

SOS MECHANIC CERTIFICATION – SUSPENSION & STEERING 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. What tire wear is associated with lack of tire rotation or unbalanced tires?**
 - A. Feathered edges
 - B. Cupped wear
 - C. Chopped wear
 - D. Center tread wear

- 2. What is a common way to adjust camber on a vehicle equipped with a strut suspension system?**
 - A. Install adjustable lower control arms
 - B. Turn an eccentric cam bolt at the base of the strut
 - C. Adjust the tie rod length
 - D. Change the strut mount positioning

- 3. A car will tend to pull to:**
 - A. The side with the most negative (-) camber
 - B. The side with no camber adjustment
 - C. The side with the most positive (+) camber
 - D. The side with the least toe-in

- 4. Which of the following systems relies on a hydraulic pump for operation?**
 - A. Manual steering
 - B. Independent suspension
 - C. Power steering
 - D. Disc brake system

- 5. What does cupped wear indicate about a vehicle's suspension?**
 - A. It is too stiff
 - B. Excessive wheel jounce is present
 - C. The tires are overinflated
 - D. The alignment is perfect

- 6. When checking the wear on ball joints with a dial indicator, what must be ensured for accurate readings?**
- A. Proper tire pressure
 - B. Correct wheel bearing adjustment
 - C. Alignment of the vehicle
 - D. Condition of the brake pads
- 7. Is caster adjustable on all vehicles?**
- A. Yes, it is adjustable on all vehicles
 - B. Yes, but only on newer models
 - C. No, caster is NOT adjustable on some vehicles
 - D. Only on off-road vehicles
- 8. Which of the following is a correct statement about the effects of imbalance?**
- A. Static imbalance will cause wheel tramp
 - B. Dynamic imbalance will cause poor handling
 - C. Imbalance only affects tire wear
 - D. Imbalance has no effect on stability
- 9. How does an independent rear suspension system differ from a dependent suspension system?**
- A. Independent systems do not allow for any movement of the wheels
 - B. Dependent systems improve ride quality by connecting both sides
 - C. Independent systems allow each wheel to move independently
 - D. Dependent systems are always more expensive to maintain
- 10. What are the two main types of suspension systems?**
- A. Active and passive suspension systems
 - B. Dependent and independent suspension systems
 - C. Hydraulic and mechanical systems
 - D. Front and rear suspension systems

Answers

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

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Explanations

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1. What tire wear is associated with lack of tire rotation or unbalanced tires?

- A. Feathered edges
- B. Cupped wear
- C. Chopped wear**
- D. Center tread wear

Cupped wear occurs when there is a lack of tire rotation or unbalanced tires. This type of tire wear is characterized by a series of high and low spots around the tire tread, which creates a wavy or scalloped appearance. It results from the tire bouncing as it rotates, making contact with the road in an uneven manner. This uneven contact can be exacerbated by improper alignment, suspension issues, or insufficient balancing, leading to significant vibrations that promote this wear pattern. In contrast, feathered edges typically indicate a different issue, such as misalignment, where one side of the tread wears more than the other, creating a sharp edge on one side. Chopped wear is usually related to a defective tire or uneven loading but is not primarily caused by lack of rotation or balance. Center tread wear suggests over-inflation or consistent high-speed driving, which also does not directly relate to the consequences of not rotating tires or unbalancing. Understanding cupped wear is essential for identifying tire maintenance needs and ensuring optimal vehicle handling and safety. Regular tire rotation and proper balancing can help prevent this wear and extend the life of the tires.

2. What is a common way to adjust camber on a vehicle equipped with a strut suspension system?

- A. Install adjustable lower control arms
- B. Turn an eccentric cam bolt at the base of the strut**
- C. Adjust the tie rod length
- D. Change the strut mount positioning

Adjusting the camber on a vehicle with a strut suspension system is typically done by turning an eccentric cam bolt located at the base of the strut. This method allows for precise adjustments to the angle of the wheel relative to the vertical axis, which is crucial for optimizing tire wear, handling characteristics, and overall vehicle stability. When the eccentric cam bolt is turned, it changes the position of the strut assembly, which in turn alters the camber angle. This adjustment is commonly found on many modern vehicles, as it provides a straightforward and effective means of fine-tuning alignment settings without the need for extensive modifications or replacement of components. Other options, while they may affect suspension geometry in some cases, are not standard methods for directly adjusting camber in a strut suspension system. For example, adjustable lower control arms could modify other alignment angles but would not typically allow for direct camber adjustment as efficiently as the eccentric cam bolt. Adjusting tie rod length primarily affects toe alignment, and changing the strut mount positioning can lead to changes in camber but involves more complexity and may not yield the desired camber adjustment as simply or effectively as adjusting the cam bolt.

3. A car will tend to pull to:

- A. The side with the most negative (-) camber
- B. The side with no camber adjustment
- C. The side with the most positive (+) camber**
- D. The side with the least toe-in

When analyzing how a car pulls to one side, it's important to understand the effects of camber on tire contact and handling. Positive camber means that the top of the wheel is tilted outward from the vehicle. When a vehicle has more positive camber on one side than the other, the tire on that side experiences uneven wear and can lose contact with the road surface during cornering or acceleration. This can lead to a tendency for the vehicle to pull toward the side with the most positive camber. As the tire on the side with the most positive camber angles away from the vehicle, it may exhibit less grip and resistance, therefore pulling the vehicle in that direction. The balance of forces generated by the tires ultimately leads to a noticeable pull toward the side with excessive positive camber, which can affect steering stability and vehicle handling. Conversely, negative camber angles tend to improve the handling performance during turns by allowing more of the tire tread to make contact with the road during cornering, which is not conducive to pulling. The impact of camber adjustment or toe-in configurations do play roles in vehicle handling but are more nuanced and do not directly correlate to the strong pulling sensation as seen with excessive positive camber.

4. Which of the following systems relies on a hydraulic pump for operation?

- A. Manual steering
- B. Independent suspension
- C. Power steering**
- D. Disc brake system

The power steering system relies on a hydraulic pump for its operation. In this system, the hydraulic pump generates hydraulic pressure, which assists the driver in turning the steering wheel with less effort. This is particularly useful in larger vehicles or those with heavier steering loads, where manual steering would require considerably more force to maneuver. The hydraulic pump draws hydraulic fluid from a reservoir and sends it to a power steering gear or rack, where this pressure helps move the steering mechanism more easily in response to the driver's inputs. In contrast, manual steering operates purely based on the physical effort applied by the driver, without any hydraulic assistance. Independent suspension systems do not specifically rely on a hydraulic pump; instead, they use various components like coil springs and control arms to allow each wheel to move independently. Additionally, while disc brake systems can utilize hydraulic principles, they do not operate using a hydraulic pump in the same manner as power steering does. Instead, they rely on hydraulic pressure created within the brake lines to activate the brake calipers when the brake pedal is pressed. Thus, the clear distinction of the power steering system's reliance on a hydraulic pump sets it apart from the other options.

5. What does cupped wear indicate about a vehicle's suspension?

- A. It is too stiff
- B. Excessive wheel jounce is present**
- C. The tires are overinflated
- D. The alignment is perfect

Cupped wear on tires is often caused by excessive wheel jounce, which refers to the up-and-down movement of the wheel as it encounters bumps in the road. This kind of wear pattern typically manifests as irregularities on the tire surface, where certain spots are worn more than others, giving a cupped appearance. When the suspension system is not functioning correctly—perhaps due to worn-out shocks or struts, insufficient dampening, or other related issues—this results in the tires bouncing excessively. The inconsistent contact with the road leads to this abnormal wear pattern. Therefore, cupped wear serves as a strong indicator that there may be problems within the vehicle's suspension system affecting ride quality and overall performance. In contrast, other options do not accurately relate to cupped wear. For example, too stiff of a suspension would not typically cause the cupped wear but rather result in a harsh ride. Overinflated tires might show wear but would usually cause a different pattern of tire degradation. Finally, if the alignment were perfect, one would not expect to see cupped wear, as proper alignment contributes to even tire wear. Understanding the causes behind tire wear patterns is essential for diagnosing and addressing potential issues within a vehicle's suspension system.

6. When checking the wear on ball joints with a dial indicator, what must be ensured for accurate readings?

- A. Proper tire pressure
- B. Correct wheel bearing adjustment**
- C. Alignment of the vehicle
- D. Condition of the brake pads

For accurate readings when checking the wear on ball joints using a dial indicator, it is crucial to ensure the correct wheel bearing adjustment. This is because improperly adjusted wheel bearings can lead to excessive play or movement in the wheel assembly, which would significantly affect the dial indicator readings. Any free play in the wheel bearings can mask the actual wear present in the ball joints, leading to misleading results. In contrast, while proper tire pressure, vehicle alignment, and brake pad condition are all relevant factors to overall vehicle performance and safety, they do not directly influence the accuracy of the dial indicator measurements during a ball joint inspection. Hence, the primary factor to consider for reliable readings in this specific assessment is the adjustment of the wheel bearings.

7. Is caster adjustable on all vehicles?

- A. Yes, it is adjustable on all vehicles
- B. Yes, but only on newer models
- C. No, caster is NOT adjustable on some vehicles**
- D. Only on off-road vehicles

Caster refers to the angle made by the steering axis when viewed from the side of the vehicle, and it plays a crucial role in vehicle stability and steering characteristics. The adjustability of caster varies between different types of vehicles and their designs. The correct answer indicates that caster is not adjustable on some vehicles, which is true due to several factors. Many older vehicles, as well as some models designed with simpler suspension systems, do not have the provisions for adjusting caster. For instance, vehicles with a solid axle design or some independent front suspension systems may have a fixed caster that cannot be modified. In contrast, certain modern vehicles, especially those with sophisticated suspension systems, allow for caster adjustments. This ability enhances the performance characteristics of the vehicle, making it possible to fine-tune the handling based on driving preferences or specific applications. Understanding this aspect of vehicle suspension helps recognize the diversity in engineering approaches for different vehicle types and models, demonstrating that while adjusting caster can be important for handling and stability, it is not universally applicable across all vehicles.

8. Which of the following is a correct statement about the effects of imbalance?

- A. Static imbalance will cause wheel tramp**
- B. Dynamic imbalance will cause poor handling
- C. Imbalance only affects tire wear
- D. Imbalance has no effect on stability

The statement about static imbalance causing wheel tramp is accurate because static imbalance refers to the uneven weight distribution on a wheel when it is not in motion. This condition can lead to a situation where the wheel does not sit evenly on the axle. As a result, when the vehicle is moving, this imbalance can manifest as wheel tramp, which is characterized by a bouncing or hopping motion of the wheel. This bouncing can affect not only ride quality but also the vehicle's performance and stability. Understanding the nuances between static and dynamic imbalance is essential. Dynamic imbalance, for example, refers to an issue where the weight is unevenly distributed around the rotating wheel, leading to vibrational issues rather than just ride discomfort—hence why it's tied to handling. Static imbalance is specifically responsible for issues like wheel tramp, making the given answer focus on the proper effects associated with static imbalance rather than others that address handling and tire wear. Additionally, the implications of imbalance extending beyond tire wear to include stability and handling of the vehicle highlight the importance of addressing imbalances promptly to maintain optimal vehicle performance and safety.

9. How does an independent rear suspension system differ from a dependent suspension system?

- A. Independent systems do not allow for any movement of the wheels
- B. Dependent systems improve ride quality by connecting both sides
- C. Independent systems allow each wheel to move independently**
- D. Dependent systems are always more expensive to maintain

An independent rear suspension system is characterized by its ability to allow each wheel to move independently from the others. This means that when one wheel encounters a bump or dip in the road, it can move up or down without affecting the position of the other wheel. This independent movement enhances ride quality, improves traction by maintaining tire contact with the road, and provides better handling, particularly on uneven surfaces. In contrast, a dependent suspension system connects the wheels together, meaning that if one wheel moves, it can influence the movement of the opposite wheel. This can lead to reduced ride comfort and handling, especially in situations where one wheel is on a rough surface while the other is on a smooth surface. Understanding this distinction is critical for applications where ride comfort and handling performance are prioritized, such as in high-performance vehicles, off-road vehicles, or luxury cars. Therefore, the ability of each wheel to move independently is a significant advantage in modern vehicle design, which is precisely why this answer is correct.

10. What are the two main types of suspension systems?

- A. Active and passive suspension systems
- B. Dependent and independent suspension systems**
- C. Hydraulic and mechanical systems
- D. Front and rear suspension systems

The classification of suspension systems into dependent and independent categories is based on how the wheels are connected and how they react to road conditions. In dependent suspension systems, the movement of one wheel can directly affect the movement of another; this means that if one wheel experiences a bump, it can influence the other wheel's position on the same axle. This type is commonly found in solid axle setups, where both wheels share a common beam. On the other hand, independent suspension systems allow each wheel to move independently of the others. This design helps improve ride comfort and handling, as the performance of one wheel does not interfere with the others. Independent systems are prevalent in modern vehicles and are appreciated for their ability to provide better traction and stability, especially in cornering or when negotiating uneven terrain. This classification is not just critical for understanding vehicle dynamics but also informs vehicle design choices based on intended use, performance, and comfort. Other listed options, such as active and passive suspension systems or hydraulic and mechanical systems, describe different characteristics or technologies within the broader category of suspension systems, rather than fundamental types of suspension setups. Similarly, front and rear suspension systems differentiate based on location rather than the underlying suspension technology.

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.

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

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