Cessna 172 Systems Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

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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

1. **How many primary axes of control does the Cessna 172 have?**
   - **A. One**
   - **B. Two**
   - **C. Three**
   - **D. Four**

2. **What is the climb rate of a Cessna 172 under standard conditions?**
   - **A. 100 ft/min**
   - **B. 600 ft/min**
   - **C. 800 ft/min**
   - **D. 1,000 ft/min**

3. **What is the role of the pressure relief valve in the oil system of a Cessna 172?**
   - **A. To maintain constant pressure in the engine**
   - **B. To prevent oil from flowing back to the tank**
   - **C. To ensure proper cooling of the engine**
   - **D. To relieve excess oil pressure**

4. **What does the rudder control on a Cessna 172?**
   - **A. Pitch**
   - **B. Roll**
   - **C. Yaw**
   - **D. Speed**

5. **What is the engine starting process in a Cessna 172?**
   - **A. Turn on the fuel pump only**
   - **B. Engage the starter manually**
   - **C. Engage the starter with boosted power from impulse coupling**
   - **D. Run the auxiliary pump**

6. Which system is included in Avionics Bus 2 of the Cessna 172?

A. AHRS

B. Backup battery

C. PFD

D. MFD

7. Where is the essential bus located in the Cessna 172?

A. In the cockpit panel

B. Within the electrical system, it powers critical systems

C. In the engine compartment

D. Near the fuel tanks

8. What component provides pitch control in the Cessna 172?

A. Elevator

B. Aileron

C. Rudder

D. Flaps

9. What is the usable fuel capacity in the Cessna 172 per tank?

A. 24 gallons

B. 26 gallons

C. 30 gallons

D. 32 gallons

10. What is the primary flight control surface for yaw control in the Cessna 172?

A. Elevator

B. Ailerons

C. Rudder

D. Flap

Answers

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

Explanations

1. How many primary axes of control does the Cessna 172 have?

A. One

B. Two

C. Three

D. Four

The Cessna 172 has three primary axes of control, which correspond to the three dimensions of flight movement: roll, pitch, and yaw. Roll refers to the aircraft's rotation around its longitudinal axis, which is controlled by the ailerons. These controls allow the pilots to tilt the wings, enabling turns and lateral movements. Pitch involves the rotation around the lateral axis and is primarily controlled by the elevator, which is situated on the tail of the aircraft. Adjusting the elevator angle helps manage the aircraft's ascent and descent, allowing for climbing or descending flight. Yaw is the rotation about the vertical axis and is managed through the rudder. The rudder helps to steer the aircraft left or right and maintains coordinated flight during turns. These three axes of control work together to give pilots comprehensive maneuverability in the air, making three the correct answer for the number of primary axes of control in the Cessna 172.

2. What is the climb rate of a Cessna 172 under standard conditions?

A. 100 ft/min

B. 600 ft/min

C. 800 ft/min

D. 1,000 ft/min

The climb rate of a Cessna 172 under standard conditions is typically around 600 feet per minute. This figure is widely recognized as a standard performance metric for the aircraft and represents optimal climb performance with a typical load and in standard atmospheric conditions. Factors that can influence this rate include aircraft weight, temperature, altitude, and configuration, but in general scenarios and under ideal conditions, 600 feet per minute is a reliable estimate for the Cessna 172's climb capability. This rate ensures a balance between performance and safety, providing sufficient altitude gain while still being manageable for the pilot.

3. What is the role of the pressure relief valve in the oil system of a Cessna 172?

A. To maintain constant pressure in the engine

B. To prevent oil from flowing back to the tank

C. To ensure proper cooling of the engine

D. To relieve excess oil pressure

The pressure relief valve in the oil system of a Cessna 172 plays a critical role in managing oil pressure within the engine. Its primary function is to relieve excess oil pressure, which helps to prevent potential damage to engine components that can occur due to over-pressurized oil systems. When the oil pressure exceeds a predetermined limit, the pressure relief valve opens, allowing some of the pressurized oil to bypass the normal oil flow path. This not only protects the oil pump and other engine components from excessive pressure but also ensures a steady flow of oil to critical parts of the engine under varying conditions. This mechanism is essential for maintaining the integrity and safety of the engine's lubrication system, ensuring that the engine operates smoothly and efficiently without risks related to oil pressure extremes. In contrast, options that suggest maintaining constant pressure, preventing oil from flowing back to the oil tank, or ensuring proper cooling do not accurately describe the specific function of the pressure relief valve; those are influenced by other components within the oil system.

4. What does the rudder control on a Cessna 172?

A. Pitch

B. Roll

C. Yaw

D. Speed

The rudder in a Cessna 172 primarily controls yaw, which refers to the horizontal movement of the aircraft's nose left or right around its vertical axis. When the pilot applies pressure to the rudder pedals, the rudder deflects to either side, influencing the direction the aircraft's nose points. This is crucial for coordinated turns, as it helps counteract adverse yaw—where the aircraft’s nose moves in the opposite direction of the turn due to differences in wing lift and drag. Yaw control is especially important during various phases of flight, including takeoff, landing, and maneuvering in the air. Effective use of the rudder allows the pilot to maintain proper aircraft control and orientation, contributing to overall flight stability and performance. Understanding this role of the rudder is essential for safe flying and effective handling of the aircraft.

5. What is the engine starting process in a Cessna 172?

A. Turn on the fuel pump only

B. Engage the starter manually

C. Engage the starter with boosted power from impulse coupling

D. Run the auxiliary pump

The engine starting process in a Cessna 172 involves engaging the starter with boosted power from the impulse coupling. The impulse coupling is a feature typically found in some aircraft magnetos, which provides an initial boost of rotational energy to help start the engine. When the starter is engaged, the impulse coupling helps to generate a higher voltage for the spark plugs at low RPMs, which is crucial in ensuring a reliable ignition of the fuel-air mixture in the engine cylinders. This method takes advantage of the mechanical design of the impulse coupling to aid in starting the engine, making it more efficient and effective than relying solely on other methods, such as simply turning on the fuel pump or manually engaging the starter without the boost from the impulse coupling. Additionally, running the auxiliary pump does not directly contribute to the initial spark required for engine starting and is generally used to ensure fuel delivery rather than to initiate combustion.

6. Which system is included in Avionics Bus 2 of the Cessna 172?

A. AHRS

B. Backup battery

C. PFD

D. MFD

In the Cessna 172 equipped with the Garmin G1000 avionics system, the Multi-Function Display (MFD) is integrated within Avionics Bus 2. The MFD provides pilots with critical flight information, navigation data, and situational awareness through a graphical interface, consolidating various functions such as flight planning, weather information, and engine performance data. Avionics Bus 2 is designed to power essential avionics equipment, and the MFD is a key component among these, ensuring that the pilot has access to a wide array of necessary information while flying. The system's redundancy and power distribution design allows for the continued operation of critical displays like the MFD in the event of failure of other systems. Other systems mentioned, such as the Attitude and Heading Reference System (AHRS), backup battery, and Primary Flight Display (PFD), serve different functions and are typically powered by other parts of the avionics architecture, which helps to delineate the specific role of each bus in the overall avionics configuration.

7. Where is the essential bus located in the Cessna 172?

A. In the cockpit panel

B. Within the electrical system, it powers critical systems

C. In the engine compartment

D. Near the fuel tanks

The essential bus in the Cessna 172 is indeed located within the electrical system and is designed to power critical systems of the aircraft. This bus is a vital part of the aircraft's electrical architecture because it ensures that necessary components such as avionics, lights, and navigation equipment remain operational, especially in scenarios where the alternator or other electrical sources fail. The essential bus is strategically set up to prioritize power distribution to systems that are crucial for flight safety and operation. This allows pilots to maintain control and operate essential instruments even if other parts of the electrical system become inoperative. The other options do not accurately represent the function or location of the essential bus. The cockpit panel is where instruments are displayed, but it does not house the bus itself. The engine compartment does contain various electrical components; however, it is not the site of the essential bus. Lastly, while fuel tanks are critical to flight operation, they are unrelated to the electrical bus and its functions. Understanding the purpose and location of the essential bus is vital for effective aircraft operation and emergency procedures.

8. What component provides pitch control in the Cessna 172?

A. Elevator

B. Aileron

C. Rudder

D. Flaps

The elevator is the primary control surface responsible for pitch control in the Cessna 172. It is located at the tail of the aircraft and operates on a horizontal stabilizer. When the elevator is deflected up, it decreases the lift at the tail, causing the nose of the aircraft to rise, which pitches the aircraft upward. Conversely, deflecting the elevator down increases lift at the tail, causing the nose to lower and pitch downward. Understanding the function of control surfaces is essential for flight operations. The ailerons are primarily responsible for roll control and are located on the wings, allowing the aircraft to turn. The rudder, which is situated on the vertical stabilizer, provides directional control around the vertical axis and helps coordinate turns but does not influence the pitch. Flaps, mounted on the wings, enhance lift during takeoff and landing but do not provide pitch control. Thus, the elevator uniquely and directly controls the pitch direction of the Cessna 172, making it the correct answer.

9. What is the usable fuel capacity in the Cessna 172 per tank?

A. 24 gallons

B. 26 gallons

C. 30 gallons

D. 32 gallons

The usable fuel capacity in each tank of the Cessna 172 is indeed 26 gallons. This figure is important for pilots to understand for several reasons, such as flight planning, weight and balance calculations, and ensuring that they do not exceed the aircraft's maximum takeoff weight. Each tank is designed to provide this amount while considering the total capacity of the fuel system and the need to maintain fuel quality and safety by not allowing the fuel level to drop too low, which could lead to fuel starvation or contamination issues. Knowing that each tank has 26 gallons of usable fuel helps ensure that the pilot can calculate the total fuel available, taking into account that each tank feeds into a common fuel system which distributes fuel to the engine as needed during flight. This kind of knowledge is critical for safe and effective flight operations, ensuring that the aircraft has adequate fuel for the intended flight distance and conditions.

10. What is the primary flight control surface for yaw control in the Cessna 172?

A. Elevator

B. Ailerons

C. Rudder

D. Flap

In the Cessna 172, the primary flight control surface responsible for yaw control is the rudder. The rudder is located on the vertical stabilizer at the tail of the aircraft and works by moving left or right to deflect the airflow. This action creates a horizontal force at the tail, which influences the yawing motion of the aircraft, allowing it to turn left or right. When a pilot needs to change the aircraft's direction, especially during turns, the rudder helps coordinate the turn by balancing the adverse yaw produced by the ailerons. While the ailerons control roll, it’s the rudder that effectively manages the yaw aspect of the flight dynamics. Understanding this function is crucial for maintaining coordinated flight and preventing issues such as uncoordinated turns or potential stalls. The other control surfaces serve different purposes; the elevator controls pitch (nose up and down), the ailerons manage roll (banking left and right), and flaps are used to increase lift at lower speeds during takeoff and landing. Thus, the rudder's unique role in controlling yaw is essential in the overall operation of the Cessna 172.

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://cessna172systems.examzify.com

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