

Automotive Technology 6th Edition

Chapter 41 – Series, Parallel, and Series-Parallel Circuits

Lesson Plan



CHAPTER SUMMARY:

1. Series circuits, Ohm's Law and series circuits, and Kirchhoff's Voltage Law
 2. Series circuit laws, parallel circuits, Kirchhoff's Current Law, and parallel circuit laws
 3. Determining total resistance in a parallel circuit and series-parallel circuits
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OBJECTIVES:

1. Identify a series circuit.
 2. State Kirchhoff's voltage law and calculate voltage drops in a series circuit.
 3. Explain series circuit laws.
 4. Identify a parallel circuit.
 5. State Kirchhoff's current law.
 6. Calculate the total resistance in a parallel circuit.
 7. Identify a series-parallel circuit.
 8. Calculate the total resistance of a series-parallel circuit.
 9. Prepare for ASE Electrical/Electronic Systems (A6) certification test content area "A" (General Electrical/Electronic System Diagnosis).
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. Task Sheet ASE (A6-A-2) P-1: Series Circuit Worksheet #1
 2. Task Sheet ASE (A6-A-2) P-1: Series Circuit Worksheet #2
 3. Task Sheet ASE (A6-A-2) P-1: Series Circuit Worksheet #3
 4. Task Sheet ASE (A6-A-2) P-1: Parallel Circuit Worksheet #1
 5. Task Sheet ASE (A6-A-2) P-1: Parallel Circuit Worksheet #2
 6. Task Sheet ASE (A6-A-2) P-1: Parallel Circuit Worksheet #3
 7. Task Sheet ASE (A6-A-2) P-1: Series-Parallel Circuit Worksheet #1
 8. Task Sheet ASE (A6-A-2) P-1: Series-Parallel Circuit Worksheet #2
 9. Task Sheet ASE (A6-A-2) P-1: Series-Parallel Circuit Worksheet #3
 10. Chapter PowerPoint
 11. Chapter Crossword Puzzle and Word Search
 12. Animations: Math Formula - Series Circuit Resistance and Series Circuit - Open Circuit
 13. Animations: Parallel Circuit - Open, Parallel Circuits - Volts, and Parallel Circuit
 14. Videos: Series Circuits (time 7:11) and Intro the Parallel Circuits (time 5:43)
 15. Videos: Calculating Current in a Parallel Circuit (time 11:00)
 16. Videos: Solving Series-Parallel Circuits (time 8:03) and Series-Parallel Circuits (time 2:42)
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DEMO

ACTIVITIES:

1. Task Sheet ASE (A6-A-2) P-1: Have students complete Series Circuit Worksheet #1 Task Sheet.
 2. Task Sheet ASE (A6-A-2) P-1: Have students complete Series Circuit Worksheet #2 Task Sheet.
 3. Task Sheet ASE (A6-A-2) P-1: Have students complete Series Circuit Worksheet #3 Task Sheet.
 4. Task Sheet ASE (A6-A-2) P-1: Have students complete Parallel Circuit Worksheet #1 Task Sheet.
 5. Task Sheet ASE (A6-A-2) P-1: Have students complete Parallel Circuit Worksheet #2 Task Sheet.
 6. Task Sheet ASE (A6-A-2) P-1: Have students complete Parallel Circuit Worksheet #3 Task Sheet.
 7. Task Sheet ASE (A6-A-2) P-1: Have students complete Series-Parallel Circuit Worksheet #1 Task Sheet.
 8. Task Sheet ASE (A6-A-2) P-1: Have students complete Series-Parallel Circuit Worksheet #2 Task Sheet.
 9. Task Sheet ASE (A6-A-2) P-1: Have students complete Series-Parallel Circuit Worksheet #3 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:
