

Automotive Technology 6th Edition

Chapter 23 – Lubrication System Operation and Diagnosis

Lesson Plan



CHAPTER SUMMARY:

1. Lubrication purpose, function, and, principles
 2. Engine lubrication systems, oil pumps, oil passages, oil pans, and oil coolers
 3. Dry sump system
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OBJECTIVES:

1. Explain the purpose of the lubrication system, and state the lubrication principles.
 2. Discuss engine lubrication systems.
 3. Describe the purpose and function of oil pumps.
 4. Discuss the purpose and function of oil passages.
 5. Discuss oil pans, oil coolers, and the dry sump system.
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A1-A-2) P-1:** Engine Lubrication Specifications
 2. **Task Sheet ASE (A1-D-13) P-2:** Oil Pump Inspection
 3. **Task Sheet ASE (A1-D-11) P-3:** Auxiliary Oil Coolers
 4. **Task Sheet ASE (A1-D-12) P-2:** Oil Temperature and Pressure Switches
 5. Chapter PowerPoint
 6. Chapter Crossword Puzzle and Word Search
 7. Animations: Cylinder Wall Lubrication, Dry Sump Oil System, and External Gear Oil Pump
 8. Animations: Gerotor Pump – Slow and Gerotor – Type Oil Pump
 9. Animations: Internal-External Gear Pump with Crescent
 10. Animations: Measure Gerotor-Type Pump and Rotor Oil Pump
 11. Videos: Low oil pressure (time 3:26) and How oil pressure works (time 9:00)
 12. Videos: 3D Engine oil system cycle (time 0:54) and Priming an oil pump (time 4:39)
 13. Videos: Oil cooler inspection (time 2:54) and Oil pump inspection (time 1:49)
 14. Videos: Radiator replacement (time 3:02)
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ACTIVITIES:

1. **Task Sheet ASE (A1-A-2) P-1:** Have students complete Engine Lubrication Specifications Task Sheet.
 2. **Task Sheet ASE (A1-D-13) P-2:** Have students complete Oil Pump Inspection Task Sheet.
 3. **Task Sheet ASE (A1-D-11) P-3:** Have students complete Auxiliary Oil Coolers Task Sheet.
 4. **Task Sheet ASE (A1-D-12) P-2:** Have students complete Oil Temperature and Pressure Switches 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:
