



**Agricultural Storage Systems**  
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## **GCL Refrigeration Manual**

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

- 1.1 Open main control panel and turn control power switch 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 compressor switches on.
- 1.4 Evaporator fan should be in “TIMED OFF” position.
- 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 intervals.
  - 1.6.2 For storage temperatures above 46 F (8°C), the defrost cycle should be for 15 minutes every 6 hours.
  - 1.6.3 For storage temperatures below 46 F (8°C), the defrost cycle should be for 15 minutes every 3-4 hours.
- 1.7 Turn control power switch on, close main control panel door, check control cable which should be plugged into 7 way trailer plug located in front of unit below the evaporated coil.
- 1.8. Set ventilation system or temperature controller 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 much easier start-up the following season.
- 2.2 The best way to shut down the unit is to pump down the system.
- 2.3 Shut down cooling on the ventilation system or on the temperature controller.
- 2.4 Wait for the the unit to shut down completely, than disconnect the power to the unit.
- 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, check the reset buttons on the dual pressure control (located beside the compressors). Once you press the reset button, the compressor should start immediately. If not, call for service.
- 3.2 Nothing is running.
  - 3.2.1 If the system is not running and the ventilation system is calling for cooling, there is either a problem with the main fuse or a pressure problem. Check the main fuse. If this does not resolve the issue, reset the buttons on the dual pressure control. Check the control power fuse and check the phase rotation.
- 3.3 Evaporator coil is frozen and Evaporator fans are not running.
  - 3.3.1 Check the fuses inside the refrigeration main control panel. Call for service if there is not a fuse problem.
- 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.
- 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 pressur control for each compressor. If this does not resolve the problem, call for service.
- 3.6 Compressors shut-down on high pressure
  - 3.6.1 Check fuses inside the main control panel. If there is not a fuse problem, call for service.
- 3.7 System is calling for cooling, but nothing is running

3.7.1 Check liquid line solenoids. If the solenoids are open and the compressor is not running and the reset button is OK, then there is a possible shortage of refrigerant or leak in the system. If solenoid is open and there is pressure in the system and the compressor is not running, check the compressor fuses.