

Oral Discussion

When do we use the water Rudder?

The water rudder is used to overcome the effects of the wind. We may need the water rudder in displacement taxi if there is much wind. We do not use the rudder in step taxi and we do use it in plow taxi.

What is a Plow Taxi?

When you are unable to displacement taxi turn downwind, you use the plow technique. With the water rudder down you add power and full back pressure. This shifts the center of Buoyancy (CB) back on the hull/floats. More of the hull/floats is now exposed to the wind ahead of the CB and helps turn you downwind.

Describe the Lake Hydraulic System.

The Lake has an electric hydraulic pump. It powers the gear, flaps, trim and brakes. The brakes provide their own pressure through their own master cylinder but rely on system fluid. The pump cycles automatically through the use of low & high pressure switches and regulates pressure between 900-1200 psi. There is a gear up light and down light. All three gear switches must connect to illuminate the gear lights. You can also see the gear in the sponson mirrors. The flaps are up or down with lights. There is a back up manual hydraulic pump below the center consol. To operate place the gear and flap lever in the neutral position. Pump up to 900+ psi and lower the gear. repeat for flaps. Land with gear lights and pressure.

Where would you land if you had any gear dangling?

Only if nothing dangles below the hull should you attempt any water landing. If any gear is partially down land on land!

How many Water drains/compartments are there?

There are seven drains and six separate watertight compartments.

What emergency equipment is onboard?

Life jacket, paddle, anchor, fire extinguisher, ELT

How can you stop porpoising on takeoff?

Add backpressure on the yoke

How would you describe the wind direction by looking down at the water?

There will be calm water along the shore on the upwind side. On the downwind side of the lake there will be waves lapping on the shore. As the wind increases you may see streaks or white caps at 12-14 knots on the water perpendicular to the wind.

What does a seaplane bas look like on a sectional.

An anchor. If there are any services it will have a circle around it. There is one on Grand Lake where we ramp out.

How do you know where you are allowed to land on the water?

You must find the owner of the water and see what there rules are. Water is mostly owned by states, cities or Federal Government. The Seaplane Pilot's Association publishes a water landing directory that lists most large bodies of water and any restrictions.

What rules govern you when you are on the water?

The Coast Guard considers you a vessel on the water. You must give way to less maneuverable vessels and have all required pleasure vessel equipment onboard. You should both turn right when meeting head on and any vessel you overtake has right of way. Navigable waters are marked by red & black/green bouys. Remember "red right returning", keeping the red bouy on your right when returning from sea (going upriver) will keep you in the channel.

How would you know if there are any obstructions in the water?

When you fly over to survey before landing, you will see them if the water is clear. In moving water you may see swirls, or eddies that indicate obstructions. If you see obstructions once on a step taxi try to miss them with the hull/sponsons. If you hit something while step taxiing and airworthiness is not in question, get airborne and fly to an airport , or quickly ramp out of the water to inspect your hull.

Can you land at a National Wildlife Refuge?

No

Describe how you would Sail backwards with the tail moving left.

First raise the water rudder. Then displace the rudder to the right, this creates more lift on the left side of the tail and it "lifts" left. Also remember that nose must go right, it's right rudder. Now displacing the aileron left will lower the right aileron increasing lift and drag causing the right wing to drag backwards.

What is a water loop?

A mono-hull seaplane can waterloop when the center of bouancy CB gets ahead of the center of gravity CG and some yawing moment is induced. This most commonly happens when the pilot get the nose too low on step taxi, or on landing by inputting too much forward yoke.

What is dangerous about step turns in windy conditions?

Float planes can be hazardous step turning into a head wind because both centrifugal force and wind under the wing both want to roll the aircraft over. When turning downwind the centrifugal force and the wind effect cancel each other out. This is not nearly as hazardous in the Lake because it's CG is so low to the water.

What must you brief all passengers about.

How to operate seat belts. How to operate normal & emergency exits. How to operate floatation vests, and location of emergency equipment.

Why do some float planes have extra horizontal or vertical tail surfaces?

Float planes have large vertical surfaces on the floats ahead of the CG. These can destabilize the aircraft particularly in turns. By adding extra control surfaces way behind the CG this helps overcome the destabilizing floats.

How much water do we need for Takeoff? Landing?

Since there are no performance charts for the Lake we learn by experience that we use 1/2 to a mile of water for takeoff and about 1/2 mile for landing. If we go to unfamiliar water we can fly over at 60 MPH and time our progress from shore to shore. One minute would equal one mile of water.