

AVIATION STRUCTURAL MECHANIC (AM) STRAND PRACTICE EXAM (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. Which system supplies fluid to all systems, including the primary flight controls?**
 - A. Electrical system
 - B. Pneumatic system
 - C. Utility system
 - D. Primary flight controls system
- 2. Which of the following is NOT a category of malfunctions?**
 - A. Hydraulic
 - B. Thermal
 - C. Electrical
 - D. Pneumatic
- 3. The two major parts of a cannon plug are:**
 - A. Solenoid
 - B. Limit Switch
 - C. Prong Section and Receptacle Section
 - D. Conductor
- 4. Why is proper rivet pattern important in sheet metal repairs?**
 - A. It distributes load evenly, controls distortion, and preserves skin shape and strength.
 - B. It speeds up the repair time and reduces labor costs.
 - C. It is only needed for cosmetic reasons.
 - D. It ensures rivets are easy to remove later.
- 5. Which factor is NOT relevant to determining rivet torque during installation?**
 - A. Rivet size
 - B. Lubrication
 - C. Surface finish
 - D. Rivet color

- 6. Which device converts chemical energy into electrical energy for emergency hydraulic control?**
- A. A device that stores energy
 - B. Converts chemical energy into electrical energy for emergency hydraulic control
 - C. Converts electrical energy into hydraulic energy
 - D. Measures hydraulic pressure
- 7. Why are lock washers or lock nuts used on certain fasteners?**
- A. To seal against leakage
 - B. To reduce weight
 - C. To improve corrosion resistance
 - D. To resist loosening due to vibration and cyclic loading
- 8. What is a symptom?**
- A. A visual leak
 - B. A loud noise
 - C. any factor that will contribute to the solution of the malfunction
 - D. A false alarm
- 9. Which scenario best describes how a corrosion cell initiates on an aircraft?**
- A. Dissimilar metals in contact with moisture can create an electrochemical gradient.
 - B. A coating stops all forms of corrosion.
 - C. The corrosion cell forms when dissimilar metals are contact in the presence of moisture.
 - D. Lubrication accelerates corrosion.
- 10. When documenting a structural repair, what essential information must be recorded?**
- A. Location, part/area repaired, method, fasteners used, torque values, inspection results, date, technician.
 - B. Only the date and technician's name.
 - C. The color of the aircraft and the weather conditions.
 - D. The cost of materials.

Answers

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1. C
2. B
3. C
4. A
5. D
6. B
7. D
8. C
9. C
10. A

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Explanations

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1. Which system supplies fluid to all systems, including the primary flight controls?

- A. Electrical system
- B. Pneumatic system
- C. Utility system**
- D. Primary flight controls system

Fluid power for the aircraft's systems comes from a central source that distributes hydraulic fluid under pressure to multiple subsystems, including the primary flight control actuators. This utility system acts as the common reservoir and pump-driven supply that feeds lines to where movement is needed, so every system that relies on fluid pressure gets it from here. Electrical systems deliver power, not fluid, and pneumatic systems use compressed air rather than hydraulic fluid, so they don't provide the fluid needed to drive the flight-control surfaces. The primary flight control system is the recipient of that pressurized fluid, not its source.

2. Which of the following is NOT a category of malfunctions?

- A. Hydraulic
- B. Thermal**
- C. Electrical
- D. Pneumatic

Malfunctions are categorized by the system they involve. Hydraulic, electrical, and pneumatic failures describe problems within distinct power and control systems—the fluid power, electrical power distribution, and compressed-air systems, each with its own failure modes and fixes. Thermal issues, however, aren't a standalone malfunction category because heat effects can influence many different systems rather than pointing to a single, discrete system. Temperature-related problems are usually addressed through cooling, insulation, or design limits, and they show up as symptoms across various systems rather than as a separate category. So the option describing thermal is not a standard malfunctions category.

3. The two major parts of a cannon plug are:

- A. Solenoid
- B. Limit Switch
- C. Prong Section and Receptacle Section**
- D. Conductor

Cannon plugs are a two-piece electrical connector used for quick disconnects. The two major parts are the prong section and the receptacle section. The prong section contains the male contacts (pins) that insert into the corresponding female contacts in the receptacle section. When these halves mate, the circuit is completed; separating them breaks the circuit. While devices like solenoids or limit switches can be wired through a plug, they are not the two main parts of the plug itself, and a conductor is simply a single wire, not a two-part connector.

4. Why is proper rivet pattern important in sheet metal repairs?

- A. It distributes load evenly, controls distortion, and preserves skin shape and strength.
- B. It speeds up the repair time and reduces labor costs.
- C. It is only needed for cosmetic reasons.
- D. It ensures rivets are easy to remove later.

The main idea is that rivet pattern governs how loads are carried and how the repaired skin behaves under flight stresses. A proper pattern evenly distributes forces across the patch and the surrounding skin, keeps the contour of the surface consistent, and preserves the skin's strength. When rivets are spaced and aligned correctly, stresses flow smoothly from the patch into the existing structure, reducing the chance of cracks, distortion, or buckling around holes. If the pattern isn't right, you can create stress concentrations or excessive stiffness in one area, which can cause the patch to lift, crack, or warp and ruin the aerodynamics and structural integrity. Following the repair data for edge distances and spacing ensures the patch acts as a true part of the skin, maintaining shape, stiffness, and load paths under all service loads. This isn't primarily about speed, cost, or cosmetic appearance, and it isn't about making rivets easy to remove later. It's about making the repaired area perform like the original skin under operating conditions.

5. Which factor is NOT relevant to determining rivet torque during installation?

- A. Rivet size
- B. Lubrication
- C. Surface finish
- D. Rivet color

Rivet torque during installation is governed by friction and the clamping needed to form a proper joint. The main factors that set how much torque you need are rivet size, lubrication, and surface finish. Larger rivet diameters create more contact area and require more torque to seat and form the head. Lubrication reduces friction between the rivet shank and the hole wall, so the same joint can require less torque when lubrication is used. Surface finish also matters: rough or dirty seating surfaces increase friction and push the required torque higher to achieve proper seating. Rivet color does not affect any of these mechanical interactions and therefore does not influence the torque required for installation.

6. Which device converts chemical energy into electrical energy for emergency hydraulic control?

- A. A device that stores energy
- B. Converts chemical energy into electrical energy for emergency hydraulic control
- C. Converts electrical energy into hydraulic energy
- D. Measures hydraulic pressure

The main idea is the energy source that powers emergency hydraulics by converting stored chemical energy into electrical energy. In aircraft emergency systems, you need a power source that can still deliver electricity when the normal systems are down. A battery does this: its chemical energy is converted into electrical energy, which then drives the emergency hydraulic control unit or pump so that you can still operate flight controls and other essential systems. This function—converting chemical energy to electrical energy to power hydraulics—is why that option is the best fit. The other possibilities describe energy storage in general, electrical-to-hydraulic conversion, or hydraulic pressure measurement, none of which match the required conversion to electrical energy for emergency hydraulics.

7. Why are lock washers or lock nuts used on certain fasteners?

- A. To seal against leakage
- B. To reduce weight
- C. To improve corrosion resistance
- D. To resist loosening due to vibration and cyclic loading**

Lock washers and lock nuts are used to resist loosening that comes from vibration and cyclic loading. In service, fasteners experience repeated fluctuations in load and continuous shaking, which can cause a bolt to turn slightly and back off, reducing the clamping force over time. Locking devices add friction or mechanical interference so the fastener resists turning despite these conditions. Lock washers bite into the surface or deform to increase friction, while prevailing-torque or other lock nuts maintain a resisting torque that helps keep the preload from relaxing. This helps keep joints tight and prevents loosening that could compromise the structure. They aren't primarily for sealing joints, reducing weight, or improving corrosion resistance—their main role is maintaining clamp force under vibration and cyclic stress.

8. What is a symptom?

- A. A visual leak
- B. A loud noise
- C. any factor that will contribute to the solution of the malfunction**
- D. A false alarm

A symptom is a sign or clue that indicates something is wrong and helps guide troubleshooting toward the fault. It isn't the fix or the exact cause itself, but information that points you to what to inspect next. The best answer captures that breadth: any factor that will contribute to solving the malfunction. That can be a visible leak or a loud noise, which are concrete signs, but it also includes other data like measurements or patterns in operation that help diagnose the issue. A false alarm doesn't reflect a real problem and wouldn't assist in solving a malfunction, so it isn't a symptom.

9. Which scenario best describes how a corrosion cell initiates on an aircraft?

- A. Dissimilar metals in contact with moisture can create an electrochemical gradient.
- B. A coating stops all forms of corrosion.
- C. The corrosion cell forms when dissimilar metals are contact in the presence of moisture.**
- D. Lubrication accelerates corrosion.

A corrosion cell starts when two dissimilar metals are in electrical contact and an electrolyte is present. On aircraft, moisture provides that electrolyte, allowing ions to move between metals with different electrochemical potentials. The more active metal becomes the anode and corrodes, while the more noble metal acts as the cathode. This setup creates a galvanic couple right at the junction, initiating localized corrosion on the anodic metal. The scenario that best describes initiation is dissimilar metals in contact in the presence of moisture, because it combines the necessary contact and electrolyte to drive the electrochemical reactions. Coatings slow but don't completely stop all corrosion, and lubrication isn't the primary driver of corrosion initiation.

10. When documenting a structural repair, what essential information must be recorded?

- A. Location, part/area repaired, method, fasteners used, torque values, inspection results, date, technician.**
- B. Only the date and technician's name.
- C. The color of the aircraft and the weather conditions.
- D. The cost of materials.

When recording a structural repair, the record must capture information that identifies exactly what was done and how it was verified. The essential details are where the repair is located, which part or area was repaired, the method used to perform the repair, the fasteners used and their torque values, the inspection results that confirm quality, the date of the repair, and the technician who performed it. This level of detail provides traceability, ensures the repair can be evaluated and audited in the future, and demonstrates compliance with procedures and standards. If you only note the date and the technician, important information about the repair itself would be missing. Details like the location, method, fasteners, and inspection results are necessary to understand the repair's integrity and enable proper ongoing maintenance. Other information such as aircraft color, weather conditions, or material costs does not fulfill the requirements for a structural repair record.

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Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://amstrand.examzify.com>

We wish you the very best on your exam journey. You've got this!

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