

# C172 REDHAWK EXAM • KADENA AERO CLUB

References: *C172 - P Supplemental & Original POH and SOP • MAR '21*

*(Use Section 5b Performance charts within the Supplemental POH for Questions 17—21)*

1. How long (approximately) will the engine operate if the alternator and main battery fail?
  - a. 60 minutes
  - b. 30 minutes
  - c. 10 minutes
2. What fuel type do we use in the Redhawk, and what color is it?
  - a. MOGAS, red
  - b. AVGAS, blue
  - c. JET-A, clear
3. You are going to fly N64686 (C172 - P) and the last entry in the Blue Book shows “max” fuel. How much usable fuel is in the aircraft?
  - a. 20 gal
  - b. 33.6 gal
  - c. 44.6 gal
4. The magnetos must be in the “BOTH” position for engine start.
  - a. True
  - b. False; we don’t have magnetos! The engine master must be in the “ON” position for engine start.
  - c. False; they must be “OFF” for engine start.
5. If you turn off Engine Master in-flight, what will happen?
  - a. The avionics and lights will turn off, but engine will continue to run
  - b. FADEC A will shut down and switch to FADEC B
  - c. Engine will shut down
6. One FADEC light is flashing. What is the first thing you should do?
  - a. Recycle Engine Master switch (off, then back on)
  - b. Press FADEC test knob (minimum 2 seconds)
  - c. The light must be broken - continue flying
7. When should the “Force B” switch be turned on?
  - a. If the engine acts abnormally during flight and the system does not automatically switch to FADEC B
  - b. When operating on the FADEC backup battery only
  - c. Anytime you feel like using FADEC B
8. What source of power does the Redhawk engine need to operate? If the alternator fails, how long will the engine run?
  - a. Magnetos - the engine will run as long as it has fuel
  - b. Electrical power - approx. 120 minutes, depending on condition of main battery
  - c. Electrical power - approx. 180 minutes, depending on condition of main battery
9. You press and hold the FADEC test button to run the “FADEC and prop function check.” What happens?
  - a. FADEC lights shouldn’t turn on
  - b. Both FADEC lights will illuminate
  - c. FADEC lights will flash

10. The “FADEC and prop function check” must be performed without any failure. If the engine shuts down or the FADEC lights flash during the test...
- Continue with the other checklist items - this is normal
  - This is considered a failure during the test. But if the aircraft continues to run smoothly afterwards, you can still takeoff.
  - Takeoff is prohibited
11. You are flying over Miyagi island in White Beach Practice Area. The CT (Coolant Temperature) is too high. What do you do?
- Increase airspeed and reduce power as quickly as possible
  - Decrease airspeed and increase power
  - Shut down engine and execute emergency landing over Miyagi immediately
12. The “WATER LEVEL” light illuminates in-flight. What should you do?
- Increase airspeed and reduce power as quickly as possible
  - Decrease airspeed and increase power
  - No procedure required—faulty light indication if engine ops normal
13. What should be done if the GT (GEARBOX TEMPERATURE) is too high?
- Reduce power 55–75% immediately and terminate flight ASAP
  - Use cruise power (~70%) and continue flight
  - Expect complete engine failure and execute FORCED LANDING checklist
14. What is the wingspan of our aircraft?
- 55' - 0"
  - 36' - 0"
  - 26' - 11"
15. You are going on an overnight trip up to Amami with a friend, and a few bags. What is the maximum allowable weight you can load in the baggage compartment (no. 1)?
- 50 lbs
  - 120 lbs
  - Depends on what your CG will allow; as long as you are under maximum takeoff weight, you're good to go!
16. In regards to the same Amami trip, what is the maximum takeoff weight for the normal category (C172–P model)?
- 2600 lbs
  - 2050 lbs
  - 2400 lbs
17. You are planning a trip to Kumejima, and am wondering what your available payload with *full fuel* will be for N55246. Select the best answer below:
- 521 lbs
  - 750 lbs
  - 1600 lbs
18. Select the ground roll takeoff distance below based on the following parameters:  
*Temperature: 20 °C • Max Gross Weight (C172–P) • Zero Wind*
- 261 ft
  - 485 ft
  - 856 ft

19. On your trip to Yoron airport, you will be cruising in N64686 at 4,000 ft at 2300 lbs (C172—P, standard tanks). What is your available fuel endurance?

- a. 4.9 hours
- b. 5.6 hours
- c. 8.6 hours

20. From the previous question, what is your planned fuel flow (same parameters)?

- a. 6.7 gal/h
- b. 4.9 gal/h
- c. 3.4 gal/h

21. You are on your way back from Yoron, and you will be full-stopping at Kadena. Select the ground roll landing distance below, based on the following parameters:

*Temperature: 20°C • No winds • No flaps*

- a. 282 ft
- b. 550 ft
- c. 743 ft

Contact an instructor to continue with the Redhawk closed book section on a separate answer sheet.