

## SECTION 14. HANDLING AND CARE OF AIRCRAFT RECOVERED FROM WATER IMMERSION.

**6-220. GENERAL.** Aircraft recovered from partial or total immersion in standing water or flash floods require an in-depth inspection and cleaning of both the exterior and interior areas. Water-immersion increases the probability of corrosive attack, it removes lubricants, deteriorates aircraft materials, and destroys electrical and avionics components.

**a. Sea water,** because of salt content, is more corrosive than fresh water. However, fresh water may also contain varying amounts of salt and, as drying occurs, the salt concentration is increased and corrosive attack accelerated.

**b. Prompt action** is the most important factor following recovery of an aircraft from water-immersion. Components of the aircraft which have been immersed, such as the powerplant, accessories, airframe sections, actuating mechanisms, screws, bearings, working surfaces, fuel and oil systems, wiring, radios, and radar should be disassembled, as necessary, and the contaminants completely removed.

**6-221. INITIAL FRESH WATER OR DETERGENT WASH.** As soon as possible after the aircraft is recovered from water-immersion, thoroughly wash all internal and external areas of the aircraft using a water/detergent solution as follows:

**a. Mix** liquid detergent (MIL-D-16791, type I) and isopropyl alcohol (TT-I-735) in ratio of eight parts detergent, to 20 parts of alcohol. Add the detergent/alcohol mixture to 72 parts of tap water and mix thoroughly. For use, add one part of the preceding concentrate to nine parts of tap water (warm water if available) and mix thoroughly.

**b. If the above** specified detergent/alcohol materials are not available, use water-emulsion cleaning compound (MIL-C-43616). Add one part compound to nine parts water. If the MIL cleaning compound is not available, use any available mild household detergent solution with fresh tap water.

**6-222. RECIPROCATING ENGINES AND PROPELLERS.** Remove the propeller from the engine and the engine from the aircraft. The exterior of the engine and propeller should be washed with steam, or fresh water, preferably hot.

**a. Major accessories,** engine parts, etc., should be removed and all surfaces flushed with fresh water, preferably hot. If facilities are available, immerse the removed parts, time permitting, in hot water or hot oil, 180 °F, for a short time. Soft water is preferred. Change the water frequently. All parts must be completely dried by air blast or other means. If no heat-drying facility is available, wipe the cleaned parts with suitable drying cloths.

**b. The constant-speed propeller** mechanism should be disassembled, as required, to permit complete decontamination. Clean parts with steam or fresh water, preferably hot. Dry the cleaned parts in an oven, but if a heat-drying facility is not available, wipe the cleaned parts with suitable drying cloths.

**6-223. AIRFRAME.** The salvable components of the fuselage, wings, empennage, sea-plane and amphibian hulls and floats, and movable surfaces should be processed as follows:

**a. The fabric** from fabric-covered surfaces should be removed and replaced.

**b. Clean the aircraft** interior and exterior using steam under pressure with steam cleaning compound. Direct the steam into all seams and crevices where corrosive water may have penetrated. Avoid steam cleaning electrical equipment, such as terminal boards and relays.

**c. Areas** that have been steam cleaned should be rinsed immediately with either hot or cold fresh water.

**d. Touch up** all scratches and scars on painted surfaces using zinc chromate primer or preservative.

**e. Undrained** hollow spaces or fluid entrapment areas should be provided temporary draining facilities by drilling out rivets at the lowest point. Install new rivets after drainage.

**f. Remove** and replace all leather, fabric upholstery, and insulation. Plastic or rubber foam that cannot be cleaned of all corrosive water must be replaced.

**g. All drain plugs** or drive screws in tubular structures should be removed and the structure blown out with compressed air. If water has reached the tubular interiors, carefully flush with hot fresh water and blow out water with compressed air. Roll the structure as necessary to remove water from pockets. Fill the tubes with hot linseed oil, approximately 180 °F, drain oil and replace drain plugs or drive screws.

**h. Clean** sealed wood, metallic, and other non-metallic areas, excluding acrylic plastics, with warm water. Replace wood, metalite, and other porous materials exposed to water-immersion unless surfaces are adequately sealed to prevent penetration by water. Virtually all solvents and phenolic type cleaning agents are detrimental to acrylics and will either soften the plastic or cause crazing.

**i. Remove** instruments and radios and applicable cables and plumbing, and repair and inspect as necessary.

**6-224.—6-234. [RESERVED.]**