

Automotive Technology 6th Edition

Chapter 74 – Temperature Sensors

Lesson Plan



CHAPTER SUMMARY:

1. Engine coolant temperature sensors and testing the engine coolant temperature sensor
 2. Intake air temperature sensor and testing the air intake air temperature sensor
 3. Transmission fluid temperature sensor and cylinder head temperature sensor
 4. Engine fuel temperature sensor (EFT) and exhaust gas recirculation (EGR) temperature sensor
 5. Engine oil temperature and temperature sensor diagnostic trouble codes
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OBJECTIVES:

1. Describe the purpose, function, and testing of engine coolant temperature sensors.
 2. Diagnose problems resulting from malfunctioning intake air temperature control systems.
 3. Discuss how automatic fluid temperature sensor valves can affect transmission operation.
 4. Describe the purpose of temperature sensors for cylinder heads, engine fuel, exhaust gas recirculation, and engine oil.
 5. This chapter will help prepare for Engine Repair (A8) ASE certification test content area “E” (Computerized Engine Controls Diagnosis and Repair).
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A8-A-9) P-2:** Temperature Sensor Scan Tool Diagnosis
 2. Chapter PowerPoint
 3. Chapter Crossword Puzzle and Word Search
 4. Animations: Test Engine Coolant Temperature ECT Sensor
 5. Videos: See list at the end of the lesson plan.
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ACTIVITIES:

1. **Task Sheet ASE (A8-A-9) P-2:** Have students complete Temperature Sensor Scan Tool Diagnosis 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>)

Coolant temp sensor (time 0:40)
ECT and wiring diagrams (time 1:32)
IAT sensor testing (time 0:37)
ECT and wiring diagram (time 3:43)
ECT sensor (time 2:04)
Coolant temperature sensor (time 5:18)
Coolant temp sensor (time 7:21)
Coolant temperature sensor (time 9:31)
IAT sensor testing (time 1:51)
ECT sensor testing (time 1:35)
ECT sensor reference circuit (time 1:57)
ECT sensor signal circuit (time 2:08)
ECT diagnosis (time 1:17)
IAT sensor (time 1:26)
ECT sensor (time 0:34)
IAT sensor (time 1:51)