

# Advanced Engine Performance Diagnosis 8<sup>th</sup> Edition

## Chapter 9 – On-Board Diagnosis

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. On-Board Diagnostics Generation-II (OBD-II) Systems and OBD-II DTC Numbering Designation
  2. OBD-II Freeze-Frame, Diagnostic Executive or Task Manager, and Monitors
  3. Noncontinuous (Once-Per-Trip) Monitors
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#### **OBJECTIVES:**

1. Understand the purpose and function of on-board diagnostics generation-II (OBD-II) systems.
  2. Discuss the numbering designation of OBD-II diagnostic trouble codes.
  3. List the types of information obtained from a freeze-frame.
  4. Understand the information obtained from an on-board diagnostics monitor and the criteria to enable an OBD monitor.
  5. List the continuous monitors.
  6. List the noncontinuous monitors.
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#### **RESOURCES:** (All resources may be found at [jameshalderman.com](http://jameshalderman.com))

1. Task Sheet: Drive Trace Pre-Conditioning
  2. Task Sheet: OBD II Connector Identification
  3. Task Sheet: Retrieving OBD II Diagnostic Trouble Codes
  4. Task Sheet: Set Opposite Code
  5. Task Sheet: Freeze Frame and MIL Activity
  6. Task Sheet: Step-by-Step Diagnosis
  7. Task Sheet: Fuel-Related Scan Data
  8. Task Sheet: Misfire Monitor Activity
  9. Task Sheet: I/M Monitors Status
  10. Task Sheet: Repair Verification
  11. Chapter PowerPoint
  12. Crossword and Word Search Puzzles
  13. Videos: (A8) General Engine Diagnosis
  14. Animations: (A8) General Engine Diagnosis
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#### **ACTIVITIES:**

1. Task Sheet: Drive Trace Pre-Conditioning
  2. Task Sheet: OBD II Connector Identification
  3. Task Sheet: Retrieving OBD II Diagnostic Trouble Codes
  4. Task Sheet: Set Opposite Code
  5. Task Sheet: Freeze Frame and MIL Activity
  6. Task Sheet: Step-by-Step Diagnosis
  7. Task Sheet: Fuel-Related Scan Data
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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:**