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Maintenance

**AIRCRAFT FUEL SYSTEMS MAINTENANCE
AND REPAIR**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Managing Aerospace Equipment Maintenance*. It establishes safety and operating procedures for the 442 Fuel System maintenance program as determined by AFOSH STD 91-25, *Confined Spaces*, AFOSH STD 48-1, *Respiratory Protection Program*, and T.O. 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cell*. The Accessory Maintenance Flight is responsible for accomplishing Fuel Systems maintenance, repairs, and providing for the storage of external aircraft fuel tanks. These procedures apply to all personnel assigned to the 442d Command Post, 442d Logistics Group and 442d Operations Group. Supervisors, superintendents, and flight chiefs are responsible for ensuring compliance with this instruction.

Summary of Revisions

This revision changes the publication series number and title; and updates language, format and directives. A (I) indicates revisions from the previous edition.

1. Facilities. The primary designated Fuel Systems maintenance hangar is bay #1 of Building 1118. The alternate Fuel Systems facility is the maintenance hangar #1 of the 509th Fuel Systems. These locations will be approved and certified by the 509th Base Fire Dept., 509th Base Safety Office, 442d Wing Safety Office, and the 509th Bioenvironmental Engineering Office.

2. Responsibilities:

- 2.1. The Fuel Systems Supervisor will be responsible for the following:
 - 2.1.1. Issue and maintain the Master Entry Permits.
 - 2.1.2. Confined Space Entry Training Plan (CSETP).
 - 2.1.3. Emergency Rescue Training Plan (ERTP).
 - 2.1.4. Establishing a Tank Entry Checklist.

- 2.1.5. Establishing an Area Checklist.
 - 2.1.6. Respiratory Protection Plan for Fuel Cell.
 - 2.1.7. Training, qualifying and authorizing personnel to perform fuel cell maintenance.
 - 2.1.8. Notifying the Fire Department prior to beginning open fuel tank/confined space entry maintenance and after completion of maintenance.
 - 2.1.9. Designate aircraft configuration prior to Fuel Cell maintenance.
 - 2.1.10. Approve all concurrent maintenance activities during fuel systems maintenance.
- 2.2. 442d Command Post Maintenance Coordination Function (MCF) will coordinate with the fuel systems supervisor on any aircraft being towed into or out of the fuel systems maintenance hangar.
- 2.3. Fighter Squadron Maintenance (FSM) production supervisor will, prior to delivery of the aircraft to the fuel systems primary or alternate repair areas, ensure that the aircraft is properly configured to facilitate the required maintenance.
- 2.3.1. Dearth aircraft, download all munitions.
 - 2.3.2. Defuel and drain aircraft fuel tanks as required.
 - 2.3.3. Render aircraft safe for maintenance.
 - 2.3.4. Coordinate flap position with fuel cell maintenance. Place the aircraft flaps in applicable position.
- 2.4. FSM will, prior to delivery of external aircraft fuel tanks to storage area or external tank repair area, ensure that the tank is properly configured for storage or maintenance.
- 2.4.1. Ensure external tanks are defueled.
 - 2.4.2. Ensure external tanks are properly covered.
 - 2.4.3. Ensure external tanks are properly identified as to serviceable status.
- 2.5. Other Aircraft: When transient aircraft fuel systems support is required in the Fuel Systems maintenance hangar, personnel from the unit supported will be briefed on and ensure compliance with this instruction and applicable fuel system safety and operating procedures.
- 2.6. Controlled Access: All personnel requiring entry into the fuel systems maintenance bay during open fuel systems maintenance will access the fuel cell main entry control point through the ready room hangar 1118. Entry will be coordinated by using the ready room telephone calling the Fuel Cell supervisor at ext. 2746/2464. The MCF will additionally be able to access the fuel cell by using their radio.
- 2.7. Restrictions:
- 2.7.1. No other maintenance shall be performed on aircraft while inerting, depuddling, and purging operations are being accomplished.
 - 2.7.2. When high winds are in excess of 35 KIAS they are considered dangerous. The MCF will notify the Fuel System supervisor who shall take action to suspend all flightline fuel cell maintenance. Access panels, filler caps and other openings removed for maintenance shall be temporarily closed.

2.7.3. When lightning/thunderstorms are within 25 miles of Whiteman Air Force Base, the MCF will notify the Fuel System supervisor who shall suspend all fuel cell maintenance immediately. Access panels, filler caps and other openings removed for maintenance shall be temporarily closed. All fuel cell maintenance personnel will leave the aircraft and maintenance bay by the time the thunderstorms/lightning have progressed to within 10 miles of the working area.

2.8. Towing Procedures for Aircraft Undergoing Fuel Cell Maintenance: Aircraft undergoing fuel systems maintenance which requires premature removal shall have the following steps performed:

2.8.1. All access doors/panels and fuel lines properly secured.

2.8.2. Danger/warning tags installed on the electrical power receptacle and aircraft battery. Battery will be disconnected at all times during open tank maintenance.

2.8.3. Appropriate Red X entries annotated in the aircraft forms.

2.9. The following equipment will be inspected and maintained in accordance with manufacturers maintenance and inspection criteria, AFOSH Standards and applicable technical order publications. The fuel cell shop chief will maintain manufacturers applicable pamphlets and literature in the fuel cell publications library.

2.9.1. Exhaust blower floor trench.

2.9.2. Hoist two ton shaw box.

2.9.3. Bullard air pumps.

2.9.4. Armstrong air handling system.

2.9.5. Exhaust blowers purge system.

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Commander

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

AFPD 21-1--Managing Aerospace Equipment Maintenance

AFOOSH STD 91-25--Confined Spaces

AFOOSH STD 48-1--Respiratory Protection Program

T.O. 1-1-3--Inspection and Repair of Aircraft Integral Tanks and Fuel Cell