Do not use any tools or procedures that unnecessarily create sources of ignition within the service area.

*Remember: Monitor, ventilate, eliminate!*

**COMPRESSOR TERMINAL VENTING**

**Hazards from terminal venting** Compressor *terminal venting* may occur if one of the terminal pins is ejected from a hermetic terminal block. The illustration below shows a close-up of a hermetic terminal before and after venting.

This “terminal venting” can occur as a result of a ground fault in the compressor (also known as a “short circuit to ground” in the windings of the compressor motor or in the terminal block itself). The lubricant and refrigerant spray from terminal venting can be ignited (called “terminal venting with ignition”) by electricity and produce flames that can lead to serious burns or death.

To reduce the risk of electrocution, serious burns, or death from terminal venting with ignition, always follow the precautions listed below:

- Disconnect all electric power before removing the protective terminal cover. Make sure that all power legs are open. *Note:* The system may have more than one power supply source.

- Never energize the system unless: 1) the protective terminal cover is securely fastened, and 2) the compressor is properly
connected to ground. The illustrations at the bottom of this page show three of the more common methods of securing protective terminal covers.

- Never reset a circuit breaker or replace a fuse without first checking for a ground fault (a short circuit to ground). An open fuse or a tripped circuit breaker is a strong indication of a ground fault.

- Be alert for sounds of arcing (sizzling, sputtering, or popping) inside the compressor. Get away immediately if you hear these sounds.

- Always disconnect power from the unit before doing any maintenance or service work, unless power is required for a specific troubleshooting technique. Situations in which power is necessary call for the use of extreme caution to avoid serious injury or death from electric shock and/or the creation of electrical sparks or arcs.

When nonflammable refrigerants are used, fires due to terminal venting with ignition can be prevented by securely fastening the protective terminal cover to the compressor.

**Protective terminal covers**

Compressor with protective terminal cover (1) held in place by metal bale strap (2)

Compressor with protective terminal cover (1) held in place by nut (2)

Compressor with snap-in protective terminal cover (1)
In contrast, if terminal venting occurs in a flammable refrigerant compressor, it is expected to result in fire (terminal venting with ignition), even if the protective terminal cover is securely fastened. However, securely fastening the protective terminal cover on flammable refrigerant compressors will reduce the risk of personal injury and property damage from the resulting fire. It also reduces the risk of serious injury or death from electric shock.

As with compressors that use nonflammable refrigerants, compressors using flammable refrigerants should never be energized unless the protective terminal cover is securely fastened.

COMPRESSOR CHANGE-OUT

Compressor removal—like all service procedures for flammable refrigerant systems—should be done in a well-ventilated area. Relocate the equipment being serviced to the outdoors if possible.

Failure to remove the compressor properly can result in serious injury or death from electrocution, fire, or the sudden release of refrigerant and lubricant. Before removing a compressor from a system, follow these precautions:

1. Disconnect all electric power supplies to the system, making sure that all power legs are open. (Note: Be aware that some systems may have more than one power supply.)

2. Attach gauges to both the high and low sides of the system.

3. To avoid the release of refrigerant and lubricant, be sure that the refrigerant is recovered from the system before removing the compressor. Always recover from the both the high and low sides of the system in order to make sure that refrigerant is not trapped by a restriction in the system. Attempting to remove the compressor before recovering all refrigerant from the system can cause a sudden release of refrigerant and lubricant. Among other things, this can cause a variety of injuries, including burns and frostbite. It also can cause a fire if a torch is used to disconnect the tubing, and expose the service technician to toxic gases.