Aircraft Landing Gear Systems Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Table of Contents

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. What is a kneeling gear feature and where is it used?

A. A feature that lowers the main gear to ease loading/unloading on the ground, used on some cargo or passenger aircraft.

B. A feature that increases wheel size for rough terrain.

C. A device to retract gear into the wheel wells only.

D. A mechanism to deploy additional gear for redundancy.

2. The spring in a tailwheel-type landing gear provides steering _____.

A. Dampening

B. Locking

C. Steering

D. Preload

3. The tailwheel type landing gear arrangement is also known as what?

A. Conventional

B. Retractable

C. Tricycle

D. Monowheel

4. Retractable gear aircraft generally use a light to indicate that the gear is down and locked. What color is this light?

A. Blue

B. Amber

C. Red

D. Green

5. What is the role of an anti-skid braking system (ASBS) in relation to landing gear?

A. It increases brake pressure to arrest the wheel spin as quickly as possible.

B. It modulates brake pressure on each wheel to prevent tire skidding and maintain directional control.

C. It locks the wheels to prevent skidding by rigidly controlling brake torque.

D. It disengages braking to allow wheel spin during touchdown.

6. How would you diagnose a gear that seems stuck due to door misalignment?

A. Replace the entire gear assembly immediately.

B. Ignore door misalignment and continue.

C. Inspect door alignment, verify interlocks and limit switches, and check for binding in door or hinge.

D. Disable door interlocks to force operation.

7. What term describes the condition when the front sides of the wheels are closer together than the rear sides?

A. Aligned

B. Toed-out

C. Toed-in

D. Centered

8. If a brake fails to completely release after the pressure is removed, it is said to be _____.

A. Sticking

B. Seizing

C. Free-spinning

D. Dragging

9. Why is it generally recommended to avoid retracting gear at high speed?

A. It wastes fuel.

B. It shortens the landing distance.

C. It improves aerodynamics.

D. It can cause excessive aerodynamic loads and potential structural or mechanism damage.

10. What component prevents a complete loss of hydraulic system fluid if a brake line fails or leaks?

A. Pressure relief valve

B. Check valve

C. Lockout Debooster valve

D. Bleed valve

Answers

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

Explanations

1. What is a kneeling gear feature and where is it used?

A. A feature that lowers the main gear to ease loading/unloading on the ground, used on some cargo or passenger aircraft.

B. A feature that increases wheel size for rough terrain.

C. A device to retract gear into the wheel wells only.

D. A mechanism to deploy additional gear for redundancy.

Kneeling gear is a system that hydraulically lowers the main landing gear to drop the aircraft a bit closer to the ground. This reduces the fuselage height on the tarmac, making loading and unloading cargo (and sometimes passengers) much easier by bringing doors or cargo decks to ground-level or near the ground-based loading equipment. It's used on some cargo aircraft and on certain passenger aircraft where ground handling or palletized loading benefits from a lower stance. The concept isn't about changing wheel size, retracting gear in the normal way, or adding extra gear for redundancy. It's specifically about lowering the main gear to facilitate ground loading and unloading.

2. The spring in a tailwheel-type landing gear provides steering _____.

A. Dampening

B. Locking

C. Steering

D. Preload

On tailwheel gear, steering input turns the tailwheel, but the motion needs control. The spring in the tailwheel mechanism acts as a damper, resisting rapid changes in tailwheel angle. This damping absorbs energy from bumps and steering actions, smoothing the response and preventing sharp, oscillatory motions (shimmy). It helps the tailwheel return toward a centered, stable position after a turn and keeps ground handling feeling steady. So the spring's role isn't to steer or to lock the wheel or to preload the system; it's to dampen the steering motion and promote stability during taxi.

3. The tailwheel type landing gear arrangement is also known as what?

A. Conventional

B. Retractable

C. Tricycle

D. Monowheel

In aviation gear terminology, the tailwheel arrangement is known as conventional. This label comes from it being the traditional setup used on early airplanes, where two main wheels support the aircraft and a small tailwheel keeps the tail up on the ground. It's called conventional (or taildragger) to contrast with the later, more common nose-wheel layout, which makes ground handling and forward visibility easier. The other terms point to different ideas: retractable refers to whether the gear folds away in flight, tricycle describes the nose-wheel configuration, and monowheel means a single wheel. So the tailwheel setup is the conventional or taildragger arrangement.

4. Retractable gear aircraft generally use a light to indicate that the gear is down and locked. What color is this light?

A. Blue

B. Amber

C. Red

D. Green

The key idea is that cockpit indicator colors follow a simple rule: green means normal, safe operation. For retractable gear, a green light signaling the gear is down and locked is used so you can confirm at a glance that the gear is extended, seated, and secured for landing. This color choice leverages the universal meaning of green as "go/OK" and helps distinguish it from red, which warns of a problem or unsafe condition (gear not down or not locked), and from amber, which often means caution or gear in transit. So when you see green, you know the gear is in the proper, locked position for landing.

5. What is the role of an anti-skid braking system (ASBS) in relation to landing gear?

A. It increases brake pressure to arrest the wheel spin as quickly as possible.

B. It modulates brake pressure on each wheel to prevent tire skidding and maintain directional control.

C. It locks the wheels to prevent skidding by rigidly controlling brake torque.

D. It disengages braking to allow wheel spin during touchdown.

Anti-skid braking on landing gear works by preventing tire lock while braking, using wheel-speed sensors and a controller to actively adjust brake pressure for each wheel. If a wheel begins to slip toward skidding or decelerate too quickly compared with the others, the system reduces the brake pressure to that wheel; as traction returns, pressure is increased again. This keeps tire slip within a safe range, maximizing stopping effectiveness while preserving the ability to steer and maintain directional control, which is especially important during touchdown with potential crosswinds or uneven runway conditions. So the correct description is that the system modulates brake pressure on each wheel to prevent tire skidding and maintain directional control. Avoiding excessive brake force that could cause lock, not locking the wheels, and not disengaging braking during touchdown all align with how ASBS supports safe stopping and steerability.

6. How would you diagnose a gear that seems stuck due to door misalignment?

A. Replace the entire gear assembly immediately.

B. Ignore door misalignment and continue.

C. Inspect door alignment, verify interlocks and limit switches, and check for binding in door or hinge.

D. Disable door interlocks to force operation.

When a gear seems stuck, the door system is often the real culprit. If the doors are misaligned, they can rub against the gear or frame and physically prevent full travel, and they can also cause interlocks or limit switches to sense the door in the wrong position and stop the gear from moving. So the right way to diagnose is to inspect the door alignment first, making sure the doors sit correctly in their tracks, latch properly, and clear any obstructions that could cause binding. Next, verify that the door interlocks and the limit switches are functioning and reading the door position correctly, since a faulty sensor can keep the gear inhibited even if the mechanism is otherwise fine. Finally, check for binding in the door or hinge area—such as rough hinges, misaligned pivots, or debris—that could physically impede movement. These steps target the most common cause of a stuck gear without unnecessarily replacing parts or compromising safety. Replacing the entire gear, ignoring the misalignment, or disabling interlocks would not address the actual fault and could create unsafe conditions.

7. What term describes the condition when the front sides of the wheels are closer together than the rear sides?

A. Aligned

B. Toed-out

C. Toed-in

D. Centered

Toe-in describes the condition where the front edges of the wheels are closer together than the rear edges, so the wheels are angled inward when viewed from above. This inward angle helps with straight-line tracking and stability on the ground, providing a self-centering tendency as the tires roll. It's a deliberate alignment setting that can compensate for suspension sag or load and can influence tire wear and steering feel. The opposite, toe-out, would have the front edges farther apart. If the wheels were perfectly parallel with no toe, that would be a neutral or aligned condition, not toe-in.

8. If a brake fails to completely release after the pressure is removed, it is said to be _____.

A. Sticking

B. Seizing

C. Free-spinning

D. Dragging

Dragging occurs when a brake doesn't fully release after the hydraulic pressure is removed, so the pads stay in contact with the rotor and continue to rub as the wheel turns. That lingering contact creates friction even without applying the brakes, which slows the wheel and generates heat. This differs from a completely released system (free-spinning), where the wheel moves freely with no pad contact. It's also different from a sticking condition, where the brake components don't return properly and may hold or drag intermittently, or from a seizing condition, where the mechanism locks up and can't move at all. Dragging can lead to excessive brake heat, uneven pad wear, and potential rotor damage, so it's a sign that the braking system isn't returning to a fully open position. Common causes include a seized or sticking piston, sticky caliper slides or pins, contamination or corrosion causing pad binding, or a misadjusted return mechanism. Regular inspection should focus on ensuring smooth caliper movement, clean and lubricated slide pins, and that the pads and rotor surfaces are free of contamination and properly matched in clearance.

9. Why is it generally recommended to avoid retracting gear at high speed?

A. It wastes fuel.

B. It shortens the landing distance.

C. It improves aerodynamics.

D. It can cause excessive aerodynamic loads and potential structural or mechanism damage.

During gear retraction, the gear and its doors sit in the airstream, so the aerodynamic forces on those surfaces rise with speed. Dynamic pressure increases with the square of velocity, meaning at higher speeds the gear, doors, uplocks, and hydraulic actuators experience much larger loads. If those loads exceed what the gear system is designed to tolerate, components can bend, doors or mechanisms can be damaged or mis-sequenced, or the gear may fail to lock properly. That's why there are specified speed limits for retraction and why you generally avoid retracting at high speed. The other ideas aren't the primary safety concern—retraction speed isn't about fuel use, and while a retracted gear reduces drag, attempting to retract before the system can handle the loads is the real risk.

10. What component prevents a complete loss of hydraulic system fluid if a brake line fails or leaks?

A. Pressure relief valve

B. Check valve

C. Lockout Debooster valve

D. Bleed valve

In a brake hydraulic system, preventing total fluid loss when a line ruptures relies on isolating the failed path. The lockout debooster valve is designed to do just that: when a dangerous pressure drop or rupture is detected, it locks out the affected circuit and prevents further hydraulic fluid from leaving through that line, preserving fluid in the rest of the system. This isolation keeps enough pressure available in the remaining circuits to provide at least partial braking rather than a complete loss of hydraulics. By contrast, a pressure relief valve just vents excess pressure, a check valve stops backflow but doesn't isolate a leaking line, and a bleed valve is used only to remove air from the system.

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://aircraftlandinggearsystems.examzify.com

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