

1. **Other than the manufacturer's maintenance manual, what other document could be used to determine the primary flight control surface deflection for imported aircraft that is reassembled after shipment?**
 - **A:** Aircraft type certificate data sheet
 - **B:** Import manual for the aircraft
 - **C:** The certificate of airworthiness issued by the importing country
 - **D:** The certificate issued by the manufacturer
2. **If a pilot reports that an airplane flies left wing heavy, what is a possible corrective measure?**
 - **A:** Increasing the angle of incidence of the left wing, or decreasing the angle of incidence of the right wing, or both
 - **B:** Increasing the dihedral angle of the left wing, decreasing the dihedral angle of the right wing, or both
 - **C:** Adjusting the dihedral angle of the left wing so that differential pressure between the upper and lower wing surface is increased
 - **D:** Remain stationary because both lift and drag
3. **An airplane that has good longitudinal stability should have a minimum tendency to:**
 - **A:** Roll
 - **B:** Pitch
 - **C:** Yaw
 - **D:** Vertical
4. **The angle of incidence is the acute angle formed by:**
 - **A:** The angular difference between the setting of the main airfoil and the auxiliary airfoil in reference to the longitudinal axis of the aircraft
 - **B:** A line parallel to the wing from root to tip and a line parallel to the lateral axis of the aircraft
 - **C:** The longitudinal axis but not the longitudinal axis
 - **D:** A line parallel to the wing chord and a line parallel to the longitudinal axis of the aircraft
5. **An airplane's center of lift is usually located aft of its center of gravity to:**
 - **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
 - **D:** To cause the airplane to be off balance both laterally and directionally
6. **An airplane is controlled directionally about its vertical axis by the:**
 - **A:** Rudder
 - **B:** Ailerons
 - **C:** Flaps
 - **D:** Elevators
7. **The elevator of a conventional airplane is used to provide rotation about the:**
 - **A:** Longitudinal axis
 - **B:** Lateral axis
 - **C:** Vertical axis
 - **D:** Yaw axis
8. **The chord of a wing is measured from:**
 - **A:** Wingtip to wingtip
 - **B:** Wing root to the wing tip
 - **C:** Leading edge to the trailing edge
 - **D:** Wing span

9. **When the lift on an airfoil increases, the drag will:**

- **A:** Decrease
- **B:** Also increase
- **C:** Increase while the lift is changing but will return to the original value
- **D:** Decrease and increase

10. **When inspecting a control cable turnbuckle for proper installation, you must determine that:**

- **A:** No more than four threads are exposed on either side of the turnbuckle barrel
- **B:** The terminal end threads are visible through the safety hole in the barrel
- **C:** The full strength of the cable
- **D:** The safety wire ends are wrapped a minimum of four turns around the terminal end shanks

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

- **A:** $\frac{1}{4}$ inch
- **B:** $\frac{5}{16}$ inch
- **C:** $\frac{1}{32}$ inch
- **D:** $\frac{1}{8}$ inch

12. **How are changes in the direction of a control cable accomplished?**

- **A:** Pulleys
- **B:** Bellcranks
- **C:** Fairleads
- **D:** Cotter pin

13. **What document is issued about an unsafe condition?**

- **A:** AD
- **B:** SB
- **C:** AC
- **D:** Data sheet

14. **Refer to the figure, identify the cable used in primary control systems and in other places where operation over pulleys is frequent:**

- **A:** 2
- **B:** 1
- **C:** 3
- **D:** 4

15. **Which statement is correct when an aircraft has not been approved for return to service after an annual inspection because of several items requiring minor repair?**

- **A:** Only the person who performed the annual inspection may approve the aircraft for return to service

- **B:** An appropriately rated mechanic may repair the defects and approve the aircraft for return to service
- **C:** An appropriately rated mechanic may repair the defects, but an IA must approve the aircraft for return to service
- **D:** The operating conditions that make a 100-hour inspection mandatory

16. Alloy 2117 rivets are heat treated:

- **A:** By the manufacturer and don't require heat treatment before being driven
- **B:** By the manufacturer but require reheating treatment before being driven
- **C:** To a temperature of 910 to 930°F and quenched in cold water
- **D:** Body diameter, type of head, and length of the rivets

17. A well-designed rivet joint will subject the rivets to:

- **A:** Compressive loads
- **B:** Tension loads
- **C:** Bending loads
- **D:** Shear loads

18. A factor that determines the minimum space between rivets is the:

- **A:** Length of the rivets being used
- **B:** Diameter of the rivets being used
- **C:** Thickness of the material being riveted
- **D:** Repairable using approved methods

19. The dimensions of an MS20430AD-4-8 rivet are:

- **A:** 1/8 inch diameter and 1.4 inches long
- **B:** 1/8 inch diameter and 1/2 inch long
- **C:** 4/16 inch diameter and 8/32 inches long
- **D:** 5/16 inch diameter and 8/32 inches long

20. For a sheet metal repair using two pieces of 0.04-inch aluminum riveted together, if all rivet holes are drilled for 3/32-inch rivets, the length of the rivets to be used will be:

- **A:** 1/8 inch
- **B:** 1/4 inch
- **C:** 5/16 inch
- **D:** 3/32 inch

21. Zone 320 under the ATA system is:

- **A:** Central fuselage
- **B:** Vertical stabilizer
- **C:** Horizontal stabilizer

22. When doing a bonding check, the maximum resistance between component and earth is:

- **A:** 0.005 ohms
- **B:** 1/50 ohms
- **C:** 50 milliohms

23. How is damage to the nose cone of an aircraft prevented during a lightning strike?

- **A:** Earthing Strap
- **B:** Bonding Strip
- **C:** Bonding Strip

24. Tension is the stress of:

- **A:** Crush or compression
- **B:** Elongating or stretching
- **C:** Twisting

25. A fuselage station is a:

- **A:** Lateral point on the aircraft wing
- **B:** Lateral point on the aircraft fuselage
- **C:** Longitudinal point on the aircraft fuselage

26. Composite materials are bonded by:

- **A:** Aluminium wire
- **B:** Special paint
- **C:** Copper wire

27. ATA Zone 100 is:

- **A:** Upper fuselage
- **B:** Lower fuselage
- **C:** Wing

28. The bonding lead to a remote aircraft component must be:

- **A:** 0.5 in wide
- **B:** 22 AWG
- **C:** 0.25 in wide and 22 AWG

29. A force an I-Beam is subjected to is:

- **A:** Tension
- **B:** Bending
- **C:** Shear

30. A radome is protected from static electricity build-up by:

- **A:** Bonding strips
- **B:** Special conductive grease
- **C:** Conductive paint

Essay Questions

1. **What must a mechanic furnish the owner or operator of an aircraft if the aircraft is found to be unairworthy after a 100-hour inspection?**
2. **What certification is required for a mechanic to conduct an annual inspection and approve the aircraft for return to service after the inspection?**
3. **What is meant by the angle of attack of an airplane wing?**
4. **What are three requirements for a repair to a piece of sheet metal in an aircraft structure?**
5. **When making a riveted repair to an aircraft sheet metal structure, which should be stronger: the shear strength of the rivet or the bearing strength of the metal sheet?**