

# Automotive Technology 6<sup>th</sup> Edition

## Chapter 57 – Driver Information and Navigation Systems

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Dash warning symbols, steering wheel controls, voice activation, and maintenance indicators
  2. Analog and digital displays, heads-up display, night vision, and electronic displays
  3. Virtual display, touch screens, speedometers/odometers, and dash gauges
  4. Navigation and GPS, telematics, and backup cameras
  5. Parking-assist systems and lane departure warning
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#### **OBJECTIVES:**

1. Identify the meaning of dash warning symbols.
  2. Describe steering wheel controls, voice activation, and maintenance indicators.
  3. Discuss the operation of head-up display, night vision, and digital electronic displays.
  4. Describe how speedometers and odometers work.
  5. Discuss the diagnosis of oil pressure lamp, temperature lamp, brake warning lamp, and other analog dash instruments.
  6. Describe how a navigation system works.
  7. Explain the operation and diagnosis of telematics systems, backup camera, backup sensor, and lane departure warning system.
  8. Help prepare for the ASE Electrical/Electronic Systems (A6) certification test content area “F” (gauges, Warning Devices, and Driver information System Diagnosis and repair).
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#### **RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A6-F-1) P-2:** Gauge Diagnosis
  2. **Task Sheet ASE (A6-F-2) P-2:** Driver Information and Warning Devices
  3. Chapter PowerPoint
  4. Chapter Crossword Puzzle and Word Search
  5. Animations: Parking Brake Warning Light
  6. Videos: See list at the end of the lesson plan.
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#### **ACTIVITIES:**

1. **Task Sheet ASE (A6-F-1) P-2:** Have students complete Gauge Diagnosis Task Sheet.
  2. **Task Sheet ASE (A6-F-2) P-2:** Have students complete Driver Information and Warning Devices Task Sheet.
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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:**



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**Videos:** (at <http://www.jameshalderman.com>)

Maintenance light reset (time 0:54)  
Dash cluster removal (time 4:24)  
Fuel gauge troubleshooting (time 6:43)  
How to test a fuel gauge (time 18:26)  
Gas gauge reads too low (time 5:23)  
Coolant level sensor (time 8:25)  
Instrument cluster (time 6:07)  
Gas gauge repair (time 2:01)  
Oil pressure gauge repair (time 3:41)  
Fuel gauge repair (time 2:29)  
BMW cluster (time 3:49)  
Temperature display (time 3:48)  
Fuel gauge (time 14:04)  
Gauges (Part 1) – How early electric gauges work (time 3:47)  
Gauges (Part 2) – Introduction to electric gauges (time 2:08)  
Gauges (Part 3) – How early electric gauges work (time 3:59)  
Gauges (Part 4) – how late electric gauges work (time 4:18)  
Gauges (Part 5) – How to test & diagnose the system (time 4:15)  
Instrument cluster replacement (time 5:04)  
Fuel sending unit Corvette (time 13:29)