

Automotive Technology 6th Edition

Chapter 122 – Hydraulic Power Steering Systems

Lesson Plan



CHAPTER SUMMARY:

1. Hydraulic power steering systems, power steering pump and reservoir, and integral power steering
 2. Variable-effort steering, power steering diagnosis, and power steering fluid
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OBJECTIVES:

1. Describe the operation of hydraulic power steering hydraulic systems.
 2. Discuss the components and operation of power steering pumps.
 3. Explain the purpose and function of integral power steering.
 4. Discuss the purpose and function of variable effort steering systems.
 5. Discuss power steering diagnosis and troubleshooting.
 6. Describe service of power steering components and fluid.
 7. This chapter will help prepare for Suspension and Steering (A4) ASE certification test content area “A” (Steering Systems Diagnosis and Repair).
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A4-B-4) P-2, (A4-B-5) P-2:** Steering Gear Diagnosis
 2. **Task Sheet ASE (A4-B-9) P-1, (A4-B-10) P-2:** Power Steering Fluid
 3. **Task Sheet ASE (A4-B-11) P-1:** Diagnose Power Steering Fluid Leakage
 4. **Task Sheet ASE (A4-B-12) P-1:** Power Steering Pump Belt
 5. **Task Sheet ASE (A4-B-13) P-1, (A4-B-14) P-2:** Service Power Steering Pump
 6. **Task Sheet ASE (A4-B-15) P-2:** Inspect Power Steering Hoses and Fittings
 7. **Task Sheet ASE (A4-B-20) P-2:** Power Steering System Pressure Test
 8. Chapter PowerPoint
 9. Chapter Crossword Puzzle and Word Search
 10. Animations: Power Steering Gear, Power Steering Hydraulics, and Power Steering Pump Fill
 11. Animations: Power Steering System Bleed and Power Steering System Pulley Remove and Replace
 12. Animations: Power Steering Pump Remove and Replace and Power Steering System Vacuum Bleed
 13. Animations: Remove and Replace Drive Belt
 14. Videos: Remove and Replace Drive Belt and Power steering pump replacement (time 44:54)
 15. Videos: How a Power Steering Pump Works (time 5:18)
 16. Videos: How to Troubleshoot a Power Steering System (time 7:42)
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ACTIVITIES:

1. **Task Sheet ASE (A4-B-4) P-2, (A4-B-5) P-2:** Have students complete Steering Gear Diagnosis Task Sheet.
 2. **Task Sheet ASE (A4-B-9) P-1, (A4-B-10) P-2:** Have students complete Power Steering Fluid Task Sheet.
 3. **Task Sheet ASE (A4-B-11) P-1:** Have students complete Diagnose Power Steering Fluid Leakage Task Sheet.
 4. **Task Sheet ASE (A4-B-12) P-1:** Have students complete Power Steering Pump Belt Task Sheet.
 5. **Task Sheet ASE (A4-B-13) P-1, (A4-B-14) P-2:** Have students complete Service Power Steering Pump Task Sheet.
 6. **Task Sheet ASE (A4-B-15) P-2:** **Have students complete** Inspect Power Steering Hoses and Fittings Task Sheet.
 7. **Task Sheet ASE (A4-B-20) P-2:** Have students complete Power Steering System Pressure Test Task Sheet.
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ASSIGNMENTS:

1. Chapter crossword and word search puzzles.
 2. Complete end of chapter 10 question quiz.
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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:
