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UNITED STATES DEPARTMENT OF THE INTERIOR AVIATION MANAGEMENT

AVIATION ACCIDENT PREVENTION BULLETIN

No. 07-01

Date: April 19, 2007

Subject: **Portable Fuel Container Procedures**

Area of Concern: Remote Aircraft Refueling Operations (Fixed and Rotary Wing)

Distribution: All DOI Aviation Activities

Discussion: DOI missions occasionally require aircraft to be refueled from portable containers (jerry cans). This method of refueling involves hazards not normally encountered during normal aircraft refueling operations. Specifically, portable containers do not have integral filtration systems and thus are at increased risk for water or particulate (solids) contamination. Also, pouring fuel into an aircraft from an un-bonded portable container can generate enough static electricity to create a spark and subsequent fire.

These recommended procedures apply to all DOI owned or contracted aircraft when refueling aircraft from portable fuel containers. To minimize the risks of fuel contamination and static electricity personnel refueling aircraft using portable fuel containers **should** use approved containers, approved funnels, and approved procedures. Portable containers should only be used when refueling is necessary and no other alternative exists.

Recommendations: Alertness and strict adherence to the procedures and equipment requirements in this bulletin will minimize the risk of fuel contamination and static electricity hazards when using portable containers for aircraft refueling.

Pilots are responsible for the safe refueling of their aircraft. Pilots will:

- Perform a visual pre-use inspection of the funnel and fuel container.
- Bond the portable container to the funnel.
- Open the aircraft tank port and position the funnel in the tank fill port.
- Slowly pour the fuel into the funnel. If water is detected the fueling operation will be stopped and the water removed from the funnel.
- Not use fuel sources that contain water.

Portable Containers used for refueling aircraft will be:

- Compatible with the type of fuel they contain.
- Inspected before filling.
 - ✓ Containers will be undamaged and free of leaks
 - ✓ Container exteriors will be marked with the fuel grade and the date filled.
 - ✓ Container interiors will be clean and free of rust and debris.
 - ✓ Container caps & gaskets will seal tightly.
 - ✓ Containers will be filled from a fuel system using industry-accepted filtration.
- Capable of electro-static bonding. Most plastic containers cannot be bonded to the aircraft

Recommendations (con't):

Funnels. An approved funnel should be used when fueling aircraft from portable containers. Approved funnels are manufactured by the Raycor Division, of the Parker Hannifin Corporation. Approved funnels include model numbers RFF1, RFF3C, and RFF8C. These funnels are made from a polypropylene material that conducts static electricity and have a Teflon coated screen that separates water and particulates.

- Funnels should be stored in a location that protects the filter screen from damage.
- Funnels will be visually inspected prior to each use. Damaged filter screens are cause for removal from service.
- The funnel's water removal capability should be checked before the first use and quarterly thereafter.
 - ✓ Funnels should not allow water to pass if the level is less than 1/3 the height of the installed screen.
 - ✓ If water passes through the filter at a height less than 1/3 the height of the funnel, it should be considered defective and removed from service.



Bonding Wires: A static bonding wire, with alligator clips installed on each end, is required for aircraft refueling operations using portable containers. The bonding clips will be attached to the funnel and container before the aircraft tank cap is removed.

/s/ Robert Galloway
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