



172SP Type Exam



NAME: _____

En route climb, flaps up	
Normal, sea level	_____ KIAS
Normal, 10 000 ft	_____ KIAS
Best rate of climb, sea level	_____ KIAS
Best rate of climb, 10 000 ft	_____ KIAS
Best angle of climb, sea level	_____ KIAS
Best angle of climb, 10 000 ft	_____ KIAS
Landing approach	
Normal, flaps up	_____ KIAS
Normal, flaps 30°	_____ KIAS
Short field, flaps 30°	_____ KIAS
Balked landing	
Maximum power, flaps 20°	_____ KIAS
Maneuvering speed and maximum recommended turbulent air penetration speed	
2550 lbs	_____ KIAS
2200 lbs	_____ KIAS
1900 lbs	_____ KIAS
Maximum glide speed	
Flaps up	_____ KIAS
Flaps down	_____ KIAS
V_{SO}	_____ KIAS
V_S	_____ KIAS
$V_{FE, 10}$	_____ KIAS
$V_{FE, 30}$	_____ KIAS
V_{NO}	_____ KIAS
V_{NE}	_____ KIAS
Maximum window open speed	_____ KIAS
Maximum demonstrated crosswind velocity	_____ KTS

Power plant limitations

Maximum RPM	_____	RPM
Maximum oil pressure	_____	PSI
Minimum oil pressure	_____	PSI
Maximum oil temperature	_____	°F
Oil quantity		
Maximum	_____	QTS
Minimum	_____	QTS
Normal	_____	QTS
Extended flight	_____	QTS

NORMAL PROCEDURES

Preflight

1. What items on the instrument panel are tested during the preflight inspection? How are they tested?
2. What should the position of the fuel shutoff be during the preflight?
3. How is the PITOT HEAT tested prior to IFR flight?
4. How many fuel drains are there for each wing tank?
5. Which points in the fuel system can be checked for contamination using the fuel drains under the nose?

Flight

1. What is the NORMAL START Procedure?
 - a. with BATTERY

- b. With EXTERNAL POWER
2. What is the HOT START procedure?
 3. What is the time within which the OIL PRESSURE should show in the Summer and Winter?
 4. What are the indications of overpriming or flooding?
 5. What is the procedure to follow if the engine is flooded?
 6. What is the procedure to follow if the engine is underprimed?
 7. What are the recommended time limits for using the STARTER?
 8. What can you do to make starting easier in cold weather? What precautions must you take prior to doing this?

9. If outside air temperatures are very cold, no oil temperature indication will be apparent on the temperature guage. What is required to ascertain that the engine is ready for take-off?
10. What is the procedure for a magneto check?
- a. What could be the problem if no RPM drop is evident?
 - b. What should your next action be if you have an unsatisfactory magneto check?
11. What problem might occur after long periods of idling?
12. What is the procedure for an alternator check?
13. What should be done prior to take-off from fields above 3000ft Density Altitude/Elevation to ensure maximum power for take-ff?

- a. What is the maximum static RPM range?
14. What is the MAXIMUM FLAP approved take-off?
- a. If flaps are used for take-off, when should they be retracted?
- b. What is the OBSTACLE clearance speed with FLAP 10?
- c. What should be done when departing a soft field with an AFT CG to give more comfortable control forces after lift-off?
15. What is the RECOMMENDED LEAN MIXTURE setting using the EGT?
- a. What must you do with the EGT if you change throttle setting?
16. What is the MAXIMUM RECOMMENDED CRUISE POWER setting?
17. What should be avoided with FLAP 20 or more on landing approach?
18. What is the recommended SHORT FIELD approach technique?
19. Are crosswind landings with Flap 30 permitted?

- a. What may be experienced when landing with FLAP 30 in a crosswind?
20. What is the procedure for an OVERSHOOT/BALKED LANDING?
21. When closing the DOORS, what precaution must be observed?
22. What are the three positions of the door handle?
23. What is the recommended door closing procedure in flight?
24. What are the indications of LOW OIL PRESSURE (below 20 PSI)?
25. Other than to the engine, where is the OIL routed to if it is COLD?
- a. If it is HOT?
26. Where is the CARB. HEAT control in this aircraft?

27. What happens if the AIR INDUCTION FILTER gets blocked?
28. Will this change ENGINE POWER?
29. What is the fuel capacity (USEABLE/TOTAL)?
30. What are the indications if the fuel level in either tank drops below 5 gallons for more than 60 seconds?
31. Under what other conditions will there be a LOW FUEL indication on the panel?
32. How much fuel is in the tank when it is filled to the bottom of the fuel filter tab?
33. What are the restrictions when operating on one fuel tank?
34. What are the indications of impending brake failure?

35. What should you do if one brake fails?
36. What VOLTAGE is the ELECTRICAL SYSTEM and BATTERY?
- a. What is the capacity of the ALTERNATOR?
 - b. How many AMP/HOURS is in the BATTERY?
 - c. How long will a fully charged BATTERY maintain EMERGENCY LOAD following an ALTERNATOR Failure?
37. What will be the indications on the annunciator panel when the MASTER is turned on?
38. When will the LOW VOLTAGE ANNUNCIATION illuminate?"
39. What must be done BEFORE connecting an EXTERNAL POWER source to the GROUND SERVICE PLUG RECEPTACLE?
40. When will the LOW VACUUM ANNUNCIATION illuminate?

41. When should the AVIONICS MASTER be in the OFF position?

42. How can the ELT be activated from the pilot seat?

43. How do you configure the controls for maximum cabin heat?

44. What is the source for ALTERNATE STATIC pressure?

45. What should your actions be in the event of an ENGINE FIRE during start?

46. What is the ENGINE RESTART procedure following a failure in flight?

47. What should your actions be in the event of an ENGINE FIRE in flight?

48. What should your actions be in the event of an ELECTRICAL FIRE in flight?

49. What is the TIME, FUEL AND DISTANCE to climb from CZBB to an altitude of 8000ft when temperature at the airport is +25C and temperature at 8000ft is +9 C?

- a. What is the CRUISE RPM, TAS and FUEL FLOW for 65% POWER at 8000ft when OAT is ISA +10 C?

- b. What is the take-off Ground Roll and Distance using SHORT FIELD technique under the following conditions?
 - i. SEA LEVEL – Standard Day
 - ii. 4000ft Pressure Altitude at +30 C

- c. What is the landing Ground Roll and Distance using SHORT FIELD technique under the conditions given in (i.) and (ii.) above?

50. What is the STILL AIR RANGE at 8000ft using 70% power?

AVIONICS

1. How is the Squelch controlled on the KX155A NAV/COMM?

2. How do you know if you are transmitting or receiving on a particular NAV/COMM?

3. What will happen if you have a stuck mike?

4. If the frequency readout fails, what frequency will remain active?

5. What will the SQUAWK CODE change to if the VFR button is depressed on the transponder?

6. How can the PILOT configure the INTERCOM so that he and the COPILOT can communicate with each other and ATC without being distracted by the passengers in the rear seats?

7. What are the MODES of operation for the KAP 140 AUTOPILOT?

8. What are the labels of the TWO AUTOPILOT CIRCUIT BREAKERS?

9. What does the ROLL SERVO ANNUNCIATOR indicate?

10. What mode is the AUTOPILOT in as soon as it is engaged?

16. What are the IMMEDIATE ACTIONS to be accomplished from memory in case of an AUTOPILOT malfunctions?

17. What are the three WARNING NOTES regarding AUTOPILOT operation?

18. What is the ALTERNATE METHOD of disengaging the AUTOPILOT following a malfunction?

19. How will the autopilot respond if ALT is pressed while the aircraft has an established vertical speed?

20. How will the autopilot respond to a momentary push on the UP and DOWN command buttons? What if they were held down continuously?

21. How can the barometric pressure be set in the autopilot?

22. Describe the procedure for setting the altitude alerter to 5000'.

23. What has to be done for the autopilot to track both the localizer and the glideslope?