

2 March 1997

Maintenance

FUEL SYSTEM MAINTENANCE



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

NOTICE: This publication is available digitally on the AFRC LAN InfoBase and Subordinate unit InfoBase. If you lack access go to HQ AFRC WWW site at: <http://www.afrc.af.mil>.

OPR: 434 MXS/LGM
(CMSgt Robert L. Eckstein)
Supersedes 434 ARWI 21-12, 21 September 1995

Certified by: 434 LG/CC
(Lt Col C. Faylene Wright)
Pages: 4
Distribution: F

This instruction defines the responsibilities and outlines safety precautions to follow during purging, fuel component replacement, and repair of KC-135 aircraft fuel tanks. This instruction implements AFD 21-1, *Managing Aerospace Equipment Maintenance* and is applicable to 434th Logistics Group (LG), 434th Aircraft Generation Squadron (AGS), 434th Maintenance Squadron (MXS), and the 434th Air Refueling Wing (ART)/Maintenance Aircraft Control Center (MACC)/Command Post personnel involved in fuel systems maintenance at Grissom Air Reserve Base, Indiana.

SUMMARY OF REVISIONS

This revision aligns this instruction with current instructions in AFI 37-160V1, *The Air Force Publications And Forms Management Programs--Developing and Processing Publications*. A (I) indicates revisions from the previous edition.

1. References. AMCI 21-101, *Maintenance Management Policy*, T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, T.O. 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*, T.O. 1C-135(K)R-2-5JG-1, *USAF Aircraft KC-135R Fuel System and applicable AFOSH Standards*.

2. General. Safety standards and instructions require strict adherence during periods of fuel systems maintenance. Compliance with this instruction is mandatory for all personnel involved with maintenance during fuel systems maintenance and defueling operations.

2.1. The Fuel Systems Supervisor adheres to the policies specified and assigns only technically qualified personnel to assure that quality and safety is maintained through proficiency training and familiarization with technical data.

2.2. Section Chiefs, supervisors, and personnel participating in fuel system maintenance, defueling operations or concurrent maintenance during fuel systems repair are responsible for compliance with this instruction and familiarity with the reference directives.

2.3. All personnel needing access to the fuel system repair area in Dock 4, building 435 report to the fuel system repair office to gain approval from the senior fuels system technician before proceeding to the hangar area. Entry to the Fuel System office is through the center office of Dock 4.

2.3.1. No one is allowed into the hangar area until they have completed either the applicable training requirements for fuel systems maintenance or the familiarization requirements for concurrent maintenance during fuel systems repair.

2.3.2. All personnel accessing the fuel system repair area are under the direct authority of the Senior Fuels System Supervisor.

2.4. Fuel system repair accomplished by qualified fuel system technicians in addition to the initial training received for fuels system maintenance must as a minimum:

2.4.1. Complete the training requirements of T.O. 1-1-3, para 2-2-3.

2.4.2. Have a current physical and environmental health examination as determined by the 434 Medical Squadron.

2.4.3. Be outfitted with the clothing requirements established in T.O. 1-1-3, Section II.

2.4.4. Be completely familiar with T.O. 1-1-3, Section II.

2.4.5. Be trained on confined space entry requirements, and the emergency response plan.

2.4.6. Be trained on tank evacuation procedures.

2.4.7. Be trained on self-aid and buddy care.

2.5. Fuel system repair accomplished by other than fuel systems technicians, as a minimum must:

2.5.1. Be trained to the requirements listed in T.O. 1-1-3, para 2-2-3.

2.5.2. Be completely familiar with the safety instructions of T.O. 1-1-3, Section II.

2.5.3. Be completely familiar with the confined space entry requirements and the emergency response plan.

2.5.4. Must receive annual fuel tank entry and respirator training, if tank entry is required.

2.6. Maintenance personnel performing concurrent maintenance in an open tank repair area, as a minimum must:

2.6.1. Be completely familiar with T.O. 1C-135(K)R-2-5JG-1, Section 1-82 and the safety precautions of T.O. 1-1-3, Section II.

3. Responsibilities and Procedures. Supervision and the Process Improvement Office checks for compliance with this instruction, safety instructions/regulations and technical data on a special inspection or as directed by higher headquarters or LG.

3.1. Personnel performing maintenance on KC-135 aircraft fuel systems have T.O.s 1C-135(K)R-2-5GA-1, USAF Aircraft KC-135 Fuel System, 1C-135(K)R-2-5JG series and 1-1-3 in their possession.

- 3.2. Technicians use the applicable portions of the general checklist in Section II of T.O. 1-1-3 during fuel systems maintenance on all assigned aircraft. All operations cease when a condition or conditions violate this instruction, technical data, or compromises safety.
- 3.3. Fuel Systems personnel inform all applicable sections prior to conducting fuel systems maintenance.
- 3.4. 434 ARW/MACC/Command Post:
 - 3.4.1. Schedules the Fuel System Shop to evaluate fuel system discrepancies and perform required maintenance.
 - 3.4.2. Notifies all sections using radio dispatch vehicles of areas where defueling, purging, or repair is in progress.
 - 3.4.3. Notifies the Radio-Radar Shop to restrict transmissions within 500 feet of aircraft undergoing defueling or fuel tank repair.
 - 3.4.4. Notifies Base Fire Department when rapid defueling operations are to take place, giving the time, location, aircraft number, type, and duration.
 - 3.4.5. Notifies the Fuel Systems Shop to stop maintenance when the following conditions exist:
 - 3.4.5.1. Electrical storms are approaching within a 5-mile radius.
 - 3.4.5.2. Winds are greater than 30 knots/hour.
 - 3.4.5.3. Aircraft Crash Warning, Inflight Emergency or Alert is sounded.
- 3.5. If a fuel spill or severe leak occurs:
 - 3.5.1. Notify the MACC and Fire Department.
 - 3.5.2. Evacuate all nonessential personnel.
 - 3.5.3. Immediately take precautionary measures to stop or to contain the leak.
 - 3.5.4. Cease all maintenance, radio transmissions and avionics operations within a 500 ft. area.
- 3.6. No other maintenance is permitted on the aircraft during defueling, purging, or depuddling of fuel tanks.
- 3.7. Defueling is permitted on all designated aircraft fuel servicing parking spots.
- 3.8. A minimum of three fully qualified personnel are required when entering a fuel tank/cell.
 - 3.8.1. One person, AFSC 2A6X4, designated as the attendant remains outside the tank access door and continuously monitors the area while maintaining visual and voice contact with the personnel working in the tank.
 - 3.8.2. One person performs the Rescue Team Member duties of the third member as directed and remains in the immediate area in case an emergency arises.
- 3.9. In accordance with T.O. 1-1-3 fuels systems personnel accomplish and record tests of the atmosphere within tanks and other major interior spaces of the aircraft.

3.10. Fuel Cell Maintenance and Repair is only accomplished in an authorized area approved by the master permit.

ANTHONY TASSONE, JR., Colonel, USAFR
Commander