



SERVICE BULLETIN # 00143

201 INDUSTRIAL BOULEVARD • KEARNEYSVILLE, WV 25430

Phone: (304) 728-7056 • Fax: (304) 725-6579 • Toll Free: (800) 931-9214

PAGE: 1 of 4

DATE: 6-19-02

REVISION: 03

SUBJECT: Installation of Electronic Refrigeration Control

MODELS: GIIv2, GIII, Merlin III Conversions & Merlin IV Venders

KIT NUMBER

KIT DESCRIPTION

095160

Electronic Refrigeration Control Kit, GIIv2 / GIII

012162

Electronic Refrigeration Control Kit, Merlin III Conversions & Merlin IV

Reason for Fix:

This kit is to be used to convert venders (that currently use a thermostat) to the Electronic Refrigeration Control System. This System may be necessary to enable the use of other optional kits.

Kit Contents:

Kit # 095160 (GII With a GIIv2 Board & GIII with Manual Cold Control)

Qty.	Description	Part Number
2	Sems Screw	901011
1	Relay	836065
1	Refrigeration Control Relay Harness (Door Side)	141904
1	Refrigeration Control Relay Harness (Cabinet Side)	141905
2	Self Drilling Screws	902001
1	Temperature Sensor	822030
1	Harness, Regulator Board	210502
1	Relay Regulator Board	836081

Kit # 012,162,014 (Merlin III & Merlin IV)

Qty.	Description	Part Number
2	Sems Screw	901011
1	Relay	836065
1	Refrigeration Control Relay Harness (Door Side)	141904
1	Refrigeration Control Relay Harness (Cabinet Side)	141905
2	Self Drilling Screws	902001
1	Temperature Sensor	822030

Instructions:

1. Unplug Vender.
2. Remove Can Chute from vender. Loosen screws securing the Wire Cover Plate that is located in the lower, left side of the tank area. (This part covers the wiring and refrigeration tubing that goes between the tank area and the bottom of the cabinet via the "Hat Section".) Remove the clips that hold the Evaporator Cover to the Evaporator Fan Shroud Assembly and place the Evaporator Cover to the Side.
3. Optional: Remove the Thermostat from it's mounting position by disconnecting the two terminals, removing the two screws and backing the capillary out of it's housing as you remove the thermostat. The thermostat will not be needed and thus can be removed.



The following areas of this vender contain voltage, which can cause serious injury or even death. The main power cord, supplying 110 VAC to the evaporator, EMI filter, and refrigeration system. The power line from the EMI filter to the ballast and transformer. The ballast can produce upwards of 600 volts. Remove power from vender before working in any of these areas.

**ANY QUESTIONS??? CONTACT ROYAL VENDORS' CUSTOMER SERVICE DEPARTMENT
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- Place the Temperature Sensor (p/n 822030) on the rear wall of the tank centered approx 1" above the Evaporator Fan Motor (See Figure A). Run the plug end of the sensor's harness through the grommet protected hole in the Evaporator Fan Shroud (same hole that evap. fan leads run through). Route the sensor's harness through the tank "hat section" in the bottom of the cabinet and to the bottom of the vender's main door. Make sure that the harness will not come in contact with the Evap. Fan Blades and scribe two mounting holes for the sensor. Place the sensor to the side and using a 1/8" drill bit, drill two holes. Attach the sensor to the rear tank wall using the two sems screws (p/n 901011) provided in the kit. Pull the two thermostat leads through the tank's "hat section" to the bottom (hot) section of the cabinet.
- Replace the Evaporator Cover and it's clips to their original positions. Replace the Can Chute in the vender and tighten it's screw(s). Replace the Wire Cover Plate, tightening it's two screws.
- Using the Relay (p/n 836065) provided with the kit, locate an approximate position for mounting, in the bottom section of the cabinet as shown in Figure A. Scribe two marks to be used for mounting holes and place Relay to the side. Using a 1/8" drill bit drill two mounting holes for the Relay. Mount the Relay using the two self drilling screws (p/n 902001) provided in the kit.
- Plug the two "Temp. Control" leads onto the Relay's "Switch" terminals as shown in Figure B. Using the "Refrigeration Relay Harness - Cabinet Side" (p/n 141905), plug it's loose connectors to the Relay's "Coil" terminals as shown in Figure B. Route the "Refrigeration Relay Harness - Cabinet Side" to the bottom of the door. Using the "Refrigeration Relay Harness - Door Side" (p/n 141904) that is provided in the kit, connect it's two way connector to the two way mating connector of the Refrigeration Relay Harness - Cabinet Side that was previously routed to the door bottom.

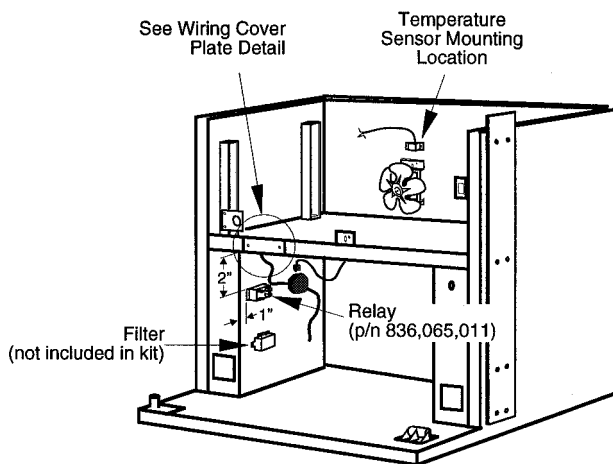


Figure A

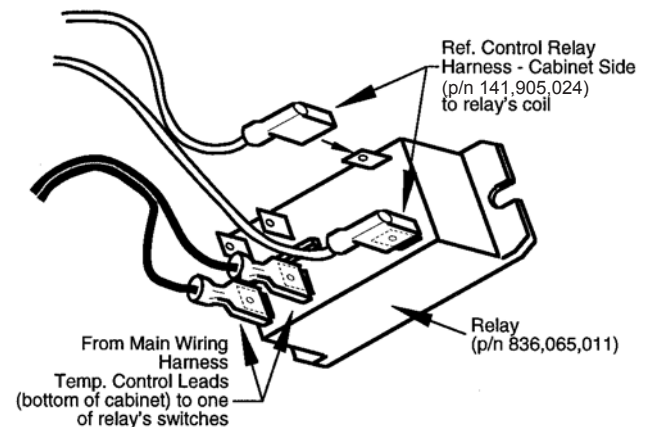


Figure B

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8. Remove the main Circuit Board Cover (if any). Route the Temperature Sensor from the bottom of the vender's main door to the main Circuit Board. Plug the Temp. Sensor's connector to the proper Control Board pinout (refer to vender wiring diagram or service manual for your vender).
9. **G-III Models (804 & 660) only** - Route the Refrigeration Relay Harness - Door Side from the bottom of the vender's main door toward the main Circuit Board. Plug it's connector to the "Relay Regulator Board" (p/n 836,081,021). Using the enclosed "Harness, Regulator Board" plug attach it to the Relay Regulator Board and to the main Control Board at the proper pinout (refer to vender wiring diagram or service manual for your vender). Refer to Figure C for a complete layout of the refrigeration circuit.

All Other Models - Route the Refrigeration Relay Harness - Door Side from the bottom of the vender's main door to the main Circuit Board. Plug it's connector to the main Control Board at the proper pinout (refer to vender wiring diagram or service manual for your vender). Refer to Figure C for a complete layout of the refrigeration circuit.

IMPORTANT NOTE: *When plugging the Refrigeration Relay Harness - Door Side to the main Control Board make sure that you plug it to the proper connection or you could possibly damage the control board.*

10. Replace main Control Board Cover (if necessary) and wire tie any loose wires if necessary. Restore power to vender.
11. The last step is to program your vender's main Circuit Board to accept your new electronic refrigeration control system. The features noted with checkmarks are necessary to program for correct system operation. Refer to your service manual or vender programming instruction decal for detailed instructions of how to program your vender's "FriG" mode for the following features.

FriG (Refrigeration) MODE

- ✓Cuti - compressor cut in temperature
- ✓Cuto - compressor cut out temperature
- ✓Frg - master on/off electronic control
- Dsp - allow LED to display evap. air temperature
- DEG - show settings in either Fahrenheit or Celsius
- rELy - tests the various vender relays (heater, evap. fan, light, compressor)

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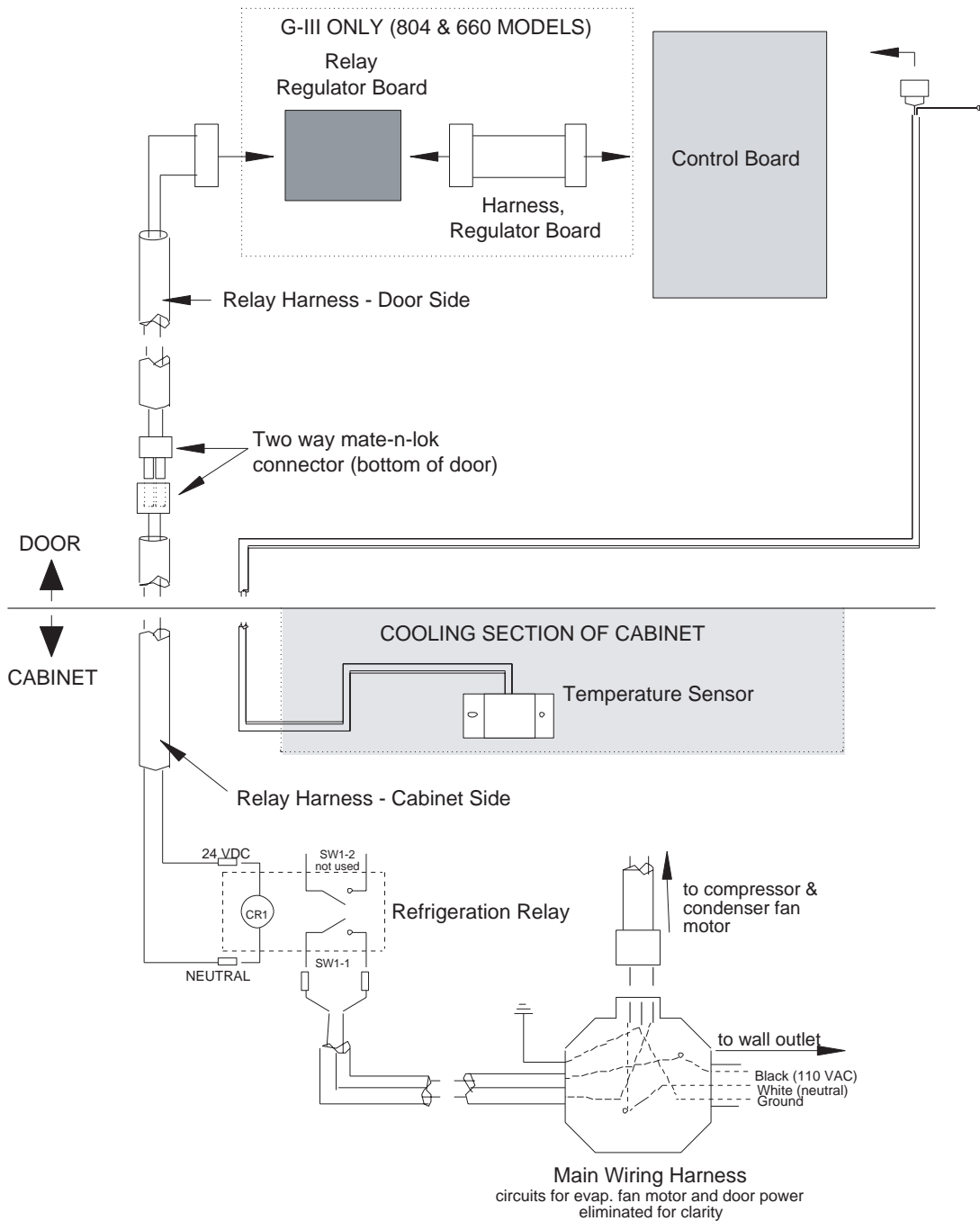
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Electronic Refrigeration System



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