

Navy Aviation Structural Mechanic (AM) Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of 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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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!

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Questions

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- 1. Which material is commonly used for the collar of a hi-shear rivet?**
 - A. Copper**
 - B. Aluminum**
 - C. Plastic**
 - D. Steel**

- 2. What is the main purpose of landing gear in an aircraft?**
 - A. To stabilize the aircraft in flight**
 - B. To support the aircraft while it is on the ground**
 - C. To assist in maneuvering on the flight deck**
 - D. To provide a mounting point for engines**

- 3. What are the minimum and maximum edge distances for a countersunk rivet?**
 - A. Minimum: 1 time diameter; Maximum: 3 times diameter**
 - B. Minimum: 2 times diameter; Maximum: 5 times diameter**
 - C. Minimum: 2.5 times diameter; Maximum: 4 times diameter**
 - D. Minimum: 3 times diameter; Maximum: 6 times diameter**

- 4. On which side of the rivet should the bucking bar generally be placed?**
 - A. On the side opposite the rivet gun**
 - B. On the side where the rivet head is visible**
 - C. Depends on rivet hardness and accessibility**
 - D. On the side easiest for the operator**

- 5. What is a key characteristic of lightening holes?**
 - A. They are located in the outer surface of structures**
 - B. They have a flange around the edge for rigidity**
 - C. They are always round and uniform in size**
 - D. They are exclusively used in wing structures**

6. Which of the following is a potential risk of wearing jewelry while operating machinery?

- A. It can improve grip**
- B. It may provide additional safety**
- C. It can become entangled and cause injury**
- D. It can distract the operator**

7. Which type of rivet gun is designed for corners and tight spaces?

- A. Slow hitting rivet gun**
- B. One-shot rivet gun**
- C. Corner riveter**
- D. Fast-hitting rivet gun**

8. What does a riveted joint layout typically include?

- A. The type of adhesive used**
- B. The sizes and colors of cleco fasteners**
- C. The size of rivets and spacing details**
- D. The torque specifications for fastening**

9. What is indicated by the term 'drill angle'?

- A. The diameter of the drill bit**
- B. The depth of the hole made by the bit**
- C. The degree of drop from center to outer edge**
- D. The speed at which the drill operates**

10. What type of cut is NOT typically made with tinner snips?

- A. Straight cuts**
- B. Curved cuts**
- C. Notches**
- D. Irregular shapes**

Answers

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

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Explanations

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1. Which material is commonly used for the collar of a hi-shear rivet?

- A. Copper**
- B. Aluminum**
- C. Plastic**
- D. Steel**

The collar of a hi-shear rivet is commonly made of aluminum due to its favorable properties for aviation applications. Aluminum is lightweight, which is a critical factor in aviation design, where reducing weight is essential for improving fuel efficiency and overall aircraft performance. Additionally, aluminum has good strength-to-weight ratio, corrosion resistance, and ease of fabrication, making it an ideal choice for various aerospace components. In the context of hi-shear rivets, aluminum collars also provide enhanced shear strength, which is crucial for applications subject to static and dynamic loads. This combination of properties ensures reliable fastening and performance in conjunction with the rivet body, often made of high-strength materials, to withstand operational stresses in aircraft structures.

2. What is the main purpose of landing gear in an aircraft?

- A. To stabilize the aircraft in flight**
- B. To support the aircraft while it is on the ground**
- C. To assist in maneuvering on the flight deck**
- D. To provide a mounting point for engines**

The main purpose of landing gear in an aircraft is to support the aircraft while it is on the ground. This includes bearing the weight of the aircraft during various ground operations such as taxiing, takeoff, and landing. The landing gear allows for safe landings by absorbing the stresses and forces experienced when the aircraft touches down. It also provides stability while the aircraft is stationary or moving on the ground, ensuring that it remains level and balanced. While stabilizing the aircraft in flight and assisting in maneuvering on the flight deck are important considerations for an aircraft's overall design and operation, they do not directly relate to the primary function of landing gear. Additionally, landing gear does not provide a mounting point for engines, as engines are typically mounted on the wings or fuselage. Thus, the correct answer accurately reflects the essential role of landing gear in supporting the aircraft when it is not in the air.

3. What are the minimum and maximum edge distances for a countersunk rivet?

- A. Minimum: 1 time diameter; Maximum: 3 times diameter
- B. Minimum: 2 times diameter; Maximum: 5 times diameter
- C. Minimum: 2.5 times diameter; Maximum: 4 times diameter**
- D. Minimum: 3 times diameter; Maximum: 6 times diameter

The minimum and maximum edge distances for a countersunk rivet are derived from industry standards that ensure adequate strength and integrity of the joint being fastened. For countersunk rivets, the accepted practice typically dictates that the minimum edge distance should be 2.5 times the diameter of the rivet. This minimum distance helps prevent issues such as material failure or cracking along the edge of the workpiece due to stress concentrations. On the other hand, the maximum edge distance is set at 4 times the diameter of the rivet. This limit ensures that there is enough surrounding material to support the rivet and its load effectively, while also avoiding potential issues with placement that could occur if the distance were to exceed this maximum. Therefore, the specified range ensures optimal performance for the rivet joint under various load conditions, contributing to the overall safety and structural reliability of the assembly.

4. On which side of the rivet should the bucking bar generally be placed?

- A. On the side opposite the rivet gun
- B. On the side where the rivet head is visible
- C. Depends on rivet hardness and accessibility**
- D. On the side easiest for the operator

The correct answer is that the placement of the bucking bar generally depends on rivet hardness and accessibility. This approach takes into consideration the material properties of the rivet and the configuration of the workpiece. When the rivet is driven, the bucking bar serves as a counterforce to the impact of the rivet gun. The right placement is critical; if the rivet has high hardness or is being used in a difficult-to-access area, the operator must adjust the position of the bucking bar to ensure adequate forming of the rivet and to maintain control of the riveting process. For instance, in some scenarios, placing the bucking bar on the side where accessing the rivet is easier may not yield the best results if the material hardness requires it to be on the opposite side for better control. Therefore, understanding the specific requirements based on the type of rivet and the surrounding materials, as well as the structural integrity of the assembly, determines the most effective placement. This approach showcases the importance of adaptability during the riveting process, necessitating an understanding of both the materials being worked on and the techniques involved.

5. What is a key characteristic of lightening holes?

- A. They are located in the outer surface of structures
- B. They have a flange around the edge for rigidity**
- C. They are always round and uniform in size
- D. They are exclusively used in wing structures

A key characteristic of lightening holes is their flange around the edge, which provides added rigidity to the structure. These holes are cut into structural components like formers and bulkheads to reduce weight without significantly compromising strength. The flanged design helps distribute stress more evenly around the hole and enhances the structural integrity of the surrounding material, making it less prone to deformation or failure. While lightening holes may sometimes be located on the outer surface of structures, they are not limited to this position, as their primary function is weight reduction. They can come in various shapes and sizes depending on the design requirements and may not always be round or uniform. Additionally, while lightening holes are common in wing structures, they are not exclusive to them and are used in various aircraft components throughout the entire structure. The presence of the flange is what ultimately distinguishes this feature in aircraft design, supporting the overall load-bearing capability while minimizing excess weight.

6. Which of the following is a potential risk of wearing jewelry while operating machinery?

- A. It can improve grip
- B. It may provide additional safety
- C. It can become entangled and cause injury**
- D. It can distract the operator

Wearing jewelry while operating machinery poses a significant risk primarily because it can become entangled in moving parts of the equipment. This entanglement can lead to serious injuries, such as lacerations or being pulled into the machinery, which can be life-threatening. The design and operation of many machines include components that can catch and snag items, and jewelry, with its various shapes and protruding parts, is particularly susceptible to this risk. While one might consider that jewelry could improve grip or provide some form of safety, these notions are overshadowed by the clear hazards associated with entanglement. Additionally, while distractions from wearing jewelry could theoretically occur, the more pressing concern remains the physical risks that entanglement presents in a working environment where machinery is in operation. Thus, emphasizing safety, it is vital to avoid wearing any jewelry while operating machinery.

7. Which type of rivet gun is designed for corners and tight spaces?

- A. Slow hitting rivet gun**
- B. One-shot rivet gun**
- C. Corner riveter**
- D. Fast-hitting rivet gun**

The corner riveter is specifically designed to reach into tight spaces and corners where standard rivet guns may not be able to operate effectively. This tool's unique design allows for precision work in areas that are often difficult to access, making it ideal for aircraft maintenance and repair tasks where structural integrity is critical. Unlike other rivet guns, the corner riveter can maneuver into small openings and apply rivets effectively, ensuring a secure attachment in locations where traditional guns would struggle. This characteristic is particularly important in aviation where maintaining the structural quality of components is essential for safety and performance. As such, the corner riveter is an invaluable tool in the aviation structural mechanic's arsenal for achieving high-quality results in constrained environments.

8. What does a riveted joint layout typically include?

- A. The type of adhesive used**
- B. The sizes and colors of cleco fasteners**
- C. The size of rivets and spacing details**
- D. The torque specifications for fastening**

A riveted joint layout is a crucial aspect of aircraft structural design, specifically detailing how rivets will be applied to ensure the integrity and strength of the structure. The inclusion of the size of rivets and spacing details in a riveted joint layout is vital because it determines how the rivets will effectively hold the materials together under various loads and stresses. The size of the rivets used affects the shear and tensile strength of the joint, while the specified spacing ensures adequate strength across the joint without overloading any individual rivet. This spacing must be calculated based on factors such as the material thickness, the type of stress the joint will experience, and the overall design requirements. Proper planning and documentation of these specifications help prevent structural failures and ensure safety in aircraft operation. In contrast, options that mention adhesive types or fastener colors do not pertain directly to the specifics of how riveted joints are constructed or perform. Likewise, while torque specifications are relevant for bolted connections to ensure appropriate tightness and integrity, they are not a factor in riveted joint layouts, where rivets are used differently compared to threaded fasteners.

9. What is indicated by the term 'drill angle'?

- A. The diameter of the drill bit
- B. The depth of the hole made by the bit
- C. The degree of drop from center to outer edge**
- D. The speed at which the drill operates

The term 'drill angle' refers specifically to the degree of drop from the center of the drill bit to its outer edge. This concept is crucial in understanding how the drill bit interacts with the material being drilled. An appropriate drill angle ensures efficient penetration and the removal of material, affecting the overall performance and quality of the drilled hole. When the drill angle is correctly set, it can optimize cutting efficiency and prolong the life of the drill bit by reducing unnecessary wear. Additionally, it influences the shape and accuracy of the hole produced, which can be vital in structural applications where precision is key. Understanding drill angles helps aviation structural mechanics select the right type of drill bit for specific tasks, ensuring both safety and effectiveness in maintaining aircraft structures.

10. What type of cut is NOT typically made with tinner snips?

- A. Straight cuts
- B. Curved cuts
- C. Notches
- D. Irregular shapes**

Tinner snips, also known as aviation snips, are primarily designed for cutting sheet metal and can efficiently handle various types of cuts. While they are often used for straight cuts and curved cuts, their design makes them ideal for specific shapes and contours, as well as notches. The reason for selecting irregular shapes as the answer lies in the nature of how tinner snips operate. They are optimized for straight and smooth cuts or distinctly curved paths due to their blades and pivot mechanism. However, when it comes to making irregular shapes, the snips can struggle. Irregular shapes often involve complex angles or jagged edges that require more control and precision than what tinner snips can provide. This is why other tools, such as nibblers or even hand shears, would be more suitable for cutting irregular shapes in metal. They offer the precision and flexibility necessary to navigate the complexity of such designs, which goes beyond the capabilities of tinner snips.

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://navyam.examzify.com>

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

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