**Automotive Electricity and Electronics**

**Chapter 24 –** **Lighting and Signaling Circuits**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Lighting Systems, LED Lighting, Bulb Numbers, Brake Lights, and Turn Signals

2. Daytime Running Lights, Headlights, High-Intensity Discharge Headlights, and LED Headlights

3. Adaptive Front Lighting System, Automatic Headlights, and Headlight High/Low Beam Switch

4. Auto Dimming Headlights, Headlight Aiming, and Fog and Driving Lights

5. Automatic Dimming Mirrors, Courtesy Lights, Illuminated Entry, and Headlight System Diagnosis

6. Lighting System Diagnosis and Lighting System Symptom Guide

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**OBJECTIVES:**

1. Explain lighting systems in an automobile and list the advantages of using LED lights.

2. Read and interpret a bulb chart.

3. Discuss the operation of brake lights and turn signals.

4. Describe daytime running lights, fog lights, driving lights, types of headlights, adaptive headlights, and how to aim headlights.

5. Describe automatic dimming mirrors, courtesy lights, and illuminated entry.

6. Explain the procedures to inspect and troubleshoot lighting and signaling systems.

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

1. Task Sheet: Lighting System Diagnosis

2. Task Sheet: Turn Signal and Hazard Lights

3. Task Sheet: Headlight Replacement and Aiming

4. Task Sheet: High-Intensity Discharge Headlights

5. Task Sheet: Alternator Rectifier Bridge Testing

6. Chapter PowerPoint

7. [Crossword and Word Search Puzzles (A6)](https://jameshalderman.com/a6_puzzles_lib_page/)

8. [Videos: (A6) Electrical/Electronic Systems](https://jameshalderman.com/a6_vid_lib_page/)

9. [Animations: (A6) Electrical/Electronic Systems](https://jameshalderman.com/a6_anim_lib_page/)

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**ACTIVITIES:**

1. Task Sheet: Lighting System Diagnosis

2. Task Sheet: Turn Signal and Hazard Lights

3. Task Sheet: Headlight Replacement and Aiming

4. Task Sheet: High-Intensity Discharge Headlights

5. Task Sheet: Alternator Rectifier Bridge Testing

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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. Review and group discussion of the five (5) chapter Review Questions.

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**NOTES AND EVALUATION:**

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