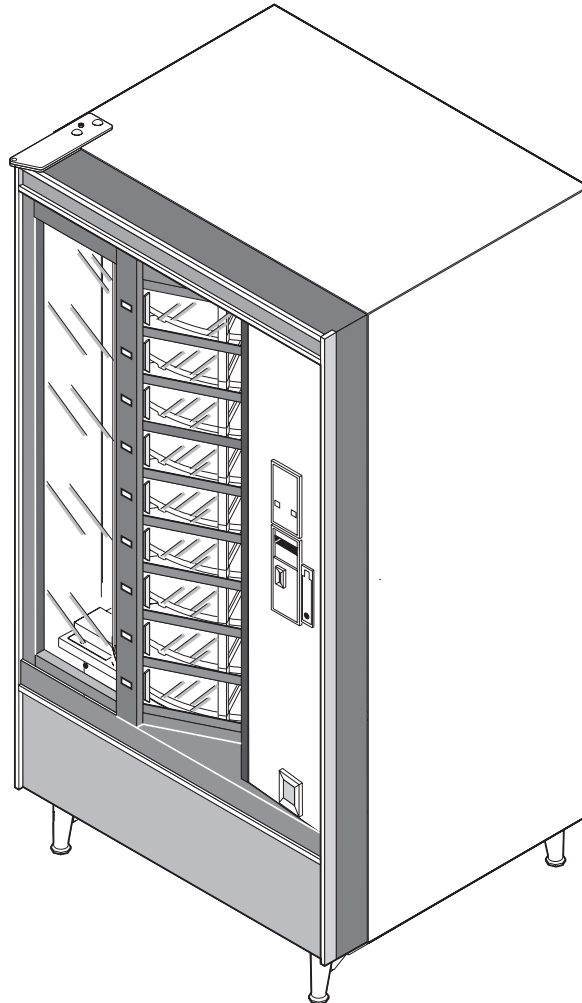


SHOPPERTRON

MODEL 431



Operator's Guide

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CRANE - National Vendors

4310101

This machine has been engineered to our own rigid safety and performance standards. It has been designed to comply with sanitation and health guidelines recommended by the Automatic Merchandising Health-Industry Council (AMHIC) and it conforms with all other NAMA safety recommendations.

This machine has been manufactured in accordance with the safety standards of both Underwriter's Laboratories and the Canadian Standards Association. To maintain this degree of safety and to continue to achieve the level of performance built into this machine, it is important that installation and maintenance be performed so as to not alter the original construction or wiring and that replacement parts are as specified in the Parts Manual. Your investment in this equipment will be protected by using this Operator's Guide and the Parts Manual in your operation, service and maintenance work. By following prescribed procedures, machine performance and safety will be preserved.



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SPECIFICATIONS

SPECIFICATIONS COMMON TO ALL MACHINES

DIMENSIONS	72" (183 cm) high 38.3" (96.8 cm) wide 31.5" (80 cm) deep
WEIGHT	757 lbs (343.4 kg)
AMBIENT TEMPERATURE	Minimum: 41° F (5° C) Maximum: 90° F (32° C)
OPERATING ENVIRONMENT	For indoor use only
CAPACITIES	Standard - 138 items Minimum - 54 items Maximum - 216 items
OPTIONS AND ACCESSORIES	
Coin box lock Base grille kit Flex Ace door lock & key Van door lock & key Data printer Debit card reader (future)	

SPECIFICATIONS UNIQUE TO 115 VOLT MACHINES

ELECTRICAL	115 Volts AC 60 Hertz 12 Amps Single phase
REFRIGERATION	Refrigerant 134a Charge - 10.9 oz
OPTIONS AND ACCESSORIES	
COIN MECHANISM	MARS TRC-6000 COINTRON 3000 MARS MC 5000 COINCO 9300L MARS TRC-6010XV (24 V) Maka/Conlux Model USLX-00401F (24 V) Coin Acceptors Model 9302-LF (24 V) MDB Coin Mechanism
BILL VALIDATORS	Maka NB-10-400 Mars VFM1-L1-U4C Mars VN2521-U3E



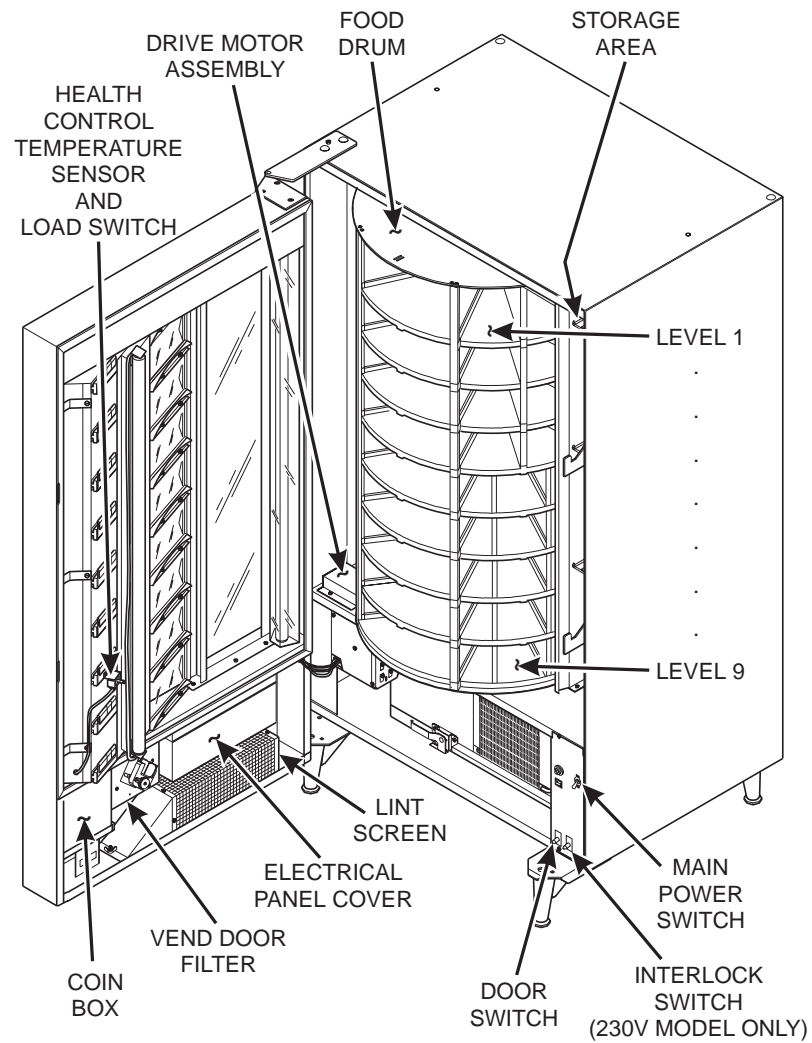
SPECIFICATIONS (continued)

SPECIFICATIONS UNIQUE TO 220 - 240 VOLT MACHINES

ELECTRICAL	220-240 Volts AC 50 Hertz 8 Amps 750 Watts
REFRIGERATION	Refrigerant 134a Charge - 290 grams
OPTIONS AND ACCESSORIES	
COIN MECHANISM	Executive coin mechanism interface DEX Printer Interface Speech Synthesizer



SECTION I PREPARING THE MERCHANDISER FOR VENDING





HEALTH CONTROL

The Shoppertron merchandiser is equipped with an electronic health control (required by most state and local health authorities). The health control prevents vending merchandise which could be spoiled.

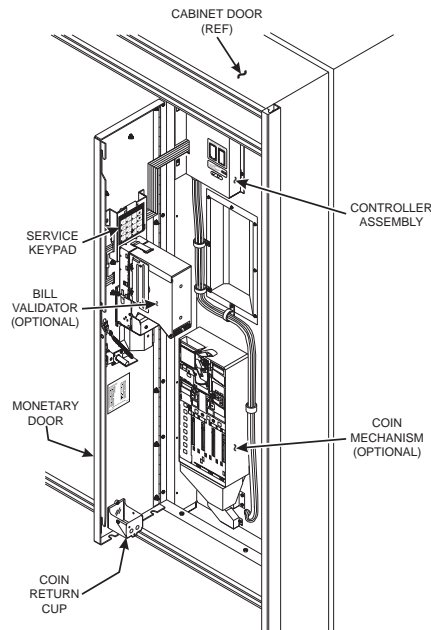
The merchandiser will automatically go into an out-of-service mode and food will not be vended if either of these two conditions occur:

The temperature of the refrigerated cabinet will not fall to 45° F (7° C) within 30 minutes after the door of the refrigerated cabinet is closed

The temperature of the cabinet rises above 45° F (7° C) without the door of the refrigerated cabinet having been open.

When health control is triggered, the display will read "TEMPORARY OUT OF SERVICE". When the monetary door is opened, the message "HEALTH OFF", and the date, time, and maximum cabinet temperature reached are displayed. To re-set the health control, the refrigerated cabinet door must be opened and closed again.

The out-of-service condition usually occurs at initial setup. Therefore, National Vendors recommends the merchandiser be operated with the refrigerated compartment left empty until the temperature reaches a level low enough to satisfy the health control.





INITIAL SET-UP

UNPACK AND INSPECT

1. Carefully remove the merchandiser from its shipping carton and place it on a level surface.
2. Inspect the outside of the merchandiser for dents, scratches, or any damage resulting from improper handling.
3. Open the monetary compartment. If the merchandiser has the optional door lock, the key will be in the coin return receptacle.
4. Inspect the inside of the cabinet. Observe the location and position of the packing material should you need to reuse it. Carefully remove all packing material.

IMPORTANT

If you saw any damage when you unpacked the merchandiser, file a claim immediately with the carrier.

5. Instructions for installing the optional Base Plate are included with the Base Plate Assembly when shipped.
6. Inspect the merchandiser's electrical connectors and components.

UTILITY REQUIREMENTS

This merchandiser is supplied with a service cord for the country of use and is terminated in a grounding type plug. The wall receptacle used for this merchandiser must be properly polarized, grounded, and of the correct voltage. Operating the merchandiser from a source of low voltage will **VOID YOUR WARRANTY**. Each merchandiser should have its own electrical circuit and that circuit should be protected with a circuit breaker or fuse conforming to local regulations.

Voltage Check - Place the leads of a voltmeter across the LINE (LIVE) and NEUTRAL terminals of the wall receptacle. The voltmeter should indicate 110-130 volts ac for 120 volt, 60 Hz locations, or 220-240 volts ac for 230 volt, 50 Hz locations.

Polarity Check - Place the leads of a voltmeter across the LINE (LIVE) and GROUND terminals of the wall receptacle. The voltmeter should indicate 110-130 volts ac for 120 volt, 60 Hz locations, or 220-240 volts ac for 230 volt, 50 Hz locations.

Noise Potential Check - Place the leads of a voltmeter across the NEUTRAL and GROUND terminals of the wall receptacle. The voltmeter should indicate 0 volts ac. A measurement greater than 1.5-2.0 volts ac could result in problems for the merchandiser's electronic circuitry caused by electrical noise.

Any deviation from these requirements could result in unreliable performance from your merchandiser.



INSTALLATION

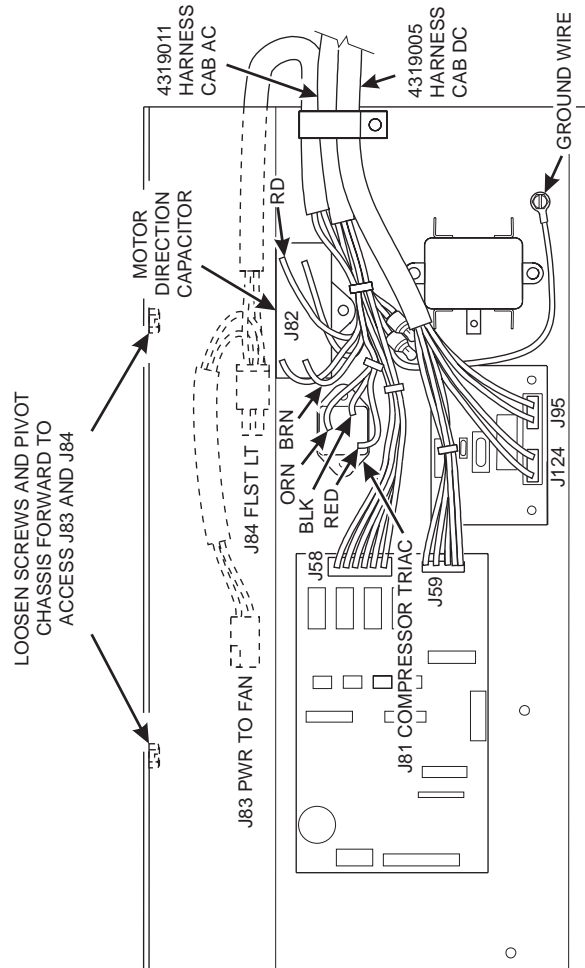
NOTICE

This merchandiser is intended for **INDOOR** use only.

CAUTION

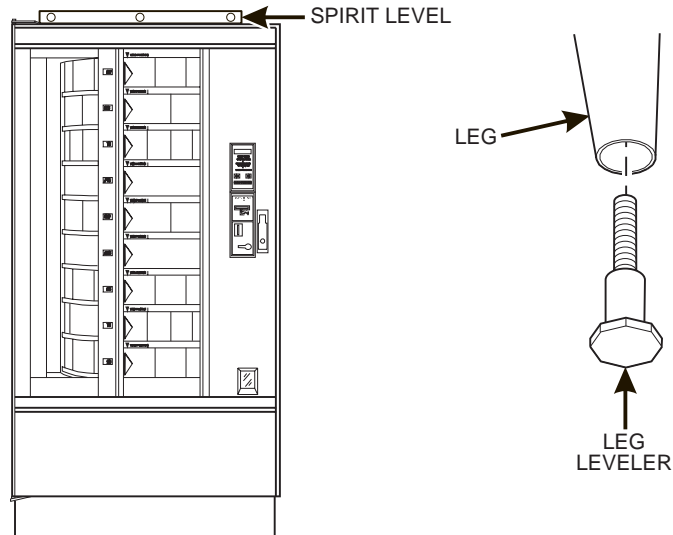
Make sure the merchandiser is properly leveled on a flat, solid, stable floor or base foundation. **IF THIS IS NOT DONE, PERSONAL INJURY AND/OR DAMAGE TO EQUIPMENT MAY RESULT!**

1. Move the merchandiser to the desired location. It may be necessary to remove the door in order to move the merchandiser through a narrow doorway. Be careful when disconnecting the wiring harness. To reconnect wiring, refer to the figure below
2. Position the merchandiser at least 6 inches (15 cm) from any wall.





3. Level the machine:
 - a. Place a spirit level on the top front edge of the cabinet with the door fully closed. Adjust the front legs only until the cabinet is reasonably level, as shown.



- b. Hold the door open about 4 inches.

WARNING:

HAVE AN ASSISTANT HOLD THE MERCHANDISER WHILE YOU ADJUST THE LEG LEVELERS.



- c. Adjust the back legs so that the back leg leveler on the hinge side is off the floor just enough so a piece of paper can slide under it with only a bit of resistance.
- d. For proper weight distribution on all four legs, raise the back leg on the hinge side by unscrewing the leveler 1 ½ turns.

NOTICE

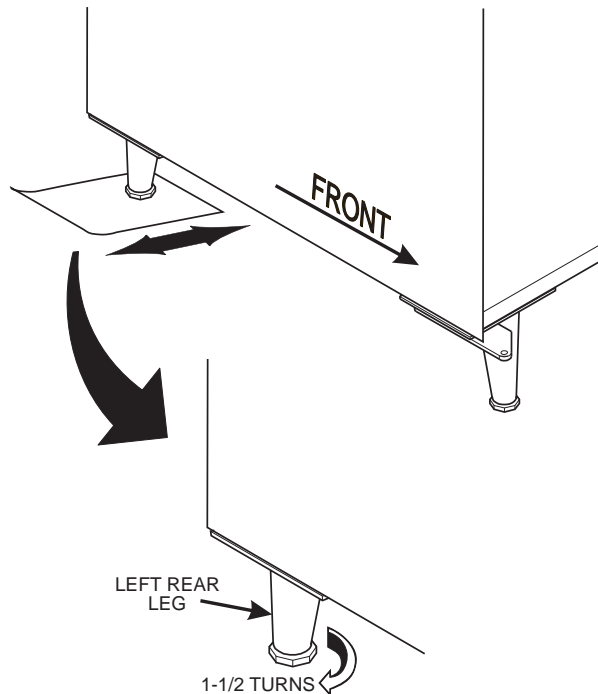
You may need to use pliers or channel locks to loosen the leg levelers.

3. For "bank style" installations of multiple merchandisers:
 - A. Position the first machine in the location, or at the highest spot if the floor is not level. Extend the leg levelers only as required to level the machine.
 - B. Position and level the remaining machines.
4. Set the main power switch to OFF.

IMPORTANT

Do not apply power to the merchandiser until you have done the power source checks outlined above. Possible equipment damage could result from improper supply voltage.

4. Plug in the merchandiser.
5. Turn the main power switch ON and close the cabinet door. The display lamp will light, and the vent fan motor will run.





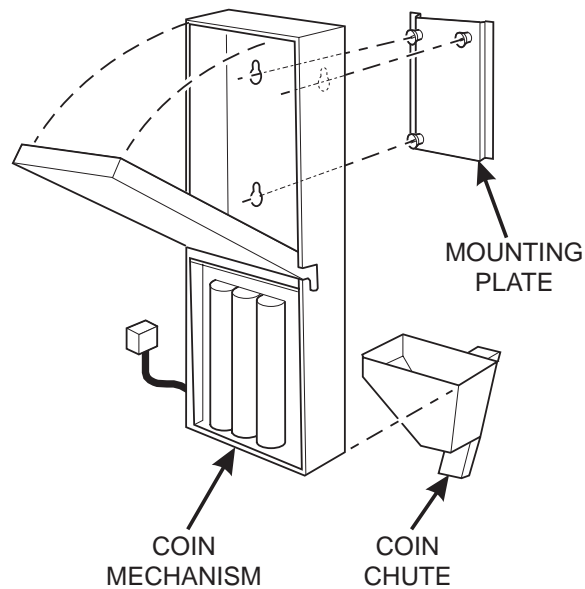
INSTALL THE COIN MECHANISM

Install the coin mechanism as follows:

WARNING

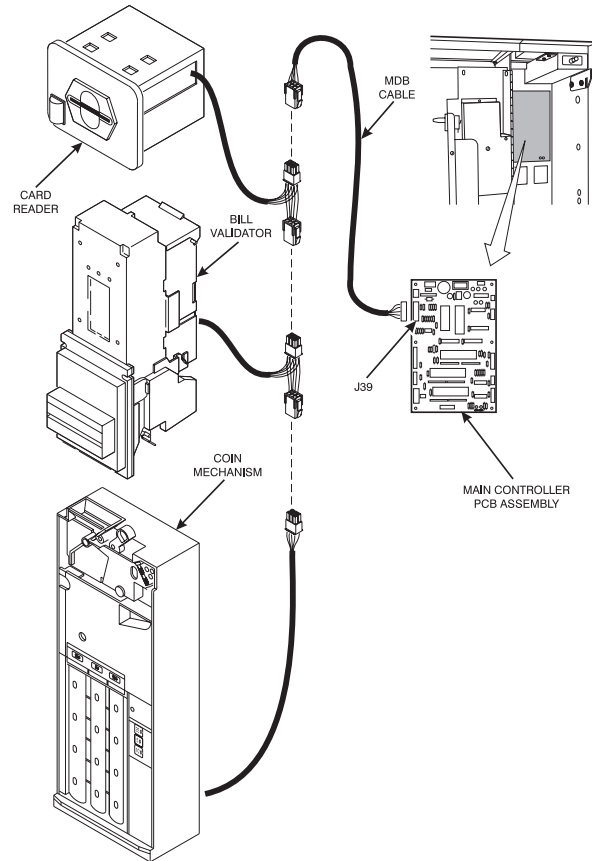
Make sure the main power switch is turned OFF before you work on the merchandiser. Failure to do so could result in death or injury.

1. Turn OFF the main power switch. Refer to the instructions provided with the coin mechanism and remove the coin validator assembly.
2. Set any option switches as desired. On a Mars TRC 6000, switch 2 should be set to high quarter sens. (off).
3. Loosen the coin mechanism mounting screws on the merchandiser so they stand off about 1/8" (0.3 cm).
4. Position the coin mechanism so the three keyed holes fit over the mounting screws. Pull down on the coin mechanism to seat the screws in the keyways.
5. Tighten the mounting screws and reinstall the coin validator assembly.





5. The following figure shows a coin mechanism, bill validator, and card reader connected to one another via an MDB. Some monetary configurations may not include all of these devices. Connect your coin MDB mechanism as shown:



6. Turn ON the main power switch. Select the proper coin mechanism in the **SE-**

LECT COIN MECHANISM AND OPTIONS procedure. Press



until the

standby message is displayed, then press



7. Insert enough coins through the coin slot into the coin tubes to more than cover the empty sensor. Insert coins one at a time and ensure they lay flat in the tubes. The amount of coins you insert is internally recorded.
8. Manually finish filling all the tubes with coins.
9. Visually check the coin tubes to make sure coins are not shingled.
10. Turn OF the main power switch.



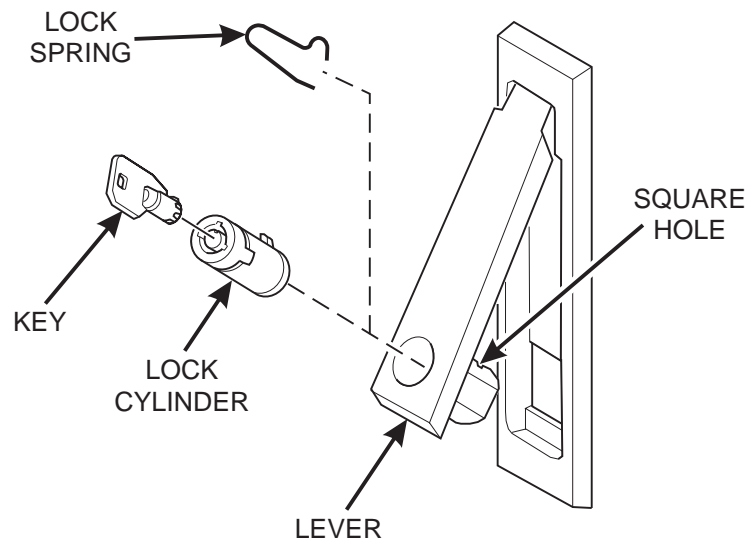
INSTALL THE DOOR LOCK

There are two optional door locks available from National Vendors:

- FLEX-ACE (P/N 9992000)
Corresponding key (P/N 9994000)
- VAN LOCK (P/N 3112163)
Corresponding key (P/N 3112164)
Lock and key kit (P/N 3122165)

Install the door lock as follows:

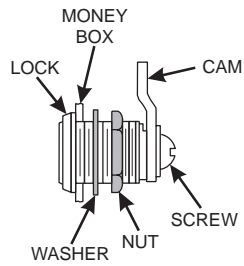
1. Remove the lock spring.
2. Depress the lock pin and push the lock cylinder in the lever until the pin snaps into place.
3. Test the lock mechanism with the key.





INSTALL THE MONEY BOX LOCK

Install the optional money box lock as follows:



1. Remove the money box from the merchandiser.
2. Remove the screw, cam, nut, and washer from the lock assembly.
3. Insert the lock into the opening in the money box. Secure with the washer and nut.
4. Install the cam and secure with the screw.
5. Place the money box back in the merchandiser and test the lock with the key (provided).



LOAD THE MERCHANDISER

There are two modes of loading: The first is Full Shop, in which the entire drum is loaded. The second is Limited Shop, where only one or two zones of the drum are loaded. Limited Shop is usually used in smaller locations where all food in the merchandiser may not be vended before the freshness dates expire. To set the loading mode, refer to SET SHOP ZONES, Section 2. The general loading procedure is as follows:

1. Adjust the product dividers, if necessary. See ADJUSTING PRODUCT DIVIDERS, Section 4.
2. Set new prices, if desired. See SETTING PRICES, Section 2.
3. Set discount prices, if desired. See SET TIME OF DAY DISCOUNT VENDING, Section 2.

IMPORTANT

The load switch overrides the Limited Shop mode, which allows unused zone(s) of the drum to be loaded.

NOTICE

If the drum is loaded with food which is too large for the compartments, the drum will not rotate properly.

4. Push the loading switch plunger until the drum rotates to the position where you want to load food items, then release the plunger.

NOTE

You can pull out the loading switch plunger and the drum will rotate continuously until you push the plunger in to the mid position.

5. Load the food drum, then repeat step 4 until the drum is loaded.
6. Tell the machine that it is full. You do this by performing the **CHECK FOR TAMPERING** procedure in Section 2.
7. Close the refrigeration door.



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SECTION 2 PROGRAM OPERATIONS

Some setup, test, and maintenance operations are computer controlled. The control panel switches (see figure 2-1) and the selection panel switches (see figure 2-2) regulate these operations.

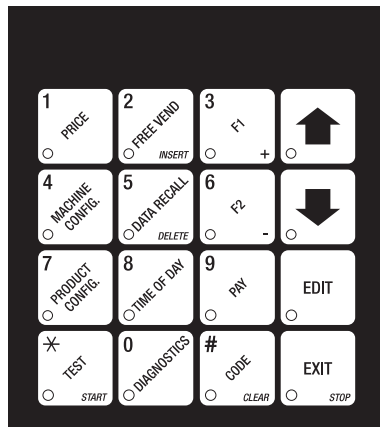


Figure 2-1. Control Panel

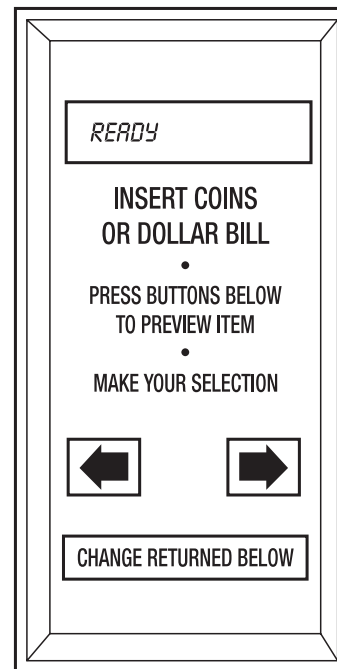


Figure 2-2. Selection Panel



The Displays

During programming, the 10-character display performs two functions, and is referred to in this book as "the display":

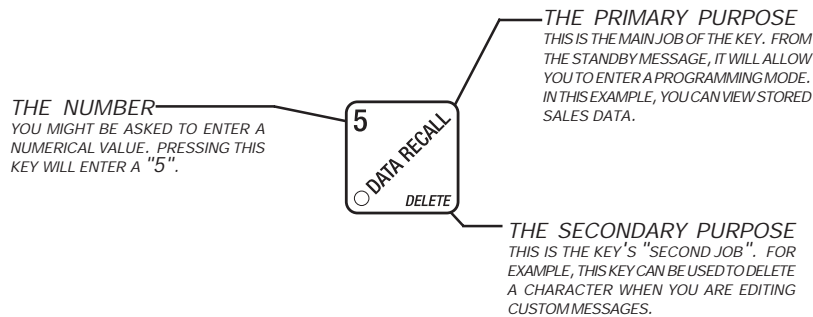
1. It shows the customer's selection and how much credit is in the machine, as well as the ready, service, and time of day messages.
2. It provides information and feedback to the service person during maintenance.



3. The other displays are the PRICE DISPLAYS, present on each level of the machine. These display the selection price and zone information.

The Function Keys

The keys on the control panel can be used for up to three things:



Other Keys

The MOVEMENT keys on the control panel let you move inside a mode, and back and forth between modes. To see how these keys let you move around, study the flow diagram on the next page.



The up and down arrow keys are your "legs", which let you move up and down the list of tasks. These keys are what let you continue from one step to the next in programming procedures.



This is your "activate" or "choose" key. It "opens a door" to additional information and lets you begin a programming task once you are inside of a mode. Sometimes, it is used as a toggle switch to show you your choices during a programming task.



This is your "end" key. Pressing it one or more times will move you back to the start of the mode, or all the way back to the standby message.



By the way . . .



In most instances, the right arrow key *on the selection panel* does the same things as the down arrow key on the control panel.



The left arrow key *on the selection panel* does the same things as the EDIT key on the control panel.

Control Panel Switch Functions Explained

Each of the control panel switches has one or more jobs to do. This list will give you a short overview of those jobs.



Press this button to set the Shoppertron into the Price Setting mode. You can see maximum and minimum machine prices, and the price for the current zone.



Press this button to place the Shoppertron into a Free Vend mode. All selections will vend with no money required. To remove the machine from free vend, press the button again.



Press this button to view machine temperature, software version number, status of unsold product in tamper check or prefer max.



Press this button to:

- Select display language
- Select coin mechanism and options
- Select bill validator and options
- Select card reader and options
- Select monetary options
- Set winner feature



Press this button to view total sales and vends by whole machine, zone, or level. Clear resettable data.



Press this button to:

- Download data into your portable data collection device (PDCD)
- Select the baud rate of your printer



Control Panel Switch Functions Explained (continued)



Press this button to:

- Set number of products per tray
- Set shop zones
- Set zone preference
- Set door and view delays
- Set drum alignment
- Set up tamper protection



Press this button to:

- Set time of day
- Set day, month, year
- Set up time of day intervals for inhibit, freevend, and discount vending
- Select display messages
- Edit messages



Press this button to pay one or more coins from the coin mechanism.



- Allows you to see any fault or condition that may place the machine out of service



Press this button to:

- Perform TEST VENDS
- Test displays



Press this button to:

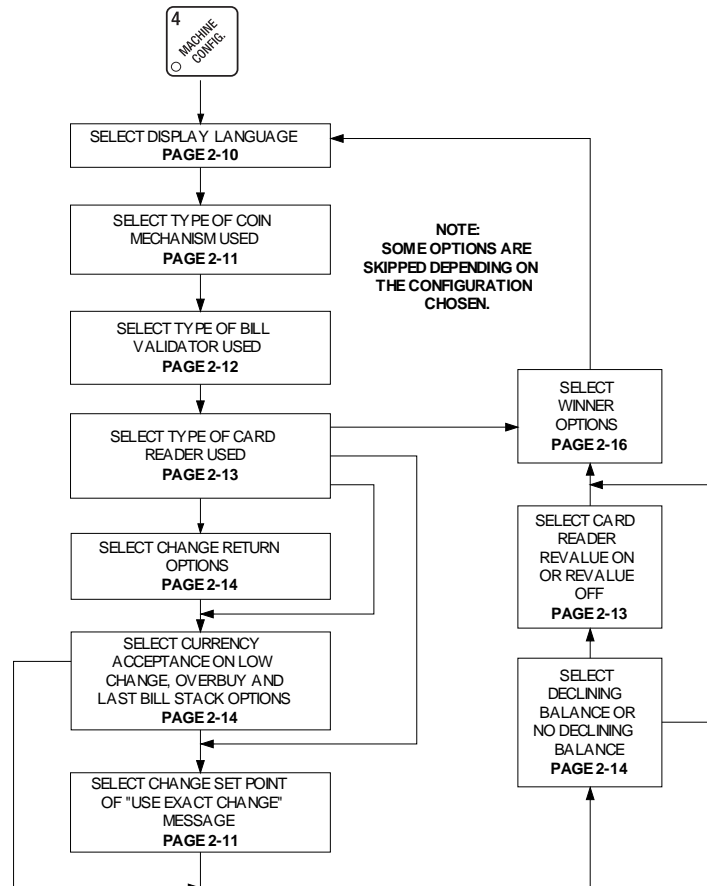
- Enter the SUPERVISOR mode
- Change the SUPERVISOR access code
- Lock and unlock access to functions

PROGRAMMING FLOW CHARTS

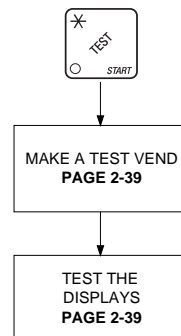
After you become familiar with the programming functions, you will be able to perform them without using the detailed, step-by-step tables. The following group of flow charts will give you a quick reference to the functions each key performs. If you need additional information, just refer to the page shown in the chart.



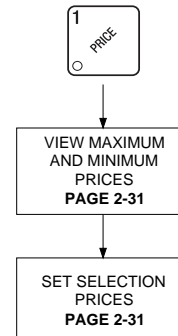
Machine Configuration Functions



Tests

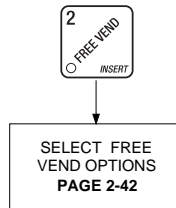


Pricing

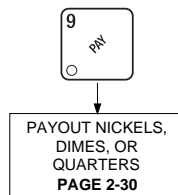




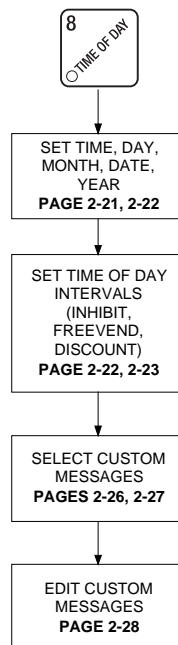
Free Vend



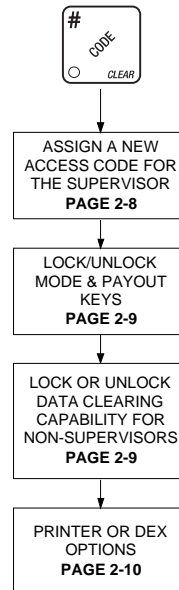
Payout Coins



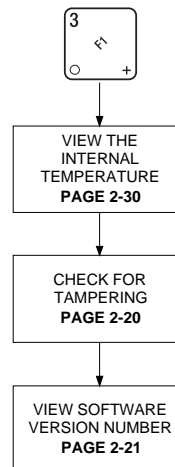
Time of Day



Supervisor Functions

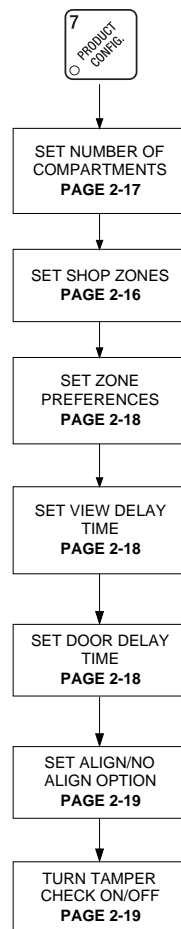


Misc.

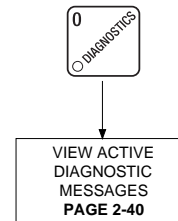




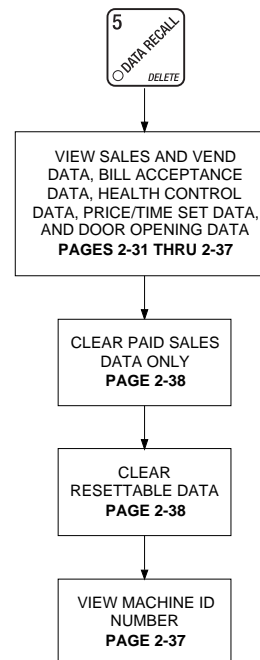
Product Configuration Functions



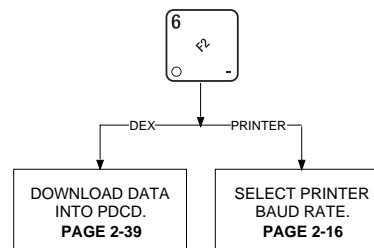
View Diagnostics



View and/or Clear Data




DEX/Printer







GAIN ACCESS TO THE SUPERVISOR MODE

1. Press . The display shows: **ENTER CODE**. You must enter the four-digit supervisor code within 6 seconds to gain access.

NOTE


A new machine has a factory-set supervisor code of 0000.

When you have entered the right code, you will hear two beeps and see **UNLOCKED** in the display. After a few moments, the standby message returns.

2. At the standby message, press , then . You are now ready to perform various supervisor functions.



ENTER A NEW SUPERVISOR CODE

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE**.
2. Press  until the display shows **SUPER XXXX**. The X's represent the current supervisor code. Use the number keys to enter a new code.

IMPORTANT!

If you enter a new code, be sure to keep a written record of it. There is no other way to access the SUPERVISOR mode.

3. Press  until you have left the function.


SPECIAL NOTE


If the display shows *FREE 0000*:
This is a freevend code that is not applicable to this machine. **DO NOT** enter a number to replace the zeros.




LOCK OR UNLOCK MODE OR PAYOUT KEYS

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE**.

2. Press  until the display shows either **#. LOCKED** or


#. UNLOCKED. "#" refers to the  key. To see if a key (1 through 9, # and *) is locked or unlocked, press that key.

3. Press  to change between locked and unlocked. When anyone other than the supervisor tries to enter a locked mode, the display shows **LOCKED**.

NOTE

The following mode keys cannot be locked out:





4. Press  until you have left the function.



LOCK OR UNLOCK DATA CLEARING ACCESS


1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE**.

2. Press  until the display shows either **#. LOCKED** or **#. UNLOCKED**. **LOCKED** means that non-supervisors cannot clear resettable machine sales and vend data from the  key.

3. Press  to switch between **#. LOCKED** and **#. UNLOCKED**.




NOTE

The supervisor can clear data regardless of this setting, provided the supervisor code was correctly entered first.

4. Press  until you have left the function.






SET PRINTER OR DEX OPTIONS

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE**.
2. Press  until the display shows **PRINTER, DEX ONLY**, or **DEX + CLR**.
3. **PRINTER** means that data will be sent directly to a printer.
DEX ONLY means that data remains in memory after it is downloaded into a portable data collection device.
DEX + CLR means that resettable data is cleared after it is downloaded into a portable data collection device.
4. Press  to switch between the three choices.
5. Press  until you have left the function.






SELECT DISPLAY LANGUAGE

1. Press . The current LANGUAGE is shown in the display. Press  to choose the desired language. Your choices are: **ENGLISH**, **DEUTSCH**, **FRANCAIS**, **ESPAÑOL**, **PORTUGUES**, **SWEDISH**, or **NEDERLANDS**.
2. Press  until you have left the function.



SELECT COIN MECHANISM AND OPTIONS

1. Press , then press  until the current COIN MECHANISM is shown in the display. Press  to choose the desired coin mecha-




nism. Your choices are: **DUMB MECH**, **NOB MECH**, **EXEC MECH**, **FAST EXEC**, or **NO MECH**

NOTE

Choose **EXEC MECH** or **FAST EXEC** even if the exec device is a card reader. If you selected **NO MECH**, go to step 3.



CAUTION

FAST EXEC makes certain assumptions about the coin mechanism operation in order to speed up the vend door operation. It should be selected for the majority of exec devices. Certain exec card readers may require the **EXEC MECH** option.

2. Press  until the display shows **CHANGE X.XX**.
Coins and bills which are less than or equal to this value will be returned without a purchase being made.
Examples:
CHANGE 0.00 - Forced vend; NO change returned without a purchase.
CHANGE .25 - Nickels, dimes, and quarters returned without purchase.
CHANGE 1.00 - \$1 bills and SBAs will be returned as change without purchase. Nickels, dimes, and quarters are also returned.
3. Press  until the display shows: **LOW.MSG X.XX**. The display will show **USE EXACT CHANGE** when the amount of available change in the coin mechanism falls below the value of "X.XX". Enter a value with the number keys. For example, if **LOW.MSG 1.00** is displayed, the **USE EXACT CHANGE** message is displayed when less than a dollar's worth of change is in the coin mechanism.
4. Press  until you have left the function.



SELECT BILL VALIDATOR AND OPTIONS

1. Press , then press  until one of the following is displayed:
- NO DBV** - No bills will be accepted or there is no bill validator installed (you can exit the function).

- SER.1.2.5.10.20** - The serial bill validator is selected and will accept \$1, \$2, \$5, \$10, and \$20 bills. Use BILL SELECTION METHOD below to change the bills which will be accepted.

- MDB.1.2.5.10.20** - A standard MDB bill validator is selected. It will accept \$1, \$2, \$5, \$10 and \$20 bills. Use BILL SELECTION METHOD below to change the bills which will be accepted.

BILL SELECTION METHOD:

The standard \$1, \$2, \$5, \$10 and \$20 bills are enabled by pressing the **1**, **2**, **5**, **6**, or **7** key(s), respectively, to display which bill(s) will be accepted.

- MDB. <*>** - An MDB bill validator which accepts non-standard bills or tokens is connected and operating. Press





to enter list of bills. (See **INITIAL SETUP**

OF NON-STANDARD BILL VALIDATOR on the following page.)

BILL LIST OPERATION:

Use  and  to scroll through the list of bills.

Use  to turn the bill acceptance ON or OFF.

Use  to move up to the top level screen.

- 1. 1.00 ON** - 1. = Bill validator channel 1, each bill has its own channel
1.00 = Bill value
ON = \$1.00 bill will be accepted


- 1. 1.00 OFF** - OFF = \$1.00 bill will not be accepted



TKN - Token bills (same as coupon bills)


INITIAL SETUP OF NON-STANDARD BILL VALIDATOR:


Connect the bill validator, select MDB in the bill validator selection screens. The standard "MDB.1.2.5.10.20" screen will appear first. Exit

the bill validator setup by pressing . Bill

information is now collected from the validator. Re-enter the bill validator selection screen and the non-standard screen "MDB. <*>" will appear.

PULSE DBV - The pulse bill validator will accept \$1 bills.


Press  to choose the desired option.

2. Press  until you have left the function.



SELECT CARD READER AND OPTIONS


1. Press , then press  until the current card reader is shown in

the display. Press  to choose the desired card reader.

Your choices are: **NO CARD**, **DUMB CARD**, or **MDB CARD**.


NOTE


If you selected **NO CARD** you can exit the function.

2. Press  until one of the following is displayed:

REVALUE.ON - Allows credit to be transferred onto the card

REVALUE.OFF - Credit cannot be transferred to the card

Press  to display the desired choice.

3. Press  until you have left the function.



SELECT MONETARY OPTIONS

This function lets you:

- Set declining balance,
- Set currency acceptance on low change,
- Set overbuy options,
- Set last bill stacking options

DECLINING BALANCE

Once credit is established, multiple vends may occur until the coin return is pressed.


1. Press , then press  until one of the following is displayed:

DECLINE.ON - More than one vend is allowed, with a declining balance.

OR

DECLINE.OFF - A declining balance is not allowed.

Press  to display the desired choice.


2. Press  until one of the following is displayed:

ACC <\$\$ X.XX - The last bill which meets or exceeds maximum price will be held in escrow.

OR

ACC.STK X.XX - The last bill which meets or exceeds maximum price and MDB coupon bills (token bills) will be immediately stacked. **(This is the preferred setting for faster vend door operation.)**

Example: If setting is **ACC.STK 1.00** and maximum price is \$1.50. This setting will immediately stack the second \$1.00 bill inserted.

Press  to display the desired choice.

The value of "X.XX" has two purposes:

- a. The value of "X.XX" tells the machine how big a bill or coin to accept even though there is not enough change in the coin mech to cover all possible paybacks.
 - For example, enter **1.00**. Therefore, the machine will take a dollar bill or coin even though there is less than \$1.00's worth of change. Entering **5.00** tells the machine to take a five even though there is less than \$5.00's worth of change, and so forth.

NOTE: This could cause a customer to be short-changed.




- Entering **0.00** means that bills or coins will only be accepted if there is enough change to cover them.
- b. The value of "X.XX" tells the machine how much the customer is allowed to overbuy a product. The customer will be short-changed when an overbuy occurs.

Example:

For a value of \$0.25: if there is no change in the machine and the customer inserts a \$1.00 bill. The customer can purchase a product for \$0.75 even though the change cannot be paid back. The customer will be short-changed. Normally a purchase will not be approved unless all change can be paid.

Entering 0.00 means that the vend will only be approved when the correct change can be returned (overbuy disabled).

3. Press  until you have left the function.



SET UP WINNER MODE

WINNER


At preselected intervals, customers receive a refund for a selection. You can select the interval and qualifying selections.

1. Press , then press  until one of the following is displayed:

WINNER OFF Winner function is disabled.


OR

WIN XXX Winners are allowed at certain intervals, represented by "XXX".

Press  to display the desired choice.



If you selected **WINNER OFF**, you can exit the function.

2. The display shows **WIN XXX**. XXX represents the number of vends which must occur per each winner vend. For example, an interval number of 50 means that a winner can happen any one time during the next 50 vends. Using the number keys, enter an interval number between 10 and 9999.

3. Press . The display shows ***- - - - -**. The asterisk means that all 3 zones are enabled for a winner vend. If you press "1", "2", or "3", you can limit winners to the respective zone. The dashes in the display represent which levels are allowed winners. Slide the appropriate door to the right to enable a level, slide the door again to disable it. For example, sliding the doors to levels 1, 3, and 5 will cause the display to look like this: ***.1-3-5- - -**, meaning that all zones on levels 1, 3, and 5 can have a winner. The price display for each level will show which (if any) zones are eligible for a winner.





ADVANCED OPTIONS:

- Press  to enable all levels.
- Press  to deactivate all levels.

AN EXAMPLE . . .

You want to enable winners in zone 1 on all levels except level 4. Do the following:




- At the winner screen, press "1". **1** is shown in the display instead of *****.
 - Press . The numbers **1** through **9** appear in the display instead of the dashes, and **1** is on all price displays.
 - Slide the door to level 4 to the right. The number **4** in the display is replaced by a dash, and the price display for level 4 returns to all dashes.
4. Press  until you have left the function.



SELECT PRINTER BAUD RATE (PRINTER MODE ONLY)

BAUD RATE





The speed of data transfer, expressed in bytes per second. Your printer can receive data at a certain rate, and you must tell the machine what that rate is.

1. Press . One of the following is displayed:
BAUD 1200, BAUD 2400, BAUD 4800, BAUD 9600
2. Press  until the correct baud rate for your printer is displayed.
3. Press  until you have left the function.



SET SHOP ZONES

You have the option of locking out 1 or 2 zones. This can be used to reserve products for people who arrive later, such as second or third shift personnel.



1. Press . Press  until the display shows one of the following:
SHOP ALL - Entire drum is available.
- OR -
SHOP 1 - Zone 1 only is available (zones 2 and 3 are locked out).
- OR -
SHOP 1 - 2 - Zones 1 and 2 are available (zone 3 is locked out).
2. Press  until the shopping configuration you want is displayed.
3. Press  until you have left the function.



SET NUMBER OF COMPARTMENTS

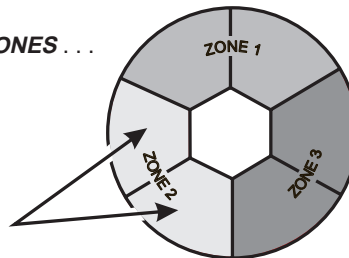
Each zone on a level has two trays, and each tray can have from one to four compartments (see figure below). **HOWEVER**, all trays on a level must have the same number of compartments. Make sure the numbers you enter agree with the actual physical configuration of the compartments. If not, the drum will not stop at the proper location, nor will the tamper check feature work properly.

The following example demonstrates how to set up level 4 to have 3 compartments per tray. First, make sure the physical configuration is established by correct placement of tray dividers.. (There will be a total of 18 compartments on level 4.)

1. Press . The display shows **TRAYS (1-4)**.
2. Enter the number 3, then slide the delivery door on level 4 to the right.
The price display at level 4 shows **3**.
3. Press  until you have left the function.

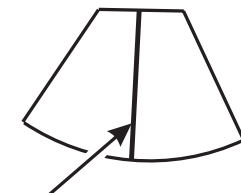
THE DRUM IS DIVIDED INTO 3 **ZONES** . . .

EACH ZONE ON A LEVEL IS
DIVIDED INTO 2 **TRAYS** . . .

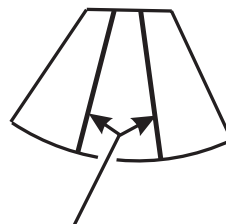


YOU CAN DIVIDE EACH TRAY INTO **COMPARTMENTS**.

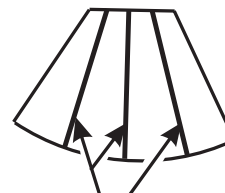
NO DIVIDERS = 1 COMPARTMENT, BUT . . .



1 DIVIDER
= 2 COMPARTMENTS



2 DIVIDERS
= 3 COMPARTMENTS





3 DIVIDERS
= 4 COMPARTMENTS



SET ZONE PREFERENCE

You can select one of three drum movements to occur after a vend:

1. Press . Press  until the display shows one of the following:



PREFER. 1 - The drum rotates to zone 1 after a vend.

- OR -

PREFER. MAX - The drum rotates to the fullest zone after a vend.

- OR -



NO PREFER - The drum centers itself on the present zone after a vend.

2. Press  until the zone preference you want is displayed.
3. Press  until you have left the function.




SET VIEW DELAY TIME

After a vend, the drum will remain stationary for a preset amount of time before rotating:

1. Press . Press  until the display shows **VV.DELAY XX**.



"XX" is the number of seconds the drum waits before rotating after a vend.

2. Enter a new number between 10 and 99, if desired.
3. Press  until you have left the function.




SET DOOR DELAY TIME

After a vend, the door will remain unlocked for a preset amount of time before locking:

1. Press . Press  until the display shows **DR.DELAY XX**.



"XX" is the number of seconds the drum remains unlocked after a vend.

2. Enter a new number between 10 and 99, if desired.
3. Press  until you have left the function.



SET ALIGN/NO ALIGN OPTIONS

A customer may try to open a vend door when the compartment is one step out of alignment. This function allows you to choose whether the drum automatically corrects itself, or the customer gets a display instructing him to rotate the drum:



1. Press . Press  until the display shows one of the following:

ALIGN ON - The drum moves itself to the correct position.

- OR -

ALIGN OFF - If the customer attempts to open a vend door when the compartment is not aligned, the following message is displayed:



OFF-LINE, PUSH ARROWS

2. Press  until the option you want is displayed.
3. Press  until you have left the function.



TURN TAMPER CHECK ON OR OFF



If a vend door has been moved and there is still a product in that location it is considered to have been tampered with, and should not be sold. Proper operation of this feature assumes that you have configured the machine so that the actual number of compartments per tray agrees with the quantity you entered in **SET NUMBER OF COMPARTMENTS**.

1. Press . Press  until the display shows one of the following:

TAMPER OFF - The tamper check feature is inoperative.

- OR -

TAMPER ON - The tamper check feature is operating.

2. Press  to switch between tamper check on and off.
3. Press  until you have left the function.



CHECK FOR TAMPERING

The following example shows you how to perform a tamper check on a machine which is configured to have 3 compartments per tray on all 9 levels. Our example machine has a total of 24 out of 27 possible items visible in the half-zone behind the delivery doors.

1. Press , and press  until the display shows - 1 QTY 23.

This means that the tamper check feature is on and the machine thinks there are 23 items remaining behind the doors (the - 1 shows that the right half of zone 1 is behind the doors). **Remember that with 3 compartments per level, there is a maximum of 27 items that can be present behind the doors.** Therefore, there is one item that is considered sold but is still present.


Next, look at the price displays. Each price display shows whether one or more of the products at that level has been sold. On level 1, the price display shows **123**. This means that all three compartments on level 1 should be full. You count the products on level 1, and they are all there. On level 2, the price display shows **13**. This means that the middle compartment should be empty, but it has a product in it. This product has been tampered with and should be removed.

After the product is removed, the number of full compartments agrees with the number 23 in the display. At this point, you can leave the function, **OR**

2. Add products to the four empty compartments, then press and hold






. The display shows **CLEARING**, then **FINISHED**. You have now indicated that all the compartments in the machine have products.

3. Repeat the above steps until all half-zones in the machine have been checked.
4. Press  until you have left the function.




VIEW SOFTWARE VERSION

1. Press , and press  until the display shows **VER XXXXXX**.
"XXXXXX" represents the current software version number.
2. Press  until you have left the function.




SET THE TIME

1. Press . The display shows **TIME HH.MM**. "HH.MM" is the time of day in 24-hour format.
2. Enter the current time using the number keys.





NOTE

9:00 am is entered with a leading zero, like this: 0900; 9:00 pm is entered as 2100.

3. Press  until you have left the function.





SET THE DAY OF THE WEEK, MONTH, DATE, AND YEAR

1. Press , and press  until the display shows **SMTWTFSS**.
The letter representing the currently set day of the week will be flashing.
2. Press  until the correct day of the week is flashing.
3. Press  until the display shows **MM/DD YY**. "MM" is the month, "DD" is the date, YY is the year.
4. Enter the current month, date, and year using the number keys.

For example, press the following keys to enter February 22, 1996:



0, 2, 2, 2, 9, 6

5. Press  to switch between MM/DD and DD/MM formats
6. Press  until you have left the function.



SET TIME-OF-DAY INHIBITED VENDING

Vending can be inhibited up to four times a day. This is useful when you want to reserve a zone for a later shift of workers.

1. Press , then press  until the display shows **INHIB - - - -**.
2. Go to the TIME INTERVAL EDITING procedure for an example of how to set up time-of-day inhibited vending.



NOTE

Zones inhibited under SET SHOP ZONES are always inhibited.



SET TIME-OF-DAY FREE VENDING



Vending can be free up to four times a day.

1. Press , then press  until the display shows **FREEV** - - - - .
2. Go to the TIME INTERVAL EDITING procedure for an example of how to set up time-of-day free vending.



SET TIME-OF-DAY DISCOUNT VENDING

Vending can be discounted up to four times a day. For example, this can be used to favor early-arriving employees.

1. Press , then press  until the display shows **DISCT** - - - - .
2. Go to the TIME INTERVAL EDITING procedure for an example of how to set up time-of-day discount vending.



TIME INTERVAL EDITING

You can select up to four times of day for each special vending period.

NOTE


If two or more of these time periods overlap, the interval with the highest priority will overrule the other(s). This order of precedence is:

1. INHIBIT
2. FREEVEND
3. DISCOUNT


For example, if a DISCOUNT time period is scheduled for a certain area before the end of an INHIBIT time period, DISCOUNT does not begin until the INHIBIT interval has ended for that area.

The time interval editing procedure is almost the same for the INHIBIT, FREEVEND, and DISCOUNT intervals. There is one difference for the DISCOUNT time interval, so we will use it in our example. Assume you just finished the SET TIME-OF-DAY DISCOUNT VENDING procedure. Step 1 picks up where you left off . . .

1. The display shows **DISCT - - -**. Press the number of the time interval


you want to edit, or  to edit time interval 1 (we'll use interval 1 for this example).

2. The display shows **1.DISCT ON** or **1.DISCT OFF**. This display tells you

whether your time interval (represented by 1) is on or off. Press  to change the condition of the time interval.





NOTE






If you turn an interval ON, it must be edited. You can edit a time interval now, then turn it OFF until another time.

3. Press . The display shows **1.DSCT X**. "X" represents the

discount percentage for this period. Enter a discount percentage of 25 with the number keys. (Discount percentages of from 0 to 99 are permitted.) The machine will apply a 25% discount to each price, rounding up to the nearest nickel (or whatever is the smallest coin accepted by the coin mechanism).



4. Press . The display shows **1.STRT X.XX**. "X.XX" is the currently set start time. Enter a new start time (24-hour format) for this interval. To enter the time for 3:30 pm, enter 1530.
 5. Press . The display shows **1.STOP X.XX**. "X.XX" is the currently set stop time. Enter a new stop time (24-hour format) for this interval. To enter the time for 6:00 pm, enter 1800. You have now established a 25% discount that starts at 3:30 pm and ends at 6:00 pm.
 6. Press . The display shows **1. - - - - -**. The dashes represent the days that this time interval is active. Pressing number keys 1 through 7 switches the days on/off. For example, press "2", "4", and "6". The display now shows **1.- - - - -**. This discount interval is only active on Monday, Wednesday, and Friday.
 7. Press . The display shows *** - - - - -**. The asterisk means that all 3 zones are affected by the discount. Press 1, 2, or 3 to make the discount effective for the respective zone only. The dashes represent the levels affected by this time interval. Slide the appropriate delivery door to the right to turn the levels on/off. For example, slide the doors to levels 1, 3, 4, and 6 to the right. The display now shows ***.1-34-6---**.





Press  to turn on all levels; press  to turn all levels off.
 8. Press . The display shows **1.MESG OFF** or **1.MESG X**. "OFF" means there is no custom message selected, and "X" represents the custom message number set for this interval. Press the number key of the message (1 through 8) you want displayed, or press 0 to turn the message OFF for this time interval. To edit this message, press  and follow the procedure given in **EDIT CUSTOM MESSAGES**. Press 0 to turn the message OFF for this time interval.
- YOU CAN SET UP THE CUSTOM MESSAGE BY FOLLOWING THE CUSTOM MESSAGE EDITING PROCEDURE.**
9. Press  until you have left the function.



STANDBY MESSAGE: The message that is displayed during normal vending periods when there are no out-of-service faults on the machine.







SELECT A STANDBY MESSAGE

1. Press , then press  until the display shows **STANDBY XX**.
"XX" represents the current message number selected for the standby message. Two dashes mean that the factory-set message is selected.
2. To select a message, just press the corresponding number (1 through 8). To display the factory-set message, press 0.
3. The selected message (except the factory-set message) can be edited.
To do this, press  and follow the procedure given in **EDIT CUSTOM MESSAGES**.
4. Press  until you have left the function.



SELECT AN OUT-OF-SERVICE MESSAGE

1. Press , then press  until the display shows **SERVICE XX**.
"XX" represents the current message number selected to display when the machine is out-of-service. Two dashes mean that the factory-set message is selected.
2. To select a message, just press the corresponding number (1 through 8). To display the factory-set message, press 0.
3. The selected message (except the factory-set message) can be edited.
To do this, press  and follow the procedure given in **EDIT CUSTOM MESSAGES**.
4. Press  until you have left the function.





SELECT A FREEVEND MESSAGE

1. Press , then press  until the display shows **FREEVEND**

XX. "XX" represents the current message number selected for the message that displays when the machine is in the freevend mode. Two dashes mean that the factory-set message is selected.








2. To select a message, just press the corresponding number (1 through 8). To display the factory-set message, press **0**.
3. The selected message (except the factory-set message) can be edited.

To do this, press  and follow the procedure given in **EDIT CUSTOM MESSAGES**.

4. Press  until you have left the function.





EDIT CUSTOM MESSAGES

1. Press , and press  until the display shows **EDIT MSG X**.
2. Press the number of the message you want to edit then press .
The message text is displayed with the first character flashing.
3. To view the message, press . The message scrolls across the display. To stop the scrolling, press .
4. When the character you want to change is flashing, either enter it directly, or use  and  to step through the character set until the desired character is displayed. Use the arrow keys to highlight different characters. See the section on the next page for an explanation of special keys and the character set.

SHORTCUT

Instead of stepping through the whole character set to enter a letter that is not on your keypad, enter one close to the one you want, then step to it. Example: If you want to enter an **L**, first

press , then press  six times. Your **L** should now be displayed.

THE END OF MESSAGE CHARACTER

This is the most important character in your message, because it tells the machine when the message is ended. If you don't use this character, your message will be followed by a bunch of zeros. This character can be selected either from the character set or by a direct key entry (see the next page).





SHOPPERTRON™ OPERATOR'S GUIDE

ENTERING YOUR MESSAGE

Most of the keys on the control panel have a special purpose to help you create and edit your messages:

	Inserts an R at the flashing character.		Inserts a space at the flashing character.
	Inserts an S at the flashing character.		Deletes the current character and closes up the space.
	Inserts a T at the flashing character.		Deletes the current character and leaves the space.
	Repeats the letter to the left of the flashing character.		Enters the special "end of message" character, which denotes the end of the message.
	"Pages" through the message, ten characters (one screen) at a time.		
			Steps forward and backward through the message, one character at a time.
			Steps forward and backward through the character list, one character at a time.

THE CHARACTER SET

0	A	K	U	{
1	B	L	V	}
2	C	M	W	□
3	D	N	X	♦
4	E	O	Y	+
5	F	P	Z	-
6	G	Q	(SPACE)	/
7	H	R		.
8	I	S	\$	<
9	J	T	'	=
				>
				?
				□
				□
				⊗

THIS IS THE END OF MESSAGE CHARACTER.





VIEW MACHINE TEMPERATURE

1. Press . The display shows **TEMP 31° F**. This example shows that the machine temperature is 31 degrees Fahrenheit.






NOTE

If the auxiliary (cold) door has been opened recently, the above display will include a numerical value indicating how many minutes remain in the health control grace period.

2. To change the display units, press . The display now shows **TEMP -1° C**.
3. Press  until you have left the function.






PAYOUT COINS

1. Press . If a dumb mech was selected, the display shows **NDQ =123**; if an MDB mech was selected the display shows **PAY 123**.
2. Press . A dumb mech pays out one **N**ickel; an MDB mech pays a coin from tube 1. Press . A dumb mech pays out one **D**ime; an MDB mech pays a coin from tube 2. Press . A dumb mech pays out one **Q**uarter; an MDB mech pays a coin from tube 3.
3. To continuously pay out coins, hold down the appropriate key.
4. Press  until you have left the function.






SET PRICES

1. Press . The display shows **** 2.50 .25**. This display shows the maximum and minimum prices set in the machine. In this example, the maximum price is \$2.50 and the minimum is \$0.25.
2. Enter a price using the number keys. For example, the drum is stopped on zone 1 and you entered a price of \$1.25. The display would now show **1* 1.25**. As you can see, one * was replaced by the current zone number. This number will change as you move the drum around to help you see what zone you are in.
3. To assign prices to the various levels, slide the appropriate delivery doors to the right. For example, you slid the door to level 4 to the right. The display now shows **14 1.25**. As you can see, the other * was replaced by the number of the level you just selected. In addition, the price display for level 4 shows the new price of \$1.25. If you want all zones on that level to have the same price, press .
4. Repeat steps 2 and 3 for any other levels in the current zone you wish to give different prices.
5. Press the right or left arrow on the selection panel to move the drum to the next zone. Repeat steps 2 and 3 for this and the final zone.
6. Press  until you have left the function.



VIEW NONRESETTABLE SALES AND VEND DATA


1. Press . The display shows **NR\$ XX.XX**. "XX.XX" is a dollar and cents figure showing the total of all sales in the machine. This is a running total, and is not resettable.
2. Press . The display shows **NR X**. "X" is the total number of sales made by the machine. This is a running total, and is not resettable.
3. Press  until you have left the function.



VIEW TOTAL PAID SALES

1. Press , then press  until the display shows ****\$ XX.XX**.

"XX.XX" is a dollar and cents figure showing the total of all **PAID** sales in the machine (as opposed to unpaid sales like winner and free vends). This is the total since the last time it was cleared.


2. Press  until you have left the function.



VIEW TOTAL PAID SALES BY ZONE


1. Press , then press  until the display shows ****\$ XX.XX**.

2. Press 1, 2, or 3. The display shows **Z* XX.XX**, where "Z" is the zone

number and "XX.XX" is the total for all levels of the zone. Press  or



to switch between all three zones. The price displays show the total paid sales for that level of the current zone.

3. Press  until you have left the function.




VIEW TOTAL PAID SALES BY LEVEL

1. Press , then press  until the display shows ****\$ XX.XX**.

2. Slide the door of the level you are interested in. The display shows ***L XX.XX**, where "L" is the zone number and "XX.XX" is the total for the






entire level. Press  or  to switch between all nine levels.

The price displays show the total paid sales for that level of the current zone.

3. Press  until you have left the function.






VIEW DISCOUNT SALES BY TIME INTERVAL

1. Press , then press  until the display shows ****\$ XX.XX**.
2. Press . The display shows **1.DSC .00**. This is the total sales for discount interval 1 (not shown if zero).
3. Press  to view intervals 2 through 4.
4. Press  until you have left the function.







VIEW TOTAL PAID VENDS

1. Press , then press  until the display shows **** XX**. "XX" is the total number of paid vends for the entire machine.
2. Press  until you have left the function.



VIEW CARD READER PAID SALES (NOT SHOWN IF ZERO)

1. Press , then press  until the display shows ****\$ XX.XX**.
2. Press . The display shows **DBT XX.XX**. "XX.XX" is the amount of money collected from card reader sales.
3. Press  until you have left the function.




VIEW TOTAL UNPAID SALES

NOTE

This does not appear if the total of unpaid sales is zero.

1. Press , then press  until the display shows **_0\$ XX.XX**.

"XX.XX" is the total unpaid sales (free vends, winner vends, 100% discounts, zero price vends) for the entire machine.

2. Press  until you have left the function.




VIEW TOTAL UNPAID SALES BY ZONE

NOTE

This does not appear if the total is zero.


1. Press , then press  until the display shows **_0\$ XX.XX**.

2. Press 1, 2, or 3. The display shows **Z0 XX.XX**, where "Z" is the zone

number and "XX.XX" is the total for all levels of the zone. Press  or



to switch between all three zones. The price displays show the total unpaid sales for that level of the current zone.

3. Press  until you have left the function.



VIEW TOTAL UNPAID SALES BY LEVEL

NOTE


This does not appear if the total is zero.

1. Press , then press  until the display shows **_0\$ XX.XX**.

2. Slide the door of the level you are interested in. The display shows **0L XX.XX**, where "L" is the zone number and "XX.XX" is the total for the






entire level. Press  or  to switch between all nine levels.

The price displays show the total unpaid sales for that level of the current zone.

3. Press  until you have left the function.








VIEW FREE VENDS (NOT SHOWN IF ZERO)

1. Press , then press  until the display shows **_0\$ XX.XX**.
2. Press , then press  until the display shows **FRV XX.XX**.
"XX.XX" is the total machine-wide freevends, shown even if zero.
3. Press  until you have left the function.









VIEW WINNERS (NOT SHOWN IF ZERO)

1. Press , then press  until the display shows **00\$ XX.XX**.
2. Press , then press  until the display shows **WIN XX.XX**.
"XX.XX" is the total machine-wide winners, shown even if zero.
3. Press  until you have left the function.




VIEW FREEVEND SALES BY TIME INTERVAL (NOT SHOWN IF ZERO)

1. Press , then press  until the display shows **_0\$ XX.XX**.
2. Press , then press  until the display shows **1.FRV .00**.
This is the total sales for freevend interval 1, shown even if zero.
3. Press  to view intervals 2 through 4.
4. Press  until you have left the function.




VIEW TIME DATA

1. Press , then press  until the display shows **TIME DATA**.

2. Press . The following message scrolls across the display:

MAIN.1 237M 01/30 10.13

This example shows the latest time interval the main (monetary) door was open (1). It was open for 237 minutes, and was opened on January 30

(01/30) at 10:13 am (10.13). Press . If applicable, similar displays will appear for intervals 2, 3, and 4. Otherwise, go to the next step.

3. The following message scrolls across the display:

AUX.1 33M 01/30 10.58

This example shows the latest time interval the auxiliary (cold) door was open (1). It was open for 33 minutes, and was opened on January 30 (01/

30) at 10:58 am (10.58). Press . If applicable, similar displays will appear for intervals 6, 7, and 8. Otherwise, go to the next step.


4. The following message scrolls across the display:

HEALTH OFF 01/30 14.09 MAX. 69°F

This example shows that the health control timer turned off on January 30 (01/30) at 2:09 pm (14.09), and the maximum temperature reached was 69°F.


NOTE

The temperature display units will be in °C if you selected Celsius during the temperature display function.

5. Press . The following message scrolls across the display:

LAST POWER 01/30 13.51 FOR 00. 0.23


This example shows that the last time the machine lost power was on January 30 (01/30) at 1:51pm (13.51) for zero days, zero hours, and 23 minutes (00. 0.23).

6. Press . The following message scrolls across the display:

LONGS.T POWER 01/30 10.58 FOR 00. 2.47


This example shows that the longest time the machine was without power was on January 30 (01/30) at 10:58am (10.58) for zero days, 2 hours and 47 minutes (00. 2.47).



7. Press  . The following message scrolls across the display:


FULL CLEAR 01/30 8.58

This example shows that the last time resettable sales was fully cleared was on January 30 (01/30) at 8:58am (8.58).

8. Press  . The following message scrolls across the display:


TIME SET 01/30 9.15

This example shows that the last time the time or date was set was on January 30 (01/30) at 9:15 am (9.15).

9. Press  . The following message scrolls across the display:



PRICE SET 01/30 9.42

This example shows that the last time prices were set was on January 30 (01/30) at 9:42 am (9.42).


10. Press  until you have left the function.



VIEW MACHINE ID NUMBER




1. Press  , then press  until the display shows ***I.D. XXXXXX*** .
The X's represent the 6-digit machine ID number.

2. You can edit the machine ID number if the SUPERVISOR access code has been previously entered.

3. Press  until you have left the function.







CLEAR ALL RESETTABLE DATA

1. Press . The display shows **NR\$ XX.XX**. This is a running total, and is not resettable.
2. Press and hold . Two beeps sound and the display shows **CLEARRING** momentarily, and then changes to **FINISHED**. All data is cleared.
3. Press  until you have left the function.




CLEAR PAID SALES DATA ONLY

1. Press , then press  until the display shows ****\$ XX.XX**.
"XX.XX" is a dollar and cents figure showing the total of all **PAID** sales in the machine (as opposed to unpaid sales like winner and free vends). This is the total since the last time it was cleared.
2. Press and hold . Two beeps sound and the display shows **CLEARRING** momentarily, and then changes to **FINISHED**. All paid sales data is cleared; other data is not cleared.
3. Press  until you have left the function.




TEST VEND SELECTIONS AND VERIFY CREDIT ADDED

1. Press . The display shows **TEST .00**. You may now test vend selections. If you insert money into the machine, the zeros in the display will be replaced with the amount of the credit. After the item vends, your money will be returned.






NOTE

You may make one more test vend if you close the door while still in TEST VEND mode.

2. Press  until you have left the function.




TEST THE DISPLAY

1. Press , then press  until the display shows **DSPLY TEST**.
2. Press  to light all display segments; press  to turn them off.
3. Pressing a **NUMBER KEY** on the control panel causes all segments to display that character.
4. Press  until you have left the function.




DOWNLOAD DATA TO A PDCD

1. Connect your portable data collection device (PDCD) per its operating instructions.
2. Press . Data is downloaded into your PDCD.


NOTE


Depending upon the setting selected in SET OPTION OF CLEARING DATA UPON DOWNLOAD, data may be cleared after the download is complete.

3. Press  until you have left the function.



VIEW DIAGNOSTIC MESSAGES

1. Press . the display shows any of the following diagnostic messages, depending upon any fault(s) present:

NOERRORS	None of the following errors are detected:
KEYPROXY	Key(s) x, y stuck.
ROMERROR	Error in the programming EPROM. Machine will not operate.
RAMERROR	RAM is not initialized or is not compatible with the currently loaded software. If this message appears, initialize your RAM by performing the following procedure: NOTE: <i>Initializing RAM will erase all your data and settings. Be sure you have written this information down before continuing.</i>
<p>Press AND HOLD  until two beeps are heard,</p> <p>and the display shows FINISHED. Reconfigure the merchandiser.</p>	
TEMPREF	The temperature reference on the main PCB cannot be read.
TEMPSENSE	The temperature sensor cannot be read.
TEMPRANGE	The temperature sensor is out of range.
CHKPRICE	Price error detected and changed to maximum - check prices.
CHKCONFIG	A PRODUCT CONFIG value was out of bounds and set to nominal - check all PRODUCT CONFIGS.
HEALTHOFF	Presently out of service because of a health control temperature error (MAX. xx°F). Machine will not operate.
NONE READY	No selection is ready to vend. Check that no time-of-day inhibits are active.
NO MECH	Coin mech not detected - machine will not operate if configured for coin mech.
MECH.COMM	Incomplete coin mech communications -- check harness.
MECH.SENSOR	Coin mech reporting a bad tube sensor - replace mech.



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MECH.JAM	One or more coin tubes are jammed. Pay a coin from each tube until the jam is cleared. OR Coin is jammed in the acceptor section. Check the coin mechanism for a jam in this position. Insert coins and cycle machine power OFF and then ON.
MECH.ROM	Replace the coin mechanism.
MECH.ACCEPT	Coin mechanism acceptor section is unplugged from the main body of the coin mech. Connect the cable and cycle machine power OFF and then ON. OR The vending machine is telling the coin mech not to accept any coins.
DBV.COMM	Incomplete bill validator communications -- check harness.
DBV.SENSOR	One of the sensors in the bill validator has failed. The unit will disable itself until the error is corrected. Check for bill stuck in the acceptance path. If no bill is present, replace the validator. Cycle machine power OFF and then ON.
DBV.ROM	ROM checksum failure. The unit will disable itself until the error is corrected. Replace the validator.
DBV.JAM	A bill is jammed in the acceptance path. The unit will disable itself until the error is corrected. Remove bill stuck in the acceptance path. Cycle machine power OFF and then ON.
DBV.MOTOR	One of the motors has failed. The unit will disable itself until the error is corrected. Check for bill stuck in the acceptance path. If no bill is present, replace the validator. Cycle machine power OFF and then ON.
DBV.STACKR	The stacker is open or removed. The unit will disable itself until the error is corrected. Install the stacker correctly. OR The stacker is full of bills. Remove bills from the stacker.
DBV.ACCEPT	The vending machine is telling the bill validator not to accept any bills. Check the enabled channels of the bill validator.
CARD.F.COMM	Incomplete card reader communications - check cables. The card reader is not operational.
CARD.COMM	Incomplete card reader communications. Check cables or replace unit.
CARD.ERR	Card reader is indicating it has a problem.
CARD.F.ERR	Card reader is indicating it has failed. Replace unit.



CARD.ERRXX	Card reader has an error and indicates code XX. The code is defined by the card reader manufacturer. To correct, contact card reader manufacturer. The unit is still operational.
CARD.F.ERRXX	Card reader has failed and indicates code XX. The code is defined by the card reader manufacturer. To correct, contact card reader manufacturer.
CARD.F.JAM	Card reader has failed because card is jammed in the unit. Remove the jammed card.
CARD.SERV	Card reader requires service. The unit is still operational. SOLENOID Lock solenoid switch not detected after command to operate solenoid. Machine will not operate.
MOTORJAM	Motor movement not detected in either direction. Machine will not operate.
NOUWHEEL	No valid drum sensor wheel detected after command to turn drum. Machine will not operate.
CANTHOME	No drum home position detected. If no other drum related errors are present, check if home switch operates properly. Machine will not operate.
TAMPER123	Attempt to buy a sold compartment in zone 1, 2, or 3.



SET FREEVEND OPTIONS

1. Press  until one of the following is displayed:

FREE OFF - Normal vending mode. No items are on freevend. A closure on the keyswitch input causes the machine to go out of service.

- OR -

FREE ALL - All items are on freevend. The credit display shows
NO MONEY REQUIRED



A closure on the keyswitch causes the machine to go out of service.

- OR -

FREE W/KEY - All items are freevended while there is a closure on the keyswitch input. Normal cash sales are supported when the keyswitch input is open.

- OR -

FREE ONCE - A closure on the keyswitch input causes only the next item to be freevended. Coin mechanism errors are ignored. this state is designed for card or token systems where one item is vended per token. Normal cash sales are also supported.

2. Press  until the option you want is displayed.
3. Press  until you have left the function.



SECTION 3 ROUTINE SERVICE AND SANITATION

Sanitation is an important phase of merchandiser operation. The lack of proper service and sanitation can cause merchandiser malfunction and loss of sales.

The periods and suggested procedures for service and sanitation are daily, weekly, monthly, and semi-annually. These periods and procedures are given as guides only, and are not to be construed as absolute or invariable. Local conditions must always be taken into consideration. Certain installations require that some or all of the steps under Monthly Service and Sanitation be performed weekly. Each merchandiser must be maintained individually in accordance with its particular requirements. National Vendors, however, stresses "**ACLEAN MERCHANDISER IS THE MOST PROFITABLE MERCHANDISER**".

Sanitizing means effective bactericidal treatment of clean surfaces of equipment and utensils by a process which has been approved by the health authority as being effective in destroying microorganisms, including pathogens.

Sanitizing processes generally accepted by the health authority are as follows:

1. Immersion for at least one-half minute in clean hot water at a temperature not lower than 170° F (77° C).
2. Immersion for a period of at least one minute in a sanitizing solution containing:
 - a. At least 50 ppm of available chlorine at a temperature of not lower than 75° F (24° C); or
 - b. At least 12.5 ppm of available iodine in a solution having a pH not higher than 5.0 and a temperature not lower than 75° F (24° C); or
 - c. Any other chemical-sanitizing agent which has been proven to be effective and non-toxic under usage conditions, and for which a suitable field test is available.

The following warnings and cautions are applicable to the service and sanitation procedures given in this section:

CAUTION

Milk and other foods are perishable products. Follow local health authorities' rules and regulations for storage and handling of these items.

IMPORTANT

All loose food particles or spillage, whether wet or dry, must be removed from the inside and outside of the merchandiser.

CAUTION

Do not get electrical connections or electrical components damp or wet.

NOTICE

Do not use waxes or lubricants which contain silicone on or in the merchandiser. Silicone or silicone vapors can cause electrical failure.

**GENERAL**

Set the main power switch OFF before cleaning or servicing the merchandiser. Use aerosol spray cleaners or spray waxes only in well-ventilated areas. NEVER use any spray product containing silicone. Silicone sprays can coat electrical contacts, causing a machine malfunction.

WARNING

Before using any liquid cleaner, unplug the merchandiser power cord or shut off power to the wall receptacle to avoid any possibility of electrical shock. Make certain all components are thoroughly dry and properly installed before restoring power.

Refer to the Parts Manual for additional service information and replacement parts. For factory assistance, contact the nearest National Vendors representative.

Contact the local health authorities and obtain their acceptance of the sanitizer you intend to use when cleaning and sanitizing the merchandiser.

When cleaning and sanitizing the merchandiser, use CLEAN, DISPOSABLE PAPER WIPES rather than cloths.

DAILY SERVICE

1. Replace burned-out or discolored light bulbs.
2. Replenish coin tubes in the coin mechanism.
3. Empty the bill validator (figure 3-1).
4. Test vend the merchandiser. See TEST VEND SELECTIONS AND VERIFY CREDIT ADDED, section 2.
5. Check the temperature of the cabinet. See VIEW MACHINE TEMPERATURE, section 2.
6. Follow the daily sanitation procedures, then reload the merchandiser.

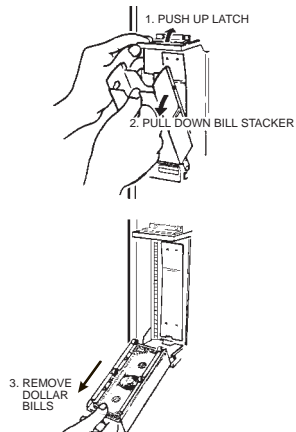


Figure 3-1. Removing a Dollar Bill From The Bill Validator



DAILY SANITATION

1. Remove all past-date merchandise from the merchandiser.
2. Check for liquid spillage on the merchandiser modules. If there is spillage, remove the module shelves and dividers affected. Wash and sanitize the shelves and dividers with a clean, damp disposable paper wiper or a clean soft-bristle brush. Rinse with clean hot water and dry thoroughly.
3. Wipe the exterior of the merchandiser with a damp disposable paper wiper and dry thoroughly.
4. Fill in the appropriate columns on the record of cleaning card.

WEEKLY SERVICE

1. Follow the daily service instructions.
2. Brush the vent screens.
3. Inspect the refrigeration screen. Remove any accumulated dust.
4. Inspect the exhaust filter. Clean and replace it before it becomes clogged.
5. Inspect the coin mechanism, coin validator, and bill validator. Clean if necessary.

WEEKLY SANITATION

1. Follow the daily sanitation instructions.
2. Inspect the merchandiser for overall cleanliness, especially the corners.
3. Wash and sanitize the merchandiser food compartment with a clean, damp disposable paper wiper. Dry thoroughly.
4. Fill in the appropriate columns on the record of cleaning card.

MONTHLY SERVICE

1. Follow the weekly service instructions.

WARNING

Be sure the area is well ventilated and no open flames are present before using any aerosol spray can.

WARNING

Use protective glasses or a protective shield if an air hose is used for drying.

2. Clean the coin chute and coin validator. (See the appropriate procedures in this section.)
3. Clean the bill validator. (See the appropriate procedure in this section.)
4. Remove the vent fan filters. Clean the screens with a dry cloth, then wash with a warm detergent solution. Rinse, dry, and reassemble.

MONTHLY SANITATION

1. Follow the weekly sanitation procedures.
2. Fill in the appropriate columns on the record of cleaning card.



SEMI-ANNUAL SERVICE

1. Follow the weekly service instructions.
2. Inspect the merchandiser for worn parts and replace where necessary.

NOTICE

Do not use silicone lubricants. Silicone can cause electrical contact failures.

**National Vendors recommends using Lubriplate
Portable Tool Grease No. 905 (or equivalent), available
from:
Industrial Lubricating Company, Inc.
P.O. Box 3871
St. Louis, MO 63122**

3. Lubricate the drive motor stop pin. **DO NOT OVER-LUBRICATE!**
4. Lubricate all moving parts that do not come into contact with food.

SEMI-ANNUAL SANITATION

1. Follow the monthly sanitation instructions.

CLEANING THE COIN VALIDATOR AND COIN CHUTE

Inspect the coin validator and coin chute at regular intervals. Clean them on approximately a monthly schedule.

1. Remove the coin validator assembly from the merchandiser.
2. Clean the coin chute with a tube cleaning brush to remove any accumulated dust and foreign matter.
3. Refer to the coin validator instruction booklet and follow the recommended cleaning procedure.

CLEANING THE BILL VALIDATOR

1. Refer to the bill validator instruction booklet and follow the recommended cleaning procedure.



SECTION 4 ADJUSTMENT, REMOVAL, AND REPLACEMENT PROCEDURES

ADJUSTING THE PRODUCT DIVIDERS

Add or remove product dividers to accomodate various size products. Each level has three zones, each zone has two trays. Each tray can be left alone or divided into 2, 3, or 4 compartments, allowing the machine to vend 6, 12, 18, or 24 products per level (figure 4-1).

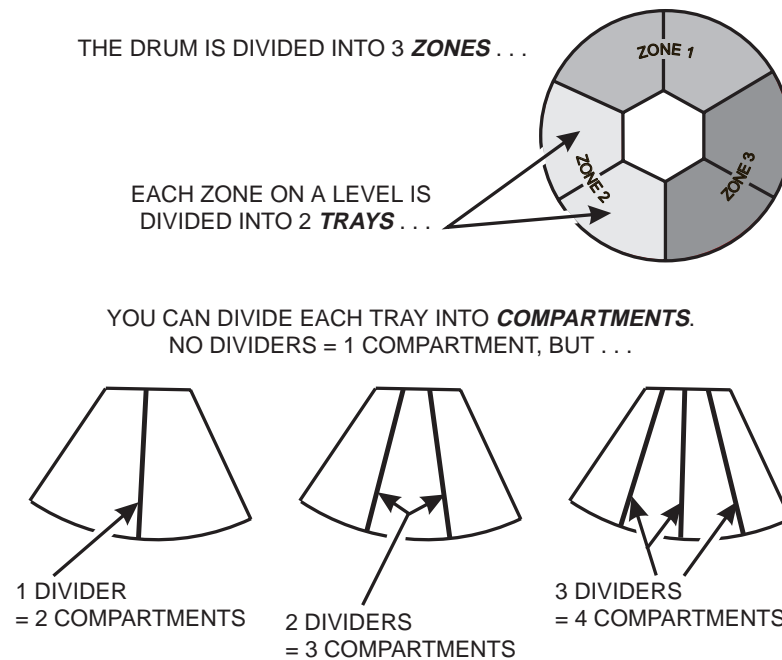


Figure 4-1. Product Divider Usage



Adjust the dividers as follows (see figure 4-2):

IMPORTANT

When adjusting product dividers, make sure that all six trays on each level are set the same.

1. Firmly grasp the retainer and slide it out towards you.
2. Remove the divider.
3. Replace the product divider in the desired configuration by reversing steps 1 and 2.
4. Change the machine program to match the new configuration (see CONFIGURE THE TRAYS in section 2).
5. Adjust the delivery door stops to match the new tray configuration for each level.

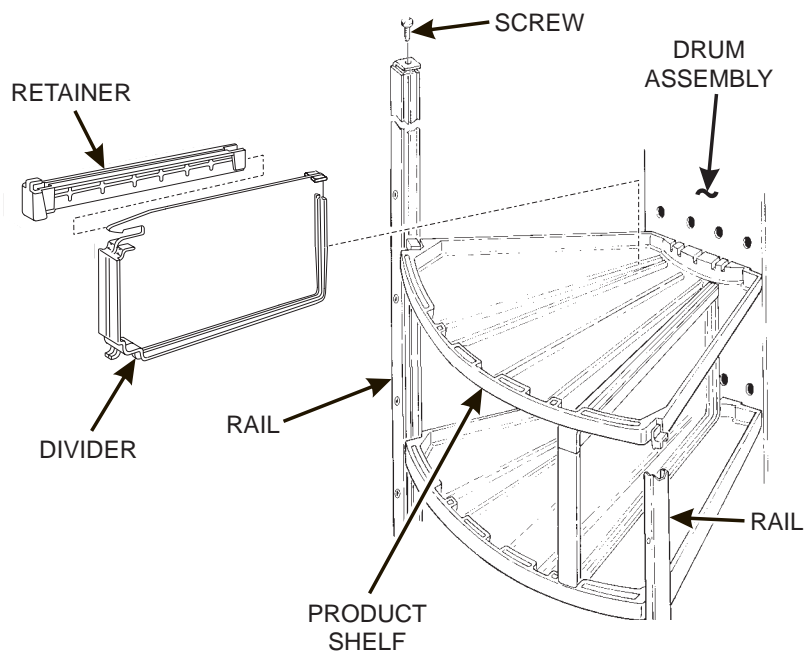


Figure 4-2. Product Dividers and Shelf Assembly Removal and Replacement



ADJUSTING THE DELIVERY DOOR STOPS

Each delivery door has a set of delivery door stops mounted on the bottom of the door guide rail. When the door stop is adjusted correctly, the customer will be able to remove a single product when the door is opened.

1. Adjust each set of door stop(s) as shown (figure 4-3) to match the number of selections on that level.

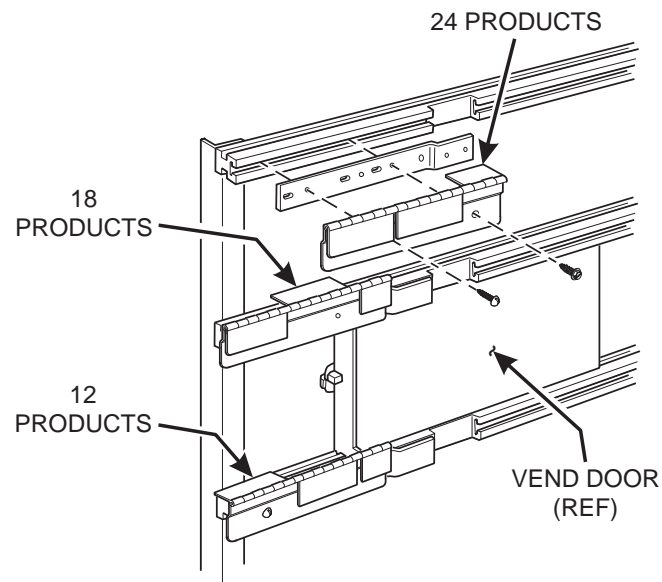


Figure 4-3. Product Door Stop Adjustment

SHELF ASSEMBLY REMOVAL AND REPLACEMENT

1. Rotate the drum until the shelf to be removed is directly in front.
2. See figure 4-2. Remove dividers, if applicable.
3. Remove screws and the rails on both sides of the shelf.
4. Slide out the shelf assembly.
5. Replace the shelf by reversing steps 1 through 4.



DRUM ASSEMBLY REMOVAL AND REPLACEMENT

WARNING

The Shoppertron door is heavy. The cabinet could tip over if the door is open and weight is removed from the inside of the cabinet. Use the support leg or a solid object to brace the end of the door farthest away from the hinges prior to removing anything from the Shoppertron cabinet.

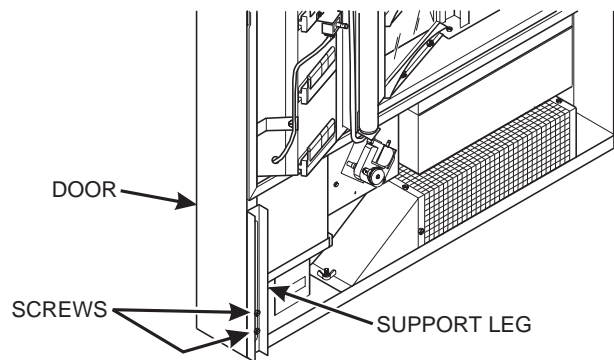


Figure 4-4. Extending the Support Leg

1. Loosen the two screws holding the support leg to the door.
2. Slide the support leg all the way down toward the floor.
3. Securely tighten the screws.



CAUTION

The EMPTY weight of the food drum is approximately 75 lbs (34.0 kg). Do not attempt to remove or install the food drum without help.

4. Remove the food from the drum assembly.
5. See figure 4-5. Loosen two screws and remove the top bracket assembly.
6. Lift the drum assembly up and out, clearing the drive motor assembly.
7. To reinstall the drum, reverse steps 1 through 3.

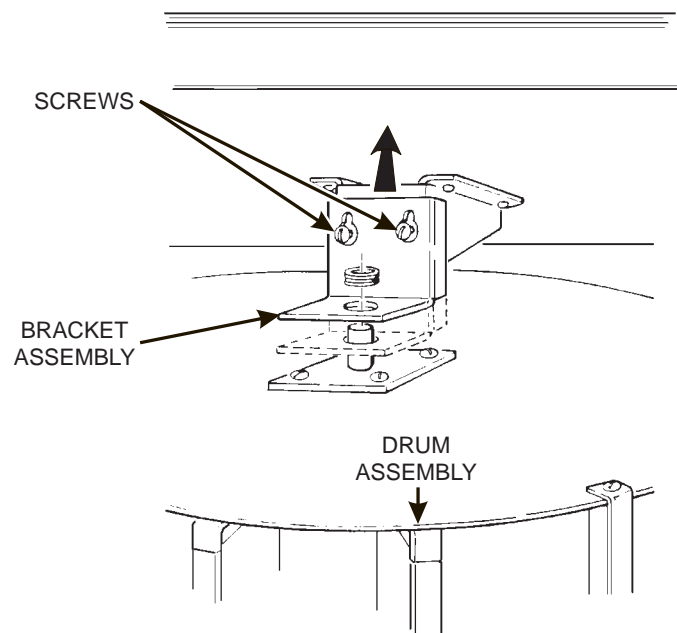


Figure 4-5. Drum Assembly Removal and Replacement



STOP PIN ADJUSTMENT

Solenoid Position Adjustment

1. Turn the machine power switch OFF.
2. See figure 4-7. Remove the solenoid cover plate screws (2) and the cover plate (4).
3. Locate the two adjusting screws in the slotted holes to the right of the solenoid. Loosen, but **DO NOT REMOVE** the adjusting screws.
4. Pull the stop pin down and rotate the drum by hand so the pin rides on the bottom of the drum stop plates.
5. Place a .078 thick shim (or use approximately one to two dimes) under the plunger of the solenoid as shown.
6. Push up on the bottom of the solenoid to raise the assembly to the working position. Tighten the two adjusting screws.
7. Rotate the drum by hand until the stop pin seats into a hole. Remove the shim(s).
8. Turn the machine power switch ON.
9. Test run the drum rotation and locating stop features. If needed, the stop switch can be adjusted for proper engagement.
10. Install the solenoid cover plate to the front of the assembly and secure with two screws.

If necessary, perform the following procedure:

Stop Switch Adjustment

1. Remove electrical power from the machine.
2. Remove the stop pin assembly (1) from your machine.
3. Remove the cover and loosen both stop switch mounting screws.
4. Unhook one end of the spring.
5. Rotate the stop delay cam until the switch roller rides on the cam high point just below the cam dimple.
6. Rotate the switch until the switch roller bracket just bottoms out on the switch housing.
7. Tighten the switch mounting screws.
8. Replace the spring.
9. Replace the stop pin assembly (1) in the machine. Be sure the harness (3) is properly connected.
10. Restore electrical power to the machine and verify that the turret can find its home position.
12. Perform the solenoid position adjustment procedure again, if necessary, to ensure proper stop pin operation.

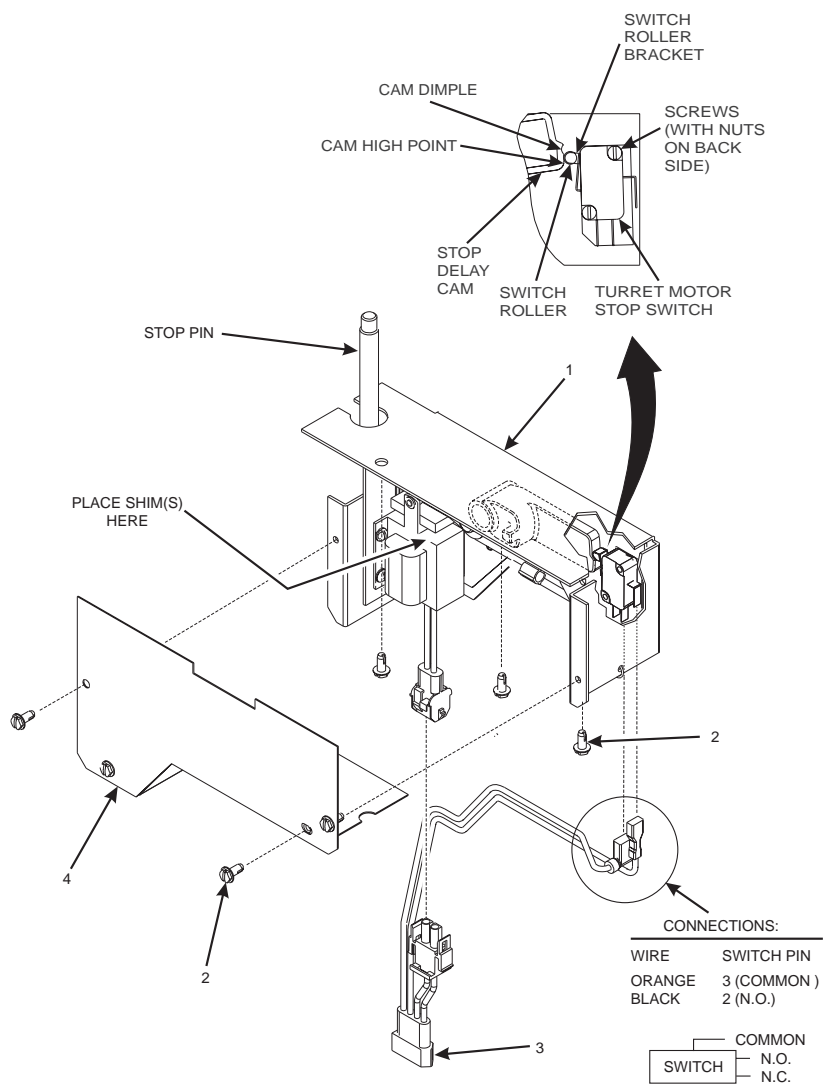


Figure 4-7. Stop Pin Adjustment



DOOR SIDE TRIM REMOVAL AND REPLACEMENT

1. See figure 4-6. Starting at the top of the door, insert a straight slot screwdriver between the door frame and the door trim, and turn it ¼ turn.
2. Using a rubber mallet, tap the door trim off as shown.
3. Move the screwdriver down the door until the door trim is completely removed.
4. Replace the door trim by aligning the trim on the door and tapping it into place with a rubber mallet.

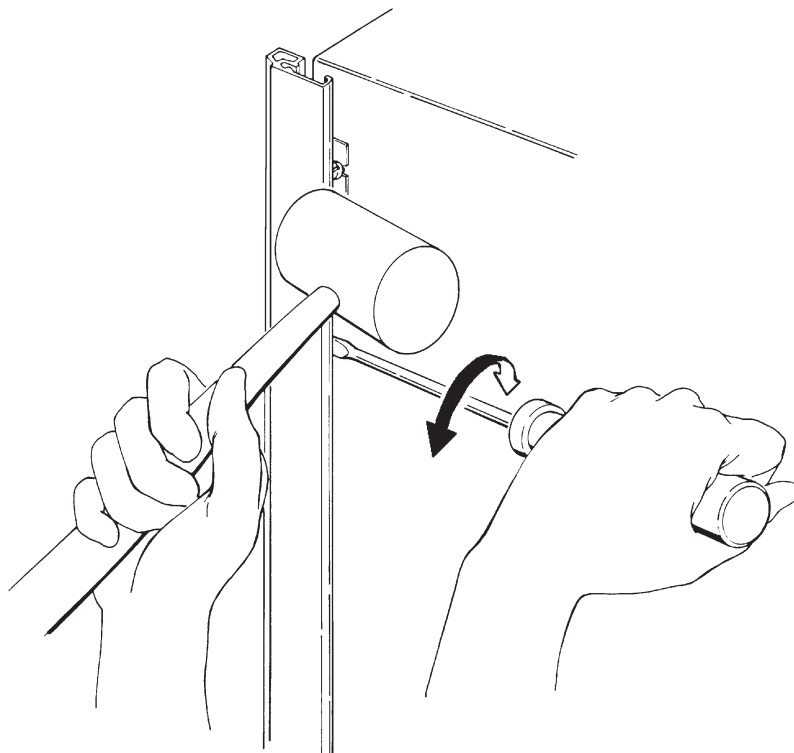


Figure 4-6. Door Side Trim Removal and Replacement

This Merchandiser is warranted for one (1) year against defective parts and workmanship. Any part or parts which are proven to be defective within one (1) year of the date of shipment will be repaired or replaced free of charge when the defective part is returned, with transportation charges prepaid, to the destination designated by the National Vendors Warranty Department.

This warranty applies only to the original purchaser of the Merchandiser and is null and void if the Merchandiser is sold during the period of warranty.

This warranty does not apply to a) electrical components, wiring, or circuits and/or for all mechanical parts or assemblies damaged as a result of operating the Merchandiser at other than the design voltage and frequency specified on the Electrical Rating Tag, or b) in event of vandalism, fire or negligence, or c) incandescent lamps, neon lamps, fluorescent lamps, ballasts, starters or other expendable items or d) when other manufactured components are installed in National Vendors Merchandisers.

National Vendors is not responsible for any cost of service rendered or repairs made by customer or its agents on Merchandiser or parts unless authorization to incur such expense has been given in writing by National Vendors prior to incurring such expense.

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