

# Advanced Engine Performance Diagnosis 7<sup>th</sup> Edition

## Chapter 15 – Temperature Sensors

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Engine Coolant Temperature Sensors and testing the ECT Sensor
2. Intake Air Temperature Sensor and Testing the Intake Air Temperature Sensor
3. Transmission Fluid Temperature Sensor and Cylinder Head Temperature Sensor
4. Engine Fuel Temperature (EFT) Sensor and Exhaust Gas Recirculation (EGR) Temperature Sensor
5. Engine Oil Temperature Sensor and Temperature Sensor Diagnostic Trouble Codes

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#### **OBJECTIVES:**



1. Discuss the function of engine coolant temperature sensors and the procedure to test them.
2. Explain the function of the intake air temperature sensors and the procedure to test them.
3. Explain transmission fluid, cylinder head, fuel, exhaust gas recirculation and engine oil temperature sensors.
4. Describe diagnostic trouble codes for temperature sensors.

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



1. Task Sheet: Temperature Sensor Visual Inspection
2. Task Sheet: ECT Sensor DMM Testing
3. Task Sheet: Temperature Sensors
4. Task Sheet: Engine Coolant Temperature (ECT) Graph
5. Task Sheet: Temperature Sensor Scan Tool Diagnosis
6. Chapter PowerPoint
7. [Crossword and Word Search Puzzles \(A8\)](#)
8. [Videos: \(A8\) Engine Performance](#)
9. [Animations: \(A8\) Engine Performance](#)

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#### **ACTIVITIES:**



1. Task Sheet: Temperature Sensor Visual Inspection
2. Task Sheet: ECT Sensor DMM Testing
3. Task Sheet: Temperature Sensors
4. Task Sheet: Engine Coolant Temperature (ECT) Graph
5. Task Sheet: Temperature Sensor 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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