WCFC Piper PA28 Warrior Quiz

Review before : 2026-01-12

Quiz ID : **18073**

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 : The quantity of oil in the PA28 engine for flight should be

A : 4 quarts minimum, 6 quarts maximum

B : 4 quarts minimum, 8 quarts maximum

C : 8 quarts maximum, 2 qts minimum for safety according to Lycoming

D : 7.5 pounds minimum, 10 pounds max

2 : When the ESP system that is an integral part of the G5 and the GFC 500 AFCS has been engaged for more than 10 seconds (cumulative; not necessarily consecutive seconds) of a 20-second interval, what happens?

A : A warning alert "Pitch down" is heard.

B : Flight controls are locked for five seconds to prevent further excursions in pitch and bank

C : The autopilot is immediately disengaged, returning control to the pilot for safety.

D : The autopilot engages in Level (LVL) mode

E : The ESP system disengages to prevent over-driving the pitch and roll servos.

3 : The Garmin G5 configured as a PFD (Primary Flight Display) includes much information in addition to its role as an attitude indicator. Please identify the role of each of the symbols and numbers identified by number in the diagram below.Number 11 is the _____. Number 7 is the _____. Number 24 is the _____. Number 5 is the _____. Number 15 is the _____.

4 : According to the Warrior AFM/POH, engine fires during starting are usually caused by...

A : cranking the starter excessively, thus flooding the engine

B : priming with the auxiliary boost pump

C : attempting to start the engine with the magnetos energized

D : over-priming

E : allowing fuel to vaporize on a hot day

5 : The maximum demonstrated cross-wind component for the PA-28-161 is

A : 12 knots

B : 15 knots

C : 17 knots

D : 25 knots

6 : In the combination G5 and G500 autopilot installed in the WCFC PA28.161 Warriors, once engaged, the torque applied by ESP is at its maximum when bank angle ...

A : exceeds a prudent bank angle for more than 5 seconds

B : exceeds a roll rate of 45 degrees per second

C : is accompanied by a loss or gain of more than 175 feet of altitude

D : is 15 degrees more than the configured bank limit.

E : the trim malfunctions and produces a runaway condition requiring immediate disabling of the electric trim

7 : The rated power of the engine as installed in a PA-28-161 is

A : 100 BHP

B : 125 BHP

C : 150 BHP

D : 160 BHP

8 : According to this representation of the G5 is Electronic Stability Protection enabled or disabled?

A : Disengaged

B : Enabled

C : Disabled

D : Standby

9 : The engine in a PA-28-161 is a

A : Continental O-300

B : Lycoming O-320

C : Lycoming O-235

D : Lycoming O-540

10 : The correct type of fuel for the PA-28-161 (excepting any special STC) is

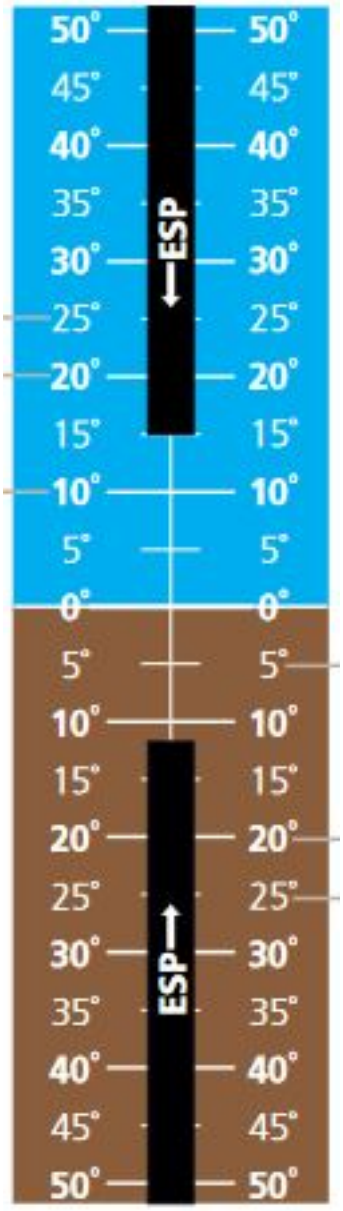
A : Aviation 80, 100LL, or 100/130 fuel

B : Automotive high test

C : Aviation 100LL or 100/130 fuel (100LL preferred)

D : Aviation 100LL (light blue) fuel only

11 : The Garmin G500 autopilot in the WCFC PA28 Warriors incorporates an ESP function. Working in concert with the G5 attitude indicator, the ESP system discourages flight outside of configurable pitch and bank postures. If the configurable pitch limits, up and down, are both set to 20 degrees of pitch, the maximum torque applied by the ESP system will occur at what pitch levels?



A : when the pilot attempts to override the pitch limits

B : 20 degrees pitch up and 20 degrees pitch down

C : 25 degrees pitch up and 25 degrees pitch down

D : 15 degrees pitch up and 25 degrees down

E : 15 degrees pitch up and 15 degrees down

12 : Recommended short-field flap setting, rotation speed, and initial-climb airspeeds for a best obstacle clearance takeoff for the PA-28-161 are, in order:

A : 0 degrees, 50 KIAS, and 65 KIAS

B : First notch of flaps, 63 KIAS, and 65 KIAS

C : 25 degrees flaps, 52 KIAS, and 52 KIAS

D : 40 degrees flaps, 52 KIAS, and 79 KIAS

13 : When flying an autopilot coupled LNAV approach with vertical descent angle and the MDA set as an altitude preselect, what will the autopilot do at MDA?

A : The autopilot will level at the preselected MDA and continue to track the course guidance

B : The autopilot will alert arrival at the MDA and request further command

C : The autopilot will continue to descend on the vertical angle without leveling at the MDA

D : The autopilot will disengage

E : The autopilot will commence the missed approach

14 : Calculate the climb performance (feet per minute) of a Club Warrior at a pressure altitude of 8,000 feet based on the following assumptions:

- Pressure altitude = 8,000 feet
- Indicated airspeed = 79 knots
- Full throttle
- OAT = 20F
- Leaned per Lycoming Instructions
- Wheel pants removed
- Weight = 2325 pounds (original max gross without the STC)
- NOTE: These calculations based on N64TZ. Others should be similar. Answers will not be precise given the imprecision of these charts. Choose the closest answer.

A : 240 feet per minute, approximately

B : 380 feet per minute, approximately

C : 210 feet per minute, approximately

D : 340 feet per minute,approximately

15 : Do not overpower the GFC 500 Autopilot because ...

A : The autopilot will trim against your control input since it is unable to distinguish your control input from aerodynamic forces.

B : The autopilot will not respond to your control input

C : You will damage the autopilot servos

D : The autopilot will recognize your control input and will attempt to assist by trimming in the direction of your input. This function is designed to recognize and assist in an emergency.

E : The autopilot will immediately turn off and return the airplane to manual control.

16 : What is the most current CG (Center of Gravity) in the WCFC record for N64TZ?

17 : Calculate the Weight and Balance for NWCFC1, a fictional PA28 with the following characteristics. What is the total weight, the CG, and is it, as loaded, within the weight and balance limits?

Item	Weight	Arm
Basic Empty Weight	1470 pounds	85 inches
Fuel	34 gallons	95
Pilot and front passenger	355 pounds	80.5
Rear seat passengers	230 pounds	118.1
Baggage Area	20 pounds	142.8

A : Weight 2259CG 91.39Yes, within limits

B : Weight 2279CG 90.58Yes, within limits

C : Weight 2279CG 87.4Yes, within limits

18 : The normal operating range in KIAS represented by the green arc on the airspeed indicator is:

A : 126-160 KIAS

B : 44-103 KIAS

C : 50-126 KIAS

D : below 160 KIAS

19 : The type of oil normally in the engine should be ...

A : SAE rated SE (severe environment) multi-viscosity

B : Aviation grade ashless dispersant (AD) of appropriate viscosity

C : High quality automotive type high detergent (HD) motor oil

D : Aviation grade "straight mineral oil"

E : Aviation grade multi-viscosity synthetic oil

20 : The following numbers refer to the various sources of information in the standard G5 PFD presentation as installed in the Club Warriors and integrated with the G500 Garmin autopilot. Consult the diagram and refer to the numbered items. Please fill in the blanks. #15 is the _____. #17 is the _____. #14 is the _____. #19 is the _____ #20 is the _____.

21 : Calculate the weight, CG, and total moment of N8080A using the data below. Choose the correct answer.

item	weight (pounds)	CG (arm)	Moment (/1000)
Airplane (80A)	1521.5	86.99	132.36
Front seat	220	80.5	17.71
Rear Seat	340	118.1	40.15
Fuel (pounds)	204	95.0	19.38
Baggage	100	142.8	14.28
Totals	---------	------	----------

A : Totals | 2385.5 | 90.23 | 223.88 |

B : Totals | 2385.5 | 92.86 | 221.51 |

C : Totals | 2585.5 | 93.86 | 242.67 |

D : Totals | 2385.5 | 93.86 | 223.88 |

22 : If we suspect a total loss of alternator output in the PA28-161 electrical system, how can we determine if the output is a total loss of the alternator or merely a low demand on the system?

A : Pull the alternator field circuit breaker to check for an increased reading on the ammeter

B : Check the ammeter for a reading below zero that would indicate a failure and a battery discharge.

C : Check the voltmeter for voltage of at least 14 volts, required for normal operation of the 12-volt system.

D : Activate an electrically-powered system, such as the landing light, and if the ammeter does not respond, the alternator can be assumed to have failed.

23 : The maximum gross takeoff weight for the CHFC PA-28-161 aircraft is

A : 2000 pounds

B : 2325 pounds

C : 2350 pounds

D : 2440 pounds

24 : What does STC SA00397NY, installed in some of the WCFC Warrior fleet, change about a PA28-161.

A : This STC approves the Garmin G5 electronic instrument to serve as the primary attitude indicator and fully replace the original vacuum-powered instrument.

B : The STC allows the installation of a smaller-diameter nose wheel to reduce the angle of attack on the takeoff roll and reduce the tendency to lift off prematurely in ground effect.

C : The STC grants permission to operate that serial number airplane at a maximum gross weight of 2440 pounds rather than the original 2325 pounds.

D : The STC allows the relocation of the battery from the firewall to an alternate location beneath the rear seat, which moves the CG aft (but within limits) to reduce drag and improve speed, fuel efficiency, and range.

25 : This G5 is configured with a ...

A : sky pointer

B : ground pointer

26 : Assuming that the configured bank limit of the ESP system is set at 45 degrees of bank, at what bank angle is the maximum torque reached?

A : it depends on whether the GPSS is engaged

B : maximum torque is whatever force required to counteract the pilot's effort

C : 60 degrees of bank

D : 30 degrees of bank

E : 15 degrees beyond the minimum torque setting

27 : Using the Performance Charts of the AFM/POH for N8080A, serial number 18-8016051, the true airspeed in cruise will be _____ under the following conditions ... (Use the original maximum gross weight of 2325 pounds.)

Condition	Data
Cruise Pressure Altitude	8,000 feet
OAT at cruise altitude	15 Celsius
Cruise Power	65% best power
Wheel fairings	not installed
Gross weight	2325 pounds

28 : At 2000 pounds total weight, a reasonable approximate maneuvering speed for the PA-28-161 is

A : 76 KIAS

B : 88 KIAS

C : 102 KIAS

D : 111 KIAS

29 : At a cruise OAT of 40 degrees F, what would be the highest pressure altitude at which we can achieve 75% power according to the performance charts and abiding by the stated configurations and parameters?

A : Approximately 5000 feet

B : Approximately 6000 feet

C : Approximately 7000 feet

D : Approximately 8000 feet

E : Any altitude lower than 10,000 feet

30 : The active and armed modes, lateral and vertical, of the autopilot are displayed where?

A : Active modes are displayed on the HSI function of the installed G5

B : There is no separate display. The modes are recognized from the GFC 507 mode buttons, which turn red when engaged.

C : Adjacent to the GFC 507 AFCS in the GFC 500 screen

D : Autopilot (AP) status is displayed in the middle of the G5 Autopilot Status Box.

E : The autopilot (AP) modes may be displayed externally on an Ipad linked via Bluetooth to the GFC 500 AFCS system.