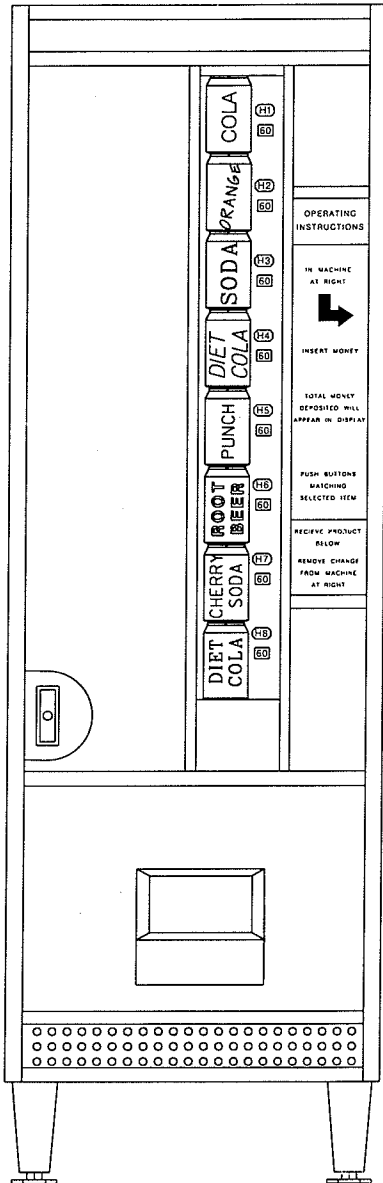


# CAN DRINK MERCHANDISER II MODEL 3082



# SERVICE MANUAL

FILE COPY

JUNE 1995

P/N 4206605

## TABLE OF CONTENTS

<b><u>INTRODUCTION:</u></b> .....	3
<b><u>SPECIFICATIONS:</u></b> .....	3
<b><u>GENERAL SPECIFICATIONS:</u></b> .....	3
<b><u>ELECTRICAL:</u></b> .....	3
<b><u>CAPACITY:</u></b> .....	3
<b><u>PRICING:</u></b> .....	3
<b><u>COINAGE:</u></b> .....	3
<b><u>REFRIGERATION:</u></b> .....	3
<b><u>UNPACKING:</u></b> .....	4
<b><u>INSTALLATION:</u></b> .....	5
<b><u>GROUNDING &amp; ELECTRICAL:</u></b> .....	5
<b><u>VOLTAGE CHECK:</u></b> .....	5
<b><u>INSTALLATION INSTRUCTIONS:</u></b> .....	6
<b><u>LOADING INSTRUCTIONS:</u></b> .....	7
<b><u>LIVE PRODUCT DISPLAY:</u></b> .....	7
<b><u>LOADING SERPENTINE COLUMNS:</u></b> .....	8
<b><u>PRICE SETTING INSTRUCTIONS:</u></b> .....	8
<b><u>SET PRICE - INDIVIDUAL SELECTIONS:</u></b> .....	8
<b><u>COPY PRICE MODE:</u></b> .....	10
<b><u>VERIFYING VEND PRICES:</u></b> .....	11
<b><u>INSTALLATION CHECK LIST:</u></b> .....	11
<b><u>FUNCTIONS &amp; COMPONENTS:</u></b> .....	11
<b><u>UPPER &amp; LOWER EJECTOR MECHANISMS:</u></b> .....	11
<b><u>VEND MOTOR:</u></b> .....	12
<b><u>LARGE CAM:</u></b> .....	12
<b><u>SMALL CAM:</u></b> .....	12
<b><u>VERRIDE SWITCH:</u></b> .....	12
<b><u>MOTOR SWITCH:</u></b> .....	13
<b><u>SOLD-OUT SWITCH:</u></b> .....	13
<b><u>UPPER EJECTOR MECHANISM REMOVAL:</u></b> .....	13
<b><u>RE-INSTALL UPPER EJECTOR MECHANISM:</u></b> .....	14
<b><u>LOWER EJECTOR MECHANISM REMOVAL:</u></b> .....	15
<b><u>RE-INSTALL LOWER EJECTOR MECHANISMS:</u></b> .....	15
<b><u>10 OUNCE CONVERSION:</u></b> .....	16
<b><u>REFRIGERATION SYSTEM:</u></b> .....	17
<b><u>COMPRESSOR:</u></b> .....	17
<b><u>POWER SUPPLY:</u></b> .....	17
<b><u>STARTING RELAY:</u></b> .....	17
<b><u>OVERLOAD PROTECTOR:</u></b> .....	17
<b><u>COLD CONTROL:</u></b> .....	18
<b><u>EVAPORATOR FANS:</u></b> .....	18
<b><u>CONDENSER FANS:</u></b> .....	18
<b><u>REFRIGERATION SYSTEM REMOVAL:</u></b> .....	18
<b><u>EVAPORATOR FAN REMOVAL:</u></b> .....	19
<b><u>CONDENSOR FAN REMOVAL:</u></b> .....	19
<b><u>TROUBLE-SHOOTING:</u></b> .....	20
<b><u>CARE &amp; CLEANING:</u></b> .....	22

## **INTRODUCTION:**

The contents of this manual contains instructions, service and installation guidelines pertaining to the **Can Drink Merchandiser II**. Also contained are various options and accessories offered within this product line.

The Can Drink Merchandiser II is an eight (8) select Can Drink Vendor that must be connected to a Glass Front Merchandiser (Snack Mart III, Snack Mart IIIA Series or other similar "Host" Vendor). The Can Drink Merchandiser II is a "satellite" type machine that utilizes the electronics and control systems of the Glassfront Merchandiser ("Host") for all vend functions, credit accumulation, pricing and other vend-related requirements.

Money must be inserted into the "host" Glassfront Merchandiser. Selections are made at the Glassfront Merchandiser key pad and all programming is done through the Glassfront Merchandiser Controller. Connecting a Can Drink Merchandiser II to the Glassfront Merchandiser electronics will allow the owner/operator to apply the same features available in the Glassfront Merchandiser to the Can Drink Merchandiser II. The "software" of the Glassfront Merchandiser Controller will treat the Can Drink Merchandiser II as an additional shelf or tray.

Service diagnostics, cash accountability and other information pertaining to the Can Drink Merchandiser II are recorded by the "Host Vendor's" Controller and will be displayed to service personnel when the Service Mode is entered at the "Host" machine. Electrical functions are monitored during each vend and any malfunctions, (faulty motors, etc.) detected by the "host" controller will be placed in memory and that selection will become in-operative. Individual selections determined to be in-operative do not affect the operation of the remaining selections.

The eight selections can be priced individually, with vend prices ranging from \$.05 to \$99.95 in five-cent increments. Individual vend mechanisms

for each selection are designed to allow vending of standard 10-ounce and 12 ounce cans. Cans are stored in "serpentine" type storage areas, easily loaded, and are routed to the 24 volt motor-driven ejector mechanisms. The ejector mechanism will consist of a "dual" cam arrangement. The front cam will hold the product to be vended at the "vend position", releasing it to the delivery area during the vend cycle. The rear cam will be advanced into the path of the cans during the vend cycle, holding them back until the vend cycle is complete. At the end of the vend cycle, the next can will be released to the "vend position", awaiting the next vend.

## **SPECIFICATIONS:**

### **GENERAL SPECIFICATIONS:**

Height:	72 Inches
Width:	25 3/4 Inches
Depth:	34 Inches
Weight:	480 Pounds

### **ELECTRICAL:**

Power Requirement:	115 VAC, 60 Hz
Starting Amps:	10 Amps
Running Amps:	5 Amps

### **CAPACITY:**

Selections:	8 Select
Cans in Vend Area:	300 12 oz.

### **PRICING:**

8 Prices:	\$.05 to \$99.95 (Controlled at "Host" Vendor)
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### **COINAGE:**

Shared with "Host" Vendor

### **REFRIGERATION:**

TYPE:	1/4 HP Hermetically Sealed
REFRIGERANT:	R-134a
CHARGE:	7.5 Ounces

## **UNPACKING:**

This machine has been thoroughly inspected before leaving the factory and the delivering carrier has accepted this vendor as their responsibility. Any damage or irregularities should be noted at the time of delivery and reported to the carrier. Request a written inspection report from the claims inspector to file any claim for damage. File the claim with the CARRIER (NOT THE MANUFACTURER) within 15 days after receipt of the machine.

Carefully remove the outside packaging material in a manner not to damage the finish or exterior of the machine. Inspect the machine for concealed shipping damage. Report any damage hidden by the packaging material directly to the delivering carrier on a hidden damage report.

Record the model number and serial number of the vendor for your records. These numbers can be found on the Serial Plate located on the rear of the cabinet and/or inside the vendor. Refer to these numbers on all correspondence and inquiries pertaining to this vendor.

To minimize installation time and to avoid service problems due to improper installation, follow the instructions outlined in this manual. To remove the machine from the shipping pallet, follow the steps outlined below (See Illustration #1)

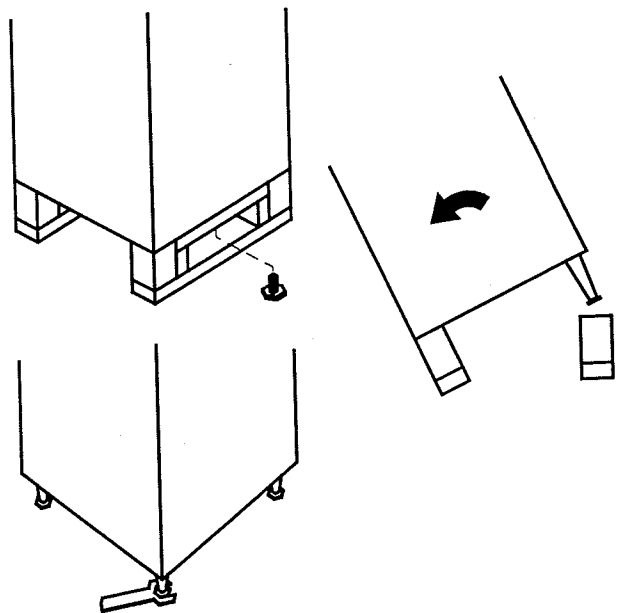
1. Remove two (2) 5/16-18 x 1 1/4" Bolts using a 1/2" drive socket or wrench. These bolts are located on the underside of the skid-board, as shown.
2. Tilt the machine until the legs clear the skid-board.
3. Remove the skid-board from bottom of machine.
4. Replace the bolts removed previously, to plug exposed holes in bottom of vendor.
5. Repeat the above steps for the other skid-board.

Position the vendor in its place of operation, to the left of the "host" machine, no further than 9 feet from the power outlet or receptacle and check that

the door will open fully without interference. Leave at least six (6) inches of space between the back of the machine and any wall or obstruction for proper air circulation. Level the vendor, making sure all levelers are touching the floor. The vendor **must** be level for proper operation.

Open the outer door and remove all internal packing material. On machines that are furnished with lock and keys, the keys to the vendor will be located in the product delivery opening.

Consult local, state and federal codes and regulations before installation of the vendor.



**ILLUSTRATION #1**

**NOTE:**

If the Can Drink Merchandiser II **must** be positioned on the right of the "host" machine a different Instruction Panel (P/N4206267-001) must be used. Part is available from your local distributor or Selectivend, Inc. If both a Cold Food Merchandiser and a Can Drink are to be connected to the "Host" machine, the Food Merchandiser should be positioned to the right of the "host" machine.

## INSTALLATION:

THE CAN DRINK MERCHANDISER II MUST BE CONNECTED TO A GLASSFRONT MERCHANDISER. THE STEPS OUTLINED ON THE

FOLLOWING PAGES ARE THE BASIC INSTRUCTIONS FOR INSTALLING THE CAN DRINK MERCHANDISER II. REFER TO THESE INSTRUCTIONS ALONG WITH THE WIRING DIAGRAMS DURING INSTALLATION.

## GROUNDING & ELECTRICAL:

For proper operation of any equipment utilizing electronically controlled components, it is recommended that the equipment be placed on an isolated or dedicated "noise" free circuit, properly polarized and grounded. The circuit should be a minimum 15 Amp, 115 Volt AC, 60 cycle power source

Shown in **Illustration #2** and **Illustration #3** are two (2) properly grounded and polarized wall outlets. **Illustration #2** is a three (3) wire grounding type wall outlet. **Illustration #3** is a two (2) wire outlet with a three (3) plug adapter in place.

or breaker protecting the circuit, is a minimum of that specified in the vendor Service Manual or greater.

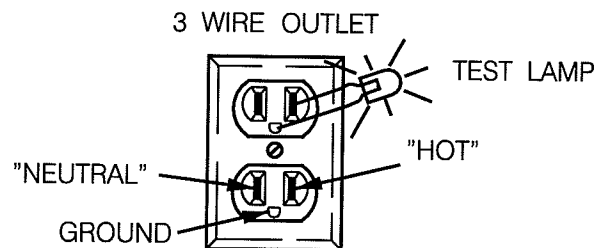
### **NOTE:**

The "HOT" side of the outlet should always be counter-clockwise from the "GROUND" terminal, with the ground terminal at the bottom. The "NEUTRAL" terminal will be clockwise from the "ground" terminal.

### **NOTE:**

The "hot" side of the outlet should always be counter-clockwise from the grounded terminal, with the ground terminal at the bottom.

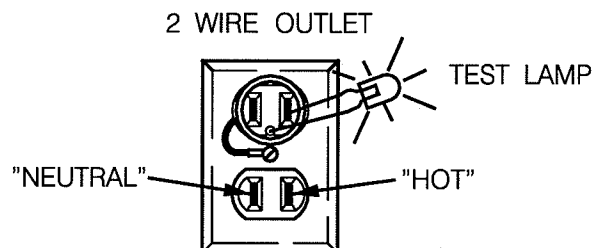
If you find that the receptacle is not properly grounded, or polarized, you should contact a licensed electrician to correctly polarize and/or ground the receptacle to ensure safe operation.



**ILLUSTRATION #2**

## VOLTAGE CHECK:

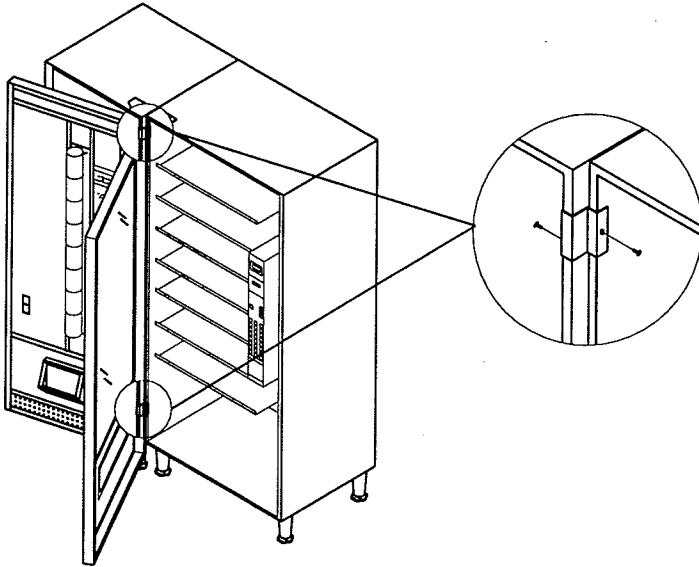
1. **Voltage Check:** With a Volt-Meter set to check AC line voltage, insert one connector to the HOT terminal and the other connector to the NEUTRAL terminal. The volt-meter should indicate 103 to 126 Volts AC.
2. **Polarity and Ground Check;** With a Volt-Meter set to check AC line voltage, insert one connector to the HOT terminal and the other connector to the GROUND terminal. The volt-meter should indicate 103 to 126 Volts AC.
3. **Amperage Check;** At the fuse box or circuit breaker panel, locate the proper circuit, and ensure that the amperage reading of the fuse



**ILLUSTRATION #3**

## **INSTALLATION INSTRUCTIONS:**

1. Set and level the Can Drink Merchandiser to the left of the Glassfront Merchandiser ("host machine) and connect the machines together using the two (2) Tie Plate Assemblies (P/N1211234) furnished in the service packet. See Illustration #4.

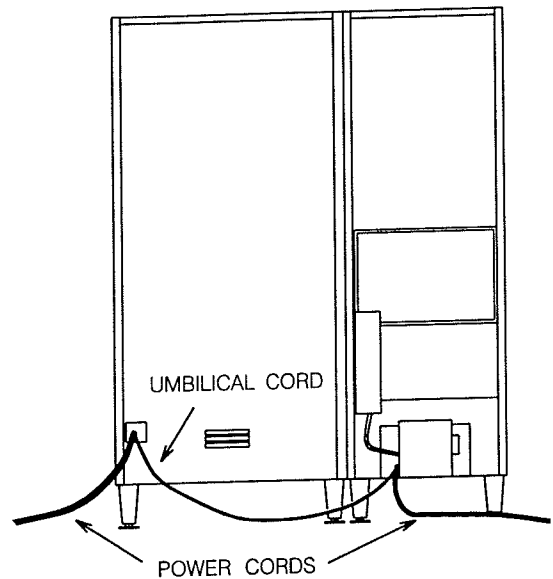


**ILLUSTRATION #4**

### **NOTE**

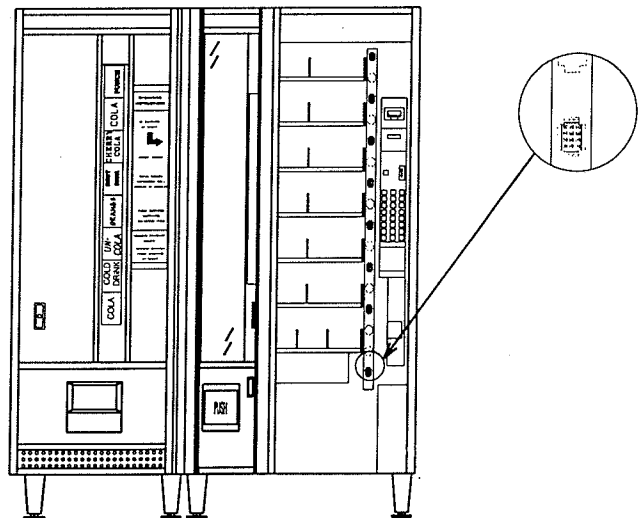
If both a Cold Food Merchandiser and a Can Drink Merchandiser are to be connected to the "Host" machine, the Food Merchandiser should be positioned to the right of the "host" machine.

6. Plug both the Glassfront Merchandiser and the Can Drink Merchandiser II into the building power source.
7. Set vend prices for the Can Drink Merchandiser (Refer to **Price Setting Instructions**) and test vend both machines for proper operation.



**ILLUSTRATION #5**

2. Unplug the Glassfront Merchandiser from the power supply.
3. Remove the hole plug from the back of the Glass-front Merchandiser ("host" machine) cabinet and retain the mounting screws.
4. Insert the "umbilical" cord from the Can Drink Merchandiser II through the hole in the back of the "host" machine and secure the plate (attached to the umbilical cord) using the hardware from step #3. See Illustration #5.
5. Connect the "umbilical" cord from the Can Drink Merchandiser II to the "host" machine main cabinet harness (**Connection "H"**) located in the lower right compartment below the control panel. (See Illustration #6.)



**ILLUSTRATION #6**

Refer to **Wiring Diagrams** on both the Can Drink Merchandiser II and the "Host" Glassfront Merchandiser for proper identification of the connections and components.

## LOADING INSTRUCTIONS:

There are eight (8) 12-ounce selections in the Can Mart II Merchandiser. Cans are stored in "serpentine" type storage areas, easily loaded. The selections are numbered from top to bottom, left to right when facing the front of the vendor. Selections numbered one (1), three (3), five (5) and seven (7) will hold 35 cans each. Selections numbered two (2), four (4), six (6) and eight (8) will hold 40 cans each.

A live display will provide a full view of the products being dispensed and an area to identify the selection along with the vend price for each item.

## LIVE PRODUCT DISPLAY:

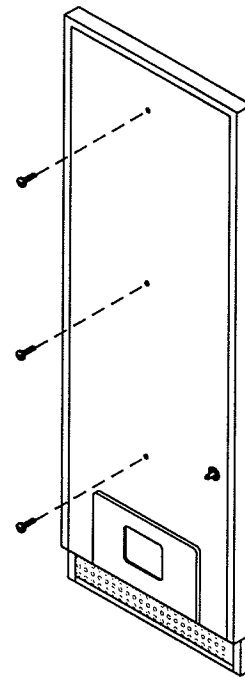
To load items in the live display, open the main door and remove the three (3) plastic screws shown in **Illustration #7**. This will allow the vertical trim (Item # 1) and the display window (Item # 2) shown in **Illustration #8** to be removed. Located in the Service Packet is an adhesive backed magnetic strip (P/N 4205328). Cut into lengths of approximately 3 inches (3"). Remove the adhesive protection and place on the display can, opposite the side to be displayed. Place display can in the proper position, making sure that the brand is clearly visible to the buying customer. The display can will be retained by the magnetic strip. Insert the selection label in the pocket provided. Selections are numbered from top to bottom, H1, H2, H3 through H8. Set the price scroll at the desired vend price. Make sure the selection number and the price agrees with what is programmed in the control board.

Replace the display window, the vertical trim and secure with the three (3) plastic screws removed above.

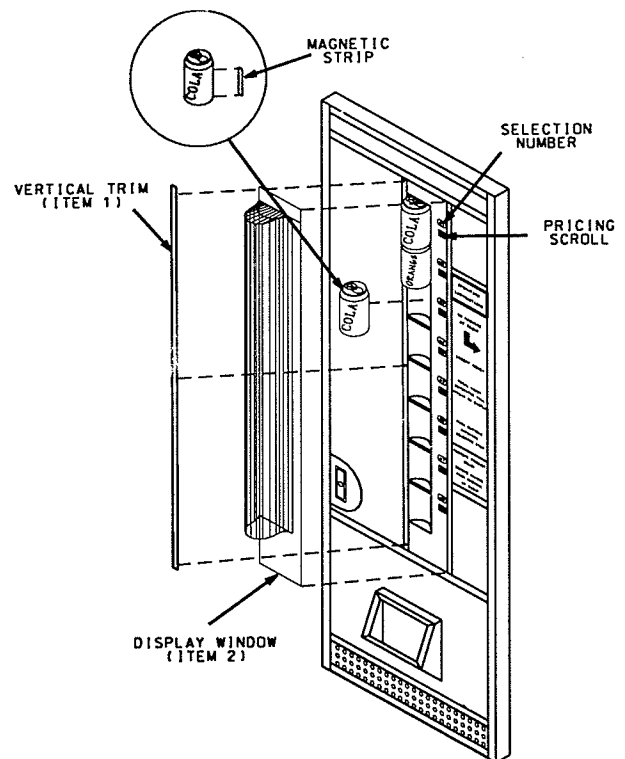
Test vend each selection for proper operation.

### **NOTE:**

It is recommended that empty cans be used in the display area.



**ILLUSTRATION #7**



**ILLUSTRATION #8**

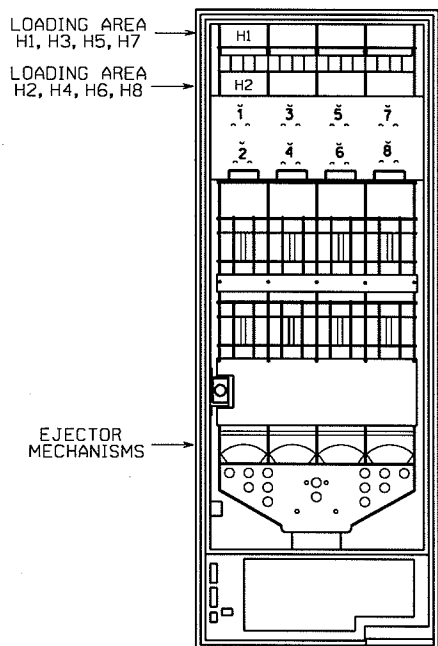
## LOADING SERPENTINE COLUMNS:

When loading the columns, place the cans in the proper opening. Lay the cans on their side and allow them to roll down the serpentine column to the ejector mechanism. The serpentine column can be loaded until it is full to the top opening. (See Illustration #9).

### **NOTE:**

When loading the columns, Make sure the item being loaded is placed in the proper column and agrees with the item displayed in the display area.

**Do not load dented or damaged cans in the serpentine columns. Possible jams could occur. Do not let the first cans being loaded strike the cams on the ejector mechanism with full force.**



**ILLUSTRATION #9**

### **NOTE:**

When a column is sold-out, the controller records that selection as a "faulty motor". Press the Service Mode Button in the Glassfront Merchandiser to reset "sold-out" conditions. **This should be done each time the machine is filled.**

## PRICE SETTING INSTRUCTIONS:

All pricing and programming is done at the Glassfront Merchandiser "host machine" key pad. To set prices for the Can Drink Merchandiser II selections, the Glassfront Merchandiser's controller must be placed in the "Service Mode" and then advanced to the "Set Price" mode. The Selections in the Can Drink Merchandiser will utilize "H1" through "H8" in the Glassfront (host) software. The software will configure the Can Drink Merchandiser as an "eighth tray", thereby when the Can Drink Merchandiser is added, the eighth tray option in the Glassfront Merchandiser cannot be used.

Individual vend prices can be set for each selection. A vend price must be established for each selection. When items will be vended at the same vend price, the "Copy Price" mode can be used to duplicate the prices.

## SET PRICE - INDIVIDUAL SELECTIONS:

To establish vend prices, follow the steps and instructions outlined below:

1. Place the Glassfront Merchandiser ("Host") controller in the "Service Mode". This is done by depressing the "Service Mode" switch located on the control board of the host machine.

### **NOTE:**

At this time the display of the host machine will indicate any faulty selections that have been recorded by the controller. These faults should be recorded immediately. Refer to the "Trouble Shooting" section of the Glassfront Merchandiser manual for additional information.

2. Enter the "Price Mode" by depressing "5" on the key pad of the "host" vendor. (See Illustration #10)



- The display of the "host vendor" will indicate "MAKE SELECTION".
3. Enter the selection number of the item to be priced using the key pad on the "host" machine.
    - The selection number and current vend price will be displayed in the Glassfront Merchandiser
  4. Enter the desired vend price using the number keys on the front panel key pad.

**EXAMPLE:**

If the numbers 7 and 5 were entered, that item would vend for 75¢. (See Illustration #10)

5. Store the price in memory by depressing the "#" key on the front panel key pad of the Glassfront Merchandiser. The "Copy Price" mode can be used if more than one selection is to be set at the same vend price.
6. Continue setting prices for other selections by repeating Step 3 through Step 5.
7. After completing the price setting, depress the "Service Mode" switch on the control board of the "host" machine.

The scrolling message will appear in the Glassfront Merchandiser display. The machine is now in the normal operating or "Sales Mode".

**NOTE:**

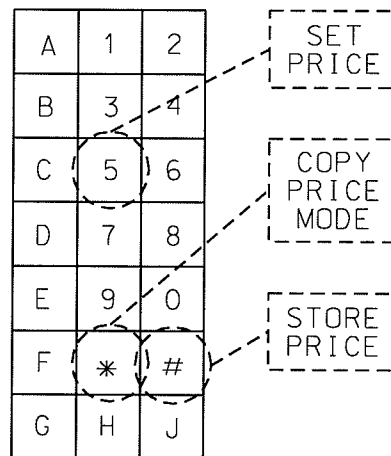
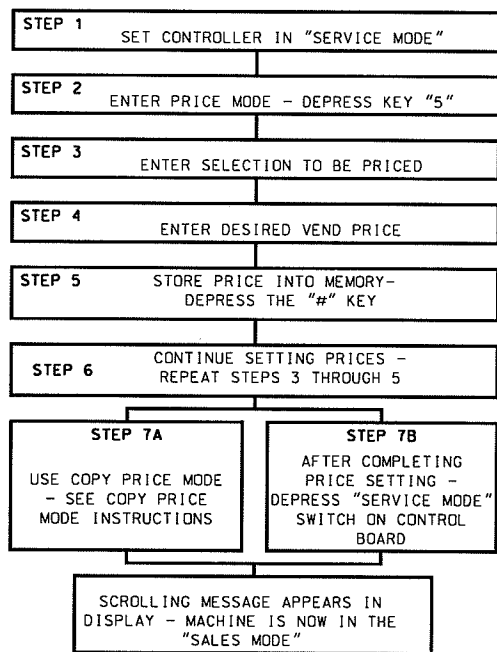
Any time the Controller is in the "Service Mode", it will automatically return to the "Sales Mode" within 25 seconds if no input or depression of the key pad is made during this time.

**IMPORTANT:**

When establishing vend prices make sure the price scroll located beside the item in the live display agrees with the item being displayed and the vend price programmed into the controller.

The "Flow Chart" indicates the basic steps that are required when establishing vend prices on individual selections. If more than one selection is to be vended at the same vend price, the "Copy Price" mode can be used. (See Illustration #10)

**SET PRICE MODE - STEP BY STEP SEQUENCE**



GLASSFRONT MERCHANDISER  
Selection Pad

**ILLUSTRATION #10**

## COPY PRICE MODE:

When there is more than one selection to be vended at the same vend price, the "Copy Price" mode can be used. The "Copy Price" mode can be accessed by following the instructions outlined below:

1. Place the Controller in the "Service Mode".
  - This is done by depressing the "Service Mode" Switch located on the Glassfront Merchandiser ("Host") control board.
2. Enter the "Price Mode" by depressing key "5" on the front panel key pad. (See Illustration #11)
  - The display will indicate "Make Selection".
3. Enter the first selection to be priced.
  - The Selection Number and current vend price will be displayed in the Glassfront Merchandiser display.
4. Enter the desired vend price for the first selection using the numbers on the Glassfront Merchandiser key pad.

### **EXAMPLE:**

If the numbers 7 and 5 were entered, all items would have a vend price of 75¢.

5. Depress the "\*" key on the Glassfront Merchandiser key pad. (See Illustration #11)
  - The display will indicate "Copy Price"
6. Enter the desired selections to receive the copy price. All selections entered will receive the same vend price.
7. Store the prices in memory by depressing the "#" key on the Glassfront Merchandiser key pad. (See Illustration #11)
8. To continue to copy another price, repeat Step 2 through Step 7.
9. After completing the price setting, depress the "Service Mode" switch on the Glassfront Merchandiser control board. The scrolling message will appear in the display. The machine is now in the "Sales Mode".

The following "Flow Chart" indicates the basic steps that are required when establishing vend prices using the "Copy Price" option. When establishing prices for individual selections, follow the instructions outlined under "Set Price - Individual Selections". (See Illustration #11)

### COPY PRICE MODE STEP-BY-STEP INSTRUCTIONS

STEP 1	SET CONTROLLER IN "SERVICE MODE"
STEP 2	ENTER PRICE MODE - DEPRESS KEY "5"
STEP 3	ENTER 1st SELECTION TO BE PRICED
STEP 4	ENTER DESIRED VEND PRICE
STEP 5	DEPRESS "*" KEY FOR "COPY PRICE"
STEP 6	ENTER THE DESIRED SELECTIONS TO BE PRICED
STEP 7	STORE PRICE INTO MEMORY BY DEPRESSING THE "#" KEY
STEP 8	CONTINUE SETTING PRICES BY REPEATING STEPS 2 THROUGH 7
STEP 9	AFTER COMPLETING PRICE SETTING -DEPRESS "SERVICE MODE" SWITCH ON CONTROL BOARD
SCROLLING MESSAGE APPEARS IN DISPLAY. MACHINE IS NOW IN THE "SALES MODE"	

A	1	2	SET PRICE
B	3	4	
C	5	6	COPY PRICE MODE
D	7	8	
E	9	0	STORE PRICE
F	*	#	
G	H	J	

GLASSFRONT MERCHANDISER  
Selection Pad

**ILLUSTRATION #11**

## VERIFYING VEND PRICES:

The vend prices for each selection can be verified at any time while the machine is in the "Sales Mode". To verify the price programmed into the controller, depress the specific selection numbers. The current vend price will be displayed in the Glassfront Merchandiser for approximately three (3) seconds. The price for each selection is also identified by a "Price Scroll" located in the live display area, beside each item. Make sure the price that is programmed into the controller agrees with the price scroll and is identifying the item in the "Live Display".

If the selection has been identified as a faulty motor circuit or "sold-out" and has been removed by the controller, when the selection number is depressed, the display will indicate "Select Other Item". This indicates that the selection is not functional.

### **NOTE:**

If the "discount" feature is used, and the discount is in effect, the "discounted" vend price will be displayed. For information on discounts **SEE GLASSFRONT MERCHANDISER SERVICE MANUAL.**

## INSTALLATION CHECK LIST:

1. Adequate space has been allowed for proper air flow.
2. Can Mart Merchandiser II has been properly connected to "Host" machine and is functional. (Verify by test vending each selection).
3. Display items in the "Live Display" are visible to the buying customer.
4. Columns have been properly loaded and agree with items displayed in the "Live Display".
5. Vend prices have been properly set and agree with price indicate in the "Live Display".

## FUNCTIONS & COMPONENTS:

The Can Mart Merchandiser II is a "satellite" type machine that utilizes the electronics and control systems of the "Host" Glassfront Merchandiser for all vend functions, credit accumulation, pricing and other vend-related requirements. Money is inserted at the "host" machine and the item is selected by pressing the proper selection number on the "host" machines key pad.

The controller monitors all selections in the Can Mart Merchandiser II. If a "sold-out" condition is evident, or the selection is in-operable, the controller will record that selection as "faulty" and prevent a vend from being made. When a faulty selection is made, "SELECT OTHER ITEM" will be displayed to the buying customer.

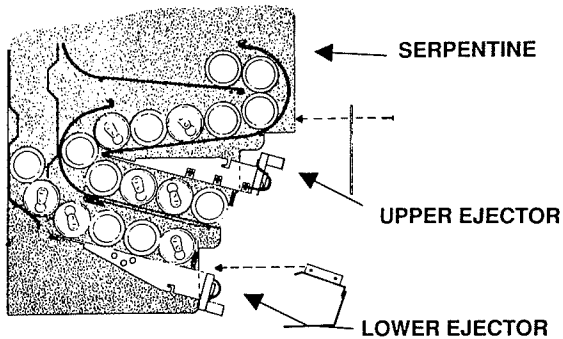
When proper credit has been inserted and a selection has been made, the controller will check to make sure that the selection is functional. If no errors have been recorded for that selection a vend will be initiated.

There must be at least two (2) cans in a column to activate that selection. One can will not activate the "sold-out" switch to indicate to the controller that product is evident. The last can is held in a "Pre-Cool" stage for the first vend upon a reload of a column.

When reloading the columns the Service Mode Switch on the Glassfront Merchandiser control board **must** be depressed to reset any sold-out conditions after refilling.

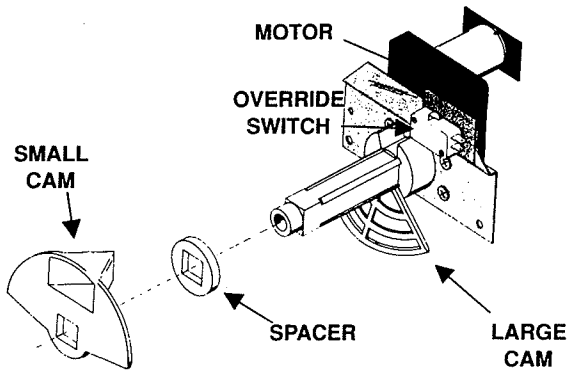
### UPPER & LOWER EJECTOR MECHANISMS:

There are eight (8) Ejector Mechanisms in the Can Mart Merchandiser II. The ejectors receive their power from the Glassfront Merchandiser control board when a vend is initiated. The "Upper" Ejectors dispense product from columns 2, 4, 6 & 8. The "Lower" Ejectors dispense product from columns 1, 3, 5, & 7. (See **Illustration #12**).

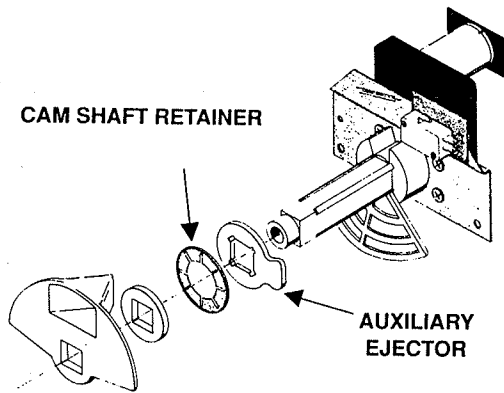


**ILLUSTRATION #12**

These assemblies will consist of the same components, with the exception of the "lower" ejectors having an Auxiliary Ejector and Cam Shaft Retainer added: (See Illustration #13 & #14).



**UPPER EJECTOR**  
**ILLUSTRATION #13**



**LOWER EJECTOR**  
**ILLUSTRATION #14**

**VEND MOTOR:**

The Vend Motors are 24 Volt DC and are operated by the Glassfront Merchandiser ("host") control board through the umbilical harness from the "H" plug in the Glassfront Merchandiser cabinet. The "Sold-Out" Switch must be held actuated (in the N.O. position), by the product, at the start of the vend cycle for the vend motor to receive power.

**LARGE CAM:**

The large cam is positioned on the ejector mechanism in a manner to hold a can at the vend position. As the motor runs the cam is rotated, releasing the can being held at the vend position to the vend area. At the end of the motor cycle, the cam is returned to the stand-by position, holding the can for the next vend.

**SMALL CAM:**

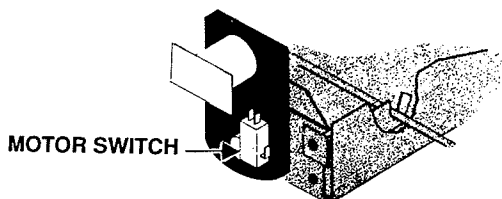
The Small Cam, at stand-by, is located above the second can up the rail. As the motor rotates, the cam will separate the first and second can and prevent the second can from vending. At the end of the cycle the can is released to the vend area to be held by the large cam. When the cans are separated, the protrusion on the small cam will "bump" the can in the vend area, making sure it rolls to the delivery area.

**OVERRIDE SWITCH:**

This switch is mounted on the motor plate in front of the motor and will be actuated by the large cam during the motor cycle. At stand-by, the switch should not be actuated (in the N.C. position), with the actuator resting in the notch of the large cam. This switch will maintain power to the vend motor during a cycle, overriding the "Sold-Out" switch when it is deactivated by the cans moving to the vend position. (See Illustration #13) The switch must actuate (to the N.O. position) before the second can moves off the "Sold-Out" switch. Misadjustment of this switch will cause the controller to stop the motor out of sequence.

## MOTOR SWITCH:

This switch will be actuated (in the N.O. position) at the start of the motor cycle, sending a signal to the controller that the motor has successfully started. At the end of the motor cycle, the switch will deactuate (N.C. position), indicating to the controller that motor has completed its cycle. At this time the controller will remove power from the motor. False or erratic signals from this switch will cause the controller to stop the motor out of sequence. (See **Illustration #15**)



**ILLUSTRATION #15**

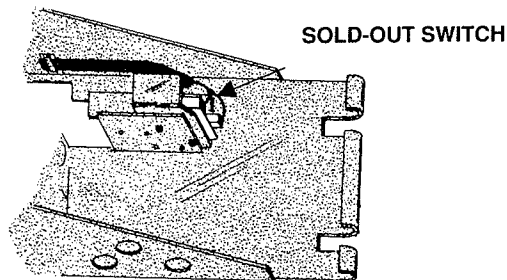
## SOLD-OUT SWITCH:

This switch is mounted behind the small cam on its own bracket and is adjustable for 10 ounce or 12 ounce cans. The switch will be shipped from the factory in the 12 ounce position. This switch will be actuated (in the N.O. position) by the second can up the rail. This signals the Glassfront controller that a can is available for a vend. When the switch is not being held actuated by a can, and a vend is attempted, the controller will configure that selection as "faulty" and "SELECT OTHER ITEM" will be displayed.

This unit will not dispense the last can in the column, assuring a pre-cool can in each column.

### **NOTE:**

When a column is sold-out and the controller has configured that selection as faulty, the service mode button in the Glassfront Merchandiser must be depressed to reset the "sold-out" condition after filling



**ILLUSTRATION #16**

## UPPER EJECTOR MECHANISM REMOVAL:

If the complete ejector mechanism is to be removed, the product must be removed or held back in the serpentine. If replacing the motor only, it is not necessary to remove the product.

### **CAUTION:**

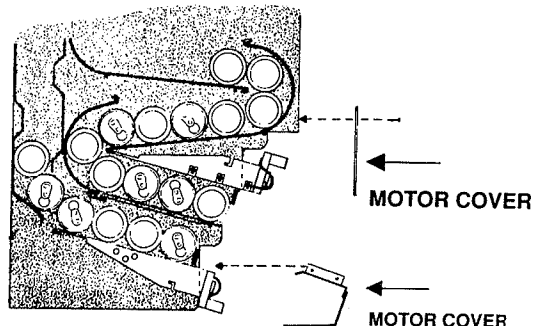
To remove product the motor can be rotated slowly by hand turning the cam in a clockwise direction. **Damage could result if rotated too fast or in the wrong direction.**

To remove the upper vend mechanism proceed as follows:

### **NOTE:**

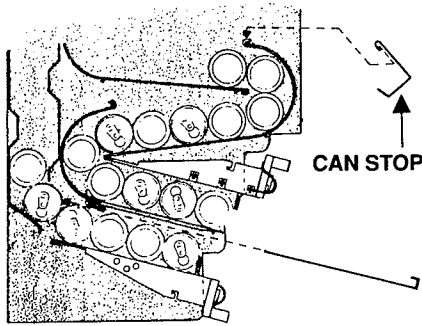
If only the motor needs removed, follow **Step 1 through Step 4.**

1. Remove the motor covers. (See **Illustration #17**)



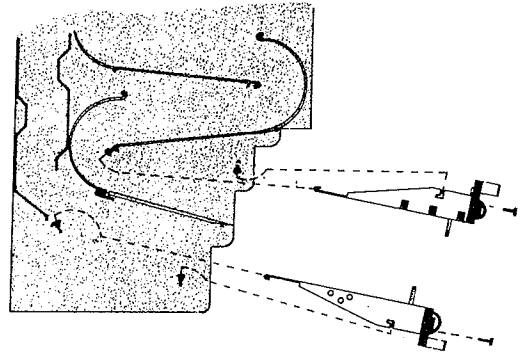
**ILLUSTRATION #17**

2. Block the cans in the serpentine in the area shown in **Illustration #18**. An Upper Can Stop P/N 1211018 is available through your local distributor, or Selectivend, Inc., however a screwdriver or similar tool can also be used.



**ILLUSTRATION #18**

5. To remove the complete ejector mechanism, without removing the motor, do not do **Step 4**. Rotate the large cam (see **Illustration #13**) slowly clockwise by hand to remove the cans below the stop, approximately ten (10) cans.
6. After the cans have been removed from the ejector mechanism, the complete ejector can be removed. (See **Illustration #20**)



**ILLUSTRATION #20**

3. Loosen the latch screw until the latch drops clear of the rod. (See **Illustration #19**)

4. To remove the vend motor only, remove the two (2) Motor Plate mounting screws. (See **Illustration #19**) The motor and plate can now be removed.

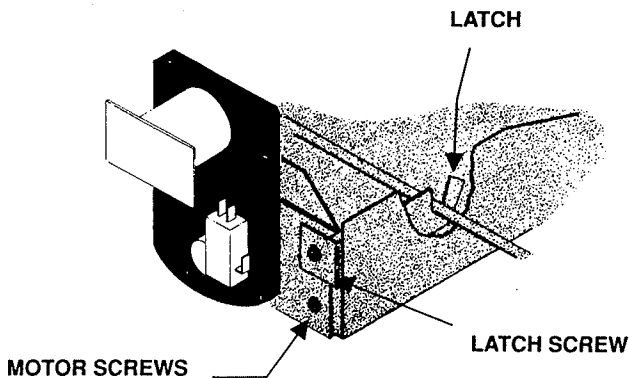
**NOTE:**

Pressure will be needed to pull the motor off the cam drive shaft.

**RE-INSTALL UPPER EJECTOR MECHANISM:**

With the cans still being held back, or removed from the ejector mechanism area:

1. Insert the ejector mechanism into the can rack. (See **Illustration #20**).
2. Hook the ejector mechanism on the rod in the back of the can rack. (See **Illustration #20**)
3. Lift up and hook the ejector mechanism on the front rod and push to back into the can rack until the latch is engaged with the rod. (See **Illustration #19**)
4. Tighten the ejector mechanism latch screw. (See **Illustration #19**)
5. Re-connect any wiring that had been removed and test vend the selection for proper operation. Install motor covers.



**ILLUSTRATION #19**

## LOWER EJECTOR MECHANISM REMOVAL:

Before removing the lower ejector mechanism, the product must be removed or held back in the serpentine columns.

### **CAUTION:**

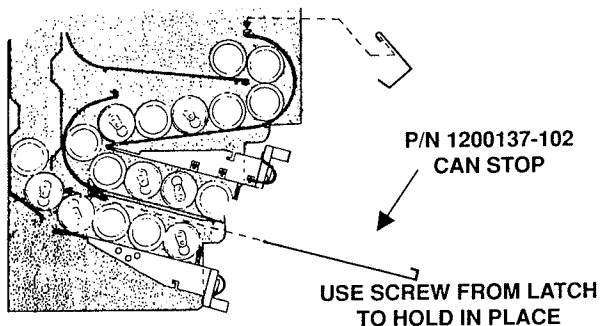
To remove product the motor can be rotated slowly by hand turning the cam in a clockwise direction. **Damage could result if rotated too fast or in the wrong direction.**

To remove the lower ejector mechanism, proceed as follows:

### **NOTE:**

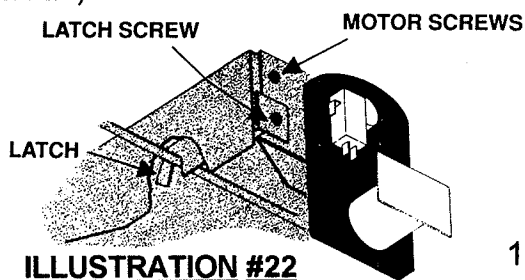
If only the motor needs removed, follow **Step 1 through Step 4.**

1. Remove the lower motor cover. (See **Illustration #17**)
2. Block the cans in the serpentine in the area shown in **Illustration #21**. A Lower Can Stop P/N 1200137-102 is available through your local distributor, or Selectivend, Inc., however a screwdriver or similar tool can also be used.



**ILLUSTRATION #21**

3. Remove the latch screw and latch. (See **Illustration #22**)



**ILLUSTRATION #22**

4. To remove the vend motor only, remove the two (2) Motor Plate mounting screws. (See **Illustration #22**) The motor and plate can now be removed.

### **NOTE:**

Pressure will be needed to pull the motor off the cam drive shaft.

5. To remove the complete ejector mechanism, without removing the motor, do not do **Step 4**. Rotate the large cam (see **Illustration #14**) slowly clockwise by hand to remove the cans below the stop, approximately ten (5) cans. The cams must be pointing upward to enable the mechanism to be removed.
6. After the cans have been removed from the ejector mechanism, the ejector mechanism can be removed. Push the ejector mechanism backward until it clears the rod and drops down and out. (See **Illustration #20**)

## RE-INSTALL LOWER EJECTOR MECHANISMS:

With the cams still being held back, or removed from the ejector mechanism area:

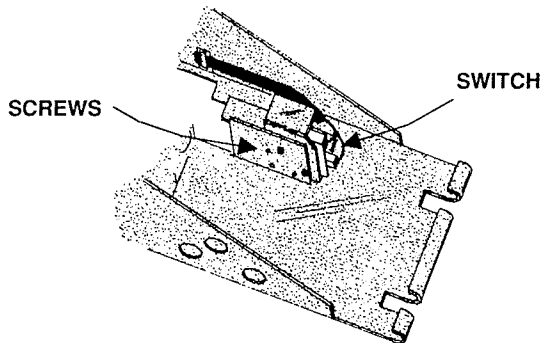
1. Insert the ejector mechanism into the can rack. (See **Illustration #20**)
2. Hook the ejector mechanism on the rod in the back of the can rack. (See **Illustration #20**)
3. Lift up and hook the ejector mechanism on the front rod and push back into the can rack until the latch is engaged with the rod. (See **Illustration #22**)
4. Tighten the ejector mechanism latch screw. (See **Illustration #22**)
5. Re-connect any wiring that had been removed and test vend the selection for proper operation. Install motor covers.

## 10 OUNCE CONVERSION:

The upper and lower ejector mechanisms of the Can Drink Merchandiser is adjustable to dispense either **10 or 12 ounce can drinks**. The adjustments are made by moving a spacer and "sold-out" switch to make up the difference in size of the cans.

Units shipped from the factory will be adjusted for 12 ounce cans. To convert to 10 ounce cans, proceed as follows:

1. Remove the ejector mechanism as described previously under "EJECTOR REMOVAL".
2. Remove the two screws holding the "sold-out" switch and move the switch to the center mounting holes and secure with same screws. (See Illustration #23)



**ILLUSTRATION #23**

3. Remove cam assembly from the metal housing.
4. Remove the small cam and spacer. (See Illustration #24 and/or Illustration #25).

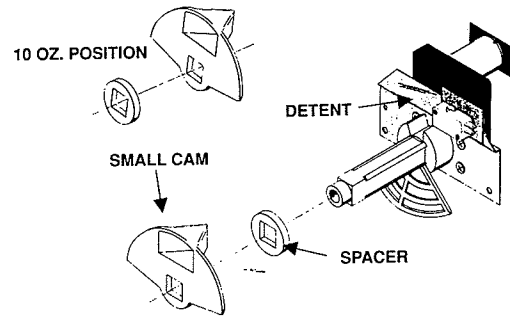
**NOTE:**

Before removing the small cam, note the position of the small cam in relation to the large cam. **They must be re-assembled in the same relation.**

5. Re-assemble the small cam (with the molded point facing the large cam) in the same relation

as removed in step #4. (See Illustration #24 & #25)

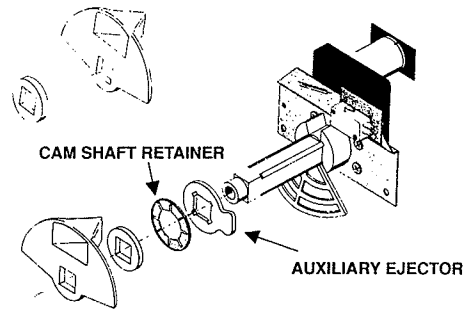
6. Re-assemble spacer.
7. Re-assemble entire ejector mechanism, make sure the override switch actuator in the detent or cut-out of the large cam. (See Illustration #24)
8. Re-install ejector mechanism assembly into the can rack.
9. Install motor covers, restore electrical power, remove can stops and test vend selection for proper operation.



**Upper Ejector  
ILLUSTRATION #24**

**NOTE:**

When converting the lower ejector mechanism, **DO NOT REMOVE THE AUXILIARY EJECTOR** (See Illustration #25)



**Lower Ejector  
ILLUSTRATION #25**

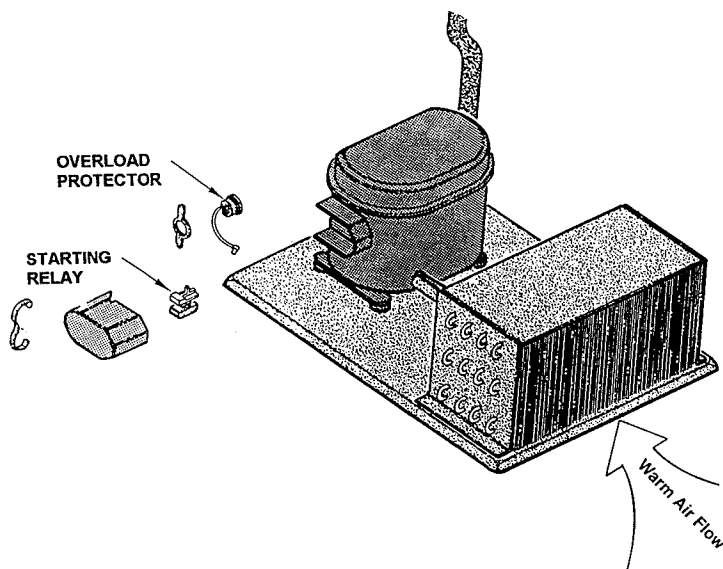


## REFRIGERATION SYSTEM:

The Refrigeration System in the Can Drink Merchandiser II is a 1/4 horsepower hermetically sealed unit using R-134a HFC (HYDRO FLOURO CARBONS), gas. This is a CFC (CLOURO FLOURO CARBONS) free, non ozone depleting refrigerant. The "sealed" system consists of a compressor, evaporator, condenser and all copper tubing connecting the components. Do not puncture or break the sealed system. All repairs within the sealed system **must** be performed by a Factory Authorized Representative or approved factory outlet.

## COMPRESSOR:

This unit uses a 1/4 horsepower compressor as part of the sealed system. Access to the compressor unit is accomplished through the back of the unit. For the unit to operate at peak efficiency, it is necessary to keep the condenser coil and air intake screens clean and free of any blockage. (See **Illustration #26**) Maintain proper spacing (minimum 6 inches) between the back of the vendor and any wall or obstruction for proper air circulation.



**ILLUSTRATION #26**

## POWER SUPPLY:

A main power supply of 115 VAC, 60 cycle 15 amp, for the refrigeration system is required. Refer to "GROUNDING & ELECTRICAL" section of this manual for specifications. The electrical source for the ejector mechanisms will be supplied through the umbilical cord from the controller of the "host" vendor.

## STARTING RELAY:

A current-dependent electromagnetic starting relay is used for the "start-up" or "cut-in", "cut-out" of the compressor motor start or main windings. When the relay coil and the main windings are subjected to the initial high start-up current, the relay contacts close. During the acceleration of the motor, the current through the main windings of the motor and the relay drops. When the current falls below a preset value, the relay contacts open and the start windings drop out of the circuit. The run windings, which are always in the circuit, continue to run the compressor motor until the cold control shuts off the power.

The Start Relays are precisely sized to each compressor model. If it becomes necessary to replace the start relay, a direct replacement must be used, do not use substitutes. (See **Illustration #26**)

## OVERLOAD PROTECTOR:

This bi-metallic protector permits the compressor motor to perform beyond its normal duty, up to a predetermined safe temperature limit, without cutting off the power supply. The protector uses bi-metallic discs to control a normally-closed switch. Heating of the bi-metallic discs is a function of both temperature, around the protector, and the internal heat generated by the compressor motor current through the discs. When heat has reached to predetermined temperature, the bi-metallic discs' contact will open causing the power to the compressor to stop. Once again, care must be

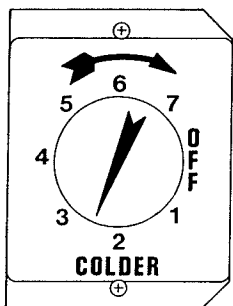
taken in the replacement of this device as this device is precisely sized to each compressor model. If it becomes necessary to replace the start relay, a direct replacement must be used, do not use substitutes. (See **Illustration #26**)

### COLD CONTROL:

This device is the primary control which starts and stops the refrigeration unit. This control is adjustable and should be set normally between 2 & 3 to maintain a suitable temperature for can drinks. The normal inside cabinet temperature for can drink vendors is 38°. As the temperature inside the insulated cabinet changes, the cold control will either turn on or shut off the refrigeration system. (See **Illustration #27**)

**NOTE:**

Setting the cold control to a higher setting will not accelerate cooling the product.



COLD CONTROL SETTING	AVERAGE ROOM TEMPERATURE
1	
2	80°F to 110°F
3	65°F to 85°F
4	
5	
6	

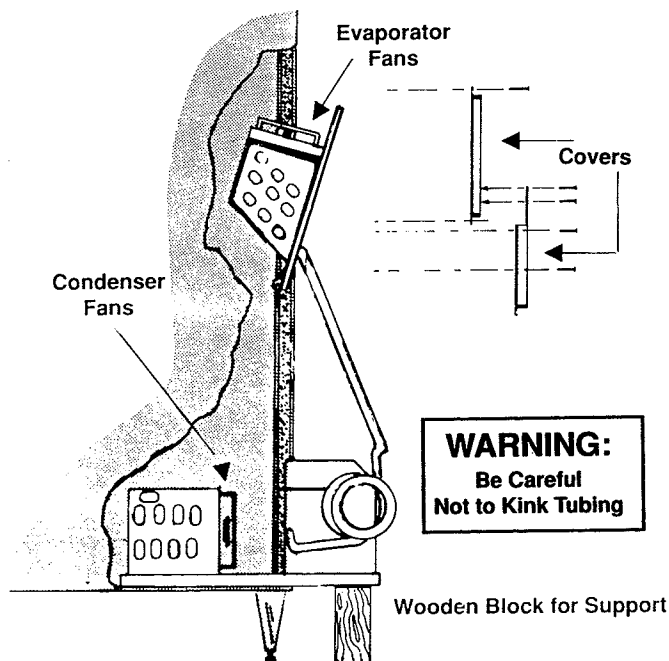
**ILLUSTRATION #27**

### EVAPORATOR FANS:

There are two (2) 25 Watt, clockwise rotation, 115 VAC, 60 Hz. fan motors mounted above the evaporator coil. These fans circulate cool air inside the insulated cabinet. These motors should both operate continually while there is power to the machine. If one or both fan motors should stop, it is possible to frost up the evaporator coil. (See **Illustration #28**)

### CONDENSER FANS:

There are two (2) 25 watt, clockwise rotation, 115 VAC, 60 Hz, fan motors mounted on the condenser coil, drawing air through the condenser. These fan motors cycle with the compressor, which is controlled by the cold control. (See **Illustration #28**)



**ILLUSTRATION #28**

### REFRIGERATION SYSTEM REMOVAL:

To remove the refrigeration system, it is necessary to remove the evaporator assembly along with the compressor assembly. Be careful not to "kink" or break the refrigeration tubing. To remove the unit, proceed as follows:

1. Disconnect the electrical power to the machine.
2. Disconnect the electrical wiring from the temperature control inside the refrigeration cabinet.
3. From the back of the unit, remove the two covers; the small cover protecting the tubing and the large cover over the evaporator plate assembly. (See **Illustration #28**)

4. Remove the two (2) bolts securing the compressor assembly to the bottom of the unit. (See Illustration #29)
5. Remove the screws securing the evaporator plate assembly in place and pull back on the plate assembly to loosen the seal around the plate. (See Illustration #29)

**CAUTION:**

Be careful not to "kink" or break the copper tubing.

6. Starting at the bottom of the compressor unit, lift up on the base plate to clear the cabinet floor flange and slide the compressor unit out the back opening. (See Illustration #28)
7. With the total unit out, support the evaporator assembly so as not to damage the copper tubing.
8. To re-install the unit, reverse order the above steps. Again being careful not to damage the unit. Connect the system to electrical power, set temperature control and test run unit.

**EVAPORATOR FAN REMOVAL:**

The evaporator fan motors should be running continuously whenever the machine is connected to the power supply. If one or both fan motors should stop, it is possible to frost up the evaporator coil. To replace a fan motor or blade, proceed as follows:

1. Disconnect the electrical power to the machine.
2. From the back of the machine, remove the two covers; the small cover protecting the refrigeration tubing and the large cover over the evaporator plate assembly. (See Illustration #28)
3. Remove the screws securing the evaporator plate assembly. See Illustration #29)
4. Pull back on the plate assembly to expose the evaporator fan motors and blades.

**NOTE:**

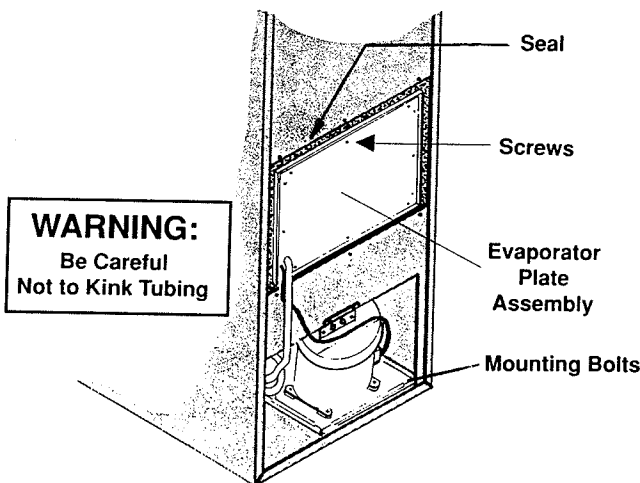
The evaporator plate is sealed by a gasket between the plate and the machine. Make sure when re-installing, that this plate is properly sealed. Improper sealing could cause the evaporator coil to frost up.

5. Remove broken fan blade or fan motor. Each motor has a separate connection. Install new blade or motor and re-install plate assembly.
6. Connect to electrical power and test.

**CONDENSER FAN REMOVAL:**

The condenser fan motors will run at the same time the compressor is running. If a blade becomes damaged, or a motor fails and it is necessary to replace a fan motor or component, proceed as follows:

1. Disconnect the electrical power to the machine.



**ILLUSTRATION #29**

2. Remove the small cover over the tubing going to the evaporator coil. Also remove the large cover that protects the evaporator plate assembly. Remove the evaporator plate screws and tilt the assembly back to allow for partial removal of the condensing unit. (See **Illustration #28**)
3. Remove the two (2) bolts securing the compressor assembly to the bottom of the unit. (See **Illustration #29**)
4. Lift up on the compressor base to clear the cabinet floor flange and slide the unit out the back enough only to gain access to the condenser motors. (See **Illustration #28**)

**NOTE:**

Be careful not to "kink" or break the copper tubing.

5. Once the unit is out far enough to gain access to the motors, support the base off the floor to prevent damage to tubing.
6. Remove old components from unit, replace with new and re-install.
7. Reverse procedure to install unit and test.

**TROUBLE-SHOOTING:**

Know and understand how to service the unit and how they operate. Units may vary, but the operation is basically the same. Never guess at the problem, find the symptom before attempting any repair.

**I. Compressor will not start**

- A. Voltage (Check to see if compressor has power)
  1. Tripped breaker or blown fuse
  2. Wall outlet faulty
  3. Short or tear in power cord

4. Faulty cold control

- a) Unplug power supply, remove screws from thermostat. Use a jumper wire, or place a screw through terminals; then restore power and check to see if the unit runs

5. Check for improper wiring

**II. Compressor trips on Overload**

- A. Improper voltage (115 VAC Normal)
  - 5-10% above, 5% below

- B. Overload defective
  - See VIII, B

- C. Relay defective
  - See VIII, C

- D. Compressor defective
  - See VIII, D

- E. Short in other component
  - Isolate and eliminate each electrical component until short is found

F. Compressor is too hot

1. Dirty condenser

**NOTE:**

Condenser must be kept clean of dirt and debris to allow for proper air circulation

2. Faulty condenser motor or blade

3. Restricted air flow

**III. Noisy or vibrating unit**

- A. Components rubbing or touching each other
  1. Check fan blades and motor
  2. Loose shrouds and harness
  3. Copper tubing

4. Loose or unsecured parts

B. Grommets

1. Worn, aged

C. Compressor

1. Bad Valves
2. Slugging
3. Bad windings (See **Schematic #1**)

D. Relay

1. Frozen in start position (See **Schematic #1**)

E. Low voltage

**IV. Unit short cycles**

A. Cold Control

1. Differential set too close
2. Probe in wrong area (i.e., touching evaporator or other metal)

**V. Unit operates long or continuously**

A. Thermostat faulty

B. Air flow restricted

1. Faulty evaporator motor or blades causing coils to ice over
2. Air flow blocked by product in front of evaporator

C. Gasket leak

D. Excessive load

1. After loading, unit will run longer to pull out excessive heat from product.

E. Shortage of refrigerant or restriction

**VI. Refrigerated space too warm**

A. Restricted evaporator space

1. Evaporator motor or blades faulty. This causes the coils to ice over the evaporator.

2. Condenser air flow restricted

- a) Plugged or dirty condenser
- b) Condenser motor or blades bad
- c. Blade stuck

3. Condensing space restricted

- a) Unit placed too close to a wall

4. Compressor - bad valves

- a) Cap tube will start frosting 8 to 10 inches past evaporator connection tube
- b. Check for oil around brazed connections

6. Thermostat improperly set

**VII. 90% of all Refrigeration Problems are Electrical**

A. Rules for breaking into a sealed hermetic system:

1. **DON'T!** This system has was not meant to be worked on outside the Factory Service Center
2. The four things that can go wrong with a sealed system and should be repaired at the Factory Service Center are:
  - a.) **Low Charge** - Low charges are caused usually by leaks; look for oil around seals and welds. Unit will not seal properly.

b) **Restriction in Systems (unit frost, then melts)** - not cooling properly, low side in vacuum

c) **Bad valves** - unit does not cool properly; noisy compressor

3. **REMEMBER, DO NOT** break into a sealed system for any reason - send the unit to the Factory Service Center

### VIII. Trouble-Shooting unit circuits using OHM-Volt Meter

A. Using volt meter, check power source

B. Check Overload (**NOTE:** power must be off and fan circuit open)

1. Using Ohm meter, check terminals 1 and 3 for continuity. If no continuity is measured (0 Ohms), overload may be tripped. Wait 10 minutes and try again. If still no continuity, overload is defective.

C. Checking Relay (See **Schematic #1**)

1. Unscrew lead terminals and remove relay from compressor. (**NOTE:** keep relay upright)
2. Check terminals 1 and S, or L and S, replace relay if there is continuity
3. Check terminals 1 and M, or L and M, replace relay if there is no continuity.

D. Checking compressor (See **Schematic #1**)

1. Check winding resistance with Ohm meter
2. If readings are not within 2 Ohms, compressor is faulty.

#### **WARNING:**

**Wiring diagrams must be followed as shown. Any miswiring can cause serious electrical hazard and potential damage or rupture component electrical parts**

#### **WINDING RESISTANCE:**

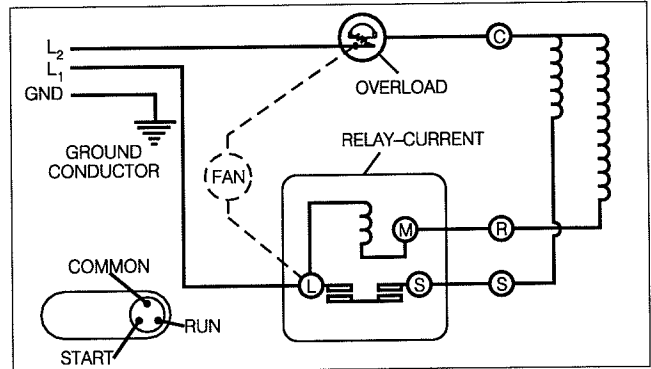
Approximate Resistance Reading Across Terminals - Use RXI SCALE

COMMON to START: 12 Ohms

COMMON to RUN: 2 Ohms

RUN to START: 14 Ohms

COMMON to SHELL: No Continuity



**SCHMATIC #1**

### **CARE & CLEANING:**

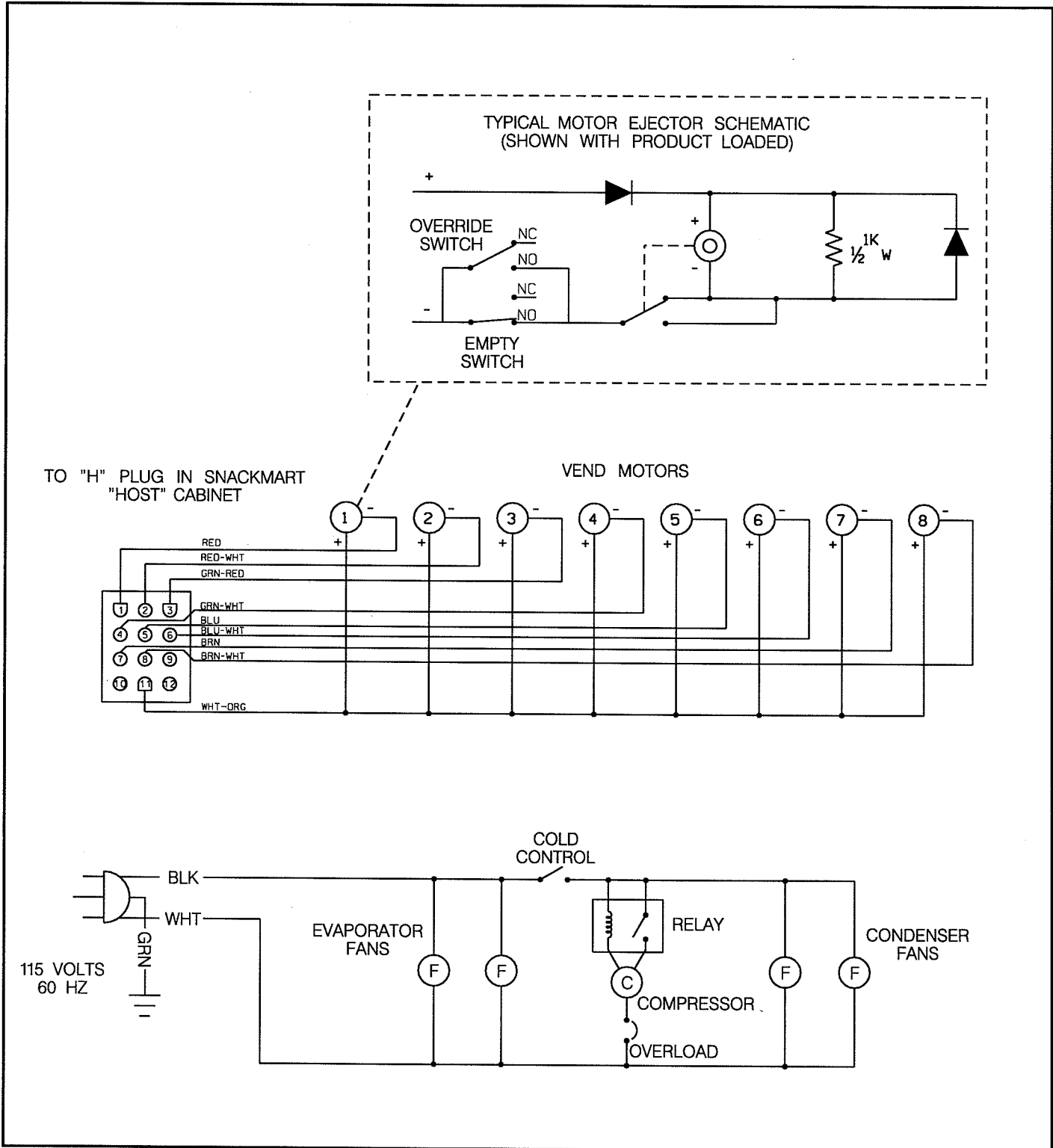
#### **CAUTION:**

**Always disconnect power source BEFORE cleaning.**

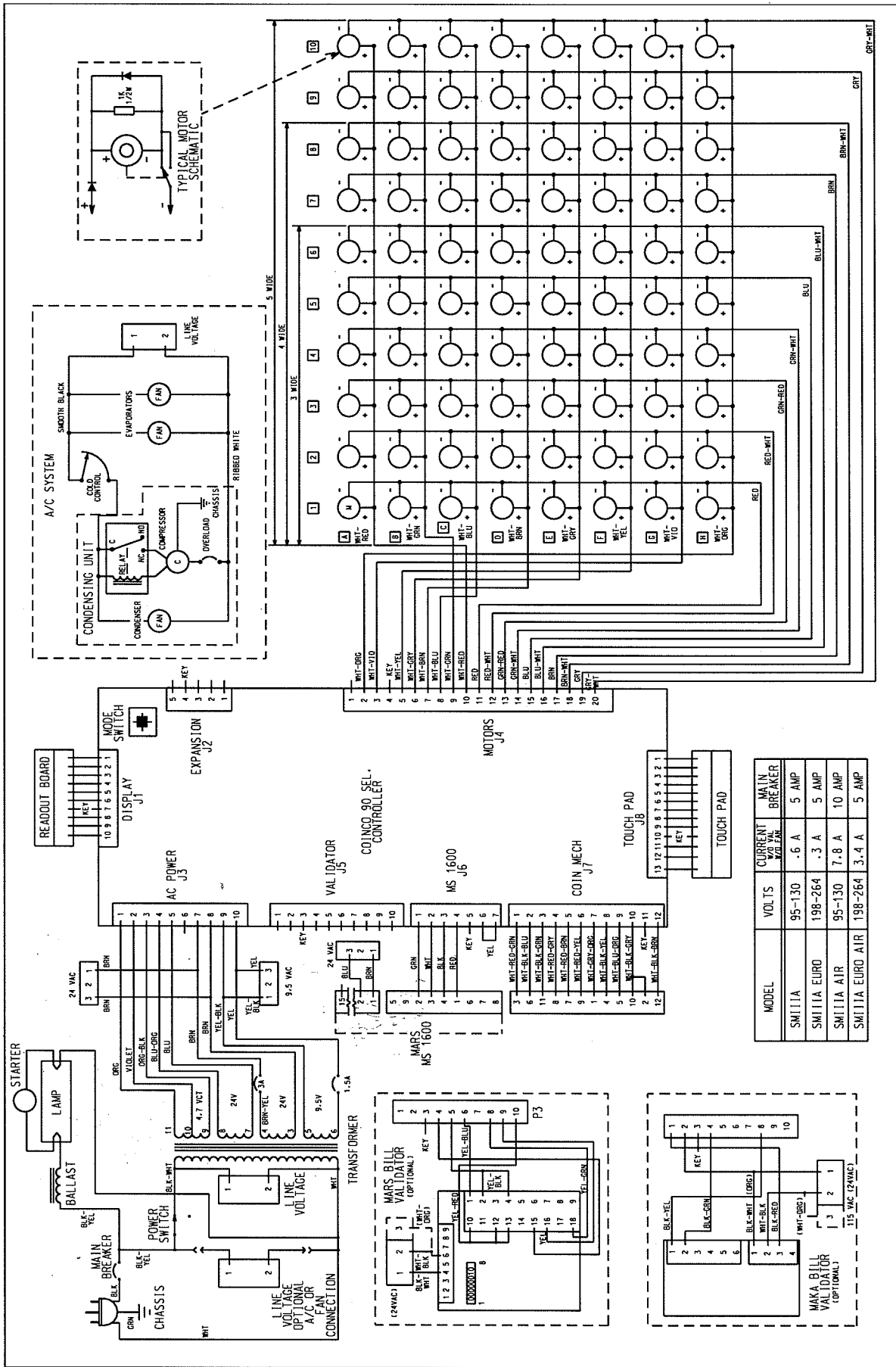
**CABINET INTERIOR:** Wash with a mild detergent and water, rinse and dry thoroughly. Odors may be eliminated by including baking soda or ammonia in the cleaning solution. Plastic parts may be cleaned with a quality plastic cleaner. **Do not get the cleaning solution on electrical components.**

**CABINET EXTERIOR:** Wash with a mild detergent and water, rinse and dry thoroughly. Clean occasionally with a quality car wax. Remove and clean Condensate Drain Hose to eliminate any deposits that may restrict condensate water flow.

**REFRIGERATION SYSTEM:** Clean dust from condenser and screen in the front door with a soft bristle brush or a vacuum cleaner. Remove any dirt or debris from the refrigeration system compartment. **If the condenser coil is not kept clean, the compressor will overheat or fail, voiding the sealed system warranty.** Clean the condensation pan.



CAN DRINK MERCHANDISER II  
SCHEMATIC #2



GLASSFRONT MERCHANDISER  
SCHEMATIC #3