

RFC Dallas, Inc.

Aircraft Questionnaire

Aircraft Make and Model: Beechcraft Bonanza F33A

Pilot's Name: _____ **Signature:** _____

Instructions:

The purpose of this questionnaire is to aid the pilot in his/her understanding of the airplane and its specific systems and procedures. No attempt has been made to cover in depth all the information contained in the Pilot Operation Handbook/Airplane Flight Manual but this questionnaire will provide a review of certain basic information a pilot should know to be in compliance with the PIC requirements of the RFC Policies and Procedures and Bylaws.

This questionnaire is divided into a generic F33A portion and an N# specific portion. For a member's initial checkout in any of the F33A Bonanzas, the member should complete the generic F33A section plus the section relating to the specific N# aircraft being used in the initial checkout. For additional F33A Bonanza checkouts, the member should be prepared to produce a signed copy of the previously completed generic F33A portion plus the N# specific portion of the additional checkout aircraft.

Using all available manuals and documentation, complete each question by providing the most appropriate response. Upon completion, contact a Club Checkout Instructor to schedule a review of your responses. Following this review, a signed copy of this questionnaire (with corrected responses) must be placed in the red folder in the Club lockbox prior to initiation of solo flight.

Generic F33A Questions (Complete Only for 1st Bonanza Checkout)

Limitations (use Knots or MPH IAS as appropriate)

1. What is the Maneuvering Speed (V_a) at Maximum Gross Weight for this airplane? _____. What is the significance of V_a and how does it change at aircraft weights less than Maximum Gross Weight?

_____.
2. What is the Maximum Structural Cruising Speed (V_{no}) for this airplane? _____. Describe the conditions in which it may be acceptable to fly in the Yellow Arc of the Airspeed Indicator.

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-
3. What is the Maximum Flap Extension Speed (Vfe) for this airplane? _____.
 4. What is Maximum Gear Extension/Operating Speed (Vle/Vlo) for this airplane?
_____.
 5. What is the maximum slip limitation ? _____.
 6. What is the maximum weight that can be carried in the baggage compartment?
_____ lbs.
 7. This aircraft is not certified for flight into known icing conditions. If you encounter ice, what equipment is installed on this aircraft to help you manage the icing situation until you can reach safety?

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8. If the Attitude Indicator failed to erect prior to take off on a flight where you expect to encounter IMC, can you legally depart in this condition? Yes/No and why?

-
-
9. What is the maximum cylinder head temperature? _____ °C . What is the preferred “club targeted” maximum cylinder head temperature ? _____ °C.
 10. Why would you not want to take off with either fuel gauge indicating in the Yellow Arc?

Emergency Procedures (use Knots or MPH as appropriate)

1. What is the Emergency Descent Airspeed for this airplane? _____.
Describe when and how you might need to perform an emergency descent.

2. What is the emergency Maximum Glide Airspeed for this airplane? _____.
What is the appropriate airplane configuration (prop, gear, flaps etc.) to achieve maximum glide range?

3. Describe the recommended emergency procedure for total loss of engine power shortly after liftoff.

4. Describe the air restart procedure for this airplane (assuming you have sufficient altitude and time).

5. Describe the emergency procedure for an engine fire while on the ground.

6. Describe the emergency procedure for an engine fire while in-flight.

7. Describe the emergency procedure for an electrical smoke/fire while in-flight.

8. Describe the recommended procedure for an inadvertent door opening just after liftoff.

9. Describe the steps necessary to recover from an unintentional spin.

10. Describe the location and number of emergency exits in this airplane.

Performance / Weight and Balance

1. Explain the impact of high density altitude on airplane performance.

2. Under what conditions will you most likely encounter high density altitudes and how can you determine the actual density altitude?

Systems

1. How many fuel drains/sumps are on this airplane? _____. Describe their use and location.

2. How many fuel pumps are on this airplane? _____. Describe the function of each fuel pump and when each should be used?

3. What is the power source for the landing gear on this airplane?

4. What actions would you take as PIC if you discovered the battery or alternator had malfunctioned during your preflight or run up?

5. For takeoff, what elevator trim setting would you use if only the front seats are occupied?

What elevator trim setting should be used on takeoff if the rear seats were also occupied or you had a lot of weight in the baggage compartment?

Handling, Service and Maintenance

1. What is the minimum fuel grade for this airplane? _____. How is it recognized -- what color? _____.
2. The engine holds _____ quarts of oil. Add oil when the level is below _____ quarts. What brand/type/viscosity of oil is recommended by the owner for all Club Bonanzas ? _____.
3. As PIC, how should you verify this airplane meets its airworthiness requirements?

Supplements

- 1) Is the GPS in this airplane IFR certified (Yes or No)? _____.
- 2) Describe how to determine the expiration date of the installed GPS database.

The pilot is encouraged to review the various owner manuals for all installed avionics. Usually these can be found in the specific airplane or on the following representative web links:

Garmin 430:

<http://www8.garmin.com/support/userManual.jsp?market=1&subcategory=8&product=010-00139-11>

Garmin 530:

<http://www8.garmin.com/support/userManual.jsp?market=1&subcategory=8&product=010-00182-11>

S-Tec System 50 Autopilot :

http://www.s-tec.com/pdf/Sys_Forty-Fifty_POH_3rd_Ed.pdf

Insight Avionics Strikefinder:

<http://www.insightavionics.com/pdf%20files/STRIKE%20GUIDE.pdf>

JPI Engine Analyzer (EDM 700):

<http://www.jp instruments.com/PGEDM-80.pdf>

King KFC 200 Flight Control System:

https://www.bendixking.com/servlet/com.honeywell.aes.utility.PDFDownloadServlet?FileName=/TechPubs/repository/006-08262-0000_0.pdf

N4416W (Complete only if checking out in this airplane)

1. Complete the following chart of indicated airspeeds (use knots or MPH as appropriate):

V_{so} =

V_s =

V_x =

V_y =

Max Glide =

Max demo X-Wind =

Balked landing =

2. What is the maximum takeoff weight? _____ lbs.
3. What is the useful load with full fuel and oil? _____ lbs.
4. The total fuel capacity of the main tanks is _____ gallons, but the total usable fuel is _____ gallons. Describe the significance of “usable fuel” as it pertains to your flight planning.

5. What is the usable fuel capacity at the bottom of filler neck tab? _____ gallons. What is the usable fuel capacity at the detent (slot) on the filler neck tab? _____ gallons. If the fuel level is below the bottom of filler neck tab, how can the pilot determine the amount of fuel in the tanks (including tip tanks where appropriate)?

6. Does this airplane have an unused return fuel flow back to the tanks (Yes/No)? _____. If Yes, describe how this functions on this airplane?

7. This aircraft is equipped with a _____ volt electrical system and has a _____ volt battery.

8. Describe the recommended procedure for a balked landing:

_____ . During a balked landing with flaps extended, specifically describe the operation of the flap switch.

9. What is the power source for the flaps and describe how the flap switch operates?

10. In flight, if you were to lose all electrical power (both battery and alternator), please list the instruments and systems that would ***not*** function?

11. Describe the recommended fuel leaning procedure and use of cockpit instruments while leaning at cruise altitude (if this aircraft is equipped with an engine analyzer, please describe the leaning process using this instrument).

12. Describe the elevator and aileron trim systems on this airplane and how they are adjusted.

13. Does this airplane have a backup pressure system (YES/NO)? _____. If NO, what instruments will be affected if you lose your primary pressure system?

_____. If YES, describe how you would activate the backup pressure system.

14. Where is the ELT located on this airplane? _____. Can it be manually activated from the cockpit (Yes or No)? _____.

15. What axes are controlled by the autopilot in this airplane?

16. Does this aircraft have a Flight Director function (Yes or No)? _____.

17. Is this airplane equipped with a weather avoidance system (Yes or No)? _____. If so, can the weather avoidance system be used to identify and avoid IMC conditions or rain showers (Yes or No)? _____.

18. Complete the following questions for an IFR trip from Centennial Airport, Colorado (KAPA elevation 5,885 ft MSL) to Addison (KADS elevation 644 ft MSL). Use the following assumptions for this flight:

- a. For simplicity, assume navigation will be "Direct" KAPA → KADS (124⁰ for 554 nm) and departure runway is 35R. (358⁰ True)
- b. Use Standard Day (ISA) for enroute performance calculations
- c. Weather at KADS: Wind is 180⁰ at 10 knots; Altimeter is 29.92 and temperature 90⁰ F; Weather at KAPA: Wind is 040⁰ at 20 knots; Altimeter is 29.92 and temperature 85⁰ F
- d. Full Fuel and Oil, 250 lbs baggage, Front seats = 330 lbs, Rear seats = 200 lbs., Basic Empty Weight (includes weight of full oil and unusable fuel and optional equipment) = 2,205.67 lbs with CG of 78.89. Note – Basic Empty Weight and CG are for illustrative purposes (Note: use the above numbers for this example – always consult the current POH & Weight and Balance for actual flight related data).
- e. 7,000 ft MSL cruise pressure altitude (for simplicity, disregard climb and descent) at 75% power setting -- leaned as appropriate
- f. Winds aloft at 7,000 ft = 120⁰ at 45 knots
- g. Use the above assumptions and POH performance charts for all calculations:
 - i. What is the Ramp Weight of the airplane? _____ lbs.
 - ii. What is the airplane's CG as loaded? _____ .
 - iii. As loaded, is the airplane within weight and balance limitations? _____ . Why? _____ .
 - iv. What would be the expected normal takeoff ground roll distance at KAPA? _____ ft. How does the density altitude at KAPA affect your takeoff rotation and climb out indicated airspeeds?

_____.
 - v. What is the expected time enroute (assuming no fuel stop)? _____ .
 - vi. How many gallons of fuel will be consumed? _____ . Using these parameters and if flying IFR (or night VFR), will you need to plan a fuel stop? _____ .

Reviewed by: _____ Date: _____

(Authorized Club Checkout Instructor)

N87MT (Complete only if checking out in this airplane)

1. Complete the following chart of indicated airspeeds (use knots or MPH as appropriate):

V _{so} =	V _s =
V _x =	V _y =
Max Glide =	Max demo X-Wind =
Balked landing =	

2. What is the maximum takeoff weight? _____ lbs.
3. What is the useful load with full fuel (including tips) and oil? _____ lbs.
4. The total fuel capacity of the main tanks is _____ gallons, but the total usable fuel is _____ gallons. Describe the significance of “usable fuel” as it pertains to your flight planning.

5. What is the usable fuel capacity at the bottom of main filler neck tab? _____ gallons. What is the usable fuel capacity at the detent (slot) on the main filler neck tab? _____ gallons. If the fuel level is below the bottom of the filler neck tab, how can the pilot determine the amount of fuel in the tanks (including tip tanks where appropriate)?

6. Does this airplane have an unused return fuel flow back to the tanks (Yes/No)? _____. If Yes, describe how this functions on this airplane?

7. How many usable gallons of fuel are contained in each tip tank? _____ gallons.
8. Prior to startup, which fuel tank should initially be selected and why (assume full tip tanks and the intent of using fuel from the tips during flight)?

9. Describe the various fuel tank selector positions on the Fuel Selector Valve.

18. In flight, if you were to lose all electrical power (both battery and alternator), please list the instruments and systems that would not function?

19. Describe the elevator and aileron trim systems on this airplane and how they are adjusted.

20. Does this airplane have a backup pressure system (YES/NO)? _____. If NO, what instruments will be affected if you lose your primary pressure system?

_____ . If YES, describe how you would activate the backup pressure system.

21. Where is the ELT located on this airplane? _____. Can it be manually activated from the cockpit (Yes or No)? _____.

22. What axes are controlled by the autopilot in this airplane?

23. Is this airplane equipped with a weather avoidance system (Yes or No)? _____. If so, can the weather avoidance system be used to identify and avoid IMC conditions or rain showers (Yes or No)? _____.

24. Complete the following questions for an IFR trip from Centennial Airport, Colorado (KAPA elevation 5,885 ft MSL) to Addison (KADS elevation 644 ft MSL). Use the following assumptions for this flight:

- 1) For simplicity, assume navigation will be "Direct" KAPA → KADS (124⁰ for 554 nm) and departure runway is 35R. (358⁰ True)
- 2) Use Standard Day (ISA) for enroute performance calculations
- 3) Weather at KADS: Wind is 180⁰ at 10 knots; Altimeter is 29.92 and temperature 90⁰ F; Weather at KAPA: Wind is 040⁰ at 20 knots; Altimeter is 29.92 and temperature 85⁰ F
- 4) Full Fuel (no tip tanks) and Oil, 250 lbs baggage, Front seats = 330 lbs, Rear seats = 200 lbs., Basic Empty Weight (includes weight of full oil and unusable fuel and optional equipment) = 2,205.67 lbs with CG of 78.89. Note – Basic Empty Weight and CG are for illustrative purposes (Note: use the above numbers for this example – always consult the current POH & Weight and Balance for actual flight related data).
- 5) 7,000 ft MSL cruise pressure altitude (for simplicity, disregard climb and descent) at 75% power setting -- leaned as appropriate
- 6) Winds aloft at 7,000 ft = 120⁰ at 45 knots
- 7) Use the above assumptions and POH performance charts for all calculations:
 - a) What is the Ramp Weight of the airplane? _____ lbs.

- b) What is the airplane's CG as loaded? _____ .
- c) As loaded, is the airplane within weight and balance limitations? _____ .
Why? _____ .
- d) What would be the expected normal takeoff ground roll distance at KAPA?
_____ ft. How does the density altitude at KAPA affect your takeoff
rotation and climb out indicated airspeeds?

_____.
- e) What is the expected time enroute (assuming no fuel stop)? _____ .
- f) How many gallons of fuel will be consumed? _____ . Using these
parameters and if flying IFR (or night VFR), will you need to plan a fuel stop?
_____ .

Reviewed by: _____ Date: _____

(Authorized Club Checkout Instructor)

N550L (Complete only if checking out in this airplane)

1. Complete the following chart of indicated airspeeds (use knots or MPH as appropriate):

V_{so} =

V_s =

V_x =

V_y =

Max Glide =

Max demo X-Wind =

Balked landing =

2. What is the maximum takeoff weight? _____ lbs.
3. What is the useful load with full fuel and oil? _____ lbs.
4. The total fuel capacity of the main tanks is _____ gallons, but the total usable fuel is _____ gallons. Describe the significance of “usable fuel” as it pertains to your flight planning.

5. What is the usable fuel capacity at the bottom of filler neck tab? _____ gallons. What is the usable fuel capacity at the detent (slot) on the filler neck tab? _____ gallons. If the fuel level is below the bottom of filler neck tab, how can the pilot determine the amount of fuel in the tanks (including tip tanks where appropriate)?

6. Does this airplane have an unused return fuel flow back to the tanks (Yes/No)? _____. If Yes, describe how this functions on this airplane?

7. This aircraft is equipped with a _____ volt electrical system and has a _____ volt battery.

8. Describe the recommended procedure for a balked landing:

_____ . During a balked landing with flaps extended, specifically describe the operation of the flap switch.

9. What is the power source for the flaps and describe how the flap switch operates?

10. In flight, if you were to lose all electrical power (both battery and alternator), please list the instruments and systems that would ***not*** function?

11. Describe the recommended fuel leaning procedure and use of cockpit instruments while leaning at cruise altitude (if this aircraft is equipped with an engine analyzer, please describe the leaning process using this instrument).

12. Describe the elevator and aileron trim systems on this airplane and how they are adjusted.

13. Does this airplane have a backup pressure system (YES/NO)? _____. If NO, what instruments will be affected if you lose your primary pressure system?

_____ . If YES, describe how you would activate the backup pressure system.

14. Where is the ELT located on this airplane? _____. Can it be manually activated from the cockpit (Yes or No)? _____.

15. What axes are controlled by the autopilot in this airplane?

16. Does this aircraft have a Flight Director function (Yes or No)? _____ .

17. Is this airplane equipped with a weather avoidance system (Yes or No)? _____. If so, can the weather avoidance system be used to identify and avoid IMC conditions or rain showers (Yes or No)? _____.

18. The engine in N550L is rated at 300 HP; in what areas of operations would you expect this increased horsepower (as opposed to the other club Bonanzas) to make a difference in performance or operating technique?

19. Per owner and Club recommendations, should you utilize “lean of peak” leaning procedures (Yes or No)? _____.

20. This airplane is equipped with a standby pressure pump. Describe when and how this system should be activated.

21. Can the pilot utilize the autopilot functions without utilizing the Flight Director (Yes or No)? _____. Please explain the basic functions of the Flight Director.

22. Complete the following questions for an IFR trip from Centennial Airport, Colorado (KAPA elevation 5,885 ft MSL) to Addison (KADS elevation 644 ft MSL). Use the following assumptions for this flight:

- a. For simplicity, assume navigation will be “Direct” KAPA → KADS (124⁰ for 554 nm) and departure runway is 35R. (358⁰ True)
- b. Use Standard Day (ISA) for enroute performance calculations
- c. Weather at KADS: Wind is 180⁰ at 10 knots; Altimeter is 29.92 and temperature 90⁰ F; Weather at KAPA: Wind is 040⁰ at 20 knots; Altimeter is 29.92 and temperature 85⁰ F
- d. Full Fuel and Oil, 250 lbs baggage, Front seats = 330 lbs, Rear seats = 200 lbs., Basic Empty Weight (includes weight of full oil and unusable fuel and optional equipment) = 2,205.67 lbs with CG of 78.89. Note – Basic Empty Weight and CG are for illustrative purposes (Note: use the above numbers for this example – always consult the current POH & Weight and Balance for actual flight related data).
- e. 7,000 ft MSL cruise pressure altitude (for simplicity, disregard climb and descent) at 75% power setting -- leaned as appropriate
- f. Winds aloft at 7,000 ft = 120⁰ at 45 knots
- g. Use the above assumptions and POH performance charts for all calculations:
 - i. What is the Ramp Weight of the airplane? _____ lbs.
 - ii. What is the airplane’s CG as loaded? _____ .

- iii. As loaded, is the airplane within weight and balance limitations?
_____ . Why? _____ .
- iv. What would be the expected normal takeoff ground roll distance at KAPA? _____ ft. How does the density altitude at KAPA affect your takeoff rotation and climb out indicated airspeeds?

_____ .
- v. What is the expected time enroute (assuming no fuel stop)? _____ .
- vi. How many gallons of fuel will be consumed? _____ . Using these parameters and if flying IFR (or night VFR), will you need to plan a fuel stop? _____ .

Reviewed by: _____ Date: _____
(Authorized Club Checkout Instructor)