



## VC730 Refreshment Center Combo



# Operator's Manual

## **INTRODUCTION**

Congratulations on the purchase of your new vending machine. This vendor 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 vendor is designed to operate simply and reliably, but to take full advantage of your machine, please read this owner's manual thoroughly. It contains important information regarding installation and operations, as well as a brief trouble-shooting guide.

### **EQUIPMENT INSPECTION**

After you have received your machine 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 our 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 [www.seagamfg.com](http://www.seagamfg.com). Should any problems occur, refer to the section entitled "COMMON QUESTIONS AND ANSWERS". It is designed to help you quickly identify a problem and correct it.

### **MANUFACTURER'S WARRANTY**

#### **WHAT IS COVERED:**

Manufacturer warrants TO THE ORIGINAL PURCHASER ONLY that each item of equipment manufactured is free from defects in material and workmanship under normal use and service. Manufacturer's obligation under warranty shall be limited to repair or replacement, at our plant, of any parts of the equipment, which shall, within one year of the date of shipment to the original purchase, be demonstrated to be defective. The original purchaser may obtain repair or replacement of the equipment under warranty by returning the defective item or entire vendor to the Manufacturer, freight prepaid.

#### **WHAT IS NOT COVERED:**

Manufacturer's warranty obligations DO NOT EXTEND TO OR INCLUDE installation expenses, vandalism, or difficulties resulting from failure to operate equipment in accordance with Manufacturer's instructions under competent supervision and difficulties due to changes in vended products, which are beyond the control of manufacturer.

**SPECIAL NOTE:** Manufacturer is not responsible for any loss of income due to a vending machine being out of service due to a warrantable item.

This warranty is in lieu of all the other warranties, expressed or implied, including the warranty of merchantability and fitness or use, and of all other obligations or liabilities on Manufacturer's part. Manufacturer neither assumes, nor authorizes any other person to assume for it, any other liability in connection with the sale of equipment manufactured by itself. This warranty shall not apply to equipment manufactured or any part thereof which is subject to accident, negligence, alteration, abuse, misuse, or damage in shipment. The term "original purchaser", as used in this warranty, shall be deemed to mean that person for whom the equipment is originally installed.

Manufacturer is not liable for any incidental, consequential or other damages of any kind whatsoever, directly or indirectly, arising from the use of the equipment whether based upon theories of contract negligence or tort.

For Service and Customer Care:

8:30 a.m. - 4:00 p.m. CST. Mon thru Fri, 815.297.9500 or email: [customer care@seagamfg.com](mailto:customer care@seagamfg.com)



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Freeport, IL 61032 U.S.A.  
[seagamfg.com](http://seagamfg.com)

## SPECIFICATIONS

The machine is comprised of two (2) units - Snack Unit (VC16S) and the Beverage Unit (VC7RD). Installation and setup of these units is explained in the next sections of this manual.

<b>Machine Description</b>	<b>Snack Unit</b>	<b>Beverage Unit</b>
<b>Model Number</b>	<b>VC16S</b>	<b>VC7RD</b>
<b>Height (in)</b>	28.5	41
<b>Width (in)</b>	30.2	30.2
<b>Depth (in)</b>	28.5	28.5
<b>Volts (V)</b>	115	115
<b>Frequency (Hz)</b>	60	60
<b>Watts (W)</b>	100	350
<b>Current (A)*</b>	1.0	3.8

\* - Current draw varies depending on Operating Conditions and Load and are subject to change.

**The machine is designed for use in indoor conditions only. The recommended operating environment is 75° F and 40% RH.**

## OVERVIEW

This manual covers Installation, Setup, Programming and Service instructions. It is extremely important that this manual be read thoroughly prior to commissioning the unit in the field. This will ensure a satisfactory long-term performance.

The unit consists of two (2) separate cabinets that are installed together via mechanical means and connected via electrical connections to operate as ONE unit.

The Snack Vendor (VC16S) consists of three (3) trays. The first and second trays have 4 selections each (Tray 1 – B1 through B4, Tray 2 – B5 through B8). The third tray has 8 selections (C1 through C8). The top two trays are normally used for products that are wider such as chips, pastries etc. and the third tray is used for Confectionary items such as candy bars. The Snack Vendor (VC16S) also houses all the payment mechanisms and electronic Vending Machine Controller (VMC) on the right side of the cabinet, as shown in Figure 14. The payment mechanisms, electronic components (such as VMC) and transformer are installed on a vertical shelf that slides out for easy access. The connector to connect the Beverage Unit (VC7RD) is also provided in this vertical shelf of the Snack Vendor (VC16S).

The Beverage Vendor (VC7RD) consists of Product Delivery systems consisting of a teeter-totter style mechanism and a vertical drop system. The Beverage Vendor also houses the removable Refrigeration System. The cabinet of the Beverage Vendor has a delivery system that has 4 selections for Cans and 3 selections for Bottles. The Cans are loaded in the chutes (D1, D2, D3, and D4) and the Bottles are loaded in Vertical Drop System columns (D5, D6 & D7). The loading instructions are given in subsequent sections. The refrigeration system is installed at the bottom of the Beverage Vendor and there is a foamed separation between the cabinet interior and the refrigeration system. The installation, setup and functionality of the refrigeration system are explained in the section titled Refrigeration.

## RECEIVING, INSPECTION, UNPACKING AND TESTING

After you have received your machine, inspect all vendor components. **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. Once you have your machine located, we suggest that you keep this manual for future reference.

The unit is placed on a wooden pallet and stretch-wrapped. Please exercise caution while cutting into the stretch-wrap with a sharp tool such as a utility knife, as it may cause scratch marks on the machine.

The Snack and Beverage Units are boxed in separate cardboard boxes. The Snack Unit box is placed on top of the Beverage Unit. After removing the stretch wrap, remove the Snack Unit and place it aside. USE EXTREME CAUTION AS THE TOP OF THE BOX IS NOT ATTACHED TO THE BOTTOM OF THE BOX. The top of both the snack and beverage units slide up for removal. Remove the Beverage Unit from its box and place it in the desired vending location. Remove the Snack Unit from its box and place it on top of the Beverage Unit carefully. Please use proper lifting and safety precautions while placing the Snack Unit on top of Beverage Unit.

Open all Unit doors and remove the packing materials. Keys can be found in the white envelope placed in the vend area of the Snack Unit. Remove the tape on the tray levers of the Snack unit. Also remove the protective paper from under each helix coil as well as the ties securing the ends of the helix coils during shipping. Remove all protective plastic from the window lenses.

Remember: at least two people are necessary to move any of the components of the machine. Follow proper safety standard for lifting and working with electronic/refrigerated equipment.

## INSTALLATION

Once the machines have been unpacked and placed in their permanent location, installation involves both electrical connection and mechanical attachment. Tools required: Adjustable wrench and Philips screwdriver. For optimal installation, follow the order of connections as outlined below:

### **1. Mechanical Connection between Snack and Beverage Units:**

The Snack and Beverage units must be screwed together for safety purposes. Two screws are provided in the white envelope found in the vend area of the Snack unit. Square the fronts and edges of the Snack and Beverage units. Open the Snack unit door and locate the two holes at the bottom of the unit. Insert both screws and tighten.

### **2. Electrical Connection between Snack and Beverage Units:**

Remove the Styrofoam insert from the opening in the upper right corner of the beverage unit and save this for reinsertion. Open the Beverage unit door and locate the beverage main harness. See Figure 1. Insert harness through the opening up into the Snack cabinet, see Figure 2. Reinsert the Styrofoam piece for maximum insulation of the refrigeration unit. (You may have to remove a small piece out of the Styrofoam to accommodate the harnesses.)

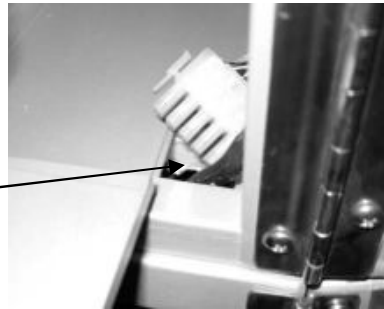
Figure 1 – Beverage Harness



Beverage  
Harness

Figure 2 – Inserting Beverage Harness

Beverage  
Harness  
inserted up  
through  
Snack Unit



Connect the beverage main harness to Connector #4 (see Figure 3).

Figure 3 – Making Beverage Connection

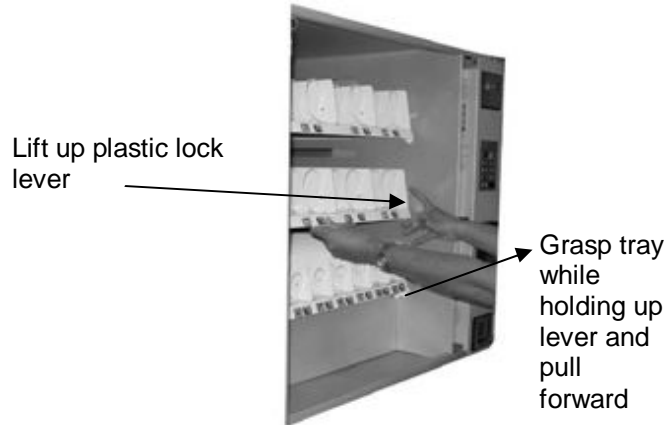


Beverage main harness attaches to  
Connector #4.

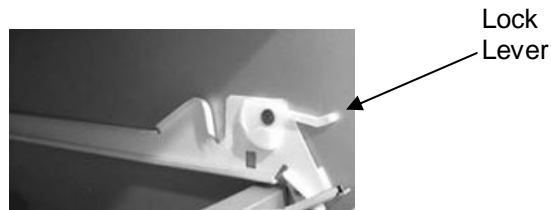
## LOADING PRODUCT TRAYS

Open the front door of vendor, and lift up the plastic lock lever on the right side of the tray to unlock. Holding the lever up, grasp the tray and lift the front of the tray slightly and pull forward. The tray will slide out and then tilt down to make loading of products easier. Load only one product tray at a time (See Figure 4).

Figure 4 – Slide-out product trays



Product tray plastic lock lever  
(Shown with tray removed)



1. To Load Product in Snack Unit:

- a. Pull the desired product tray all the way forward. Product tray will tilt down.  
**Note:** Pull out only one (1) product tray at a time
- b. Place product in proper size helix coil.  
**Note:** Bottom of product must rest on the product tray and not on the Helix Coil. Load each column from back to front.  
**Note:** Fill all product trays fully; do not leave any spaces behind or between items
- c. Once product tray is fully loaded, lift and push it back in.

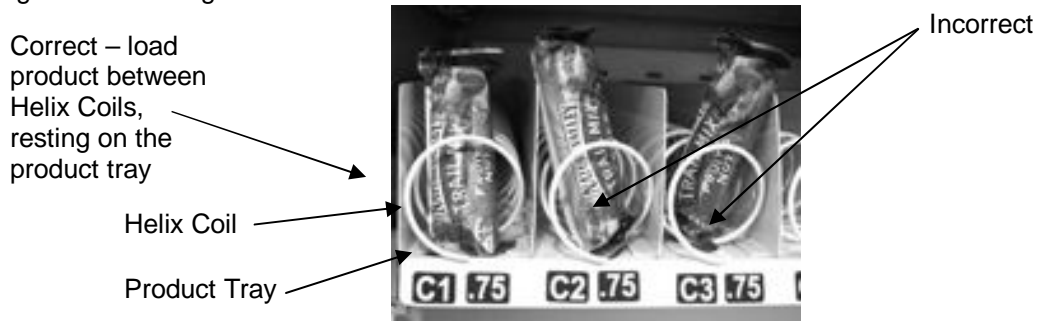
Repeat steps a through c until all product trays are fully loaded. Special Note: We suggest that you always partially fill the tray with product and perform at least five (5) test vend. Test vends can be performed easily by entering Service Mode and running the "SLCT" function, Individual motors testing.

**PRODUCT LOADING**

Snack Unit

Wide products such as Chips bags etc. are loaded in Tray 1 and Tray 2. Narrow products such as Candy bars are loaded in Tray 3. See Figure 5.

Figure 5 – Loading Product

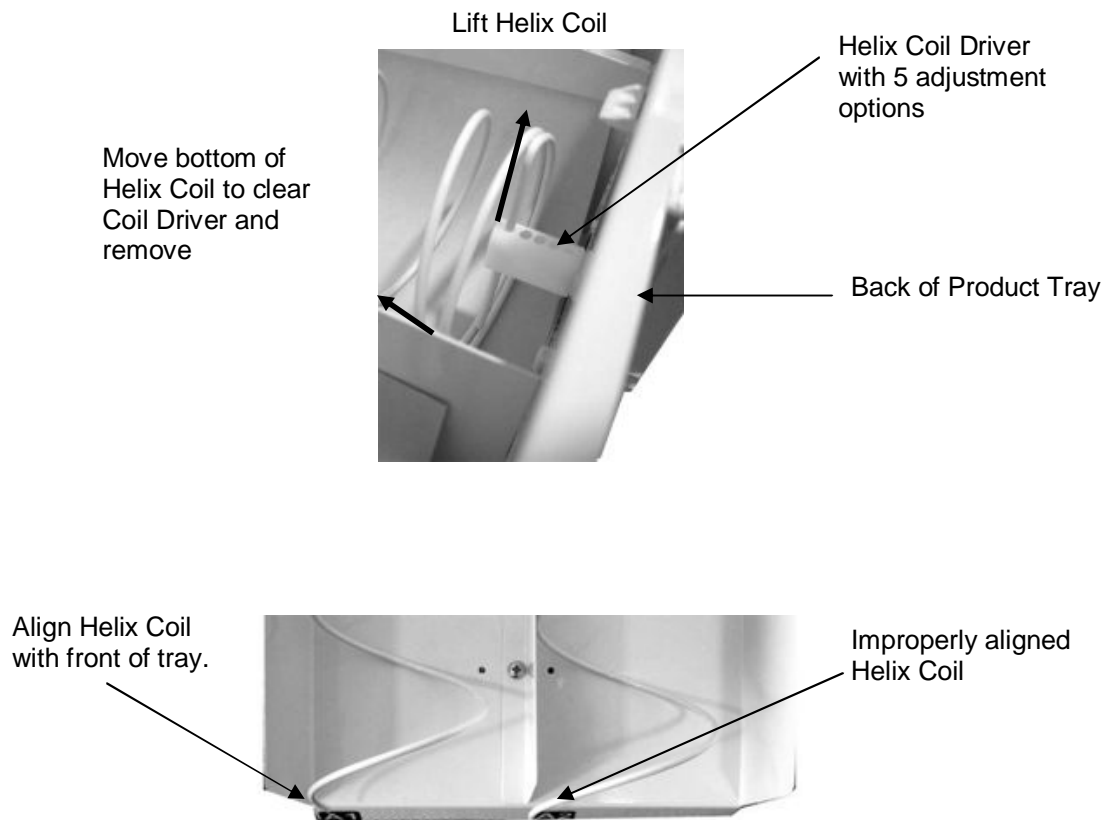


## **HELIX COIL LOCATION ADJUSTMENT**

If you are required by a location to vend a product of a non-standard size, you may need to order a different helix coil and install it. To replace a helix coil:

1. Remove the Helix Coil from the Coil Driver by lifting the back of the helix coil up off the coil driver. You will need to move the bottom of the helix coil clear of the coil driver to completely remove the helix coil. See Figure 6.
2. Align the new helix coil end with the front of the tray, which gives the helix coil better contact with the product. The position of the helix coil in the coil driver is adjustable to assist you in aligning the new helix coil at the front of the tray. See Figure 6.

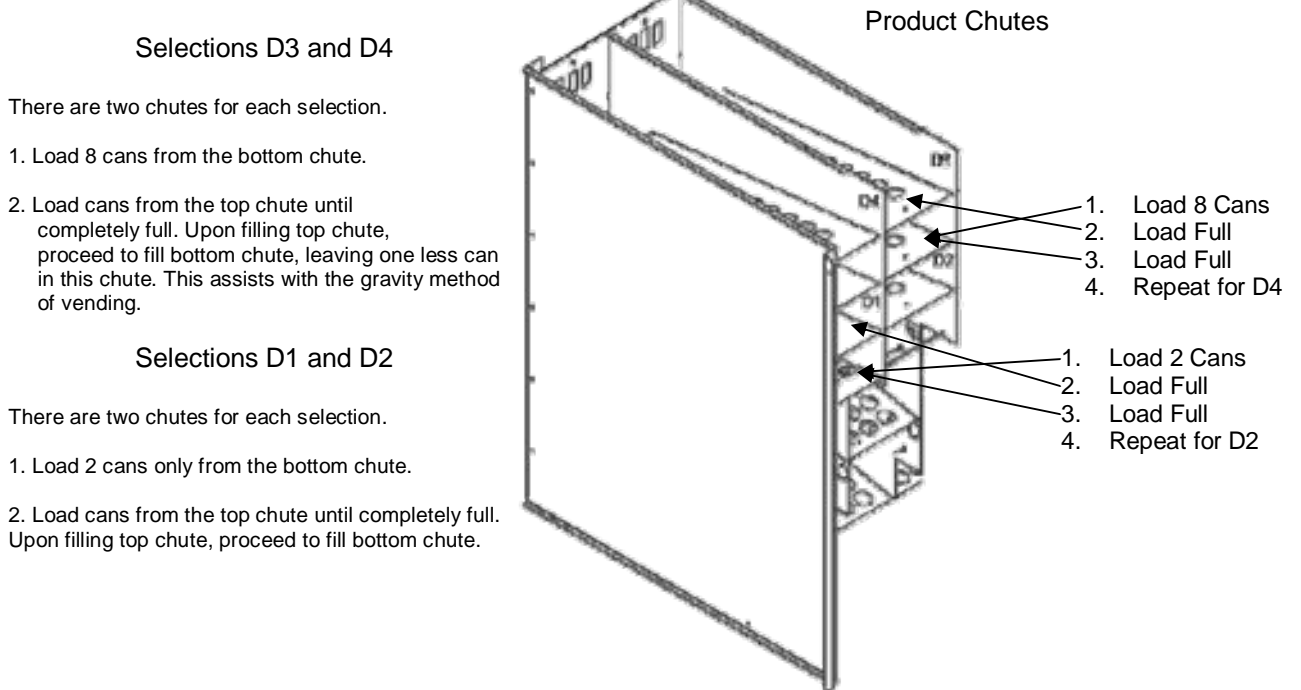
Figure 6 – Removing and Aligning a Helix Coil



## Beverage Unit

The cans are loaded in D1, D2, D3, & D4. Selections D5, D6 and D7 are set up for bottles. These instructions are also available for quick reference on a yellow decal inside the unit. See Figure 7.

Figure 7 – Loading Beverage Unit



### Selections D5, D6 and D7 Vertical Product Columns

1.) For bottles, place top of the first bottle against the front of the column by the Sold Out Switch. Place the second bottle to the rear of the column, touching the bottom of the first bottle. See illustration at right. The factory default setting is shown for 16.9 oz. bottles.

2.) Finish loading to the top of the column, making sure bottles are perfectly horizontal and not tilted or skewed in the column.

3.) To adjust the rear spacer, grasp firmly and lift up and move forward or rear, as required, so that the rear spacer is touching the rear bottle.

Note: There are many variations of packaging among the beverage brands. The instructions above are meant to be a guideline. If you have packaging that isn't mentioned or shown, experimentation will be necessary for a proper vend.

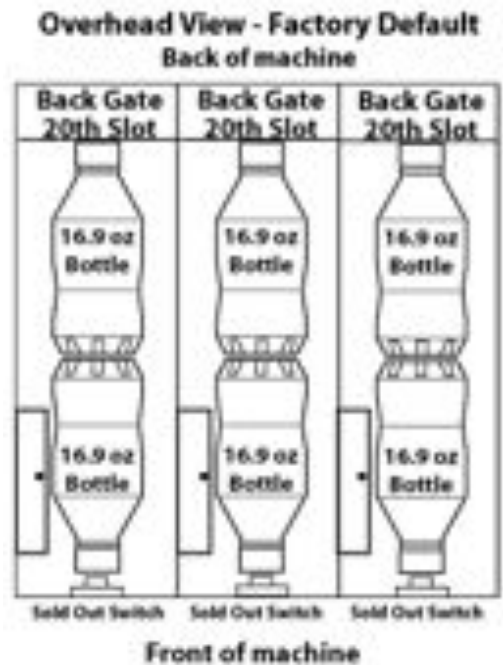
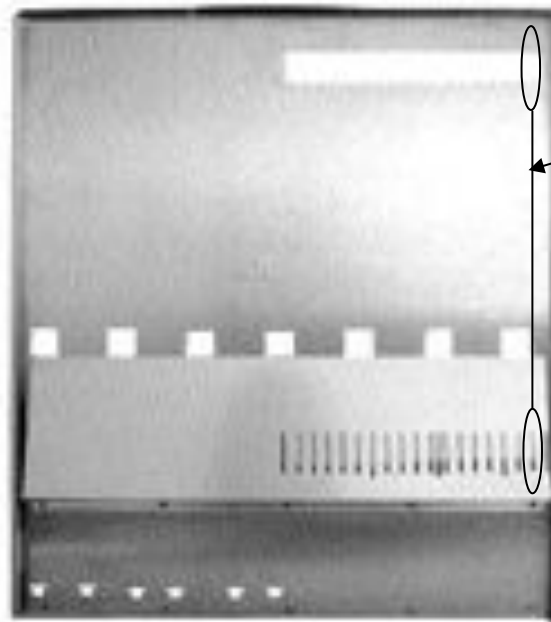




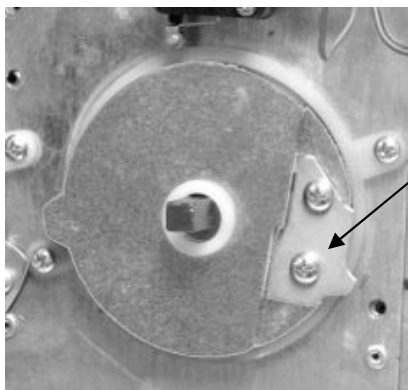
Figure 8 – Vertical Column Components



Rear spacer position  
for 16.9 oz. bottles  
(20th slot)

*You may need to adjust due to product height variance.*

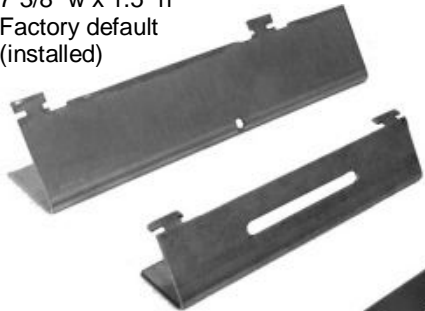
Rear Spacer



Bottle Cam shown  
installed on auger.  
Motor and  
brackets removed.

Product	Size	Type	Shim	Back Gate	Max Load	Notes
Coca-Cola and varieties	16.9 oz	Bottle	A	20	14	Load bottom to bottom
Pepsi, Diet Pepsi, Mt. Dew and varieties	16.9 oz	Bottle	A	20	14	Load bottom to bottom
7 up and Diet 7up	16.9 oz	Bottle	A	19	14	Load bottom to bottom
Dr Pepper, Diet and varieties	16.9 oz	Bottle	A	19	14	Load bottom to bottom
Gatorade	20 oz	Bottle	B	16	12	Load bottom to bottom
Nestle Water	16 oz	Bottle (soft)	A	16	20	Load bottom to bottom
Monster, Rock Star, etc.	16 oz	Can	C	8	14	Load bottom to bottom
Coca-Cola and varieties	12 oz	Bottle	C	10	14	Load bottom to bottom
Frappuccino	9.5 oz	Bottle (glass)	na	na	na	Do not vend
Red Bull, Starbucks Double Shot	8.4 oz	Can	*	*	*	Kit available from parts@seagamfg.com
Coca-Cola and varieties, Pepsi, Mt. Dew, etc.	24 oz	Bottle	na	na	na	Do not vend

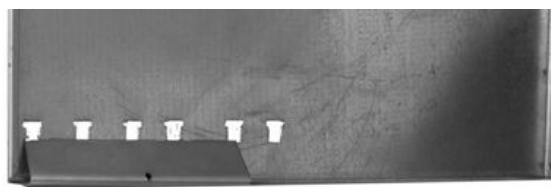
Shim A  
7 3/8" w x 1.5" h  
Factory default  
(installed)



Shim B  
5.5" w x 1 1/16" h  
Included (see chart for use)

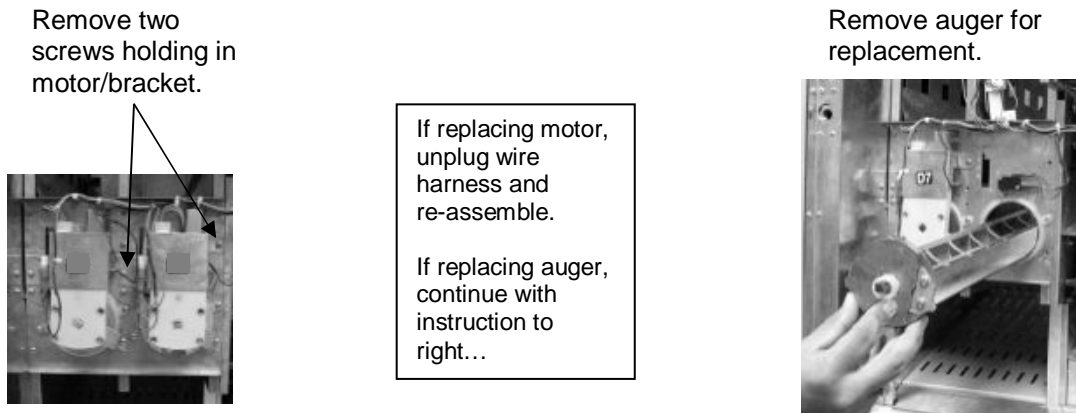
Shim C  
5.5" w x 1.5" h  
Included (see chart for use)

Shim A arrives installed as shown below, and is required for most products (see chart)



Specialty kits are available for Red Bull as well as oddly shaped packaging, but are not included. Contact Seaga Customer Care, if you require these kits.

Figure 9 – Removing Vertical Drop Motors and Auger System

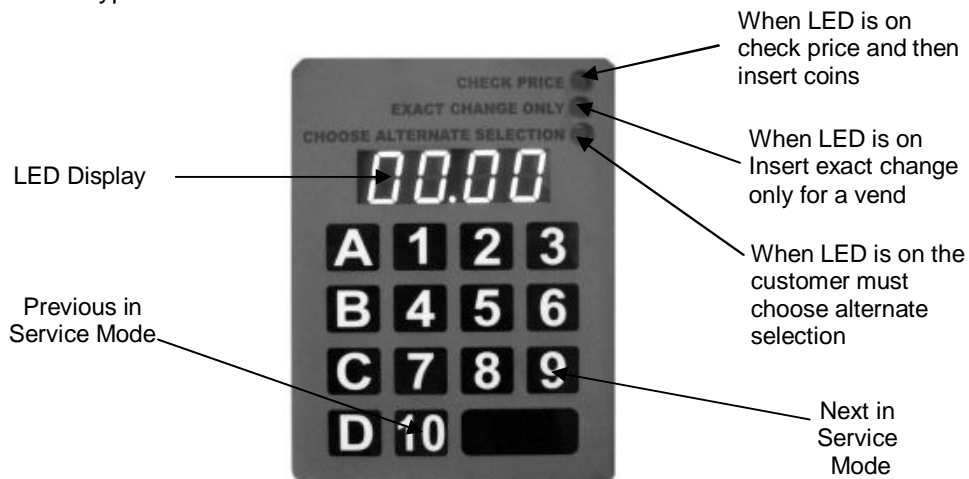


The Beverage unit does not ensure FIFO (first in first out). So whenever fresh beverages are loaded (usually from the upper chutes) it is likely that the lower chutes of the can unit may still be holding some older cans for a period of time. Although beverages have reasonably good shelf life, we recommend that the Beverage unit be emptied once every 30 days and reloaded, so that a forced product rotation takes place.

### KEYPAD AND LED DISPLAY

The Keypad is touch sensitive. Light pressure will be necessary to activate each number or letter. The Keypad is used by the customer to make their selection, and by the operator to set and test many functions of the machine. Note: The keypad and LED Display are 2 separate components, though they appear as one streamlined piece.

Figure 10 - Keypad

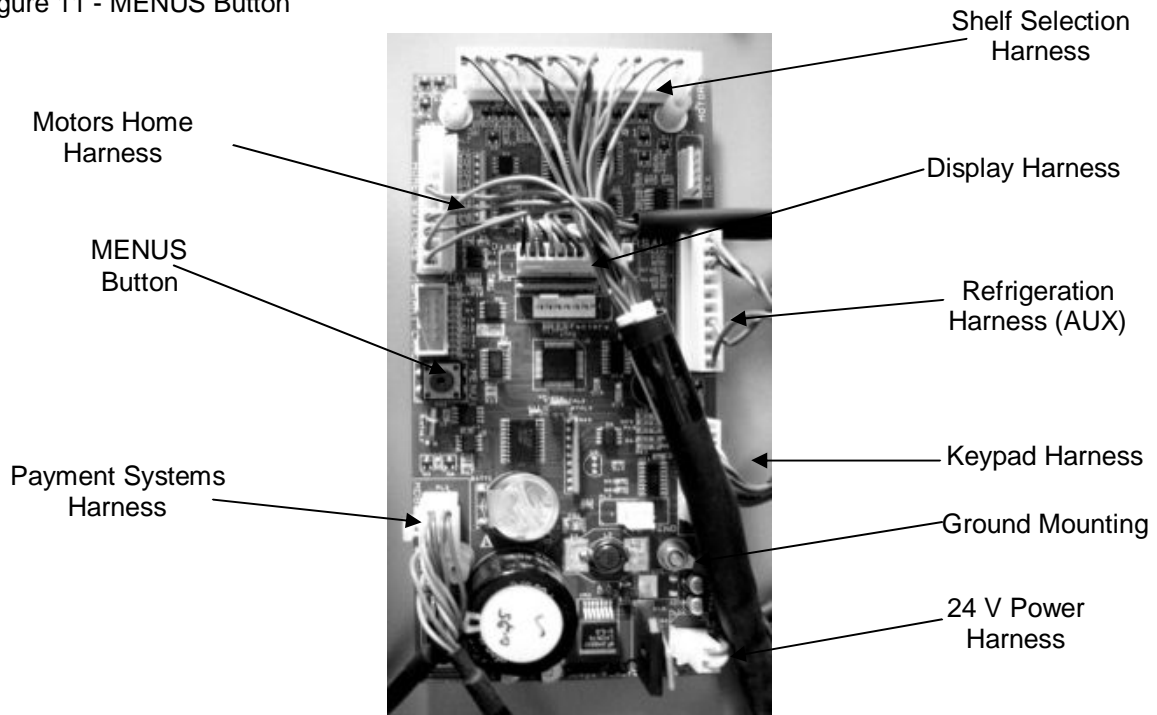


The LED Display shows the customer the amount of money entered into the vendor, and the cost of their selection. It shows the operator the Service Mode function for setting and testing the various functions of the vendor.

## PROGRAMMING

Unlock and open the Front Door to access the VMC, and enter Service Mode by pressing the MENUS Button. (Fig. 11)

Figure 11 - MENUS Button



## BASIC OPERATION

The following display formats are used:

	Display when Active	Exact LED	Check Price LED	ALT SEL LED
Standard Operation, no credit available	00.00			
Standard Operation, some credit available	00.01 – 99.95			
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)	00.05 – 99.95		ON	
Free Vend Mode (all prices set to zero)	FrEE			
If a selection is out of stock when a selection is pressed – this is displayed for a few seconds	Sold Out (as two successive messages)			ON
All Items out of stock	Sold Out (as two successive messages repeated)			
Machine Out Of Order	Out oF Ordr (as 3 successive			

	messages)			
During a Vend (Progress bar, 1, 2, 3 and 4 dashes)	- - - -			
Consumer presses Coin Return when Force Vend is ON, change is not permitted	SEL			
Exact Change required (MDB Changer enabled)		ON		
Temperature Display (if control is enabled) – press the <b>10</b> button to display	nnC or nnF			
Timed Lockout or H & S lockout	OFF			
Refrigeration System Error: Note Error Code 70 in Error Codes section of this manual.	Errt			

### **SERVICE MODE**

The operation of the machine can be adjusted by entering Service Mode, pressing the MENUS button on the VMC circuit board and 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.

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 **10** (Previous) buttons to scroll through the menus in sequence:

- |                         |          |                               |
|-------------------------|----------|-------------------------------|
| 1. AUDIT                | Displays | Au.--                         |
| 2. PRICE SETTING        | Displays | PS.--                         |
| 3. TEST MODE            | Displays | tE.--                         |
| 4. CONTROL WORD         | Displays | Ct.**                         |
| 5. SOUND On/Off         | Displays | So.0*                         |
|                         |          | Where * is the current state  |
| 6. DISPLAY ERRORS       | Displays | Er.--                         |
| 7. CLEAR ERRORS         | Displays | CE.--                         |
| 8. SET CLOCK            | Displays | CL.--                         |
| 9. MDB PAYMENT DEVICES  | Displays | Pd.**                         |
|                         |          | Where ** is the current value |
| 10. HOME & COUNT MOTORS | Displays | Ho.**                         |
|                         |          | Where ** is the last count of |
| 11. TEMPERATURE SETTING | Displays | tS.**                         |
|                         |          | Where ** is the current state |
| 12. END MENUS           | Displays | En. --                        |

### **AUDIT**

Within Service Code Au (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 999999.99)
- 2 Total Product Sales Value: (up to 999999.99)
- 3 Total Count of Free Vend Tokens : (up to 49999)
- 4 Total Coins IN : (up to 999999.99)



## CONTROL WORD

1. Press the Scroll buttons (**9** or **10**) repeatedly until the LCD Displays Ct. \*\*  
(where \*\* is current value)  
*You are now in Control Word Setting*
2. Press Selection Button **1** to **4** to change the control word Displays Ct.\*\*

*The control word is now set*

\*\*\*RECOMMENDED CODE: **2**

### The control word options supported are :

Code	Multivend	Forced Vend
1	No – single vend	No
2	Yes - multivend	No
3	No – single vend	Yes
4	Yes - multivend	Yes

## SOUND (ON/OFF)

1. Press the scroll buttons (**9** or **10**) repeatedly until Displays So.00
2. Press Selection Button **1** to toggle the setting Displays So.01
3. Press any other Button to exit to the next menu option

A value of 1 enables the sound, 0 disables the sound.

\*\*\*RECOMMENDED CODE: **1 (ON)**

## DISPLAY ERRORS

1. Press the scroll buttons (**9** or **10**) repeatedly until Displays Er.--

In this mode, press any selection button (other than **9** or **10**) to display error codes in sequence, shown as Er.nn where nn is the error number.

## ERROR CODES

Error Code Number	Fault detected	Hard/Soft fault	Action
01 .. 60	Motor A1 .. F10 respectively	Soft	Repair/replace motor/home switch
70	Refrigeration Error	Hard	Check connection to temperature sensor, check connection to Aux Terminal on main control board
80	Coin Changer fault	Hard	Repair/replace coin changer or disable the coin changer
81	Change giver Out Of Change	Soft	Fill Tubes
82	Error in credit value	Soft	None
85	MDB Bill Reader fault	Hard	Repair/replace Bill Reader or disable the bill reader
90	MDB Card Reader fault	Hard	Repair/replace Card Reader or disable the Card reader
91	Error in Bill credit value	Soft	None

**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.

**CLEAR ERRORS**

1. Press the scroll buttons (**9** or **10**) repeatedly until Displays CE.--

In this mode, press any selection button (other than 9 or 10) to clear all errors – confirmed with a “CLr” display.

**SET CLOCK**

1. Press the scroll buttons (**9** or **10**) repeatedly until Displays CL.--

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 **HH.MM** Press the four numbers to set the time.
2. Date – displayed as **DD.MM** Press the four numbers to set the date and month.
3. Year – displayed as **y-YY** Press the two numbers to set the year (00 – 99).
4. Day of Week – displayed as **d-- n** enter a single digit to set the day of week (1 = Sunday, 2 = Monday ... 7=Saturday)

In this mode, press the selection buttons listed below to set the unit Serial Number and Asset Number (4 digits only):

- A Asset Number : Press 4 digits in turn to set the value.
- B Serial Number : Press 4 digits in turn to set the value.

**MDB PAYMENT DEVICES**

1. Press the scroll buttons (**9** or **10**) repeatedly until Displays Pd. \*\*  
(where \*\* is current value)  
*You are now in Payment Device Setting*

2. Press a numeric selection (**1 – 7**) to change the value Displays Pd. \*\*  
*The Payment Device code is now set*

**\*\*\*RECOMMENDED CODE: 3**

**The payment device values supported are :**

Value	Coin Changer	Bill Validator	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



## HOME AND COUNT MOTORS

1. Press the scroll buttons (**9** or **10**) repeatedly until Displays Ho.nn

In this mode, press and key other than **9** or **10** to home and count the Motors. The LED display will show the row/column being homed, and each motor will activate in sequence – each helix coil will turn and each can and bottle motor will rotate. If products are loaded, one of each product will be vended. If the circuit board is reading the motors correctly, a cumulative count of motors is displayed on the LED. If there is a circuit/motor problem on a particular selection, “Err” will appear on the LED after each faulty selection number.

**IMPORTANT: THE MOTOR HOME AND COUNT FUNCTION SHOULD NEVER BE USED WHEN PRODUCTS ARE LOADED AND THE DOORS ARE CLOSED. ALL SELECTIONS WILL VEND IN SEQUENCE AND SERIOUS PRODUCT JAMS WILL OCCUR.**

## TEMPERATURE SETTINGS

1. Press the scroll buttons (**9** or **10**) repeatedly until Display reads tS.\*\*  
\*\* shows the current state

**SPECIAL NOTE: Temperature settings are pre-set from the factory and should only have to be altered under unusual circumstances.**

The VMC commands the refrigeration portion of the beverage vendor, by setting operating parameters. The parameters are the lower limit (meaning the coldest temperature the VMC will allow), and the upper limit (meaning the warmest temperature the VMC will allow).

Press the scroll keys (9 or 10) until tS.1F is displayed (tS represents, temperature settings, .1 represents refrigeration is turned on, F represents temperature is reading in Fahrenheit)

Once TS.1F is displayed, using the numbers on the keypad will allow you to enter in the sub menus to make desired changes.

Pressing the #1 key in this mode turns the refrigeration ON.

Pressing the #2 key in this mode turns the refrigeration OFF. This will alter the menu, which will now read tS.0F, shutting the refrigeration unit off.

Pressing the #3 key in this mode will allow you to set the lower temperature limit.

Once the #3 key has been pressed, the current 2 digit lower temperature limit will appear on the display. To alter this, using the number portion of your key pad, enter the 2 digit temperature desired (in this mode, the #10 key represents zero) Once the 2 digit temperature has been entered, the display will automatically revert back to the menu. If the displayed lower temperature limit is desired, press the A character on the key pad to revert back to the menu. The minimum lower limit that can be set is 34° F (1° C), and the maximum is 53° F (13° C). This cannot be set below freezing to protect beverages.

Pressing the #4 key in this mode will allow you to set the upper limit temperature limit.

Once the #4 key has been pressed, the current 2 digit upper temperature limit will appear on the display. To alter this, using the number portion of your keypad, enter the 2 digit temperature desired (in this mode, the #10 key represents zero). Once the 2 digit temperature has been entered, the display will automatically revert back to the menu. If the displayed upper temperature limit, is desired, press the A character on the key pad to revert back to the menu. The minimum upper temperature limit that can be set is 37° F (3° C), and the maximum is 56° F (13° C). There must be at least a 2 degree temperature variance between the lower and upper temperature settings.

Pressing the #5 key in this mode will switch from reading in Fahrenheit to Celsius. This will alter the menu which will now read tS.1C

Pressing the #6 key in this mode will switch the temperature reading back to Fahrenheit. This will alter the menu which will now read tS.1F

### END MENUS DISPLAY

END Menus

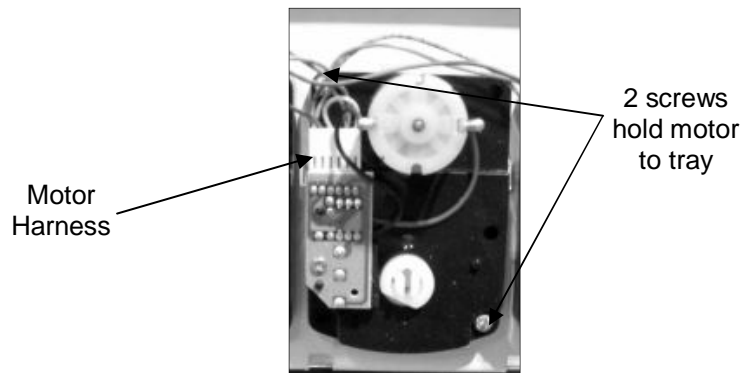
Displays En.--

Exit Service Mode by selecting the END option and press any key other than 9 or 10, or the menus function will end automatically if there is no activity for 30 seconds.

### VEND MOTORS

Each Selection is vended by the action of the Vend Motor. The Vend Motors are screwed onto the rear of each Product Tray. In the rare event of a jam, a Vend Motor may need to be returned to its home position.

Figure 12 – Vend Motor



1. To “Home “ a Vend Motor
  - a. Unlock and open the Front Door to access the Circuit Board, and enter Service Mode by pressing the MENUS Button
  - b. Cycle through the Service Mode until the Display Reads “SLCT”
  - c. Enter the letter and number of the motor you wish to home. The motor will rotate to its home position.
  
2. To Remove a Vend Motor
  - a. Unlock and open the front door
  - b. Unlock Product Tray and pull it out fully while keeping it level
  - c. Lift Product tray to release from the Track and pull it out

**Caution:** The Product Tray Wire Harness will need to be unplugged prior to complete removal of the product tray. The wiring harness is plugged into the slide-out shelf in the Snack unit.

- d. Remove Helix Coil from the driver by lifting the front end of the Helix Coil up with one hand pinching the lugs of the shaft. Push the shaft through the back of the vend motor, freeing up the helix coil/driver/shaft assembly for removal.  
**Note:** This operation is more difficult with smaller Helix Coils.
- e. Remove the two Phillips head screws that are securing the motor to the product tray.
- f. Disconnect Wires of the Vend Motor, paying close attention to the orientation of the motor plug wire connector.
- g. Replace Vend Motor by repeating above steps in reverse order, making sure you plug the vend motor connector in the same way it was originally. **Note:** Failure to do so may result in vend motor failure.

## PAYMENT SYSTEM

### COIN CHANGER

The Coin Changer receives and returns change to customers. The Coin Changer will accept Quarters, Dimes, and Nickels. The Coin Changer can be set to accept the new Golden Dollar. Once all coin tubes reach the required inventory levels, all other coins will be routed into the coin overflow tray. All Golden Dollar coins will always be routed to the coin overflow tray.

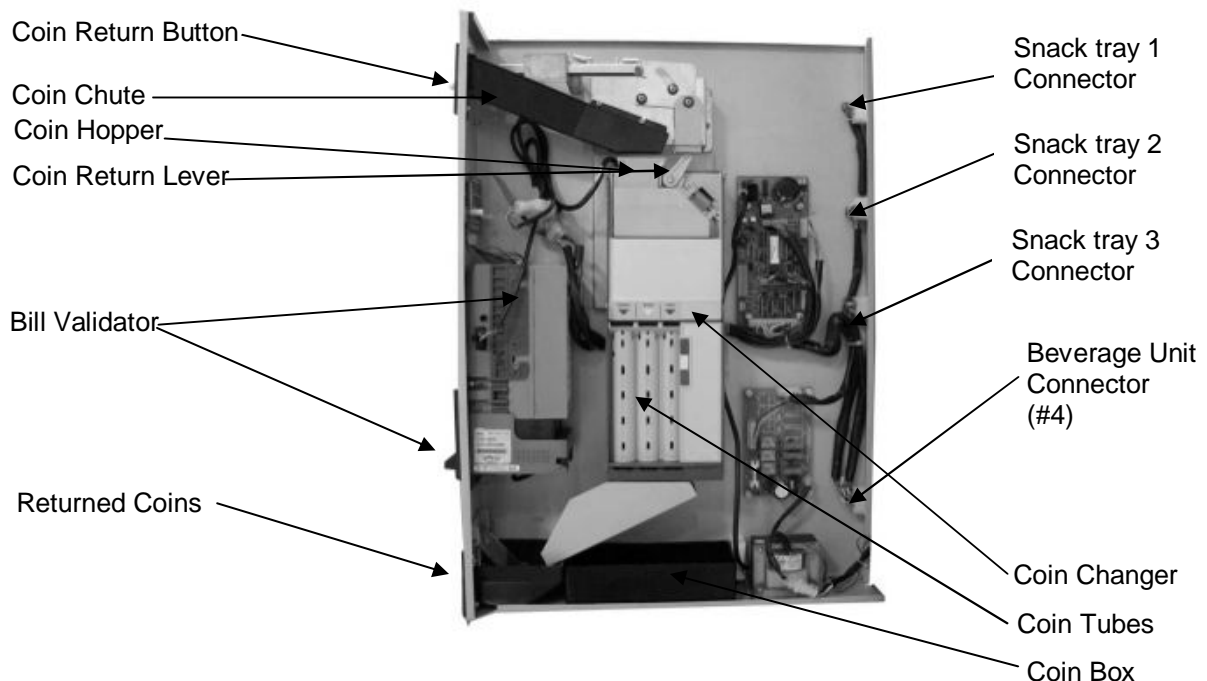
### LOADING CHANGER

As change is given to the customer in coins only, it is recommended that you initially load the tubes completely full when setting up your vendor and that you do not allow your vendor's coin inventory to drop below three-quarters full. Fill all three coin tubs through the side of the changer, as shown in Figure 15.

### COIN RETRIEVAL

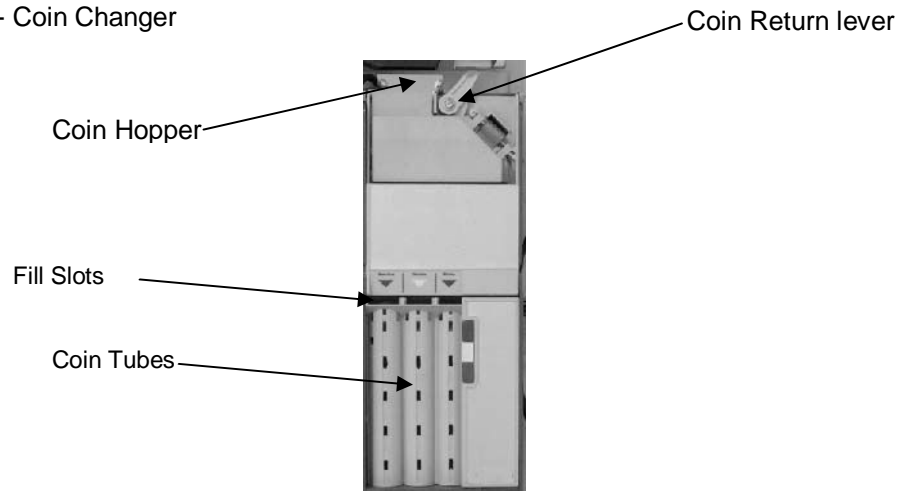
Coins can be retrieved from the vendor in three (3) ways, the Coin Box, Manual Coin Retrieval Button, and the Coin Return Button. The Coin Box sits below the vertical shelf. The Coin Box holds all accepted coins except for coins needed to maintain inventory in the coin tubes. (Some overflow may occur) The Manual Coin Retrieval buttons are located on the upper portion of the changer and are labeled A, B and C. You must be in TEST mode to use these buttons; press the MENUS button on the VMC as described in the Service Mode section of the manual and press the A, B or C button to manually dispense coins. In addition, you can also go into Service Mode and choose the Coin function. Pressing keys 1 through 7 will dispense coins.

Figure 13 – Vertical Shelf and Components



The Coin Return Button pushes the Coin Return Lever, which returns inserted coins to the customer.  
**Note:** If Force Vend is on, pressing the Coin Return button will not return coins.

Figure 14 - Coin Changer



### **CLEARING COIN JAMS**

To clear a jam, remove the hopper assembly

1. To remove Hopper Assembly
  - a. Unlock and open the front door of Vendor. Unplug the Vendor
  - b. Loosen the mounting screws that hold the Coin Return arm and Coin Chute to the vertical shelf, and shift this assembly up.
  - c. Push the thumb Tabs up, and tilt the Coin Hopper forward
  - d. Lift and remove. Note: The coin hopper is still connected to the Coin Changer by the ribbon harness that can be pulled free.
  - e. Clear Jam and reassemble.

### **CLEANING COIN CHANGER**

Your Coin Changer needs to be cleaned only when the Coin Changer will no longer read coins.

1. Cleaning the Optics. You will need cotton swabs [Q-tips], and a 50/50 water/isopropyl [rubbing] alcohol solution.
  - a. Unlock and open the front door
  - b. Remove the Coin Box, and Pull the Vertical shelf out.
  - c. Tilt The Coin Hopper open, there are two (2) Lenses on the flap and two (2) Lenses inside the coin hopper
  - d. Swab the lenses with the solution, and reassemble.

### **REMOVAL OF COIN CHANGER**

- To Remove the Coin Changer.
- a. Remove the Coin Hopper as Above
  - b. Disconnect Wiring harness
  - c. Lift Coin 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 and \$5 bills, but will not accept \$5 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**

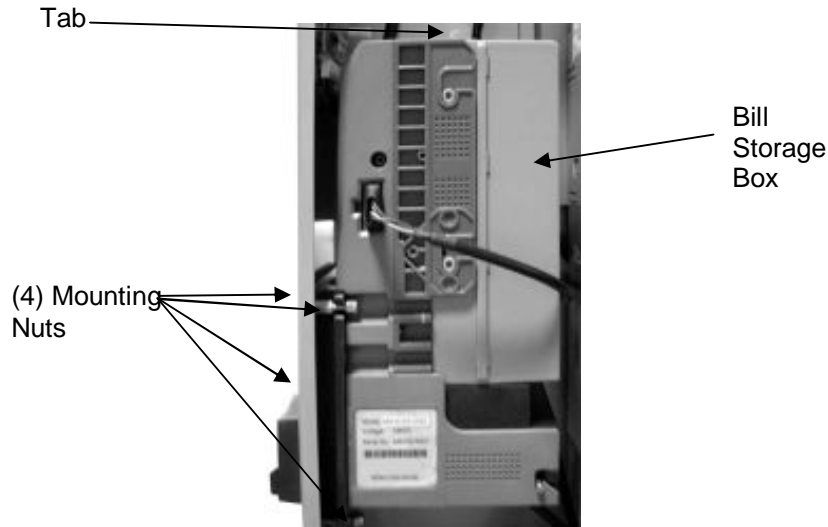
The Bill Storage Box will hold approximately 250 bills.

## **BILL RETRIEVAL**

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

1. To Retrieve Bills.
  - a. Unlock and open the Front Door.
  - b. Pull the Vertical Shelf out.
  - c. Open door located on top of bill collection box.
  - d. Close top door on bill collection box after bills are retrieved.

Figure 15 – Bill Storage Box



## **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. Unlock and open the Front Door, unplug vendor.
  - b. Pull the Vertical Shelf out.
  - c. Pull Tab forward and lift Bill Storage Box.
  - d. Disconnect Bill Validator from Wiring Harness.
  - e. Remove the Four (4) Mounting Nuts. (Fig. 15)
  - 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 Validator as above.
  - b. Press Tab on bottom of Bill Validator, and pull Lower Housing free.
  - c. Remove Jam, and reassemble.

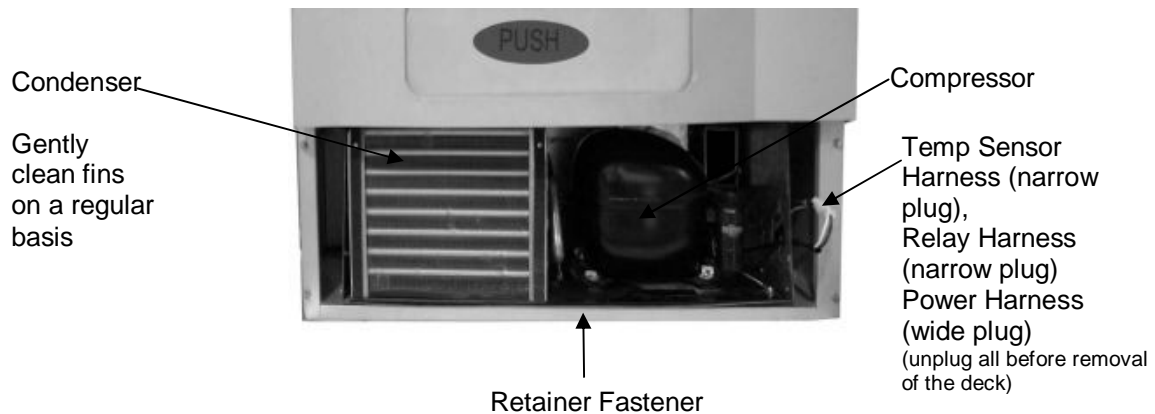
## **REFRIGERATION DECK**

Your Beverage unit incorporates 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 Beverage unit door and sliding the front panel up and out. Remove the retainer fastener at the mid-point of the refrigeration deck and unplug the three wire harnesses (Fig. 16). The refrigeration deck can now be pul out from the vendor. Please make sure you unplug wire harnesses prior to pulling all the way out.

The refrigeration deck is a pullout modular system consisting of Compressor, Condenser, Condenser fan, Evaporator, Evaporator Fan, 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 16 – Refrigeration Unit



### CLEANING THE CONDENSER

Dust and dirt restricts good airflow and cooling of the condenser, due to which the refrigeration unit will not chill the beverages properly. Remove the front bottom panel of the refrigeration unit. Brush the dirt and dust from the condenser fins. You can also blow canned air, available at computer and office supply stores, on the condenser or vacuum clean it. Do not damage the fins of the condenser while cleaning. Reassemble the front bottom panel after cleaning.

### 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, evaporator fan, thermostat, and the start and overload components located on the side of the compressor. The line voltage from the 115 volt AC outlet in the room is fed to the two fans, the condenser and the evaporator fans, and they run continuously as long as the machine is plugged into 115 volt AC power coming from the wall. The thermostat controls the on and off cycling of the compressor.

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.

## **COMMON QUESTIONS AND ANSWERS**

### **Product prices, payment systems and currency:**

#### **Q. How high can I set my Prices?**

- A. Each selection can be priced individually up to \$99.95. Note: Keep in mind when setting a price that you may have an effect on the Exact Change Only message.

#### **Q. Why does my Exact Change light stay on?**

1. Insure that proper levels of coins are loaded into the changer.
2. Check prices to insure all prices are correct. If there is a price set at \$99.95 this will cause the light to stay on.
3. Insure that the changer is properly connected.

#### **Q. Why do the coins I insert reject immediately?**

1. Insure that the changer harness is connected properly. **Note: always disconnect power to snack vendor before disconnecting and reconnecting payment system harnesses.**
2. Insure there is no pressure on the coin return lever located on the changer itself. Slight pressure will cause the changer to automatically reject coins.
3. Clean changer.

#### **Q. Why won't the unit take more than 3 - \$1 bills, or more than 1 - \$5 bill?**

- A. The VMC protects the amount of change in the changer and will only allow the bill acceptor to take bills up to the highest vend price in the machine. For example, if your highest vend price is \$3, after inserting 3 - \$1 bills or 1 - \$5 you will not be able to insert more bills.

#### **Q. Can customers reach down and help themselves to product?**

- A. No, they can't. The product door is a Triangle shaped flap designed to deter reach and theft. When pushed, the back of the triangle flap will come in contact with the bottom product tray and will become an anti-theft wall to act as a block.

#### **Q. In the event of a power outage, will I have to reprogram my prices, settings, etc.?**

- A. No, your settings are stored, but take note that you may have to reload your changer if the Exact Change Only light is on.

#### **Q. Are the price decals installed at the factory? Are there extras and where do I find them?**

- A. No, the price decals are not installed at the factory but are included in your parts pack envelope. The decals included with the machine range from \$0.75 to \$2.00 and extra price points are included to allow some modifications.

#### **Q. Are the prices preprogrammed at the factory? Is there a default setting for all of the programming functions?**

- A. Yes, the prices are pre-programmed at the factory to \$1. However, programming the price settings is a great way to get familiar with your machine while you are in test mode and prior to locating the machine. Your first-hand knowledge will allow you a greater understanding of how the equipment works.

#### **Q. How often should I clean my payment systems?**

- A. This will depend on how much traffic you have at your machine – the more money inserted, the dirtier the payment systems will become. Clean your payment systems on a monthly basis to begin with. Lengthening the time between cleanings is at your own discretion.

### **Beverage unit temperature and refrigeration:**

#### **Q. What type of environment is the equipment designed for?**

- A. The machine is specifically designed for indoor use only. Optimal location temperature is 75° F, with 40% RH. Avoid placing unit in direct sunlight.

**Q. How do I clean my condenser?**

- A. Remove the front bottom panel of the refrigeration unit. Brush the dirt and dust from the condenser fins. You can also blow canned air (available at office supply/computer stores) on the condenser or vacuum clean it. Do not damage the fins of the condenser while cleaning. Reassemble the front bottom panel after cleaning.

**Q. How do I set my temperatures, and what is the factory recommended low and high settings?**

- A. The thermostat is pre-set by the factory to an industry standard.

**Q. My beverage selections are not cold enough. How do I get them colder?**

1. Make a small adjustment to the Temperature Settings on the VMC. This should be done with extreme caution!
2. Clean condenser coil (see Refrigeration section of this manual). The coil should be clean and lint free, if dirt or lint build-up is on coil, this will restrict air flow and cause the compressor temperature to rise above operating temperatures and compromise cooling.
3. Insure condenser fan and evaporator fans are running.

**Note: this should be done with power cord unplugged from wall outlet for personal safety.**

4. Insure you beverage vendor is placed in a location that it is designed for, which is indoors only. Outside or non climate controlled environments will compromise cooling.

If further assistance is needed, please contact Seaga Customer Care or a local refrigeration technician.

**Q. My beverages are not cooling at all.**

1. Insure through the tS function that the refrigeration deck is turned on. Insure the unit has power – test wall outlet where the unit is plugged in.
2. Check that refrigeration connections are properly connected.

Product vending:

**Q. Why won't my snack selection vend?**

1. Check to insure proper connection is made to vend motor.
2. Go into sLct, and choose selection, this will home the motor if it is out of home.
3. Inspect harness for visual breaks and replace harness if broken wires are found.
4. If above steps fail, switch motor with known working motor.

**Q. Why are vertical columns in my beverage unit double vending?**

1. Check bottle diameter to insure the bottle is not too small to vend (should be with 2 ¼" to 3" in diameter).
2. Insure shim is properly installed.
3. Run lane in sLct mode and look to see if any error is displayed after vend is made. If error is displayed check wiring to home switch located behind motor.
4. Check home switch itself for cracks or breaks, replace if necessary.

**Q. I've loaded my beverage product chutes and columns to capacity – why does my display say Sold Out?**

1. In the can drink chutes, make sure the cans are loaded correctly and firmly pressed against the teeter totter mechanism to fully depress sold out switch.
2. In can drink columns, insure wiring to sold out switch is connected properly.
3. In can drink columns, remove teeter-totter mechanism and inspect sold out switch to insure that the lever is not bent. You may be able to slightly bend this back in place if necessary.
4. Run lane in sLct mode to insure motor is being recognized.
5. In the vertical column, insure product is fully depressing the sold out lever.
6. In the vertical column, insure switch lever is resting properly against sold out flap in the lane.
7. Insure wiring is properly connected to sold out switch.

If both vertical, and can drink lanes are all reading sold out, inspect main beverage harness for a break in orange wire.



**Q. A product keeps hanging up or getting stuck. What can I do?**

1. The product may be loaded incorrectly in the helix coil or the product may be in the wrong size helix coil.
2. Product pushers may help bring the product forward as the helix coil turns and help the product drop at a more even level.

**Q. How do I install the Product Pushers?**

- A. Align the product pusher groove with helix coil diameter and slide along the helix coil with triangle pointing towards the front (away from the product). Slide until the product pusher is completely inside the helix coil with about ½" from the helix coil end point.

**Q. A selection will try to vend but the product will not come out. What do I need to do?**

- A. The most probable answer is that the helix coil has become detached from the driver. Remove the jammed item and then check to see if the helix coil is free from the driver. If so, snap the helix coil back into the driver and then home the motor.

Display and keypad:

**Q. Why isn't my display working?**

1. Insure the snack machine is plugged into a working outlet
2. Check the harness connection to the display board. Slide out the shelf that the display is mounted to, look at the bottom of the display board to locate the display harness, press upward on the connection to insure that it is connecting properly. It may take a few seconds to have the display come back on if connection was not made initially.
3. Check the connection on the VMC labeled display and insure that proper connection is made.

**Q. My Keypad is not working/ some selections not working**

1. Check harness connections to the keypad ribbon harness that is located behind the keypad on the slide-out shelf.
2. Inspect key pad for damage caused by selection pressed with foreign objects. Large dents, tears, scratches may damage the membrane and result in failure.
3. Check connection on VMC labeled keypad and insure that proper connection is made.

Transporting and installing:

**Q. Do I have to test my equipment before placing it on location? Must I disassemble to transport to the location? Is there a way to do a general check of equipment without full assembly?**

- A. We suggest full testing prior to the unit being moved to the location. Why? It gets you familiar with the machine so that you look professional and efficient when at the location setting up the machine. Complete assembly of the machine for testing is not required; you could test vend the snack machine on the floor next to the Beverage unit or set it on top of the Beverage unit.

**Q. Can the snack and beverage machine be transported while attached? Loaded?**

- A. The units should never be transported attached. Additionally, transporting with product loaded voids manufacturer's warranty and can damage your equipment. Transport units unattached and empty of product/change only.

**Q. Can I place the beverage unit on its side for transport?**

- A. Never place the beverage machine in any other position but upright. There are numerous components that can be jostled out of place, becoming very problematic for you. Once the machine is set in place, the compressor needs to rest for a minimum of 2 hours prior to running in order for the oils in the compressor to return to their non-threatening position.

**Q. Are the beverage shims pre-installed at the factory?**

- A. Yes, but they may have moved during shipping and should be reviewed prior to loading.

**Q. Are there different helix coils that will hold a larger number of products (more product spaces)?**

A. For other helix coil options, please call Seaga Customer Care.

**Q. My Beverage Unit door will not line up & lock. What can I do?**

A. This may be caused by an unlevel machine, perhaps on an uneven surface. We suggest you put all the units together and securely bolt them together as per the instructions. This should resolve any fit issues.

**Q. Should I use a surge protector for the equipment?**

A. A surge protector is a small investment that can save your equipment from less than ideal power situations. We recommend using a surge protector.

NOTES: