

# Automotive Electrical and Engine Performance - 9th edition

## Ch23: Advanced Driver Assist Systems (ADAS)

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Driver Assist Systems, Human-Machine Interface (MHI), and Blind Spot Monitor
  2. Parking Assist Systems, Lane Departure Warning, and Adaptive Cruise Control
  3. Rear Cross-Traffic Warning (RCTW), Automatic Emergency Braking, and Cameras
  4. LiDAR Systems, Driver Assist Diagnosis, and Autonomous Vehicle Operation
  5. Dedicated Short-Range Communication (DSRC)
- 



#### **OBJECTIVES:**

1. Describe the purpose and function of advanced driver assist systems.
  2. Explain the purpose of the human-machine interface.
  3. Discuss blind spot monitors.
  4. Describe the operation of the parking-assist system and self-parking systems.
  5. Explain lane departure warning and lane keep assist systems.
  6. Describe how adaptive cruise control systems work.
  7. Discuss rear cross-traffic warning system operation.
  8. Explain automatic emergency braking and pre-collision systems.
  9. Discuss cameras used in advanced driver assist system.
  10. Discuss Lidar used in advanced driver assist system.
  11. Describe the diagnostic and calibrations procedures for advanced driver assist systems.
  12. Explain autonomous vehicle operation.
  13. Describe dedicated short-range communications.
- 



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

1. Task Sheet: Advance Driver Assist System Sensors
  2. Crossword Puzzle and Word Search
  3. Videos: (A6) Electrical/Electronic Systems Videos
  4. Animations: (A6) Electrical/Electronic Systems Animations
- 



#### **ACTIVITIES:**

1. Task Sheet: Advance Driver Assist System Sensors
  2. Crossword Puzzle and Word Search
  3. Chapter PowerPoint
  4. 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.
-

**Automotive Electrical and Engine Performance - 9th edition**  
**Ch23: Advanced Driver Assist Systems (ADAS)**  
**Lesson Plan**



**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.

---

**NOTES AND EVALUATION:**

