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Bank: (Aviation Mechanic Airframe)

Airman Knowledge Test Question Bank

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1. AMA021 AMA

The I beam wooden spar is routed to

- A) increase strength.
- B) obtain uniform strength.
- C) reduce weight.

2. AMA021 AMA

The cantilever wing uses

- A) external struts or wire bracing.
- B) no external bracing.
- C) the skin to carry most of the load to the wing butt.

3. AMA102 AMA

In cases of elongated boltholes in a wood spar or cracks in the vicinity of boltholes,

- A) it is permissible to ream the hole, plug with hardwood, and redrill.
- B) the spar may be reinforced by using hardwood reinforcing plates.
- C) a new section of spar should be spliced in or the spar replaced entirely.

4. AMA102 AMA

The strength of a well designed and properly prepared wood splice joint is provided by the

- A) bearing surface of the wood fibers.
- B) glue.
- C) reinforcement plates.

5. AMA040 AMA

(1) Machine sewn seams in aircraft covering fabrics may be of the folded fell or French fell types.

(2) A plain lapped seam is never permissible.

Regarding the above statements,

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

6. AMA040 AMA

When dope-proofing the parts of the aircraft structure that come in contact with doped fabric, which of the following provide an acceptable protective coating?

- 1. Aluminum foil.

2. Resin impregnated cloth tape.
  3. Any one-part type metal primer.
  4. Cellulose tape.
- A) 1 and 2.  
B) 1 and 4.  
C) 3 and 4.

7. AMA040 AMA

The strength classification of fabrics used in aircraft covering is based on

- A) bearing strength.  
B) shear strength.  
C) tensile strength.

8. AMA040 AMA

Finishing tape (surface tape) is used for what purpose?

- A) To help prevent 'ripple formation' in covering fabric.  
B) To provide additional anti-tear resistance under reinforcement tape.  
C) To provide additional wear resistance over the edges of fabric forming structures.

9. AMA040 AMA

The determining factor(s) for the selection of the correct weight of textile fabric to be used in covering any type of aircraft is the

- A) maximum wing loading.  
B) speed of the aircraft.  
C) speed of the aircraft and the maximum wing loading.

10. AMA040 AMA

Before applying a protective coating to any unpainted clean aluminum, you should

- A) wipe the surface with avgas or kerosene.  
B) remove any conversion coating film.  
C) avoid touching the surface with bare hands.

11. AMA088 AMA

If registration numbers are to be applied to an aircraft with a letter height of 12 inches, what is the minimum space required for the registration mark N1683C?

Note:

- $\frac{2}{3} \times \text{height} = \text{character width}.$   
 $\frac{1}{6} \times \text{height} = \text{width for 1}.$   
 $\frac{1}{4} \times \frac{2}{3} \text{ height} = \text{spacing}.$   
 $\frac{1}{6} \times \text{height} = \text{stroke or line width}.$

- A) 52 inches.  
B) 48 inches.  
C) 57 inches.

12. AMA040 AMA

Which defect in aircraft finishes may be caused by adverse humidity, drafts, or sudden changes in temperature?

- A) Orange peel.  
B) Blushing.  
C) Pinholes.

13. AMA094 AMA  
A piece of sheet metal is bent to a certain radius. The curvature of the bend is referred to as the  
A) bend allowance.  
B) neutral line.  
C) bend radius.

14. AMA094 AMA  
The purpose of a joggle is to  
A) allow clearance for a sheet or an extrusion.  
B) increase obstruction for a sheet or an extrusion.  
C) decrease the weight of the part and still retain the necessary strength.

15. AMA094 AMA  
(Refer to Airframe figure 6.) Determine the dimensions of A, B, and C in the flat layout.  
Setback = .252  
Bend allowance = .345  
A) A = .748; B = 2.252; C = 2.004.  
B) A = .748; B = 1.496; C = 1.248.  
C) A = 1.252; B = 2.504; C = 1.752.

16. AMA094 AMA  
(Refer to Airframe figure 4.) The length of flat A is  
A) 3.750 inches.  
B) 3.875 inches.  
C) 3.937 inches.

17. AMA016 AMA  
You can distinguish between aluminum and aluminum alloy by  
A) filing the metal.  
B) testing with an acetic acid solution.  
C) testing with a 10 percent solution of caustic soda.

18. AMA037 AMA  
One of the best ways to assure that a properly prepared batch of matrix resin has been achieved is to  
A) perform a chemical composition analysis.  
B) have mixed enough for a test sample.  
C) test the viscosity of the resin immediately after mixing.

19. AMA004 AMA  
Cabin upholstery materials installed in current standard category airplanes must  
A) be fireproof.  
B) be at least flame resistant.  
C) meet the requirements prescribed in Part 43.

20. AMA078 AMA  
If no scratches are visible after transparent plastic enclosure materials have been cleaned, their surfaces should be  
A) polished with rubbing compound applied with a damp cloth.  
B) buffed with a clean, soft, dry cloth.

C) covered with a thin coat of wax.

21. AMA078 AMA

When installing transparent plastic enclosures which are retained by bolts extending through the plastic material and self-locking nuts, the nuts should be

- A) tightened to a firm fit, plus one full turn.
- B) tightened to a firm fit, then backed off one full turn.
- C) tightened to a firm fit.

22. AMA021 AMA

Which part(s) of a semi monocoque fuselage prevent(s) tension and compression from bending the fuselage?

- A) The fuselage covering.
- B) Longerons and stringers.
- C) Bulkheads and skin.

23. AMA016 AMA

Aircraft structural units, such as spars, engine supports, etc., which have been built up from sheet metal, are normally

- A) repairable, using approved methods.
- B) repairable, except when subjected to compressive loads.
- C) not repairable, but must be replaced when damaged or deteriorated.

24. AMA029 AMA

What should be the included angle of a twist drill for soft metals?

- A) 118°.
- B) 90°.
- C) 65°.

25. AMA016 AMA

Shallow scratches in sheet metal may be repaired by

- A) burnishing.
- B) buffing.
- C) stop drilling.

26. AMA058 AMA

A category of plastic material that is capable of softening or flowing when reheated is described as a

- A) thermoplastic.
- B) thermocure.
- C) thermoset.

27. AMA037 AMA

Sandwich panels made of metal honeycomb construction are used on modern aircraft because this type of construction

- A) is lighter than single sheet skin of the same strength and is more corrosion resistant.
- B) may be repaired by gluing replacement skin to the inner core material with thermoplastic resin.
- C) has a high strength to weight ratio.

28. AMA037 AMA

What is the material layer used within the vacuum bag pressure system to absorb excess resin during curing called?

- A) Bleeder.
- B) Breather.

C) Release.

29. AMA037 AMA

A potted compound repair on honeycomb can usually be made on damages less than

- A) 4 inches in diameter.
- B) 2 inches in diameter.
- C) 1 inch in diameter.

30. AMA037 AMA

Proper pre-preg composite lay-up curing is generally accomplished by

- 1. applying external heat.
  - 2. room temperature exposure.
  - 3. adding a catalyst or curing agent to the resin.
  - 4. applying pressure.
- A) 2 and 3.
  - B) 1 and 4.
  - C) 1, 3, and 4.

31. AMA037 AMA

When repairing puncture type damage of a metal faced laminated honeycomb panel, the edges of the doubler should be tapered to

- A) two times the thickness of the metal.
- B) 100 times the thickness of the metal.
- C) whatever is desired for a neat, clean appearance.

32. AMA045 AMA

When making repairs to fiberglass, cleaning of the area to be repaired is essential for a good bond. The final cleaning should be made using

- A) MEK (methyl ethyl ketone).
- B) soap, water, and a scrub brush.
- C) a thixotropic agent.

33. AMA045 AMA

Fiberglass laminate damage not exceeding the first layer or ply can be repaired by

- A) filling with a putty consisting of a compatible resin and clean, short glass fibers.
- B) sanding the damaged area until aerodynamic smoothness is obtained.
- C) trimming the rough edges and sealing with paint.

34. AMA037 AMA

Fiberglass laminate damage that extends completely through one facing and into the core

- A) cannot be repaired.
- B) requires the replacement of the damaged core and facing.
- C) can be repaired by using a typical metal facing patch.

35. AMA017 AMA

Which rivets should be selected to join two sheets of .032-inch aluminum?

- A) MS20425D-4-3.
- B) MS20470AD-4-4.
- C) MS20455DD-5-3.

36. AMA029 AMA  
Which procedure is correct when using a reamer to finish a drilled hole to the correct size?  
A) Turn the reamer in the cutting direction when enlarging the hole and in the opposite direction to remove from the hole.  
B) Turn the reamer only in the cutting direction.  
C) Apply considerable pressure on the reamer when starting the cut and reduce the pressure when finishing the cut.
37. AMA016 AMA  
A sheet metal repair is to be made using two pieces of 0.0625-inch aluminum riveted together. All rivet holes are drilled for 1/8-inch rivets. The length of the rivets to be used will be  
A) 5/32 inch.  
B) 3/16 inch.  
C) 5/16 inch.
38. AMA020 AMA  
(Refer to Airframe figure 1.) Which of the rivets shown will accurately fit the conical depression made by a 100° countersink?  
A) 1.  
B) 2.  
C) 3.
39. AMA017 AMA  
Under certain conditions, type A rivets are not used because of their  
A) low strength characteristics.  
B) high alloy content.  
C) tendency toward embrittlement when subjected to vibration.
40. AMA016 AMA  
(Refer to Airframe figure 2.) Select the preferred drawing for proper countersinking.  
A) All are acceptable.  
B) 2.  
C) 1.
41. AMA017 AMA  
Heat treated rivets in the D and DD series that are not driven within the prescribed time after heat treatment or removal from refrigeration  
A) must be reheat treated before use.  
B) must be discarded.  
C) may be returned to refrigeration and used later without reheat treatment.
42. AMA011 AMA  
A main difference between Lockbolt/ Huckbolt tension and shear fasteners (other than their application) is in the  
A) number of locking collar grooves.  
B) shape of the head.  
C) method of installation.
43. AMA011 AMA  
One of the main advantages of Hi-Lok type fasteners over earlier generations is that  
A) they can be removed and reused again.  
B) the squeezed on collar installation provides a more secure, tighter fit.

C) they can be installed with ordinary hand tools.

44. AMA017 AMA

Hole filling fasteners (for example, MS20470 rivets) should not be used in composite structures primarily because of the

- A) possibility of causing delamination.
- B) increased possibility of fretting corrosion in the fastener.
- C) difficulty in forming a proper shop head.

45. AMA011 AMA

The Dzus turnlock fastener consists of a stud, grommet, and receptacle. The stud length is measured in

- A) hundredths of an inch.
- B) tenths of an inch.
- C) sixteenths of an inch.

46. AMA017 AMA

The general rule for finding the proper rivet diameter is

- A) three times the thickness of the materials to be joined.
- B) two times the rivet length.
- C) three times the thickness of the thickest sheet.

47. AMA094 AMA

What method of repair is recommended for a steel tube longeron dented at a cluster?

- A) Welded split sleeve.
- B) Welded outer sleeve.
- C) Welded patch plate.

48. AMA101 AMA

The oxyacetylene flame used for aluminum welding should

- A) be neutral and soft.
- B) be slightly oxidizing.
- C) contain an excess of acetylene and leave the tip at a relatively low speed.

49. AMA101 AMA

A resurfaced soldering iron cannot be used effectively until after the working face has been

- A) fluxed.
- B) polished.
- C) tinned.

50. AMA101 AMA

Oxygen and acetylene cylinders are made of

- A) seamless aluminum.
- B) steel.
- C) bronze.

51. AMA058 AMA

Annealing of aluminum

- A) increases the tensile strength.
- B) makes the material brittle.

C) removes stresses caused by forming.

52. AMA101 AMA

Edge notching is generally recommended in butt welding above a certain thickness of aluminum because it

- A) helps hold the metal in alignment during welding.
- B) aids in the removal or penetration of oxides on the metal surface.
- C) aids in getting full penetration of the metal and prevents local distortion.

53. AMA101 AMA

Why are aluminum plates 1/4 inch or more thick usually preheated before welding?

- A) Reduces internal stresses and assures more complete penetration.
- B) Reduces welding time.
- C) Prevents corrosion and ensures proper distribution of flux.

54. AMA101 AMA

Oxides form very rapidly when alloys or metals are hot. It is important, therefore, when welding aluminum to use a

- A) solvent.
- B) filler.
- C) flux.

55. AMA101 AMA

When a butt welded joint is visually inspected for penetration,

- A) the penetration should be 25 to 50 percent of the thickness of the base metal.
- B) the penetration should be 100 percent of the thickness of the base metal.
- C) look for evidence of excessive heat in the form of a very high bead.

56. AMA101 AMA

Which statement best describes magnesium welding?

- A) Magnesium can be welded to other metals.
- B) Filler rod should be nickel steel.
- C) Filler rod should be the same composition as base metal.

57. AMA038 AMA

What nondestructive checking method is normally used to ensure that the correct amount of swaging has taken place when installing swaged-type terminals on aircraft control cable?

- A) Measure the finished length of the terminal barrel and compare with the beginning length.
- B) Use a terminal gauge to check the diameter of the swaged portion of the terminal.
- C) Check the surface of the swaged portion of the terminal for small cracks which indicate incomplete swaging.

58. AMA038 AMA

If all instructions issued by the swaging tool manufacturer are followed when swaging a cable terminal, the resultant swaged terminal strength should be

- A) the full rated strength of the cable.
- B) 80 percent of the full rated strength of the cable.
- C) 70 percent of the full rated strength of the cable.

59. AMA011 AMA

When used in close proximity to magnetic compasses, cotter pins are made of what material?

- A) Corrosion resisting steel.



- B) Anodized aluminum alloy.
- C) Cadmium plated low carbon steel.

60. AMA038 AMA

Fairleads should never deflect the alignment of a cable more than

- A) 12°.
- B) 8°.
- C) 3°.

61. AMA081 AMA

If control cables are adjusted properly and the control surfaces tend to vibrate, the probable cause is

- A) worn attachment fittings.
- B) oil can effects on the control surfaces.
- C) excessive cable tension.

62. AMA081 AMA

A tension regulator in the flight control cable system of a large all metal aircraft is used primarily to

- A) increase the cable tension in cold weather.
- B) provide a means of changing cable tension in flight.
- C) retain a set tension.

63. AMA038 AMA

What is the smallest size cable that may be used in aircraft primary control systems?

- A) 1/4 inch.
- B) 5/16 inch.
- C) 1/8 inch.

64. AMA081 AMA

The universal propeller protractor can be used to measure

- A) propeller track.
- B) aspect ratio of a wing.
- C) degrees of flap travel.

65. AMA081 AMA

The correct dihedral angle can be determined by

- A) measuring the angular setting of each wing at the rear spar with a bubble protractor.
- B) placing a straightedge and bubble protractor across the spars while the airplane is in flying position.
- C) using a dihedral board and bubble level along the front spar of each wing.

66. AMA081 AMA

Where would you find precise information to perform a symmetry alignment check for a particular aircraft?

- A) Aircraft Specification or Type Certificate Data Sheet.
- B) Manufacturer's service bulletins.
- C) Aircraft service or maintenance manual.

67. AMA059 AMA

Where is fuselage station No. 137 located?

- A) 137 centimeters aft of the nose or fixed reference line.

- B) 137 inches aft of the zero or fixed reference line.
- C) Aft of the engine.

68. AMA100 AMA

Why is it generally necessary to jack an aircraft indoors for weighing?

- A) So aircraft may be placed in a level position.
- B) So that air currents do not destabilize the scales.
- C) So weighing scales may be calibrated to 0 pounds.

69. AMA100 AMA

An airplane's center of lift is usually located aft of its center of gravity

- A) so that the airplane will have a tail heavy tendency.
- B) so that the airplane will have a nose heavy tendency.
- C) to improve stability about the longitudinal axis.

70. AMA050 AMA

An airplane that has a tendency to gradually increase a pitching moment that has been set into motion has

- A) poor longitudinal stability.
- B) good lateral stability.
- C) poor lateral stability.

71. AMA001 AMA

The angle of incidence of an airplane at rest

- A) affects the dihedral of the wings in flight.
- B) is the same as the angle between the relative wind and the chord of the wing.
- C) does not change when in flight.

72. AMA001 AMA

The primary purpose of stall strips is to

- A) provide added lift at slow speeds.
- B) stall the inboard portion of the wings first.
- C) provide added lift at high angles of attack.

73. AMA001 AMA

The chord of a wing is measured from

- A) wingtip to wingtip.
- B) wing root to the wingtip.
- C) leading edge to trailing edge.

74. AMA001 AMA

What physical factors are involved in the aspect ratio of airplane wings?

- A) Thickness and chord.
- B) Span and chord.
- C) Dihedral and angle of attack.

75. AMA090 AMA

Which statement is correct regarding an aircraft that is found to be unairworthy after an annual inspection, due to an item requiring a major repair (assuming approved data is used to accomplish the repair)?

- A) An appropriately rated mechanic may accomplish the repair, and an IA may approve the aircraft for return to service.

- B) An appropriately rated mechanic or repair station may repair the defect and approve the aircraft for return to service.
- C) Only the person who performed the annual inspection may approve the aircraft for return to service, after the major repair.

76. AMA088 AMA

Large airplanes and turbine-powered multiengine airplanes operated under Federal Aviation Regulation Part 91, General Operating and Flight Rules, must be inspected

- A) in accordance with an inspection program authorized under Federal Aviation Regulation Part 91, Subpart E.
- B) in accordance with a continuous airworthiness maintenance program (camp program) authorized under Federal Aviation Regulation Part 91, Subpart E.
- C) in accordance with the progressive inspection requirements of Federal Aviation Regulation Section 91.409(d).

77. AMA065 AMA

How can it be determined that all air has been purged from a master cylinder brake system?

- A) By operating a hydraulic unit and watching the system pressure gauge for smooth, full scale deflection.
- B) By noting whether the brake is firm or spongy.
- C) By noting the amount of fluid return to the master cylinder upon brake release.

78. AMA031 AMA

What is one effect a restricted compensator port of a master cylinder will have on a brake system?

- A) The brakes will operate normally.
- B) The reservoir will be filled by reverse flow.
- C) The restriction will cause slow release of the brakes.

79. AMA063 AMA

What would be the effect if the piston return spring broke in a brake master cylinder?

- A) The brakes would become spongy.
- B) The brake travel would become excessive.
- C) The brakes would drag.

80. AMA032 AMA

A pilot reports the right brake on an aircraft is spongy when the brake pedal is depressed in a normal manner. The probable cause is

- A) the hydraulic master cylinder piston is sticking.
- B) air in the brake hydraulic system.
- C) the hydraulic master cylinder piston return spring is weak.

81. AMA032 AMA

In brake service work, the term 'bleeding brakes' is the process of

- A) withdrawing air only from the system.
- B) withdrawing fluid from the system for the purpose of removing air that has entered the system.
- C) replacing small amounts of fluid in reservoir.

82. AMA068 AMA

When servicing an air/oil shock strut with MIL-5606 the strut should be

- A) collapsed and fluid added at the filler opening.
- B) fully extended and fluid added at the filler opening.
- C) partially extended and fluid added at the filler opening.

83. AMA068 AMA

The metering pins in oleo shock struts serve to

- A) lock the struts in the DOWN position.
- B) retard the flow of oil as the struts are compressed.
- C) meter the proper amount of air in the struts.

84. AMA097 AMA

Exposure to and/or storage near which of the following is considered harmful to aircraft tires?

- 1. Low humidity.
  - 2. Fuel.
  - 3. Oil.
  - 4. Ozone.
  - 5. Helium.
  - 6. Electrical equipment.
  - 7. Hydraulic fluid.
  - 8. Solvents.
- A) 2, 3, 4, 5, 6, 7, 8.
  - B) 1, 2, 3, 5, 7, 8.
  - C) 2, 3, 4, 6, 7, 8.

85. AMA064 AMA

Two types of hydraulic fluids currently being used in civil aircraft are

- A) mineral base, and phosphate ester base.
- B) mixed mineral base and phosphate ester base.
- C) petroleum base and mixed mineral base.

86. AMA064 AMA

How can the proper hydraulic fluid to be used in an airplane be determined?

- A) Refer to the aircraft parts manual.
- B) Consult the aircraft Type Certificate Data Sheet.
- C) Consult the aircraft manufacturer's service manual.

87. AMA064 AMA

The internal resistance of a fluid which tends to prevent it from flowing is called

- A) volatility.
- B) viscosity.
- C) acidity.

88. AMA064 AMA

Which of the following is adversely affected by atmospheric humidity if left unprotected?

- 1. MIL-H-5606 hydraulic fluid.
  - 2. Skydrol hydraulic fluid.
  - 3. None of the above.
- A) 1 and 2.
  - B) 3.
  - C) 2.

89. AMA063 AMA

The unit which causes one hydraulic operation to follow another in a definite order is called a

- A) selector valve.
- B) sequence valve.
- C) shuttle valve.

90. AMA063 AMA

The primary function of the flap overload valve is to

- A) prevent the flaps from being lowered at airspeeds which would impose excessive structural loads.
- B) cause the flap segments located on opposite sides of the aircraft centerline to extend and retract together so that the aircraft will not become aerodynamically unbalanced to the extent that it becomes uncontrollable.
- C) boost normal system pressure to the flaps in order to overcome the air loads acting on the relatively large flap area.

91. AMA063 AMA

Heat exchanger cooling units are required in some aircraft hydraulic systems because of

- A) fluid flammability.
- B) high pressures and high rates of fluid flow.
- C) the high heat generated from braking.

92. AMA065 AMA

If hydraulic fluid is released when the air valve core of the accumulator is depressed, it is evidence of

- A) excessive accumulator air pressure.
- B) a leaking check valve.
- C) a ruptured diaphragm or leaking seals.

93. AMA063 AMA

Hydraulic system thermal relief valves are set to open at a

- A) lower pressure than the system relief valve.
- B) higher pressure than the system relief valve.
- C) lower pressure than the system pressure regulator.

94. AMA065 AMA

What is the main purpose of a pressurized reservoir in a hydraulic system?

- A) Prevent tank collapse at altitude.
- B) Prevent hydraulic pump cavitation.
- C) Prevent hydraulic fluid from foaming.

95. AMA063 AMA

Quick disconnect couplings in hydraulic systems provide a means of

- A) easily replacing hydraulic lines in areas where leaks are common.
- B) quickly connecting and disconnecting hydraulic lines and eliminate the possibility of contaminants entering the system.
- C) quickly connecting and disconnecting hydraulic lines without loss of fluid or entrance of air into the system.

96. AMA003 AMA

Teflon hose that has developed a permanent set from being exposed to high pressure or temperature should

- A) not be straightened or bent further.
- B) not be reinstalled once removed.
- C) be immediately replaced.

97. AMA063 AMA

What is one advantage of piston type hydraulic motors over electric motors?

- A) They are considerably quieter in operation.
- B) There is no fire hazard if the motor is stalled.
- C) They work satisfactorily over a wider temperature range.

98. AMA063 AMA

Which characteristics apply to aircraft hydraulic systems?

- 1. Minimum maintenance requirements.
  - 2. Lightweight.
  - 3. About 80 percent operating efficiency (20 percent loss due to fluid friction).
  - 4. Simple to inspect.
- A) 1, 2, 3, 4.
  - B) 1, 3, 4.
  - C) 1, 2, 4.

99. AMA079 AMA

Pneumatic systems utilize

- A) return lines.
- B) relief valves.
- C) diluter valves.

100. AMA063 AMA

The component in the hydraulic system that is used to direct the flow of fluid is the

- A) check valve.
- B) orifice check valve.
- C) selector valve.

101. AMA011 AMA

(Refer to Airframe figure 11.) Which fitting is an AN flared tube fitting?

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

102. AMA065 AMA

Although dents in the heel of a bend are not permissible, they are acceptable in the remainder of a hydraulic tube providing they are less than what percent of the tube diameter?

- A) 5.
- B) 10.
- C) 20.

103. AMA063 AMA

The installation of a new metal hydraulic line should be made with

- A) a straight tube to withstand the shocks and vibration to which it will be subjected.
- B) a straight tube to permit proper alignment of the fitting and thereby reduce fluid loss through leakage.
- C) enough bends to allow the tube to expand and contract with temperature changes and to absorb vibration.

104. AMA065 AMA

After a hydraulic accumulator has been installed and air chamber charged, the main system hydraulic pressure gauge will not show a hydraulic pressure reading until

- A) at least one selector valve has been actuated to allow fluid to flow into the fluid side of the accumulator.

- B) the air pressure has become equal to the fluid pressure.
- C) the fluid side of the accumulator has been charged.

105. AMA063 AMA

Which seals are used with petroleum base hydraulic fluids?

- A) Polyester.
- B) Butyl rubber.
- C) Buna-N.

106. AMA063 AMA

After installation of a rebuilt hydraulic hand pump, it is found that the handle cannot be moved in the pumping direction (pressure stroke). The most likely cause is an incorrectly installed

- A) hand pump inport check valve.
- B) inport/outport orifice check valve.
- C) hand pump outport check valve.

107. AMA065 AMA

Hydraulic fluid filtering elements constructed of porous paper are normally

- A) cleaned and reused.
- B) discarded at regular intervals and replaced with new filtering elements.
- C) not approved for use in certificated aircraft.

108. AMA065 AMA

To prevent external and internal leakage in aircraft hydraulic units, the most commonly used type of seal is the

- A) O ring seal.
- B) gasket seal.
- C) chevron seal.

109. AMA065 AMA

What is used to flush a system normally serviced with MIL-H-5606 hydraulic fluid?

- A) Methyl ethyl ketone or kerosene.
- B) Naphtha or varsol.
- C) Lacquer thinner or trichlorethylene.

110. AMA063 AMA

Severe kickback of the emergency hydraulic hand pump handle during the normal intake stroke will indicate which of the following?

- A) The hand pump inlet check valve is sticking open.
- B) The main system relief valve is set too high.
- C) The hand pump outlet check valve is sticking open.

111. AMA065 AMA

The main system pressure relief valve in a simple hydraulic system equipped with a power control valve should be adjusted

- A) with the power control valve held in the CLOSED position.
- B) while one or more actuating units are in operation.
- C) with the power control valve in the OPEN position.

112. AMA063 AMA

How is the air in a hydraulic accumulator prevented from entering the fluid system?

- A) By forcing the oil/air mixture through a centrifugal separating chamber that prevents the air from leaving the accumulator.
- B) By physically separating the air chamber from the oil chamber with a flexible or movable separator.
- C) By including a valve that automatically closes when the fluid level lowers to a preset amount.

113. AMA065 AMA

If it is necessary to adjust several pressure regulating valves in a hydraulic system, what particular sequence, if any, should be followed?

- A) Units most distant from the hydraulic pump should be adjusted first.
- B) Units with the highest pressure settings are adjusted first.
- C) Units are independent of each other, and therefore, no particular sequence is necessary.

114. AMA065 AMA

Which is true regarding the ground check of a flap operating mechanism which has just been installed?

- A) If the time required to operate the mechanism increases with successive operations, it indicates the air is being worked out of the system.
- B) If the time required to operate the mechanism decreases with successive operations, it indicates the air is being worked out of the system.
- C) All hydraulic lines and components should be checked for leaks by applying soapy water to all connections.

115. AMA065 AMA

A hydraulic system operational check during ground runup of an aircraft indicates that the wing flaps cannot be lowered using the main hydraulic system, but can be lowered by using the emergency hand pump. Which is the most likely cause?

- A) The flap selector valve has a severe internal leak.
- B) The pressure accumulator is not supplying pressure to the system.
- C) The fluid level in the reservoir is low.

116. AMA063 AMA

If two actuating cylinders which have the same cross sectional area but different lengths of stroke are connected to the same source of hydraulic pressure, they will exert

- A) different amounts of force but will move at the same rate of speed.
- B) equal amounts of force but will move at different rates of speed.
- C) equal amounts of force and will move at the same rate of speed.

117. AMA065 AMA

How would the air pressure charge in the accumulator be determined if the engine is inoperative, but the system still has hydraulic pressure?

- A) Read it directly from the main system pressure gauge with all actuators inoperative.
- B) Build up system pressure with the emergency pump and then read the pressure on a gauge attached to the air side of the accumulator.
- C) Operate a hydraulic unit slowly and note the pressure at which a rapid pressure drop begins as it goes toward zero.

118. AMA065 AMA

What type of packings should be used in hydraulic components to be installed in a system containing Skydrol?

- A) AN packings made of natural rubber.
- B) Packing materials made for ester base fluids.
- C) AN packings made of neoprene.

119. AMA064 AMA

(1) When servicing aircraft hydraulic systems, use the type fluid specified in the aircraft manufacturer's maintenance manual or on the instruction plate affixed to the reservoir or unit.



(2) Hydraulic fluids for aircraft are dyed a specific color for each type of fluid.

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.

120. AMA002 AMA

When Refrigerant 12 is passed over an open flame, it

- A) changes to methane gas.
- B) is broken down into its basic chemical elements.
- C) changes to phosgene gas.

121. AMA005 AMA

What component might possibly be damaged if liquid refrigerant is introduced into the low side of a vapor cycle cooling system when the pressure is too high or the outside air temperature is too low?

- A) Compressor.
- B) Condenser.
- C) Evaporator.

122. AMA080 AMA

The cabin pressure of an aircraft in flight is maintained at the selected altitude by

- A) controlling the air inflow rate.
- B) inflating door seals and recirculating conditioned cabin air.
- C) controlling the rate at which air leaves the cabin.

123. AMA035 AMA

What is ventilating air used for on a combustion heater?

- A) Provides combustion air for ground blower.
- B) Carries heat to the places where needed.
- C) Provides air required to support the flame.

124. AMA006 AMA

The point at which freon flowing through a vapor cycle cooling system absorbs heat and changes from a liquid to a gas is the

- A) condenser.
- B) evaporator.
- C) expansion valve.

125. AMA068 AMA

On some cabin pressurization systems, pressurization on the ground is restricted by the

- A) cabin pressure regulator.
- B) negative pressure-relief valve.
- C) main landing gear operated switch.

126. AMA080 AMA

How is the cabin pressure of a pressurized aircraft usually controlled?

- A) By a pressure sensitive switch that causes the pressurization pump to turn on or off as required.
- B) By an automatic outflow valve that dumps all the pressure in excess of the amount for which it is set.
- C) By a pressure sensitive valve that controls the output pressure of the pressurization pump.

127. AMA006 AMA  
The point at which freon flowing through a vapor cycle cooling system gives up heat and changes from a gas to a liquid is the  
A) condenser.  
B) evaporator.  
C) expansion valve.
128. AMA080 AMA  
The altitude controller maintains cabin altitude by modulation of the  
A) safety and outflow valves.  
B) safety valve.  
C) outflow valve.
129. AMA074 AMA  
What type of oxygen system uses the rebreather bag-type mask?  
A) Diluter demand.  
B) Continuous flow.  
C) Demand.
130. AMA080 AMA  
A pressurization controller uses  
A) bleed air pressure, outside air temperature, and cabin rate of climb.  
B) barometric pressure, cabin altitude, and cabin rate of change.  
C) cabin rate of climb, bleed air volume, and cabin pressure.
131. AMA080 AMA  
Which best describes cabin differential pressure?  
A) Difference between cabin flight altitude pressure and Mean Sea Level pressure.  
B) Difference between the ambient and internal air pressure.  
C) Difference between cabin pressure controller setting and actual cabin pressure.
132. AMA002 AMA  
(Refer to Airframe figure 13.) Determine what unit is located immediately downstream of the expansion valve in a freon refrigeration system.  
A) Condenser.  
B) Compressor.  
C) Evaporator coils.
133. AMA035 AMA  
The operation of an aircraft combustion heater is usually controlled by a thermostat circuit which  
A) alternately turns the fuel on and off, a process known as cycling.  
B) meters the amount of fuel continuously entering the heater and therefore regulates the heater's BTU output.  
C) regulates the voltage applied to the heater's ignition transformer.
134. AMA080 AMA  
One purpose of a jet pump in a pressurization and air conditioning system is to  
A) produce a high pressure for operation of the outflow valve.  
B) provide for augmentation of airflow in some areas of the aircraft.  
C) assist in the circulation of freon.

135. AMA012 AMA  
Which is considered a good practice concerning the inspection of heating and exhaust systems of aircraft utilizing a jacket around the engine exhaust as a heat source?  
A) Supplement physical inspections with periodic operational carbon monoxide detection tests.  
B) All exhaust system components should be removed periodically, and their condition determined by the magnetic particle inspection method.  
C) All exhaust system components should be removed and replaced at each 100-hour inspection period.
136. AMA073 AMA  
How often should standard weight high pressure oxygen cylinders be hydrostatically tested?  
A) Every 5 years.  
B) Every 4 years.  
C) Every 3 years.
137. AMA005 AMA  
The evacuation of a vapor-cycle cooling system removes any water that may be present by  
A) drawing out the liquid.  
B) raising the boiling point of the water and drawing out the vapor.  
C) lowering the boiling point of the water and drawing out the vapor.
138. AMA005 AMA  
When charging a vapor cycle cooling system after evacuation, the low pressure gauge fails to come out of a vacuum. What is indicated?  
A) Blockage in the system.  
B) The expansion valve failed to close.  
C) The compressor is not engaging.
139. AMA006 AMA  
The purpose of a subcooler in a vapor cycle cooling system is to  
A) augment the cooling capacity during periods of peak demand.  
B) aid in quick cooling a hot aircraft interior.  
C) cool the freon to prevent premature vaporization.
140. AMA002 AMA  
When purging a freon air conditioning system, it is important to release the charge at a slow rate. What is the reason for the slow rate discharge?  
A) Prevent the large amount of freon from contaminating the surrounding atmosphere.  
B) Prevent excessive loss of refrigerant oil.  
C) Prevent condensation from forming and contaminating the system.
141. AMA074 AMA  
The main cause of contamination in gaseous oxygen systems is  
A) moisture.  
B) dust and other airborne particulates.  
C) other atmospheric gases.
142. AMA074 AMA  
High pressure cylinders containing oxygen for aviation use can be identified by their

- A) green color and the words 'BREATHING OXYGEN' stenciled in 1-inch white letters.
- B) yellow color and the words 'AVIATOR'S BREATHING OXYGEN' stenciled in 1-inch white letters.
- C) green color and the words 'AVIATOR'S BREATHING OXYGEN' stenciled in 1-inch white letters.

143. AMA074 AMA

If a high pressure oxygen cylinder is to be installed in an airplane, it must meet the specifications of the

- A) aircraft manufacturer or the cylinder manufacturer.
- B) Department of Transportation.
- C) National Transportation Safety Board or the Standards of Compressed Gas Cylinders.

144. AMA072 AMA

What controls the amount of oxygen delivered to a mask in a continuous flow oxygen system?

- A) Calibrated orifice.
- B) Pressure reducing valve.
- C) Pilot's regulator.

145. AMA074 AMA

(1) Oxygen used in aircraft systems is at least 99.5 percent pure and is practically water free.

(2) Oxygen used in aircraft systems is 99.5 percent pure and is hospital quality.

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.

146. AMA072 AMA

In a gaseous oxygen system, which of the following are vented to blow out plugs in the fuselage skin?

- A) Pressure relief valves.
- B) Filler shutoff valves.
- C) Pressure reducer valves.

147. AMA074 AMA

What test is used to determine the serviceability of an oxygen cylinder?

- A) Pressure test with manometer.
- B) Pressure test with nitrogen.
- C) Pressure test with water.

148. AMA074 AMA

Oxygen systems in unpressurized aircraft are generally of the

- A) continuous flow and pressure demand types.
- B) pressure demand type only.
- C) portable bottle type only.

149. AMA074 AMA

Before a high pressure oxygen cylinder is serviced, it must be the correct type and have been

- A) hydrostatically tested within the proper time interval.
- B) approved by the National Transportation Safety Board.
- C) inspected by a certificated airframe mechanic.

150. AMA073 AMA

When an aircraft's oxygen system has developed a leak, the lines and fittings should be

- A) removed and replaced.
- B) inspected using a special oxygen system dye penetrant.
- C) bubble tested with a special soap solution manufactured specifically for this purpose.

151. AMA085 AMA

A radar altimeter indicates

- A) flight level (pressure) altitude.
- B) altitude above sea level.
- C) altitude above ground level.

152. AMA085 AMA

A radar altimeter determines altitude by

- A) transmitting a signal and receiving back a reflected signal.
- B) receiving signals transmitted from ground radar stations.
- C) means of transponder interrogation.

153. AMA014 AMA

A Bourdon tube instrument may be used to indicate

- 1. pressure.
  - 2. temperature.
  - 3. position.
- A) 1 and 2.
  - B) 1.
  - C) 2 and 3.

154. AMA063 AMA

The operating mechanism of most hydraulic pressure gauges is

- A) a Bourdon tube.
- B) an airtight diaphragm.
- C) an evacuated bellows filled with an inert gas to which suitable arms, levers, and gears are attached.

155. AMA036 AMA

Magnetic compass bowls are filled with a liquid to

- A) retard precession of the float.
- B) reduce deviation errors.
- C) dampen the oscillation of the float.

156. AMA014 AMA

Data transmitted between components in an EFIS are converted into

- A) digital signals.
- B) analog signals.
- C) carrier wave signals.

157. AMA041 AMA

Fuel flow transmitters are designed to transmit data

- A) mechanically.

- B) electrically.
- C) utilizing fluid power.

158. AMA008 AMA

What does a reciprocating engine manifold pressure gauge indicate when the engine is not operating?

- A) Zero pressure.
- B) The differential between the manifold pressure and the atmospheric pressure.
- C) The existing atmospheric pressure.

159. AMA076 AMA

The requirements for testing and inspection of instrument static systems required by Section 91.411 are contained in

- A) Type Certificate Data Sheets.
- B) AC 43.13-1A.
- C) Part 43, appendix E.

160. AMA090 AMA

Who is authorized to repair an aircraft instrument?

- 1. A certified mechanic with an airframe rating.
  - 2. A certificated repairman with an airframe rating.
  - 3. A certificated repair station approved for that class instrument.
  - 4. A certificated airframe repair station.
- A) 1, 2, 3, and 4.
  - B) 3 and 4.
  - C) 3.

161. AMA096 AMA

The maximum altitude loss permitted during an unpressurized aircraft instrument static pressure system integrity check is

- A) 50 feet in 1 minute.
- B) 200 feet in 1 minute.
- C) 100 feet in 1 minute.

162. AMA096 AMA

What will be the result if the instrument static pressure line becomes disconnected inside a pressurized cabin during cruising flight?

- A) The altimeter and airspeed indicator will both read low.
- B) The altimeter and airspeed indicator will both read high.
- C) The altimeter will read low and the airspeed indicator will read high.

163. AMA013 AMA

What marking color is used to indicate if a cover glass has slipped?

- A) Red.
- B) White.
- C) Yellow.

164. AMA013 AMA

The green arc on an aircraft temperature gauge indicates

- A) the instrument is not calibrated.
- B) the desirable temperature range.
- C) a low, unsafe temperature range.

165. AMA014 AMA

The lubber line on a directional gyro is used to

- A) represent the nose of the aircraft.
- B) align the instrument glass in the case.
- C) represent the wings of the aircraft.

166. AMA013 AMA

Aircraft instrument panels are generally shock mounted to absorb

- A) all vibration.
- B) low frequency, high amplitude shocks.
- C) high frequency, high amplitude shocks.

167. AMA013 AMA

An aircraft instrument panel is electrically bonded to the aircraft structure to

- A) act as a restraint strap.
- B) provide current return paths.
- C) aid in the panel installation.

168. AMA090 AMA

A certificated mechanic may perform

- A) minor repairs to instruments.
- B) 100-hour inspections of instruments.
- C) instrument overhaul.

169. AMA096 AMA

When an unpressurized aircraft's static pressure system is leak checked to comply with the requirements of Section 91.411, what aircraft instrument may be used in lieu of a pitot-static system tester?

- 1. Vertical speed indicator.
  - 2. Cabin altimeter.
  - 3. Altimeter.
  - 4. Cabin rate-of-change indicator.
  - 5. Airspeed indicator.
- A) 1 or 5.
  - B) 2 or 4.
  - C) 3.

170. AMA096 AMA

When performing the static system leakage check required by Section 91.411, the technician utilizes

- A) static pressure.
- B) positive pressure.
- C) negative pressure.

171. AMA090 AMA

Which procedure should you use if you find a vacuum operated instrument glass loose?

- A) Mark the case and glass with a slippage mark.
- B) Replace the glass.
- C) Install another instrument.

172. AMA071 AMA  
On modern large aircraft, what electronic device typically monitors flight parameters and performs autopilot functions?  
A) Flight management computer.  
B) Transponder.  
C) Control/display unit.
173. AMA071 AMA  
In general, the purpose of an aircraft transponder is to  
A) continually transmit heading, speed, and rate of climb/decent etc. information to ATC.  
B) monitor aircraft speed, heading, altitude, and attitude whenever the autopilot system is engaged.  
C) receive an interrogation signal from a ground station and automatically send a reply back.
174. AMA071 AMA  
Static dischargers help eliminate radio interference by dissipating static electricity into the atmosphere at  
A) low current levels.  
B) high voltage level.  
C) high current levels.
175. AMA023 AMA  
An aircraft antenna installation must be grounded  
A) to the airframe.  
B) to the engine.  
C) to the radio rack.
176. AMA086 AMA  
The preferred location of an ELT is  
A) where it is readily accessible to the pilot or a member of the flightcrew while the aircraft is in flight.  
B) as far aft as possible.  
C) as far aft as possible, but forward of the vertical fin.
177. AMA087 AMA  
When must the radio station license be displayed in an aircraft equipped with a two-way radio?  
A) When the aircraft is operated outside the U.S..  
B) When the aircraft is returned to service.  
C) When the aircraft is certified for IFR flight.
178. AMA044 AMA  
How may the battery replacement date be verified for an emergency locator transmitter (ELT)?  
A) By removing the batteries and testing them under a measured load to determine if 50 percent of the useful life remains.  
B) By observing the battery replacement date marked on the outside of the transmitter.  
C) By activating the transmitter and measuring the signal strength.
179. AMA025 AMA  
In which control element of an autopilot system is an attitude indicator?  
A) Command.  
B) Sensing.  
C) Input.



180. AMA025 AMA

What component of an autopilot system applies torque to the control surfaces of an aircraft?

- A) Servo.
- B) Controller.
- C) Gyro.

181. AMA025 AMA

Which channel of an autopilot detects changes in pitch attitude of an aircraft?

- A) Elevator.
- B) Aileron.
- C) Rudder.

182. AMA025 AMA

In an autopilot, which signal nullifies the input signal to the ailerons?

- A) Displacement signal.
- B) Course signal.
- C) Followup signal.

183. AMA026 AMA

When operationally checking an autopilot system on the ground, after the aircraft's main power has been switched on, the autopilot should be engaged

- A) only after the gyros come up to speed and the amplifier warms up.
- B) whenever the operator desires.
- C) for only a few minutes at a time.

184. AMA025 AMA

Dutch roll, a combination yawing and rolling oscillation that affects many sweptwing aircraft, is counteracted with

- A) a flight director system.
- B) an aileron damper system.
- C) a yaw damper system.

185. AMA023 AMA

Doublers are used when antennas are installed to

- A) eliminate antenna vibration.
- B) prevent oil canning of the skin.
- C) reinstate the structural strength of the aircraft skin.

186. AMA023 AMA

What characteristics of the installation of a rigid antenna on a vertical stabilizer should be evaluated?

- A) Polarization and impedance.
- B) Impedance and interference.
- C) Flutter and vibration.

187. AMA023 AMA

(Refer to Airframe figure 15.) What is the approximate drag load on an antenna with a frontal area of .125 square feet installed on an aircraft with a speed of 225 MPH?

- A) 2.069 pounds.
- B) 2.073 pounds.

C) 2.080 pounds.

188. AMA085 AMA

A DME antenna should be located in a position on the aircraft that will

- A) not be blanked by the wing when the aircraft is banked.
- B) permit interruptions in DME operation.
- C) eliminate the possibility of the DME locking on a station.

189. AMA023 AMA

When installing a DME antenna, it should be aligned with the

- A) null position.
- B) angle of incidence.
- C) centerline on the airplane.

190. AMA023 AMA

(Refer to Airframe figure 16.) Which of the antennas shown is a typical glideslope antenna?

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

191. AMA028 AMA

How much clearance from the seat bottom is required when installing radio equipment under a seat?

- A) 3 inches with the seat unoccupied.
- B) No set minimum as long as the equipment receives adequate cooling and damage protection.
- C) 1 inch with the seat occupied and subjected to maximum downward seat spring deflection.

192. AMA054 AMA

The primary purpose of an aircraft's fuel jettison system is to quickly achieve a

- A) lower landing weight.
- B) balanced fuel load.
- C) reduced fire hazard.

193. AMA054 AMA

Fuel is moved overboard in most fuel jettison systems by

- A) boost pumps.
- B) gravity.
- C) gravity and engine driven fuel pumps.

194. AMA052 AMA

Which of the following precautions is most important during refueling operations?

- A) All outside electrical sources must be disconnected from the aircraft.
- B) Fuel to be used must be appropriately identified.
- C) All electrical switches must be in OFF position.

195. AMA054 AMA

According to Part 23, what minimum required markings must be placed at or near each appropriate fuel filler cover for reciprocating engine-powered airplanes?

- A) The word 'Avgas' and the minimum fuel grade.
- B) The word 'Fuel' and usable fuel capacity.

C) The word 'Avgas' and the total fuel capacity.

196. AMA003 AMA

What minimum required markings must be placed on or near each appropriate fuel filler cover on utility category aircraft?

- A) The word 'Avgas' and the minimum fuel grade, and the total fuel tank capacity.
- B) The word 'Avgas' and the minimum fuel grade or designation for the engines, and the usable fuel tank capacity.
- C) The word 'Avgas' and the minimum fuel grade .

197. AMA054 AMA

The primary purpose of a fuel tank sump is to provide a

- A) positive system of maintaining the design minimum fuel supply for safe operation.
- B) place where water and dirt accumulations in the tank can collect and be drained.
- C) reserve supply of fuel to enable the aircraft to land safely in the event of fuel exhaustion.

198. AMA054 AMA

(1) On a large aircraft pressure refueling system, a pressure refueling receptacle and control panel will permit one person to fuel or defuel any or all fuel tanks of an aircraft.

(2) Because of the fuel tank area, there are more advantages to a pressure fueling system in light aircraft.

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.

199. AMA055 AMA

Why are centrifugal type boost pumps used in fuel systems of aircraft operating at high altitude?

- A) Because they are positive displacement pumps.
- B) To supply fuel under pressure to engine driven pumps.
- C) To permit cooling air to circulate around the motor.

200. AMA054 AMA

Flapper valves are used in fuel tanks to

- A) reduce pressure.
- B) prevent a negative pressure.
- C) act as check valves.

201. AMA054 AMA

Fuel boost pumps are operated

- A) to provide a positive flow of fuel to the engine.
- B) primarily for fuel transfer.
- C) automatically from fuel pressure.

202. AMA052 AMA

If an aircraft is fueled from a truck or storage tank which is known to be uncontaminated with dirt or water, periodic checks of the aircraft's fuel tank sumps and system strainers

- A) can be eliminated except for the strainer check before the first flight of the day and the fuel tank sump check during 100-hour or annual inspections.
- B) are still necessary due to the possibility of contamination from other sources.
- C) can be sharply reduced since contamination from other sources is relatively unlikely and of little consequence in modern aircraft fuel systems.

203. AMA052 AMA  
(1) If aviation gasoline vaporizes too readily, fuel lines may become filled with vapor and cause increased fuel flow.  
(2) A measure of a gasoline's tendency to vapor lock is obtained from the Reid vapor pressure test.  
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.
204. AMA054 AMA  
What is the purpose of a float operated transmitter installed in a fuel tank?  
A) It sends an electric signal to the fuel quantity indicator.  
B) It senses the total amount of fuel density.  
C) It senses the dielectric qualities of fuel and air in the tank.
205. AMA052 AMA  
How does temperature affect fuel weight?  
A) Cold fuel is heavier per gallon.  
B) Warm fuel is heavier per gallon.  
C) Temperature has no effect.
206. AMA054 AMA  
A drip gauge may be used to measure  
A) the amount of fuel in the tank.  
B) system leakage with the system shut down.  
C) fuel pump diaphragm leakage.
207. AMA054 AMA  
The probe of a capacitance type fuel level gauge is essentially a  
A) float actuated variable capacitor.  
B) capacitor with fuel and air acting as one plate.  
C) capacitor with fuel and air acting as a dielectric.
208. AMA054 AMA  
A capacitance type fuel quantity indicating system measures fuel in  
A) pounds.  
B) pounds per hour.  
C) gallons.
209. AMA041 AMA  
One advantage of electrical and electronic fuel quantity indicating systems is that  
A) the indicators are calibrated in gallons; therefore, no conversion is necessary.  
B) only one transmitter and one indicator are needed regardless of the number of tanks.  
C) several fuel tank levels can be read on one indicator.
210. AMA054 AMA  
A probe or a series of probes is used in what kind of fuel quantity indicating system?  
A) Selsyn.

- B) Capacitor.
- C) Synchro.

211. AMA055 AMA

Fuel system components must be bonded and grounded in order to

- A) drain off static charges.
- B) prevent stray currents.
- C) retard galvanic corrosion.

212. AMA052 AMA

Which procedure must be followed when defueling aircraft with sweptback wings?

- A) Defuel all the tanks at one time.
- B) Defuel the inboard wing tanks first.
- C) Defuel the outboard wing tanks first.

213. AMA056 AMA

Normal fuel crossfeed system operation in multiengine aircraft

- A) calls for jettisoning of fuel overboard to correct lateral instability.
- B) reduces contamination and/or fire hazards during fueling or defueling operations.
- C) provides a means to maintain a balanced fuel load condition.

214. AMA054 AMA

What is one purpose of a fuel tank vent?

- A) To maintain atmospheric pressure.
- B) To decrease fuel vapor pressure.
- C) To decrease tank internal air pressure.

215. AMA054 AMA

Why is the main fuel strainer located at the lowest point in the fuel system?

- A) It traps any small amount of water that may be present in the fuel system.
- B) It provides a drain for residual fuel.
- C) It filters and traps all micro organisms that may be present in the fuel system.

216. AMA055 AMA

What is the recommended practice for cleaning a fuel tank before welding?

- A) Purge the tank with air.
- B) Flush the inside of the tank with clean water.
- C) Steam clean the tank interior.

217. AMA052 AMA

If it is necessary to enter an aircraft's fuel tank, which procedure should be avoided?

- A) Continue purging the tank during the entire work period.
- B) Station an assistant outside the fuel tank access to perform rescue operations if required.
- C) Conduct the defueling and tank purging operation in an air conditioned building.

218. AMA055 AMA

Which of the following may be used for the repair of fuel leaks on most integral fuel tanks?

- A) Welding and resealing.

- B) Brazing and resealing.
- C) Riveting and resealing.

219. AMA055 AMA

What method would be used to check for internal leakage of a fuel valve without removing the valve from the aircraft?

- A) Place the valve in the OFF position, drain the strainer bowl, and with boost pump on, watch to see if fuel flows to the strainer bowl.
- B) Remove fuel cap(s), turn boost pump(s) on, and watch for bubbling in the tanks.
- C) Apply regulated air pressure on the downstream side of the fuel pump and listen for air passing through the valve.

220. AMA055 AMA

When moving the mixture control on a normally operating engine into the idle cutoff position, engine RPM should

- A) slightly increase before the engine starts to die.
- B) slightly decrease and then drop rapidly.
- C) remain the same until the cutoff is effected, then drop rapidly.

221. AMA053 AMA

- (1) A fuel heater can use engine bleed air as a source of heat.
- (2) A fuel heater can use engine lubricating oil as a source of heat.

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.

222. AMA053 AMA

- (1) The function of a fuel heater is to protect the engine fuel system from ice formation.
- (2) An aircraft fuel heater cannot be used to thaw ice in the fuel screen.

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.

223. AMA054 AMA

What method is used on turbine powered aircraft to determine when the condition of the fuel is approaching the danger of forming ice crystals?

- A) Fuel pressure warning.
- B) Fuel pressure gauge.
- C) Fuel temperature indicator.

224. AMA055 AMA

What unit would be adjusted to change the fuel pressure warning limits?

- A) Fuel flowmeter bypass valve.
- B) Pressure sensitive mechanism.
- C) Fuel pressure relief valve.

225. AMA055 AMA

Which of the following would be most useful to locate and troubleshoot an internal fuel leak in an aircraft fuel system?

- A) Aircraft structure repair manual.
- B) Illustrated parts manual.

C) A fuel system schematic.

226. AMA041 AMA  
Integrated drive generators (IDG) employ a type of high output ac generator that utilizes  
A) brushes and slip rings to carry generated dc exciter current to the rotating field.  
B) battery current to excite the field.  
C) a brushless system to produce current.

227. AMA041 AMA  
When necessary during operation, CSD disconnect is usually accomplished by  
A) a switch in the cockpit.  
B) circuit breaker activation.  
C) a shear section in the input shaft.

228. AMA015 AMA  
Which of the following must be accomplished when installing an anticollision light?  
A) Install a switch independent of the position light switch.  
B) Use shielded electrical cable to assure fail safe operation.  
C) Connect the anticollision light to the aircraft position light switch.

229. AMA054 AMA  
How are generators rated?  
A) Watts at rated voltage.  
B) Amperes at rated voltage.  
C) The impedance at rated voltage.

230. AMA041 AMA  
Aircraft which operate only ac generators (alternators) as a primary source of electrical power normally provide current suitable for battery charging through the use of  
A) a stepdown transformer and a rectifier.  
B) an inverter and a voltage dropping resistor.  
C) a dynamotor with a half wave dc output.

231. AMA041 AMA  
One advantage of using ac electrical power in aircraft is  
A) that ac electrical motors can be reversed while dc motors cannot.  
B) greater ease in stepping the voltage up or down.  
C) that the effective voltage is 1.41 times the maximum instantaneous voltage; therefore, less power input is required.

232. AMA054 AMA  
What is a method used for restoring generator field residual magnetism?  
A) Flash the fields.  
B) Reseat the brushes.  
C) Energize the armature.

233. AMA042 AMA  
In troubleshooting an electrical circuit, if an ohmmeter is properly connected across a circuit component and some value of resistance is read,  
A) the component has continuity and is open.

- B) either the component or the circuit is shorted.
- C) the component has continuity and is not open.

234. AMA041 AMA

If it is necessary to use an electrical connector where it may be exposed to moisture, the mechanic should

- A) coat the connector with grease.
- B) use a special moisture proof type.
- C) spray the connector with varnish or zinc chromate.

235. AMA042 AMA

When using the voltage drop method of checking circuit resistance, the

- A) input voltage must be maintained at a constant value.
- B) output voltage must be maintained at a constant value.
- C) input voltage must be varied.

236. AMA041 AMA

A certain switch is described as a single pole, double throw switch (SPDT). The throw of a switch indicates the number of

- A) circuits each pole can complete through the switch.
- B) terminals at which current can enter or leave the switch.
- C) places at which the operating device (toggle, plunger, etc.) will come to rest and at the same time open or close a circuit.

237. AMA041 AMA

Aircraft fuse capacity is rated in

- A) volts.
- B) ohms.
- C) amperes.

238. AMA041 AMA

Circuits that must be operated only in an emergency or whose inadvertent activation could endanger a system frequently employ

- A) guarded switches.
- B) push-pull-type circuit breakers only (no switches).
- C) spring-loaded to off toggle or rocker switches.

239. AMA041 AMA

Where electric cables must pass through holes in bulkheads, formers, ribs, firewalls, etc., the wires should be protected from chafing by

- A) wrapping with electrical tape.
- B) using a suitable grommet.
- C) wrapping with plastic.

240. AMA041 AMA

If a wire is installed so that it comes in contact with some moving parts, what protection should be given the wire?

- A) Wrap with soft wire solder into a shield.
- B) Wrap with friction tape.
- C) Pass through conduit.

241. AMA041 AMA

Which of the following should be accomplished in the installation of aircraft wiring?



- A) Support the bundle to structure and/ or solid fluid lines to prevent chafing damage.
- B) Provide adequate slack in the wire bundle to compensate for large changes in temperature.
- C) Locate the bundle above flammable fluid lines and securely clamp to structure.

242. AMA042 AMA

How does the routing of coaxial cables differ from the routing of electrical wiring?

- A) Coaxial cables are routed parallel with stringers or ribs.
- B) Coaxial cables are routed at right angles to stringers or ribs.
- C) Coaxial cables are routed as directly as possible.

243. AMA042 AMA

What is the voltage drop for a No. 18 copper wire 50 feet long to carry 12.5 amperes, continuous operation?

Use the formula  $VD = RLA$

VD = Voltage drop

R = Resistance per ft = .00644

L = Length of wire

A = Amperes

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

244. AMA041 AMA

The primary considerations when selecting electric cable size are

- A) current carrying capacity and allowable voltage drop.
- B) the voltage and amperage of the load it must carry.
- C) the system voltage and cable length.

245. AMA042 AMA

In installations where the ammeter is in the generator or alternator lead, and the regulator system does not limit the maximum current that the generator or alternator can deliver, the ammeter can be redlined at what percent of the generator or alternator rating?

- A) 50.
- B) 75.
- C) 100.

246. AMA042 AMA

Bonding connections should be tested for

- A) resistance value.
- B) amperage value.
- C) reactance.

247. AMA054 AMA

The poles of a generator are laminated to

- A) reduce flux losses.
- B) increase flux concentration.
- C) reduce eddy current losses.

248. AMA054 AMA

If any one generator in a 24-volt dc system shows low voltage, the most likely cause is

- A) an out of adjustment voltage regulator.
- B) shorted or grounded wiring.
- C) a defective reverse current cutout relay.

249. AMA054 AMA

When dc generators are operated in parallel to supply power for a single load, their controls include an equalizer circuit to assure that all generators share the load equally. The equalizer circuit operates by

- A) increasing the output of the low generator to equal the output of the high generator.
- B) decreasing the output of the high generator to equal the output of the low generator.
- C) increasing the output of the low generator and decreasing the output of the high generator until they are equal.

250. AMA030 AMA

(Refer to Airframe figure 18.) Which of the batteries are connected together incorrectly?

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

251. AMA009 AMA

What is the color and orientation of the position lights for navigation on civil airplanes?

- A) Left side - green, right side - red, rear aft - white.
- B) Left side - red, right side - green, rear aft - white.
- C) Left side - white, right side - green, rear aft - red.

252. AMA041 AMA

The type of electric wire terminals used for most aircraft applications, in addition to providing good current carrying capabilities, are designed primarily

- A) to prevent circuit failure due to terminal disconnection.
- B) for uncomplicated and rapid circuit connection and disconnection.
- C) for permanent connection to the circuit.

253. AMA041 AMA

What does a rectifier do?

- A) Changes direct current into alternating current.
- B) Changes alternating current into direct current.
- C) Reduces voltage.

254. AMA042 AMA

Electric circuits are protected from overheating by means of

- A) thermocouples.
- B) shunts.
- C) fuses.

255. AMA039 AMA

What is the principal advantage of the series wound dc motor?

- A) High starting torque.
- B) Suitable for constant speed use.
- C) Low starting torque.

256. AMA039 AMA

A series wound dc electric motor will normally require

- A) more current at high RPM than at low RPM.
- B) approximately the same current throughout its operating range of speed.
- C) more current at low RPM than at high RPM.

257. AMA041 AMA

The method most often used in overcoming the effect of armature reaction is through the use of

- A) interpoles.
- B) shaded poles.
- C) drum wound armatures in combination with a negatively connected series field.

258. AMA041 AMA

Aircraft electrical junction boxes located in a fire zone are usually constructed of

- A) asbestos.
- B) cadmium plated steel.
- C) stainless steel.

259. AMA041 AMA

The pin section of an AN/MS connector is normally installed on

- A) the power supply side of a circuit.
- B) the ground side of a circuit.
- C) either side of a circuit (makes no difference).

260. AMA054 AMA

In a generator, what eliminates any possible sparking to the brush guides caused by the movement of the brushes within the holder?

- A) The brush pigtail.
- B) Brush spring tension.
- C) Undercutting the mica on the commutator.

261. AMA041 AMA

A voltage regulator controls generator output by

- A) introducing a resistance in generator-to-battery lead in the event of overload.
- B) shorting out field coil in the event of overload.
- C) varying current flow to generator field coil.

262. AMA054 AMA

The pole pieces or shoes used in a dc generator are a part of the

- A) armature assembly.
- B) field assembly.
- C) brush assembly.

263. AMA054 AMA

If the reverse current cutout relay contact points fail to open after the generator output has dropped below battery potential, current will flow through the generator armature

- A) in the normal direction and through the shunt field opposite the normal direction.
- B) and the shunt field opposite the normal direction.
- C) opposite the normal direction and through the shunt field in the normal direction.

264. AMA054 AMA

To test generator or motor armature windings for opens,

- A) place armature in a growler and connect a 110V test light on adjacent segments; light should light.
- B) check adjacent segments on commutator with an ohmmeter on the high resistance scale.
- C) use a 12/24V test light between the armature core segments and the shaft.

265. AMA042 AMA

When approved, splices may be used to repair manufactured harnesses or installed wiring. The maximum number of splices permitted between any two connectors is

- A) one.
- B) two.
- C) three.

266. AMA041 AMA

How should the splices be arranged if several are to be located in an electrical wire bundle?

- A) Staggered along the length of the bundle.
- B) Grouped together to facilitate inspection.
- C) Enclosed in a conduit.

267. AMA043 AMA

What is the most accurate type of frequency measuring instrument?

- A) Integrated circuit chip having a clock circuit.
- B) Electrodynamometers using electromagnetic fields.
- C) Electromagnets using one permanent magnet.

268. AMA041 AMA

For general electrical use in aircraft, the acceptable method of attaching a terminal to a wire is by

- A) crimping.
- B) soldering.
- C) crimping and soldering.

269. AMA042 AMA

Which of the following factors must be taken into consideration when determining the wire size to use for an aircraft installation?

1. Mechanical strength.
2. Allowable power loss.
3. Ease of installation.
4. Resistance of current return path through the aircraft structure.
5. Permissible voltage drop.
6. Current carrying capability of the conductor.
7. Type of load (continuous or intermittent).

- A) 2, 5, 6, 7.
- B) 1, 2, 4, 5.
- C) 2, 4, 6, 7.

270. AMA041 AMA

The most common method of attaching a pin or socket to an individual wire in an MS electrical connector is by

- A) crimping.
- B) soldering.

C) crimping and soldering.

271. AMA070 AMA

Major adjustments on equipment such as regulators, contactors, and inverters are best accomplished outside the airplane on test benches with necessary instruments and equipment. Adjustment procedure should be as outlined by

- A) the equipment manufacturer.
- B) the FAA.
- C) aircraft technical orders.

272. AMA042 AMA

One purpose of a growler test is to determine the presence of

- A) an out of round commutator.
- B) a broken field lead.
- C) a shorted armature.

273. AMA041 AMA

How can it be determined if a transformer winding has some of its turns shorted together?

- A) Measure the input voltage with an ohmmeter.
- B) The output voltage will be high.
- C) The transformer will get hot in normal operation.

274. AMA031 AMA

An antiskid system is

- A) a hydraulic system.
- B) an electrohydraulic system.
- C) an electrical system.

275. AMA032 AMA

Antiskid braking systems are generally armed by

- A) a centrifugal switch.
- B) a switch in the cockpit.
- C) the rotation of the wheels above a certain speed.

276. AMA041 AMA

In an antiskid system, wheel skid is detected by

- A) an electrical sensor.
- B) a discriminator.
- C) a sudden rise in brake pressure.

277. AMA031 AMA

(1) An antiskid system is designed to apply enough force to operate just below the skid point.

(2) A warning lamp lights in the cockpit when the antiskid system is turned off or if there is a system failure.

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.

278. AMA031 AMA

The purpose of antiskid generators is to

- A) monitor hydraulic pressure applied to brakes.
- B) indicate when a tire skid occurs.
- C) measure wheel rotational speed and any speed changes.

279. AMA069 AMA

(Refer to Airframe figure 20.) What will illuminate the amber indicator light?

- A) Closing the nosewheel gear full retract switch.
- B) Retarding one throttle and closing the left wheel gear locked down switch.
- C) Closing the nose, left and right wheel gear full retract switches.

280. AMA018 AMA

The primary purpose of a takeoff warning system is to alert the crew that a monitored flight control is not properly set prior to takeoff. The system is activated by

- A) an 80 knot airspeed sensor.
- B) an ignition system switch not set for takeoff.
- C) a thrust lever.

281. AMA010 AMA

- (1) A dc selsyn system is a widely used electrical method of indicating a remote mechanical movement or position.
- (2) A synchro type indicating system is an electrical system used for transmitting information from one point to another.

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.

282. AMA068 AMA

Where is the landing gear safety switch usually located?

- A) On the main gear shock strut.
- B) On the landing gear drag brace.
- C) On the pilot's control pedestal.

283. AMA068 AMA

What landing gear warning device(s) is/are incorporated on retractable landing gear aircraft?

- A) A visual indicator showing gear position.
- B) A light which comes on when the gear is fully down and locked.
- C) A horn or other aural device and a red warning light.

284. AMA010 AMA

The rotor in a magnesyn remote indicating system uses

- A) a permanent magnet.
- B) an electromagnet.
- C) an electromagnet and a permanent magnet.

285. AMA041 AMA

Microswitches are used primarily as limit switches to

- A) limit generator output.
- B) control electrical units automatically.
- C) prevent overcharging of a battery.

286. AMA069 AMA

Which repair would require a landing gear retraction test?

- A) Landing gear safety switch.
- B) Red warning light bulb.
- C) Gear downlock microswitch.

287. AMA041 AMA

What is used as a temperature sensing element in an electrically heated windshield?

- A) Thermocouple.
- B) Thermistor.
- C) Thermometer.

288. AMA024 AMA

What method is usually employed to control the temperature of an anti icing system using surface combustion heaters?

- A) Thermo cycling switches.
- B) Thermostats in the cockpit.
- C) Heater fuel shutoff valves.

289. AMA024 AMA

What is the purpose of the oil separator in the pneumatic deicing system?

- A) To protect the deicer boots from oil deterioration.
- B) To remove oil from air exhausted from the deicer boots.
- C) To prevent an accumulation of oil in the vacuum system.

290. AMA024 AMA

Why are the tubes in deicer boots alternately inflated?

- A) Alternate inflation of deicer boot tubes keeps disturbance of the airflow to a minimum.
- B) Alternate inflation of deicer boot tubes does not disturb airflow.
- C) Alternate inflation of deicer boot tubes relieves the load on the air pump.

291. AMA024 AMA

What controls the inflation sequence in a pneumatic deicer boot system?

- A) Shuttle valve.
- B) Vacuum pump.
- C) Distributor valve.

292. AMA024 AMA

Some aircraft are protected against airframe icing by heating the leading edges of the airfoils and intake ducts. When is this type of anti-ice system usually operated?

- A) Continuously while the aircraft is in flight.
- B) In symmetric cycles during icing conditions to remove ice as it accumulates.
- C) Whenever icing conditions are first encountered or expected to occur.

293. AMA034 AMA

Why should a chemical rain repellent not be used on a dry windshield?

- A) It will etch the glass.
- B) It will restrict visibility.
- C) It will cause glass crazing.

294. AMA079 AMA  
What is the principal characteristic of a windshield pneumatic rain removal system?  
A) An air blast spreads a liquid rain repellent evenly over the windshield that prevents raindrops from clinging to the glass surface.  
B) An air blast forms a barrier that prevents raindrops from striking the windshield surface.  
C) A pneumatic rain removal system is simply a mechanical windshield wiper system that is powered by pneumatic system pressure.
295. AMA076 AMA  
What is one check for proper operation of a pitot/static tube heater after replacement?  
A) Ammeter reading.  
B) Voltmeter reading.  
C) Continuity check of system.
296. AMA046 AMA  
A contaminated carbon monoxide portable test unit would be returned to service by  
A) heating the indicating element to 300 °F to reactivate the chemical.  
B) installing a new indicating element.  
C) evacuating the indicating element with CO<sub>2</sub>.
297. AMA095 AMA  
What occurs when a visual smoke detector is activated?  
A) A warning bell within the indicator alarms automatically.  
B) A lamp within the indicator illuminates automatically.  
C) The test lamp illuminates and an alarm is provided automatically.
298. AMA095 AMA  
Smoke detection instruments are classified by their method of  
A) construction.  
B) maintenance.  
C) detection.
299. AMA046 AMA  
When used in fire detection systems having a single indicator light, thermal switches are wired in  
A) parallel with each other and in series with the light.  
B) series with each other and the light.  
C) series with each other and parallel with the light.
300. AMA048 AMA  
Which fire extinguishing agent is considered to be the least toxic?  
A) Carbon dioxide.  
B) Bromotrifluoromethane (Halon 1301).  
C) Bromochloromethane (Halon 1011).
301. AMA048 AMA  
The types of fire extinguishing agents for aircraft interior fires are  
A) water, carbon dioxide, dry chemical, and halogenated hydrocarbons.  
B) water, dry chemical, methyl bromide, and chlorobromomethane.



C) water, carbon tetrachloride, carbon dioxide, and dry chemical.

302. AMA047 AMA

Maintenance of fire detection systems includes the

- A) repair of damaged sensing elements.
- B) removal of excessive loop or element material.
- C) replacement of damaged sensing elements.

303. AMA072 AMA

Which of the following are fire precautions which must be observed when working on an oxygen system?

- 1. Display 'No Smoking' placards.
- 2. Provide adequate fire fighting equipment.
- 3. Keep all tools and oxygen servicing equipment free from oil or grease.
- 4. Avoid checking aircraft radio or electrical systems.

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

304. AMA048 AMA

The proper fire extinguishing agent to use on an aircraft brake fire is

- A) water.
- B) carbon dioxide.
- C) dry powder chemical.

305. AMA046 AMA

A fire extinguisher container can be checked to determine its charge by

- A) attaching a remote pressure gauge.
- B) weighing the container and its contents.
- C) a hydrostatic test.

306. AMA048 AMA

In reference to aircraft fire extinguishing systems,

- (1) during removal or installation, the terminals of discharge cartridges should be grounded or shorted.
- (2) before connecting cartridge terminals to the electrical system, the system should be checked with a voltmeter to see that no voltage exists at the terminal connections.

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.