# Automotive Technology 7<sup>th</sup> Edition Chapter 29 – Variable Valve Timing and Displacement Systems Lesson Plan

### **CHAPTER SUMMARY:**



- 1. Variable Valve Timing and Diagnosis of Variable Valve Timing Systems
- 2. Variable Valve Timing and Lift Electronic Control and Variable Displacement Systems
- 3. Variable Displacement System Diagnosis

### **OBJECTIVES**:



- 1. Explain the purpose and function of variable valve timing (VVT).
- 2. List the steps involved when diagnosing a VVT system.
- 3. Describe how a variable valve timing and lift electronic control (VTEC) system works.
- 4. Explain the operation of variable displacement systems.
- 5. Explain the diagnosis of variable displacement systems.

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**RESOURCES**: (All resources may be found at jameshalderman.com)

- 1. Task Sheet: VVT Inspect and Replace Timing Chain(s) and Gears
- 2. Task Sheet: Variable Valve Timing System Diagnosis
- 3. Chapter PowerPoint
- 4. Crossword Puzzle and Word Search
- 5. Videos: (A1) Engine Repair Videos
- 6. Animations: (A1) Engine Repair Animations

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## DEMO

#### **ACTIVITIES:**

- 1. Task Sheet: VVT Inspect and Replace Timing Chain(s) and Gears
- 2. Task Sheet: Variable Valve Timing System Diagnosis
- 3. Crossword Puzzle and Word Search

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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.

NOTES AND EVALUATION:



