

Automotive Technology 6th Edition

Chapter 77 – Mass Air Flow Sensors

Lesson Plan



CHAPTER SUMMARY:

1. Speed density systems, mass airflow sensor types, and Karmen vortex sensors
 2. PCM uses for airflow sensors, testing mass airflow sensors, and MAF sensor contamination
 3. MAF sensor scope testing and MAF-related diagnostic trouble codes
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OBJECTIVES:

1. Discuss how MAF sensors work and describe the types of MAF sensors.
 2. Discuss the PCM uses for the MAF sensor.
 3. List the methods that can be used to test MAF sensors.
 4. Discuss how MAF sensors work and describe the types of MAFF sensors.
 5. Discuss the PCM uses for the MAF sensor.
 6. list the methods that can be used to test MAF sensors.
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A8-A-9) P-2:** MAF Sensor Diagnosis
 2. Chapter PowerPoint
 3. Chapter Crossword Puzzle and Word Search
 4. 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 MAF Sensor 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>)

MAF cleaning (time 2:26)
MAF testing part 1 (time 9:00)
MAF testing part 2 (time 10:59)
Dirty MAF sensor (time 14:51)
MAF testing (time 15:04)
MAF sensor (time 8:05)
Vane air sensor (time 3:51)
Ford MAF sensor testing (time 5:36)
Ford MAF sensor cleaning (time 3:37)
MAF sensor Karman vortex signal circuit (time 2:15)
MAF IAT sensor signal circuit (time 1:47)
MAF hot film circuit (time 2:23)
MAF and ECM circuit (time 1:32)
MAF sensor (time 1:34)
MAF testing (time 1:29)
Digital MAF sensor diagnosis and repair (time 3:08)
Mass air flow sensor (time 0:37)
Vane air meter (time 6:14)
Cleaning a MAF sensor (time 2:57)
MAF sensor testing (time 1:27)
MAF sensor and wiring diagram (time 4:24)