircraft flying with live munitions. SPL/R is authorized for aircraft loaded with CATM missiles.

16.3.3. **(Added)** Production Superintendents will coordinate with Squadron Operations (Top 3) which lines will be SPL/R prior to crew show. Upon arrival at the aircraft, the crew chief will identify to the pilot that he/she will be performing a single-person launch/recovery. Safety is paramount and requires vigilant adherence by both the ground crew and the pilot to ensure hands remain clear of all controls and throttle while the crew chief is not in direct visual contact with the pilot. Prior to disconnecting communications on launch and prior to approaching the aircraft on recovery, the crew chief will get clearance from the pilot and signal the pilot to keep hands up until visual or voice communication is established. All other procedures for SPL/R are outlined in the applicable -6 work cards.

Chapter 17 (Added)

ENVIRONMENTAL CONTROL SYSTEM (ECS) REQUIREMENTS.

17.1. (Added) High Humidity Months (May-October).

17.1.1. **(Added)** Due to excessive failures involving the F-16 ECS, the 51 MXG will implement the following requirements.

17.1.1.1. **(Added)** During the months of May-October, the ECS socks on all F-16s will be changed every 50 flying hours. Summer and Winter socks will be swapped via attrition when determined bad within 30-days of seasonal change.

17.1.1.2. **(Added)** All F-16 units will follow the local procedures for applying cooling air during the months of May-October. (Refer to 1F-16CG-2-12JG-00-1-LPS-51MXG. See paragraph 6.2.11. for publication SharePoint link.)

WILLIAM H. McKIBBAN, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DAFI 13-213_OSANABSUP, *Airfield Driving*, 22 September 2023

DAFI 63-101/20-101, *Integrated Life Cycle Management*, 16 February 2024

LJG-51MXG-10, *Aircraft Hot Refueling*, 19 October 2022

LJG-51MXG-07, *Servicing and Ground Handling of Transient Aircraft*, 3 August 2015

DPAS M&U Module, *Implementation Interim Guidance Version 8.7*, 22 Nov 2024

OSANABI 21-112, *End of Runway (EOR)/Explosive Loaded Aircraft, Hung Ordnance/Gun System Malfunction Procedures, and Hung Ordnance/Gun System Malfunction Impoundment*, 1 August 2023

TO 1-1-300, *Maintenance Operational Checks and Check Flights*, 15 December 2023

TO 00-5-1, *AF Technical Order System*, 11 September 2023

TO 1F-16CG-6WC-1-11, *Combined PreFlight/PostFlight, End-of-Runway, ThruFlight, Launch and Recovery, Alert Inspections, Quick Turnaround, Basic PostFlight, and Walkaround Before First Flight of Day Inspection Workcards*, 1 July 2024

Prescribed Forms

OSANAB Form 50, *Local Manufacture Request*

OSANAB Form 55, *Impound Checklist*

OSANAB Form 56, *Combat Catch Checklist*

51 MXG Emergency Checklist 110, *Dropped Object Checklist*

51 MXG Emergency Checklist 112, *Lost Tool/FO on Aircraft/Quick Freeze Checklist*

51 MXG Functional Checklist 145, *Lost Tool/Object Report*

51 MXG Functional Checklist 350, *FO/Suspected FO in Cockpit Investigation Checklist 350 (A-10)*

51 MXG Functional Checklist 351, *FO/Suspected FO in Cockpit Investigation Checklist 351 (F-16)*

51 MXG Functional Checklist 403, *Impoundment Checklist*

51 MXG Functional Checklist 404, *Local Manufacture Request*

Adopted Forms

AF Form 1800, *Operator's Inspection Guide and Trouble Report*

AF Form 2430, *Specialist Dispatch Control Log*

AF Form 2434, *Munitions Configuration and Expenditure Document*

DAF Form 673, *Form Action Request*

DD Form 365-4, *Weight and Balance Clearance Form F*

Abbreviations and Acronyms

AB—Air Base

BPO/PR—Basic Postflight/Preflight

DAFI—Department of the Air Force Instruction

IAW—In Accordance With

IMDS-CDB—Integrated Maintenance Data System-Central Data Base

LCL—Local Checklist

LJG—Local Job Guide

LPS—Local Page Supplement

M&U—Maintenance and Utilization

NFTBU—Nestable Fuel Tank Build-Up

OCP—Operational Camouflage Pattern

PGM—Precision Guided Munitions

POV—Personally Owned Vehicles

PTD—Personal Transportation Devices

QA SUPT—Quality Assurance Superintendent

SCL—Standard Conventional Load

SEM—Scanning Electron Microscope

SPL/R—Single-Person Launch and Recovery

SPO—System Program Office

TK—Tool Kit

WSS—Weapons Standardization Section

Office Symbols

36 FS—36th Fighter Squadron

51 CS—51st Communications Squadron

51 FW—51st Fighter Wing

51 FW/APO—51st Fighter Wing Advanced Programs Office

51 FW/PA—51st Fighter Wing Public Affairs

51 MUNS—51st Munitions Squadron

51 MUNS/SEL—51st Munitions Squadron Senior Enlisted Leader

51 MXG—51st Maintenance Group

51 MXG/CC—51st Maintenance Group Commander

51 MXG/CD—51st Maintenance Group Deputy Commander

51 MXG/MOC—51st Maintenance Group Maintenance Operations Center

51 MXG/MXQ—51st Maintenance Group Quality Assurance

51 MXG/SEL—51st Maintenance Group Senior Enlisted Leader

51 MXG/TODO—51st Maintenance Group Technical Order Distribution Office

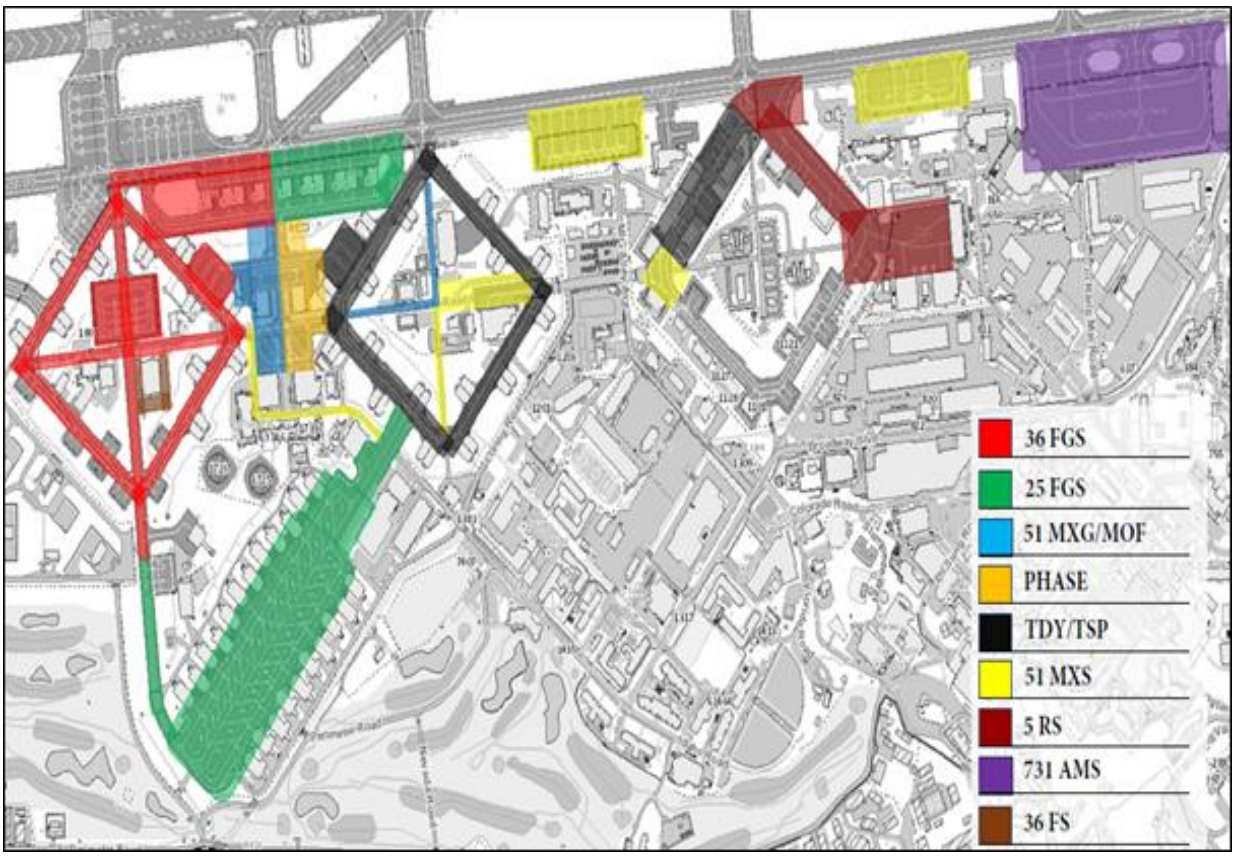
51 OG—51st Operations Group

MXS—Maintenance Squadron

Attachment 14 (Added)

FOD WALK AREAS OF RESPONSIBILITY

Figure A14.1. FOD Walk Areas of Responsibility.



Attachment 15 (Added)

51 OG/MXG LINE NUMBERS

Table A15.1. 51OG/MXG Line Numbers.

LINE NUMBERS	REMARKS
026 – 030	36 FS FCF/OCF Lines
031 – 058	36 FS Cross Country & Cross Country Return Lines (To & From Osan)
076 – 100	36 FS Alert Lines
101 – 200	36 FS Deployment Lines (Off station deployment/TDY (i.e. Red Flag))
201 – 275	36 FS Home station/Local training Lines
276 – 300	36 FS HHQ Add Lines
301 – 400	36 FS Local Exercise Lines (Day 1/3/5 etc.)
401 – 500	36 FS Local Exercise Lines (Day 2/4/6 etc.)
501 – 550	25 FS Alert Lines
551 – 600	25 FS Cross Country & Cross Country Return Lines (To & From Osan)
601 – 675	25 FS Home station/Local training Lines
676 – 700	25 FS HHQ Add Lines
701 – 800	25 FS Local Exercise Lines (Day 1/3/5 etc.)
801 – 900	25 FS Local Exercise Lines (Day 2/4/6 etc.)
901 – 910	25 FS FCF/OCF Lines
911 – 940	25 FS Deployment Lines (Off station deployment/TDY (i.e. Red Flag))
941 – 999	Theater Security Package Lines