

ASA Aviation Maintenance Technician General Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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Table of Contents

Copyright 1

Table of Contents 2

Introduction 3

How to Use This Guide 4

Questions 5

Answers 8

Explanations 10

Next Steps 15

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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. What is meant by case hardening?**
 - A. The interior is hardened; the surface remains soft.**
 - B. The surface is polished and hardened.**
 - C. The surface of the metal is hardened by diffusion of carbon or aluminum nitride. The interior remains strong and tough.**
 - D. Only the core is hardened; surface unaffected.**

- 2. What is the purpose of 14 CFR Part 43?**
 - A. It describes maintenance, preventative maintenance, rebuilding, and alteration of certificated aircraft.**
 - B. It describes aircraft lighting requirements.**
 - C. It defines airspace classes.**
 - D. It governs pilot licensing.**

- 3. Instructions for Continued Airworthiness are documents prepared by which party and approved by the FAA?**
 - A. A document prepared by the operator of a helicopter and approved by the FAA that explains the maintenance that will be performed, described in 14 CFR Part 27, Appendix A.**
 - B. A generic helicopter maintenance checklist.**
 - C. An FAA instruction manual for helicopter airworthiness.**
 - D. A form used to report rotor blade corrosion.**

- 4. What is the open-circuit voltage of a lead-acid cell?**
 - A. 2.0 volts**
 - B. 2.1 volts**
 - C. 2.2 volts**
 - D. 1.8 volts**

- 5. Why must the aircraft and the fuel truck be grounded together before fueling?**
 - A. To reduce fuel spillage**
 - B. To ensure proper fuel gauge reading**
 - C. To dissipate static electricity and prevent buildup**
 - D. To improve engine performance**

- 6. What is the minimum amount of slack that must be left when a flexible hose is installed in an aircraft hydraulic system?**
- A. The hose should be at least 1% longer than the distance between fittings.**
 - B. The hose should be at least 5% longer than the distance between fittings.**
 - C. The hose should be 10% longer than the distance.**
 - D. The hose should be exactly the distance between fittings.**
- 7. Which document would you use to locate the approved repair procedures for damaged structural components such as a wing spar?**
- A. Illustrated Parts Catalog**
 - B. Aircraft Maintenance Manual**
 - C. Wiring Diagram Manual**
 - D. Structural Repair Manual**
- 8. What is the square root of 144?**
- A. 14**
 - B. 16**
 - C. 12**
 - D. 10**
- 9. In MS20470 AD-4-6, what does 6 represent?**
- A. 6/32 (3/16) inch long**
 - B. 6/64 (1/32) inch long**
 - C. 6/16 (3/8) inch long**
 - D. 6/8 (3/4) inch long**
- 10. What instrument is used to measure continuity in an electrical circuit?**
- A. Ohmmeter**
 - B. Voltmeter**
 - C. Ammeter**
 - D. Oscilloscope**

Answers

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

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Explanations

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1. What is meant by case hardening?

- A. The interior is hardened; the surface remains soft.
- B. The surface is polished and hardened.
- C. The surface of the metal is hardened by diffusion of carbon or aluminum nitride. The interior remains strong and tough.**
- D. Only the core is hardened; surface unaffected.

Case hardening means making a hard outer surface by diffusing alloying elements into the surface while keeping the interior relatively soft and tough. In steels, this is usually done by diffusing carbon (carburizing) or nitrogen (nitriding) into the surface, forming a hard, wear-resistant case, with the core remaining strong and able to absorb shocks. The statement reflects that idea—the surface is hardened by diffusion of carbon or nitrogen (the wording sometimes adds aluminum nitride as a diffusion element, but the key point is diffusion into the surface), and the interior stays strong and tough. The other ideas describe either hardening the core, finishing the surface without diffusion, or leaving the surface unaffected, which do not describe case hardening.

2. What is the purpose of 14 CFR Part 43?

- A. It describes maintenance, preventative maintenance, rebuilding, and alteration of certificated aircraft.**
- B. It describes aircraft lighting requirements.
- C. It defines airspace classes.
- D. It governs pilot licensing.

Part 43 lays out how maintenance work is performed on certificated aircraft and how that work must be documented to keep the aircraft airworthy. It defines what counts as maintenance, preventive maintenance, rebuilding, and alteration, who may perform these tasks (typically licensed mechanics or approved repair facilities), and how the work and any changes are recorded so there is a clear, traceable history of safety-critical work. This framework ensures that any maintenance that could affect airworthiness is done to recognized standards and properly documented. The other topics listed are governed by different parts of the regulations—lighting requirements are addressed elsewhere, airspace classifications are defined in different sections, and pilot licensing is covered by another part—so they don't describe the purpose of Part 43.

3. Instructions for Continued Airworthiness are documents prepared by which party and approved by the FAA?

A. A document prepared by the operator of a helicopter and approved by the FAA that explains the maintenance that will be performed, described in 14 CFR Part 27, Appendix A.

B. A generic helicopter maintenance checklist.

C. An FAA instruction manual for helicopter airworthiness.

D. A form used to report rotor blade corrosion.

Instructions for Continued Airworthiness are the maintenance program that keeps a helicopter airworthy. They are prepared by the operator and approved by the FAA, as described in 14 CFR Part 27 Appendix A. This document explains the maintenance tasks and inspection intervals that must be performed to maintain the aircraft in compliance with airworthiness requirements, and it becomes part of the aircraft's approved design data once the FAA approves it. A generic maintenance checklist isn't specific to the aircraft or formally approved as the ICA, an FAA instruction manual for helicopter airworthiness isn't the defined ICA, and a form for rotor blade corrosion is simply a reporting form, not the approved maintenance program.

4. What is the open-circuit voltage of a lead-acid cell?

A. 2.0 volts

B. 2.1 volts

C. 2.2 volts

D. 1.8 volts

Open-circuit voltage is the voltage a lead-acid cell produces when no current is flowing; it reflects the cell's electromotive force at rest. For a healthy, fully charged lead-acid cell, this resting voltage is about 2.1 volts. That's why 2.1 volts is the correct value. A rough nominal of around 2.0 V exists, but open-circuit voltage is typically a bit higher, near 2.1 V. A reading near 2.2 V would be unusual for a resting cell, and 1.8 V indicates a discharged condition. In a 12-volt battery, six cells in series give about 12.6 V when fully charged ($6 \times 2.1 \text{ V}$).

5. Why must the aircraft and the fuel truck be grounded together before fueling?

A. To reduce fuel spillage

B. To ensure proper fuel gauge reading

C. To dissipate static electricity and prevent buildup

D. To improve engine performance

Static electricity can build up on both the aircraft and the fueling equipment as fuel moves and flows through hoses. That charge can discharge as a spark into the fuel vapors, which are flammable and can ignite. Grounding the aircraft and the fuel truck together provides a safe, conductive path to earth and equalizes the electrical potential between the two metal surfaces. By bonding them, any static charge is carried away instead of forming a spark at the nozzle or fittings. So the main purpose is to eliminate the ignition risk from static discharge during fueling. This isn't primarily about reducing spillage, improving gauge readings, or changing engine performance.

6. What is the minimum amount of slack that must be left when a flexible hose is installed in an aircraft hydraulic system?

A. The hose should be at least 1% longer than the distance between fittings.

B. The hose should be at least 5% longer than the distance between fittings.

C. The hose should be 10% longer than the distance.

D. The hose should be exactly the distance between fittings.

The minimum slack is about 5% longer than the distance between fittings. This extra length provides room for movement, vibration, and thermal expansion so the hose won't become taut or kink under normal operation. In an aircraft hydraulic system, components can shift slightly and fluids heat up, causing expansion; a little extra length lets the hose flex without placing stress on fittings or abrading the hose. For example, if the fittings are 20 inches apart, you'd leave about 1 inch of slack. Too little slack (like 1% or no slack) can lead to strain and failure; too much (like 10%) can create routing issues or unnecessary slack.

7. Which document would you use to locate the approved repair procedures for damaged structural components such as a wing spar?

A. Illustrated Parts Catalog

B. Aircraft Maintenance Manual

C. Wiring Diagram Manual

D. Structural Repair Manual

When a primary structural component like a wing spar is damaged, you need the document that provides the approved repair procedures and limits for that structure. The Structural Repair Manual is written specifically to lay out the exact methods, materials, fasteners, and dimensional limits for repairing primary structures, along with the required inspections and nondestructive testing steps to ensure the repair maintains airworthiness. The Aircraft Maintenance Manual covers general maintenance and installation steps, not the detailed structural repair data. The Illustrated Parts Catalog is about identifying and locating parts, not how to repair them, and the Wiring Diagram Manual focuses on electrical circuits. So the Structural Repair Manual is the source for locating the approved repair procedures for structural components.

8. What is the square root of 144?

A. 14

B. 16

C. 12

D. 10

Finding the square root means identifying which number multiplied by itself gives the original value. For 144, the number 12 multiplied by 12 equals 144, so the square root is 12. The square root is typically taken as the nonnegative value, so 12 is the answer (though -12 also squared gives 144). You can verify by squaring: $12 \times 12 = 144$. Since 144 is a perfect square, its square root is the integer 12.

9. In MS20470 AD-4-6, what does 6 represent?

- A. 6/32 (3/16) inch long
- B. 6/64 (1/32) inch long
- C. 6/16 (3/8) inch long**
- D. 6/8 (3/4) inch long

Six represents the number of sixteenths of an inch used to express the length. In this designation, the length is shown as a fraction with a denominator of 16, so 6/16 inch long equals 3/8 inch. The parentheses show the reduced form, confirming the length is 3/8 inch.

10. What instrument is used to measure continuity in an electrical circuit?

- A. Ohmmeter**
- B. Voltmeter
- C. Ammeter
- D. Oscilloscope

Continuity means there's a complete conducting path between two points. An ohmmeter is the instrument designed to measure resistance by passing a small test current through the circuit and reading how much resistance is present. When the path is continuous, the resistance is very low, indicating a closed circuit. If the path is broken, the resistance appears very high or infinite, indicating an open circuit. Many ohmmeters have a continuity beeper that sounds when the resistance is below a chosen threshold, making quick checks in wiring and connectors practical. Remember to test with power off so you're measuring resistance, not trying to read a live circuit. Voltmeters, ammeters, and oscilloscopes measure voltage, current, or waveforms, not continuity directly, which is why the ohmmeter is the appropriate choice.

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://asaaviationmainttechgen.examzify.com>

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

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