Skyview Aviation, LLC
Pilot Knowledge Assessment Name: _____

Please complete this assessment prior to arrival for your accelerated multi-engine rating course. Bring the completed form with you to review with your instructor.

1. Name the Federal Aviation Regulation "FAR" part governing multi-engine aircraft certification. FAR Part _____
2. Does the B95A or D95A have any single engine climb requirement for certification? _____ why or why not?
   _____
3. What percentage of performance is lost after losing one engine on the B95A or D95A? _____ %
4. What are the three drag factors that cause the huge loss in performance with a failed engine?
   a. _____
   b. _____
   c. _____
5. Define the following and note the ceiling limit for the B95A or D95A:
   a. Absolute Ceiling _____
   b. Service Ceiling _____
   c. Single Engine Absolute Ceiling _____
   d. Single Engine Service Ceiling _____
6. Define VMC _____
   a. which FAR(s) define this: 23. _____ and 23. _____ (traditional vs more recent)
7. Who determines VMCa?_____, and; what criteria are used to determine published VMCa?
   a. C _____
   b. O _____
   c. M _____
   d. B _____
   e. A _____
   f. T _____
   g. S _____
8. What is a "Critical" engine? _____
9. What are the four factors in determining the "critical engine"?
   a. P _____
   b. A _____
   c. S _____
   d. T _____

10. How would you overcome side slip after losing an engine in-flight?

_____

11. Choose the best answer with regards to the following factors affecting VMC:

Factor	Performance	Drag	VMC
(Example) Gear Down	Decreases ↓	Increases ↑	Decreases ↓
Windmilling Propeller			
In Ground Effect			
Higher than Std Temp			
High Density Altitude			
Bank 0 Degrees			
Colder than Std Temp			
Add Power to operating engine			
Feathered Propeller			
Bank 5 degrees			
AFT CG			

12. What are the warning signs that you are getting close to VMC (first indication of any of the following):
    a. Loss of _____ control
    b. _____ warning or _____ of the controls
    c. A _____ _____ of control effectiveness
13. What is the process to recover from VMC?
    a. Simultaneous Pitch _____ and Reduce _____ on the _____ engine, then at _____ begin to _____ on the _____ and pitch _____.
14. Name some conditions where stalls occur most and what two additional conditions impact multi-engine airplanes?

_____

15. Name the steps following the loss of power or loss of an engine in a multi-engine aircraft:
    a. Maintain _____ and Pitch for _____
    b. Power up: _____ full, _____ full, _____ full
    c. _____ (dead foot – dead engine)
    d. _____ (cautiously retard the inoperative engine throttle to idle)
    e. If below 3,000' AGL _____ the prop on the inop engine and pull mixture to _____
    f. If above 3,000' AGL _____;
        i. _____, _____, _____
        ii. _____
        iii. _____, if not restart, then;
        iv. Secure the _____ engine and use the _____.
16. Note all of the following V-Speeds for the B95A and D95A.

Vso	Vmc	Vr	Vx	Vxse
Vyse	Vy	Vg (gross)	Vle	Vfe
Va (gross)	Vno	Vne	Vsse	

17. Define the following terms:
    a. Accelerate Stop Distance: _____
    b. Accelerate Go Distance: _____
18. Does the B95A or D95A have an Accelerate Go Distance?
19. Define Zero Fuel Weight Limitation: _____
20. What engines are on the B95A or D95A? _____, IO _____, _____ cyl, horizontally _____ _____ aspirated, _____ HP (each) with an oil capacity of a minimum of _____ quarts and maximum of _____ quarts. Fuel burn rate planned is _____ gallons per _____ with an allowance of another _____ gallon for the _____ when in use.
21. What type of propellers are on the Travel Air? _____
22. What is different about the propellers on the Travel Air as compared to a single engine constant speed propeller?
    _____
23. What device on the engine accessory case maintains the constant RPM of the propellers? _____
24. Name the three parts of the propeller governor: _____, _____, _____

25. What is a nitrogen unfeathering accumulator and what is it designed to do?_____
    a. What should the unfeathering accumulator pressure be when serviced properly? _____ PSI (+/- 5)
26. What are the starter limitations on the Travel Air? _____ seconds on, _____ seconds off, _____ attempts, then you must wait _____ minutes.
27. What keeps the propellers from going into "feather" when the airplane is shutdown? _____ pins
28. What total gallon capacity of fuel does the Travel Air hold? _____ gallons with _____ gal useable;

    What is the capacity of the Main Tanks _____, AUX Tanks _____
29. How many fuel sumps does the Travel Air have? _____
30. What are the three fuel system limitations for the Travel Air?
    a. Always take-off and land on the _____
    b. Never take off with less than _____ gallons or in the _____ arc
    c. Always wait _____ seconds after a _____
31. Describe the landing gear on the Beechcraft Travel Air:
    a. It is powered by _____ _____ motor that turns a _____ disk, which

       is connected to _____ _____ rods (tubes), that then _____ and

       _____ the _____ and _____.

    b. What is a Squat or "weight on wheels" switch: _____
    c. Which direction would you crank the emergency hand crank to get the gear down (assuming failure of the gear motor)? _____ approximately _____ turns.
    d. What keeps the gear in the up and locked position? _____
    e. What keeps the gear in the down and locked position? _____
    f. What three conditions would cause a gear warning horn to sound?
        i. _____ when gear is up
        ii. _____ when gear is up
        iii. _____ when gear is up

32. What BTU is the heater on the Beechcraft Travel Air: _____ BTU

33. How much fuel does the heater burn when operating continuously? _____ gal per _____

34. Where does the heater draw fuel from? _____ _____ _____

35. How many fuel pumps are on the Beechcraft Travel Air? Circle: 3 4 5

36. What hydraulic system is on the Beechcraft Travel Air? _____

37. What voltage is the B95A/D95A _____

38. How many batteries does the B95A / D95A have? _____ what is the excess voltage used for on the electrical alternator system? _____

39. What are the three switch settings for the flaps on the B95A/D95A? _____, _____, _____

    a. What flap settings are possible from _____ degrees to a maximum of _____ degrees

40. If you lost an engine and needed to use the fuel from the inoperative engine side tanks (main or aux), what position would you place the inoperative engine selector to _____ and what position would you place the operating engine selector side to _____. What would happen if you place the selectors both to the "Cross-Feed" position? _____

41. Does the Travel Air have a maximum demonstrated cross-wind? YES or NO. If Yes, what is it? _____

42. Why are spins in a multi-engine aircraft not recommended? _____

43. Why are flaps not recommended for take-off? The POH in the 1960s recommended using 20 degrees of flaps, rotate at 70 mph, and climb out at 90 mph (vx). What risk(s) would this pose assuming a loss of power on take-off?

    _____