

Automotive Electrical and Engine Performance - 9th edition

Ch17: Lighting and Signal Circuits

Lesson Plan



CHAPTER SUMMARY:

1. Lighting Systems, LED Lighting, Bulb Numbers. Brake Lights, Turn Signals, and Daytime Running Lights
2. Headlights, High-Intensity Discharge Headlights, LED Headlights, and Adaptive Front Lighting System
3. Automatic Headlights, Headlight High/Low Beams Switch, and Auto Dimming Headlights
4. Headlight Aiming, Fog Driving Lights, Automatic Dimming Mirrors, and Courtesy Lights
5. Illuminated Entry, Headlight System Diagnosis, and Lighting System Diagnosis



OBJECTIVES:

1. Explain lighting systems in an automobile.
2. List the advantages of using LED lights.
3. Read and interpret a bulb chart.
4. Discuss the operation of brake lights.
5. Discuss the operation of turn signals.
6. Describe daytime running lights.
7. Describe headlights.
8. Describe high-intensity discharge headlights.
9. Describe LED headlights.
10. Describe adaptive front lighting systems.
11. Describe automatic headlights.
12. Describe the headlight high-/low-beam switch.
13. Describe auto-dimming headlights.
14. Describe how to aim headlights.
15. Describe fog lights and driving lights.
16. Describe automatic dimming mirrors.
17. Describe courtesy lights.
18. Describe illuminated entry.
19. Explain the procedures to inspect and troubleshoot the headlight system.
20. Explain the procedures to diagnose the lighting and signaling system.



RESOURCES: (All resources may be found at jameshalderman.com)

1. Task Sheet: Lighting System Diagnosis
2. Task Sheet: Aim Headlights
3. Crossword Puzzle and Word Search
4. Videos: (A6) Electrical/Electronic Systems Videos
5. Animations: (A6) Electrical/Electronic Systems Animations



ACTIVITIES:

1. Task Sheet: Lighting System Diagnosis
2. Task Sheet: Aim Headlights
3. Crossword Puzzle and Word Search
4. Chapter PowerPoint
5. 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: