

# AIRCREW FUNDAMENTALS BLOCK 3 PRACTICE TEST (SAMPLE)

STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE

<https://aircrewfundblck3.examzify.com>



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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 radio system is lightweight and designed for airborne use?**
  - A. UHF Command Radio Set
  - B. VHF Radio Set
  - C. HF Communication System
  - D. UHF SATCOM Radio System
- 2. Which type of circuit is characterized by devices connected end to end?**
  - A. Parallel Circuit
  - B. Short Circuit
  - C. Open Circuit
  - D. Series Circuit
- 3. Which control surface is responsible for controlling yaw in an aircraft?**
  - A. Aileron
  - B. Elevator
  - C. Rudder
  - D. Flap
- 4. What happens to thrust during straight and level flight at constant speed?**
  - A. Thrust becomes less than drag
  - B. Thrust is equal to drag
  - C. Thrust will always exceed drag
  - D. Thrust creates lift
- 5. What is a turbine rotor commonly referred to as?**
  - A. Turbine vanes
  - B. Turbine wheel
  - C. Combustion disk
  - D. Engine strut
- 6. What is the primary function of check valves in a fuel system?**
  - A. Control the temperature of fuel
  - B. Limit fuel flow to one direction
  - C. Enhance the fuel's purity
  - D. Increase fuel efficiency

- 7. What motion is controlled by the elevators on an aircraft?**
- A. Roll
  - B. Pitch
  - C. Yaw
  - D. Speed
- 8. In a turbofan engine, what is known as the "low-speed, or N1 section"?**
- A. The secondary compressor stage
  - B. The main combustion chamber
  - C. The fan acting as the first stage of compression
  - D. The exhaust outlet of the engine
- 9. Which lights are used on tanker aircraft for visual reference?**
- A. Formation Lights
  - B. Tanker Lights
  - C. Strobe Lights
  - D. Navigation Lights
- 10. What is the purpose of the extension shaft assembly in a turbofan engine?**
- A. To regulate the fuel supply in the engine
  - B. To transmit power from the engine rotor assembly to the reduction gear assembly
  - C. To cool the engine components
  - D. To enhance thrust efficiency

## **Answers**

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

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## **Explanations**

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## 1. Which radio system is lightweight and designed for airborne use?

- A. UHF Command Radio Set
- B. VHF Radio Set**
- C. HF Communication System
- D. UHF SATCOM Radio System

The VHF Radio Set is specifically designed for lightweight airborne applications, making it particularly suitable for use in aircraft. Its construction emphasizes portability and efficient performance, which are crucial for airborne operations where weight and space constraints are significant considerations. VHF radios operate in frequency ranges that are ideal for line-of-sight communication, providing clear transmission over relatively short distances typically encountered during flight. Compared to the other options, the VHF Radio Set's lightweight design directly addresses the needs of aircrew in maintaining operational capability without the burden of heavy equipment. Other radio systems mentioned, such as the UHF Command Radio Set or the HF Communication System, may offer robust communication features but do not prioritize the same lightweight characteristics necessary for optimal airborne use. The UHF SATCOM Radio System, while modern and effective for satellite communications, also tends to be heavier and more complex than a VHF system designed for direct communication in aviation.

## 2. Which type of circuit is characterized by devices connected end to end?

- A. Parallel Circuit
- B. Short Circuit
- C. Open Circuit
- D. Series Circuit**

A series circuit is defined by the configuration in which components are connected end to end, forming a single path for the current to flow. In this arrangement, the same amount of current passes through each device, and the total voltage across the circuit is the sum of the voltages across each component. This is essential for understanding concepts such as total resistance, which increases with each additional device added in series, leading to important implications for electrical systems and safety. In contrast, a parallel circuit is characterized by components that are connected across common points or junctions, allowing multiple paths for current to flow. A short circuit occurs when there is an unintended path created, typically due to a fault, causing an excessive current to flow. An open circuit involves a break in the path, halting the current flow entirely. Understanding these differences helps clarify the unique properties and applications of each circuit type within electrical systems.

## 3. Which control surface is responsible for controlling yaw in an aircraft?

- A. Aileron
- B. Elevator
- C. Rudder**
- D. Flap

The control surface responsible for controlling yaw in an aircraft is the rudder. Yaw refers to the left or right movement of an aircraft's nose about its vertical axis. The rudder is located on the vertical stabilizer at the tail of the aircraft and operates by directing airflow when it is deflected. By moving the rudder left or right, the pilot can alter the aircraft's heading or direction without affecting its roll or pitch. This is crucial for coordinated turns, where the aircraft needs to maintain both altitude and speed while changing direction. In contrast, ailerons are used for controlling roll, allowing the aircraft to tilt side-to-side. Elevators control the pitch of the aircraft, raising or lowering the nose, while flaps are devices that increase lift during takeoff and landing but do not influence yaw. Understanding the specific functions of these control surfaces is essential for effective aircraft handling and maneuvering.

#### 4. What happens to thrust during straight and level flight at constant speed?

- A. Thrust becomes less than drag
- B. Thrust is equal to drag**
- C. Thrust will always exceed drag
- D. Thrust creates lift

*In straight and level flight at constant speed, the forces acting on the aircraft must be balanced for the aircraft to maintain its altitude and speed. Thrust is the forward force produced by the engines, while drag is the resistance experienced by the aircraft due to air friction and aerodynamic shapes. When an aircraft is flying at constant speed, the thrust produced by the engines is equal to the drag opposing the aircraft's forward motion. This balance of forces allows the aircraft to travel steadily without acceleration or deceleration. If thrust were greater than drag, the aircraft would accelerate, and if it were less than drag, the aircraft would decelerate. Therefore, for straight and level flight at constant speed, it is essential that thrust equals drag, ensuring stable flight dynamics. This principle is fundamental in understanding not just the mechanics of flight, but also the relationships between thrust, drag, and the overall performance of the aircraft.*

#### 5. What is a turbine rotor commonly referred to as?

- A. Turbine vanes
- B. Turbine wheel**
- C. Combustion disk
- D. Engine strut

*A turbine rotor is commonly referred to as a turbine wheel. The turbine wheel is a crucial component in a turbine engine, where it converts the energy from the high-velocity exhaust gases into mechanical energy, which in turn drives the compressor and generates thrust. The turbine wheel is designed with blades that harness the energy from the exhaust, and its efficient operation is essential for the overall performance of the engine. The other terms listed describe different components or concepts in turbine engine design. For instance, turbine vanes are stationary components that direct the flow of gases onto the turbine blades. A combustion disk typically refers to parts associated with the combustion chamber, which is separate from the turbine section, and an engine strut refers to structural supports in the airframe or related components, not specifically pertaining to the turbine rotor itself. Hence, referring to the turbine rotor as a turbine wheel accurately describes its role and function within the engine assembly.*

#### 6. What is the primary function of check valves in a fuel system?

- A. Control the temperature of fuel
- B. Limit fuel flow to one direction**
- C. Enhance the fuel's purity
- D. Increase fuel efficiency

*The primary function of check valves in a fuel system is to ensure that fuel flows in only one direction. These valves are designed to prevent backflow, which could potentially allow fuel to return to the source or contaminate the fuel line. By maintaining a one-way flow, check valves help ensure the fuel system remains pressurized and that fuel is delivered efficiently to the engine when needed. This function is crucial for maintaining the operational integrity of the fuel system, avoiding issues that could arise from an improper flow direction. The other options refer to aspects that are not the primary function of check valves. For instance, control of fuel temperature, enhancement of fuel purity, and increase of fuel efficiency involve different components and mechanisms within the fuel system that do not directly relate to the function of check valves.*

## 7. What motion is controlled by the elevators on an aircraft?

- A. Roll
- B. Pitch**
- C. Yaw
- D. Speed

The elevators on an aircraft are responsible for controlling pitch, which is the up and down movement of the aircraft's nose. When the pilot pulls back on the control yoke or stick, the elevators deflect upwards at the tail of the aircraft, causing the nose to rise. Conversely, when the control is pushed forward, the elevators deflect downwards, leading to a descent as the nose moves down. This control of pitch is crucial for various phases of flight, especially during takeoff and landing, where precise nose positioning is required to maintain proper angle of attack and stabilize the aircraft's flight path. Understanding the function of the elevators is essential for pilots in managing the aircraft's attitude and ensuring smooth operations. The other motions—roll is controlled by ailerons, yaw is managed by the rudder, and speed is influenced by thrust and drag—highlight the specific role the elevators play in aerial maneuvers.

## 8. In a turbofan engine, what is known as the "low-speed, or N1 section"?

- A. The secondary compressor stage
- B. The main combustion chamber
- C. The fan acting as the first stage of compression**
- D. The exhaust outlet of the engine

In a turbofan engine, the "low-speed, or N1 section" is referred to as the fan, which acts as the first stage of compression. The fan is responsible for generating a large amount of thrust by moving a significant volume of air. It operates at a lower rotational speed compared to the high-pressure compressor stages (N2 section) and is crucial for the initial intake and acceleration of air into the engine. Understanding the function of the fan as the N1 section is vital because it establishes the engine's basic thrust mechanism, enabling efficient operation at various speeds, particularly during takeoff and climb. The fan plays a critical role in providing the necessary airflow for the combustion process and overall engine performance. While the other components mentioned, such as the secondary compressor stage and combustion chamber, are important for the engine's overall function, they do not pertain directly to the N1 designation, which specifically signifies the fan's role in the engine's design and operation.

## 9. Which lights are used on tanker aircraft for visual reference?

- A. Formation Lights
- B. Tanker Lights**
- C. Strobe Lights
- D. Navigation Lights

Tanker lights are specifically designed for use on tanker aircraft to enhance visual identification and ensure safe operations, particularly during the process of air refueling. These lights help other aircraft or aircrews visually reference the tanker in various flying conditions and situations. They typically consist of bright, highly visible lights that can be activated to convey the tanker's presence, aiding in communication and coordination with receiving aircraft. Formation lights, while also useful for visual reference in flight, serve a different purpose, mainly for aircraft flying in close proximity to one another. Strobe lights are primarily for enhancing visibility to other aircraft and not specifically tailored for the tanker operation context. Navigation lights are used to show the aircraft's orientation and direction but do not offer the specialized visual reference needed for the unique mission of a tanker aircraft. Hence, tanker lights are the appropriate choice for visual reference in this specific operational scenario.

**10. What is the purpose of the extension shaft assembly in a turbofan engine?**

- A. To regulate the fuel supply in the engine
- B. To transmit power from the engine rotor assembly to the reduction gear assembly**
- C. To cool the engine components
- D. To enhance thrust efficiency

*The extension shaft assembly in a turbofan engine serves the critical function of transmitting power from the engine rotor assembly to the reduction gear assembly. This component plays an essential role in ensuring that the energy generated by the engine's rotor is effectively transferred for further use in driving additional systems or in the case of variable-speed applications. The reduction gear assembly uses this power transmission to manage and optimize rotational speeds for various engine and fan components, which is key to maintaining optimal performance and efficiency. In contrast, regulating the fuel supply is managed by specific fuel control systems, while cooling engine components is achieved through dedicated cooling passages and systems designed for thermal regulation. Enhancing thrust efficiency is a broader performance characteristic that involves various design parameters and operational strategies rather than being a direct function of the extension shaft assembly. Thus, the transmission of power from the engine rotor to the reduction gear assembly represents the core purpose of the extension shaft assembly in a turbofan engine.*

## 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](mailto:hello@examzify.com).

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

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

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