

SER101

General Training A/C 1 - Part I

Learn the Basics of Refrigeration Components & Systems

Course Content - Definitions, Refrigeration Cycle

This is the first of eight sessions on the fundamentals of refrigeration. Each session will last about three and a half hours and the complete course about 28 hours. This is time enough to cover only the basic operating principles of refrigeration systems. The principles of air conditioning and electricity will be covered in later training programs. Each session is divided into several parts and each part is sub-divided into two sections. The first part is a presentation of the subject and the second is a discussion period during which any discrepancies or misunderstandings can be cleared up. A short quiz will be given at the beginning of the discussion period.

Who Should Attend

Anyone who wishes a fundamental understanding of air conditioning components, especially **installation and service technicians**

Learning Outcomes

- Be able to accurately diagnose A/C problems
- Be able to service A/C problems more quickly and efficiently

What You Will Learn in Part I

- Refrigeration terms and definitions
- Principles of latent heat and phase change
- Effects of pressure and temperature on the refrigeration cycle
- Basic components of the refrigeration cycle
- Principles of the refrigeration cycle
- Refrigeration pressures and temperatures
- Basic compressor operation
- Condenser types
- Evaporator types
- Metering devices
- The basic refrigeration concept
- The closed refrigeration cycle
- The mechanical refrigeration cycle
- Refrigeration pressure levels
- Condensation and evaporation
- Basic metering devices
- Phase change materials
- Typical pressure/temperature relationships in the mechanical refrigeration system

What You Will Get

- Books 1 & 2 of the GTAC 1 program
- Sandwiches served

Program Duration - 3.5 hours

SER102

General Training A/C 1 - Part II

Learn the Basics of Refrigeration Components & Systems

Course Content - Compressors, Condensers, Receivers

This is the first of eight sessions on the fundamentals of refrigeration. Each session will last about three and a half hours and the complete course about 28 hours. This is time enough to cover only the basic operating principles of refrigeration systems. The principles of air conditioning and electricity will be covered in later training programs. Each session is divided into several parts and each part is sub-divided into two sections. The first part is a presentation of the subject and the second is a discussion period during which any discrepancies or misunderstandings can be cleared up. A short quiz will be given at the beginning of the discussion period.

Who Should Attend

Anyone who wishes a fundamental understanding of air conditioning components, especially **installation and service technicians**

Learning Outcomes

- Be able to accurately diagnose A/C problems
- Be able to service A/C problems more quickly and efficiently

What You Will Learn in Part III

- Functions of the compressor
- Types of compressors
- Power sources for compressors
- How a reciprocating compressor operates
- Parts of a reciprocating compressor
- Compressor lubrication
- Compressor capacity
- Water cooled condensers
- Condenser theory
- Air cooled condensers
- Evaporative condensers
- Cooling towers
- Receivers

What You Will Get

- Books 3 & 4 of the GTAC 1 program
- Sandwiches served

Program Duration - 3.5 hours