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## **GCL Refrigeration Manual For Portable Door Units**

### **1.0 Starting the Refrigeration Unit**

1.1 Open main control panel to make sure control power and compressor switches are turned off.

1.2 Close control panel door and turn on main power for 24 hours

1.1.1 This will leave the power off of to the compressors and allow the crankcase heaters to operate to heat up the refrigerant. Liquid refrigerant could cause damage to the compressors.

1.3 After 24 hours turn the control power and compressor switches on.

1.4 Evaporator fan should be in "TIMED OFF" position. (When these fans are in the "ON" position, they run continuously.)

1.5 If system is equipped with three compressors there is an extra switch for compressor #3 (top right corner of the switch plate).

1.5.1 The compressor #3 switch allows you to start compressor #3 with either stage 1 or stage 2.

1.5.2 Starting compressor #3 with stage 1 gives you 66% of the capacity in stage 1.

1.5.3 Starting compressor #3 with stage 2 gives you 33% of the capacity in stage 1.

1.6 Check defrost cycle

1.6.1 A time clock is installed in the main panel with 15 minute intervals.

1.6.2 For storage temperatures above 46°F (8°C), defrost time should be for 15 minutes every 6 hours of running time.

1.6.3 For storage temperatures below 46°F (8°C), defrost time should be 15 minutes every 3-4 hours of running time. (Defrost intervals will need to increase as storage temperature is decreased.)

1.7 Turn control power and compressor switches on, close main control panel door, plug control cable into 7 way trailer plug located in front of unit below the evaporator coil.

1.8. Set to desired temperature and turn the main power on.

## **2.0 Storing the Refrigeration Unit**

- 2.1 Storing the unit properly will allow for a easier start-up the following season, and help prevent compressor failures.
- 2.2 In order to shut down the unit, pump down the system by disabling the refrigeration on the main control panel or by increasing the setpoint temperature on the hand held unit.
- 2.3 Wait for the the unit to shut down completely, then turn the disconnect off on the refrigeration unit.
- 2.4 Open main control panel door and turn control power and compressor switches off.
- 2.5 This will allow for all of the refrigerant to enter the condenser and receivers and will be ready for the next season.

## **3.0 Troubleshooting**

- 3.1 Evaporator fans are running, but the compressors are not.
  - 3.1.1 The system may be in defrost cycle; wait for 15 minutes, if the compressors do not start, they may be tripped out on high pressure. Check the reset buttons on the dual pressure control (located beside the compressors). Once reset, the compressor should start immediately. If compressor continues to trip, service is required.
- 3.2 System is calling for cooling, but nothing is running.
  - 3.2.1 Check main power, fuses, 7 pin plug, phase monitor relay (PM1) and reset button on dual pressure controller. System may be low on refrigerant or liquid line solenoids may not be open.
- 3.3 Evaporator coil is frozen and evaporator fans are not running.
  - 3.3.1 Turn evaporator fans toggle switch to “ON”. If fans do not start, either fuses or motors are burnt. After checking, return toggle switch to “TIMED OFF” position.
- 3.4 Evaporator coil is frozen and evaporator fans are running.
  - 3.4.1 There is a possible air flow restriction. Check evaporator coil for ice outside and inside the unit or any other objects restricting air flow across the coil. Also, the system may be low on refrigerant.
- 3.5 Unit is running, but not cooling enough.
  - 3.5.1 One of the compressors may not be running. Check the reset button on the dual pressure control for each compressor. When compressors are working, the suction lines will have condensation on them.