

# Automotive Electrical and Engine Performance - 9th edition

## Ch21: Body Electrical Accessories

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Horns, Horn Diagnosis, Windshield Wipers, Windshield Washers, Rain-Sense Wipers, and Blower Motor
2. Cruise Control, Heated Rear Window Defoggers, Power Windows, and Electric Power Door Locks
3. Power Sun Roof/Moon Roof, Power Seats, and Heated and Cooled Seats
4. Heated Steering Wheel, Heated Mirrors, and Adjustable Pedals, and Keyless Entry
5. Garage Door Opener, Remote Start, and Body Electrical Systems Diagnosis

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#### **OBJECTIVES:**



1. Describe how the horn operates.
2. Diagnose faulty horn operation.
3. Explain the testing and diagnosis of windshield wipers.
4. Explain the testing and diagnosis of windshield washers.
5. Describe how rain-sense wipers operate and are serviced.
6. Describe the operation of the blower motor.
7. Describe the operation of cruise control.
8. Discuss electrically heated rear window defogger systems.
9. Explain the operation and testing procedures for power windows.
10. Discuss electric power door locks and trunk/lift gate locks.
11. Discuss the operation of power sun roofs/moon roofs and sun shades.
12. Describe the operation of power seats.
13. Describe the operation of electrically heated seats and cooled seats.
14. Describe the operation of heated steering wheels.
15. Describe the operation of heated mirrors.
16. Explain the operation of adjustable pedals and folding outside mirrors.
17. Describe the operation and diagnosis of remote keyless entry.
18. Describe the operation and diagnosis of garage door openers.
19. Discuss remote start systems.
20. Explain the diagnosis of body electrical communications systems and describe the process to reprogram electronic modules.

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#### **RESOURCES:** (All resources may be found at [jameshalderman.com](http://jameshalderman.com))



1. Task Sheet: Blower Motor Radio Noise
  2. Task Sheet: Body and Module Communication Diagnosis
  3. Task Sheet: Comfort and Convenience Accessories
  4. Task Sheet: Door Panel
  5. Task Sheet: Horn
  6. Task Sheet: Power Accessory Diagnosis
  7. Task Sheet: Windshield Wiper/Washer
  8. Crossword Puzzle and Word Search
  9. Videos: (A6) Electrical/Electronic Systems Videos
  - 10.. Animations: (A6) Electrical/Electronic Systems Animations
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#### **ACTIVITIES:**

1. Task Sheet: Blower Motor Radio Noise
  2. Task Sheet: Body and Module Communication Diagnosis
  3. Task Sheet: Comfort and Convenience Accessories
  4. Task Sheet: Door Panel
  5. Task Sheet: Horn
  6. Task Sheet: Power Accessory Diagnosis
  7. Task Sheet: Windshield Wiper/Washer
  8. Crossword Puzzle and Word Search
  9. Chapter PowerPoint
  10. 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.
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#### **CLASS DISCUSSION:**

1. Review and group discussion chapter Frequently Asked Questions and Tech Tips sections.
  2. Ten (10) question end of Chapter Quiz.
  3. Five (5) end of chapter Review Question for class discussion.
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#### **NOTES AND EVALUATION:**

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