

Automotive Electricity and Electronics

Chapter 21 – Cranking System Diagnosis and Service

Lesson Plan



CHAPTER SUMMARY:

1. Starting System Troubleshooting Procedure, Voltage Drop Testing, and Control Circuit Testing
 2. Starter Amperage Test, Starter Removal, Starter Motor Service, and Bench Testing
 3. Starter Installation, Starter Drive-To-Flywheel Clearance, and Starting System Symptom Guide
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OBJECTIVES:

1. Explain the procedure to troubleshoot a starting system problem.
 2. Discuss how to perform a voltage drop test on the cranking circuit.
 3. Perform control circuit testing and starter amperage test, and determine necessary action.
 4. Describe the procedure to remove a starter motor.
 5. Explain starter motor service and bench testing.
 6. Describe the procedure to install a starter motor.
 7. Describe how to ensure proper clearance between the starter pinion and the engine flywheel.
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RESOURCES: ([All resources may be found at jameshalderman.com](http://www.jameshalderman.com))

1. Task Sheet: Starter Relays and Solenoids
 2. Task Sheet: Starter Current Draw Test
 3. Task Sheet: Starter Circuit Voltage Drop
 4. Task Sheet: Remove and Install the Starter
 5. Task Sheet: Starter Disassembly and Testing
 6. Chapter PowerPoint
 7. [Crossword and Word Search Puzzles \(A6\)](#)
 8. [Videos: \(A6\) Electrical/Electronic Systems](#)
 9. [Animations: \(A6\) Electrical/Electronic Systems](#)
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ACTIVITIES:

1. Task Sheet: Starter Relays and Solenoids
 2. Task Sheet: Starter Current Draw Test
 3. Task Sheet: Starter Circuit Voltage Drop
 4. Task Sheet: Remove and Install the Starter
 5. Task Sheet: Starter Disassembly and Testing
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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:

