

TECHNICAL SERVICE BULLETIN

TB08-134R

TO: RESIDENTIAL AND MAYTAG DISTRIBUTORS
FROM: TECHNICAL SERVICE DEPARTMENT
DATE: JULY 1, 2008
RE: COMPRESSOR TROUBLESHOOTING

With the launch of the QP/DP promise program, there have been many requests for a troubleshooting guide for compressors. Attached is guide for Service Technician to use when determining a compressor failure.

If you have any questions please call Nordyne Technical Service Department at 1-800-422-4328 ext. 2.

NORDYNE
Technical Service Department



Failures that qualify for the Nordyne QP Policy

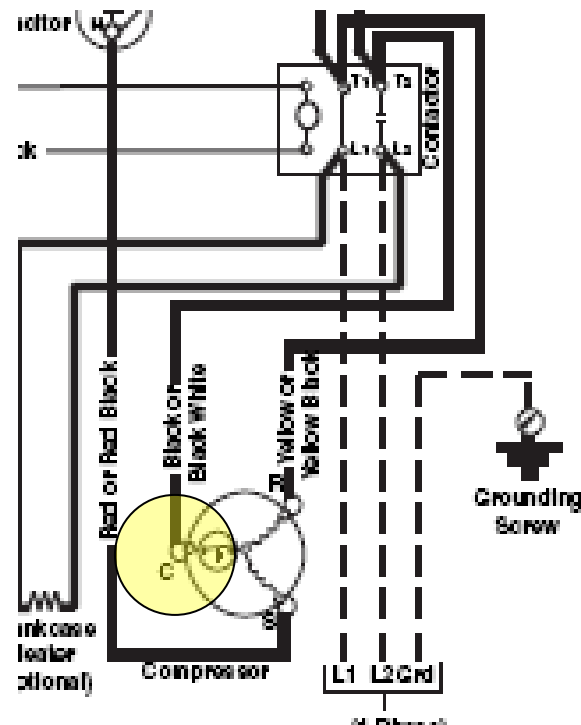
The Dealer will determine the failure of the unit and if it qualifies for a QP or DP. The failures must fall under the following guidelines as stated under the Nordyne Warranty.

Locked Rotor Amps-

Tools needed for the check for lock rotor amps
Reliable *amp meter*, can be purchased at your nearest distributor

How to check for Lock Rotor Amps

- Remove power from the unit at the units disconnect
- Read the wiring diagram and determine which wire is the common wire to the compressor usually the Black wire on most Nordyne units.



- Find the lock rotor rating (LRA) on the data tag. Note the LRA number
- Clamp your amp meter on the on the common wire to the compressor
- Set the thermostat to cool and lower the setting on the thermostat so that the contactor is pulled in at the outdoor unit.
- Reapply power to the condensing unit and watch the meter note the reading on the meter. If the reading is near or over the rated LRA rating on the unit. And the unit tries to start and shuts down the compressor has failed due to lock rotor amps.
- It is recommended that a hard start kit be tried to unlock the compressor.
- If the hard start kit fails to unlock the compressor the unit has failed

Shorted and Grounded Windings in the Compressor

Tools required- a reliable *volt-ohm meter*, volt-ohm meter you can purchase one at your nearest distributor.

How to check for Shorted or Grounded Windings in the Compressors

- Remove high voltage from the unit
- Remove the top cover off of the unit
- Locate and find the terminal cover on the compressor
- Remove the cover from the compressor electrical terminals
- Remove the 3 compressor wires from the compressor



- Set your meter on the ohms scale and place one meter lead on the Common Terminal (C) and place your other meter lead on a clean piece of copper on the discharge line, use Emory cloth or similar material to clean the copper.
- Repeat the same process on the Run Terminal (R) and Start Terminal (S).
- If any reading is read on your meter (i.e. 0 to 2,500 to ground), the motor windings in the compressor are grounded.
- If the reading is infinite on the meter or no reading, the compressor is ok.
- Using the wiring diagram reinstall the terminal wires on the compressor.

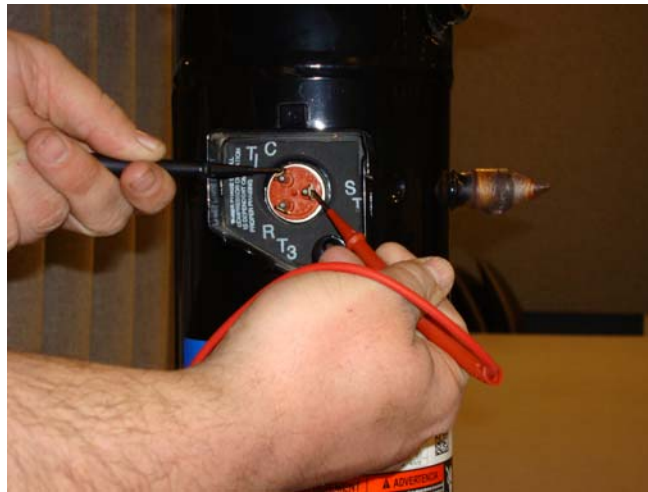
Open Windings in the Compressor

Tools required- a reliable volt-ohm meter, volt-ohm meter can be purchased at your nearest distributor.

How to check for Open Windings in the Compressor

Note: All Nordyne compressors have an internal overload on the common winding; don't confuse an open overload with an open winding. If the compressor is hot or warm to the touch remove the power from the unit and use appropriate methods to cool down the compressor (examples: run cool water over the compressor or a bag of ice on top of the compressor).

- Remove high voltage from the unit
- Remove the top cover off of the unit
- If the compressor is warm or hot, allow the appropriate time for the compressor to cool.
- Locate and find the terminal cover on the compressor
- Remove the cover from the compressor electrical terminals
- Remove the 3 compressor wires from the compressor



- Place one meter lead on the Run Terminal (R) and the other meter lead on the Start Terminal (S) note the reading. If there is no reading or infinite the winding is open
- Place one meter lead on the Common Terminal (C) and the other meter lead on the Run Terminal (R) check the reading. If no reading or infinite the winding is open or the internal overload is open.
- Place one meter lead on the Common Terminal (C) and the other meter lead on the Start Terminal (S) check the reading. If no reading or infinite the winding is open or the internal overload is open.

As you can see these checks with the proper meters can be done quickly and with the ease of mind that you have diagnoses that is accurate.

Data Sheet

Condenser

Model Number _____

Serial Number _____

Air handler/A coil

Model Number _____

Serial Number _____

Shorted or grounded compressor

Ohms readings

Start Terminal to Ground _____

Run Terminal to Ground _____

Common terminal to Ground _____

Lock Rotor Amps

Amp reading

Amp reading with ampmeter _____ amps

Open Compressor Windings

Ohms reading

Start Terminal to Common terminal _____

Run Terminal to Common terminal _____

Run Terminal to Common terminal _____