Model 363, 364, 365

Twin Drink Center
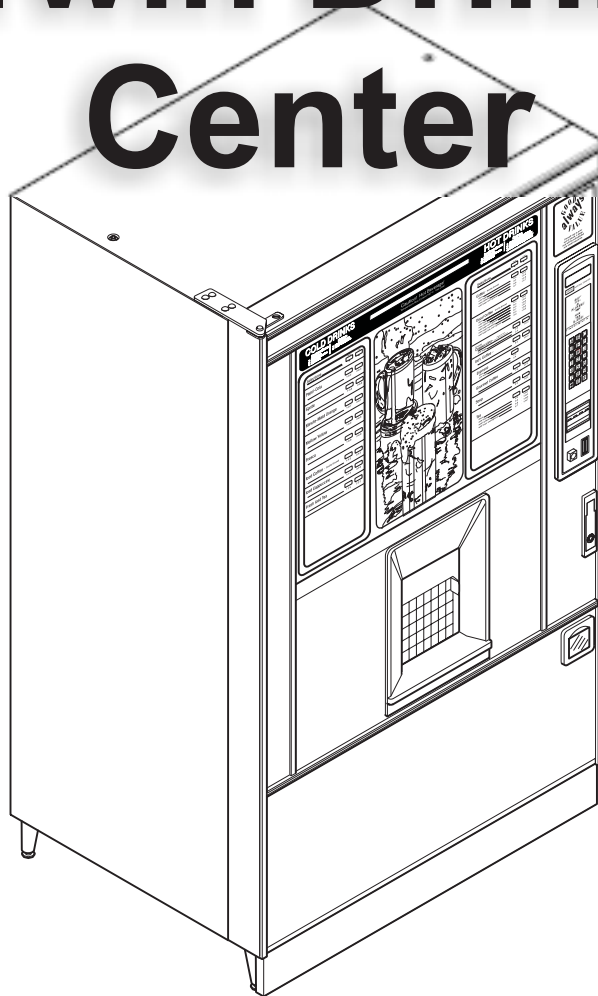
Operators' Guide

This machine has been engineered to our own rigid safety and performance standards. It has been designed to comply with sanitation and health guidelines recommended by the Automatic Merchandising Health-Industry Council (AMHIC) and it conforms with all other NAMA safety recommendations.

This machine has been manufactured in accordance with the safety standards of both Underwriter's Laboratories and the Canadian Standards Association. To maintain this degree of safety and to continue to achieve the level of performance built into this machine, it is important that installation and maintenance be performed so as to not alter the original construction or wiring and that replacement parts are as specified in the **Parts Manual**. Your investment in this equipment will be protected by using this **Operator's Guide** and the **Parts Manual** in your operation, service and maintenance work. By following prescribed procedures, machine performance and safety will be preserved.

Table of Contents

COMMON SPECIFICATIONS

Dimensions	72" (183 cm) high 42.12" (107 cm) wide 30.6" (72 cm) deep
Weight	Approximately 840 lbs. (381 kg)
Water Requirements	Minimum: 20 psi (137.8 kPa) Maximum: 80 psi (551.2 kPa)
Ambient Temperature	Minimum: 41° F (5° C) Maximum: 90° F (32° C)
Operating Environment	For indoor use only
Cup Capacities (Approximate, includes hot and cold drinks, standard cup mechs)	7 oz cups (squat) - 1150 8.25 oz cups - 1050 9 oz cups (squat) - 1100 10 oz cups - 1000 12 oz cups - 940
Optional 12/18 Oz Cup Mech	12 oz cups - 260 16/18 oz cups - 200
Capacities (Approximate)	Fresh brew decaf - 9 lbs (4 kg) (Model 363, 364 only) Freeze dry coffee - 2 lbs (1 kg) Freeze dry decaf - 2 lbs (1 kg) Leaf tea - 2 lbs (1 kg) Tea (freeze dry) 1.5 lbs (0.7 kg) Chocolate - 10 lbs (4.5 kg) Soup/or sugar substitute - 6.7 lbs/4 lbs (3 kg/1.8 kg) Sugar - 11 lbs (5 kg) Lightener - 4.5 lbs (2 kg) 6th Product - 6 lbs (2.7 kg) Bag-in-Box containers - 5 U.S. gal. (19 L) (Models 364 & 366) Syrup Tank 1 - 5 U.S. gal. (19 L) (Models 363 & 365) Syrup Tanks 2 thru 4 - 3.5 U.S. gal. (13 L) (Models 363 & 365) CO_2 tank - 20 lbs. (9 kg) Ice - 5.0 lbs (2.27 kg)
OPTIONS AND ACCESSORIES	
OPTIONS	Coin box lock Base grille kit Automatic delivery door Flex Ace door lock and key Van Door lock and key 6th product kit Cup/mug electronic sensor (cup hold switch kit) Snap-on ingredient canister extension sleeves (4 tall) Hydrolife water filter system Debit card validator Free vend keyswitch Data printer kit Ingredient rinse tray

PRODUCT OPTIONS

Model 363 Fresh Brew with Syrup Tanks	**HOT DRINKS** Up to eight selections of fresh brew regular and decaf coffee, freeze dried regular and decaf coffee, fresh brew and freeze dried tea, soluble gourmet coffee, soup, chocolate, cappuccino, expresso, cafe' latte, and plain water. **COLD DRINKS** Fresh brew iced coffee, fresh brew iced cappuccino, fresh iced tea, four soft drink flavors (both carbonated and non-carbonated), plain water, and sparkling water.
Model 364 Fresh Brew with Bag-in-Box	**HOT DRINKS** Up to eight selections of fresh brew regular and decaf coffee, freeze dried regular and decaf coffee, fresh brew and freeze dried tea, soluble gourmet coffee, soup, chocolate, cappuccino, expresso, cafe' latte, and plain water. **COLD DRINKS** Fresh brew iced coffee, fresh brew iced cappuccino, fresh iced tea, four soft drink flavors (both carbonated and non-carbonated), plain water, and sparkling water.
Model 365 Freeze Dried with Syrup Tanks	**HOT DRINKS** Up to eight selections of freeze dried regular and decaf coffee, tea, soluble gourmet coffee, soup, chocolate, cappuccino, expresso, cafe' latte, and plain water. **COLD DRINKS** Freeze dried iced coffee, iced cappuccino, iced tea, four soft drink flavors (both carbonated and non-carbonated), plain water, and sparkling water.
Model 366 Freeze Dried with Bag-in-Box	**HOT DRINKS** Up to eight selections of freeze dried regular and decaf coffee, tea, soluble gourmet coffee, soup, chocolate, cappuccino, expresso, cafe' latte, and plain water. **COLD DRINKS** Freeze dried iced coffee, iced cappuccino, iced tea, four soft drink flavors (both carbonated and non-carbonated), plain water, and sparkling water.

SPECIFICATIONS UNIQUE TO 115 VOLT MACHINES

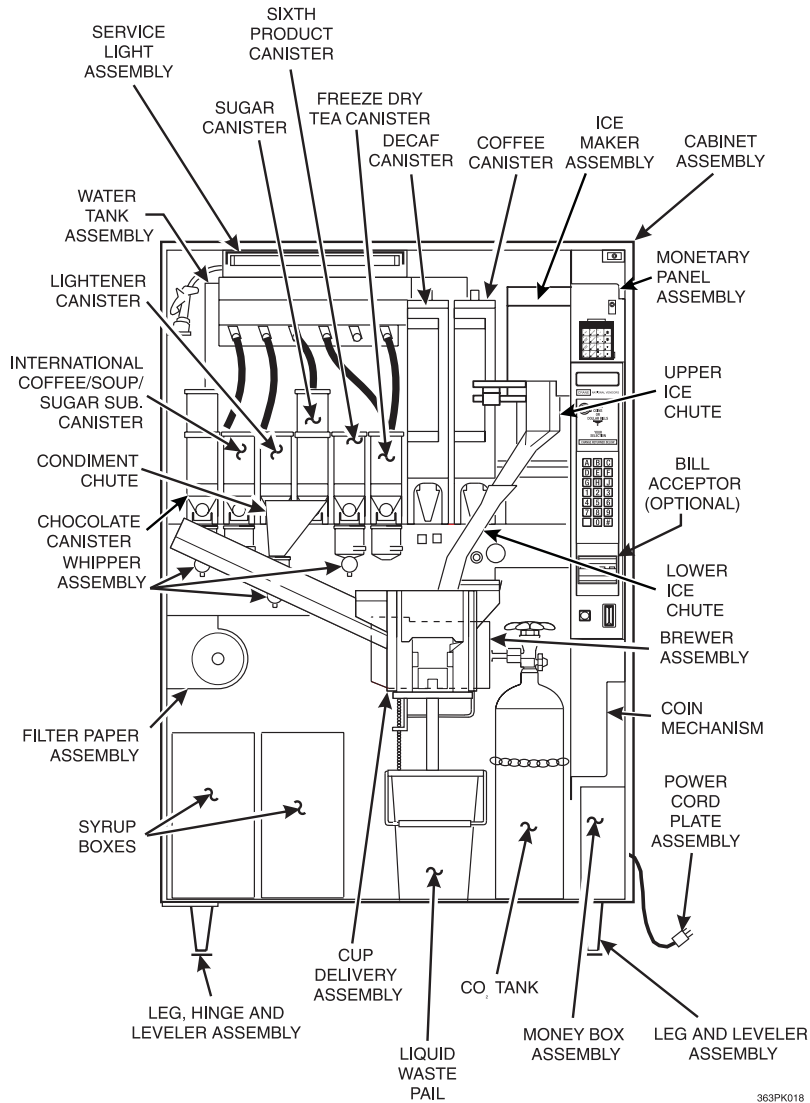|	
Electrical	115 Volts AC 60 Hertz 16 Amps (requires 20 amp circuit) Single phase
OPTIONS AND ACCESSORIES	
Coin Mechanism	MARS TRC-6000 COINTRON 3000 MARS TRC-6010XV (24 V) Maka/Conlux Model USPX-004 (24 V) Coin Acceptors Model 9302-LF (24 V) MDB
Bill Validators	MARS VFM1 pulse MARS VFM3 serial MAKA pulse COINCO C.B.V. MDB

SPECIFICATIONS UNIQUE TO 220 - 240 VOLT MACHINES

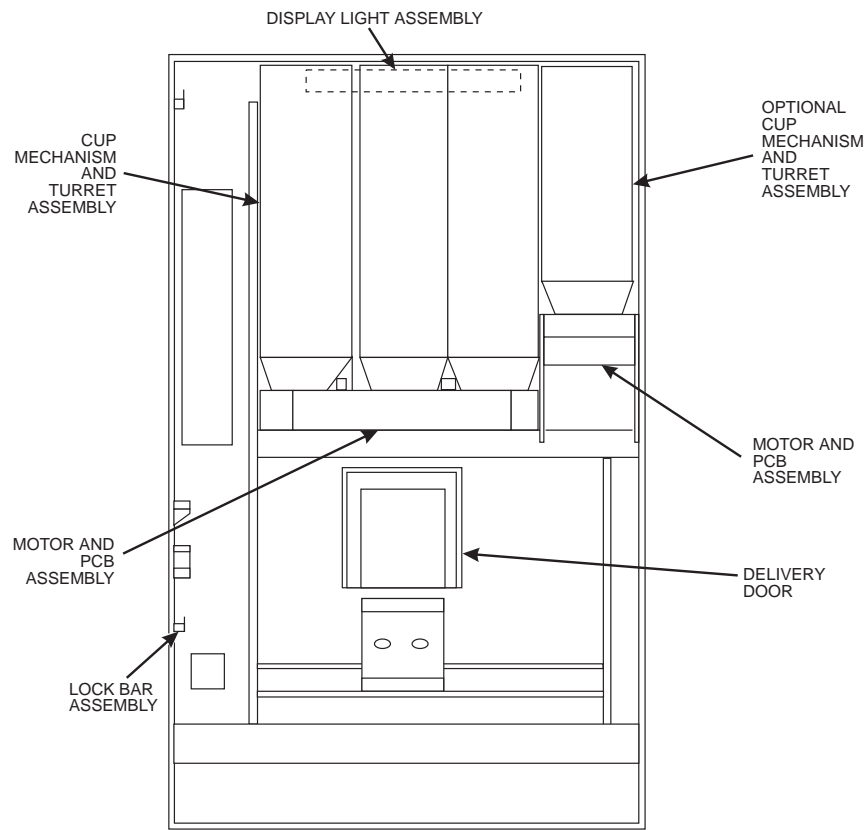|	
Electrical	220 - 240 Volts AC 50 Hertz 9 Amps Single phase
OPTIONS AND ACCESSORIES	
Coin Mechanism	Executive Coin Mechanism Interface MDB

MAJOR PARTS

The diagrams on the following pages will acquaint you with the major parts of the Twin Drink Center merchandiser. For more detailed information, please consult your PARTS MANUAL. If you do not have a PARTS MANUAL, contact National Vendors Parts Department.
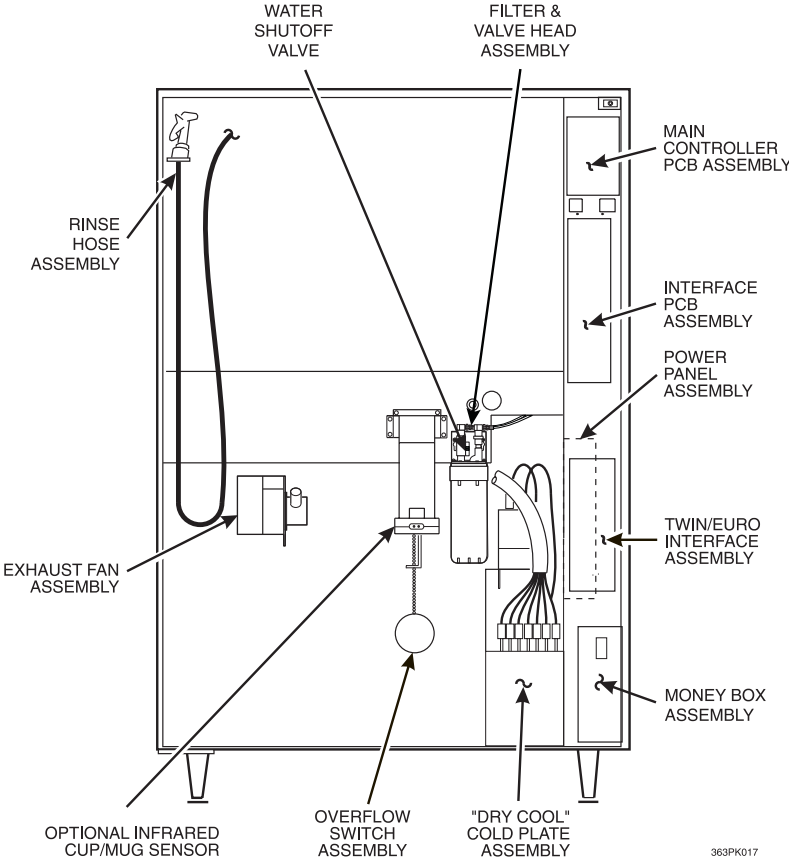
SERVICE LIGHT ASSEMBLY

SIXTH PRODUCT CANISTER

SUGAR CANISTER

FREEZE DRY TEA CANISTER

DECAF CANISTER

COFFEE CANISTER

ICE MAKER ASSEMBLY

CABINET ASSEMBLY

WATER TANK ASSEMBLY

MONETARY PANEL ASSEMBLY

LIGHTENER CANISTER

INTERNATIONAL COFFEE/SOUP/ SUGAR SUB. CANISTER

UPPER ICE CHUTE

CONDIMENT CHUTE

BILL ACCEPTOR (OPTIONAL)

CHOCOLATE CANISTER WHIPPER ASSEMBLY

LOWER ICE CHUTE

BREWER ASSEMBLY

COIN MECHANISM

FILTER PAPER ASSEMBLY

POWER CORD PLATE ASSEMBLY

SYRUP BOXES

CUP DELIVERY ASSEMBLY

CO_2 TANK

LEG, HINGE AND LEVELER ASSEMBLY

MONEY BOX ASSEMBLY

LEG AND LEVELER ASSEMBLY

LIQUID WASTE PAIL

363PK018

Merchandiser Cabinet Interior

DISPLAY LIGHT ASSEMBLY

OPTIONAL
CUP
MECHANISM
AND
TURRET
ASSEMBLY

CUP
MECHANISM
AND
TURRET
ASSEMBLY

MOTOR AND
PCB
ASSEMBLY

MOTOR AND
PCB
ASSEMBLY

DELIVERY
DOOR

LOCK BAR
ASSEMBLY

Back Side of Merchandiser Door

WATER
SHUTOFF
VALVE

FILTER &
VALVE HEAD
ASSEMBLY

MAIN
CONTROLLER
PCB ASSEMBLY

RINSE
HOSE
ASSEMBLY

INTERFACE
PCB
ASSEMBLY

POWER
PANEL
ASSEMBLY

TWIN/EURO
INTERFACE
ASSEMBLY

EXHAUST FAN
ASSEMBLY

MONEY BOX
ASSEMBLY

OPTIONAL INFRARED
CUP/MUG SENSOR

OVERFLOW
SWITCH
ASSEMBLY

"DRY COOL"
COLD PLATE
ASSEMBLY

363PK017

Merchandiser Cabinet Interior

CONTROLS AND INDICATORS

POWER PANEL. You may have one of three power panels, depending upon where you live. The controls are functionally similar, however.

<u>Circuit Breakers and Fuses.</u> Circuit breakers and fuses protect the merchandiser against failures in the power supply or any of the electrical components. If a circuit breaker trips and cannot be reset, or if a fuse repeatedly blows, contact a field service representative.

<u>Back Side of U.S./ Canada Power Control Panel.</u> The circuit board mounted on the rear of the U.S. and Canadian power control panel is a dc power supply for the coin mechanism. A fuse protects the board circuitry in the event of a coin mechanism solenoid failure. If the coin mechanism is not working, check this fuse. If the fuse is blown, a failed coin mechanism solenoid could be at fault.

<u>Main Power Switch.</u> This is the main ON/OFF switch for the merchandiser.
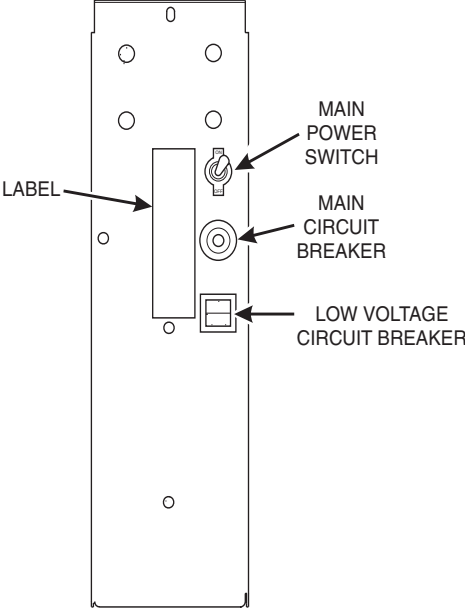
WARNING
To protect against electrical shocks and possible damage to the machine, turn
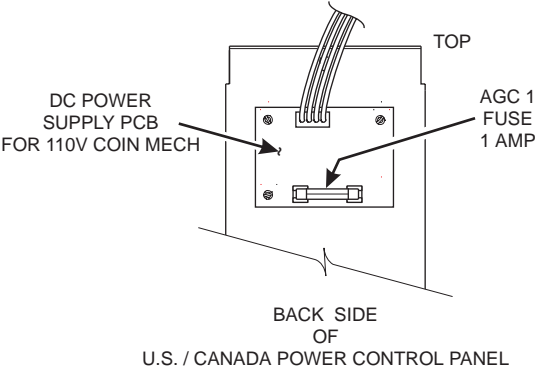this switch OFF when performing any maintenance on the merchandiser.
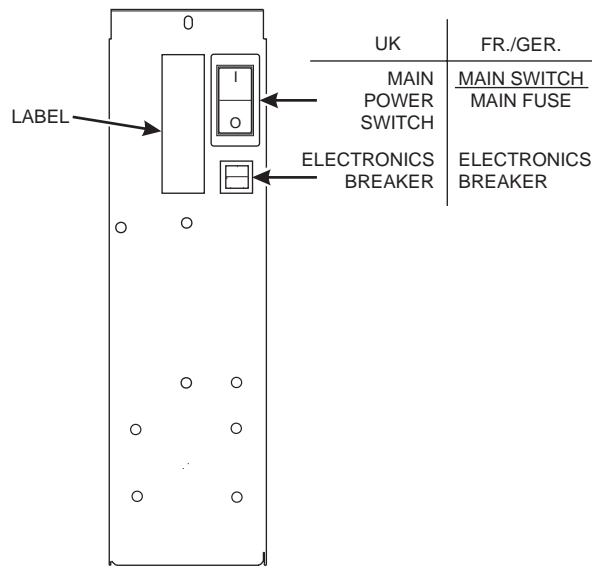
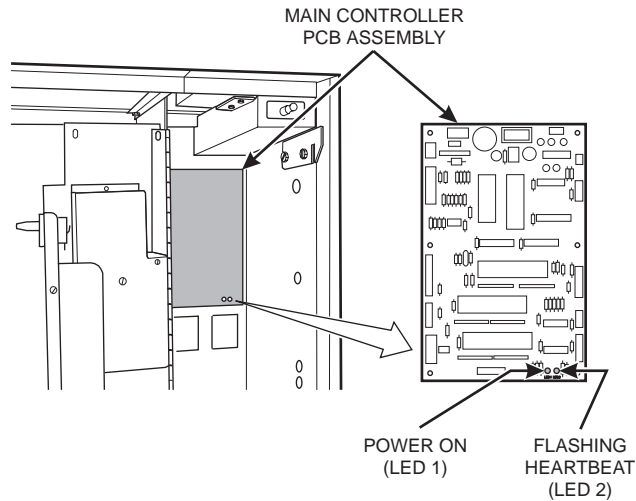|	UK	FR./GER.
	MAIN	MAIN SWITCH
	POWER	MAIN FUSE
	SWITCH	
	ELECTRONICS	ELECTRONICS
	BREAKER	BREAKER

LABEL

POWER CONTROL PANEL

MAIN
POWER
SWITCH

LABEL

MAIN
CIRCUIT
BREAKER

LOW VOLTAGE
CIRCUIT BREAKER

626P0006

TOP

DC POWER
SUPPLY PCB
FOR 110V COIN MECH

AGC 1
FUSE
1 AMP

BACK SIDE
OF
U.S. / CANADA POWER CONTROL PANEL

MAIN CONTROLLER
PCB ASSEMBLY

POWER ON
(LED 1)

FLASHING
HEARTBEAT
(LED 2)

Main Controller PCB Assembly Display

Main Controller PCB Assembly Display. This display consists of two light emitting diodes

(LED) mounted on the controller PCB.

POWER ON (LED 1)	**When lit, this red LED indicates electrical power is applied to the controller PCB.**
HEARTBEAT (LED 2)	**When flashing, this red LED indicates that the controller PCB is active, and the software is operating.**

NORMAL CONDITIONS:

When the merchandiser is operating normally, you should see a steady red **POWER ON** indicator. The red **HEARTBEAT** indicator should be flashing with a balanced on/off pattern (on for the same length of time that it is off).

ERROR CONDITIONS:

If an error is present, the red **HEARTBEAT** indicator will flash with an unbalanced on/off pattern (on longer than it is off). The error(s) can be viewed under the **DIAGNOSTICS** mode.

HIGH VOLTAGE
INTERLOCK
SWITCH

LOW VOLTAGE
DOOR SWITCH

MESSAGE
DISPLAY

SERVICE
KEYPAD

FREE VEND
KEYSWITCH
(OPTIONAL)

CABINET

INSERT
COINS
OR
DOLLAR BILLS

MAKE
YOUR
SELECTION

CHANGE RETURNED BELOW

INSTRUCTION
PLATE

CRANE NATIONAL VENDORS

LETTERS
A-H,J

A B C
D E F
G H J
1 2 3
4 5 6
7 8 9
★ 0 #
X Y Z

SELECTION
SWITCH

NUMERALS
1-9, *,0, #

LETTERS
X, Y, Z

MONETARY
PANEL

BILL
ACCEPTOR
(OPTIONAL)

COIN
RETURN
BUTTON

COIN
INSERT
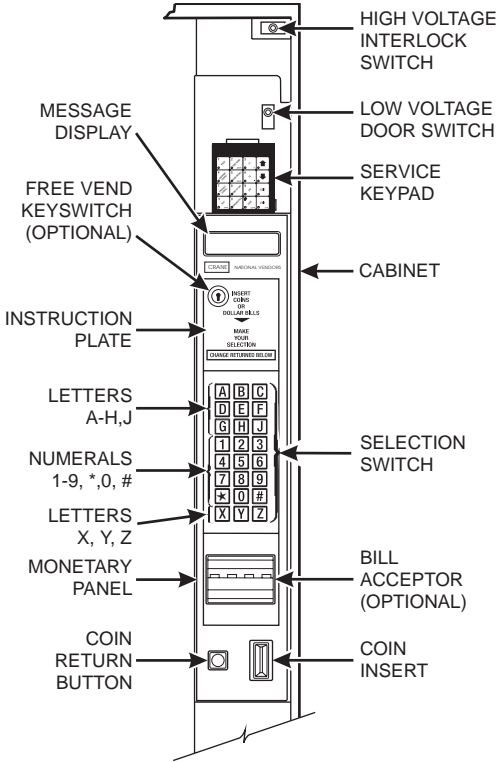
Monetary Panel

Twin Drink Center Operator's Guide

High Voltage Interlock Switch (U.S./ Canada). When the cabinet door is open, this switch turns on the service light.

High Voltage Interlock Switch (International). When the door is closed, or when the switch is pulled all the way out, all machine components are energized. When the door is first opened, the switch is in the intermediate position. The following components have electrical power removed:

FEEDER CUP INLET VALVE	**ICE DISPENSER DOOR**
CARBONATION PUMP	**RESERVOIR PUMP**
CANISTER AUGERS	**WASTE PAIL DETECT CIRCUIT**
BREWER MOTOR	**HOT WATER TANK INLET**
FILTER PAPER/AIR SOLENOID (DUAL BREWER)	**HOT WATER VALVES**
AIR COMPRESSOR	**ICE MAKER COMPRESSOR**

For service periods longer than 15 minutes, it is recommended that the switch be pulled out to maintain power to the icemaker and other components.

NOTE

With the door open and the interlock switch NOT pulled out, a waste pail error will appear in the diagnostics list. This error message will be cleared if the switch is pulled out.

Low Voltage Door Switch. Informs the controller software of the main door open or closed status.

Message Display. This is how the merchandiser communicates with the outside world. Customers can see messages about how much money they have put into the merchandiser. The message display also tells customers when a selection is sold out and when vending is free, inhibited, or discounted. The message display shows you what you are doing when you program the merchandiser, and can show you what is wrong if there is a failure.

Free Vend Keyswitch. This allows someone (other than maintenance people) to set the merchandiser to free vend without opening the door.

Coin Return Button. Pressing this button returns any coins that have been paid into the merchandiser prior to a vend.

Bill Acceptor (Optional). Accepts bills in various denominations, depending upon the type of bill validator, and how the machine is configured.

Service Keypad. The service keypad is located at the top of the monetary panel. It gives service personnel the means to program, retrieve data from, and view diagnostic information about the merchandiser.

Air Pressure Gauge (Models 363, 364 only). This indicator shows the amount of air pressure in the system only during a vend.
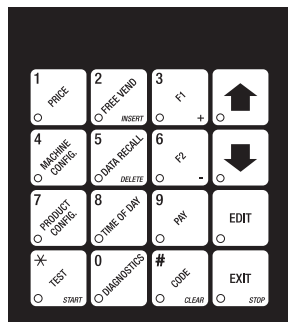
Service Keypad   **Air Pressure Gauge**

NOTES
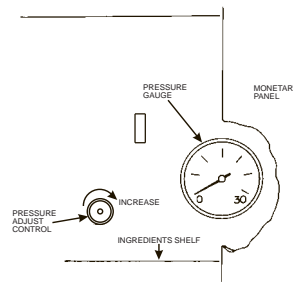
Twin Drink Center Operator's Guide

INITIAL SET-UP

I. Power Requirements

This merchandiser requires power as shown in the following table.
NOTE: Each merchandiser should have its own electrical circuit.

Table 1: Power Requirements

Country	Volts	Frequency (Hz)	Current (Amps)
U.S. and Canada	115	60	20
International	230	50	13 - 16

II. Water Requirements

The best type of water for coffee brewing is normal hard water. If your location has chemically softened water, one of the following steps is advised:

- **Have a non-softened supply line run to the merchandiser**
- **Contact your local water filter supplier for information and suggestions**

Well water can also be used in the Twin Drink Center. However, you should have it checked for levels of carbonates and alkalies. Contact your water filter supplier if these values are relatively high.

Water Pressure

- **Minimum water pressure: 20 psi (138.0 KPa) at 1/2 gallon/minute**
- **Maximum water pressure: 80 psi (522.0 KPa) at 1/2 gallon/minute**

Supply Line Requirements

1. Locate supply line at the rear of the merchandiser.
2. Equip the line with a shut-off valve.

Flushing Water Supply Line

Flush the water supply line before connecting it to the merchandiser. A minimum of five gallons is usually required before connecting the merchandiser to the supply line. DO NOT flush the merchandiser water system to avoid introducing possible water line contaminants into the merchandiser.

Twin Drink Center Operator's Guide

I. Positioning The Merchandiser

You can position this merchandiser anywhere in a bank of machines. It can even be placed on the end flush against a side wall.

Leave enough room in front of the merchandiser for the door to move freely.

**BE SURE THE REAR OF THE MERCHANDISER IS AT LEAST 6"
AWAY FROM THE WALL. THIS WILL ENSURE WARM MOIST AIR IS
VENTED OUT OF THE MACHINE'S INTERIOR AND THE REFRIGER-
ATOR CONDENSER FAN IS NOT OBSTRUCTED.**

NOTE
This machine is only rated for installation in an indoor loca-
tion.

II. Final Installation

1. **CONNECT THE MERCHANDISER TO THE WATER SUPPLY**

    a. Obtain the following:

    - **A coil of copper tubing with outside diameter of 3/8 inch (9.5 mm)
      or greater. The appropriate plastic tubing may be substituted.**
    - **A 3/8 inch (9.5 mm) flare fitting**

    b. Connect the merchandiser to your water supply.

2. **CONNECT THE MERCHANDISER TO THE POWER SOURCE**

Power to the merchandiser is controlled by the main power switch, located on the power panel.

    a. Make sure the main power switch is OFF.

    b. Connect the merchandiserís power cord to your wall outlet.

3. **LEVEL THE MERCHANDISER**

    a. Using a spirit level, level the merchandiser front to back and side to side.

4. **SET UP THE MENU ASSEMBLY**

    a. Swivel the cup turrets away from the door.

    b. Remove the thumb screws as shown, and slide out the menu assembly.

    c. Install selection inserts as shown.

    d. Reinstall the menu assembly in the reverse order of assembly.

SELECTION INSERT

INSERT AS SHOWN

DISPLAY
ASSEMBLY

VIEW A

DOOR

VIEW A

SLIDE

THUMB
SCREW
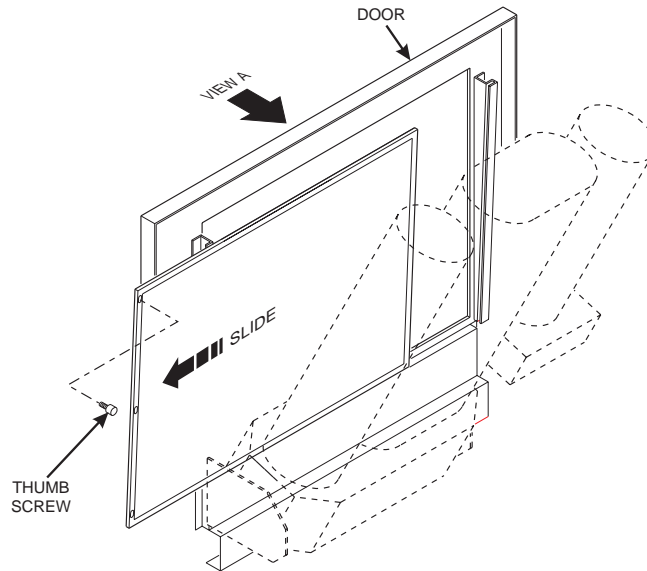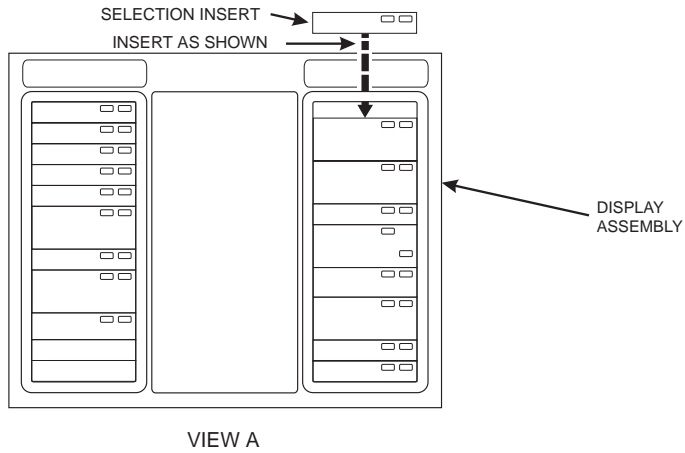
Brand name labels for cold drink selections 5, 6, 7, and 8 are available from the following sources:

National Beverage Screen Printers
609 East Main Street
Williston, SC 29853-5272
Outside South Carolina call: 1-800-325-9021
Inside South Carolina call: 1-803-266-5272
Fax: 1-803- 266-5301

The suggested style is: NB5
Size: .81 x 2.62

5. SET UP THE COIN MECHANISM

a. Open the cabinet door and the monetary door.

b. Insert coins into their respective tubes until each tube has been filled.

c. Inspect the tubes for shingled coins and correct if necessary.

III. Install Options

1. INSTALL THE COIN BOX LOCK

a. Install the lock cylinder, washer, and nut in the order shown.

b. Tighten the nut.

c. Install the lock bar as shown, and secure with the screw.
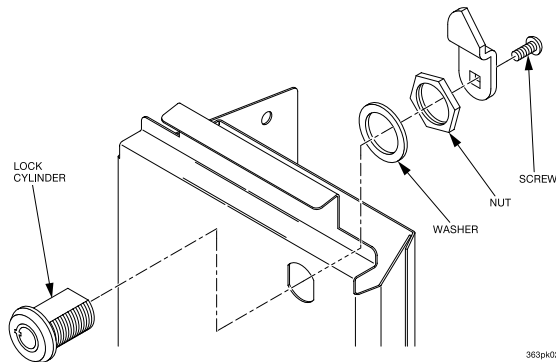
2. MOUNT THE BASE PLATE BRACKETS

a. Secure a base plate bracket at each of the remaining pairs of holes with two of the hex head screws.

3. MOUNT THE BASE PLATE AND SLIDES

a. Insert the short arm of the slides into the hinged tabs of the base plate. Position the slide so the notch near the short arm is on the bottom side.

b. Insert the long arms of the slides into the base plate brackets.

c. Insert a cotter pin through the hole in the back end of each slide. Secure the pins in place.

d. Push the base plate toward the merchandiser cabinet. The front tab of the base plate bracket should seat in the notch in the long arm of the base plate slides.
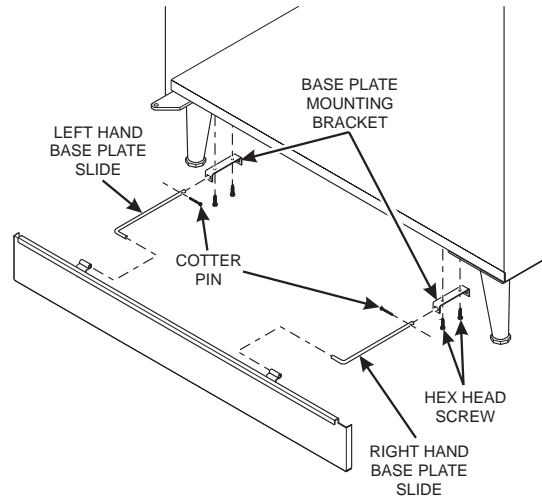
CAUTION

The mounting brackets are subject to damage when moving the machine with a fork lift.

Remove the brackets prior to moving the machine with a fork lift to prevent damage.

4. INSTALL THE WATER FILTER CARTRIDGE

IF YOUR MERCHANDISER HAS THE WATER FILTER OPTION, IT CANNOT BE OPERATED WITHOUT A PROPERLY INSTALLED WATER FILTER CARTRIDGE.

NOTE

Check the water filter installation record. There is a place to write the vend number on the cartridge. Local conditions may require more frequent replacement.

a. Your filter cartridge is shipped inside the waste pail. Locate it and remove the wrapping.

b. Install the filter in accordance with the appropriate procedure:

HYDROLIFE FILTER INSTALLATION

1. Place the filter inside the canister. Be sure the o-ring is seated in the canister just below the threads.
2. Screw the canister and filter assembly onto the filter head until it comes to a stop.
3. Open the water valve on the inlet line by rotating the handle to the vertical position as shown.

Hydrolife Filter Removal

1. Close the valve on the inlet line by rotating the handle into the horizontal position as shown.
2. Relieve water pressure by performing two or three water throws (see the programming section).
3. Unscrew the filter and canister assembly from the filter head. Remove the filter from the canister.
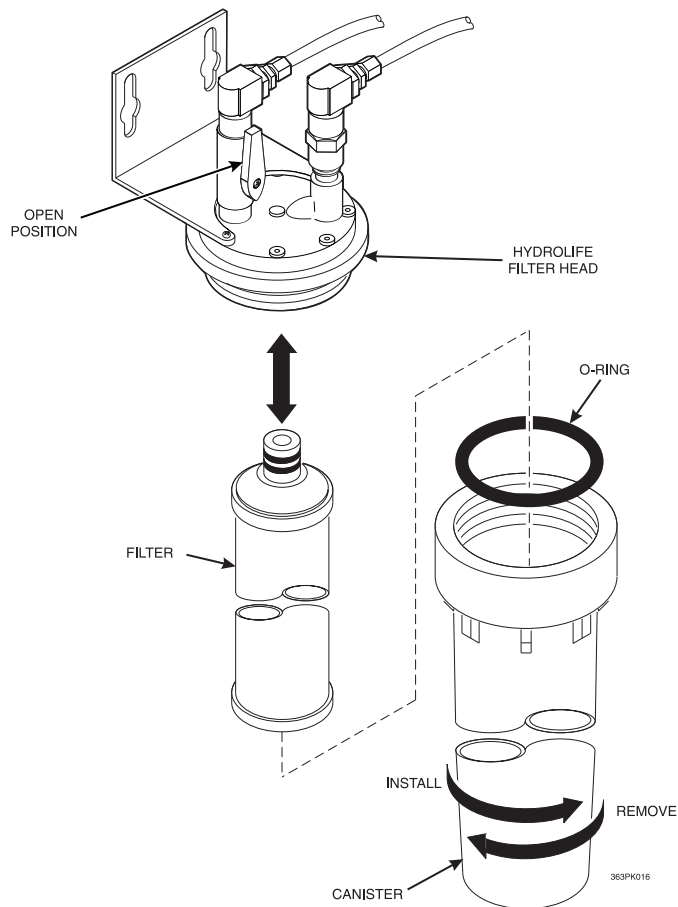
Twin Drink Center Operator's Guide

1. FILL THE HOT WATER TANK

If you have the water filter option and **HAVE NOT** yet installed the water filter, install the filter as instructed.

    a.   Turn on the water at its source and check for any water leaks.

    b.   Turn the machine power switch ON. the carbonator pump will start automatically and will fill the carbonator with water.

    c.   Press [TEST/START], then press [↓] until the display shows *TANK.FILL*.

    d.   Press [TEST/START] again and let water flow into the tank.

    e.   The display will show *FILLING TANK*. After the tank is filled the display will show *TANK.FILL*.

NOTE
The tank will take some time to fill and reach its operating temperature.

2. LOAD AND SET UP HOT DRINK PRODUCTS

Bag-in-box machines:

    a.   Place the bag-in-box containers on the left hand side of the cabinet with the fittings facing up.

    b.   Connect the syrup lines to the bag-in-box containers. Note that the syrup lines are marked with the numbers 1 through 4. These correspond to the pumps, which provide syrup for selections 5 through 8, respectively. Make sure the bag-in-box containers you have installed agree with these markings.

    c.   Place connectors inside box.

Syrup tank machines:

    a.   Load syrup into the tanks.

    b.   Insert the syrup dip tubes into the tanks and place the lids on the tanks. Note that the syrup lines are marked with the numbers 1 through 4. These correspond to the pumps, which provide syrup for selections 5 through 8, respectively. Make sure the bag-in-box containers you have installed agree with these markings.

1. LOAD THE CUP MECHANISM

CAUTION
For hot selections, only use cups which have been designed for use in a hot beverage vending machine.

Normally, large cups are loaded in turrets 1A and 1B, and regular size cups are loaded in turret 2. You may change this, depending upon sales at your location. For example, if more people buy large drinks, then you should load turrets 1A and 1B with large cups. **The size of cup you load, and its location, must agree with the cup size that you select during programming. Refer to the programming section for more information.**

  a. Support the cup mechanism in the upright position.

  b. Push the latch forward to release the cup mechanism. Continue to support the cup mechanism while you lower it into the loading position.

  c. Remove the turret cover.

OBSERVE PROPER HYGIENE - DO NOT TOUCH THE CUPS!

  d. Open the bottom of the wrapper on a stack of cups.

  e. Insert the wrapped cups into the turret and pull the wrapper out.

   DO NOT FILL CUPS ABOVE THE LEVEL MARKED ON THE OUTSIDE OF THE CUP TURRETS OR ABOVE THE "FILL LINE" LABEL INSIDE EACH TURRET, OR MOTOR JAMS WILL OCCUR.

   USE ONLY THE SAME SIZE AND BRAND OF HOT DRINK CUPS IN EACH TURRET; DO NOT INTERMIX!

  f. Replace the turret cover after the turrets have been loaded.

  g. Be sure the cup mechanism is locked into the upright position.

CABINET
DOOR

RETAINING
STRAP

LID

LOAD CUPS
HERE

CUP MECH
MOUNTING
BRACKET

CUP TURRET

LATCH

CUPS

TOP VIEW
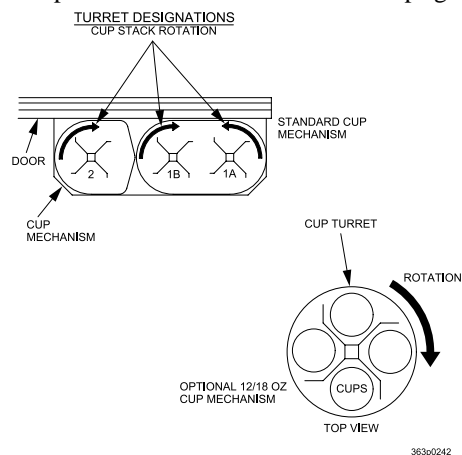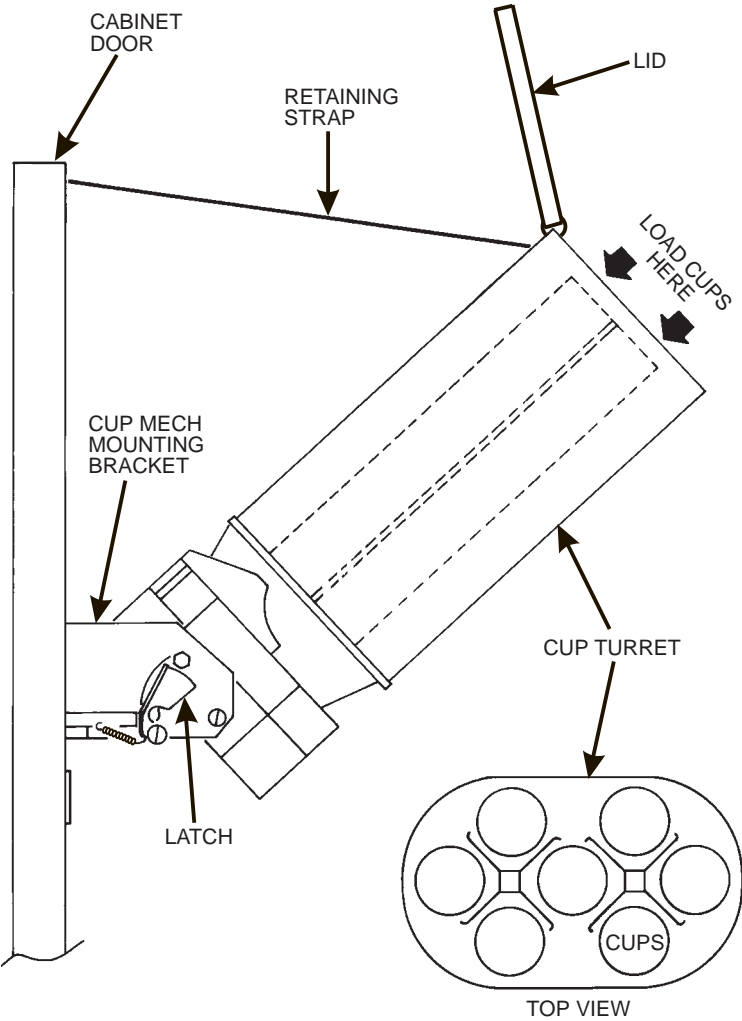
2. SET UP THE CO2 TANK

WARNING

A full CO_2 tank can be dangerous if it is dropped or mishandled. Handle it with care and keep the tank lid in place until the tank is properly secured in the merchandiser.

a. Place the power switch in the OFF position.

b. Install a full CO_2 tank on the merchandiser as shown. Secure the CO_2 tank with the retaining chain.

c. Remove the CO_2 tank lid. Briefly open and close the CO_2 cylinder valve to blow out any foreign matter.

d. Locate the CO_2 regulator and flat plastic washer (in a box), and the tapered plastic washer (in plastic bag).

e. Connect the CO_2 hose from the secondary regulator tee fitting to the regulator. Firmly tighten the fitting.

f. Using two wrenches, tighten the line to the regulator.

g. Insert the flat washer into the regulator nut.

h. Using two wrenches, connect the regulator to the tank outlet and tighten in place.

WARNING

Not using a wrench on the tank side may damage the CO_2 tank, resulting in personal injury.

i. Open CO_2 tank valve.

j. Adjust the CO_2 regulator so that the gauge reads 80 PSI (5.50 bar).

k. The secondary regulator is located on top of the cold plate. Adjust the secondary regulator to 40 PSI (2.76 bar).

l. Lock the adjustment screw in place.

m. Remove the cold plate cover and actuate the pressure relief valve located on top of the carbonator tank for 3 to 5 seconds.

n. Check for gas leaks along the CO_2 line.

RETAINING CHAIN

CO_2 TANK
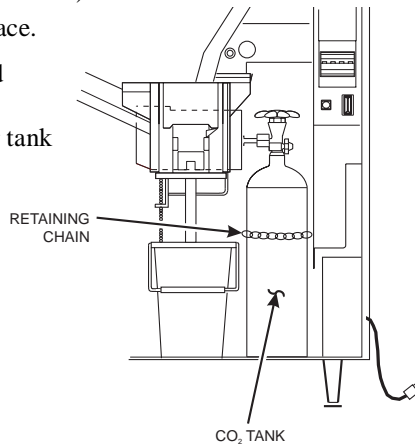
BRIX Is the ratio of syrup to water in a cold drink machine. Also, to **BRIX** the machine is to set up that ratio.

3. PRIME THE SYRUP SYSTEM

Before trying to brix the machine: Operate each syrup valve (increase flow) to flush any air or water out of the tubing, pump, or syrup system. This air and water is left in the system from factory testing and machine setup. **If air passes through the syrup valve, syrup cannot, and the drink will be weak.**

   a. Place a cup in the cup delivery compartment.

   b. Perform a syrup test throw. Refer to **SET UP A COLD DRINK** in the programming section of this guide. Measure the amount of syrup you get.

   c. Repeat step 2 until 1.7 oz (50 ml) of syrup (the proper amount of syrup for the 12 oz cup) is dispensed.

   d. Repeat steps a through c for all the remaining selections in the machine.

   e. Remove and discard the cup.

4. TEST FOR GAS LEAKS

Now that the pumps are primed, they will not pulse until syrup is called for. Test the lines for gas leaks as follows:

   a. Close the CO_2 cylinder valve.

   b. Observe the high pressure gauge. If the reading on the gauge decreases, there is a leak in the system.

   c. Locate the source of the leak and repair it.

5. PURGE THE CARBONATOR OF AIR

When a merchandiser is first put into service, air may be present in the carbonator. This air will not mix with the water, nor will it be absorbed into the water. As pressure builds up in the carbonator, the air will be trapped in the top of the carbonator and will prevent the carbonator from becoming filled with water. The water pump will no longer be able to pump against this high pressure, and it will operate continuously; the water passing through the water pump bypass rather than the carbonator. Purge the carbonator of any trapped air by lifting up on the pressure relief valve handle as shown. Once this condition is corrected, it will not happen again as long as the merchandiser is properly serviced.

CARBONATOR
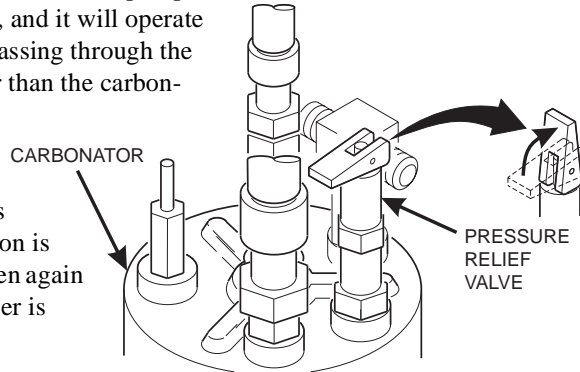
PRESSURE RELIEF VALVE

6. LOAD OPTIONAL FILTER PAPER

a. Turn the main power switch to the *OFF* position.

b. Remove the cup station and grounds bucket.

c. Remove the paper holder cover by turning the fastener a quarter turn to the left.

d. Insert a roll of paper into the paper holder. Route the free end of the paper to the brewer as shown. Insert the 1" spacer into the paper holder as shown.

e. Replace the cover on the paper holder. Secure it by turning the fastener a quarter turn to the right.

ARROWS MOLDED INTO BACK WALL
OF FILTER PAPER HOUSING
SHOW PROPER PAPER ROUTING.

VIEW LOOKING
INSIDE FILTER
PAPER HOUSING

FILTER
PAPER
HOUSING

1" SPACER

FILTER
PAPER

1/4 TURN
FASTENER

FILTER
PAPER
COVER

FILTER
PAPER

FILTER PAPER
HOUSING
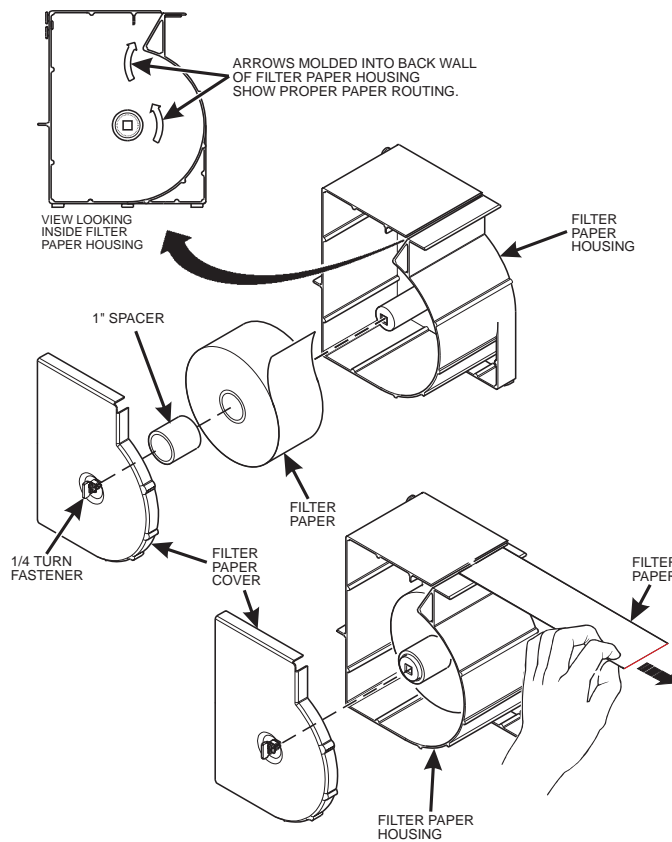
NOTE

It may be necessary to reach underneath the brewer between the paper mechanism housing and swing arm assembly to push paper over the lip of the paper mechanism housing.

f. Feed paper over the swing arm assembly and underneath the pinion gear shaft.

g. Feed paper through the paper guides.

h. Raise the basket housing assembly and feed paper over the lip of the paper mechanism housing.

PAPER GUIDES

PINION GEAR SHAFT

BASKET HOUSING ASSEMBLY

SWING ARM ASSEMBLY

LIP OF PAPER MECHANISM HOUSING

PAPER MECHANISM HOUSING

LIP OF PAPER MECHANISM HOUSING

SWING ARM ASSEMBLY

PAPER MECHANISM HOUSING
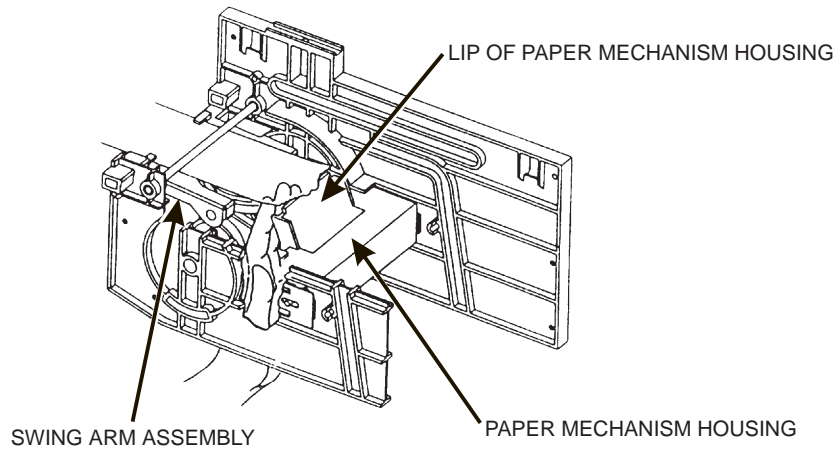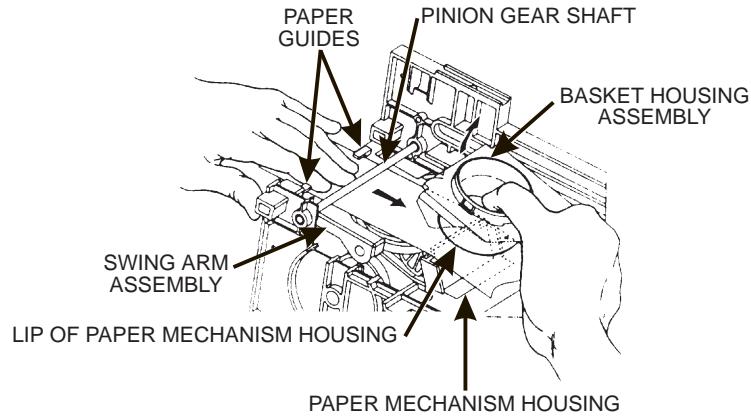
i. Reach underneath the brewer between the paper mechanism housing and basket housing assembly and push paper into the top of the paper mechanism housing between paper rollers.

BASKET HOUSING ASSEMBLY

PAPER MECHANISM HOUSING
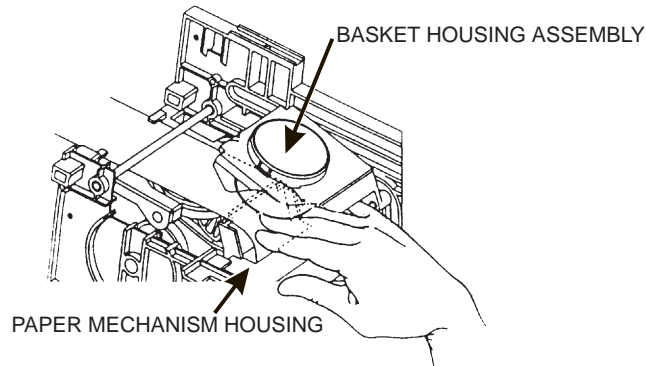
j. Reach underneath the brewer and pull paper roller to the right.

k. Pull paper down between the paper rollers.

l. Release the paper roller.
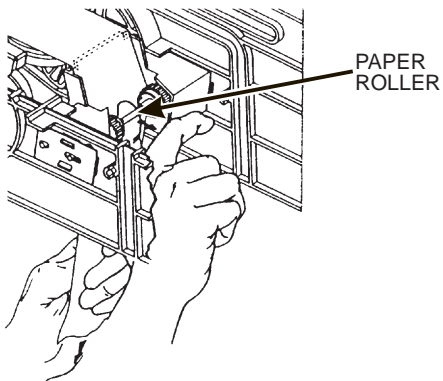
PAPER
ROLLER

m. Place the main power switch in the *ON* position.

n. Enter *BREW TEST* mode and cycle the brewer to observe that paper
    feeds properly.

o. Replace the cup station and grounds bucket.

ADJUSTMENTS AND MINOR MAINTENANCE

EMPTYING THE BILL STACKER

1. PUSH UP LATCH

2. PULL DOWN BILL STACKER

3. REMOVE DOLLAR BILLS

430P0017
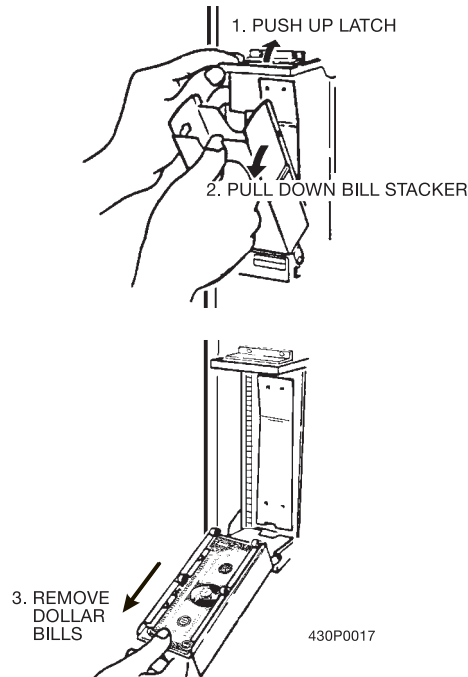
ADJUSTING THE AIR PRESSURE CONTROL

This control determines the system pressure provided by the air compressor. Adjust the pressure as follows:.

    a.   With the compressor running, pinch the brewer inlet air tube.

    b.   Adjust the pressure to read 10 - 12 psi on the gauge.

This will produce a pressure of 3 - 6 psi using regular coffee and $8^1/4$ oz cups. No further air pressure adjustments should be necessary

PRESSURE GAUGE (AIR)

MONETARY PANEL

INCREASE

PRESSURE ADJUST CONTROL

0   30

INGREDIENTS SHELF
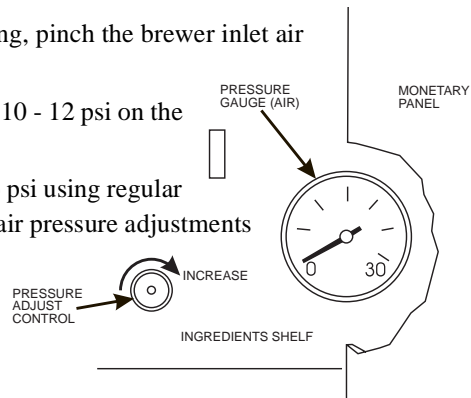
CUP MECHANISM ADJUSTMENT

a. Place seven cups in the cup ring.

b. Observe the clearance as shown in view B.

c. If necessary adjust by first loosening the adjustment arm screw (view A).

d. Move adjustment arm until correct clearance is achieved.

e. Hold adjustment arm in place and tighten adjustment arm screw.

VIEW A

VIEW B

HOT WATER VALVE ADJUSTMENT

The hot water valves do not usually require adjustment, but in some cases adequate water volume cannot be achieved by the throw time setting alone (see the programming section). **IF ABSOLUTELY NECESSARY**, adjust the valves in conjunction with setting the factory default timers.

1. Using a slotted screwdriver, turn the adjustment screw clockwise to decrease the water flow rate.
2. Turn the adjustment screw counterclockwise to increase the water flow rate.
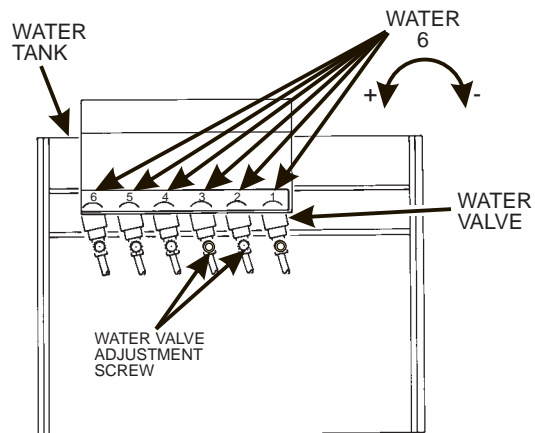
COLD WATER VALVE ADJUSTMENT

Cold water valves are factory set and do not usually require adjustment (see the programming section). **IF NECESSARY**, adjust the valves to obtain proper water volumes. The factory default times and flow rates are strongly recommended.

1. Turn the carbonated water adjustment screw counterclockwise (CCW) until it stops in the fully open position.
2. Turn it clockwise (CW) 3 and 1/2 turns.
3. Turn the non-carbonated water adjustment screw counterclockwise (CCW) until it stops in the fully open position. Do not force it to stop the flow because it is not a positive closure system.
4. Turn it back clockwise (CW) 1 turn.

CARBONATED
WATER VALVE

NON-CARBONATED
WATER VALVE
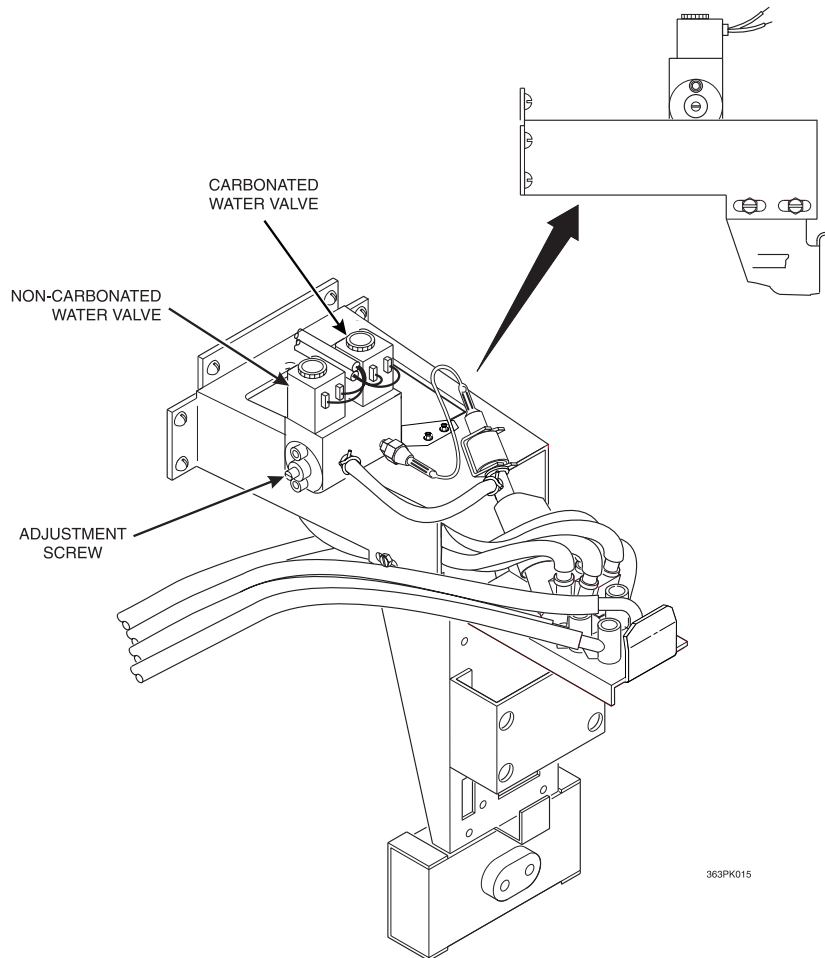
ADJUSTMENT
SCREW

363PK015

SYRUP PUMP ADJUSTMENT

The syrup pumps are factory set and do not usually require adjustment (see the programming section). **IF NECESSARY**, adjust the valves to obtain proper syrup volumes. The factory default times and flow rates are strongly recommended.

1. Turn the adjustment screw clockwise (CW) to decrease syrup volume.
2. Turn the adjustment screw counterclockwise (CCW) to increase syrup volume.

CANISTER INSTALLATION

1. Place the canister in position as shown.
2. Engage the pins on the motor shaft with the slots in the canister coupler.
3. Fit tabs on canister into the slots on the canister shelf.
4. To ensure canister is correctly engaged with the rear mounting bracket, gently push down on the front edge of the canister lid.

Canister Caps. The parts bag contains a number of red vinyl caps. Place these caps over the canister nozzle as shown to avoid spilling product when removing and replacing the canisters.

FILL CANISTER

PINS ON MOTOR SHAFT MUST ENGAGE SLOTS IN CANISTER COUPLER

CANISTER CAP

CANISTER SHELF
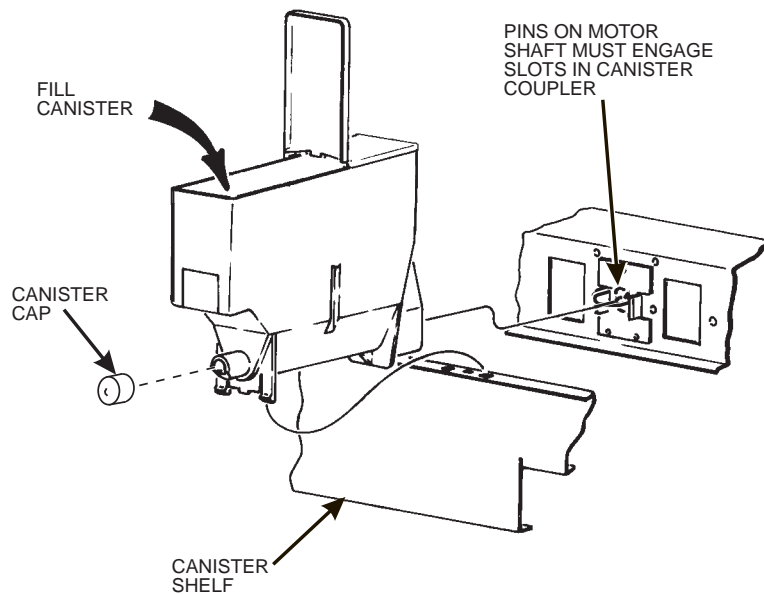
DUAL CHECK VALVE REPLACEMENT

It is recommended that the dual check valve on the carbonator be replaced annu-
ally. The part number is 3148051, and it can be obtained through the National
Vendors parts department.

CARBONATOR

DUAL
CHECK
VALUE
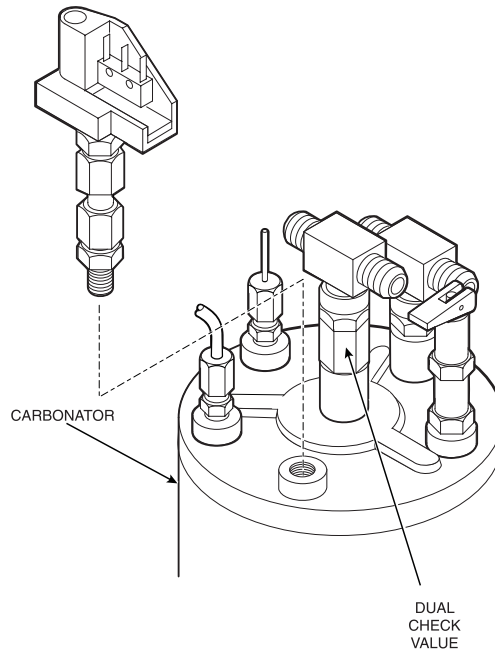
363PK019

PROGRAMMING

How to program your Twin Drink Center

Some setup, test, and maintenance operations are computer controlled. The control panel switches (see figure 1) and the selection panel switches (see figure 2) regulate these operations.
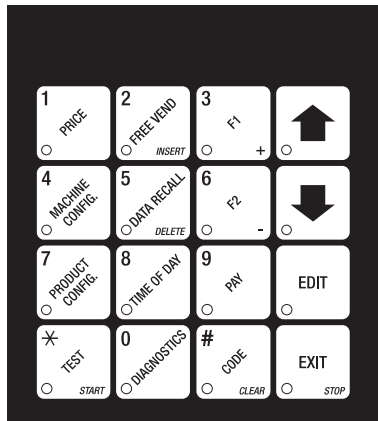
Figure 1. Control Panel
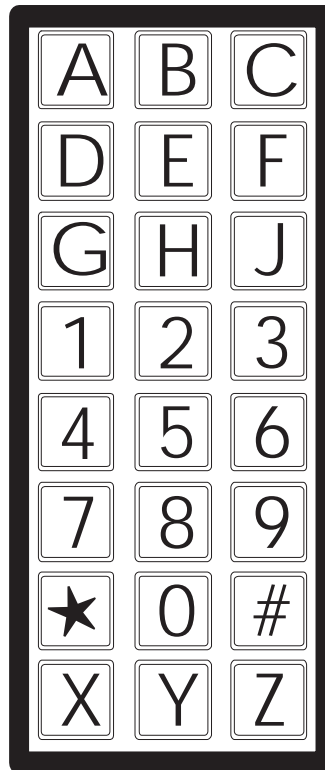
Figure 2. Selection Panel

I. The Displays

The 10-character display performs two functions, and is referred to in this book as "the display":

1. It shows the customer's selection and how much credit is in the machine, as well as the ready, service, and time of day messages.
2. It provides information and feedback to the service person during maintenance.


```
DISPLAY
```

II. The Function Keys

The keys on the control panel can be used for up to three things:

THE PRIMARY PURPOSE
THIS IS THE MAIN JOB OF THE KEY. FROM THE STANDBY MESSAGE, IT WILL ALLOW YOU TO ENTER A PROGRAMMING MODE. IN THIS EXAMPLE, YOU CAN VIEW STORED SALES DATA.

THE NUMBER
YOU MIGHT BE ASKED TO ENTER A NUMERICAL VALUE. PRESSING THIS KEY WILL ENTER A "5".

5 DATA RECALL DELETE

THE SECONDARY PURPOSE
THIS IS THE KEY'S "SECOND JOB". FOR EXAMPLE, THIS KEY CAN BE USED TO DELETE A CHARACTER WHEN YOU ARE EDITING CUSTOM MESSAGES.

III. Other Keys

The MOVEMENT keys on the control panel let you move inside a mode, and back and forth between modes. To see how these keys let you move around, study the flow diagram on the next page.

 The up and down arrow keys are your "legs", which let you move up and down the list of tasks. These keys are what let you continue from one step to the next in programming procedures.

 This is your "activate" or "choose" key. It "opens a door" to additional information and lets you begin a programming task once you are inside of a mode. Sometimes, it is used as a toggle switch to show you your choices during a programming task.

 This is your "end" key. Pressing it one or more times will move you back to the start of the mode, or all the way back to the standby message.

IV. Control Panel Switch Functions Explained

Each of the control panel switches has one or more jobs to do. This list will give you a short overview of those jobs.

1 PRICE — Press this button to put your machine into the Price Setting mode. You can see maximum and minimum machine prices, and change prices for entire machine or individual selection.

2 FREE VEND INSERT — Press this button to select the Free Vend modes.

3 F1 + — Press this button to view the water tank and cold plate temperatures, software version number, machine configuration, and active selection status.

4 MACHINE CONFIG. — Press this button to:

- Select display language
- Select coin mechanism and options
- Select bill validator and options
- Select card reader and options
- Select monetary options
- Set winner feature

5 DATA RECALL DELETE — Press this button to view total sales and vends by whole machine or selection. Clear resettable data.

6 F2 - — Press this button to:
- Download data into your portable data collection device (PDCD), or set printer baud rate, depending upon which device you are using

7 PRODUCT CONFIG. — Press this button to:

- Set machine configuration
- Set up drinks
- Set which selections are active
- Set cup size
- Select sanitation and rinse times
- Set tank temperature

8 TIME OF DAY — Press this button to:

- Set time of day
- Set day, month, year
- Set up time of day intervals for inhibit, freevend, and discount vending
- Select display messages
- Edit messages

9 PAY — Press this button to pay one or more coins from the coin mechanism.

0 DIAGNOSTICS —
- Allows you to see any fault or condition that may place the machine out of service

IV. Control Panel Switch Functions Explained (Continued)

Press this button to:

- Perform TEST VENDS
- Test machine functions
- Test displays
- Fill the water tank

Press this button to:

- Enter the SUPERVISOR mode
- Change the SUPERVISOR access code
- Lock and unlock access to functions

V. Programming Flow Charts

After you become familiar with the programming functions, you will be able to perform them without using the detailed, step-by-step tables. The following group of flow charts will give you a quick reference to the functions each key performs. If you need additional information, just refer to the page shown in the chart.

Supervisor Functions

```
┌─────────┐
│ #  CODE │
│ ○  CLEAR│
└─────────┘
```

```
┌─────────────────────┐
│   ENTER A NEW       │
│  SUPERVISOR CODE    │
│     PAGE 31         │
└─────────────────────┘
```

```
┌─────────────────────┐
│  ENTER A FREEVEND   │
│       CODE          │
│     PAGE 31         │
└─────────────────────┘
```

```
┌─────────────────────┐
│  ASSIGN A CODE TO   │
│ VIEW DATA WITHOUT   │
│  OPENING THE DOOR   │
│     PAGE 32         │
└─────────────────────┘
```

```
┌─────────────────────┐
│  LOCK OR UNLOCK     │
│  MODE OR PAYOUT     │
│       KEYS          │
│     PAGE 32         │
└─────────────────────┘
```

```
┌─────────────────────┐
│ SET PRINTER OR DEX  │
│     OPTIONS         │
│     PAGE 33         │
└─────────────────────┘
```

Payout Coins

```
┌─────────┐
│ 9  PAY  │
│ ○       │
└─────────┘
```

```
┌─────────────────────┐
│   PAYOUT COINS      │
│     PAGE 80         │
└─────────────────────┘
```

Machine Configuration Functions

```
┌─────────┐
│ 4 MACHINE│
│  CONFIG.│
└─────────┘
```

```
┌─────────────────────┐
│  SELECT DISPLAY     │
│    LANGUAGE         │
│     PAGE 35         │
└─────────────────────┘
```

```
┌─────────────────────┐
│   SELECT COIN       │
│  MECHANISM AND      │
│    OPTIONS          │
│     PAGE 35         │
└─────────────────────┘
```

```
┌─────────────────────┐
│   SELECT BILL       │
│  VALIDATOR AND      │
│    OPTIONS          │
│     PAGE 36         │
└─────────────────────┘
```

```
┌─────────────────────┐
│   SELECT CARD       │
│   READER AND        │
│    OPTIONS          │
│     PAGE 37         │
└─────────────────────┘
```

```
┌─────────────────────┐
│ SELECT MONETARY     │
│    OPTIONS          │
│     PAGE 38         │
└─────────────────────┘
```

```
┌─────────────────────┐
│  SET UP WINNER      │
│      MODE           │
│     PAGE 40         │
└─────────────────────┘
```

```
┌─────────────────────┐
│   SET UP MUG        │
│    DISCOUNT         │
│     PAGE 41         │
└─────────────────────┘
```

Time of Day

```
┌─────────────┐
│ 8           │
│  TIME OF DAY│
│ ○           │
└─────────────┘
```

┌──────────────────────┐
│ SET THE TIME OF DAY   │
│ **PAGE 71**   │
└──────────────────────┘

┌──────────────────────┐
│ SET THE DAY OF THE   │
│ WEEK   │
│ **PAGE 71**   │
└──────────────────────┘

┌──────────────────────┐
│ SET MONTH, DAY,   │
│ AND YEAR   │
│ **PAGE 72**   │
└──────────────────────┘

┌──────────────────────┐
│ SET TIME-OF-DAY   │
│ INHIBITED VENDING   │
│ **PAGE 72**   │
└──────────────────────┘

┌──────────────────────┐
│ EDIT CUSTOM   │
│ MESSAGES   │
│ **PAGE 77**   │
└──────────────────────┘

Product Configuration Functions

```
┌─────────────┐
│ 7           │
│  PRODUCT    │
│  CONFIG.    │
│ ○           │
└─────────────┘
```

┌──────────────────────┐
│ DISABLE SELECTIONS   │
│ IN THE   │
│ MERCHANDISER   │
│ **PAGE 46**   │
└──────────────────────┘

┌──────────────────────┐
│ ASSIGN CUP SIZES   │
│ TO SELECTIONS   │
│ (SUPERVISOR MODE   │
│ ONLY)   │
│ **PAGE 45**   │
└──────────────────────┘

┌──────────────────────┐
│ SET UP A HOT DRINK   │
│ **PAGE 48**   │
└──────────────────────┘

┌──────────────────────┐
│ VIEW OR SET THE   │
│ HOT WATER TANK   │
│ TEMPERATURE   │
│ **PAGE 68**   │
└──────────────────────┘

┌──────────────────────┐
│ SET THE AUTOMATIC   │
│ BREWER RINSE TIME   │
│ (BREWER EQUIPPED   │
│ MACHINES ONLY)   │
│ **PAGE 69**   │
└──────────────────────┘

┌──────────────────────┐
│ SET THE AUTOMATIC   │
│ MIXING BOWL RINSE   │
│ TIME   │
│ **PAGE 70**   │
└──────────────────────┘

Pricing

SET PRICES

PAGE 81

View Diagnostics

VIEW DIAGNOSTIC MESSAGES

PAGE 97

Free Vend

PAYOUT COINS

PAGE 80

Tests

TEST VEND SELECTIONS AND VERIFY CREDIT ADDED

PAGE 91

TEST DROP A CUP

PAGE 91

TEST THE WHIPPER(S)

PAGE 92

TEST THE AIR COMPRESSOR

PAGE 92

TEST THE BREWER

PAGE 93

RINSE THE MIXING BOWLS

PAGE 93

RINSE THE BREWER

PAGE 93

RINSE THE MIXING BOWLS

PAGE 93

CLEAN THE ICE MAKER

PAGE 94

CLEAN THE COLD PLATE

PAGE 94

PRIME THE SYRUP PUMPS

PAGE 95

CLEAR TANK ERRORS AND FILL THE TANK

PAGE 94

TEST SWITCHES OR SENSORS

PAGE 95

TEST THE DISPLAY

PAGE 91

View and/or Clear Data

```
┌─────────────┐
│ 5  DATA RECALL │
│ ○      DELETE │
└─────────────┘
```

↓

┌─────────────────────┐
│ VIEW DATA   │
│   │
│ **PAGES 83 THROUGH** │
│ **88**   │
└─────────────────────┘

↓

┌─────────────────────┐
│ CLEAR ALL   │
│ RESETTABLE DATA   │
│   │
│ **PAGE 84**   │
└─────────────────────┘

↓

┌─────────────────────┐
│ CLEAR PAID SALES   │
│ DATA ONLY   │
│   │
│ **PAGE 84**   │
└─────────────────────┘

↓

┌─────────────────────┐
│ VIEW MACHINE ID   │
│ NUMBER   │
│   │
│ **PAGE 89**   │
└─────────────────────┘

Misc.

```
┌─────────────┐
│ 3    F1      │
│ ○        +   │
└─────────────┘
```

↓

┌─────────────────────┐
│ VIEW WATER TANK   │
│ AND COLD PLATE   │
│ TEMPERATURE   │
│ **PAGE 82**   │
└─────────────────────┘

↓

┌─────────────────────┐
│ VIEW MACHINE   │
│ CONFIGURATION   │
│ SETTING   │
│ **PAGE 90**   │
└─────────────────────┘

↓

┌─────────────────────┐
│ VIEW CUP SIZES   │
│ ASSIGNED TO   │
│ SELECTIONS   │
│ **PAGE 89**   │
└─────────────────────┘

↓

┌─────────────────────┐
│ VIEW SOFTWARE   │
│ VERSION   │
│   │
│ **PAGE 71**   │
└─────────────────────┘

DEX/Printer

```
┌─────────────┐
│ 6    F2      │
│ ○        -   │
└─────────────┘
```

DEX   Printer

↓   ↓

┌─────────────────────┐   ┌─────────────────────┐
│ DOWNLOAD DATA TO   │   │ SELECT PRINTER   │
│ A PDCD   │   │ BAUD RATE (PRINTER │
│   │   │ MODE ONLY)   │
│ **PAGE 95**   │   │ **PAGE 34**   │
└─────────────────────┘   └─────────────────────┘

VI. Programming Procedures

The pages that follow contain all the programming steps you will need for your merchandiser. Each procedure is presented so that it "stands alone". This means that you can look up a procedure, go directly to it, perform the procedure, quit the procedure then go on about your business.

However, after looking at the programming flowcharts, you should notice that several procedures are grouped under each mode key (such as [4 MACHINE CONFIG.]), and you can move between them by using the up and down arrow keys. Therefore, you don't have to exit a procedure before performing another one.

Most procedures respond to you the same way, like how to enter, leave, and move around inside them. Here is a short guide to help you through these common steps:

- To move directly from one procedure to another (provided they are both grouped under the same mode key), use [⬇] and [⬆].
- When you are finished with a function, you will want to **CONTINUE**. To do that, you can press [EXIT STOP] (you may have to press it more than once, depending on how far into a procedure you are). You can then perform another programming or maintenance function. If you are completely done with maintenance, just shut the merchandiser door.
- Text that looks like this: *DISPLAY* represents what you will see in the display on the monetary panel.
- Definitions and helpful information will appear in shadow boxes:

HELPFUL HINT

☞ **GAIN ACCESS TO THE SUPERVISOR MODE**

1. Press [#/CODE/CLEAR key]. The display shows: *ENTER CODE*. You must enter the four-digit supervisor code within 6 seconds to gain access.
2. A new machine has a factory-set supervisor code of 0000.
3. When you have entered the right code, you will hear two beeps and see *UNLOCKED* in the display. After a few moments, the standby message returns.
4. At the standby message, press [#/CODE/CLEAR key], then [down arrow key]. You are now ready to perform various supervisor functions.

☞ **ENTER A NEW SUPERVISOR CODE**

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE.**

2. Press [down arrow key] until the display shows *SUPER XXXX*. The X's represent the current supervisor code. Use the number keys to enter a new code.

IMPORTANT!
If you enter a new code, be sure to keep a written record of it.
There is no other way to access the SUPERVISOR mode.

3. CONTINUE

☞ **ENTER A FREEVEND CODE**

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE.**

2. Press [down arrow key] until the display shows *FREE XXXX*. The X's represent the current freevend code. Use the number keys to enter a new code. This code is used with the **FREE WITH KEY** freevend mode. If the code is anything other than "0000", it must be entered after the key lock is turned in order to enable <u>one</u> free vend.

3. CONTINUE

☞ **ASSIGN A CODE TO VIEW DATA WITHOUT OPENING THE DOOR**

If the proper non-zero code is entered, sales and non-resettable sales data can be viewed without opening the machine's door.

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE.**

2. Press [⬇] until the display shows *NR XXXX*. The X's represent the currently entered code. Use the number keys to enter a new code, if desired.

3. CONTINUE

☞ **LOCK OR UNLOCK MODE OR PAYOUT KEYS**

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE.**

2. Press [⬇] until the display shows either *X.LOCKED* or *X.UNLOCKED*.

   "X" refers to the number or character shown on the mode or payout key in question (1 through 9, # and *). To see if a key is locked or unlocked, press that key.

3. Press [EDIT] to change between locked and unlocked. When anyone other than the supervisor tries to enter a locked mode, the display shows *LOCKED*.

NOTE

The following mode keys cannot be locked out:

[3 F1 +] [0 DIAGNOSTICS]
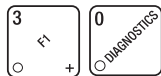
4. CONTINUE

☞ **SET PRINTER OR DEX OPTIONS**

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE.**

2. Press ⬇ until the display shows one of the following:

3. *PRINTER* means that data will be sent directly to a printer,

4. *DEX ONLY* means that data remains in memory after it is downloaded into a portable data collection device,

5. *DEX+CLR* means that resettable data is cleared after it is downloaded into a portable data collection device.

6. Press │ EDIT │ to switch between the three choices.

7. CONTINUE

☞ **LOCK OR UNLOCK DATA CLEARING ACCESS**

1. Follow the steps in **GAIN ACCESS TO THE SUPERVISOR MODE.**

2. Press until the display shows either *#.LOCKED* or *#.UNLOCKED*.
   LOCKED means that non-supervisors cannot clear resettable machine sales

   and vend data from the │5 DATA RECALL DELETE│ key.

3. Press │ EDIT │ to switch between *#.LOCKED* and *#.UNLOCKED*.

4. The supervisor can clear data regardless of this setting, provided the supervisor code was correctly entered first.

5. CONTINUE

☞ **SELECT PRINTER BAUD RATE (PRINTER MODE ONLY)**

> **BAUD RATE** The speed of data transfer, expressed in bytes per second. Your printer can receive data at a certain rate, and you must tell the printer what that rate is.

1.   Press ⌞6 ⤶⌟. One of the following is displayed:

    BAUD 1200, BAUD 2400, BAUD 4800, BAUD 9600

2.   Press ⌞EDIT⌟ until the correct baud rate for your printer is displayed.

3.   CONTINUE

☞   **SELECT COIN MECHANISM AND OPTIONS**

1.   Press ⬜, then press ⬇ until the current **COIN MECHANISM** is

     shown in the display. Press ⬜ EDIT to choose the desired coin mechanism.

     Your choices are:
     DUMB MECH, *MDB MECH*, *EXEC MECH*, or *NO MECH*

2.   Press ⬇ until the display shows *CHANGE X.XX*.

     Coins and bills which are less than or equal to this value will be returned
     without a purchase being made.
     Examples:
     CHANGE 0.00 - Forced vend; NO change returned without a purchase.
     CHANGE .25 - Nickels, dimes, and quarters returned without purchase.
     CHANGE 1.00 - $1 bills and SBAs will be returned as change without pur-
     chase. Nickels, dimes, and quarters are also returned.

3.   Press ⬇ until the display shows: *LOW.MSG X.XX*. The display will

     show *USE EXACT CHANGE* when the amount of available change in the coin
     mechanism falls below the value of "X.XX". Enter a value with the number
     keys. For example, if *LOW.MSG 1.00* is displayed, the *USE EXACT CHANGE*
     message is displayed when less than a dollar's worth of change is in the coin
     mechanism.

4.   CONTINUE

☞   **SELECT DISPLAY LANGUAGE**

1.   Press ⬜. The current **LANGUAGE** is shown in the display. Press

     ⬜ EDIT to choose the desired language. Your choices are: *ENGLISH*, *DEUT-*
     SCH, *FRANCAIS*, *ESPANOL*, *PORTUGUES*, *SWEDISH*, *NEDERLANDS*,or *FINN-*
     ISH.

2.   CONTINUE

☞ **SELECT BILL VALIDATOR AND OPTIONS**

1. Press [4 MACHINE CONFIG.] , then press [⬇] until one of the following is displayed:

NO DBV - No bills will be accepted or there is no bill validator installed (you can exit the function).

SER.1.2.5.10.20 - The serial bill validator is selected and will accept $1, $2, $5, $10, and $20 bills. Use BILL SELECTION METHOD below to change the bills which will be accepted.

A standard MDB bill validator is selected. It will accept $1, $2, $5, $10 and $20 bills. Use BILL SELECTION METHOD below to change the bills which will be accepted.

MDB.1.2.5.10.20 -

BILL SELECTION METHOD:
The standard $1, $2, $5, $10 and $20 bills are enabled by pressing the **1, 2, 5, 6,** or **7** key(s), respectively, to display which bill(s) will be accepted.

MDB.   <*>   -   An MDB bill validator which accepts non-standard bills or tokens is connected and operating. Press [✳ TEST START] to enter list of bills. See **INITIAL SETUP OF NON-STANDARD BILL VALIDATOR** (page 37).

BILL LIST OPERATION:

Use [⬇] and [⬆] to scroll through the list of bills.

1. 1.00 ON -   Use [EDIT] to turn the bill acceptance ON or OFF.

Use [EXIT STOP] to move up to the top level screen.

1. 1.00 ON - 1.= Bill validator channel 1, each bill has its own channel
1.00=Bill value
ON = $1.00 bill will be accepted

1. 1.00 OFF -   OFF = $1.00 bill will not be accepted

TKN -   Token bills (same as coupon bills)

INITIAL SETUP OF NON-STANDARD BILL VALIDATOR:

Connect the bill validator, select MDB in the bill validator selection screens. The standard *MDB.1.2.5.10.20* screen will appear first. Exit the bill validator setup by pressing . Bill information is now collected from the validator. Re-enter the bill validator selection screen and the non-standard screen "*MDB. <✶>*" will appear.

PULSE DBV - The pulse bill validator will accept $1 bills.

2. Press [EDIT] to choose the desired option.

3. CONTINUE

☞   **SELECT CARD READER AND OPTIONS**

1. Press [4 MACHINE CONFIG.], then press [⬇] until the current card reader is shown in

   the display. Press [EDIT] to choose the desired card reader.
2. Your choices are: *NO CARD*, *DUMB CARD*, or *MDB CARD*.
3. If you selected NO CARD you can exit the function.
4. Press until one of the following is displayed:
5. *REVALUE.ON* - Allows credit to be transferred onto the card
6. *REVALUE.OFF* - Credit cannot be transferred to the card

7. Press [EDIT] to display the desired choice.

8. CONTINUE

☞ **SELECT MONETARY OPTIONS**

This function lets you:
- **Set declining balance,**
- **Set currency acceptance on low change,**
- **Set overbuy options,**
- **Set last bill stacking options**

> **DECLINING BALANCE:** Once credit is established, multiple vends may occur until the coin return is pressed.

1. Press | 4 MACHINE CONFIG. |, then press | ⬇ | until one of the following is displayed:

2. *DECLINE.ON* - More than one vend is allowed, with a declining balance.

3. *DECLINE.OFF* - A declining balance is not allowed.

4. Press | EDIT | to display the desired choice.

5. Press | ⬇ | until one of the following is displayed:

6. *ACC < $$ X.XX* -Accept any bill of value $X.XX or less. Hold the last bill which meets or exceeds maximum price in escrow.

7. *ACC.STK X.XX* -Accept any bill of value $X.XX or less. Immediately stack the last bill.

8. **Example: If setting is** *ACC.STK 1.00* and maximum price is $1.50. This setting will immediately stack the second $1.00 bill inserted.

9. Press | EDIT | to display the desired choice.

10. The value of "X.XX" has two purposes:
    a. The value of "X.XX" tells the machine how big a bill or coin to accept even though there is not enough change in the coin mech to cover all possible paybacks.
    For example, enter 1.00. Therefore, the machine will take a dollar bill or coin even though there is less than $1.00's worth of change. Entering 5.00 tells the machine to take a five even though there is less than $5.00's worth of change, and so forth.

NOTE

This could cause a customer to be short-changed.

Entering **0.00** means that bills or coins will only be accepted if there is enough change to cover them.
    b. The value of "X.XX" tells the machine how much the customer is allowed to overbuy a product. The customer will be short-changed when an overbuy occurs. **Example:**
    For a value of $0.25: if there is no change in the machine and the customer insers a $1.00 bill. The customer can purchase a product for $0.75 even though the change cannot be paid back. The customer will be short-changed. Normally a purchase will not be approved unless all change can be paid.
    Entering 0.00 means that the vend will only be approved when the correct change can be returned (overbuy disabled).

11. CONTINUE

👉 **SET UP WINNER MODE**

> **WINNER**   At preselected intervals, a customer may receive a refund for a selection. You can select the intervals and qualifying selections.

1. Press [4 MACHINE CONFIG.] , then press [⬇] until one of the following is displayed:

2. *WINNER OFF* Winner function is disabled.

3. *WIN XXX* Winners are allowed at certain intervals, represented by "XXX".

4. Press [EDIT] to display the desired choice.

5. If you selected *WINNER OFF*, you can exit the function.

6. The display shows *WIN XXX*. XXX represents the number of vends which must occur per each winner vend. For example, an interval number of 50 means that a winner can happen any one time during the next 50 vends. Using the number keys, enter an interval number between 10 and 9999.

7. Press [⬇] . The display shows ✳ - - - - - - - - -. The dashes in the display represent which selections are allowed winners. Press the appropriate letter key to enable a selection, press the key again to disable it. For example, pressing A, C, and E will cause the display to look like this: *A-C-E----_*, meaning that all A, C, and E selections can have a winner.

ADVANCED OPTIONS:

Press [✻ TEST START] to enable all selections.

Press [# CODE CLEAR] to deactivate all selections.

AN EXAMPLE . . .

1. You want to enable winners on all selections except E and F. Do the following:

   a. Press [✻ TEST START]. The letters A through F appear in the display instead of the dashes.

   b. Press "E" and "F". The letters E and F in the display are replaced by dashes.

2. CONTINUE

☞   **SET UP MUG DISCOUNT**

You can establish a discount for customers who use their own mug.

1. Press [4 MACHINE CONFIG], then press [⬇] until the display shows $MUG\ DSC\ .00$.

   This example shows the existing discount amount is zero.

2. Enter a discount amount. This will be in cents, for example press or 5 to enter a discount amount of 5 cents.

3. CONTINUE

☞   **VIEW OR SET MACHINE CONFIGURATION**

(This function can be viewed at any time, but can only be set while in supervisor mode.) Be sure you have correctly entered the supervisor code.

1.   Press [7 PRODUCT CONFIG.] and [⬇] until the display shows $D\text{-} J\text{-} PQRS$.

•   "D" is the current status of the automatic delivery door. A dash (-) means the automatic door is turned off; a plus sign (+) means the door is turned on. Press [EDIT] to turn the door **ON** or **OFF**.

•   "J" is the current status of the whippers. A plus sign (+) means drinks will not be whipped unless the **J** key is pressed during the vend. A dash (-) means drinks **WILL** always be whipped **unless** the **J** key is pressed during the vend. Press **J** to switch back and forth between these two choices.

•   "PQRS" is the machine configuration code, explained as follows:

Machine Type Configuration

Enter for (P)	Definition
1	Twin Center
2	Reserved for alternate use

International Coffee, Soup, and Sugar Substitute Configuration

Enter for (Q)	Definition
1	Canister 5 is not used
2	Canister 5 contains sugar substitute
3	Canister 5 contains soup or international coffee
4	Canister 5 contains topping mix

SINGLE BREW   A machine with only one brewed selection (the second selection is freeze dried).

DUAL BREW   A machine with two brewed selections.

Brewer Configuration

Enter for (R)	Definition	Qty. of Brewers	Condiment Sets
1	Single brew	One	Single
2	Dual brew	One	Single
3	Dual brew	Two	Single
4	Single brew	One	Dual
5	Dual brew	Two	Dual
6	Freeze Dry	None	Single
7	Freeze Dry	None	Dual

Canister Mapping (See figure below)

Enter for (S)	Menu Selection Letters for Canister Numbers		
	3 (Single condiment only)	2	1
1	Single brew	B	A
2	Dual brew	A	B
3	Dual brew	F	A
4	Single brew	A	F
5	Dual brew	F	B
6	Freeze Dry	B	F

INDEX: A = Coffee B = Decaf C = Tea
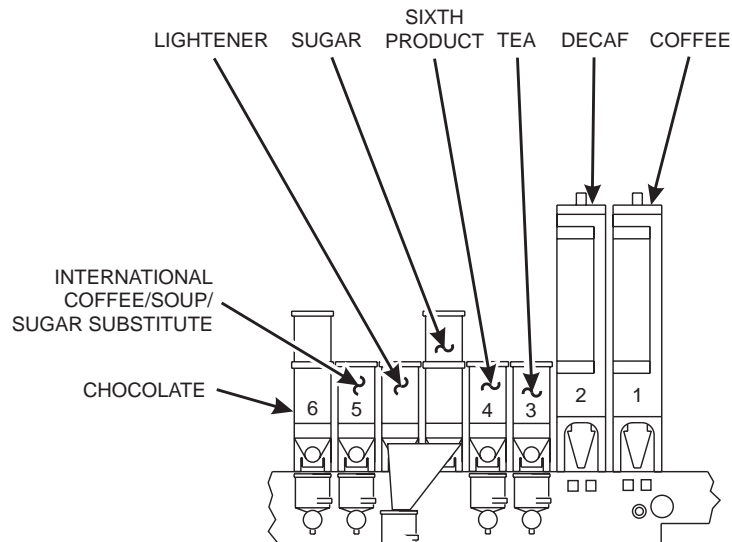
☞ **SET UP XYZ SELECTION OPTIONS (SUPERVISOR MODE ONLY)**

The XYZ selections are made like any A through H selection, except they use cold water and ice in addition to hot water. For example, pressing **X** will get you a cup of iced coffee, if the machine is so configured.

1. Press [7 PRODUCT CONFIG.] and [↓] until the display shows *XYZ REF*. This display shows which **A** through **H** drinks are the basis of the X, Y, Z selections. In this example, pressing **X** will vend an **A** selection (usually coffee) made with cold water and ice. Pressing **Y** will vend an **E** selection with cold water and ice, and so forth.

2. Press any selection letter (A through H) to assign it to the **X** selection. Press any selection letter (A through H) to assign it to the **Y** selection. Press any selection letter (A through H) to assign it to the **Z** selection.

3. CONTINUE

> Obviously, some hot water is needed to brew coffee and tea, so you will be able to specify the amount of hot water, cold water, and ice used in these drinks in the **SETUP HOT DRINKS menu.**

☞ **ASSIGN CUP SIZES TO SELECTIONS (SUPERVISOR MODE ONLY)**

Under some circumstances, you may not want a certain selection to use one of the cup sizes in your machine. For example, you may not want to vend cold drinks in the regular size cups. Espresso is normally served only in regular cups, so you probably will not want it to be available in large or jumbo cups.

1. Press $\boxed{7\ \text{PRODUCT CONFIG.}}$, then press $\boxed{\downarrow}$ until the display shows something like this:

   0. ABCDEFGH. This display means that the regular size cup (*0*) is available for all selections (A - H).

2. You can either change this size cup, or press $\boxed{\downarrow}$ to display the large (*1*) cup size, or the jumbo (*2*) cup size screens (if your machine is so configured).

3. Press the appropriate letter to toggle the display on or off. A selection that doesn't vend the displayed size cup has its letter replaced by a dash (**-**)**.**

   NOTE

   Press $\boxed{*\ \text{TEST START}}$ to display all selections; press $\boxed{\#\ \text{CODE CLEAR}}$ to clear all selections.

4. Press to display cold selections (*0. XYZ56789*).

   Typical configurations could be as follows:

   0. ABCDEFGH ---------- = only hot drinks are using the regular size cup
   1. ABCDEFGHXYZ56789 = all selections use the large size cup
   2. --------XYZ56789 = only cold drinks are using the jumbo size cup

5. CONTINUE

☞ **DISABLE SELECTIONS IN THE MERCHANDISER**

1. Press [7 PRODUCT CONFIG.], then press [⬇] until the display shows something like this:

   LK. ABCDEFGH. This display means that all regular size selections (A - H) are not available for vending. An available selection has its letter replaced by a dash (-)

2. Press the appropriate letter to toggle the display on or off.

NOTE

Press [* TEST START] to lock all selections; press [# CODE CLEAR] to unlock all selections.

3. Press [EDIT] to display cold selections (*LK. XYZ56789*).

NOTE

Unconfigured selections will not appear in the display.

4. CONTINUE

☞ **SET UP CUP SIZES**

Make sure the cup sizes you select agree with the cups you have actually loaded during setup.

1. Press ⟨7 PRODUCT CONFIG.⟩, then press ⟨⬇⟩ until the display shows *X. Y. Z. OZ*. "X" is the currently selected drink size for the #2 cup ring, "Y" is the currently selected drink size for the #1 cup ring, and "Z" is the currently selected drink size for the #3 cup ring.

NOTE
The #3 cup ring size will not be displayed until it is programmed in for the first time.

2. Press ⟨EDIT⟩ to enable or disable the #3 cup ring. Press ⟨1 PRICE⟩ to change the #1 cup ring size, press ⟨2 FREE VEND INSERT⟩ to change the #2 cup ring size, press

⟨6 ↩ -⟩ to change the #3 cup ring size.

3. Any changes made to the cup sizes must be "locked in". There are two ways to do this:

   a. If you are keeping some cup sizes the same, or putting the cups in different cup rings, press and hold ⟨✳ TEST START⟩. The display momentarily shows *CLEARING*, two beeps sound, then shows *FINISHED*. This will reassign the old throw times to the new cup ring, if possible.

   b. If you are loading all different size cups, or want to load all new default times, press and hold . The display momentarily shows *CLEARING*, two beeps sound, then shows *FINISHED*. This will reload the factory default times for all cup sizes, clearing any custom throw times you have established. (See the tables on the following pages for the factory default times.)

4. CONTINUE

☞ **SET UP A HOT DRINK**

Be sure that the cup sizes you set in **SET UP CUP SIZES** agree with the cup sizes actually in your machine. All procedures for setting up the hot drinks are similar, so this example will demonstrate how to set up the A selection, regular size fresh brew coffee.

1. Press [7 PRODUCT CONFIG.], then press [⬇], until the display shows **SETUP - ***. The star (✳) represents the selection (A, B, etc.). The dash (-) represents the size of the selection.

2. Press **A**. (If you were setting up the A selection for the large size drink, you would press 1 first, then A.) The display shows **WAT. A 9.65**. This means that the currently set water throw time for the A selection is 9.65 seconds. Enter a new time if desired.

3. Press [⬇]. The display shows **DRY. A .40**. This means that the currently set dry product throw time for the A selection is .40 seconds. Enter a new time if desired.

4. Pressing [⬇] after each display will cause the following screens to appear:

   DRY. A+ View and change the settings for an extra strong drink
   SUG. A View and change the settings for the sugar throw time
   SUG. A+ View and change the settings for extra sugar throw time
   LIT. A View and change the settings for the lightener throw time
   LIT. A+ View and change the settings for extra lightener throw time
   SUB. A View and change the settings for the sugar substitute throw time
   SUB. A+ View and change the settings for extra sugar substitute throw time
   STP. A View and change the steep time
   STP. A+ View and change the steep time for an extra strong drink
   AIR. A View and change the air compressor running time

CONTINUED . . .

5. *WHP.AXXX* Press to view and change the whipper settings as follows:
   ON-The last 3 seconds of the drink is always whipped
   ON+The whole drink is always whipped
   OFFThe drink is never whipped

* *If J + is selected (see VIEW MACHINE OPTIONS):*
   OPT-The last 3 seconds of the drink is whipped only when the J key is
   pressed
   OPT+The whole drink is whipped only when the J key is pressed

* *If J - is selected (see VIEW MACHINE OPTIONS):*
   OPT-The last 3 seconds of the drink is whipped unless the J key is pressed
   OPT+The whole drink is whipped unless the J key is pressed

DIFFERENCES:

Some selections will not show all of these items. The **E** selection will have some
additional selections:

*WA.2E*View and set the water throw time for the cappuccino second product
(chocolate)
*DR.2E*View and set the chocolate throw time for cappuccino

The **X Y Z selections have additional options:**
*WAT.1X*View and change the settings for the hot water throw time (X selec-
tion shown)
*CLD.1X*View and change the settings for the cold water throw time (X selec-
tion shown)
*ICE.1X*View and change the settings for the ice throw time (X selection
shown)

OPTIONS:

a. At any of the preceding displays, you can press [TEST/START button] to test throw

   that item.

b. At any of the preceding displays, you can press **∗ or # (on the selection switch**

   panel) to step through a list of that item's throw times for other selections

   where that item is active. For example, pressing # at the *WAT.A* display will

   show the throw time for *WAT.B*. This is a handy way to move from one selection

   to another without going to the *SETUP* screen first.

NOTE

If you try to set up a selection that is not configured, the
SETUP screen will remain in the display.

6.   CONTINUE

☞ **COLLECTING DRY PRODUCT GRAM THROWS**

Measuring the gram throw allows you to get the right amount of dry product or condiment into your hot drink. To do this, you need a container to catch the product throw and an accurate gram scale to measure its weight.

1. Make a measuring container by cutting down a paper cup until it fits under the canister spout as shown.
2. Weigh the measuring cup and zero the gram scale accordingly.
3. Make 5 test throws as instructed in the programming steps.
4. Weigh each test throw, then add all 5 weights together and divide by 5 to get an average weight.
5. If necessary, adjust the throw time and repeat steps 3 and 4 until you get the correct product or condiment weight.

Tables D1 and D2 show the factory default settings for the various dry products sold by the merchandiser. They are good starting points for you to use in setting up your machine. In the end, the amount of dry product or condiments you use in your drinks depends upon taste and manufacturers' recommendations. Recommended weights and times are for guidance only, and you do not have to adhere to them.

SUGAR SUBSTITUTE
LIGHTENER
SUGAR
CUP POSITION FOR TEST THROW
CHUTE
MIXING BOWL
COVER

COLLECTING CONDIMENT THROWS

FRESH BREW COFFEE CANISTER
CHUTE
CUP POSITION FOR TEST THROW

COLLECTING INGREDIENT THROWS

Table D1. Dry Product Weight and Throw Time Factory Default Settings

	Selection	Weight (in grams) per size cup						
		Throw times (in seconds) per size cup						
		5 oz	7 oz	8 oz	9 oz	10 oz	12 oz	16/18 oz
A	Fresh brew coffee	5.70 1.60	8.00 2.20	9.00 2.50	10.00 2.80	11.00 3.10	13.00 3.65	
A	Freeze dry coffee	0.90 0.20	1.20 0.30	1.50 0.40	1.60 0.50	1.80 0.55	2.20 0.70	
A	Strong freeze dry coffee	1.10 0.25	1.50 0.40	1.80 0.55	2.00 0.65	2.20 0.70	2.60 0.90	
B	Fresh brew decaf	5.70 1.6	8.00 2.20	9.00 2.50	10.00 2.80	11.00 3.10	13.00 3.65	
B	Freeze dry decaf	0.90 0.15	1.20 0.25	1.50 0.35	1.60 0.40	1.80 0.45	2.20 0.60	
B	Strong freeze dry decaf	1.10 0.20	1.50 0.35	1.80 0.45	2.00 0.50	2.20 0.60	2.60 0.75	
C	Soluble Product	1.10 2.55	13.5 3.40	16.2 4.10	17.8 4.50	19.7 5.00	23.7 6.00	
D	Fresh brew coffee ESPRESSO	5.70 1.60	8.00 2.20	9.00 2.50	10.00 2.80	11.00 3.10	13.00 3.65	
D	Freeze dry coffee ESPRESSO	0.90 0.20	1.20 0.30	1.50 0.40	1.60 0.50	1.80 0.55	2.20 0.70	
D	Strong freeze dry coffee ESPRESSO	1.05 0.25	1.50 0.40	1.80 0.55	2.00 0.65	2.20 0.70	2.60 0.90	
E	Fresh brew coffee CAPPUCCINO	5.70 1.60	8.00 2.20	9.00 2.50	10.00 2.80	11.00 3.10	13.00 3.65	
E	Freeze dry coffee CAPPUCCINO	0.90 0.20	1.20 0.30	1.50 0.40	1.60 0.50	1.80 0.55	2.20 0.70	
E	Strong freeze dry coffee CAPPUCCINO	1.05 0.25	1.50 0.40	1.80 0.55	2.00 0.65	2.20 0.70	2.60 0.90	
F	Fresh brew tea	2.50 0.25	3.00 0.30	4.00 0.40	4.50 0.45	6.00 0.60	7.50 0.75	
F	Instant tea	0.90 0.70	1.20 1.00	1.50 1.25	1.60 1.30	1.80 1.60	2.20 1.85	
F	Strong instant tea	1.10 0.90	1.50 1.25	1.80 1.60	2.00 1.75	2.20 1.85	2.60 2.10	
G	Chocolate	17.00 3.25	24.00 4.60	28.00 5.40	31.00 5.90	34.00 6.50	41.00 7.80	

Table D1. Dry Product Weight and Throw Time Factory Default Settings

Selection		Weight (in grams) per size cup						
		Throw times (in seconds) per size cup						
		5 oz	7 oz	8 oz	9 oz	10 oz	12 oz	16/18 oz
H	Soup	4.30 0.80	6.00 1.15	7.00 1.30	7.60 1.40	8.50 1.60	10.20 1.90	
X	I ced Coffee - fresh brew						23.50 6.50	33.25 9.20
X	Iced Coffee - freeze dry						2.20 0.70	3.15 1.00
X	Strong Iced Coffee - freeze dry						2.50 0.80	3.65 1.15
Y	Iced cappuccino - fresh brew						23.50 6.50	33.25 9.20
Y	Iced cappuccino - freeze dry						2.20 0.70	3.15 1.00
Y	Strong Iced cappuccino - freeze dry						2.50 0.80	3.65 1.15
Y	Iced cappuccino - second product (chocolate)						12.00 2.30	17.00 3.25
Z	Fresh brew iced tea						13.56 1.35	18.75 1.85
Z	Freeze dry iced tea						4.25 3.30	6.00 5.00
Z	Strong freeze dry iced tea						4.85 4.00	6.70 5.65

Table D2. Dry Condiment Weight and Throw Time Factory Default Settings

Selection	Weight (in grams) per size cup						
	Throw times (in seconds) per size cup						
	5 oz	7 oz	8 oz	9 oz	10 oz	12 oz	16/18 oz
Chocolate used in cappuccino	3.10 0.45	4.50 0.65	5.00 0.80	5.80 0.85	6.20 0.95	7.60 1.15	
Sugar used in espresso	2.10 0.20	3.00 0.25	3.50 0.30	4.00 0.35	4.50 0.40	5.50 0.50	
Extra sugar used in espresso	3.00 0.25	4.00 0.35	4.50 0.40	5.00 0.45	5.50 0.50	6.50 0.60	
Sugar used in cappuccino	3.50 0.30	5.10 0.40	6.00 0.50	6.80 0.55	7.70 0.65	9.40 0.85	
Extra sugar used in cappuccino	4.60 0.35	6.80 0.55	7.70 0.65	8.50 0.75	9.40 0.85	11.00 1.00	
Lightener used in cappuccino	1.00 0.60	1.20 0.70	1.70 1.00	2.15 1.25	2.50 1.45	4.00 2.25	
Extra lightener used in cappuccino	1.20 0.70	1.70 1.00	2.15 1.25	2.50 1.45	3.00 1.70	4.50 2.55	
Lightener used in iced cappuccino	4.00 2.25	5.63 3.15					
Extra lightener used in iced cappuccino	4.60 2.60	6.50 3.65					
Sugar used in tea	4.20 0.40	6.00 0.50	7.00 0.60	8.00 0.70	9.00 0.80	11.00 1.00	15.55 1.46
Extra sugar used in tea	5.50 0.50	8.00 0.70	9.00 0.80	10.00 0.90	11.00 1.00	13.00 1.20	18.40 1.70
Lightener used in tea	1.20 0.70	1.50 0.85	2.00 1.15	2.50 1.45	3.00 1.70	4.00 2.25	5.65 3.15
Extra lightener used in tea	1.50 0.85	2.00 1.15	2.50 1.45	3.00 1.70	3.50 2.00	4.50 2.60	6.50 3.65
Sugar substitute used in tea	0.60 0.30	0.85 0.40	1.00 0.50	1.10 0.55	1.30 0.65	1.50 0.75	
Extra sugar substitute used in tea	0.80 0.40	1.10 0.55	1.30 0.65	1.40 0.70	1.60 0.80	1.90 0.95	
Sugar	4.20 0.40	6.00 0.50	7.00 0.60	8.00 0.70	9.00 0.80	11.00 1.00	15.55 1.40
Extra sugar	5.50 0.50	8.00 0.70	9.00 0.80	10.00 0.90	11.00 1.00	13.00 1.20	18.40 1.70

Table D2. Dry Condiment Weight and Throw Time Factory Default Settings (Continued)

Selection	Weight (in grams) per size cup						
	Throw times (in seconds) per size cup						
	5 oz	7 oz	8 oz	9 oz	10 oz	12 oz	16/18 oz
Lightener	1.20 0.70	1.50 0.85	2.00 1.15	2.50 1.45	3.00 1.70	4.00 2.25	5.65 3.15
Extra lightener	1.50 0.85	2.00 1.15	2.50 1.45	3.00 1.70	3.50 2.00	4.50 2.60	6.50 3.65
Sugar substitute	0.60 0.30	0.85 0.40	1.00 0.50	1.10 0.55	1.30 0.65	1.50 0.75	
Extra sugar substitute	0.80 0.40	1.10 0.55	1.30 0.65	1.40 0.70	1.60 0.80	1.90 0.95	

The actual gram weight of a product or condiment throw will vary depending upon the type of product or condiment used. The weights given are approximate based upon factory testing.

☞ **COLLECTING HOT WATER THROWS**

National Vendors recommends the factory default times be used for hot water throws to ensure proper mixing. Table W1 gives the factory default water throw times for the various size cups and product selections.

> **WARNING**
> This water is *HOT*! Be careful.

For a non-brewed selection, collect the water throws as follows:

1. Place a cup in the cup delivery station.
2. Ensure the merchandiser is using the factory defaults for the cup sizes (see **SET UP CUP SIZES**).
3. Initiate the water throw for a selection.
4. Remove the cup and pour the water into a graduated cylinder.
5. Refer to table W1 for the correct volume of water.
6. Adjust the **THROW TIME** for that selection and repeat steps 3 through 5 until the correct volume of water is thrown.
7. If you are unable to get the desired amount of water, reset the throw time to the factory default, then adjust the water valves. You may then readjust the throw times to fine-tune your water throws.

For a brewed selection, collect the water throws as follows:

1. Remove water supply hose from the brewer as shown.
2. Place the end of the hose in a graduated cylinder.
3. Follow steps 3 through 7 given for the non-brewed selection.
4. Replace the water supply hose on the brewer.

CUP FOR TAKING
WATER THROWS

CUP DELIVERY
STATION

REMOVE THIS
TUBE

GRADUATED
CYLINDER
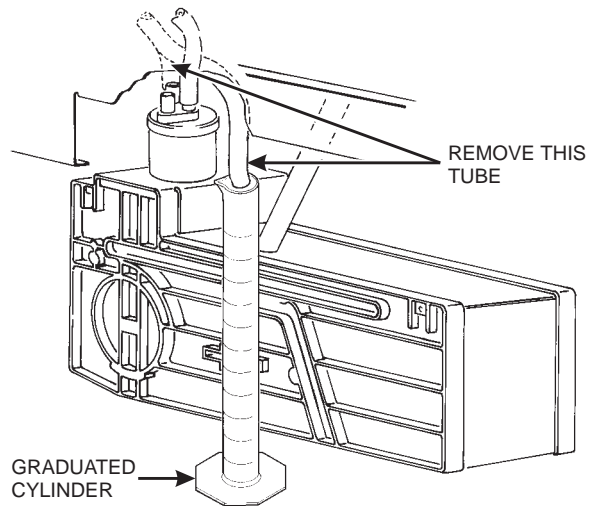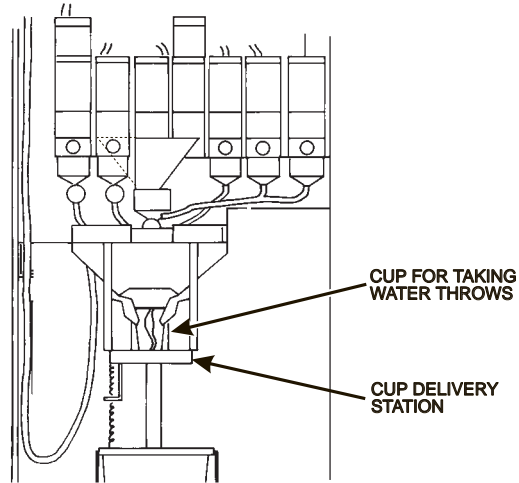
Table W1: Water Throw Default Times and Volumes Selection

	Selection	Time (in seconds) per size cup						
		Volume (in ml) per size cup						
		5oz	7oz	8oz	9oz	10oz	12oz	16/18 oz
A	Fresh brew coffee	4.50 130	6.40 190	7.50 220	8.20 240	9.00 265	11.00 315	
A	Freeze dry coffee	5.90 120	8.20 170	9.65 200	10.20 210	11.70 240	14.80 305	
B	Fresh brew decaf	4.50 130	6.40 190	7.50 220	8.20 240	9.00 265	11.00 315	
B	Freeze dry decaf	5.90 120	8.20 170	9.65 200	10.20 210	11.70 240	14.80 305	
C	6th product	5.90 100	8.20 140	9.65 170	10.20 180	11.70 200	14.80 240	
D	Espresso (FD)	2.95 60	4.10 85	4.85 100	5.10 105	5.85 120	7.40 153	
D	Espresso (FB)	1.10 67	1.50 91	1.75 106	1.90 115	2.10 127	2.45 148	
F	Tea (FD)	5.90 120	8.20 170	9.65 200	10.20 210	11.70 240	1480 305	
F	Tea (FB)	4.50 130	6.40 190	7.50 220	8.20 240	9.00 265	11.00 315	
G	Chocolate	5.90 100	8.20 140	9.65 170	10.20 180	11.70 200	14.80 240	
H	Soup or plain water	5.90 110	8.20 160	9.65 190	10.20 200	11.70 230	14.80 280	
X	Iced Coffee - fresh brew						4.00 105	5.00 145
X	Iced Coffee - freeze dry						5.00 105	6.00 125
Y	Iced cappuccino - fresh brew						4.00 105	5.00 145
Y	Iced cappuccino - freeze dry						5.00 105	6.00 125
Y	Iced cappuccino - second product						3.80 65	5.40 95
Z	Fresh brew iced tea						4.00 105	5.00 145
Z	Freeze dry iced tea						5.00 105	7.00 145
Z	Strong freeze dry iced tea						5.50 115	7.70 160

RECIPES

CAPPUCCINO

Cappuccino is made with various ratios of chocolate to coffee, according to taste. Lightener (E timer) is also used for cappuccino. Table D2 shows numerous different ways to make cappuccino for each size of cup in your machine. For example, the default chocolate-to-coffee ratio of 15/85 in a 7 oz. cup consists of the following:

- A chocolate throw (product I) lasting 0.65 seconds, providing 15% of the normal chocolate throw (approximately 4.5 grams*).
- A water throw for the chocolate (water I) lasting 2.65 seconds (chocolate product throw plus 2 seconds to ensure the mixing bowl is fully rinsed). The volume is about 56 ml, depending upon how the flow rate is adjusted.
- A throw for cappuccino coffee (product E) equal to a normal coffee (product A) throw.

- OR -

- A water throw for the freeze dry coffee selection (water E) lasting for 5.50 seconds (101 ml).

- OR -

- A water throw for the fresh brew coffee selection (water E) lasting for 2.00 seconds (115 ml). In either case the water volume is enough to fill the remainder of the cup.

The actual mixing sequence is as follows:

1. The coffee portion of cappuccino is made using the same canister/valve combination as the normal (A) coffee.
2. After the coffee is completely in the cup, the chocolate portion is made with the selection G canister/valve combination. This gives the drink its traditional "layering".

> * Chocolate weights will vary with different products.

To "fine tune" your Cappuccino drink to your exact taste, set a ratio close to what you like (between 5% and 50%), then turn ratio OFF. Adjust the individual timers until you are satisfied. You may find it necessary to cut down on the amount of sweetener available to a cappuccino drink with a high ratio of chocolate, as the chocolate contains sweetener of its own.

Table D3. Dry Product Settings for Cappuccino (5 oz. cup)

%	Weight (gm)	Timing (sec)	Water Settings Volume (ml)	Water Settings Timing (sec)
CHOCOLATE				
15 (default)	3.10	0.45	52	2.45
20	4.10	0.65	54	2.65
25	5.00	0.80	56	2.80
30	5.80	0.95	59	2.95
35	6.70	1.10	61	3.10
40	7.60	1.30	63	3.30
45	8.40	1.45	66	3.45
50	9.30	1.60	68	3.60
FREEZE DRY COFFEE				
85 (default)			57	3.40
80			54	3.20
75			52	3.05
70			49	2.95
65			47	2.75
60			44	2.55
55			41	2.40
50			38	2.25
FRESH BREW COFFEE				
80			55	2.50
75			53	2.40
70			49	2.30
65			47	2.20
60			45	1.95
55			41	1.85
50			38	1.75

Table D4. Dry Product Settings for Cappuccino (7 oz. cup)

%	Weight (gm)	Timing (sec)	Water Settings	
			Volume (ml)	Timing (sec)
CHOCOLATE				
15 (default)	4.50	0.65	56	2.65
20	5.80	0.90	59	2.90
25	7.10	1.15	63	3.15
30	8.00	1.35	65	3.35
35	9.30	1.60	69	3.60
40	10.50	1.80	72	3.80
45	11.80	2.05	76	4.05
50	13.10	2.30	79	4.30
FREEZE DRY COFFEE				
85 (default)			101	5.50
80			97	5.25
75			92	5.00
70			90	4.80
65			86	4.55
60			81	4.35
55			77	4.10
50			72	3.85
FRESH BREW COFFEE				
85 (default)			115	4.35
80			110	4.15
75			104	3.90
70			102	3.80
65			96	3.60
60			92	3.50

Twin Drink Center Operator's Guide

Table D5. Dry Product Settings for Cappuccino (8 oz. cup)

%	Weight (gm)	Timing (sec)	Water Settings Volume (ml)	Water Settings Timing (sec)
CHOCOLATE				
15 (default)	5.40	0.80	59	2.80
20	6.80	1.05	62	3.05
25	8.00	1.35	66	3.35
30	9.30	1.60	69	3.60
35	11.00	1.85	73	3.85
40	12.70	2.15	78	4.15
45	14.00	2.40	82	4.40
50	15.65	2.70	85	4.70
FREEZE DRY COFFEE				
85 (default)			132	6.80
80			128	6.55
75			122	6.25
70			117	6.00
65			112	5.75
60			108	5.45
55			105	5.20
50			91	4.90
FRESH BREW COFFEE				
85 (default)			153	5.20
80			150	5.10
75			144	4.90
70			137	4.70
65			131	4.45
60			124	4.25
55			118	4.00
50			112	3.80

Table D6. Dry Product Settings for Cappuccino (9 oz. cup)

%	Weight (gm)	Timing (sec)	Water Settings	
			Volume (ml)	Timing (sec)
CHOCOLATE				
15 (default)	5.8	0.85	60	2.85
20	7.6	1.15	64	3.15
25	8.8	1.45	68	3.45
30	10.5	1.75	72	3.75
35	12.3	2.05	77	4.05
40	13.9	2.35	82	4.35
45	15.3	2.65	85	4.65
50	17.1	2.95	90	4.95
FREEZE DRY COFFEE				
85 (default)			140	7.30
80			134	7.00
75			130	6.70
70			125	6.40
65			119	6.10
60			113	5.80
55			109	5.50
50			105	5.20
FRESH BREW COFFEE				
85 (default)			172	5.85
80			155	5.65
75			152	5.45
70			144	5.10
65			138	4.90
60			133	4.70
55			126	4.45
50			124	4.15

Table D7. Dry Product Settings for Cappuccino (10 oz. cup)

%	Weight (gm)	Timing (sec)	Water Settings Volume (ml)	Timing (sec)
CHOCOLATE				
15 (default)	6.2	0.95	60	2.95
20	8.0	1.30	65	3.30
25	9.8	1.60	70	3.60
30	11.3	1.95	74	3.95
35	13.6	2.25	80	4.25
40	15.3	2.60	85	4.60
45	17.1	2.90	90	4.90
50	18.7	3.25	94	5.25
FREEZE DRY COFFEE				
85 (default)			166	8.70
80			161	8.35
75			155	8.05
70			150	7.70
65			143	7.40
60			137	7.05
55			131	6.75
50			126	6.40
FRESH BREW COFFEE				
85 (default)			185	6.65
80			178	6.30
75			172	6.10
70			167	5.85
65			159	5.65
60			152	5.30
55			144	5.10
50			138	4.90

Table D8. Dry Product Settings for Cappuccino (12 oz. cup)

%	Weight (gm)	Timing (sec)	Water Settings	
			Volume (ml)	Timing (sec)
CHOCOLATE				
15 (default)	7.6	1.15	64	3.15
20	9.8	1.55	70	3.55
25	11.8	1.95	76	3.95
30	13.9	2.30	82	4.30
35	16.1	2.70	87	4.70
40	18.2	3.10	93	5.10
45	20.4	3.50	99	5.50
50	22.3	3.90	105	5.90
FREEZE DRY COFFEE				
85 (default)			223	11.20
80			215	10.80
75			208	10.40
70			201	10.10
65			193	9.70
60			185	9.30
55			178	8.90
50			171	8.50
FRESH BREW COFFEE				
85 (default)			231	8.26
80			223	8.05
75			215	7.70
70			207	7.50
65			201	7.15
60			193	6.85
55			185	6.60
50			178	6.30

CAFFEE LATTE

Caffe Latte has a rich, robust coffee flavor. It is a full-bodied hot beverage with extra creamer, whipped to frothy perfection, with sugar optional. Try this recipe to expand your gourmet product selections and increase premium pricing opportunities.

ENTER THE SUPERVISOR CODE:

1. Press [# CODE CLEAR]. The display shows: *ENTER CODE.* You must enter the four-digit supervisor code within 6 seconds to gain access.
    When you have entered the right code, you will hear two beeps and see *SUPERVISOR* in the display.

SET THE MACHINE TO VEND A LARGE "D" SELECTION:

1. Press the following keys: [7 PRODUCT CONFIG.], then press [↓] until the display shows something like this: *1. ABCDEFGH*. Make sure the "*D*" is displayed. If not, press "D" on the selection switch panel to display the "*D*".

2. Press [EXIT STOP] to return to the standby message.

SET UP YOUR SELECTION:

Follow the instructions in the **PRODUCT CONFIGURATION** section of this manual.

1. Make sure the machine is configured to use 12 oz. cups.
2. Set up the 1D selection as follows:
    a. Coffee: 17 grams
    b. Sugar: 2.5 grams
    c. Lightener: 5 grams
    d. Water: 6 ounces (about 177 ml)
    e. Steep time: 12.5 seconds
    f. Whip: ON +

To get these measurements, refer to **PRODUCT CONFIGURATION**. See **COLLECTING DRY PRODUCT GRAM THROWS**, and perform test throws of the dry ingredients. See **COLLECTING WATER THROWS**, and perform test water throws.

☞ **SET UP A COLD DRINK**

Be sure that the cup sizes you set in **SET UP CUP SIZES** agree with the cup sizes actually in your machine. All procedures for setting up the cold drinks are similar, so this example will demonstrate how to set up the 5 selection.

1. Press [7 PRODUCT CONFIG.] then [↓] until the display shows *SETUP - *.

2. Press **1 and 5**. (For the "6" selection you would press 1 and 6, and so on.) The display shows *CLD.15 6.80*. This means that the currently set non-carbonated cold water throw time for this selection is 6.80 seconds. Enter a new time if desired.

3. Press [↓]. The display shows *CRB.15 6.80*. This means that the currently set carbonated cold water throw time for this selection is 6.80 seconds. Enter a new time if desired.

4. Pressing [↓] after each display will cause the following screens to appear:

   SRP.15 View and change the syrup throw time

   PCT.15 View and change the settings for the percentage of carbonation (0-100)

   ICE.15 View and change the settings for the ice throw time

   ICE.15+ View and change the settings for extra ice throw time

5. At any of the preceding displays, you can press [* TEST START] to test throw that item.

> **Hint: Set water and syrup times to provide a full cup without ice. The throws will adjust automatically for the amount of ice to be thrown.**

6. CONTINUE

☞ **VIEW SOFTWARE VERSION**

1. Press [7 PRODUCT CONFIG.] then [↓] until the display shows VER XXXXXX. "XXXXXX" represents the current software version number.

2. CONTINUE

☞ **COLLECTING COLD WATER AND SYRUP THROWS**

1. Place a cup in the cup delivery station.
2. Ensure the merchandiser is using the factory defaults for the cup sizes (refer to **SET UP CUP SIZES).**
3. Initiate the water (or syrup) throw for a selection.
4. Remove the cup and pour the liquid into a graduated cylinder.
5. Compare the measured throw to the volume as shown in table W2.
6. Adjust throw times to get the desired volume.
7. If you are unable to get the right volume by adjusting the throw times, reset throw times to the factory default, then adjust the water (or syrup) valve for that selection (see **ADJUSTMENTS AND MINOR MAINTENANCE).** Repeat steps 3 through 7 until the correct volume is thrown.

Table W2: Cold Water and Syrup Throw Default Times and Volumes

CUP SIZE		SYRUP THROW			WATER THROW (NO ICE)			ICE THROW		
		VOLUME		TIME (SEC)	VOLUME		TIME (SEC) OZ	VOLUME		TIME (SEC) OZ
OZ.	ML.	OZ.	ML.	(SEC)	OZ.	ML.	OZ	GR.	OZ.	OZ
5	148	0.7	21	3.4	3.6	107	5.1	42.5	1.5	1.85
7	210	1.0	30	4.8	5.0	150	7.2	42.5	1.5	1.85
8	237	1.1	33	5.3	5.7	169	8.1	42.5	1.5	1.85
9	270	1.4	40	6.4	6.7	200	9.6	42.5	1.5	1.85
10	295	1.5	45	7.2	7.5	222	10.7	42.5	1.5	1.85
12	355	1.7	50	8.0	8.4	250	12.0	56.7	2.0	2.50
16	473	2.3	69	11.0	11.7	345	16.6	85	3.0	3.50
18	532	2.7	79	12.6	13.3	395	19.0	85	3.0	3.50

Table C1. Cold Water and Ice Volume and Throw Time Factory Default Settings

Selection		Weight (in oz) per size cup Throw times (in seconds) per size cup			
		12 oz		16/18 oz	
		Cold Water	Ice	Cold Water	Ice
X	Iced coffee - fresh brew	60 2.85	4.75 5.50	180 8.60	5.00 6.00
X	Iced coffee - freeze dry	50 2.40	5.00 6.00	190 9.00	5.00 6.00
Y	Iced cappuccino - fresh brew		4.55 5.30		7.75 9.00
Y	Iced cappuccino - freeze dry		4.55 5.30		7.75 9.00
Z	Iced tea - freeze dry	50 2.40	5.00 6.00	165 8.00	5.00 6.00
Z	Iced tea - fresh brew	60 2.85	4.75 5.50	180 8.60	5.00 6.00

☞ **VIEW OR SET THE HOT WATER TANK TEMPERA-TURE**

1. Press [7 PRODUCT CONFIG.] then [⬇] until the display shows 𝑆𝐸𝑇 202 °𝐹. In this example, 202° is the water tank temperature setpoint in degrees Fahrenheit. If a decimal point appears next to the "F", the heater is on.

2. If desired, enter a new setpoint in the accepted range of 149° - 205° F (65° - 96° C).

NOTE
The lower limit for vending is 20× below setpoint, up to a maximum of 180× F (82× C).

3. To change display units (replace the "F" with a "C" for Celsius), press [EDIT].

4. CONTINUE

☞ **SET THE AUTOMATIC BREWER RINSE TIME (BREWER EQUIPPED MACHINES ONLY)**

The brewer will be automatically rinsed by one of two methods: You can specify a set time of day when the brewer is rinsed, or you can specify that rinsing takes place a set time after the last brewed selection is vended.

1. 1. Press then until the display shows one of the following:
SAN.TIM 4.5 The time of day (in hours and tenths of hours) the machine rinses the brewer. In this example, brewer rinse takes place each day at 4:30 am. Range: 0.0 - 23.9 in .1 hour (6 minute) increments.

   - OR -

   SAN.HRS 2.5. In this example, brewer rinse takes place 2.5 hours after the last vend. Range: 2.0 - 12.5 hours, in .1 hour (6 minute) increments.

   NOTE
   If 24 hours passes without a vend, no rinsing will take place.
   This eliminates unnecessary rinsing over a weekend or holiday.

2. Whichever one of the two choices is displayed is the method by which the

   brewer will be rinsed. Press | EDIT | to switch between these two displays.

   Enter a new time, if desired.

3. CONTINUE

☞ **SET THE AUTOMATIC MIXING BOWL RINSE TIME**

Mixing bowl(s) can be automatically rinsed by one of two methods: You can specify a set time of day when the bowl is rinsed, or you can specify that rinsing takes place a set time after the last selection is vended.

1. Press [7 PRODUCT CONFIG.] then [⬇] until the display shows one of the following:

    RIN.HRS 2.5 - This is how soon the machine rinses the bowls after a vend. In this example, bowl rinse takes place 2.5 hours after the last vend. Range: 2.0 - 12.5 hours, in .1 hour (6 minute) increments.

    - OR -

    RIN.TIM 4.5 - The time of day (in hours and tenths of hours) the machine rinses the bowls. In this example, bowl rinse takes place at 4:30 am. Range: 0.0 - 23.9 in .1 hour (6 minute) increments.

    NOTE
    If 24 hours passes without a vend, no rinsing will take place.
    This eliminates unnecessary rinsing over a weekend or holiday.

    - OR -

    RINSE OFF - No bowl rinse takes place.

2. Press [EDIT] to switch between these options, and the number keys to enter new values.

3. CONTINUE

☞ **VIEW SOFTWARE VERSION**

1. Press [3 key], and press [↓ key] until the display shows *VER XXXXXX*.

   "XXXXXX" represents the curent software version number.

2. CONTINUE

☞ **SET THE TIME OF DAY**

1. Press [8 TIME OF DAY key]. The display shows *TIME HH.MM*. "HH.MM" is the time of

   day in 24-hour format.
2. Enter the current time using the number keys.

   NOTE
   9:00 am is entered with a leading zero, like this: 0900; 9:00
   pm is entered as 2100.

3. CONTINUE

☞ **SET THE DAY OF THE WEEK**

1. Press [8 TIME OF DAY key], and press [↓ key] until the display shows *@ SMTWTFS*. The

   letter representing the currently set day of the week will be flashing.

2. Press [EDIT key] until the correct day of the week is flashing.

3. CONTINUE

👉 **SET MONTH, DAY, AND YEAR**

1. Press [8 TIME OF DAY], and press [⬇] until the display shows *MM/DD YY*. "MM"
   is the month, "DD" is the date, YY is the year.

2. Enter the current month, date, and year using the number keys.
   For example, press the following keys to enter February 22, 2000: **0, 2, 2, 2, 0, 0**

3. Press [EDIT] to switch between MM/DD and DD/MM formats

4. CONTINUE

👉 **SET TIME-OF-DAY INHIBITED VENDING**

1. Press [8 TIME OF DAY], then press [⬇] until the display shows *INHIB - - - -*.

2. Go to the **TIME INTERVAL EDITING** procedure (page 73) for an example of how to set up time-of-day inhibited vending.

👉 **SET TIME-OF-DAY FREE VENDING**

Vending can be free up to four times a day.

1. Press [8 TIME OF DAY], then press [⬇] until the display shows *FREEV - - - -* .

2. Go to the **TIME INTERVAL EDITING** procedure (page 73) for an example of how to set up time-of-day free vending.

👉 **SET TIME-OF-DAY DISCOUNT VENDING**

Vending can be discounted up to four times a day. For example, this can be used to favor early-arriving employees.

1. Press [8 TIME OF DAY], then press [⬇] until the display shows *DISCT - - - -*.

2. Go to the **TIME INTERVAL EDITING** procedure (page 73) for an example of how to set up time-of-day discount vending

---

.

```
┌──────────┐
│ 8        │
│   TIME   │
│   OF DAY │
│ ○        │
└──────────┘
```

TIME INTERVAL EDITING

You can select up to four times of day for each special vending period.

NOTE

If two or more of these time periods overlap, the interval with the highest priority will overrule the other(s). This order of precedence is:

INHIBIT
FREEVEND
DISCOUNT

For example, if a DISCOUNT time period is scheduled for a certain area before the end of an INHIBIT time period, DIS-COUNT does not begin until the INHIBIT interval has ended for that area.

The time interval editing procedure is almost the same for the INHIBIT, FREEV-END, and DISCOUNT intervals. There is one difference for the DISCOUNT time interval, so we will use it in our example. Assume you just finished the SET TIME-OF-DAY DISCOUNT VENDING procedure. Step 1 picks up where you left off . . .

1. The display shows *DISCT - - - -* . Press the number of the time interval you want to edit, or [EDIT] to edit time interval 1 (we'll use interval 1 for this example).

2. The display shows *1.DISCT ON* or *1.DISCT OFF* This display tells you whether your time interval (represented by 1) is on or off. Press [EDIT] to change the condition of the time interval.

NOTE

If you turn an interval ON, it must be edited. You can edit a time interval now, then turn it OFF until another time.

3. Press [↓]. The display shows 1.*DSCT X* . "X" represents the discount

percentage for this period. Enter a discount percentage of 25 with the number keys. (Discount percentages of from 0 to 99 are permitted.) The machine will apply a 25% discount to each price, rounding up to the nearest nickel (or whatever is the smallest coin accepted by the coin mechanism).

4. Press [↓]. The display shows 1.*STRT X.XX.* "X.XX is the currently set

start time. Enter a new start time (24-hour format) for this interval. To enter the time for 3:30 pm, enter 1530.

5. Press [↓]. The display shows 1.*STOP X.XX.* "X.XX is the currently set

stop time. Enter a new stop time (24-hour format) for this interval. To enter the time for 6:00 pm, enter 1800. You have now established a 25% discount that starts at 3:30 pm and ends at 6:00 pm.

6. Press [↓]. The display shows 1.*@ -------* . The dashes represent the

days that this time interval is active. Pressing number keys 1 through 7 switches the days on/off. For example, press "2", "4", and "6". The display now shows
1.*@ -M-W-F-*. This discount interval is only active on Monday, Wednesday, and Friday.

7. Press [↓]. The display shows ✻*---------* . The dashes represent the

selections affected by this time interval. Press the appropriate letter key to enable a selection, press the key again to disable it. For example, pressing A, C, and E will cause the display to look like this: *A-C-E----_*, meaning that all A, C, and E selections are affected by this interval.

Press [✻ TEST START] to turn on all levels; press [# CODE CLEAR] to turn all levels off.

8. Press [↓]. The display shows 1.*MESG OFF* or 1.*MESG X.*   "OFF" means

there is no custom message selected, and "X" represents the custom message number set for this interval. Press the number key of the message (1

through 8) you want displayed. To edit this message, press [EDIT] and follow the procedure given in **EDIT CUSTOM MESSAGES** (page 77). Press 0 to turn the message OFF for this time interval.

9. CONTINUE

.

> **STANDBY MESSAGES** The message that is displayed during normal vending periods where there are no out-of-service faults on the machine.

☞ **SELECT A STANDBY MESSAGE**

1. Press [8 TIME-OF-DAY], then press [⬇] until the display shows *STANDBY XX*.

    "XX" represents the current message number selected for the standby message. Two dashes mean that the factory-set message is selected.
2. To select a message, just press the corresponding number (**1** through **8**). To display the factory-set message, press **0**.
3. The selected message (except the factory-set message) can be edited. To do

    this, press [EDIT] and follow the procedure given in **EDIT CUSTOM**

    MESSAGES (page 77).
4. CONTINUE

☞ **SELECT AN OUT-OF-SERVICE MESSAGE**

1. Press [8 TIME-OF-DAY], then press [⬇] until the display shows *SERVICE XX*.

    "XX" represents the current message number selected to display when the machine is out-of-service. Two dashes mean that the factory-set message is selected.
2. To select a message, just press the corresponding number (**1** through **8**). To display the factory-set message, press **0**.
3. The selected message (except the factory-set message) can be edited. To do

    this, press [EDIT] and follow the procedure given in **EDIT CUSTOM**

    MESSAGES (page 77)**.**
4. CONTINUE

👉 **SELECT A FREEVEND MESSAGE**

1. Press [8 TIME OF DAY], then press [⬇] until the display shows *FREEVEND XX*.

    "XX" represents the current message number selected for the message that displays when the machine is in the freevend mode. Two dashes mean that the factory-set message is selected.
2. To select a message, just press the corresponding number (**1** through **8**). To display the factory-set message, press **0**.
3. The selected message (except the factory-set message) can be edited. To do

    this, press [EDIT] and follow the procedure given in **EDIT CUSTOM**

    MESSAGES (page 77)**.**

4. CONTINUE

☞ **EDIT CUSTOM MESSAGES**

1. Press [8 TIME OF DAY], and press [⬇] until the display shows *EDIT MSG'S*. Press the number of the message you want to edit. *MESSAGE X* is displayed (X represents the message number you pressed).

2. Press [EDIT]. The message text is displayed with the first character flashing.

3. To view the message, press [✳ TEST START]. The message scrolls across the display. To stop the scrolling, press [EDIT].

4. When the character you want to change is flashing, either enter it directly, or use [3 ↰ +] and [6 ↲ -] to step through the character set until the desired character is displayed. Use the arrow keys to highlight different characters. See the section on the next page for an explanation of special keys and the character set.

SHORTCUT

Instead of stepping through the whole character set to enter a letter that is not on your keypad, enter one close to the one you want, then step to it.

Example: If you want to enter an **L**, first press [1 PRICE], then press

[6 ↲ -] six times. Your **L** should now be displayed.

THE END OF MESSAGE CHARACTER

This is the most important character in your message, because it tells the machine when the message is ended. If you don't use this character, your message will be followed by a bunch of zeros. This character can be selected either from the character set or by a direct key entry (see the next page).

ENTERING YOUR MESSAGE

Most of the keys on the control panel have a special purpose to help you create and edit your messages:

Key	Function
1 PRICE	Inserts an **R** at the flashing character.
2 FREE VEND / INSERT	Inserts a space at the flashing character.
4 MACHINE CONFIG.	Inserts an **S** at the flashing character.
5 DATA RECALL / DELETE	Deletes the current character and closes up the space.
7 PRODUCT CONFIG.	Inserts a **T** at the flashing character.
# CODE / CLEAR	Deletes the current character and leaves the space.
8 TIME OF DAY	Repeats the letter to the left of the flashing character.
9 PAY	Enters the special "end of message" character, which denotes the end of the message.
EDIT	"Pages" through the message, ten characters (one screen) at a time.
⬇ ⬆	Steps forward and backward through the message, one character at a time.
3 F1 + / **6** F2 -	Steps forward and backward through the character list, one character at a time.

AVAILABLE CHARACTERS

0	A	J	U	(	
1	B	L	V	)	
2	C	M	W	□	
3	D	N	X	P	
4	E	O	Y	□	
5	F	P	Z	-	□
6	G	Q	(SPACE)	/	?
7	H	R	_	.	□
8	I	S	$	□	0
9	J	T	.	/	▨

☞ **PAYOUT COINS**

1. Press [9 PAY]. If a dumb mech was selected, the display shows *NDQ=123*;

   if an MDB mech was selcted the display shows *PAY 123*.

2. Press [1 PRICE]. A dumb mech pays out one *N*ickel; an MDB mech pays a

   coin from tube 1. Press [2 FREE VEND INSERT]. A dumb mech pays out one *D*ime; an

   MDB mech pays a coin from tube 2. Press [3 +]. A dumb mech pays out

   one *Q*uarter; an MDB mech pays a coin from tube 3.

3. To continuously pay out coins, hold down the appropriate key.

4. CONTINUE

👉 **SET PRICES**

1. Press [1 PRICE]. The display shows ✱✱ *2.50 .25*. This display shows the maximum and minimum prices set in the machine. In this example, the maximum price is $2.50 and the minimum is $0.25.

2. CONTINUE

SET ENTIRE MACHINE TO ONE PRICE

a. Press [EDIT]. The display shows ✱✱ *X.XX*. Enter a price using the number keys. All selections in the machine are now set to this price.

SET THE PRICE OF AN INDIVIDUAL SELECTION

a. Press the number of the selection to be priced. (Example: B1.) The display shows *B1 X.XX*. Enter a price using the number keys. The selection is now priced.

b. Press another letter key, or [⬇] to price another selection.

☞　**VIEW WATER TANK AND COLD PLATE TEMPERATURE**

1.　Press [3 ◇ +]. The display shows XXX °F YYY. "XXX" is the current cold plate temperature, "YYY" is the current water tank temperature. "°F" means that both temperatures are displayed in degrees Fahrenheit (may be shown in degrees Celsius, depending upon your choice. See view or set the hot water tank temperature). A decimal point shown in the display indicates that the tank heater or compressor is operating.

2.　CONTINUE

☞　**VIEW NONRESETTABLE SALES AND VEND DATA**

1.　Press [5 DATA RECALL DELETE]. The display shows *NR$ XX.XX*. "XX.XX" is a dollar and cents figure showing the total of all sales in the machine. This is a running total, and is not resettable.

2.　Press [↓]. The display shows *NR X*. "X" is the total number of vends made by the machine. This is a running total, and is not resettable.

3.　CONTINUE

☞ **VIEW DATA TWO DIFFERENT WAYS**

Paid sales and vends can be viewed two different ways: By whole machine or by individual selection. The first screen of the data item shows its machine total.

- To view the data by individual selection, press the letter and number of the selection you want to see. You can then press [↑] and [↓] to see data for all the active selections.

- If viewing data by individual selection, press [8 TIME OF DAY] to view the date and time of the last vend of that selection.

☞ **VIEW TOTAL PAID SALES**

1. Press [5 DATA RECALL DELETE], then press [↓] until the display shows ✳✳$ *XX.XX*.

   "XX.XX" is a dollar and cents figure showing the total of all PAID sales in the machine (as opposed to unpaid sales like winner and free vends). This is the total since the last time it was cleared.

2. If desired, view this data by individual selection.

3. CONTINUE

☞ **VIEW CARD READER PAID SALES**

1. Press [5 DATA RECALL DELETE], then press [↓] until the display shows ✳✳$ *XX.XX*. (Not shown if total is zero.)

2. Press [EDIT], then press [↓] until the display shows *DBT XX.XX*.

   "XX.XX" is the amount of money collected from card reader sales. Also, see **VIEW DISCOUNT SALES BY TIME INTERVAL,** page 86.

3. CONTINUE

👉 **VIEW TOTAL PAID VENDS**

1. Press [5 DATA RECALL DELETE], then press [⬇] until the display shows ✳✳ *XX.* "XX" is the total number of paid vends for the entire machine.
2. If desired, view this data by individual selection.
3. CONTINUE

👉 **CLEAR ALL RESETTABLE DATA**

1. Press [5 DATA RECALL DELETE]. The display shows *NR$ XX.XX.* This is a running total, and is not resettable.
2. Press and hold [# CODE CLEAR]. Two beeps sound and the display shows *CLEARING* momentarily, and then changes to *FINISHED*. All data is cleared.
3. CONTINUE

👉 **CLEAR PAID SALES DATA ONLY**

1. Press [5 DATA RECALL DELETE], then press [⬇] until the display shows ✳✳$ *XX.XX.* "XX.XX" is a dollar and cents figure showing the total of all PAID sales in the machine (as opposed to unpaid sales like winner and free vends). This is the total since the last time it was cleared.
2. Press and hold [# CODE CLEAR]. Two beeps sound and the display shows *CLEARING* momentarily, and then changes to *FINISHED*. All paid sales data is cleared; other data is not cleared.
3. CONTINUE

☞ **VIEW AMOUNT IN COIN BOX**

1. Press [5 DATA RECALL / DELETE], then press [↓] until the display shows *CBX XX.XX*. (Will only display if the total is not zero.)
2. "XX.XX" is the dollar and cents amount in the coin box.
3. CONTINUE

☞ **VIEW AMOUNT IN VALIDATOR**

1. Press [5 DATA RECALL / DELETE], then press [↓] until the display shows *DBV XX.XX*. (Will only display if the total is not zero.)
2. "XX.XX" is the dollar amount in the bill stacker.

3. Press [EDIT] to show the quantities of bills in the stacker. For example, the display shows *$01 20*, meaning that there are 20 dollar bills in the bill stacker. Press [EDIT] again to show the quantities of other bills, such as $5s, $10s, or $20s.
4. CONTINUE

☞ **VIEW FREEVEND SALES BY TIME INTERVAL**

1. Press [5 DATA RECALL / DELETE], then press [↓] until the display shows *-0$ XX.XX*. (This is the total value of unpaid vends and is only shown if not zero.)

2. Press [EDIT], then press [↓] until the display shows *1.FRV .00*. This is the total sales for freevend interval 1, shown even if zero.

3. Press [↓] to view intervals 2 through 4.

4. CONTINUE

☞ **VIEW DISCOUNT SALES BY TIME INTERVAL**

1. Press [5 DATA RECALL / DELETE], then press [↓] until the display shows *✱✱5 XX.XX*.

2. Press [EDIT], then press [↓] until the display shows *1.DSC .00*. This is the total sales for discount interval 1 (not shown if zero). Also, see **VIEW CARD READER PAID SALES,** page 83.

3. Press [↓] to view intervals 2 through 4.

4. CONTINUE

☞ **VIEW FREE VENDS**

1. Press [5 DATA RECALL / DELETE], then press [↓] until the display shows *-0$ XX.XX* (provided the total is not zero).

2. Press [EDIT], then press [↓] until the display shows *FRV XX.XX*. "XX.XX" is the total machine-wide freevends, shown even if zero.

3. CONTINUE

☞ **VIEW WINNERS**

1. Press [5 DATA RECALL / DELETE], then press [↓] until the display shows *-0$ XX.XX* (provided the total is not zero).

2. Press [EDIT], then press [↓] until the display shows *WIN XX.XX*. "XX.XX" is the total machine-wide winners, shown even if zero.

3. CONTINUE

VIEW TIME DATA

1. Press [5 DATA RECALL DELETE], then press [↓] until the display shows *TIME DATA*.

2. Press [EDIT]. The following message scrolls across the display:

    LAST POWER 01/30 13.51 FOR 00. 0.23

    This example shows that the last time the machine lost power was on January 30 (01/30) at 1:51pm (13.51) for zero days, zero hours, and 23 minutes (00. 0.23).

3. Press [↓]. The following message scrolls across the display:

    LONGS.T POWER 01/30 10.58 FOR 00. 2.47

    This example shows that the longest time the machine was without power was on January 30 (01/30) at 10:58am (10.58) for zero days, 2 hours and 47 minutes (00. 2.47).

4. Press [↓]. The following message scrolls across the display:

    FULL CLEAR 01/30 8.58

    This example shows that the last time resettable sales was fully cleared was on January 30 (01/30) at 8:58am (8.58).

5. Press [↓]. The following message scrolls across the display:

    TIME SET 01/30 9.15

    This example shows that the last time the time or date was set was on January 30 (01/30) at 9:15 am (9.15).

6. Press [↓]. The following message scrolls across the display:

    PRICE SET 01/30 9.42

    This example shows that the last time prices were set was on January 30 (01/30) at 9:42 am (9.42).

7. CONTINUE

☞ **VIEW TOTAL UNPAID SALES**

1. Press ⬚[5 DATA RECALL DELETE], then press ⬚[⬇] until the display shows _*0$ XX.XX* (provided the total is not zero). "XX.XX" is the total unpaid sales (free vends, winner vends, 100% discounts, zero price vends) for the entire machine.
2. If desired, view this data by individual selection.

3. CONTINUE

☞ **VIEW TOTAL UNPAID VENDS**

1. Press ⬚[5 DATA RECALL DELETE], then press ⬚[⬇] until the display shows _*0 XX.* "XX" is the total number of unpaid vends for the entire machine.
2. If desired, view this data by individual selection.

3. Press ⬚[EXIT STOP] until you have left the function.

☞ **VIEW NUMBER OF TEST VENDS**

1. Press ⬚[5 DATA RECALL DELETE], then press ⬚[⬇] until the display shows *TST X* (provided the total is not zero). "X" is the number of test vends.
2. If desired, view this data by individual selection.

3. CONTINUE

☞ **VIEW NUMBER OF MUG VENDS**

1. Press ⬚[5 DATA RECALL DELETE], then press ⬚[⬇] until the display shows *MUG X* (provided the total is not zero). "X" is the number of mug vends.
2. If desired, view this data by individual selection.

3. CONTINUE

☞ **VIEW CUP SIZES ASSIGNED TO SELECTIONS**

1. Press [3], then press [↓] until the display shows

    0. - -C - - -G -. This example shows that regular size cups are assigned to selections C and G.

2. Press [↓]. The display shows *1. ABC- -FGH.* This example shows that large size cups are assigned to selections A thru C and F thru H.

3. CONTINUE

☞ **VIEW MACHINE ID NUMBER**

1. Press [5 DATA RECALL DELETE], then press [↑] or [↓] until the display shows

    I.D. XXXXXX . The X's represent the 6-digit machine ID number.

2. You can edit the machine ID number if the SUPERVISOR access code has been previously entered.

3. CONTINUE

☞ **VIEW MACHINE CONFIGURATION SETTING**

1. Press [3 ↺], then press [⬇] until the display shows *0-J-PQRS*. P, Q, R, and S represent settings specific to your machine. See SET UP MACHINE CONFIGURATION options for an explanation of this display.

2. Press [⬇]. The display shows *XYZ. REF*. This display shows which selections are used as the basis of the X, Y, and Z selections, with the addition of cold water and ice (if requested).

3. Press [⬇]. The display shows *0. RBCDEFG-*. This shows the active selections for the regular size drink (0). Press [EDIT] to view the cold selections (*XYZ56789*).

4. Press [⬇]. The display shows *1. RBCDEFG-*. This shows the active selections for the large size drink (1).   Press [EDIT] to view the cold selections (*XYZ56789*).

5. Press [⬇]. The display shows *2. RBCDEFG-*. This shows the active selections for the jumbo size drink (2). Press [EDIT] to view the cold selections (*---56789*).

6. CONTINUE

☞ **TEST VEND SELECTIONS AND VERIFY CREDIT ADDED**

1. Press ⬚. The display shows *TEST .00.* You may now test vend selections. If you insert money into the machine, the zeros in the display will be replaced with the amount of the credit. After the item vends, your money will be returned.

> **NOTE**
> You may make one more test vend if you close the door while still in TEST VEND mode.

2. CONTINUE

☞ **TEST THE DISPLAY**

1. Press ⬚, then press ⬇ until the display shows *DSPLY TEST.*

2. Press ⬚ to light all display segments; press ⬚ to turn them off.

3. Pressing a **NUMBER KEY** on the control panel causes all segments to display that character.

4. CONTINUE

☞ **TEST DROP A CUP**

1. Press ⬚, then press ⬇ until the display shows *CUP TEST.*

2. Press ⬚ to drop a cup.

3. CONTINUE

☞ **TEST THE WHIPPER(S)**

1. Press [TEST START key image], then press [down arrow key image] until the display shows *WHIP TEST*.

2. Press the number key that corresponds to the whipper you want to test. It will run for one cycle.

3. CONTINUE

☞ **TEST THE AUTOMATIC DELIVERY DOOR**

1. Press [TEST START key image], then press [down arrow key image] until the display shows *DOOR TEST*.

2. Press [TEST START key image]. The automatic delivery door operates.

3. CONTINUE

☞ **TEST THE AIR COMPRESSOR**

1. Press [TEST START key image], then press [down arrow key image] until the display shows *AIR TEST*.

2. Press [TEST START key image] to run the air compressor.

3. CONTINUE

Twin Drink Center Operator's Guide

👉 **TEST THE BREWER**

1. Press [🔆 TEST START], then press [⬇️] until the display shows *BREW TEST*.

WARNING
Keep away from the brewer mechanism while it is operating.
Coming into contact with moving parts could injure you.

2. Press [🔆 TEST START] to test each brewer position:

   BREW'R BREW = The brewer is in the BREW POSITION.
   BREW'R FLIP = The brewer is in the FLIP position.
   BREW'R HOME = The brewer is in the HOME position.

3. CONTINUE

👉 **RINSE THE MIXING BOWLS**

1. Press [🔆 TEST START], then press [⬇️] until the display shows *BOWL RINSE*.

2. Press [🔆 TEST START] to rinse the mixing bowls. The display shows RINSING until the operation is complete.

3. CONTINUE

👉 **RINSE THE BREWER**

1. Press [🔆 TEST START], then press [⬇️] until the display shows *BREW RINSE*.

2. Press [🔆 TEST START] to rinse the brewer. The display shows RINSING until the operation is complete.

3. CONTINUE

☞ **CLEAN THE ICE MAKER**

1. Refer to Appendix C, the Cool-San Option.

2. CONTINUE

☞ **CLEAN THE COLD PLATE**

1. Press [TEST/START], then press [↓] until the display shows *CP CLEAN*.

2. Press and hold [TEST/START] to ...to be continued

☞ **PURGE THE CARBONATOR**

1. Press [TEST/START], then press [↓] until the display shows *PURGE TEST*.

2. Press [TEST/START] to purge the carbonator without refilling it.

3. Press [EDIT] to run non-carbonated water through the dispensing lines.

4. CONTINUE

☞ **CLEAR TANK ERRORS AND FILL THE TANK**

1. Press [TEST/START], then press [↓] until the display shows *TANK FILL*.

2. Press [TEST/START]. This clears any tank error and starts filling the tank, if neces-
    sary. If it is taking a long time to fill the tank AND THERE ARE NO
    LEAKS, you may see *TANK ERR* in the diagnostic list again. Just press

    [TEST/START] again after making sure there are no other problems, such as a
    restriction in the water inlet line or a clogged water filter.

3. CONTINUE

👉 **PRIME THE SYRUP PUMPS**

1. Press ⊛, then press ⬇ until the display shows something like

    this: *SYRUP 2 4*. This display indicates that syrup tanks 2 and 4 are empty.
2. Press the number key which corresponds to the pump you want to prime.
    For example, press 2. A period appears in the display after the number(s)
    you pressed: *SYRUP 2. 4*. This indicates that pump #2 is working.
3. When syrup comes out of the nozzle, press the number key again to stop the
    pump. The display will now show *SYRUP 4*. You can repeat the steps for
    the remaining empty tank.
4. CONTINUE

👉 **TEST SWITCHES OR SENSORS**

1. Press ⊛, then press ⬇ until the display shows *IN.MKPHL123*.

2. Actuate each switch or sensor to test its function:

M = mug/cup sensor (if equipped)	K = freevend keyswitch
P = waste pail switch	H = high water tank level switch
L = low water tank level switch	1 = ring 1 cup sensor switch
2 = ring 2 empty	3 = ring 3 empty

    As you actuate each input, the display element representing that switch
    blinks on. Releasing the switch causes that element to blink off again.

3. Press 〔 EDIT 〕. The display shows *IN.HLICPR*

4. Actuate each switch or sensor to test its function:

H = feeder cup high	L = feeder cup low
I = ice hopper full	C = CO_2 pressure switch
P = carbonator tank probe	R = ice maker meltdown recirculation tank

    As you actuate each input, the display element representing that switch
    blinks on. Releasing the switch causes that element to blink off again.

5. CONTINUE

👉 **DOWNLOAD DATA TO A PDCD**

1. Connect your portable data collection device (PDCD) per its operating
    instructions.

2. If data does not download into your PDCD upon connection, press 〔 6 ↵ - 〕.

Data is downloaded into your PDCD.

NOTE

Depending upon the setting selected in **SET PRINTER OR DEX OPTIONS** (page 33), data may be cleared after the download is complete.

3. CONTINUE

👉 **SET FREEVEND OPTIONS**

4. Press [2 FREE VEND INSERT] until one of the following is displayed:

FREE OFF - Normal vending mode. No items are on freevend. A closure on the keyswitch input causes the machine to go out of service.

- OR -

FREE ALL - All items are on freevend. The credit display shows *NO MONEY REQUIRED*
A closure on the keyswitch causes the machine to go out of service.

- OR -

FREE W/KEY - All items are freevended while there is a closure on the keyswitch input. Normal cash sales are supported when the keyswitch input is open. If the free vend code (selected under **SUPERVISOR MODE** (page 31)) is not 0000, the code must be entered first.

- OR -

FREE ONCE - A closure on the keyswitch input causes only the next item to be freevended. Coin mechanism errors are ignored. Normal cash sales are also supported.

5. Press [EDIT] until the option you want is displayed.

6. Press [EXIT STOP] until you have left the function.

VIEW DIAGNOSTIC MESSAGES

1. Press [0 DIAGNOSTICS]. the display shows any of the following diagnostic messages,

    depending upon any fault(s) present:

NO ERRORS	None of the following errors are detected:
KEYPAD XY	Key(s) x, y stuck.
ROM ERROR	Error in the programming EPROM. MACHINE WILL NOT OPERATE.
RAM ERROR	RAM is not initialized or is not compatible with the currently loaded software. If this message appears, initialize your RAM by performing the following procedure: NOTE: Initializing RAM will erase all your data. Be sure you have written this information down before continuing. Press **AND HOLD** [# CODE CLEAR] until you hear two beeps and the display shows *FINISHED*.
TEMP REF	The temperature reference on the main PCB CANNOT BE READ.
TEMP SNSR	The primary temperature sensor cannot be read.
TEMP RANGE	The primary temperature sensor is out of range.
TEMP2 SNSR	The secondary temperature sensor cannot be read.
TEMP 2.RANGE	The secondary temperature sensor is out of range.
CHK PRICE	Price error detected and changed to maximum - check prices.
CHK CONFIG	A PRODUCT CONFIG value was out of bounds and set to nominal - check all PRODUCT CONFIGs.
NONE READY	No selection is ready to vend. Check that no time-of-day inihibits are active.
NO MECH	Coin mech not detected - machine will not operate if configured for coin mech.
MECH.COMM	Incomplete coin mech communications -- check harness.
MECH.SENSOR	Coin mech reporting a bad tube sensor - replace mech.
MECH.JAM	One or more coin tubes are jammed. Pay a coin from each tube until the jam is cleared. Coin is jammed in the acceptor section. Check the coin mechanism for a jam in this position. Insert coins and cycle machine power OFF and then ON.
MECH.ROM	Replace the coin mechanism.

MECH.ACCEPT	Coin mechanism acceptor section is unplugged from the main body of the coin mech. Connect the cable and cycle machine power OFF and then ON.
	The vending machine is telling the coin mech not to accept any coins
DBV.COMM	Incomplete bill validator communications -- check harness.
DBV.SENSOR	One of the sensors in the bill validator has failed. The unit will disable itself until the error is corrected. Check for bill stuck in the acceptance path. If no bill is present, replace the validator. Cycle machine power OFF and then ON.
DBV.ROM	ROM checksum failure. The unit will disable itself until the error is corrected. Replace the validator.
DBV.JAM	A bill is jammed in the acceptance path. The unit will disable itself until the error is corrected. Remove bill stuck in the acceptance path. Cycle machine power OFF and then ON.
DBV.MOTOR	One of the motors has failed. The unit will disable itself until the error is corrected. Check for bill stuck in the acceptance path. If no bill is present, replace the validator. Cycle machine power OFF and then ON.
DBV.STACKR	The stacker is open or removed. The unit will disable itself until the error is corrected. Install the stacker correctly.
	The stacker is full of bills. Remove bills from the stacker.
DBV.ACCEPT	The vending machine is telling the bill validator not to accept any bills. Check the enabled channels of the bill validator.
CARD.F.COMM	Incomplete card reader communications - check cables. The card reader is not operational.
CARD.COMM	Incomplete card reader communications. Check cables or replace unit.
CARD.ERR	Card reader is indicating it has a problem.
CARD.F.ERR	Card reader is indicating it has failed. Replace unit.
CARD.ERRXX	Card reader has an error and indicates code XX. The code is defined by the card reader manufacturer. To correct, contact card reader manufacturer. The unit is still operational.
CARD.F.ERRXX	Card reader has failed and indicates code XX. The code is defined by the card reader manufacturer. To correct, contact card reader manufacturer.
CARD.F.JAM	Card reader has failed because card is jammed in the unit. Remove the jammed card.
CARD.SERV	Card reader requires service. The unit is still operational.

CLEANING AND SANITATION

I. Basics

INTRODUCTION

Anybody who services vending machines must use proper sanitizing procedures. Health regulations require that hands be clean when cups, commodities, and food-contact parts are handled or serviced.

In addition, Health Departments require regular cleaning and sanitizing procedures for food contact parts.

The information in this section will explain how to clean and/or sanitize the merchandiser on a regular basis. A clean and well maintained merchandiser will provide a better product and greater safety for your customers.

CLEANING AND SANITIZING -- WHAT'S THE DIFFERENCE?

Clean means "free of visible soil". In cup vending machine servicing cleaning is done to maintain product quality and to remove food soils, oils, and mineral stains that could affect product taste, aroma, and appearance.

SANITIZING means the reduction to safe levels of the number of disease-causing bacteria that remain on the surface **after** cleaning. Therefore, cleaning and sanitizing are done in separate steps, as prescribed by health regulations and good industry practice.

When you sanitize you create a healthy and hygienic condition. This leads to wholesome food, which in turn leads to satisfied customers.

SANITIZING IS NO SUBSTITUTE FOR GOOD CLEANING

HOW DO I SANITIZE?

You can sanitize by using either of these two methods:

Chemicals: The object to be sanitized is treated with a bactericidal compound.

Heat: Raise the temperature of the object to be sanitized high enough to kill bacteria. Water must be at least 77°C (170°F).

Hot brew water (if available) is an acceptable sanitizer. When food-contact surfaces are washed and/or rinsed, use the hot water available in the machine.

Be sure to turn the machine off before using water on the machine.

In either case, the object to be sanitized must be thoroughly clean and completely rinsed in order for the sanitizing process to work. Caked-on soils, not removed by cleaning for example, may shield bacteria from a sanitizing solution.

NOTE

Hot brew water may cause damage to some parts of the cooling system and should not be used in any procedure unless specifically stated.

Where "Warm Water" is suggested the temperature is designated to be a maximum of 50°C (122°F).

A GOOD PLACE TO START -- YOUR SANITATION KIT

You need to be sure that each machine is clean, safe and functioning when you leave the location. In order to properly do this, you need to have a complete set of the right tools.

Here is a checklist of the items needed for a good sanitation kit:

☐ Sanitation pail
☐ Tube and nozzle brushes for food contact surfaces
☐ Utility brush for dry spillage around canisters, etc.
☐ Disposable towels, wet-strength and lint-free

NOTE
Wiping with towels can recontaminate sanitized food-contact parts. Therefore, towels should not be used to dry food-contact surfaces. Instead, these parts should be air dried.

☐ Spray detergent, diluted to desired strength
☐ Urn cleaner packets for coffee stains and oils
☐ Odor control chemicals for pails
☐ Replacement parts (if the exchange method is used)
☐ Cabinet polish or window cleaner for the outside of the machine

Feel free to add some items to this list. For example, you may want to use a portable vacuum cleaner.

II. Overall Cleaning

Inspect your merchandiser both inside and out. Be sure to check corners and all less visible parts of the merchandiser.

Clean where needed.

Allow the inside of the cabinet to dry thoroughly before you close the door.

III. Preventive Maintenance Cleaning

Periodically, you should visually inspect your merchandiser's hot water tank for excessive lime and scale buildup. This buildup on the tank walls, water valves and heater element will vary dramatically, depending upon water quality. You should develop a cleaning and deliming schedule based on the apparent local water quality.

NOTE

To aid in removing scale from your merchandiser, National Vendors has a service kit available: part number 6400080. In addition, if your machine has the Everpure water inlet filter system option, a second kit: part number 6400086 is also available.

IV. Cleaning Procedures

Non Food-Contact Parts

Cup Delivery Compartment - Remove the cup delivery compartment from the merchandiser. Thoroughly wash the cup delivery compartment using a clean, damp, disposable paper wiper. Rinse with clean, hot, flowing water. Reinstall.

Cabinet Cup Delivery Door - Wash with a clean, damp, disposable paper wiper.

Waste Bucket - Empty, wash with a chlorinate detergent or equivalent chemical and rinse with hot water. Sprinkle detergent powder in the bottom of the waste bucket to help control odors. Be sure to replace the drain lines and the overflow switch float.

Grounds Pail - Empty, wash and rinse with hot water. Reline the grounds pail with a clean plastic bag.

Brewer Mechanism - Remove the brewer mechanism from its mounting and rinse with hot water.

Cooling System - Wipe the top cover, any visible tubes and sides with a clean, damp, disposable paper wiper.

Ingredient Rinse Tray - Remove product canisters. Wash and rinse with hot water.

Exhaust Fan Filter - Remove the filter from its housing. Wash with soap and water, rinse, wring dry and replace into housing.

Cabinet Door - Wipe the inside and out with a clean, damp, disposable paper wiper.

Condenser - Clean with a small stiff brush. Avoid poking between the fins with screwdrivers or sharp objects which may puncture the condenser, requiring repairs.

Twin Drink Center Operator's Guide

Food-Contact Parts

All food-contact parts must be cleaned and sanitized. Air dry, do not wipe dry.

Ingredient Canisters - Empty and clean the canisters, augers and spouts with warm water and detergent. Sanitize with hot water and allow to air dry before returning to cabinet.

Mixing Bowls - The inside of all mixing bowls may be rinsed by performing the "Bowl Rinse" operation as outlined in the Programming section of this manual.

If needed, remove the mixing bowls from the dry ingredient shelf. Clean the mixing bowls by washing with warm water and detergent. Sanitize with hot water and allow to air dry before reassembling.

Whipper Caps and Impellers - Remove caps and impellers from the whipper housings. Clean the caps and impeller housing by washing with warm water and detergent. Sanitize with hot water and allow to air dry before reassembling.

Hot Beverage Discharge Nozzles - Disconnect all of the hot beverage dispensing tubes from the nozzles. Remove the nozzles from the mounting bracket. Remove the cap from each nozzle. Dip the tube cleaner brush in a detergent solution and thoroughly clean the nozzles and caps inside and out. Rinse the tube cleaner brush thoroughly with clean, hot water and brush the nozzles thoroughly between each rinse.   Use a clean, damp, disposable paper wiper. Rinse with clean, hot water and air dry thoroughly before reinstalling.

Cold Beverage Discharge Nozzles - Disconnect all of the cold beverage dispensing tubes from the nozzles. Remove the nozzles from the mounting bracket. Dip the tube cleaner brush in a detergent solution and thoroughly clean the nozzles inside and out. Rinse the tube cleaner brush thoroughly with clean, hot water and brush the nozzles thoroughly between each rinse. Use a clean, damp, disposable paper wiper. Rinse with clean, hot water and air dry thoroughly before reinstalling.

Syrup Tubes

> **<u>Bag-in-box machines only</u> - Remove the plastic fittings from empty bag-in-box containers. (These serve to hold open the check valves at the end of the syrup tubes during cleaning and sanitizing.) Connect the fitting to the end of your syrup tube.**
>
> First ensure that the waste bucket is in place. Remove the syrup tubes from the product containers (either syrup tank or the bag-in-box), and place them in a container of warm water. Test throw until clear water comes out of the dispense nozzle.
>
> Place the syrup tubes into a container of sanitizing fluid. Test throw until the sanitizing fluid pours from the dispense nozzle. Let the fluid stand in the machine for the period recommended by the fluid manufacturer (usually 10 to 15 minutes).
>
> Place the syrup tubes in a 1-gallon (5-litre) container of clean, cold water. Test throw one quart (1 litre) of water through each syrup line.

Cold Water System

1. Remove the upper ice chute.
2. Remove the ice maker cover.
3. Ensure that the waste bucket is empty and in place.
4. Ensure that the cup station is in place. Place a large cup in the cup station with a hole punched in the bottom (i.e. with a pen). *After step 5, water will be dispensed through the cup station and directed to the waste bucket.*

5. Press [TEST START ✳] and [⬇] until the display shows *CP CLEAN*. Press and

    hold [CODE CLEAR #] until the display shows *FINISHED*. The cold water system cleaning cycle will temporarily inhibit the inlet water valve for hot water tank and the ice maker function.

6. When the display shows *ADD SOL'N*, lift the feeder cup cover and add 1 cup of white vinegar to the feeder cup. Take care not to pour vinegar onto the float assembly. ***The solution will automatically be 'primed' into the cold plate, carbonator, and over-flow reservoir melt tank.*** NOTE: When the carbonator pump begins to run, briefly lift the air relief valve handle to relieve some air from the tank. This will assist in properly filling the tank.

The system will soak for 10 minutes. After the soaking period, the rinse cycle begins. Fresh water from the supply is brought into the feeder cup and is used to flush the cold plate, carbonator, and overflow reservoir melt tank. This water is discarded through the cup station and into the waste bucket. Upon completion of the cleaning cycle, the display shows FINISHED.

7. Test throw both still and carbonated water. If a faint taste of vinegar is present, continue to test throw until it has dissipated.
8. Replace the ice maker cover and upper ice chute.
9. Empty the liquid waste bucket.
10. Return the machine to service.

> Brewer, Brewer Basket and Brewer Funnel - The tubing and brewer may be cleaned and sanitized by performing the "Brew Rinse" operation as outlined in the programming section. The machine features an <u>automatic</u> brewer sanitizing feature also described in the programming section.
>
> At times, it may become necessary to clean and sanitize the individual brewer parts. If this should occur, disconnect the tubes from the brewer manifold. Remove the brewer barrel and manifold assembly from its support. Remove the brewer basket and funnel assemblies. Wash all parts using a chlorinated detergent or equivalent chemical. Rinse thoroughly with hot water.

NON-CARBONATED
WATER

SYRUP

SYRUP

CARBONATED
WATER
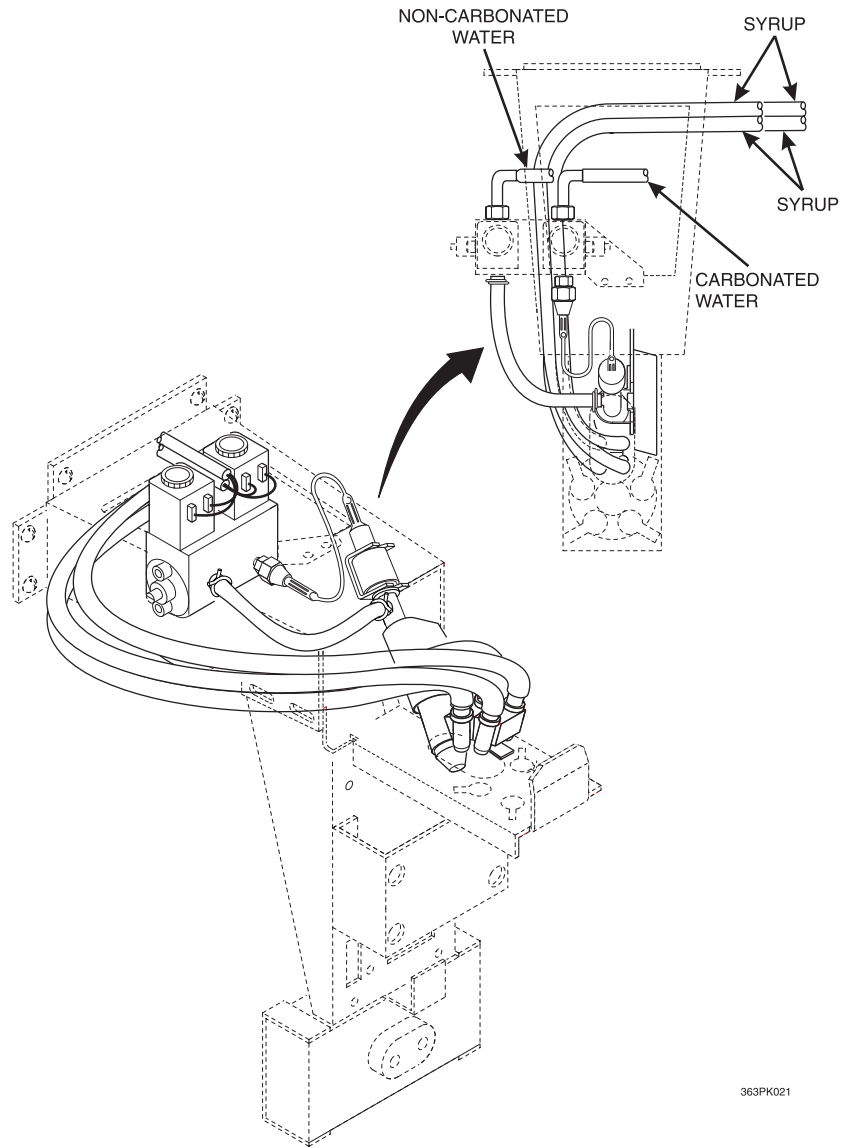
363PK021

Figure 3. Cold Drink Tube Routing Diagram

INTERNATIONAL COFFEE
SOUP
SIXTH PRODUCT
CHOCOLATE
COFFEE/DECAF/TEA
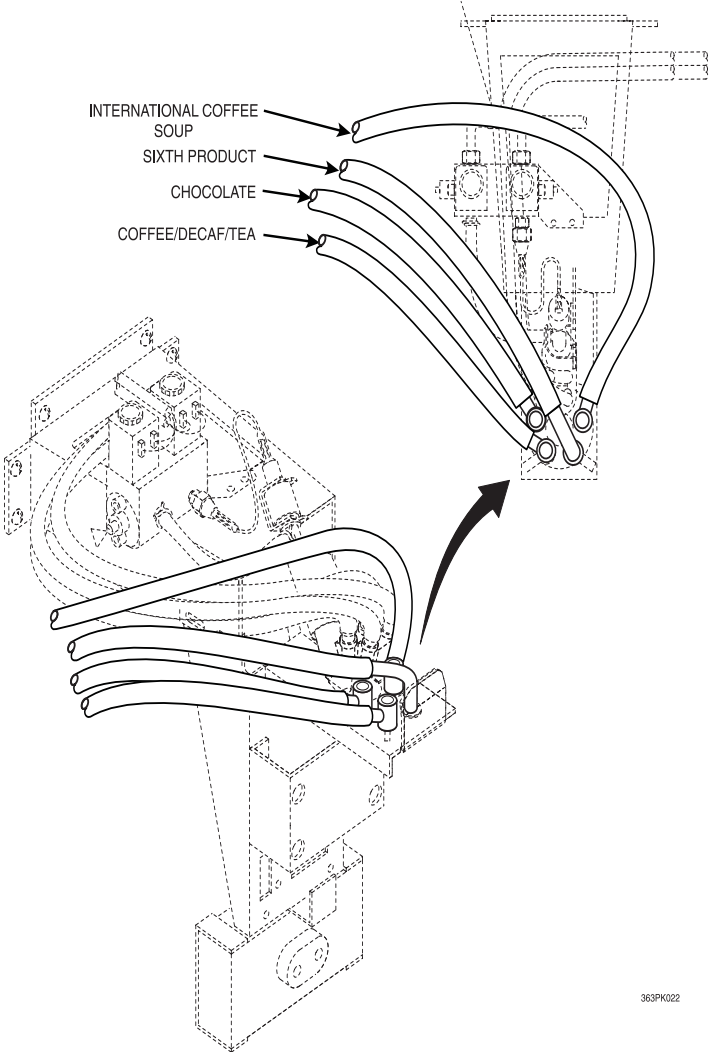
363PK022

Figure 4. Hot Drink Tube Routing Diagram

VI. Sanitation Intervals

RECOMMENDED CLEANING AND SANITATION INTERVALS

ITEM	DAILY	WEEKLY	MONTHLY	QUARTERLY	SEMI-ANNUALLY
Ingredient Canisters	C		S		
Mixing Bowl	C	S			
Whippers	C	S			
Beverage Discharge Nozzles	C	S			
Exhaust Fan Filter & Screen					
Grounds Pail	C	C			
Brewer Basket, Funnel	C				
Brewer Basket, Funnel	C	S			
Ingredient Chutes	C	S			
Brewer Mechanism	C	C			
Grounds Pail	C				

S = Sanitize at this interval   R = Rinse at this interval   C = Clean only at this interval

Make copies of this cleaning record, cut it out, and keep it in a safe place. It will be your record of cleaning all four areas of your machine.

RECORD OF CLEANING

(YEAR)_____

	BREW SECTION	DRY SECTION	WASTE SECTION	WATER SECTION	BY
JAN	☐	☐	☐	☐	☐
FEB	☐	☐	☐	☐	☐
MAR	☐	☐	☐	☐	☐
APR	☐	☐	☐	☐	☐
MAY	☐	☐	☐	☐	☐
JUN	☐	☐	☐	☐	☐
JUL	☐	☐	☐	☐	☐
AUG	☐	☐	☐	☐	☐
SEP	☐	☐	☐	☐	☐
OCT	☐	☐	☐	☐	☐
NOV	☐	☐	☐	☐	☐
DEC	☐	☐	☐	☐	☐

Notes . . .

APPENDIX A. THE INFRARED MUG/CUP SENSOR

The infrared mug/cup sensor can sense the presence of a mug or cup without using moving parts.

I. Indicator Light

The sensor is equipped with an indicator light. This light will help you get the best results from the infrared mug/cup sensor.

Under these conditions:

- Machine door open
- Cup station in place
- No cup in the station

The indicator light should be off. If it is on, it is indicating improper cup station alignment or excessive sensor sensitivity.

Under these conditions:

- Machine door closed
- Cup station in place
- No cup in the station

Press any <u>letter</u> on the selection switch panel, for example, A. Only the letter A should be showing in the message display. If $A MUG$ is displayed, it indicates one or more of the following:

- Improper cup station alignment
- Excessive sensitivity (the sensor is sensing the delivery door)
- Cup station lens is not clean

II. Cleaning

As indicated in the Sanitation section, you should remove the cup station to clean it. Pay particular attention to the dark colored infrared mug/cup sensor lens, which is part of the cup station. If it is not thoroughly cleaned, the sensor will not work properly.

CAUTION
Do not get liquid inside the sensor unit.

Cleaning the infrared mug/cup sensor unit itself is not usually necessary. If it does require cleaning, just wipe it with a damp cloth.

Twin Drink Center Operator's Guide

III. Calibration

1. Remove the plastic cap in the rear of the sensing unit, exposing the potentiometer adjusting screw, as shown in figure A1.
2. Turn the screw clockwise to increase sensitivity of cup detection, or counterclockwise to decrease sensitivity.
3. Calibrate the sensor:

CAUTION

Do not adjust sensitivity too far, or unreliable sensing could result.

   a. Using a piece of **WHITE** poster board or heavy cardboard, make a 5" x 5 $^5/_8$" target.

NOTE
IT IS VERY IMPORTANT THAT THIS MATERIAL BE WHITE.

   b. Place the target in the cup station just beyond the cup deflectors (see figure A-2). The target should be standing vertically; not tilted forward or backward.
   c. With the target in place, turn the adjusting screw **clockwise** very slowly until the indicator just turns ON.
   d. Turn the adjusting screw **counterclockwise** very slowly until the indicator just turns OFF.

This calibration will be adequate for most cups or mugs. In some cases, a slightly more sensitive setting is needed if the cup or mug is a dark color.
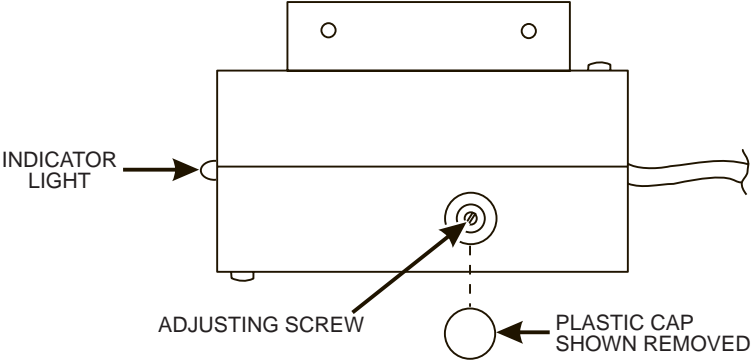
VIEWING REAR OF SENSOR ASSEMBLY

INDICATOR
LIGHT

ADJUSTING SCREW

PLASTIC CAP
SHOWN REMOVED
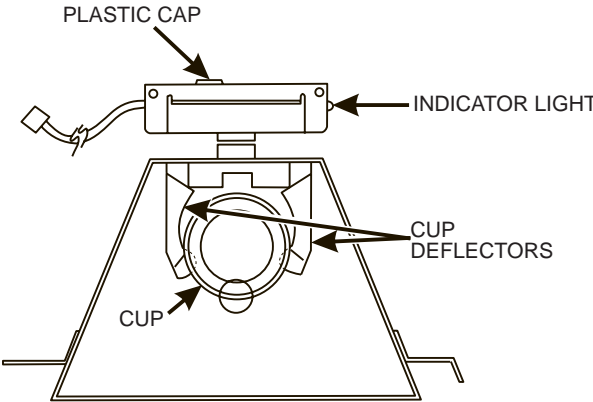
Figure A5

PLASTIC CAP

INDICATOR LIGHT

CUP
DEFLECTORS

CUP

Figure A6

Notes . . .

APPENDIX B. THE FREE VEND KEYSWITCH OPTION

The free vend keyswitch allows someone to set up free vending without needing to open the door.

NOTE

Freevend Options MUST be set to **FREE W/KEY** (see the programming section) for this to work properly.

TO START FREE VEND:

1. Place your key in the free vend keyswitch and turn it to the right. (If the keyswitch is already turned to the right, turn it to the left, then back to the right.) The display shows: *ENTER CODE*.
2. Enter the four-digit free vend code. If you enter the wrong code, you have to return to step 1 and start over.
3. If you enter the correct code, the display shows: *FREE ON*.
4. Remove your key. NOTE: You don't have to turn the key back to the left to remove it, but it's a good idea to do so.

TO END FREE VEND:

1. Place your key in the free vend keyswitch and turn it to the right. (If the keyswitch is already turned to the right, turn it to the left, then back to the right.) The display shows: *ENTER CODE*.
2. Turn the keyswitch back to the left and remove your key. The display returns to the standby message.

**NOTE THAT NO CODE IS NECESSARY TO REMOVE THE MACHINE
FROM FREE VEND.**

Notes . . .

APPENDIX C. COOL-SAN OPTION

NOTE
Do not interrupt the cool-san cycle once it has started.

3. Empty the liquid waste bucket.
4. Remove the upper ice chute.
5. Remove the ice maker cover.
6. Position the empty waste pail under the ice maker door and hang the pail handle on the hook.
7. Press [TEST/START], then press [↓] until the display shows *COOL SAN*. Press and hold [CODE/CLEAR] until the display shows *FINISHED*.
8. After **10 seconds**, the ice dispensing door will open and dispense ice for **5 minutes**.
9. After the ice has stopped dispensing, remove the waste pail from the hook and place it in the normal position under the cup station.
10. When the display shows *ADD SOL'N*, lift the water feeder cup cover and add one (1) ounce of cleaning solution to the feeder cup. ***Do not add more than 1 ounce. Take care to not pour solution onto the float assembly.***
11. **Ten (10) minutes** after the start of the CoolSan cycle, the cleaning solution will begin circulating.
12. **Twenty (20) minutes** after the start of the cool-san cycle, the rinse cycle begins. Fresh water from the supply is brought into the feeder cup, recirculated, and dispensed to the waste bucket. Included in this rinsing cycle is a routine to rinse the water from the still water circuit in the cold plate, as well as the overflow reservoir melt tank.
13. Upon completion of the cleaning cycle, the display shows *FINISHED*.
14. Replace the ice maker cover and the upper ice chute.
15. Empty the liquid waste bucket.
16. Return the machine to service.

WARNING
If the waste pail is not approximately $1/2$ to $2/3$ full, the cleaning device may not have been working properly.

Notes . . .

APPENDIX D. CUP CANISTER MODIFICATION

Modify a cup canister turret to aid in vending 12 oz. Cups, and/or an optional Twin Drink Center cup canister turret to aid in vending 12 - 18 oz cups

Proceed as follows:

1. Remove all cups, then remove the turret center and turret base assembly from the canister.
2. Break off all 8 tabs on the bottom of the turret base as shown.
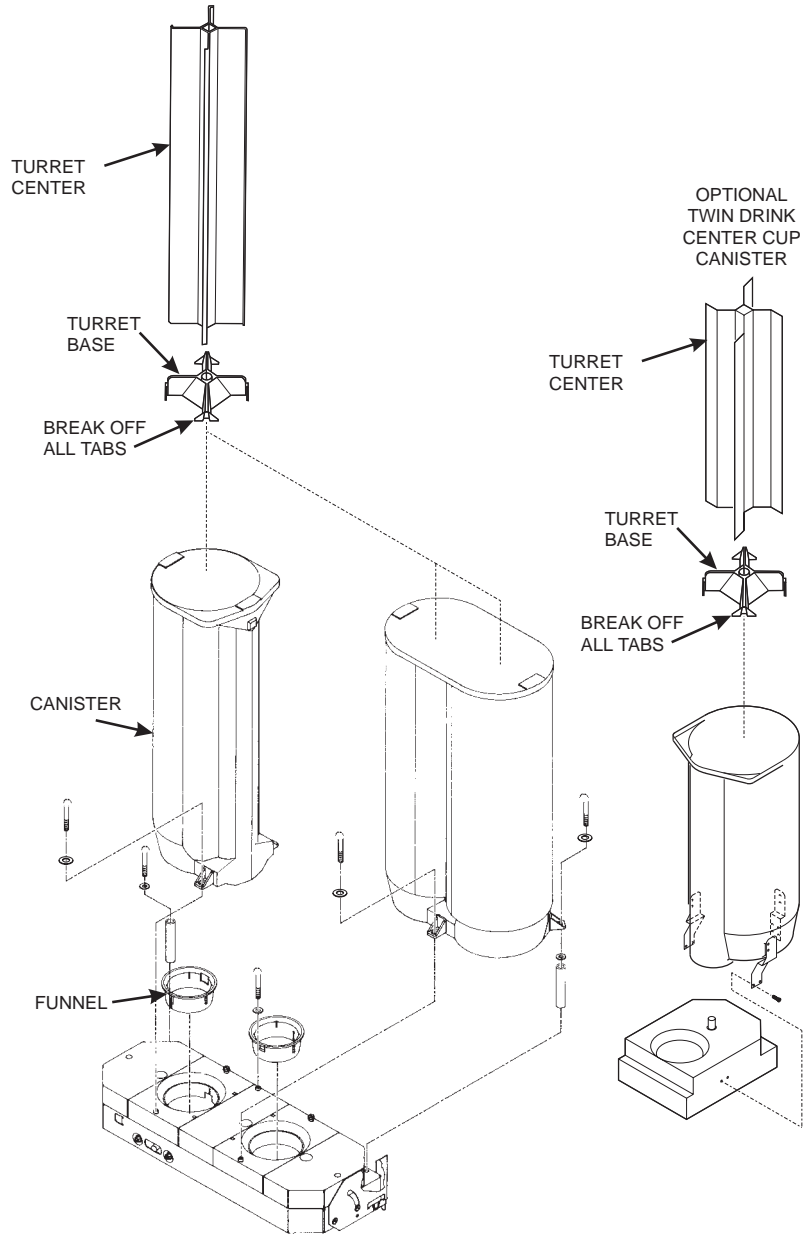
NOTE

You will no longer be able to vend smaller cups from this canister! To return to vending smaller cups you must replace the modified turret base with an original turret base (part number 6233048) from National Vendors Parts Department.

3. Replace the turret center and turret base in the canister and load cups.

If you are modifying the optional Twin Drink Center 12-18 oz cup canister, you are finished with this procedure.

4. Drop a cup. If it drops properly, you are finished with the procedure, if not, continue with step 5.
5. Remove all cups, then remove the canister from the cup mechanism assembly.
6. Remove the funnel, replace the canister, and reload cups.
7. Drop a cup. If it drops properly, you are finished with the procedure, if not, continue with step 8.
8. Order a 14/16 oz cup ring (part number 3143055) from National Vendors Parts Department.

TURRET
CENTER

OPTIONAL
TWIN DRINK
CENTER CUP
CANISTER

TURRET
BASE

TURRET
CENTER

BREAK OFF
ALL TABS

TURRET
BASE

BREAK OFF
ALL TABS

CANISTER

FUNNEL

Twin Drink Center Operator's Guide

APPENDIX E. HOT WATER TANK
CLEANING PROCEDURE

Some smell and/or taste problems may occur in new machines. Follow this procedure to clean the hot water tank if you experience problems:

1. If the machine is in service, remove power from the machine.
2. Dissolve 1 tablespoon of common baking soda in a cup of water.

WARNING
The water tank may be HOT. Be careful when working on the tank.

3. Loosen or remove the hot water tank lid and pour the baking soda solution into the tank.
4. Apply power to the machine.
5. If the tank is not full, fill it.
6. Allow the tank to reach its operating temperature.
7. Leave the solution in the tank for **_AT LEAST_** ½ hour. If possible, leave the solution in the tank for 1 hour.
8. Drain the tank.
9. Refill the tank, then drain again.
10. Refill the tank and put the machine back into service.

Notes . . .

This Merchandiser is warranted for one (1) year against defective parts and workmanship. Any part or parts which are proven to be defective within one (1) year of the date of shipment will be repaired or replaced free of charge when the defective part is returned, with transportation charges prepaid, to the destination designated by the National Vendors Warranty Department.

This warranty applies only to the original purchaser of the Merchandiser and is null and void if the Merchandiser is sold during the period of warranty.

This warranty does not apply to a) electrical components, wiring, or circuits and/or for all mechanical parts or assemblies damaged as a result of operating the Merchandiser at other than the design voltage and frequency specified on the Electrical Rating Tag, or b) in event of vandalism, fire or negligence, or c) incandescent lamps, neon lamps, fluorescent lamps, ballasts, starters or other expendable items or d) when other manufactured components are installed in National Vendors Merchandisers.

National Vendors is not responsible for any cost of service rendered or repairs made by customer or its agents on Merchandiser or parts unless authorization to incur such expense has been given in writing by National Vendors prior to incurring such expense.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NATIONAL VENDORS SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL OR PUNITIVE DAMAGES. National Vendors neither assumes nor authorizes any person to assume for it any obligation or liability in connection with the sale of said equipment or any part thereof.

National Vendors
A Division of CRANE CO
12955 Enterprise Way
Bridgeton, MO 63044