**Automotive Chassis Systems 8th Edition**

**Chapter 26 –** **Front Suspension and Service**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Front Suspension Types, Short-/Long-Arm Suspensions, and Strut Suspensions

2. Servicing the Suspension System, Road Test Diagnosis, and Dry Park Test (Suspension)

3. Visual Inspection, Ball Joints, and Kingpin Diagnosis and Service

4. Shock Absorbers and Struts and Macpherson Strut Replacement

5. Stabilizer Bar Links and Bushings and Strut Rod Bushings

6. Front Coil Springs, Steering Knuckles, Torsion Bars, and Control Arm Bushings

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**OBJECTIVES:**

1. Describe different front suspension types.

2. Diagnose short-/long-arm (SLA) suspension systems and discuss strut suspension.

3. Explain how to perform a road test, a dry park test, and a visual inspection.

4. Discuss the diagnosis of ball joints and kingpins.

5. Discuss the diagnosis of shock absorbers and struts.

6. Describe how to replace MacPherson struts.

7. Explain the diagnosis of stabilizer bar links and bushings.

8. Discuss the diagnosis of strut rod bushings, front coil springs, steering knuckles, torsion bars, and control arm bushings.

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**RESOURCES:** [(All resources may be found at jameshalderman.com)](https://jameshalderman.com/)

1. Task Sheet: Suspension Problem Diagnosis

2. Task Sheet: Diagnose Suspension Concerns

3. Task Sheet: Suspension Inspection/Component Replacement

4. Task Sheet: Torsion Bar

5. Task Sheet: Strut Rod and Stabilizer Bushings

6. Task Sheet: MacPherson Strut Service

7. Task Sheet: Front Shock Absorber Replacement

8. [Crossword Puzzle and Word Search](https://jameshalderman.com/a4_puzzles_lib_page/)

9. [Videos: ASE A4 Suspension and Steering](https://jameshalderman.com/a4_vid_lib_page/)

10. [Animations: ASE A4 Suspension and Steering](https://jameshalderman.com/a4_anim_lib_page/)

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**ACTIVITIES:**

1. Task Sheet: Suspension Problem Diagnosis

2. Task Sheet: Diagnose Suspension Concerns

3. Task Sheet: Suspension Inspection/Component Replacement

4. Task Sheet: Torsion Bar

5. Task Sheet: Strut Rod and Stabilizer Bushings

6. Task Sheet: MacPherson Strut Service

7. Task Sheet: Front Shock Absorber Replacement

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**ASSIGNMENTS:**

1. Chapter crossword and word search puzzles from the website.

2. Complete end of chapter quiz from the textbook.

3. Complete multiple choice and short answer quizzes downloaded from the website.

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**CLASS DISCUSSION:**

1. Review and group discussion chapter Frequently Asked Questions and Tech Tips sections.

2. Review and group discussion of the five (5) chapter Review Questions.

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**NOTES AND EVALUATION:**

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