



Helpful Hints

clear & easy

045

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SUBJECT: TDV Vending Reliability Checks

MODELS: TDV

TOOLS REQUIRED: Small flat screwdriver

ESTIMATED TIME: <5 minutes



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.

Number of People Required



REASON FOR HELPFUL HINT: Ensuring that all programming is set correctly and the optic sensors are properly adjusted is critical to the reliability of the Triple Depth Vender's operation. This Helpful Hint bulletin explains how to ensure these components are adjusted properly.

1. SPACE-TO-SALES AND SELECTION DEPTH SETTING:

On the TDV, it is of critical importance that space-to-sales and selection depth be programmed in the correct order.

- A. Check or reset the vender's space-to-sales settings. To change a space-to-sales setting:
 - i. Press the service mode button on the vender's control board.
 - ii. Press the #1 selection button until the display shows "StoS" or "Space to Sales."
 - iii. Press the #3 selection button. If "CStS" or "Custom Space to Sales" is not shown, press the #1 selection button until "CStS" or "Custom Space to Sales" is shown.
 - iv. Press the #3 selection button, then press the #1 selection button to reach the selection number to be changed (shown as "SL N" or "Selection N," where "N" will be the selection number). After the selection number, the column numbers currently assigned to that selection will be shown ("C1" or "Column 1" for the first column, as an example).
 - v. Press the #3 selection button, then press the #1 selection button to reach the desired column number to be assigned or unassigned. After the column number, a "0" (unassigned) or "1" (assigned) is shown.
 - vi. To change the assignment / unassignment, press the #3 selection button, then press #1.
 - vii. Press and hold the #3 selection button for two seconds (model 780-10) or press the #4 selection button (model 780-12). (*This is the <exit> function of the vender's programming.*)
 - viii. To scroll to another column to be assigned / unassigned, press the #1 selection button.
 - ix. After the desired columns have been assigned or unassigned for the selection number, press <exit>. The display will now show the selection number, followed by the new column assignments.
 - x. To scroll to another selection number, press the #1 selection button.
 - xi. Once all space-to-sales assignments have been set, press <exit>. The display will return to "CStS" or "Custom Space to Sales." Press <exit> again to return the display to "StoS" or "Space to Sales."
- B. **After** space-to-sales, *always* reset the selection depth settings. To reset selection depth:
 - i. Press the #1 selection button until the display shows "SdEP" or "Set Selection Depth."
 - ii. Press the #3 selection button. If "ALL" or "All Selections" is not shown, press the #1 selection button until "ALL" or "All Selections" is shown.
 - iii. Press the #3 selection button. Then, press the #1 selection button until "2" is shown, **even if it already said "2" when you entered into the depth setting.**
 - iv. Press <exit>.

If depth is not set after reprogramming or adjusting space-to-sales, selections may double-vend. Note that depth is always set by selection number, not by column number.

2. OPTIC SENSOR TESTING AND ADJUSTMENT:

The TDV is equipped with two optic sensors, located along the right-hand side below the vend mechanism, that detect a product being vended. These optic sensors are connected to the optic sensor board, a square electronic circuit board located near the vender's main controller. A red indicator LED on the optic sensor board should be lit. If products are double-vending, after space-to-sales and selection depth have been checked for accuracy, test the function of the optic sensors.

**ANY QUESTIONS? CONTACT ROYAL VENDORS' CUSTOMER SERVICE DEPARTMENT
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To test the optic sensors: Place a hand or other object in front of the optic sensor. The LED on the optic sensor board should flash off; simultaneously, the LED on the vender's main controller should flash on. Repeat this procedure for each of the two optic sensors. (There is one optic sensor for front columns, one for rear columns.)

- If the LED on the optic sensor board is not lit, check the harnessing from the optic sensor board to the main controller. Ensure the harness is properly connected to both boards and that there are no obvious physical defects. Adjust the optic sensors' sensitivity as follows:
 - A. Unplug the optic sensor interface harness from the main control board.
 - B. Adjust the set screw (on the control board, position R117) clockwise until the LED indicator lights becomes solid. Continue turning clockwise two full turns. The LED will still be lit.
 - C. Reconnect the optic sensor interface harness to the control board. Once reconnected, the LED on the main control board should turn off, and the light on the optic sensor board should light.

If no defects are found in the harness and adjusting the sensitivity does not resolve the problem, replace these components in this order until the problem is resolved: optic sensor interface harness, optic sensor board, main control board.

- If the LED on the optic sensor board is lit but does not flash when an object is placed before the sensors, check the sensors' harnessing. If no physical problems are detected, the sensors are likely faulty and should be replaced.

3. VEND MOTORS:

There are two different types of vend motors used in the TDV: a low-torque motor, in front columns; and a high-torque motor, in rear columns. It is important that the correct motors be used in front and rear columns!

Low-torque motors (see Figure 1):

Low-torque motors (part number 839031) must only be used in front columns. These motors are not able to withstand the additional product weight of a fully-loaded rear column in the TDV. This additional weight will quickly wear out the low-torque motors.

High-torque motors (see Figure 2):

High-torque motors (part number 839032) must only be used in rear columns. While these motors are more powerful than the low-torque motors, the high-torque motors turn at a lower RPM rate. If a vend is not recorded within a certain time period after a selection is made, the column will be registered as sold-out. Because of the slower turning rate of the high-torque motors, products will not be vended within the time limit. No further vends will be allowed from that column until the sold-out condition is cleared by opening and re-closing the vender's door.

Figure 1

Low-torque motor

Low-torque motors have a red wire and a black wire, with no protective sheath. The can motor measures approximately 1 3/8" (35 mm) long.

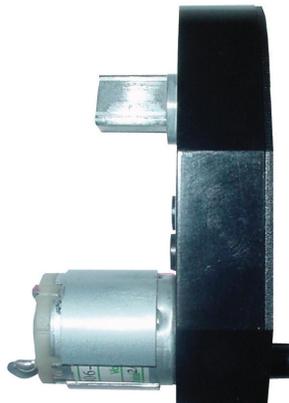
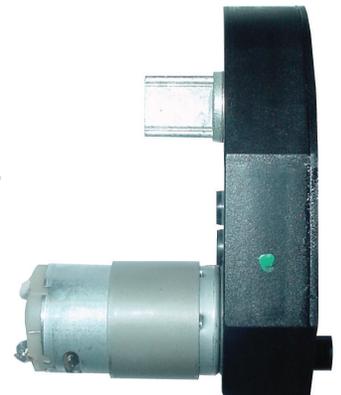


Figure 2

High-torque motor

High-torque motors have a white wire and a black wire, with a protective sheath. The can motor measures approximately 1 7/8" (48 mm) long.



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