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

**Chapter 18 – EV and HEV Driver Assist Systems**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Advanced Driver Assist Systems, Human-Machine Interface (HMI), and Blind Spot Monitor

2. Parking-Assist Systems, Lane Departure Warning, and Lane Keep Assist

3. Adaptive Cruise Control, Rear Cross-Traffic Warning (RCTW), and Automatic Emergency Braking

4. Pre-Collision System, Cameras, LiDAR Systems, and Driver Assist Diagnosis

5. Camera and Radar Sensor Calibration and Autonomous Vehicle Operation

6. Levels of Automation, Artificial Intelligence (AI) and Dedicated Short-Range Communications (DSRC)

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**OBJECTIVES:**

1. Describe the purpose and function of advanced driver-assist systems.

2. Discuss blind-spot monitors and parking assist, as well as self-parking systems.

3. Explain lane departure warning and lane-keep assist systems.

4. Describe how adaptive cruise control systems work.

5. Discuss rear cross-traffic warning system operation.

6. Explain automatic emergency braking and pre-collision systems.

7. Describe the diagnostic and calibration procedures for advanced driver assist systems.

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

1. Task Sheet: Advanced Driver Assist Systems

2. Task Sheet: ADAS Calibration

3. Chapter PowerPoint

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

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

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

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**ACTIVITIES:**

1. Task Sheet: Advanced Driver Assist Systems

2. Task Sheet: ADAS Calibration

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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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