Advanced Engine Performance Diagnosis 8th Edition
Chapter 19 – Narrow and Wide-Band Oxygen Sensors
Lesson Plan

CHAPTER SUMMARY:

1. Oxygen Sensors, PCM Uses of the Oxygen Sensor, and Oxygen Sensor Diagnosis
2. Post-Catalytic Converter Oxygen Sensor Testing, and Wide-Band Oxygen Sensors
3. Dual-Cell Planer Wide-Band Sensor Operation, Dual Cell, and Single-Cell Wide-Band Oxygen Sensors
4. Oxygen Sensor-Related Diagnostic Trouble Codes

OBJECTIVES:

1. Discuss how oxygen sensors (O2S) work.
2. Discuss PCM uses of the oxygen sensor.
3. Discuss oxygen sensor diagnosis.
4. Discuss post-catalytic converter O2S testing.
5. Explain the operation of wide-band oxygen sensors.
6. Describe dual-cell planar wide-band sensor operation.
7. Discuss dual-cell diagnosis.
8. Describe single-cell wide-band oxygen sensors.
9. Interpret oxygen-sensor-related diagnostic trouble codes.

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

1. Task Sheet: Oxygen Sensor Diagnosis
2. Task Sheet: Wide-Band Oxygen Sensor
3. Chapter PowerPoint
4. Crossword and Word Search Puzzles
5. Videos: (A8) Computerized Engine Controls Diagnosis and Repair
6. Animations: (A8) Computerized Engine Controls Diagnosis and Repair

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ACTIVITIES:

1. Task Sheet: Oxygen Sensor Diagnosis
2. Task Sheet: Wide-Band Oxygen Sensor

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.

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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