

Automotive Technology 7th Edition

Chapter 48 – 12-Volt Batteries 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



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.
5. Discuss how to test batteries for specific gravity.
6. Describe how to perform a battery load test.
7. Describe how to perform a conductance test.
8. Explain how to safely charge a battery.
9. Describe float-type battery chargers.
10. Explain how to safely jump start a battery.
11. Discuss how to perform a battery drain test.
12. Describe how to prevent loss of memory functions and reinitialize memory functions.
13. Describe how to troubleshoot batteries.



RESOURCES: (All resources may be found at jameshalderman.com)

1. Task Sheet: Key Off Battery Drain
2. Task Sheet: Battery and Capacity Tests
3. Task Sheet: Electronic Memory Saver Usage
4. Task Sheet: Service and Replace the Battery
5. Task Sheet: Battery Charging
6. Task Sheet: Jump Starting
7. Task Sheet: Reinitialization
8. Chapter PowerPoint
9. Crossword Puzzle and Word Search
10. Videos: [\(A6\) Electrical/Electronic Systems Videos](#)
11. Animations: [\(A6\) Electrical/Electronic Systems Animations](#)



ACTIVITIES:

1. Task Sheet: Key Off Battery Drain
2. Task Sheet: Battery and Capacity Tests
3. Task Sheet: Electronic Memory Saver Usage
4. Task Sheet: Service and Replace the Battery
5. Task Sheet: Battery Charging
6. Task Sheet: Jump Starting
7. Task Sheet: Reinitialization
8. Crossword Puzzle and Word Search

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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.



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.



NOTES AND EVALUATION:
