

Correlation of
Modern Refrigeration and Air Conditioning, by Althouse, Turnquist, Bracciano
(Goodheart-Willcox Publisher ©2021)
to
AHRI Curriculum Guide: XX. Refrigerant Recovery

The following chart correlates the *Modern Refrigeration and Air Conditioning* textbook (©2021) to a section of the Curriculum Guide developed by Air-Conditioning, Heating, and Refrigeration Institute (AHRI) and used for PAHRA accreditation.

The chart lists the Curriculum Guide’s knowledge and task competency objectives and the corresponding chapter numbers from *Modern Refrigeration and Air Conditioning*.

For more information on the Partnership for Air-Conditioning, Heating, Refrigeration Accreditation (PAHRA) and related accreditation, please visit: www.pahrahvacr.org



XX.A. Introduction	
Knowledge	Textbook Chapter(s)
1. Describe the environmental issues regarding refrigerant, including legislation, protocol, laws, and regulations.	Chapter 9, Appendix
2. Describe the basic refrigerant cycle.	Chapters 6, 9, 31, 32
3. Determine proper evacuation levels and leak rates.	Chapters 10, 11
4. Identify three different types of technician certification.	Chapter 1, Appendix
XX.B. Safety	
Knowledge	Textbook Chapter(s)
1. Describe the problems associated with mixing of refrigerants.	Chapters 9, 10, 11
2. Describe the methods of determining when a recovery cylinder is full.	Chapters 10, 11
3. Describe the problems associated with component isolation where unsafe hydrostatic pressures can occur.	Chapters 9, 23, 54
4. Describe the problems associated with contaminants left in a refrigerant system after recovery.	Chapters 9, 26, 50, 53, 54

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XX.C Refrigerant Recovery, Recycling, and Reclamation Methods	
Knowledge	Textbook Chapter(s)
1. Describe how to manually pump down a system.	Chapters 11, 55
2. Describe how to isolate system components.	Chapters 10, 11, 55
3. Describe system dependent and self-contained recovery equipment.	Chapters 10, 11
4. Describe the push-pull method.	Chapters 10, 11
5. Describe the difference between recycled and reclaimed refrigerant.	Chapters 10, 11
6. Explain options in Industry Recycling Guideline (IRG-2).	Chapters 9, 10, 11
Tasks	Textbook Chapter(s)
1. List the advantages/disadvantages and application of liquid and vapor recovery.	Chapters 10, 11, 55
2. List methods for decreasing recovery time.	Chapters 10, 11, 55
XX.D. Refrigerant Recovery, Recycling, and Reclamation Equipment	
Knowledge	Textbook Chapter(s)
1. Identify proper equipment for a particular job.	Chapters 7, 8, 9, 10, 11, 25, 26, 53, 54, 55
2. Describe procedures for recovering multiple refrigerants with the same recovery unit.	
3. Describe maintenance and efficiency testing procedures for recovery units.	Chapters 9, 10, 11
4. Describe maintenance and testing for refrigerant recovery cylinders.	Chapters 9, 10, 11
5. Identify recovery cylinders.	Chapters 9, 10, 11
6. Explain when to change filter-driers in recycling equipment.	Chapters 9, 10, 11
7. Explain methods of purging non-condensables when recycling.	Chapters 9, 10, 11
8. Identify type of refrigerant in a given recovery cycle.	Chapters 9, 10, 11
Tasks	Textbook Chapter(s)
1. Perform procedures for recovery.	Chapters 11, 55
2. Perform procedures for recycling.	Chapters 11, 55
3. Perform maintenance on a recovery machine.	Chapter 11
4. Connect and operate recovery equipment.	Chapters 11, 55