

ADVISORY CIRCULAR



DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

Subject: HAZARDS OF WASTE WATER ICE ACCUMULATION SEPARATING FROM AIRCRAFT
IN FLIGHT

1. PURPOSE. This advisory circular is issued to emphasize the potential hazards to life and property due to lavatory fluid and potable water systems' ice accumulation and resultant separation from aircraft in flight.

2. BACKGROUND. Lavatory fluid and potable water systems' ice accumulation in flight may drop off of the aircraft, posing a hazard to ground personnel and ground property, and may damage the aircraft wing, empennage or engine. Accordingly, this advisory circular is being issued to emphasize the need for proper maintenance of aircraft drainage systems.

a. Lavatory waste water drain system. The aircraft provide a means of collecting and holding the lavatory waste water until it is disposed of by ground personnel. These holding tanks incorporate pumps, filters, screens, drain valves and their associated equipment. Each tank is serviced with approximately 2 1/2 gallons of water with a blue chemical deodorizer and disinfectant. This water is the initial flushing fluid used for the lavatories. To prevent leakage during flight, a primary seal is provided by incorporating "O" rings, rubber valve seats or gaskets in a manual valve that can only be operated on the ground. To back up this valve should it leak, a secondary method of preventing leakage is by the use of a cap with an "O" ring to seal the drain port. Failure to provide an adequate maintenance program for the drain valve and duct cap may cause "blue" ice to develop on the underside of the fuselage and subsequently to drop off as the aircraft descends into warm air.

b. Potable waste water drainage system. Some aircraft drain the waste water into the lavatory holding tanks, and other aircraft drain waste water overboard through drain masts. These drain masts are anti-iced by cabin warm air from the lavatory vents and/or by electrical heating elements. Proper

operation and maintenance of the drain masts should prevent ice accumulation.

CAUTION: DO NOT check the operational status of these heaters by the use of the hand, as the heaters in the masts may reach temperatures of 175° F or higher.

3. RECOMMENDED ACTION. Each operator should initiate and accomplish inspections and maintenance of waste drain valves, caps, and heater systems to the extent necessary to ensure that these systems remain airworthy and function as designed, to prevent ice build-up from leaking waste water, and the resultant separation from the aircraft.



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