

PREFLIGHT

1. What are considerations are made for preflight, post flight & care of seaplanes? *Float size, spreader bars, rust & corrosion, leaks, & sinking.*

POSTFLIGHT - MOORING DOCKING BEACHING RAMPING

2. When docking, which side of the dock should you use? Which way should the nose be pointed? *(Side with access to door, Nose into wind.)*
3. Explain the beaching process. *(Sailing in strong wind, or 45 deg on pilot door side preferred then turn plane. Consider winds.)*
4. When ramping with a cross-wind, how should you approach the ramp? *(With Crosswind Correction and adequate power. water rudders down!)*
5. Discuss dock hazards and aircraft safety including propeller and control surface issues. *it is easy to break airplanes during beaching, ramping, docking. scenario: depart AM XC, extended range to max, arrive at 20Kt wind & low fuel with dock beach and lake. how land? how get to dock in 20 kt wind? SAIL! w/ or w/o power. back to beach back to dock. are they correlating answers.*
6. What techniques are used for docking on a river with some different prevailing winds? *(explain with diagrams)*

SEAPLANE BASES

7. *Where can one land and where can one not land a seaplane? see sectional, chart supplement, ref: AIM / controlling authorities, anywhere in emergency, See SPA, WSPA, Other Pilots, where it is safe, not reservoirs, not boat-free lakes, . . .*
8. Can you land in restricted area or wildlife area? can you taxi in it? *land no, taxi yes. boats do! land outside, taxi inside.*
9. How can you identify a seaplane base on a chart? *(Ref: FAA-H-8083-23, Fig 1-2)*
10. What publications can we use to obtain info on seaplane bases and services? *(Sectional Charts, Chart Supplement, Canada Water Aerodrome Supplement, SPA, WSPA websites and publications)*
11. What publications can we use to find out about on lake services access? *(See above)*
12. What color is a seaplane base beacon? *(White/Yellow, White/White/Yellow for Military, Ref: FAA-H-8083-23, 1-2)*

FARS, MARITIME RULES & AIDS TO MARINE NAVIGATION

13. What documents are required on the aircraft and how long are they good for? *(See FAR 91.9 and 23.1589, AROW, Airworthiness Cert, Radio Station License(Canada), Registration, POH/ Placards(Operating Limitations), W&B)*

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14. What are the Maritime rules? *discuss COMDTINST; DOHS USCG Nav Rules & Regs Handbook (Aug 2014 edition). ref definitions of vessel and seaplane. discuss collision avoidance rules*
15. Identify important marine buoys. *(Ref: FAA-H-8083-23, Fig. 1-3)*
16. Explain right-of-way rules pertaining to seaplanes. *(Ref: FAA-H-8083-23, 1-2, AIM 7-5-8 b., 14 CFR 91.115)*

TAXIING & SAILING

17. When taxiing, why do we use a power setting below 1,000 RPM? *(Protect prop from water damage, Cooler engine, Less Noise)*
18. Does taxiing with higher power settings give us more or less water rudder effectiveness? *(Less effective due to stern churning water as rudders may swing up putting less surface in water. Ref: FAA-H-8083-23 4-5)*
19. What are some methods for turning out of the wind? Explain four methods in order. *(Idle/ Displacement Turn, Plow Turn, Momentum Turn, Sailing, Do not step turn in big wind)*
20. Why is plow taxiing discouraged? *(Prop damage, Instability leading to upset, Noise, Engine overheat)*
21. Explain the different control inputs for sailing. *(Rudder to side of desired direction of rear of plane, Aileron opposite, Water Rudders Up, Doors, Elevator and Flaps as required)*
22. What is proper aileron use during taxi turns. *(Position into wind as in any cross wind situation. Set to level when aligned with wind.)*
23. When step taxiing, what is the most dangerous turn? What should you do if the downwind float buries itself? *(Downwind to Upwind. Don't do that. Don't make that turn. However if you must: Make bigger more comfortable turn if able. Keep aileron adjusted for crosswind. Do not let outside wing lift and flip plane. Reduce power and run into wind if you get unstable. If float buries, Apply Opposite Rudder, Yoke Back, Power Off, turn into wind.) it depends on where in turn, worry about exposure to high wing. back off power and turn into wind. correctly position aileron.*

TAKEOFF LANDING AND GO AROUND

24. Where in the POH can you find floatplane performance data? *(Floatplane Supplement. Often nowhere in which case you will become test pilot. you must learn your plane.)*
25. Explain the effect of high density altitude on floatplane performance. *(Longer takeoff run, Poor climb performance)*
26. What type of takeoff would you use on a lake at 4,000 foot elevation? *(Depends on aircraft performance capability, temperature, humidity, airplane loading, wind and water conditions. Normal, Confined Area, Glassy Water, Vx Climb)*
27. What are porpoising and skipping and how do we correct for each? *(Ref: FAA-H-8083-23, 4-9, 10 5-3)*
28. Explain the circumstances in which you would use a glassy water landing. *(Glassy, Foggy, Misty, Sun in Eyes, Any situation where vision is impaired)*

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29. Describe the go-around procedure. *(Full power, Flat Attitude till Vx or better, then Climb)*
30. How do you handle very strong winds during landing, takeoff, taxiing, beaching, docking, and anchoring?
31. How do you manage your seaplane to minimize noise and disruption of neighbors. *(Limit number of Take-offs & Landings in any given area. Do not take off early in the morning near populated areas. Reduce RPM as soon as safe after take off. Consider taking off with reduced RPM if safe. Stay 1500' above and 500' away from shorelines)*

EMERGENCY OPERATIONS

32. If an engine failure occurs over glassy water where is the best place to land? *(Best visual Reference, Near Shoreline, Straight Ahead)*
33. Describe the procedure for an engine failure after takeoff. *(Immediately establish best glide speed. Land Straight ahead., A.B.C. - Airspeed, Best Place to Land, Communicate.)*

SEAPLANE SYSTEMS

34. Identify the different parts of the floats and their functions. *(Ref: FAA-H-8083-23)*
35. What does the step portion of the float do? *(reduce hydrodynamic drag)*
36. How are the water rudders attached? Explain how the interconnect system works and why it is designed the way it is. *springs ensure rudder authority in event of stuck water rudder(s). one broken cable still allows one water rudder to operate.* How are the water rudders connected to the air rudder? *(Cables and springs)*
37. What does the skeg do? *(Acts as Chock on land making plane difficult to tip back. Often has a sacrificial anode on it)*
38. What keeps the water rudders in the down position? *(Down Springs)*
39. How much water is too much in any one float compartment? *(Any amount which impairs performance, Any amount which indicates damage, Any unusual amount)*
40. What kind and size engine is on [YOUR] floatplane? *(POH)*
41. How much useable fuel does [YOUR] floatplane hold? Gallons? Hours? Discuss fuel planning on long XC to areas with limited fuel access *(POH), discussion*
42. How much oil does it hold? Quarts *(POH)*
43. How many volts is the electrical on [YOUR] system? *(POH)*
44. What is a VG kit and how does it affect performance? *(Vortex Generators, delay flow separation causing air to better adhere to control surfaces improving low speed performance and reducing stall speed when on wings and increasing control effectiveness when installed on tail surfaces)*
45. What is a seaplane propeller and why do we need it? *(A Climb Propeller to increase climb performance to get off water faster)*

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46. The model number on a set of floats (ex. EDO-2000) indicates what? *(2000 indicates Lb of buoyancy per float, therefore $2 \times 2,000 / 1.8 = 2,222$ Aircraft Max GW, Ref: 14CFR 23.751)*

SEAPLANE PERFORMANCE

47. If we have an aft CG, what does that do to stall speed? What will forward or out of CG will do for Seaplane takeoff & Landings especially for amphibious floats. *An aft CG lowers the stall speed and a fwd CG increases it. amphibians are very fwd cg, beware of water loop, extra vigilance with pitch at landing, mind cg and cb and cl. amphi issues: main gear aft of cg & heavy, nose wheels out front on huge lever arm, typical seaplane forward CG, may need ballast, with aft cg, no stall recovery, with fwd cg, nose over landing*
48. Realistically compute performance out of mountain lakes with or without available POH data. *(See Lecture Charts)*

WIND AND WATER

49. What methods can we use to determine wind direction on the water and in the air? *(Water Texture(smooth, rough, smiles, streaks white caps, cats paws), Trees, Birds and Animals, Boats etc, Bouy lines, Flags, Smoke, Weathervane tendency, also: Forecast, Expectations, Nearby ATIS)*
50. What sort of indicators can we use to determine water currents? *(Observe flow patterns, debris, river direction, know tides. Taxi towards shore (or a point) and see which way you have to correct and how much to go straight towards it)*
51. What wind speed / water current ratio was so that you could decide which one would push the airplane more. how will you know wind and current speeds at a remote location? *there is a 5:1 ratio of wind speed to water speed. One knot of water current has the force of 5 knots of wind speed. You will have to use judgement and experience. ask before you go. measure it when you arrive. have an out.*
52. At approximately what wind speed do whitecaps form? *(Moderate Breeze 11-16 kt) ref: beaufort scale*
53. What special considerations are there for operations in cold weather and freezing temp temperatures. *(Water freezing on tail surfaces prevents elevator movement, particularly dangerous at takeoff. Water rudders can freeze in down or up position, Water can freeze in floats. Water may be warmer than surfaces and freeze on contact. Air density will improve performance.)*
54. Discuss flying to a longer than wide lake for a refuel stop to find winds are at 30 kts across the short side of the lake discussed how to land (smoothest water near shore) and sailing back to our fuel stop. *Decision making discussion.*

SCENARIOS

55. Discuss landing at HighHot Lake \ (6,000') in [YOUR] plane at full gross weight. Can we or should we take off? How high does the performance chart in your POH go? *consider HighHot Lake in 180 hp cub, no published data on perf, don't just extrapolate off top of chart. be test pilot in your plane. do hi dens alt sim takeoffs to calibrate, use mp / 1000 ft \approx 1.0" / 1000', i.e. do sim on lake WA with 23", if not off at Lake WA at 23" then not off at HighHot at 23" & thin air. Test Your Plane on a lower lake, find min mp*

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56. Discuss scenario flying [YOUR] seaplane from W36 of S60 to Sucia Island with 1,500' ceilings (via Lake Union / ship canal) Including, Preflight Planning, Weather Planning, Airspace and altitude regulations and considerations going through ship canal, Considerations passing Whidbey Island, Emergency gear, Radio use, Landing, Beaching, and/or Docking at Sucia Island. What about landing Lake Union on rerun and list from Space needle on approach to north landing?
57. Discuss Renton & Kenmore Operations including arrival and departure procedures and radio usage. What are the Washington-One procedures? Where can you find them? What agreement do KRNT and KBFI have regarding management of their adjacent Class-D airspaces? If planning checkride at another location discuss procedures at that location.
58. What procedures will you follow when arriving or departing from American Lake, W37? Discuss airspace and tower operations with military bases owning overlapping class-D airspaces. What are class D rules in this situation? [Ref FAR 91.129-c-2-ii](#)

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