

# Automotive Heating and Air Conditioning 9<sup>th</sup> Edition

## Chapter 9 – Cooling System Operation and Diagnosis

### Lesson Plan



#### **CHAPTER SUMMARY:**

1. Cooling System, Cooling System Operation, Thermostat, Radiators, and Pressure Caps
2. Coolant Recovery Systems, Water Pumps, Coolant Flow in the Engine, and Cooling Fans
3. Heater Cores, Cooling System Testing, and Coolant Temperature Warning Light
4. Cooling System Inspection and Cooling System Service

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#### **OBJECTIVES:**



1. Explain the purpose and function of the cooling system and cooling system operation.
2. Explain the purpose of thermostats, radiators, pressure caps, and water pumps.
3. Explain coolant flow in the engine and coolant recovery systems.
4. Explain the purpose of cooling fans and heater cores.
5. Describe cooling system testing and explain the purpose of the coolant temperature warning light.
6. Explain cooling system inspection and cooling system service.

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#### **RESOURCES:** ([All resources may be found at jameshalderman.com](http://www.jameshalderman.com))



1. Task Sheet: Cooling System Inspection
2. Chapter PowerPoint
3. [Crossword Puzzle and Word Search \(A1\)](#)
4. [Crossword Puzzle and Word Search \(A7\)](#)
5. [Videos: \(A1\) Engine Repair](#)
6. [Videos: \(A7\) Heating & Air Conditioning](#)
7. [Animations: \(A1\) Engine Repair](#)
8. [Animations: \(A7\) Heating & Air Conditioning](#)

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#### **ACTIVITIES:**



1. Task Sheet: Cooling System Inspection

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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:**

