

Automotive Technology 6th Edition

Chapter 79 – Fuel Pumps, Lines, and Filters

Lesson Plan

CHAPTER SUMMARY:



1. Fuel delivery systems, fuel tanks, and rollover leakage protection
 2. Fuel lines, electric fuel pumps, and fuel filters
 3. Fuel-pump testing, fuel-pump current draw test, and fuel-pump replacement
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OBJECTIVES:



1. List components of the fuel delivery system and explain the role of fuel tanks.
 2. Discuss rollover leakage prevention devices.
 3. Discuss the different types of fuel lines.
 4. Explain the different types of electric fuel pumps.
 5. Describe the purpose of fuel filters.
 6. Describe how to test and replace fuel pumps.
 7. This chapter will help prepare for engine repair (A8) ASE certification test content area “C” (Fuel, Air Induction, and Exhaust Systems Diagnosis and Repair).
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)



1. **Task Sheet ASE (A8-D-3) P-1:** Fuel Pump Testing
 2. **Task Sheet ASE (A8-D-3) P-1:** Fuel Pump Current Draw Test
 3. **Task Sheet ASE (A8-D-4) P-2:** Fuel Filter Replacement
 4. Chapter PowerPoint
 5. Chapter Crossword Puzzle and Word Search
 6. Animations: Fuel Filters, Low Side Driver Control, and Output Driver Control
 7. Videos: See list at the end of the lesson plan.
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ACTIVITIES:



1. **Task Sheet ASE (A8-D-3) P-1:** Have student complete Fuel Pump Testing Task Sheet.
 2. **Task Sheet ASE (A8-D-3) P-1:** Have students complete Fuel Pump Current Draw Test Task Sheet.
 3. **Task Sheet ASE (A8-D-4) P-2:** Have students complete Fuel Filter Replacement 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:



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

Fuel pump (time 0:39)
Fuel pump strainer (time 0:34)
Fuel pump relay (time 22:32)
Fuel tank pressure sensor (time 3:32)
Fuel pump replacement (time 1:16)
Fuel pump removal (time 6:17)
Fuel pump connections (time 6:16)
Fuel tank removal (time 7:11)
Fuel pump and fuel systems (time 5:04)
Fuel tank pressure sensor circuit (time 1:16)
Fuel level circuit (time 1:29)
Fuel volume (time 3:09)
Fuel volume test (time 4:29)
Fuel pump replacement (time 11:26)
Fuel filter replacement (time 6:55)
Fuel filter replacement (time 5:17)
Fuel pump testing (time 3:41)
Fuel filter (time 3:18)
Fuel pump circuit (time 44:03)
Fuel filter Toyota (time 2:10)
What's inside a fuel pump (time 9:02)
Fuel pump relay testing (time 27:40)
Fuel system diagnosis (time 9:36)
Fuel pump circuit access (time 5:58)
Fuel pump troubleshooting (time 5:09)
Fuel system cleaning (time 8:16)
Fuel system diagnosis (time 7:28)
Fuel pressure test (time 4:12)
Fuel pressure regulator (time 7:32)
Fuel tank removal (time 7:11)
GM fuel pressure sensor test (time 25:20)
Fuel pump circuits (time 44:03)