

04/13/2005

Bank: (RTG - General Questions)

Airman Knowledge Test Question Bank

Generated for St. George applicants retesting for the Aviation Mechanic Airframe and Powerplant Exams (General Questions).

The FAA computer-assisted testing system is supported by a series of supplement publications. These publications, available through several aviation publishers, include the graphics, legends, and maps that are needed to successfully respond to certain test items.

1. A04G AMG

Which is correct concerning a parallel circuit?

- A) Total resistance will be smaller than the smallest resistor.
- B) Total resistance will decrease when one of the resistances is removed.
- C) Total voltage drop is the same as the total resistance.

2. A04G AMG

Which statement is correct when made in reference to a parallel circuit?

- A) The current is equal in all portions of the circuit.
- B) The total current is equal to the sum of the currents through the individual branches of the circuit.
- C) The current in amperes can be found by dividing the EMF in volts by the sum of the resistors in ohms.

3. A04G AMG

Transfer of electric energy from one circuit to another without the aid of electrical connections

- A) is called induction.
- B) is called capacitance.
- C) can cause excessive arcing and heat, and as a result is practical for use only with low voltages/amperages.

4. A04G AMG

Which of these will cause the resistance of a conductor to decrease?

- A) Decrease the length or the cross sectional area.
- B) Decrease the length or increase the cross sectional area.
- C) Increase the length or decrease the cross sectional area.

5. A04G AMG

Through which material will magnetic lines of force pass the most readily?

- A) Copper.
- B) Iron.
- C) Aluminum.

6. A04G AMG

If three resistors of 3 ohms, 5 ohms, and 22 ohms are connected in series in a 28-volt circuit, how much current will flow through the 3-ohm resistor?

- A) 9.3 amperes.
- B) 1.05 amperes.
- C) 0.93 ampere.

7. A04G AMG

(Refer to General figure 11.) Find the total current flowing in the wire between points C and D.

- A) 6.0 amperes.
- B) 2.4 amperes.
- C) 3.0 amperes.

8. A04G AMG

What happens to the current in a voltage step up transformer with a ratio of 1 to 4?

- A) The current is stepped down by a 1 to 4 ratio.
- B) The current is stepped up by a 1 to 4 ratio.
- C) The current does not change.

9. A04G AMG

(Refer to General figure 13.) Determine the total current flow in the circuit.

- A) 0.2 ampere.
- B) 1.4 amperes.
- C) 0.8 ampere.

10. A04G AMG

Which requires the most electrical power?

(Note: 1 horsepower = 746 watts)

- A) Four 30-watt lamps arranged in a 12-volt parallel circuit.
- B) A 1/5-horsepower, 24-volt motor which is 75 percent efficient.
- C) A 24-volt anticollision light circuit consisting of two light assemblies which require 3 amperes each during operation.

11. A04G AMG

What unit is used to express electrical power?

- A) Volt.
- B) Watt.
- C) Ampere.

12. A04G AMG

Which of the following are commonly used as rectifiers in electrical circuits?

- A) Anodes.
- B) Cathodes.
- C) Diodes.

13. A04G AMG

What is the operating resistance of a 30-watt light bulb designed for a 28-volt system?

- A) 1.07 ohms.
- B) 26 ohms.
- C) 0.93 ohm.

14. A04G AMG

(Refer to General figure 12.) Find the total resistance of the circuit.

- A) 16 ohms.
- B) 2.6 ohms.
- C) 21.2 ohms.

15. A04G AMG

(Refer to General figure 14.) The total resistance of the circuit is

- A) 25 ohms.
- B) 35 ohms.
- C) 17 ohms.

16. A04G AMG

A 48-volt source is required to furnish 192 watts to a parallel circuit consisting of three resistors of equal value. What is the value of each resistor?

- A) 36 ohms.
- B) 4 ohms.
- C) 12 ohms.

17. A04G AMG

(Refer to figure.) A 24-volt source is required to furnish 48 watts to a parallel circuit consisting of two resistors of equal value. What is the value of each resistor?

- A) 24 ohms.
- B) 12 ohms.

C) 6 ohms.

18. A04G AMG

The voltage drop in a circuit of known resistance is dependent on

- A) the voltage of the circuit.
- B) only the resistance of the conductor, and does not change with a change in either voltage or amperage.
- C) the amperage of the circuit.

19. A04G AMG

A circuit has an applied voltage of 30 volts and a load consisting of a 10-ohm resistor in series with a 20-ohm resistor. What is the voltage drop across the 10-ohm resistor?

- A) 10 volts.
- B) 20 volts.
- C) 30 volts.

20. A04G AMG

(Refer to General figure 11.) Find the voltage across the 8-ohm resistor.

- A) 8 volts.
- B) 20.4 volts.
- C) 24 volts.

21. A06G AMG

A lead acid battery with 12 cells connected in series (no load voltage = 2.1 volts per cell) furnishes 10 amperes to a load of 2 ohms resistance. The internal resistance of the battery in this instance is

- A) 0.52 ohm.
- B) 2.52 ohms.
- C) 5.0 ohms.

22. A06G AMG

A fully charged lead acid battery will not freeze until extremely low temperatures are reached because

- A) the acid is in the plates, thereby increasing the specific gravity of the solution.
- B) most of the acid is in the solution.
- C) increased internal resistance generates sufficient heat to prevent freezing.

23. A06G AMG

What determines the amount of current which will flow through a battery while it is being charged by a constant voltage source?

- A) The total plate area of the battery.

- B) The state of charge of the battery.
- C) The ampere hour capacity of the battery.

24. A06G AMG

The purpose of providing a space underneath the plates in a lead acid battery's cell container is to

- A) allow for convection flow of the electrolyte in order to provide for cooling of the plates.
- B) prevent sediment buildup from contacting the plates and causing a short circuit.
- C) ensure that the electrolyte quantity ratio to the number of plates and plate area is adequate.

25. A06G AMG

Nickel-cadmium batteries which are stored for a long period of time will show a low liquid level because

- A) electrolyte evaporates through the vents.
- B) of current leakage from individual cells.
- C) electrolyte becomes absorbed into the plates.

26. A06G AMG

In nickel cadmium batteries, a rise in cell temperature

- A) causes an increase in internal resistance.
- B) causes a decrease in internal resistance.
- C) increases cell voltage.

27. A06G AMG

Which of the following best describes the contributing factors to thermal runaway in a nickel-cadmium battery installed in an aircraft?

- A) High internal resistance intensified by high cell temperatures and a high current discharge/charge rate in a constant potential (voltage) charging system.
- B) Low internal resistance intensified by high cell temperatures and a high voltage discharge/charge rate in a constant current charging system.
- C) Low internal resistance intensified by high cell temperatures and a high current discharge/charge rate in a constant potential (voltage) charging system.

28. A06G AMG

The presence of any small amount of potassium carbonate deposits on the top of nickel-cadmium battery cells in service is an indication of

- A) normal operation.
- B) excessive gassing.
- C) plate sulfation.

29. A06G AMG

If electrolyte from a lead-acid battery is spilled in the battery compartment, which procedure should be followed?

- A) Apply boric acid solution to the affected area followed by a water rinse.
- B) Rinse the affected area thoroughly with clean water.
- C) Apply sodium bicarbonate solution to the affected area followed by a water rinse.

30. A06G AMG

Which statement regarding the hydrometer reading of a lead acid storage battery electrolyte is true?

- A) The hydrometer reading does not require a temperature correction if the electrolyte temperature is 80 °F.
- B) A specific gravity correction should be added to the hydrometer reading if the electrolyte temperature is below 59 °F.
- C) The hydrometer reading will give a true indication of the capacity of the battery regardless of the electrolyte temperature.

31. A06G AMG

Which of the following statements is/are generally true regarding the charging of several aircraft batteries together?

- 1. Batteries of different voltages (but similar capacities) can be connected in series with each other across the charger, and charged using the constant current method.
 - 2. Batteries of different ampere-hour capacity and same voltage can be connected in parallel with each other across the charger, and charged using the constant voltage method.
 - 3. Batteries of the same voltage and same ampere-hour capacity must be connected in series with each other across the charger, and charged using the constant current method.
- A) 3.
 - B) 2 and 3.
 - C) 1 and 2.

32. A06G AMG

The method used to rapidly charge a nickel cadmium battery utilizes

- A) constant current and constant voltage.
- B) constant current and varying voltage.
- C) constant voltage and varying current.

33. A06G AMG

What is the likely result of servicing and charging nickel-cadmium and lead acid batteries together in the same service area?

- A) Lowered amp-hour capacities, especially for the nickel-cadmium batteries.
- B) A somewhat reduced battery service life for both types of batteries.
- C) Contamination of both types of batteries.

34. A06G AMG

The end of charge voltage of a 19 cell nickel cadmium battery, measured while still on charge,

- A) must be 1.2 to 1.3 volts per cell.
- B) must be 1.4 volts per cell.
- C) depends upon its temperature and the method used for charging.

35. A06G AMG

How can the state of charge of a nickel cadmium battery be determined?

- A) By measuring the specific gravity of the electrolyte.
- B) By a measured discharge.
- C) By the level of the electrolyte.

36. A06G AMG

What may result if water is added to a nickel cadmium battery when it is not fully charged?

- A) Excessive electrolyte dilution.
- B) Excessive spewing is likely to occur during the charging cycle.
- C) No adverse effects since water may be added anytime.

37. A06G AMG

When a charging current is applied to a nickel cadmium battery, the cells emit gas only

- A) toward the end of the charging cycle.
- B) when the electrolyte level is low.
- C) if they are defective.

38. A06G AMG

Which condition is an indication of improperly torqued cell link connections of a nickel cadmium battery?

- A) Light spewing at the cell caps.
- B) Toxic and corrosive deposits of potassium carbonate crystals.
- C) Heat or burn marks on the hardware.

39. A03G AMG

Which term means .001 ampere?

- A) Microampere.
- B) Kiloampere.
- C) Milliampere.

40. A03G AMG

(Refer to figure 8.) With an ohmmeter connected into the circuit as shown, what will the ohmmeter read?

- A) 20 ohms.
- B) Infinite resistance.
- C) 10 ohms.

41. A03G AMG

(Refer to General figure 9.) How many instruments (voltmeters and ammeters) are installed correctly?

- A) Three.
- B) One.
- C) Two.

42. A03G AMG

The correct way to connect a test voltmeter in a circuit is

- A) in series with a unit.
- B) between the source voltage and the load.
- C) in parallel with a unit.

43. A03G AMG

(Refer to figure 7.) If resistor R3 is disconnected at terminal D, what will the ohmmeter read?

- A) Infinite resistance.
- B) 10 ohms.
- C) 20 ohms.

44. A03G AMG

(Refer to General figure 6.) If resistor R5 is disconnected at the junction of R4 and R3 as shown, what will the ohmmeter read?

- A) 2.76 ohms.
- B) 3 ohms.
- C) 12 ohms.

45. A03G AMG

A 14-ohm resistor is to be installed in a series circuit carrying .05 ampere. How much power will the resistor be required to dissipate?

- A) At least .70 milliwatt.
- B) At least 35 milliwatts.
- C) Less than .035 watt.

46. A03G AMG

A cabin entry light of 10 watts and a dome light of 20 watts are connected in parallel to a 30-volt source. If the voltage across the 10-watt light is measured, it will be

- A) equal to the voltage across the 20-watt light.

- B) half the voltage across the 20-watt light.
- C) one-third of the input voltage.

47. A03G AMG

(Refer to General figure 10.) What is the measured voltage of the series parallel circuit between terminals A and B?

- A) 1.5 volts.
- B) 3.0 volts.
- C) 6.0 volts.

48. A03G AMG

.002KV equals

- A) 20 volts.
- B) 2.0 volts.
- C) .2 volt.

49. A05G AMG

(Refer to figure 25.) In a functional and operating circuit, the depicted logic gate's output will be 0

- A) only when all inputs are 0.
- B) when all inputs are 1.
- C) when one or more inputs are 0.

50. A05G AMG

(Refer to General figure 24.) Which statement concerning the depicted logic gate is true?

- A) Any input being 1 will produce a 0 output.
- B) Any input being 1 will produce a 1 output.
- C) All inputs must be 1 to produce a 1 output.

51. A05G AMG

In a P-N-P transistor application, the solid state device is turned on when the

- A) base is negative with respect to the emitter.
- B) base is positive with respect to the emitter.
- C) emitter is negative with respect to the base.

52. A05G AMG

Forward biasing of a solid state device will cause the device to

- A) conduct via zener breakdown.
- B) conduct.
- C) turn off.

53. A05G AMG

Typical application for zener diodes is as

- A) full-wave rectifiers.
- B) half-wave rectifiers.
- C) voltage regulators.

54. A05G AMG

In an N-P-N transistor application, the solid state device is turned on when the

- A) emitter is positive with respect to the base.
- B) base is negative with respect to the emitter.
- C) base is positive with respect to the emitter.

55. A05G AMG

(Refer to General figure 22.) Which illustration is correct concerning bias application and current (positive charge) flow?

- A) 1.
- B) 2.
- C) 3.

56. A05G AMG

When referring to an electrical circuit diagram, what point is considered to be at zero voltage?

- A) The circuit breaker.
- B) The ground reference.
- C) The switch.

57. A05G AMG

(Refer to figure 21.) Which symbol represents a variable resistor?

- A) 2.
- B) 1.
- C) 3.

58. A05G AMG

(Refer to General figure 17.) Which of the components is a potentiometer?

- A) 5.
- B) 3.
- C) 11.

59. A05G AMG

(Refer to General figure 15.) The No. 7 wire is used to

1.0625 + .0025 - .0003?

- A) .0028.
- B) 1.0650.
- C) 1.0647.

78. B03G AMG

A hydraulic system schematic drawing typically indicates the

- A) specific location of the individual components within the aircraft.
- B) direction of fluid flow through the system.
- C) amount of pressure in the pressure and return lines, and in system components.

79. B03G AMG

(Refer to General figure 37.) The vertical distance between the top of the plate and the bottom of the lowest 15/64-inch hole is

- A) 2.250.
- B) 2.242.
- C) 2.367.

80. B03G AMG

(Refer to General figure 36.) The diameter of the holes in the finished object is

- A) 3/4 inch.
- B) 31/64 inch.
- C) 1/2 inch.

81. B03G AMG

(Refer to General figure 34.) Using the information, what size drill would be required to drill the clevis bolthole?

- A) 5/16 inch.
- B) 21/64 inch.
- C) 1/2 inch.

82. B03G AMG

(Refer to General figure 34.) What is the dimension of the chamfer?

- A) 1/16 X 37°.
- B) 0.3125 +.005 -0.
- C) 0.0625 X 45°.

83. B03G AMG

(Refer to General figure 34.) What is the maximum diameter of the hole for the clevis pin?

- A) 0.3175.
- B) 0.3130.
- C) 0.31255.

84. B03G AMG

(Refer to General figure 34.) What would be the minimum diameter of 4130 round stock required for the construction of the clevis that would produce a machined surface?

- A) 55/64 inch.
- B) 1 inch.
- C) 7/8 inch.

85. B03G AMG

(Refer to General figure 35.) Identify the extension line.

- A) 3.
- B) 1.
- C) 4.

86. B03G AMG

One purpose for schematic diagrams is to show the

- A) functional location of components within a system.
- B) physical location of components within a system.
- C) size and shape of components within a system.

87. B03G AMG

(1) A measurement should not be scaled from an aircraft print because the paper shrinks or stretches when the print is made.

(2) When a detail drawing is made, it is carefully and accurately drawn to scale, and is dimensioned.

Regarding the above statements,

- A) only No. 2 is true.
- B) both No. 1 and No. 2 are true.
- C) neither No. 1 nor No. 2 is true.

88. B03G AMG

The drawings often used in illustrated parts manuals are

- A) exploded view drawings.
- B) block drawings.
- C) detail drawings.

89. B03G AMG

A drawing in which the subassemblies or parts are shown as brought together on the aircraft is called

- A) an assembly drawing.
- B) an installation drawing.
- C) a detail drawing.

90. B03G AMG

In what type of electrical diagram are images of components used instead of conventional electrical symbols?

- A) A pictorial diagram.
- B) A schematic diagram.
- C) A block diagram.

91. B03G AMG

The measurements showing the ideal or 'perfect' sizes of parts on drawings are called

- A) dimensions.
- B) tolerances.
- C) allowances.

92. B04G AMG

(Refer to General figure 40.) Determine the proper tension for a 1/8-inch cable (7 x 19) if the temperature is 80 °F.

- A) 70 pounds.
- B) 75 pounds.
- C) 80 pounds.

93. B04G AMG

(Refer to General figure 40.) Determine the proper tension for a 3/16-inch cable (7 x 19 extra flex) if the temperature is 87 °F.

- A) 135 pounds.
- B) 125 pounds.
- C) 140 pounds.

94. B04G AMG

(Refer to General figure 41.) Determine the fuel consumption with the engine operating at cruise, 2,350 RPM.

- A) 49.2 pounds per hour.
- B) 51.2 pounds per hour.
- C) 55.3 pounds per hour.

95. B04G AMG

(Refer to General figure 41.) Determine how much fuel would be required for a 30-minute reserve operating at 2,300 RPM.

- A) 25.3 pounds.
- B) 35.5 pounds.
- C) 49.8 pounds.

96. B04G AMG

(Refer to General figure 38.) An aircraft reciprocating engine has a 1,830 cubic-inch displacement and develops 1,250 brake-horsepower at 2,500 RPM. What is the brake mean effective pressure?

- A) 217.
- B) 205.
- C) 225.

97. B04G AMG

(Refer to General figure 38.) An aircraft reciprocating engine has a 2,800 cubic-inch displacement, develops 2,000 brake-horsepower, and indicates 270 brake-mean effective pressure. What is the engine speed (RPM)?

- A) 2,200.
- B) 2,100.
- C) 2,300.

98. B04G AMG

(Refer to General figure 38.) An aircraft reciprocating engine has a 2,800 cubic-inch displacement and develops 2,000 brake-horsepower at 2,200 RPM. What is the brake mean effective pressure?

- A) 257.5.
- B) 242.5.
- C) 275.0.

99. B04G AMG

(Refer to General figure 39.) Determine the cable size of a 40-foot length of single cable in free air, with a continuous rating, running from a bus to the equipment in a 28-volt system with a 15-ampere load and a 1-volt drop.

- A) No. 10.
- B) No. 11.
- C) No. 18.

100. B04G AMG

(Refer to General figure 39.) Determine the maximum length of a No. 16 cable to be installed from a bus to the equipment in a 28-volt system with a 25-ampere intermittent load and a 1-volt

106. C02G AMG

An aircraft with an empty weight of 1,800 pounds and an empty weight CG of +31.5 was altered as follows:

1. two 15-pound passenger seats located at +72 were removed;
2. structural modifications increasing the weight 14 pounds were made at +76;
3. a seat and safety belt weighing 20 pounds were installed at +73.5; and
4. radio equipment weighing 30 pounds was installed at +30.

What is the new empty weight CG?

- A) +30.61.
- B) +31.61.
- C) +32.69.

107. C02G AMG

An aircraft with an empty weight of 2,100 pounds and an empty weight CG +32.5 was altered as follows:

1. two 18-pound passenger seats located at +73 were removed;
2. structural modifications were made at +77 increasing weight by 17 pounds;
3. a seat and safety belt weighing 25 pounds were installed at +74.5; and
4. radio equipment weighing 35 pounds was installed at +95.

What is the new empty weight CG?

- A) +34.01.
- B) +33.68.
- C) +34.65.

108. C02G AMG

An aircraft as loaded weighs 4,954 pounds at a CG of +30.5 inches. The CG range is +32.0 inches to +42.1 inches. Find the minimum weight of the ballast necessary to bring the CG within the CG range. The ballast arm is +162 inches.

- A) 61.98 pounds.
- B) 30.58 pounds.
- C) 57.16 pounds.

109. C02G AMG

Two boxes which weigh 10 pounds and 5 pounds are placed in an airplane so that their distance aft from the CG are 4 feet and 2 feet respectively. How far forward of the CG should a third box, weighing 20 pounds, be placed so that the CG will not be changed?

- A) 3 feet.
- B) 2.5 feet.
- C) 8 feet.

110. C02G AMG

An aircraft had an empty weight of 2,886 pounds with a moment of 101,673.78 before several alterations were made. The alterations included:

1. removing two passenger seats (15 pounds each) at +71;
2. installing a cabinet (97 pounds) at +71;
3. installing a seat and safety belt (20 pounds) at +71; and
4. installing radio equipment (30 pounds) at +94.

The alterations caused the new empty weight CG to move

- A) 1.62 inches aft of the original empty weight CG.
- B) 2.03 inches forward of the original empty weight CG.
- C) 2.03 inches aft of the original empty weight CG.

| | | |
|--|------|---------------|
| 111. | C02G | AMG |
| Datum is forward of the main gear center point: | | |
| | | 30.24 inches |
| Actual distance between tail gear and main gear center points: | | |
| | | 360.26 inches |

| | |
|--------------------------------|--------------|
| Net weight at right main gear: | 9,980 pounds |
| Net weight at left main gear: | 9,770 pounds |
| Net weight at tail gear: | 1,970 pounds |

These items were in the aircraft when weighed:

1. Lavatory water tank full (34 pounds at +352).
2. Hydraulic fluid (22 pounds at -8).
3. Removable ballast (146 pounds at +380).

What is the empty weight CG of the aircraft described above?

- A) 62.92 inches.
- B) 60.31 inches.
- C) 58.54 inches.

| | | |
|------|------|-----|
| 112. | C02G | AMG |
|------|------|-----|

An aircraft with an empty weight of 1,500 pounds and an empty weight CG of +28.4 was altered as follows:

1. two 12-pound seats located at +68.5 were removed;
2. structural modifications weighing +28 pounds were made at +73;
3. a seat and safety belt weighing 30 pounds were installed at +70.5; and
4. radio equipment weighing 25 pounds was installed at +85.

What is the new empty weight CG?

- A) +23.51.
- B) +31.35.
- C) +30.30.

113. C02G AMG

The following alteration was performed on an aircraft: A model B engine weighing 175 pounds was replaced by a model D engine weighing 185 pounds at a -62.00 inch station. The aircraft weight and balance records show the previous empty weight to be 998 pounds and an empty weight CG of 13.48 inches. What is the new empty weight CG?

- A) 13.96 inches.
- B) 14.25 inches.
- C) 12.73 inches.

114. C02G AMG

As weighed, the total empty weight of an aircraft is 5,862 pounds with a moment of 885,957. However, when the aircraft was weighed, 20 pounds of potable water were on board at +84, and 23 pounds of hydraulic fluid were in a tank located at +101. What is the empty weight CG of the aircraft?

- A) 150.700.
- B) 151.700.
- C) 151.365.

115. C02G AMG

If the empty weight CG of an airplane lies within the empty weight CG limits,

- A) it is necessary to calculate CG extremes.
- B) it is not necessary to calculate CG extremes.
- C) minimum fuel should be used in both forward and rearward CG checks.

116. C02G AMG

The amount of fuel used for computing empty weight and corresponding CG is

- A) empty fuel tanks.
- B) unusable fuel.
- C) the amount of fuel necessary for 1/2 hour of operation.

117. C02G AMG

When determining the empty weight of an aircraft, certificated under current airworthiness standards (14 CFR Part 23), the oil contained in the supply tank is considered

- A) a part of the empty weight.
- B) a part of the useful load.
- C) the same as the fluid contained in the water injection reservoir.

118. C02G AMG

Improper loading of a helicopter which results in exceeding either the fore or aft CG limits is hazardous due to the

- A) reduction or loss of effective cyclic pitch control.
- B) Coriolis effect being translated to the fuselage.

C) reduction or loss of effective collective pitch control.

119. C02G AMG

The maximum weight as used in weight and balance control of a given aircraft can normally be found

- A) by adding the weight of full fuel, pilot, passengers, and maximum allowable baggage to the empty weight.
- B) in the Aircraft Specification or Type Certificate Data Sheet.
- C) by adding the empty weight and payload.

120. C02G AMG

The useful load of an aircraft is the difference between

- A) the maximum takeoff weight and basic empty weight.
- B) maximum ramp or takeoff weight as applicable, and zero fuel weight.
- C) (1) the weight of an aircraft with all seats filled, full baggage/cargo, and full fuel, and (2) aircraft weight with all seats empty, no baggage/cargo, and minimum operating fuel.

121. C02G AMG

An aircraft's LEMAC and TEMAC are defined in terms of distance

- A) from the datum.
- B) from each other.
- C) ahead of and behind the wing center of lift, respectively.

122. C02G AMG

If an aircraft CG is found to be at 24 percent of MAC, that 24 percent is an expression of the

- A) distance from the TEMAC.
- B) distance from the LEMAC.
- C) average distance from the LEMAC to the wing center of lift.

123. C02G AMG

In a balance computation of an aircraft from which an item located aft of the datum was removed, use

- A) (-)weight X (+)arm (-)moment.
- B) (-)weight X (-)arm (+)moment.
- C) (+)weight X (-)arm (-)moment.

124. C02G AMG

When accomplishing loading computations for a small aircraft, necessary information obtained from the weight and balance records would include

- A) unusable fuel weight and distance from datum.
- B) weight and location of permanent ballast.

C) current empty weight and empty weight CG.

125. D01G AMG

When installing bonded clamps to support metal tubing,

- A) paint removal from tubing is not recommended.
- B) paint clamp and tube after clamp installation to prevent corrosion.
- C) remove paint or anodizing from tube at clamp location.

126. D01G AMG

- (1) Bonded clamps are used for support when installing metal tubing.
- (2) Unbonded clamps are used for support when installing wiring.

Regarding the above statements,

- A) only No. 1 is true.
- B) both No. 1 and No. 2 are true.
- C) neither No. 1 nor No. 2 is true.

127. D01G AMG

When flaring aluminum tubing for use with AN fittings, the flare angle must be

- A) 37°.
- B) 39°.
- C) 45°.

128. D01G AMG

From the following sequences of steps, indicate the proper order you would use to make a single flare on a piece of tubing:

- 1. Place the tube in the proper size hole in the flaring block.
 - 2. Project the end of the tube slightly from the top of the flaring tool, about the thickness of a dime.
 - 3. Slip the fitting nut and sleeve on the tube.
 - 4. Strike the plunger several light blows with a lightweight hammer or mallet and turn the plunger one half turn after each blow.
 - 5. Tighten the clamp bar securely to prevent slippage.
 - 6. Center the plunger or flaring pin over the tube.
- A) 1, 3, 5, 2, 4, 6.
 - B) 3, 1, 6, 2, 5, 4.
 - C) 3, 1, 2, 6, 5, 4.

129. D01G AMG

What is an advantage of a double flare on aluminum tubing?

- A) Ease of construction.
- B) More resistant to damage when the joint is tightened.
- C) Can be applied to any size and wall-thickness of tubing.

130. D01G AMG

The primary purpose of providing suitable bends in fluid and pneumatic metal tubing runs is to

- A) clear obstacles and make turns in aircraft structures.
- B) provide for access within aircraft structures.
- C) prevent excessive stress on the tubing.

131. D01G AMG

Which of the following statements is true regarding minimum allowable bend radii for 1.5 inches OD or less aluminum alloy and steel tubing of the same size?

- A) The minimum radius for steel is greater than for aluminum.
- B) The minimum radius for steel is less than for aluminum.
- C) The minimum radius is the same for both steel and aluminum.

132. D01G AMG

Which coupling nut should be selected for use with 1/2-inch aluminum oil lines which are to be assembled using flared tube ends and standard AN nuts, sleeves, and fittings?

- A) AN-818-16.
- B) AN-818-8.
- C) AN-818-5.

133. D01G AMG

In most aircraft hydraulic systems, two piece tube connectors consisting of a sleeve and a nut are used when a tubing flare is required. The use of this type connector eliminates

- A) the flaring operation prior to assembly.
- B) the possibility of reducing the flare thickness by wiping or ironing during the tightening process.
- C) wrench damage to the tubing during the tightening process.

134. D01G AMG

What is the color of an AN steel flared tube fitting?

- A) Black.
- B) Blue.
- C) Red.

135. D01G AMG

Which of the following statements is/are correct in reference to flare fittings?

1. AN fittings have an identifying shoulder between the end of the threads and the flare cone.

2. AC and AN fittings are considered identical except for material composition and identifying colors.
3. AN fittings are generally interchangeable with AC fittings of compatible material composition
- A) 1.
B) 1 and 3.
C) 1, 2, and 3.

136. D01G AMG

Which tubings have the characteristics (high strength, abrasion resistance) necessary for use in a high pressure (3,000 PSI) hydraulic system for operation of landing gear and flaps?

- A) 2024-T or 5052-0 aluminum alloy.
B) Corrosion resistant steel annealed or 1/4H.
C) 1100-1/2H or 3003-1/2H aluminum alloy.

137. D01G AMG

Which of the following hose materials are compatible with phosphate-ester base hydraulic fluids?

1. Butyl.
2. Teflon.
3. Buna-N.
4. Neoprene.
A) 1 and 3.
B) 1 and 2.
C) 2 and 4.

138. D01G AMG

Flexible hose used in aircraft systems is classified in size according to the

- A) outside diameter.
B) wall thickness.
C) inside diameter.

139. D01G AMG

Metal tubing fluid lines are sized by wall thickness and

- A) outside diameter in 1/16 inch increments.
B) inside diameter in 1/16 inch increments.
C) outside diameter in 1/32 inch increments.

140. D01G AMG

The material specifications for a certain aircraft require that a replacement oil line be fabricated

from 3/4-inch 0.072 5052-0 aluminum alloy tubing. What is the inside dimension of this tubing?

- A) 0.606 inch.
- B) 0.688 inch.
- C) 0.750 inch.

141. D01G AMG

When a Teflon hose has been in service for a time, what condition may have occurred and/or what precaution should be taken when it is temporarily removed from the aircraft?

- A) The hose interior must be kept wet with the fluid carried to prevent embrittlement/deterioration.
- B) The hose may become stiff and brittle if not flexed or moved regularly.
- C) The hose may have developed a set, or have been manufactured with a pre-set shape, and must be supported to maintain its shape.

142. D01G AMG

A gas or fluid line marked with the letters PHDAN is

- A) a dual-purpose pneumatic and/or hydraulic line for normal and emergency system use.
- B) used to carry a hazardous substance.
- C) a pneumatic or hydraulic system drain or discharge line.

143. D01G AMG

Which of the following defects are NOT acceptable for metal lines?

1. Cracked flare.
2. Seams.
3. Dents in the heel of a bend less than 20 percent of tube diameter.
4. Scratches/nicks on the inside of a bend less than 10 percent of wall thickness.
5. Dents in straight sections that are 20 percent of wall thickness.

- A) 1, 2, 3, 4, and 5.
- B) 1, 2, and 3.
- C) 1, 2, 3, and 5.

144. D01G AMG

In a metal tubing installation,

- A) rigid straight line runs are preferable.
- B) tension is undesirable because pressurization will cause it to expand and shift.
- C) a tube may be pulled in line if the nut will start on the threaded coupling.

145. D01G AMG

A certain amount of slack must be left in a flexible hose during installation because, when under

pressure, it

- A) expands in length and diameter.
- B) expands in length and contracts in diameter.
- C) contracts in length and expands in diameter.

146. D01G AMG

Flexible lines must be installed with

- A) enough slack to allow maximum flexing during operation.
- B) a slack of at least 10 to 12 percent of the length.
- C) a slack of 5 to 8 percent of the length.

147. D01G AMG

Which statement is true regarding the variety of symbols utilized on the identifying color-code bands that are currently used on aircraft plumbing lines?

- A) Symbols are composed of various single colors according to line content.
- B) Symbols are always black against a white background regardless of line content.
- C) Symbols are composed of one to three contrasting colors according to line content.

148. D01G AMG

If a flared tube coupling nut is overtightened, where is the tube most likely to be weakened/damaged?

- A) Along the entire length of the sleeve and tube interface.
- B) At the edge of the sleeve and straight portion of the tube.
- C) At the sleeve and flare junction.

149. D01G AMG

The best tool to use when cutting aluminum tubing, or any tubing of moderately soft metal is a

- A) hand operated wheel-type tubing cutter.
- B) fine-tooth hacksaw.
- C) circular-saw equipped with an abrasive cutting wheel.

150. D01G AMG

Which statement is true regarding flattening of tubing in bends?

- A) Flattening by a maximum of 20 percent of the original diameter is permissible.
- B) Flattening by not more than 25 percent of the original diameter is permissible.
- C) The small diameter portion in the bend cannot exceed more than 75 percent of the diameter of straight tubing.

151. D01G AMG

Scratches or nicks on the straight portion of aluminum alloy tubing may be repaired if they are no deeper than

- A) 20 percent of the wall thickness.
- B) 1/32 inch or 20 percent of wall thickness, whichever is less.
- C) 10 percent of the wall thickness.

152. D01G AMG

Hydraulic tubing, which is damaged in a localized area to such an extent that repair is necessary, may be repaired

- A) by cutting out the damaged area and utilizing a swaged tube fitting to join the tube ends.
- B) only by replacing the that tubing section run (connection to connection) using the same size and material as the original.
- C) by cutting out the damaged section and soldering in a replacement section of tubing.

153. D01G AMG

The term "cold flow" is generally associated with

- A) the effects of low temperature gasses or liquids flowing in hose or tubing.
- B) impressions left in natural or synthetic rubber hose material.
- C) flexibility characteristics of various hose materials at low ambient temperatures.

154. E04G AMG

Generally speaking, bolt grip lengths should be

- A) one and one half times the thickness of the material which is fastened together.
- B) equal to the thickness of the material which is fastened together, plus approximately one diameter.
- C) equal to the thickness of the material which is fastened together.

155. E04G AMG

When the specific torque value for nuts is not given, where can the recommended torque value be found?

- A) AC 43.13-2A.
- B) Technical Standard Order.
- C) AC 43.13-1B.

156. E04G AMG

A particular component is attached to the aircraft structure by the use of an aircraft bolt and a castle tension nut combination. If the cotter pin hole does not align within the recommended torque range, the acceptable practice is to

- A) exceed the recommended torque range by no more than 10 percent.
- B) tighten below the torque range.
- C) change washers and try again.

157. E04G AMG

A bolt with a single raised dash on the head is classified as an

- A) AN corrosion resistant steel bolt.
- B) NAS standard aircraft bolt.
- C) NAS close tolerance bolt.

158. E04G AMG

Which statement regarding aircraft bolts is correct?

- A) When tightening castellated nuts on drilled bolts, if the cotter pin holes do not line up, it is permissible to tighten the nut up to 10 percent over recommended torque to permit alignment of the next slot with the cotter pin hole.
- B) In general, bolt grip lengths should equal the material thickness.
- C) Alloy steel bolts smaller than 1/4-inch diameter should not be used in primary structure.

159. E04G AMG

Where is an AN clevis bolt used in an airplane?

- A) For tension and shear load conditions.
- B) Where external tension loads are applied.
- C) Only for shear load applications.

160. E04G AMG

The core material of Alclad 2024-T4 is

- A) heat treated aluminum alloy, and the surface material is commercially pure aluminum.
- B) commercially pure aluminum, and the surface material is heat treated aluminum alloy.
- C) strain hardened aluminum alloy, and the surface material is commercially pure aluminum.

161. E04G AMG

The aluminum code number 1100 identifies what type of aluminum?

- A) Aluminum alloy containing 11 percent copper.
- B) Aluminum alloy containing zinc.
- C) 99 percent commercially pure aluminum.

162. E04G AMG

In the four-digit aluminum index system number 2024, the first digit indicates

- A) the percent of alloying metal added.
- B) the number of major alloying elements used in the metal.
- C) the major alloying element.

163. E04G AMG

How is the locking feature of the fiber type locknut obtained?

- A) By the use of an unthreaded fiber locking insert.

- B) By a fiber insert held firmly in place at the base of the load carrying section.
- C) By making the threads in the fiber insert slightly smaller than those in the load carrying section.

164. E04G AMG

How is a clevis bolt used with a fork end cable terminal secured?

- A) With a shear nut tightened to a snug fit, but with no strain imposed on the fork and safetied with a cotter pin.
- B) With a castle nut tightened until slight binding occurs between the fork and the fitting to which it is being attached.
- C) With a shear nut and cotter pin or a thin self locking nut tightened enough to prevent rotation of the bolt in the fork.

165. E04G AMG

Aircraft bolts are usually manufactured with a

- A) class 1 fit for the threads.
- B) class 2 fit for the threads.
- C) class 3 fit for the threads.

166. E04G AMG

Aircraft bolts with a cross or asterisk marked on the bolthead are

- A) made of aluminum alloy.
- B) close tolerance bolts.
- C) standard steel bolts.

167. E04G AMG

Unless otherwise specified, torque values for tightening aircraft nuts and bolts relate to

- A) clean, dry threads.
- B) clean, lightly oiled threads.
- C) both dry and lightly oiled threads.

168. E04G AMG

Unless otherwise specified or required, aircraft bolts should be installed so that the bolthead is

- A) upward, or in a forward direction.
- B) downward, or in a forward direction.
- C) downward, or in a rearward direction.

169. E04G AMG

(Refer to General figure 42.) Which of the bolthead code markings shown identifies an AN corrosion resistant steel bolt?

- A) 1.

- B) 2.
- C) 3.

170. E04G AMG

The Society of Automotive Engineers (SAE) and the American Iron and Steel Institute use a numerical index system to identify the composition of various steels. In the number '4130' designating chromium molybdenum steel, the first digit indicates the

- A) percentage of the basic element in the alloy.
- B) percentage of carbon in the alloy in hundredths of a percent.
- C) basic alloying element.

171. E04G AMG

What is generally used in the construction of aircraft engine firewalls?

- A) Stainless steel.
- B) Chrome molybdenum alloy steel.
- C) titanium nickel alloy.

172. E04G AMG

A fiber type, self locking nut must never be used on an aircraft if the bolt is

- A) under shear loading.
- B) under tension loading.
- C) subject to rotation.

173. E05G AMG

Which condition indicates a part has cooled too quickly after being welded?

- A) Cracking adjacent to the weld.
- B) Discoloration of the base metal.
- C) Gas pockets, porosity, and slag inclusions.

174. E05G AMG

On a fillet weld, the penetration requirement includes what percentage(s) of the base metal thickness?

- A) 100 percent.
- B) 25 to 50 percent.
- C) 60 to 80 percent.

175. E05G AMG

(Refer to General figure 45.) What type weld is shown at G?

- A) Lap.
- B) Butt.

C) Joint.

176. E05G AMG

Holes and a few projecting globules are found in a weld. What action should be taken?

- A) Reweld the defective portions.
- B) Remove all the old weld, and reweld the joint.
- C) Grind the rough surface smooth, inspect, and reweld all gaps/holes.

177. E05G AMG

(Refer to General figure 45.) What type weld is shown at B?

- A) Butt.
- B) Double butt.
- C) Fillet.

178. E05G AMG

(Refer to General figure 45.) What type weld is shown at A?

- A) Fillet.
- B) Butt.
- C) Lap.

179. E05G AMG

Select a characteristic of a good gas weld.

- A) The depth of penetration shall be sufficient to ensure fusion of the filler rod.
- B) The height of the weld bead should be 1/8 inch above the base metal.
- C) The weld should taper off smoothly into the base metal.

180. E05G AMG

One characteristic of a good weld is that no oxide should be formed on the base metal at a distance from the weld of more than

- A) 1/2 inch.
- B) 1 inch.
- C) 1/4 inch.

181. E05G AMG

Why is it considered good practice to normalize a part after welding?

- A) To relieve internal stresses developed within the base metal.
- B) To increase the hardness of the weld.
- C) To remove the surface scale formed during welding.

182. E05G AMG

(Refer to General figure 44.) Select the illustration which depicts a cold weld.

- A) 3.
- B) 2.
- C) 4.

183. E05G AMG

(Refer to General figure 44.) Identify the weld caused by an excessive amount of acetylene.

- A) 4.
- B) 1.
- C) 3.

184. E05G AMG

In examining/inspecting and evaluating a welded joint, a mechanic should be familiar with

- A) likely ambient exposure conditions and intended use of the part, along with type of weld and original part material composition.
- B) the welding technique, filler material, and temperature range used.
- C) the parts, proportions, and formation of a weld.

185. E06G AMG

Identify the correct statement.

- A) An outside micrometer is limited to measuring diameters.
- B) Tools used on certificated aircraft must be an approved type.
- C) Dividers do not provide a reading when used as a measuring device.

186. E06G AMG

(Refer to General figure 46.) The measurement reading on the illustrated micrometer is

- A) 0.2851.
- B) 0.2911.
- C) 0.2901.

187. E06G AMG

Which tool can be used to measure the alignment of a rotor shaft or the plane of rotation of a disk?

- A) Dial indicator.
- B) Shaft gauge.
- C) Protractor.

188. E06G AMG

(Refer to General figure 47.) What is the measurement reading on the vernier caliper scale?

- A) 1.411 inches.

- B) 1.436 inches.
- C) 1.700 inches.

189. E06G AMG

The side clearances of piston rings are measured with a

- A) micrometer caliper gauge.
- B) thickness gauge.
- C) dial gauge.

190. E06G AMG

Which tool is used to measure the clearance between a surface plate and a relatively narrow surface being checked for flatness?

- A) Depth gauge.
- B) Thickness gauge.
- C) Dial indicator.

191. E06G AMG

Which number represents the vernier scale graduation of a micrometer?

- A) .00001.
- B) .001.
- C) .0001.

192. E06G AMG

Which tool is used to find the center of a shaft or other cylindrical work?

- A) Combination set.
- B) Dial indicator.
- C) Micrometer caliper.

193. E06G AMG

(Refer to General figure 48.) What does the micrometer read?

- A) .2974.
- B) .3004.
- C) .3108.

194. E06G AMG

If it is necessary to accurately measure the diameter of a hole approximately 1/4 inch in diameter, the mechanic should use a

- A) telescoping gauge and determine the size of the hole by taking a micrometer reading of the adjustable end of the telescoping gauge.
- B) 0 to 1 inch inside micrometer and read the measurement directly from the micrometer.

C) small hole gauge and determine the size of the hole by taking a micrometer reading of the ball end of the gauge.

195. E06G AMG

(Refer to General figure 49.) The measurement reading on the micrometer is

- A) .2758.
- B) .2702.
- C) .2792.

196. E06G AMG

What tool is generally used to set a divider to an exact dimension?

- A) Machinist scale.
- B) Surface gauge.
- C) Dial indicator.

197. E06G AMG

What precision measuring tool is used for measuring crankpin and main bearing journals for out of round wear?

- A) Dial gauge.
- B) Micrometer caliper.
- C) Depth gauge.

198. E06G AMG

The clearance between the piston rings and the ring lands is measured with a

- A) micrometer caliper.
- B) thickness gauge.
- C) depth gauge.

199. E06G AMG

How can the dimensional inspection of a bearing in a rocker arm be accomplished?

- A) Depth gauge and micrometer.
- B) Thickness gauge and push fit arbor.
- C) Telescopic gauge and micrometer.

200. E06G AMG

The twist of a connecting rod is checked by installing push fit arbors in both ends, supported by parallel steel bars on a surface plate. Measurements are taken between the arbor and the parallel bar with a

- A) dial gauge.
- B) height gauge.

C) thickness gauge.

201. E06G AMG

What may be used to check the stem on a poppet-type valve for stretch?

- A) Dial indicator.
- B) Micrometer.
- C) Telescoping gauge.

202. E06G AMG

What tool is generally used to calibrate a micrometer or check its accuracy?

- A) Gauge block.
- B) Dial indicator.
- C) Machinist scale.

203. G02G AMG

Which of these materials is the most cathodic?

- A) Zinc.
- B) 2024 aluminum alloy.
- C) Stainless steel.

204. G02G AMG

Corrosion should be removed from magnesium parts with a

- A) silicon carbide brush.
- B) carborundum abrasive.
- C) stiff, nonmetallic brush.

205. G02G AMG

Which of the following is an acceptable first step procedure to help prevent scratching when cleaning a transparent plastic surface?

- A) Gently wipe the surface with a clean, dry, soft cloth.
- B) Flush the surface with clean water.
- C) Gently wipe the surface with a clean, soft cloth moistened with de-mineralized or distilled water.

206. G02G AMG

What should be done to prevent rapid deterioration when oil or grease come in contact with a tire?

- A) Wipe the tire thoroughly with a dry cloth, and then rinse with clean water.
- B) Wipe the tire with a dry cloth followed by a washdown and rinse with soap and water.
- C) Wipe the tire with a cloth dampened with aromatic naphtha and then wipe dry with a clean

cloth.

207. G02G AMG

Of the following, when and/or where is galvanic corrosion is most likely to occur?

- A) When an electrolyte (water) covers the surface of an aluminum skin, seeps into the cracks between lap joints, and oxygen is excluded from the area.
- B) At the interface of a steel fastener and aluminum alloy inspection plate in the presence of an electrolyte.
- C) In an area of unprotected metal exposed to an atmosphere containing battery fumes, exhaust gases, or industrial contaminants.

208. G02G AMG

Corrosion caused by galvanic action is the result of

- A) excessive anodization.
- B) contact between two unlike metals.
- C) excessive etching.

209. G02G AMG

Which of these materials is the most anodic?

- A) Cadmium.
- B) 7075-T6 aluminum alloy.
- C) Magnesium.

210. G02G AMG

A primary cause of intergranular corrosion is

- A) improper heat treatment.
- B) dissimilar metal contact.
- C) improper application of primer.

211. G02G AMG

One way of obtaining increased resistance to stress corrosion cracking is by

- A) relieving compressive stresses (via heat treatment) on the metal surface.
- B) creating compressive stresses (via shot peening) on the metal surface.
- C) producing nonuniform deformation while cold working during the manufacturing process.

212. G02G AMG

(1) In the corrosion process, it is the cathodic area or dissimilar cathodic material that corrodes.

(2) In the Galvanic or Electro-Chemical Series for metals, the most anodic metals are those that will give up electrons most easily.

Regarding the above statements,

- A) only No. 1 is true.
- B) only No. 2 is true.
- C) both No. 1 and No. 2 are true.

213. G02G AMG

Spilled mercury on aluminum

- A) greatly increases susceptibility to hydrogen embrittlement.
- B) may cause impaired corrosion resistance if left in prolonged contact.
- C) causes rapid and severe corrosion that is very difficult to control.

214. G02G AMG

The interior surface of sealed structural steel tubing would be best protected against corrosion by which of the following?

- A) A coating of linseed oil.
- B) Evacuating moisture from the tubing before sealing.
- C) Charging the tubing with dry nitrogen prior to sealing.

215. G02G AMG

What may be used to remove corrosion from highly stressed steel surfaces?

- A) Steel wire brushes.
- B) Fine grit aluminum oxide.
- C) Medium grit carborundum paper.

216. G02G AMG

The rust or corrosion that occurs with most metals is the result of

- A) a tendency for them to return to their natural state.
- B) blocking the flow of electrons in homogenous metals, or between dissimilar metals.
- C) electron flow in or between metals from cathodic to anodic areas.

217. G02G AMG

Fretting corrosion is most likely to occur

- A) when two surfaces fit tightly together but can move relative to one another.
- B) only when two dissimilar metals are in contact.
- C) when two surfaces fit loosely together and can move relative to one another.

218. G02G AMG

Which of the following are the desired effects of using Alodine on aluminum alloy?

1. A slightly rough surface.

For which of the following reasons would a water break test be conducted?

- A) To make certain that a newly alodized aluminum surface is sufficiently coated.
- B) To make certain that a bare metal surface is thoroughly clean.
- C) To make certain that an anodizing coating has been sufficiently removed before an electrical bonding connection can be made.

224. H02G AMG

A rectangular shaped fuel tank measures 27-1/2 inches in length, 3/4 foot in width, and 8-1/4 inches in depth. How many gallons will the tank contain?

(231 cu. in. = 1 gal.)

- A) 7.366
- B) 8.83
- C) 170.156

225. H02G AMG

Select the container size that will be equal in volume to 72 gallons of fuel.

(7.5 gal = 1 cu ft)

- A) 540 cubic feet.
- B) 9.60 cubic feet.
- C) 6 cubic feet.

226. H02G AMG

(Refer to General figure 56.) Compute the area of the trapezoid.

- A) 24 square feet.
- B) 48 square feet.
- C) 10 square feet.

227. H02G AMG

(Refer to General figure 57.) Determine the area of the triangle formed by points A, B, and C.

A to B = 7.5 inches

A to D = 16.8 inches

- A) 24.3 square inches.
- B) 63 square inches.
- C) 126 square inches.

228. H02G AMG

What is the piston displacement of a master cylinder with a 1.5-inch diameter bore and a piston stroke of 4 inches?

- A) 9.4247 cubic inches.
- B) 7.0686 cubic inches.

C) 6.1541 cubic inches.

229. H02G AMG

How many gallons of fuel will be contained in a rectangular shaped tank which measures 2 feet in width, 3 feet in length, and 1 foot 8 inches in depth?

(7.5 gal = 1 cu ft)

- A) 50
- B) 75
- C) 81

230. H02G AMG

A four cylinder aircraft engine has a cylinder bore of 3.78 inches and is 8.5 inches deep. With the piston on bottom center, the top of the piston measures 4.0 inches from the bottom of the cylinder. What is the approximate piston displacement of this engine?

- A) 200 cubic inches.
- B) 360 cubic inches.
- C) 235 cubic inches.

231. H02G AMG

A rectangular shaped fuel tank measures 37-1/2 inches in length, 14 inches in width, and 8-1/4 inches in depth. How many cubic inches are within the tank?

- A) 59.75
- B) 433.125
- C) 4,331.25

232. H02G AMG

What force is exerted on the piston in a hydraulic cylinder if the area of the piston is 1.2 square inches and the fluid pressure is 850 PSI?

- A) 1,020 pounds.
- B) 960 pounds.
- C) 850 pounds.

233. H02G AMG

(Refer to General figure 55.) Find the area of the triangle shown.

- A) 12 square inches.
- B) 6 square inches.
- C) 15 square inches.

234. H02G AMG

The total piston displacement of a specific engine is

- A) dependent on the compression ratio.

- B) the volume displaced by all the pistons during one revolution of the crankshaft.
- C) the total volume of all the cylinders.

235. H02G AMG

(Refer to General figure 54.) Compute the area of the trapezoid.

- A) 52.5 square feet.
- B) 60 square feet.
- C) 76.5 square feet.

236. H02G AMG

What size sheet of metal is required to fabricate a cylinder 20 inches long and 8 inches in diameter?

(Note: $C = \pi \times D$)

- A) 20 inches x $25\frac{5}{32}$ inches.
- B) 20 inches x $24\frac{9}{64}$ inches.
- C) 20 inches x $25\frac{9}{64}$ inches.

237. H02G AMG

A six cylinder engine with a bore of 3.5 inches, a cylinder height of 7 inches and a stroke of 4.5 inches will have a total piston displacement of

- A) 256.88 cubic inches.
- B) 259.77 cubic inches.
- C) 43.3 cubic inches.

238. H02G AMG

(Refer to the figure.) What is the volume of a sphere with a radius of 4.5 inches?

- A) 47.71 cubic inches
- B) 381.7 square inches
- C) 381.7 cubic inches

239. H02G AMG

What is the surface area of a cube where a side (edge) measures 7.25 inches?

- A) 381.078 cu. in.
- B) 315.375 sq. in.
- C) 52.5625 sq. in.

240. H01G AMG

Find the square root of 124.9924.

- A) 111.8×10 to the third power.

- B) $.1118 \times 10$ to the negative second power.
- C) $1,118 \times 10$ to the negative second power.

241. H01G AMG

The number 3.47×10 to the negative fourth power is equal to

- A) .00347
- B) 34,700
- C) .000347

242. H01G AMG

Which of the figures is using scientific notation?

- A) 1.
- B) 2.
- C) both 1 and 2.

243. H01G AMG

Which of the following is equal to the square root of $(-1776) \div (-2) - 632$?

- A) 128.
- B) 256.
- C) 16.

244. H01G AMG

(Refer to the figure) Solve the equation.

- A) 35,998.
- B) 36,002.
- C) 62,208.

245. H01G AMG

Find the square root of 3,722.1835.

- A) 61.00971.
- B) 61.00.
- C) 61.0097.

246. H01G AMG

$7056.0452 \times 1/72$ is most nearly equal to the square root of which of the following numbers?

- A) 9,406.
- B) 9,604.
- C) 9,801.

247. H01G AMG

Find the cube of 64.

- A) 4.
- B) 192.
- C) 262,144.

248. H01G AMG

(Refer to the figure) Solve the equation.

- A) 5.59
- B) .1680
- C) .0419

249. H01G AMG

What is the square root of 4 raised to the fifth power?

- A) 32.
- B) 64.
- C) 20.

250. H01G AMG

Which alternative answer in the figure is equal to 463,100?

- A) 1.
- B) 2.
- C) 3.

251. H01G AMG

What is the square root of 16 raised to the fourth power?

- A) 1,024.
- B) 4,096.
- C) 256.

252. H01G AMG

The result of 7 raised to the third power plus the square root of 36 is equal to

- A) 343.
- B) 349.
- C) 361.

253. H01G AMG

Find the square root of 1,824.

- A) 42.708×10 to the negative second power.

- B) $.42708 \times 10$.
- C) $.42708 \times 10$ to the second power.

254. H01G AMG

Find the value of 10 raised to the negative sixth power.

- A) 0.000001
- B) 0.000010
- C) 0.0000001

255. H01G AMG

What power of 10 is equal to 1,000,000,000?

- A) 10 to the sixth power.
- B) 10 to the tenth power.
- C) 10 to the ninth power.

256. H01G AMG

(Refer to the figure) Solve the equation.

- A) 12.
- B) 60.
- C) 76.

257. H01G AMG

Which of the following is equal to the square root of 3844?

- A) $31(2) + 7 + (-3.5 \times 2) =$
- B) $480(4) + (-4) - (-3 \times 2) =$
- C) $960 \times 4 - (-2) + 2 =$

258. H01G AMG

(Refer to the figure.) Which alternative answer is equal to 5.59?

- A) 1.
- B) 2.
- C) 3.

259. H04G AMG

What is the ratio of a gasoline fuel load of 200 gallons to one of 1,680 pounds?

- A) 5:7
- B) 2:3
- C) 5:42

260. H04G AMG

(Refer to General figure 60.) Solve the equation.

- A) 11.9
- B) 11.7
- C) 11.09

261. H04G AMG

Solve the equation.

$$(-3 + 2)(-12 - 4) + (-4 + 6) \times 3 =$$

- A) 20.
- B) 22.
- C) 28.

262. H04G AMG

Solve the equation.

$$-6[-9(-8+4) - 2(7 + 2)] =$$

- A) -332.
- B) -96.
- C) -108.

263. H04G AMG

Solve the equation.

$$4 - 3[-6(2+3) + 4] =$$

- A) 82.
- B) -25.
- C) -71.

264. H04G AMG

(Refer to General figure 59.) Solve the equation.

- A) +31.25
- B) -5.20
- C) -31.25

265. H04G AMG

Solve the equation.

$$\frac{1}{2}(-30 + 34) \cdot 5 =$$

- A) 10.
- B) 95.
- C) 160.

266.

H04G

AMG

Solve the equation.

$$\frac{1}{6} \div (32 \times \frac{3}{8}) =$$

- A) 1.992
- B) 0.01945
- C) 0.0138

267.

H04G

AMG

Solve the equation.

$$(64 \times \frac{3}{8}) \div \frac{3}{4} =$$

- A) 18.
- B) 24.
- C) 32.

268.

H04G

AMG

Solve the equation

$$[(4 \times -3) + (-9 \times 2)] \div 3 =$$

- A) -15.
- B) -10.
- C) -18.

269.

H04G

AMG

(Refer to General figure 58.) Solve the equation.

- A) 174.85
- B) 68.037
- C) 14.002

270.

H04G

AMG

Solve the equation.

$$4 - (-2) + 12 \div 2 \times 3 =$$

- A) 24

- B) 36
- C) 27

271. H03G AMG

If the volume of a cylinder with the piston at bottom center is 84 cubic inches and the piston displacement is 70 cubic inches, then the compression ratio is

- A) 7:1
- B) 1.2:1
- C) 6:1

272. H03G AMG

Express $\frac{7}{8}$ as a percent.

- A) 8.75 percent.
- B) .875 percent.
- C) 87.5 percent.

273. H03G AMG

What is the speed of a spur gear with 42 teeth driven by a pinion gear with 14 teeth turning 420 RPM?

- A) 196 RPM.
- B) 160 RPM.
- C) 140 RPM.

274. H03G AMG

A certain aircraft bolt has an overall length of $1\frac{1}{2}$ inches, with a shank length of $1\frac{3}{16}$ inches, and a threaded portion length of $\frac{5}{8}$ inch. What is the grip length?

- A) .5625 inch.
- B) .8750 inch.
- C) .3125 inch.

275. H03G AMG

Select the fractional equivalent of 0.078125

- A) $\frac{3}{32}$
- B) $\frac{1}{16}$
- C) $\frac{5}{64}$

276. H03G AMG

An engine develops 108 horsepower at 87 percent power. What horsepower would be developed at 65 percent power?

- A) 81.
- B) 70.

C) 61.

277. H03G AMG

1.296875 is equal to

- A) 83/64
- B) 19/16
- C) 39/32

278. H03G AMG

Select the decimal which is most nearly equal to $77/64$

- A) 1.0231
- B) 1.83117
- C) 1.2031

279. H03G AMG

Express $5/8$ as a percent.

- A) .625 percent.
- B) 6.25 percent.
- C) 62.5 percent.

280. H03G AMG

The parts department's profit is 12 percent on a new part. How much does the part cost if the selling price is \$145.60?

- A) \$128.13
- B) \$125.60
- C) \$130.00

281. H03G AMG

A pinion gear with 14 teeth is driving a spur gear with 42 teeth at 140 RPM. Determine the speed of the pinion gear.

- A) 588 RPM.
- B) 420 RPM.
- C) 126 RPM.

282. H03G AMG

How much current does a 30-volt 1/2-horsepower motor that is 85-percent efficient draw from the bus?

(Note: 1 horsepower = 746 watts)

- A) 14.6 amperes.

- B) 12.4 amperes.
- C) 14.3 amperes.

283. H03G AMG

If an engine is turning 1,965 rpm at 65 percent power, what is its maximum rpm?

- A) 2,653.
- B) 3,023.
- C) 3,242.

284. H03G AMG

An engine of 98 horsepower maximum is running at 75 percent power. What is the horsepower being developed?

- A) 81.00
- B) 76.50
- C) 73.50

285. H03G AMG

Select the fraction which is most nearly equal to 0.20312.

- A) 11/64.
- B) 13/64.
- C) 7/32.

286. H03G AMG

The radius of a piece of round stock is $\frac{7}{32}$. Select the decimal which is most nearly equal to the diameter.

- A) 0.2187
- B) 0.4375
- C) 0.3531

287. H03G AMG

Maximum life for a certain part is 1100 hours. Recently, 15 of these parts were removed from different aircraft with an average life of 835.3 hours. What percent of the maximum part life has been achieved?

- A) 75.9 percent.
- B) 76.9 percent.
- C) 75.0 percent.

288. H03G AMG

What is the ratio of 10 feet to 30 inches?

- A) 4:1
- B) 1:3

C) 3:1

289. H03G AMG

Which decimal is most nearly equal to a bend radius of 29/64?

- A) 0.4613
- B) 0.4844
- C) 0.4531

290. I02G AMG

After a mechanic holding an airframe and powerplant rating completes a 100-hour inspection, what action is required before the aircraft is returned to service?

- A) Make the proper entries in the aircraft's maintenance record.
- B) An operational check of all systems.
- C) A mechanic with an inspection authorization must approve the inspection.

291. I02G AMG

What is/are the appropriate action(s) concerning minor repairs performed on a certificated aircraft?

- 1. FAA Form 337's must be completed.
 - 2. Entries must be made in the aircraft's maintenance record.
 - 3. The owner of the aircraft must submit a record of all minor repairs to the FAA at least annually.
- A) 1 and 2.
 - B) 2.
 - C) 2 and 3.

292. I02G AMG

After making a certain repair to an aircraft engine that is to be returned to service, an FAA Form 337 is prepared. How many copies are required and what is the disposition of the completed forms?

- A) Two; one copy for the aircraft owner and one copy for the FAA.
- B) Two; one copy for the FAA and one copy for the permanent records of the repairing agency or individual.
- C) Three; one copy for the aircraft owner, one copy for the FAA, and one copy for the permanent records of the repairing agency or individual.

293. I02G AMG

Who is responsible for upkeep of the required maintenance records for an aircraft?

- A) The maintaining repair station or authorized inspector.
- B) The maintaining certificated mechanic.

C) The aircraft owner.

294. I02G AMG

An aircraft was not approved for return to service after an annual inspection and the owner wanted to fly the aircraft to another maintenance base. Which statement is correct?

- A) The owner must obtain a special flight permit.
- B) The aircraft may be flown without restriction up to 10 hours to reach another maintenance base.
- C) The aircraft becomes a restricted category type until it is approved for return to service.

295. I02G AMG

An FAA Form 337 is used to record and document

- A) preventive and unscheduled maintenance, and special inspections.
- B) major and minor repairs, and major and minor alterations.
- C) major repairs and major alterations.

296. I02G AMG

Which of the following may a certificated airframe and powerplant mechanic perform on aircraft and approve for return to service?

- 1. a 100-hour inspection.
 - 2. an annual inspection, under specified circumstances.
 - 3. a progressive inspection, under specified circumstances.
- A) 1, 3.
 - B) 1, 2.
 - C) 1, 2, 3.

297. I02G AMG

When approving for return to service after maintenance or alteration, the approving person must enter in the maintenance record of the aircraft

- A) the date the maintenance or alteration was begun, a description (or reference to acceptable data) of work performed, the name of the person performing the work (if someone else), signature, and certificate number.
- B) a description (or reference to acceptable data) of work performed, date of completion, the name of the person performing the work (if someone else), signature, and certificate number.
- C) a description (or reference to acceptable data) of work performed, date of completion, the name of the person performing the work (if someone else), signature, certificate number, and kind of certificate held.

298. I02G AMG

Each person performing an annual or 100-hour inspection shall use a checklist that contains at least those items in the appendix of

- A) 14 CFR Part 43.

- B) 14 CFR Part 65.
- C) AC 43.13-3.

299. I02G AMG

An aircraft owner was provided a list of discrepancies on an aircraft that was not approved for return to service after an annual inspection. Which of the following statements is/are true concerning who may correct the discrepancies?

- 1. Only a mechanic with an inspection authorization.
 - 2. An appropriately rated mechanic.
 - 3. Any certificated repair station.
- A) 1.
 - B) 2 .
 - C) 2 & 3.

300. I02G AMG

Who is responsible for making the entry in the maintenance records after an annual, 100-hour, or progressive inspection?

- A) The owner or operator of the aircraft.
- B) The person approving or disapproving for return to service.
- C) The designee or inspector representing the FAA Administrator.

301. I02G AMG

For aircraft operated under part 91, which of the following records must be retained for at least one year, or until the work is repeated or superseded ?

- A) Records of time since overhaul of items requiring overhaul on a time specified basis.
- B) Records of maintenance, alterations, preventive maintenance, 100-hour, annual, and progressive inspections.
- C) Records of the current inspection status of the aircraft, including time since last required inspection.

302. I02G AMG

For aircraft operated under part 91, which of the following records must be retained and transferred with the aircraft when it is sold?

- A) Records of maintenance, alterations, preventive maintenance, 100-hour, annual, and progressive inspections.
- B) Records of inspections performed in accordance with 14 CFR part 43, Appendix D.
- C) Records of the current status of applicable AD' s, and date and time when recurring AD' s are next due.

303. I02G AMG

When a discrepancy list is provided to an aircraft owner or operator after an inspection is

completed, it says in effect that

- A) the item inspected is unairworthy.
- B) except for these discrepancies, the item inspected is airworthy.
- C) the item inspected may or may not be airworthy depending on the discrepancies found.

304. I02G AMG

In order to reconstruct lost or destroyed aircraft maintenance records, what is it necessary to establish?

- A) Dates of all maintenance, preventive maintenance, and alterations.
- B) Dates and/or times of all 100-hour, annual, or progressive inspections.
- C) Total time-in-service of the airframe.

305. I02G AMG

When work is performed on an aircraft that necessitates the use of FAA Form 337, who should prepare the form?

- A) The person who performs or supervises the work.
- B) The person who approves for return to service.
- C) Either the person who approves for return to service, or the aircraft owner or operator.

306. I02G AMG

What is the status of data used as a basis for approving major repairs or alterations for return to service?

- A) Data must be least FAA-acceptable when it is used for that purpose.
- B) Data must be FAA-approved prior to its use for that purpose.
- C) Data may be FAA-approved after its use for that purpose.

307. I02G AMG

Which statement is true regarding the use of FAA Form 337?

- A) FAA Form 337 is authorized for use with both U.S. and foreign registered aircraft.
- B) FAA Form 337 is authorized for use with U.S. registered aircraft, and foreign registered aircraft when located in the United States.
- C) FAA Form 337 is not authorized for use with other than U.S. registered aircraft.

308. I01G AMG

Which is an appliance major repair?

- A) Overhaul of a hydraulic pressure pump.
- B) Repairs to a propeller governor or its control.
- C) Troubleshooting and repairing broken circuits in landing light circuits.

309. I01G AMG

What is the means by which the FAA notifies aircraft owners and other interested persons of

unsafe conditions and prescribes the condition under which the product may continue to be operated?

- A) Airworthiness Directives.
- B) Aviation Maintenance Alerts.
- C) Aviation Safety Data.

310. I01G AMG

If work performed on an aircraft has been done satisfactorily, the signature of an authorized person on the maintenance records for maintenance or alterations performed constitutes

- A) approval of the aircraft for return to service.
- B) approval for return to service only for the work performed.
- C) verification that the maintenance or alterations were performed referencing approved maintenance data.

311. I01G AMG

Which maintenance action is an airframe major repair?

- A) Changes to the wing or to fixed or movable control surfaces which affect flutter and vibration characteristics.
- B) Rewinding the field coil of an electrical accessory.
- C) The repair of portions of skin sheets by making additional seams.

312. I01G AMG

Where is the record of compliance with Airworthiness Directives or manufacturers' service bulletins normally indicated?

- A) FAA Form 337.
- B) Aircraft maintenance records.
- C) Flight manual.

313. I01G AMG

During an annual inspection, if a defect is found which makes the aircraft unairworthy, the person disapproving must

- A) void the aircraft's Airworthiness Certificate.
- B) submit a Malfunction or Defect Report.
- C) provide a written notice of the defect to the owner.

314. I01G AMG

Where should you find this entry?

'Removed right wing from aircraft and removed skin from outer 6 feet. Repaired buckled spar 49 inches from tip in accordance with figure 8 in the manufacturer's structural repair manual No. 28-1.'

- A) Aircraft engine maintenance record.
- B) Aircraft minor repair and alteration record.

C) FAA Form 337.

315. I01G AMG

Which aircraft record entry is the best description of the replacement of several damaged heli coils in a casting?

- A) Eight 1/4 - 20 inch standard heli-coils were replaced. The damaged inserts were extracted, the tapped holes gaged, then new inserts installed, and tangs removed.
- B) Eight 1/4 - 20 inch standard heli-coils were installed in place of damaged ones.
- C) Eight 1/4 - 20 inch standard heli-coil inserts were repaired by replacing the damaged inserts with a lock type insert, after the tapped holes were checked for corrosion.

316. I01G AMG

Which maintenance record entry best describes the action taken for a control cable showing approximately 20 percent wear on several of the individual outer wires at a fairlead?

- A) Wear within acceptable limits, repair not necessary.
- B) Removed and replaced the control cable and rerigged the system.
- C) Cable repositioned, worn area moved away from fairlead.

317. I01G AMG

Which maintenance record entry best describes the action taken for a .125-inch deep dent in a straight section of 1/2-inch aluminum alloy tubing?

- A) Dent within acceptable limits, repair not necessary.
- B) Dented section removed and replaced with identical new tubing flared to 45°.
- C) Dented section removed and replaced with identical new tubing flared to 37°.

318. I01G AMG

Which aircraft record entry best describes a repair of a dent in a tubular steel structure dented at a cluster?

- A) Removed and replaced the damaged member.
- B) Welded a reinforcing plate over the dented area.
- C) Filled the damaged area with a molten metal and dressed to the original contour.

319. I01G AMG

Which statement is true regarding the requirements for maintenance record format?

- A) Any format that provides record continuity and includes the required information may be used.
- B) The format provided by the manufacturer of the aircraft must be retained.
- C) Any desired change from manufacturer provided format requires approval from the Federal Aviation Administration

320. I01G AMG

When a 100-hour inspection is completed, if separate maintenance records for the airframe,

powerplant(s), and propeller(s) are maintained, where is the entry for the inspection recorded?

- A) In each record.
- B) In the airframe record only.
- C) In any one of the records.

321. I01G AMG

For aircraft operated under part 91, when is aircraft total time required to be recorded in aircraft maintenance records?

- A) After satisfactorily completing maintenance, preventive maintenance, rebuilding, and alteration (except inspections).
- B) After satisfactorily completing inspections.
- C) After satisfactorily completing maintenance, preventive maintenance, rebuilding, and alteration (including inspections).

322. I01G AMG

For aircraft operated under part 91, what difference is there, if any, between the record entry requirements for maintenance (e.g., repair or alteration) and the record entry requirements for inspections (beyond the description of the work performed and the type and extent of inspection)?

- A) There is no difference.
- B) Aircraft total time is required to be included only in the maintenance entry.
- C) Aircraft total time is required to be included only in the inspection entry.

323. I01G AMG

If more space is needed for a work description entered on FAA Form 337, what information should be included on the attached sheet(s), in addition to the rest of the work description?

- A) Make, model, and serial number of the aircraft.
- B) Aircraft nationality and registration mark, and the date the work was accomplished.
- C) Name, date, and office designator of the FAA inspector from the supervising district office.

324. K01G AMG

Aviation Maintenance Alerts

- A) provide mandatory procedures to prevent or correct serious aircraft problems.
- B) provide information about aircraft problems and suggested corrective actions.
- C) provide temporary emergency procedures until Airworthiness Directives can be issued.

325. K01G AMG

An aircraft mechanic is privileged to perform major alterations on U.S. certificated aircraft; however, the work must be done in accordance with FAA approved technical data before the aircraft can be returned to service. Which is NOT approved data?

- A) Airworthiness Directives.
- B) AC 43.13-2A.

C) Supplemental Type Certificates.

326. K01G AMG

What is the maintenance recording responsibility of the person who complies with an Airworthiness Directive?

- A) Advise the aircraft owner/operator of the work performed.
- B) Make an entry in the maintenance record of that equipment.
- C) Advise the FAA district office of the work performed, by submitting an FAA Form 337.

327. K01G AMG

(1) Manufacturer's data and FAA publications such as Airworthiness Directives, Type Certificate Data Sheets, and advisory circulars are all approved data.

(2) FAA publications such as Technical Standard Orders, Airworthiness Directives, Type Certificate Data Sheets, and Aircraft Specifications and Supplemental Type Certificates are all approved data.

- A) both No. 1 and No. 2 are true.
- B) only No. 1 is true.
- C) only No. 2 is true.

328. K01G AMG

The Air Transport Association of America (ATA) Specification No. 100

(1) establishes a standard for the presentation of technical data in maintenance manuals.

(2) divides the aircraft into numbered systems and subsystems in order to simplify locating maintenance instructions.

Regarding the above statements,

- A) both No. 1 and No. 2 are true.
- B) neither No. 1 nor No. 2 is true.
- C) only No. 1 is true.

329. K01G AMG

(1) Propellers are NOT included in the Airworthiness Directive system.

(2) A certificated powerplant mechanic may make a minor repair on an aluminum propeller and approve for return to service.

Regarding the above statements,

- A) only No. 2 is true.
- B) both No. 1 and No. 2 are true.
- C) neither No. 1 nor No. 2 is true.

330. K01G AMG

(Refer to General figure 62, 62A, & 62B as necessary.) Which doubler(s) require(s) heat

treatment before installation?

- A) -101.
- B) -102.
- C) Both.

331. K01G AMG

Technical information about older aircraft models, of which no more than 50 remain in service, can be found in the

- A) Aircraft Listing.
- B) Summary of Deleted and Discontinued Aircraft Specifications.
- C) Index of Antique Aircraft.

332. K01G AMG

What information is generally contained in Aircraft Specifications or Type Certificate Data Sheets?

- A) Empty weight of the aircraft.
- B) Useful load of aircraft.
- C) Control surface movements.

333. K01G AMG

Specifications pertaining to an aircraft model manufactured under a type certificate, of which less than 50 are shown on the FAA Aircraft Registry, can be found in the

- A) Aircraft Listing.
- B) Summary of Discontinued Aircraft Specifications.
- C) FAA Statistical Handbook of Civil Aircraft Specifications.

334. K01G AMG

The issuance of an Airworthiness Certificate is governed by

- A) 14 CFR Part 23.
- B) 14 CFR Part 21.
- C) 14 CFR Part 39.

335. K01G AMG

When an airworthy (at the time of sale) aircraft is sold, the Airworthiness Certificate

- A) becomes invalid until the aircraft is reinspected and approved for return to service.
- B) is voided and a new certificate is issued upon application by the new owner.
- C) is transferred with the aircraft.

336. K01G AMG

An aircraft Type Certificate Data Sheet contains

- A) maximum fuel grade to be used.
- B) control surface adjustment points.
- C) location of the datum.

337. K01G AMG

Placards required on an aircraft are specified in

- A) AC 43.13-1B.
- B) the Federal Aviation Regulations under which the aircraft was type certificated.
- C) Aircraft Specifications or Type Certificate Data Sheets.

338. K01G AMG

Primary responsibility for compliance with Airworthiness Directives lies with the

- A) certificated mechanic who maintains the aircraft.
- B) certificated mechanic holding an Inspection Authorization who conducts appropriate inspections.
- C) aircraft owner or operator.

339. K01G AMG

Suitability for use of a specific propeller with a particular engine airplane combination can be determined by reference to what informational source?

- A) Propeller Specifications or Propeller Type Certificate Data Sheet.
- B) Aircraft Specifications or Aircraft Type Certificate Data Sheet.
- C) Alphabetical Index of Current Propeller Type Certificate Data Sheets, Specifications, and Listings.

340. K01G AMG

Airworthiness Directives are issued primarily to

- A) provide information about malfunction or defect trends.
- B) present recommended maintenance procedures for correcting potentially hazardous defects.
- C) correct an unsafe condition.

341. K01G AMG

Where are technical descriptions of certificated propellers found?

- A) Applicable Airworthiness Directives.
- B) Aircraft Specifications.
- C) Propeller Type Certificate Data Sheets.

342. K01G AMG

Which of the following are sometimes used as authorization to deviate from an aircraft's original type design?

1. FAA Form 337.

- 2. Supplemental Type Certificate.
- 3. Airworthiness Directive.
- 4. Technical Standard Order.

- A) 1, 2, 3, and 4.
- B) 1, 2, and 4.
- C) 1, 2, and 3.

343. K01G AMG

(Refer to General figure 62, 62A, & 62B as necessary.) How many parts will need to be fabricated by the mechanic in the construction and installation of one doubler?

- A) 2.
- B) 3.
- C) 4.

344. K01G AMG

The following words are an example of what kind of statement in an AD? "Required within the next 25 hours time-in-service after the effective date of this AD, unless already accomplished."

- A) Amendment.
- B) Compliance.
- C) Applicability.

345. K01G AMG

The action required by an AD may take what form?

- 1. Inspection.
 - 2. Part(s) replacement.
 - 3. Design modification.
 - 4. Change in operating procedure(s).
 - 5. Overall change in the content, form and disposition of aircraft maintenance records.
- A) 1, 2, 3, and/or 4.
 - B) 1, 2, 3, and/or 5.
 - C) 1, 2, 3, 4, and/or 5.

346. K01G AMG

The following words are an example of what kind of statement in an AD? "Model 172 airplanes (serial numbers 36216 through 36769) that have not been modified with Cessna Service Kit SK-172-10 or SK-172-10A, certificated in any category."

- A) Amendment.
- B) Compliance.
- C) Applicability.

347. K01G AMG

Type Certificate Data Sheets are issued for which of the following products?

- A) Aircraft, engines, and propellers.
- B) Aircraft, engines, and appliances.
- C) Aircraft, engines, propellers, and appliances.

348. K01G AMG

How long are AD compliance records required to be kept?

- A) Until the work is repeated or superseded by other work.
- B) For one year after the work is performed, or until the work is repeated or superseded by other work.
- C) They shall be retained, and then transferred with the aircraft when it is sold.

349. K01G AMG

What does the Type Certificate Data Sheet designation code "2 PCSM" mean?

- A) Two place (number of seats), closed, sea, monoplane.
- B) Two wing (biplane), primary category, semimonocoque (airframe).
- C) Neither of the other two choices.

350. K01G AMG

Which of the following includes all the regulatory definitions of "maintenance"?

- A) Overhaul, repair, parts replacement, and preservation, and preventive maintenance.
- B) Overhaul, repair, parts replacement, preservation, inspection, and preventive maintenance.
- C) Overhaul, repair, parts replacement, inspection, and preservation.

351. K01G AMG

What is the regulatory definition of "preventive maintenance"?

- A) Simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.
- B) All preservation operations and the replacement of standard parts, including any required assembly operations.
- C) All preservation operations and the replacement of standard parts not involving complex assembly operations.

352. L01G AMG

A certificated mechanic with a powerplant rating may perform the

- A) annual inspection required by the Federal Aviation Regulations on a powerplant or any component thereof and approve and return the same to service.
- B) 100-hour inspection required by the Federal Aviation Regulations on a powerplant or any component thereof and approve and return the same to service.
- C) 100-hour inspection required by the Federal Aviation Regulations on an airframe, powerplant, or any other component thereof and approve and return the same to service.

353. L01G AMG

Who has the authority to approve for return to service a propeller after a 100-hour inspection?

1. A mechanic with a powerplant rating.
 2. Any certificated repairman.
 3. A non-certificated mechanic working under the supervision of a certificated mechanic with airframe and powerplant ratings.
- A) 1.
B) 1 and 3.
C) 2.

354. L01G AMG

A person working under the supervision of a certificated mechanic with an airframe and powerplant rating is not authorized to perform

- A) repair of a wing brace strut by welding.
B) a 100-hour inspection.
C) repair of an engine mount by riveting.

355. L01G AMG

Which of these publications contains standards for protrusion of bolts, studs, and screws through self-locking nuts?

- A) AC 43.13-2.
B) Aircraft Specifications or Type Certificate Data Sheets.
C) AC 43.13-1B.

356. L01G AMG

Who is responsible for determining that materials used in aircraft maintenance and repair are of the proper type and conform to the appropriate standards?

- A) The installing person or agency.
B) The owner or operator of the aircraft.
C) The manufacturer of the aircraft.

357. L01G AMG

(1) Certificated mechanics with an airframe rating may perform a minor repair to an airspeed indicator providing they have the necessary tools and equipment available.

(2) Certificated mechanics with a powerplant rating may perform a major repair to a propeller providing they have the necessary tools and equipment available.

Regarding the above statements,

- A) only No. 1 is true.
B) neither No. 1 nor No. 2 is true.
C) only No. 2 is true.

358. L01G AMG

A certificated mechanic shall not exercise the privileges of the certificate and rating unless, within the preceding 24 months, the Administrator has found that the certificate holder is able to do the work or the certificate holder has

- A) served as a mechanic under the certificate and rating for at least 18 months.
- B) served as a mechanic under the certificate and rating for at least 12 months.
- C) served as a mechanic under the certificate and rating for at least 6 months.

359. L01G AMG

Instrument repairs may be performed

- A) by the instrument manufacturer only.
- B) by an FAA-approved instrument repair station.
- C) on airframe instruments by mechanics with an airframe rating.

360. L01G AMG

The replacement of a damaged engine mount with a new identical engine mount purchased from the aircraft manufacturer is considered a

- A) major or minor repair, depending upon the complexity of the installation.
- B) major repair.
- C) minor repair.

361. L01G AMG

The replacement of a damaged vertical stabilizer with a new identical stabilizer purchased from the aircraft manufacturer is considered a

- A) minor alteration.
- B) major repair.
- C) minor repair.

362. L01G AMG

Certificated mechanics, under their general certificate privileges, may

- A) perform minor repairs to instruments.
- B) perform 100-hour inspection of instruments.
- C) perform minor alterations to instruments.

363. L01G AMG

The 100-hour inspection required by Federal Aviation Regulations for certain aircraft being operated for hire may be performed by

- A) persons working under the supervision of an appropriately rated mechanic, but the aircraft must be approved by the mechanic for return to service.
- B) appropriately rated mechanics only if they have an inspection authorization.

C) appropriately rated mechanics and approved by them for return to service.

364. L01G AMG

The replacement of fabric on fabric covered parts such as wings, fuselages, stabilizers, or control surfaces is considered to be a

- A) minor repair unless the new cover is different in any way from the original cover.
- B) minor repair unless the underlying structure is altered or repaired.
- C) major repair even though no other alteration or repair is performed.

365. L01G AMG

A repair, as performed on an airframe, shall mean

- A) the upkeep and preservation of the airframe including the component parts thereof.
- B) the restoration of the airframe to a condition for safe operation after damage or deterioration.
- C) simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

366. L01G AMG

Certificated mechanics with a powerplant rating may perform

- A) any inspection required by the Federal Aviation Regulations on a powerplant or propeller or any component thereof, and may release the same to service.
- B) 100-hour and/or annual inspections required by the Federal Aviation Regulations on powerplants, propellers, or any components thereof, and may release the same to service.
- C) 100-hour inspections required by the Federal Aviation Regulations on powerplants, propellers, or any components thereof, and may release the same to service.

367. L01G AMG

An Airworthiness Directive requires that a propeller be altered. Certificated mechanics could

- A) perform and approve the work for return to service if it is a minor alteration.
- B) not perform the work because it is an alteration.
- C) not perform the work because they are not allowed to perform and approve for return to service, repairs or alterations to propellers.

368. L01G AMG

FAA certificated mechanics may

- A) approve for return to service a major repair for which they are rated.
- B) supervise and approve a 100-hour inspection.
- C) approve for return to service a minor alteration they have performed appropriate to the rating(s) they hold.

369. L01G AMG

Under Title 14 of the Code of Federal Regulations, what is the maximum penalty for falsification, alteration, or fraudulent reproduction of certificates, logbooks, reports, and

