TRANE

General Service Bulletin

RTHA-SB-11

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Product	**Centrifugal Liquid Chillers - A/C**
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Literature Changes:
RTHA-SB-11 (2/28/92) -- Original Date of bulletin

Subject: Model RTHA Water-Cooled Series R CenTraVac Oil Flow Switch Replacement With A Differential Oil Pressure Switch

Introduction:

The purpose of this service bulletin is to aid in the installation of the differential oil pressure switch. This pressure switch replaces all oil flow switches on previous designs. This is not a mandatory retrofit and only serves as a fix-on-fail procedure. This design change will inhance the operating parameters of the water-cooled Series R.

Discussion:

This service bulletin provides the service technician who is replacing an inoperative RTHA oil switch with instructions for properly positioning and installing the differential oil pressure switch.

Corrective Action:

For Design Sequence A to D Only

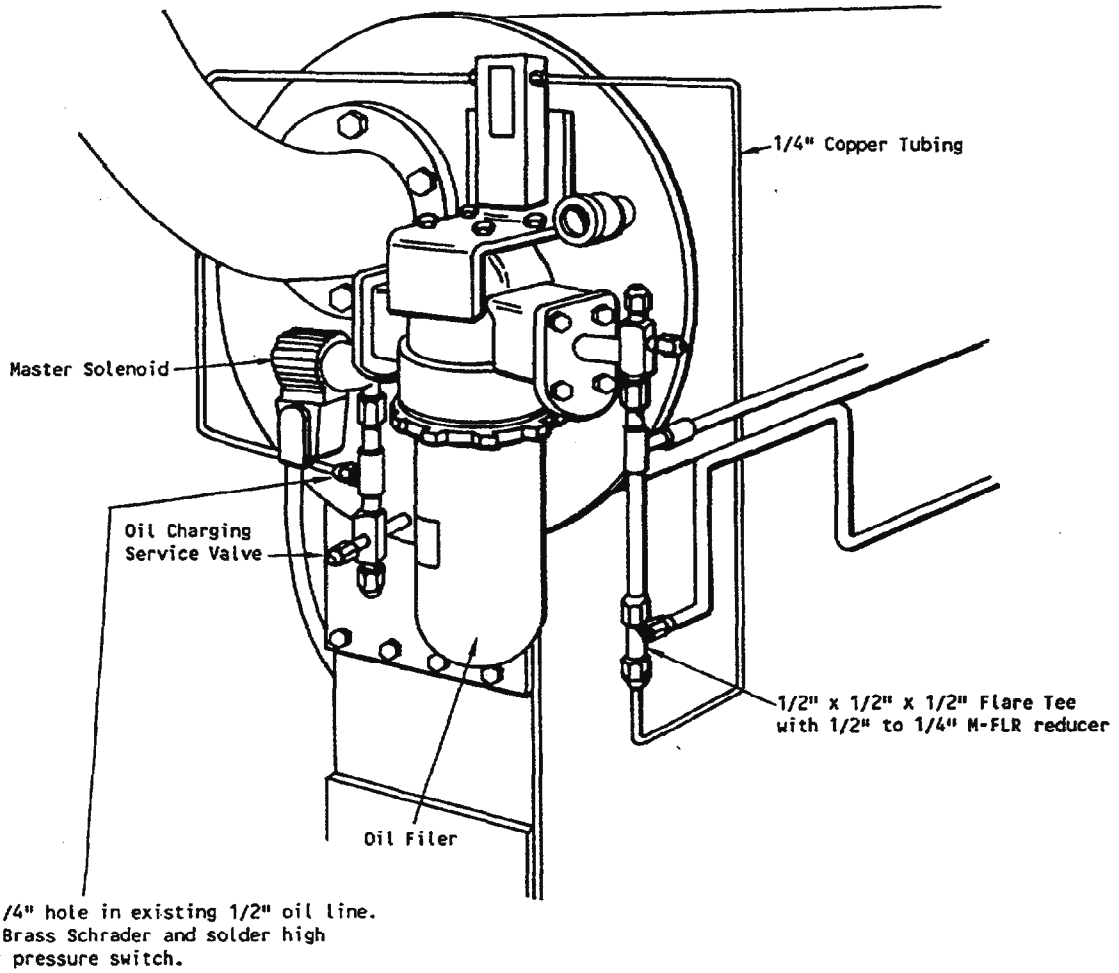
WARNING! To prevent injury or death due to electrical shock, lock all disconnects in OPEN position.

1. For units with isolation valves, pump system down to 25 psig only one time. Reclaim remaining refrigerant and oil.

2. For units without isolation valves, reclaim all refrigerant and oil from entire system. (Refer to Figure 1 for references while reading instructions.

3. Remove existing oil flow switch and wiring from unit. Install the 1/2" x 1/2" x 1/2" flare tee in place of the oil flow switch. Then install the 1/2" F-FLR x 1/4" M-FLR reducer as shown in Figure 1. This is where the low side of the differential pressure switch is connected.

Figure 1
Differential Pressure Switch Retrofit (For design sequence A thru D)



CAUTION: Make sure the oil lines are being purged with dry nitrogen while brazing.

4. Drill a 1/4" hole in the 5/8" oil line down stream of the oil angle valve and up stream of the master solenoid. Insert the brass Schrader connection into the 1/4" hole and braze. Do not put the Schrader valve insert into the valve. This is the high side of the oil pressure switch.

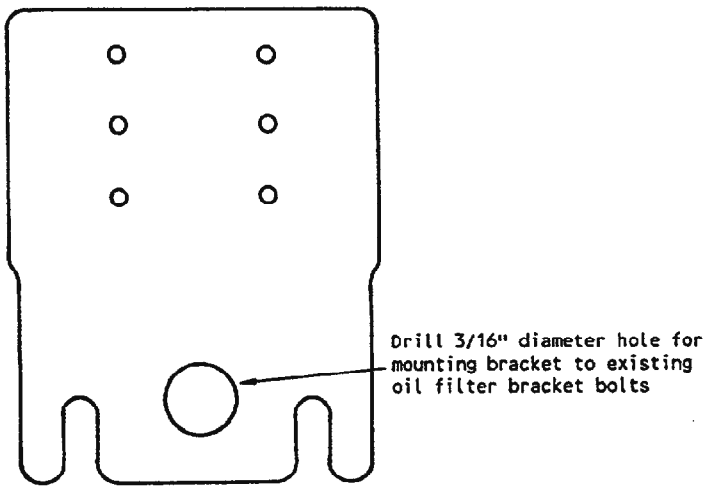
5. Mount the pressure switch on any one of the oil filter mounting bracket bolts. Refer to Figure 2 for mounting bracket modifications.

6. Wire the differential pressure switch to terminals 1TB4-1 and 1TB4-5 (refer to Figure 3). The pressure switch should be set to open on a pressure rise of 50 psid and reset at approximately 46 psid.

7. Pressurize the system with nitrogen and make sure there are no leaks.

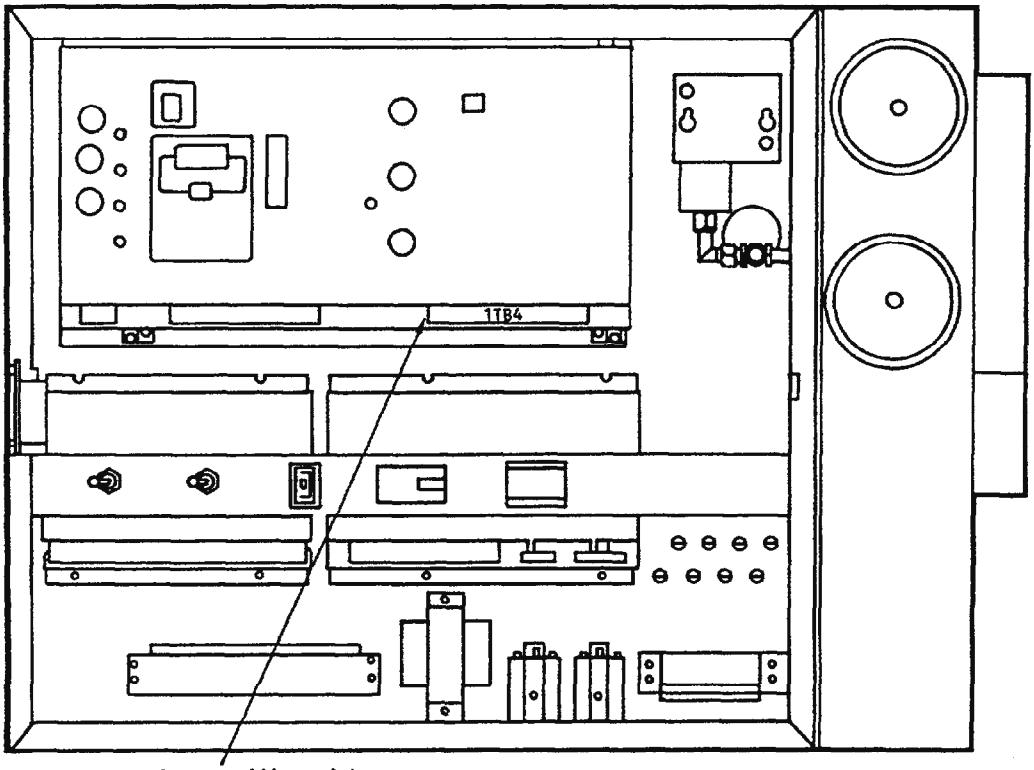
8. Evacuate system to 500 microns and weigh the refrigerant charge back into system. Put the correct oil charge into system.

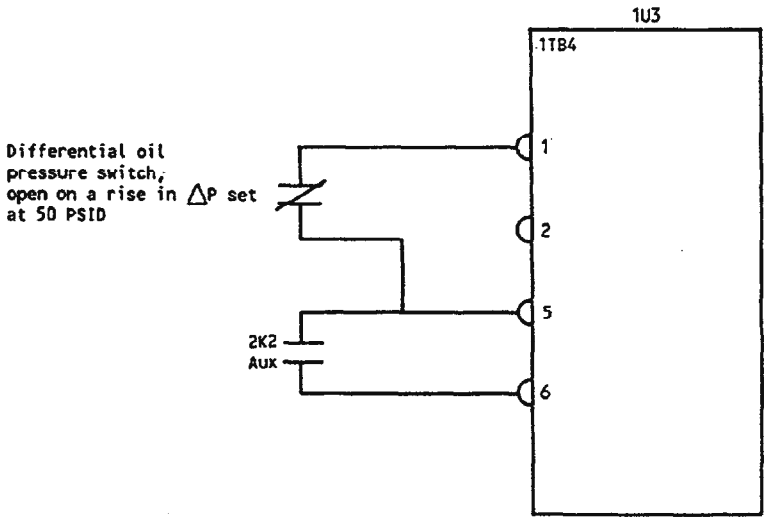
Figure 2
Pressure Switch Bracket Showing
Mounting Bracket Locations



This bracket will need to be drilled out in order
to mount the switch on any one of the oil filter bracket bolts

Figure 3
RTHA Unit Control Panel Layout and Schematic Section





For Design Sequence E thru PO
(Refer to Figure 4)

1. Close all oil line service valves and the oil line angle valve up-stream of the oil filter assembly. At this point all hydraulic lines are isolated from the rest of the system.

2. Reclaim all refrigerant and oil from only the hydraulic lines that were isolated in Step 1.

WARNING! Disconnect electrical power source to prevent injury or death from electrical shock

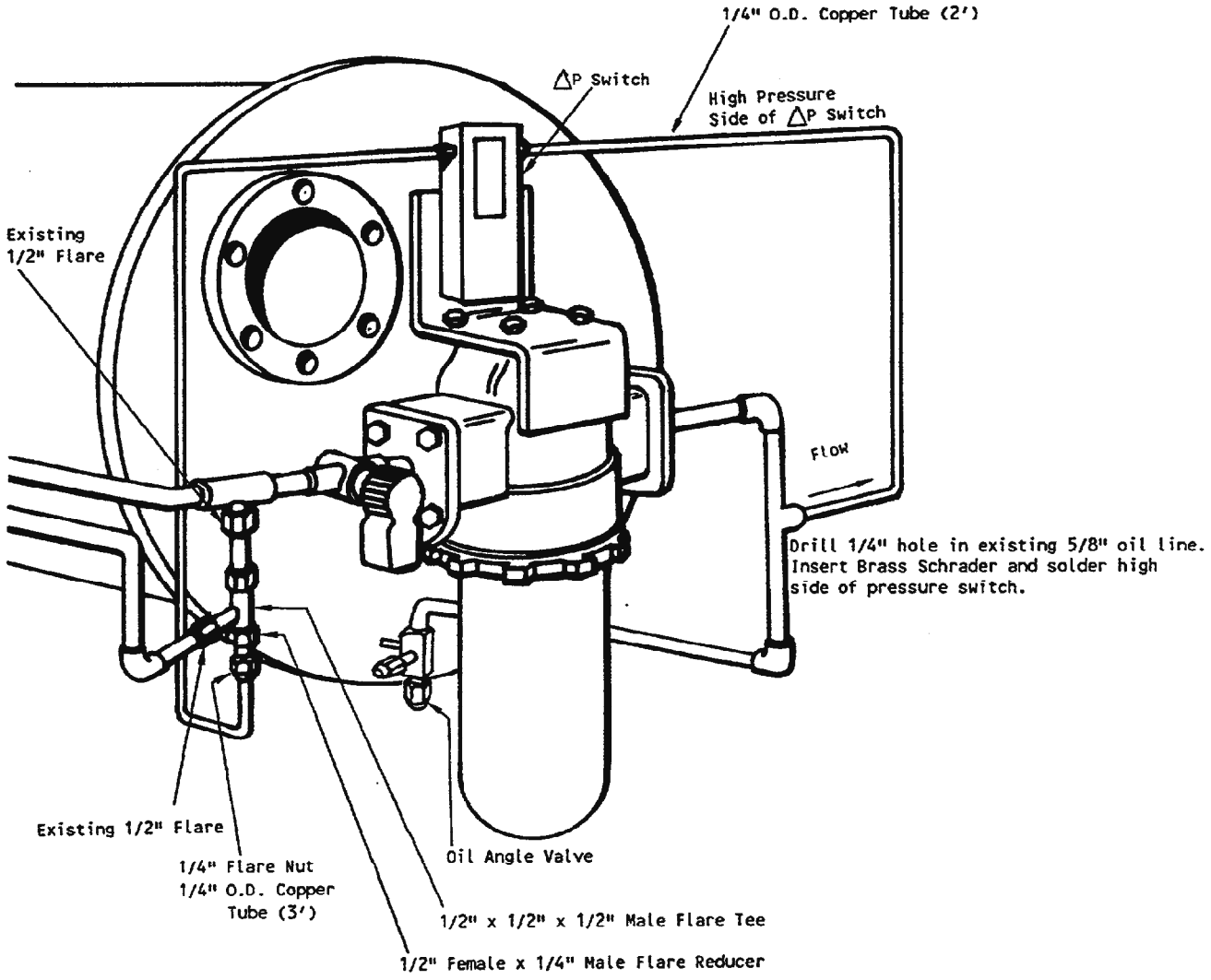
3. Remove the existing oil flow switch and install the 1/2" x 1/2" x 1/2" male flare tee and the 1/2" x 1/4" reducer. This becomes the low pressure side of the pressure switch.

CAUTION: Make sure the oil lines are being purged with dry nitrogen while brazing.

4. Drill a 1/4" hole in the 5/8" oil line down stream of the oil angle valve and up stream of the oil filter. Insert the brass Schrader connection into the 1/4" hole and braze. Do not put the Schrader valve insert into the valve. This is the high side of the oil pressure switch.

To complete this procedure follow Steps 5 thru 8 in the previous discussion.

Figure 4
Shows Retrofit Kit for Design Sequence
E thru PO



Operation

This pressure switch will open on a rise in differential pressure of 50 psid. The diagnostic will remain the same bF2., this will be an indication of low oil flow. The diagnostic bE8 oil flow switch closed will no longer apply to this design change because the pressure switch will always be closed until a differential pressure of 50 psid is established. Some contributing causes when a bF2 code appears is clogged oil filter and a malfunctioning master solenoid.

Note: If this design change is warranted than be sure to also remove the oil screen up-stream of the oil flow switch if already installed.

Units Affected

The replacement differential oil pressure switch described in this service bulletin replaces all previous oil flow switches used on Model RTHA 130 thru 450 ton units, design sequence A thru PO.

Parts Ordering

This service bulletin is informational only and does not authorize any parts or labor. One differential pressure switch kit is required for each RTHA oil flow switch to be replaced. Order these parts from La Crosse " Ship from 31", and specify the following part number.

KIT 2040: RTHA Differential Oil Pressure Switch Kit