



COLORADO FLIGHT CENTER

AIRCRAFT SYSTEMS REVIEW

Piper PA-34-220T "Seneca V"

All aircraft documents may be used for this review.

Pilot Name: _____ Date: _____

1) What are the V speeds for this aircraft? _____

2) What is the maximum demonstrated crosswind component? _____

3) Describe the PA-34-220T engines:

a) How many cylinders? _____

b) Who is the manufacturer? _____

c) What is the horsepower rating? _____

d) Does it have fuel injectors or a carburetor? _____

e) Is the engine turbo-charged or normally aspirated? _____

f) Why is the right engine labeled LTSIO-360? _____

g) How are the cylinders arranged? _____

h) How is ignition provided? _____

i) What are the minimum and maximum oil capacities? _____

4) Describe the propeller system. _____

a) What company manufactured the propellers? _____

b) What does oil pressure do to the propeller? _____

c) Which lever manipulates oil pressure to the propeller? _____

d) Which unit regulates oil pressure to the propeller? _____

e) Does this aircraft have an unfeathering accumulator? _____

f) What is the purpose of the spring in the prop dome? _____

g) Define constant speed. _____

h) What unit adjusts the propeller to maintain a constant RPM and how does it do it? _____

i) Define full feathering. _____

j) Will the propeller always feather? _____

k) What are centrifugal stop pins? _____

l) What is the true purpose of the centrifugal stop pins? _____

m) What is the correct action for a propeller overspeed? _____

5) Describe the electrical system. _____

a) What are the indications of a failed alternator? _____

- b) Will the engines continue to run with the alternator and battery master switches turned off? _____
- 6) Describe the vacuum system. _____
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- a) Which instruments & equipment are vacuum operated? _____
- b) What are the normal vacuum operating limits? _____
- c) How many vacuum pumps does the PA-34 have? _____
- d) What indications would occur in the event of a vacuum pump failure? _____
- 7) Describe the stall warning system. _____
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- 8) Describe the fuel system. _____
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- a) Explain how to cross feed fuel. _____
- 9) Describe the landing gear system. _____
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- a) How is the landing gear actuated? Describe the pump. _____
- b) What keeps the gear in the up position? _____
- c) What keeps the gear in the down position? _____
- d) If hydraulic pressure is suddenly lost in flight, what indication, if any, would you have? _____
- e) In what three situations will the landing gear horn activate? _____
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- f) What unit will not allow the gear to be retracted on the ground? _____
- g) What is the procedure to extend the gear manually (Emergency Gear Extension)? _____
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- h) What airspeed is of importance during manual gear extension? _____
- i) Are the brake and the landing gear hydraulics interconnected? _____
- j) If you lose gear hydraulics, will you still have brakes? _____
- k) What indicates that the gear is in transit and the hydraulic pump is activated? _____
- 10) What type of braking system is used by the Seneca V? _____
- a) Where is the brake fluid serviced? _____
- 11) What type of flaps does the Seneca V have? _____
- a) What are the flap settings on the Seneca V? _____
- 12) What are the maximum taxi, takeoff, and landing weights? _____
- 13) What is the maximum baggage capacity? _____
- 14) Define V_{SSE} . _____
- 15) What are the drag factors on light twins? _____
- 16) Who determines V_{MC} for a particular aircraft? _____
- 17) Define V_{MC} . _____
- 18) Why is an aft CG used in determining V_{MC} ? _____
- 19) What are the factors in determining V_{MC} ? _____
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- 20) Define critical engine and list the factors used to determine it. _____

- 21) What causes an aircraft to sideslip with the loss of an engine, and what action is required to correct this? _____

- 22) How much climb performance is lost when an engine fails? _____
- 23) What aircraft equipment checks are required under FAR part 91? _____

- 24) Define absolute and single-engine service ceiling. _____
- 25) What documents are required to be on the aircraft? _____

- 26) Explain lost communications procedures. _____
- 27) Will the propeller feather below 800 RPM. Why or why not? _____
- 28) Explain the pitot static system. _____
- 29) Does the PA-34 have an alternate static source? _____
a) If so, how is it activated and what actions are necessary to acquire the most accurate reading? _____

- 30) What instruments are pitot static? _____
- 31) Where is the pitot static port located? _____
- 32) How do you prevent a heater overheat? _____
- 33) What is the fuel capacity? How many gallons are unusable? _____
- 34) What grade fuel is to be used in the PA-34? _____
- 35) How many fuel pumps are on the aircraft? _____
- 36) When are the electric fuel pumps to be used? _____
- 37) What are the various positions on the fuel selector control? _____
- 38) Explain the procedure for cross feeding fuel when operating the right engine from the left tank. _____

- 39) If the cylinder head temp and oil temp approach the caution range, what can be done to assist in cooling? _____

- 40) When an engine is inoperative or feathered, what indication will be observed on the manifold pressure gauge? _____

- 41) Why is the manifold pressure gauge not necessarily a good indicator in determining an inoperative engine? _____
