



SERVICE BULLETIN 407

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Date: 26 Mar 2018

Revision: 01

SUBJECT: Merlin IV NG Controller Retrofit Kit Installation

MODELS: All Merlin IV models prior to serial number 201716GA00001

Number of
People
Required



REQUIRED PART	DESCRIPTION
262140	Merlin IV NG Controller Board Kit - 72" Models (650 and 542), <i>Non-ADA only</i>
385140	Merlin IV NG Controller Board Kit - <i>all other models</i>
<i>Selection harness</i> There are multiple part numbers. Please contact Royal Vendors' Service Parts Department for the correct item.	

TOOLS REQUIRED: Phillips-head (cross) screwdriver

ESTIMATED INSTALLATION TIME: 25 minutes

PURPOSE: This bulletin describes the procedure for installing the new Merlin IV NG controller in place of the smaller, older-style Merlin IV controller.



The following areas of this vender contain voltage which can cause serious injury or even death: the main power cord, supplying 115-230 VAC to the evaporator, EMI filter, and refrigeration system; the power line from the EMI filter to the ballast and transformer; and the ballast, which can produce upwards of 600 volts. Remove all power from the vender before working in any of these areas.

INSTRUCTIONS:

1. Remove power by unplugging the vender's main power cord from the AC voltage source (wall outlet).
2. Disconnect all harnesses from the existing control board.
3. Remove the control board from the vender.
4. Remove the existing control board housing from the vender. (Refer to Figure 1.)
5. Install the new control board housing, as shown in Figure 2.
6. Rewire the harness to the door switch, as shown in Figure 3.

Figure 1. Removal of existing control board housing.

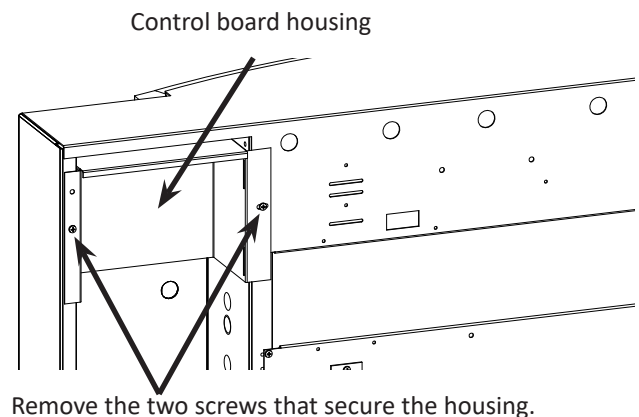


Figure 2. Installation of new control board housing.

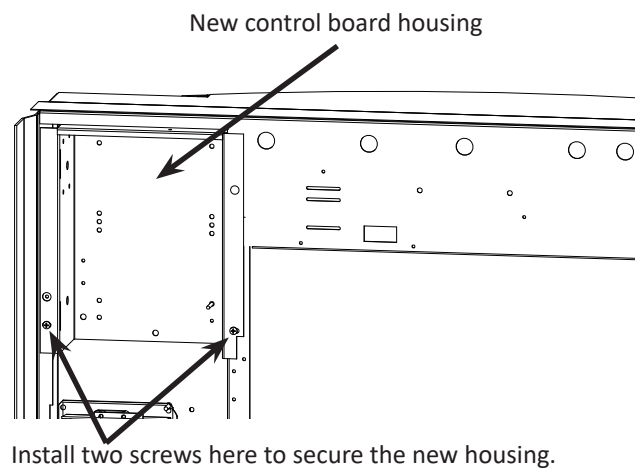
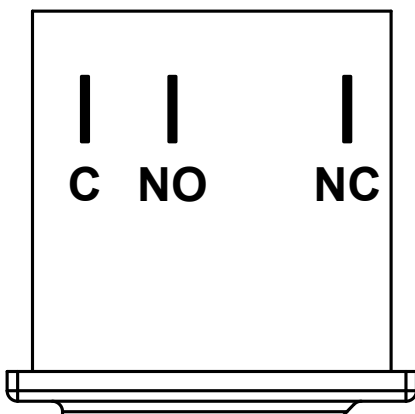


Figure 3. Rewiring of door switch.

Door switch as seen from above



There are two wires to the door switch from the control board.

The wire attached to the pin marked NC should be disconnected and reattached to the pin marked NO for use with the new control board.

In an effort to provide our customers with the latest information on our equipment, Royal Vendors sends service bulletins to customers using the original ship-to address or e-mail addresses, if supplied by our customers. We also post all service bulletins on our website at www.royalvendors.com. If for any reason a vender is moved to another location or is sold to another customer other than to whom Royal Vendors originally sent the machine, it is the responsibility of the original purchaser of the vender to notify the appropriate personnel of the service bulletin.

**ANY QUESTIONS? CONTACT ROYAL VENDORS' CUSTOMER SERVICE DEPARTMENT
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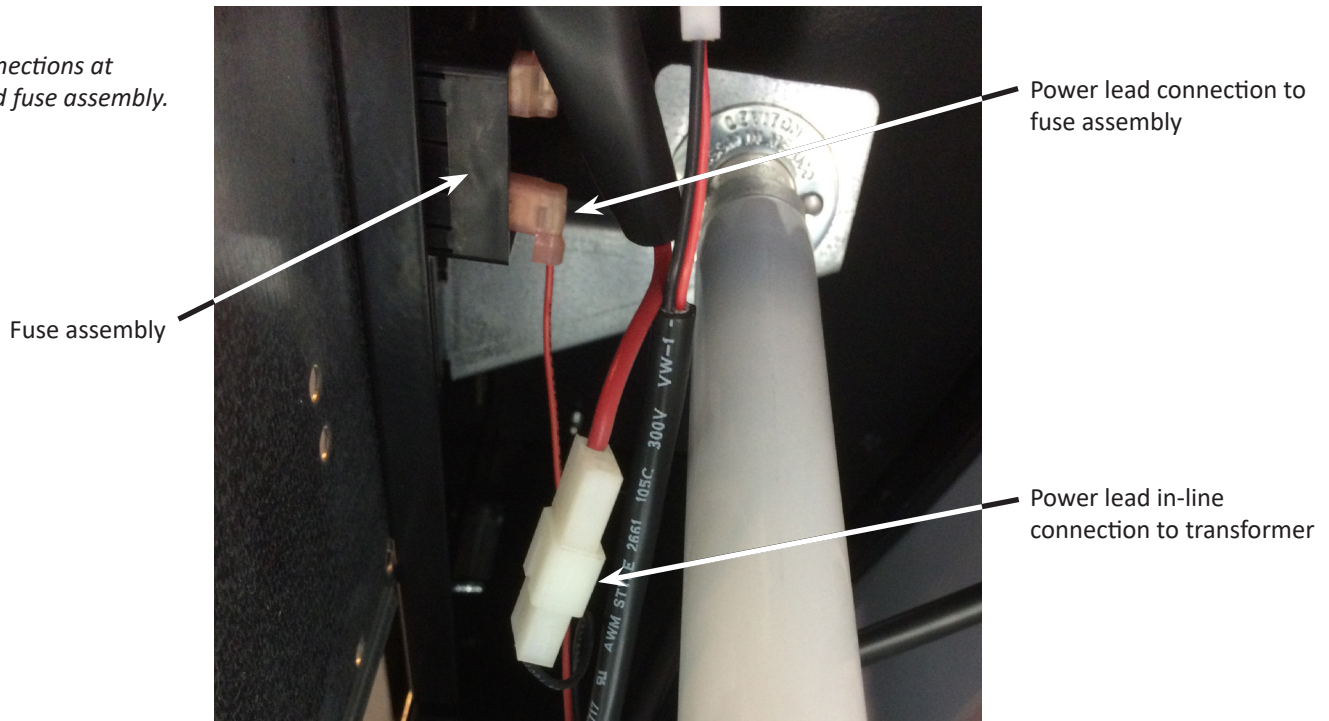
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7. Remove the existing power lead harness from the fuse assembly to the control board. Replace it with the power lead harness included in the kit. *(One wire of this harness plugs directly into the fuse assembly; the other plugs into an in-line connection leading to the transformer. See Figure 4.)*

Figure 4.

Power lead connections at transformer and fuse assembly.



8. Remove the existing MDB harness (*position P3 on the existing control board*). Replace it with the serial changer harness included in the kit.
9. Remove the existing vend motor / door switch harness (*positions P8 and P9 on the existing control board*). Replace it with the vend motor / door switch harness included in the kit. **(Note:** *This harness is routed from the control board, through the door assembly, to an in-line connection at the bottom of the door below the port assembly. The new harness will need to be routed in like manner as the old one.*)
10. Remove the existing selection switch harness (*position P7 on the existing control board*). Replace it with the selection switch harness included in the kit. *(See the diagram at Figure 5 for proper connection of the selection switch harness.)*
11. Plug each harness into the control board at the positions shown in Figure 6.
12. Restore power by plugging the vender's main power cord into the AC voltage source (wall outlet).
13. Program the new controller as described in Section 3 of the Merlin IV NG operation and service manual.
14. Install the control board cover included in the kit by inserting the cover's tabs in the slots on each side of the housing.

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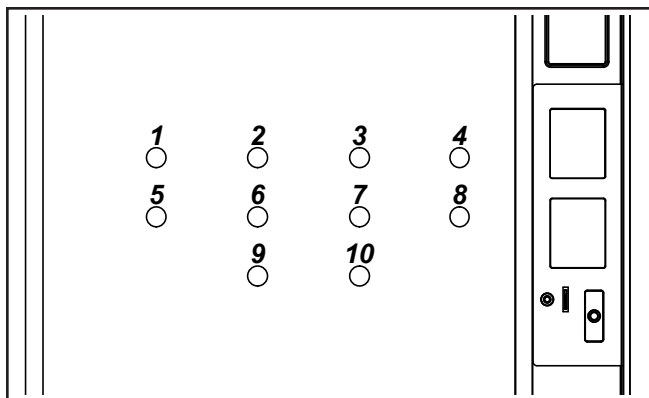
Figure 5. Selection switch harness connections.

The selection switch harness plugs into position P3 (SELECTIONS) on the Merlin IV NG controller, as follows:

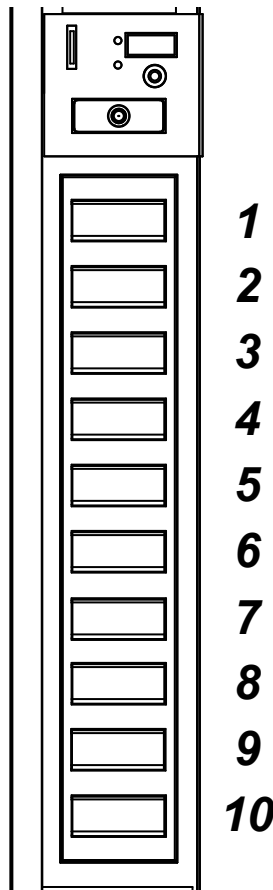
PIN	WIRE COLOR	FUNCTION	PIN	WIRE COLOR	FUNCTION
1	BLACK	SELECTIONS 1 / 9	8	YELLOW	SELECTION 8
2	GREY	SELECTIONS 2 / 10	9	-	KEY
3	PURPLE	SELECTIONS 3 / 11	10	RED	COMMON 1-8
4	BROWN	SELECTIONS 4 / 12	11	WHITE / RED	COMMON 9-12
5	BLUE	SELECTION 5	12	-	NOT USED
6	GREEN	SELECTION 6	13	-	NOT USED
7	ORANGE	SELECTION 7			

The selection switch harness must be routed to the correct selection buttons for proper operation. Selections are numbered as follows (as seen from the front of the door):

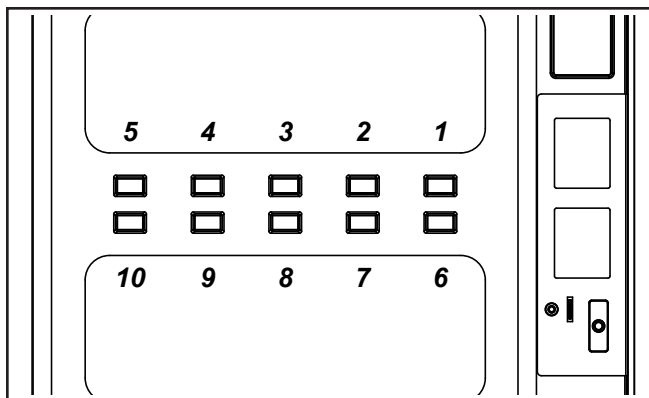
Chameleon-style sign



Magnum door



Live Display



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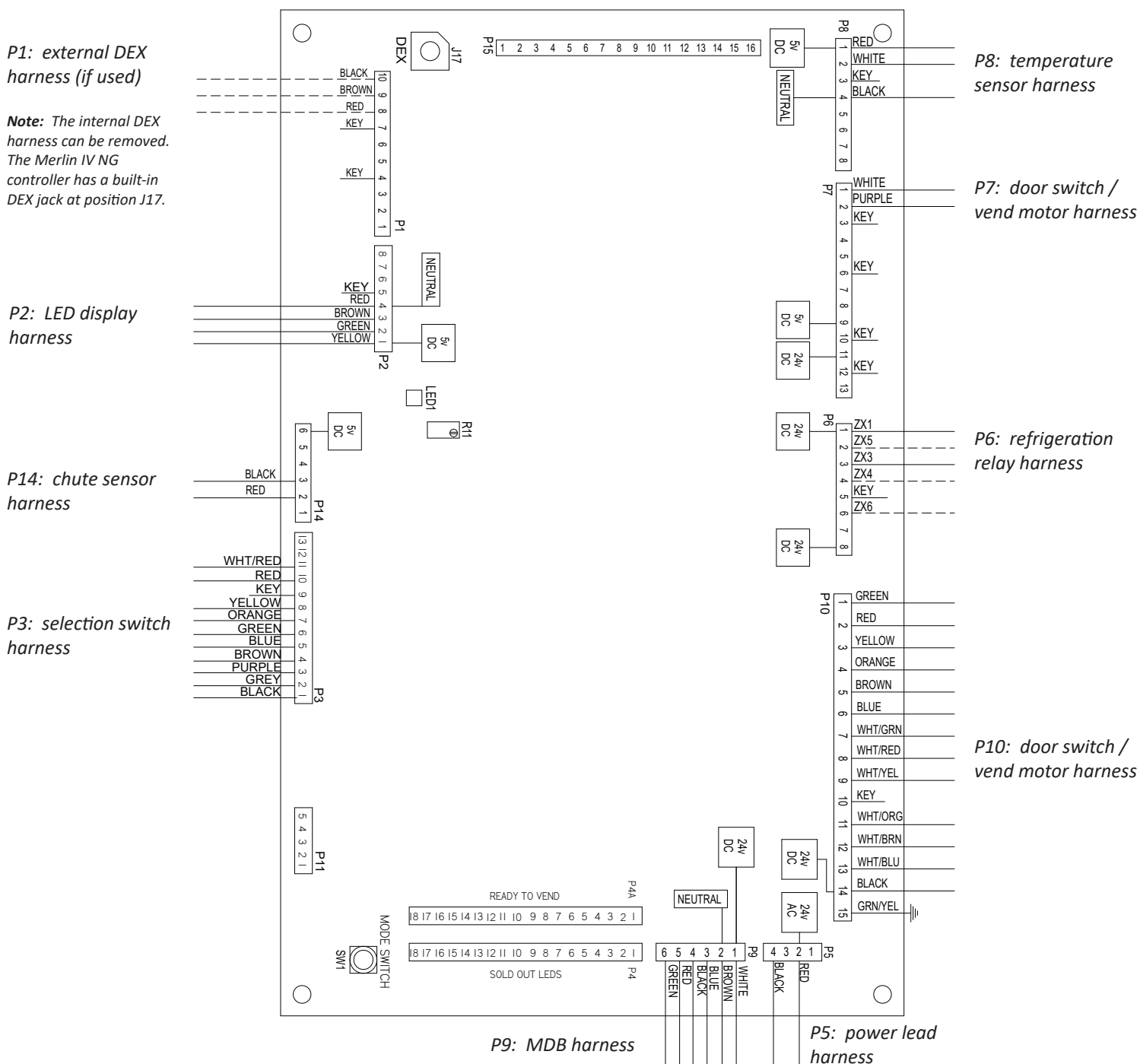
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Figure 6.

Harness positions at new control board.



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