

Owner's Manual

Vending System Model A4U4000



Revision 1.4.10-2015

INTRODUCTION

Congratulations on the purchase of your A4U4000. 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. 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:

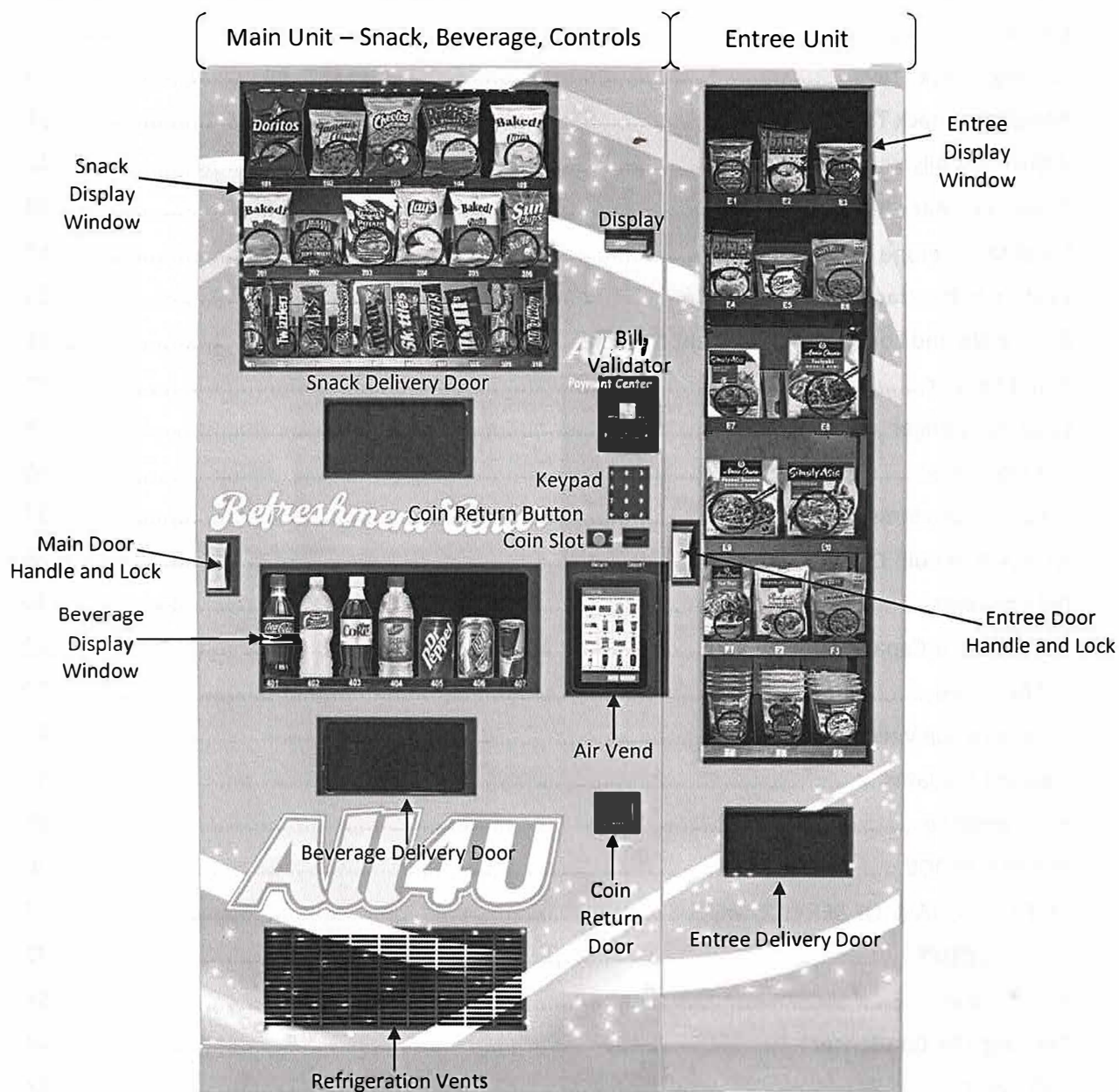
Seaga Manufacturing, Inc.
700 Seaga Drive
Freeport, IL 61032 U.S.A.
seaga.com

8:30 a.m. - 4:00 p.m. CST. Mon thru Fri
815.297.9500
email: customercare@seaga.com

Introduction	2
Preliminary Information	4
Initial Setup	7
Equipment Setup	9
Loading Snack Trays	9
Removing Snack Trays.....	11
Adjusting Coils.....	12
Replacing Snack Motors	14
Loading Beverage Lanes	15
Customer Interface	24
Setting Up and Loading the Payment Systems.....	25
Coin Changer.....	25
Loading Changer	25
Coin Retrieval.....	26
Clearing Coin Jams	27
Removal of Coin Changer	28
Bill Validator.....	30
Bill Validator Capacity	30
Bill Retrieval	30
Removing Bill Validator	32
Clearing Bill Jams.....	34
Programming	35
SERVICE MODE.....	36
MENUS – CHART OF SERVICE MENUS.....	37
ERROR CODES	43
Refrigeration	44
Cleaning the Condenser	44
Refrigeration	44
Refrigeration Status Display	46
Troubleshooting	47

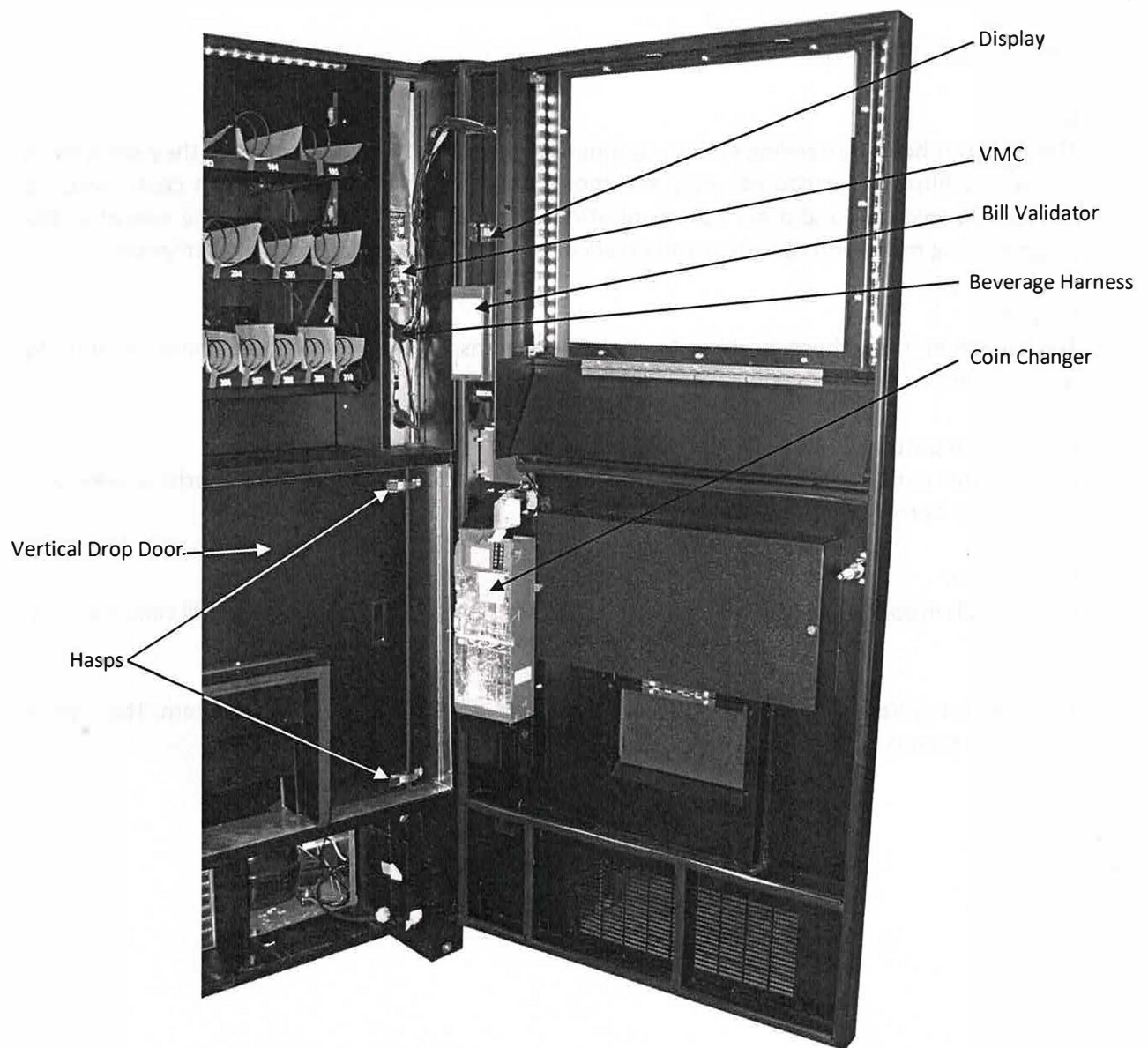
Preliminary Information

Figure 1 – The A4U4000 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 A4U4000 system from a source of low voltage will VOID YOUR WARRANTY. Each A4U4000 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 A4U4000 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 A4U4000 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 A4U4000 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 A4Y900 Unit

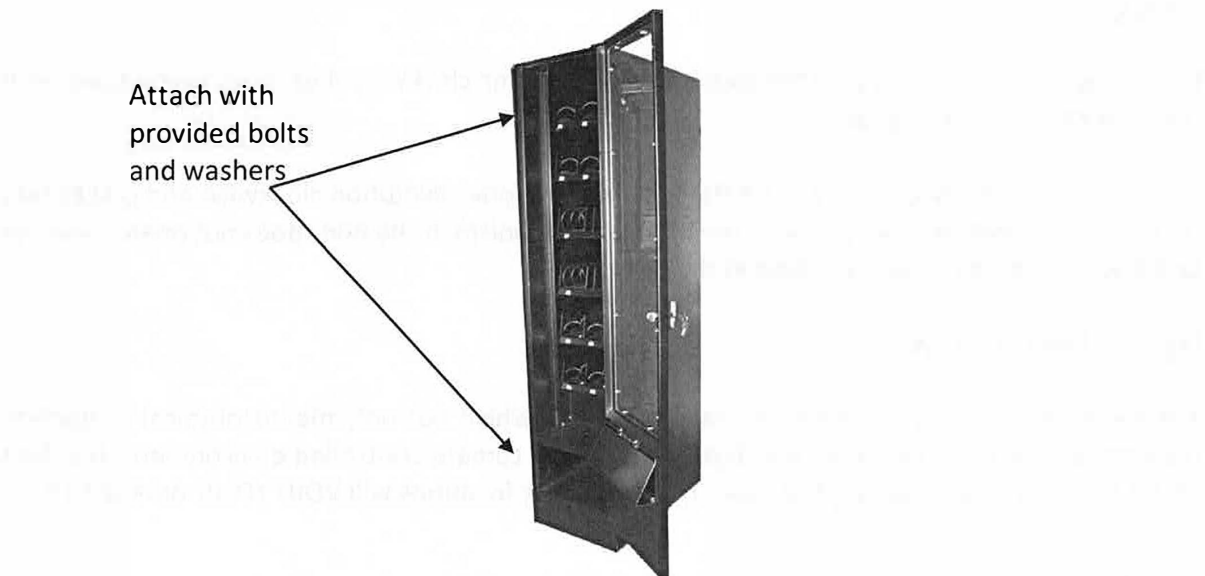
- 1.) Remove all shipment/packing materials, inspect unit for damage.
- 2.) Place the Entrée Unit on the right side of the main unit and open the front door. Align the mounting holes on the inside of the unit with the holes in the main unit. Using the bolts and washers provided, (2 each) attach the Entree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

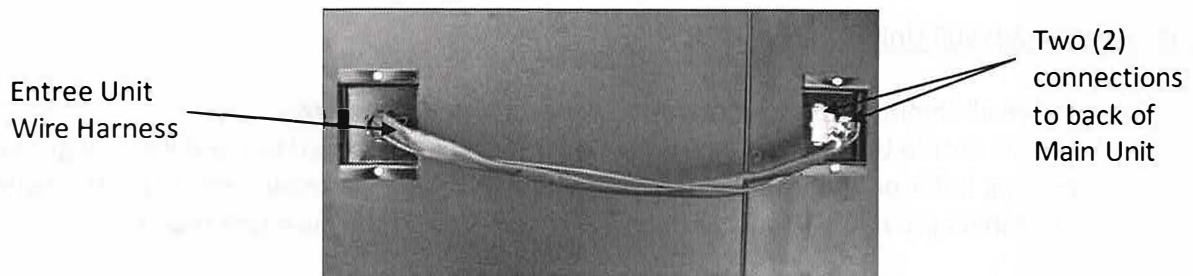
Note: Care should be taken not to tip the vending machine more than a few degrees. Excessive tipping of the machine can ruin your refrigeration system and void your warranty.

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

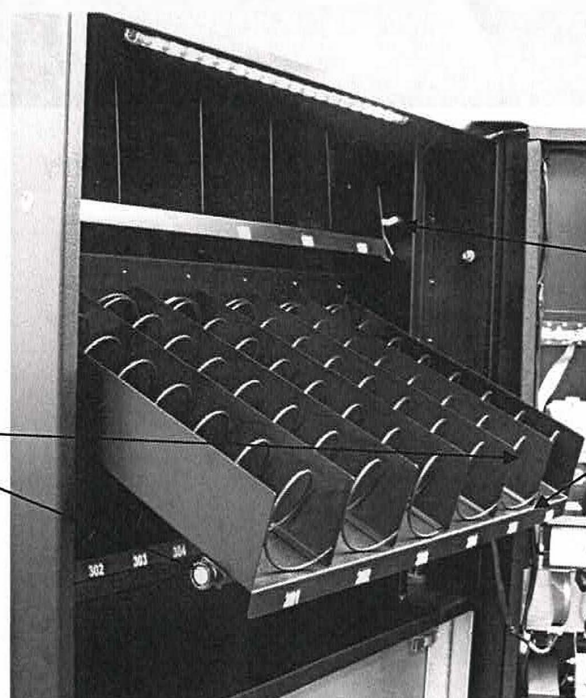
Loading Snack Trays

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

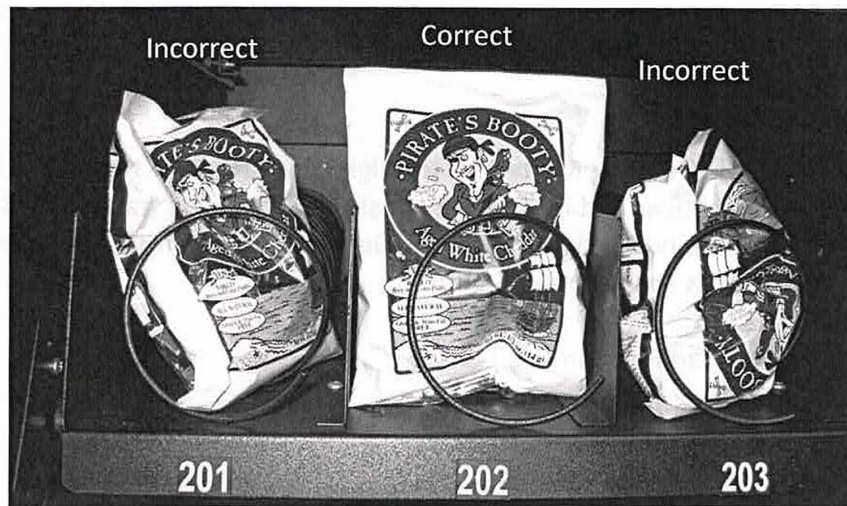
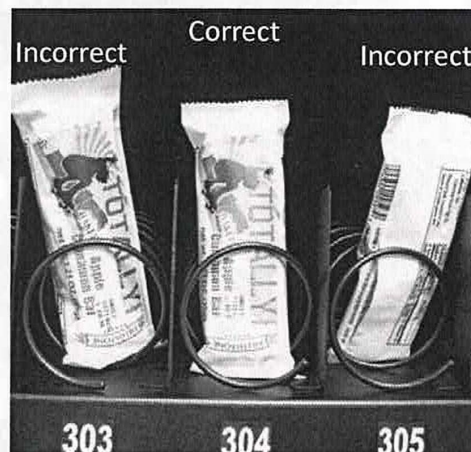


Figure 6a – Properly loaded products sell more and vend consistently



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.

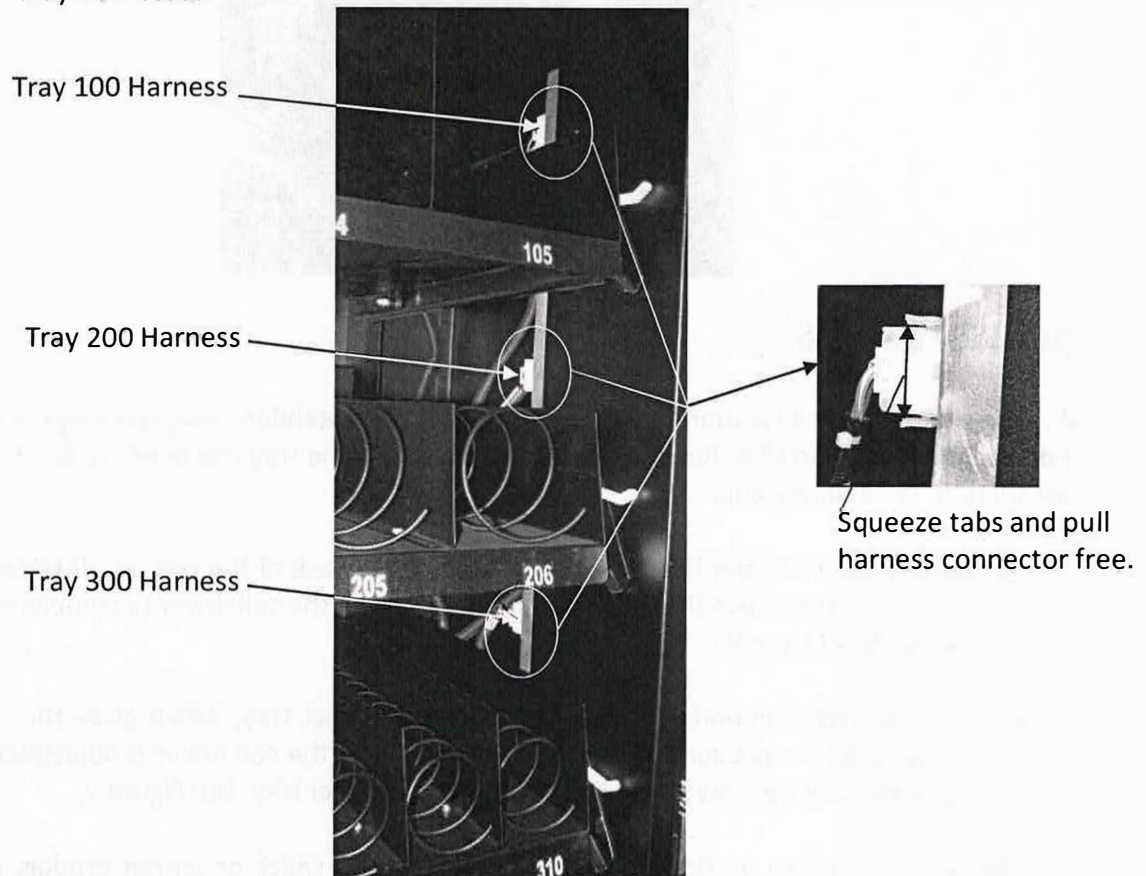
Removing Snack Trays

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:

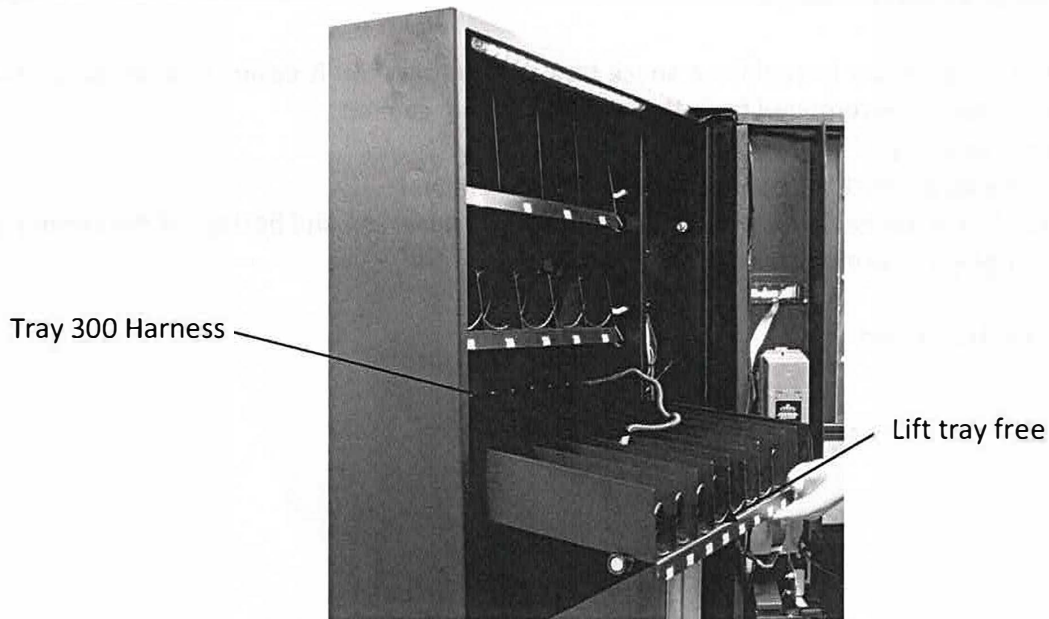
- 1.) Remove all product from the tray you want to remove.
- 2.) Reach in and squeeze the two cable release tabs on the top and bottom of the connector and unplug the proper tray harness.

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



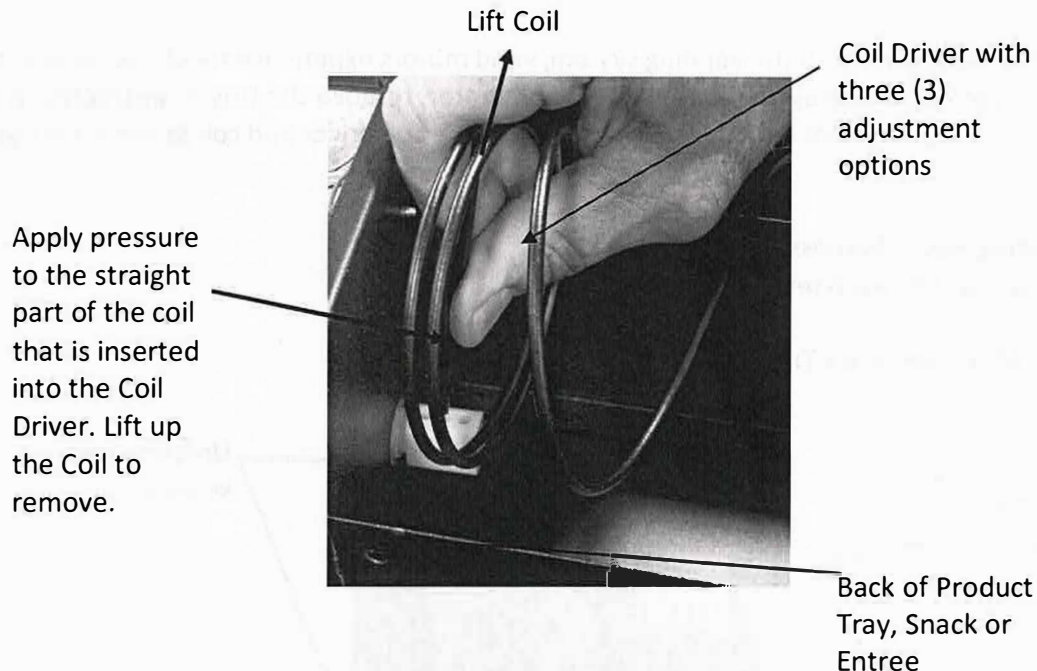
Adjusting Coils

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.

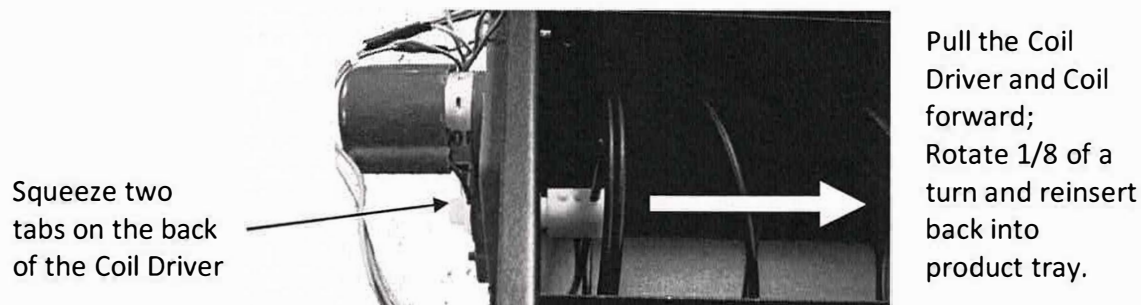
Figure 9 – Removing and Aligning a Coil



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 $\frac{1}{8}$ 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 $\frac{1}{8}$ of a rotation until you are confident of consistent vend function.

Figure 10 – Coil Rotation Adjustment

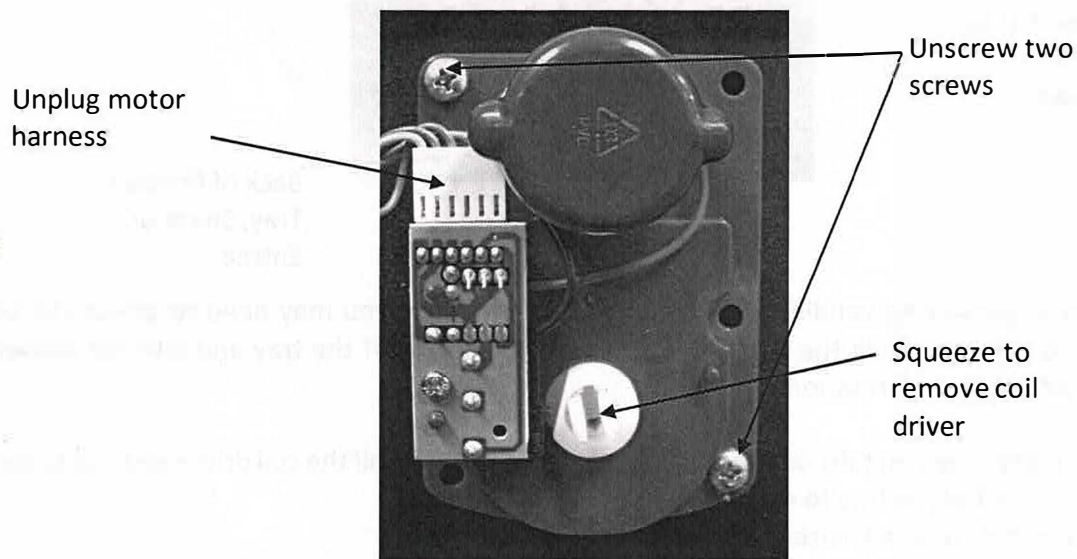


Replacing Snack Motors

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 A4U4000 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)

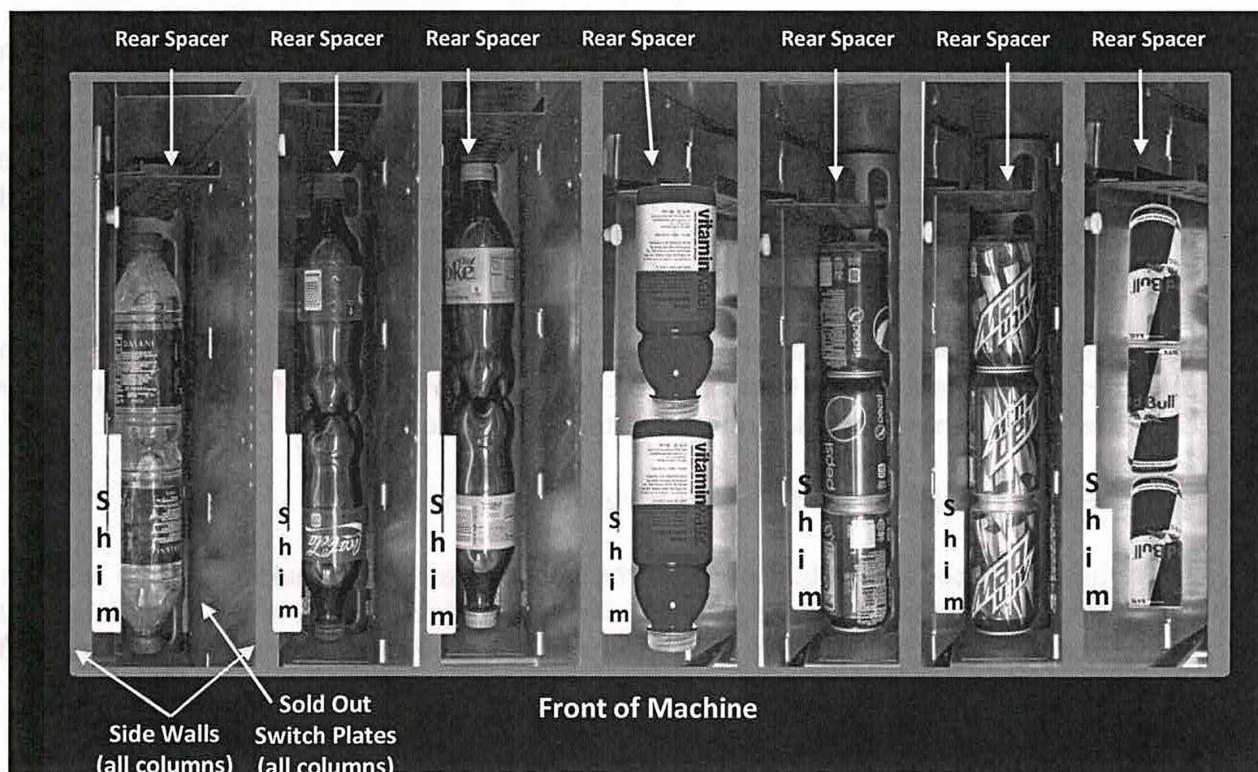
1.) For bottles, place the first bottle against the front of the column, making sure the Sold Out Switch Plate is depressed completely. Place the second bottle to the rear of the column. Load 12 oz. cans bottom to bottom in the first two positions, then top to top in the back position. Load 16 oz. cans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

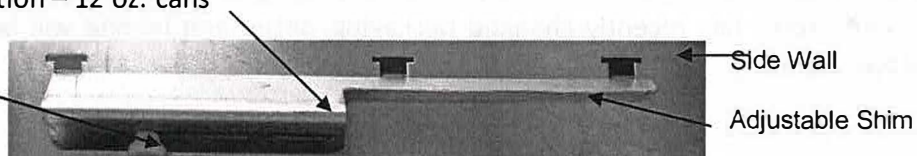
The shim positions are adjustable in each column. Reach under the column to adjust the shim, which is mounted on the left column wall as illustrated above.

Factory settings for the shims are shown below:

Figure 13 – Shims

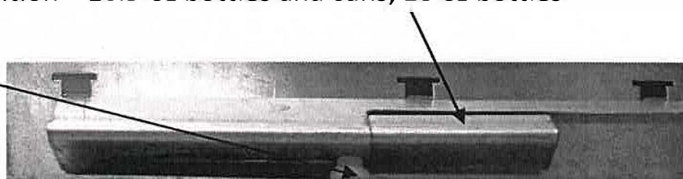
Adjustment Bar position – 12 oz. cans

Thumb screw



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

Thumb Screw

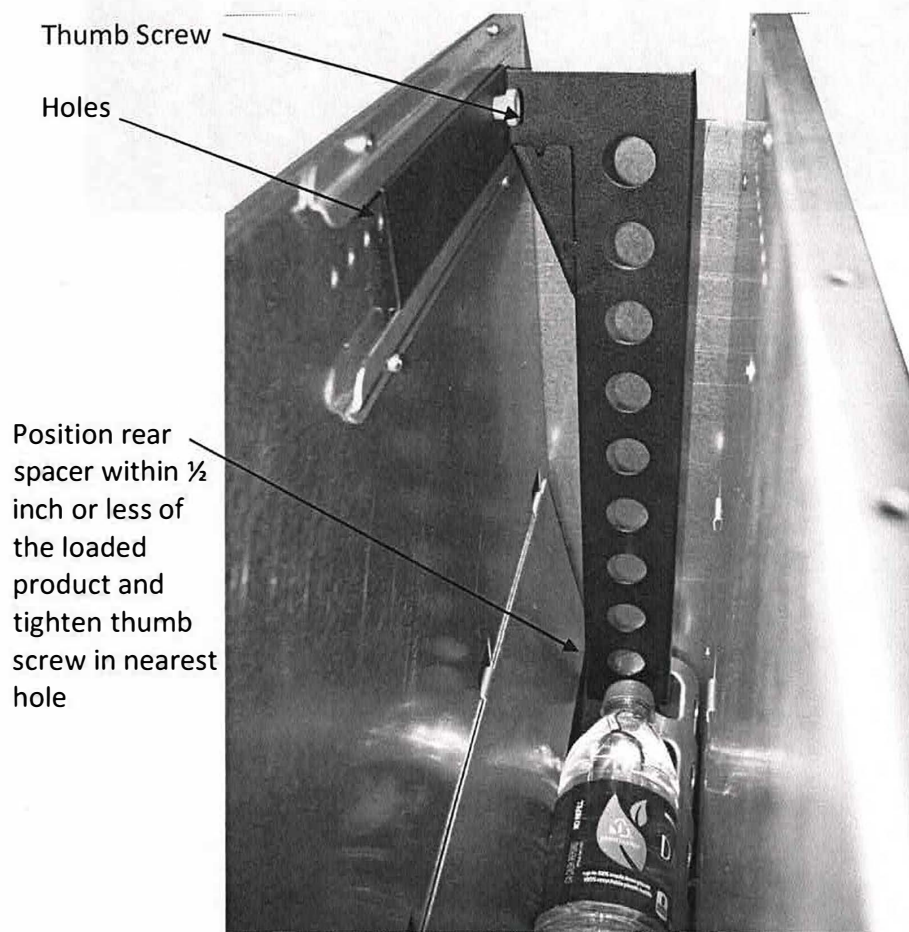


To adjust the shim adjustment bar, reach under the column to find the shim located on the left column wall; loosen the thumb screw ONLY SLIGHTLY and slide the adjustment bar to the correct position. Tighten the thumb screw. Oddly shaped product may take some testing, trial and error to determine the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

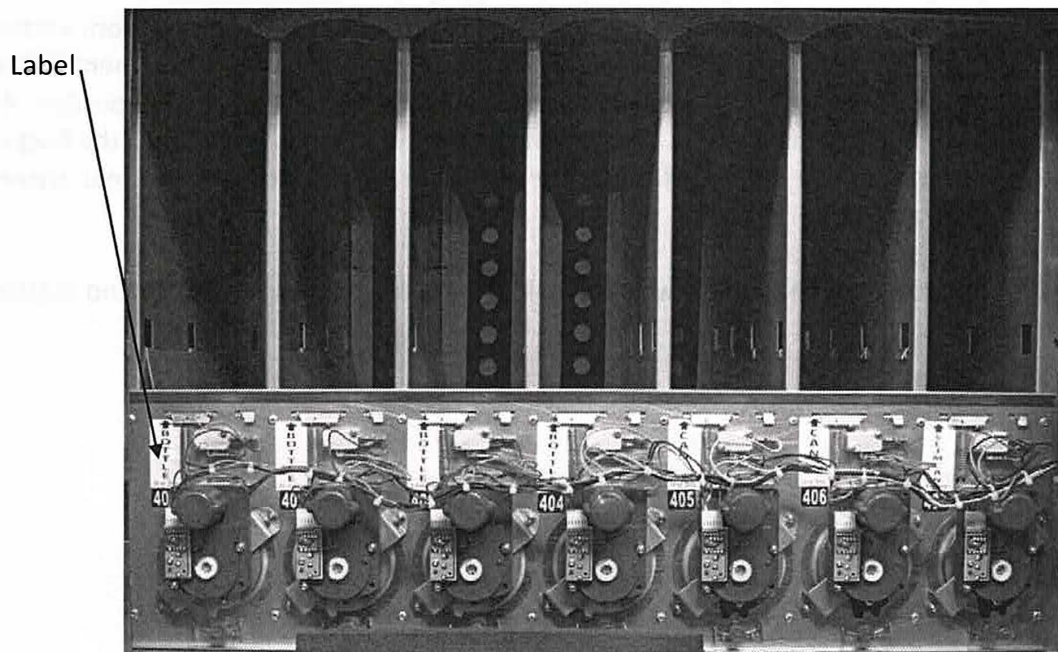
To replace the cam, remove the two screws holding it in place as shown in Figure 16 and replace with new cam.

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 and 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
Selection <u>401</u> Gatorade	20 oz/591 ml	Bottle	12	Tops to front of machine	5.5	Half Open
Selection <u>402</u> Aquafina	20 oz/591 ml	Bottle	12	Tops to front of machine	5	1/3 Open
Selection <u>403</u> Mt. Dew	16.9 oz/500 ml	Bottle	14	Load top to top	6	1/3 Open
Selection <u>404</u> Country Time Lemonade	20 oz/591 ml	Bottle	12	Tops to front of machine	6.5	1/3 Open
Selection <u>405</u> and <u>406</u> Sierra Mist	12 oz/355 ml	Can	21	Bottom to bottom then top to top	4.5	Closed
Selection <u>407</u> Red Bull	8.4 oz/248 ml	Can	39	Bottom to bottom then top to top	4	NA
Coca-Cola and varieties	16.9 oz/500 ml	Bottle	14	Load top to top	6	1/3 Open
Nesquik	14 oz/414 ml	Bottle	14	Load top to top	6	Full Open
Pepsi, Diet Pepsi and varieties	16.9 oz/500 ml	Bottle	14	Load top to top	6	1/3 Open
7 up and Diet 7up	16.9 oz/500 ml	Bottle	14	Load top to top	6	1/3 Open
Dr. Pepper, Diet and varieties	16.9 oz/500 ml	Bottle	14	Load top to top	6	1/3 Open
Gatorade	12 oz/355 ml	Bottle	14	Load bottom to bottom	4	Half Open
Water - Nestle Pure Life, Ice Mountain, Zephyrhills, Ozarka, Deerpark, Deja Blue	16.9 oz/500 ml	Bottle (soft)	16*	Load top to top	5	1/3 Open
Monster, Rock Star, etc. *	16 oz/473 ml	Can	14	Load bottom to bottom	9	Full Open
Standard size 12 oz. cans	12 oz/355 ml	Can	21	Bottom to bottom then top to top	4.5	Closed
Vitamin Water	20 oz/591 ml	Bottle	12	Tops to front of machine	5.5	Half Open
Sobe Bottle	20 oz/591 ml	Bottle	12	Tops to front of machine	5.5	Half Open
Bolthouse Farms	15.2 oz/450 ml	Bottle	14	Load top to top	6	Half Open
Starbucks Double Shot, V8 Vfusion	8.4 oz/248 ml	Can	42	Column 7 Only Bottom to bottom then top to top	3	NA
Zico PET Bottle	14 oz/414 ml	Bottle	14	Load top to top	6	Half Open
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	5.5	2/3 Open
Jumex	11.3 oz/334 ml	Can	21	Bottom to Bottom then Top to Top	4.5	Closed
Naked Juice and other square shaped packaging	15.2 oz/450 ml	Bottle	14	Bottom to Bottom	6	Half Open

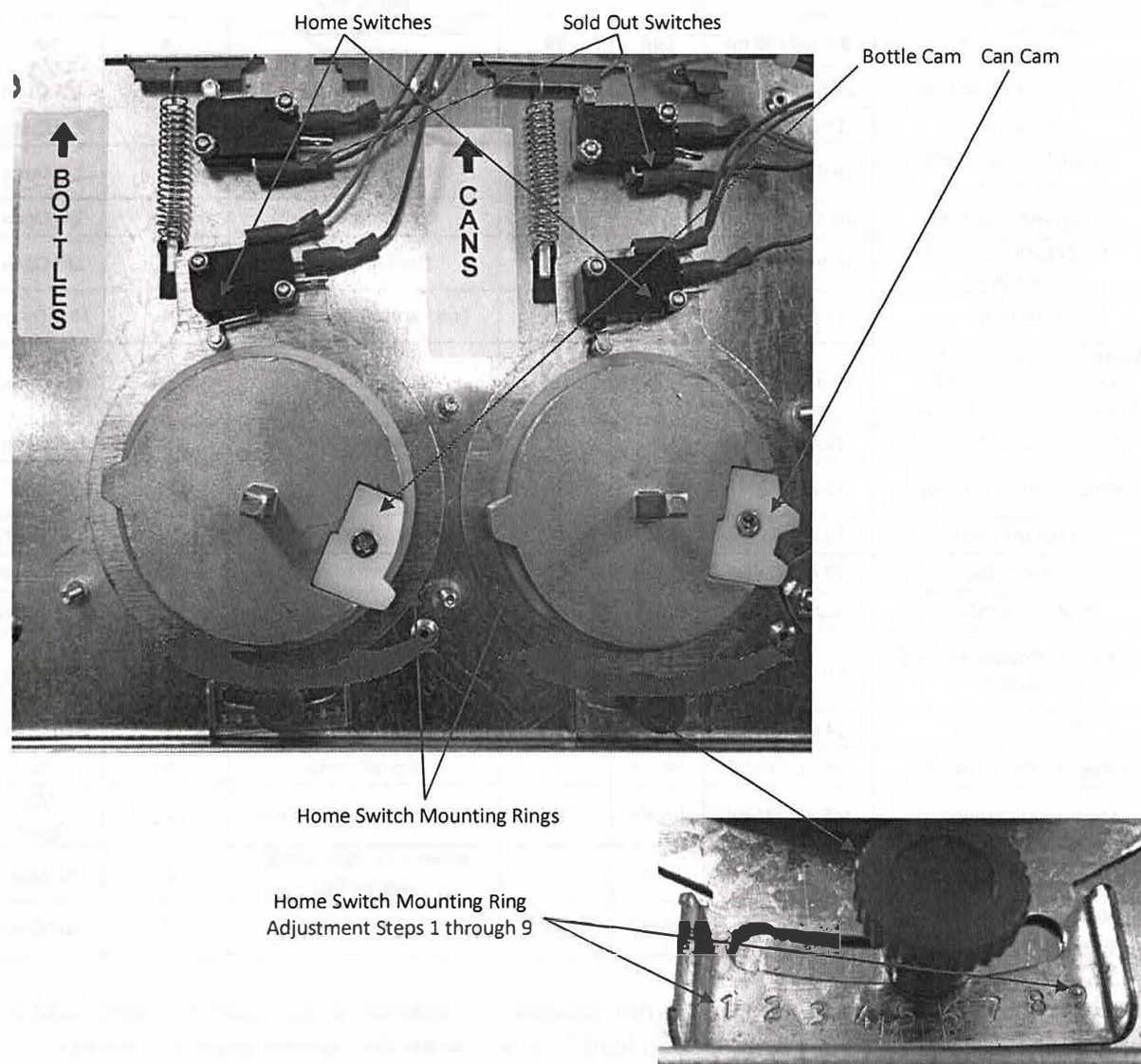
*Water bottles that are too flexible are not suitable for vending. If you must use very flexible water bottles, it is recommended that you load 12 per column for a better chance of success.

****If changing a selection to vend 16 oz. tall cans, convert Selection 403 or 404 only and use the chart for loading instructions, home switch mounting ring position setting and shim position setting.**

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:

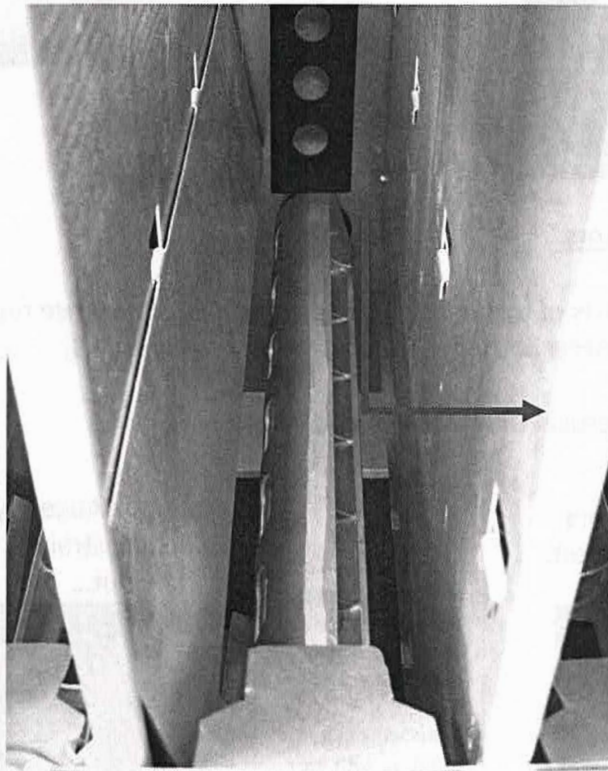
Figure 16 - Front of vertical drop system; motors removed from two selections



To make adjustments:

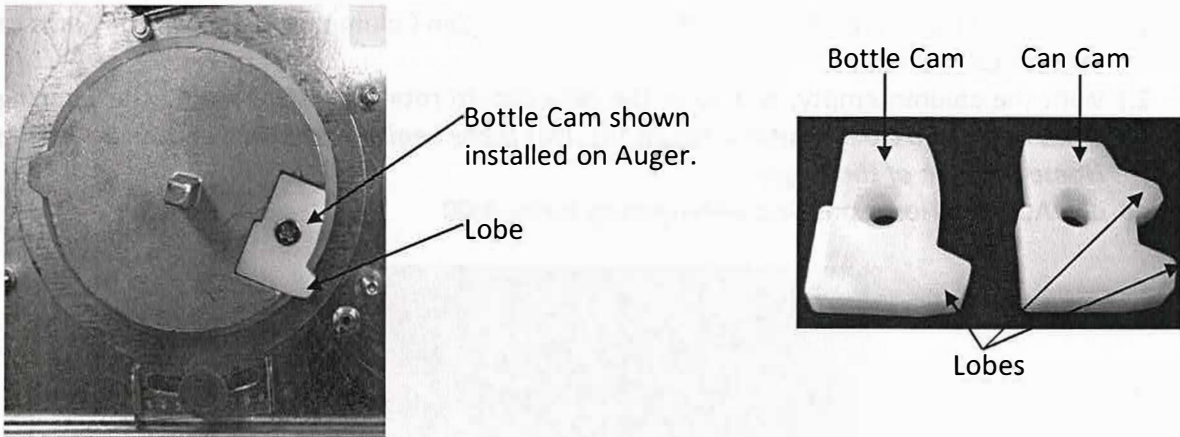
- 1.) Determine if you are adjusting a Bottle Column or Can Column by looking at the Cams or Column Labels.
- 2.) With the column empty, test vend the selection to rotate the Auger until the opening faces the 3:00 o'clock position (Figure 17). ***This is the beginning of the vend cycle and the Home position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

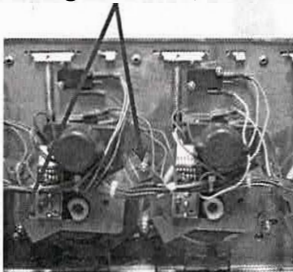


Replacing Beverage Motors

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

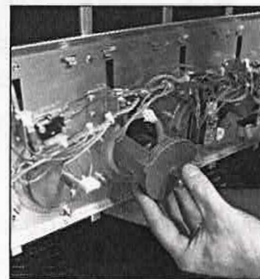
Remove two fasteners holding in motor/bracket.



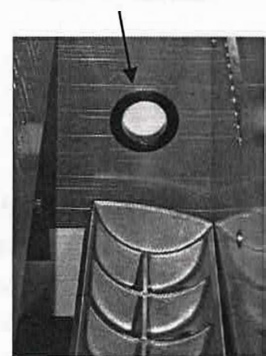
If replacing motor, unplug the wire harness and slide motor off shaft.

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

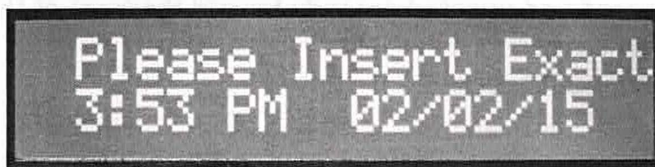
Entrees are loaded in spiral equipped columns very similar to the snack section of the A4U4000 vending system. Please review the procedures in that section of the manual to assist you with loading the entrees.

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 Display Shows
Sales Mode	Scrolling top line with custom message, time and date.
Locked Out	Vending Operation Locked Out
Free Vend (Prices set to \$0.00)	Free Vend – Make Selection Time and Date
Beverage Selection Sold Out	Make Alternate Selection
Vend Operation in Progress	*****
Cooling System Temperature Inquiry – Press the 0 (zero) on keypad	NN °F

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 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

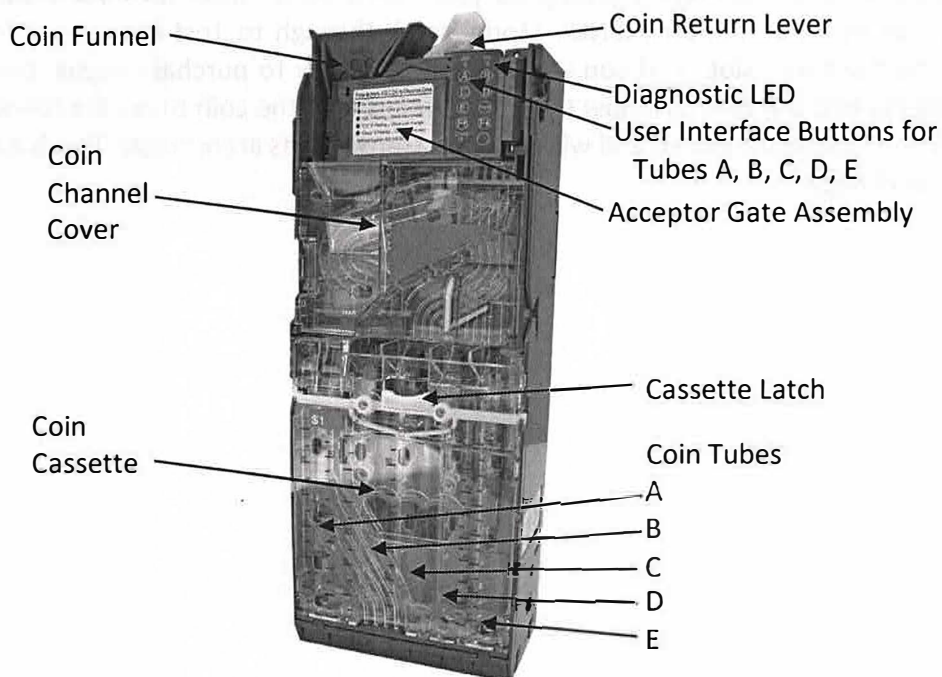
As change is given to the customer in coins only, it is recommended that you initially load the coin tubes completely full when setting up your machine. In order for your VMC to keep an accurate coin inventory, enter MENUS Mode, scroll through to Test Mode, and load coins in through the front coin slot, 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



Clearin

g 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

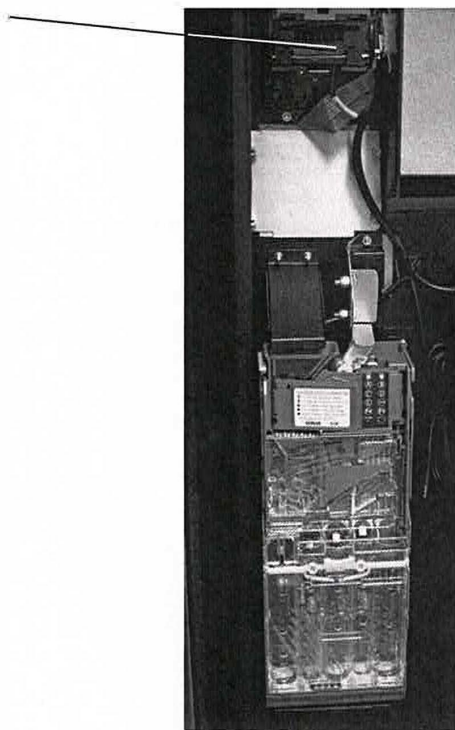


Removal of Coin Changer

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



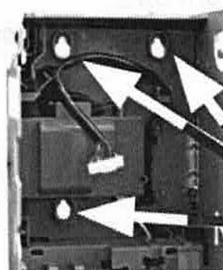
- c. Lift up on the white lever on the top left side of the coin mechanism
- d. Tilt the Discriminator assembly forward and lift off main housing. Note: the discriminator will still be attached by a cable.
- e. Loosen the three (3) Mounting Screws



Push Up



Tilt Out



**3 Mounting
Holes**

- 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.

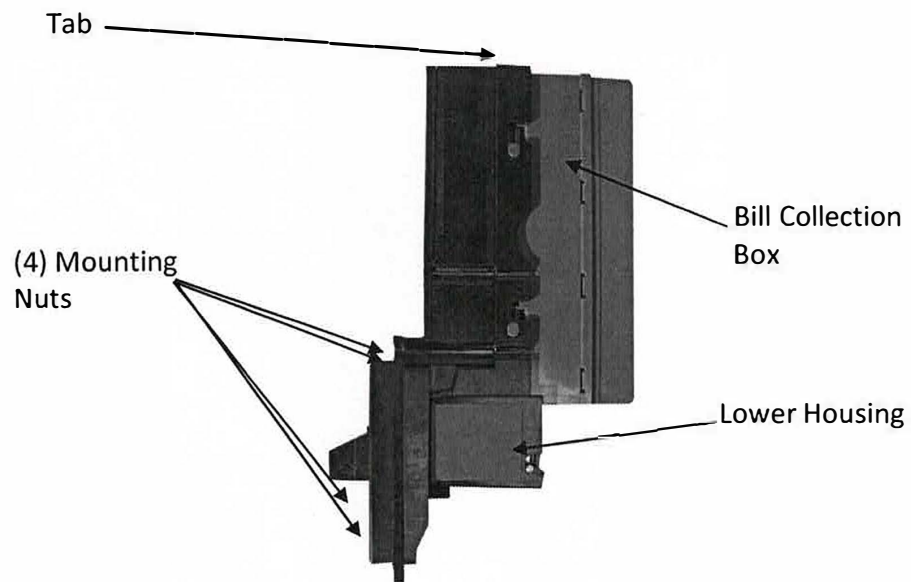
1. To Retrieve Bills.

- 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

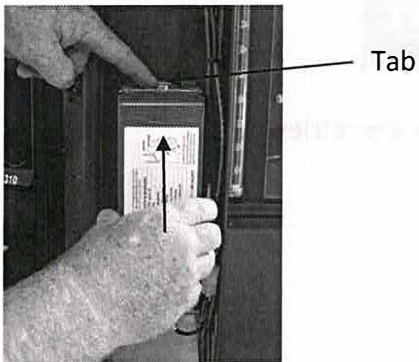
From time to time it may be necessary to remove the Bill Validator for cleaning and clearing jams.

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.***

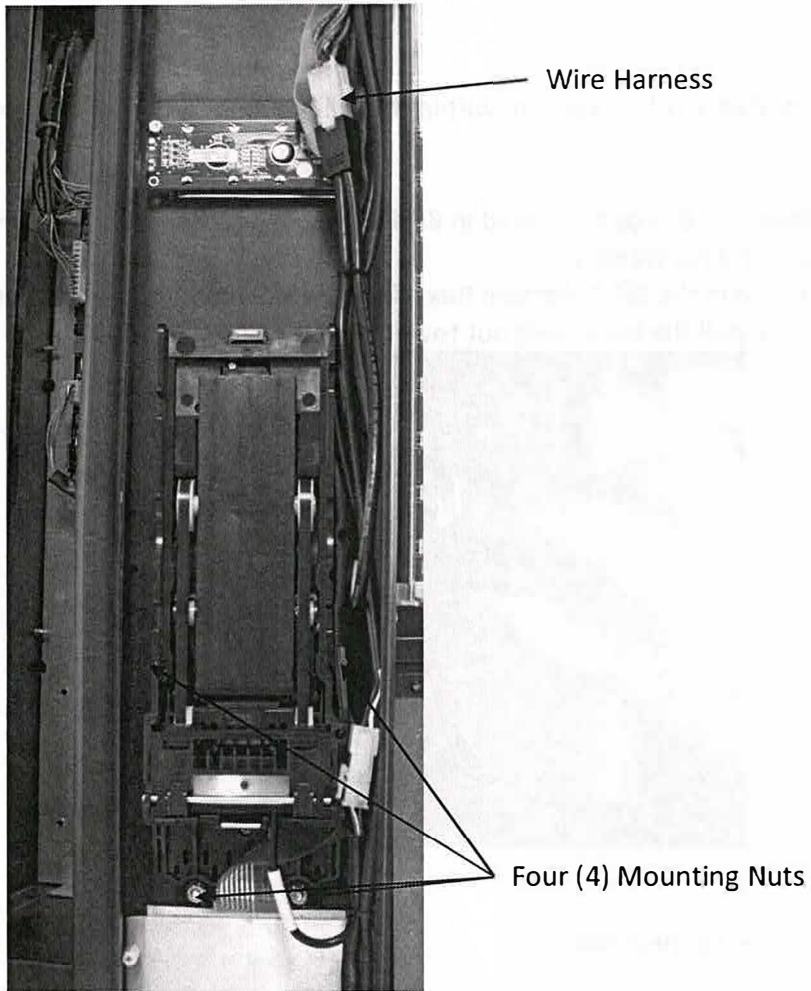
- b. Unlock and open the Front Door

- 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.



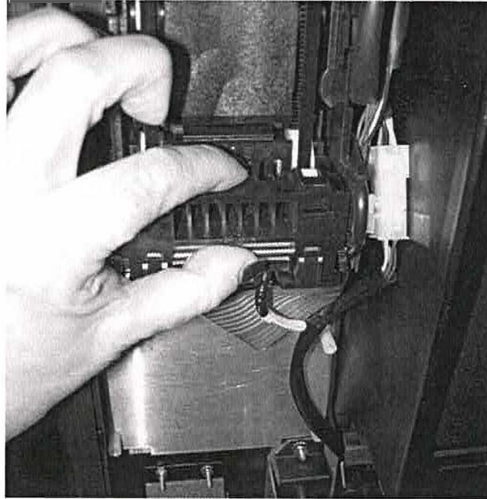
f. Remove Bill Validator

Clearing Bill Jams

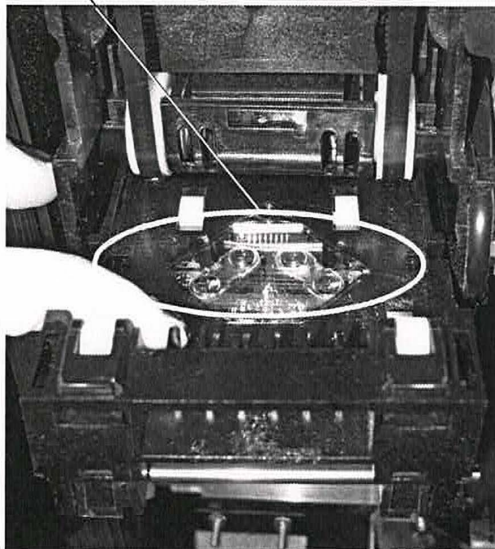
It is possible that a torn or damaged bill can jam within the Bill Validator, putting it out of service.

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 A4U4000 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

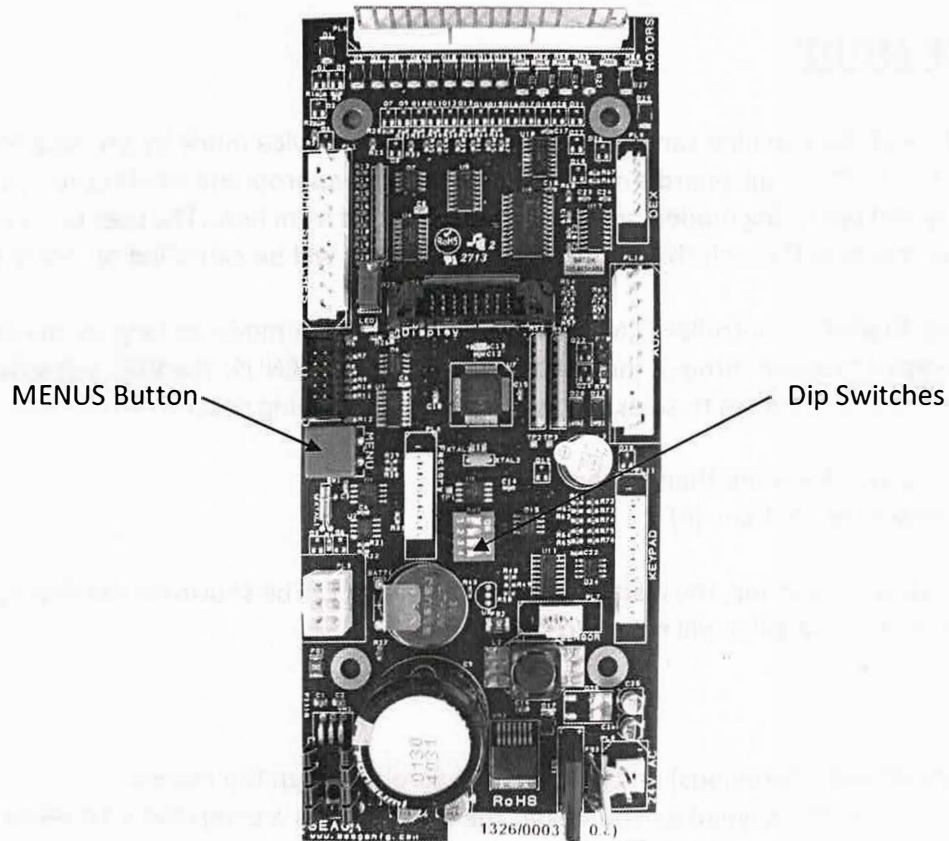


Figure 23a – Dip Switches

The Dip Switches must be set as shown, with 1 turned on and 2-4 in the off position:

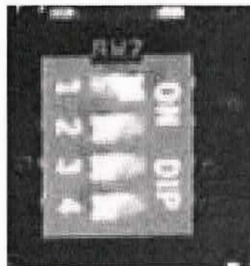


Figure 24 – Display in Service Mode; showing the first sub-menu - Prices



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 Vending Machine Controller (VMC) will remain in service mode as long as the user keeps using the keypad to move through the various service mode MENUS. The VMC will automatically exit service mode and return to sales mode if any of the following occur:

The user is inactive for more than 60 seconds

The user presses the EXIT key (#)

When you exit service mode, the installed firmware version will be shown on the display for three seconds, then the controller will revert to sales mode.

Navigation

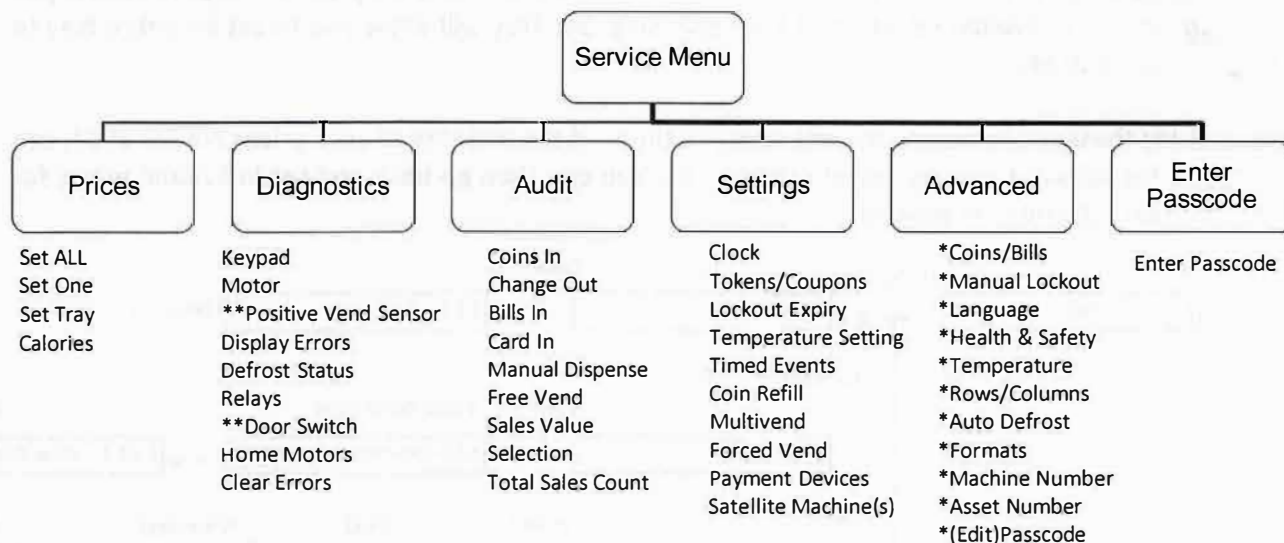
Use the 9 (next) and 0 (previous) on the keypad to scroll through the menus.

Use the "*" key on the keypad as you would the Enter key on a computer – to select, confirm, etc.

Use the "#" key on the keypad to Exit the Menus.

MENUS – CHART OF SERVICE MENUS

The chart below shows the Menus while in Service Mode:



Note: Functions preceeded with an asterisk* are not available without Passcode entry.

****Not all functions are applicable to all models.**

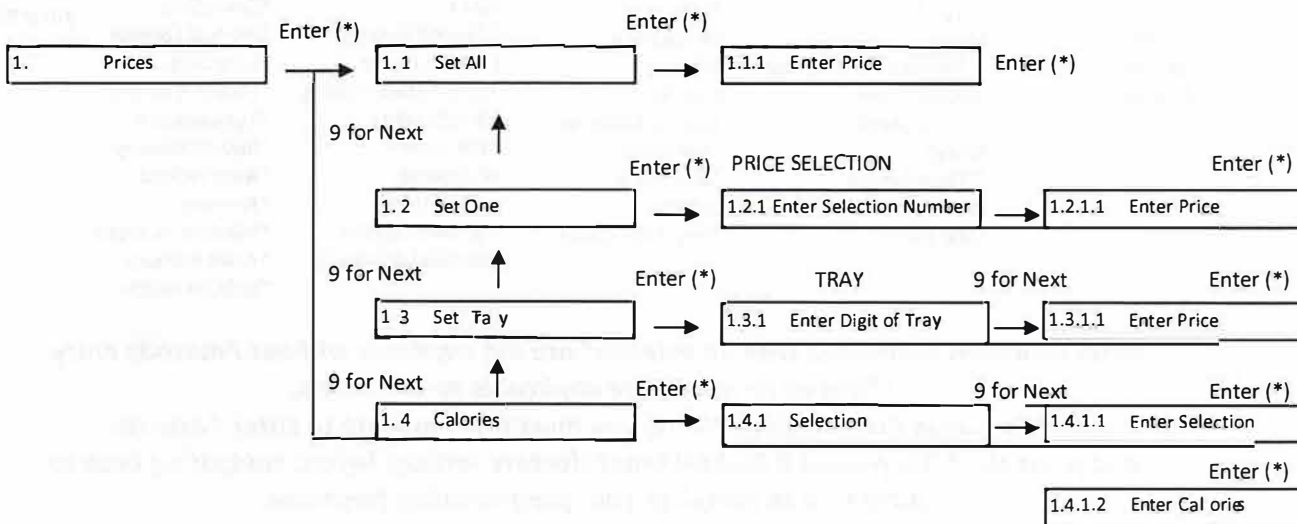
*****To access the Advanced Menu, you must first navigate to Enter Passcode and press the *, then press 0 four (4) times (factory setting) before navigating back to Advanced to complete your programming functions.**

Press # to Exit Passcode.

MENUS - PRICES

The Prices Menu allows you to set prices in three different ways – Set All, Set One, Set Tray. Set All will allow you to set all of selections in the machine to the same price. Set One will allow you to set one individual selection of your choosing. Set Tray will allow you to set an entire tray to the same price.

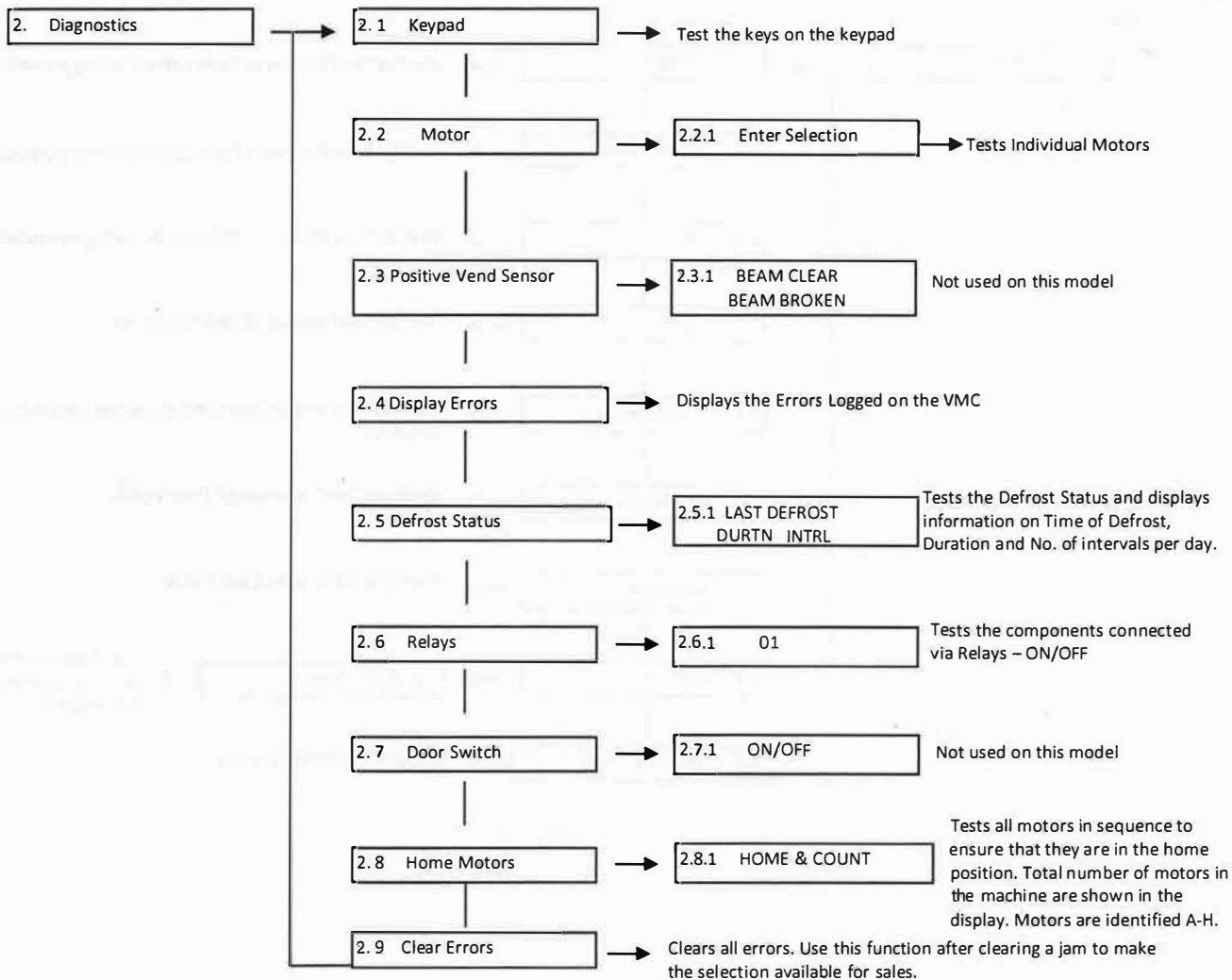
Using these available options will save you time – if the majority of your prices are set at \$1, use the Set All sub-menu to set all prices to \$1. You can then go back and set individual prices for certain selections as needed.



In order to enter the price, press the corresponding number. Note: For \$1.00, press 1 0 0 – for .50 press 5 0, etc. Press * to accept the value; # to exit to the main menu.

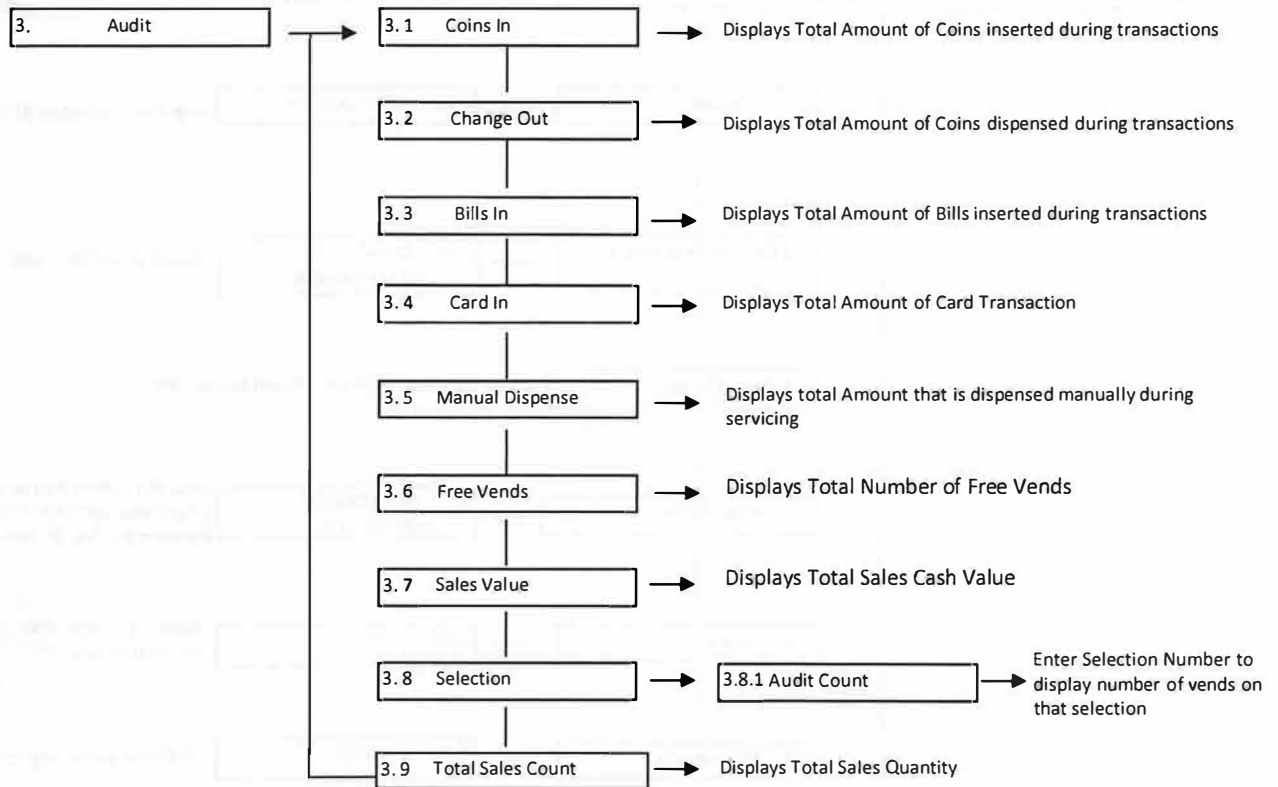
MENUS - DIAGNOSTICS

The Diagnostics Menu is used to test various features of the machine.



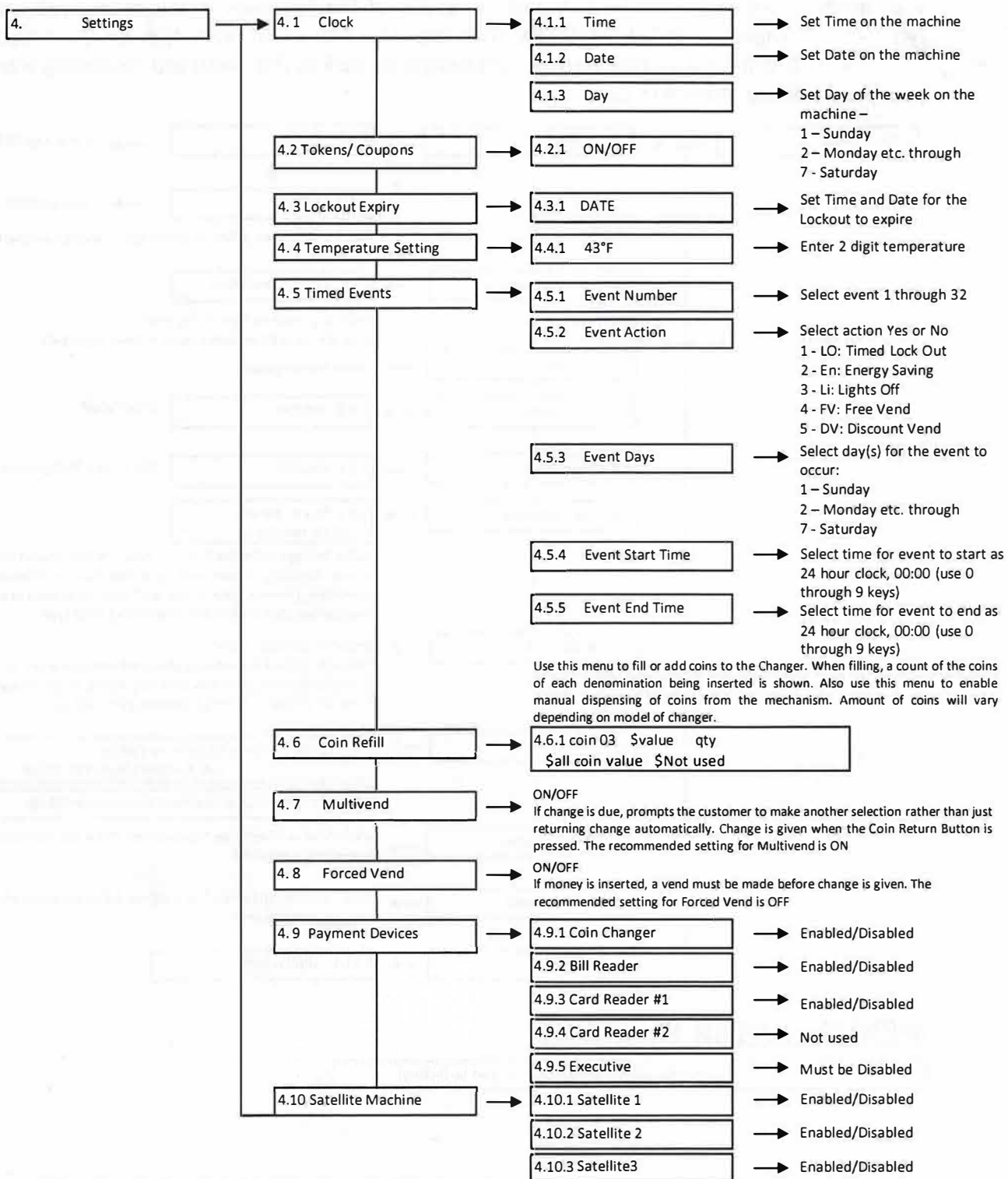
MENUS - AUDIT

The Audit Menu is used to track the machine operation. The industry standard is to keep a continuous total of all audit functions that cannot be set back to zero.



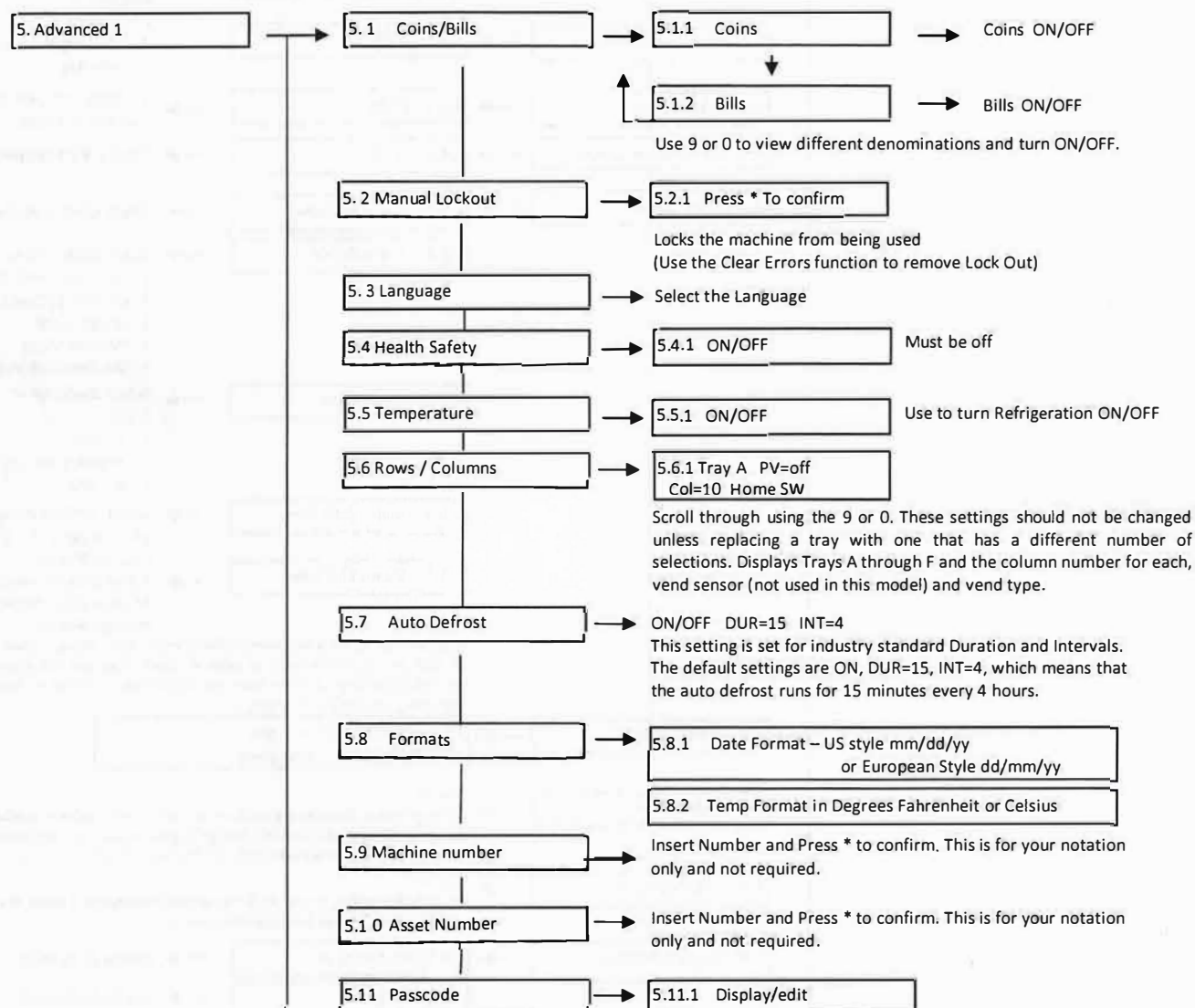
MENUS - SETTINGS

The Settings Menu is used to Setup the features of the machine.

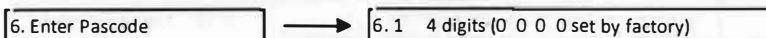


MENUS - ADVANCED

The Advanced Menu options should be adjusted with extreme caution, as several key areas of your machine are controlled here. Before using any of the functions in this menu, you are required to navigate to ENTER PASSCODE from the main menu and press *, enter the 4 digit passcode (0 0 0 0 is the factory setting) then navigating back to this menu and continuing with your programming. Press # to Exit.



MENUS – ENTER PASSCODE



MENUS - EXIT

Press “#” to Completely Exit from the Service Menus.

ERROR CODES

Motor Diagnostic Error Codes:

000	-	No error
001	-	Vend OK but did not home
002	-	Reserved
003	-	Stuck at home
004	-	Cycle OK but product not detected
005	-	Low current (motor probably did not move)
006	-	Over current (Hard error)
007	-	Did not home, no product detected
008	-	Positive Vend sensor blocked

Logged Error Codes:

001 - 080 Motors A1, A2 through H10
 plus a sub code (same as diagnostic codes)

Row A is 001 – 010

Row B is 011 – 020

Row C is 021 – 030

Row D is 031 – 040

Row E is 041 – 050

Row F is 051 – 060

Row G is 061 – 070

Row H is 071 – 080

100 Coin Changer

110 Bill Reader

120 Card Reader 1

121 Card Reader 2

130 Audit Device

140 DEX error

150 Satellite 1 error

151 Satellite 2 error

152 Satellite 3 error

160 Internal VMC

201 Period Lockout

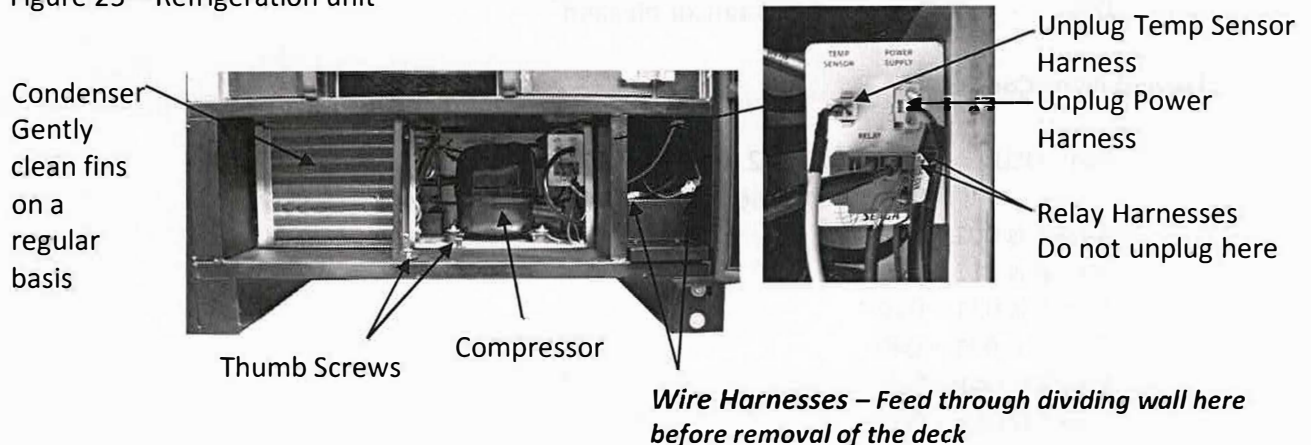
202 H & S Lockout

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.

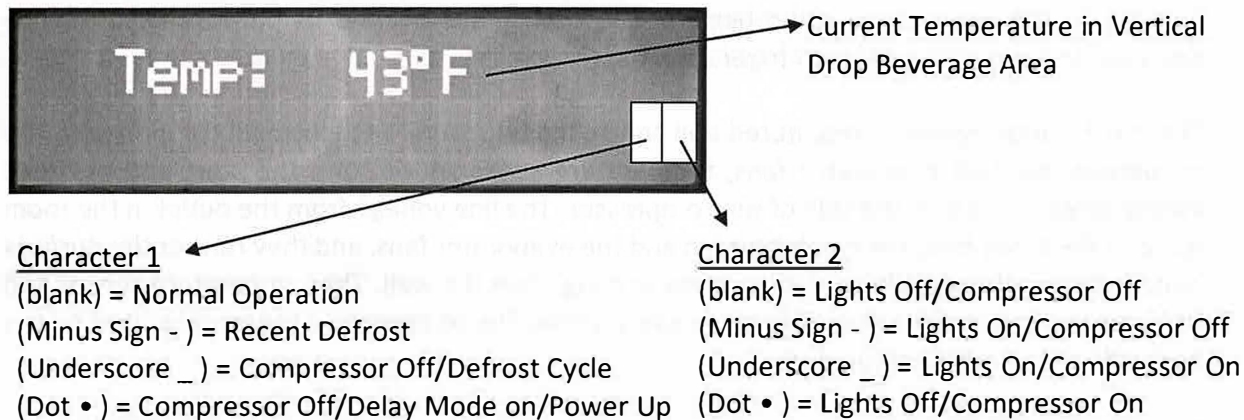
To determine if the compressor system is running it is sometimes difficult due to the fact that the compressor tends to be very quiet. The sound and slight vibration from the fans running can sometimes be mistaken for the compressor running. One way to tell if the compressor system is running is to cautiously 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

SELECTION DISPLAYS SOLD OUT WHEN PRODUCT IS PRESENT

1.

- a. Product is not loaded correctly. Ensure product is located to the front of the column and depresses sold out indicator.
- b. 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.
- c. Sold out switch wire harness not connected.
- d. Sold out switch defective

NO DISPLAY ON THE FRONT PANEL

2.

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

SELECTION WILL NOT VEND

3.

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

MULTIPLE VENDS FROM ONE SELECTION

4.

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

MULTIPLE VENDS MORE THAN ONE SELECTION SIMULTANEOUSLY

5.

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

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.

FREQUENTLY ASKED QUESTIONS

Keypad

What do I do if my keypad isn't responding, displays double the number pressed or displays a different number?

1. If not responding, check the connection at the VMC to make sure it's secure. Examine the whole keypad harness to make sure there is no damage to the harness.
2. If the wrong number or a double number appears, locate the mounting plate inside the machine, and you will see a series of nuts in each corner of the mounting plate. Loosen each one of those a half to full turn. Power the machine off for 10 seconds then power back up and test the keypad.

Changer

My vendor won't accept change, how do I fix this?

1. Check to make sure the changer has power.
2. Check your payment device setting and make sure that the changer is enabled.
3. Check to make sure there are no coins jammed in the changer.
4. Check to make sure the coin return mechanism is releasing all the way.

What does it mean when the lights on top of the changer are flashing?

1. If the amber C/C light is flashing, it means that the lower coin cassette is not fully engaged. Remove the lower coin cassette, line up correctly and reinsert.
2. If the red DIS light is flashing, it means that there is a jam located in the upper cassette. You can clear that by opening the clear center access door or opening the flap on top to check for interior jams.

Bill Validator

My vendor won't accept bills, what do I do?

1. In Menu, Settings, check Coin Refill for your coin values. Your bill validator operates only if it knows that there is enough change in the Coin Changer to make transactions. The best way to make sure your bill acceptor has this information is to make sure all coins are loaded when in the Coin Refills Menu mode and inserted through the front of the vendor.
2. Make sure the bill acceptor is clean and there are no jams or debris inside of the acceptor.

Beverage Vending

My beverages aren't vending at all.

1. Make sure all items are loaded correctly.
2. Make sure shim is in correct place and back gate is adjusted properly.

My beverages are vending more than one at a time.

1. Make sure all items are loaded correctly. Make sure you have loaded the correct product into the correct selection. Make sure shim is in the machine. If needed make proper adjustments to the home switch plate.

I cannot vend Red Bull at all or the cans get punctured when they vend.

1. If Red Bull isn't vending, make sure that the side spacer is still attached and has not slid down.
2. In the case of punctured cans, you will need to have the sold out flap replaced; contact Customer Care.

I've loaded my column, but nothing is vending.

1. Make sure all product loaded is installed in the correct selection. You have to load product according to the machine Plan-O-Gram. A change from the Plan-O-Gram requires new parts and setup. Contact Customer Care.

The selection vends fine in Test Mode, but during Sales Mode says Make Alternate Selection.

1. You have an error code or a jam blocking the use of that particular selection. You will need to empty all products and make sure there are no jams. Return the auger to the home position and reload the product. Then go to the menu and clear the errors. This will allow you to resume vending from that particular selection(s).

Power

I can see and hear the cooling deck fans, but there is no power to the rest of the machine. What does this mean?

1. Check the transformer on the floor of the machine. There is a cover that goes over the transformer with access to the small breaker switch on top of the transformer. Press the breaker switch to reset the transformer. This should cause the machine to power back up.

Check to make sure that the main power harness that runs from the transformer to the VMC. Make sure all connections are good.

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, 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@seaga.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.

SMI2456321