Quest 876 Transducer Leak Check

SERVICE DOCUMENT

QUEST

Quest 876-230v: #4037600

TOOLS:

- T30 Torx Bit
- Drill
- 7/16 Line wrench
- 9/16 Line Wrench
- Screw driver for terminal block
- Torque Wrench Assembly
  - ¼ drive torque wrench Calibrated to 120" pounds
  - ¼ drive 2" extension
  - ¼ to 3/8 drive adapter
  - 14mm crow foot 3/8 drive
- Jumper wire
- Refrigerant hose with valve

PARTS:

- Refrigerant – R410A (Sourced in the field)

INSTRUCTIONS:

1. Obtain access to the unit by ladder or other means.
2. See if unit has current alarm. Unit will have an audible beeping sound.
   A. If so code 15 or 33 indicates low charge. Proceed to step 7
   B. If not continue to step 3.
3. If unit is not on then ensure power is applied but disconnect DEHU wire so unit does not have a call for dehumidification.
4. Follow these steps to see sensor values on PLC screen.
   A. Press Bulls Eye button
   B. Enter code 0000 (just hit enter 4 times)
   C. Scroll down to "Refrigeration Data" and hit enter.
   D. Scroll down one to see SUCT PRESS thru INLET TEMP values
5. Looking at these values a low charge may be indicated by a low saturation pressure:
   A. Make sure to perform this step when the compressor is off. Compare suction pressure and Suction temperature values for R410a.
      I. 60F = 170 psi +/- 10 psi
      II. 70F = 201 psi +/- 10 psi
      III. 80F = 235 psi +/- 10 psi
   B. If off these specs then the charge is extremely low. Move to step 7.
   C. If the pressure is correct then the charge may be low but not identifiable by this

step. Move to step 6.

6. Turn the unit on by jumping 24V and DEHU terminal. Wait for compressor to turn on and run for 3+ minutes. Suction pressure will vary depending on load. (Temp and Humidity)
   A. A pressure below 80psi will indicate a low charge. Proceed to step 7.
   B. Compare values to another unit in same space or chart below for slightly low refrigerant issues. Within 10 psi is good enough.

	40%			50%			60%			70%		
Temp	Suction Pressure	Liquid Temp	Amps	Suction Pressure	Liquid Temp	Amps	Suction Pressure	Liquid Temp	Amps	Suction Pressure	Liquid Temp	Amps
104F 36%	152	111	31.4									
90	127	85	27.2	137	95	27.2	150	108	28.5			
80	107	68	22.7	116	75	23.6	125	84	24.7	133	91	25.5
70	Defrost	Defrost	Defrost	97			103	64	21.7	110	70	22
65	Defrost	Defrost	Defrost	Defrost	Defrost	Defrost	93			97		
60	Defrost	Defrost	Defrost	Defrost	Defrost	Defrost	Defrost	Defrost	Defrost	Defrost	Defrost	Defrost

7. Diagnosis:
   A. If all ok then the Transducer will need to be torque checked to prevent future leaks. Proceed to steps but skip step 10.
   B. If a low charge then proceed to next steps.
8. Remove access panel to gain access to transducer
   A. Using T30 bit remove 7 screws from end panel
   B. Move panel out slightly and up to disengage tabs a top of panel.
   C. Set panel aside
9. Tightening transducer
   A. Mark transducer flat with marker to note original position.
   B. Slide torque wrench with 14mm crowfoot upwards to engage transducer.
   C. Slide 7/16 line wrench upwards to engage service port
   D. Torque transducer to 120" inch pounds. Repositioning of crowfoot me be necessary if the transducer is more than a ¼ turn loose.
10. Recharging
    A. Remove access port cap (Not Transducer) using 9/16 and 7/16 line wrench.
    B. Hook on R410 bottle and hose with valve.
    C. Cycle power to the unit to reset alarm if present. This will allow the compressor to run.
    D. Perform step 3 to see sensor values.
    E. Turn the unit on by jumping 24V and DEHU terminal.
    F. Wait for compressor to turn on. ~3 minutes.
    G. Start adding refrigerant in 10 second burst followed by a 1-minute wait period to

see where pressures go.

H. Using chart in step 5 try to get suction pressure within 10psi. Slightly low or high is ok as the TXV will make up for the charge inaccuracy.
I. Low refrigerant codes may set after 15 minutes. If so cycle power switch to clear.
J. When complete remove refrigerant hose and tighten service port cap.

11. Reinstall panel
12. Take the following notes and report back to Service for documentation
    A. Serial number
    B. Leak or No leak
    C. Amount of turn's transducer was loose.
    D. Customer info
        I. Address
        II. Contact info
    E. Other issues you may have seen with the unit.

Have Questions? Contact the Quest service department at **877-420-1330** or **service@questclimate.com**