**Advanced Engine Performance Diagnosis 7th Edition**

**Chapter 21 –** **Fuel Pumps, Lines, and Filters**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Fuel Delivery System, Fuel Tanks, Rollover Leakage Protection, and Fuel Lines

2. Electric Fuel Pumps, Fuel Filters, Fuel-Pump Testing, and Fuel-Pump Current Draw Test

3. Fuel-Pump Replacement

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**OBJECTIVES:**

1. Explain the role of fuel tanks in the fuel delivery system.

2. Describe the different methods of rollover leakage protection.

3. Discuss the different types of fuel lines.

4. Explain the different types of electric fuel pumps.

5. Describe the purpose and function of fuel filters.

6. Describe how to test and replace fuel pumps.

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

1. Task Sheet: Fuel Pump Testing

2. Task Sheet: Fuel Pump Current Draw Test

3. Task Sheet: Fuel Pump Volume

4. Task Sheet: Fuel Pump Current Ramping

5. Task Sheet: Clamp-On Meter Fuel Pump Current Draw Test

6. Task Sheet: Fuel Filter Replacement

7. Chapter PowerPoint

8. [Crossword and Word Search Puzzles (A8)](https://jameshalderman.com/a8_puzzles_lib_page/)

9. [Videos: (A8) Engine Performance](https://jameshalderman.com/a8_vid_lib_page/)

10. [Animations: (A8) Engine Performance](https://jameshalderman.com/a8_anim_lib_page/) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ACTIVITIES:**

1. Task Sheet: Fuel Pump Testing

2. Task Sheet: Fuel Pump Current Draw Test

3. Task Sheet: Fuel Pump Volume

4. Task Sheet: Fuel Pump Current Ramping

5. Task Sheet: Clamp-On Meter Fuel Pump Current Draw Test

6. Task Sheet: Fuel Filter Replacement

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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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