

Automotive Technology 6th Edition

Chapter 75 – Throttle Position (TP) Sensors

Lesson Plan



CHAPTER SUMMARY:

1. Throttle position sensor construction and TP sensor computer input functions
 2. PCM uses for the TP sensor and testing the throttle position sensor
 3. Testing a TP sensor using the MIN/MAX function and testing the TP sensor using a scan tool
 4. TP sensor diagnostic trouble codes
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OBJECTIVES:

1. Discuss how throttle position sensors work. Discuss the PCM uses for the TP sensor.
 2. Describe how to test the TP sensor using a digital multimeter and a scan tool.
 3. 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:** Throttle Position Sensor Scope Test
 2. Chapter PowerPoint
 3. Chapter Crossword Puzzle and Word Search
 4. Animations: Potentiometer and Throttle Position Sensor
 5. Animations: Throttle Position Volt Check Ref Signal and Throttle Position Ground Check
 6. 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 Throttle Position Sensor Scope Test 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>)

Throttle position sensor (time 0:37)
TPS sensor (time 4:52)
P0121 TPS (time 6:23)
TPS testing (time 2:22)
TPS adjustment part 1 (time 4:34)
TPS adjustment part 2 (time 9:04)
TPS adjustment (time 3:47)
TPS (time 1:33)
TPS signal circuit (time 1:07)
TPS reference voltage circuit (time 1:09)
TPS and ECU circuits (time 1:34)
TPS sensor (time 1:48)
Testing TPS (time 2:34)
TPS diagnostics (time 6:26)
5-volt reference voltage (time 1:48)