

Open Book Test

Airspeed Limitations		MPH
V_{S0}		
V_{S1}		
V_{MC}		
V_R		
V_X		
V_{SSE}		
V_Y		
V_{XSE}		
V_{YSE}		
V_{FE}		
V_{FE}		
V_{FE}		
V_A		
$V_{LO/LE}$		
V_{NO}		
V_{NE}		

Engine

1. What type of engine is equipped?
2. How many cylinders and horsepower?
3. What type of induction system does the airplane have?
4. What happens if the air filter becomes blocked from impact icing?
5. How is ignition provided?
6. Will the engines continue to run if electrical power is lost? Why?
7. What type of oil system does the engine have?
8. What is the maximum oil capacity?

Propeller

9. How is oil pressure used in manipulating the prop pitch?
10. Which unit regulates oil pressure to the propeller?

11. What is the purpose of the nitrogen pressure in the prop dome?

12. Define constant speed.

13. Define feathering.

Electrical

14. What type of electrical system (voltage) and what type of battery does the plane have?

15. Are the alternators belt driven or gear driven?

16. Describe the system that regulates voltage.

17. What is important about resetting popped circuit breakers.

Pneumatic

18. Which gyroscopic instruments are pneumatically?

19. How many vacuum pumps does the plane have?

20. What should occur if there is a vacuum pump failure?

Pitot Static

21. Which instruments are pitot static?

22. How many pitot tube(s) does the plane have and where are they located?

23. How many static sources does the plane have and where are they located?

24. Describe the stall warning system.

Environmental

25. Where is the heater located?

26. What is important about the heater position switch before landing?

27. Where does the heater get fuel from?

28. What happens in the event of an over-temperature situation?

Fuel

29. How many fuel tanks and fuel drains does the plane have?

30. What is the fuel capacity for each tank?

31. What grade fuel is to be used?

32. How many fuel pumps are on the aircraft?

33. When do you use the auxiliary pumps?

34. What are the various positions on the fuel selector control?

35. Can you transfer fuel from one tank to the other?

36. How many fuel drains does the plane have?

37. How an engine with an inoperative engine-driven pump get fuel supplied by the opposite engine's engine-drive or electric pump?

38. Describe the crossfeed procedure (reference the checklist) and what is occurring with the fuel system during each step.

Hydraulic

39. Describe the primary hydraulic system.

40. Describe how the hydraulic control unit works with respect to extending or retracting landing gear or flaps.

41. How many hydraulic pumps are there and where are they located?

42. How is the landing gear extended and retracted normally?

43. What keeps the gear in the up and down position?

44. What indicates to the pilot that the gear is up and a potential gear up landing situation exists?

45. What prevents the gear from being retracted on the ground?

46. What is an indication in the cockpit that indicates the hydraulic pump is operative after starting engines?

47. How can the landing gear be extended in the event of a hydraulic pump failure?

48. What type of flaps are equipped, how are they operated and what is the maximum deflection?

49. Does the brake system have anti-skid?

Limits

50. What is the basic empty weight and useful load?

51. What is the maximum taxi, takeoff, and landing weights?

52. What maneuvers are prohibited?

Aerodynamics

53. Define V_{MC} .

54. What are the factors in determining V_{MC} ?

55. Define critical engine and list the factors used to determine it.

56. What causes an aircraft to sideslip with the loss of an engine, and what action is required to correct this?

57. How much climb performance is lost when an engine fails?

58. Define accelerate-stop and accelerate-go distance?

59. Define all engine and single-engine service ceiling.

Miscellaneous

60. Describe the Instrument Approach Procedure.

3 NM

2 NM

1 NM / 1 dot above on glideslope

61. Describe the Landing Checklist

G

U

M

P

F

S

GPS

62. What is the difference in accuracy between ground-based systems (VOR), Non-WAAS, and WAAS?

63. What is the Required Navigation Performance for certified GPS during Departure/Terminal, Enroute, and Approach phases?

64. Define WAAS

65. What types of approaches are available with WAAS GPS receivers versus non-WAAS GPS?

Pegasus Aviation Service Multi Engine Program
Closed Book Test

Airspeed Limitations		KIAS
V _R	Rotation Speed	
V _{YSE}	Best Rate of Climb – Single Engine	
V _{MC}	Minimum Control Airspeed – Single Engine	
V _{LE} / V _{LO}	Max Gear Extended / Operating Speed	
V _{FE}	Maximum Flaps Extended Speed (1/4)	
V _{FE}	Maximum Flaps Extended Speed (1/2)	
V _{FE}	Maximum Flaps Extended Speed (Full)	

1. State the Immediate Action Items for Engine Failure

- *1.
- *2.
- *3.
- *4.
- *5.
- *6.
- *7.