**DFW Wing CAF**

**Vultee BT-15 Valiant**

**Recurrent Ground School Test**

1. What is the wingspan and length of the BT-15?
   1. 42’0” and 28’10”
   2. 42’0” and 29’1”
   3. 42’0” and 29”1”
   4. 42’2” and 28’8.5”
2. What type of engine is installed on our BT-15 and what is the rated horsepower?
   1. PW1830@1200hp
   2. Wright 975-11 @ 440hp
   3. PW 985 @ 450hp
   4. Continental 670-6a @ 220hp
3. What are the oil quantities?
   1. Normal 8.5 US gallons/maximum 10.9 US gallons
   2. Normal 7.2 US gallons/maximum 12.0 US gallons
   3. Normal 8.2 US gallons/maximum 14 US gallons
   4. Any amount on the dipstick means it is okay for flight
4. Oil quantity between the two outer most red lines is an indication that the aircraft has enough oil and is safe to fly.
   1. True
   2. False
5. What type of propeller is installed?
   1. Metal Hamilton Standard, 2 bladed, hydro-controllable, two position type.
   2. Wooden Hamilton Standard, 2 bladed, fixed pitch type.
   3. Sensenich, 2 bladed, selecto-cut, constant speed type
   4. BR715-2B, 2 bladed, select-shift, two position type.
6. What type of oil is required?
   1. 15w20
   2. Aeroshell w100
   3. Prist 100w
   4. Aeroshell w120
7. The oil tank shutoff valve is located through a cowling access door on the right side of the airplane’s nose behind the engine.
   1. True
   2. False
8. What oil temperature do you need in order to exceed a maximum power setting of 1000 RPM?
   1. 20C
   2. 40F
   3. 40C
   4. It doesn’t really matter.
9. Where is the engine primer located?
   1. Front, left side of aircraft engine
   2. Front cockpit, upper right side
   3. Rear cockpit
   4. Doesn’t have one, you just pump the throttle during engine start.
10. What type and color is the required fuel?
    1. 100LL/blue
    2. 73octane/straw
    3. 110 or 120 octane/red
    4. JP-1/clear
11. How many gallons of fuel does the BT-15 hold?
    1. 60
    2. 120
    3. 140
    4. 130
12. Each fuel tank holds 60 gallons each.
    1. True
    2. Falso
13. What fuel level do we keep our BT-15 at when doing a post flight at the end of the day?
    1. Topped off at 120 gallons
    2. 60 gallons total/30 gallons per side
    3. 90 gallons total/45 gallons per side
    4. 84 gallons total/43 gallons per side
14. What are the fuel restrictions for takeoff and landing?
    1. If tanks are not full, takeoff and land on left tank or reserve tank only.
    2. There are none.
    3. Right tank only
    4. Reserve tank or left tank.
15. These restrictions are placarded and placard is required to be in place at all times.
    1. True
    2. False
16. What causes the red fuel low pressure light to illuminate?
    1. Fuel pressure drops below 2.25 psi when the battery switch is “ON”.
    2. The fuel pressure test switch is pushed on the ground before engine start.
    3. This is only for the BT-13 series and is not on the BT-15.
    4. Initially powering the electrical bus causes it to illuminate.
17. What are the fuel quantities (gallons) of the left tank, right tank, and reserve tank?
    1. 60/43/17
    2. 60/17/43
    3. 43/17/60
    4. 60/60/0. There is no reserve tank on the BT-15.
18. The reserve tank is located in the right wing and is the bottom 17 gallons of the tank.
    1. True
    2. False
19. The brakes (wheel and parking) are the only aircraft systems hydraulically powered by manual input.
    1. True
    2. False
20. Releasing the tail wheel by severe braking without using full rudder will damage the tailwheel mechanism.
    1. True
    2. False
21. What is the maximum flap extension speed?
    1. 120mph
    2. 120kts
    3. 111mpn
    4. 111 kts
22. How many degrees per turn does the flap handle move the flaps?
    1. 1
    2. 2
    3. 5
    4. 2.5
23. What is the normal flap setting (in degrees) for a normal takeoff?
    1. 10-20
    2. 0
    3. 30
    4. This airplane doesn’t have flaps
24. What is the maximum flap setting?
    1. 20
    2. 60
    3. 30
    4. 45
25. What are the stall speeds in the following configurations: Vs1, Vfe30, Vfe60(Vso)
    1. 72/65/62 mph
    2. 72/65/62 kts
    3. 67/62/55mph
    4. 90/85/82 mph
26. What is the maximum gross weight?
    1. 4350 lbs
    2. 4745 lbs
    3. 4600 lbs
    4. 4950 lbs
27. What is best glide speed?
    1. 90 mph with flaps 20 degrees or 100 mph with flaps up.
    2. 90 kts with flaps 20 degrees or 100 kts with flaps up.
    3. 75 mph with flaps 20 degrees or 85 mph with flaps up.
    4. 90 kts no matter what flap setting is used.
28. What is the normal takeoff distance at 500 MSL, 100 F, with a 10 mph headwind for a hard runway?
    1. 600 ft
    2. 720 ft
    3. 800 ft
    4. 1230 ft
29. What is the maximum prop RPM for takeoff (1 minute)/Continuous/Climb/Cruise?
    1. 2250/2200/2100/1900
    2. 2300/2250/2150/2000
    3. 1900 for everything
    4. 2400/2200/2100/1900
30. When does the propeller go to full decrease in flight?
    1. Cruise or during slow climb once sufficient altitude has been gained
    2. Immediately after take-off to ensure maximum climb performance
    3. In the descent to landing phase.
    4. During a go-around.
31. The propeller has only two positions: full decrease and full increase.
    1. True
    2. False
32. What are the engine oil pressure limitations?
    1. 70-75 psi
    2. 75-85 psi
    3. 40-90 psi
    4. 75-80 psi
33. What are the engine oil temperature limitations?
    1. 50-70 C
    2. 50-70 F
    3. 20-70 C
    4. 20-70 F
34. How can you get the engine to more quickly warm up during a cold day?
    1. Close the oil shutters
    2. Carb heat on
    3. Regardless of oil temp, run the engine at 1700 RPM until oil temp needle begins to move.
    4. Point engine into the wind.
35. What are the normal fuel pressure indications?
    1. 3-4 psi
    2. 2-4 psi
    3. 1-3 psi
    4. 5-7 psi
36. What is the maximum baggage compartment limits?
    1. 150 lbs
    2. 175 lbs
    3. 50 lbs
    4. 100 lbs
37. What procedure do we use to check for engine hydraulic lock prior to start?
    1. Pull engine thru, by hand, a minimum of 7-9 blades
    2. Engage starter and count 9 blades from the cockpit.
    3. No need to pull engine thru on the Wright 975.
    4. Pull engine thru 3 blades.
38. What is the maximum RPM drop during runup?
    1. 100 rpm
    2. 75 rpm
    3. 50 rpm
    4. 150 rpm
39. What is the electrical system voltage on the BT-15?
    1. 24 volts
    2. 12 volts
    3. 14 volts
    4. 18 volts
40. What is the difference between the BT-13 and BT-15?
    1. Nothing
    2. BT-15 has the Wright 975 and BT-13 has the P&W 985.
    3. BT-15 has the Wright 985 and BT-13 has the P&W 975.
    4. BT-13 has the P&W 1340 and the BT-15 has the Wright 1300.
41. Towing the airplane with the control lock engaged will damage the tailwheel.
    1. True
    2. False