



KNOWLEDGE QUIZ

This quiz will help test your knowledge of the POH and the systems and equipment in CR-182 N133BW. In preparation for your checkout flight, answer all of the following questions as thoroughly as possible using the airplane's POH and the aircraft flight manual supplements.

1. What year was this airplane manufactured?
2. What type and size (hp) engine does the airplane have?
3. Provide the following information found in the POH regarding fuel and oil:
Total Fuel Capacity: _____ Gals, Usable Fuel: _____ Gals.,
4. Grade of Fuel: _____, Color of Fuel: _____
5. Oil Capacity: _____ Qts., Minimum Oil: _____ Qts,
6. Type & Weight of Oil: _____
7. Tire pressure: Mains _____ Nose _____
8. What is the aircraft's service ceiling? _____
9. What is the take off roll per the performance specifications? _____
10. What is the landing ground roll over a 50' obstacle? _____
11. Give the definition and the corresponding airspeed for the following V speeds :

V speed	Definition	KIAS
Vne	<i>Never Exceed Speed</i>	182
Vno		
Va		
Vfe		10° 10°-40°
Vlo		
Vx		
Vy		



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12. What is the maximum speed to extend the flaps 20 degrees? _____ *KIAS*
13. What is the maximum speed to extend the flaps 40 degrees? _____ *KIAS*
14. Can the airplane be slipped with flaps down?
15. What is the Best Glide Speed at max weight: _____ *KIAS*
16. What is the best flap setting for a crosswind landing?
17. What is the maximum Take Off weight? _____ *lbs.*
18. What is the maximum useful load per the weight and balance amended in September 2008? _____
_____ *lbs*
19. What is the maximum weight allowed in Baggage Area A? _____ *lbs*
20. What is the maximum weight allowed in Baggage Area B? _____ *lbs*
21. You weigh 200 lbs, your co-pilot weighs 225, and your dates weigh 120 lbs each (240 total for the back seat). You have a total of 100 lbs of baggage. How much fuel can you put in the airplane for departure from MYF on a standard day? _____ *gals*
22. Place an X under the power source(s) to identify the power source for the instrument listed:

Instrument	Aircraft Electrical	Vacuum Pump	Internal Battery
Aspen Attitude Indicator	_____	_____	_____
Aspen HSI	_____	_____	_____
Aspen Turn Coordinator	_____	_____	_____
Backup Turn Coordinator	_____	_____	_____
Back up Attitude Indicator	_____	_____	_____

23. What is the normal system voltage? _____ *volts*
24. How do you test the gear warning horn?
25. You get in the plane and cannot see the green gear down light. Before squawking the light as “inop” what should you try?
26. What is the purpose of the alternate static air valve and where is it located?
27. What are the fuel selector positions?



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28. What happens if the airplane is parked on an unlevel surface and the fuel selector is not in the right or left position?
29. Does this airplane have a fire extinguisher and, if so, where is it located?
30. When should the auxiliary fuel pump be used?
31. How many fuel drains are there, and where are they located?
32. How would an alternator malfunction be indicated?
33. What is the corrective action for alternator failure?
34. Is there a danger of losing engine power if the alternator fails?
35. What instruments will be affected by an alternator failure?
36. How would you know if the vacuum system failed?
37. What instruments will be affected by a vacuum failure?
38. How long will the internal battery in the Aspen last in the event of a complete electrical failure?
39. When should the mixture be leaned?
40. What is the procedure for leaning the mixture for Best Economy?
41. What is the procedure for leaning the mixture for Best Power?
42. When should the mixture be enriched for descent and landing?
43. In flight, the engine is becoming increasingly rough and you are seeing a drop in manifold pressure. What do you suspect is the cause?



44. How do you select and sync the Aspen heading indicator to your present heading?
45. You are northbound over Mt Soledad navigating “Direct To” OCN using the GNS530W. You have 115.3 selected in the GNS530 Nav 1 frequency. Your HSI CDI (course indicator) is pointing to a heading of 326. How do you know if the Aspen is using the Nav 1 frequency or the GPS as the primary navigational source? How do you change it?
46. How do you remove the map and navigational points from the Aspen HSI display?
47. How do you dim the Aspen display for night flying?
48. Is the aircraft legal to fly if the Aspen is inoperative?
49. Name three sources for determining your present heading while enroute:
50. How do you find the nearest airport using the GPS?
51. How do you determine if GNS530W is in VLOC mode or GPS mode?
52. What’s the quickest way to set the GNS530W back to the NAV 1 screen?
53. How do you set an extended center line to a runway using the Direct to function on the GNS530W.
54. Do you need to switch the Garmin 330 transponder from “standby” to “ALT” upon takeoff?
55. Describe the clock functions of the Garmin 330.
56. How do you turn on and off the audible traffic warning from the Garmin 530? (sort of a trick question because this is a not in the POH or supplements. Make a note to ask your CFI.)



- 57. When will traffic set off the Garmin 330 traffic alert when it is in “NORM” mode?
- 58. What traffic will not show up on the traffic warning system?
- 59. Where is the first place you should look after a traffic alert – inside at the screen or outside for the traffic?
- 60. Does the autopilot hold heading, altitude, or both in this aircraft?
- 61. How do you set VS (vertical speed)?
- 62. Describe two situations where the autopilot can induce a stall:
- 63. How do you disengage the autopilot?

Performance:

- 64. List the airspeeds and power settings for the following operations:

Throttle/RPM		
Normal Takeoff	_____” / _____	<i>RPM</i>
Normal Climb	_____” / _____	<i>RPM</i>
Normal Cruise	_____” / _____	<i>RPM</i>
Normal Landing (full flaps)	_____” / _____	<i>RPM</i>
Short Field Landing	_____” / _____	<i>RPM</i>
Balked Landing/Go Around	_____” / _____	<i>RPM</i>

- 65. For this airplane, what’s the maximum continuous power setting:
_____ RPM (*no more than* _____ *% power*)



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66. Determine the following information regarding the aircraft takeoff and climb limitations for the following conditions. (note the effects of high density altitude on takeoff and climb performance.) Reference pages 5-12 and 5-27 in the POH

Field elevation = 5900 Ft. Altimeter= 29.92
Temperature = 68 deg. F (_____ deg. C). Tail wind is 2 kts.
Aircraft weight = maximum takeoff weight (_____ lbs.)

What is the airport pressure altitude = _____ ft.
What is the density altitude of the airport: _____ ft.

What is the minimum runway length needed for:

Takeoff? _____ ft Landing? _____ ft

What is the minimum horizontal distance needed to clear a 50 ft. obstacle:

Takeoff? _____ ft. Landing? _____ ft

67. Are you likely to get book performance from a 40 year old airplane if you are not a test pilot?
68. How do you provide a safety margin when calculating performance?
69. What is the range at 75% power (2400 RPM and full throttle) at 8,000 feet, standard temperature, no wind, with 75 gals useable fuel?
70. Describe a normal engine start:
71. Describe the procedure for starting the engine if you think it is flooded:
72. How do you set the Shadin fuel flow meter to full tanks?
73. What information will the Shadin fuel flow meter tell you when you are in flight?



Advanced Autopilot users:

1. Describe a procedure for changing altitudes with the autopilot on:
2. Describe the procedure for using the S-Tec 55X altitude pre-select for climbing to and leveling off at 10,500' using the auto pilot.
3. How do you set the autopilot to follow a GPS flight plan so it makes course turns?
4. When flying an ILS in autopilot, how do you control airspeed?
5. You are at the OCN VOR flying the VOR A approach which you have loaded into the GNS530W. Will the S-Tec fly turns in the hold automatically?
6. You are inbound to the VOR from the hold on the VOR A approach at OCN. How do you tell the system not to fly another turn ion the hold and to fly the approach?
7. On a missed approach, when flying over the MAP, how do you fly to the next waypoint using the autopilot and GNS530W?