

Wings of Carolina Flying Club, Inc.
Pilot Check-out Quiz - Mooney "201 " Differences
N305FW

NAME: _____ SCORE: _____ % (2.5 pts/ques)
DATE: _____ By: CFI _____

NOTE: The difference quiz for 4055H is considered part of this quiz and must also be taken. With the exception of the flight director system of the KFC-200, all of the equipment in 55H is functionally duplicated on 5FW but may be by a different manufacturer or installed differently. 305FW may not be flown until this quiz is satisfactorily completed. All questions may be answered by reference to published materials. Circle the letter by the correct answer.

1. The heading card in the NSD 360A HSI in the Century I autopilot in 5FW is
 - a) remotely driven by an electric, slaved gyroscope
 - b) internally driven by an electric gyroscope
 - c) internally driven by a vacuum powered gyroscope through an electric servo

2. The slaving meter for the NSD 360A HSI
 - a) is located in the co-pilot's panel and shows left and right deviations
 - b) is located in the HSI face and should oscillate around a 45 degree orientation
 - c) is located on the upper left panel near the "free gyro" switch

3. The appearance of the "HDG" flag on the NSD 360A HSI indicates
 - a) the loss of electric power to the unit
 - b) the loss of vacuum (min 4" Hg) to the unit
 - c) [a] and b) may each be correct depending on failure model

4. The preflight cockpit check of the Century 41 autopilot system should include
 - a) a check of servo function
 - b) a check of electric trim function and autopilot circuit function
 - c) a check of the "alt" function

5. How is the autotrim system tested before the first flight of the day?
 - a) by.. pressing the. test switch and. observing all of the annunciator lights
 - b) by manually overriding the electric trim
 - c) by pressing the test button and holding it in for about 20 seconds and observing four automatic test sequences

6. How is the command trim tested before each the first flight of the day?
 - a) by manually trimming the elevator
 - b) by checking the several functions of the trim switch per section 4-4-2 of the AFM supplement
 - c) by pushing the "test" button on the annunciator panel

7. Why -should the engine be running when accomplishing the checks per section 4-4 of the AFM supplement?
- a) to assure adequate voltage for the autopilot checks
 - b) to assure vacuum for the autopilot checks
 - c) [both a) and b) are correct]
8. Which modes does the autopilot always indicate when power is applied to the Century 41 system?
- a) "NAV" and "ATT"
 - b) "HDG" and "ALT"
 - c) "HDG" and "ATT"
9. What does the "go around" button on the panel do?
- a) disengages the autopilot and trim to allow for transition to climb attitude
 - b) returns the lateral mode to "HDG" to facilitate a missed approach maneuver
 - c) maneuvers the aircraft to a climb attitude while not altering the lateral mode selected
10. How is an autopilot mode cancelled on the Century 41 system?
- a) by pressing the mode button again
 - b) by selecting a different mode
 - c) by pushing the "CWS" button
11. How is the count down timer set on the Davtron clock?
- a) by pushing the "select" button when "ET" is shown
 - b) by pushing the "select" and "control" buttons simultaneously when "LT" is shown
 - c) by pushing the "select" and "control" buttons simultaneously when "ET" is shown
12. How is the count up timer selected on the Davtron clock? (Reference the illustration)
- a) by pushing the "select" button until the little dot is over the "ET"
 - b) by pushing the "select" button until "ET" appears on the clock face
 - c) by pushing both the "select" and "control" buttons repeatedly
13. How is the flashing indication on the FT- 10 1 fuel flow computer cancelled?
- a) by pressing the "test/used" button
 - b) by cycling the master switch
 - c) by cycling the-avionics master switch
14. When should the fuel totalized be reset to "0"?
- a) at the beginning of every flight
 - b) upon switching tanks
 - c) when the aircraft is fueled (to a known quantity)

15. When should the "Fuel Flow Memory" switch on the upper right panel be used?
- only when storing the aircraft for long periods of time to save the battery
 - when the "memory" function is desired
 - when memory function needs to be recycled
16. The Aero Safe stand-by vacuum system is checked
- at a low engine power setting noting the proper indication
 - at a high engine power setting noting the proper indication
 - with the engine shut down noting the proper indication
17. When operating the Aero Safe stand-by vacuum system during flight, load shedding should be accomplished, because of the high power draw, to the following limits:
- 35 amps day, 32 amps night (excluding stand-by vacuum drain of 13.5 amps)
 - 39 amps day, 32 amps night (including stand-by vacuum drain of 13.5 amps)
 - 39 amps day or night (including stand-by vacuum drain of 13.5 amps)
18. Where is the Aero Safe standby vacuum pump located?
- in the tail cone aft of the rear cabin bulkhead
 - near the engine drive vacuum pump in the engine compartment
 - under the instrument panel near the vacuum-driven instruments
19. What is the function of the "ISO" switch on the NAT intercom?
- to allow the pilot not to hear the passengers or entertainment radio
 - to connect the pilot directly to the nav/comm (audio panel) radios only
 - [both a) and b) are correct]
20. How is radio transmission confirmed through the NAT intercom?
- by a red light on the intercom
 - by a yellow light on the intercom
 - by a green light on the intercom
21. With regard to use of the Avionics West stereo/cassette player, why is it critical to set all com and nav radios and the intercom to their normal audio output levels?
- because the pilot and passengers would be disturbed if com transmissions "blasted" through compared to the entertainment audio
 - because adequate comm and nav- audio- output is required for the automatic squelching circuits to mute the entertainment signal
 - because the pilot would want to be able to hear the comms over the entertainment signal
22. How is the com override circuitry tested on the Avionics West EC-200?
- by pushing the "C/ONLY" button and listening for the comm radio
 - by waiting for a com transmission to come and seeing if it overrides the entertainment signal
 - by pushing the "C/INT" button and watching for the COM indicator light to illuminate when the squelch is defeated on the selected com radio

23. How is the heading function of the Stormscope 1000 + driven?
- a) by an internal gyroscope in the Stormscope
 - b) by the RMI output from the HSI
 - c) by an internal flux detector
24. If the heading function as displayed on the Stormscope 1000 + fails
- a) turn off the Stormscope until it can be repaired
 - b) the heading stabilization system is engaged automatically
 - c) the "heading stabilization" mode should be turned off through the "options" menu, and the Stormscope used in a non-stabilized mode
25. A "stuck mike" in the aircraft can be noted on the Stormscope 1000 +
- a) by a message appearing in the screen "mic key stuck"
 - b) by lightning strike data appearing at the 12 o'clock position no matter what the heading
 - c) by random "strikes" appearing in all quadrants
26. When using the checklist mode on the WX-1 000 +, pressing the "skip" button
- a) will skip the highlighted item and scroll to the next item
 - b) will cause the skipped item to be presented at the end of the list
 - c) [both a) and b) are correct]
27. In the event of a hardware or software malfunction on the WX-1 000 +
- a) the unit should be turned off
 - b) the pilot should be alert to the presentation of clearly erroneous data
 - c) an error message will be presented on the screen and other functions of the unit will remain usable as directed on the error message screen
28. In the storm mapping mode, what is the principal difference between the WX-1 000 + and the WX-1 0A (in 55H)?
- a) returns are plotted as dots on the WX- 1000 + and as a " + " on the older models
 - b) software improvements improve range accuracy and heading stabilization is provided
 - c) the "clear" function never has to be used on the WX- 1000 +
29. Why must the "Test" function be used periodically when navigating around storms?
- a) to verify that the systems are reporting discharges as expected
 - b) to make sure that the test sequence has been accomplished
 - c) to verify that the system is powered
30. Why must the "Clear" function be used periodically when using the WX- 1000 + ?
- a) it is not necessary to use the "Clear" function when the heading stabilization function is operating correctly
 - b) to reposition plots when changing range settings or when changing from 360 to 120 degree displays
 - c) to validate storm data by watching the reappearance of plots and to gauge whether a cell is building or dissipating

31. In how many modes does the GEM Engine Monitor operate?
- 2 modes - normal mode, and lean mode
 - 3 modes - lean mode, normal mode, and analysis mode
 - 3 modes - lean mode, monitor mode, and test mode
32. Is the GEM Engine Monitor necessary for proper leaning?
- no, the pilot can always lean "by ear"
 - yes, the GEM is critical to proper leaning
 - no, the fuel flow indication and/or the analog EGT can be used
33. What is the principal advantage of the 4-probe EGT display (GEM) over the normal factory installed single probe EGT?
- more accurate readings are possible
 - 4 probe EGTs lend themselves to in-flight analysis of clogged injectors, cylinder compression, oil consumption, or timing problems
 - leaning can be accomplished more quickly
34. What critical condition is indicated by a high CHT and a low EGT on a cylinder when operating at relatively high power settings (cruise or higher)? [NOTE: This condition would indicate a precautionary landing as soon as practicable to check out the offending cylinder(s).]
- intake valve failure
 - detonation
 - pre-ignition
35. What critical condition is indicated by an abnormally high EGT followed by high CHT on a cylinder when operating at relatively high power settings? [NOTE: This condition can destroy a piston within about 20 seconds and a landing should be planned whether or not maintenance is available at the field.]
- intake valve failure
 - detonation
 - pre-ignition
36. How is CHT normally read on the GEM indicator?
- by selecting the "CHT" mode and reading the top of each scale
 - by observing the top bar before the unlighted bar with reference to the scale on the right (100 degrees F)
 - by observing the unlighted bar with reference to the scale on the right which is calibrated in 100 degrees F.
37. A single bright orange bar on a dark field observed on the GEM gauge indicates
- that the instrument display has malfunctioned
 - that the EGT probe has failed, (or the cylinder is not firing) and the single bright orange bar represents the CHT
 - that the CHT probe has failed

38. How are the lean mode and the test mode selected on the GEM gauge?

- a) the lean mode is selected by pressing the reset button until the "EGT" indication begins to flash while the test mode is selected by pressing the reset button with the power off and then turning on the electrical power to the instrument
- b) the lean mode is selected by momentarily pressing the reset button, while the test mode is automatic
- c) the lean mode is the normal operating mode, and the test mode is selected by pressing the reset button for at least two seconds

39. What does the asterisk indicate on the GEM gauge?

- a) it represents the normal high EGT readings at cruise power (uncalibrated)
- b) it represents an average EGT for all cylinders at cruise power
- c) it indicates that the EGT scale on the left is not calibrated

40. What function is accomplished when a mini plug (from a handheld radio) is plugged into the receptacle on the lower center console?

- a) the handheld is connected to a dedicated outside antenna
- b) audio from the handheld may be heard over the pilot's headset
- c) the No. 1 comm antenna is disconnected from its radio and is connected to the handheld instead