

TSCP-814
November 1978
Section F-2

PROCEDURE FOR TROUBLE-SHOOTING ABNORMAL CONDENSER PRESSURE
IN KRAMER THERMOBANK-2 COMPRESSOR SYSTEMS

REFRIGERATION CYCLE

1. Install 3 gages. One to read head pressure; one for receiver pressure; one for coil pressure.
2. Start system. If head pressure rises rapidly, first make sure timer is not on defrost, then, stepwise, do the following:
 - A. Throttle the suction service valve in an attempt to maintain steady conditions.
 - B. If this is possible, then follow steps in chart #1.
 - C. If this is not possible, then assume the discharge solenoid is closed.
 - (1) Check voltage at coil. The discharge solenoid is a normally open valve and should be de-energized to be open.
 - (2) If the coil is de-energized, pull the compressor fuses and turn timer into defrost. All the system refrigerant should migrate to the cold evaporator. (If the problem occurs on start-up with a warm box, pump out the refrigerant into one or more empty cylinders employing a scale to ensure against overfilling.) Then close the receiver outlet valve, the KM pilot hand valve (if used) and the compressor suction service valve. Disassemble the discharge solenoid to determine the trouble.

DEFROST CYCLE

If unit trips out on defrost, check that W hand valve, receiver inlet and outlet valves and all liquid line hand valves are open. A plugged drier can also cause this trouble.

Check that hot gas solenoid is opening. Frost at the hot gas solenoid outlet during defrost suggests only the pilot is open.

Low temperature units especially may trip on defrost if the pressure termination does not work. This may be caused by -

- a. Termination pressure switch faulty.
- b. Termination pressure switch set too high.
- c. Faulty timer.

First check the timer during defrost by jumping from N to X timer terminal. The timer should terminate defrost instantly. If it does not, replace timer. The system can be kept running temporarily by shortening the over-ride time to that time at which the coil pressure reaches satisfactory termination pressure, usually in the range of 140 to 200 PSI.

If the timer works properly, check the setting and operation of the termination pressure switch by monitoring the coil pressure at which termination occurs through three or four consecutive defrosts.

(over)

KRAMER TRENTON COMPANY
Box 820, Trenton, N.J. 08605

CHART #1

TROUBLESHOOTING HIGH HEAD PRESSURE ON
THERMOBANK-2 REFRIGERATION CYCLE

(For high head on defrost or
 post defrost, see text.)

<u>PROBLEM</u>	<u>CAUSE</u>	<u>SOLUTION</u>
<u>HIGH HEAD PRESSURE</u> OBSERVATION		
Receiver pressure <u>high</u> - with		
(A) Receiver <u>cold</u>	Non-condensibles or system overcharge	Purge from top of receiver with compressor running.
(B) Receiver <u>hot</u> and liquid line at "C" valve inlet hot	<ol style="list-style-type: none"> 1. Excessive load 2. High back pressure 3. Wrong compressor on multi-circuit 4. Condenser fins blocked with dirt 5. Fans rotating back- wards 6. Fans off 7. Excessive air temp. at condenser 8. Air re-circulation at condenser 	Check condenser selection Throttle compressor Check for proper circuit- ing Clean condenser Check for incorrect wiring Check motor and power supply Relocate condenser Check cause and correct
(C) Receiver <u>hot</u> and liquid line at "C" valve inlet cold	Check head to receiver pressure drop (If over 12 PSI) Discharge solenoid valve plugged "C" valve plugged	Repair or replace Repair or replace
	(If under 12 PSI) "W" check valve stuck open	Replace