



## Air conditioning start-up checklist

### Equipment care bulletin

HSB Canada, part of Munich Re, is a technology-driven company built on a foundation of specialty insurance, engineering, and technology, all working to drive innovation in a modern world, to keep you ahead of risk.

**This convenient air conditioning checklist has been designed to help maximize reliability, economy, and fuel conservation in the operation of this equipment.**

Information from our files indicates that a great many failures take place at start-up or early in the cooling season because of inoperative controls or safety devices. Most of these accidents could have been prevented if a little more attention had been paid to readying the equipment for service. We therefore recommend that the following measures be taken to ensure a trouble-free cooling season and reduce the likelihood of equipment malfunction.

The tips offered here are intended to complement and not replace the recommendation of the equipment manufacturer.

#### Compressors

- Energize the crankcase heaters for at least eight hours before start-up and before taking insulation resistance readings of hermetic motor windings. Crankcase heaters should be left energized for the rest of the season so that whenever the compressor is idle, the heater will prevent refrigerant “migration” to the crankcase.
- Test the lubricating oil for color and acidity, and check crankcase oil level.

#### Motors

- Check the air passages of open motors for cleanliness and obstructions.
- Check the condition of and lubricate bearings.
- Take insulation resistance readings. If the readings indicate less than one mega ohm resistance, don’t start the motor. Check for the cause of the low resistance.



### Motor controls

- Inspect starter contacts for deterioration from short cycling, arcing, or corrosion.
- Check terminal connections for tightness.
- Examine the overload protection for defects, and for proper size.
- Check mechanical linkages for binding and excessive looseness.
- Check timing devices for correct operating sequence.

### Operating and safety controls

- Determine that the controls are properly calibrated and in working order particularly thermostatic controls, oil pressure safety switches and flow switches.

### Refrigerant circuits

- Be sure the circuit is equipped with a moisture indicator and if moisture is indicated, install new liquid line filter/drier cores. Determine and correct the source of the moisture.
- Check the expansion valve for proper operation and superheat settings over the full range of operation.

### Condensers and evaporators

- Ensure that proper cleaning of heat transfer surfaces for the type of unit in use has been completed prior to operation.
- Cooling towers: Check the baffles for tightness and soundness. Clean the baffles, sump and the spray nozzles. Check the make-up water valve for proper operation.

### Pumps

- Check the bearings, packings, shaft couplings, and seals. Lubricate bearings.

### Fans

- Check for broken, cracked, bent or loose blades. Check hubs, fan shaft and bearings.
- Check the belt condition and belt tension.
- Replace air filters.

### Piping

- Check all piping supports for signs of distress.
- Check for external damage and excessive vibration.