**Automotive Electrical and Engine Performance - 9th edition**

**Ch25: Hybrid and Electric Vehicle Safety**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. High-Voltage Safety, Electric Shock Potential, and Electric Vehicles in the Service Area

2. Personal Protective Equipment (PPE), and High-Voltage Tools and Equipment

3. Safety Interlock System and Depowering the High-Voltage System

4. Hoisting Hybrid or Electric Vehicle and Moving a Hybrid or Electric Vehicle Around the Shop

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**OBJECTIVES:**

1. Discuss high-voltage safety, electric shock potential, and EV/HEV service areas.

2. Discuss electric shock potential.

3. Discuss EV/HEV service areas.

4. Describe the personal protective equipment (PPE) recommended for working on EV/HEV systems.

5. Explain the tools and equipment needed for working on high-voltage electrical systems.

6. Explain the purpose of the safety interlock system.

7. Describe the process for depowering the high-voltage system.

8. Discuss precautions that are needed when hoisting an EV/HEV in the shop.

9. Discuss precautions that are needed when moving an EV/HEV in the shop.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. Task Sheet: High Voltage Circuit Identification

2. Task Sheet: Hybrid/Electric Vehicle HV Circuit Disconnect

3. Crossword Puzzle and Word Search

4. Videos: (L3) Light Duty Hybrid Electric Videos

5. Animations: (L3) Light Duty Hybrid Electric Animations

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ACTIVITIES:**

1. Task Sheet: High Voltage Circuit Identification

2. Task Sheet: Hybrid/Electric Vehicle HV Circuit Disconnect

4. Crossword Puzzle and Word Search

5. Chapter PowerPoint

6. Crossword Puzzle and Word Search

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**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.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**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.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Automotive Electrical and Engine Performance - 9th edition**

**Ch25: Hybrid and Electric Vehicle Safety**

**Lesson Plan**

**NOTES AND EVALUATION:**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_