

# Automotive Electrical and Engine Performance - 9th edition

## Ch41: EVAP and EGR Systems

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Evaporative Emission Control System and Enhanced Evaporative Control System
  2. Leak Detection Pump System, Onboarding Refueling Vapor Recovery, and Diagnosing the EVAP System
  3. Evaporative System Monitor, Exhaust Gas Recirculation Systems, and OBD-II EGR Monitoring Strategies
  4. Diagnosing a Defective EGR System
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#### **OBJECTIVES:**

1. Explain the operation of an evaporative emission control (EEVP) system.
  2. Discuss enhanced evaporative control systems.
  3. Discuss leak detection pump systems.
  4. Discuss onboard refueling vapor recovery.
  5. Explain how to diagnose the EEVP system.
  6. Discuss the functions of an evaporative system monitor.
  7. Discuss the purpose and function of exhaust gas recirculation (EEGR) systems.
  8. Explain the strategies to monitor on-board diagnostics generation II (OBD-II) exhaust gas recirculation (EEGR) systems.
  9. Explain how to diagnose a defective EEGR system.
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#### **RESOURCES:** (All resources may be found at [jameshalderman.com](http://jameshalderman.com))

1. Task Sheet: EGR System Diagnosis
  2. Task Sheet: EVAP System Component Inspection
  3. Task Sheet: Service EGR System
  4. Task Sheet: Evaporative Emission Controls Diagnosis
  5. Crossword Puzzle and Word Search
  6. Videos: (A8) Engine Performance Videos
  7. Animations: (A8) Engine Performance Animations
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#### **ACTIVITIES:**

1. Task Sheet: EGR System Diagnosis
  2. Task Sheet: EVAP System Component Inspection
  3. Task Sheet: Service EGR System
  4. Task Sheet: Evaporative Emission Controls Diagnosis
  5. Chapter PowerPoint
  6. 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. Ten (10) question end of Chapter Quiz.
3. Five (5) end of chapter Review Question for class discussion.

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#### **NOTES AND EVALUATION:**

