

8/16/2021

IAR - Inspection Authorization

The following sample exam for Inspection Authorization (IA) is suitable study material and is a sample representation of questions that can be found on the IA test. The applicant must realize that these questions are to be used as a study guide, and are not necessarily actual test questions. The full IA test contains 50 questions and is comprehensive, as it must test your knowledge in many subject areas. When applying for an IA you should review 14 Code of Regulations CFR part 65, section 65.91(c)(5), for the knowledge areas on the test. The Application Identification, Information Verification and Authorization Requirements Matrix lists all FAA exams. It is available at www.faa.gov/training_testing/testing/media/testing_matrix.pdf

The FAA testing system is supported by a series of supplement publications. The supplement material consists of excerpts of selected advisory circulars, airworthiness directives, Code of Federal Regulations, type certificate data sheets, aircraft specifications, FAA orders, and forms; FAA-CT-8080-8D, Computer Testing Supplement for Inspection Authorization is available at

www.faa.gov/training_testing/testing/supplements/media/FAA-CT-8080-8D.pdf

The Learning Statement Reference Guide for Airman Knowledge Testing contains listings of learning statements with their associated codes. Matching the learning statement codes with the codes listed on your Airman Knowledge Test Report assists in the evaluation of knowledge areas missed on your exam. It is available at

www.faa.gov/training_testing/testing/media/LearningStatementReferenceGuide.pdf

The online Inspection Authorization (IAR) practice test is available on the PSI website at <https://faa.psiexams.com/FAA/login>

1. With regards to minimum bend radius, how would a section of Mil-H-8794-5 hydraulic hose used in a flexing installation of 90° and operating at 2,500 psi compare to the same hose used in a non-flexing installation at maximum operating pressure?

The flexing installation would

- A. have a greater minimum bend radius.**
- B. have a smaller minimum bend radius.**
- C. be equal to the non-flexing installation.**

Metadata: LSCCode : IAR013

2. How is the minimum allowable bend radius affected by the installation angle of a hydraulic hose in a non-flexing, constant pressure system? As the angle increases, the minimum bend radius

- A. increases.**
- B. decreases.**
- C. remains constant.**

Metadata: LSCCode : IAR013

3. After a major repair that increased the structural weight of the airframe, a new empty weight and center of gravity were calculated. To ensure the airplane has acceptable flight characteristics, a maximum forward and rearward center of gravity check was made.

If the repair has been properly completed, when the aircraft is loaded for the extreme rearward check the center of lift will be

- A. located behind the center of gravity.**
- B. coincidental with the center of gravity.**
- C. located forward of the center of gravity.**

Metadata: LSCCode : IAR002

4. For most airplanes, if the center of gravity is located at 25% of the mean aerodynamic chord, the center of lift will

- A. be forward of the center of gravity.**
- B. coincide with the center of gravity.**
- C. be behind the center of gravity.**

Metadata: LSCCode : IAR002

5. In reviewing the installation data for a proposed STC, you note that there will be additional vacuum supply demand. The customer's aircraft will require the following additional vacuum system plumbing to make the installation: 2 feet of 1/2 inch x .042 inch tubing, and two 90 degree elbows.

This plumbing will supply an additional instrument that requires 1.20 CFM airflow. The existing vacuum system requires 4.80 CFM of airflow. The optimum instrument pressure differential will remain at 4.0 in. Hg.

How much additional pressure drop will result from the added plumbing; answer in inches of mercury (in. Hg.)?

- A. .4455 in. Hg.
- B. .6000 in. Hg.
- C. .6455 in. Hg.

Metadata: LSCCode : IAR009

6. According to 14 CFR part 43, which of the following is considered a minor repair to a propeller?

- A. Refinishing the blades.
- B. Repair hub (wood) elongated holes.
- C. Retipping of wood propellers.

Metadata: LSCCode : IAR031

7. Which of the following could supervise or perform a progressive inspection?

- A. A certified repair station repairman.
- B. Airframe and/or powerplant mechanic.
- C. Holder of an inspection authorization.

Metadata: LSCCode : IAR031

8. If an aircraft receives a replacement engine between annual inspections, what action would be required?

- A. A 100-hour inspection of the engine followed by a flight test.
- B. An inspection as required by the manufacturer and a maintenance record entry.
- C. Only the engine portion of the annual inspection with an entry in the engine's record.

Metadata: LSCCode : IAR017

9. For a normal category rotorcraft, where are the requirements for the 'Instructions for Continued Airworthiness' found?

- A. 14 CFR 21, subpart H.**
- B. 14 CFR 23, section L.**
- C. 14 CFR 27, appendix A.**

Metadata: LSCCode : IAR031

10. During the records review at annual inspection, for which of the following would you expect to find a repair station maintenance release?

- 1. Straightening of an aluminum propeller blade.**
- 2. Repair of a propeller governor.**

- A. 1**
- B. 2**
- C. Both 1 and 2.**

Metadata: LSCCode : IAR017

11. Approval of a major repair for return to service may NOT be made by the holder of an inspection authorization unless

- A. the product was repaired by a certificated repairman holding an appropriate rating.**
- B. he or she has performed or supervised the performance of a similar repair.**
- C. technical data approved by the Administrator was used to accomplish the work.**

Metadata: LSCCode : IAR017

12. A Supplemental Type Certificate (STC) provides for a battery relocation. Upon inspection, you notice the battery is located 7 inches aft of the location shown in the STC. This changes the aft center of gravity (CG) by 0.2 inch. Which of the following is true for this installation?

- A. The deviation to the Supplemental Type Certificate is a major alteration and will require additional approval.**
- B. The installation could be approved for return-to-service if an Inspection Authorization inspects and approves the deviation.**
- C. The exceeding of the aft center-of-gravity by 0.2 inch is shown to be negligible by AC43.13-2A and may be approved as a minor alteration.**

Metadata: LSCCode : IAR010

- 13. Maintenance manuals with an airworthiness limitation section are required to provide which of the following?**
- A. All components installed on the aircraft.**
 - B. Structural repair procedures.**
 - C. Mandatory replacement times of components with life limits.**

Metadata: LSCCode : IAR031

- 14. Which appendix of 14 CFR part 43 specifies the performance of certain alterations as a major?**
- A. Appendix A.**
 - B. Appendix B.**
 - C. Appendix D.**

Metadata: LSCCode : IAR031

- 15. Which aircraft may be inspected in accordance with an approved progressive inspection program?**
- A. Only a single or multi-engine aircraft.**
 - B. Only a single engine aircraft.**
 - C. A single or multi-engine aircraft or turbine powered rotorcraft.**

Metadata: LSCCode : IAR017

- 16. The Code of Federal Regulations Title 14 part 183 allows the Federal Aviation Administration to designate certain persons to develop and approve technical data for alteration and repair of U.S. certificated aircraft. These persons are known as**
- A. Designated Engineering Representatives.**
 - B. Designated Airworthiness Representatives.**
 - C. Designated Aircraft Maintenance Inspectors.**

Metadata: LSCCode : IAR030

- 17. Helicopters manufactured after September 16, 1992 are required to have**
- A. an anti-torque warning light.**
 - B. safety belts and shoulder harnesses.**
 - C. an emergency locator transmitter.**

Metadata: LSCCode : IAR031

18. A Cessna 421B operated as a 14 CFR part 91 airplane would have inspections conducted in accordance with
- A. 14 CFR part 43, appendix D.
 - B. 14 CFR part 91, section 91.409 (Inspections).
 - C. 14 CFR part 43, section 43.16 (Airworthiness Limitations).

Metadata: LSCCode : IAR021

19. A rebuilt aircraft engine may be granted zero time by
- A. the manufacturer.
 - B. a certificated powerplant mechanic.
 - C. an Inspection Authorization mechanic.

Metadata: LSCCode : IAR032

20. While performing an annual inspection on a general aviation aircraft, you cannot find the operating limitations in the Type Certificate Data Sheet. In what document will it be found?
- A. Aircraft Maintenance Manual.
 - B. Instructions for Continued Airworthiness.
 - C. Approved Flight Manual.

Metadata: LSCCode : IAR011

21. During a sheet metal repair, a row of 2017T rivets installed by the aircraft manufacturer were replaced by an equal number of 2117T rivets of the same diameter. As an IA, would you approve the repair if it is otherwise eligible for return to service?
- A. Yes, the strength of 2117T rivets is greater than that of 2017T rivets.
 - B. No, the strength of 2117T rivets is less than that of 2017T rivets.
 - C. Yes, the strength of 2117T rivets is equal to that of 2017T rivets (2117T being the recommended replacement for 2017T).

Metadata: LSCCode : IAR014

22. The applicability statement of an airworthiness directive (AD) states 'applies to Martin model 50 aircraft,' this statement would cause the AD to apply to which of the following classification of aircraft?
- A. All Martin model 50 aircraft regardless of airworthiness certificate issued.
 - B. Only Martin model 50 aircraft with standard airworthiness certificates.
 - C. Any Martin model 50 aircraft, except those with Special Airworthiness Certificates.

Metadata: LSCCode : IAR020

23. What does the date located in the box on the first page of a Type Certificate Data Sheet indicate?
- A. The date the TCDS was reissued to the Type Certificate Holder.
 - B. The date the TCDS was last published on TCDS library.
 - C. The date of the most recent revision of the TCDS.

Metadata: LSCCode : IAR031

24. The completion and signing of item 6 (conformity statement) on FAA Form 337 indicates
- A. FAA approval by examination of the work performed.
 - B. Agency approval for return to service.
 - C. the work was accomplished in accordance with approved data.

Metadata: LSCCode : IAR030

25. At what static test load should a banner tow hitch be tested to ensure structural integrity of the aircraft structure?
- A. 1.5 times the operating weight of the banner.
 - B. 2.0 times the operating weight of the banner.
 - C. 2.5 times the operation weight of the banner.

Metadata: LSCCode : IAR022

26. To determine if an aircraft is eligible for ski installation, which document could be referenced?
- A. Type certificate data sheets.
 - B. Advisory Circular AC43.13-2A.
 - C. Aircraft airworthiness certificate.

Metadata: LSCCode : IAR011

27. A turnbuckle on a 5/32 cable, safetied with a single wrap of stainless steel wire, must have wire of at least what diameter?
- A. .030.
 - B. .040.
 - C. .057.

Metadata: LSCCode : IAR015

28. An amateur-built aircraft with an experimental airworthiness certificate requires what type of inspection?
- A. Annual inspection.
 - B. Condition inspection.
 - C. Approved aircraft inspection program.

Metadata: LSCCode : IAR030

29. During an annual inspection the pilot's lap belt is found in a questionable condition. The owner requests to have the lap belt tested rather than replaced. What reference should be used for the belt compressive load testing?
- A. STC
 - B. TSO
 - C. PMA

Metadata: LSCCode : IAR013

30. Airworthiness Directives (AD's) may be issued to aircraft for which of the following categories?
- A. Primary, Standard, Ultralight, and Rotorcraft.
 - B. Experimental, Restricted, Powered Lift, and Rotorcraft.
 - C. Experimental, Standard, Primary and Restricted.

Metadata: LSCCode : IAR031

31. Tubular engine mounts may be repaired by using a larger diameter replacement tube telescoped over the stub of the original member and welded in place. How would you cut the replacement tube?
- A. Fishmouth cut at 30°.
 - B. Diagonally cut at 45°.
 - C. Perpendicular cut at 90°.

Metadata: LSCCode : IAR032

32. A major repair has a bolt pattern drilled with holes that are .3125 inch in diameter. What size AN bolts would be required?

- A. AN3.**
- B. AN4.**
- C. AN5.**

Metadata: LSCCode : IAR005

33. The sight line drawn on material to be bent in a cornice brake is located at what position from the bend tangent line?

- A. The setback measurement.**
- B. The bend radius length.**
- C. The bend allowance length.**

Metadata: LSCCode : IAR027

34. To determine the length of a flat in a sheet metal project, which measurement is subtracted from the mold line length?

- A. The bend radius.**
- B. The setback dimension.**
- C. The bend allowance.**

Metadata: LSCCode : IAR027

35. What is the setback for a straight bend in 2024-T4 sheet metal of 0.032 inch thickness formed to a bend angle of 30°, with a bend radius of 3/32 inch?

- A. 0.0337.**
- B. 0.2679.**
- C. 0.1257.**

Metadata: LSCCode : IAR006

36. Instructions for continued airworthiness in 14 CFR part 23 requires which of the following information?

- A. Structural inspection procedures.**
- B. Maintenance instructions.**
- C. Servicing information.**

Metadata: LSCCode : IAR031

37. Determine the estimated conductor temperature (T₂) for Mil-W-22759/10 under the following conditions:
1. Ambient temperature 43° Celsius (110° Fahrenheit).
 2. Conductor rating temperature 150° Celsius.
 3. Circuit current is 5 amperes.
 4. I_{max} current is 11 amperes.
- A. 72° Celsius.
B. 115° Celsius.
C. 201° Celsius.

Metadata: LSCCode : IAR003

38. How many club seats may be installed in Piper PA32-301T, serial number 8221552?
- A. 1
B. 2
C. 4

Metadata: LSCCode : IAR020

39. What is the model designation of Cessna serial number 21062194?
- A. 210B.
B. 210D.
C. 210M.

Metadata: LSCCode : IAR013

40. What is the location for weight and balance purposes of any unusable fuel on Cessna model 210 serial number 21058713?
- A. +23.
B. +48.
C. +46.

Metadata: LSCCode : IAR029

41. For weight and balance purposes, what is the weight of any unusable fuel on Cessna model 210 serial number 21058713?

- A. 9 pounds.**
- B. 12 pounds.**
- C. 38 pounds.**

Metadata: LSCCode : IAR029

42. What is the year of manufacture for Cessna serial number 21062194?

- A. 1966.**
- B. 1977.**
- C. 1980.**

Metadata: LSCCode : IAR013

43. What is the initial wire size selection for an installation with a 16-foot run and a continuous 10-ampere load at 28 volts?

- A. #14.**
- B. #16.**
- C. #18.**

Metadata: LSCCode : IAR003

44. You are asked to inspect a major repair that required the mechanic to fabricate a metal bracket made of .032 inch thick 2024-T3 aluminum alloy. The bracket was bent to a closed angle of 37°.

How much setback should the mechanic have used in the brake?

- A. .032 inch.**
- B. .096 inch.**
- C. .287 inch.**

Metadata: LSCCode : IAR014

45. What is the total weight of unusable fuel on a Twin Aero Commander, model 695, serial number 95039?

- A. 31.0 lb.**
- B. 33.6 lb.**
- C. 33.5 lb.**

Metadata: LSCCode : IAR012

46. A major alteration has been completed to the empennage of a light-twin engine airplane. Additional reinforcement was added at +355 inches, weighing 20 pounds. Working as the holder of an inspection authorization, you examine the weight and balance condition using the following information.

If the items of useful load listed below are placed on the aircraft, the aircraft would

Useful load items:

Two pilots weighing a total of 380 pounds at +95 inches.

Baggage weighing 200 pounds at +110 inches.

Minimum fuel weighing 350 pounds at +125.8 inches.

Known information (before repair):

Empty weight 4855 pounds.

Empty weight center of gravity +124.13 inches.

CG range:

(+126.0) to (+135.0) @ 7000 pounds.

(+122.0) to (+135.0) @ 6200 pounds.

(+120.0) to (+135.0) @ 5200 pounds.

- A. require ballast.
- B. exceed the rearward CG limit.
- C. be within the loaded CG limits.

Metadata: LSCCode : IAR008

47. A light twin-engine airplane has its empty weight center of gravity at 24.5 percent of the mean aerodynamic cord (MAC). Using the following information, determine the location of the center of gravity in inches.

MAC 75.5 inches.

Leading edge of MAC at flight station 144.8.

Empty weight 7201 lbs.

- A. 158.76
- B. 163.29
- C. 175.15

Metadata: LSCCode : IAR008

48. While inspecting an airframe major repair of an aileron that was accomplished using previously approved manufacturer's structure repair manual data, you discover the AN427-4 solid rivets were substituted with a row of blind rivets. In view of this change to the repair, what action would you take?

- A. Reject the repair; the use of the blind rivets would be a major repair by itself.**
- B. Approve the repair; the use of the blind rivets would be a minor deviation by itself.**
- C. Require additional approval of the rivet substitution using AC43.13-1B for the repair.**

Metadata: LSCCode : IAR018

49. Turbine aircraft engine lubrication system design includes an oil tank expansion space of not less than

- A. 5 percent of the tank capacity.**
- B. 10 percent of the tank capacity.**
- C. 15 percent of the tank capacity.**

Metadata: LSCCode : IAR021

50. Which of the following statements are true concerning the use of manufacturer's service bulletins (SB) and compliance with airworthiness directives (AD)?

- A. If there is a conflict between an SB and an AD, the manufacturer service bulletin should take precedence.**
- B. If there is a conflict between an SB and an AD, you should always follow the AD.**
- C. Manufacturer's service bulletins are always mandatory.**

Metadata: LSCCode : IAR021