TRANE

General Service Bulletin

RTHA-SB-3

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Product	Rotary Liquid Chillers
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Subject: Series R CenTraVac Oil Line Modification

Introduction:

A problem has been identified with the oil line which feeds oil to the compressor bearings. The problem that may occur is trip out on low oil flow (BF2). Units that are affected are "E" design sequence only (10th digit of unit model number).

Discussion:

On the "E" design sequence chillers, the external oil lines were rerouted to prevent possible shipping and installation damage. A portion of the tubing became marginally sized thus it may not deliver enough oil to activate the oil flow switch. The bearings do get the required amount of oil but you may get nusiance trips on low oil flow (BF2).

Corrective Action:

Caution: Insure that water is flowing through tube bundles during entire process. R-22 pressures below 65 psig can cause freezing and bursting of heat exchangers.

1. Set slide valve switch to unload.

2. Remove wire to low pressure control (4S6).

3. Close outlet condenser refrigerant isolation valve.

4. Allow machine to pump down evaporator to 15-20 psig.

5. Shut chiller off by moving chiller switch to standby/reset.

6. Close inlet condenser refrigerant isolation valve.

7. Allow machine to set for 15-20 minutes to allow remaining refrigerant to "gas-off". Evaporator should rise to 70-80 psig.

8. Open inlet condenser refrigerant isolation valve.

9. Start chiller by moving chiller switch to auto/local and pump evaporator down to 2 psig.

10. Shut chiller off by moving chiller switch to standby/reset.

11. Close inlet condenser refrigerant isolation valve. Figure 1 is an illustration of the existing oil system and Figure 2 illustrates the new oil system.

12. Close oil line isolation valves -- outlet of oil tank, side of rotor housing, bottom of motor housing.

13. Modify oil system from the existing oil system (Figure 1) to the new oil system (Figure 2).

    Caution: Do not use Teflon tape. Particles of the tape could plug orifices. Use "Locktite" refrigerant sealer, Trane Part No. SEL 0413, or equivalent on pipe threads.

    a. Remove tubing and fittings between the two valves.

Note: While steps **b** thru **f** are performed there will be refrigerant vapor purging from machine when valves are removed. This will insure no non-condensibles enter machine. If bleed rate is too high to work with, bleed the excessive pressure from schraeder valve behind evaporator pressure gauge.

    b. Remove angle valve on bottom of motor housing and replace .052 orifice with a .072 orifice. Drilling a 1/8" hole in the .052 orifice and screwing a sheet metal screw into it will help facilitate its removal.

Figure 1
Old Configuration 1/4"
Copper Tube Assembly

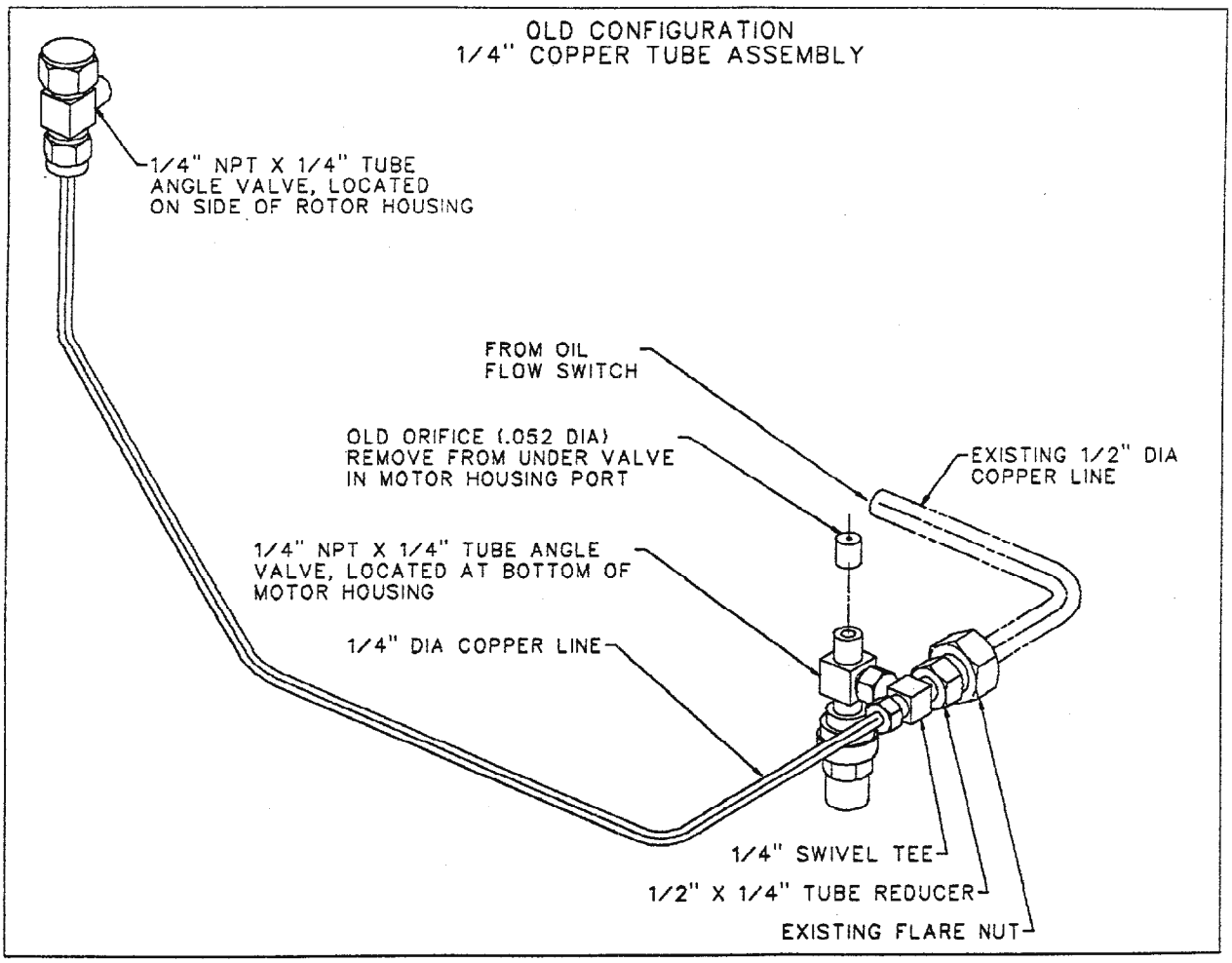
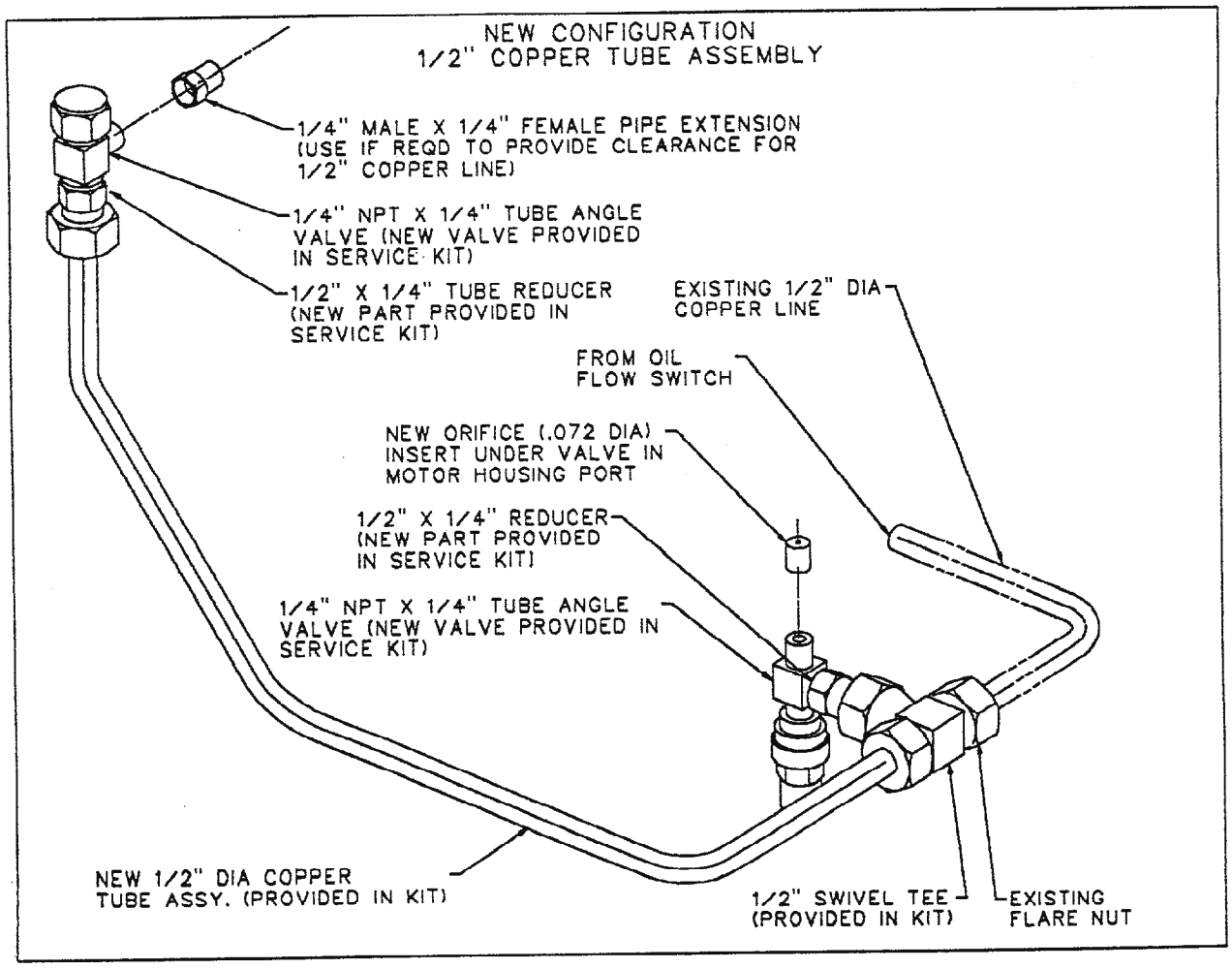


Figure 2
New Configuration 1/2"
Copper Tube Assembly



c. Install new angle valve on bottom of motor housing.
d. Remove angle valve on side of rotor housing.
e. Install pipe extension and new angle valve on side of rotor housing.
f. Install appropriate tubing and fittings between the two angle valves.
g. Bend existing 1/2" dia. line from oil switch to meet 1/2" swivel tee.
h. Purge tubing by cracking open the replacement valves and bleed refrigerant through the oil line back to the flare nut on the outlet of the flow switch.

14. Open all oil line isolation valves.
15. Reinstall wire that was removed to the low pressure control (4S6) that was disconnected in Step 2.
16. Open inlet and outlet condenser isolation valves.
17. Start and put chiller into operation.

Units Affected

RTHA 130-300 design sequence "E" only.

Example: RTHA 255FSEL

JH