**Advanced Engine Performance Diagnosis 7th Edition**

**Chapter 26 –** **Vehicle Emissions Standards and Testing**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Normal Engine Combustion, Exhaust Analysis and Combustion Efficiency and Catalytic Converter

2. Exhaust Analysis As A Diagnostic Tool, Engine Fault Possibilities, and Emission Standards

3. European Standards and Vehicle Emission Testing

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**OBJECTIVES:**

1. Identify the reasons why excessive amounts of HC, CO, and NOx exhaust emissions are created.

2. Diagnose driveability and emissions problems resulting from malfunctions of interrelated systems.

3. Discuss emissions standards.

4. Describe how to test for various emissions products.

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

1. Task Sheet: Vehicle Emission Rating

2. Task Sheet: Exhaust Gas Analysis

3. Task Sheet: Diagnosis of Emission-Related Concerns

4. Chapter PowerPoint

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

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

7. [Animations: (A8) Engine Performance](https://jameshalderman.com/a8_anim_lib_page/)

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**ACTIVITIES:**

1. Task Sheet: Vehicle Emission Rating

2. Task Sheet: Exhaust Gas Analysis

3. Task Sheet: Diagnosis of Emission-Related Concerns

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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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