When the OEM first starts the compressor in his plant, or when a compressor is first started in the field, the bearing surfaces are "particularly susceptible to damage" if proper and pure lubrication are not present. This "susceptibility" is due to the fact that those bearing surfaces are in their as-machined state and must have positive and pure oil lubrication during that infant-life break in period.

Therefore, particular attention should be given to this early life operation.

The compressor SHALL NOT be started the first time with the full refrigerant charge in the housing. Further, it should be recognized that in all cases operation of the system SHALL BE such that there is no liquid refrigerant floodback.

In order to accomplish these requirements, the following procedures are offered:

I.   Processing Procedure -- Complete Systems

   A.   Charging into the condenser. (Preferred Method)

      (1)   Evacuate to 200 microns (26,600 mPa) at the system. CAUTION: DO NOT OPERATE COMPRESSOR WHILE UNDER VACUUM.

      (2)   Break the vacuum by allowing liquid refrigerant to enter the system through a process fitting on the liquid line. Drive the total charge into the system. On heat pumps, locate the process fitting between the check valve and the outdoor coil outlet.

      (3)   Start and operate as desired.

   B.   Charging into the low side or compressor. (Optional Method)

      (1)   Evacuate to 200 microns (26,600 mPa) at the system. CAUTION! DO NOT OPERATE COMPRESSOR WHILE UNDER VACUUM.

      (2)   Break the vacuum by allowing vapor refrigerant to enter through the low side process fitting.

      (3)   When the vapor pressure reaches the saturation pressure of 35. to 40.F (1.7. to 4.4.C) for the refrigerant of choice -- start the compressor and continue charging with liquid refrigerant at a rate not to exceed five pounds per minute (2.3 kg/min).

II.   Processing Procedure - Condensing Units Only

   A.   Total Charge Method (Preferred)
        (See schematic drawing on page 3 of 3)

        (1)   Use the system liquid line process fitting for evacuation and charging.

        (2)   Attach a bypass hose set between the compressor suction or process
              tube and a process tube on the discharge line (between compressor and
              condenser.)

              This hose set should have:

              a.   A mid-position hand valve.

              b.   A suction pressure gage on the compressor side of the mid-position
                   valve.

        (3)   Evacuate to 200 microns (26,600 mPa) at the system with the hand valve
              in the open position. CAUTION! DO NOT OPERATE COMPRESSOR
              WHILE UNDER VACUUM.

        (4)   Close the hand valve and break the vacuum by allowing liquid refrigerant
              to enter the condenser through the liquid line process fitting.

        (5)   Partially open the mid-position hand valve to slowly allow pressure
              equalization.

        (6)   Proceed with operational tests as desired. Adjust hand valve to obtain a
              30 to 65 psig (207 to 448 kPa) suction pressure. Operate for no more
              than 10 minutes. Greater run time may cause an overload temperature
              trip.

   B.   Partial Charge Method (Optional)

        (1)   Use the system liquid line process fitting for evacuation and charging.

        (2)   Attach a bypass hose set between the suction or process tube and the
              condenser outlet or liquid line.

        (3)   Evacuate to 200 microns (26,600 mPa) at the system. CAUTION! DO
              NOT OPERATE COMPRESSOR WHILE UNDER VACUUM.

(4)   Break the vacuum by allowing liquid refrigerant to enter through the liquid line process fitting.

NOTE THAT THIS INITIAL CHARGE MAY NOT EXCEED EIGHT OUNCES (226.8 g.)

(5)   Proceed with operational tests as desired.

(6)   Stop the compressor and complete the charging operation.

III.   Startup Procedure

When starting the system after a prolonged shutdown, heat, if required, should be applied to the compressor oil for a minimum of twelve hours before startup. (Please reference Engineering Policy #1.)

N O T E : Should the OEM's processing procedures result in any liquid floodback, starting or audible slugging problems; contact Tecumseh Sales and Engineering for assistance in taking corrective steps.

Tecumseh Engineering Department

By Pass Hose Assembly

Liquid Line (Location for Evacuation and Charging Fitting)
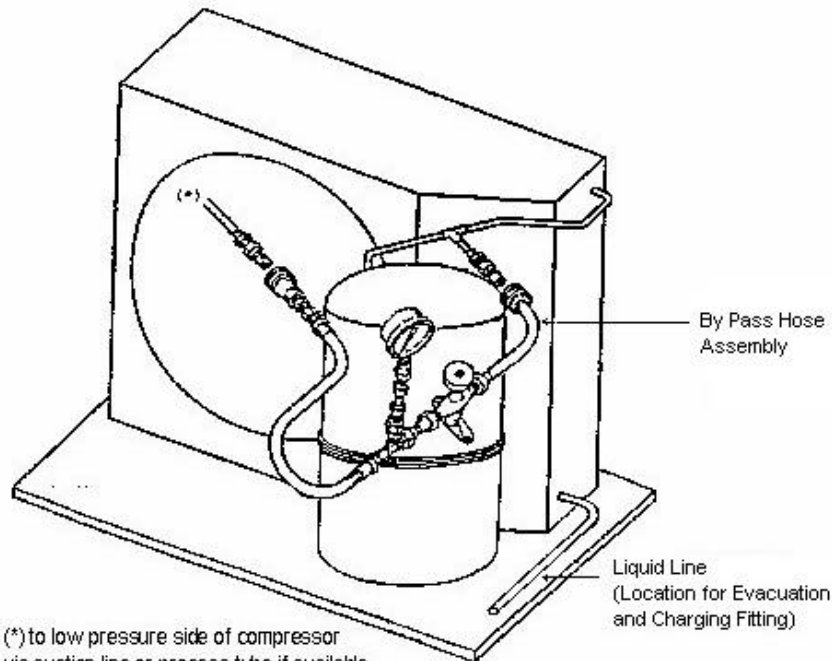
(*) to low pressure side of compressor via suction line or process tube if available. (Should not be thru access fitting w/ core)

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