

Automotive Heating and Air Conditioning 9th Edition

Chapter 6 – A/C System Components, Operation, and Service

Lesson Plan



CHAPTER SUMMARY:

1. Compressors, Condensers, Thermal Expansion Valves, Orifice Tube Systems
2. Evaporators, Receiver-Driers and Accumulators, and Lines and Hoses
3. Electrical Switches and Evaporator Temperature Controls, and Rear AC Systems
4. Component Replacement Procedures



OBJECTIVES:

1. Prepare for ASE Heating and Air Conditioning (A7) certification test content area “B” (Refrigeration System Component Diagnosis and Repair).
2. Discuss the purpose and function of compressors and condensers.
3. Describe the operation of thermal expansion valves.
4. Explain the construction and operation of orifice tubes.
5. Explain the purpose and function of evaporators and accumulators.
6. Discuss the use of lines and hoses in refrigeration.
7. Describe electrical switches and evaporator temperature controls used in A/C systems.
8. Explain component replacement procedures.



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

1. Task Sheet: Replace Expansion Valve/Orifice Tube
2. Task Sheet: Evaporator/Heater Core Replacement
3. Task Sheet: Inspect A/C System Hoses, Lines, O-Rings & Fittings
4. Task Sheet: Receiver Drier & Accumulator Drier
5. Task Sheet: Inspect the Air Conditioning Condenser
6. Chapter PowerPoint
7. [Crossword Puzzle and Word Search \(A7\)](#)
8. [Videos: \(A7\) Heating & Air Conditioning](#)
9. [Animations: \(A7\) Heating & Air Conditioning](#)



ACTIVITIES:

1. Task Sheet: Replace Expansion Valve/Orifice Tube
2. Task Sheet: Evaporator/Heater Core Replacement
3. Task Sheet: Inspect A/C System Hoses, Lines, O-Rings & Fittings
4. Task Sheet: Receiver Drier & Accumulator Drier
5. Task Sheet: Inspect the Air Conditioning Condenser



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:
