

Flying Over Water

By Rick Gardner

I live in Cancun, Mexico, and many pilots are surprised when they hear that I often fly the three-hour over-water trip to Florida in my Cessna 206, and sometimes beyond to my home country of the Bahamas. However, with proper planning, such flights can be conducted safely. To begin with, aircraft engines are reliable, so ditchings are rare. When ditchings do occur, statistics indicate survival rates of 88% or more. Nonetheless, it is essential to have one's own over-water survival plan in preparation for your trip, and to brief your crew and passengers on that plan before departure.

CONDUCTING THE FLIGHT

Before an over-water flight, you should perform an extra-thorough pre-flight inspection. Fill the oil to the maximum level and carry at least enough fuel to fly

to your alternate and still have a minimum one-hour fuel reserve. Also, check the oil and fuel caps and look for signs of fuel, oil, or exhaust leakage.

Make sure that you have adequate navigation equipment and charts. There are often no points or reference over water, so a GPS with a moving map is a useful aid for situational awareness. In an emergency, it also allows you to provide your precise coordinates to ATC and other aircraft. For maximum safety take along a spare GPS with fresh batteries, leave a personal flight plan with friends or relatives back home, and travel with other aircraft if possible.

Plan routes that keep you close to land, even if they are longer. Select higher altitudes to maximize your communications range, gliding distance, and time to

go through checklists, communicate, and brief passengers in case of an emergency. Traveling early in the day will maximize daylight hours available.

If VFR, request flight following so that you are in contact with ATC and they know who and where you are. When you spot a ship, take note of the position or create a temporary waypoint in your GPS so that you can return to that spot in an emergency. If you ditch near a ship or boat, land in front of them so they see you, but not directly in their path where you could cause a collision if they can't stop.

SURVIVAL EQUIPMENT

Carry life jackets and a life raft. I use a dual-cell, constant-wear vest that has pockets for critical safety equipment. Constant-wear vests eliminate the need to find, open, and put on your life jacket while in the middle of an emergency. If you don't have a constant-wear vest, you can store critical safety equipment in a survival pouch that attaches to your body. Remember not to inflate your vest until you are outside the aircraft. I also carry a dual-cell life raft that is large enough to carry me and my passengers and has a cover to



Photo: Aircraft Spruce

protect us from the elements. Many Florida FBOs rent jackets and life rafts.

Carry a 406 Mhz Personal Locator beacon (PLB), which transmits a signal directly to COSPAS/ SARTSAT satellites along with your unique identification information. They reduce the size of the search area and the time to locate you compared to traditional ELTs. I always carry mine in a pocket of my life vest so that I can activate it in the air in case of an emergency.

Other survival equipment I carry in my life vest includes: signal mirror, signal flares, whistle, thermal blanket (the silver coating makes for a large area of

reflective material), large industrial-grade garbage bag (it provides some heat insulation if you lose your life raft and must get into the water), red plastic streamer that rolls out on the water to enhance visibility, and a waterproof signal light (some search-and-rescue aircraft use night vision goggles).

I also carry an emergency equipment bag with: water, food rations, first aid kit, water proof matches, sea sickness tablets, sunscreen, mosquito repellent, compass, rope, fishing line and hooks, duct tape, thermal blankets, multiuse knife, marine handheld VHF radio for transmitting on the marine emergency channel 16, and an aviation handheld VHF radio.

Other items you may want to consider are a portable reverse osmosis water maker and closes of required medication in watertight containers. I keep my life raft and emergency bag secured with a seat belt next to the airplane exit so that they will be the first things out of the aircraft.

EMERGENCY PROCEDURES

If the worst happens, remember to “Aviate, Navigate and Communicate.” Establish best glide airspeed

and review emergency checklists. Set a course for the closest land mass or ship (remember to take wind speed and direction into account). If you programmed a vessel location into your GPS, then use it to navigate back to that spot. Activate your ELT and PLB and squawk 7700. If not in contact with ATC, transmit a Mayday on 121.5 MHz. and give your call sign, position, aircraft type, total number of persons on board, and intentions. Brief your passengers.

Secure or jettison any loose objects that can cause injury during the sudden deceleration of a ditching. Open exit doors and wedge something in the doorframe to keep them open, as the impact forces on the fuselage in a ditching can jam the closed doors and prevent them from opening. Since some airplanes have operational limitations, review your POH and plan an appropriate course of action before flight. For example, opening the front cargo door on a U206 or 206H model Cessna will likely disable the flap system, so I would set the flaps first in some cases. However, flap extension on a 206 will also block the front cargo door, so I would consider leaving the flaps up if I were carrying passengers. Using flaps in low-wing, retractable-gear aircraft when

ditching can cause the aircraft to pitch forward into a nose low attitude after the flaps impact with the water. At 1,000 ft. AGL. secure your PLB and have passengers get into the brace position.

You should try to ditch parallel to, and preferably on top of, a swell: however, wave action and wind direction may dictate otherwise. You should always avoid landing directly into the face of a swell, as water can act like a brick wall when impacted at high speed. Multi-engine aircraft are not immune from emergencies that may require ditching, so a good over-water plan makes sense for them, as well. There are a number of print and online resources for procedures, statistics, product reviews, safety training. and discussions on over-water flying. Some that I most often use are: Aeronautical Information Manual (www.faa.gov/atpubs/aim), AOPA (www.aopa.org), Aviation Survival Technologies (www.astoverwater.com) , Equipped to Survive (www.equipped.org), FAA Production Studios (www.faa-productionstudios.com), and Prepared Pilot (www.preparedpilot.com). You should consult with aviation safety professionals and your aircraft POH when developing your own

over-water survival plan. Having such a plan will widen your horizons by placing exciting destinations~ like the Caribbean within reach.

ABOUT THE AUTHOR

Born in the Bahamas, Rick Gardner has spent most of his life under, on, or over the water. Rick currently operates CST Flight Services: www.cstflightservices.com