

# Automotive Engines Theory and Servicing 10<sup>th</sup> Edition

## Chapter 28 – Variable Valve Timing and Displacement Systems

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Variable Valve Timing, Diagnosing of Variable Valve Timing Systems
  2. Variable Valve Timing and Lift Electronic Control and Variable Displacement Systems
  3. Variable Displacement System Diagnosis
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#### **OBJECTIVES:**

1. Explain the purpose and function of variable valve timing (VVT).
  2. Describe how an oil control valve (OCV) works.
  3. Discuss the oil flow through magnetically controlled vane phaser.
  4. List the step involved when diagnosing a VVT system.
  5. Describe how a variable valve timing and lift electronic control (VTEC) system works.
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#### **RESOURCES:** ([All resources may be found at jameshalderman.com](http://www.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 \(A1\)](#)
  5. [Videos: \(A1\) Engine Repair](#)
  6. [Animations: \(A1\) Engine Repair](#)
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#### **ACTIVITIES:**

1. Task Sheet: VVT Inspect and Replace Timing Chain(s) and Gears
  2. Task Sheet: Variable Valve Timing System Diagnosis
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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:**

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