

Automotive Technology 6th Edition

Chapter 68 – Gasoline

Lesson Plan

CHAPTER SUMMARY:



1. Gasoline, refining, and volatility
 2. Combustion process, normal and abnormal combustion, and octane rating
 3. High-altitude octane requirements, gasoline additives, blending, and reformulated gasoline
 4. Testing gasoline for alcohol content
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OBJECTIVES:



1. Explain the chemical composition of gasoline and the process of refining gasoline.
 2. Discuss how volatility affects drivability.
 3. Describe the gasoline combustion process, normal versus abnormal combustion, and octane ratings and requirements.
 4. Discuss the benefits of using gasoline additives, blending gasoline, and reformulating gasoline.
 5. Describe the procedure to test gasoline for alcohol content.
 6. List gasoline recommendations for maintaining proper engine operation and minimizing fuel costs.
 7. This chapter will help prepare for Engine Repair (A8) ASE certification test content area “A” (General Engine Diagnosis).
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)



1. **Task Sheet ASE (A8-D-2) P-2:** Fuel-Related Scan Data
 2. **Task Sheet ASE (A8-D-2) P-2:** Alcohol Content in Gasoline
 3. Chapter PowerPoint
 4. Chapter Crossword Puzzle and Word Search
 5. Animations: Check Gas for Alcohol, Fuel Blending In-Line, and Fuel Blending Sequential
 6. Animations: Fuel Blending Splash, Fuel Mileage - Gas, and Fuel Mileage - Hybrid
 7. Videos: Octane Rating – Explained (time 2:43), Octane, What is it? (time 2:53), and Detonation (time 8:48)
 8. Videos: Octane rating and 4 stroke engine (time 7:52) and Fuels and drivability (time 28:27)
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ACTIVITIES:



1. **Task Sheet ASE (A8-D-2) P-2:** Have students complete Fuel-Related Scan Data Task Sheet.
 2. **Task Sheet ASE (A8-D-2) P-2:** Have students complete Alcohol Content in Gasoline 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:


