

Automotive Technology 6th Edition

Chapter 48 – Electronic Fundamentals

Lesson Plan

CHAPTER SUMMARY:



1. Semiconductors, diodes, and zener diodes
 2. High-voltage spike protection, diode ratings, light-emitting diodes, and photodiodes
 3. Photoresistors, silicone-controlled rectifiers, thermistors, and rectifier bridges
 4. Transistors, field effect transistors, phototransistors, and integrated circuits
 5. Transistors gates, operational amplifiers, and electronic component failure causes
 6. Testing diodes and transistors, converters, inverters, and electrostatic discharge
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OBJECTIVES:



1. Identify semiconductor components how converters and inverters are used, and explain precautions for working with semiconductor circuits.
 2. Describe how diodes and transistors work, and how to test them.
 3. Identify the failure causes of electronic components.
 4. List ways to avoid electrostatic discharge.
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)



1. **Task Sheet:** Electronic Fundamentals
 2. Chapter PowerPoint
 3. Chapter Crossword Puzzle and Word Search
 4. Animations: Potentiometer, Relay, and Transistors
 5. Videos: Relays (time 8:13) and Basics (time 10:14)
 6. Videos: Relays (time 1:32) and Relays (time 1:27)
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ACTIVITIES:



1. **Task Sheet:** Have students complete Electronic Fundamentals 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:

