# PRACTICE EXAM 11: FAA IA KNOWLEDGE TEST SIMULATION

**Practice Exam 11 — Questions 1 through 50**

1. An IA is inspecting an aircraft and finds a placard required by the TCDS is missing. The aircraft was sold to the current owner two months ago, and the previous owner had attempted placard replacement but used non-conforming text. The IA's regulatory disposition is:

A. Non-conformity to approved type design requiring correction

B. Acceptable because the prior owner made a good-faith effort

C. Acceptable under the two-month ownership grace period

D. Deferrable under § 91.213(d) inoperative item provisions

2. Under 14 CFR § 43.7, which person is authorized to approve aircraft for return to service following a progressive inspection segment?

A. The aircraft owner or operator of record

B. A Designated Engineering Representative

C. The holder of an Inspection Authorization

D. A Part 145 repair station inspector without IA

3. A mechanic is completing Form 337 for a major alteration performed under a field approval. The field approval signature appears in which Form 337 block?

A. Block 1 — Aircraft identification

B. Block 3 — FAA field approval

C. Block 7 — Return to service by IA

D. Block 8 — Description of work

4. An aircraft has an empty weight of 1,680 pounds with an empty moment of 121,128 in-lb. An alteration adds 15 pounds at station 50.0 inches. The new empty moment is:

A. 121,878 in-lb

B. 121,623 in-lb

C. 121,728 in-lb

D. 121,878 in-lb

5. Under AC 43.13-1B Chapter 6, the type of corrosion that occurs at the interface of dissimilar metals in the presence of an electrolyte is:

A. Galvanic corrosion

B. Filiform corrosion

C. Intergranular corrosion

D. Stress corrosion cracking

6. The IA performing an annual inspection observes that the aircraft has been operating at an airport with saltwater exposure. The inspection should include enhanced attention to:

A. The aircraft's electronic equipment cooling systems

B. The aircraft's interior upholstery and cabin finishes

C. Corrosion inspection of structures and hardware

D. The aircraft's radio antenna alignment

7. Under 14 CFR § 65.93(a), an IA may renew the authorization by which activity?

A. Submitting an annual fee payment to the FAA

B. Performing inspections of major repairs or alterations

C. Completing a Part 65 general knowledge test

D. Obtaining endorsement from the aircraft owner community

8. A Type Certificate Data Sheet note specifies: "Required placard: BASIC EMPTY WEIGHT 1495 LBS INCLUDES UNUSABLE FUEL." The aircraft's current empty weight is 1,512 pounds, and the required placard remains as originally installed showing 1,495 pounds. The condition:

A. Is a non-conformity requiring placard revision

B. Is acceptable because the aircraft weighed 1,495 when placarded

C. Is acceptable because weight changes occur through maintenance

D. Is outside the scope of the TCDS requirements

9. An IA discovers during an annual inspection that the aircraft has been operating without a required Form 337 for an alteration performed seven years ago. The aircraft has flown 800 hours since the alteration. The regulatory disposition is:

A. Acceptable because the operating history demonstrates safety

B. Acceptable because the time period exceeds enforcement window

C. Acceptable if the alteration still functions adequately

D. Unairworthy until Form 337 documentation is resolved

10. Under § 43.13(a), each person performing maintenance must use methods, techniques, and practices prescribed in the current manufacturer's maintenance manual or:

A. AC 43-9C for acceptable reconstruction procedures

B. Methods acceptable to the Administrator

C. The aircraft owner's preferred methods of repair

D. The local FSDO's regional maintenance guidance

11. An aircraft has been altered through installation of an STC avionics upgrade. The STC's Approved Model List covers serial numbers 1500 through 3000. The aircraft has serial number 2850. During installation, the mechanic used wire gauge different from the STC data package. The IA's determination is:

A. Acceptable because the serial number is within AML

B. Acceptable if the wire gauge is within manufacturer tolerance

C. Acceptable if the wire gauge is larger than specified

D. Non-conformity to approved data requiring resolution

12. Under 14 CFR § 91.203(a), which document must be on board the aircraft during operation?

A. The owner's commercial insurance policy coverage

B. An effective airworthiness certificate

C. The aircraft's original purchase documentation

D. The mechanic's IA certificate for the aircraft

13. A mechanic inspecting an aircraft's control cables finds one cable with two broken strands along a straight run between pulleys. Per AC 43.13-1B Chapter 7, the condition:

A. Requires evaluation against specific cable wear criteria

B. Is automatically unairworthy regardless of specific criteria

C. Is acceptable if only two broken strands are present

D. Must be documented but no corrective action required

14. Under 14 CFR § 43.9(a)(2), the maintenance record entry must include:

A. The aircraft owner's current address and contact information

B. The mechanic's hourly labor rate for the work

C. The aircraft's serial number and registration number

D. The date of completion of the work

15. An IA is inspecting an aircraft's empty weight and determines the empty CG is 78.5 inches. The TCDS-approved empty CG range is 76.5 to 78.0 inches. The aircraft is:

A. Within the approved empty CG envelope

B. At the forward limit of approved envelope

C. Outside the approved empty CG envelope

D. Approved for operation below gross weight only

16. Under 14 CFR § 65.91(c)(2), the IA applicant must have been actively engaged in maintaining civil aircraft for a period of at least:

A. 2 years preceding the application

B. 3 years since initial certification

C. 5 years of aviation experience total

D. 10 years of continuous maintenance work

17. A mechanic is installing a PMA replacement propeller blade on an aircraft. The PMA authorization specifies the blade is approved for a specific engine-propeller combination. The installation on a different combination is:

A. Acceptable if the mechanical specifications match

B. Non-conformity to PMA approval conditions

C. Acceptable under alternate approval procedures

D. Not addressed by the PMA regulatory framework

18. The FAA Dynamic Regulatory System provides the IA with which specific capability?

A. Submission of Form 337 documentation electronically

B. Registration of aircraft with the Aircraft Registry

C. Issuance of special flight permits without FSDO coordination

D. Research of airworthiness directives applicable to aircraft

19. An IA is preparing to approve a major alteration for return to service on a Part 91 aircraft. The three criteria of § 65.95(a)(1) include all of the following except:

A. The owner's prior agreement with the alteration design

B. The aircraft not being under a continuous airworthiness program

C. The work being accomplished per Part 43 requirements

D. The work being performed with FAA-approved technical data

20. Under AC 43.13-1B Chapter 4, the minimum edge distance for a typical rivet in sheet metal repair is:

A. One times the fastener diameter

B. Three times the fastener diameter

C. Two times the fastener diameter

D. Four times the fastener diameter

21. A recurring AD has been complied with at aircraft total time 4,275 hours on September 15, 2025. The AD requires recurring compliance every 24 calendar months or 250 hours, whichever comes first. The next compliance is due at:

A. 4,275 hours or September 15, 2026, whichever comes first

B. 4,525 hours or September 15, 2026, whichever comes first

C. 4,525 hours or September 15, 2027, whichever comes first

D. 4,625 hours or September 15, 2027, whichever comes first

22. A Supplemental Type Certificate typically includes which component?

A. An Approved Model List specifying eligible aircraft

B. A warranty period for the modification

C. A dealer network for installation availability

D. A certificate of quality control from the installer

23. Under § 91.417(b)(2), records of life-limited parts status must be:

A. Retained for 5 years and then destroyed

B. Retained only until the aircraft is sold

C. Summarized at each annual inspection only

D. Retained permanently and transferred at sale

24. An IA performing an annual inspection discovers a discrepancy in the engine log book — a recent entry lacks the mechanic's certificate number. The discrepancy:

A. Does not affect the aircraft's airworthiness determination

B. Represents a record-keeping non-conformity requiring correction

C. Is acceptable because the entry contains all substantive information

D. Can be addressed at the next scheduled inspection cycle

25. Under 14 CFR § 91.207(c), an ELT battery must be replaced at the earliest of which conditions?

A. 5 years from the battery's manufacturing date

B. Completion of 50 operational hours on the battery

C. 50 percent of useful life or 1 cumulative hour of transmission

D. Installation in a new aircraft or replacement event

26. The IA performing a pre-inspection records review discovers that the transponder inspection under § 91.413 was completed 22 calendar months ago. The aircraft will be operated:

A. IFR only, making the inspection currency insufficient

B. VFR only, making the inspection currency unnecessary

C. In controlled airspace requiring inspection renewal

D. VFR or IFR in controlled airspace — inspection is current

27. Under § 43.11, the inspection certification statement for an airworthy aircraft must contain:

A. Type of inspection, date, and determination of airworthy condition

B. An estimate of the aircraft's remaining useful service life

C. A statement of the next scheduled inspection cycle date

D. The aircraft's current insurance policy coverage information

28. A mechanic has performed a weld repair on an aircraft control surface attachment. The work:

A. Is preventive maintenance under § 43.3(g)

B. Is a minor repair within A&P mechanic authority

C. Is a major repair requiring approved data and IA approval

D. Requires no special documentation or approval

29. An IA discovers an aircraft has been altered by installation of equipment from an STC that specifies a flight manual supplement. The supplement has not been integrated with the aircraft's flight manual. The IA's determination is:

A. Acceptable because the Form 337 references the STC

B. Non-conformity requiring flight manual supplement integration

C. Acceptable if the equipment functions as installed

D. Requires only notation in the pilot's operating handbook

30. Under AC 43.13-1B Chapter 6, exfoliation corrosion is characterized by:

A. Thread-like patterns beneath the paint film

B. Pitting of the metal surface at discrete locations

C. Uniform thinning of the metal thickness

D. Visible lifting or flaking of surface layers

31. A Type Certificate Data Sheet specifies a maximum takeoff weight of 2,450 pounds. The aircraft has been configured to 2,475 pounds empty weight plus 200 pounds of fuel and 300 pounds of passengers. The total weight is:

A. 2,975 pounds, exceeding the maximum takeoff weight

B. 2,950 pounds, within the maximum takeoff weight

C. 2,475 pounds, at the aircraft's empty weight

D. 2,500 pounds, a reasonable operating weight

32. Under § 91.409(a), an aircraft operated under Part 91 must have had an annual inspection within the preceding:

A. 6 calendar months

B. 18 calendar months

C. 24 calendar months

D. 12 calendar months

33. An IA is approving a major alteration for return to service and must verify three regulatory criteria under § 65.95(a)(1). The third criterion is:

A. The owner has paid for the work in full

B. The work was performed with FAA-approved technical data

C. The mechanic has received manufacturer training

D. The aircraft has comprehensive insurance coverage

34. A mechanic is inspecting a turbocharger system and finds the wastegate valve binding and not responding to control inputs. The correct disposition is:

A. Note the condition and defer to next 100-hour inspection

B. Document the condition as a minor irregularity

C. Correct the binding before return to service

D. Apply a lubricant and document the application

35. Under 14 CFR § 91.213(d), the deferral of an inoperative item under operating procedures requires the cockpit control of that item to be:

A. Placarded to identify the inoperative condition

B. Painted red for visual warning to the pilot

C. Covered with tape to prevent inadvertent activation

D. Removed from the cockpit entirely

36. An IA performing an annual inspection must verify airworthiness directive compliance. The regulatory basis for this verification is:

A. 14 CFR § 91.403 operator responsibility

B. 14 CFR § 65.95 IA privileges and limitations

C. 14 CFR § 43.11 inspection record content

D. 14 CFR § 43.15 additional performance rules for inspections

37. The FAA Form 337 Block 8 description of work for an STC-based major alteration should include:

A. The STC number, revision level, and installation details

B. The owner's contact information and flight schedule

C. The mechanic's hourly rate and labor invoice summary

D. The aircraft's market value before and after alteration

38. Under 14 CFR § 43.3(g), a certificated pilot may perform which category of work on the pilot's own aircraft?

A. Preventive maintenance as listed in Appendix A paragraph (c)

B. Minor repairs not requiring disassembly of components

C. Inspection of the airframe and engine compartment

D. Return-to-service approval for routine maintenance

39. An IA inspecting an aircraft finds a cylinder differential compression of 62/80 on an engine with a service limit of 60/80. The reading is:

A. Below service limits and requires corrective action

B. Exactly at service limits and requires monitoring

C. Within service limits and acceptable for return to service

D. Exceeds manufacturer's optimum performance range

40. Under Part 43 Appendix A paragraph (b), a major repair includes:

A. Replacement of a tire and tube assembly

B. Weld repair of an engine mount attachment

C. Adjustment of a cabin door latch mechanism

D. Installation of an approved replacement filter

41. The IA's airworthiness determination consists of verifying:

A. The aircraft's compliance with ADs only

B. The aircraft's physical condition only

C. The TCDS approved equipment list only

D. Both conformity to type design and safe operating condition

42. A mechanic completes an aircraft's 100-hour inspection and approves it for return to service. The aircraft is:

A. Approved for annual inspection purposes

B. Approved for continued operation within scope of the inspection

C. Approved for commercial passenger service operations

D. Approved regardless of airworthiness directive status

43. Under AC 43.13-1B Chapter 7, a broken strand at a pulley location is considered particularly consequential because:

A. It represents a manufacturing defect in the cable

B. It indicates inadequate cable lubrication practice

C. Cyclic flexing at pulleys causes fatigue progression

D. The pulley location makes visual inspection difficult

44. Under § 43.5, maintenance returning an aircraft to service must be recorded according to:

A. § 43.9 content, form, and disposition of records

B. § 43.7 approval for return to service by type of work

C. § 43.11 inspection record requirements

D. § 91.417 owner responsibility for records

45. An IA is inspecting an aircraft's landing gear system and finds a retraction actuator with evidence of fluid leakage. The correct disposition is:

A. Note the condition for the next inspection cycle

B. Apply additional hydraulic fluid to compensate

C. Continue operation and monitor fluid levels

D. Address the leak before return to service

46. A Special Flight Permit under § 21.197 may be issued for which primary purpose?

A. Operating an aircraft in commercial passenger service

B. Flying an aircraft to a maintenance or repair base

C. Conducting demonstration flights for prospective buyers

D. Training student pilots in commercial operations

47. Under § 91.417(b)(1), records of ordinary maintenance must be retained until:

A. The work is superseded or one year, whichever comes first

B. The aircraft is sold to a new owner

C. The mechanic's certificate is renewed every 2 years

D. The next scheduled annual inspection is completed

48. The IA inspecting an aircraft with multiple STCs should:

A. Accept each STC as independent without compatibility review

B. Remove older STCs to simplify aircraft configuration

C. Evaluate whether combined installations remain supported

D. Focus only on the most recently installed STC

49. Under 14 CFR § 65.95(b), the IA's authorization Form 8310-5 must be returned to the Administrator when:

A. The IA retires from aviation maintenance

B. The IA changes employment to a new facility

C. The IA completes the annual renewal activities

D. The authorization expires, is surrendered, or suspended

50. An aircraft has been inspected under an annual inspection and found airworthy. The inspection entry must include:

A. Type of inspection and airworthy condition determination

B. The owner's approval for the inspection findings

C. The insurance carrier's acknowledgment of findings

D. The FSDO's pre-approval for the inspection scope

# PRACTICE EXAM 11: ANSWER KEY AND EXPLANATIONS

1. A — Non-conformity to approved type design requiring correction. A TCDS-required placard is part of the approved type design. A non-conforming placard fails the type design conformity requirement; good-faith effort, ownership transitions, and MEL provisions do not substitute for regulatory compliance. The condition must be corrected before airworthiness can be affirmed.

2. C — The holder of an Inspection Authorization. Section 65.95(a)(2) authorizes the IA to perform or supervise progressive inspections. Return-to-service approval for progressive inspection segments requires IA authority — owners, DERs, and repair station inspectors without IA privileges cannot approve progressive inspection segments.

3. B — Block 3 — FAA field approval. Block 3 of Form 337 is reserved for FAA use and contains the Aviation Safety Inspector's field approval signature. Block 1 is aircraft identification, Block 7 is the IA return-to-service approval, and Block 8 is the description of work.

4. D — 121,878 in-lb. The new moment is calculated by adding the moment change (weight × arm = 15 × 50 = 750 in-lb) to the original moment: 121,128 + 750 = 121,878 in-lb. Simple addition of the moment change produces the revised empty moment.

5. A — Galvanic corrosion. AC 43.13-1B Chapter 6 describes galvanic corrosion as occurring at the interface of dissimilar metals in the presence of an electrolyte. The more anodic metal corrodes preferentially. Both conditions — dissimilar metals and electrolyte — must be present for galvanic corrosion to occur.

6. C — Corrosion inspection of structures and hardware. Saltwater exposure accelerates corrosion, and the IA's inspection should emphasize corrosion assessment of structural components and hardware. AC 43.13-1B Chapter 6 provides the framework for corrosion evaluation in environments with enhanced corrosion risk.

7. B — Performing inspections of major repairs or alterations. Section 65.93 lists five alternative renewal activities, including performing inspections of major repairs or alterations. Fee payment, Part 65 testing, and community endorsement are not IA renewal activities.

8. A — Is a non-conformity requiring placard revision. A TCDS-required placard showing weight information must accurately reflect the current empty weight. A placard showing 1,495 when the aircraft actually weighs 1,512 is a non-conformity to approved type design. The placard must be revised to match current weight.

9. D — Unairworthy until Form 337 documentation is resolved. A major alteration without Form 337 documentation represents a non-conformity to approved type design, because the regulatory record linking the alteration to approved data is absent. Operating history, time elapsed, and continued functionality do not substitute for regulatory documentation.

10. B — Methods acceptable to the Administrator. Section 43.13(a) requires use of methods prescribed in the manufacturer's manual, Instructions for Continued Airworthiness, or other methods acceptable to the Administrator. AC 43.13-1B is commonly cited as methods acceptable to the Administrator, but is not the exclusive satisfying reference.

11. D — Non-conformity to approved data requiring resolution. Installation using wire gauge different from the STC data package is a non-conformity to approved data, regardless of whether the aircraft is within the AML. The STC data package specifies the approved materials and methods; deviations are not permissible without separate approval.

12. B — An effective airworthiness certificate. Section 91.203(a) requires an effective airworthiness certificate to be aboard the aircraft during operation. Owner insurance, purchase documentation, and mechanic certificates are not required to be aboard.

13. A — Requires evaluation against specific cable wear criteria. AC 43.13-1B Chapter 7 provides specific criteria for evaluating cable wear and broken strands based on location, cable type, and extent. Two broken strands in a straight run requires evaluation against the specific criteria, not an automatic unairworthy determination or acceptance without evaluation.

14. D — The date of completion of the work. Section 43.9(a)(2) specifically requires the entry to include the date of completion of the work. Owner contact information, labor rates, and aircraft identification are not listed in § 43.9(a)(2).

15. C — Outside the approved empty CG envelope. An empty CG of 78.5 inches is aft of the TCDS-approved range of 76.5 to 78.0 inches. The aircraft is outside the approved envelope and unairworthy until the condition is corrected through ballast addition or equipment relocation.

16. A — 2 years preceding the application. Section 65.91(c)(2) requires the applicant to have been actively engaged in maintaining civil aircraft for the two-year period preceding application. This is separate from and in addition to the three-year A&P certification requirement.

17. B — Non-conformity to PMA approval conditions. PMA approval is specific to the engine-propeller combination identified in the approval document. Installation on a different combination is not authorized by the PMA, regardless of mechanical similarity. This non-conformity is a discrepancy requiring resolution.

18. D — Research of airworthiness directives applicable to aircraft. The FAA Dynamic Regulatory System (DRS) is the FAA's online portal for researching current and historical ADs. Form 337 submission, aircraft registration, and special flight permit issuance are separate processes handled through different systems.

19. A — The owner's prior agreement with the alteration design. Section 65.95(a)(1) establishes three criteria: (1) the aircraft not under a continuous airworthiness program, (2) work performed per Part 43, and (3) work performed with FAA-approved technical data. Owner agreement is not a regulatory criterion.

20. C — Two times the fastener diameter. AC 43.13-1B Chapter 4 establishes the typical minimum edge distance as 2D (two times the fastener diameter), measured from the center of the fastener to the nearest edge. This prevents edge tearing and preserves the structural integrity of the repair.

21. C — 4,525 hours or September 15, 2027, whichever comes first. For "or whichever comes first" ADs with both hour and calendar time intervals, the next compliance is the earlier of: last compliance hours + interval (4,275 + 250 = 4,525 hours) and last compliance date + interval (September 15, 2025 + 24 months = September 15, 2027). The earlier trigger governs.

22. A — An Approved Model List specifying eligible aircraft. A Supplemental Type Certificate typically includes an AML identifying the specific makes, models, and often serial number ranges for which the STC is approved. Warranties, dealer networks, and installer quality control are commercial matters, not STC components.

23. D — Retained permanently and transferred at sale. Section 91.417(b)(2) requires life-limited parts status records to be retained permanently and transferred with the aircraft at sale. These are part of the aircraft's permanent records, not subject to time-limited retention or annual summaries.

24. B — Represents a record-keeping non-conformity requiring correction. Section 43.9(a)(4) requires the entry to include the signature and certificate number of the approving person. A missing certificate number is a regulatory non-conformity requiring correction, not acceptable because other information is present or because the entry is recent.

25. C — 50 percent of useful life or 1 cumulative hour of transmission. Section 91.207(c) requires ELT battery replacement at the earlier of 50 percent of useful life or 1 cumulative hour of transmission. Other criteria such as manufacturing date, operational hours in flight, or aircraft installation events are not regulatory triggers.

26. D — VFR or IFR in controlled airspace — inspection is current. Section 91.413 requires transponder inspection within 24 calendar months. A 22-month-old inspection remains current. The aircraft may be operated in either VFR or IFR in controlled airspace without lapse of transponder testing requirement.

27. A — Type of inspection, date, and determination of airworthy condition. Section 43.11(a) requires the entry to identify the type of inspection (annual, 100-hour, progressive), the date, and that the aircraft was determined to be in airworthy condition. Service life estimates, next inspection cycles, and insurance information are not required certification elements.

28. C — Is a major repair requiring approved data and IA approval. Part 43 Appendix A paragraph (b) specifically lists weld repair of control surface attachments as a major repair. Major repairs require

approved data, Form 337 documentation, and IA approval for return to service — not preventive maintenance categorization or routine documentation.

29. B — Non-conformity requiring flight manual supplement integration. An STC that specifies a flight manual supplement requires that supplement to be integrated with the aircraft's flight manual per § 91.9. Absence of the supplement integration is a non-conformity requiring resolution, not acceptable based on Form 337 reference or equipment function.

30. D — Visible lifting or flaking of surface layers. AC 43.13-1B Chapter 6 describes exfoliation corrosion as producing visible lifting or flaking of surface layers. It is a form of intergranular corrosion that manifests with distinctive layered, flaking appearance — distinguishing it from filiform, pitting, or uniform thinning corrosion.

31. A — 2,975 pounds, exceeding the maximum takeoff weight. The total weight is 2,475 + 200 + 300 = 2,975 pounds, which exceeds the TCDS maximum takeoff weight of 2,450 pounds. Operation at this configuration would violate the approved type design; weight reduction through fuel, passengers, or empty weight reduction is required.

32. D — 12 calendar months. Section 91.409(a) requires annual inspection within the preceding 12 calendar months for Part 91 operation. This is the specific regulatory interval for annual inspection currency.

33. B — The work was performed with FAA-approved technical data. Section 65.95(a)(1) establishes three criteria: aircraft not under continuous airworthiness program, work performed per Part 43, and work performed with FAA-approved technical data. Owner payment, mechanic training, and insurance are not regulatory criteria.

34. C — Correct the binding before return to service. A binding turbocharger wastegate valve affects engine system function and creates a potential safety risk. The condition must be corrected before return to service; deferral, minor notation, and lubrication alone are not appropriate responses.

35. A — Placarded to identify the inoperative condition. Section 91.213(d) requires the inoperative item's cockpit control to be placarded to identify the inoperative condition, or the item removed from the aircraft. Red paint, tape covering, and removal are not substitutes for the placarding requirement (unless the item is fully removed).

36. D — 14 CFR § 43.15 additional performance rules for inspections. Section 43.15 requires the person performing the inspection to determine that the aircraft meets all applicable airworthiness requirements, including any AD applicable to the aircraft. This is the direct regulatory basis for the AD verification during inspection.

37. B — The STC number, revision level, and installation details. Form 337 Block 8 for STC-based alterations should include the STC number, applicable revision level, and specific installation details. Owner contact, labor costs, and market value are not regulatory requirements for Block 8 content.

38. A — Preventive maintenance as listed in Appendix A paragraph (c). Section 43.3(g) authorizes certificated pilots to perform preventive maintenance on their own aircraft, limited to items in Part 43 Appendix A paragraph (c). Minor repairs, general inspections, and return-to-service approvals are not within pilot-owner authority.

39. C — Within service limits and acceptable for return to service. A differential compression reading of 62/80 is above the service limit of 60/80. The cylinder is within acceptable service limits and may be returned to service; the reading is not below or at service limits.

40. B — Weld repair of an engine mount attachment. Part 43 Appendix A paragraph (b) specifically lists weld repair of engine mount attachments as a major repair. Tire replacement, door latch adjustment, and filter installation are routine or preventive maintenance, not major repairs.

41. D — Both conformity to type design and safe operating condition. The airworthiness determination is a two-part regulatory concept: (1) conformity to approved type design and (2) condition for safe operation. Both elements must be affirmatively met. AD compliance is one aspect of conformity; physical condition relates to safe operation; TCDS equipment list is one aspect of type design.

42. B — Approved for continued operation within scope of the inspection. A 100-hour inspection approves the aircraft for continued operation within the scope of the inspection — the aircraft may continue to be operated for instructional or for-hire flight until the next required 100-hour inspection. Annual inspection status, commercial authorization, and AD status are separate matters.

43. C — Cyclic flexing at pulleys causes fatigue progression. Cables at pulleys experience cyclic flexing as the cable moves across the pulley during control input. This cyclic stress is the mechanism that makes broken strands at pulleys particularly consequential, suggesting ongoing fatigue damage that may progress to cable failure.

44. A — § 43.9 content, form, and disposition of records. Section 43.5(b) cross-references § 43.9 for the content, form, and disposition of maintenance records. This regulatory link establishes that all maintenance record entries follow the § 43.9 requirements.

45. D — Address the leak before return to service. Hydraulic fluid leakage in a landing gear retraction actuator affects system function and represents an unairworthy condition. The leak must be addressed before return to service; deferral, fluid replenishment, and continued operation are not appropriate responses.

46. B — Flying an aircraft to a maintenance or repair base. Section 21.197(a)(1) specifically identifies flying to a maintenance or repair base as a permitted purpose for a special flight permit. Commercial passenger service, demonstration flights, and training operations are not permitted purposes.

47. A — The work is superseded or one year, whichever comes first. Section 91.417(b)(1) establishes that ordinary maintenance records must be retained until the work is repeated or superseded by

other work, or for one year, whichever occurs first. Sales, certificate renewal, and annual inspection completion are not the retention triggers.

48. C — Evaluate whether combined installations remain supported. Multiple STCs on a single aircraft may create configurations that no individual STC specifically approved. The IA evaluates combined STC compatibility and whether the integrated installation remains supported by approved data, rather than simply accepting each STC independently.

49. D — The authorization expires, is surrendered, or suspended. Section 65.95(b) requires the IA Form 8310-5 to be returned to the Administrator when the authorization expires, is surrendered, suspended, or revoked. Retirement, employment changes, and successful renewal do not trigger this requirement.

50. A — Type of inspection and airworthy condition determination. Section 43.11(a) requires the inspection entry to identify the type of inspection performed and the airworthy condition determination. Owner approval, insurance acknowledgment, and FSDO pre-approval are not regulatory elements of the inspection entry.