

Automotive Technology 6th Edition

Chapter 27 – In-Vehicle Engine Service

Lesson Plan



CHAPTER SUMMARY:

1. Thermostat replacement and water pump replacement
 2. Intake manifold inspection/replacement and timing belt replacement
 3. Engine mount replacement
 4. Hybrid engine precautions
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OBJECTIVES:

1. Explain thermostat replacement and water pump replacement in engines.
 2. Discuss intake manifold gasket inspection and replacement.
 3. Describe the steps for timing belt replacement.
 4. Describe the steps for engine mount replacement.
 5. Discuss hybrid engine precautions.
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RESOURCES: (All resources may be found at <http://www.jameshalderman.com>)

1. **Task Sheet ASE (A1-D-5) P-2:** Water Pump Replacement
 2. **Task Sheet ASE (A8-A-11) P-1, (A1-B-5) P-1, (A1-A-6) P-2:** Timing Belt/Chain Replacement
 3. **Task Sheet ASE (A1-B-4) P-3:** Adjust Valves
 4. Chapter PowerPoint
 5. Chapter Crossword Puzzle and Word Search
 6. Videos: See list at the end of the lesson plan.
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ACTIVITIES:

1. **Task Sheet ASE (A1-D-5) P-2:** Have students complete Water Pump Replacement Task Sheet.
 2. **Task Sheet ASE (A8-A-11) P-1, (A1-B-5) P-1, (A1-A-6) P-2:** Have students complete Timing Belt/Chain Replacement Task Sheet.
 3. **Task Sheet ASE (A1-B-4) P-3:** Have students complete Adjust Valves 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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Videos: (at <http://www.jameshalderman.com>)

- VW timing belt (time 2:35)
- Daewoo timing belt (time 5:11)
- Focus timing belt part 1 (time 4:09)
- Focus timing belt part 2 (time 5:21)
- Focus timing belt part 3 (time 2:48)
- Timing belt replacement (time 4:00)
- Timing belt (time 1:18)
- Mitsubishi timing belt part 1 (time 8:11)
- Mitsubishi timing belt part 2 (time 9:07)
- Timing belt (time 14:10)
- Timing belt (time 9:28)
- Timing belt (time 7:31)
- Timing belt (time 7:10)
- Motor mount (time 1:21)
- Honda civic timing belt (time 8:52)
- Timing belt replacement (time 3:18)
- Serpentine belt replacement (time 8:05)
- Motor mount (time 6:22)
- Engine mount (time 2:39)
- Motor mount (time 4:38)
- Motor mounts (time 10:54)
- Belt replacement (time 2:23)
- Throttle cable replacement (time 7:30)
- Throttle cable replacement (time 6:44)
- Timing belt removal (time 7:50)
- Hybrid vehicle precautions (time 1:29)

