

Automatic Transmissions and Transaxles 8th Edition

Chapter 9 – Drivetrain 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, and Relays
4. Switches, Speed Sensors, Throttle Position (TP) Sensor, and Electronic Throttle Control System
5. Networks, Network Classification, and Control Area Network



OBJECTIVES:

1. Explain the characteristics of electricity.
2. Differentiate between conductors, insulators, and semiconductors.
3. Explain the units of electrical measurement.
4. List the parts of a complete circuit.
5. Discuss the types of electrical circuit faults.
6. Explain how to detect and measure electrical voltage, current, and resistance.
7. Discuss the purpose and function of terminals, connectors, relays, and switches.
8. Explain the operation of speed sensors and throttle position (TP) sensors.
9. State the need for networks and discuss network classifications.



RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. Task Sheet: Test Light Usage
2. Task Sheet: Measure Voltage Using a Voltmeter
3. Task Sheet: Measuring Current Using an Ammeter
4. Task Sheet: Check Electrical Circuits Using an Ohmmeter
5. Task Sheet: Circuit Testing Using a Fused Jumper Wire
6. Task Sheet: Inspect Wiring and Connectors
7. Task Sheet: Wire Harness and Connector Repair
8. Task Sheet: Connectors and Terminals
9. Task Sheet: Solder Wire Repair
10. Task Sheet: Use Wiring Diagrams to Diagnose a Circuit
11. Task Sheet: Module Communication
12. Task Sheet: Inspect, Test Electrical/Electronic Components
13. Chapter PowerPoint
14. Crossword Puzzle and Word Search
15. Videos: [\(A2\) Automatic Transmissions and Transaxles Videos](#)
16. Videos: [\(A6\) Electrical/Electronic Systems Videos](#)
17. Animations: [\(A2\) Automatic Transmissions and Transaxles Animations](#)
18. Animations: [\(A6\) Electrical/Electronic Systems Videos](#)

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ACTIVITIES:

1. Task Sheet: Test Light Usage
2. Task Sheet: Measure Voltage Using a Voltmeter
3. Task Sheet: Measuring Current Using an Ammeter
4. Task Sheet: Check Electrical Circuits Using an Ohmmeter
5. Task Sheet: Circuit Testing Using a Fused Jumper Wire
6. Task Sheet: Inspect Wiring and Connectors
7. Task Sheet: Wire Harness and Connector Repair
8. Task Sheet: Connectors and Terminals
9. Task Sheet: Solder Wire Repair
10. Task Sheet: Use Wiring Diagrams to Diagnose a Circuit
11. Task Sheet: Module Communication
12. Task Sheet: Inspect, Test Electrical/Electronic Components



ASSIGNMENTS:

1. Chapter crossword and word search puzzles.
2. Complete end of chapter 10 question quiz.
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:
