Procedure Installing TXVs to Voyager units

Objective : This procedure is intended to help visualize and then convert the expansion device from multiple fixed orifices, to thermal expansion valve (s) . The servicing contractor may want to make some process changes to better match their capabilities. Here is a table that cross - references the TXV kits, to the unit models .

KIT	QTY TXV'S	MODELS	R22	R22	#TUBES
KIT 09661	1	TCD/YCD180B	13.4	N/A	12
KIT 09510	1	TCD/YCD181C	25.0	N/A	16
KIT 09663	1	TCD/YCD210C (after10/2001)	21.0	N/A	16
KIT 09662	1	TCD/YCD210C (befrore 10/2001)	14.0	N/A	18
KIT 09510	1	TCD/YCD211C	25.7	N/A	16
KIT 09664	2	TCD/YCD240B	13.8	13.8	12, 12
KIT 09511	2	TCD/YCD241C	22.0	22.0	24, 24
KIT 09665	2	TCD/YCD300B	17.0	17.0	18, 18
KIT09511	2	TCD/YCD301 C	24.5	24.5	24, 24

Steps:

1) Make sure the electrical power is turned "OFF" to the unit, then open the access panels.

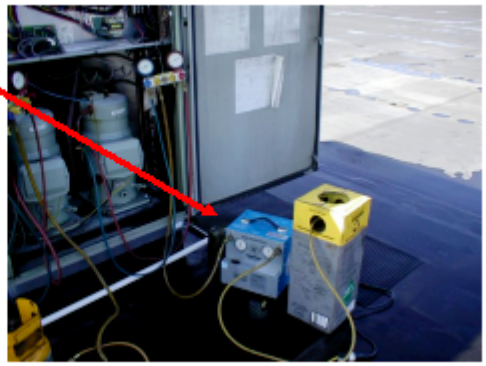
> ⚠**WARNING**
> **Hazardous Voltage!**
>
> **Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tag-out procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.**

2) Remove the blower compartment access panels and the narrow support panel between the access panels . (left hand side of unit) and the compressor access panel.

Remove these

3) Recover the refrigerant. (Some models will have 2 circuits to recover, other 1 circuit)

Recovery Pump



4) Each circuit can now be cut away ….the liquid header tube is cut, at the top of the tube , before the first orifice tube . Then, cut each orifice tube about 4" from the header tube (orifice is located internal to this tube section). Note : If both circuits are being removed, mark the tubes for later identification

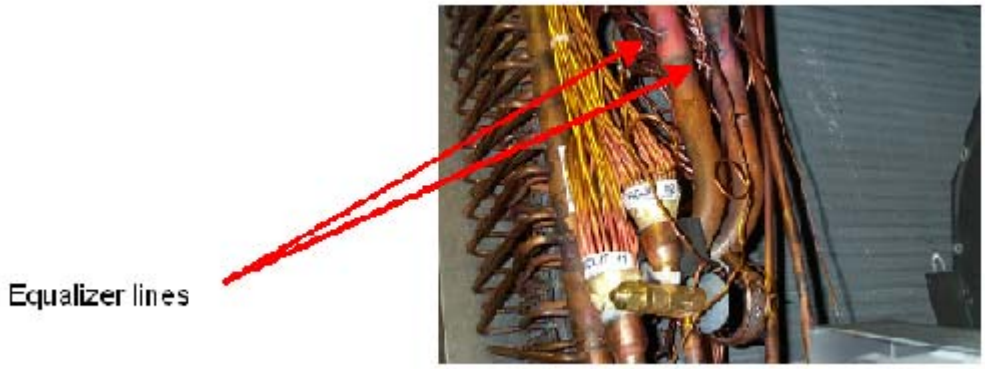
Liquid header and orifices

5) The rough cuts can now be trimmed with a small tubing cutter .

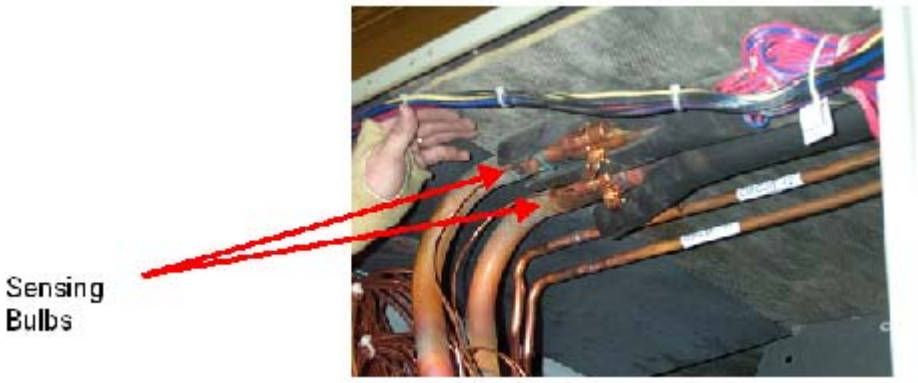
6) Position the TXV assembly to the liquid tube and bend and group the feeder tubes (preparing them for brazing to the individual circuits previously cut).

7) Route and bend the individual feeder tubes to the cut tubes feeding the evap coil circuits. Check to make sure the connections are not cross-circuited. The TXV feeder tubes are 3/16" dia and should be inserted about 1 " into the existing circuit tubes. The 3/8 existing tubes will require some crimping for a neat braze joint. Braze the feeder tube connections using the nitrogen purge.

8) To connect the equalizer line (s) to the suction line , drill 1/8" dia hole near the upper portion of the suction line. Note: If the nitrogen purge pressure inside the suction line is between 50 to 100 psig, the copper chips will be blown to the outside of the tube. Take care not to cross circuit the equalizer lines.



9) The TXV sensing bulbs are to be located just to the right of the equalizer line connections on the suction line. Secure the bulbs at the 9:00 O'clock position. Pull the suction line insulation back into position and make sure the sensing bulb is insulated, using the additional material provided.



10) The kit has a new filter-drier(s) s that can be used to replace the existing filter-driers.

11) With all weld joints complete, a leak test can performed on the all the new connections.

12) The system is now ready for evacuating and recharging. Recommend recharging with new refrigerant. Refrigerant charge information is shown in the table below. If the unit nameplate has different information, recharge to the unit nameplate information.

13) The expansion valves are NOT preset and after the unit has run for 20 minutes, with both compressors running, start adjusting the superheat to obtain 10 to 15 degrees superheat. (CCW increases flow and reduces the superheat…. Example - 75 psig suction pressure has 44 deg saturated temperature and a 56deg suction line temperature yields 12 deg superheat.)

Note : Reinstall the access panels and before re-applying the electrical power .