WCFC Mooney M20J Quiz

Review before : 2025-03-26

Quiz ID : **12829**

Instructor :		Date :
Pilot :	Member # :	Score :

Instructor : Please note the final score (subtract 3.0 points from 100 for each wrong answer) on the checkout form and file the quiz in the Pilot Records folder.

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1 : M20J Mooneys equipped with the original McCauley propeller (68X in the WCFC fleet) have a caution range indicated by a yellow band on the tachometer from 1500 to 1950 RPM. Continuous operation within this range must be avoided for what reason ...

A : to prevent "laboring" the engine

B : to avoid detonation

C : to avoid running "over square"

D : to avoid "de tuning" the crankshaft flyweights

E : to maintain optimum engine temperatures

2 : The Mooneys operated by the WCFC are designated by Mooney as which model?

A : M20P

B : M20J

C : M20k

D : M-201

3 : Four headliner light positions illuminate the cabin. The forward lights are controlled by a BRIGHT-OFF -DIM switch located in the headliner above the co-pilot. The rear lights are controlled by another BRIGHT-OFF-DIM switch located overhead and farther to the rear. The cabin lights ...

A : are wired through the main bus controlled by the master switch.

B : are powered by an auxiliary battery separate from the aircraft battery to provide light without switching on the battery master switch.

C : are on a timer to prevent draining the aircraft battery.

D : are connected directly to the aircraft battery.

E : are automatically dimmed when the navigation lights are turned on.

4 : What is the maximum demonstrated crosswind component of the M20J aircraft operated by the Wings of Carolina?

A : 15 knots

B : 10 knots

C : 11 knots

D : 17 knots

5 : The gascolator release, located to the left of the selector valve in the floorboard, is for...

A : ...testing fuel flow to the selector valve.

B : ...restoring fuel flow if the selector valve jams or obstructs

C : ...providing emergency venting to the fuel system to relieve a vacuum caused by icing or blockage of the wing tank vents.

D : ...overriding the fuel selector valve in an emergency so both tanks are available simultaneously.

E : ...draining condensed water and sediment from the lowest point in the fuel lines before the first flight of the day and after each refueling.

6 : The highest cruise power setting recommended by the WCFC Normal Operations checklist equates to:

A : 67% power

B : 71% power

C : 75% power

D : 95% power

7 : Why is it a good practice -- as the WCFC checklist suggests -- to start and taxi on one tank and switch to the other before run up and takeoff?

A : to be sure that the fuel valve is operational

B : to be sure that the pilot knows where the valve is and how to operate it.

C : to increase the chances that any contaminants or malfunction in the valves will be discovered before the tanks are switched enroute

D : a, b, and c are all in some way correct.

8 : The engine in the Mooney M20J is a

A : Continental IO-360

B : Lycoming 0-360

C : Lycoming I0-360

D : Continental 0-200

9 : The maximum usable fuel capacity and "to the tabs" fuel capacity (indicated by the "reduced fuel quantity indicator installed in each tank") are, respectively:

A : 50 gallons (300 pounds) and 42 gallons (252 pounds)

B : 396 pounds (66 gallons) and 300 pounds (50 gallons)

C : 384 pounds (64 gallons)and 300 pounds (50 gallons)

D : 52 gallons (312 pounds) and 50 gallons (300 pounds)

10 : Pilots should be especially aware to supervise any ground towing

A : to avoid exceeding the nose gear steering limits

B : to be sure that the wing tips will clear other objects

C : to be sure that the proper tow bar is hooked to the tug

D : to be sure that the brakes are properly released

11 : The maximum rated horsepower of the WCFC M20J (Mooney 201) airplane engine is _____

A : 180

B : 200

C : 201

D : 360

12 : Power reductions in descent should be accomplished ...

A : about 1" at a time, enriching mixture, cowl flaps closed

B : about 8" at a time, enriching mixture, cowl flaps open

C : smoothly as necessary, mixture lean, cowl flaps open

D : about 3" at a time, mixture lean, cowl flaps closed

13 : For purposes of FAA pilot qualification as PIC, the Mooney M20J is considered:

A : A high-altitude airplane and requires a high-altitude endorsement from a flight instructor (or previous documented experience as specified in the FARs).

B : A high-performance airplane and requires an endorsement from a flight instructor attesting to proficiency in high-performance airplanes (or previous documented experience as specified in the FARs).

C : Both a complex and a high-performance airplane and requires a high-performance endorsement from a flight instructor (or previous documented experience as specified in the FARs).

D : A complex airplane and requires an endorsement from a flight instructor attesting to proficiency in complex airplanes (or previous documented experience as specified in the FARs).

14 : Intentional spins in the M20J Mooney ...

A : are allowable only when the airplane is operated in the Utility Category

B : are not approved and are prohibited

C : are approved only for a maximum gross weight of fewer than 2500 pounds

D : are approved only for a Center of Gravity near the forward limit to guarantee stall recovery

E : are just too much fun to be missed

15 : If the gear fails to retract after takeoff, what means do we have to possibly achieve retraction?

A : Place the gear position switch in the Down position and pull the Gear Actuation circuit breaker, then raise the gear conventionally.

B : The Gear Safety Override Switch will defeat the Gear Safety Switch and allow retraction if the Gear Safety switch is preventing retraction.

C : Pull the Gear Actuation circuit breaker.

D : Retract the gear manually after pulling the Gear Actuation (ACT) circuit breaker

E : Unlatch the red lever on the manual gear system to disengage the electrical gear system and then raise the gear manually

16 : WCFC policy permits leaning the M20J ...

A : at a climb power of 80%

B : to peak or lean of peak if power is below 60% and engine smooth

C : b) and d) are correct

D : to rich of peak at a climb power of 75% or less

17 : To achieve the maximum glide range in an engine-out situation, the propeller control should be ...

A : pushed full in

B : left alone

C : pulled full out

D : cycled to keep oil in the prop dome

E : moved to the "feathered" position

18 : The Landing Gear Safety Bypass Switch Override

A : Allows the landing gear to be retracted at speeds less than 65 KIAS (75 mph) or may be used to override a failed deactivation of the airspeed actuated safety switch.

B : Overrides the "squat switch" on the left main gear

C : Both a) and d) are correct.

D : Overrides the safety features of the airspeed actuated safety switch and can cause the gear to start retracting while on the ground

E : Prevents the landing gear from retracting as a safety measure

19 : "In the Mooney M20J the auxiliary electric fuel boost pump..."

A : should not be activated at low power settings such as landing

B : is capable of supplying fuel to the engine at the rated quantities and pressures to permit the engine to develop rated power.

C : is capable of supplying fuel to the engine at the rated quantities and pressures to permit the engine to develop power sufficient to sustain cruise flight but not necessarily rated power.

D : is intended only for starting and for use in the event of a failure of the engine-driven pump

E : should be activated for flight above a pressure altitude of 10,000 feet

20 : What is the correct procedure for hot starting the Mooney?

A : Turn the boost pump on, prime briefly with the mixture, and crank.

B : Leave the boost pump off, the mixture "cut off," throttle at 1/2 inch, and crank for a maximum of 12 seconds (count or use clock).

C : b and d are correct.

D : If the engine won't start using b), then pressurize the system, prime for 3 seconds at 1/4 inch throttle, and use "flooded start" technique (boost pump off, throttle full open, mixture "cut off", slowly but firmly open mixture and bring throttle to 1,000 rpm when engine fires).

21 : If the gear position handle is in the down position and the "Gear Unsafe" light is not illuminated, but the "Gear Down" light does not illuminate, what would be the best way to determine if the landing gear is down and locked?

A : Recycle the gear position handle

B : Rock the wings to try to lock the gear down.

C : Look at the visual indicator located in the floor between the two front seats for proper alignment, which is represented by the alignment of two green bars.

D : Engage the Gear Safety Bypass switch to unlock the gear and then recycle the gear

22 : IAS (indicated airspeed) on final approach should be

A : 90 KIAS on final and 71 KIAS over the threshold

B : 80 KIAS on final and 71 KIAS over the threshold

C : 90 KIAS on final and over the threshold

D : 80 KIAS over the threshold

23 : From an altitude of 8,000 feet AGL, at a weight of 2500 pounds, what would be the most effective engine-out glide speed and the attainable glide range? (Assume the gear retracted, flaps retracted, cowl flaps closed, propeller windmilling, and no wind.)

A : 91 kts / 18 NM

B : 85 kits / 15 NM

C : 88 kts / 18 NM

D : 88 kts / 15 NM

24 : Where is the pitot system drain located? Where is the alternate static pressure source valve located?

A : On the sidewall of the cabin near the pilot's left knee. There is no alternate static source valve - you can break the VSI glass to admit static air to the system.

B : On the forward bottom skin of the left wing just outboard of the fillet; A knob on the lower left of the pilot's panel

C : On the inside fuselage wall abeam the pilot's seat; Under the panel below the altimeter and vertical speed indicator

D : On the bottom of the fuselage tail cone near the battery box vent inlet; Under the left flight panel

25 : What is the FAA type designator (box 3 - FAA flight plan) for the Mooney? This is the designation you will use to file a flight plan. Consult FAA references for your answer.

A : M20P

B : M20J

C : M-201

D : M20-K

26 : The maximum WCFC recommended cruise percentage of power setting for the M20J is:

A : 58% with a leaned fuel burn of 8.2 gph

B : 65% with a leaned fuel burn of 9.6 gph

C : 75% with a rich fuel burn of 14 gph

D : 95% with a rich fuel burn of 19 gph

27 : How is the voltage regulator "re set" after a high voltage indication?

A : by closing the field winding circuit breaker

B : by pushing in the "ALT" circuit breaker

C : by first switching off the radio master, then turning off, and then on, the master switch

D : by pulling the "ALT" circuit breaker.

E : by recycling the radio master

28 : The Aux Bus circuit breaker powers

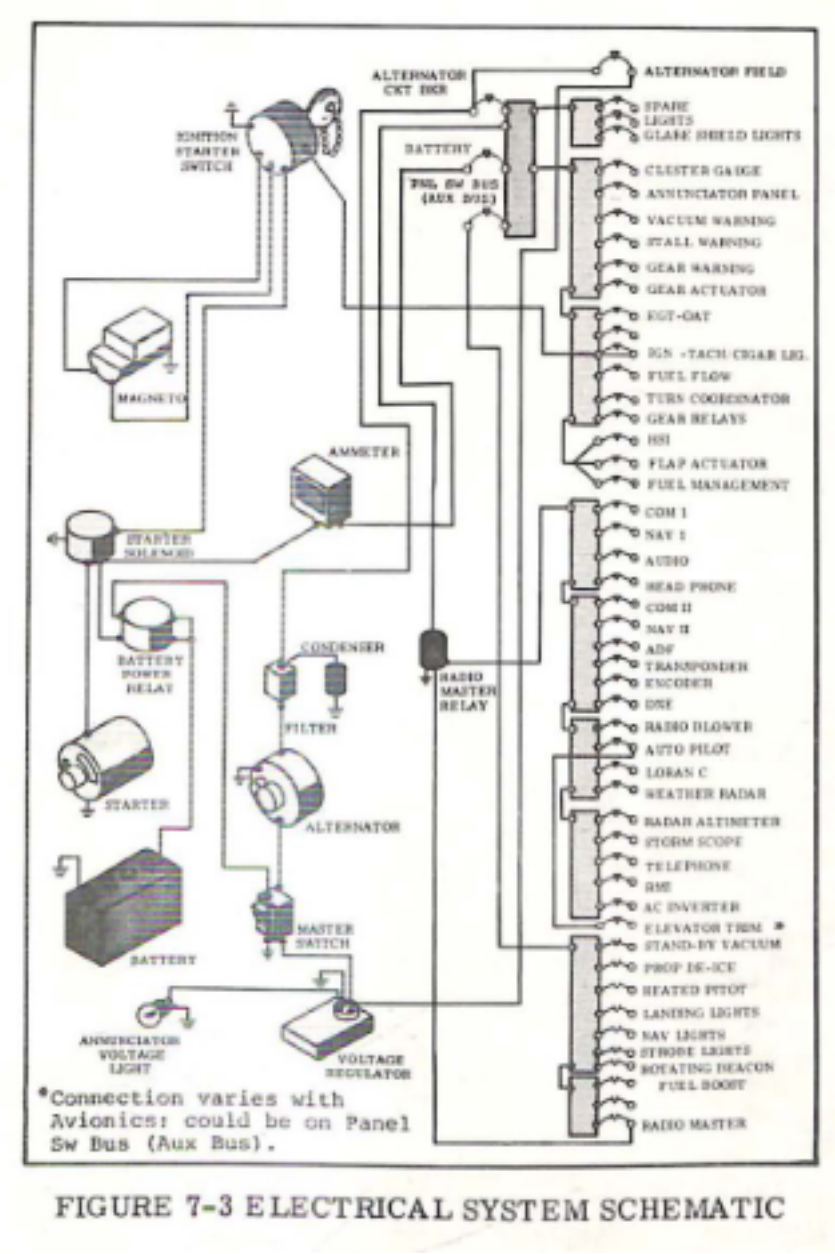

FIGURE 7-3 ELECTRICAL SYSTEM SCHEMATIC

A : the auxiliary bus located on the lower right panel

B : all of the white switch/breakers on the lower panel

C : the bottom row of circuit breakers on the left breaker panel

D : the auxiliary power to the standby vacuum pump

E : the emergency auxiliary power for the attitude indicator

29 : The M20J, although normally aspirated, performs very well between 8000 and 12000 feet. According to the Mooney Cruise Power Schedule performance charts, fuel burn for the M20J at 10,000 feet MSL, standard temperature, leaned for best economy, and 60% power at 2400 RPM should be (in gallons per hour):

A : 10.0 gph

B : 8.6 gph

C : 60% power is unattainable at that altitude

D : 8.4 gph

30 : If the radio master switch fails in the "off" position ...

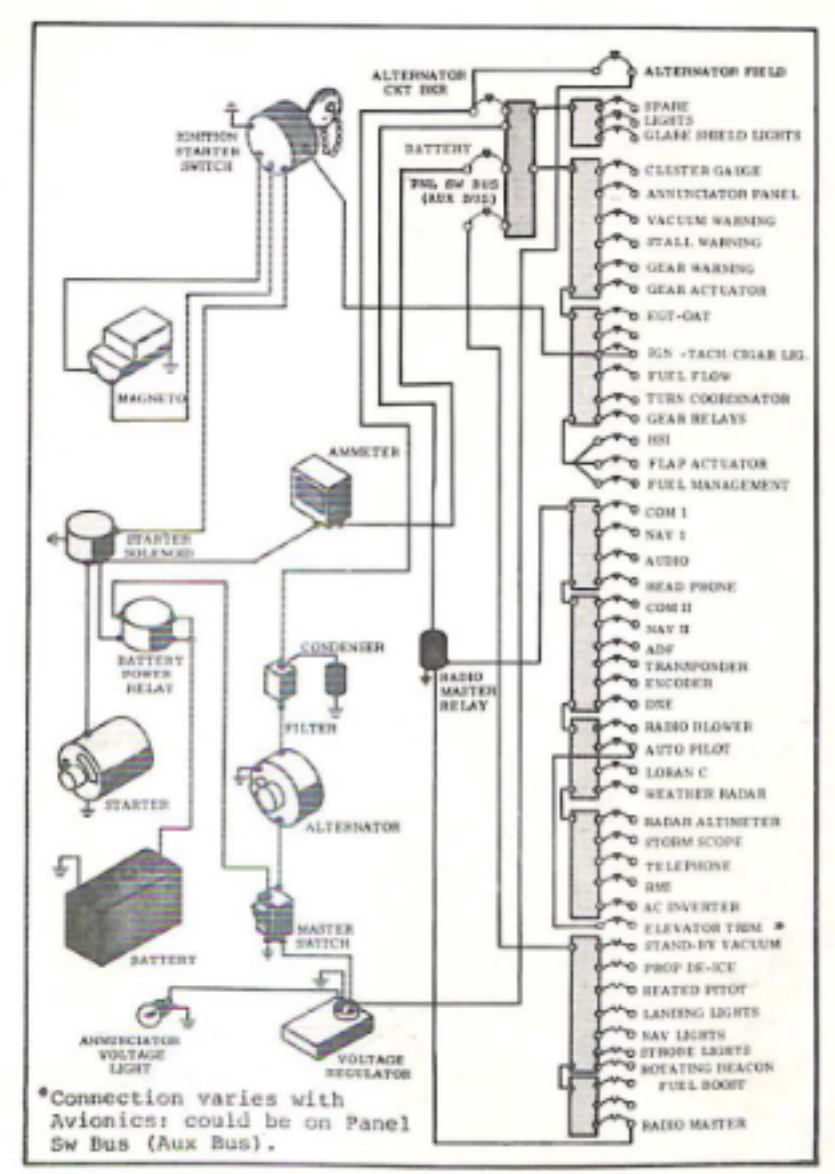

FIGURE 7-3 ELECTRICAL SYSTEM SCHEMATIC

A : The radios will not be able to be switched on

B : The radios will remain on and function normally if the master is ON

C : The radios may be switched on by turning the master switch OFF

D : The "AUX BUS" (panel SW BUSS) circuit breaker should be pulled to restore radio power