

Service Guide - Non Communicating Residential Comfort Systems

A Comprehensive Reference for Service of Residential Air Conditioning, Heat Pump & Gas Furnace Systems

- Features over 500 pages of information, troubleshooting/service procedure walk-throughs, and technical data such as defrost control specs, compressor specs, etc.
- Color photos, illustrations, charts, graphs and tables clearly explain and detail each topic.
- Integrated with Service Facts
- Sections are tabbed and indexed for quick reference.
- Durable coil-bound construction means this book is suited for use in the service truck and the classroom.
- Printed on heavy duty paper to hold up to heavy usage.
- Registration of this book includes downloadable updates and addendums to keep up with the most current data.
- Republished annually

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Air Conditioning, Heat Pump & Gas Furnace Systems

Non-Communicating Products

Causes of low suction pressure

- Too much refrigerant too big metering device not sealing properly or too much heat load on the evaporator coil. Heat into the evaporator circuit.
- Too much heat load on the evaporator coil. Heat into the return ducting. Heat infiltration of just air into the return ducting. Heat from the home.
- Dirty condenser raising condensing pressure from the home.
- Failure of the compressor valves (Reciprocating compressors.)

Determining if a problem is caused by too much refrigerant in the evaporator coil

Tools You Will Need:

- Refrigeration gauges
- Sling psychrometer

Step 1 Measure the return air wet bulb and dry bulb temperature at the return air filter rack of the air handler! (See Figure 31.)

Figure 31

Step 3 With the system operating in cooling mode, measure the suction pressure and suction vapor superheat. (See Figure 33.)

Figure 32

point in the line temperature drop.

ing device or make all other components that is sized by someone other than the equipment manufacturer. Likely error is high.

for kinks in the suction line because the meter may not have used tubing bendiers. Likely point of error is high.

determine if low heat load is present. Fans work against static pressure in ducting. Humans size likely point of error is high.

If those two checked out okay, then the system needs refrigerant in the evaporator coil. Super heat confirms it. Add refrigerant. If pressures

Topics:

Air Conditioning

Refrigerants & Oils
Sequence of Operation
Subcooling & Condensers
Superheat
Line Sets
Air Volume Measurement
Charging Procedures
Compressor Diagnostics
Condenser Fan Motors
Diagnostic Problems

Heat Pump

Sequence of Operation
Defrost Control Boards
Charging Procedures
Refrigeration Cycle Problems

Furnace

Sequence of Operation
Gas Combustion & Input Check
Measuring Inlet Supply Gas Pressure
Gas Pressure Adjustment (Two-Stage)
Gas Press. Adjustment (Sealed Combustion)
Gas Pressure Adjustment (Non-Direct Vent)
PSC Shaded Pole Induced Draft Motors
Variable Speed Induced Draft Motors
ECM Induced Draft Motor/Blower
ECM Motor Test
Control Voltage Transformers
Flame Roll-Out Limit Switches
Vent Pressure Safety Switches
Main Air Limit Switches
Hot Surface Igniters
Measuring Flame Current

Reference Materials

Troubleshooting Flow Charts
Miscellaneous References