

Automotive Technology 6th Edition

Chapter 69 – Alternative Fuels

Lesson Plan



CHAPTER SUMMARY:

1. Ethanol, cellulose ethanol, E85, and alternative-fuel vehicles
 2. Methanol, propane, and compressed natural gas (CNG)
 3. Liquefied natural gas (LNG) and synthetic fuels
 4. Safety procedures when working with alternative fuels
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OBJECTIVES:

1. Describe the sources of ethanol and compare E85 with gasoline.
 2. Discuss how alternative fuels affect driveability.
 3. Discuss methanol, propane, natural gas, and synthetic fuel options.
 4. Discuss safety precautions when working with alternative fuels.
 5. 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>) Internet access required to hyperlink.

1. **Task Sheet ASE (A8-A-2) P-1:** Flexible Fuel Vehicle Identification
 2. Chapter PowerPoint
 3. Chapter Crossword Puzzle and Word Search
 4. Videos: [How Do Fuel Cell Electric Vehicles Work? \(Time 1:43\) \(2020\) \(Better\)](#)
 5. Animations: [Alternative Fuel Nozzles](#) [Biodiesel Production](#) [CNG Vehicle](#) [Common Ethanol Fuel Mixtures](#) [Denatured Alcohol Fuel Cell](#) [Fuel Nozzle](#) [Hydroelectric Power](#) [Propane Fuel System](#)
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ACTIVITIES:

1. **Task Sheet ASE:** Have students complete Flexible Fuel Vehicle Identification 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:
