



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: SURVIVAL EQUIPMENT FOR USE IN
OVERWATER OPERATIONS

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Initiated by: AFS-220

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1. PURPOSE. The purpose of this advisory circular is to provide information regarding the survival items that should be carried during aircraft extended overwater operations. This provides one means, but not the only means, for compliance with the pertinent regulations.
 2. RELATED FEDERAL AVIATION REGULATIONS (FAR) SECTIONS. 121.339, 121.340, 125.209, and 135.167.
 3. BACKGROUND. While the occurrences of water landings in which aircraft occupants depend on overwater equipment for survival are rare, the possibility does exist. Therefore, information about the items which should be included in overwater equipment is important and is provided here. Additional background information and standards are provided in Technical Standards Orders (TSO) C13e, C69a, C70a, C85, and C91a.
 4. DISCUSSION. The recommended equipment should meet applicable TSO. This equipment includes, but is not limited to, the following:
 - a. Life preserver for each occupant of the aircraft.
 - b. Rafts or slide/rafts with appropriate buoyancy and sufficient capacity for everyone on board the aircraft and which have a boarding station.
 - c. Rafts (and slide/rafts where appropriate) should be equipped with the following:
 - (1) Lines, including an inflation/mooring line with a snaphook, rescue or life line, and a heaving or trailing line.
 - (2) Sea anchors.
 - (3) Raft repair equipment such as repair clamps, rubber plugs, and leak stoppers.
 - (4) Inflation devices, including hand pumps and cylinders (i.e., carbon dioxide bottles), for emergency inflation.
 - (5) Safety/inflation relief valves.
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- (6) Canopy and appropriate equipment to erect the canopy.
- (7) Position lights.
- (8) Hook-type knife, sheathed and secured by a retaining line.
- (9) Placards that give the location of raft equipment and are consistent with placard requirements.
- (10) Propelling devices such as oars, or in smaller rafts, glove paddles.
- (11) Water catchment devices, including bailing buckets, reincatchment equipment, cups, and sponges.
- (12) Signaling devices including:
 - (i) At least one approved pyrotechnic signaling device.
 - (ii) One signaling mirror.
 - (iii) One spotlight or flashlight (including a spare bulb) having at least two "D" cell batteries or equivalent.
 - (iv) One police whistle.
 - (v) One dye marker.
 - (vi) Radio beacon with water-activated battery.
 - (vii) Radar reflector.
- (13) One magnetic compass.
- (14) A 2-day supply of emergency food rations supplying at least 1,000 calories a day for each person.
- (15) One saltwater desalting kit for each two persons the raft is rated to carry or two pints of water for each person the raft is rated to carry.
- (16) One fishing kit.
- (17) One book on survival, appropriate for any area.
- (18) A survival kit, appropriately equipped. Some of the items which could be included in the survival kit are:
 - (i) Triangular cloths.
 - (ii) Bandages.
 - (iii) Eye ointments.
 - (iv) Water disinfection tablets.

- (v) Sun protection balsam.
- (vi) Heat retention foils.
- (vii) Burning glass.
- (viii) Seasickness tablets.
- (ix) Ammonia inhalants.
- (x) Packets with plaster.


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