

Specific R22B Information

1. Approved Fuel grades & colors.
2. Fuel capacity & usable fuel.
3. Oil capacity.
4. Vne up to 3000'.
5. Vne above 3000'.
6. Airspeed indicator green arc.
7. Airspeed indicator red line.
8. Rotor tachometer upper red line.
9. Rotor tachometer upper yellow arc.
10. Rotor tachometer green arc.
11. Rotor tachometer lower yellow arc.
12. Rotor tachometer lower red line.
13. Maximum engine speed.
14. Cylinder head temp. green arc and red line.
15. Oil temp. green arc and red line.

16. Oil pressure minimum during idle.
17. Oil pressure minimum during flight.
18. Oil pressure maximum during start and warm-up.
19. Oil pressure maximum during flight.
20. Alternator maximum load.
21. Main rotor diameter.
22. Main rotor chord.
23. Main rotor blade twist.
24. Main rotor tip speed at 100% rpm.
25. Tail rotor diameter.
26. Tail rotor chord.
27. Tail rotor precone angle.
28. Tail rotor tip speed at 100% rpm.
29. Drive line to main rotor gear ratio.
30. Drive line to tail rotor gear ratio.
31. Engine sheave to upper sheave gear ratio.

32. Upper sheave to drive line clutch type.
33. Engine model.
34. Engine type.
35. Engine displacement.
36. Normal rating.
37. Rating installed in R22B.
38. Cooling system.
39. Solo flight – which seat.
40. Engine tachometer lower red arc.
41. Engine tachometer green arc.
42. Engine tachometer upper red arc.
43. Manifold pressure yellow arc.
44. Manifold pressure red line.
45. Maximum gross weight.
46. Maximum weight per seat including baggage compartment.
47. Maximum in either baggage compartment.

48. Minimum pilot weight for solo flight.
49. Datum line location.
50. Forward CG limit.
51. Aft CG limit.
52. Left CG limit.
53. Right CG limit.
54. Maximum operating density altitude.
55. Four lights required for VFR night flight.
56. Maximum glide distance airspeed.
57. Best glide ratio.
58. Take off and climb airspeed.
59. V_y speed (max rate of climb).
60. Best range airspeed.
61. Autorotation – best glide airspeed.
62. Autorotation – best landing approach airspeed.
63. Alternator type.

64. Battery type.
65. Required documents on board (for aircraft).
66. Required inspections.
67. R22 gallons per hour fuel burn.
68. Three things that must be operative for flight specifically for R22.
69. Maximum RPM drop at 100% during mag check.
70. Oil pressure minimum at start.
71. Low rotor warning horn sounds at what rotor RPM.
72. Effective translational lift takes place between what airspeeds.
73. Transverse flow effect takes place between what airspeeds.
74. Maximum rotor speed – power on.
75. Minimum rotor speed – power on.
76. Maximum rotor speed – power off.
77. Minimum rotor speed – power off.
78. Location of battery.
79. Number of spark plugs.

80. Oil pressure upper red line.

81. Oil pressure lower red line.

82. What type flight is prohibited.

83. How many warning lights.

84. How many rotor blades on R22B.

AVIA Aviation Services, Inc.
Private Pilot Course
Pre-Pattern Solo EXAM

Student: _____ Date: _____

Instructor: _____ Score: _____

1. In order to conduct a local solo flight, what must a student pilot have in their possession during the flight?
 - A. A logbook entry and weight and balance data
 - B. A student pilot certificate endorsed for solo flight and a current medical
 - ~~C. A student pilot certificate and logbook (both with solo endorsements)~~
2. What is the moment of a 140 lb. Object 20 inches from the datum?
 - A. 70 in./lbs.
 - B. 280 in./lbs.
 - ~~C. 2800 in./lbs.~~
3. An airworthy aircraft is proven by examining...
 - A. the airworthiness certificate, registration, POH and weight and balance
 - ~~B. the required documents, required inspections and completion of a preflight~~
 - C. date of effectiveness on the airworthiness certificate
4. On a cool moist day, during a normal approach to land, what should an R22 pilot do prior to reducing the MP below 18 inches?
 - A. Ensure that the carburetor heat is off
 - B. Apply enough carburetor heat to keep the needle out of the yellow arc
 - ~~C. Apply full carburetor heat and ignore the gauge~~
5. What is the maximum seat weight for the R22, including baggage compartment?
 - ~~A. 240 lbs. maximum and 50 lbs.~~
 - B. 240 lbs. maximum and 130 lbs.
 - C. 1370 lbs. maximum and 130 lbs.
6. The difference in wind velocity over the advancing blade and the retreating blade causes...
 - ~~A. dissymmetry of lift~~
 - B. transverse flow effect
 - C. effective translational lift
7. A high-density altitude will...
 - A. improve helicopter performance
 - ~~B. adversely effect helicopter performance~~
 - C. have no effect on helicopter performance
8. Operations within the shaded areas of the height-velocity diagram...
 - ~~A. are strictly prohibited~~
 - B. adversely effect helicopter performance
 - C. have no effect on helicopter performance
9. During startup, if the R22 oil pressure gauge indicates 110 psi, the pilot should...
 - A. immediately begin the shutdown process
 - ~~B. continue with the startup procedures~~
 - C. pull the mixture to the off position

10. Which of the following would be considered careless and reckless operation?
 - A. Flying at 700' AGL
 - ~~B. Damage of property caused by rotor downwash~~
 - C. Practice autorotation
11. When the rotor RPM becomes too high during an autorotation, the pilot should...
 - A. apply aft cyclic
 - B. decrease collective pitch
 - ~~C. increase collective pitch~~
12. In forward flight, when the collective pitch control is increased without governor control, the pilot should...
 - A. decrease the throttle and add left pedal
 - ~~B. increase the throttle and add left pedal~~
 - C. decrease the throttle and add right pedal
13. What is the first thing the pilot should do if the engine quits at altitude?
 - A. Increase airspeed
 - B. Attempt to restart the engine
 - ~~C. Fully decrease the collective pitch~~
14. To enter class D airspace, which of the following is true?
 - A. A clearance must be given before entry
 - ~~B. Two way radio contact must be established~~
 - C. A clearance to the helipad must be ensured
15. At Albany (S12), located 15 miles NE of Corvallis, at what altitude does class E airspace start at...
 - A. The surface
 - ~~B. 700' AGL~~
 - C. 700' MSL
16. VFR minimums for visibility and distance from clouds at Corvallis airports Class G airspace are...
 - A. 5 miles visibility, 1000' above and below, 1 mile horizontal
 - B. 3 miles visibility, 500' below, 1000' above, and 2000' horizontal
 - ~~C. Speed to avoid obstacles, clear of clouds~~
17. Preflight of the sprague clutch should ensure...
 - A. proper groove wear
 - ~~B. that the unit is not leaking~~
 - C. that the clutch engagement light is operable
18. The helicopter's autorotative capability is provided by the...
 - A. pitch change links
 - ~~B. freewheeling unit~~
 - C. swash plate
19. During a hovering autorotation, the helicopter tends to drift to the left due to a loss of...
 - A. dissymmetry of lift
 - B. translational lift
 - ~~C. translating tendency~~
20. Forward airspeed in the helicopter is limited by...
 - ~~A. retreating blade stall resulting from dissymmetry of lift~~
 - B. dissymmetry of lift resulting from retreating blade stall
 - C. transverse flow effect