SEAGA®

VISTA

VC520 Combo

Operator's Manual

700 Seaga Drive, Freeport, IL 61032, U.S.A. visit: seagamfg.com email: info@seagamfg.com

INTRODUCTION

Congratulations on the purchase of your new Vista Series Vending Machine. This vending machine 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.

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 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 your 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. 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 ext 160
815.297.1758 Fax
email: customercare@seagamfg.com

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

The Vista Series VC520 Combo

This is an Operator's Manual for the VC520 Combo vending machine. The Standard models are for operation in the North American markets where as the [F] versions are intended for the European and U.K markets.

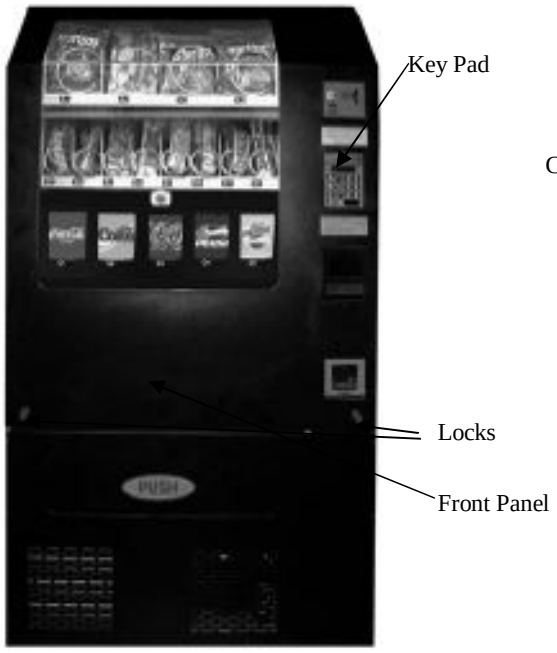
This Operator's Manual is divided into four (4) main sections: a brief description of the vending machine with important notices, service model, payment systems and beverage unit/refrigeration.

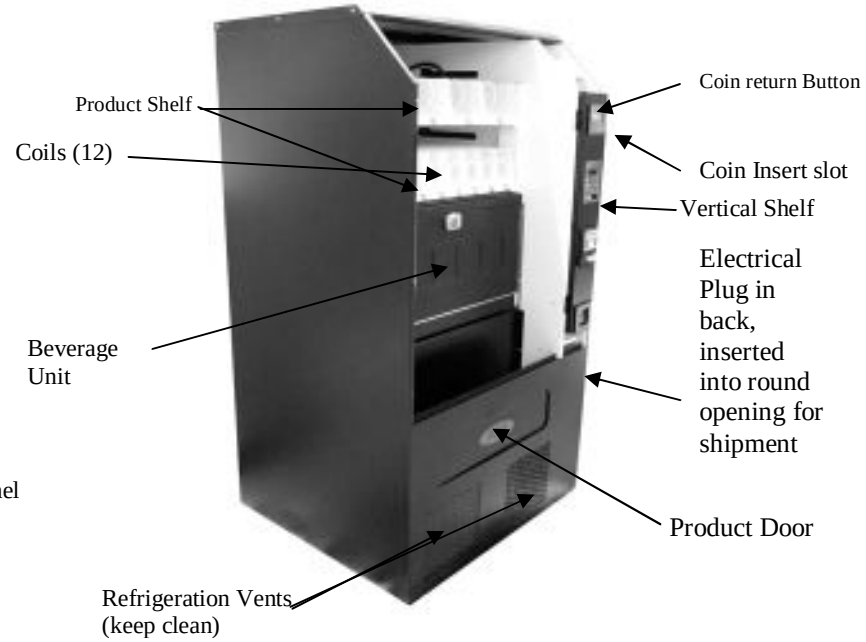
IMPORTANT NOTICES

Your vendor is intended for indoor use only
Your vendor must be set on a level, well-supported location.
Important! Always unload vendor before transporting it!
Remove the plastic cable ties from each coil.
Remove any protective sheets from under the coil support plates before loading the vendor.
Condenser cooling air is taken in and exhausted out the front.
Temperature is factory set. Allow your vendor(s) to operate for twenty-four (24) hours to reach proper beverage temperature.
Do not load your vendor with disfigured or damaged product.
Always disconnect electrical supply to the unit prior to servicing!

Section 1 Brief Description of your VC520

Figures 1 and 2 – Your VC520 details





INTRODUCTION

The purpose of this section is to help you understand how the machine works and the process it goes through during the vend process. This should help you if ever a situation arises where you need to troubleshoot the machine.

First there are some terms to become familiar with:

Coin changer - This is the device that accepts and validates coins. It also stores them in its storage tubes for change to be given out.

Bill validator (if installed) - This is the device where currency bills are inserted, validated and stored. This payment system may not be installed in your vendor, but can be added at any time.

VMC - This stands for Vending Machine Controller. It is the circuit board that contains the brains for the operation of the machine. It is where the prices and settings are stored and contains the circuitry to drive the vend motor selections. It also has the red service mode button that is referred to in programming your machine. A protective fast-acting fuse has been added to the motor drive circuitry in order to protect the VMC (Vending Machine Control) board from failure due to jammed, overloaded product selections or other possible failures as outlined below.

Vend motor - This is the motor that, when prompted by the VMC because of a customer selection, will turn the auger (beverage) or coil (snack) to dispense the item.

Home switch - This switch is located on each selection and signals the VMC when the motor has completed its operation.

Home position - This is the proper starting position for each vend selection. This position can be varied during the initial setup depending on the type of product being vended but always remains constant once it is set.

Keypad - This is the input device. It is where your customers enter their selections and where you enter information and change settings in Service Mode.

Tray Harness - This is the cable assembly that connects to each vend motor on a tray and plugs into a central wire loom which is connected to the VMC.

Sold Out Switch - This switch is only used in the beverage delivery section. Its purpose is to detect a sold out condition and report it back to the VMC, which communicates the sold-out status to the customer.

The control for this machine works on a closed loop system. When a vend is initiated by coins or bills being inserted, the VMC waits for some sort of response to complete the transaction. If the VMC detects an error in trying to vend a selection, either the customer will be given the option of choosing an alternate selection or their money back.

A vend is initiated by inserting money into the machine. The VMC will determine whether bills will be accepted depending on how much change is reported in the coin changer. If there is insufficient change in the changer, then the machine will be in what is called the “exact change” mode whereby the customer will only be able to insert coins of the exact amount. The “Exact Change” light will be lit on the keypad of the machine during this mode. Over the course of subsequent vends, as the coin changer accumulates change or if you manually insert more change into the changer through the coin fill mode, the machine will then determine that it contains enough change to accept bills.

After money has been inserted and credit displayed on the machine front display, you will make a selection with the keypad for example “A1”. At this point the VMC will send a signal to the A1 selection vend motor. The motor will turn one full revolution dispensing the product. The vend motor returns to its home position and the home switch sends a signal to the VMC indicating a successful motor revolution. Depending on your initial machine setup, the VMC will conclude that transaction and either give change if needed or keep the remaining credit towards an additional vend. If the exact money was inserted for that vend than nothing further happens.

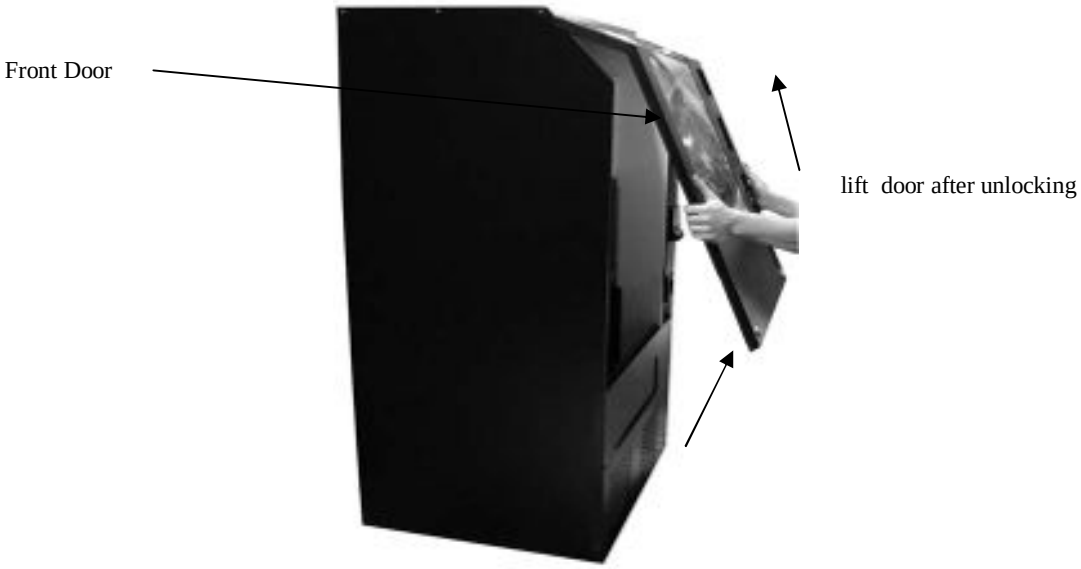
The above scenario also holds true for a beverage selection with the following addition - the sold out switch. When initiating a beverage selection after money has been inserted and a beverage selection made, the VMC will look at the sold out switch signal to determine if the selection is reporting a sold out condition. If the VMC detects a sold out condition for that selection it will illuminate the “Choose alternate selection” light on the front panel. At this point depending on how the initial machine setup was done you can either make another selection or press the coin return lever to retrieve your money.

HOW TO LOCK & UNLOCK THE DOOR OF SNACK VENDOR

Your vendor has 2 locks. To open the door, unlock the right side lock by turning the key clockwise. Thereafter open the left side lock by turning the key counter clockwise. The door can now be opened and removed by lifting from both the sides and until the top edge disengages from the Vendor cabinet. (Fig.3)

To lock the door hold both sides of door half way down the door. Engage the top of the door with the Vendor cabinet while keeping the bottom away from the machine. Lower the bottom of the door ensuring that the top of the door remains engaged with the cabinet. Lock the door by turning the left key clockwise and the right key counter clockwise.

Fig. 3 – Unlocking the front door



LEVELING YOUR VENDOR

Once you have installed your vendor in its proper location, you will need to level it to ensure trouble free operation. The leveling of your vendor is as simple as leveling many household appliances. Shims and spacers are readily available at your local hardware store.

ELECTRICAL CONNECTION

The VC520 Combo Vendor requires one 120 VAC 60 Hz grounded outlet
The VC520(F) Snack Vendor requires one 230 VAC 50 Hz grounded outlet

Note: The electrical cord is packed coiled back into the right hand rear corner of the vendor. Pull out the cable to the extent necessary before start up.

MOTOR CIRCUIT PROTECTION FUSE

Fig. 4 – Fuse

Shown above left is the EL243 VMC with fuse holder located on the vertical shelf. The motor fuse holder is labeled as such. The fuse in the above right photo is inside the holder and is a size 5x20mm and rated at 300 mA (0.300 amp) fast-acting.

Note: Failure to use the right size and type of fuse will void the machine warranty should it fail as a result of using an incorrect size or type of fuse. Do not use a slo-blo type fuse! Fuses are not covered by the Manufacturer's warranty. Replacement fuses can be found at most electrical or electronic supply stores.

You can suspect the fuse has blown if:

1.) All the selections show the "Make Alternate Selection" light

2.) When entering into the service mode and checking motor count shows a count of "0"

3.) If in the "SLCt" service menu you see an immediate "FAIL" in the display after trying any selection.

In a properly working machine the "Cnt" menu should produce a numerical count equal to the number of selections in the machine. Please note that there are other situations that will produce a "0" motor count or immediate "FAIL" such as if the motor wire harness were cut or disconnected from the VMC so these testing suggestions assume that nothing has been tampered with, cut or un-plugged.

To remove the fuse: The two halves of the fuse holder are opened by applying pressure to push them together then by turning about a ¼ turn and then pulling the halves apart to expose the fuse. Remove the spent fuse, insert the new fuse and re-assemble the fuse holder.

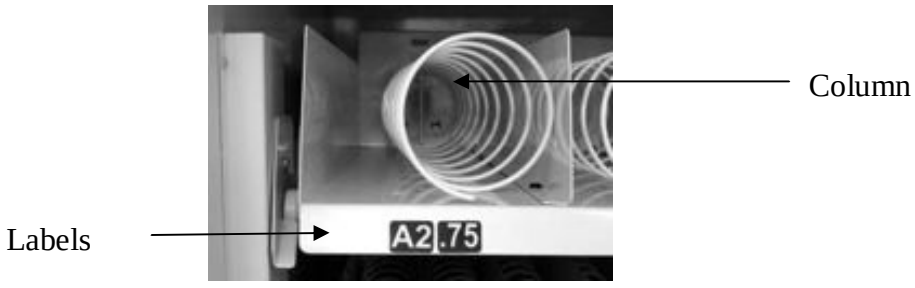
The fuse will only blow if there is an excessive motor load current applied to the VMC. This can happen if a selection is jammed, stuck, does not fit properly (too tight), a cut or pinched motor or tray wire harness or a faulty selection motor.

Once the fuse is replaced, all the selections should be tested one at a time in the service mode by using the "SLCt" menu to try to identify, isolate and repair the problem. If the problem was due to improper fitting products (too tight) in the coils or the product is visibly jammed or stuck then correct these issues first before proceeding with any testing.

PRICE AND LOCATION LABELS

The Price and Location labels supplied with the vendor are to be fixed below the Coil. (Fig.5) The Product Trays must be marked as 'A','B','D' from the top tray down. In the case of VC520 the 'D' marking is for the Beverage Unit. The columns are numbered from the left starting with '1', '2', '3', '4', '5'.

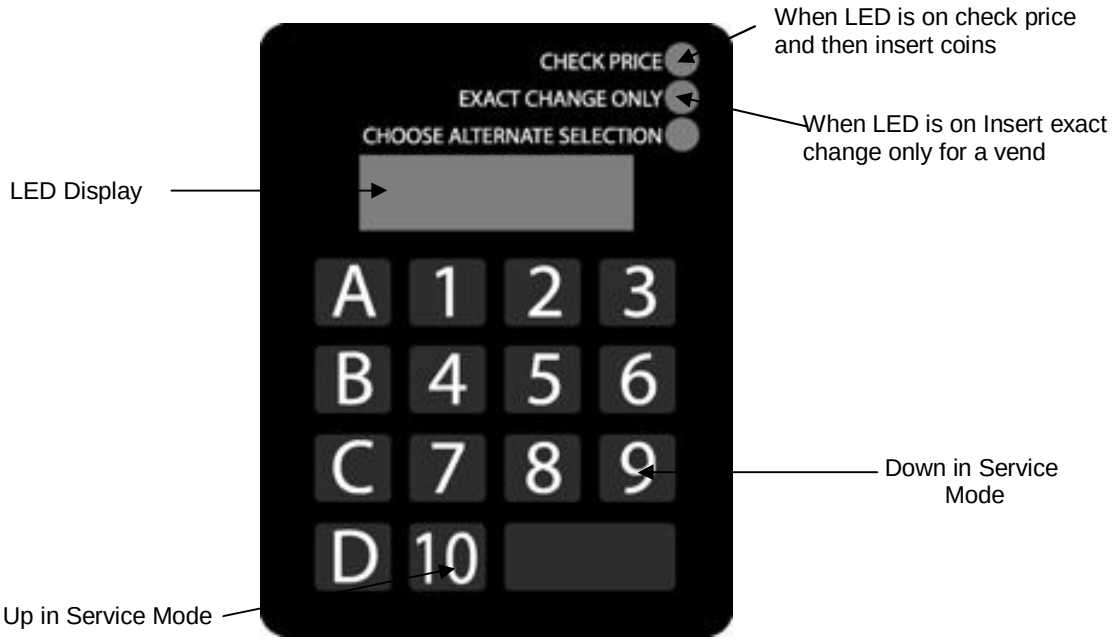
Fig.5



KEYPAD AND LED DISPLAY

The Keypad is a touch sensitive operation. Light pressure will be necessary to activate each number or letter. The vendor's Keypad is used by the customer to make their selection, and by the operator to set and test many functions of the vendor. (Fig. 6)

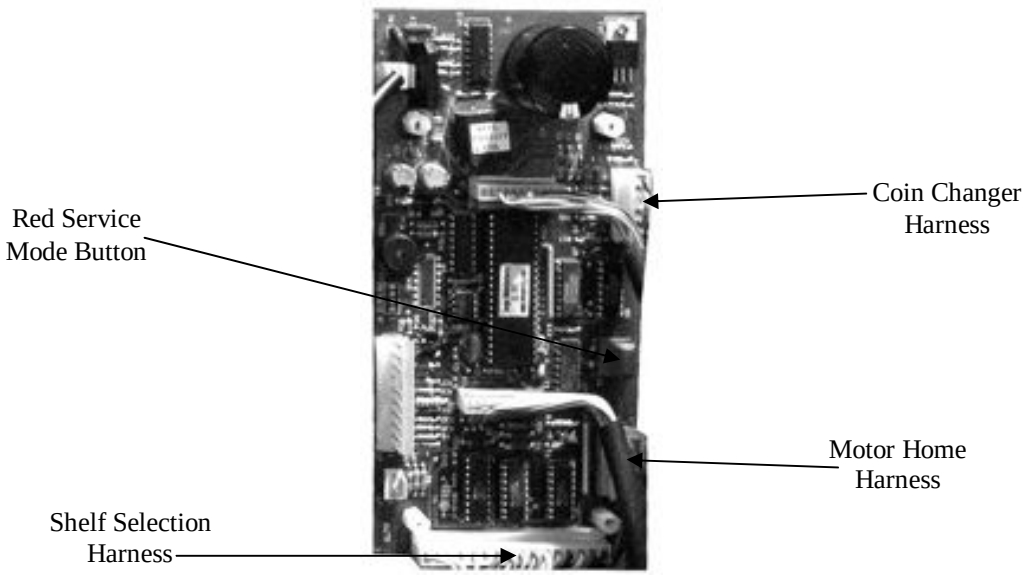
Fig. 6 - Keypad



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.

1. To Access Operator Functions:
   A) Unlock and open the Front Door to access the Circuit Board, and enter Service Mode by pressing the Red Service Mode Button. (Fig. 7)

Fig. 7 – VMC Controller



Section 2

SERVICE MODE

The Service Mode is entered and exited by pressing the Red Service Mode Button on the VMC. All Service Mode functions are cycled and selected by pressing the DOWN (9) and UP (10) keys. If no action is taken within 20 seconds the display will return to Standard Operation Mode.

MOTOR COUNT ("Cnt")- Displays the total count of motors available in this vendor. Enter Service Mode. Cycle through the Service Mode until the display reads "Cnt". Press any keypad character other than the DOWN (9) or UP (10) key and the controller will display the motors it recognizes. The total number of motors should equal the total number of selections.

BILL ESCROW ("ES")- Optional setting that when ON will return the bill to the customer if no vend is made, when OFF the vendor will return coins to the customer. Enter Service Mode. Cycle through the Service Mode until the display reads "ES". Press any keypad character other than the DOWN (9) or UP (10) key to turn this mode ON ("ES y") or OFF ("ES n"). This function is typically used to prevent the machine from being used as a changer.

MULTI-VEND MODE ("UL")- Optional setting that when ON allows more than one vend to be performed, provided there is still credit remaining. Enter Service Mode. Cycle through the Service Mode until the display reads "UL". Press any keypad character other than the DOWN (9) or UP (10) key to turn this mode ON ("UL y") or OFF ("UL n").

FORCE-VEND MODE ("FC")- Optional setting that when ON requires a purchase once credit has been deposited. Enter Service Mode. Cycle through the Service Mode until the display reads "FC". Press any keypad character other than the DOWN (9) or UP (10) key to turn this mode ON ("FC y") or OFF ("FC n"). Change is not available for return until at least one successful vend is made.

BEVERAGE SOLD-OUT MODE ("Can")- Optional setting that when ON operates sold-out function for this vendor, and will display "Sold Out" when selection is empty. Enter Service Mode. Cycle through the Service Mode until the display reads "Can". Press any keypad character other than the DOWN (9) or UP (10) key to turn this mode ON ("Can y") or OFF ("Can n"). Press "A" to save the new setting.

TEST ALL MOTORS ("Test")- Allows user to test all motors in your vendor. Enter Service Mode.
Cycle through the Service Mode until the display reads "Test". Press any keypad character other than the DOWN (9) or UP (10) key to test all motors. No other function can be accessed during the test. The time this function requires will vary. Display will return to Standard Operating Mode. ***Important: never use this function when the machine is loaded and doors are open!***

INDIVIDUAL MOTOR TESTING ("Slct") - Allows user to individually test each motor in this vendor. Enter Service Mode. Cycle through the Service Mode until the display reads "Slct". Enter any selection to test it's motor. (ex. A1)

PRICE SETTING ("Prc")- Allows the user to set individual prices for each motor or item loaded in your vendor. Enter Service Mode. Cycle through the Service Mode until the display reads "Prc". Enter any selection to display current price. (ex. A1) Press the DOWN (9) or UP (10) key to change the price for that selection. Price setting will change in 5 cent increments. Press "A" to save the new price.

CASH HISTORY ("Cash") - Displays total cash count.
Enter Service Mode. Cycle through the Service Mode until the display reads "Cash". Press any keypad character other than the DOWN (9) or UP (10) key to display the total cash count the vendor has accumulated. This function cannot be reset to zero.

SALES HISTORY ("Sale") - Displays total vend count.
Enter Service Mode. Cycle through the Service Mode until the display reads "Sale". Press any keypad character other than the DOWN (9) or UP (10) key to display the total vend count that your vendor has performed. This function cannot be reset to zero.

COIN DISPENSING ("Coin")- Allows user to manually dispense coins from the Coin Mechanism by coin type.
Enter Service Mode. Cycle through the Service Mode until the display reads "Coin". Pressing keys 1-7 will dispense the lowest through the highest denomination of coins. For American Coin Mechanisms key 1 will dispense nickels, key 2 will dispense dimes, and key 3 will dispense quarters.

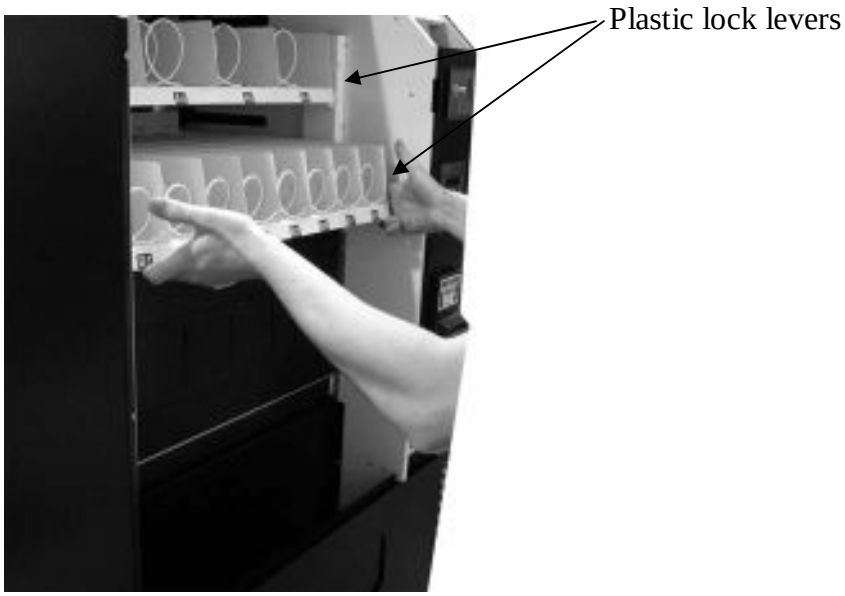
DELIVERY SYSTEM

The delivery system of your vendor consists of the Keypad, LED Display, Driver Motors, Product Tray Coils and Beverage Can Unit. The customer inserts money and enters their selection on the Keypad. The selected Driver Motor turns the Coil that vends the product.

LOADING PRODUCT SHELVES

Remove the front door of vendor, and push down the plastic lock lever on the right side of shelf (Fig.8) to unlock the shelf. Holding the lever down, Grasp the Product shelf under both the front corners and lift the front of the shelf slightly and pull forward. The shelf will slide out and then tilt down to make loading of products easier. Load only one product shelf at a time.

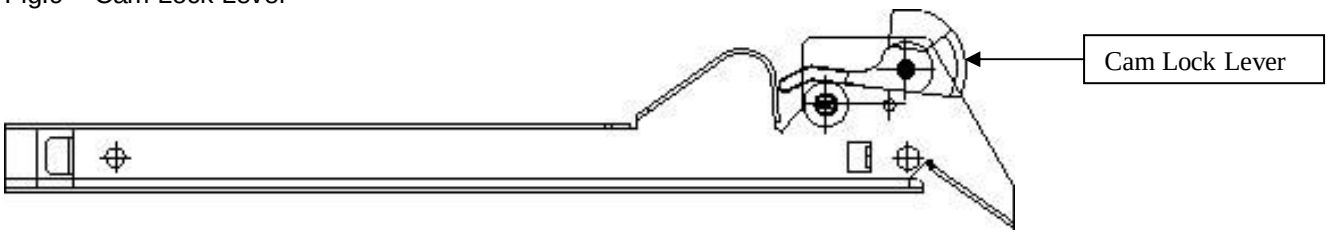
Fig. 8 Product Tray



Removing Product Shelves

Push up the plastic Cam lock lever on the right side of shelf (Fig.9). Grasp the Product shelf under both the front corners, and lift the front of the shelf slightly and pull the Tray out completely. Remove the Wiring harness connecter located on the inside right-hand side of the Shelf.

Fig.9 – Cam Lock Lever



To present your product in as attractive and professional manner as possible, do not load damaged items, and make sure that the items are facing forward for easy identification by your customer.

Note: Never force an oversized item into the Coil or Column.

1. To Load Product:
    a.) Pull out 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 coil. **Note:** Bottom of product must rest on the product Tray and not on the Coil. Load each column from front to back.
Note: Fill all product trays fully; do not leave any spaces behind or between items.

Note: Tug gently on a loaded item; if the coil travels with the item, the product may be too large for the coil.

Fig.10 - Loading product

c.) Once Product Tray is fully loaded, lift and push it back in.
Repeat above steps until all product Trays are fully loaded.

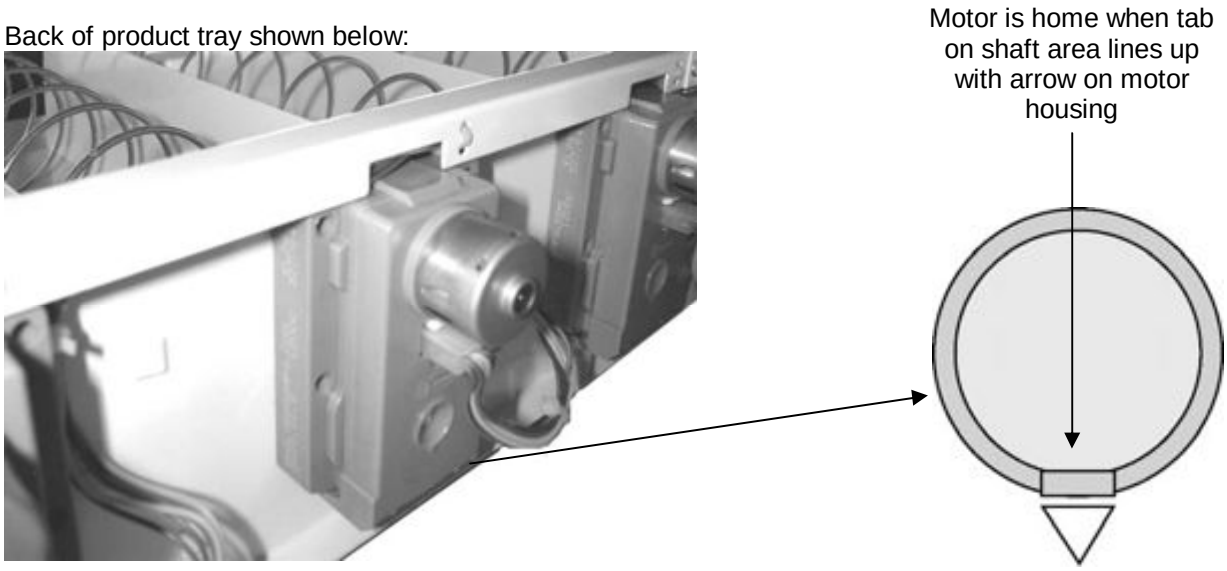
Special Note: We suggest that you always partially fill the vendor with product and perform at least five (5) test vends. Test vends can be performed easily by entering Service Mode and running “Individual motors testing”.

DRIVER MOTORS

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

Fig.11 - Delivery System

Back of product tray shown below:



1. To “Home “ a Driver Motor.
   a. Unlock and open the Front Door to access the Circuit Board, and enter Service Mode by pressing the Red Service Button

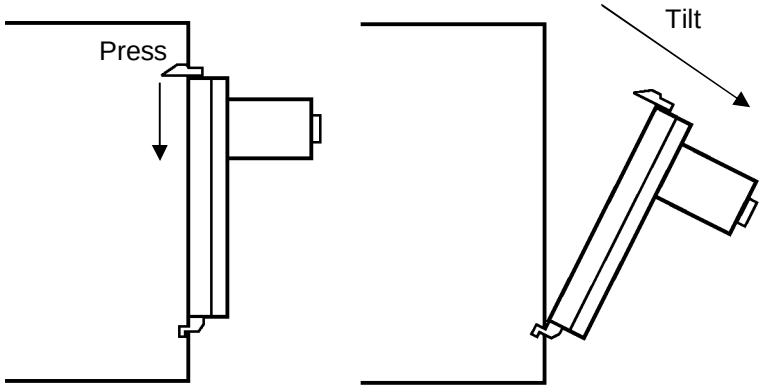
b. Cycle through the Service Mode until the Display Reads “SLCT”
c. Enter the letter and number of the motor you wish to home. The Motor will rotate to its home position.

2. To Remove a Driver Motor
   a. Unlock and open the front door
   b. Unlock Product Tray and pull it out fully whilst 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 inside right-hand side of the Product Tray.

d. Remove Coil from the driver by lifting the front end of the Coil up with one hand pinching the lugs of the shaft. Push the shaft through the back of the motor, freeing up the coil/driver/shaft assembly for removal.
Note: This operation is more difficult with smaller Coils.
e. Depress the top tab on the Driver Motor, tilt the Driver Motor backwards, and lift the driver motor free. (Fig.12)
f. Disconnect Wires of The driver motor, paying close attention to the orientation of the motor plug wire connector
g. Replace Driver Motor by repeating above steps in reverse order, making sure you plug the motor connector in the same way it was originally.

Fig. 12 – Motor Removal



Section 3

PAYMENT SYSTEMS

COIN CHANGER

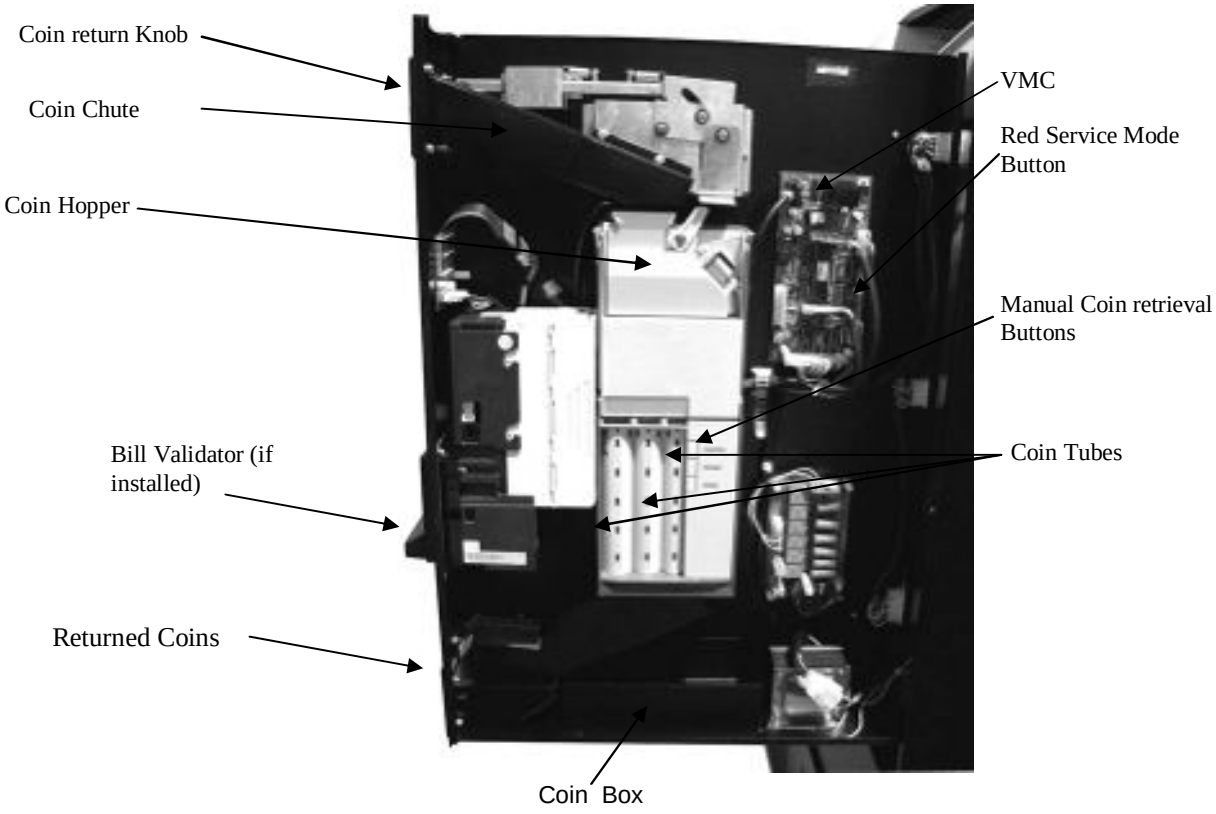
The Coin Changer receives and returns change to customers. The Coin Changer is installed prior to delivery of the Vendor, and will accept quarters, dimes, and nickels. The Coin Changer can be set to accept the new golden dollar. Excess coins that are not needed to maintain inventory in their respective tube(s), and all other coins are diverted to the Coin Tray. For (F) series of Vendors the Coin Changer will be present to accept U.K/ Euro coins.

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 half full.

COIN RETRIEVAL

Coins can be retrieved from the vendor in three (3) ways, the Coin Box, Manual Coin Retrieval Buttons on the side of the changer, 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 along side the dime tube, pressing a button will dispense one [1] of the selected coins.

Fig. 13 – Vertical Shelf



The Coin Return Knob pushes the Coin Return Lever, which returns inserted coins to the customer.

Note: The above Figure represents commonly installed payment systems. Your systems may vary.

CAPACITY

Depending on the model of Coin Changer installed, it will hold $20 in quarters, $10.60 in dimes, and $4 in nickels. For exact amounts, please refer to the separate changer instruction manual included with your machine.

CLEARING JAMS

To clear a jam, remove the hopper assembly
1.To remove Acceptor Assembly

a. Unlock and open the front door of Vendor. Unplug the Vendor
b. Remove the coin box, and pull the vertical shelf out.
c. Loosen the mounting screws that hold the Coin Return arm and Coin Chute to the vertical shelf, and shift this assembly up.
d. Push the thumb Tabs up, and tilt the Coin Acceptor forward
e. Lift and remove. Note: The coin hopper is still connected to the Coin Changer by the ribbon cable that can be carefully unplugged.
f. Clear Jam and reassemble.

CLEANING

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 Acceptor open, there are two (2) Lenses on the flap and two (2) Lenses inside the coin acceptor
d. Swab the lenses with the solution, and reassemble.

REMOVAL OF COIN CHANGER

1.To Remove the Coin Changer.

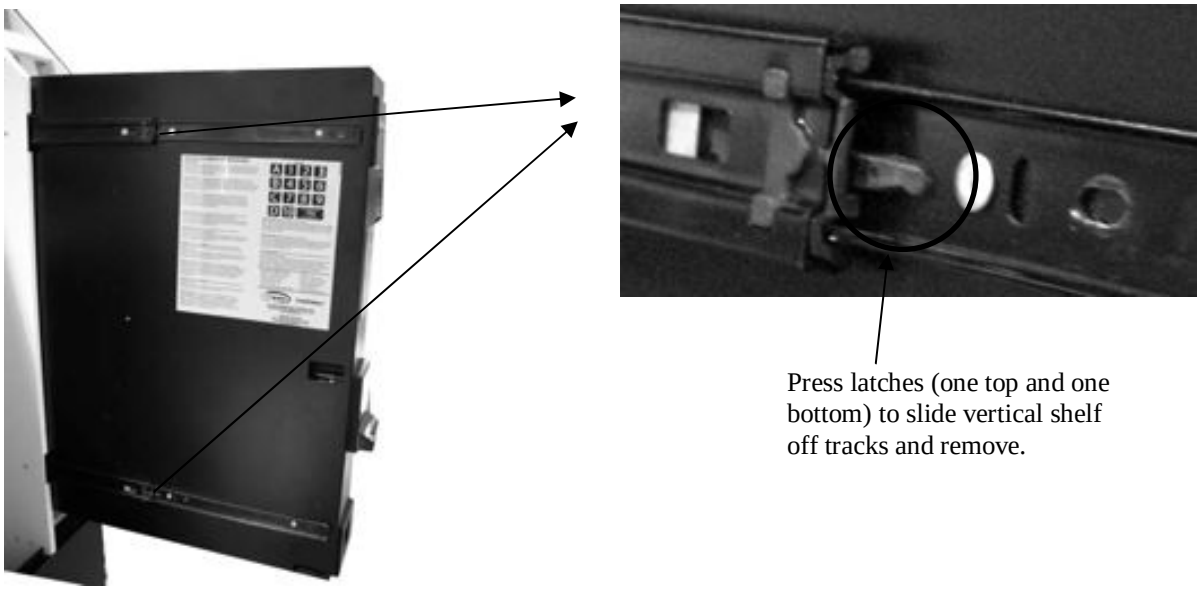
a. Remove the Coin Acceptor as Above
b. Disconnect Wiring harness
c. Lift Coin Changer and remove.

VERTICAL SHELF REMOVAL

To Remove the Vertical Shelf

a. Unlock and open the Front door, unplug the Vendor
b. Slide out the Vertical Shelf completely
c. Disconnect wiring harnesses
d. Press the two latches holding the rails in place. (Fig.14)
e. Slide the vertical shelf off the rails. (Fig.14)

Fig. 14 - Vertical Shelf Removal



Press latches (one top and one bottom) to slide vertical shelf off tracks and remove.

COMMON QUESTIONS AND ANSWERS

Q. How High Can I set my Prices?
A. Each selection can be priced individually up to $99.95

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. Motor cycles but no product is vended
A. Check to see if the product is jammed in the Coil
Check to see if the Product is damaged, and make sure it is of the proper size.

Q. In the event of a power outage, will I have to reprogram my Vendor?
A. No, your selection prices are safely stored.

Q. Coin Changer is not accepting Coins
A. Lenses may be dirty
Coins may be damaged or worn out
Wire harness may not be connected properly
Coin Changer may not have power

Section 4 BEVERAGE VENDING

This is a refrigerated unit that is located below the Product trays in the lower part of the Vendor. The Unit has 5 different lanes handling both cans and bottles. The unit incorporates a self-contained pull-out type refrigeration deck.

ACCESSING BEVERAGE UNIT

The beverage dispensing unit can be easily accessed by opening the two locks at the top of the can unit door (Fig.15, Below the lower snack tray of your vendor). The door is then opened downwards. This is the area where the beverages are filled in to the vendor. The door and the vending flaps of the can unit can be removed from the can unit. This is done by removing two screws (use allen key no. 5 for this purpose), which are located on either side of the machine right below the door.

Fig. 15 - Beverage Unit Deck Access

Turn hasp clockwise to open beverage unit door.

BEVERAGE SELECTION PRICING AND LABELS

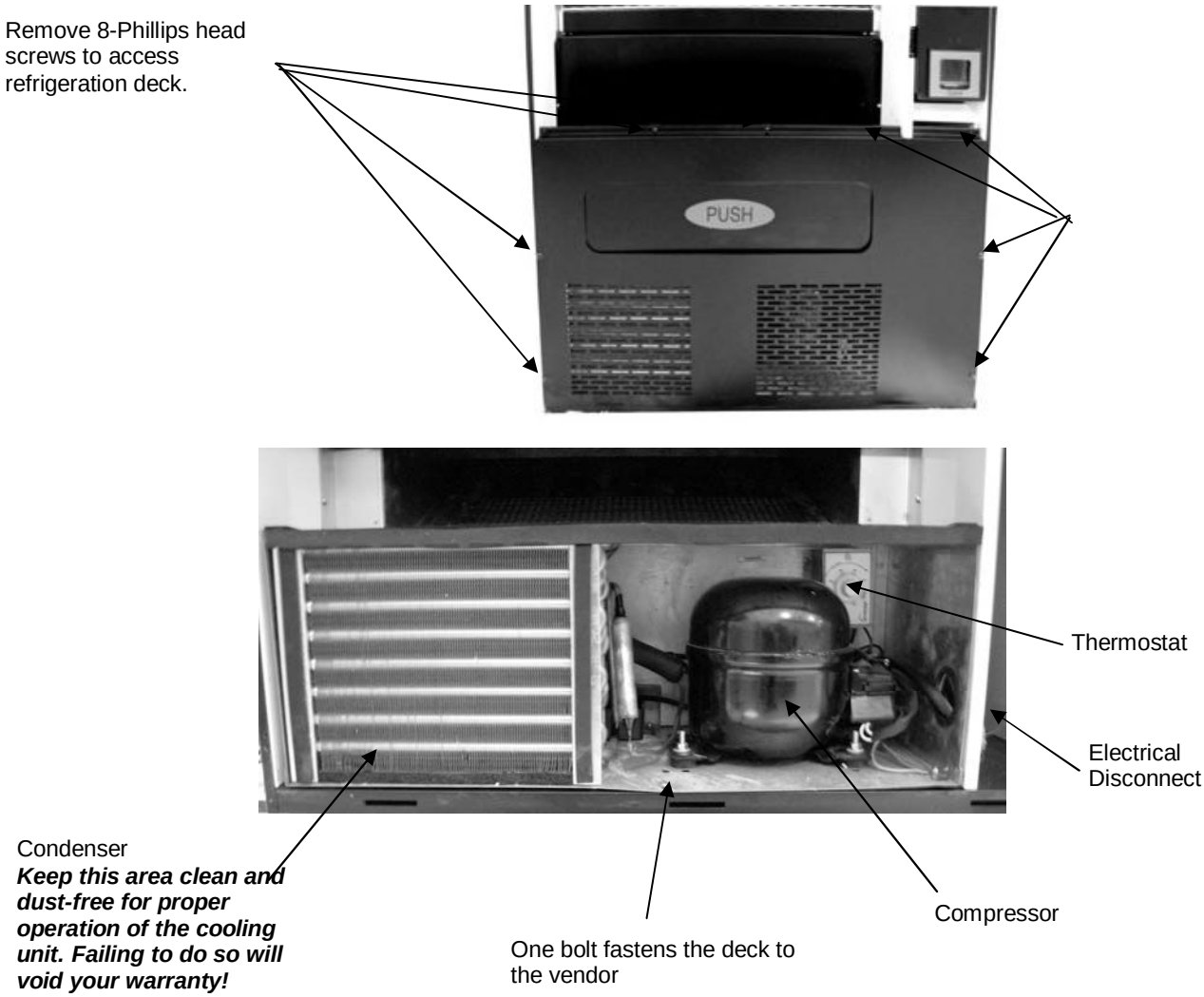
The beverage selection is D1 to D5 on the keypad. The Prices can be set by entering the Service Mode. The Selection Stickers can be put on the 4 slots available on the door of the Can Vending unit (Fig.15).

Beverage flavor cards can be purchased from you local bottling association or made on your computer.

REFRIGERATION DECK

Your vending machine incorporates of a high efficiency refrigeration system having two air circulation fans to chill the beverages. The refrigeration unit can be easily accessed after removing the lower front panel of the machine (Fig. 15). Once you have the front panel removed you can further remove the refrigeration deck by removing the nut and bolt in the front center of the deck. Then reach to the right side of the inside wall separating the refrigeration deck from the body of the vendor. There you will find the electrical disconnect, which needs to be unplugged (Fig. 15). The refrigeration Deck can now be pulled out from the vendor.

Fig.16 - Refrigeration Deck



The Thermostat Knob can be adjusted without pulling out the refrigeration deck (Fig. 16), however the front panel must be removed. Turning the Knob clockwise will lower the temperature in the dispensing unit and vice versa. **Note:** Your VC520 has been factory tested to provide you with proper cooling and should not need to be adjusted.

TEMPERATURE CHECK

Once your vendor is unboxed you will need to plug in your vendor and allow it to come to operating temperature. It will take about 18 hours for the vendor to reach an operating temperature of 38° F - 45° F. Temperature fluctuation is normal, and will depend upon your location climate.

CLEANING THE CONDENSER

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

Bent condenser fins are just as bad as fins that are blocked by dirt and debris. Straighten your condenser fins, if necessary. Using needle-nose pliers or a small flat screwdriver, gently bend the fins straight.

DELIVERY SYSTEM

The Beverage Delivery System consists of the Vertical-Drop Product Chutes, Back Gate, Triangular and Square Shims, Driver Motors, and the Can Auger. The customer inserts money and enters their selection on the Keypad. The selection's Driver Motor turns the Can Auger that vends the product.
There is a sold out switch at the front of each Vertical-Drop Product Chute that will indicate "Sold-Out" when it does not detect product. Note: When the "Sold-Out" Light is indicated, either 2 cans or 1 bottle will be remaining in the Product Chute, which is normal.

Fig. 17 - Vertical Drop Delivery System

Show from the underside (vend area) during a vend of a 12 oz. Can

PRODUCT CHUTE SET-UP

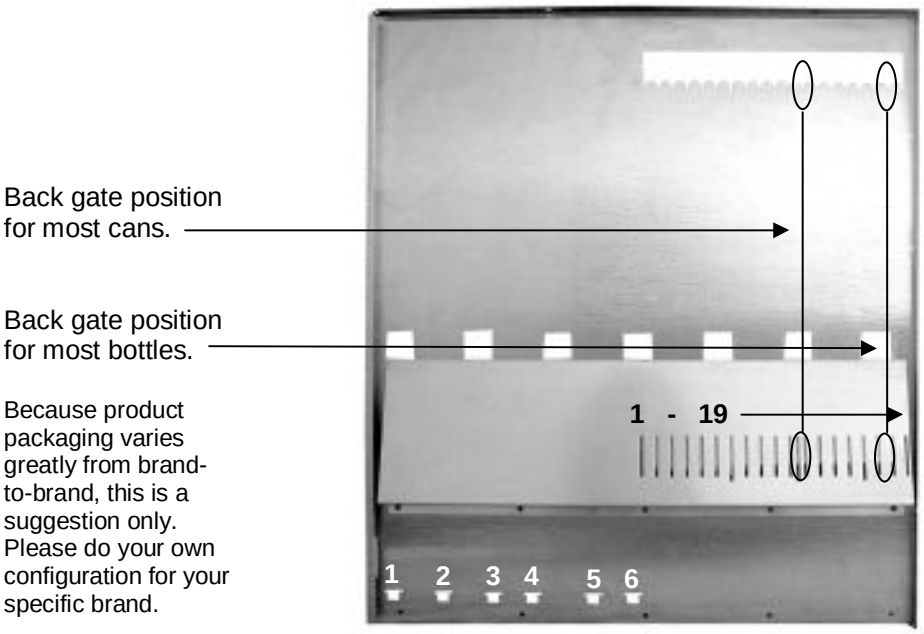
Each Vertical-Drop Product Chute is factory set for today's two most popular sizes – 12 ounce cans and 20 ounce bottles. The outer two selections are configured for bottles, while the inner three are for cans. Your machine can be reconfigured to vend product from 2.5" (64mm) diameter to 3.125" (79mm). Because package sizes vary in height and diameter, and are constantly being changed, it is difficult to define exact back gate settings for every customer. You absolutely must configure the beverage selections to your individual product and perform test vends to insure correct configuration.

Due to vibration during shipping, you may need to reset the Shims or Back Gate. This is normal. You will need to purchase a Red Bull delivery kit from Seaga's Parts Department if you wish to vend this size of can. Please see page 2 of this manual for contact information.

Common Configurations.
1. 12oz (355ml) cans.
   A.) The Back Gate (Fig. 19) is to be located in approximately the 12th slot of the Back Gate. (Fig. 18)
   B.) The Triangular Shim is to be in Slots 1,2 and 3.
   C.) The Square Shim is to be in Slots 4, 5 and 6.
   D.) The replaceable Motor Cam (beverage only) should be the 3 stop Cam.
   E.) Load Product with top of can facing the front of the vendor. (Fig. 20)

2. Some 20oz (591ml) bottles. These bottles vary from brand-to-brand, so be sure you configure the machine to your specific products.
   A.) The Back Gate (Fig. 19) is to be located in approximately the 18th slot of the Back Gate (Fig. 18)
   B.) The Triangular Shim is to be in Slots 1-4.
   C.) The replaceable Motor Cam (beverage only) should be the 2 stop Cam.
   E.) Load Product with bottom of the bottle facing the front of the vendor. (Fig. 20)

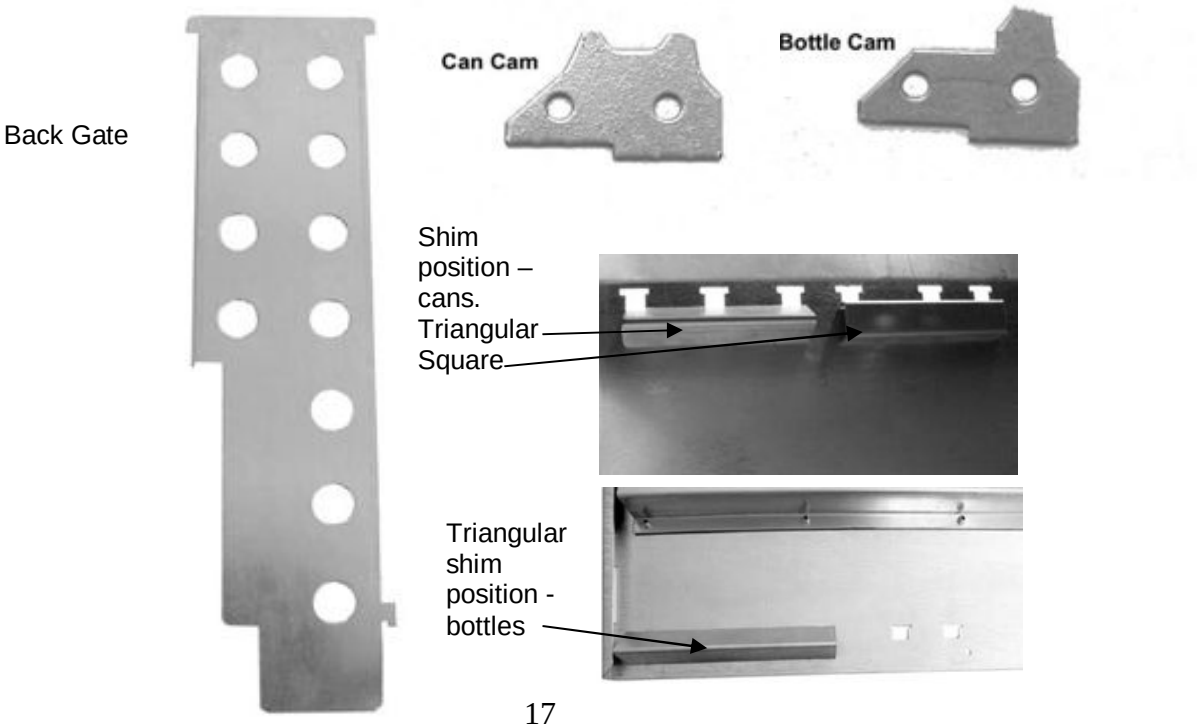
Fig. 18 - Vertical Product Chute Left Wall



Remember the following when making changes to your product:

1. The back gate always needs to be adjusted to fit your product. This is done by sticking your fingers thru the holes in the back gate and lifting to release the retaining tabs that secure it in the slots in the left wall (Fig. 18). Once released the gate can be moved forward or back to accommodate a variety of different sized products. It is important to note that the gate needs to be vertical when installed correctly and that the sold out switch (located to the front of the column) is depressed when there is product in the column. If this is not done correctly the product may not move down the column smoothly and become jammed. It may also cause the sold out operation to work incorrectly.
   Bottles and cans should not be too tight front to back or they will jam. Allowing for approximately ¼" of room from front to back to avoid jams.

Fig. 19 - Product Chute Parts



2. The correct shims need to be installed to correspond with the product to be vended. For bottles, the triangular shim is used and is mounted into the first four slots at the bottom of the delivery system side. For cans, both of the shims – triangular and square - are needed. The triangular square shim is mounted in the first three slots, and then the square shim is mounted in next three slots. The slots in the delivery system sides and tabs on the shims are spaced so that there is no possibility of installing them in the wrong location.

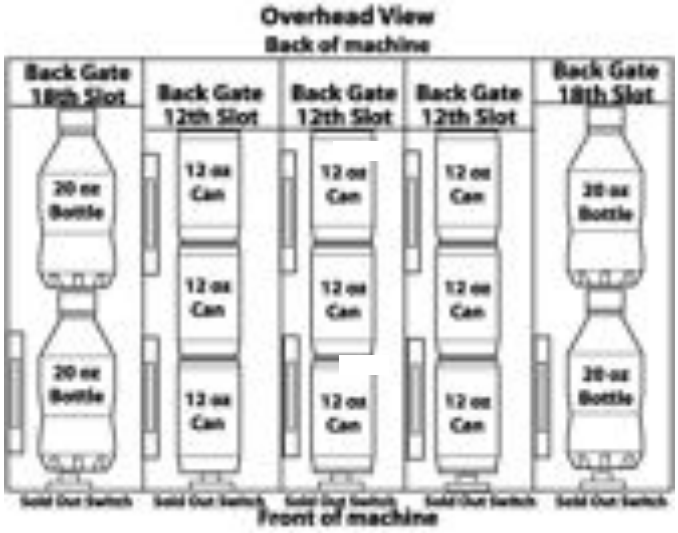
3. The correct cam needs to be installed to correspond with the product to be vended. For bottles the "bottle cam" is used and for cans the "can cam" is used. To install the cam, the soda vend motor may need to be ran to locate the cam into the position for changing. To locate the cam, look below the soda vend motor on the black auger that rotates to drop the products. This auger will stop in various positions as it rotates, depending on which cam is installed on it. There is one position that all of the augers will stop that leaves the cam at the bottom of the auger (about the 6 o'clock position). Once in this position, the screws that hold the cam onto the auger may be loosened and the correct cam installed. Note the cam and auger are constructed in such a way that the cam cannot be installed upside down.

The soda vend motor should not need to be removed, but if required to do so, they can be removed by removing the two screws that hold the motor bracket onto the motor panel. There are wires connected to a switch that is mounted on this bracket, once the screws are out, the entire bracket and switch can be carefully pulled off the motor and lowered out of the way. The motor can then be slid off of the auger shaft that sticks into it. Note that the motor harness will still be pulled into the top of the motor and can be unplugged for total removal of motor. Note: be aware of any washers or shims that may be inserted on the motor shaft as they sometimes cling to the motor when it is removed. Be sure to re-install any washers or shims that may have been installed previously.

Fig. 20 – Factory Default Product Configuration

Presented here are the two applications for the Vertical-Drop Delivery system. Other configurations may take some experimentation. All configurations need to be configured because of package variance.

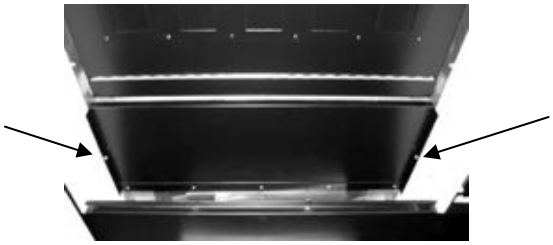
Front of vendor



The following instructions are to change the setup of the machine from can to bottle or bottle to can.

1. Unlock the 2 front locks and remove the upper cabinet door (See Fig. 3)
2. Remove the lower front cover by removing the 8 phillips screws as shown in Fig. 16
3. Remove the inner motor cover by removing the 2 phillips screws as shown in Fig. 21 below

Fig. 21 – Inner Motor Cover



The shims are located up in behind the motor mounting plate. Reach in up underneath where the cans or bottles are dispensed (Fig. 22). The shims are located toward the front on the left hand side of each column.

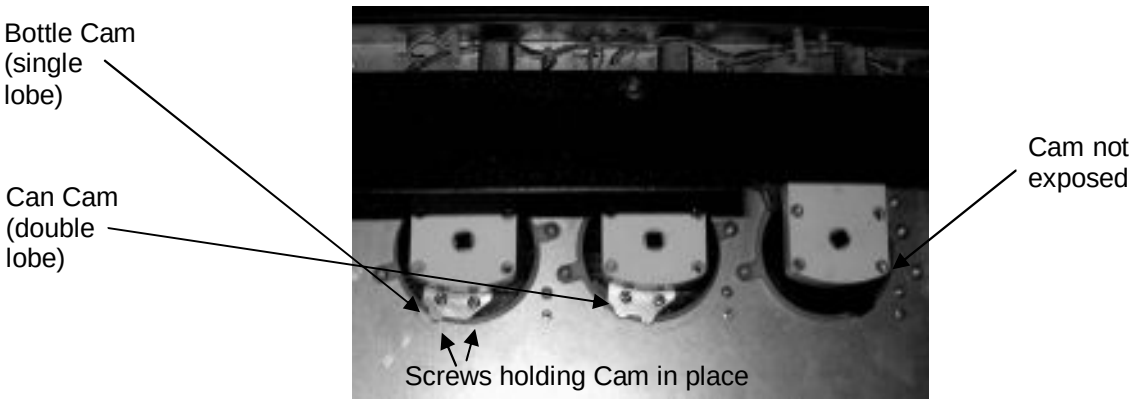
Figure 22 – Shim Location

The shims fit into the side of the column utilizing a T shaped slot. To remove an existing shim, slide it up and then pull it out of the T slot. See Fig. 20 for details.

Can selections require 2 shims- a triangular shim installed in the front position and a square faced shim located right behind. Bottle selections only require one triangular shim installed in the front position. See Fig. 19 for details.

Along with each type of shim setup and back gate configuration, there is also a companion cam that is installed on the front of the auger using 2 phillips head screws. The bottle setup requires the use of a single lobed cam while the can setup requires the use of a double lobed cam.

Fig. 23 – Cam Location

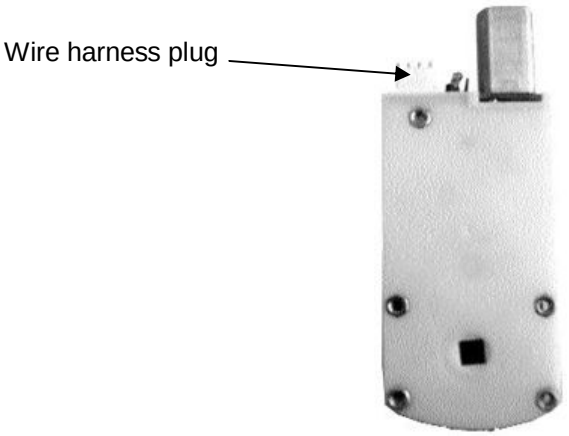


In order to access the removable cam please follow these instructions.

1. Enter the service mode by pressing the service mode button on the VMC.
2. Using the “9” button on the keypad press it until you see the word “Can” in the display.
3. Press the “1” button until you see “Off” in the display.
4. Press the “A” button to save setting.
5. Press the “9” button until you see “SLCt” in the display.
6. Now enter the selection for the cam that needs to be changed, for example “D1”. The auger will rotate until it stops on one of the cam lobes. Continue to select until the cam becomes visible as shown above.
7. Remove existing cam by removing the 2 phillips head screws holding it on.
8. Replace the cam with the proper corresponding cam- 2 lobes for can, 1 lobe for bottle.
9. Notice the index notch for proper placement on the auger.
10. Reattach with the 2 phillips head screws.
11. Go back to step 1 above through step 5.

12. Enter the selection number that was just changed in steps 7 & 8 above. Watch the action of the auger. If it has a can cam installed it should stop in 3 distinct positions, with a bottle cam, only 2.
13. While performing the test in step 12 also watch the display. If it shows the message “FAIL” then recheck the mounting of the cams and also look for any wires that may have come loose associated with the selection being worked on. If there is no “FAIL” message and the auger stops properly, then go on to the next selection, if any, that needs to be changed.
14. Once all the shims and cams are properly installed go back into the service mode and using the “9” button on the keypad press it until you see the word “Can” in the display.
15. Press the “1” button until you see “On” in the display.
16. Press the “A” button to save setting.
17. Exit the service mode by pressing the service mode button on the VMC.
18. Load the proper product into the columns following the loading and adjustment instructions located in your Operator’s Manual.
19. Perform some test vends to verify proper operation.
20. Once testing is complete reinstall the inner motor cover and lower front cover on the machine.

Fig. 24 - Vend Motor



TROUBLESHOOTING

Q: Money was inserted and a selection was made, but no product was vended and the money was kept.

A: To check the selection manually, enter into the service mode by pressing the “Mode” button on the VMC. Scroll to “Slct” and enter in the selection with the keypad. If the motor runs but the coil does not turn- Check to make sure the coil didn’t come detached from the vend motor drive. Check to make sure the vend motor shaft or the coil adaptor is not broken. Check for any unusual noises coming from the motor possibly indicating a defective gear drive inside the motor. Replace or reattach any parts as necessary.

Q: Money was inserted, a selection was made, nothing happened and the machine display shows “Choose alternate selection” but there is product in the selection. It only happens with one selection.

A: Enter into the service mode by pressing the “Mode” button on the VMC. Scroll to “Slct” and enter in the selection with the keypad you are having trouble with. One of several things will happen at this point.

1. The selection will run fine without issue. If this is the case there may have been an intermittent problem possibly in a connection somewhere in the circuitry to that selection. Check the connections on that particular vend motor and tray harness and retest several times to check.
2. The display will show the message “FAIL” immediately upon making a selection. This indicates that there is no communication going on between the vend motor and the VMC. You can also scroll to “Cnt” for a vend motor count and see if the count is correct for the number of selections in the machine. This will further confirm a communication issue between the VMC and vend motor. The problem could be the selection vend motor is unplugged, the tray harness is unplugged, loose or intermittent connection on either the vend motor connector or tray harness connector, defective motor, or a cut or broken wire. Identify and repair as needed.
3. The display will show the message “FAIL” approximately 3 seconds upon making a selection. This indicates that the selection vend motor is trying to turn but is stuck or jammed. Check the products and coil in that selection to make sure there is not an issue allowing the coil to turn. Could also be a stuck vend

motor. Disconnect the coil from the vend motor and test again. If you have the same result then replace the vend motor. **Important note** - Do not perform multiple subsequent tests whenever you get the delayed FAIL message. Performing too many tests too quickly can cause the VMC motor drive section to unnecessarily heat up and fail prematurely.

4. This indicates that the home switch signal is not being returned to the VMC. If this happens for anything less than the whole tray suspect tray harness connector first most likely at the individual vend motor connectors or the vend motor itself. Remember that it is very unusual for several vend motors to fail simultaneously so if you have several that do not work on a tray then suspect the tray harness is bad. Replace parts and test as necessary.

Q: None of the selections in a tray will work.

A: Enter into the service mode by pressing the “Mode” button on the VMC. Scroll to “Cnt and see if the vend motor count is less than the number of total selections in the machine. You can also enter into “Slct” and make some tray selections for the tray you are having problems with. You should see the “FAIL” message immediately. The most likely culprit here would be the tray harness itself or the connection where the tray harness plugs into the machine. Try “swapping” the tray harness plugs and retesting to determine where the problem is. For example lets assume that none of the A tray vend motors will work. Unplug the A tray harness from the machine, unplug the B tray harness from the machine and now plug the A tray harness into the B tray receptacle and plug the B tray harness into the A tray receptacle. Enter into the service mode by pressing the “Mode” button on the VMC and scroll to “Slct”. Now enter your test selections using the B selections such as B1 etc. If you still get the immediate “FAIL” message then the tray harness for the A tray is the most likely culprit. However if the A tray motors work, test the B tray using the A selections such as A1 etc. If the B tray does not work then suspect something in the A tray machine connection or any connection between there and the VMC. The least likely problem is the VMC. Identify, repair and reconnect the tray connectors back to their correct positions.

Q: None of the selections work. I enter the service mode and all I get for motor count is 0.

A: This is one of two possibilities; either the main vend motor harness is unplugged from the VMC or the motor circuit protection fuse is blown. Check the connection or replace parts as necessary. If you had a jam where you had repeatedly tried running the vend motor before fixing the problem, this will possibly be the cause for the blown fuse. Make sure you identify and fix the root cause problem before replacing the fuse or you will damage the replacement fuse and possibly the VMC as well.

Q: I make one selection, for example A1, but A1 and another vend motor on that tray run at the same time. Problem only happens on one tray.

A: Could be several possibilities here. If the problem is only happening on one tray, it is most likely the vend motor that runs all the time with the other selections on that tray either has its tray harness electrical connection plugged on backwards on the back of that vend motor or the vend motor itself could be defective.

Q: I make one selection on any tray, for example A1 but A1 and another vend motor, for example A3 on that tray runs at the same time. I make a selection on another tray say B1 for example and B3 runs along with. All the trays in this example have the number 3 selection (for example) in that same tray running along with the original selection.

A: The most likely culprit is the VMC. Replace and test.

Q: I press one selection on the keypad but another selection vends. For example I select A1 but A2 vends. I select B1 but B2 vends.

A: This problem is most likely the keypad. The way to test this is, without putting any money in, press your selection on the keypad. Watch closely at the display. The display should mimic the keys that you pressed briefly before the price shows for that selection. For example press A1. A1 should show on the display momentarily before it’s price shows. If something other than what you pressed shows in the display, suspect the keypad to be at fault. In very rare cases the VMC has also caused this problem but very unlikely.

Q: I continually have a letter showing in the display (A, b, C or d).

A: The keypad is damaged and needs to be replaced. To confirm this disconnect the keypad harness from the VMC. If the display goes back to .00 then you have confirmed the problem. Replace the keypad. You may also notice that you cannot enter the service mode by pressing the “Mode” button on the VMC. By disconnecting the keypad harness you should notice that now you will be able to enter the service mode.

Q: Display shows .00 but keypad is unresponsive to key press.

A: Check to make sure keypad is plugged into VMC. The keypad is connected to the VMC by way of a keypad harness cable. Check any connections associated with the keypad and keypad harness. Keypad is most likely at fault as it gets the most abuse from customers making selections. If one of the number buttons is stuck this will cause the same problem. It's possible you may also notice that you cannot enter the service mode by pressing the "Mode" button on the VMC. By disconnecting the keypad harness you should notice that now you will be able to enter the service mode. Check and replace as necessary.

Q: The service "Mode" button is unresponsive.

A: Most likely the keypad on the front of the machine is at fault. Temporarily disconnect the keypad and test "Mode" button. If the "Mode" button now works replace the keypad. If disconnecting the keypad does not make any difference then suspect the VMC itself. Replace any necessary parts and retest.

Q: The display is off but the machine still accepts money and vends even though you can't see anything in the display.

A: There are several possibilities here. The most likely in order are:

1.) The display harness connector may be unplugged
2.) Connections on either end of the display harness connector are faulty or intermittent
3.) The display board itself or the VMC.

Examine connections mentioned for loose or faulty connections.

Q: I make a drink selection and 2 cans come out every other time. I just changed the selection from a bottle to a can.

A: Referring to the setup section in the manual, look at the part concerning the can and bottle cam installation. If you forgot to change the cam from the single cam style to the double cam style, this is your problem. Install the correct cam to correct the problem.

Q: Every once in a while the drink selection will vend out multiple drinks. The next time I select it, it does not vend anything.

A: Each drink selection has a cam located on the product "auger" The auger is what rotates and delivers the drink selections. There is a home switch located in behind the drink selection vend motor. For a can drink setup the auger will make three stops in one revolution of the auger. For bottles it is only two stops per revolution. One of the wires may have come loose from the home switch or the wire has been pinched or cut. Or if the cam misses hitting the home switch then the auger will over-run and deliver more than it should. You can enter the service mode by pressing the "Mode" button on the VMC and scroll to "Slct" and make the selection on the keypad for the column you are having trouble with. If the cam is missing the home switch you will see your product possibly vend more than one item (or maybe non at all if the previous vend produced a multiple vend) and then the display will show "FAIL". If the home switch wire is loose or broken it will also run but then show "FAIL" in the display. A third possibility is a faulty home switch. Identify the problem, replace parts if necessary and retest.

REFRIGERATION TROUBLESHOOTING

In order to aid you in troubleshooting the refrigeration system a little background on how the system works is in order first to help you understand its operation.

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 drink 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 drinks the colder they become.

This process is accomplished by the use of a sealed compressing system using a gas commonly known as Freon. The system is comprised of several key mechanical components. The condenser coil, the evaporator coil and the compressor. The condenser coil 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 coil is located inside the machine towards the back of the cooling system underneath the drink section we are trying to cool. Its purpose is to absorb the heat from the drink selections and provide the cool air needed to refrigerate the selections. 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, defrost timer 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 and defrost timer control the on & off cycling of the compressor. The purpose of the defrost timer is to interrupt the operation of the compressor at a set interval to avoid the possibility of an air flow blockage due to a freeze up in the evaporator coil. The defrost timer runs continuously as long as there is 115 volt AC power to the machine. Every 6 hours it will turn the power off to the compressor for approximately 25 minutes regardless of the thermostat setting.

To determine if the compressor system is running it is sometimes hard to tell due to the fact that the compressor tends to be very quiet running. The sound and slight vibration from the fans running can sometimes be mistaken for the compressor running. One way to tell if it is running is to cautiously place your hand on the compressor to feel its warmth. 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.

Drinks too cold

The factory setting for the thermostat is set by the factory to an operating temperature range of 39 to 42 degrees F. To change the temperature remove the lower front panel of the machine and turn the thermostat knob to a lower number to raise the temperature. Any temperature setting changes made will require a settling time of several hours in order to see any results.

If the thermostat is already at a much lower number or you have repeatedly been turning it to a lower number and the thermostat seems unresponsive to the changes after waiting several hours between changes, then suspect the thermostat to be at fault.

If any further help is needed you may need to contact Customer Care or a local refrigeration technician.

Drinks cool but not cool enough

The factory setting for the thermostat is set by the factory to an operating temperature range of 39 to 42 degrees F. To change the temperature remove the lower front panel of the machine and turn the thermostat knob to a higher number to lower the temperature. Any temperature setting changes made will require a settling time of several hours in order to see any results.

If the thermostat is already at a much higher number or you have repeatedly been turning it to a higher number and the thermostat seems unresponsive to the changes after waiting several hours between changes then check the following:

1. Are the fans running properly with no obstructions?
2. Is the compressor running for a very brief period (10 to 30 seconds) then turns off?
3. Does the compressor feel extremely hot?
4. Remove the lower front panel, remove the bolt securing the cooling assembly, unplug the Molex connector to the right of the cooling deck and slide the cooling assembly forward to observe the evaporator coil to see if there is any unusual blockage due to ice forming on the coil. If so you will need to leave the power disconnected for a period of several hours in order to manually defrost the coil completely. To help speed the process you may find it advantageous to use a heat gun (hair dryer) on the coil. Be aware of any excess water while doing this. This may be caused by a faulty (stuck) thermostat, faulty timer or the evaporator fans are not running.

If any further help is needed you may need to contact customer service or a local refrigeration technician.

Drinks warm or not cool at all

1. If there appears to be no fan or compressor running check to make sure the cooling system cord is plugged in to a known working 115 volt AC wall outlet.
2. Remove the lower front panel and check the Molex connector to the right of the cooling deck assembly to see if it is properly and tightly plugged together.

3. If the fans are running and the compressor or condenser coil feels warm, remove the bolt securing the cooling assembly, unplug the Molex connector to the right of the cooling deck and slide the cooling assembly forward to feel the evaporator coil to see if it feels cold. If not you will need to have the cooling deck serviced.

If any further help is needed you may need to contact customer service or a local refrigeration technician.

Notes: