

SEAPLANE PASSENGER BRIEFING—NOTES FOR THE PILOT

(A Sample Seaplane Pilots' Passenger Briefing Checklist follows the Discussion)

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Preface: This document may well provide the most comprehensive inventory of passenger briefing issues you have yet encountered. It was developed to complement the SEAPLANE PILOTS' MODEL CODE OF CONDUCT, available at <<http://www.secureav.com/SeaplanePMCC-v1.1.doc>>. **However the following is not itself a passenger briefing. Rather, it is a tool for developing your own passenger briefings.** You may also consider it an aid to help to develop an unofficial supplement to your Pilots Operating Handbook (POH).

There are many important reasons why seaplane pilots should provide passenger briefings:

- To fulfill their responsibilities as pilot in command for the safe operation of their aircraft,
- To improve passenger safety,
- To satisfy FAA regulations (such as 14 C.F.R. 91.107) that require passenger briefings,
- Commercial operators have even more stringent briefing requirements, and
- To help passengers understand that their survival during an accident is highly dependent on their knowledge and use of safety information.

Because of the unique risks of seaplane flying and the non-intuitive nature of accident and passenger survival procedures, this document is designed as a flexible, robust tool to help craft effective passenger briefings. Effective passenger briefings help prevent accidents and encourage appropriate passenger response in the event of an accident.

Despite the importance of passenger briefings, pilots enjoy great discretion in how to fashion them. Some pilots think that “telling the passenger too much” or describing emergency procedures in detail is counterproductive and may frighten passengers or even convince them not to fly. Others find that passengers both appreciate and benefit from comprehensive preflight briefings and will fly with greater confidence when they know what to expect and believe that the pilot cares about their welfare. **Achieving the right balance is up to you. How thoroughly to brief your passengers is one of the many choices you make as a responsible pilot.**

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I. DISCUSSION (FOR PILOTS)

a. Background.

An upset (capsizing) is a life-threatening event for seaplane passengers. The very limited time in which to escape the cabin when it fills with water and the likelihood of major structural damage from water impact (possibly causing doors or windows to jam) contribute to the danger. During such a crisis you may be preoccupied with managing the plane and be unable to give instructions or otherwise attend to passengers beyond ordering them to evacuate.

Furthermore, if you become incapacitated in a water impact emergency, your passengers need to know what to do and how to do it without your assistance. Since seaplanes involved in an accident tend to come to rest inverted in water and can remain afloat for long periods if the floats are not breached, the FAA emphatically stresses the importance of a thorough preflight passenger briefing on proper egress procedures.

Evacuation of a seaplane entails problems not associated with evacuation of a landplane. Therefore, passengers need seaplane-specific briefings, which include information about the location and operation of normal and emergency exits, flotation gear, seatbelts, shoulder harnesses, etc.

A 15-year study of seaplane accidents in North America, covering 103 accidents on water, revealed that 61% of the pilots died. Of those, 78% died inside the aircraft cabin. Of those, 81% drowned. Of those who drowned, 14% were incapacitated from non-fatal impact forces and subsequently drowned, and 67% died from drowning alone with no other injuries sustained. Statistics for the passengers were similarly tragic. Many were found still in their seatbelts and unharmed except for drowning (see *A Safety Study of Survivability in Seaplane Accidents*, in Additional Resources, below). These sobering statistics highlight the compelling need for thoughtful and well-executed passenger briefings. In addition, pilots—and passengers who fly over water often—should complete underwater egress training (see Section c(10)(b), below).

Pilots should consult the POH or AFM for any special evacuation procedures specific to the aircraft.

b. Presentation.

Deliver your pre-takeoff oral briefing before starting the engine(s), beginning outside the cabin so passengers can easily hear and see demonstrations of proper emergency procedures. Speak clearly and distinctly, physically point out the plane's regular and emergency exits and all safety equipment on board, and explain how the exits and safety equipment are operated. Tell and show passengers the names of the parts of the aircraft covered in the briefing, such as *chine*, *float deck*, *lift strut*, etc. Whenever practicable, physically demonstrate how to operate the exits and use the safety equipment. When an actual demonstration is not practicable (such as for the inflation of flotation gear), simulate the actions involved as closely as possible.

c. Pre-takeoff Briefing.

Before each flight, brief passengers on each of the following:

- (1) How to enter and exit the cabin. Before passengers board the aircraft is a good time to point out the dangers posed by the propellers and horizontal stabilizer and to identify parts of the aircraft you will reference during briefings. Urge passengers to exercise extreme caution near any propeller. Serious injuries, amputations, and death have resulted from propeller strikes and, for persons on the dock, from contact with the horizontal stabilizer. Instruct

passengers not to assist with docking or other pre- or post-flight operations unless their help is specifically requested. If you require such assistance, brief specific instructions, including the dangers and avoidance of spinning propellers and the proper handling of the horizontal stabilizer and lines. Demonstrate boarding or departing the amphibian if the flight begins or ends on land.

(2) How to fasten, tighten, and unfasten the safety belt and shoulder harness by feel, and how to stow the loose end of the seatbelt so it does not hinder seatbelt release in the event of an emergency.

(3) How to recognize (by feel) seatbelt rollover. Seatbelt buckles will occasionally roll over due to deceleration forces, making it impossible to activate the release lever. This condition must be identified and the buckle rolled upright before it can be released.

(4) How to move seats forward and backward to enhance egress and how to ensure the seats are locked in place before takeoff and landing.

(5) That all adjustable seat backs should be upright for takeoff and landing.

(6) The location of each normal and emergency exit and its operation (by a demonstration, if practical).

(7) The need to leave carry-on items behind in the event of an upset and evacuation.

(8) The need to establish situational awareness to aid passenger egress in the unlikely event of an upset. In other words, help passengers establish a frame of reference to keep them oriented in the event of an accident, such as *left hand on the left knee or left armrest or right hand toward the direction of the exit*.

(9) How to clear an egress pathway, remove headphones and clear the cord, establish a reference handhold, then release seatbelts/harnesses and clear them out of the way. Once situational awareness is established, an exit path chosen and cleared, a handhold established, and seat belts are released and cleared, passengers can use a hand-over-hand technique to make their way to and out of an exit (after the aircraft stops moving and the cabin has filled with enough water to equalize pressures so the door or window may be opened).

Using positional and situational awareness and the hand-over-hand technique decreases the possibility of passenger disorientation. Stress that left and right are the same whether a passenger is upright or inverted. That is, if an exit is on a passenger's right while the plane is upright, it will still be on the passenger's right if the plane is inverted.

Make all directional references in relation to the passengers' right or left, not yours. Advise passengers whether the door handle on the inside of the airplane will work in reverse (in case the plane is upside down), and that when the door is closed and locked (as in flight), it may be impossible to open from the outside.

Once passengers have evacuated the seaplane, they may inflate their Personal Flotation Devices (PFDs) if needed. To avoid hypothermia, passengers should get out of the water as soon as possible. They can move hand-over-hand along the float to the bow or stern then to the area between the floats in order to use the spreader bar as an aid in getting onto a float. If there is oil or fuel contamination in the water, passengers should move away from it, upwind or upstream as needed, along the float and then get up onto the float to avoid the contamination.

(10) Unless the seaplane is used for hire, sightseeing or flight instruction, PFDs are not required by U.S. law. Nonetheless, it is prudent to have them on board and it is *most* prudent to have them worn. PFDs are required for all seaplanes in Canada. The U.S. Coast Guard, as

well as some state and local authorities, may require PFDs during water operations. The FAA recommends the use of FAA- or USCG-approved, *inflatable* PFDs in not-for-hire operations. Inflatable PFDs are activated/inflated either *manually* or *automatically*. The automatic-activation PFDs utilize a water-soluble switch that typically activates in five seconds when immersed in water (and sometimes activate from moisture in the air). Clearly this type of PFD should not be used for seaplane operations. The manual-activation PFDs are classified as either Type III or Type V, based on their minimum buoyancy of 22.5 or 34 lbs. Non-inflatable, wearable floatation devices are *not* recommended for small aircraft.

(a) Brief passengers on the type, location, and use of PFDs, including a demonstration of how to put them on and how to inflate them *after* exiting the cabin (such as by carbon dioxide (CO₂), orally, or by other manual methods).

Emphasize to passengers that an inflatable PFD must NOT be inflated until they are clear of wreckage after exiting the seaplane, since PFDs can easily get hung up or punctured on wreckage, block an exit, or prevent a passenger from exiting an inverted seaplane.

(b) Underwater egress training is strongly recommended for seaplane pilots and suggested for passengers who often fly over water beyond gliding distance to shore. *See Additional Resources*, below.

(c) If flotation cushions are aboard, brief passengers on their location and use, including a physical demonstration, if practicable, of how to insert arms through the straps and rest the torso on the cushion once in the water. Caution passengers not to wear the cushion on their backs. Note: flotation cushions are sometimes used aboard seaplanes as seat cushions and, as a practical matter, can be utilized as throwable life-saving devices and fenders. Although they are not recommended for use as PFDs in seaplanes, this use should be included in passenger briefings if such flotation cushions are aboard. (*See AC 91-69A, [Seaplane Safety for FAR Part 91 Operators](#)*, p. 12 for applicable requirements).

(11) Brief passengers on the location and operation of any fire extinguishers; first aid kits, and survival gear including all Emergency Locator Transmitters (ELTs), Personal Locator Beacons, and pyrotechnic signaling devices (flares).

(12) Appropriate brace positions and the proper location for carry-on items.

(13) Proper stowage of lines, anchors, paddles, cargo and baggage, both to avoid having loose items hinder underwater egress from the cabin and to avoid having loose items wreak havoc in case of a rapid deceleration. Consider that in a nine-g deceleration, an object the size of a typical (2 AA cell) flashlight placed on the hat rack behind the seats could hit your head with more energy than a 9 mm bullet! Just think what the anchor or a piece of luggage would do.

d. Passengers Needing Special Assistance.

Individually brief passengers who may require special assistance. In addition to the above information, these briefings should also designate who will assist the passenger in an emergency. If the passenger is accompanied by an attendant, brief both the passenger and the attendant to accommodate their special needs. Determine if any passengers are weak- or non-swimmers, and strongly encourage such passengers to wear PFDs during all operations.

e. Pre-landing Briefing.

Before each landing, at a minimum, brief passengers to fasten seatbelts and shoulder harnesses (if installed), to place adjustable seat backs in the upright position, and to stow all carry-on items.

f. Pre-docking Briefing.

Brief passengers to remain seated until the door is opened and you signal that it is safe to exit. If passenger assistance will be needed to accomplish docking or beaching, brief that passenger completely on how to perform the necessary maneuvers safely. For example, caution the passenger never to move forward of the lift strut. Some pilots prefer to give a pre-docking briefing or refresher immediately prior to docking to prevent confusion. Generally, unless the passenger is an experienced seaplane pilot, it is best not to expect the passenger's aid during departure or arrival.

g. Additional Considerations.

When developing your own passenger briefing checklist, you may wish to consider adding additional issues appropriate to your own craft, and flying preferences, such as:

Headsets and Intercom: “You will be given a headset upon boarding to protect your hearing from engine noise and to provide an intercom between the plane’s occupants. The knobs on your headset control the volume. Keep the microphone very close to your mouth when speaking (otherwise it won’t work). If you are occupying the co-pilot’s seat, you may adjust a co-pilot/passenger volume/squelch control. If you like, I can isolate passengers from aviation communications to permit you to talk privately, but then you will not be able to talk to me.”

Physiological Effects of Flying: “You may experience many physiological effects of flight including disorientation (when banking or due to g forces), illusions (particularly when in the clouds), “red out” when looking through the propeller into the sun; about one out of seven passengers may experience it – manifestations range from seeing everything in the color red, to, in extreme cases, seizures.”

Co-pilot’s Controls: “If you sit in the co-pilot’s seat, please do not touch or obstruct extension of the control wheel [stick] or other controls. I will demonstrate the full-extension of the controls so that you can become comfortable with the needed clearances.”

Talking: “Please limit conversation during taxiing, take-off, and landing. It is good practice for pilots to enforce a ‘sterile cockpit’ – silence among crew and passengers except for needed operational communication – during these critical flight operations. I need to listen for instructions from airport control towers and control facilities and must remain particularly alert. One exception: because passengers are an important safety resource, please identify – physically, by pointing – any nearby airborne aircraft that you see.”

Lights and Noises: “Many flashing lights, aural alarms, and the like are part of normal flight operation, particularly during departure and arrival. Please do not be startled by them. If they worry you, ask me about them when it appears I am not busy.”

Environmental: “The plane is heated. If you are cold, ask me to increase the heat. If you desire cool air, I will show you the location and operation of the air vents.”

Hazardous Materials: “Do not board flammable substances or aerosols, such as lighters, lighter fluid, propane, gasoline or flammable gases, strike-anywhere matches, mace, tear gas, hair spray, or dry ice, without first obtaining my permission.”

Medications, Drugs and Medical Condition: “If you are taking medications that may impair your judgment or affect normal health, if you have any medical or related conditions/predispositions including, for example, anemia, acrophobia, claustrophobia, epilepsy or nervous disorders, if you wear a hearing aid, or if you have been scuba diving in the past 48 hours, please notify me before the flight.”

Illicit Substances: “The use or transportation of illicit substances is strictly prohibited.”

Health: “If you become ill or feel any discomfort for any reason, please inform me immediately. Subject to safety requirements and the instructions given me by air traffic controllers, I will terminate the flight upon your request.”

Air Sickness & Ear Comfort: “Airsickness bags are located in your seat pocket. Locate them when you board, and please have one ready! Separately, for your comfort, clear your ears when descending, by swallowing or chewing, as the airplane is not pressurized. If you cannot clear an ear, notify me immediately.”

Clothing: “Bring clothing appropriate for the route. Also, the weather may vary considerably following departure. Wear light shoes or sneakers but pack hiking boots and weather gear if a mountain flight. Sunglasses and hat/visor are advisable. Avoid polyester clothing for fire safety.”

Liquids: “Restrict consumption of liquids prior to and during the flight, especially diuretics such as coffee, tea, and alcohol. There is no toilet on the plane!”

Medications: “Bring essential personal medications and essential toiletries in the event that we must unexpectedly remain overnight at an unplanned destination.”

Weight and Balance: “Please be prepared to provide me your fully clothed weight and the packed weight of each piece of luggage you desire to bring. Keep luggage weight and size to a minimum. Soft bags such as duffel bags are preferred for flexible loading.”

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II. SAMPLE SEAPLANE PILOTS’ PASSENGER BRIEFING CHECKLIST

Before entering the cabin:

- (1) How to enter and exit the cabin. Avoidance of propellers and stabilizer.
- (2) Smoking or other restrictions.
- (3) Egress following upset:
 - a. leave carry-on items behind,
 - b. establish situational awareness,
 - c. clear a pathway out,
 - d. establish a reference handhold, then release seatbelt,
 - e. exit using hand-over-hand technique,
 - f. how to wear and when to inflate flotation gear, and
 - g. what to do once outside the seaplane.
- (4) Fire extinguishers, first aid kits, survival gear, ELT, stowage of carry-on items, loose items, and aircraft equipment.
- (5) Passengers needing special assistance, including passengers who are weak or non-swimmers.
- (6) Additional considerations that are best discussed before entering cabin (*from above list or your materials*).

After entering the cabin:

- (7) Safety belt and shoulder harness operation, and stowage of loose end of the seatbelt.
- (8) Release of seatbelt, including when buckle is inverted.
- (9) Seat operation to enhance egress.
- (10) Adjustable seat back upright and latched for takeoff and landing.
- (11) An appropriate brace position.
- (12) Location and operation of each normal and emergency exit, including unlatching doors, if appropriate.
- (13) Pre-landing briefing.
- (14) Pre-docking briefing.
- (15) Additional in-cabin considerations (*from above list or your materials*).

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III. ADDITIONAL RESOURCES

a. General.

A listing of government publications on seaplane operations:

< <http://www.seaplanes.org/library/govtpubs.htm> >

A Safety Study of Survivability in Seaplane Accidents, Transport. Safety Bd. of Canada (1994) < <http://www.tsb.gc.ca/en/reports/air/studies/sa9401/sa9401.asp> >

Flying with Floats (TP 5584e), Transport Canada

< <http://www.seaplanes.org/library/govtpubs/tp5584e.htm> >

Seaplane Pilot, Dale DeRemer (ASA 2003)

< <http://www.asa2fly.com> >

Seaplane Pilots' Model Code of Conduct

< <http://www.secureav.com/SeaplanePMCC-v1.1.pdf> >

Seaplane Safety for 14 CFR Part 91 Operators (AC 91-69A)

< <http://www.seaplanes.org/library/govtpubs/AC91-69A.pdf> >

Seaplane, Skiplane, and Float/Ski Equipped Helicopter Operations Handbook (FAA-H-8083-23) < http://www.faa.gov/library/manuals/aircraft/seaplane_handbook/ >

The Flight Training Handbook, Ch. 15 - Seaplane Operations (AC 61-21A)

< <http://www.seaplanes.org/library/govtpubs/AC61-21A.pdf> >

Seaplane underwater egress training is strongly recommended, such as with:

< <http://www.dunkyou.com> >

The FAA Aviation Safety Program has produced an excellent series of videos, including one that addresses passenger briefings for seaplane operators, entitled *Seaplane Safety: What Every Passenger Needs to Know*, available from the FAAST Team Manager at your local Flight Standards District Office (FSDO).

b. Sample Passenger Briefings.

The following third-party passenger briefings are provided for the limited purpose of helping pilots explore the scope and diversity of some actual passenger briefings. These briefings are not necessarily appropriate for a particular implementation.

Survival Checklist, CheckMate

<<http://www.CheckMateAviation.com>>, Tel. 800-359-3741

Passenger Briefing Checklist, Dale DeRemer, *Seaplane Pilot*, p. 39 (ASA 2003)

<<http://www.asa2fly.com>>

Passenger Preflight Briefing Cards, Columbia Seaplane Pilots

<wileyseaplanes@comcast.net>

A Sample Passenger Briefing Package

<<http://www.secureav.com/briefing.doc>>

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NOTICE

Seaplane pilots and the aviation community may use this document as a resource for passenger briefing development, although it is recommended that this be supported by independent research on the suitability of its content for specific or local applications and situations. It is not intended to provide legal advice and must not be relied upon as such. It is neither a “standard” nor intended to be implemented as such.

EDITS, ERRATA, COMMENTS

This is a living document, intended to be updated periodically to reflect changes in seaplane practices and the aviation environment. Please send your suggestions, edits, errata, questions and comments to: <PEB@secureav.com>.

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