

Airframe & Powerplant (A&P) Inspection Authorization (IA) Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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. At what static test load should a banner tow hitch be tested for aircraft structural integrity?**
 - A. 1.5 times the operating weight of the banner
 - B. 2.0 times the operating weight of the banner
 - C. 2.5 times the operating weight of the banner
 - D. Equal to the operating weight of the banner
- 2. You are performing an annual inspection on a Cessna 150L with a recently installed McCauley propeller 1A101/PCM. Which statement is correct?**
 - A. This propeller is applicable only to the A150L Model.
 - B. This propeller is applicable only to the A150L.
 - C. Neither A or B.
 - D. This propeller is not applicable to any Cessna models.
- 3. In the case of major appliance repairs, what does the document used by the repair station need to include?**
 - A. Model.
 - B. Manufacturer's name.
 - C. Both A and B.
 - D. Part serial number.
- 4. What is the decimal equivalent of a letter "E" drill bit, which is the same as a 1/4-inch fraction?**
 - A. 0.3750
 - B. 0.2500
 - C. 0.1250
 - D. 0.5000
- 5. If a PT6A-20 engine is used with a reversing propeller application, what governor type must be used?**
 - A. Woodward Propeller Governor Type X210XXX
 - B. Honeywell Propeller Governor Type X210XXX
 - C. This engine cannot be utilized with a reversing propeller
 - D. Either A or B

- 6. What is the minimum bend radii for a Mil-H-8794-5 hydraulic hose operating at 2,000 PSI?**
- A. 2.75-inch minimum bend radii.
 - B. 3.24-inch minimum bend radii.
 - C. 5.00-inch minimum bend radii.
 - D. 6.50-inch minimum bend radii.
- 7. Which Canadian maintenance entity is authorized to approve major repairs and alterations on U.S.-registered aircraft?**
- A. Aviation maintenance engineer
 - B. Approved maintenance organization
 - C. Neither
 - D. Both A and B
- 8. What is the ultimate load factor used in static load testing when installing additional equipment in an aircraft, unless specified otherwise?**
- A. Four times the weight of the equipment
 - B. Variable, depending on the direction of the applied force
 - C. The limit load factor multiplied by 1.5
 - D. Equal to the weight of the equipment
- 9. What is the minimum diameter of a Hartzell propeller with a HC-C2YF-1 hub and 7068 blades?**
- A. 60 inches
 - B. 70 inches
 - C. 68 inches
 - D. 65 inches
- 10. What kind of environment can promote the corrosion of aluminum when the oxide film is not intact?**
- A. Dry environments.
 - B. Humidity.
 - C. Neutral conditions.
 - D. Low-oxygen environments.

Answers

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

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Explanations

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1. At what static test load should a banner tow hitch be tested for aircraft structural integrity?

- A. 1.5 times the operating weight of the banner
- B. 2.0 times the operating weight of the banner**
- C. 2.5 times the operating weight of the banner
- D. Equal to the operating weight of the banner

The ideal static test load for a banner tow hitch is set at two times the operating weight of the banner. This standard is established to ensure an adequate safety margin during operations since the forces experienced during banner towing can exceed normal operational conditions, especially during maneuvers or turbulence. By testing at two times the operating weight, the integrity of the aircraft structure supporting the banner tow hitch can be thoroughly evaluated. This rigorous testing accounts for unexpected loads and stresses that may arise during flight, ensuring that the hitch and its attachments are capable of withstanding the dynamic forces encountered. Properly verifying structural integrity in this manner is crucial for maintaining safety and performance standards in aviation operations involving banner towing.

2. You are performing an annual inspection on a Cessna 150L with a recently installed McCauley propeller 1A101/PCM. Which statement is correct?

- A. This propeller is applicable only to the A150L Model.
- B. This propeller is applicable only to the A150L.
- C. Neither A or B.**
- D. This propeller is not applicable to any Cessna models.

The correct choice is that neither option A nor option B is true when evaluating the applicability of the McCauley propeller model 1A101/PCM to the Cessna 150L. In context, the McCauley 1A101/PCM propeller is compatible with various aircraft models, not just limited to specific variations such as the A150L. While the Cessna 150L model may utilize this propeller, it's important to note that the propeller is designed for broader applicability within the Cessna 150 series and other compatible aircraft. Therefore, stating that the propeller is applicable exclusively to the A150L (as both options A and B do) is inaccurate. Understanding the interchangeable nature of propeller models across different aircraft ensures that maintenance professionals can make informed decisions during inspections and replacements, based on type certificates and approved data from manufacturers rather than limited assumptions.

3. In the case of major appliance repairs, what does the document used by the repair station need to include?

- A. Model.
- B. Manufacturer's name.
- C. Both A and B.**
- D. Part serial number.

When it comes to major appliance repairs carried out by a repair station, the documentation created must encompass both the model and the manufacturer's name. This requirement ensures that the repair process is accurately tracked and that the right parts and procedures are applied to the specific appliance in question. Including the model allows for precise identification of the appliance, which is critical for determining the appropriate repair methods and components required for the work being performed. Likewise, the manufacturer's name serves to establish the origin of the appliance and any associated standards or specifications that must be adhered to during the repair process. This dual inclusion not only supports compliance with regulations but also enhances accountability and traceability for the repair work completed. By documenting both elements, the repair station can ensure they have all pertinent information, which helps maintain safety and quality throughout repair operations.

4. What is the decimal equivalent of a letter "E" drill bit, which is the same as a 1/4-inch fraction?

- A. 0.3750
- B. 0.2500**
- C. 0.1250
- D. 0.5000

The decimal equivalent of a letter "E" drill bit corresponds to a specific size, which is commonly referenced in aviation maintenance and engineering contexts. A letter "E" drill bit is indeed equivalent to 1/4 inch in diameter. To convert the fraction of 1/4 into decimal form, you divide the numerator (1) by the denominator (4). This results in 0.25, which is typically expressed with four decimal places as 0.2500. Selecting this answer reflects an understanding of basic unit conversions between fractional and decimal measurements, which is an essential skill in the context of A&P practices where precise measurements are critical.

5. If a PT6A-20 engine is used with a reversing propeller application, what governor type must be used?

- A. Woodward Propeller Governor Type X210XXX**
- B. Honeywell Propeller Governor Type X210XXX
- C. This engine cannot be utilized with a reversing propeller
- D. Either A or B

The correct answer indicates that a specific type of propeller governor, the Woodward Propeller Governor Type X210XXX, is required for use with a reversing propeller application on a PT6A-20 engine. In the context of this engine and its operation, reversing propellers allow for more effective deceleration and control during descents and landings by reversing the thrust direction. The governor's role is critical in managing the propeller blade pitch effectively to achieve the correct thrust settings for takeoff, cruising, and reversing. The Woodward governor is specifically designed to handle the unique demands of a reversing propeller system, including managing the changes in pitch smoothly and efficiently, which may not be the case with other governor types. This is crucial for safety and performance, as improper governor functionality could lead to loss of control or adverse effects on the engine operation. While other types of governors exist, they may not support the full range of operational requirements specific to reversing propellers on this engine. Therefore, only the Woodward governor is specified for this application. The choice suggesting that the engine could not be utilized with a reversing propeller fundamentally misunderstands the design capabilities of the PT6A-20 in conjunction with the appropriate governor technology.

6. What is the minimum bend radii for a Mil-H-8794-5 hydraulic hose operating at 2,000 PSI?

- A. 2.75-inch minimum bend radii.
- B. 3.24-inch minimum bend radii.**
- C. 5.00-inch minimum bend radii.
- D. 6.50-inch minimum bend radii.

The minimum bend radii for a Mil-H-8794-5 hydraulic hose is critical for ensuring the hose operates effectively and safely under pressure. For a hydraulic hose designed to operate at 2,000 PSI, the proper minimum bend radius is established to prevent damage to the hose structure, maintain integrity during operation, and ensure that the hose does not kink or experience excessive stress that could lead to failure. In this case, the correct choice identifies that the minimum bend radii specified for Mil-H-8794-5 hoses at this pressure rating is 3.24 inches. This standard helps to maintain proper fluid flow and pressure within the system while minimizing risk. Understanding and adhering to these specifications is crucial for mechanics and technicians working in aviation and related fields to ensure the safety and reliability of hydraulic systems. The other options do not align with the specifications outlined for this type of hose at the given pressure and would not provide the necessary protection against kinking or damage, potentially leading to system failure or fluid leaks if employed in practice.

7. Which Canadian maintenance entity is authorized to approve major repairs and alterations on U.S.-registered aircraft?

- A. Aviation maintenance engineer
- B. Approved maintenance organization**
- C. Neither
- D. Both A and B

The correct choice is that an Approved Maintenance Organization (AMO) is authorized to approve major repairs and alterations on U.S.-registered aircraft. In Canada, maintenance organizations that hold AMO certification are recognized for their ability to perform major maintenance tasks, including repairs and alterations on various types of aircraft, including those registered in the U.S. This authorization is significant because it establishes a framework for safety and compliance with international aviation standards. An AMO must adhere to stringent regulatory requirements set by Transport Canada, which ensures that they have the necessary facilities, personnel, and procedures in place to effectively carry out maintenance on aircraft. While an aviation maintenance engineer can conduct maintenance and repairs, their individual capacity does not equate to the organizational authority granted to an AMO. Therefore, while an engineer plays a vital role in the maintenance process, it is the AMO that holds the official approval needed for major work on U.S.-registered aircraft.

8. What is the ultimate load factor used in static load testing when installing additional equipment in an aircraft, unless specified otherwise?

- A. Four times the weight of the equipment
- B. Variable, depending on the direction of the applied force
- C. The limit load factor multiplied by 1.5**
- D. Equal to the weight of the equipment

The ultimate load factor used in static load testing, particularly when adding additional equipment to an aircraft, is determined by multiplying the limit load factor by a safety margin of 1.5. This reflects the aviation industry's emphasis on safety and structural integrity. The limit load factor represents the maximum load that the structure is designed to support under normal operating conditions. By applying an ultimate load factor that is 1.5 times greater, it ensures that the structure can withstand unexpected conditions or forces that might occur during operations. This approach is rooted in the understanding that aircraft can experience significantly higher loads than those typically encountered. The additional margin provided by this factor is critical in maintaining the aircraft's safety and performance during unforeseen circumstances, such as turbulence or emergency situations. In contrast, the other choices outline different considerations but do not align with the established practice for determining ultimate load factors in this context. Simply multiplying by the weight of the equipment, or relating the factor to variability based on force direction, does not incorporate the necessary safety considerations that the industry mandates.

9. What is the minimum diameter of a Hartzell propeller with a HC-C2YF-1 hub and 7068 blades?

- A. 60 inches**
- B. 70 inches
- C. 68 inches
- D. 65 inches

The minimum diameter of a Hartzell propeller with a HC-C2YF-1 hub and 7068 blades is indeed 60 inches. This specific measurement is established in the propeller's design specifications, which outline various parameters including diameter, blade material, and configuration for optimal performance and safety. Hartzell's propeller diameter specifications are critical for ensuring compatible operation with the aircraft for which the propeller is intended. A diameter of 60 inches has been determined as the least acceptable length for ensuring aerodynamic efficiency and structural integrity, supporting the proper thrust and performance characteristics vital for safe flight operation. Understanding such specifications helps users of Hartzell propellers make informed decisions regarding installations and performance expectations within the aircraft's operational guidelines. Such knowledge also aids in compliance with regulatory requirements set by aviation authorities.

10. What kind of environment can promote the corrosion of aluminum when the oxide film is not intact?

- A. Dry environments.
- B. Humidity.**
- C. Neutral conditions.
- D. Low-oxygen environments.

The presence of humidity is a significant factor that can promote the corrosion of aluminum when the protective oxide film is compromised. Aluminum naturally forms a thin oxide layer that serves as a barrier against corrosion; however, when this layer is disrupted, the underlying aluminum is exposed and susceptible to environmental elements. In humid environments, the presence of moisture can lead to the initiation of corrosion processes. Water can act as an electrolyte, facilitating the electrochemical reactions that contribute to corrosion. This is particularly true if there are contaminants present, such as salts, that can increase the conductivity of the water and accelerate the pathway for corrosion. Dry environments, on the other hand, do not provide the moisture required for electrochemical reactions to take place, which makes them less conducive to corrosion. Neutral conditions may not provide the aggressive environment necessary for corrosion, as extreme pH levels typically promote higher rates of corrosion. Similarly, low-oxygen environments can also inhibit the corrosion process, as oxygen is a key reactant in many forms of corrosion. Therefore, the correct answer reflects the critical role that humidity plays in fostering corrosion on aluminum when the protective oxide layer is compromised.

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://aandpinspectionauthorization.examzify.com>

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

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