**Automotive Steering, Suspension & Alignment**

**Chapter 13 – Steering Linkage and Service**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Steering Linkage, Rack-And Pinion Inner Tie Rod Ends, and Front Steer Versus Rear Steer

2. Four-Wheel Steering Systems, Steering Linkage Lubrication, and Dry Park Test

3. Common Wear Items, Under-Vehicle Inspection, and Steering Linkage Replacement

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**OBJECTIVES:**

1. Identify steering linkage components.

2. Describe rack-and-pinion inner tie rod ends.

3. Describe four-wheel steering systems.

4. Discuss steering linkage lubrication.

5. Describe the purpose and procedure for performing a dry park test.

6. List common wear items in steering systems.

7. Describe the steps for under-vehicle inspection of steering systems.

8. Explain how to replace steering linkage parts.

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

1. Task Sheet: Steering Problem Diagnosis

2. Task Sheet: Inner Tie Rod Ends and Bellows Boots

3. Task Sheet: Inspect and Replace Steering Components

4. Task Sheet: Tie-Rod End Inspection and Replacement

4. Chapter PowerPoint

5. [Crossword and Word Search Puzzles (A4)](https://jameshalderman.com/a4_puzzles_lib_page/)

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

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

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**ACTIVITIES:**

1. Task Sheet: Steering Problem Diagnosis

2. Task Sheet: Inner Tie Rod Ends and Bellows Boots

3. Task Sheet: Inspect and Replace Steering Components

4. Task Sheet: Tie-Rod End Inspection and 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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