

Advanced Engine Performance Diagnosis 8th Edition

Chapter 3 – Gasoline, Alternative Fuels, and Diesel Fuels

Lesson Plan



CHAPTER SUMMARY:

1. Gasoline, Volatility, Air-Fuel Ratios, and Normal and Abnormal Combustion
 2. Octane Rating, Gasoline Additives, and Testing Gasoline for Alcohol Content, and
 3. General Gasoline Recommendations, E85, Alternative Fuel Vehicles, and Propane
 4. Compressed Natural Gas, Diesel Fuel, and Biodiesel
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OBJECTIVES:

1. Discuss the characteristics of gasoline and refining of gasoline.
 2. Discuss the volatility of gasoline.
 3. Explain air–fuel ratios.
 4. Explain normal and abnormal combustion.
 5. Explain octane rating.
 6. Discuss gasoline additives.
 7. Discuss testing gasoline for alcohol content.
 8. Discuss general gasoline recommendations.
 9. Discuss n85.
 10. Discuss alternative fuel vehicles.
 11. Discuss propane.
 12. Discuss compressed natural gas fuels.
 13. Discuss diesel fuel.
 14. Discuss biodiesel.
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RESOURCES: (All resources may be found at jameshalderman.com)

1. Task Sheet: Flexible Fuel Vehicle Identification
 2. Task Sheet: Alternative Fuel Power and Economy Specifications
 3. Task Sheet: Alcohol Content in Gasoline
 4. Chapter PowerPoint
 5. Crossword and Word Search Puzzles
 6. Videos: (A8) Fuel, Air Induction, and Exhaust Systems Diagnosis and Repair
 7. Animations: (A8) Fuel, Air Induction, and Exhaust Systems Diagnosis and Repair
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ACTIVITIES:

1. Task Sheet: Flexible Fuel Vehicle Identification
 2. Task Sheet: Alternative Fuel Power and Economy Specifications
 3. Task Sheet: Alcohol Content in Gasoline
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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:
