



ESCAPING A SUBMERGED SEAPLANE

If a seaplane capsizes, it is absolutely essential that both pilot and passengers understand how to exit the seaplane and find their way safely to the surface. Pilots should become thoroughly familiar with possible escape scenarios and practice to the extent possible so that they will be able to react instantly in an emergency. Passengers can not be expected to have any prior training in water survival, and an actual emergency is not a good time to try to instruct them. Therefore, a complete briefing before takeoff is very important. At a minimum, the portions of the passenger briefing that deal with escaping from the seaplane in an emergency should cover orientation, water pressure issues, the use of flotation equipment, and both normal and unusual methods of leaving the seaplane.

ORIENTATION

Many of those who have survived seaplane accidents emphasize how disorienting this situation can be. Unlike the clear water of a swimming pool, the water around a seaplane after an accident is usually murky and dark, and may be nearly opaque with suspended silt. In most cases the seaplane is in an unusual attitude, making it difficult for passengers to locate doors or emergency exits. In a number of cases, passengers have drowned while pilots have survived simply because of the pilots' greater familiarity with the inside of the seaplane. Use the preflight briefing to address disorientation by helping passengers orient themselves regardless of the seaplane's attitude. Help the passengers establish a definite frame of reference inside the seaplane, and remind them that even if the cabin is inverted, the doors and exits remain in the same positions relative to their seats. Also, brief passengers on how to find their way to the surface after getting clear of the seaplane. Bubbles always rise toward the surface, so advise passengers to follow the bubbles to get to the surface.

WATER PRESSURE

The pressure of water against the outside of the doors and windows may make them difficult or impossible to open. Passengers must understand that doors and windows that are already underwater may be much easier to open, and that it may be necessary to equalize the pressure on both sides of a door or window before it will open. This means allowing the water level to rise or flooding the cabin adjacent to the door, which can be very counter-intuitive when trapped underwater.

FLOTATION EQUIPMENT

Personal flotation devices (PFDs) are highly recommended for pilots and all passengers on seaplanes.

Since the probability of a passenger finding, unwrapping, and putting on a PFD properly during an actual capsizing is rather low, some operators encourage passengers to wear them during the starting, taxiing, takeoff, landing, and docking phases of flight.

Not all PFDs are appropriate for use in aircraft. Those that do not have to be inflated, and that are bulky and buoyant all the time, can be more of a liability in an emergency, and actually decrease the wearer's chances of survival. Many of the rigid PFDs used for water recreation are not suitable for use in a seaplane. In general, PFDs for aircraft should be inflatable so that they do not keep the user from fitting through small openings or create buoyancy that could prevent the wearer from swimming downward to an exit that is underwater. Obviously, once the wearer is clear of the seaplane, the PFD can be inflated to provide ample support on the water.

The pretakeoff briefing should include instructions and a demonstration of how to put on and adjust the PFD, as well as how to inflate it. It is extremely important to warn passengers never to inflate the PFD inside the seaplane. Doing so could impede their ability to exit, prevent them from swimming down to a submerged exit, risk damage to the PFD that would make it useless, and possibly block the exit of others from the seaplane.

NORMAL AND UNUSUAL EXITS

The briefing should include specifics of operating the cabin doors and emergency exits, keeping in mind that this may need to be done without the benefit of vision. Doors and emergency exits may become jammed due to airframe distortion during an accident, or they may be too hard to open due to water pressure. Passengers should be aware that kicking out a window or the windshield may be the quickest and easiest way to exit the seaplane. Because many seaplanes come to rest in a nose-down position due to the weight of the engine, the baggage compartment door may offer the best path to safety.

In addition to covering these basic areas, be sure to tell passengers to leave everything behind in the event of a mishap except their PFD. Pilots should never assume that they will be able to assist passengers after an accident. They may be injured, unconscious, or impaired, leaving passengers with whatever they remember from the pilot's briefing. A thorough briefing with clear demonstrations can greatly enhance a passenger's chance of survival in the event of a mishap.

