Reference Guide

MUNCH'S SUPPLY EST. 1956

AC / REFRIGERATION: MEASURING LIQUID SUBCOOLING LEVEL

You must measure the liquid subcooling level to confirm there is adequate refrigerant charge in the condenser coil.

Inadequate subcooling could cause flash gas to form in the liquid line. Excessive shooting is an indication of an overcharged system.

REQUIRED TOOLS: DIGITAL TEMPERATURE PROBE, REFRIGERATION GAUGES

1. Run the condensing unit until pressures and temperature stabilize.
2. Read and record the liquid pressure at the liquid line pressure port fitting at the condensing unit.
3. Place a digital temperature probe against the liquid line near the liquid gauge pressure port. Read and record the temperature.
4. Reference the face of your high pressure gauge or use a temperature/ pressure chart and convert the measured liquid pressure to the corresponding condenser coil saturation temperature for the refrigerant being used. Record this value.
5. Next, subtract the measured liquid line temperature from saturation temperature. The result is your actual liquid subcooling level.

FORMULA:

Saturation Temperature
- Liquid Line Temperature

Liquid Subcooling

EXAMPLE:

Refrigerant: R-410A

Liquid Line Pressure: 320 PSIG

Correponding Condenser Saturation Temperature 100°F

Liquid Line Temperature: 90°F

100°F - 90°F = Liquid Subcooling

Liquid Subcooling = 10°F