

Automotive Heating and Air Conditioning 9th Edition

Chapter 11 – HVAC Electricity and Electronics

Lesson Plan



CHAPTER SUMMARY:

1. Electricity, How Electrons Move Through a Conductor, Units of Electricity, and Electrical Circuits
 2. Electrical Schematics, Types of Circuit Faults, Fused Jumper Wire, and Test Light
 3. Digital Meters, Inductive Meters, Terminal and Connectors, Wire Repair, Relays, and Networks
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OBJECTIVES:

1. Prepare for the Heating and Air Conditioning (A7) ASE certification test content area “D” (Operating Systems and Related Controls Diagnosis and Repair).
 2. Explain the characteristics of electricity.
 3. Differentiate between conductors, insulators, and semiconductors.
 4. Explain the units of electrical measurement.
 5. List the parts of a complete circuit.
 6. Discuss the types of electrical circuit faults.
 7. Explain how to detect and measure electrical voltage, current, and resistance using digital meters.
 8. Discuss wire repair.
 9. Discuss the purpose of terminals, connectors, relays, and switches.
 10. Discuss networks and network classifications.
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RESOURCES: ([All resources may be found at jameshalderman.com](http://www.jameshalderman.com))

1. Task Sheet: Air Conditioning Control System Diagnosis
 2. Chapter PowerPoint
 3. [Crossword Puzzle and Word Search \(A6\)](#)
 4. [Crossword Puzzle and Word Search \(A7\)](#)
 5. [Videos: \(A6\) Electrical/Electronic Systems](#)
 6. [Videos: \(A7\) Heating & Air Conditioning](#)
 7. [Animations: \(A6\) Electrical/Electronic Systems](#)
 7. [Animations: \(A7\) Heating & Air Conditioning](#)
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ACTIVITIES:

1. Task Sheet: Air Conditioning Control System Diagnosis
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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:
