

**BY ORDER OF THE COMMANDER
3RD WING (PACAF)**

3RD WING INSTRUCTION 21-110

29 AUGUST 2013



Equipment Maintenance

***AIRCRAFT FUEL SYSTEMS
MAINTENANCE PROCEDURES***

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Managing Aerospace Equipment Maintenance*, and establishes procedures and areas for fuel systems repair responsibilities and procedures to standardize management, inspection, and control of all external tanks assigned to the 3rd Wing. This instruction applies to maintenance activities within the 3rd Wing and units affected by 3rd Wing Host Tenant Agreement for fuel system repair. Commanders and supervisors at all levels will ensure strict compliance. This publication does not apply to the US Air Force Reserves or Air National Guard units and members. Compliance with this instruction cannot be waived. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*. Route the AF Form 847 through the appropriate chain of command. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). See **Attachment 1** for a Glossary of References and Supporting Information.

SUMMARY OF CHANGES

This publication has been substantially revised and must be completely reviewed. Text was modified in various sections to remove F-15 specific terminology; references to minor, major, and emergency fuel systems maintenance were not technically accurate and have been removed; definitions have been added for approved fuel systems facilities; document has been revised into four sections: Approved fuel systems maintenance locations, General Maintenance Procedures, External Fuel Tank Management, and Procedures for “Lost in Flight/Jettisoned” Tanks.

1. Approved Fuel Systems Maintenance Locations:

1.1. **General.** Hangar 19 (Building 8681) and Hangar 20 (Building 17534) are designated as primary fuel systems repair facilities. Hangar 21 (Building 17508), Corrosion facility and Hangar 17, (Building 16670) Spot 1 are approved alternate repair facilities. In accordance with Technical Order (TO) 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*, they will only be used when the primary repair facility is unavailable. Hangar 8 (Building 14410) is an approved Temporary Repair facility. In accordance with TO 1-1-3, it will only be used as a last resort. Hardstands 28 and 38 are approved Outside Repair Areas and can be used without limitation. Hardstands 39, 40, 41, and 42 may also be used based on the recommendation of the Fuel Systems Section Chief and with approval from the 3 MXG/CC, Bioenvironmental Engineering Flight, Fire Protection Services, and the Airfield Manager.

1.2. Repair Facility/Area Definitions:

1.2.1. **Primary Repair Facility.** A primary repair facility is one specifically built or modified for use as an aircraft fuel systems repair hangar. It is the recommended, or preferred, location to perform fuel tank/cell repair and should be used when available. Refuel/Defuel and fuel transfer are permitted in these facilities in accordance with TO 1-1-3.

1.2.2. **Alternate Repair Facility.** An alternate repair facility is one specifically built or modified for use as a fuel systems repair facility. It's the next recommended, or preferred, location to perform open fuel tank/cell repair. Refuel/Defuel and fuel transfer are permitted in these facilities in accordance with TO 1-1-3.

1.2.3. **Outside Repair Areas.** Outside Repair Areas are typically aircraft parking spots on or near the flight line. When possible, these areas should be segregated from main flight line operations. Use of outside repair areas is highly dependent upon weather conditions and the complexity/duration of the maintenance task.

1.2.4. **Temporary Repair Facility.** A temporary repair facility is one not specifically built or modified for use as an aircraft fuel systems repair hangar but has been approved and certified for use in accordance with TO 1-1-3. The use of a temporary facility is considered as a last resort.

1.3. Placement of Aircraft for Open Fuel Tank Maintenance:

1.3.1. All fighter aircraft, 3 WG or transient, will be towed to Hangar 19 (Building 8681) for open fuel tank maintenance. If Hangar 19 is unavailable, fighter aircraft will be towed to Hangar 17, Spot 1. This must be coordinated through 3 AMXS/90th Aircraft Maintenance Unit (AMU).

1.3.2. All large frame aircraft, 3 WG or transient, will be towed to Hangar 20 (Building 17534) This facility is capable of housing any mission design series (MDS) requiring maintenance, including C-5 aircraft.

1.3.2.1. Although Hangar 21 (Building 17508) Corrosion Facility is an approved alternate facility, the use of outside repair areas may be necessary in the event the facility is not available.

1.3.2.2. In the event Hangar 20 and Hangar 21 are unavailable, the aircraft will be towed to an approved outside repair area. Hardstand 28 and 38 require no additional approval and are the preferred locations for outside maintenance.

2. General Maintenance Procedures:

2.1. Responsibilities:

2.1.1. Expediter/Tow Team Supervisor, prior to towing aircraft into a fuel systems maintenance facility will:

2.1.1.1. Ensure all munitions have been downloaded from aircraft including Air Combat Maneuvering Instrumentation (ACMI) pods, chaff, flares, 20mm ammunition, and Captive Air Training Missiles (CATMS).

2.1.1.2. Ensure aircraft has been defueled, or fuel has been correctly configured for fuel systems maintenance.

2.1.1.3. Ensure applicable tanks/cells have been bottom drained.

2.1.1.4. Ensure aircraft is properly hangared in accordance with applicable technical data.

2.1.1.5. Ensure aircraft forms accompany the aircraft to fuel systems maintenance facility.

2.1.1.6. Ensure fuel discrepancies are documented in aircraft forms.

2.1.2. Fuel Systems Supervisor, prior to beginning maintenance, will:

2.1.2.1. Ensure aircraft is properly hangared in accordance with applicable technical data and fuel systems repair checklist.

2.1.2.2. Review aircraft forms.

2.1.2.3. Verify aircraft is properly configured for fuel systems maintenance.

2.1.2.4. Complete confined space entry permit for all fuel tank entries.

3. External Fuel Tank Management:

3.1. The 3 MXS Fuel Systems Repair Section will:

3.1.1. Be responsible for all maintenance performed on external tanks beyond minor maintenance performed by the AMU.

3.1.2. Maintain status reflecting condition of external fuel tanks processed for repair.

3.1.3. Maintain AFTO Form 95, *Significant Historical Data*, for all external tanks assigned to the 3 WG.

3.1.4. Notify AMU and Plans and Scheduling of upcoming annual inspections by month.

3.1.5. Perform annual tank inspections.

3.2. AMU will:

3.2.1. Assign local serial numbers to all external tanks.

3.2.2. Upload and download all external fuel tanks.

3.2.3. Ensure external tanks brought to Hangar 19 for maintenance or stored in the vertical tank storage system (VTSS) are drained, secured, and standpipes/cannon plugs are capped. Ensure aft pivot ball, washer, and nut are attached to the tank.

3.2.4. Load external tank discrepancies in integrated maintenance data system (IMDS), screen 149, for all off equipment repairs.

3.2.5. Attach copy of IMDS, screen 122, and completed AFTO Form 350, *Repairable Item Processing Tag*, to external tanks brought to Hangar 19 for maintenance.

3.2.6. Complete the fuel systems off-equipment acceptance checklist. Tank will not be accepted or dropped off without checklist being completed.

3.2.7. Transport serviceable/unserviceable tanks between aircraft, vertical tank storage system (VTSS), and Hangar 19.

3.2.8. Store serviceable tanks in the VTSS facility. A completed AFTO Form 350 or DD Form 1574, *Serviceable Tag*, will accompany each tank.

4. Procedures for “Lost in Flight/Jettisoned” Tanks:

4.1. Aircraft debriefing will ensure number of expended/jettisoned tanks and serial numbers are input into integrated maintenance information system (IMIS) during aircrew debrief.

4.2. Forward operating base personnel will ensure “jettisoned” or “lost in flight” action is annotated in forms and notify the owning organization of “jettisoned” or “lost in flight” tank serial numbers.

4.3. Owing organization will initiate supply action to replace jettisoned tanks.

5. Information Collection. No information collections are required by this publication.

DAVID S. NAHOM, Colonel, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 21-1, *Managing Aerospace Equipment Maintenance*, 25 February 2003.

AFOSHSTD 48-137, *Respiratory Protection Program*, 10 February 2005.

AFOSHSTD 91-203, *Air Force Consolidated Occupational Safety Instruction*, 15 June 2012.

AFI 21-101, *Air Combat Command, United States Air Forces in Europe, and Pacific Air Forces Supplement*, 26 July 2010.

TO 00-20-1, *Aircraft, Drone, Aircrew Training Devices, Engine, and Air Launched Missile Inspection, Flight Reports*, 15 June 2011.

TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding and Bonding*, Chg 8, dated 12 July 2012.

TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*, Chg 7, dated 26 Aug 2012 and, *Other Applicable Aircraft Fuel System Technical Orders*.

Adopted Forms

AFTO Form 95, *Significant Historical Data*.

AFTO Form 350, *Repairable Item Processing Tag*.

AF Form 847, *Recommendation for Change of Publication*.

DD Form 1574, *Serviceable Tag*.

Abbreviations and Acronyms

ACMI—Air Combat Maneuvering Instrumentation

AFRIMS—Air Force Records Information Management System

AFMAN—Air Force Manual.

AFPD—Air Force Policy Directive.

AMU—Aircraft Maintenance Units

IMDS—Integrated Maintenance Data System

IMIS—Integrated Maintenance Information System

MDS—Mission Design Series

OPR—Office of Primary Responsibility

RDS—Records Disposition Schedule

VTSS—Vertical Tank Storage System