BE76 Duchess - Aircraft Check-out Sheet

Name _____
Date _____
Certificate and Ratings _____
Certificate #_____
Total Time _____ Time in Type _____
CFI (if applicable)_____
ME Time _____

AIRSPEEDS

1. **List the following speeds:**

V_R _____ (normal takeoff)
V_Y _____
V_{YSE} _____
V_X _____
V_A _____ (at gross weight)
V_{S0} _____
V_S _____
V_{NO} _____
Demonstrated crosswind component _____

V_{NE} _____
V_{LO} _____
V_{LR} _____
V_{MC} _____
Best glide speed _____
Landing Speed:
- with full flaps _____
- with no flaps _____

EMERGENCY PROCEDURES

1. **Describe the emergency checklist to follow when an engine has failed during takeoff:**

During rotation _____
Below 1,000' AGL _____
Above 1,000' AGL _____

2. **What should you do if you experience low pressure and high oil temperature?**

_____

_____

3. **What should be done if the ammeter indicates no output during flight?**

4. **Describe the "Engine Fire During Start" Procedure.**

5. **Describe the "Fire In Flight" (Engine Fire) Procedure.**

NORMAL PROCEDURES

1. **List the procedures to be followed for a normal engine start.**

2. **Explain the procedure for starting a hot engine.**

3. **Prior to takeoff, what position should the fuel pump switches be on?**

4. **Why do you lean the mixture? Describe the procedure.**

PERFORMANCE

1. **Find the Takeoff Ground Roll under the following:**
   Airport: KSAC, Flaps: Zero, Headwind: 15 kts, P/A: 1,000 ft, Temperature: 15ºC, at Gross Weight

   _____

   To clear a 50 ft obstacle:_____

   Accelerate stop distance: _____

2. **Find the Landing Distance (with 50 ft obstacle) under the following:**
   Airport: KSAC, Flaps: Full, Headwind: 10 kts, P/A: 2,000 ft, Temperature: 20ºC (90ºF), at Gross Weight

   _____

3. **Find the rate of climb with one engine inoperative under the following:**
   P/A: 2,000 ft, Temperature: 20ºC (90ºF), at Gross Weight

   _____

4. **What is the climb gradient under these conditions?**
   _____ %
   _____ ft/nautical mile

WEIGHT & BALANCE

1. **What is the maximum weight for the following?**

Condition	Category
Maximum Ramp Weight	Normal: _____
Maximum Takeoff Weight	Normal: _____
Maximum Landing Weight	Normal: _____
Maximum Weight (Bag compartment)	Normal: _____

2. **What is the floor structure load limit in pounds per square foot?**

   _____

   _____

3. **In the following weight and balance sample, is the airplane within weight and balance limits?**

	Weight	Arm	Moment
Duchess Empty Weight	2666.3	110.1	293,483.1
Pilot & Front Passenger	430.0	108.5	46,655.0
Rear Passengers	-----	144	-----
Baggage	-----	167	-----

Zero Fuel Weight: _____

Zero Fuel CG: _____

Fuel (@ 6lbs/gal, 100 gal max)	600	117	

Ramp Weight: _____

Taxi Fuel Allowance	- 16	117	- 1,872

Takeoff Weight: _____

CG Location: _____

SYSTEMS

1. **Describe the engines.**

_____

_____

2. **What are the engine's maximum rated horsepower and RPM?**

_____

_____

3. **What is the total fuel capacity? _____**

   What is the total useable fuel? _____

   How much fuel is in the tank if filled to the tab? _____

4. **How many fuel drains are there? Where are they located?**

_____

_____

5. **List the positions of the fuel selector.**

_____

_____

6. **What types of fuel are approved and what are their colors?**

7. **What are the normal operating minimum and maximum oil capacities (not the POH minimum oil capacity)?**

8. **Describe the electrical system.**

9. **What is the voltage of the battery? Where is the battery located in the aircraft?**

10. **How does the ammeter measure?**

11. **Does the aircraft have an alternate static source? If so, where is it, and how do you activate it?**

12. **Describe the flaps. How are they used? What are the settings? At what speed do you lower them?**

13. **How can the electric elevator trim system be deactivated?**

14. **Describe the landing gear system to include the safety retraction switch.**

15. **What causes the gear horn to activate?**

16. **Describe the procedure to follow if the landing gear in-transit light remains illuminated after gear retraction.**

17. **How would you recognize a failure in the gear system and how would you extend the gear?**

18. **What holds the gear in the "up" position?**

19. **Describe the propeller system.**

20. **How does the prop governor operate?**

SINGLE-ENGINE PROCEDURES

1. **Define "Critical Engine."**

2. **Does this airplane have a critical engine? Why or why not?**

Define and list the factors of V_{MC}.

C: _____
A: _____
S: _____
T: _____
B: _____
O: _____
W: _____

3. **Define and diagram P Factor.**

_____

_____

4. **Define and diagram torque.**

_____

_____

5. **Define and diagram accelerated slipstream.**

_____

_____

6. **Define and diagram spiraling slipstream.**

_____

_____

7. **Describe the procedures to follow in the event of an engine failure.**

_____

_____

8. **What happens when you feather a propeller?**

_____

_____

9. **How would you secure an engine?**

_____

_____

10. **What is the procedure to restart a secured engine?**

_____

_____

STALL & SPIN AWARENESS

1. **When must you recover from a stall and why?**

_____

_____

2. **What would happen to a stalled aircraft with a Forward CG?**

_____

_____

3. **Describe the recovery procedure(s) for the following:**

Power OFF Stall:

_____

_____

Power ON Stall:

_____

_____

Spins:

_____

_____

Completed Date _____

CFI _____

Chief Flight Instructor _____

CFI Remarks:

_____

_____

_____

_____