

# RFC Dallas, Inc.

## AIRCRAFT QUESTIONNAIRE

Version 4; June 26, 2024

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Aircraft: Arrow Model: PA-28R-200

Registration Number: **N1125T**

Answer the following questions by using the information contained in this aircraft's Pilot's Operating Handbook, the current Weight and Balance supplement, placards affixed to the aircraft, the RFC 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. What is the maximum allowable gross weight for this aircraft? \_\_\_\_\_ lbs.
2. What is the current basic empty weight and moment arm for this aircraft? \_\_\_\_\_ lbs., \_\_\_\_\_ inches.
3. How much additional payload weight can be carried assuming maximum fuel on board? \_\_\_\_\_ lbs.
4. At maximum gross weight, what is the forward C.G. limit? \_\_\_\_\_ inches.
5. At maximum gross weight, what is the rearward C.G. limit? \_\_\_\_\_ inches.
6. What is the maximum weight in the Baggage Compartment? \_\_\_\_\_ lbs.
7. The rated HP of the engine at 2700 RPM is: \_\_\_\_\_ HP?
8. What is the fuel capacity: a) Total \_\_\_\_\_ gals; b) Usable \_\_\_\_\_ gals.
9. What is the typical grade of aviation fuel approved for use in this aircraft? Octane \_\_\_\_\_ / Color \_\_\_\_\_
10. During the preflight inspection, there are \_\_\_\_\_ fuel drains to sump.
11. The proper main strut inflation should be \_\_\_\_\_ inches. The proper nose strut inflation should be \_\_\_\_\_ inches.
12. Upon an "Alternator Failure" condition, the pilot should:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_

13. The auxiliary fuel pump is used for:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_

14. What actions should be taken if “Loss of Fuel Flow/Pressure” occurs?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

15. Starter cranking is limited to \_\_\_\_\_ seconds with \_\_\_\_\_ minute rest periods between cranking.

16. During the “warm up period” the engine should be at a minimum of \_\_\_\_\_ RPM and maximum of \_\_\_\_\_ RPM. The “warm up period” should be no longer than \_\_\_\_\_ minutes in warm weather, and \_\_\_\_\_ minutes in cold weather

17. Is it permissible to fly this aircraft into forecasted icing conditions? \_\_\_\_\_

18. What are the following speeds for this aircraft in KIAS MPH? (Gross weight, sea level, Gear Up, Flaps Up)

- |     |                   |                               |       |
|-----|-------------------|-------------------------------|-------|
| Vne | _____             | Maximum Glide                 | _____ |
| Vno | _____             | Final Approach (40 deg Flaps) | _____ |
| Vso | _____             | Maximum demonstrated X-wind   | _____ |
| Vfe | _____             |                               |       |
| Vx  | _____             |                               |       |
| Vy  | _____             |                               |       |
| Vsi | _____             |                               |       |
| Vlo | _____ (Extension) | _____ (Retraction)            |       |
| Vle | _____             |                               |       |
| Va  | _____ (max gross) |                               |       |

19. The stall warning horn activates between \_\_\_\_\_ and \_\_\_\_\_ MPH above the stall.
20. During a Short Field takeoff, the flaps should be lowered to the \_\_\_\_\_ notch which is \_\_\_\_\_ degrees? Rotate speed is \_\_\_\_\_ MPH?
21. If the Panel Light rheostat Switch is in the “ON” position how does that effect the Landing Gear Position Indicator Lights?\_\_\_\_\_.
22. N1125T is equipped with a back-up landing gear extender, that automatically extends the landing gear at certain flight conditions (True / False)\_\_\_\_\_?
23. Where is the ELT located? \_\_\_\_\_; can it be activated from the cockpit ( Yes / No )\_\_\_\_\_?
24. What is the power off stall speed with flaps 40°, maximum gross weight, gear down, and a 40° angle of bank? \_\_\_\_\_ KIAS MPH?
25. What are the first five steps in the emergency procedure for an in-flight engine fire?
- a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
26. The engine induction Alternate Air source in this aircraft is: ( Automatic / Manual / Both )?
27. What is the approximate short field takeoff distance (over a 50’ obstacle) under the following conditions: Takeoff weight: 2650lbs, Obstacle: 50 ft., Flaps: 25°, Power: Full Throttle, Temperature: +25° C, Pressure Altitude: 1,500 ft.? \_\_\_\_\_ ft.
28. The normal flap setting for short-field take-off is \_\_\_\_\_ degrees. Rotate speed is \_\_\_\_\_ MPH?
29. What is the expected Gear UP Rate of Climb under the following conditions: Takeoff weight: 2650lbs, Power: Full Throttle, 100 MPH CAS, Temperature: +27° C, Pressure Altitude: 2000 ft.? \_\_\_\_\_ ft/min.

30. What is the approximate landing distance (over a 50' obstacle) under the following conditions: Landing weight: 2650lbs, Flaps: 40°, Power: Off, Temperature: +35° C, Pressure Altitude: 1,000 ft.; Max Braking? \_\_\_\_\_ ft.

31. What is the Best Glide Configuration of this aircraft at 2650lbs?  
Gear: \_\_\_\_\_, Flaps: \_\_\_\_\_, Prop: \_\_\_\_\_, Cowl Flaps: \_\_\_\_\_,  
Airspeed: \_\_\_\_\_ MPH.

32. When transitioning to a balked landing from a normal landing configuration, the flaps should initially be retracted to \_\_\_\_\_ notch or \_\_\_\_\_ degrees.

33. When configuring the aircraft for landing, should carburetor heat be used? (Yes / No) \_\_\_\_\_ Why?  
\_\_\_\_\_

34. 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. The difference between the left and right magneto RPM drop must not exceed \_\_\_\_\_ RPM. May the pilot initiate a takeoff if these values are slightly exceeded? (Yes/No) \_\_\_\_\_

35. When should the landing gear be retracted after takeoff?  
a. \_\_\_\_\_  
b. \_\_\_\_\_

36. What is the indication that the landing gear has been fully retracted?  
\_\_\_\_\_

37. What are all the indications that the landing gear has been fully extended?
- a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
38. The landing gear handle is which of the following?
- a. A valve which directs hydraulic pressure to the landing gear actuators
  - b. An electric switch that activates a reversible hydraulic pump
  - c. A mechanical linkage to the landing gear drive clutch mechanism
39. Which of the following methods holds the landing gear in the retracted position?
- a. Mechanical locks
  - b. Electrical locks
  - c. Hydraulic pressure
40. During NORMAL landing gear operations, the Emergency Gear Extension Lever should be in the \_\_\_\_\_ position.
41. In the event of an electrical system failure, the landing gear may be extended using which of the following alternative methods?
- a. Moving the landing gear handle to the down position, as it is not part of the aircraft electrical circuit
  - b. Pressurizing the hydraulic system using the Emergency gear extension hand pump lever
  - c. Holding the Emergency gear lever in the “down” position to release hydraulic pressure allowing the gear to extend
42. The battery is \_\_\_\_\_ volts; the alternator produces \_\_\_\_\_ volts.
43. Tire pressure for the Nose tire is \_\_\_\_\_ psi; the Main tires is \_\_\_\_\_ psi.

44. Given the following aircraft loading criteria:

<b>Pilot.</b>	<b>170 lbs</b>
<b>Copilot</b>	<b>150 lbs</b>
<b>Rear Pax</b>	<b>115 lbs</b>
<b>Baggage</b>	<b>50 lbs</b>
<b>Fuel</b>	<b>Full</b>

The Gross Weight is \_\_\_\_\_ lbs.

The C.G. is \_\_\_\_\_ inches aft of datum.

Is the aircraft loaded within allowable weight limits? \_\_\_\_\_

Is the aircraft loaded within allowable C.G. limits? \_\_\_\_\_

Work Area:

45. Given the loading scenario from the previous question, adding another rear pax weighing 110 lbs. will cause:
- The aircraft's rearward C.G. limit to be exceeded
  - The aircraft's forward C.G. limit to be exceeded.
  - The aircraft's maximum gross weight to be exceeded.
  - The aircraft to be within weight and C.G. limits.
46. To preflight the S-Tec autopilot, which of the following is NOT part of the mandatory pre-flight checks? (circle all that apply):
- Trim control switch check
  - On-Off switch check
  - Overpower check
  - Alternator off / Internal battery check
  - Heading mode check
47. If the autopilot system fails, or performs unexpectedly, the proper action is to:
- \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
48. The GPS units in this aircraft is WAAS capable and support LPV approaches ( TRUE / FALSE )\_\_\_\_\_?
49. For the autopilot to receive GPS course guidance AND fly GPSS (GPS roll steering), the autopilot must be in \_\_\_\_\_ mode, the G5 HSI must be in \_\_\_\_\_ mode, and the selected GPS must be in \_\_\_\_\_ mode.
50. Which is the better method for flying with the autopilot tracking a GPS course: ( autopilot in Nav mode and no GPSS / autopilot in HDG mode with G5 in GPSS mode ) \_\_\_\_\_?
51. To fly the ILS 15 approach into KADS, the pilot must ensure that the GPS unit providing the ILS/NAV signal is set to \_\_\_\_\_mode.
52. The Nexrad radar available on the G750 can be used to circumnavigate squall line thunderstorms with precise accuracy, and can thus be used for flight planning in adverse convective conditions (True/False)\_\_\_\_\_.

53. If the GPS devices installed on this aircraft enter “Loss of Integrity” mode (LOI) what is the correct action?

- a. Continue to navigate by use of the moving map, as the aircraft position will be calculated through the GPS via “dead reckoning” methods.
- b. Continue to navigate by use of the CDI, however moving map aircraft position is unreliable
- c. Revert to an alternate means of navigation until GPS information signal is restored

54. During a GPS LPV approach, if GPS accuracy requirements are not met by the GPS receiver, and the unit annunciates a change from your ‘LPV’ approach to ‘LNAV’, what action must be taken?

- a. Continue to fly the approach, however only to LNAV minimums
- b. Abandon the approach immediately, the GPS unit may not be used to transmit GPS nor NAV frequency data
- c. You may continue to fly the approach to the LPV minimums on the published approach

55. During which phases of flight should the cowl flaps be open?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

56. During which phases of flight should the cowl flaps be closed?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

57. What is the maximum cylinder head temperature for high-performance cruise operations? \_\_\_\_\_ degrees F What is the club’s recommended maximum cylinder head temperature? \_\_\_\_\_ degrees F

58. For engine/cylinder cooling purposes, the cowl flaps and climb rate/airspeed can be used in conjunction with which gauge?

\_\_\_\_\_



59. According to FAR 91.7, who is responsible for determining whether the aircraft is in condition for safe flight? \_\_\_\_\_

60. Performing “touch & go” operations is:

- a) Permitted at any time
- b) Permitted only with a Check-Out Instructor on-board
- c) Prohibited at all times

REVIEWED BY: \_\_\_\_\_  
A/C check out completed

DATE: \_\_\_\_\_