

Advanced Engine Performance Diagnosis 7th Edition

Chapter 24 – Fuel-Injection Systems 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 an Injector Pulse, and Checking Fuel-Injector 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. Explain how to check a fuel-pressure regulator.
2. Explain how to diagnose electronic fuel-injection problems.
3. Describe how to test fuel injectors.
4. Describe how to service the fuel-injection system.

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



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

ACTIVITIES:



1. Task Sheet: Scan Tool Diagnosis
2. Task Sheet: Fuel Trim Diagnosis
3. Task Sheet: Port Fuel-Injection System Diagnosis
4. Task Sheet: Injector Resistance Testing
5. Task Sheet: Fuel Injector Balance Test
6. Task Sheet: Injector Voltage Waveform Test

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
