Automotive Electrical and Engine Performance - 9th edition
Ch38: Fuel-Injection System Diagnosis and Service
Lesson Plan

CHAPTER SUMMARY:

1. Fuel Injection System Diagnosis, Testing for an Injector Pulse, and Checking Fuel Injector Resistance
2. Pressure Drop Balance Test, Injector Voltage-Drop Tests, and Scope Testing Fuel Injectors
3. Fuel-Injection Service

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OBJECTIVES:

1. Explain fuel-injection system diagnosis including scan tool diagnosis.
2. Describe how to test for an injector pulse.
3. Describe how to check fuel-injection resistance.
4. Describe the pressure-drop balance test.
5. Describe injection voltage-drop tests.
6. Describe scope-testing fuel injectors.
7. Describe how to service the fuel-injection system.

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RESOURCES: (All resources may be found at jameshalderman.com)

1. Task Sheet: Fuel Injector Balance Test
2. Task Sheet: Fuel-Injection System Diagnosis
3. Task Sheet: Injector Resistance Testing
4. Task Sheet: Injector Voltage Waveform Test
5. Crossword Puzzle and Word Search
6. Videos: (A8) Engine Performance Videos
7. Animations: (A8) Engine Performance Animations

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ACTIVITIES:

1. Task Sheet: Fuel Injector Balance Test
2. Task Sheet: Fuel-Injection System Diagnosis
3. Task Sheet: Injector Resistance Testing
4. Task Sheet: Injector Voltage Waveform Test
5. Task Sheet: Electronic Throttle Control System ID
6. Chapter PowerPoint
7. Crossword Puzzle and Word Search

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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 <u>Frequently Asked Questions</u> and <u>Tech Tips</u> sections.
2. Ten (10) question end of <u>Chapter Quiz</u>.
3. Five (5) end of chapter <u>Review Question</u> for class discussion.

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NOTES AND EVALUATION:

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