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**Maintenance**

**PRIMARY AND ALTERNATE FUEL REPAIR  
AREAS AND PROCEDURES**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements AFD 21-1, *Managing Aerospace Equipment Maintenance*. It applies to 18th Wing and associate units at Kadena AB. This publication does not apply to the Air National Guard or US Air Force Reserve.

**SUMMARY OF REVISIONS**

Para. **1.2.** Removed reference to 12th Fighter Squadron (12FS) and changed 633 AMSS to 733 Air Mobility Squadron (733 AMS). Para. **1.2.7.** Add 82 RS. Para. **1.2.8.** Add batteries download starter cartridges. Para. **2.2.** Remove P-5 and P-7 and add M-1. Para. **2.3.** Add “(transient)” after C-130 and add 3559 (Commando West). Para. **2.6.** Remove P-5 and P-7. Para. **2.7.** Add Building 3559. Remove P-5, P-7 and the sentence “M-1 will only be used as a fuel system repair area when primary dock and alternate repair areas P-5 and P-7 are unavailable.” Para. **5.3.** Add sentence “Airfield Management is the approving authority for all taxiway closures.” New or revised material is indicated by a bar (|).

**1. Responsibilities.** The following organizations will perform the functions listed below:

| 1.1. The 18th Component Maintenance Squadron (18 CMS) Fuel Systems Element will:

1.1.1. Annotate aircraft fuel load and other preparation entries in the aircraft forms, or provide the production superintendent with a preparation sheet.

1.1.2. Provide support equipment peculiar to fuel systems maintenance.

1.1.3. Prepare the repair area for fuel systems maintenance to include proper placement of “OPEN FUEL TANK” warning signs.

| 1.1.4. Brief the fuel’s attendant and fireguard on their duties.

1.1.5. Notify the fire department and Maintenance Operations Center (MOC) before opening fuel tanks. Annotate time called to fire department and duration of operation on fuel tank entry checklist.

1.1.6. Perform the required leak and operational checks after completion of maintenance tasks.

1.2. 33d Aircraft Maintenance Unit (AMU), 44th Aircraft Maintenance Unit (44 AMU), 67th Aircraft Maintenance Unit (67 AMU), 82d Reconnaissance Squadron (82RS), 733rd Air Mobility Squadron (733AMS), 909 Aircraft Maintenance Unit (909 AMU), 961st Aircraft Maintenance Unit (961 AMU), and all transit organizations will:

1.2.1. Prepare the aircraft in accordance with (IAW) appropriate form entry or preparation sheets prior to moving aircraft to fuel repair location.

1.2.2. Properly position the aircraft in the repair area.

1.2.3. Ensure the aircraft is grounded in at least two locations for large aircraft and one for small aircraft.

1.2.4. Provide and properly position a minimum of two portable 150-pound halon fire extinguishers at the repair area.

1.2.5. Provide all required support equipment at the repair area.

1.2.6. Perform refueling operations for required leak and operational checks after **maintenance repairs** are completed.

1.2.7. 909 AMU and 961 AMU and 82 RS will provide a fireguard when required.

1.2.8. Remove LOX bottle, download ammo, disconnect battery, download starter cartridges and drain fuel tanks as required.

## 2. Approved Areas.

2.1. Small Aircraft: Primary repair facility is building 3339. Alternates are building 3548, hardstands 119 and 121. Hardened aircraft shelters are authorized as alternate repair areas. During operation the exhaust fans will be turned off and shelter doors remain open for proper ventilation. For exercise contingencies, hardstands 304 and 306 are authorized to perform minor maintenance as listed in paragraphs 3. through 3.2.

2.2. HH-60 Helicopters: Primary repair facility is building 3548 and alternate area is M-1.

2.3. C-130 Aircraft (Transient): Primary repair facility is building 3339 and alternates are building 3548, 3559 (Commando West) and hardstands 119 and 121.

2.4. C-141 Aircraft (Transient): Primary repair facility is building 3339 and alternate area is on taxiway-B between runway-05 R and taxiway-Kilo.

2.5. C-5 Aircraft (Transient): Primary repair site is on taxiway-B between runway-05 and taxiway-kilo. Any additional alternate areas require prior approval from the **18th MXG/CC or deputy** with the coordination from the 18th Wing Ground Safety Office, Bio-Environmental Engineering, and the base Fire Chief.

2.6. E-3 Aircraft: Primary repair facility is building 3548. Alternates are building 3559, M-1 or building 3660 with a temporary approval Letter.

2.7. KC-135 Aircraft: Primary is building 3548. Alternates are building 3559, M-1 or building 3660 with a temporary approval Letter.

**3. Alternate Areas.** The following maintenance may be performed in the alternate fuel systems repair area when the Fuel Systems Repair Element Superintendent considers them safe:

3.1. Perform open fuel tank maintenance and minor component replacement in hardened shelters when the primary repair facility building 3339 and alternates building 3548, 3559 are full.

3.2. Perform integral wing fuel Tanks maintenance only on M-1 no bladder cell repairs authorized at this location.

**4. Primary Repair Area Safety Procedures.** The following procedures must be strictly enforced to maintain a safe working environment for personnel and aircraft in the primary repair area:

4.1. Only personnel responsible for the repair of aircraft fuel systems shall be permitted in the repair area during purging and depuddling. The Senior Fuel Systems Element Supervisor on duty will monitor and approve all personnel entering the repair area.

4.2. The aircraft and fuel systems repair dock will be properly prepared for fuel systems maintenance IAW applicable technical data.

**5. Alternate Area Safety Procedures.** The following procedures must be strictly enforced to maintain a safe working environment for personnel and aircraft in the alternate fuel systems repair areas:

5.1. Open repair area must be large enough to accommodate the aircraft, support equipment, and fuel systems repair vehicle.

5.2. Aircraft must be roped off 50 feet in all directions plus an additional 50 feet downwind of the aircraft when exhaust purging fuel tanks. Warning signs will be placed at the rope perimeter to warn personnel of the hazard.

5.3. No aircraft will be allowed to operate under its own power within the jet blast safety limits outlined in the aircraft handbooks or within 100 feet, whichever is greater. To prevent an aircraft from taxiing through the area, the Control Tower, Command Post, and Airfield Management will be notified by the MOC about the closure of the affected taxiway. This notice will also ensure the closure does not conflict with other activities. Airfield Management is the approving authority for all taxiway closures.

5.4. Aircraft radar will not be operated within 300 feet of the open fuel tank repair area.

5.5. All non-intrinsically safe radios will be kept at least 50 feet away from the open repair area.

5.6. Open repair areas will have an ample supply of grounding points for the aircraft and support equipment.

5.7. All portable electrical equipment and connectors will meet the requirement of the National Electrical Code for class one hazardous locations.

5.8. Extension lights used for fuel systems maintenance will be approved explosion-proof type. Flashlights, will be labeled or marked for use in class one, group D, and division-one hazardous locations.

5.9. Repair crew for all aircraft will consist of three personnel: Two must be a 2A6X4 (Aircraft Fuel Systems Craftsman). The third person may be from any other maintenance Air Force Specialty Code provided all requirements are met IAW Technical Order (TO) 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cell*.

5.10. An emergency means of communication, such as a vehicle or radio, will be positioned at the repair site whenever open fuel tank maintenance is being performed. All radio transmission will be performed outside of the repair area.

**6. Maintenance Approval.** During fuel systems repairs, no other maintenance will be performed on the aircraft without prior approval from the Fuel System Repair Element Superintendent or 18 CMS Production Superintendent. All non-fuel systems repair element personnel who need to enter the repair area will do so only after being cleared by the a Fuel Systems Repair Supervisor.

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