

# Automotive Technology 6<sup>th</sup> Edition

## Chapter 24 – Intake and Exhaust Systems

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Air intake filtration and fuel-injection intake manifolds
  2. Intake manifold design, variable intake manifolds, and exhaust gas recirculation passages
  3. Exhaust manifolds, exhaust system components, and mufflers
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#### **OBJECTIVES:**

1. Explain air intake filtration.
  2. Discuss the throttle-body injection intake manifolds and port fuel-injection intake manifolds.
  3. Discuss exhaust gas recirculation passages and exhaust manifolds.
  4. Describe the purpose and function of mufflers.
  5. Describe the purpose and function of variable intake manifolds.
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**RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A8-D-10) P-1:** Exhaust System Inspection
  2. **Task Sheet ASE (A8-D-9) P-1:** Intake Manifold Gasket Replacement
  3. Chapter PowerPoint
  4. Chapter Crossword Puzzle and Word Search
  5. Animations: Exhaust Back Pressure, Measure and Exhaust Gas Recirculation EGR
  6. Animations: Turbocharger Tests
  7. Videos: Exhaust manifold (time 9:06) and Throttle body cleaning (time 3:38)
  8. Videos: Throttle body cleaning (time 6:55) and Intake manifold runner control (time 12:04)
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#### **ACTIVITIES:**

1. **Task Sheet ASE (A1 through A8-A-2) P-1:** Have students complete Exhaust System Inspection Task Sheet.
  2. **Task Sheet ASE (A8-D-9) P-1:** Have students complete Intake Manifold Gasket Replacement 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:**

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