

AVIATION INSTITUTE OF MAINTENANCE (AIM) BLOCK 16 PRACTICE EXAM (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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. The aerodynamic twisting force tends to turn the blades how?**
 - A. to a high blade angle
 - B. to a low blade angle
 - C. to the mid position
 - D. to feathered position

- 2. What is the blade movement for blades of a feathering propeller that is in the HIGH RPM position when feathering action begins?**
 - A. From high pitch to low pitch
 - B. From mid pitch to low pitch
 - C. From low pitch through high pitch to feather
 - D. From feather to high pitch

- 3. May an annual inspection be extended?**
 - A. yes, with FAA approval
 - B. sometimes, if authorized by the maintenance supervisor
 - C. only for 1 calendar day
 - D. no

- 4. What is the function of a placard or data plate on an aircraft component?**
 - A. To provide critical information such as part number, limits, operating instructions, and safety warnings
 - B. To identify color
 - C. To store maintenance logs
 - D. To indicate installation date

- 5. What is the function of static discharge wicks on an aircraft?**
 - A. To dissipate static electricity from the airframe into the atmosphere, reducing radio interference
 - B. To increase radio interference
 - C. To attract lightning
 - D. To change the color of the aircraft skin

- 6. What is the purpose of caution or warning tags on aircraft components?**
- A. To indicate maintenance has been completed and the system is safe.
 - B. To alert maintenance personnel to hazards or restricted conditions that require special handling.
 - C. To record the last inspection date for traceability.
 - D. To designate serviceable replacement parts.
- 7. How is the speed of a constant-speed propeller changed in flight?**
- A. by adjusting engine throttle
 - B. by changing propeller diameter
 - C. by changing the load tension against the flyweights in the governor
 - D. by altering airspeed
- 8. What is the purpose of rigging and clearance checks for flight control systems?**
- A. To ensure proper movement, alignment, and control surface authority with no interference or binding.
 - B. To inspect electrical circuits for corrosion.
 - C. To calibrate pitot-static instruments.
 - D. To verify fuel pump redundancy.
- 9. The constant-speed propeller range is controlled by which of the following?**
- A. The governor spring tension
 - B. Engine RPM
 - C. Hydraulic pressure
 - D. The mechanical limits in the propeller pitch range
- 10. What does the rheostat control in a propeller anti-icing system?**
- A. Load on turbine
 - B. The output of the pump
 - C. Temperature of anti-ice fluid
 - D. Fuel flow to engine

Answers

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

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Explanations

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1. The aerodynamic twisting force tends to turn the blades how?

- A. to a high blade angle
- B. to a low blade angle
- C. to the mid position
- D. to feathered position

When a rotor blade is loaded by air, the lift generated along the blade acts to twist the blade around its axis. Because the outer portions move faster and produce more lift, the torque from these forces tends to rotate the blade toward a higher pitch angle. In other words, the aerodynamic twisting moment pushes the blade toward a larger blade angle (higher pitch) rather than toward a mid, low, or fully feathered position. Blades are designed with a pre-twist and are pitch-controlled to balance this tendency so the angle of attack stays appropriate along the span under operating loads.

2. What is the blade movement for blades of a feathering propeller that is in the HIGH RPM position when feathering action begins?

- A. From high pitch to low pitch
- B. From mid pitch to low pitch
- C. From low pitch through high pitch to feather
- D. From feather to high pitch

Feathering a propeller is about turning the blades to a high pitch to minimize drag when the engine isn't driving them. If the propeller is in the HIGH RPM position, the blades start at a relatively low pitch to allow the engine to reach or maintain high speed. When feathering begins, the mechanism increases the blade angle, moving first into a higher pitch range and then all the way to the feather position. So the movement is from low pitch, through high pitch, to feather.

3. May an annual inspection be extended?

- A. yes, with FAA approval
- B. sometimes, if authorized by the maintenance supervisor
- C. only for 1 calendar day
- D. no

Annual inspections have a fixed 12-month window from the date of the last inspection and cannot be extended. If the due date passes, the aircraft is not airworthy for normal operations and cannot be flown until the inspection is completed. The only related option is to use a special flight permit or ferry flight to reposition the aircraft to a facility that can perform the inspection, but that does not extend the due date itself. So, there is no allowed extension of the annual inspection interval.

4. What is the function of a placard or data plate on an aircraft component?

- A. To provide critical information such as part number, limits, operating instructions, and safety warnings
- B. To identify color
- C. To store maintenance logs
- D. To indicate installation date

Placards or data plates carry essential, permanent information directly on the component. They identify the exact part with a part/serial number and specify the limits, operating instructions, and safety warnings that must be followed. This allows technicians to verify you're using the correct part, ensure it's operated within approved parameters, and perform the proper procedures for installation and maintenance. The safety warnings help prevent hazardous mistakes and support regulatory compliance. Color identification, storing maintenance logs, or indicating installation date aren't the function of the data plate, which is focused on providing the critical data needed for correct identification, safe use, and traceability.

5. What is the function of static discharge wicks on an aircraft?

- A. To dissipate static electricity from the airframe into the atmosphere, reducing radio interference
- B. To increase radio interference
- C. To attract lightning
- D. To change the color of the aircraft skin

Static discharge wicks provide a controlled path for electrical charges to leave the airplane and enter the surrounding air, which keeps the aircraft from building up excess static electricity. As the aircraft flies, friction with air and precipitation causes static charges to accumulate on the skin. If unmanaged, this can create radio frequency interference and degrade the performance of antennas and navigation equipment. The wicks, usually placed on trailing edges, extend the conductive path to the atmosphere and allow a small corona discharge to occur, gradually bleeding off the charge so radio systems stay cleaner and more reliable. They do not aim to attract lightning or to increase interference; in fact, they help minimize radio disturbance caused by static. They also don't affect the color of the aircraft skin. Their purpose is specifically to discharge static electricity safely into the air, maintaining better communication and navigation performance during flight.

6. What is the purpose of caution or warning tags on aircraft components?

- A. To indicate maintenance has been completed and the system is safe.
- B. To alert maintenance personnel to hazards or restricted conditions that require special handling.
- C. To record the last inspection date for traceability.
- D. To designate serviceable replacement parts.

Caution or warning tags exist to communicate that a component or system has a hazard or restricted condition and must be handled in a specific, often altered, way. They serve as a safety signal to prevent inadvertent operation or improper servicing. They are not records of completed maintenance, last inspection dates, or designations of serviceable parts. For example, a tag may indicate that power is isolated, a system must not be energized, or a component is removed and requires special handling before it can be returned to service.

7. How is the speed of a constant-speed propeller changed in flight?

- A. by adjusting engine throttle
- B. by changing propeller diameter
- C. by changing the load tension against the flyweights in the governor**
- D. by altering airspeed

In a constant-speed propeller, speed is controlled by changing the blade pitch through the propeller governor, not by simply shifting throttle. The governor senses engine RPM with its flyweights and uses a calibrated spring to set the desired speed. By altering the load on the propeller—the tension they feel—the governor moves the pitch to increase or decrease RPM. Increasing the load (more blade angle) slows the propeller; decreasing the load (less blade angle) lets it speed up. So, in flight, you change prop speed by adjusting the load on the governor's flyweights, which changes the blade pitch.

8. What is the purpose of rigging and clearance checks for flight control systems?

- A. To ensure proper movement, alignment, and control surface authority with no interference or binding.**
- B. To inspect electrical circuits for corrosion.
- C. To calibrate pitot-static instruments.
- D. To verify fuel pump redundancy.

Rigging and clearance checks focus on making sure the flight control system moves exactly as it should and that nothing gets in the way of that movement. Rigging involves adjusting the control linkages, cables, push-pull tubes, and related hinges so the control surfaces—ailerons, elevators, rudder—achieve the correct geometry and neutral position. Clearance checks verify there's enough free movement and no interference between moving parts or with nearby structure, so surfaces don't rub, bind, or contact other components at any point in their travel. This is essential for proper movement, alignment, and control surface authority. If the linkage lengths or pulley positions are off, surfaces may not move in unison or to their full deflection, making the aircraft unresponsive or imbalanced. If there's insufficient clearance, a surface could bind or strike another part in flight, leading to loss of control or damage. By confirming both rigging and clearance, you ensure the controls respond predictably to pilot input and maintain safe margins throughout the full range of motion. The other activities described aren't about this specific system check. Inspecting electrical circuits for corrosion relates to the electrical system, calibrating pitot-static instruments deals with air data and instrumentation, and verifying fuel pump redundancy concerns the fuel system. None of these ensure that flight control surfaces move correctly and without interference.

9. The constant-speed propeller range is controlled by which of the following?

- A. The governor spring tension
- B. Engine RPM
- C. Hydraulic pressure
- D. The mechanical limits in the propeller pitch range**

The ability of a constant-speed propeller to hold a given RPM is limited by how far the blades can move in pitch—the mechanical stops that define the fine and coarse pitch limits. The governor adjusts blade angle by using oil pressure to maintain the set RPM, but it cannot move the blades beyond the physical limits of pitch travel. Therefore, the range over which the propeller can regulate RPM is defined by those mechanical limits in the pitch range. The other factors, like engine RPM signals or hydraulic pressure alone, don't set the range—the stops in the pitch mechanism do.

10. What does the rheostat control in a propeller anti-icing system?

- A. Load on turbine
- B. The output of the pump**
- C. Temperature of anti-ice fluid
- D. Fuel flow to engine

In a propeller anti-icing system, the anti-ice fluid is sent to the propeller by an electric pump. The rheostat acts as a variable resistor in the pump's control circuit, adjusting the current (and thus the motor speed). By changing the rheostat setting, you change the pump speed and the amount of anti-icing fluid the system can discharge. So, the rheostat controls how much fluid is pumped. The other options don't fit because the rheostat here isn't setting turbine load, altering the fluid's temperature, or changing engine fuel flow.

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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://aimblock16.examzify.com>

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

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