

**RFC Dallas, Inc.**  
**AIRCRAFT QUESTIONNAIRE**  
**Archer-II Version 1.0 (05/01/2025)**

Pilot Name: \_\_\_\_\_ Date: \_\_\_\_\_

Aircraft Registration#: \_\_\_\_\_ Model: \_\_\_\_\_ Serial#: \_\_\_\_\_

*Answer the following questions by using the information contained in this aircraft's Airplane Flight Manual, the current Weight and Balance supplement, placards affixed to the aircraft, the aircraft Checklist, and the FARs & AIM. After being reviewed by a Club Checkout Instructor, this questionnaire must be submitted to the RFC Dallas Inc. Safety Officer before solo flights may be conducted.*

1. How many fuel drains must be checked during preflight? \_\_\_\_\_

2. The Airplane Flight Manual states that the oil capacity of the O-360 series engine is: \_\_\_\_\_ quarts.

*(However, RFC recommends adding a quart of oil when the level on the dipstick indicates less than 6 quarts.)*

3. After starting the engine, the maximum time that may elapse before oil pressure must be indicated is \_\_\_\_\_ seconds.

4. During the pre-takeoff engine run-up, the power should be set to \_\_\_\_\_ RPM. As each magneto is individually selected, the maximum allowable drop is \_\_\_\_\_ RPM. Maximum difference between Left and Right mag is: \_\_\_\_\_ RPM.

5. To shorten takeoff distance, a flap setting of \_\_\_\_\_ degrees may be used.

*For questions 6 thru 10 below, use the following criteria, and the performance charts in the AFM, to answer the subsequent questions pertaining to the aircraft's performance.*

**Conditions:**

Preflight Pressure Altitude	1600 ft.
Temperature	30° C
Aircraft Gross Weight	2400 lbs.
Runway Surface	Paved/Level/Dry
Wind	Calm

6. Minimum aircraft runway takeoff distance is \_\_\_\_\_ feet.

7. Using the recommended flap setting, a total takeoff distance of \_\_\_\_\_ feet is required to clear a 50 foot obstacle.

8. Assuming a 50 foot obstacle at the approach end of the runway, the aircraft will use a minimum landing distance of \_\_\_\_\_ feet.

9. The expected climb rate is \_\_\_\_\_ feet per minute.

10. What is the power off stall speed, for the following conditions:

- a) Flaps up, and 0° angle of bank? \_\_\_\_\_ MPH.
- b) Flaps up, and 45° angle of bank? \_\_\_\_\_ MPH.

11. The V-Speeds for this aircraft in MPH are (complete the chart below):

**(Conditions: Maximum gross weight @ sea level)**

Vne		Vsi	
Vno		Vso	
Va		Maximum Glide (engine out)	
Vfe		Enroute Climb	
Vx		Final Approach (40 Deg Flaps)	
Vy		Balked Landing (40 Deg Flaps)	

12. The approximate true airspeed when using 2400 RPM at a density altitude of 6000 ft is:  
\_\_\_\_\_ MPH.

13. The maximum normal allowable gross weight for this actual aircraft is \_\_\_\_\_ lbs.

14. Specify the following Wt&Bal information for this actual aircraft:

Date on Wt&Bal	
Basic Empty Weight (lbs)	
Arm (inches)	
Moment (lb inches)	

15. At maximum Gross Takeoff Weight, specify the following:

Forward CG Limit (inches)	
Rearward CG Limit (inches)	

16. With maximum fuel on board how much additional weight may be carried aboard the aircraft? \_\_\_\_\_ lbs.

17. What is the maximum weight for the baggage area? \_\_\_\_\_ lbs.

For questions 18 and 19 Sample questions, use the following information:

Basic Empty Weight (lbs)	1424.0
CG (inches)	86.14
Moment (lb-inches)	122,664.8
<b><u>ARMS:</u></b>	
Front Seats (inches)	85.5
Rear Seats (inches)	118.1
Fuel (inches)	95.0
Engine Oil (inches)	31.7
<b><u>LOADING CRITERIA:</u></b>	
Pilot (lbs)	185
Co-Pilot (lbs)	190
Rear Passengers (lbs)	105
Fuel (gals)	48

18. Results are:

- a) The Gross Takeoff Weight (lbs) is: \_\_\_\_\_
- b) The Takeoff C.G. (inches aft of datum) is: \_\_\_\_\_
- c) Is the aircraft loaded within allowable weight limits? ( Yes / No )
- d) Is the aircraft loaded within allowable C.G. limits? ( Yes / No )

19. Given the loading scenario from the previous question, adding 50 lbs. of weight in the baggage compartment (Arm = 142.8) will result in:

- a) Updated Gross Takeoff Weight (lbs): \_\_\_\_\_
- b) Updated Takeoff C.G. is (inches aft of datum): \_\_\_\_\_

This added weight will cause (*circle all that apply*):

- c) The aircraft's rearward C.G. limit to be exceeded
- d) The aircraft's forward C.G. limit to be exceeded.
- e) The aircraft's maximum gross weight to be exceeded.
- f) The aircraft to be within weight and C.G. limits.

20. Usable fuel capacity is: TOTAL \_\_\_\_\_ gals; To the TABS \_\_\_\_\_ gals.

21. The rated BHP of the engine installed in this aircraft at maximum allowable RPM is \_\_\_\_\_ BHP at \_\_\_\_\_ RPM.

22. Proper tire inflation pressures (psi) are: Mains: \_\_\_\_\_, Nose Wheel: \_\_\_\_\_.

23. Can the ELT be activated manually? ( Yes / No )

\_\_\_\_\_

24. This aircraft is equipped with a heated pitot tube? ( Yes / No )

25. What type of stall warning indicator is installed in this aircraft (*circle all that apply*)?

( Horn / Buzzer / Light / Siren )

26. How do you test the stall warning system on the ground?

\_\_\_\_\_

27. The battery is ( 6 / 12 / 24 ) volts.

28. Which of the following axis can the pilot trim (*circle all that apply*)?

( Pitch / Roll / Yaw )

29. What initial actions should immediately be taken upon losing engine power during cruise flight?

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

d) \_\_\_\_\_

e) \_\_\_\_\_

f) \_\_\_\_\_

g) \_\_\_\_\_

30. What are the prescribed aircraft control inputs to initiate a recovery from a fully developed spin?

Power \_\_\_\_\_

Ailerons \_\_\_\_\_

Rudder \_\_\_\_\_

Elevator \_\_\_\_\_

- 31. This aircraft is approved for flight into known icing conditions? ( Yes / No )
- 32. The GPS in this aircraft is certified for IFR operations? ( Yes / No )
- 33. The maximum CHT temperature is \_\_\_\_\_ F. Target CHT temperatures should be at or below \_\_\_\_\_ F.
- 34. According to FAR 91.7, the \_\_\_\_\_ is responsible for determining that the aircraft is a condition for safe and legal flight.

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**QUESTIONS FOR N6942J ONLY**

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- 35. How do you enable/disable the electric trim \_\_\_\_\_.
- 36. If the turn coordinator is inoperative, the \_\_\_\_\_ system is also inoperative?
- 37. How do you check the backup battery on the Garmin G5? \_\_\_\_\_.
- 38. The HSI is powered by a vacuum pump? ( Yes / No )
- 39. The aircraft is equipped with the S-Tec Autopilot System Model ( 10 / 20 / 30 )?
- 40. The autopilot can fly ILS and LPV approaches with vertical guidance? ( Yes / No )
- 41. The autopilot can auto-intercept the inbound LOC, GPS or VOR course? ( Yes / No )
- 42. What in-flight steps are necessary prior to engaging ALT HOLD mode?  
 (a) \_\_\_\_\_, (b) \_\_\_\_\_  
 (c) \_\_\_\_\_, (d) \_\_\_\_\_
- 43. What does the RDY light indicate on the turn coordinator? \_\_\_\_\_.
- 44. When should the pilot select HI-TRK mode during an LOC, GPS or VOR approach?  
 (a) \_\_\_\_\_, and (b) \_\_\_\_\_.
- 45. How will the pilot be notified when the aircraft is "out of trim" (autopilot ON)?  
 (a) \_\_\_\_\_, and (b) \_\_\_\_\_.

**Pilots (Printed Name & Signature):** \_\_\_\_\_

**Reviewed by (Printed Name / Signature):** \_\_\_\_\_ **Date:** \_\_\_\_\_