**Electric & Hybrid Electric Vehicles 1st Edition**

**Chapter 17 – EV and HEV Transmissions**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Transmission and Transaxles, Principle Involved, and HEV Transmissions

2. GM Parallel Hybrid Truck (PHT), GM Two-Mode Hybrid Transmission, and Ford/Lincoln 10R80 MHT

3. Toyota/Lexus Power-Split System and Toyota Hybrid eCVT Transmission

4. Hybrid Electric Rear Axle, Hybrid Transmission Diagnosis, and Electric Vehicle Transmissions

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**OBJECTIVES:**

1. Describe the function of a hybrid electric vehicle (HEV) transmission.

2. Understand the relationship required between the ICE and electric motor(s).

3. Explain the purpose of an auxiliary electric pump or hydraulic impulse storage generator.

4. Describe the difference between a power-split system and an eCVT in a hybrid vehicle.

5. Discuss the operation of a transmission in a fully electric vehicle.

6. Explain the operation of a two-speed gearing in an electric vehicle

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

1. Task Sheet: Hybrid Vehicle Automatic Transmission

2. Task Sheet: EV and HEV Transmission Scan Tool Diagnosis

3. Chapter PowerPoint

4. [Crossword Puzzle and Word Search (L3)](https://jameshalderman.com/l3_puzzles_lib_page/)

5. [Videos: (L3) Light Duty Hybrid Electric](https://jameshalderman.com/l3_vid_lib_page/)

6. [Animations: (L3) Light Duty Hybrid Electric](https://jameshalderman.com/l3_anim_lib_page/)

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**ACTIVITIES:**

1. Task Sheet: Hybrid Vehicle Automatic Transmission

2. Task Sheet: EV and HEV Transmission Scan Tool Diagnosis

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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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