**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:**

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