

Automotive Technology 6th Edition

Chapter 84 – Vehicle Emissions Standards and Testing

Lesson Plan



CHAPTER SUMMARY:

1. Normal engine combustion, exhaust and combustion efficiency, and catalytic converters
 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.
 5. This chapter will help prepare for ASE A8 certification test content area “D” (Emissions Control Systems Diagnosis and Repair) and ASE L1 certification test content area “F” (I/M Failure Diagnosis).
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A8-A-1) P-1:** Exhaust Gas Analysis
 2. Chapter PowerPoint
 3. Chapter Crossword Puzzle and Word Search
 4. Videos: State Emission Test (time 2:03) and 3 Reasons Why Cars Fail Emissions Test (time 3:57)
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ACTIVITIES:

1. **Task Sheet ASE (A8-A-1) P-1:** Have students complete Exhaust Gas Analysis Task Sheet.
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ASSIGNMENTS:

1. Chapter crossword and word search puzzles.
 2. Complete end of chapter 10 question quiz.
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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:
