

# R200 TESTING

**Verify** conditions and complaint before testing

- 1) Verify temperature – Units will only work between 10 to 41 °C.
- 2) Verify humidity – Units will only work down to 35 gpp.
- 3) Verify bypass cover – Closed below 32 °C.
- 4) Verify complaint – Run unit to produce failure described by customer.

**Function Test** runs through all operations of the dehumidifier. This will let you know what is and is not functioning on the dehumidifier.

- 1) Plug unit in to known good power outlet. Verify the control board is off.
- 2) Push purge button to verify the pump makes a sound.
- 3) Remove filter and gently pour 1 litre of water through the black plastic heat exchanger. Verify water pumps out when purge button is depressed.
- 4) Unplug unit and plug back in to reset board.
- 5) Push power button and verify that only the blower comes on.
- 6) After on 50 – 60 seconds the compressor should come on. Verify slight hum or vibration coming from unit.
- 7) After 10 minutes take a temperature reading. Should be a 10 –25 temp rise if working properly.
- 8) If problems occur see below for further testing.

**TEST DISPLAY** – Allows the display of both thermistor value and hour meter during run testing.

When the unit has AC power and in the POWER off mode, the button sequence of holding the HOURS button and then pressing the POWER button will power up the unit and enter the TEST DISPLAY mode

Powering down the unit or unplugging the AC power resets the unit.

The hour meter will display both the thermistor value and the hour meter.

The two left most digits will display the thermistor value in XX °F.

The hour meter will display on the two right most digits. The display will restart with 0.0 but will not erase or add to the stored hour meter setting.

The mode will exit when the unit is turned off with POWER button or AC power.

## Float switch testing

The job of the safety float switch is to shut off the compressor when water gets too high in the water reservoir.

### Symptom

- 1) Blower runs but compressor does not stay on after 5 minutes running. Defrost light off.
- 2) Upon start up pump comes on but no water coming out of hose.

### Possible Problems

- 1) Faulty pump not pumping and reservoir filling up to trip switch.
- 2) Shorted yellow wires from float switch.
- 3) Faulty or stuck float switch.

### Testing

- 1) Pour water down the black heat exchanger. About 16 ounces.
- 2) Push the purge button to see if water pumps out.
  - a) If water pumps out then the pump is good and float switch is faulty. To verify this remove control panel and unplug connector with 2 yellow wires. This overrides the float switch to see if the compressors will come on.
  - b) If water does not pump out then the pump is most likely faulty. To verify check for power to pump from control board when purge button is depressed.

## Thermistor Testing

to test the thermistor enter the TEST DISPLAY mode.

1) Compare control board temp to ambient temp. It is best to remove the thermistor from the suction line and compare to ambient temp for most accurate results. Temp should be plus or minus 5 degrees of ambient.

2) In the TEST DISPLAY mode a faulty sensor will show up as 00 or 99.

## Refrigeration Testing

- 1) Remove front cover and heat exchanger.
- 2) Turn unit on
- 3) Wait 50-60 seconds to verify the compressor comes on. Slight hum or vibration is most recognizable.
- 4) Blue evaporator coil should start to get cold.
- 5) Unit should go in and out of defrost. Defrost mode turns the compressors off and turns the defrost light on.

### Possible Problems

- 1) Compressor does not come on but have power to compressor black wire.
  - a) Bypass compressor overload. For testing purposes only.
- 2) Compressor runs but coil not getting cold.

- a) Compressor running but not pumping
- b) No refrigerant in the system due to a leak
- 3) Compressor does not come on and do not have power to compressor black wire.
  - a) Check defrost light. If light is on compressor will be off.
  - b) Check black wire connection at board.
  - c) Put unit in diagnostic mode to test control board output to compressor.

## Blower Testing

The blower is located at the bottom of the machine. Removing 4 bolts that hold down the metal support plate to access blower.

### Possible Problems

- 1) Rubbing or scraping noise.
  - a) Blower alignment is off causing blower to hit the inlet ring. Loosen 4 screws on bottom and adjust alignment of blower to inlet ring.
- 2) Blower does not run.
  - a) Blower alignment is off causing blower not to turn. See above to fix.
  - b) Check power to fan.

## Control Board Testing

Control board displays the total hours and/or job hours. Controls all functions of the machine. Different date code units may have different control programs that may cause units to function slightly different.

### Possible Problems

- 1) Control board does not turn on
  - a) Check power at outlet.
  - b) Check loose connection at back of board.
  - c) Faulty power cord. Look for damage to cord.
  - d) Sticking power button. May take a firm push to activate.
  - e) Faulty board. Swap boards with known good control board to test.
- 2) Control Board displays erroneous numbers.
  - a) Call tech support
- 3) Hour meter does not work when unit unplugged.
  - a) Replace 9 volt battery
  - b) Sticking hour button. May take a firm push to activate.

## Replacing Pump

After the red outer jacket has been removed (6 bolts) remove the plastic heat exchanger. The housing holding the control panel is then removed (4 bolts) and laid on top of the evaporator. We suggest a piece of cardboard is placed on top of the evaporator so the fin tube is not damaged. Refer to the manual from here on.

## **Replacing Thermistor**

After the red outer jacket has been removed (6 bolts) remove the plastic heat exchanger. The thermistor is attached to the vacuum line by two fine black wires on the left hand side of the machine looking across the evaporator.