



# SERVICE BULLETIN 390

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Revision: 00

426 Industrial Boulevard • Kearneysville WV 25430-2776 • USA  
 Telephone: +1 304 728 7056 • technicalinquiry@royalvendors.com  
 Toll-free in North America: 1 800 931 9214 • Fax: +1 304 725 4016  
 Canada: +1 905 738 5777 • Mexico: +52 55 5203 6887  
 Europe: +49 2158 95 1000 • Australia: +61 2 9890 5433

**SUBJECT:** New Logic Board and Cup Sensor Installation

Number of  
People  
Required



**MODELS:** RVV NG

**KIT NUMBER**      **KIT DESCRIPTION**

356091      Cup Optic Sensor Kit



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, refrigeration system, monitor, and computer; 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.

**TOOLS REQUIRED:** Phillips screwdriver, flat screwdriver

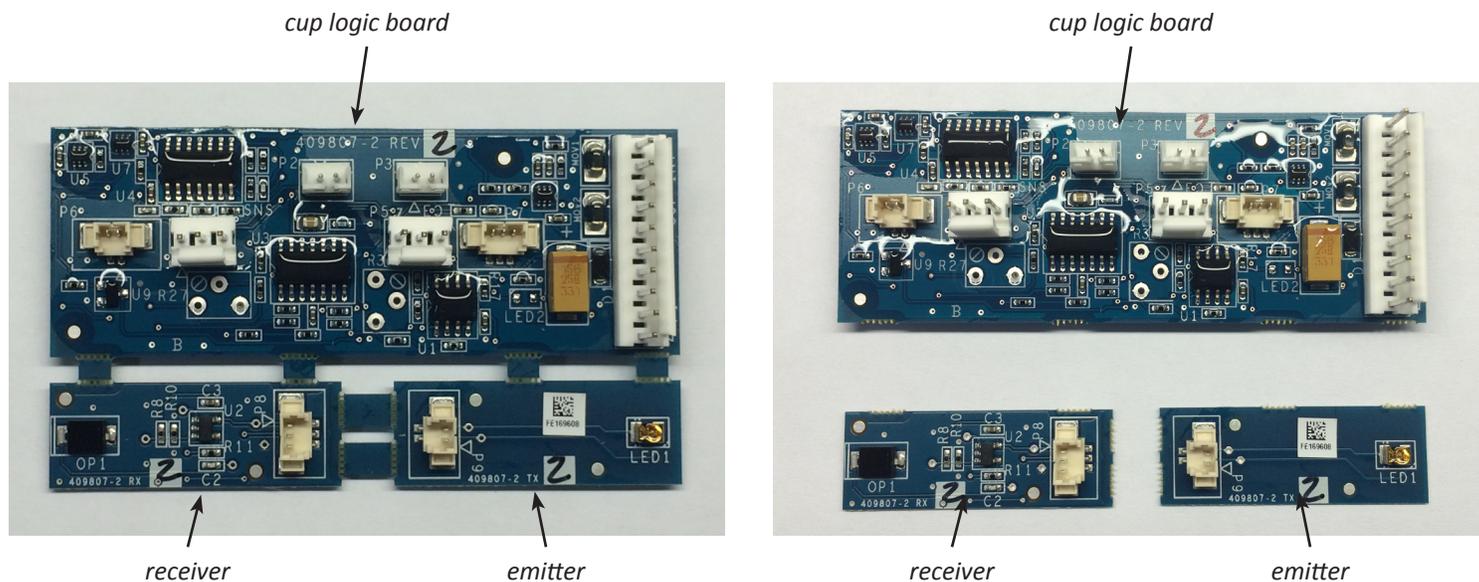
**ESTIMATED INSTALLATION TIME:** <10 minutes

**REASON FOR BULLETIN:** The infrared emitter that is part of the cup sensor emitter board on RVV NG venders produced before serial numbers beginning 201427PA is no longer produced. Therefore, a new emitter is in use on current-production boards, which renders these new boards incompatible with older infrared receivers and cup logic boards. For this reason, the cup logic board and cup sensor boards are now produced as one unit which must be replaced all at once. In addition, the new cup sensor emitter board requires a clear lens instead of the dark filter used with the older emitter boards. This bulletin the process for installing the new components.

### INSTALLATION INSTRUCTIONS:

1. Remove power by unplugging the vender's power cord from the AC voltage source (wall outlet).
2. Separate the cup logic board, infrared emitter board, and receiver board. Discard the small pieces that connected the individual boards to one another. (See Figure 1.)

**Figure 1.** Boards as received (left) and separated from one another (right).



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](http://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.

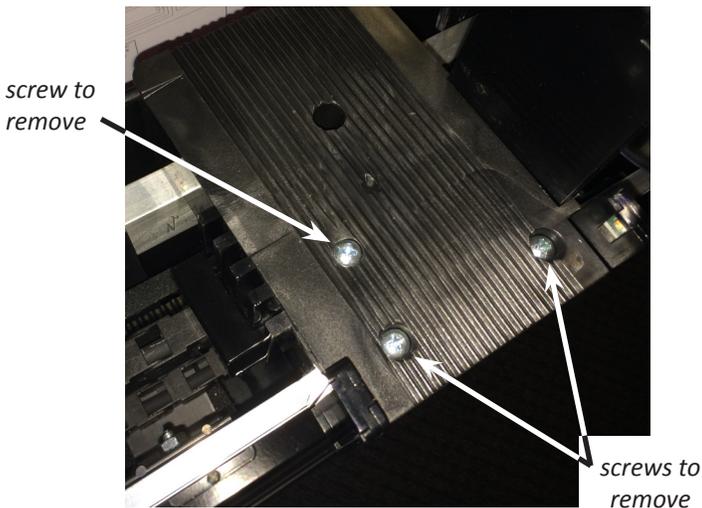
**ANY QUESTIONS? CONTACT ROYAL VENDORS' CUSTOMER SERVICE DEPARTMENT  
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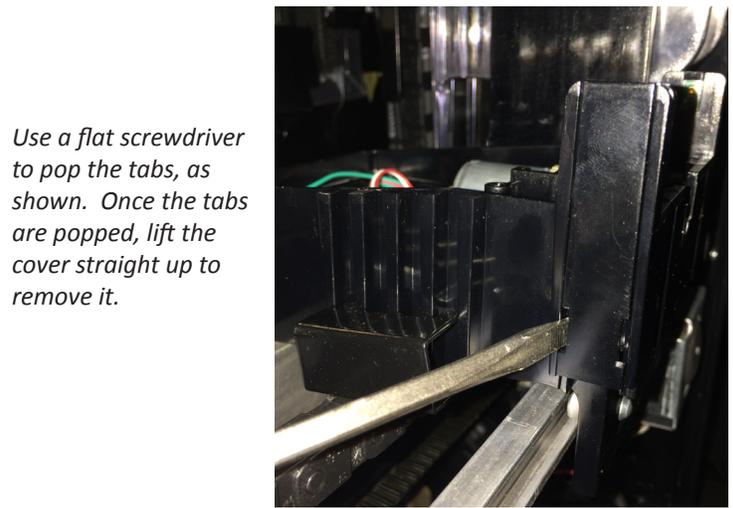
**MODELS:** RVV NG

3. Using a Phillips screwdriver, remove the screws that secure the cup lid. (See Figure 2.) Then, remove the cup lid.
4. Using a flat screwdriver, pop the tabs that secure the left sensor cover to the cup assembly. (See Figure 3.) Then, lift the sensor cover straight up and remove it from the cup. The existing infrared receiver board and filter will come out with the sensor cover.  
**Note:** The filter (dark film) can be discarded. It will not be used with the new infrared receiver.

**Figure 2.** Top of cup.

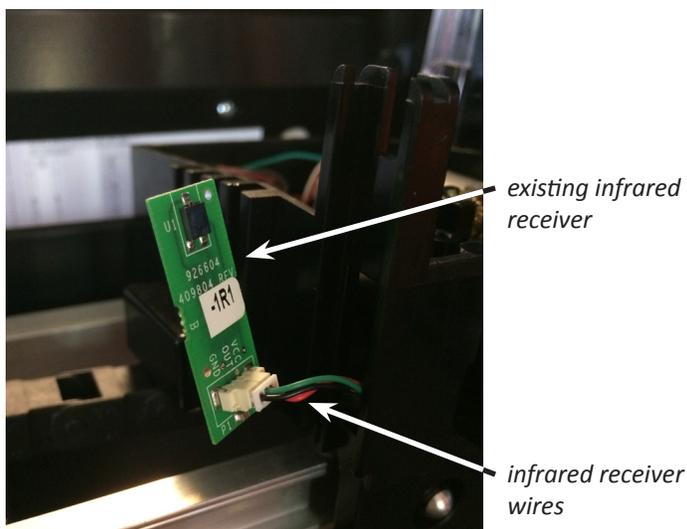


**Figure 3.** Removal of sensor cover.

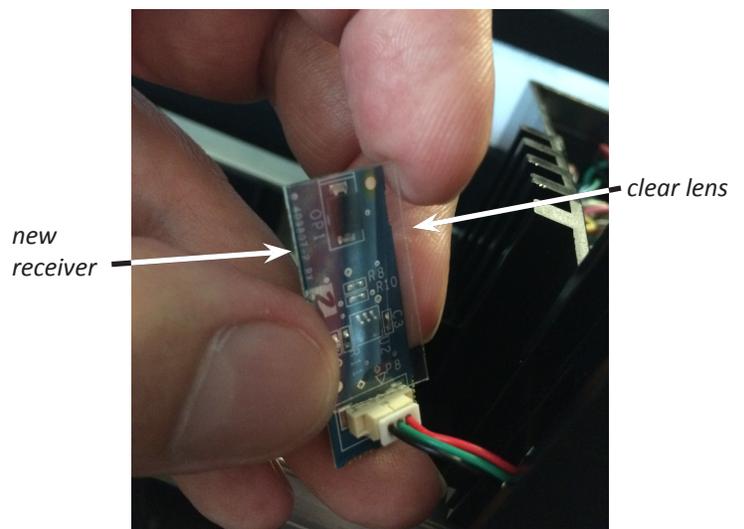


5. Disconnect the two wires to the infrared receiver board from the cup logic board. (See Figure 4.)
6. Plug the two wires that were disconnected in Step 5 to the new receiver board. **Note:** The infrared receiver board can be distinguished by the marking "RX", the infrared receiver at position OP1, and the presence of semiconductors, as seen in Figure 1.

**Figure 4.** Disconnect the infrared receiver board wires.



**Figure 5.** Wires connected to new receiver (shown here with clear lens in place for installation in the next step).



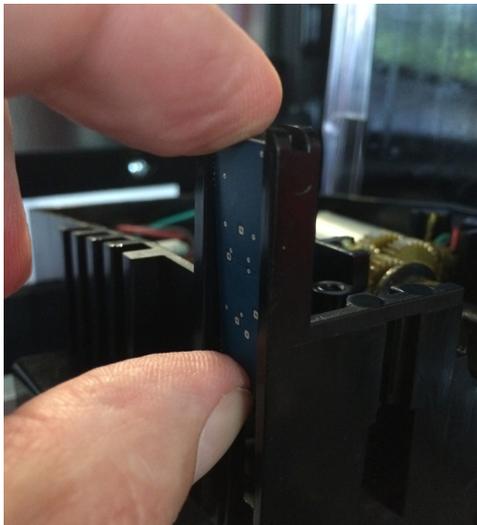
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7. Press the new receiver and clear lens (both from the kit) against the cup, as shown in Figure 6.
8. Reinstall the receiver board sensor cover to secure the receiver and clear lens in place. (See Figure 7.)

**Figure 6.** Placing emitter and clear lens.



With the clear lens in place, place the receiver against the cup as shown here.

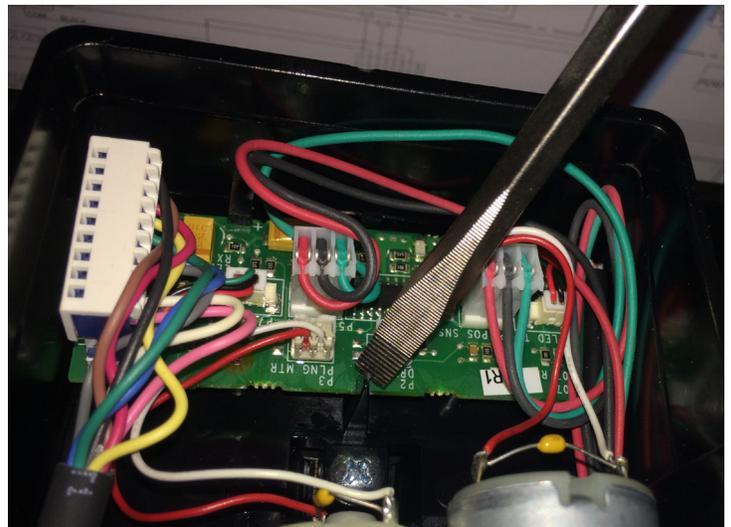
**Figure 7.** Reinstallation of sensor cover.



Insert the sensor cover in the slots at the top, slide down, and snap the bottom in place.

9. Using a flat screwdriver, pop the tabs that secure the right sensor cover to the cup assembly. Then, lift the sensor cover up and remove it from the cup. The existing emitter and clear lens will come out with the sensor cover. (**Note:** Removal of the existing infrared emitter board and installation of the new one will be similar to installation of the new receiver board in steps 4 through 8. See Figures 3 through 7.)
10. Disconnect the two wires to the infrared emitter board from the cup logic board.
11. Plug the two wires that were disconnected in Step 10 to the new emitter board. **Note:** The infrared emitter board can be distinguished by the marking "TX", the infrared emitter at position LED1, and the absence of semiconductors, as seen in Figure 1.
12. Press the new emitter and clear lens (removed in Step 9) against the cup, as shown for the receiver in Figure 6.
13. Reinstall the emitter board sensor cover to secure the emitter and clear lens in place.
14. Remove the old logic board from the cup. To remove the board, first pry the tab shown in Figure 8. Then, lift the board up out of the cup.

**Figure 8.** Tab to pry for removal of cup logic board.



Pry the tab with a flat screwdriver as shown. Then, angle the board up and out of the cup.

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15. Disconnect each set of wires from the existing cup logic board **one at a time** (except the X-axis harness, which will be plugged in later), and plug them into the new cup logic board in the same locations as on the old board. **Note:** Each set of wires should be transferred one at a time to prevent them from being plugged into the wrong locations on the new board. (See Figure 9.)
16. Disconnect the X-axis harness from the old cup logic board.
17. Install the new logic board in the cup. First, insert the board in the plastic clips at the back of the cup. Then, push down the front of the board so that it is locked in place by the tab that was pried in Step 14. (See Figure 10.)
18. Plug the X-axis harness into the large header at the left end of the logic board.

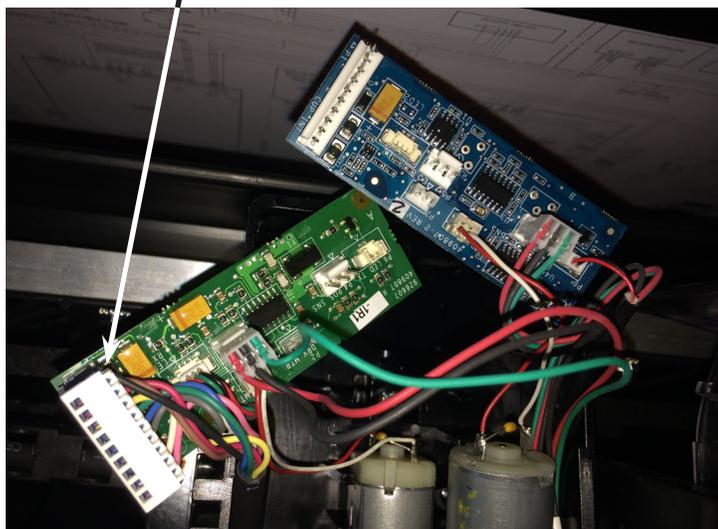
**Figure 9.** Transferring wires from old to new cup logic boards.

Transfer each wire one at a time from the old logic board (on the left) to the new board (on the right), except the X-axis harness.

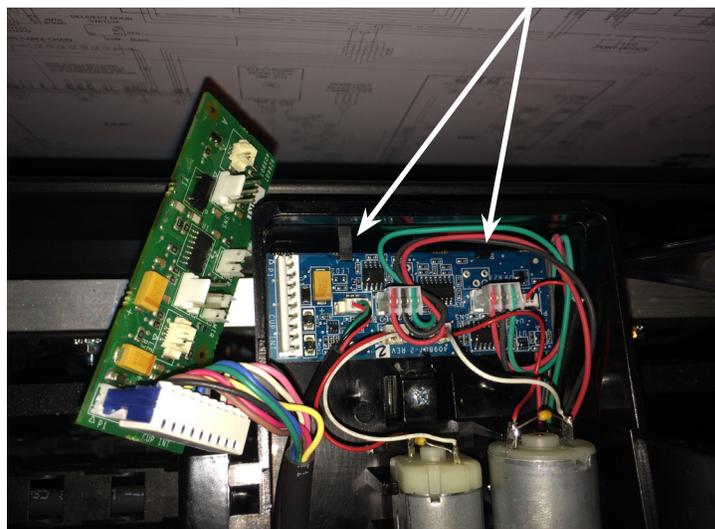
**Figure 10.** Installation of new board and X-axis harness connection.

Install the new logic board in the cup. Then, transfer the X-axis harness from the old logic board to the new one.

X-axis harness



Insert the new board in these two plastic clips first.



After inserting the board in the clips, push down the front to lock it in place by the tab that was pried to remove the old board.

19. Ensure the gears and both motors are seated properly in the cup.
20. Reinstall the cup lid, and secure it with the three screws that were removed in Step 2.
21. Restore power by plugging the vender's power cord into the AC voltage source (wall outlet).
22. Test vend to ensure proper operation.

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