**Automotive Technology 7th Edition**

**Chapter 64 – Refrigerants and Refrigerant Oils**

**Lesson Plan**

**CHAPTER SUMMARY:**

1. Refrigerants, Legislation, Environmental Issues, HFO-1234yf, and Carbon Dioxide as a Refrigerant

2. Alternative Refrigerants, Non-Condensable Gas, Refrigerant Safety, and Refrigerant Oils

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**OBJECTIVES:**

1. List the different types of refrigerants and refrigerant containers.

2. Explain the impact of legislation related to automotive A/C systems.

3. Explain the impact of environmental issues related to automotive A/C systems.

4. Discuss HFO-1234yf refrigerant.

5. Describe carbon dioxide as a refrigerant.

6. Describe alternate refrigerants.

7. Explain how to check for non-condensable gases.

8. Describe refrigerant safety precautions.

9. Discuss the different types and viscosities of refrigerant oils. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. Task Sheet: Checking Refrigerant for Contamination

2. Task Sheet: Refrigerant Oil Inspection

3. Chapter PowerPoint

4. Crossword Puzzle and Word Search

5. Videos: [(A7) Heating & Air Conditioning Videos](https://jameshalderman.com/a7_vid_lib_page/)

6. Animations: [(A7) Heating & Air Conditioning Animations](https://jameshalderman.com/a7_anim_lib_page/)

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**ACTIVITIES:**

1. Task Sheet: Checking Refrigerant for Contamination

2. Task Sheet: Refrigerant Oil 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:**

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