

Owner's Manual

Vending System Model N2G4000



Revision 2.1, February 27, 2014

INTRODUCTION

Congratulations on the purchase of your N2G4000. This vending system has been designed to give you many years of dependable service. It requires little maintenance and is easy to set up and operate.

READ THIS MANUAL COMPLETELY

Your vending machine is designed to operate simply and reliably, but to take full advantage of your vendor, please read this owner's manual thoroughly. It contains important information regarding installation and operations, as well as a brief trouble-shooting guide. By following prescribed procedures outlined in this manual, machine performance and safety will be assured.

EQUIPMENT INSPECTION

After you have received your vendor and have it out of the box, place it on a secure surface for further inspection. Note: Any damages that may have occurred during shipping must be reported to the delivery carrier immediately. Reporting damages and the seeking of restitution is the responsibility of the equipment owner. The factory is willing to assist you in this process in any way possible. Feel free to contact Seaga's Customer Care Department with questions you may have on this process.

It is important that you keep the original packaging for your vending machine at least through the warranty period. If your machine needs to be returned for repair, you may have to purchase this packaging if it is not retained.

Once you have your vendor located, we suggest that you keep this manual for future reference, or you can view this manual online at seagamfg.com. Should any problems occur, refer to the section entitled "TROUBLESHOOTING". It is designed to help you quickly identify a problem and correct it.



For Service and Customer Care:

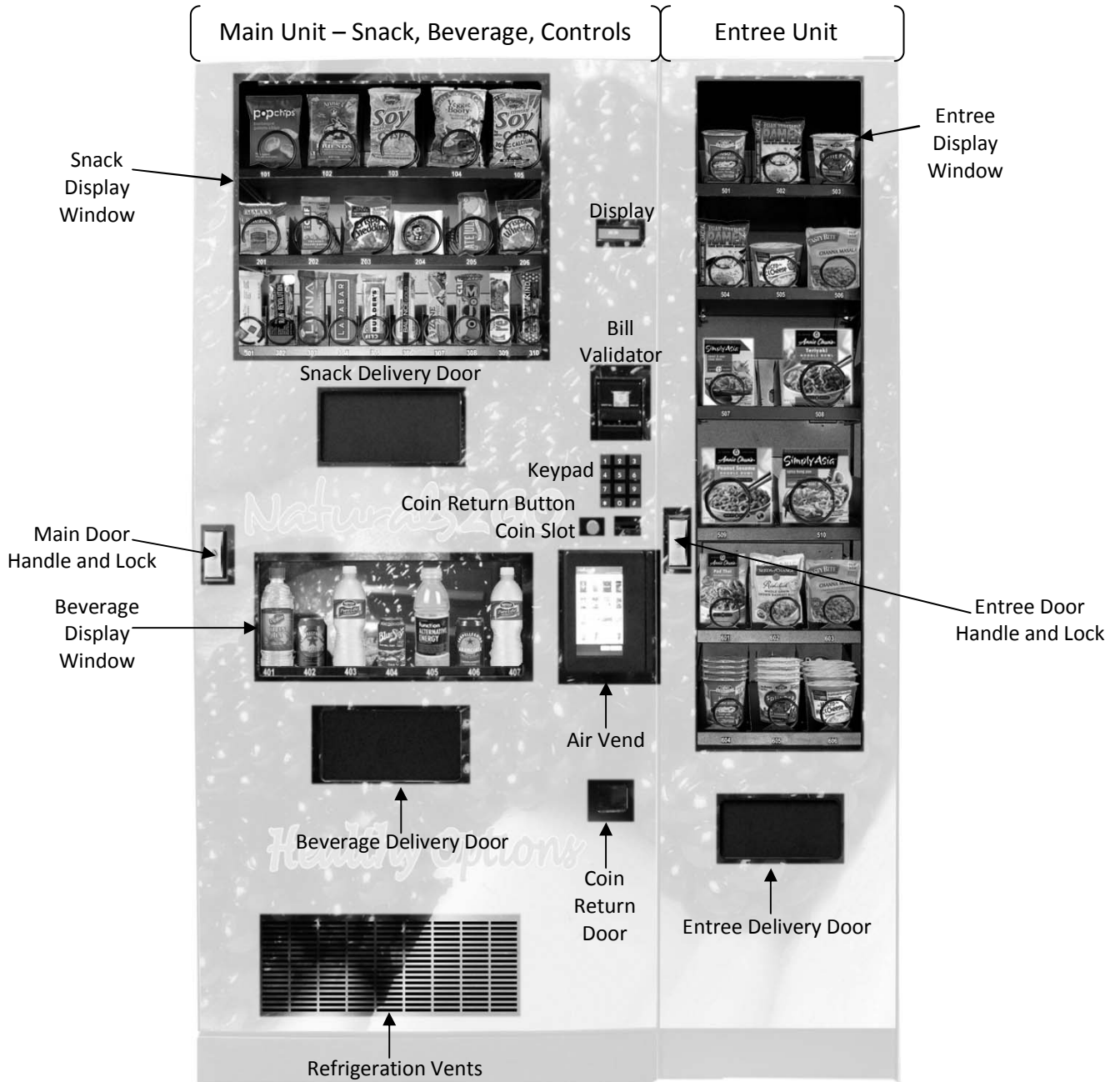
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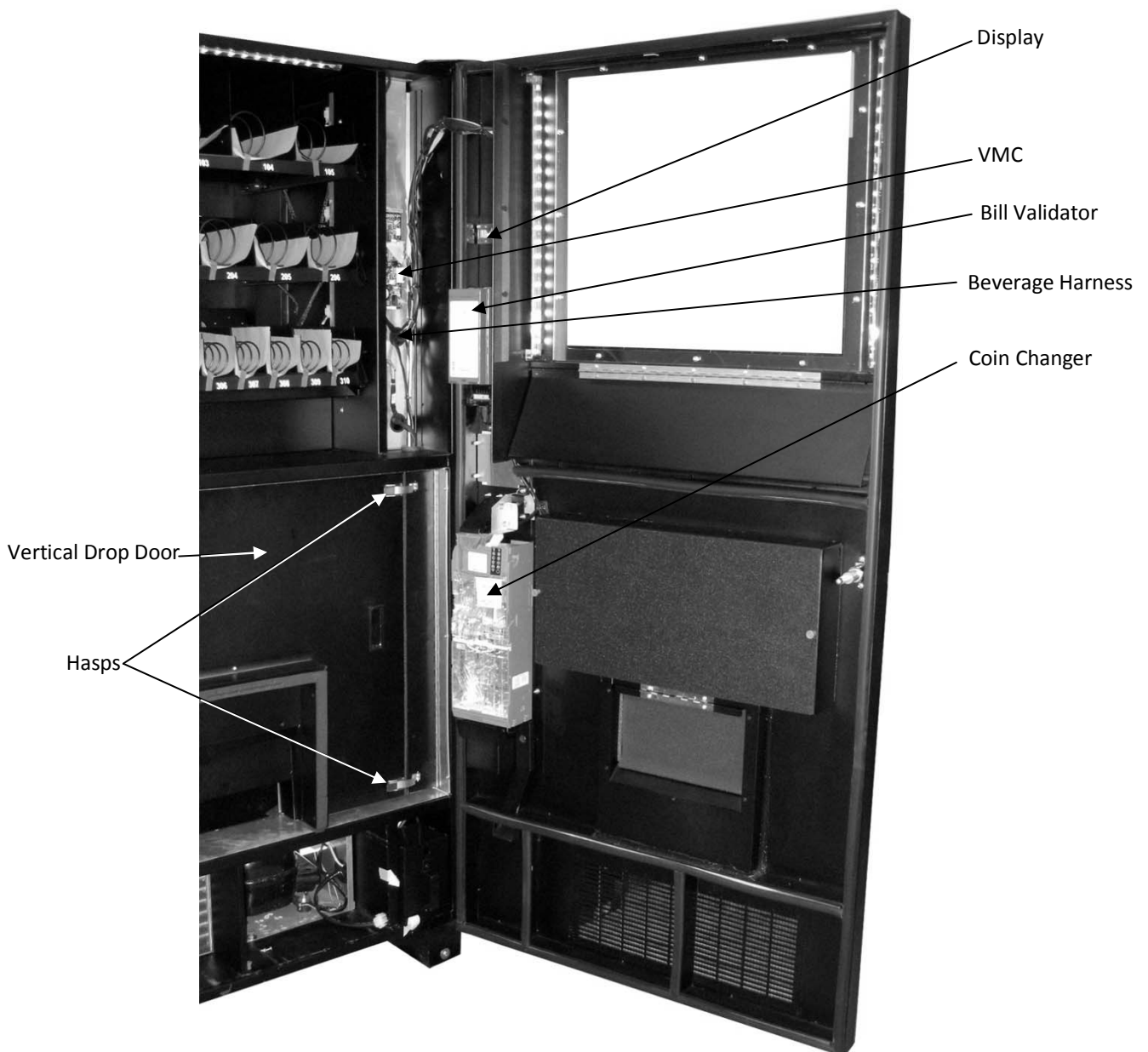
Preliminary Information

Figure 1 – The N2G4000 Vending System



Machine Description	Main Unit	Entree Unit
Height (in)	73.5	73.5
Width (in)	34	16
Depth (in)	28.25	28.25
Volts (V)	115	--
Frequency (Hz)	60	--
Watts (W)	350	--
Current (A)*	3.8	--

Figure 2 - Interior of machine and controls



Power Requirements

The wall receptacle used for your vendor must be properly polarized, grounded and of the correct voltage. Operating the N2G4000 system from a source of low voltage will VOID YOUR WARRANTY. Each N2G4000 system should have its own 15 Amp electrical circuit that is protected by a circuit breaker or fuse conforming to local power safety regulations.

Unpacking the Vending System

Remove all packing materials from the interior of the vending machine. Keep all documents found packed inside which include payment system and accessory manuals as appropriate. Keep and set aside any accessory kits.

Controls and Indicators

Display

The Display is how the vending system communicates with your customers while they are in front of the machine. The customer may see messages about how much an item costs, when a selection is sold out, and other communication. The Display also shows you, the operator, the programming mode and can show you errors or other important diagnostic information.

Keypad

The customer uses these buttons to make selections. The operator uses these buttons to program and/or test the system.

Coin Return Button

Pressing this button returns any credit that has been paid in to the vending machine prior to a vend unless Force Vend is turned on.

Bill Acceptor

Accepts bills in various denominations depending upon the configuration of the bill validator unit.

VMC

The VMC is the Vending Machine Controller and is the heart of the vending system. The VMC is where the Menu button is located to put the system into programming mode.

Initial Setup

Moving the Vending System

Your N2G4000 system should never be moved with product or coins loaded, it should be completely empty and any moving parts must be secured.

The system can be located as close as 2 inches to the back wall but requires 6 inches clearance on either side for the doors to open properly while you service the machine.

After locating your vending system, plug in the power cord and the system will turn on.

Front Door

Unlocking – Insert the key into the lock and turn counter-clockwise 3 or more revolutions until the door can be pulled open.

Locking – Close the door firmly. Turn the lock housing one revolution clockwise and pull to test that the lock spear has engaged with the locking mechanism. If the door does not open, push the lock housing into its seated position in the door.

Location Requirements

The N2G4000 is meant for operation indoors only – which not only means physical protection from the elements of sun, rain, etc. but also means a climate controlled environment. Location of the N2G4000 in excessively hot, cold, humid or dirty locations will VOID YOUR WARRANTY.

Tool Kit

Suggested tools for your tool kit are:

- Phillips screwdrivers
- 11/32nd socket
- 14 mm wrench/socket
- Adjustable pliers
- Needle Nose pliers

Installing the N2G900 Unit

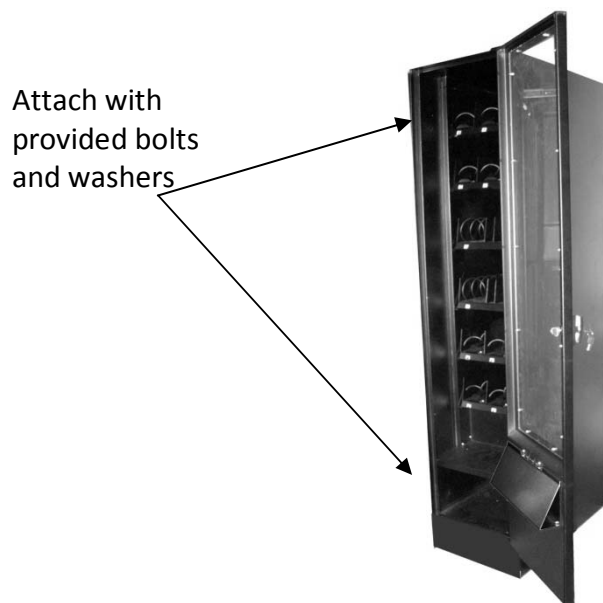
- 1.) Remove all shipment/packing materials, inspect unit for damage.
- 2.) Place the Entrée Unit on the right side of the main unit and open the front door. Align the mounting holes on the inside of the unit with the holes in the main unit. Using the bolts and washers provided, (2 each) attach the Entree Unit to the main unit (Fig. 3).

Leg Levelers

Leg Levelers have been provided in your parts pack as it is essential for proper operation to have a level vending machine. Installation requires two people; one to slightly tilt the machine while the other installs the leveler by screwing it in to the base of the machine on all four corners.

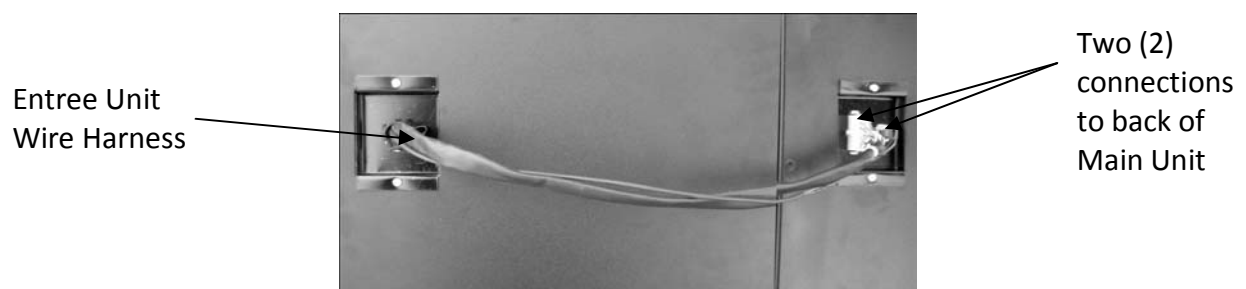
Note: Care should be taken not to tip the vending machine more than a few degrees. Excessive tipping of the machine can ruin your refrigeration system and void your warranty.

Figure3 – Entrée Unit Bolts



- 3.) Disconnect power from Main Unit.
- 4.) Connect Wire Harness from the Entree Unit to the Main Unit. (Figure 4)
- 5.) Reconnect power to Main Unit.

Figure 4 – Wire Harnesses



Equipment Setup

Loading Snack Trays

Each snack tray has a release lever located on the right side. To place the tray in load position, hold down on the release lever and lift the tray up slightly; slide the tray forward (toward you) until the roller hits the stop built into the side rail. Gently lower the front of the snack tray until it is tilted down and all coils are exposed (Figure 5).

Figure 5 – Snack Tray in Load Position

IMPORTANT:
Make sure front wheels on both sides are properly engaged in side rails when placing tray back in sales position.



Each tray has a Release Lever

Tray in Load Position

When loaded, lift the tray front up so that the tray is level and push back into position. **NOTE:** Make sure the Wheels on the front of the tray are engaged properly in the side rails and the release lever is in the forward position.

Products

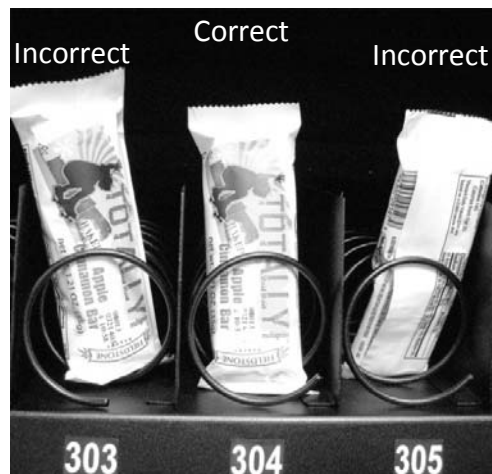
Make sure your products are appropriate for the column and coil you are placing them in. Do not force products that are too wide into a narrow tray or too tight coil as this will cause vend problems for your customers. The product must also pass under the tray immediately above the one you are loading and should not touch products on either side.

Once you have the appropriately sized products for each selection, correct loading of the products should be between the coils and resting on the product tray itself. See Figures 6 and 6a:

Figure 6 – Load products properly and neatly



Figure 6a – Properly loaded products sell more and vend consistently



You should insure that the products are loaded like a retail store shelf to entice customers and give a neat, professional appearance. Make sure packages are upright, facing front and in good condition.

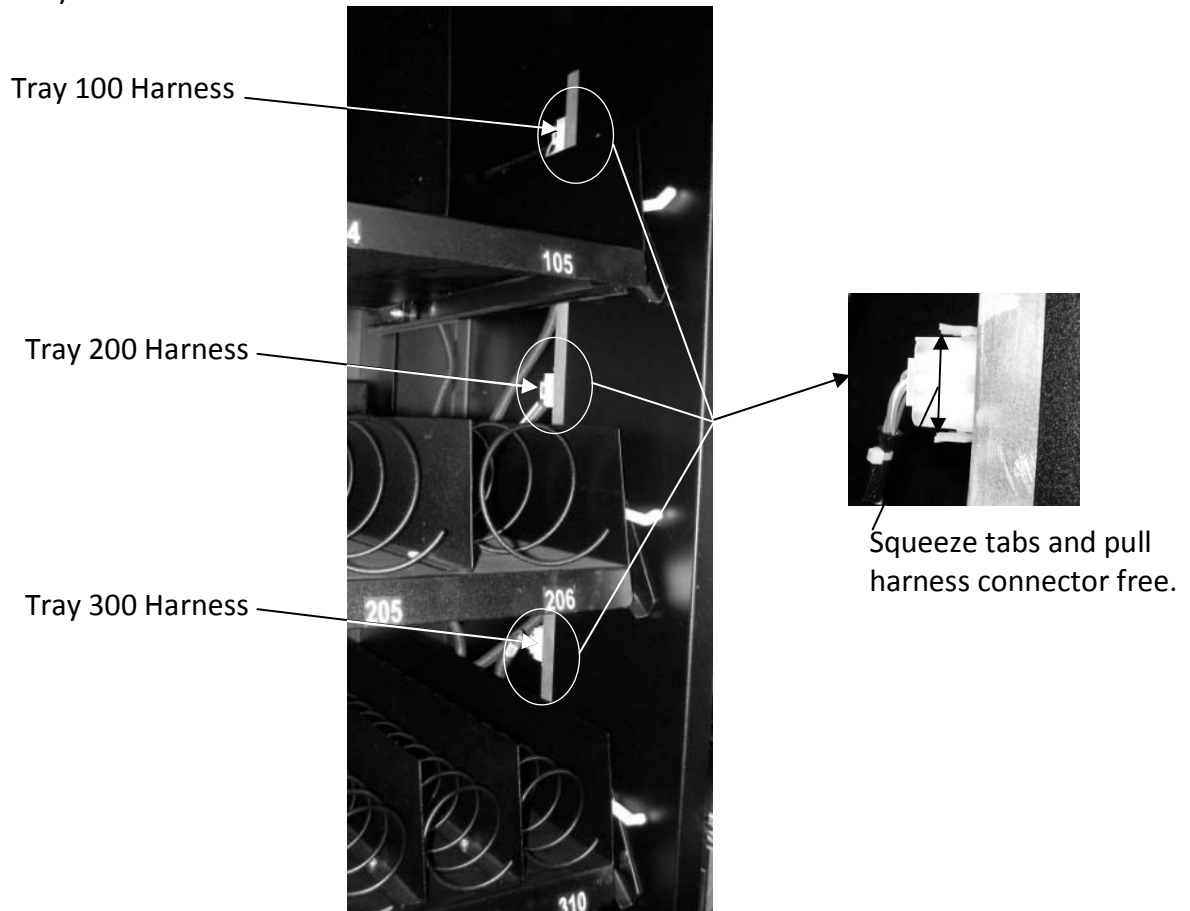
Removing Snack Trays

It is sometimes necessary to replace a snack tray or you may find it easier to work on certain elements of a tray if it is removed from the vending system cabinet.

To remove a snack tray:

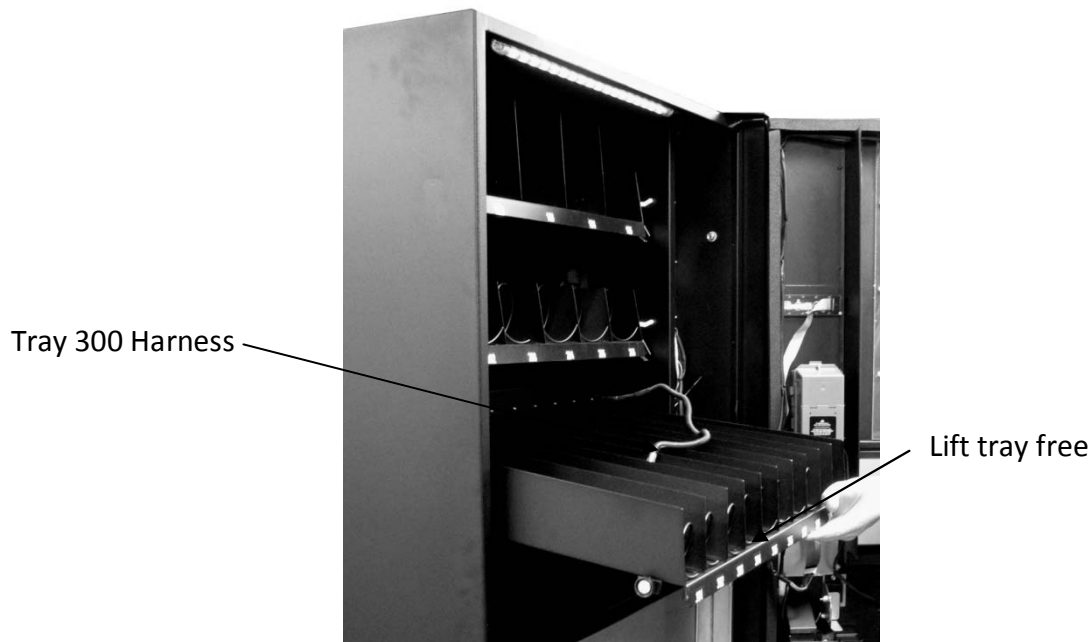
- 1.) Remove all product from the tray you want to remove.
- 2.) Reach in and squeeze the two cable release tabs on the top and bottom of the connector and unplug the proper tray harness.

Figure 7 – Tray Harnesses



- 3.) Rest the tray harness on top of the tray you are removing to keep it out of the way.
- 4.) Flip the release lever on the right side of the tray to face toward the back of the machine and raise the front wheels out of the side rails until you feel the roller come to the built in rail stop.
- 5.) With a firm hold on the tray, lift up to release the roller from the rails on the sides of the cabinet.
- 6.) Pull the tray free and place it on a sturdy, flat surface to complete your work.

Figure 8 – Remove the tray



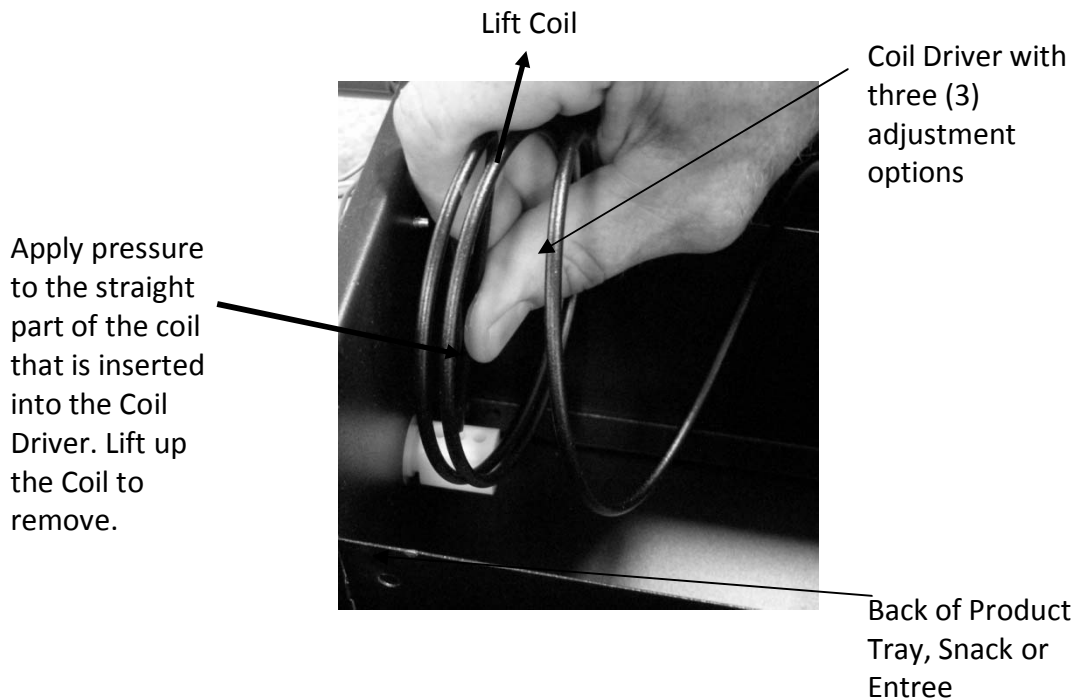
Adjusting Coils

If you are required by a location to vend a product of a non-standard size, you may need to order a different coil and install it. Replacing a coil is easier with the tray removed, as described in the last section. To replace a coil:

- 1.) Remove the coil from the coil driver by lifting the back of the coil up off the coil driver. You will need to move the bottom of the coil clear of the coil driver to completely remove the coil. See Figure 9
- 2.) Align the new coil end with the front of the product tray, which gives the coil better contact with the product. The position of the coil in the coil driver is adjustable to assist you in aligning the new coil at the front of the product tray. See Figure 9.

This coil adjustment can be done for all the selections on snack or entree product trays. See Figures 6 and 6a for examples of the location of home position on the coils.

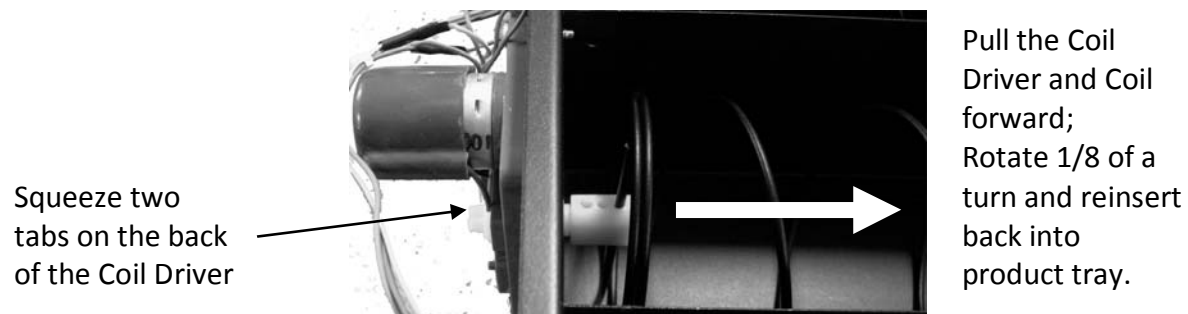
Figure 9 – Removing and Aligning a Coil



If you are experiencing vending issues with certain products, you may need to adjust the coil rotation to better provide the momentum to push the snack off the tray and into the delivery area. To adjust the coil rotation:

- 1.) Squeeze the two tabs on the back of the coil driver and pull the coil driver and coil toward the front of the tray to remove it.
- 2.) Turn the coil clock-wise $1/8$ of a rotation.
- 3.) Reinsert the coil driver with coil attached back into the motor, through the back wall of the tray.
- 4.) Load the tray and perform at least 5 (five) test vends to insure a proper vend.
- 5.) If the item does not vend consistently, repeat another $1/8$ of a rotation until you are confident of consistent vend function.

Figure 10 – Coil Rotation Adjustment

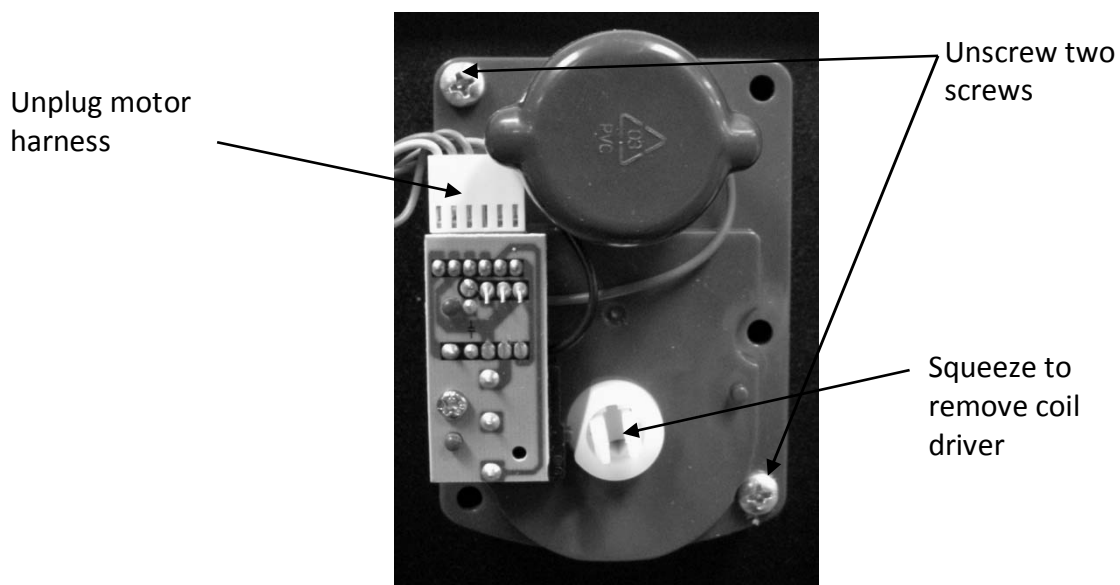


Replacing Snack Motors

As one of the moving parts of the vending system, vend motors experience regular wear and may need to be replaced on occasion. To replace a vend motor, remove the tray as instructed in the Remove Trays section of this manual and then remove the coil driver and coil as shown in Figure 11.

- 1.) Unplug motor harness.
- 2.) Unscrew the two screws as shown in Figure 11.

Figure 11 –Motor on Snack Tray



- 3.) Replace motor and plug motor harness back in.
- 4.) Reinstall coil driver so that coil is in home position (see Figures 6 and 6a for coil home position examples).
- 5.) Perform at least 5 (five) test vends to insure a proper vend.

Loading Beverage Lanes

The N2G4000 vending system uses vertical drop columns to provide the most flexibility in a compact space. The Vertical Drop Columns in your machine use an Auger that rotates counter-clockwise to drop the drink into the Product Bin. The columns employ the use of a combination of metal Shims to hold the front-most product from dropping during the first vend. On the second vend, the Auger rotates counter-clockwise further and allows the front product to vend. A third rotation occurs only if the column is set for cans. The combination of Auger, Shim(s) and Rear Spacer position allow for different sizes and types of product packaging.

To control the rotation of the Auger, there is a Home Switch located behind each vertical drop column motor. There are Cams installed on the front of each auger, one for bottles and one for cans. The lobes on these cams determine the stopping point of the Auger for each vend.

Vertical Product Columns – Load products horizontally (laying down)

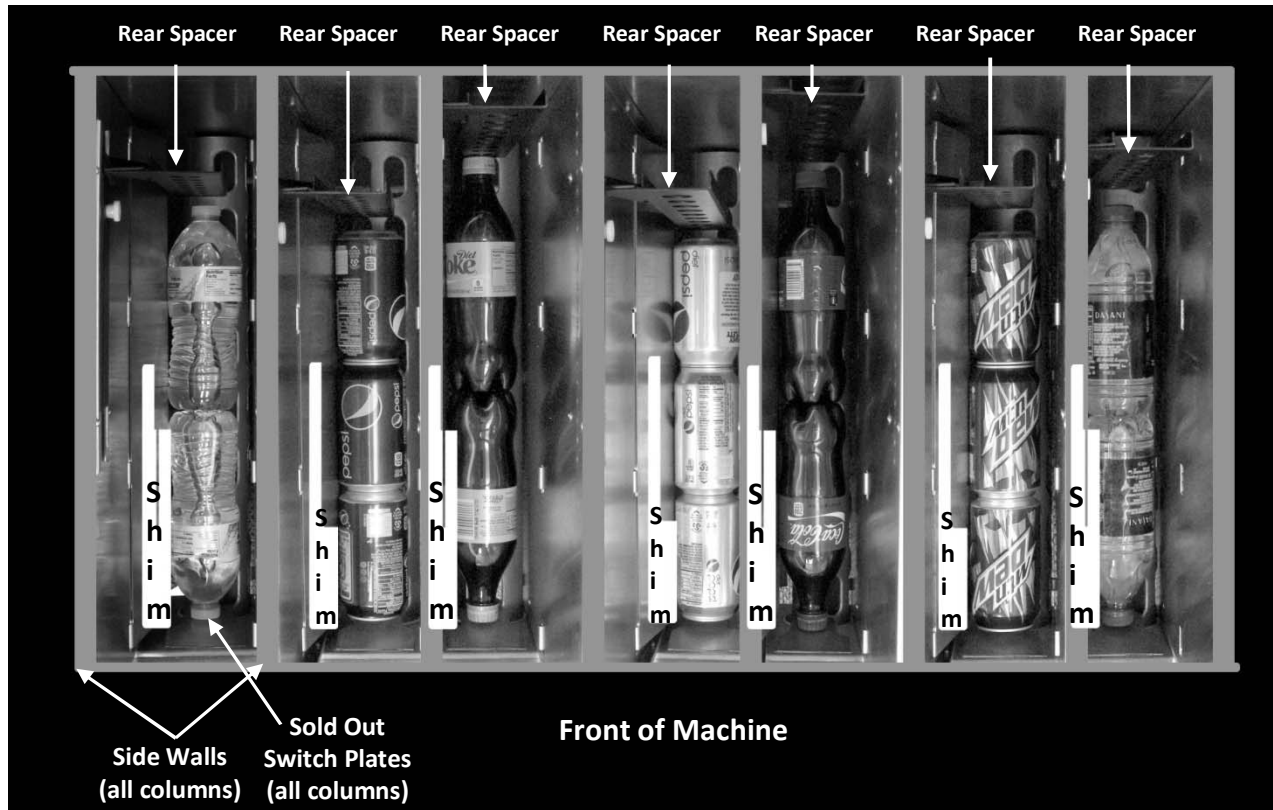
1.) For bottles, place top of the first bottle against the front of the column, making sure the Sold Out Switch Plate is depressed completely. Place the second bottle to the rear of the column, facing the bottom of the bottle with the bottom of the first bottle. Load 12 oz. cans bottom to bottom in the first two positions, then top to top in the back position. Load 16 oz. cans bottom to bottom.

2.) The rear spacer must be adjusted to align all beverages toward the front of the column, keeping the Sold Out Switch Plate depressed. To adjust the rear spacer, loosen the thumb screw and slide the rear spacer to a position within ½ inch or less behind the product in the lane. Insure that the thumb screw is seated into the hole in the side wall and tighten. The gap between the rear spacer and the rear bottle or can must be less than ½ inch. The holes in the side wall are in ½ inch increments to let you adjust for many sizes of products.

3.) Finish loading to the top of the column, making sure the items are not tilted or skewed in the column.

Note: There are many variations of packaging among the beverage brands. These instructions are meant to be a guideline. If you have packaging that isn't mentioned or shown or if the manufacturer has recently changed packaging, setup and testing will be necessary to insure proper vending.

Figure 12 – ***Overhead*** view of loaded vertical drop columns



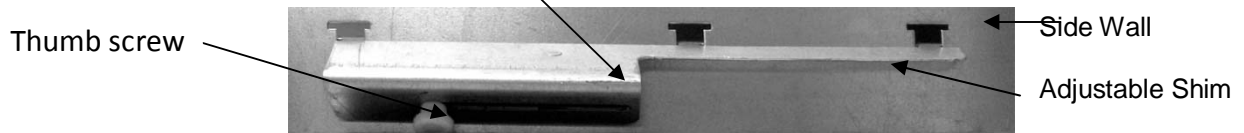
Adjusting Beverage Lanes

The shim positions are adjustable in each column. Reach under the column to adjust the shim, which is mounted on the left column wall as illustrated above.

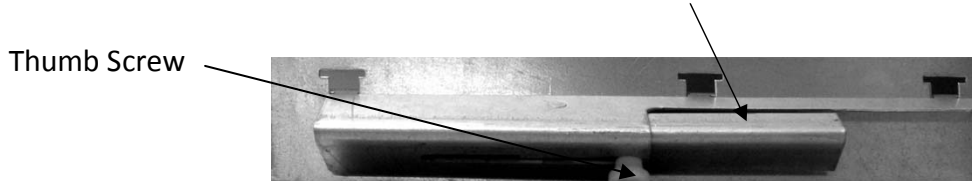
Factory settings for the shims are shown below:

Figure 13 – Shims

Adjustment Bar position – 12 oz. cans



Adjustment Bar Position – 16.9 oz bottles and cans, 20 oz bottles

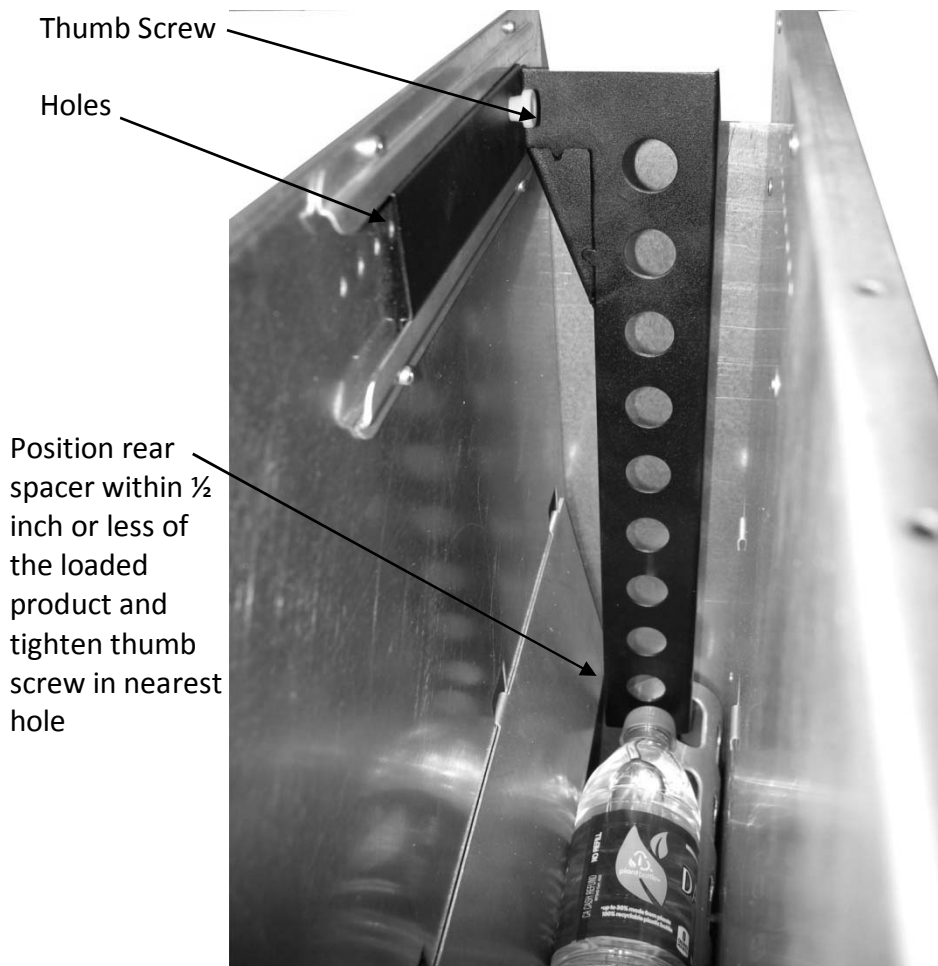


To adjust the shim adjustment bar, reach under the column to find the shim located on the left column wall; loosen the thumb screw ONLY SLIGHTLY and slide the adjustment bar to the correct position. Tighten the thumb screw. Oddly shaped product may take some testing, trial and error to determine the correct adjustment.

The rear spacer must be adjusted according to the size of the product. Converting from bottles to cans in a vertical drop lane requires adjustment of the rear spacer and replacement of the cam. To adjust the rear spacer, loosen the thumb screw and slide the rear spacer to a position $\frac{1}{2}$ " or less behind the product in the column. Insure that the thumb screw is seated into the hole in the side wall and tighten. See Figure 14 and note the different positions of the rear spacer depending on product height.

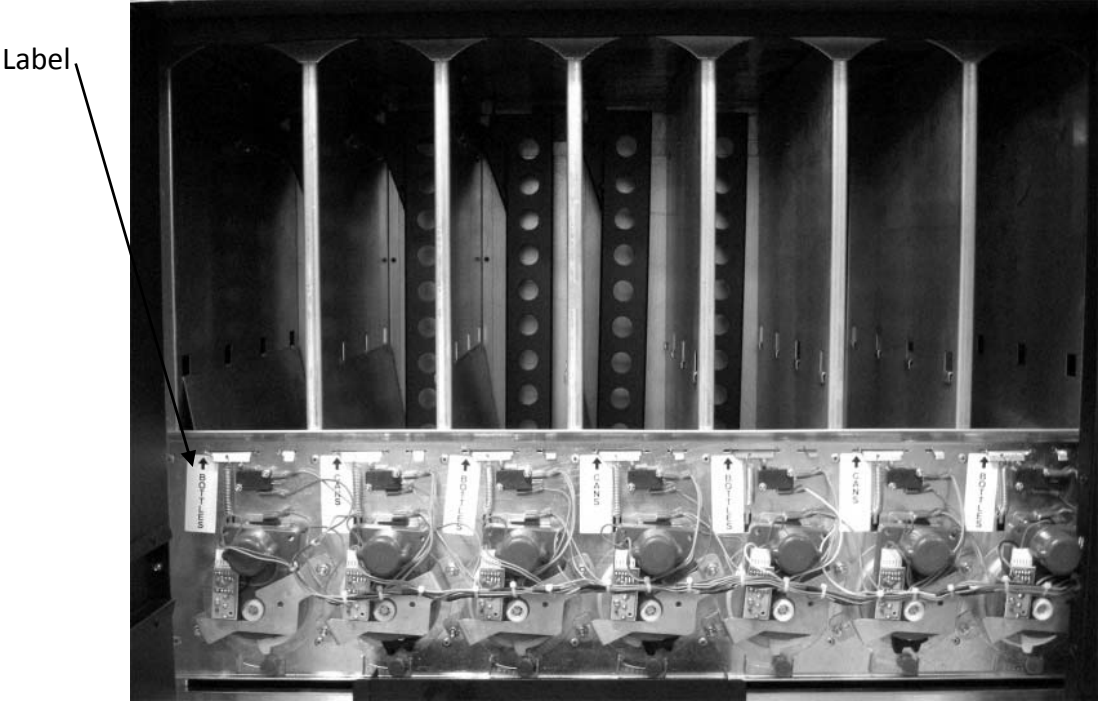
To replace the cam, remove the two screws holding it in place as shown in Figure 16 and replace with new cam.

Figure 14 – Rear Spacer Adjustment



Each vertical drop column is factory set for bottles or cans when you receive your machine. This is noted on a label located in front of each vertical drop column as shown in Figure 15:

Figure 15 – Vertical Drop Column Labels



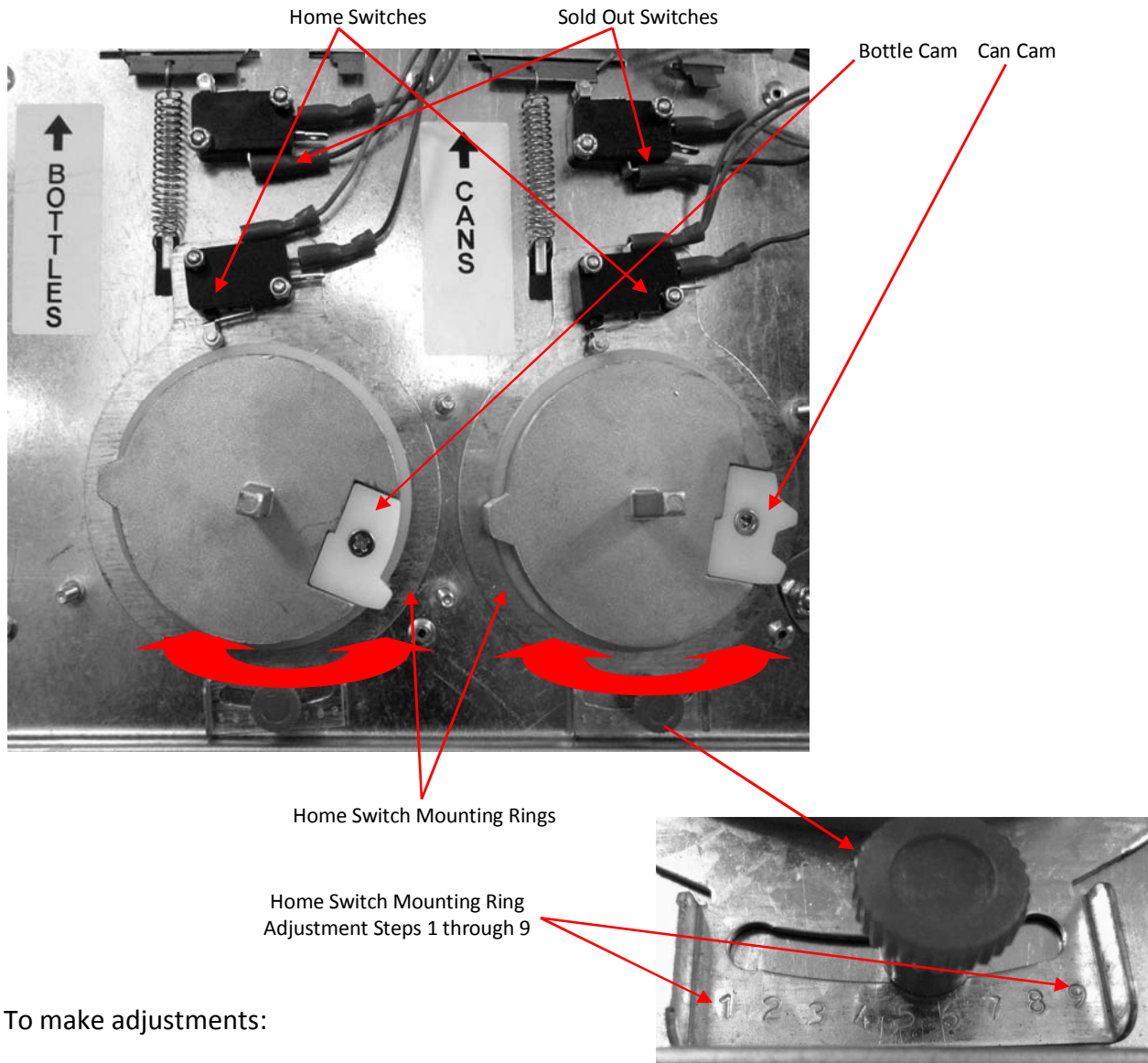
Note: the following settings are suggestions based on factory testing. Your adjustments in the field, complimented by test vends, will insure that your vending machine works properly for different types of products.

Product	Size	Type	Max Capacity	Loading Instructions	Home Switch Mounting Ring Position	Shim Position
Coca-Cola and varieties Factory Set Bottle Column	16.9 oz/500 ml	Bottle	14	Load bottom to bottom	9	Full Open
Nesquik	14 oz/414 ml	Bottle	14	Load bottom to bottom	6	Half Open
Pepsi, Diet Pepsi, Mt. Dew and varieties Factory Set Bottle Column	16.9 oz/500 ml	Bottle	14	Load bottom to bottom	9	Full Open
7 up and Diet 7up Factory Set Bottle Column	16.9 oz/500 ml	Bottle	14	Load bottom to bottom	9	Full Open
Dr. Pepper, Diet and varieties Factory Set Bottle Column	16.9 oz/500 ml	Bottle	14	Load bottom to bottom	9	Full Open
Gatorade	20 oz/591 ml	Bottle	12	Load bottom to bottom	4	Half Open
Gatorade	12 oz/355 ml	Bottle	14	Load bottom to bottom	4	Half Open
Nestle Pure Life, Ice Mountain, Zephyrhills, Ozarka, Deerpark and Deja Blue Water	16.9 oz/500 ml	Bottle (soft)	16	Load bottom to bottom	6	Half Open
Monster, Rock Star, etc. Factory Set Bottle Column	16 oz/473 ml	Can	14	Load bottom to bottom	9	Full Open
Standard size 12 oz. cans Factory Set Can Column	12 oz/355 ml	Can	21	Bottom to Bottom to Top	6	Closed
Vitamin Water	20 oz/591 ml	Bottle	12	Load bottom to bottom	4	Half Open
Sobe Bottle	20 oz/591 ml	Bottle	12	Load bottom to bottom	6	Half Open
Bolthouse Farms	15.2 oz/450 ml	Bottle	14	Load bottom to bottom	6	Half Open
Red Bull, Starbucks Double Shot	8.4 oz/248 ml	Can	39	Slim Can Kit available	6	New Shim Required
Zico PET Bottle	14 oz/414 ml	Bottle	14	Load bottom to bottom	6	Half Open
V8 Vfusion	8 oz / 237 ml	Can	39	Slim Can Kit available	6	New Shim Required
Large bottles, 24 oz. plus	24 oz/710 ml	Bottle	na	Do not vend	Na	Na
Starbucks Frappuccino	9.5 oz/281 ml	Bottle	14	Load bottom to bottom	4	Half Open
Jumex Factory Set Can Column	11.3 oz/334 ml	Can	21	Load bottom to bottom to Top	6	Closed
Naked Juice and other square shaped packaging	15.2 oz/450 ml	Bottle	14	Bottom to Bottom	6	Half Open

Home Switch Adjustment

Due to variance in product sizes, it may be necessary to adjust the position of the Home Switch. This can be accomplished by rotating the Home Switch Mounting Ring clockwise or counter-clockwise in one step increments to adjust the stop position of the Auger. There are 9 adjustment increments etched into the Home Switch Mounting Ring as shown in Figure 16:

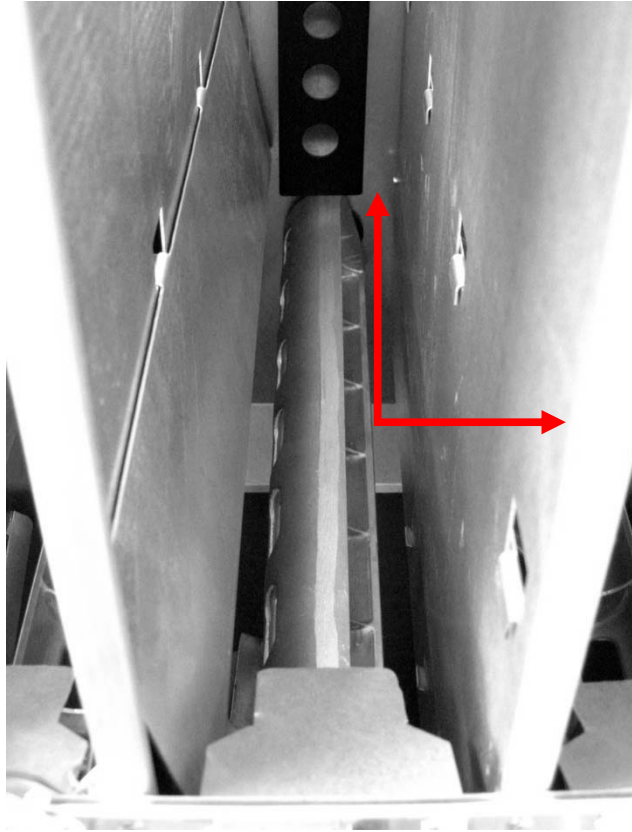
Figure 16 - Front of vertical drop system; motors removed from two selections



To make adjustments:

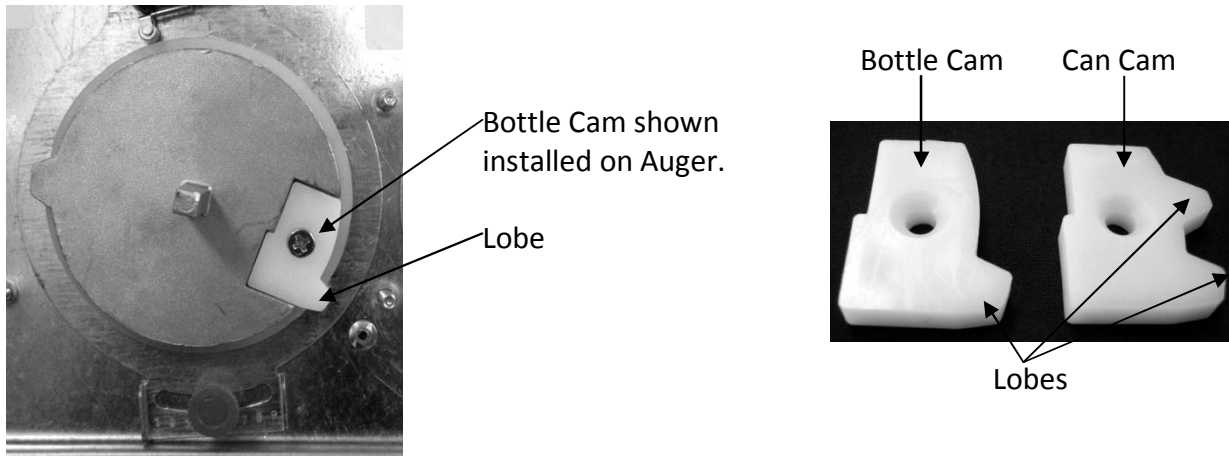
- 1.) Determine if you are adjusting a Bottle Column or Can Column by looking at the Cams or Column Labels.
- 2.) With the column empty, test vend the selection to rotate the Auger until the opening faces the 3:00 o'clock position (Figure 17). ***This is the beginning of the vend cycle and the Home position of the auger.***

Figure 17 – Auger in Home position with opening facing 3:00



- 3.) Load a single row of drinks on top of the Auger, laying down and oriented as shown in the overhead view drawing on previous page.
- 4.) Perform a single test vend – if no product drops, the Auger did not turn far enough. Adjust the Home Switch Mounting Ring counter-clockwise one notch only.
- 5.) If two products drop on the first vend in Step 4, the Auger turned too far. Adjust the Home Switch Mounting Ring clockwise one notch only.
- 6.) Go back to Step 2, noting that one and only one product should drop. If this is a 12 oz. can column, test three times to insure that all three products drop correctly.
- 7.) Fill the column to the top and run a full cycle one more time, as the weight of a full column may change the dynamics of the vend operation. If a full cycle vends one product per vend, the column is set correctly.

Figure 18– Can Cam and Bottle Cam (Bottle Cam shown Installed on Auger)

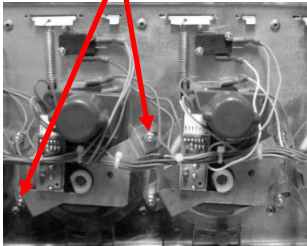


Replacing Beverage Motors

As one of the moving parts of the vending system, motors experience regular wear and may need to be replaced on occasion. To replace a motor, see Figure 19.

Figure 19 – Removing Vertical Drop Motors and Auger

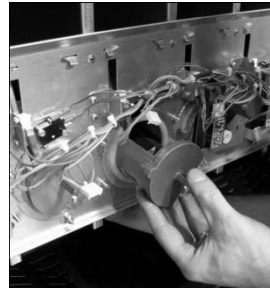
Remove two fasteners holding in motor/bracket.



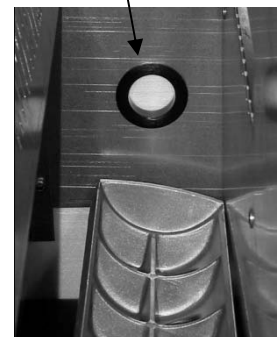
If replacing motor, unplug the wire harness and slide motor off shaft.

If replacing auger, continue with the instruction to the right

Remove Auger by pulling straight out...



Insure that Auger Bushing does not become disengaged from back of column



Loading Beverage Live Display

Unlike the snack section of the vending system, the products that will vend are not viewable by your customers when they are positioned in the vertical drop columns. To provide a live display, a product display shelf has been provided. Take care to use packaging that is in perfect condition and products that are still within their expiration date to present the best possible retail store front to your potential customers. To load the live product display:

- 1.) Remove the Drink Display Back Panel by loosening and removing the thumb screws located on either side of the panel.
- 2.) Place each beverage, in order of selection, in the display window taking care to make them evenly spaced and oriented properly toward the front of the machine where the customer will see them.
- 3.) Reinstall the beverage back panel.

Figure 20– Live Drink Display

Thumb Screw



Thumb Screw

Loading Entrees

Entrees are loaded in spiral equipped columns very similar to the snack section of the N2G4000 vending system. Please review the procedures in that section of the manual to assist you with loading the entrees.

Customer Interface

Display

The LCD Display (Fig. 21) is a two line, 40 character text display panel located on the front of your vending machine. The display interacts with the customer to show the amount of money entered into the vendor and the cost of their selection among other information as programmed. The display also shows the operator the Service Mode functions for setting the vendor.

Fig. 21 – LCD Display in Sales Mode



Display Formats	When in Sales Mode Top Line of Display Reads
Normal Operation, no credit available	\$00.00 (see Fig. 21)
Normal Operation, some credit available	\$00.01 – 99.99
After Pressing a selection, if there is no credit or the credit is less than the selection's price, the price of the selection is displayed for a few seconds before reverting to one of the above credit display formats. (If a coin or other payment is made the display reverts immediately to display the credit available)	Price \$00.01 – 99.99
Free Vend Mode (all prices set to zero)	Free Vend
If a selection is out of stock when a selection is pressed – this is displayed for a few seconds	Sold Out
All Items out of stock	Sold Out
Machine Out Of Order	Out of Order
During a Vend (Progress bar, dashes)	-----
Temperature Display Press the 0 button to display	Temp nnF

Date and Time are always displayed on the second line in Sales Mode. If a calorie value is set for a selection, the value will be displayed when the product is vended or when a selection is made without any credit.

Setting Up and Loading the Payment Systems

Coin Changer

The Coin Changer receives and returns change to customers. The Coin Changer will accept Dollar Coins, Quarters, Dimes, and Nickels. Once the coin tubes reach the required inventory level, all other coins will be routed into the coin overflow tray.

Loading Changer

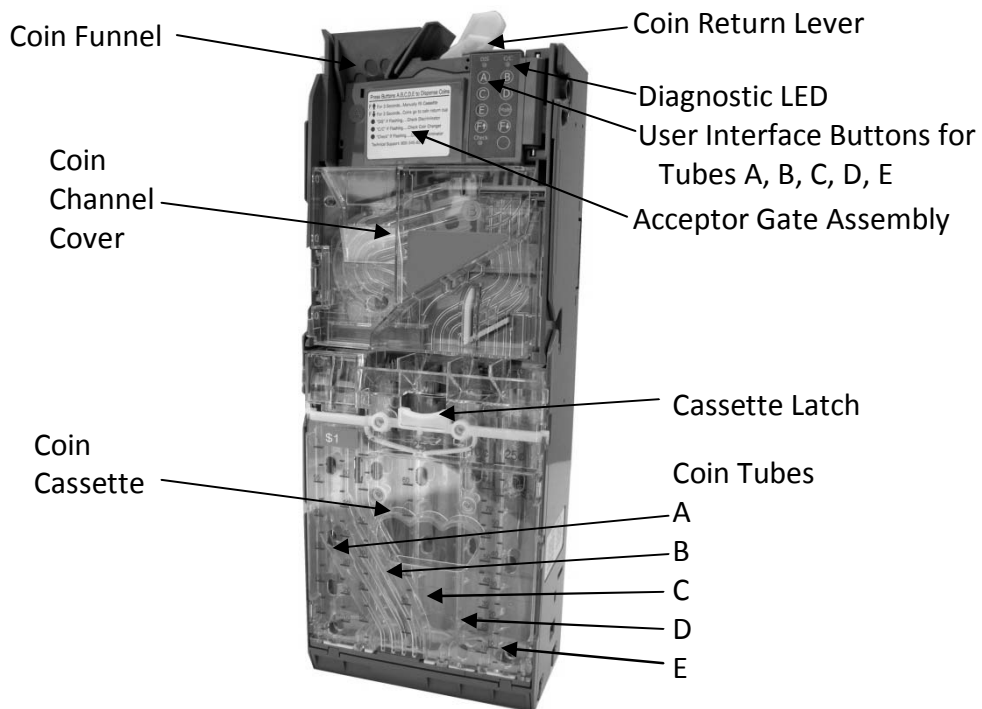
As change is given to the customer in coins only, it is recommended that you initially load the coin tubes completely full when setting up your machine. In order for your VMC to keep an accurate coin inventory, enter MENUS Mode, scroll through to Test Mode, and load coins in through the front coin slot, as if you were inserting money to purchase items. Once the coins start dropping into the coin overflow tray, that means that the coin tubes are full and the VMC has an inventory of coins stored and will calculate transactions accordingly. This is also known as priming the changer.

Coin Retrieval

The Coin Overflow Tray holds all accepted coins except for coins needed to maintain inventory in the Tubes. The User Interface Buttons are located on the upper portion of the changer (Figure 22). When in Service Mode, go to Test Mode and press a User Interface Button on the changer to dispense the coins in that tube. Note that the changer will empty that selection of coins. To stop this mode, press the selection's User Interface Button again.

Note: You may also physically remove the Coin Cassette to load and unload coins. Note that doing so will not maintain audit totals.

Figure 22 - Coin Changer

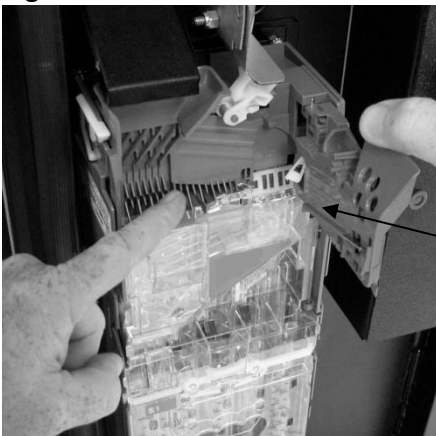


Clearing Coin Jams

1. Unplug the machine from the power source
2. Unlock and open the Front Door
3. Open the Acceptor Gate Assembly by pulling forward on the Coin Funnel



4. Check for coin jams in this area. Note: the ramp in this area should also be cleaned on a regular basis to insure trouble-free operation.



Coin Ramp – keep clean

5. Open the Coin Channel Cover by using the tab on the left side to pull forward



6. Check this area for any jammed coins



Removal of Coin Changer

To Remove the Coin Changer:

- a. ***Disconnect the power to the machine – this is very important to avoid damaging not only the coin changer but your VMC. Failure to disconnect power before performing this operation will void your warranty.***
- b. Disconnect the Wire Harness to the changer

Disconnect
Wire
Harness



- c. Lift up on the white lever on the top left side of the coin mechanism
- d. Tilt the Discriminator assembly forward and lift off main housing. Note: the discriminator will still be attached by a cable.
- e. Loosen the three (3) Mounting Screws



- f. Lift Changer and remove.

BILL VALIDATOR

The Bill Validator allows your customers to pay for their purchase with paper currency. Your Bill Validator is installed at the factory, and is set to validate \$1, \$5 and \$10 bills, but will not accept bills if the coin tubes are empty. The Bill Validator verifies, accepts and stores paper currency but change is given in coins only.

Bill Validator Capacity

The Bill Storage Box will hold approximately 250 bills.

Bill Retrieval

The bills your customers spend are kept in the Bill Collection Box.

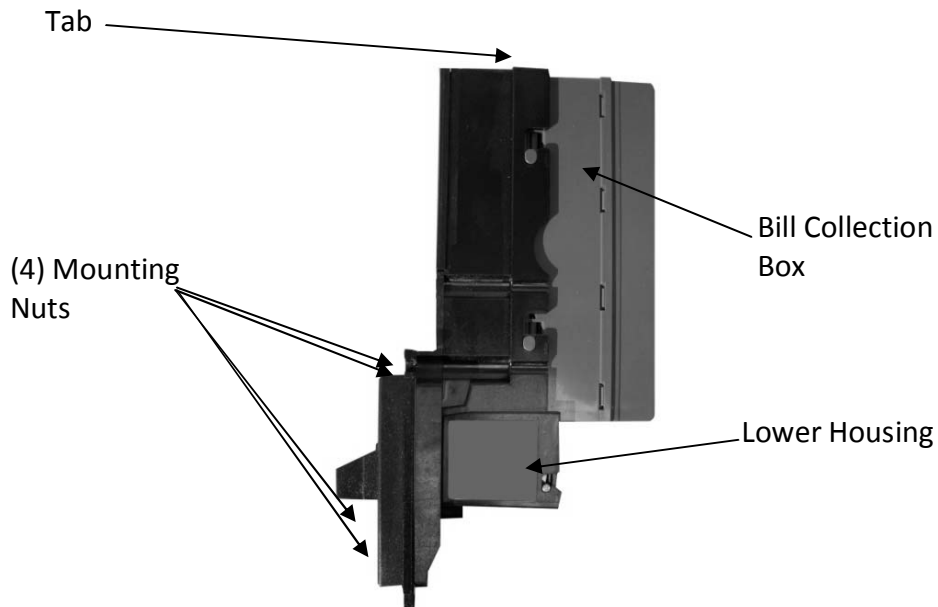
1. To Retrieve Bills.

- a. Unlock and open the Front Door
- b. Open door located on top of bill collection box and lift out bills



- c. Close top door on bill collection box after bills are retrieved

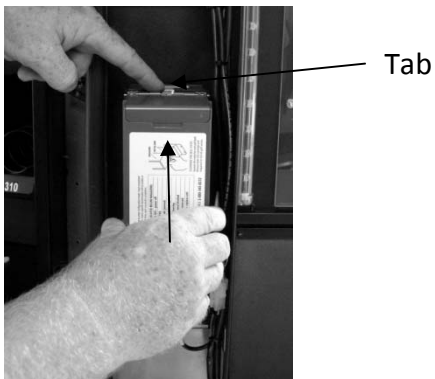
Figure 22 – Bill Validator



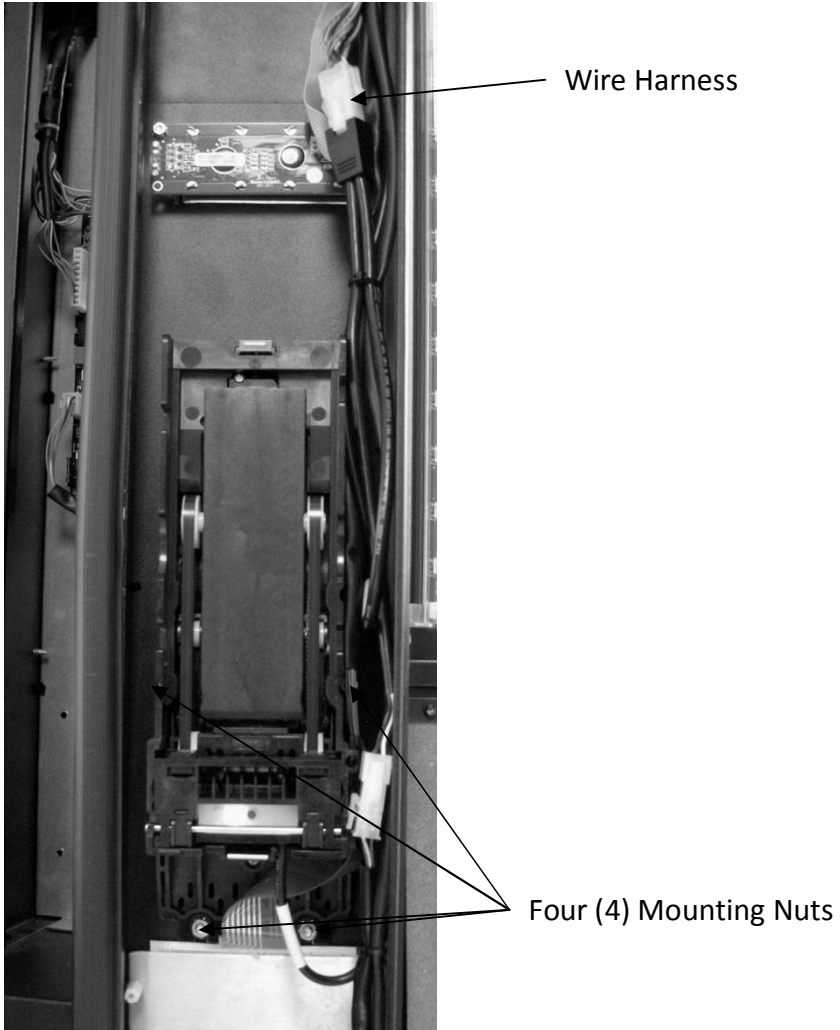
REMOVING BILL VALIDATOR

From time to time it may be necessary to remove the Bill Validator for cleaning and clearing jams.

1. To remove the Bill Validator
 - a. **Disconnect the power to the machine – this is very important to avoid damaging not only the bill validator but your VMC. Failure to disconnect power before performing this operation will void your warranty.**
 - b. Unlock and open the Front Door
 - c. Push Bill Validator Tab forward and slide Bill Storage Box up to remove



- d. Disconnect Bill Validator from Wire Harness
- e. Remove the Four (4) Mounting Nuts.



Wire Harness

Four (4) Mounting Nuts

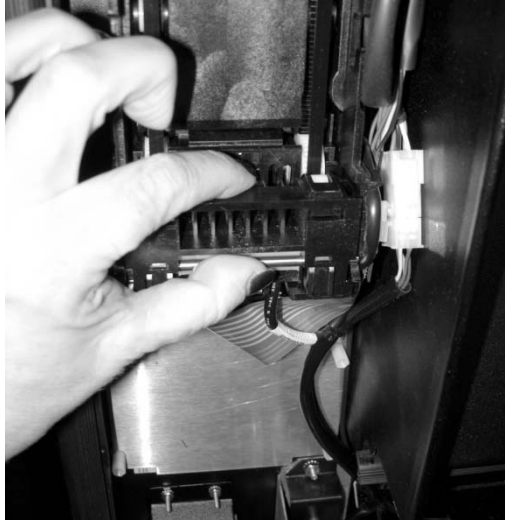
f. Remove Bill Validator

Clearing Bill Jams

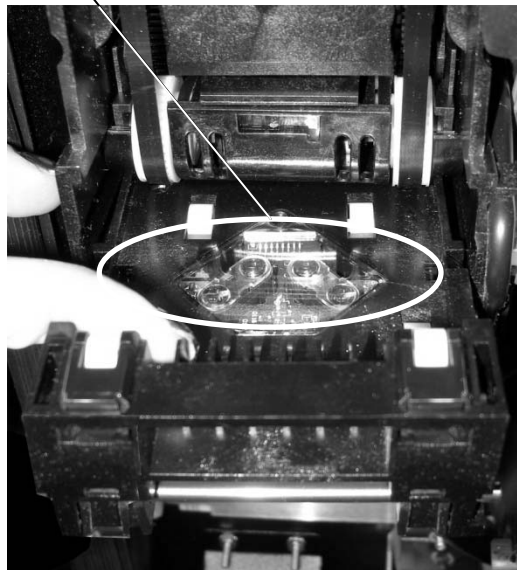
It is possible that a torn or damaged bill can jam within the Bill Validator, putting it out of service.

1. To Clear a Jam.

- a. Remove Bill Collection Box as instructed in Bill Retrieval and inspect for a jammed bill
- b. Remove bill jam, and reassemble
- c. If no jam was found in the Bill Collection Box, lift up on the metal bar at the bottom of the bill validator and pull the lower unit out towards you.



- d. Inspect and remove jammed bill.



- e. Replace lower unit to resume normal operation.

Programming

Service mode is used to program your N2G4000 vending system. To enter service mode, Unlock and open the front door to access the VMC, and press the MENUS Button. (Fig. 2 and Fig. 23)

Figure 23 – VMC and MENUS Button

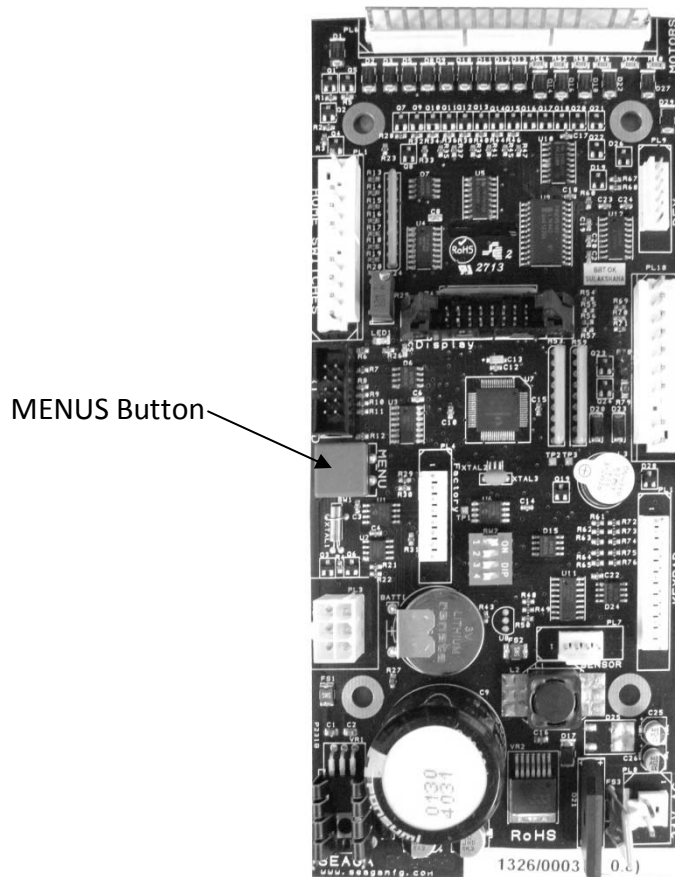


Figure 24 – Display in Service Mode; showing the first sub-menu - Audit



SERVICE MODE

The operation of the machine can be adjusted by entering service mode by pressing the MENUS button on the VMC circuit board and then accessing the appropriate operation. Price setting, audit display and operating modes can be read and adjusted from here. The user can also perform tests on the machine through this mode. Note: any Credit will be cancelled on entry to Service Mode.

The 9 key will serve as the “next” or “down arrow” in Service Mode.

The 0 key will serve as the “previous” or “up arrow” in Service Mode.

The * key will serve as the Escape function in three Service Mode sub-menus; Price Setting, Set Clock and Calories. Using the * will escape the mode you are in; use the 9 or 0 key to get to the End Menus, then 8 as the Enter function to return to Sales Mode.

The 8 key will serve as the Enter function in three Service Mode sub-menus; Display Errors, Clear Errors and Home and Count.

Most of the menu items are single key stroke to change or turn on. Note that a single beep will confirm your keystrokes. This cannot be turned off in Service Mode but can be turned off for Sales Mode (see Menus function #5, Sound On/Off).

Operation

- 1.) Enter Service Mode by pressing the MENUS Button on the VMC Circuit board.
- 2.) Each Service Code can then be accessed using the **9** (Next) or **0** (Previous) buttons to scroll through the menus in sequence:

1. AUDIT	Displays Audit --
2. PRICES	Displays Prices --
3. TEST MODE	Displays Test Mode--
4. CONTROL MODE	Displays Control Mode: ** Where ** is the current value
5. SOUND On/Off (Sales Mode Only)	Displays Sound : * Where * is the current state (Off or On)
6. DISPLAY ERRORS	Displays Display Errors
7. CLEAR ERRORS	Displays Clear Errors
8. SET CLOCK	Displays Set Clock
9. PAYMENT DEV	Displays Payment Dev: n Where n is the current setting
10. HOME & COUNT	Displays Home & Count ** Where ** is the last count of motors
11. TEMP SET	Displays Temp Set: ** Where ** is current state
12. Health and Safety Mode	Displays H & S: ** Where ** is current state (On/OFF)
13. Symbol	Displays Symbol: ** ***** Where ** ***** is current setting
14. Calories	Displays Calories --
15. Exit Menus	Displays Exit menus

Exit Service Mode by scrolling to the Exit Menus option using the 9 or 0 key on the keypad and the 8 key as the Enter function to return to Sales Mode. You can also wait for the service mode to time out automatically if there is no activity for 15 seconds. NOTE: Test Mode does not time out.

AUDIT

Within Audit readings can be taken from the Display with regards to cash taken, and number of products vended. The following details can be obtained on the Display.

- 1 Total Cash IN : (up to 99999999)
- 2 Total Product Sales Value: (up to 99999999)
- 2 Total Count of Free Vend Tokens : (up to 49999)
- 4 Total Coins IN : (up to 99999999)
- 5 Total Cash Out : (up to 99999999)
- 6 Total Bills IN : (up to 99999999)
- 7 Total Card Payment : (up to 99999999)
- 8 Total Manual Dispensed amount: (up to 99999999)

Note: No decimal will be displayed in this mode, but one is implied before the last two digits.

Selection (example 101)

Display the total number of individual vends of that selection (up to 49999)

Press the Scroll buttons (9 or 0) until the LCD Displays Audit.

You are now in Audit Mode

Press button 1 to display the total cash (\$/£/€) and (c/p) taken.

Displays **1**: *****

Press button 2 to reveal the total sales value

Displays **2**: *****

Note: Decimal values “roll-over” from 99999999 to 000
 Integer counts “roll-over” from 49999 to 0

PRICES

Note: the * key used in this mode will cancel this menu and return you to the previous menu.

1. Press the Scroll buttons (**9 or 0**) until the LCD Displays **Prices**
You are now in Price Setting Mode
2. Make a selection (* then 3 digits, ex. *101) to display the current price
Display shows the row and column and then ** . **
3. Set the price for this selection by entering 4 digits on the keypad. For example, 1.00 should be entered as 0100. The display will then revert to **Prices** when the fourth digit has been pressed. This enables you to move on to the next setting quickly and without having to confirm an entry.

During step 2 Make a Selection phase above, pressing ** and a tray number will set that tray (ex. **1 for Tray 1, **2 for Tray 2, etc.) and pressing *** will set all prices. Prices may be set from 00.00 to 99.99. Your machine arrives with all prices set to 1.00 by the factory.

CONTROL MODE

- 1. Press the Scroll buttons (**9 or 0**) until the LCD Displays **Control Mode : ****
 (where ** is current value)
You are now in Control Mode
- 2. Press Selection Button **1 to 8** to change the Control Mode Displays **Control Mode : ****

The Control Mode options supported are:

Code	Multivend	Forced Vend	Positive Vend Sensor
1	No – single vend	No	Off
2	Yes - multivend	No	Off
3	No – single vend	Yes	Off
4	Yes - multivend	Yes	Off
5	No – single vend Not Applicable for N2G4000	No	On
6	Yes - multivend Not Applicable for N2G4000	No	On
7	No – single vend Not Applicable for N2G4000	Yes	On
8	Yes - multivend Not Applicable for N2G4000	Yes	On

Note: Code 1 is the factory setting

SOUND (On/Off)

- 1. Press the scroll buttons (**9 or 0**) until Displays **Sound : ****
 (where ** is current value **On** or **Off**)
- 2. Press Selection Button **1** to toggle the setting Displays **Sound : ****
- 3. Press any other Button to exit to the next menu option

TEST MODE

1. Press the scroll buttons (**9 or 0**) until Displays **Test Mode**

In Test Mode, to operate an individual motor press the (*) button followed by the selection you wish to run.

Example (*203) will operate the motor in the 3rd column of the 2nd tray.

In Test Mode, making a selection will operate the selected motor.

Press selection button **1** three times to commence a single test vend on ALL fitted motors.

Press selection button **2** to test the positive vend sensor (if enabled).

Press selection button **3** to test Relay output 1 (Compressor).

Press selection button **4** to test Relay output 2 (Aux/LEDs).

Press selection buttons **5, 6, 7, 8** to display the count of coins in tubes 1-4.

Note: Test mode should be used for filling/emptying of a coin changer so that the audit count for the cash remains correct. See Setting Up and Loading Payment Systems section of this manual.

WARNING : THIS MENU OPTION DOES NOT TIME OUT AFTER 15 SECONDS

DISPLAY ERRORS

1. Press the scroll buttons (**9 or 0**) until the display reads **Display Errors**

In this mode, press any selection button (other than **9 or 0**) to display error codes in sequence, shown in plain text (**see table of error messages in this manual**)

CLEAR ERRORS

1. Press the scroll buttons (**9 or 0**) until the display reads **Clear Errors**

In this mode, press any selection button (other than 9 or 0) to clear all errors – confirmed with a “Cleared” display.

SET CLOCK

1. Press the scroll buttons (**9 or 0**) until the display reads **Set Clock**

Note: the * key used in this mode will cancel this menu and return you to the previous menu.

In this mode, press the selection buttons listed below to set the current time, date and day of week:

1. Time – displayed in a 24 hour clock format as Time : **HH:MM** Press 4 digits in turn to set the time.
2. Date – displayed as Date M/D: **MM/DD/YY** Press 6 digits in turn to set the month, day and year. Alternate display displayed as Date D/M: **DD/MM/YY** Press 6 digits in turn to set the day, month and year.
3. Day of Week – displayed as **Sunday .. Saturday** enter a single digit to set the day of week (1 = Sunday, 2 = Monday ... 7=Saturday). Note: this must be set as the date is not reconciled with the day of the week.
4. Asset Number can be recorded in this menu.
Press 5 digits to set the value.
5. Serial Number can be recorded here.
Press 5 digits in turn to set the value.

HOME & COUNT

1. Press the scroll buttons (**9 or 0**) repeatedly until the display reads **Home & Count**

In this mode, press any key other than **9 or 0** to home and count the motors. The display will show the row/column being homed. If the selection is OK the count of motors so far is shown, otherwise “Error” is displayed for faulty or non-existent selections.

Note: Any motor not in its Home position will rotate in this mode and products will vend.

MDB PAYMENT DEVICES

This mode is where payment devices are turned on and off.

1. Press the scroll buttons (**9 or 0**) repeatedly until the display reads **Payment Dev: ****
(where ** is current value)
You are now in Payment Device Setting
2. Press a numeric selection (**1 – 7**) to change the value **Payment Dev: ****

The payment device values supported are:

Value	MDB Coin Change giver	MDB Bill Reader	MDB Card Reader
1	ON	OFF	OFF
2	OFF	ON	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	ON	OFF	ON
6	OFF	ON	ON
7	ON	ON	ON
8	OFF	OFF	OFF

Note: the factory setting for this mode is 7.

HEALTH AND SAFETY

These settings are not applicable for this model.

SYMBOL

This mode is where the currency symbol is set.

1. Press the scroll buttons (**9 or 0**) repeatedly until the display reads **Symbol: ** ******
(where **** ****** is current value)
2. Press Selection Button **1** to step through the available currency symbols and Button **2** to step through the available decimal place settings. **Symbol: ** ******

TEMP SET

1. Press the scroll buttons (**9 or 0**) repeatedly until the display reads **Temp Set ****

This menu option allows the temperature settings to be displayed and modified.

****** shows the current state. On/Off for the zone control and F or C for the temperature scale in use: F means Fahrenheit, which is used the US.

Examples: **Temp Set On F** Temp control is ON, temperatures in Fahrenheit

Temp Set Off F Temp control is OFF, temperatures in Fahrenheit

In this mode, press the selection buttons listed below to set mode and temperature limits

Turn the Temp **ON** – Press 1

Turn the Temp **OFF** – Press 2

Temperature Setting - Press 3 then press 2 digits to set the temperature (00 – 99).

WARNING: the temperature for your vending machine is set to 43° F and tested by the factory. Extreme caution should be used when changing this setting, as you could cause the vending machine to malfunction and void your warranty. Make changes to this setting only under technical support recommendation.

Select Celsius (Centigrade) Temperature Display – Press 5

Select Fahrenheit temperature display – Press 6

Turn INSTALLER MODE ON – Press 8

INSTALLER MODE

This mode can be set to allow a user to go through a pre-determined reminder sequence when installing a machine on site. Note: the Escape key does not function in this mode.

INSTALL MODE <1>	default display shows the machine is install mode at stage 1. “9” to continue – goes to stage 2 if a coin changer is enabled otherwise goes to stage 3 “0” to skip – goes to stage 3, warns if any coin tube empty
COIN FILL <2>	stage 2 – allows tubes to be filled “9” or “0” to continue – goes to stage 4, warns if any coin tube empty
MOTOR TEST <3>	stage 3 – allows motors to be tested “9” to action “home each motor with 1 turn minimum” then goes to stage 4 “0” to skip – goes to stage 4 without any action
SHOW ERRORS <4>	stage 4 – error display – automatically skips to stage 6 if there are no errors after a “NO ERRORS” display for 2 seconds “9” to action – scrolls through errors then goes to stage 5 “0” to skip – goes to stage 6 without any action
CLEAR ERRORS <5>	stage 5 – clear errors “9” to action – clears errors then goes to stage 6 “0” to skip – goes to stage 6 without clearing the errors
SET PRICES <6>	stage 6 – allows prices to be set – identical to Price Setting Menu. This allows single selection pricing, whole tray or whole machine. “9” or “0” to continue – goes to stage 7
END INSTALL <7>	stage 7 – process complete “9” to action – disables “install mode” start up sequence and restarts the unit in normal vend mode “0” to skip – goes back to stage 1 without any action

If the machine is powered off at any stage the install mode will restart at the beginning.

CALORIE SETTING

Note: the * key used in this mode will escape this menu and return you to the previous menu.

Enter calorie information by using Service Code **Calories**.

- 1.) Press the Scroll buttons (**9 or 0**) repeatedly until the LCD
Displays **Calories**
You are now in Calorie Value Setting Mode
- 2.) Make a selection to display the current calorie value
Displays the row and column and then nnnnn
- 3.) Enter **5** digits. The display will then revert to **Calories** when the fifth digit is entered,
enabling you to continue programming without having to confirm.

ERROR MESSAGES

Error message	Fault detected	Hard/Soft Fault	Action
Motor Err 101..610	Motor 101 .. 610 respectively Numeric selections	Soft	Repair/replace motor or home switch
Temp Sensor Err	Temperature sensor error	Soft	Repair/replace temperature sensor or wiring
Over Temp	Compressor Temperature sensor error (overtemperature)	Hard	Repair compressor
Comp Sensor Err	Compressor Temperature sensor error	Hard	Repair/replace temperature sensor or wiring
H & S (n)	Health & Safety error 0 = timeout, 1= temperature	Hard	Check/replace products and reset error by entering menus.
Changer Err	MDB Coin Changer fault	Hard	Repair/replace Coin Changer or disable the changer
Out of Change	Changer Out Of Change	Soft	Fill Tubes
System Err (n)	Internal error with sub- code	Soft	None
Bill Reader Err	MDB Bill Reader fault	Hard	Repair/replace Bill Reader or disable the bill reader
Card Reader Err	MDB Card Reader fault	Hard	Repair/replace Card Reader or disable the Card reader

Soft Errors – unit will continue to operate though failed motors will show as “Sold Out” and be blocked from operation if selected.

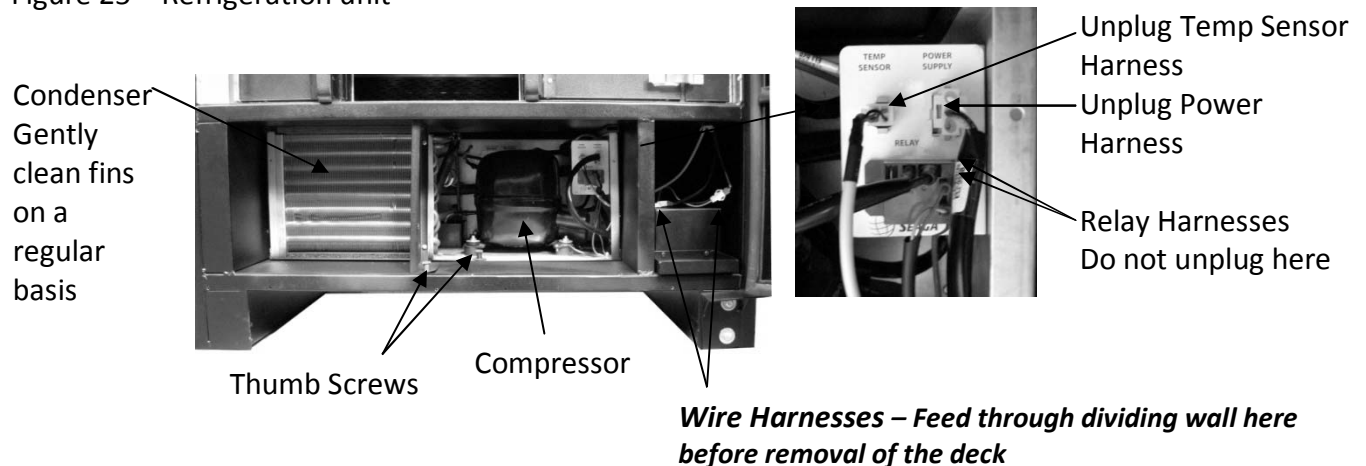
Hard Errors – the unit is put out of service. This mode can only be cleared via the menus.

Refrigeration

Your beverages are kept cold by a high efficiency refrigeration system having two air circulation fans to chill the cans and bottles. The refrigeration unit can be easily accessed by opening the Front Door. Remove the blue thumb screws from the center of the refrigeration deck and unplug the three wire harnesses on the side of the deck (Fig. 25). The refrigeration deck can now be pulled out from the machine. Note: Make sure you unplug wire harnesses and feed the harnesses back through the divider wall before pulling the refrigeration deck all the way out of the machine. Do not tip the refrigeration deck more than 20° in any direction.

The refrigeration deck is a modular system consisting of Compressor, Condenser, Condenser fan, Evaporator, Evaporator Fans, Accumulator or Dryer, and Temperature Sensor which communicates to the VMC. The temperature is pre-set at the factory for efficient and effective operation.

Figure 25 – Refrigeration unit



Cleaning the Condenser

Dust and dirt restricts good airflow and cooling of the condenser, which will not allow the refrigeration unit to chill the beverages properly. Brush the dirt and dust from the condenser fins every thirty (30) days as routine maintenance. You can also blow canned air (available at computer and office supply stores) through the condenser or vacuum clean it. Do not damage the fins of the condenser while cleaning. You should also clean the grate located on the inside of the Front Door refrigeration vents (see Figure 2).

Refrigeration

Refrigeration is the transfer of heat from one area to another. In the case of this machine we are transferring the heat from the area containing the beverage selections to the outside of the machine and dissipating the heat throughout the room. The more heat we are able to transfer away from the beverages the colder they become.

This process is accomplished by the use of a sealed compressing system using an ozone friendly gas commonly known as R134a refrigerant. The system is comprised of several key mechanical components: the condenser, the evaporator and the compressor. The condenser is located in the lower front left of the machine and it is where the heat is dissipated from the cooling process and blown to the outside of the machine. The evaporator is located inside the machine towards the back of the cooling system underneath the beverage unit section being cooled. Its purpose is to absorb the heat from the drink selections and provide the cool air needed to refrigerate the beverages. The compressor is the heart of the cooling system and its purpose is to provide pressure and circulation of the refrigeration gas.

The refrigeration system is monitored and controlled by several key electrical components. The condenser fan, two evaporator fans, temperature sensor, VMC, and the start and overload components located on the side of the compressor. The line voltage from the outlet in the room is fed to the three fans, the condenser fan and the evaporator fans, and they run continuously as long as the machine is plugged into power coming from the wall. The temperature sensor and VMC control the on and off cycling of the compressor. The temperature sensor is located on the back side of the refrigeration deck.

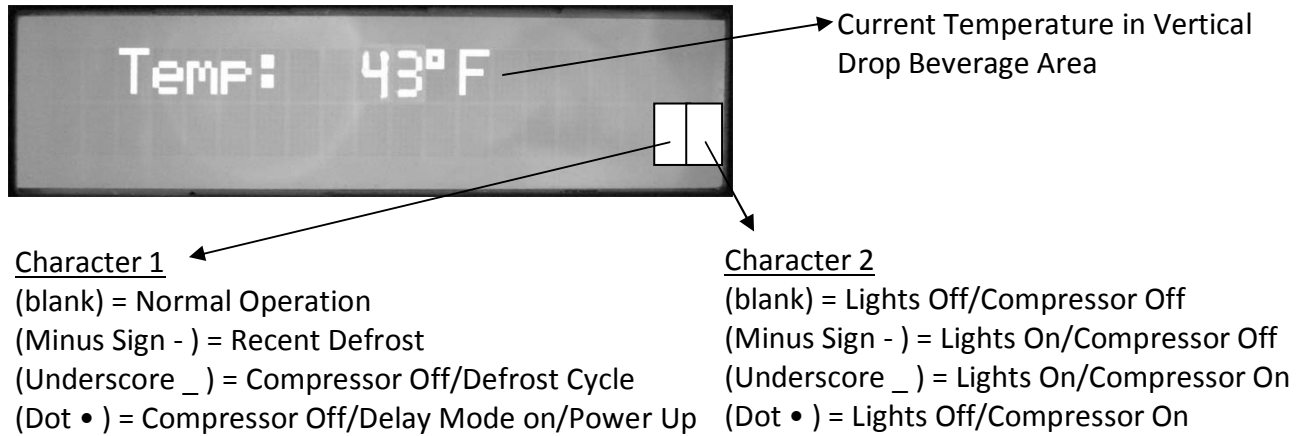
To determine if the compressor system is running it is sometimes difficult due to the fact that the compressor tends to be very quiet. The sound and slight vibration from the fans running can sometimes be mistaken for the compressor running. One way to tell if the compressor system is running is to cautiously place your hand on the compressor to feel if it is warm. CAUTION as it may be hot to the touch. If the compressor is stone cold and stays that way for an extended period of time, you can assume there is an electrical problem in the circuitry or components that operate the compressor. Another way to see if the compressor is running is to feel the air exiting the condenser coils from the front to see if there is any heat.

Any problems with the fans running can also lead to a cooling system failure. In order for any cooling system to operate properly it is most important that all fans are running and that the condenser coil is kept clean and free of any dust, dirt or obstructions. ***All three fans should run continuously when the machine is plugged in.***

Refrigeration Status Display

Press the "0" key on the Keypad when the machine is in Sales Mode to display the following indications of the refrigeration system activity on the LCD Display:

Figure 26 – Refrigeration Indicators on LCD Display



Troubleshooting

1.

SELECTION DISPLAYS SOLD OUT WHEN PRODUCT IS PRESENT

- a. An error has occurred which has locked out the selection. Use the Clear Errors function in Service Mode and test vend the lane after clearing.

2.

NO DISPLAY ON THE FRONT PANEL

- b. Harness may be unplugged
- c. Faulty display harness
- d. Transformer circuit breaker blown
- e. Restart machine
- f. Display board defective

3.

SELECTION WILL NOT VEND

- a. Clear Errors using Service Mode
- b. Disconnected tray wire harness
- c. Vend mechanism binding on tray
- d. Product jammed
- e. Tray or Motor connection unplugged or faulty connection
- f. Defective motor

4.

MULTIPLE VENDS FROM ONE SELECTION

- a. Broken or disconnected wire to motor
- b. Defective motor switch
- c. Shim missing or out of position

5.

MULTIPLE VENDS MORE THAN ONE SELECTION SIMULTANEOUSLY

- a. Defective motor
- b. Motor harness not plugged into the vend motor correctly
- c. Harness faulty

6.

UNIT WILL NOT ACCEPT MONEY

- a. Verify Payment Systems are enabled using Service Mode
- b. All Prices are set to zero or machine is set to Free Vend
- c. Note: Will not accept bill if coins in coin changer below the minimum level
- d. Note: Will not accept more than one bill if the bill equal or exceeds the highest priced item.
- e. No power to system control board
- f. Coin Mechanism or Bill acceptor defective.
- g. Harness to payment system is disconnected or faulty.

7.

MACHINE WILL NOT COOL

- a. Press the "0" key on the keypad to get a temperature reading
- b. Verify that Temp Set is 43° F in Service Mode. Note: Setting the temperature too cold will put your evaporator at risk of freezing up.
- c. Verify that all fans are running
- d. Clean the condenser
- e. Remove your refrigeration deck and inspect for ice.

LIMITED WARRANTY

Seaga warrants to the original purchaser that the equipment is free from defects in material and factory workmanship for a period of one (1) year from date of shipment.

This warranty applies only if the equipment has been serviced and maintained in strict accordance with the instructions presented in the Operator's Manual and no unauthorized service, repair, alteration or disassembly has been performed. Any defects caused by improper power source, poor water quality or pressure, an installed water filtration system not fully functioning, abuse of the product, accident, alteration, vandalism, improper service and maintenance schedules, neglecting to de-scale and sanitize on a regular basis, use of products or ingredients not allowed in the machine, corrosion due to use of non-approved detergents or cleaning solutions, or damage incurred during return shipment will not be covered by this warranty. Further, equipment that has had the serial number removed, altered or otherwise defaced will not be covered by this warranty.

Lighting components, refrigerant, glass, paint, decals, fuses, filters or hygiene replacement parts, labor and/or installation are not covered by this warranty.

Follow proper maintenance procedures and use of equipment, as described in the Operator's Manual provided on Seaga's web site at seagamfg.com, which include but are not limited to:

- Cleaning of equipment including regular maintenance
- Proper installation and location of equipment with respect for the indicated temperature and humidity levels
- Proper use of equipment including loading, programming and setup

THIS WARRANTY IS EXCLUSIVE AND IS GIVEN BY SEAGA AND ACCEPTED BY BUYER IN LIEU OF ANY AND ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ALL SUCH OTHER WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED BY SEAGA AND WAIVED BY BUYER. Seaga neither assumes nor authorizes any person to assume for it any obligation or liability in connection with the sale of said unit(s) or any part(s) thereof.

Repair or replacement of proven defective parts is limited to manufacturing defects demonstrated under normal use and service during warranty period. Contact Seaga's Customer Care Department to be assigned a Return Authorization (RA) number. Seaga requires complete information including the serial number(s) of the machine(s), date of purchase and description of the part and/or suspected defect. Seaga may also be contacted, with complete information, by phone: 815.297.9500, by fax: 815.297.1700 and also by email: customercare@seagamfg.com

Send defective part(s), assembly or complete unit, Attention to the RA Number, prepaid or delivered to:



700 Seaga Drive
Freeport IL 61032

Seaga will repair or replace, at our option, any covered part which meets the provisions herein during the warranty period. It is our discretion to replace defective parts with comparable parts. Seaga reserves the right to make changes or improvements in its products without notice and without obligation, and without being required to make corresponding changes or improvements in equipment already manufactured or sold.

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