

FAA FLIGHT CONTROLS PRACTICE TEST (SAMPLE)

STUDY GUIDE



Prepare with structure. Pass with confidence



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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 the significance of the center of gravity in relation to flight controls?**
 - A. It does not affect flight performance
 - B. It only matters during takeoff
 - C. It affects the stability and control responsiveness of the aircraft
 - D. It primarily determines fuel consumption
- 2. What is the primary function of the elevator on an aircraft?**
 - A. To control the roll of the aircraft
 - B. To control the yaw of the aircraft
 - C. To control the pitch of the aircraft
 - D. To control the speed of the aircraft
- 3. What does the elevator control?**
 - A. Yaw of the aircraft
 - B. Roll of the aircraft
 - C. Pitch of the aircraft
 - D. Speed of the aircraft
- 4. Which control surface is primarily utilized for landing approach stability?**
 - A. Ailerons
 - B. Flaps
 - C. Rudder
 - D. Elevator
- 5. What is the primary function of the vertical fin on an aircraft?**
 - A. Enhancing aerodynamic efficiency
 - B. Providing lift during flight
 - C. Offering directional stability
 - D. Controlling pitch stability
- 6. What role does the trim tab serve on an aircraft?**
 - A. To enhance engine power
 - B. To stabilize the aircraft in flight
 - C. To increase drag
 - D. To control the airspeed

- 7. At an outside air temperature of 80°F, what is the acceptable tension range for a 3/16 cable?**
- A. 100 pounds minimum, 130 pounds maximum
 - B. 117 pounds minimum, 143 pounds maximum
 - C. 120 pounds minimum, 140 pounds maximum
 - D. 110 pounds minimum, 150 pounds maximum
- 8. Why is it essential for helicopter pilots to understand cyclic control?**
- A. It helps in adjusting altitude during hover.
 - B. It is vital for adjusting pitch and roll in helicopters during flight.
 - C. Cyclic control has no real importance in helicopter flight.
 - D. It only aids in managing yaw in helicopters.
- 9. What is the role of control surfaces during rapid maneuvers?**
- A. To stabilize the aircraft's speed
 - B. To ensure the aircraft follows the desired path
 - C. To increase fuel efficiency
 - D. To minimize pilot workload
- 10. What must pilots monitor to ensure flight control effectiveness?**
- A. Only the altitude of the aircraft
 - B. The oil pressure in the aircraft
 - C. Airflow over control surfaces and airspeed
 - D. The weight distribution of the passengers

Answers

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

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Explanations

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1. What is the significance of the center of gravity in relation to flight controls?

- A. It does not affect flight performance
- B. It only matters during takeoff
- C. It affects the stability and control responsiveness of the aircraft**
- D. It primarily determines fuel consumption

The center of gravity (CG) plays a crucial role in the overall performance and handling characteristics of an aircraft. Its position affects both the stability of the aircraft and how responsive it is to control inputs. When the CG is located within the specified limits, the aircraft will tend to maintain stable flight and respond predictably to pilot commands. If the CG is too far forward or aft, it can lead to a range of issues, including difficulty in controlling the aircraft during flight and changes in stall characteristics. For instance, a forward CG can make the aircraft more stable but can also reduce maneuverability and increase landing distances. Conversely, an aft CG may enhance maneuverability but can result in decreased stability, making the aircraft more challenging to handle, especially during critical phases of flight like takeoff and landing. Therefore, understanding the CG and keeping it within the appropriate limits is essential for safe and efficient flight operations.

2. What is the primary function of the elevator on an aircraft?

- A. To control the roll of the aircraft
- B. To control the yaw of the aircraft
- C. To control the pitch of the aircraft**
- D. To control the speed of the aircraft

The primary function of the elevator on an aircraft is to control the pitch. Pitch refers to the angle of the aircraft's nose relative to the horizon, which is crucial for managing ascent and descent. When the pilot moves the control yoke or stick forward or backward, the elevator surfaces at the tail of the aircraft deflect up or down. When the elevator is deflected upward, it creates a downward force on the tail of the aircraft, causing the nose to rise and the aircraft to climb. Conversely, when the elevator is deflected downward, it allows the tail to rise, causing the nose to lower and the aircraft to descend. This control of pitch is vital for maintaining altitude, maneuvering during takeoff and landing, and managing climb rates. The other functions mentioned, such as controlling the roll and yaw of the aircraft, are managed by other control surfaces like ailerons and rudders, respectively. Additionally, while elevators can influence speed as a byproduct of changes in pitch, controlling speed is not their primary function.

3. What does the elevator control?

- A. Yaw of the aircraft
- B. Roll of the aircraft
- C. Pitch of the aircraft**
- D. Speed of the aircraft

The elevator is a primary flight control surface located on the tail of an aircraft, and its main function is to control the pitch of the aircraft. Pitch refers to the angle of the aircraft's nose in relation to the horizon. When the pilot moves the control yoke or stick forward or backward, it deflects the elevator up or down. This deflection alters the airflow over the tail, causing the nose of the aircraft to rise or fall. Raising the elevator pushes the tail down and the nose up, increasing the pitch angle, while lowering the elevator allows the tail to rise and the nose to drop, decreasing the pitch angle. This essential control enables pilots to climb, descend, and maintain level flight at various airspeeds and altitudes, making it crucial for safe and effective aircraft operation.

4. Which control surface is primarily utilized for landing approach stability?

- A. Ailerons
- B. Flaps**
- C. Rudder
- D. Elevator

Flaps are primarily utilized for landing approach stability because they increase the lift generated by the wings at lower speeds, allowing the aircraft to maintain a stable glide path during descent. By extending the flaps, the aircraft can fly at a lower airspeed without stalling, which is crucial during the landing phase. This increased lift also allows pilots to control the descent angle more effectively. Additionally, flaps help in increasing drag, which aids in slowing down the aircraft and reducing the landing distance. The extended flaps create a more predictable flight behavior, making it easier for pilots to manage both descent rate and airspeed during the critical landing approach phase. This improved flight stability is essential in maintaining control and ensuring a safe landing. Other control surfaces, such as ailerons, rudder, and elevator, serve different functions primarily related to lateral control, directional stability, and pitch control, respectively, and do not play as significant a role in stabilizing an aircraft during the landing approach phase.

5. What is the primary function of the vertical fin on an aircraft?

- A. Enhancing aerodynamic efficiency
- B. Providing lift during flight
- C. Offering directional stability**
- D. Controlling pitch stability

The primary function of the vertical fin on an aircraft is to offer directional stability. This component, also known as the vertical stabilizer, is crucial for maintaining the aircraft's yaw axis stability, which helps prevent unwanted rotations around that axis during flight. By effectively directing airflow, the vertical fin ensures that the aircraft remains aligned with its intended flight path, thus contributing to smoother and more predictable handling. When the aircraft experiences side winds or other external forces that could push it off course, the vertical fin generates a restoring force that helps to realign the aircraft with its heading. This stability is essential for the overall control of the aircraft, particularly during maneuvers or in turbulent conditions. Other options relate to aspects of flight or aerodynamics but do not capture the primary purpose of the vertical fin. While aerodynamic efficiency is important for overall performance, it is not the main role of the vertical fin. Likewise, lift is primarily generated by the wings, while pitch stability is managed by the horizontal stabilizer. Thus, the correct emphasis on directional stability highlights the key role of the vertical fin in aircraft design and function.

6. What role does the trim tab serve on an aircraft?

- A. To enhance engine power
- B. To stabilize the aircraft in flight**
- C. To increase drag
- D. To control the airspeed

The role of the trim tab on an aircraft is primarily to stabilize the aircraft in flight. Trim tabs are small movable surfaces located on the trailing edge of the control surfaces, such as the rudder, elevator, or ailerons. When a pilot makes adjustments to the trim tab, it alters the aerodynamic balance of the aircraft, allowing it to maintain a desired flight attitude with minimal control input. This is especially useful during long flights, as it prevents pilot fatigue by reducing the need to constantly apply force to the control yoke or stick to keep the aircraft level. Using a trim tab effectively helps maintain the desired pitch, roll, or yaw, depending on which control surface the trim tab is associated with. As a result, this increases the aircraft's overall stability and improves ease of handling. The other options do not accurately reflect the primary function of trim tabs: enhancing engine power is unrelated, increasing drag is a side effect rather than a purpose, and while they can influence airspeed as a secondary effect, they are not specifically designed for that function.

7. At an outside air temperature of 80°F, what is the acceptable tension range for a 3/16 cable?

- A. 100 pounds minimum, 130 pounds maximum
- B. 117 pounds minimum, 143 pounds maximum**
- C. 120 pounds minimum, 140 pounds maximum
- D. 110 pounds minimum, 150 pounds maximum

To determine the acceptable tension range for a 3/16 inch cable at an outside air temperature of 80°F, it is important to reference the standard specifications typically provided for aircraft control cables. The tension values are established based on the cable's diameter and the operational conditions, including temperature. For a 3/16 inch cable, the acceptable tension range at 80°F is conventionally set at a minimum of 117 pounds and a maximum of 143 pounds. This range is crucial for ensuring that the cable has enough tension to function correctly without being over-stressed, which could lead to failure or reduced effectiveness in flight controls. Correct tension is vital for proper operation of flight control systems. If the tension is too low, control surfaces may not respond adequately, leading to control loss. Conversely, if the tension is too high, it may cause wear or permanent deformation of the cable, also compromising safety. While the other choices offer different tension ranges, they do not align with the identified standard specifications for a 3/16 inch cable at 80°F, confirming that the chosen values are based on established guidelines for aircraft safety and performance.

8. Why is it essential for helicopter pilots to understand cyclic control?

- A. It helps in adjusting altitude during hover.
- B. It is vital for adjusting pitch and roll in helicopters during flight.**
- C. Cyclic control has no real importance in helicopter flight.
- D. It only aids in managing yaw in helicopters.

Understanding cyclic control is crucial for helicopter pilots because it directly influences the pitch and roll of the aircraft during flight. The cyclic stick allows pilots to tilt the rotor disc in the desired direction, which changes the lift generated by the rotor blades. By manipulating the cyclic, pilots can effectively control the helicopter's movement in both the forward and lateral axes, enabling them to maneuver through various flight conditions, execute turns, and perform pattern flying. Proper mastery of cyclic control ensures that a helicopter can respond accurately to the pilot's inputs, allowing for smooth transitions and stability in the air. Since helicopters are inherently different from fixed-wing aircraft, where roll and pitch are managed in other ways, understanding how to operate cyclic control effectively is fundamental for safe and competent flight operations.

9. What is the role of control surfaces during rapid maneuvers?

- A. To stabilize the aircraft's speed
- B. To ensure the aircraft follows the desired path**
- C. To increase fuel efficiency
- D. To minimize pilot workload

The correct answer highlights that control surfaces are vital in ensuring an aircraft follows the desired flight path during rapid maneuvers. Control surfaces, such as ailerons, elevators, and rudders, are critical for adjusting the aircraft's orientation and response to pilot inputs. When performing quick maneuvers, these control surfaces allow the pilot to precisely control the aircraft's attitude and trajectory, enabling it to execute turns, climbs, descents, and other maneuvers effectively and safely. Moreover, during rapid changes in direction or altitude, the aircraft's stability can be compromised, making the role of control surfaces even more crucial. They provide the necessary aerodynamic forces to counteract any unwanted movements and keep the aircraft on its intended flight path. This precise control is essential in maintaining safety and performance during dynamic situations in flight. While other options mention aspects like speed stabilization, fuel efficiency, and pilot workload, they do not directly address the fundamental purpose of control surfaces during intensive maneuvering, which is to maintain directional control and adhere to the desired flight path.

10. What must pilots monitor to ensure flight control effectiveness?

- A. Only the altitude of the aircraft
- B. The oil pressure in the aircraft
- C. Airflow over control surfaces and airspeed**
- D. The weight distribution of the passengers

Monitoring airflow over control surfaces and airspeed is fundamental to ensuring flight control effectiveness. The aerodynamics of flight are heavily influenced by how air interacts with the control surfaces—such as ailerons, rudder, and elevators—of the aircraft. Adequate airflow is crucial; if the airspeed drops too low, these surfaces may become ineffective, leading to a loss of control. This is especially relevant during critical phases of flight like takeoff and landing, where maintaining sufficient speed is essential for the aircraft's stability and maneuverability. In addition to airflow, airspeed itself plays a vital role in determining the lift generated by the wings and the control authority of the flight control surfaces. Pilots need to be aware of the airspeed to avoid stalling the aircraft, which can occur if the aircraft exceeds its critical angle of attack at too low a speed. This comprehensive understanding enables pilots to make informed decisions and maintain control throughout various flight conditions.

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://faaflightcontrols.examzify.com>

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

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