# SOS MECHANIC CERTIFICATION – SUSPENSION & STEERING PRACTICE EXAM (SAMPLE)

## STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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.

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# 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!

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# Questions

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**1. How do toe settings affect tire wear patterns?**

A. Toe-in causes wear on the outer edge; toe-out causes wear on the inner edge

B. Toe-in causes wear on the inner edge; toe-out causes wear on the outer edge

C. Both toe-in and toe-out cause equal wear across the tire

D. Toe settings do not affect tire wear

**2. What does "toe-in" refer to in vehicle alignment?**

A. The angle at which the wheels point outward from each other

B. The angle at which the wheels point inward towards each other

C. The angle of the wheels in relation to the vertical plane

D. The overall alignment of the front end suspension system

**3. The front wheels shimmy or bounce above 40 mph, even on a smooth, straight road. The likely cause of this problem is:**

A. Brake issues

B. Worn suspension parts

C. Tires out of balance

D. Misalignment

**4. If a mechanic pushes out and then pulls in on both tires of a jacked-up car and notices too much movement, what does that indicate?**

A. The ball joints are loose

B. The tie rod ends are worn

C. The wheel bearings are tight

D. The strut mounts need replacement

**5. What is the primary function of camber adjustment?**

A. To control tire wear and grip during cornering

B. To adjust vehicle height

C. To improve straight-line tracking

D. To enhance ride comfort

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**6. Which characteristic of a vehicle's handling may be affected by worn suspension parts?**

A. Engine efficiency

B. Steering response

C. Transmission performance

D. Brake effectiveness

**7. If the upper ball joint is positioned behind the lower ball joint, what is the alignment condition?**

A. Negative caster

B. Neutral caster

C. Positive caster

D. None of the above

**8. How is toe adjusted on a rack and pinion suspension?**

A. By rotating the outer tie rod

B. By loosening the lock nut and turning the inner tie rod

C. By adjusting the steering rack position

D. By changing the tire pressure

**9. What leads to chopped wear on a tire?**

A. Improper toe adjustment

B. Lack of rotation or unbalanced tires

C. Excessive inflation pressure

D. Incorrect camber settings

**10. How does a negative caster angle affect a vehicle?**

A. It improves steering response

B. It can cause the vehicle to wander

C. It stabilizes vehicle handling

D. It decreases tire wear

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# Answers

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

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# Explanations

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## 1. How do toe settings affect tire wear patterns?

A. Toe-in causes wear on the outer edge; toe-out causes wear on the inner edge

B. Toe-in causes wear on the inner edge; toe-out causes wear on the outer edge

C. Both toe-in and toe-out cause equal wear across the tire

D. Toe settings do not affect tire wear

*Toe settings play a crucial role in determining how tires make contact with the road surface, which in turn impacts tire wear patterns. When a vehicle has toe-in, the front of the tires is angled slightly inward towards the center of the vehicle. This alignment typically leads to increased wear on the outer edges of the tires, as those edges bear more load and experience heightened friction during steering maneuvers. Conversely, when a vehicle is set up with toe-out, the front of the tires points slightly outward away from the vehicle's centerline. This configuration places additional stress on the inner edges of the tires, leading to accelerated wear on those sides. Hence, the relationship between toe settings and tire wear patterns is not only significant but also predictable. Understanding this relationship is essential for mechanics, as maintaining correct toe settings can prolong tire life and enhance vehicle performance. Tires that wear unevenly can lead to handling issues, reduced traction, and necessitate premature tire replacement, which can be costly for vehicle owners.*

## 2. What does "toe-in" refer to in vehicle alignment?

A. The angle at which the wheels point outward from each other

B. The angle at which the wheels point inward towards each other

C. The angle of the wheels in relation to the vertical plane

D. The overall alignment of the front end suspension system

*"Toe-in" refers to the alignment condition where the front wheels of a vehicle point inward toward each other at the front, creating an angle that is narrower at the front than at the rear. This alignment is crucial for ensuring that the vehicle tracks straight while driving. When the wheels are properly set to "toe-in," it can improve handling and stability during movement and can also help reduce tire wear caused by uneven contact with the road surface. In contrast, the other options describe different aspects of wheel alignment or positioning. For example, the outward angle of the wheels pointing away from each other is referred to as "toe-out," which has different implications for handling and tire wear. The angle of the wheels in relation to the vertical plane refers to camber, which concerns whether the wheels tilt inwards or outwards when viewed from the front. Meanwhile, the overall alignment of the front end suspension system encompasses various aspects of alignment, including camber, caster, and toe, rather than being a specific measurement like "toe-in" itself. Understanding "toe-in" is vital for maintaining optimal vehicle performance and tire longevity.*

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**3. The front wheels shimmy or bounce above 40 mph, even on a smooth, straight road. The likely cause of this problem is:**

A. Brake issues

B. Worn suspension parts

C. Tires out of balance

D. Misalignment

*When front wheels shimmy or bounce at speeds above 40 mph on smooth, straight roads, the likely cause is often related to the balance of the tires. When tires are out of balance, it creates uneven weight distribution while the vehicle is in motion. This imbalance can lead to vibrations that manifest as a shimmy in the steering wheel or suspension system, particularly noticeable at higher speeds. Since this issue tends to become less pronounced at lower speeds or on uneven road surfaces, it aligns with the scenario presented in the question. In contrast, brake issues typically cause problems like pulling to one side or grinding noises when brakes are applied rather than shimmying at consistent speeds. Worn suspension parts can lead to a host of other issues, such as poor handling or excessive body roll, but wouldn't specifically cause a shimmy in the wheels in a direct manner, especially on a smooth road. Misalignment can affect the vehicle's handling and lead to uneven tire wear, but the characteristic bouncing or shimmy above a certain speed points more towards an imbalance in the tires rather than alignment issues. This makes out-of-balance tires the most fitting explanation for the symptoms described.*

**4. If a mechanic pushes out and then pulls in on both tires of a jacked-up car and notices too much movement, what does that indicate?**

A. The ball joints are loose

B. The tie rod ends are worn

C. The wheel bearings are tight

D. The strut mounts need replacement

*The observation of too much movement when pushing out and pulling in on both tires of a jacked-up car indicates that the tie rod ends are worn. The tie rod ends are critical components of the steering system, connecting the steering rack to the steering knuckle. When these components are worn or damaged, they lose their ability to hold the tire in the correct position relative to the steering mechanism, resulting in excessive play or movement. Under normal conditions, the tie rod ends should provide a stable connection that prevents any noticeable lateral movement when force is applied to the tires. If the joints are worn, they will not resist movement effectively, which can lead to issues such as poor steering response and uneven tire wear. While other components like ball joints, wheel bearings, and strut mounts also play significant roles in the suspension and steering systems, they each affect vehicle handling differently. The specific action of pushing and pulling the tires primarily tests the tie rod ends for play.*

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## 5. What is the primary function of camber adjustment?

A. To control tire wear and grip during cornering

B. To adjust vehicle height

C. To improve straight-line tracking

D. To enhance ride comfort

*The primary function of camber adjustment is to control tire wear and grip during cornering. Camber refers to the angle of the wheels in relation to the vertical axis of the vehicle when viewed from the front. When the wheels are tilted inward at the top, this is known as negative camber, while outward tilt is referred to as positive camber. By adjusting the camber, technicians can optimize the contact patch between the tires and the road during cornering. This adjustment influences how well the tires grip the road, allowing for better handling and cornering performance. Proper camber alignment can help reduce uneven tire wear, enhancing the lifespan of the tires and improving overall performance during turns. While other adjustments may relate to different aspects of the vehicle's handling or comfort, they do not address the specific impact that camber has on tire performance and wear in the context of cornering dynamics.*

## 6. Which characteristic of a vehicle's handling may be affected by worn suspension parts?

A. Engine efficiency

B. Steering response

C. Transmission performance

D. Brake effectiveness

*Worn suspension parts play a critical role in a vehicle's handling, and steering response is particularly affected by their condition. The suspension system is responsible for supporting the weight of the vehicle and absorbing shocks from the road, which directly influences how the wheels make contact with the surface. When suspension components, such as struts, shocks, or bushings, are worn, they can lead to reduced stability and control. This results in less precise steering, causing the vehicle to feel loose or unresponsive during maneuvers. A lack of responsiveness can create difficulties in steering, such as excessive play in the steering wheel or delayed reaction to inputs, which can compromise safety and driving comfort. In contrast, other aspects like engine efficiency, transmission performance, and brake effectiveness are more directly influenced by their respective systems. While these parts contribute to the overall operation of the vehicle, they are not primarily affected by the condition of the suspension. Thus, the correct choice that highlights the impact of worn suspension on vehicle handling is steering response.*

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## 7. If the upper ball joint is positioned behind the lower ball joint, what is the alignment condition?

A. Negative caster

B. Neutral caster

C. Positive caster

D. None of the above

*When the upper ball joint is positioned behind the lower ball joint, it indicates a setup that promotes positive caster. Caster angle refers to the angle formed by the steering axis when viewed from the side of the vehicle. Positive caster means that the upper ball joint is located toward the rear of the vehicle relative to the lower ball joint. This configuration aids in stabilizing the steering, as the wheels naturally align themselves when the vehicle is moving forward. Positive caster enhances directional stability and improves returnability of the steering wheel after a turn. It also aids in keeping the tires in contact with the road, thus improving handling during cornering. This is critical for maintaining control, especially at higher speeds. The other alignment conditions such as negative caster would have the upper ball joint in front of the lower joint, affecting stability negatively by making the steering feel less stable and more prone to wander. Neutral caster would imply that the two ball joints align vertically, which does not provide the benefits associated with positive caster. Understanding these concepts helps mechanics evaluate steering and suspension setups accurately for proper vehicle handling characteristics.*

## 8. How is toe adjusted on a rack and pinion suspension?

A. By rotating the outer tie rod

B. By loosening the lock nut and turning the inner tie rod

C. By adjusting the steering rack position

D. By changing the tire pressure

*To adjust the toe on a rack and pinion suspension, it is essential to manipulate the inner tie rod. This is done by loosening the lock nut on the inner tie rod and then turning the inner tie rod itself. This movement changes the length of the tie rod, and consequently, it alters the angle of the wheels, which is critical for achieving proper toe alignment. Proper toe adjustment ensures that the wheels are aligned correctly relative to the centerline of the vehicle, which affects steering response, tire wear, and overall handling characteristics. Other methods mentioned in the question are not appropriate for toe adjustment in a rack and pinion suspension system. For instance, simply rotating the outer tie rod does not provide the necessary changes in toe adjustments and often only affects the steering response rather than the toe setting. Adjusting the steering rack position is generally used for centering the steering wheel rather than for toe adjustments. Lastly, changing tire pressure does not influence the toe angle; it may affect ride characteristics but doesn't adjust the wheel alignment itself.*

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## 9. What leads to chopped wear on a tire?

A. Improper toe adjustment

B. Lack of rotation or unbalanced tires

C. Excessive inflation pressure

D. Incorrect camber settings

*Chopped wear on a tire typically results from a lack of rotation or unbalanced tires. When tires are not rotated regularly, certain tires may wear unevenly due to differences in load and traction conditions. This can cause certain tread areas to become more worn than others, resulting in a "chopped" appearance, where the tread appears to have been cut or torn. Additionally, unbalanced tires can create vibrations that lead to irregular wear patterns. If the weight distribution on the tire is uneven, it will cause uneven contact with the road surface, exacerbating the issue and leading to premature and uneven wear. Regular rotation and ensuring tires are balanced properly are key practices in preventing this type of wear. On the other hand, while improper toe adjustments, excessive inflation pressure, and incorrect camber settings can lead to various types of tire wear, they do not specifically cause the characteristic chopped wear pattern seen with unbalanced tires or improper rotation practices.*

## 10. How does a negative caster angle affect a vehicle?

A. It improves steering response

B. It can cause the vehicle to wander

C. It stabilizes vehicle handling

D. It decreases tire wear

*A negative caster angle can lead to instability in steering, causing the vehicle to wander. Caster is the angle formed by the steering axis in relation to the vertical axis when viewed from the side of the vehicle. A negative caster angle means that the top of the steering axis leans towards the rear of the vehicle, which disrupts the natural self-centering ability of the steering system. As a result, the vehicle may not track straight and can feel loose on the road, making it more difficult for the driver to maintain directional control. This can lead to a sensation of wandering, especially at higher speeds or on uneven surfaces. Maintaining proper caster angles is crucial for balanced steering dynamics and overall vehicle stability, which is why a negative caster angle is linked to this wandering effect. Additionally, the other provided choices do not accurately describe the implications of a negative caster angle in vehicle dynamics.*

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# 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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