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SERVICE BULLETIN

Supersedes: Nothing	1192	Form 160.47-M2 (SB-6)
File with Form: 160.47-M2		

**SUBJECT: Screw Chiller (125-675 TR)
Microcomputer Control Center -
Version S.01S.08, S.01F.08,
S.01T.08 EPROMS**

The following enhancements are included in the above EPROMS. They will be in production on/about December 1992. It is not necessary to retrofit to existing units.

CHILLED WATER PUMP CONTROL CONTACTS

As with previous versions of EPROM, the chilled water pump control contacts on relay board TB4-44/45 remain closed on **LOW WATER TEMP** shutdowns. They also remain closed on **MULTI-UNIT SEQUENCE** and **SYSTEM CYCLING** shutdowns if Micro Board Program Jumper J54 is removed. However, previous versions would not open the contacts if the unit is already shutdown one of these shutdowns and the **COMPRESSOR** switch is moved to the "STOP/RESET" position. This version opens the contacts if unit is already shutdown on one of these shutdowns and the **COMPRESSOR** switch is moved to the "STOP/RESET" position.

REFRIGERANT R134A CAPABILITY

This version of EPROM can be used on Refrigerant R22 or R134A applications. The actual refrigerant used determines the position of Micro Board Program Jumper JP2. The software will interpret the appropriate pressures per the JP2 position as follows:

JP2

IN = R22 Applications, requires use of transducers 025-28678-001 (Condenser, Oil, Oil Filter), 025-28678-002 (Evap-Water) or 025-28678-003 (Evap-Brine).

OUT = R134A Applications, requires use of transducers 025-28678-001 (Condenser, Oil, Oil Filter), and 025-28678-005 (Evap-water and brine).

ALLOWABLE SLIDE VALVE POSITION TO START

Previous versions of software allowed the unit to start only if the slide valve position is <10%. Since some compressors do not consistently return the slide valve to <10% at unit shutdown, provision has been made to allow those units to start if the slide valve position is <30%. To invoke the 30% permissive start, cut the Wire Program Jumper JP4 on the Micro Board.

It is important to note that cutting this Jumper also invokes all of the previous functions invoked by removal of this jumper. Specifically, Hot Gas Bypass Outputs and 5% minimum Slide Valve Position during run. Refer to Form 160.47-M2 (291) FIG. 31A for other details of this jumper.

LOAD LIMIT

OPERATION

This feature limits the motor current to the programmed value when the leaving chilled water temperature is equal to or greater than the programmed threshold. White this limit is in effect, **"SYSTEM RUN-LOAD LIMIT IN EFFECT"** is displayed. The leaving chilled water threshold is programmable from 50°F to 70°F; the default value is 70°F. The motor current value is programmable from 60% to 100% FLA; the default value is 100% FLA.

This feature is only required when using certain compressor/chiller combinations under certain operating conditions, consult factory for requirement.

PROGRAMMING

1) Enter **PROGRAM** mode by using access code **1 3 8 0**.
2) Press slide valve **LOAD** Service Key.
   "LOAD LIMIT H20 TEMP=XX.X°F;CURR=XXX%FLA" is displayed.
3) Enter desired values. Use leading zeroes where necessary.
4) Press **ENTER** Key. **"PROGRAM MODE, SELECT SETPOINT"** is displayed.
5) Press **PROGRAM** key to exit.

OIL/EVAP TRANSDUCER AUTO-ZERO ENABLE/DISABLE

OPERATION

This feature allows the serviceman to enable or disable the auto-zeroing of the evaporator and oil pressure transducers. When enabled, the output of the evaporator transducer is compared to the output of the oil pressure transducer (that is located at the input to the compressor) during the first 15 seconds of "Start Sequence, Initiated" to determine the **OFFSET PRESSURE** (refer to Form 160.47-01.1, Page 5 for explanation of offset press.). This is to compensate for minor differences in transducer accuracy and is the normal mode of operation. However, this can cause an error in the **DIFFERENTIAL OIL PRESSURE** calculation on units where evaporator and condenser water loops with common pumps are shared among multiple units. The evaporator water that is being cooled and the condenser water that is being heated by another unit causes the evaporator and condenser of the shutdown unit to be at different pressures. Therefore, during the auto-zero sequence, the evaporator transducer and oil pressure transducer will be sensing a pressure differential that includes the small transducer accuracy tolerance **plus** the large differential of the evaporator and condenser pressures. This results in a large **OFFSET PRESSURE**. While the unit is running, this large **OFFSET PRESSURE** causes the calculated **DIFFERENTIAL OIL PRESSURE** to be much less than it really is. Therefore, the Auto-Zeroing should be **DISABLED** under these conditions only.

CAUTION !!: THE AUTO-ZEROING SHOULD ONLY BE DISABLED AFTER CONSULTATION WITH THE FACTORY.

NOTE: THE OIL PRESSURE TRANSDUCER IS STILL AUTO-ZEROED WITH THE OIL FILTER TRANSDUCER EVEN THOUGH THE AUTO-ZEROING HAS BEEN DISABLED.

PROGRAMMING

1) Enter **PROGRAM** mode by using access code **1 3 8 0**.
2) Press **OIL/FILTER PRESSURES** Display Key. **"OIL/EVAP TRANSDUCERS AUTO ZERO ENABLED"** is displayed.
3) Use the **ADVANCE DAY/SCROLL** key to select **ENABLED** or **DISABLED**. Each time the **ADVANCE DAY/SCROLL** key is pressed, the display alternates between **ENABLED** and **DISABLED**. The default value is **ENABLED**. Pressing the **CANCEL** key selects the default value.
4) Press **ENTER** key. **"PROGRAM MODE, SELECT SETPOINT"** is displayed.
5) Press **PROGRAM** key to exit.