PRACTICE EXAM 8 SIMULATION

1. When servicing an oleo strut found low, what is the correct first action?

A. Determine whether it is low on fluid, air, or both

B. Add air until the strut stands at the correct height

C. Replace the strut seals before checking anything else

2. Before disassembling a split (divided) aircraft wheel, what must be done first?

A. Remove the brake disc assembly

B. Repack the wheel bearings

C. Fully deflate the tire

3. What is the correct first step when beginning a thorough airframe inspection?

A. Open every access panel immediately

B. Run all systems to check operation

C. Review the aircraft records, including AD status

4. When fueling an aircraft, which step must be completed before fuel begins to flow?

A. Filling the tank as rapidly as possible

B. Bonding and grounding the aircraft and fueling equipment

C. Removing the fuel cap to vent vapors first

5. What is the correct procedure when water appears in a fuel sump sample?

A. Drain each sump until the sample runs clear

B. Add de-icer and depart without draining

C. Ignore it if the engine starts normally

6. When rigging a flight control system, what is the mandatory final step before sign-off?

A. Repainting the control surface

B. Re-torquing the seat rails

C. Verifying the direction of control surface movement

7. During a retraction (swing) test, what must be ensured before cycling the gear?

A. The engine is running at full power

B. The gear pins remain installed

C. The aircraft is on jacks and the gear path is clear

8. When safetying a turnbuckle, how many threads at most should be exposed outside the barrel?

A. Seven threads

B. Three threads

C. Ten threads

9. What is the correct procedure when an over-driven rivet's shop head is below minimum height?

A. Add a washer under the manufactured head

B. Apply sealant over the head to restore the clamp

C. Remove and replace the rivet

10. When laying out a part with two intersecting bends, what should be done to prevent corner cracking?

A. Drill a relief hole at the intersection

B. Bend both flanges parallel to the grain

C. Use a bend radius below the minimum

11. What is the correct response to a repeatedly tripping circuit breaker?

A. Replace it with a higher-rated breaker

B. Continue resetting it to keep the system powered

C. Find and correct the fault before resetting

12. When checking aircraft tire pressure, under what condition should it be measured?

A. Immediately after landing

B. When the tires are cool

C. Only at maximum gross weight

13. What is the correct procedure for cleaning an acrylic windshield?

A. Wipe the dry surface with a shop rag

B. Flush with plenty of clean water and a mild soap

C. Use acetone to remove stubborn grime

14. When setting control cable tension, which reference must be used?

A. The manufacturer's temperature-correction chart

B. A single standard tension for all conditions

C. The tension from a different aircraft model

15. What must be verified about the magnetic compass after installing nearby ferrous equipment?

A. That it has been replaced with a non-magnetic unit

B. That it is removed during all future flights

C. That it is swung and the correction card updated

16. When entering an integral fuel tank for repair, what procedure governs the task?

A. Confined-space entry with purging, atmosphere testing, and an attendant

B. Standard coveralls only to avoid fuel stains

C. No special procedure since the tank is part of the wing

17. What is the correct first action upon discovering a wire bundle chafing against structure?

A. Leave it, since chafing only affects appearance

B. Re-route and support it to stop the chafing

C. Wrap the structure around the bundle

18. When servicing an oxygen system, how should the valves be operated?

A. Quickly, to seat the regulator firmly

B. Slowly, to prevent a pressure surge

C. In any manner, since oxygen is inert

19. What is the correct disposition when an inspection finds the aircraft not airworthy?

A. Sign the airworthiness statement to allow a ferry flight

B. Record nothing and return it to the owner

C. Record the inspection and provide a signed discrepancy list

20. When bleeding a hydraulic brake system, what symptom indicates success?

A. A spongy pedal that compresses easily

B. A firm pedal with no sponginess

C. Discolored fluid at the bleeder

21. What is the correct procedure when a hydraulic filter's clogging indicator has popped?

A. Replace the clogged element that is bypassing

B. Reset the indicator and continue

C. Ignore it, as it is decorative

22. When servicing a hydraulic reservoir, in what configuration should the level be checked?

A. The manufacturer's specified configuration

B. Any convenient configuration

C. Only with the engine running

23. What is the correct procedure for a fixed fire bottle whose discharge cartridge is past its service-life date?

A. Return it to service if pressure is good

B. Ignore the date since pressure matters most

C. Replace the cartridge

24. When selecting wire for a long run to a distant load, which two factors must be considered?

A. Insulation color and number of clamps

B. Current-carrying capacity and voltage drop

C. Terminal lug count and wire length only

25. What is the correct first step before working on a pressurized cabin component?

A. Confirm the cabin is fully depressurized

B. Apply maximum cabin pressure for the test

C. Open the component to release residual pressure

26. When inspecting a control cable, how are broken wires best detected?

A. Measuring the cable diameter at midspan

B. Checking only the turnbuckle threads

C. Wiping a cloth along the cable to snag broken ends

27. What is the correct procedure when disconnecting a high-pressure pneumatic line?

A. Depressurize the relevant portion of the system first

B. Charge the bottle to full pressure for the test

C. Heat the bottle to release trapped moisture

28. When applying range markings to an overhauled airspeed indicator, where must the values come from?

A. A generic chart for that instrument type

B. The specific aircraft's approved data

C. A similar aircraft in the hangar

29. What is the correct procedure when balancing a repaired and repainted control surface?

A. Skip re-balancing if only paint was added

B. Re-balance the surface within limits before return to service

C. Re-balance only if structure was replaced

30. When verifying oleo strut inflation, what is the primary method?

A. A pressure gauge reading alone

B. The firmness of the tire

C. The exposed piston length against the manufacturer's figure

31. What is the correct response to a helicopter transmission chip detector warning?

A. Reset the light and return to service

B. Ignore it as usually false

C. Investigate the metal contamination before further flight

32. When repairing a composite laminate, what must the replacement plies match?

A. Only the surface color of the parent laminate

B. The ply count, fiber type, and orientation

C. The resin brand regardless of fiber type

33. What is the correct first step when troubleshooting a hydraulic system malfunction?

A. Check the simple causes such as fluid level and pressure first

B. Replace the pump immediately

C. Disassemble the actuators to inspect seals

34. When inspecting a wooden spar, what defect requires immediate rejection of the member?

A. A grain slope within the allowable limit

B. A compression failure across the grain

C. A smooth, sealed surface

35. What is the correct procedure for an annual inspection's required scope?

A. Inspect only the easily accessible areas

B. Inspect only the engine and landing gear

C. Inspect the entire aircraft per the defined scope

36. When the gear will not retract on the ground but cycles on jacks, what is functioning as designed?

A. The emergency blow-down bottle

B. The cabin pressurization controller

C. The squat (safety) switch inhibiting ground retraction

37. What is the correct procedure when selecting fuel for an aircraft placarded 100LL?

A. Verify the fuel is blue and matches the placard

B. Use any available avgas grade

C. Use straw-colored turbine fuel if avgas is unavailable

38. When inspecting a tire that shows a sidewall bulge, what is the correct action?

A. Bleed air to correct over-inflation

B. Replace the tire due to possible ply separation

C. Return it to service as normal flexing

39. What is the correct procedure when a pitted, heat-discolored wheel bearing is found?

A. Repack it with extra grease and reinstall

B. Replace the bearing rather than reuse it

C. Reinstall it, since discoloration is cosmetic

40. When documenting a major alteration, what is required?

A. A logbook note using acceptable data

B. No documentation for alterations

C. FAA Form 337 with approved data

41. What is the correct procedure for testing a pitot-static system?

A. Apply suction to the pitot side to test it

B. Apply pressure to the static side to test it

C. Apply pressure to pitot and suction to static in the correct direction

42. When inspecting a continuous-loop fire detector found chafing, what is the concern?

A. Damage can cause a false warning or failure to warn

B. Chafing beneficially increases sensitivity

C. It affects only the element's color

43. What is the correct first action when an exhaust odor and crew headaches are reported in a heated cabin?

A. Increase cabin heat to mask the odor

B. Treat it as a possible carbon monoxide emergency

C. Ignore it as normal heater operation

44. When verifying thread engagement on a push-pull control rod end, how is it confirmed?

A. By counting the turnbuckle barrel threads

B. By torquing the rod end until it stops

C. By confirming a wire cannot pass through the inspection hole

45. What is the correct procedure when adding hydraulic fluid to a system?

A. Use only the specified fluid from a labeled source

B. Top off from any available hydraulic fluid

C. Mix fluid types to extend the supply

46. When inspecting a composite panel after a ramp strike that left no surface mark, what should be done?

A. Return it to service since the surface is intact

B. Wait for surface marks to appear later

C. Investigate for subsurface damage with a tap test or NDI

47. What is the correct procedure for an aircraft battery during charging?

A. Charge it in any sealed enclosure

B. Charge it near the fuel system for warmth

C. Charge it in a well-ventilated area away from sparks

48. When removing or installing an aircraft battery, what is the correct order?

A. Remove the ground lead first; connect the ground lead last

B. Remove the positive lead first; connect it last

C. Disconnect both leads simultaneously

49. What is the correct procedure when servicing a tire and strut with gas?

A. Use ordinary shop air for convenience

B. Use oxygen for its high pressure

C. Use dry nitrogen to avoid introducing moisture

50. When a fuel selector placard is found faded and unclear, what is the correct action?

A. Leave it, since it is only cosmetic

B. Remove the placard entirely

C. Replace it so the source can be selected correctly

51. What is the correct first action when diagnosing a sluggish vacuum-driven gyro?

A. Replace the gyro instrument immediately

B. Check the vacuum source and air filter

C. Replace the static line

52. When inspecting brakes during a wheel service, what indicates the linings need replacement?

A. A spongy pedal alone

B. Linings worn to their wear limit

C. Discolored brake fluid only

53. What is the correct procedure when a control surface repair adds weight aft of the hinge line?

A. Re-balance and verify control direction before return to service

B. Return to service with only a logbook entry

C. Repaint the entire aircraft first

54. When servicing an oxygen system, why must only aviator's breathing oxygen be used?

A. It burns hotter for better combustion

B. Its low moisture content prevents freezing in the system

C. It contains an odorant for leak detection

55. What is the correct procedure when an applicable AD is found overdue during inspection?

A. Treat the aircraft as airworthy until the next annual

B. Comply with and record the AD before return to service

C. Note it as advisory and continue

56. When inspecting fuel system components, where is the gascolator typically located?

A. At the highest point of the tank

B. In the vent line

C. At the system's low point where water collects

57. What is the correct procedure for routing electrical wiring relative to fluid lines?

A. Route wiring above fluid lines so leaks cannot drip onto it

B. Route wiring below to catch any drips

C. Wrap fluid lines around the wire bundles

58. When inspecting an oleo strut, what condition on the exposed piston warrants attention?

A. A bright, clean chrome finish

B. Proper extension for the aircraft weight

C. Scoring, corrosion, or fluid leakage

59. What is the correct procedure when an aircraft window must be installed?

A. Torque the fasteners tightly to eliminate movement

B. Use undersized holes to grip the plastic firmly

C. Allow clearance for thermal expansion and avoid over-torque

60. When a stall warning fails to sound during a ground test near the stall configuration, what is the correct conclusion?

A. The vane switch, wiring, or horn has failed and needs repair

B. It is normal, since the system works only in flight

C. The horn is simply too quiet to hear

61. What is the correct procedure when joining dissimilar metals in a structure?

A. Apply protective barriers to prevent galvanic corrosion

B. Assume no corrosion will occur in contact

C. Rely on the galvanic action to strengthen the joint

62. When inspecting a retractable gear system, how is the emergency extension verified?

A. By confirming it pressurizes the cabin

B. By confirming it extends and locks the gear when the normal system is bypassed

C. By confirming it raises the normal system pressure

63. What is the correct procedure when handling and storing transparent acrylic sheets?

A. Slide sheets across one another to save space

B. Keep masking paper on and avoid sliding sheets together

C. Store them in direct sunlight to keep them dry

64. When troubleshooting a spongy hydraulic actuator, what is the most likely cause to address?

A. Correctly set relief pressure

B. A perfectly clean, full system

C. Air in the system requiring bleeding

65. What is the correct procedure when an aircraft is found with a blocked fuel tank vent?

A. Over-pressurize the tank to clear it

B. Clear the vent so air can replace consumed fuel

C. Seal the vent to prevent water entry

66. When inspecting electrical bonding, what condition degrades the connection over time?

A. A clean, tight metal-to-metal contact

B. Corrosion at the bonding point

C. A properly applied corrosion-preventive compound

67. What is the correct procedure when the three green gear lights fail to illuminate but the gear is confirmed down?

A. Check bulbs, press-to-test, and position-switch wiring first

B. Replace the entire gear actuator

C. Recharge the hydraulic accumulator first

68. When curing a composite repair, what three variables must be controlled?

A. Voltage, current, and resistance

B. Temperature, time, and pressure

C. Color, texture, and weight

69. What is the correct procedure when a magnesium grinding fire occurs?

A. Extinguish it with water immediately

B. Spray it with the brake fluid on hand

C. Use the appropriate dry agent, never water

70. When inspecting a fixed fire bottle, what does a missing red thermal disc indicate?

A. The bottle was discharged normally by the crew

B. The bottle is freshly serviced

C. The bottle discharged overboard due to overheat

71. What is the correct procedure when checking a fuel quantity gauge's empty reading?

A. Confirm it reads empty at the unusable fuel level

B. Confirm it reads empty only when the tank is dry

C. Confirm it reads empty at the filler-neck level

72. When inspecting a helicopter for excessive vibration, what does a low-frequency lateral vibration suggest?

A. A main rotor balance problem

B. A tail rotor tracking problem

C. An engine accessory torsional issue

73. What is the correct procedure for verifying a transponder's required inspection currency?

A. Confirm it was checked within the preceding 12 months

B. Confirm it was checked within the preceding 6 months

C. Confirm it was checked within the preceding 24 months

74. When inspecting a composite face sheet found separated from its core, what is this defect?

A. Normal coning of the laminate

B. A disbond between face sheet and core

C. A relief-hole failure

75. What is the correct procedure when an aircraft is fueled and the piston engine quits shortly after takeoff?

A. Conclude the engine simply needs break-in time

B. Suspect misfueling with turbine fuel and investigate the fuel source

C. Conclude the octane was slightly low and continue

76. When inspecting a brake system, what does air trapped in the lines produce?

A. A spongy brake pedal requiring bleeding

B. A firm pedal with strong braking

C. No noticeable effect on pedal feel

77. What is the correct procedure when selecting an NDI method for a steel fitting's surface crack?

A. Use dye penetrant only, which finds subsurface flaws

B. Use magnetic particle inspection on the ferromagnetic steel

C. Use a vacuum decay test

78. When inspecting a fuel tank, where must sumps be drained to remove water?

A. At the vent line outlet

B. At the lowest points of the tank and system

C. At the filler neck

79. What is the correct procedure when a hydraulic line fitting leaks under pressure?

A. Depressurize before tightening the fitting

B. Tighten the fitting while pressurized for accuracy

C. Run a finger over the leak to locate it

80. When inspecting wiring near a heat source, what is the correct routing practice?

A. Route wiring through the hottest area for the shortest path

B. Wrap wiring around the heat source for support

C. Keep wiring clear of high-heat areas

81. What is the correct procedure when an annual inspection is signed off as airworthy?

A. No entry is required if the aircraft passed

B. Only the date needs to be recorded

C. Record an airworthiness statement with signature and certificate number

82. When inspecting a control rod end, what does a wire passing through the inspection hole indicate?

A. Adequate thread engagement

B. Insufficient thread engagement

C. A correctly safetied joint

83. What is the correct procedure when servicing a brake system that specifies phosphate-ester fluid?

A. Use only phosphate-ester fluid, never mineral-base

B. Use mineral-base fluid since both are red

C. Mix the two to extend the supply

84. When inspecting an antenna installation, what is a common defect to check for?

A. Improper sealing allowing moisture and corrosion entry

B. Excessive cooling airflow around the antenna

C. Over-illumination of the position lights

85. What is the correct procedure when an aircraft load is found wired in series rather than parallel?

A. Leave it, since series gives each device full voltage

B. Add more series loads to balance the circuit

C. Correct it to parallel so each device gets full voltage independently

86. When inspecting a fabric covering, at what point is the fabric considered deteriorated?

A. When its strength falls to about 70% of the originally required strength

B. When any surface dirt is present

C. When the color has faded slightly

87. What is the correct procedure when bleeding air from a hydraulic system after component replacement?

A. Skip bleeding if the system holds pressure

B. Bleed the system per the manufacturer's procedure

C. Add air to the reservoir to purge the lines

88. When inspecting a fuel system, what does a partially clogged filter most likely cause?

A. Slow system operation or reduced fuel flow

B. An increase in system pressure

C. Improved filtration efficiency

89. What is the correct procedure for the UV-blocking coat in a fabric finish?

A. Apply it as an opaque layer to block ultraviolet light

B. Skip it, since it is only decorative

C. Apply it as the first penetrating coat only

90. When inspecting a wheel for cracks, where is special attention warranted?

A. Only on the outer rim surface

B. Only on the valve stem

C. Around bolt holes and bead seats

91. What is the correct procedure when a borescope is needed to inspect a closed structure?

A. Insert the optical instrument through a small opening to view inside

B. Disassemble the entire structure first

C. Magnetize the structure to reveal internal cracks

92. When inspecting a pneumatic system, why must moisture be controlled?

A. Moisture increases the gas compressibility beneficially

B. Moisture can corrode components and freeze in lines at altitude

C. Moisture raises the system operating pressure usefully

93. What is the correct procedure when an over-pressure condition is possible in a hydraulic system?

A. Rely on the relief valve to open above the set limit

B. Tighten all fittings to contain the pressure

C. Remove the accumulator to reduce pressure

94. When inspecting a fuel cap and tank, what practice reduces water condensation?

A. Keeping the tanks full when the aircraft is parked

B. Leaving the caps loose for ventilation

C. Draining the tanks completely after each flight

95. What is the correct procedure for verifying control surface travel?

A. Estimate it by eye against a reference line

B. Measure it in degrees with a protractor against the manual's limits

C. Set it as far as the stops allow for maximum authority

96. When inspecting a composite for hidden damage, which method reveals near-surface disbonds simply?

A. The tap (coin tap) test

B. A magnetic particle test

C. A specific-gravity check

97. What is the correct procedure when a wire's insulation is found worn through against structure?

A. Apply tape over the worn area and continue

B. Leave it if the wire still conducts

C. Replace or repair the wire and correct the routing

98. When inspecting the static ports after a detailing job, what must be confirmed?

A. That they have been waxed for protection

B. That they are clear and unobstructed

C. That they are painted to match the fuselage

99. What is the correct procedure when a maintenance entry is made for completed work?

A. Include a description, date, and the approving person's signature and certificate number

B. Include only the date of completion

C. Include a photograph of the work performed

100. When inspecting a retractable gear's locks, what do the downlocks accomplish?

A. They hold the gear retracted in flight

B. They hold the gear in the extended, locked position for landing

C. They inhibit retraction on the ground

Answer Key

1. A — The correct first action is to determine whether the strut is low on fluid, air, or both, then follow the servicing procedure. Adding air to a strut low on fluid leaves it unable to absorb loads, and seal replacement is not the first step.

2. C — The tire must be fully deflated before disassembling a split wheel, because the inflated tire's force is restrained by the through-bolts and can blow the halves apart. Removing the disc or repacking bearings is not the safety-critical first step.

3. C — A thorough inspection begins by reviewing the aircraft records, including AD status, time in service, and prior discrepancies. Opening panels and running systems come after the records establish what to look for.

4. B — Bonding and grounding the aircraft and fueling equipment must be completed before fuel flows, to prevent a static spark. Rapid filling increases static, and removing the cap first does not dissipate the charge safely.

5. A — When water appears in a sump sample, the mechanic drains each sump until it runs clear, because water collects there and can stop the engine. Adding de-icer or ignoring it is unsafe.

6. C — Verifying the direction of control surface movement is the mandatory final rigging step, guarding against reversed controls. Painting and seat-rail torque are unrelated to this safety check.

7. C — Before cycling the gear in a swing test, the aircraft must be on jacks with the gear path clear, because moving gear has crushing force. Engine power and installed pins are not part of cycling the gear.

8. B — No more than three threads should be exposed outside a turnbuckle barrel; more indicates insufficient thread engagement. Seven or ten threads would be unsafe.

9. C — An over-driven rivet below minimum shop-head height must be removed and replaced, since it no longer clamps properly. A washer or sealant does not restore proper clamping.

10. A — A relief hole at the intersection of two bends prevents corner cracking by relieving concentrated stress. Bending parallel to the grain or below the minimum radius would promote cracking.

11. C — The correct response to a repeatedly tripping breaker is to find and correct the fault before resetting, because the breaker trips to protect the wiring. Up-rating or endless resets risks a fire.

12. B — Tire pressure must be checked when the tires are cool, since operation heats them and raises pressure, giving a false high reading. Checking after landing or only at max gross weight is incorrect.

13. B — An acrylic windshield is cleaned by flushing with plenty of clean water and a mild soap. Dry wiping grinds in grit, and acetone attacks and crazes acrylic.

14. A — Control cable tension is set using the manufacturer's temperature-correction chart, because cable and airframe expand differently with temperature. A single standard value or another model's tension would be wrong.

15. C — After installing nearby ferrous equipment, the compass must be swung and the correction card updated, because the magnetic environment changed. Replacing or removing the compass does not address compensation.

16. A — Integral fuel tank entry is governed by confined-space procedures including purging, atmosphere testing, and an attendant, because of toxic, explosive vapors and limited oxygen. Coveralls alone are inadequate, and it is never "no special procedure."

17. B — A chafing wire bundle must be re-routed and supported to stop the chafing, because chafe-through can arc and start a fire. It is not merely an appearance issue, and wrapping structure around the bundle is improper.

18. B — Oxygen system valves should be opened slowly to prevent a pressure surge that can generate ignition heat. Opening quickly is hazardous, and oxygen servicing is never hazard-free.

19. C — An aircraft found not airworthy is handled by recording the inspection and providing a signed discrepancy list. The mechanic must never sign a false airworthiness statement or record nothing.

20. B — A firm pedal with no sponginess indicates successful brake bleeding, since air (which causes sponginess) has been purged. A spongy pedal means air remains, and discolored fluid is not a success indicator.

21. A — A popped clogging indicator means the element is clogged and bypassing unfiltered fluid, so it must be replaced. Resetting and continuing leaves the system on unfiltered fluid.

22. A — A hydraulic reservoir must be checked in the manufacturer's specified configuration, because actuator positions and accumulator state change the level. Any convenient configuration or "engine running" is incorrect.

23. C — A fire bottle with an expired discharge cartridge must have the cartridge replaced, because it may fail to fire even with good pressure. Pressure alone does not prove the bottle will discharge.

24. B — Wire selection for a long run considers current-carrying capacity and voltage drop. Insulation color, clamp count, and lug count are not the governing factors.

25. A — The correct first step before working on a pressurized cabin component is to confirm the cabin is fully depressurized, because residual pressure can release a component with lethal force. Applying pressure or opening to "release" it is dangerous.

26. C — Broken cable wires are best detected by wiping a cloth along the cable so it snags on broken ends, especially over pulleys. Measuring diameter or checking only turnbuckle threads would miss them.

27. A — Before disconnecting a high-pressure pneumatic line, the relevant portion must be depressurized, because stored gas energy can release suddenly. Charging or heating the bottle would increase the hazard.

28. B — Range markings must come from the specific aircraft's approved data, because the speeds are model-specific. Generic charts or another aircraft's markings could mislead the pilot.

29. B — A repaired and repainted control surface must be re-balanced within limits before return to service, because added weight can upset balance and induce flutter. Skipping it for paint or limiting it to structural replacement is incorrect.

30. C — Oleo strut inflation is verified primarily by the exposed piston length against the manufacturer's figure, not by gauge or tire firmness. The exposed piston length is the primary check.

31. C — A transmission chip detector warning requires investigating the metal contamination before further flight. Resetting or ignoring it risks catastrophic drive-system failure.

32. B — A composite repair must match the original ply count, fiber type, and orientation, because the repair carries the original load path. Color alone or any fiber type with matching resin is insufficient.

33. A — Troubleshooting begins by checking the simple causes—fluid level, system pressure—first. Replacing the pump or disassembling actuators immediately is not the logical starting point.

34. B — A compression failure across the grain requires immediate rejection of the wooden member, because it has been overstressed. A grain slope within limits or a sound surface is acceptable.

35. C — An annual inspection covers the entire aircraft per the defined scope (Part 43 Appendix D). Inspecting only accessible areas or only certain systems is not compliant.

36. C — Gear that won't retract on the ground but cycles on jacks shows the squat (safety) switch inhibiting ground retraction as designed. The blow-down bottle and pressurization controller are unrelated.

37. A — For an aircraft placarded 100LL, the mechanic verifies the fuel is blue and matches the placard. Using any avgas grade or turbine fuel risks detonation or engine failure.

38. B — A sidewall bulge indicates possible ply separation, requiring tire replacement. It is not over-inflation to bleed off or normal flexing.

39. B — A pitted, heat-discolored bearing must be replaced, not reused, because such damage means it is no longer serviceable. Adding grease does not restore a damaged bearing.

40. C — A major alteration requires FAA Form 337 with approved data. A logbook note with acceptable data suffices only for minor work, and alterations always require documentation.

41. C — A pitot-static test applies pressure to the pitot side and suction to the static side in the correct direction. Reversing them can drive the instrument mechanisms past their stops and damage them.

42. A — A chafing continuous-loop element can be damaged, causing a false warning or a failure to warn. Chafing degrades reliability rather than improving sensitivity, and the concern is function, not color.

43. B — Exhaust odor and crew headaches in a heated cabin must be treated as a possible carbon monoxide emergency, since a cracked heater shroud can leak CO. Increasing heat or ignoring it is dangerous.

44. C — Thread engagement on a rod end is confirmed by ensuring a wire cannot pass through the inspection hole; if it can, engagement is insufficient. Counting turnbuckle threads or torquing to a stop does not verify it.

45. A — Only the specified fluid from a labeled source may be added, because cross-contamination destroys incompatible seals. Topping off from any fluid or mixing types is hazardous.

46. C — A composite struck with no surface mark must be investigated for subsurface damage with a tap test or NDI, because barely visible impact damage can hide serious internal damage. Returning it or waiting for marks is unsafe.

47. C — A battery must be charged in a well-ventilated area away from sparks, because charging releases explosive hydrogen gas. A sealed enclosure or proximity to the fuel system is dangerous.

48. A — When removing a battery, the ground (negative) lead is removed first and connected last, minimizing the chance of a spark. Removing the positive first or disconnecting both at once is incorrect.

49. C — Tires and struts are serviced with dry nitrogen to avoid introducing moisture that causes corrosion or icing. Shop air introduces moisture, and oxygen is never used due to fire risk.

50. C — A faded fuel selector placard must be replaced so the source can be selected correctly, because a mis-selection can cause fuel starvation. It is not merely cosmetic and must not be removed.

51. B — Diagnosing a sluggish vacuum-driven gyro begins by checking the vacuum source and air filter, since a failing pump or clogged filter slows the gyro. Replacing the instrument or static line first is premature.

52. B — Linings worn to their wear limit indicate the need for replacement. A spongy pedal points to air, and discolored fluid alone does not define lining wear.

53. A — A control surface repair adding weight aft of the hinge line requires re-balancing and verifying control direction before return to service. A logbook-only return or repainting first is incorrect.

54. B — Only aviator's breathing oxygen is used because its low moisture content prevents freezing in the system at altitude. It is not about hotter combustion or an odorant.

55. B — An overdue applicable AD must be complied with and recorded before return to service, because it makes the aircraft unairworthy. Treating it as airworthy or advisory is incorrect.

56. C — The gascolator is located at the system's low point where water and sediment collect for draining. It is not at the tank's highest point or in the vent line.

57. A — Wiring is routed above fluid lines so leaks cannot drip onto it and damage the insulation. Routing below to "catch drips" or wrapping fluid lines around bundles is improper.

58. C — On the exposed oleo piston, scoring, corrosion, or fluid leakage warrants attention. A clean chrome finish and proper extension are normal, healthy conditions.

59. C — A window must be installed with clearance for thermal expansion and without over-torque, to avoid built-in stress that cracks the plastic. Tight torque or undersized holes induce stress.

60. A — A stall warning that fails to sound during a proper ground test means the vane switch, wiring, or horn has failed and needs repair. The system is testable on the ground and cannot be dismissed as too quiet.

61. A — Protective barriers are applied when joining dissimilar metals to prevent galvanic corrosion. Assuming no corrosion or relying on galvanic action to "strengthen" the joint is incorrect.

62. B — Emergency extension is verified by confirming it extends and locks the gear when the normal system is bypassed. It does not pressurize the cabin or raise normal system pressure.

63. B — Acrylic sheets are handled with masking paper on and without sliding sheets together, to avoid scratching. Sliding sheets or storing in direct sunlight damages them.

64. C — Air in the system requiring bleeding is the most likely cause of a spongy hydraulic actuator. A clean, full system with correct relief pressure would not be spongy.

65. B — A blocked fuel tank vent must be cleared so air can replace consumed fuel, preventing a vacuum that chokes off flow. Over-pressurizing or sealing the vent is incorrect.

66. B — Corrosion at the bonding point degrades the connection over time by raising resistance. A clean, tight contact and a proper corrosion-preventive compound preserve it.

67. A — When the green lights fail but the gear is confirmed down, the simplest causes—bulbs, press-to-test, and position-switch wiring—are checked first. Replacing the actuator or recharging the accumulator is premature.

68. B — A composite cure must control temperature, time, and pressure. Voltage/current/resistance and color/texture/weight are not cure variables.

69. C — A magnesium fire is extinguished with the appropriate dry agent, never water, because water can intensify it and react violently. Brake fluid is also not an appropriate agent.

70. C — A missing red thermal disc indicates the bottle discharged overboard due to overheat. A missing yellow disc would indicate a normal crew discharge.

71. A — A fuel quantity gauge is confirmed to read empty at the unusable fuel level, not when the tank is dry or at the filler neck. Usable fuel is what is available to the engine.

72. A — A low-frequency lateral vibration suggests a main rotor balance problem, since low frequency points to the main rotor and lateral points to balance. A tail-rotor issue would be high frequency.

73. C — The transponder must have been checked within the preceding 24 calendar months. The 12- and 6-month intervals do not apply to the transponder.

74. B — A face sheet separated from its core is a disbond, which seriously degrades sandwich stiffness. It is neither normal coning nor a relief-hole issue.

75. B — An engine that quits shortly after takeoff following fueling should prompt suspicion of misfueling with turbine fuel and investigation of the source. It is not break-in behavior or slightly low octane.

76. A — Air trapped in the brake lines produces a spongy pedal requiring bleeding, because air is compressible. It does not produce a firm pedal or no effect.

77. B — Magnetic particle inspection is used for a surface crack in ferromagnetic steel. Dye penetrant finds only surface-open flaws (not subsurface), and a vacuum decay test checks for leaks.

78. B — Sumps are drained at the lowest points of the tank and system, where water collects. The vent outlet and filler neck are not the drain points.

79. A — A leaking pressurized fitting must be depressurized before tightening, because a pressurized leak can inject fluid through the skin. Tightening under pressure or running a finger over the leak is dangerous.

80. C — Wiring must be kept clear of high-heat areas to protect the insulation. Routing through the hottest area or wrapping wiring around a heat source is improper.

81. C — An airworthy annual sign-off requires an airworthiness statement with signature and certificate number. A "no entry" or date-only record is insufficient.

82. B — A wire passing through the rod-end inspection hole indicates insufficient thread engagement, making the joint unsafe. It does not indicate adequate engagement or correct safetying.

83. A — A brake system specifying phosphate-ester fluid must use only that fluid, never mineral-base, because mixing destroys incompatible seals. Color similarity does not make them interchangeable.

84. A — Improper antenna sealing allowing moisture and corrosion entry is a common defect to check. Excessive cooling airflow and position-light illumination are not antenna concerns.

85. C — A load wired in series should be corrected to parallel so each device gets full voltage independently. Series wiring shares current and causes cascade failure, the opposite of the goal.

86. A — Fabric is considered deteriorated when its strength falls to about 70% of the originally required strength. Surface dirt or slight fading does not define deterioration.

87. B — After component replacement, the system must be bled per the manufacturer's procedure to remove air. Skipping bleeding or adding air to the reservoir is incorrect.

88. A — A partially clogged filter most likely causes slow system operation or reduced fuel flow by restricting flow. It does not raise pressure or improve filtration.

89. A — The UV-blocking coat is applied as an opaque layer to block ultraviolet light, the main cause of fabric deterioration. It is not decorative and is not the first penetrating coat.

90. C — Wheel crack inspection warrants special attention around bolt holes and bead seats, where stress concentrates. The outer rim alone or only the valve stem is insufficient.

91. A — A borescope is inserted through a small opening to view inside a closed structure without disassembly. It does not require full disassembly or magnetizing the structure.

92. B — Moisture in a pneumatic system must be controlled because it can corrode components and freeze in lines at altitude. It does not beneficially increase compressibility or raise pressure usefully.

93. A — Over-pressure protection relies on the relief valve opening above the set limit. Tightening fittings or removing the accumulator does not safely manage over-pressure.

94. A — Keeping tanks full when parked reduces water condensation by limiting the air space. Loose caps or draining tanks completely increases condensation risk.

95. B — Control surface travel is verified by measuring it in degrees with a protractor against the manual's limits. Eyeballing or setting it to the stops for "maximum authority" is incorrect.

96. A — The tap (coin tap) test simply reveals near-surface disbonds by a change in sound. Magnetic particle and specific-gravity checks are not composite disbond methods.

97. C — A wire with insulation worn through against structure must be replaced or repaired and its routing corrected. Taping over it or leaving it because it conducts risks arcing and fire.

98. B — After detailing, the static ports must be confirmed clear and unobstructed, because tape, wax, or paint produces dangerously wrong instrument readings. They must never be waxed or painted over.

99. A — A maintenance entry must include a description of the work, the date, and the approving person's signature and certificate number. A date-only entry or a photograph is insufficient.

100. B — Downlocks hold the gear in the extended, locked position for landing so it cannot collapse. Holding the gear retracted is the uplock's job, and inhibiting ground retraction is the squat switch's.