BY ORDER OF THE COMMANDER
507TH AIR REFUELING WING

507TH AIR REFUELING WING
SUPPLEMENT

27 May 2021

Maintenance

AIRCRAFT AND EQUIPMENT MAINTENANCE MANAGEMENT

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This supplement implements and extends the guidance of Air Force Instructions (AFI) 21-101, *Aircraft and Equipment Maintenance Management*, AFRCSUP. It applies to all Air Force personnel assigned to the 507th Air Refueling Wing that maintain and support aircraft, aircraft systems, equipment, support equipment and components. This supplement prescribes procedures governing aerospace equipment maintenance management. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication.* Route AF 847s through the appropriate chain of command. Ensure all records created as prescribed in this publication are maintained in accordance with Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS).

2.4.8.1. **(Added)** Submit their squadron root cause analysis (RCA) for failed QA evaluations and inspections to the QA SharePoint within 7 duty days of receiving RCA.

2.10.22. DCC Program is applicable, see Chapter 3.8 of parent instruction.

2.10.31. Report supervisory evaluations/inspections on squadron SharePoint.

2.12.6.1. Report supervisory evaluations/inspections on QA SharePoint.

3.7. The MOC will perform debrief functions.

3.7.11.1. **(Added)** TDY Debrief:

3.7.11.1.1. **(Added)** AMXS will ensure maintenance personnel assigned to off- station missions are trained on debrief and familiar with AF Form 664 procedures. For TDY missions, sufficient copies of the debrief sheet will be taken.

3.7.11.1.2. **(Added)** The senior maintenance technician/crew chief will debrief the crew using debrief sheet and provide the required information for input into the MIS after the last flight of each day. Every effort will be taken to accomplish the debrief at the TDY location with the local debrief function. In the event the MIS is unavailable at the TDY location, a copy of the debrief sheet and AFTO Form 781 must be faxed to the 507 MOC at DSN 884-4609/5597 or emailed to **507MXG.MOC.MXOpsCenter@us.af.mil**.

3.7.11.1.2.1. **(Added)** The senior maintenance technician/crew chief must contact the 507 MOC daily, during duty hours, to provide current aircraft status and/or when changes in status occur.

3.7.11.1.3. **(Added)** When the MIS is unavailable at home station and TDY location, the debrief sheets, AFTO Form 781s and copies of the AFTO Form 781As will be maintained for input into the MIS upon restoration.

3.8.2. The AMXS Superintendent is the DCC Program Manager and is responsible for keeping the MXG/CC informed of the program status.

3.9.1. Technicians will brief the Pro Super/Expediter on the status of all discrepancies being worked prior to leaving the flightline.

5.2.2.1.10.1. The Pro Super will ensure that the MIS is cleared of any open Red X(s) prior to take off.

5.2.2.1.15.2. **(Added)** In addition to the name of the personnel, their employee # will be tracked.

5.2.2.1.15.3. **(Added)** Prior to giving engine run clearance, MOC will verify that employee(s) are current on engine run requirements in GO-81 (K135-001300, K135-001562). If found non-current or decertified, engine run clearance will be disapproved.

5.2.2.1.22. Only applicable to aircraft on the 507 ARW ramp.

6.7.6.1.3.2. **(Added)** 3-levels will accomplish a PE within 12 months of joining the unit. 5-level and 7-levels will accomplish a PE within 6 months of joining the unit.

6.15.3.3.1. **(Added)** Some TCTOs and Modifications may affect the Weight and Balance of the airplane. During the TCTO meeting, QA will identify TCTOs and modifications that may change the airplane's calculated weight or center of gravity. PS&D will notify the W&B Manager when the TCTO or modification has been completed so the airplane's recordmay be updated.

7.2.1. Impoundment Officials will use the 507 MXG Form 100 Impoundment Procedure Checklist located in the QA office or on the QA SharePoint, for all aircraft/equipment impounded.

7.4.3.1. **(Added)** Pro Super/Expediter will assist the Impoundment Official in limiting access and maintenance activities on impounded aircraft.

7.5.4. Uncommanded flight control movement positively caused by the autopilot system impoundment is at the discretion of the MXG/CC or CD.

7.5.4.1. **(Added)** The lack of flight control movement following a commanded input is also a mandatory impoundment.

7.6.3.1. The securing of the aircraft jacket file is mandatory for all impoundments due to an incident/mishap. All other impoundment the jacket file will be secured at the discretion of the Impoundment Official.

7.6.4. Aircraft/equipment impoundments due to an incident/mishap, the MXG/CC or CD must approve all maintenance actions.

7.6.4.3. **(Added)** The CANN of parts from impounded aircraft/equipment is prohibited, unless authorized by the MXG/CC or CD.

7.6.6. A QA representative will be present during all impoundment release requests with the Impoundment Release Authority.

7.6.6.1. **(Added)** When requesting release from impoundment, the Impoundment Official will have the completed 507 MXG Form 100 Impound Checklist, Entry Control Point (ECP) log, and the aircraft/equipment forms at the request briefing.

7.6.6.1.1. **(Added)** If aircraft/equipment is released from impoundment, QA will collect all documents with exception of the aircraft/equipment forms for filing.

7.6.10. 507 ARW aircraft impounded at transient locations, the senior maintenance person will contact home station MXG/CC to determine Impoundment Official and MRT.

7.6.11. **(Added)** Aircraft impounded at deployed locations, the Impoundment Official will comply with host unit impoundment procedures, as required. If no deployed host unit impoundment procedures exist, home station procedures will apply.

7.6.11.1. **(Added)** The senior maintenance person will inform home station MXG/CC of all deployed aircraft impoundments and provide daily status updates until released.

8.2.2.2. **(Added)** Annual inventory dates will be tracked in TCMax.

8.2.8.4. **(Added)** Tools, equipment, to include PPE, long term issued to personnel in TCMax will have a documented inventory annually.

8.2.8.4.1. **(Added)** Each individual will be loaded as a CTK with an MIL printed out of TCMax. The MIL will be used by the individual to account for their items daily.

8.2.8.4.2. **(Added)** Annual inventory will be documented on the MIL and a copy given to the support section to be updated in TCMax. A new MIL will be printed annually.

8.3.6.3.1. **(Added)** The hard copy MIL will match the MIL in TCMax.

8.3.6.7.3.1. **(Added)** A permanently removed item/tool shall have its inlay/silhouette, marked as deleted or compartments filled-in. Ensure filler doesn't pose a FOD hazard.

8.5.1.2.7. **(Added)** TMDE inspections shall be tracked in TCMax.

8.7.1. The 507 MXG Form 40 *Local Manufacture Request* form must be completedfor all locally manufactured tools and equipment. This form is available on the 507 QA SharePoint, **https://afrc.eim.us.af.mil/sites/507ARW/507MXG/MXGstaff/QA/SitePages/Home.aspx**

Aircraft parts, authorized to be locally manufactured, do not require local manufacture paperwork.

9.2. DMS personnel are not assigned on MXG UMD; however, they are responsible to comply with the paragraph requirements as indicated within this chapter. The remainingparagraphs are the responsibility of the applicable MXG maintenance activity.

9.2.1.2.1. **(Added)** LRS superintendent will ensure that rotation of personnel is performed on a one for one basis to ensure the efficiency of DMS support to MXG operations in not degraded.

9.2.2. **(Added)** DMS assigned personnel are critical to the 507ARW mission and must provide coverage during all hours of 507 ARW flightline operations.

9.4.1. Standby/monitor radio during Red Ball Maintenance to receive a request from Pro Super/Expediter/Technician when a part is required, by using a Quick Reference Listing (QRL), stock number, or part number.

9.5.1.1. **(Added)** MICAP part status will be briefed at the morning production meeting. Tracking numbers, if available (UPS, FedEx), will be entered in the comments field.

11.6. A team of qualified personnel to support Red Ball maintenance will be standing by in their shop or vehicle, at least one hour prior to scheduled take-off, or as directedby the Pro Super or Expediter. Each shop will have a CTK and eTool ready to support an immediate response.

11.6.5. Maintenance personnel will document Red Ball actions on an AFTO Form 349.

11.6.5.1. The applicable work center supervisor is responsible to ensure AFTO Form 349 documentation is entered into the MIS immediately upon system restoration.

11.8.3.1.4. **(Added)** Immediately upon completion of a maintenance task, an extensive Foreign Object (FO) inspection will be made to ensure no foreign objects remain in the area. This inspection is to include any loose hardware, safety wire, etc. and an inventory of the CTK(s).

11.8.3.1.5. **(Added)** All aircraft undergoing scheduled periodic inspections will have all compartments inspected for foreign objects prior to closing panels.

11.8.3.1.6. **(Added)** When removal of aircraft panels is required for maintenance, bags or suitable containers will be used to contain all fasteners.

11.8.3.6. The wearing of hats on the aircraft parking ramp is authorized, except around operating aircraft engines as defined by source reference instructions. During periods of inclement weather, appropriate head gear is authorized around operating engines as long as it is secured and does not interfere with the individual's ear defenders.

11.8.3.10.2. The FOD walk will include the aircraft parking ramp, hangar aprons, access roads, and a housekeeping sweep around buildings inside the fence.

11.8.3.10.3. **(Added)** Sweeper requests for areas other than those on the regular schedule will be submitted through Maintenance Operations Center (MOC).

11.8.3.14. Run fences will be inspected by the user for deficiencies prior to use and again after the run is complete. Run fences found with discrepancies will be removed from service and repaired.

11.8.5.5.1. **(Added)** The Pro Super/Expediter will be the coordinating representative to the

Wing FOD Monitor for all repairs to be conducted to the aircraft ramp to minimize conflict with flying activities.

11.8.5.5.2. **(Added)** Discrepancies will be reported to the MOC and briefed at the daily production meeting until resolved.

11.8.5.6. **(Added)** Attend quarterly Wing FOD Prevention Program meetings to ensure compliance with FOPP objectives.

11.8.6.3.1. For all incidents involving bird ingestion in the engine, see AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program* and applicable Technical Orders.

11.8.6.9.1. The wing FOD Monitor will notify Tinker Airfield Management at 734- 2191 no later than next duty day on all FOD incidents.

11.8.6.9.5. **(Added)** In the event of a FOD incident (engine damage, tire damage) while an aircraft is off station, the senior enlisted maintenance person will complete the AFRC Form 42 and send it to the MXG/QA, no later than at the end of the day the incident occurred.

11.8.6.9.6. **(Added)** For all incidents involving foreign objects, to include integral parts of the aircraft (GPS connectors, sextant knobs) and other tools lost on an aircraft, the individual aware of this condition will notify their supervisor and/or the expediter immediately. The supervisor/expeditor will notify MOC, who will in turn notify QA.

11.8.9. **(Added)** FOD Prevention and Awareness Reward Program (Golden Bolt). The Golden Bolt Program is a tool used by the Wing/CV and FOD Monitor to highlight the importance of FOD Walks and reward members for their vigilance. The Golden Bolt will be prepositioned prior to a FOD Walk on a random basis; the member that finds the Bolt will receive one hour of paid time-off. The time off is at the discretion of the MXG/CC, individual's supervisor and mission requirements. The Golden Bolt used for this program will be marked with a TAS identifier and stored in the AMXS tool room.

11.9.3.1.2. **(Added)** MOC notifies MXG/CC and MXG/MXQ, as soon as possible, of a dropped object incident when an aircraft is away from home station. In this event, the Senior Maintenance NCO will complete the Dropped Object Incident Worksheet located in the assigned aircraft's Off-Station Debrief Guide, and send it to the MXG/MXQ section no later than the end of the day incident occurred.

11.9.3.2.1. Personnel making the discovery will notify the Maintenance Operations Center (MOC) of any missing panels, doors, access covers, etc., discovered following flight, and will initiate the QA Form 2, Dropped Object Incident Worksheet, with pertinent information and forward to QA for investigation. MOC, in turn, notifies the MXG Commander, QA, AMXS Superintendent, Tinker Airfield Management, and 507 ARW Command Post upon notification ofitem(s) lost during flight.

11.9.3.3.1. **(Added)** Maintenance Superintendents are responsible for total program compliance within their respective areas of responsibility. All maintenance personnel have the responsibility to ensure the objectives of the DOP program are met.

11.9.3.3.2. **(Added)** 507 MXG Form 25 A thru D, ISO Inspection Panel Sheet Area1 to 4 will be utilized.

11.9.3.4.1. **(Added)** Squadron Commanders will ensure newly assigned personnel (military,

civilian, and contractors) involved in on-equipment maintenance receive initial Dropped Object Prevention (DOP) training. Squadron supervision will conduct initial DOP training for all newly assigned personnel and for personnel requiring or requesting refresher training. Training can be located in the "FOD & DOPP" folder on the Quality Assurance Sharepoint:
https://afrc.eim.us.af.mil/sites/507ARW/507MXG/MXGstaff/QA/SitePages/Home.aspx

11.9.4. **(Added)** Wing DOP Monitor additional responsibilities:

11.9.4.1. **(Added)** Review dropped object reports to identify trends requiring action.

11.9.4.2. **(Added)** Provide assistance to the Wing Safety Office in the investigation of all dropped object incidents that require reporting under the provisions of AFI 91-204.

11.9.4.3. **(Added)** Provide dropped object incident crossfeed/crosstell information to MXG personnel for review of like deficiencies within their work centers.

11.9.4.4. **(Added)** Brief dropped object incidents that have occurred during the past quarter at the Foreign Object Prevention Committee meetings.

11.13.5. The base supply structure at Tinker AFB doesn't allow for any part to be "readily" available in LRS. Therefore, the Pro-Super may initiate the CANN of a part, immediately after placing a part on order before status is known. This process will only be used during Red Ball maintenance.

11.13.7.2. **(Added)** The 507th Propulsion Flight Chief and the Engine Manager will be notified prior to cannibalization of the spare engine.

11.13.9.1. **(Added)** The flight or shop performing the CANN will be responsible to make all pertinent AFTO Form 781A entries. EXCEPTION: Document CANN actions on aircraft undergoing isochronal inspection in accordance with "Paperless Iso" procedures. AFTO 781As will not be used. Warning Tags relating to the CANN action will be placed on the Warning Tag board.

11.17.8.1. Engine run proficiency will be updated based on engine run log maintained by the MOC.

11.17.12. QSAS proficiency requirement is 180 days.

11.17.12.1. Certified QSAS run personnel will document runs on the MXG Form 16, Aircraft QSAS Run Roster. An AF Form 2426 will be submitted to the training manager for entry into the MIS.

11.28.1.2. The OC-ALC is responsible for all aircraft recovery, to include transient aircraft, and deployment of generalized CDDAR equipment. The responsibilities for the 507 MXG are outlined in the Host-Tenant Agreement and include providing aircraft specific CDDAR maintenance and technical expertise and providing trained personnel to perform aircraft recovery operations in coordination with the OC-ALC/MA.

11.28.1.3. **(Added)** A listing of personnel required and trained for CDDAR duties can be found in the Aircraft Crash Recovery Plan.

11.28.1.4. **(Added)** The OC-ALC will provide KC-135-specific and generic CDDAR equipment such as 15 and 40 ton cranes, forklifts, tow vehicles, lifting bags and qualified

operators for this equipment; while the 507th will provide available equipment, tools, and consumables from unit inventory to support recovery.

11.28.1.5. **(Added)** Required PPE is approved by the base Bio-Environmental Engineering and is listed in the shop JSA located in the Crash Recovery Plan.

11.28.1.6. **(Added)** An Off-Duty Hours Emergency Recall Roster will be maintained by the 507 MXS Repair & Reclamation Shop Chief. A current copy is located in the MOC for use during off-duty emergencies.

11.28.1.7. **(Added)** No accident is exactly the same in nature, it is crucial that the CDDAR Team Chief and his team members be open-minded and aware of any possibility. The 507 ARW participates in a Host/Tenant Agreement with the 72 ABW. The 72 ABW is the primary initial responder to any major accident or mishap. Aircraft accidents occurring off station are highly situational and notification may come through other than normal channels. Local civil authorities having jurisdiction will establish command and control until relinquished to the arriving OSC from the 507 ARW or a nearby DOD installation.

11.28.1.8. **(Added)** The Crash Recovery Plan, located in the Maintenance Flight office, will be used as a guide to responding to aircraft mishaps along with the CDDAR Procedures Checklist.

11.28.1.8.1. **(Added)** Quick Reaction Checklists (QRC) will be utilized by MOC, Expediter, AMXS, and MXS maintenance personnel to aid in the response of an aircraft mishap. QRLs are located in MOC.

11.28.2.5.2. Vehicles and support equipment are identified on a letter kept with the Crash Recovery Plan and are listed by plate/ID number. 24 hour availability for OC-ALC owned equipment is addressed in the Host-Tenant Agreement.

11.28.2.7. **(Added)** Maintain the CDDAR program and establish Support Agreements (SA) as necessary with OC-ALC/MA.

11.28.2.8. **(Added)** Conduct annual inspection of OC-ALC's CDDAR equipment

11.28.2.9. **(Added)** Conduct annual review of Base Host Tenant Agreement

11.28.2.10. **(Added)** Ensure team members have adequate Personal Protective Equipment (PPE). Special PPE requirements for hazmat and composite materials handling will be purchased on an as needed basis via the Local Purchase program. Requirements will be coordinated with base Bio-Environmental Engineering section.

11.28.2.11. **(Added)** Ensure an adequate number of personnel are qualified for the following positions: Tow Team supervisor, Tow Vehicle Operator, Brake Operator, Tow Team members, Jack Team supervisor, and Jack Team members.

11.39.8.12. AFETS personnel may provide specialized technical training, but will not be used for basic qualification training that is typically provided by supervisors within their respective workcenters.

14.2.5.1.1. The following, or their designated representative, are also required at the post-dock meeting: Propulsion Flight Chief, Fabrication Flight Chief, Accessories Flight Chief, Avionics Flight Chief, DMS and QA.

14.2.5.1.5.1. These actions will be briefed to the MXG/CC by the appropriate shop supervisor,

prior to the scheduling of the post-dock meeting.

14.2.6.2. The applicable shop supervisor is responsible to ensure data is input into the MIS.

14.2.6.3.1. **(Added)** All other data will be maintained at the operating location until the MIS system is restored or return to home station for input.

14.2.6.4. **(Added)** MMA has overall responsibility for the MIS and will ensure that senior management is kept informed of the status of all automated support.

14.2.6.4.1. **(Added)** The MOC will notify shops to initiate the manual tracking of all aircraft status and JCNs and input into the MIS upon restoration.

14.2.6.4.2. **(Added)** All work centers will use manual AFTO Form 350 to route parts between shops. The bottom portion of the AFTO Form 350 tags will be retained by the individual shops that created the off-equipment job. When the MIS is restored, the shop supervisor, that originated the AFTO Form 350, is responsible to enter the data against repairing shop. Communication is essential for proper updating and closing of all AFTO 350 tags resulting from manual back-up.

14.2.6.4.3. **(Added)** An AF Form 2005, *Issue/Turn-In Request*, will be used to order parts when the MIS/ES-S is unavailable.

14.2.6.5. **(Added)** MIS Procedures for Aircraft Cross Country and Grounded Off- Station:

14.2.6.5.1. **(Added)** If the MIS is not available or non-accessible at recovery location, the MEP will notify home station MOC personnel of grounding write ups and status updates.

14.2.6.5.2 **(Added)** The MEP will transmit completed job information, by the mostexpedient manner available, to the MOC for entry/close-out in the MIS.

MICHAEL B. PARKS, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) ManagementProgram*, 31 May 2018

Abbreviations and Acronyms

E/E—Electro-Environmental

JSA—Job Safety Analysis

ORM—Operational Risk Management

Prescribed Forms

507 MXG Form 2

507 MXG Form 16

507 MXG Form 25 A thru D

507 MXG Form 40

507 MXG Form 100

Adopted Forms

AF Form 664, *Aircraft Fuels/Ground Servicing Documentation Log*

AF Form 2005, *Issue/Turn-in Request*

AFTO Form 349, *Maintenance Data Collection Record*

AFTO Form 350, *Repairable Item Tag*

Attachment 2

A12.4**.** All AF Form 2407 changes that add aircraft/sorties or increase the flying window must be approved by the MXC/CC (or designated group level representative).

A13.3.4.4.1. **(Added)** For local sorties, crew show must be at least 60 minutes prior to scheduled take-off. For cross-country sorties, crew show must be at least 90 minutes prior to scheduled take-off.