

Automotive Technology 6th Edition

Chapter 92 – Hybrid High-Voltage Batteries

Lesson Plan



CHAPTER SUMMARY:

1. Hybrid auxiliary batteries and hybrid and electric vehicle high-voltage batteries
 2. Nickel-metal hydride batteries and lithium-ion high voltage batteries
 3. High-voltage battery and disconnect location and other high-voltage battery types
 4. Battery comparison, high-voltage battery monitor, and out-of-vehicle HV battery service
 5. High-voltage battery charging and high-voltage battery safety precautions
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OBJECTIVES:

1. State the purpose of the auxiliary battery in a hybrid vehicle.
 2. Explain the types of high-voltage batteries used in most hybrid electric vehicles.
 3. Describe the purpose of the high-voltage battery monitor.
 4. List the steps for servicing a high-voltage battery.
 5. Discuss high-voltage battery charging and safety precautions.
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. Chapter PowerPoint
 2. Chapter Crossword Puzzle and Word Search
 3. Animations: Parallel Hybrid, Regenerative Braking, and Series Hybrid
 4. Videos: High Voltage Hybrid Systems – Toyota Prius Ni-MH Battery (time 1:08:26)
 5. Videos: High Voltage Hybrid Systems – 2017 Toyota Prius Li-Ion Battery (time 45:13)
 6. Videos: How Supercharger Stations Work (time 2:03)
 7. Videos: Hybrid High Voltage Battery Service Connector Tip (time 1:49)
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ACTIVITIES:

1. Have students visit a shop that maintains and repairs high voltage hybrid electric vehicles.
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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:
