

Automotive Electricity and Electronics

Chapter 19 – Battery Testing and Service

Lesson Plan

CHAPTER SUMMARY:



1. Battery Service Safety Considerations and Symptoms of a Weak or Defective Battery
 2. Battery Maintenance, Battery Voltage Test, Hydrometer Testing, and Battery Load Testing
 3. Electronic Conductance Testing, Battery Charging, and Battery Charge Time
 4. Float-Type Battery Chargers, Jump Starting, and Battery Electrical Drain Test
 5. Maintaining Electronic Memory Functions and Battery Symptom Guide
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OBJECTIVES:



1. List the precautions for working with batteries.
 2. List the symptoms of a weak or defective battery.
 3. Describe how to inspect and clean terminals and hold-downs.
 4. Discuss how to test batteries for open circuit voltage and specific gravity.
 5. Describe how to perform a battery load test and a conductance test.
 6. Discuss how to perform a battery drain test.
 7. Describe how to prevent loss of memory functions and reinitialize memory functions.
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RESOURCES: ([All resources may be found at jameshalderman.com](http://www.jameshalderman.com))



1. Task Sheet: Key Off Battery Drain
 2. Task Sheet: Battery State-of-Charge
 3. Task Sheet: Battery Capacity Test
 4. Task Sheet: Electronic Memory Saver Usage
 5. Task Sheet: Reinitialization
 6. Task Sheet: Service and Replace the Battery
 7. Task Sheet: Battery Charging
 8. Task Sheet: Jump Starting
 9. Task Sheet: Hybrid Auxiliary Battery
 10. Chapter PowerPoint
 11. [Crossword and Word Search Puzzles \(A6\)](#)
 12. [Videos: \(A6\) Electrical/Electronic Systems](#)
 13. [Animations: \(A6\) Electrical/Electronic Systems](#)
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ACTIVITIES:



1. Task Sheet: Key Off Battery Drain
 2. Task Sheet: Battery State-of-Charge
 3. Task Sheet: Battery Capacity Test
 4. Task Sheet: Electronic Memory Saver Usage
 5. Task Sheet: Reinitialization
 6. Task Sheet: Service and Replace the Battery
 7. Task Sheet: Battery Charging
 8. Task Sheet: Jump Starting
 9. Task Sheet: Hybrid Auxiliary Battery
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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:
