

SCOTT AERO CLUB/FLIGHT TRAINING CENTER
CESSNA 152 WRITTEN EXAM
Revised 1 June 2010

Part I. Multiple Choice. Select the letter of the answer that best answers the question.

1. The Cessna 152 is equipped with a normally aspirated, direct drive, air cooled, horizontally opposed, carbureted, four cylinder engine. What is the horsepower rating?
 - a. 160 BHP at 2550 RPM.
 - b. 100 BHP at 2550 RPM.
 - c. 125 BHP at 2550 RPM.
 - d. 110 BHP at 2550 RPM.

2. C-152s can be built with different fuel capacities. The Scott Aero Club C-152s have which of the following fuel capacities?
 - a. 25.5 gallons, of which all is usable.
 - b. 28.0 gallons, of which 25.5 gallons is usable.
 - c. 26.0 gallons, of which 24.5 gallons is usable.
 - d. 36.0 gallons, of which 34.5 gallons is usable.

3. In order to assure maximum fuel capacity, during refueling:
 - a. Turn the fuel shutoff valve to **on**
 - b. Turn the fuel shutoff valve to **off**
 - c. Turn the fuel shutoff valve to **both**.
 - d. Retop the tanks after filling both tanks.

4. For proper fuel flow, what should you check during the preflight to ensure no vent blockage exists?
 - a. Fuel tank vent under the left wing and right fuel filler cap.
 - b. Fuel tank vent under the left wing.
 - c. Fuel strainer under both wings.
 - d. Both b and c.

5. The maximum certified weight for the C-152s are:
 - a. Ramp 1675; takeoff 1670; landing 1670.
 - b. Ramp 1680; takeoff 1670; landing 1670.
 - c. Ramp 1680; takeoff 1675; landing 1675.
 - d. Ramp 1675; takeoff 1675; landing 1670.

6. The maximum weight allowed in the baggage areas is:
 - a. Baggage area one: 40 pounds.
 - b. Baggage area two: 100 pounds.
 - c. Total baggage area (one and two): 100 pounds.
 - d. Total baggage area (one and two): 120 pounds.

7. The Static RPM is the engine speed attained during a full engine throttle engine run-up when the airplane is stationary' on the ground. The static RPM range at full throttle is:
 - a. 2450--2550.
 - b. 2450--2550 (mixture lean).
 - c. 2280--2380 (mixture lean, carburetor heat off).
 - d. 2450--2550 (mixture lean, carburetor heat off).

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8. The tachometer redline is 2550 RPM. Based on altitude, which combinations will allow the C-152 to operate within the 75% power limit of the normal operating range?
- Sea level 1900--2350; 4000 MSL 1900--2450; 8000 MSL 1900--2550.
 - Sea level 1900--2550; 4000 MSL 1900--2450; 8000 MSL 1900--2350.
 - Sea level 1900--2350; 4000 MSL 1900--2400; 8000 MSL 1900--2450.
 - Normal operating range cannot be determined without knowing the outside air temperature.
9. Which of the following lists the proper takeoff and climb procedures?
- Normal: Flaps at 0; rotate at 50 KIAS; and climb at 65-75 KIAS.
 - Short Field: Flaps at 10; rotate at 50 KIAS; climb at 54 KIAS.
 - Soft Field: Flaps at 10; rotate ASAP; climb as required.
 - Normal, short field and soft field procedures are correct.
10. After starting the engine, oil pressure:
- Should begin to register within 90 seconds in the summer.
 - Must register within 30 seconds in the summer and 60 seconds in the winter.
 - Will register immediately.
 - Will begin to register within 30 seconds in the winter.
11. The maximum demonstrated crosswind velocity for the C-152 is:
- 12 knots.
 - 14 knots.
 - 15 knots.
 - 17 knots.
12. According to the C-152 Owners Manual when should you lean the fuel mixture?
- During climb above 3000 MSL, and in cruise power setting below 75%.
 - On takeoff and once established in cruise for cross country flights.
 - During the runup if there is a large magneto drop, inflight if the engine temperature is high or inflight if the engine begins to run rough.
 - When taking off from high altitude airports, flying in mountainous terrain, or flying at high altitudes.
13. Which of the following approach and landing speed combinations is correct?
- Normal: flaps 30; airspeed 55-65 KIAS.
 - Short Field: flaps 30; airspeed 54 KIAS.
 - Soft Field: flaps 30; airspeed 55 KIAS.
 - Normal, short field and soft field techniques are all correct.

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14. Which set of procedures are the proper procedures for a balked landing (go around)?

- | | |
|--|--|
| <p>a. Throttle full
 Carburetor heat off
 Flaps 20
 Speed 55 KIAS
 Flaps Retract slowly</p> | <p>b. Carburetor heat off
 Throttle full
 Flaps 10
 Speed 55 KIAS
 Flaps Retract slowly</p> |
| <p>c. Throttle full
 Carburetor heat off
 Speed 55 KIAS
 Flaps 10
 Flaps Retract slowly</p> | <p>d. Throttle full
 Flaps 20
 Carburetor heat off
 Speed 55 KIAS
 Flaps Retract slowly</p> |

15. What are the stall speeds for a C-152 under the following conditions:

Forward center of gravity'
 Flaps up
 0 degrees and 60 degrees of bank

- a. 36 KIAS and 51 KIAS.
- b. 40 KIAS and 57 KIAS.
- c. 35 KIAS and 49 KIAS.
- d. 48 KIAS and 68 KIAS.

16. Given the following data, is the C-152 aircraft within legal weight and moment limits?

Item	Weight in lbs	Moment
Basic Empty Weight	1136	34.0
Usable Fuel	120	
Pilot	190	
Passenger	125	
Baggage Area I	145	
Baggage Area 2	15	

- a. Weight within limits; moment within limits.
- b. Weight within limits; moment outside of limits.
- c. Weight outside limits; moment within limits
- d. Weight outside limits; moment outside limits

17. What is the approximate takeoff distance over a 50-ft obstacle given the following:

Aircraft weight	1670 lbs
Temperature	30 degrees Celsius
Pressure Altitude	1000 feet
Wind direction	090 degrees
Wind speed	4 Kt's
Runway number	27
Runway surface	On' Grass

- a. 1460 feet.
- b. 2110 feet.
- c. 1915 feet.
- d. 2450 feet.

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18. In the C-152, the stall warning horn comes on:

- a. As the wing reaches its critical angle of attack.
- b. When the wing exceeds the critical angle of attack.
- c. At 0 to 5 knots before the stall.
- d. At 5 to 10 knots before the stall.

19. Which of the following statements concerning the fuel system is false?

- a. Fuel flows by gravity' from two wing tanks to a fuel shutoff valve.
- b. Fuel pressure increases when the selector is on either tank.
- c. Fuel system venting is essential to system operation.
- d. Fuel quantity is measured by two float-type fuel quantity transmitters.

20. What is the landing roll for the C-152 given the following:

Aircraft weight 1670 lbs
Temperature 30 degrees Celsius
Pressure Altitude 1000 feet
Wind direction 350 degrees
Wind speed 12 Kt's
Runway number 31
Runway surface Dry Pavement
Speed 54 KIAS

- a. 460 feet.
- b. 520 feet.
- c. 1270 feet.
- d. 1295 feet.

21. Using the requirements of AFM 34-232 what is the approximate maximum range you can fly an aeroclub C-152 under the given conditions

Wind	calm
Temperature	standard
Fuel	full at start
Altitude	6500 feet
Power	65%

- a. 270 nm
- b. 325 nm.
- c. 340 nm.
- d. 400 nm.

22. The best glide speed and flap configuration for the C-152 is:

- a. 55 KIAS and flaps up.
- b. 55 KIAS and flaps at 10 degrees.
- c. 60 KIAS and flaps up.
- d. 60 KIAS and flaps at full deflection.

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23. In a C-152, the ammeter and low voltage warning light may indicate electrical power system problems. If the ammeter shows excessively high charge rates several minutes after engine start, you should:
- a. Turn off the alternator switch, reduce the electrical load, and land as soon as practical.
 - b. Ignore it. Breakers have been built into the system for shorts. It usually indicates items such as landing light are on.
 - c. Attempt to recycle the over-voltage relay by turning off the radios, and then recycling the master switch.
 - d. Turn the master switch to off and land immediately.
24. The C-152 electrical system is a:
- a. 12 volt, direct current system with a 24 volt battery
 - b. 12 volt, direct current system with a 12 volt battery.
 - c. 16 volt direct current system with a 24 volt battery.
 - d. 28 volt direct current system with a 24 volt battery.
25. During the before takeoff magneto check, which of these statements is true?
- a. Set engine RPM at 1700.
 - b. Mag drop should be a maximum of 125 RPM.
 - c. Mag drop difference should be no more than 50 RPM.
 - d. All of the statements above are true.

STOP.

This is the end of the open book portion of the written test. The closed book questions are on the back of the answer sheet cover emergency procedures. Proceed to that portion of the test at your instructor's direction.

When you have completed the test, have your instructor grade the test, and review any questions that you answered incorrectly. Also be sure both you and your instructor sign your test answer sheet, place it in your folder, and update your Currency Card (Form 654a).

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EMERGENCY QUESTIONS - CLOSED BOOK

Engine Fire During Start

1. _____
2. _____
3. _____
4. _____
5. _____

Engine Fire In Flight

1. _____
2. _____
3. _____
4. _____
5. _____

Engine Failure In Flight (Cruise)

1. _____
2. _____
3. _____
4. _____
5. _____

Emergency Approach and Landing

1. _____
2. _____
3. _____
4. _____
5. _____

Fill in all the applicable blanks.

1. V_A _____ Lbs
2. V_A _____ Lbs
3. V_A _____ Lbs
4. V_{FE} _____ (First Extension Increment)
5. V_{LO} _____ Retraction (Retractable Gear Aircraft Only)
6. V_{LO} _____ Extension (Retractable Gear Aircraft Only)
7. Best Glide Speed @ Maximum Gross Weight _____

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