**Automotive Engines Theory and Servicing 10th Edition**

**Chapter 22 – In-Vehicle Engine Service**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Thermostat Replacement, Water Pump Replacement, and Intake Manifold Gasket Inspection

2. Intake Manifold Gasket Replacement, Timing Belt Replacement, and Hybrid Engine Precautions

3. Gasoline Direct Injection Service

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**OBJECTIVES:**

1. Explain thermostat replacement and water pump replacement in engines.

2. Discuss intake manifold gasket inspection and replacement.

3. Describe the steps involved in timing belt replacement.

4. Discuss hybrid engine precautions.

5. Discuss gasoline direct injection engine service procedures.

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

1. Task Sheet: Engine Mount Replacement

2. Task Sheet: Valve Adjustment

3. Chapter PowerPoint

4. [Crossword Puzzle and Word Search (A1)](https://jameshalderman.com/a1_puzzles_lib_page/)

5. [Videos: (A1) Engine Repair](https://jameshalderman.com/video-library/)

6. [Animations: (A1) Engine Repair](https://jameshalderman.com/a1_anim_lib_page/)

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**ACTIVITIES:**

1. Task Sheet: Engine Mount Replacement

2. Task Sheet: Valve Adjustment

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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. Review and group discussion of the five (5) chapter Review Questions.

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**NOTES AND EVALUATION:**

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