PROXIMITY SENSOR CALIBRATION PROCEDURE

After the proximity sensor and probe are installed, either at the YORK factory when the compressor is built or when the proximity sensor and probe are field installed, or if the compressor is rebuilt in the field, the reference position must be established. This value must be entered at the keypad as the "REF POS" per the following procedure. This value will remain the "REF POS" value until the compressor is rebuilt or the proximity sensor module and probe are field replaced.

IMPORTANT

The "REF POS" value must be logged inside the MicroComputer Control Center because this value will have to be re-entered using the procedure below if the Micro Board or Micro Board RTC Chip (U16) is field replaced.

1. Place **COMPRESSOR SWITCH** in "STOP / RESET" position.
2. Press **ACCESS CODE** key
   ENTER ACCESS CODE _ _ _ _ is displayed.
3. Using **ENTRY** keys, enter **1 3 8 0.**
4. Press **ENTER** key.
   ACCESS TO PROGRAM MODE AUTHORIZED is displayed.
5. Press **PROGRAM** key.
   PROGRAM MODE, SELECT SETPOINT is displayed.
6. Press **MODE** key. The present operating mode is displayed.
7. Press **ADVANCE DAY / SCROLL** key until
   SERVICE OPERATING MODE SELECTED is displayed. Each time this key is pressed, a different mode is displayed.
8. Press **ENTER** key.
   PROGRAM MODE, SELECT SETPOINT is displayed.
9. Press **ACCESS CODE** key.
   ACCESS TO PROGRAM KEY DISABLED is displayed.
10. Press **MODE** key.
    SERVICE MODE is displayed. If not repeat Steps 1 through 9.
11. Press **ACCESS CODE** key.
    ENTER ACCESS CODE _ _ _ _ is displayed.
12. Using **ENTRY** keys, enter **1 3 9 7.**
13. Press **ENTER** key.
    ACCESS TO PROGRAM KEY AUTHORIZED is displayed.
14. Press **PROGRAM** key.
    PROGRAM MODE, SELECT SETPOINT is displayed.
15. Press **DISPLAY DATA** key.
    - PROXIMITY SENSOR INITIALIZATION SEQUENCE is displayed for 2 seconds.
    - STARTING OIL PUMP is displayed for 2 seconds. The oil pump automatically turns on.
    - OIL PRESS XX.X PSID;25 PSID MIN. REQ'D is displayed until the oil pressure is more than 25.0 PSID. (The **CANCEL** key can be pressed, if desired, to turn off the oil pump and return to program mode prompt message).
    - HIT ENTER TO CALIBRATE PROXIMITY SENSOR is displayed.
16. Press **ENTER** key.
    ACTUAL POS = XX MILS; REF POS = YY MILS is displayed.
17. Read both of the following steps and perform the appropriate one.
    a. If the proximity sensor is being installed for the first time as part of a bearing retrofit or if the compressor has just been rebuilt or if the proximity sensor module and probe are field replaced, press the "*" key. This causes the "ACTUAL POS" value XX to be entered as the "REF POS" value YY. This establishes the reference position.

       IMPORTANT
       Log this value inside the MicroComputer Control Center for possible future use.

       or

    b. If the Micro Board or Micro Board RTC Chip U16 has been replaced since the reference position was established, locate the original "REF POS" value that had been previously logged inside the

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MicroComputer Control Center. Using the **ENTRY** keys, enter this value. As the digits are entered, they are displayed as the REF POS = YY MILS value.

18. Press **ENTER** key. The oil pump will turn off.
    PROGRAM MODE, SELECT SETPOINT is displayed. If values outside the range of 37 to 79 mils were entered as the "REF POS" in step 17a or 17b above.
    OUT OF RANGE - TRY AGAIN is displayed. If this out-of-range value was a result of step 17a above, troubleshooting of the proximity sensor module and interface is required.

19. Press **ACCESS CODE** key.
    ACCESS TO PROGRAM KEY DISABLED is displayed.

PROXIMITY / TEMP SENSOR SAFETY SHUTDOWN - SPECIAL RESET PROCEDURE

Anytime the chiller shuts down on "DAY-TIME-PROX SENSOR SAFETY SHUTDOWN" or "DAY-TIME-HIGH SPEED DRAIN TEMP" safety shutdowns, a qualified service engineer must perform steps a.) and b.) below. Anytime the chiller shuts down on DAY-TIME-OPEN DRAIN TEMP THERMOCOUPLE, a qualified service engineer must perform step b.) only.

a. Perform an inspection of the high speed thrust bearing and thrust collar assembly to assure all critical clearances remain

   and

b. Perform the following special reset procedure. The chiller cannot be restarted until this reset procedure is performed. This special reset procedure does not appear in any publication other than this service manual. This prevents chiller operator personnel from restarting the chiller before a bearing inspection has been performed.

> **IMPORTANT!!**
>
> SERIOUS COMPRESSOR DAMAGE CAN OCCUR IF THE CHILLER IS RESTARTED WITHOUT PERFORMING THE BEARING INSPECTION!!!

The proximity sensor distance ("ACTUAL POS") must be within +10 mils or -20 mils of the "REF POS" (If the "REF POS" is < 42 mils, the minimum allowed distance is 22 mils) and the high speed drain temp must be 179°F or less prior to performing this procedure. Otherwise, the procedure will not be successful and the chiller cannot be restarted.

1. Place **COMPRESSOR SWITCH** in "STOP / RESET" position.
2. Press **ACCESS CODE** key.
   ENTER VALID ACCESS CODE _ _ _ _ is displayed.
3. Using **ENTRY** keys, Enter **1 3 8 0**.
4. Press **ENTER** key.
   ACCESS TO PROGRAM KEY AUTHORIZED is displayed.
5. Press **PROGRAM** key.
   PROGRAM MODE, SELECT SETPOINT is displayed.
6. Press **MODE** key. The present operating mode will be displayed.
7. Press **ADVANCE DAY / SCROLL** key until
   SERVICE OPERATING MODE SELECTED is displayed.
8. Press **ENTER** key.
   PROGRAM MODE, SELECT SETPOINT is displayed.
9. Press **PROGRAM** key.
   SYSTEM SHUTDOWN-PRESS STATUS is displayed.
10. Press **WARNING RESET** key.
    SYSTEM READY TO START is displayed.
11. The control center can now be returned to **LOCAL** or **REMOTE** mode as required and the chiller can be started.

OPERATING HOURS AND STARTS COUNTER

The operating hours and starts counter should not be arbitrarily reset or changed. However, if the Micro Board, RTC Chip (U16) or EPROM is replaced, these values will be lost. The procedures below will allow the service technician to reset these values to zero or enter starting values.

RESETTING TO ZERO

Enter **PROGRAM MODE** per "SPECIAL PROGRAMMING PROCEDURES" above, then proceed as follows:

1. Press and release the unlabled / unembossed key located under the **OPERATING HOURS** key. Then press and release the unlabled / unembossed key located under the **DATA LOGGER** key.
2. The operating hours and starts counter will reset to zero.