

Operation of Systems

1. What is magnetic variation?
2. How is magnetic variation indicated on sectional charts?
3. What is deviation?
4. When is the heading indicated on a compass most reliable?
5. What is magnetic dip?
6. What type of electrical power is used in gliders?
7. What color is associated with the negative lead?
8. Do lead acid batteries outgas?
9. Do gell cell batteries outgas?
10. How and where should a battery be installed in a glider?
11. How can gear up landings be avoided?
12. What is an inclinometer?
13. During a right-banked turn, the inclinometer ball moves to the right of the centerline. Which rudder pedal should be use to properly coordinate the turn?
14. What type of turn is indicated in the example above?
15. During a right-banked turn, the tail of the yaw string moves to the right of the glider centerline. Which rudder pedal should be use to properly coordinate the turn?
16. What type of turn is indicated in the example above?
17. What hazard is associated with skidding turns?

18. When using a crab to correct for crosswind during landing, where should the tail of the yaw string be?
19. What flight control rotates the glider around its vertical axis?
20. What flight control rotates the glider around its longitudinal axis?
21. What flight control rotates the glider around its lateral axis?
22. What effect do flaps have on stall speed (assuming a constant load factor)?
23. What hazards are associated with raising the flaps near the ground?
24. When is sometimes efficient to use negative flap settings?
25. What is the primary function of divebrakes / spoilers?
26. When spoilers are deployed what happens to the sink rate?
27. What hazards are associated with increased spoiler deflection near the ground?
28. What two sources is the airspeed indicator connected to?
29. What does the airspeed indicator measure?
30. What results can blocked pitot and or the static in ports have on the instruments in a glider?
31. When does indicated airspeed equal true airspeed?
32. When flying at high altitudes, is true airspeed higher or lower than indicated airspeed?
33. What information is needed to convert indicated airspeed to true airspeed?
34. On the airspeed indicator, what color arc depicts the normal operating range of the glider?
35. What color indicates the maximum speed for the glider on the airspeed indicator?
36. What is associated with the bottom end of the green arc on the airspeed indicator?

37. What speed is associated with the bottom of the yellow arc on the airspeed indicator?
38. When is it advisable to fly faster than redline?
39. What does the altimeter measure?
40. What is the sensing unit inside the altimeter called?
41. How does an aneroid altimeter work?
42. What source is the altimeter connected to?
43. Should the altimeter be used as the primary source of landing information on cross-country flights?
44. How will changing weather condition affect the altimeter?
45. How can you get the current altimeter setting when on long cross-country flights?
46. Why should the altimeter setting be checked before each flight?
47. What does a variometer measure?
48. What is a capacity flask?
49. What is an audio variometer and what are the advantages of using one?
50. What is the purpose of the total energy probe?
51. Why is a total energy probe useful during cross-country flights?
52. Are gyro instruments required to fly in clouds?
53. What hazards exist with flight into clouds?
54. What is a turn coordinator?
55. What is an attitude indicator?

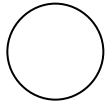
56. What is a barograph?
57. When is a barograph used in soaring?
58. What are the three main components of an oxygen system?
59. What are the three types of oxygen systems and their useful limits?
60. What is the checklist used to preflight oxygen systems?
61. What type of oxygen can be used in a glider?
62. What is the frequency range reserved for VHF civil aircraft communications?
63. What is the frequency range reserved for VHF civil aircraft navigation?
64. What is the range of VHF aircraft radio communications?
65. Do lightning strikes interfere with VHF aircraft radio communications?
66. What does GPS stand for?
67. What does NDB stand for?
68. What does OBS stand for?
69. What type of radio is used with an NDB?
70. Which type of electronic navigation system – NDB, GPS or VOR - uses TO-FROM flags?
71. Which type of electronic navigation system – NDB, GPS or VOR – relies on satellite signals?
72. Which type of electronic navigation system – NDB, GPS or VOR uses low frequency radio beacons, including AM broadcast stations?

73. Plumb the instruments to the sources below:

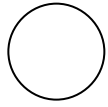
Pitot

static

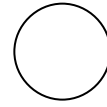
Total Energy Probe



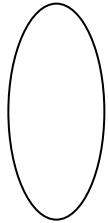
Airspeed Indicator



Altimeter



Variometer



Capacity Flask