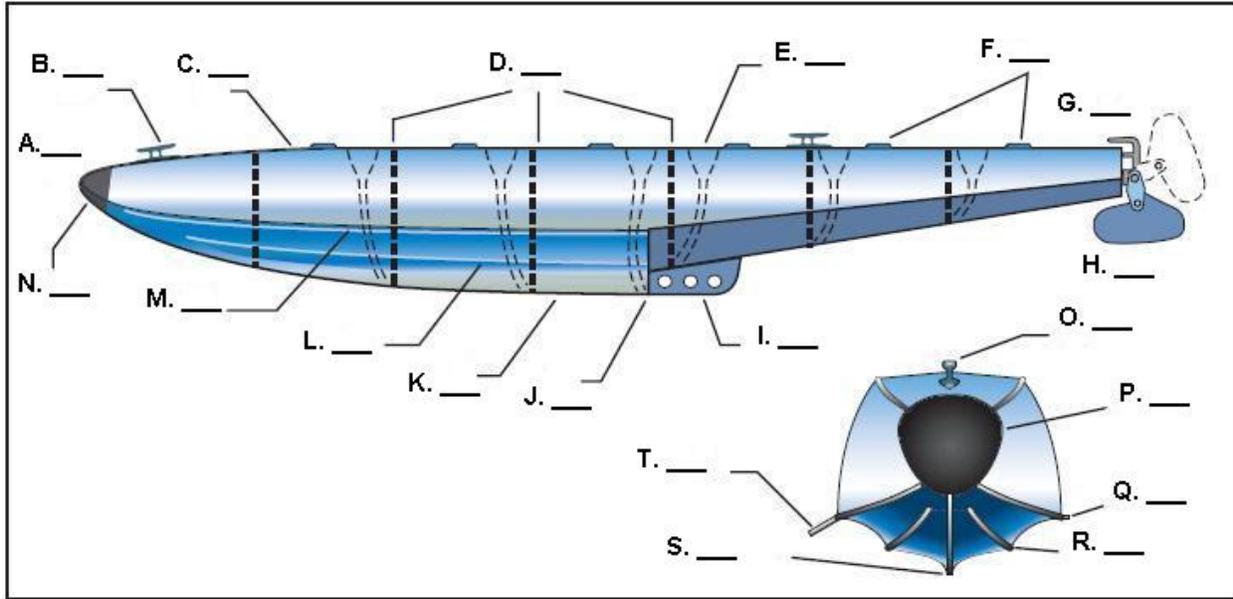




Study Questions for Seaplane Students



- Label the parts of the float below: (1) Skeg, (2) Bumper, (3) Bilge Pump Openings, (4) Retractable Water Rudder, (5) Spray Rail, (6) Deck, (7) Step, (8) Bow, (9) Mooring Cleat, (10) Hand Hole Covers, (11) Internal Bulkheads, (12) Stern, (13) Sister Keelson, (14) Keel, (15) Chine



- Definitions:** Write the term in the blank to match the definition.
 - _____ Pulling a seaplane up onto a suitable shore so that its weight is supported by relatively dry ground rather than water
 - _____ A standardized scale ranging from 0-12 correlating the velocity of the wind with predictable surface features of the water
 - _____ The lowest point inside a float, hull, or watertight compartment
 - _____ A pump used to extract water that has leaked into the bilge of a float or flying boat
 - _____ A structural partition that divides a float or a flying boat hull into separate compartments and provides additional strength
 - _____ The average point of buoyancy in floating objects. (Weight added above this point will cause the floating object to sit deeper in the water in a level attitude.)
 - _____ The longitudinal seam joining the sides to the bottom of the float. Serve a structural purpose, transmitting loads from the bottoms to the sides of the floats. Also serve a hydrodynamic purpose, guiding water away



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- from the float, reducing spray, and contributing to hydrodynamic lift
- h) _____ A roughened condition of the sea surface caused by local winds. It is characterized by its irregularity, short distance between crests, and whitecaps
- i) _____ The top of a wave
- j) _____ The horizontal movement of a body of water
- k) _____ An area where wind is generating waves on the water surface. Also the distance the waves have been driven by the wind blowing in a constant direction without obstruction
- l) _____ A type of seaplane in which the crew, passengers, and cargo are carried inside a fuselage that is designed to support the seaplane on the water. Also called a hull seaplane
3. What documents are required to be on board? _____

4. What type of floatation devices are approved for seaplanes? _____

- Which is the best? _____
5. How do you determine that there is no water in any of the float compartments? Name 3 ways. _____

6. A pint of water in the floats weighs the same as 1/6 gallon of gas in the tank. How far can you cruise on one pound of gasoline? _____
7. If you see dents in the floats what would you suspect happened? _____
_____ Are they unairworthy? _____
8. What would cause a brace wire to be loose? _____
What else would you look for? _____
9. If you see wrinkles in the skin of the fuselage or wings what would you suspect?

10. How do you inspect the water rudders? _____
Cables? _____
11. What is cavitation on a propeller blade? _____
What does it look like? _____
12. What causes cavitation on a propeller blade? _____

- What do you do about it when you find it? _____
13. Why is it important to check the trim before flight? _____
14. How and when do you inspect the control surfaces on a floating seaplane? _____
15. If the seaplane is on a ramp how do you check the oil? _____
How do you check the fuel quantity? _____



Study Questions for Seaplane Students



16. Is it better for take off to have the CG forward or aft? _____
Why? _____
Which will use the least distance on the water? _____
Which is better for flying? _____
Why? _____
17. Which CG limit is the most dangerous for landing? _____
18. Is it legal to carry anything strapped to the floats? _____
19. What can be carried in float compartments? _____
How about an anchor? _____ Gas cans? _____
20. What will happen if you spill fuel in the water? _____

21. When should the doors be locked? _____
22. Is it important to fasten passenger seatbelts before starting engines? _____
How about yours? _____ Why? _____
23. Can you assume that calling "clear" is adequate warning before starting a seaplane? _____ Why? _____
24. What must you be prepared for the seaplane to do when you start the engine? _____

25. If the seaplane is to be tied to something during engine start, where and how should it be tied? _____

26. If the seaplane is not tied or held and the engine fails to start what would you do? _____

27. If you are along side a dock, how do you turn away from it after starting? _____

28. If you are on a ramp or beach what can you expect to happen when you start to move? _____
29. Should you use water rudders when plowing? _____
30. When do you do your "run up"? _____
31. Why do you taxi downwind first? _____
When would you not taxi downwind first? _____
How fast should you taxi downwind? _____
How should you position the controls when downwind? _____
32. When does idle (displacement) taxi become plowing? _____

33. Why should plowing be avoided if unnecessary? Give three reasons. _____

34. When is it necessary to plow (for what purposes)? Give three occasions. _____

How could 2 of the above be avoided? _____
35. In muddy rivers is it better to taxi upstream or downstream? _____
Why? _____



Study Questions for Seaplane Students



36. When is step taxi used other than during takeoff or landing? _____
37. What are the hazards of step taxi? Name three. _____

38. Describe two kinds of porpoising - their cause and their correction. _____

39. What is "air taxi" or "hover taxi"? _____
40. Describe the "least drag attitude" and how does it change? _____

41. What taxi turns would you use to turn downwind to upwind? _____
42. Could you make a one float step turn from downwind to upwind without capsizing? _____
43. When sailing power off, how do you steer? _____
How when tacking (power on)? _____
44. What happens to the water rudders when the seaplane is moving backwards in the water? _____
45. Which has more effect on the speed of taxi over the bottom - wind or current? _____
Why? _____
46. Would you rather dock upwind with no current or up current with no wind? _____
Why? _____
47. Which (wind or current) has the greatest effect on: Speed of approach? _____
Ability to maneuver? _____
48. When slow-taxiing across a boat wake, what angle and what RPM should be used? _____
49. When idle taxiing crosswind is it better to pass to windward or leeward of an obstruction? _____
50. How can you avoid getting spray in the prop when starting a take off? _____

51. When should the water rudders be raised? _____
When should they not be raised? _____
What happens if you forget to raise them? _____
52. When should flaps be applied? _____
When should flaps be decreased? _____
53. When do you "rotate" a seaplane to take off? _____
54. If a seaplane starts to porpoise, which way do you move the stick? _____
55. Rocking (intentionally porpoising) a seaplane is sometimes used for what purpose? _____
56. What action can sometimes be used to help break loose from glassy water on take off? Name three. _____

57. What does the airplane do as it leaves the water? _____
What should you do? _____



Study Questions for Seaplane Students



58. What is the difference between how wind-driven rough waters and swells are handled on take off? _____

59. How are swells created and/or measured? _____
How does their direction of movement relate to the wind? _____
To the current? _____
60. What water condition could force you to take off cross-wind? _____
Downwind? _____
How would you modify your technique to handle a cross-wind take off? _____

61. How would you describe a maximum performance take-off? _____

When would you ever need to do one? _____
62. What do downwind and high altitude take-offs have in common? _____

63. After take off which direction would you turn in relation to: the wind? _____
the sun? _____ the terrain? _____
64. What is the best method to do a 180 turn in a confined space after take off? _____

65. Name as many things as you can that will indicate wind direction? _____

66. When do you lower the water rudders during a landing? _____
_____ What happens if you forgot to retract them? _____
67. When would a power off landing be preferred technique? _____

68. How do you correct for drift in a cross wind? _____
69. What is the best attitude to use for a glassy water landing? _____
A night landing? _____ What sets the limits for pitch attitude? _____
70. What is the best attitude and power to use for a rough water landing on wind-driven chop? _____ Across swells? _____
What is the best way to land in swells? _____
71. Describe a maximum performance landing _____

When would you use this maximum performance technique? _____
72. Since the waves are moving and the water isn't, how do you know if you are drifting in a cross-wind landing? _____
73. If a downstream take off is like a downhill take off, is the same true for landing? _____
_____ When would you not want to land downstream? _____
74. What will tip you off that you have mis-read the wind? _____
75. If you unexpectedly discover that you are landing downwind, how do you cope with it besides a go-around? _____
76. Which is more important – the current or the wind? during landing? _____
_____ after landing? _____



Study Questions for Seaplane Students



77. At what point is the last pitch adjustment made on a glassy water landing? _____
78. How could you do a power off glassy water landing? _____
79. Where must your reference be to be useful in depth perception? _____
80. How do you correct for the effect of a wind gust encountered during landing? _____
81. Under what conditions could full flaps be dangerous when landing a seaplane? _____
82. When anchoring a seaplane how long should the anchor line be? _____
83. How does the wind and current affect a moored seaplane as compared to a boat? _____
84. How do you approach a mooring buoy? _____
- How do you leave a mooring buoy? _____
85. How do you approach a beach? What happens next in each case?
- a. Upwind? _____
- b. Downwind? _____
- c. Crosswind? _____
- What if there is also a current? _____
86. How is a seaplane put on a wood ramp (without wheels)? _____
- How about a concrete ramp? _____
- How is it best left on the ramp? _____
87. What must you do before you push a floatplane off a ramp backwards? _____
88. When approaching a dock in a crosswind the usual method is to shut off the engine and coast in. What are your problems as you do this? _____
89. When docking, which is more difficult to handle, wind or current? _____
90. When should a pilot operate a seaplane from the right seat? _____
91. What engine controls can you use to produce the least power while still running? _____
92. When a land plane is fitted with floats how are its flight characteristics modified? _____
93. What is the greatest risk in flying an amphibian-seaplane? _____
94. Hull type and float type seaplanes are different. What is the key difference in a:
- a. normal landing? _____



Study Questions for Seaplane Students



- b. crosswind landing? _____
c. river landing? _____
95. How would you cope with loosing a wing float on a hull type seaplane? _____

96. What is the best type of dock for a hull type seaplane? _____

97. How do you beach a hull type? _____

98. What is different in the way you ramp an amphibian? _____

99. Multi-engine seaplanes often do not have water rudders. How are they steered?

100. How would you determine ahead of time that you will be able to take off from a higher lake? _____
101. How would you operate to and from a round glassy lake? _____

102. When do you check the off position of the mag switch? _____
103. What important action should you take after landing and before docking? _____

104. When would it be important to pump the floats after shut down? _____

105. What is the minimum number of compartment a float can have and how many of them can be simultaneously flooded? _____
106. What determines the displacement of a float and what is the minimum reserve buoyancy required for certification? _____

107. How can a seaplane base be identified at night? _____

108. Describe how and where you would do a night landing in a floatplane and what lights and equipment you would need? _____

109. Describe how you locate the channel on an inland navigable waterway _____

110. If you flew your floatplane down a navigable waterway to the coast and went scuba diving, would it be safe to fly home the same day? _____
111. Is it safe to wear a Type-I or Type-II personal flotation device when flying in a seaplane? _____
112. Under what conditions is it safe to wear a Type-III or a Type-V PFD? _____

- What is a type-IV PFD and is it OK for seaplanes? _____

113. How could something so complex be so much fun?