

Automotive Electrical and Engine Performance - 9th edition

Ch36: Gasoline Direct-Injection (GDI) System

Lesson Plan



CHAPTER SUMMARY:

1. Port Injection vs. Direct Injection, Parts and Operation, and Advantages of Gasoline Direct Injection
 2. Disadvantages of Gasoline Direct Injection, Low-Pressure Supply Pump, and High-Pressure Pump
 3. Fuel Rail, Fuel Pressure Regulator, GDI Fuel Injectors, and Piston Top Design
 4. Port and Direct Injection Systems, Engine Start system, and GDI Issues
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OBJECTIVES:

1. Explain how a direct fuel-injection system works.
 2. Describe the direct-injection fuel delivery system.
 3. Describe modes of operation.
 4. Discuss GDI piston designs.
 5. Discuss port/direct injection systems.
 6. Discuss engine start systems.
 7. Discuss GDI service issues.
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RESOURCES: (All resources may be found at jameshalderman.com)

1. Task Sheet: Gasoline Direct Injection Identification
 2. Crossword Puzzle and Word Search
 3. Videos: (A8) Engine Performance Videos
 4. Animations: (A8) Engine Performance Animations
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ACTIVITIES:

1. Task Sheet: Gasoline Direct Injection Identification
 2. Chapter PowerPoint
 3. 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 [Frequently Asked Questions](#) and [Tech Tips](#) sections.
 2. Ten (10) question end of [Chapter Quiz](#).
 3. Five (5) end of chapter [Review Question](#) for class discussion.
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NOTES AND EVALUATION: