

Automotive Technology 6th Edition

Chapter 83 – Fuel-Injection System Diagnosis and Service

Lesson Plan

CHAPTER SUMMARY:



1. Port fuel-injection pressure regulator diagnosis
 2. Diagnosing electronic fuel-injection problems using visual inspection
 3. Port fuel-injection system diagnosis, testing for injector pulse, and checking fuel-injection resistance
 4. Pressure-drop balance test, injector voltage drop test, and scope-testing fuel injectors
 5. Idle air speed control diagnosis, fuel injection service, and fuel-system scan tool diagnostics
-

OBJECTIVES:



1. Describe how to test fuel injectors.
 2. Describe how to test for an injector pulse and check fuel-injector resistance.
 3. Describe tests for pressure-drop balance, injector voltage-drop, and scope-testing fuel injectors.
 4. Explain how to diagnose idle air speed control problems and fuel system problems.
 5. This chapter will help prepare for engine repair (A8) ASE certification test content area “C” (Fuel, Air Induction, and Exhaust Systems Diagnosis and Repair).
-

RESOURCES: (All resources may be found at <http://www.jameshalderman.com>) Internet access required to hyperlink.



1. Task Sheet ASE (A8-B-5) P-1, (A8-D-8) P-1: Scan Tool Diagnosis
 2. Task Sheet ASE (A8-B-6) P-1: Fuel Trim Diagnosis
 3. Task Sheet ASE (A8-D-7) P-2: Fuel-Injection System Diagnosis
 4. Task Sheet ASE (A8-D-7) P-2: Injector Resistance Testing
 5. Task Sheet ASE (A8-D-7) P-2: Fuel Injector Balance Test
 6. Task Sheet ASE (A8-D-7) P-2: Injector Voltage Waveform Test
 7. Chapter PowerPoint
 8. Chapter Crossword Puzzle and Word Search
 9. Videos: [\(A8\) Engine Performance Videos](#)
 10. Animations: [\(A8\) Engine Performance Animations](#)
-

ACTIVITIES:



1. Task Sheet ASE (A8-B-5) P-1, (A8-D-8) P-1: Have students complete Scan Tool Diagnosis Task Sheet.
 2. Task Sheet ASE (A8-B-6) P-1: Have students complete Fuel Trim Diagnosis Task Sheet.
 3. Task Sheet ASE (A8-D-7) P-2: Have students complete Fuel-Injection System Diagnosis Task Sheet.
 4. Task Sheet ASE (A8-D-7) P-2: Have students complete Injector Resistance Testing Task Sheet.
 5. Task Sheet ASE (A8-D-7) P-2: Have students complete Fuel Injector Balance Test Task Sheet.
 6. Task Sheet ASE (A8-D-7) P-2: Have students complete Injector Voltage Waveform Test Task Sheet.
-

ASSIGNMENTS:



1. Chapter crossword and word search puzzles.
 2. Complete end of chapter 10 question quiz.
-

Automotive Technology 6th Edition
Chapter 83 – Fuel-Injection System Diagnosis and Service
Lesson Plan



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.
-



NOTES AND EVALUATION:
