

Automotive Engines Theory and Servicing 10th Edition

Chapter 11 – Gasoline, Alternative Fuels, and Diesel Fuels

Lesson Plan

CHAPTER SUMMARY:



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



1. Discuss the characteristics of gasoline, refining of gasoline, and volatility of gasoline.
 2. Explain air-fuel ratios, normal and abnormal combustion, and octane rating.
 3. Discuss gasoline additives, gasoline blending, and testing gasoline for alcohol content.
 4. Discuss general gasoline recommendations.
 5. Explain alternative fuel vehicles and discuss the safety procedures when working with alternative fuels.
 6. Discuss E85, methanol, and propane fuel.
 7. Discuss compressed natural gas and liquefied natural gas.
 8. Compare diesel fuel and biodiesel.
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RESOURCES: ([All resources may be found at jameshalderman.com](http://www.jameshalderman.com))



1. Task Sheet: Alternative Fuel Power & Economy Specifications
 2. Task Sheet: Alcohol Content in Gasoline
 3. Chapter PowerPoint
 4. [Crossword Puzzle and Word Search \(A1\)](#)
 5. [Crossword Puzzle and Word Search \(A8\)](#)
 6. [Videos: \(A1\) Engine Repair](#)
 7. [Videos: \(A8\) Engine Performance](#)
 8. [Animations: \(A1\) Engine Repair](#)
 9. [Animations: \(A8\) Engine Performance](#)
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ACTIVITIES:



1. Task Sheet: Alternative Fuel Power & Economy Specifications
 2. 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:

