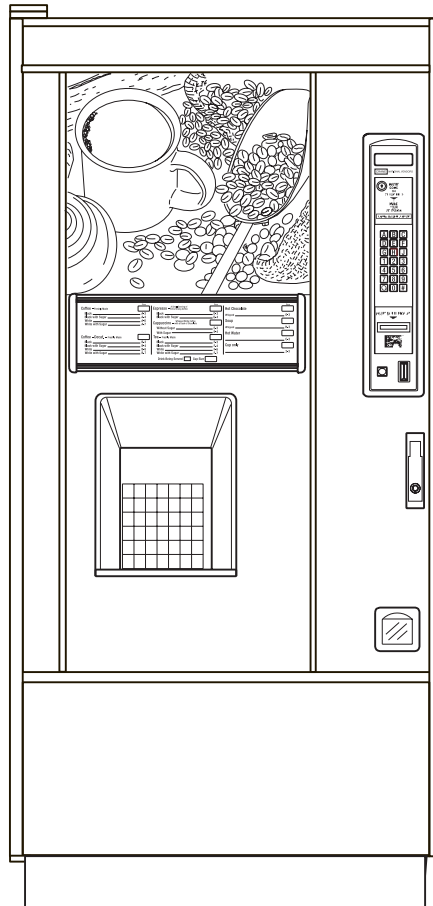6300021

Model 630, 638

Hot Drink

Operation & Service Manual

CRANE | MERCHANDISING SYSTEMS *A Crane Co. Company*
GPL

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6300021

Hot Drink Operation and Service Manual

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MACHINE REQUIREMENTS AND CHARACTERISTICS

POWER REQUIREMENTS

Power Requirements

Country	Volts	Frequency (Hz)	Current (Amps)
Canada	115	60	15
France	230	50	10
Germany	230	50	10
United Kingdom	230	50	10
United States	115	60	15

1. Check the Power Outlet

This merchandiser is supplied with a service cord for the country of use and is terminated in a grounding type plug. The wall receptacle used for this merchandiser must be properly polarized, grounded, and of the correct voltage. Operating the merchandiser from a source of low voltage will **VOID YOUR WARRANTY**. Each merchandiser should have its own electrical circuit and that circuit should be protected with a circuit breaker or fuse conforming to local regulations.

Voltage Check - Place the leads of a voltmeter across the LINE (LIVE) and NEUTRAL terminals of the wall receptacle. The voltmeter should indicate 110-130 volts ac for 120 volt, 60 Hz locations, or 220-240 volts ac for 230 volt, 50 Hz locations.

Polarity Check - Place the leads of a voltmeter across the LINE (LIVE) and GROUND terminals of the wall receptacle. The voltmeter should indicate 110-130 volts ac for 120 volt, 60 Hz locations, or 220-240 volts ac for 230 volt, 50 Hz locations.

Noise Potential Check - Place the leads of a voltmeter across the NEUTRAL and GROUND terminals of the wall receptacle. The voltmeter should indicate 0 volts ac. A measurement greater than 1.5-2.0 volts ac could result in problems for the merchandiser's electronic circuitry caused by electrical noise.

Any deviation from these requirements could result in unreliable performance from your merchandiser.

WATER REQUIREMENTS

The best type of water for coffee brewing is normal hard (tap) water. If your location has chemically softened water, you should do one of the following things:

• 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 EuroDrink Machine. However, you should have it checked for levels of carbonates and alkalies. Contact your water filter supplier if these values are relatively high.

What is the Water Pressure at Your Location?

It should be no less than: 10 psi (69.0 KPa) at 1/2 gallon/minute
       And no more than: 80 psi (522.0 KPa) at 1/2 gallon/minute

If you're not sure about the pressure and flow rate, check with your water company.

What to do With the Water Supply Line:

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

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. If you do, you might introduce water line contaminants into the merchandiser.

PHYSICAL CHARACTERISTICS

Height -	72" (183 cm.)
Depth -	28.5" (72 cm.)
Width -	32" (81 cm.)
Weight -	475 lbs. (215.5 kg.)

Controller Card Display

MAIN CONTROLLER
PCB ASSEMBLY

POWER ON
(LED 1)

FLASHING
HEARTBEAT
(LED 2)
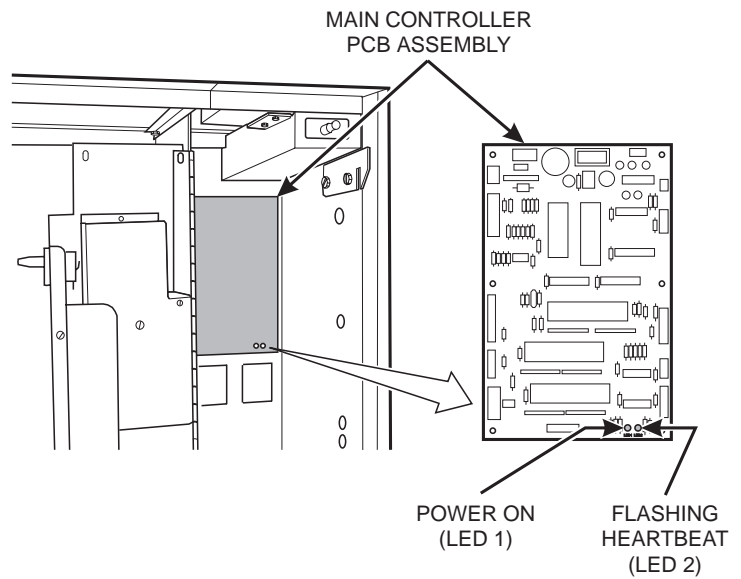
Main Controller Card Display. This display consists of two light emitting diodes (LED) mounted on the controller card.

POWER ON   When lit, this red LED indicates electrical power is applied to the controller card.

HEARTBEAT   When flashing, this red LED indicates that the controller card is active and the software is operating.

> **NORMAL CONDITIONS:**
> When the merchandiser is operating normally, you should see a steady red **POWER ON** indicator and a flashing red **HEARTBEAT** indicator. Refer to the maintenance manual if any other condition exists.

Hot Drink Operation and Service Manual

LEVELING THE MERCHANDISER

From a safety standpoint it is very important that the merchandiser be level. A level merchandiser is less likely to tip over and cause personal injury. Level the merchandiser by moving the leg levelers in or out for proper adjustment. Pliers or channel locks may be required to loosen the leg levelers. Level the merchandiser from the right to left and from front to back using a spirit level. When the merchandiser is part of a bank of machines, it should be leveled in reference to the other machines.

Caution
Have an assistant hold the merchandiser
while you adjust the leg levelers.

COIN MECHANISM
Setting the Quarter Switch
If your coin mechanism is not a MARS TRC 6000, skip this procedure and begin loading the coin mechanism. If your coin mechanism is a MARS TRC 6000, flip down the top front of the mechanism and set the quarter switch as shown on the drawing to the right. Make sure switch #2 is in the down or "off" position.

SETTING THE QUARTER SWITCH
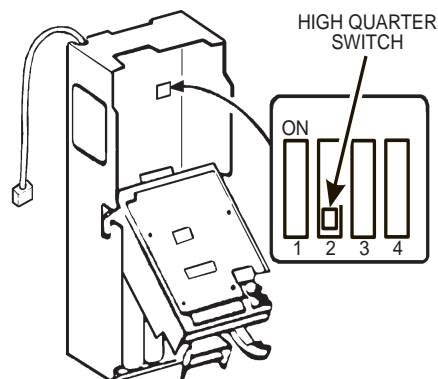
EMPTYING THE BILL STACKER

Loading the Coin Mechanism
1. Open the cabinet door and the monetary cabinet
2. Insert coins into their respective tubes. Make sure each tube is full.
3. Inspect the tubes for shingled coins and correct if necessary.
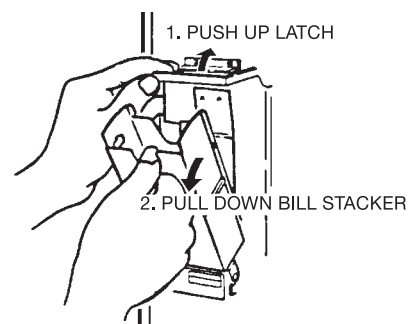
BILL VALIDATOR

Emptying the Stacker
1. Push up on the magazine latch to release the housing
2. Open the magazine by pulling it down.
3. Remove the bills and close the magazine. Make sure it is secure.

WATER FILTER CARTRIDGE

If your merchandiser has a water filter option, it cannot be operated without a properly installed water filter cartridge.

Note
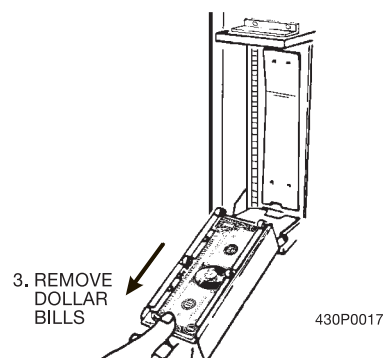Check the water filter installation record. There is a place to write the vend number on the cartridge. The filter is normally effective for approximately 26,000 7 oz. vends, 22,000 8 oz. vends, 20,000 9 oz. vends, or 15,000 12 oz. vends. Local conditions may require more frequent replacement.

Removal
1. Turn the main power switch to the off position.
2. Flip the lock lever UP (view A). The lock lever on the water filter head is used to open and close the water inlet to the merchandiser.
3. Rotate the locking collar to the left about 60 degrees until it drops to the filter receiving position.
4. Rotate the filter to the left until it drops free of the locking collar.

Installation
1. Align the raised rib near the top of the cartridge with the ribless portion of the locking collar (view B).
2. Push the cartridge up into the filter head (view B).
3. Rotate the cartridge to the right until the lock lever engages the locking collar (view C).
4. Rotate the locking collar to the right until it moves up into the locking position (view D).
5. Push the lock lever DOWN (view E).

Note
Do not flush the water filter cartridge.

WATER INLET VALVE — LOCK LEVER

VIEW B   VIEW C   VIEW D   VIEW E

WATER FILTER   626P0010

VIEW A
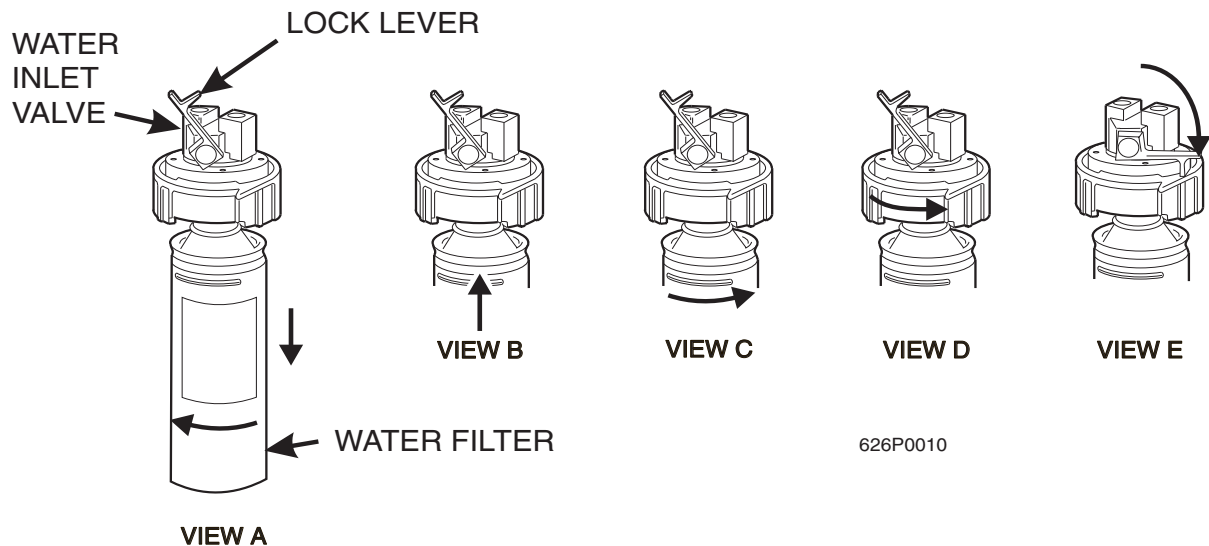
ADJUSTING WATER VALVES

This should be done in conjunction with setting the factory default times during Product Configuration programming.

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.

WATER TANK

WATER 6

WATER VALVE

WATER VALVE ADJUSTMENT SCREW

FILL CANISTER

PINS ON MOTOR SHAFT MUST ENGAGE SLOTS IN CANISTER COUPLER

CANISTER SHELF
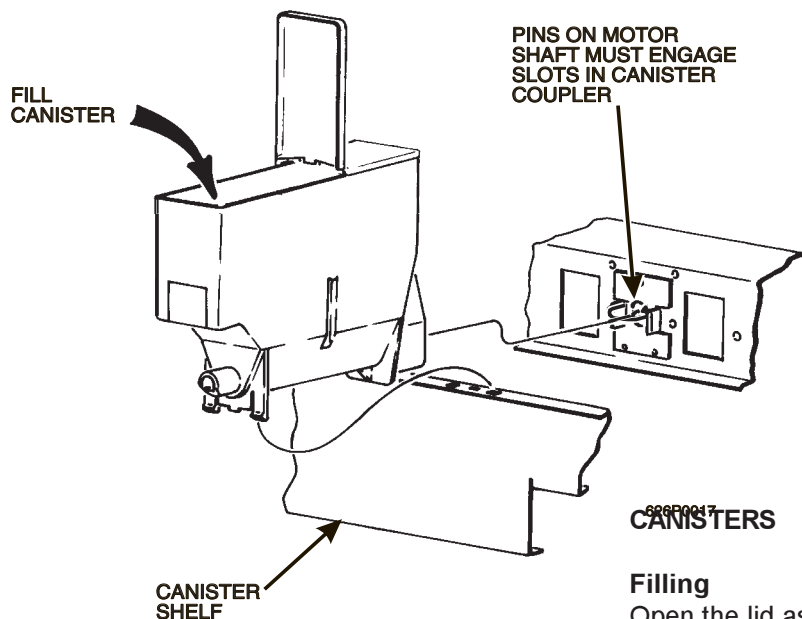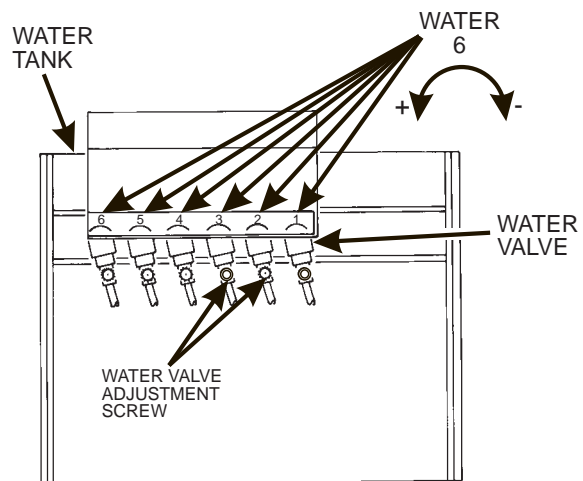
CANISTERS

Filling
Open the lid as shown, and carefully pour product into canister.

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

CUP MECHANISM

Loading

1. Support the cup mechanism in the upright position.
2. Push the latch forward to release the cup mechanism. Continue to support the mechanism while you lower it into the loading position.
3. Remove the turret cover.
4. Open the bottom of the wrapper on a stack of cups.
5. Insert the wrapped cups into the turret and pull the wrapper out.
6. Replace the turret cover after the turret has been loaded
7. Make sure the cup mechanism is locked into the upright position.
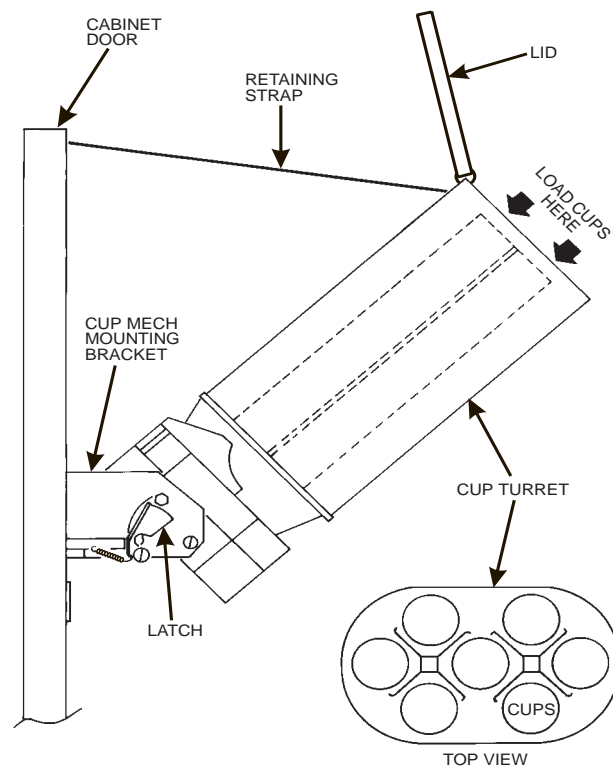
Cups
1. Use only cups which have been designated for use in a hot beverage vending machine.
2. Check to insure that the cup size you are loading agrees with the cup size selected during programming
3. Make sure you observe proper hygiene. Touch only the wrapper and not the cups.
4. Do not fill cups above the level marked on the outside of the cup turrets or above the "Fill Line" label inside each turret.
5. Check to make sure the cups you are loading are the same size and brand of those hot drink cups currently in the turret. Do not intermix.
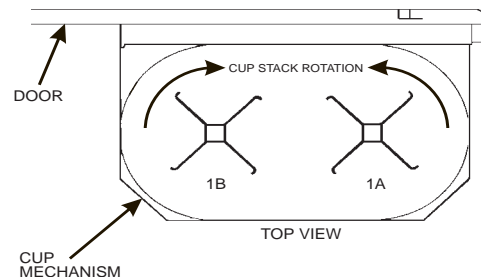
Adjustment

1. Place seven cups in the cup ring
2. Observe the clearance as shown in view B.
3. To adjust, first loosen the adjustment arm screw (view A).
4. Next, move the adjustment arm until the correct clearance is achieved.
5. Finally, hold the adjustment arm in place and tighten the adjustment arm screw.

CUP
MECHANISM

ADJUSTMENT
ARM

ADJUSTMENT ARM
SCREW

CUP RING
#1

VIEW A

CUP CAM

CORRECT
ADJUSTMENT

THIS SIDE SHOULD
BE SNUG AGAINST
THE CAM.

SET THIS SPACE JUST WIDE
ENOUGH TO ALLOW EJECTION
OF CUPS.
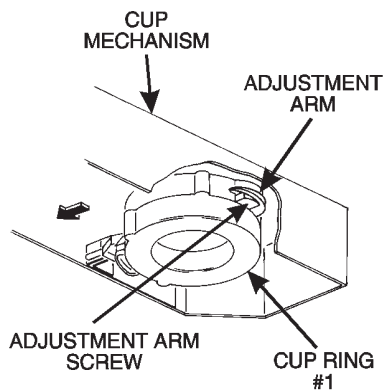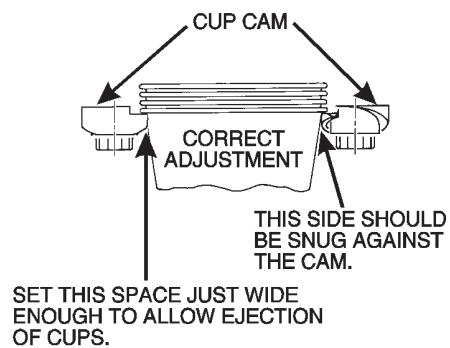
VIEW B

ADJUSTED
TOO TIGHT

VIEW C

ADJUSTED
TOO LOOSE

VIEW D

Pressure Adjust 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 8¼ oz cups. No further air pressure adjustments should be necessary.

Pressure Gauge. This indicator shows the amount of air pressure in the system.

PRESSURE
GAUGE

MONETARY
PANEL

INCREASE

PRESSURE
ADJUST
CONTROL

0   30

INGREDIENTS SHELF
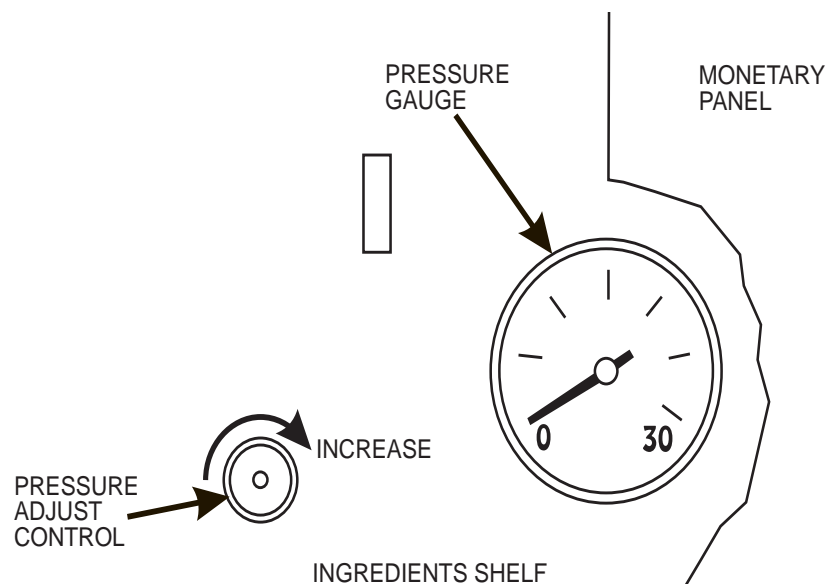
LOADING OPTIONAL FILTER PAPER

1. Turn the main power switch to the *OFF* position.
2. Remove the cup station and grounds bucket.
3. Remove the paper holder cover by turning the fastener a quarter turn to the left.
4. Insert a roll of paper into the paper holder. Route the free end of the paper to the brewer as shown.
5. Replace the cover on the paper holder. Secure it by turning the fastener a quarter turn to the right.
6. Feed paper over swing arm assembly and underneath pinion gear shaft.

TO BREWER

PAPER
HOLDER

PAPER
ROLL

COVER

FASTENER
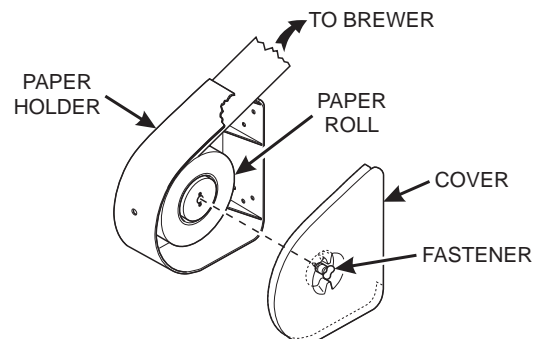
7. Feed paper through the paper guides.

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

PAPER GUIDES

PINION GEAR SHAFT

BASKET HOUSING ASSEMBLY

SWING ARM ASSEMBLY

LIP OF PAPER MECHANISM HOUSING

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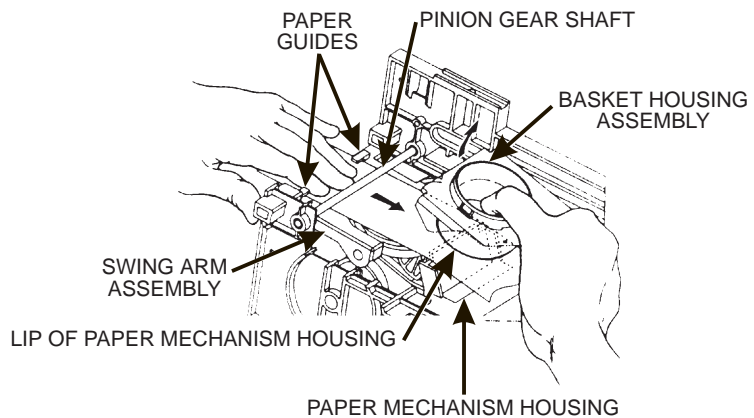
9. Reach underneath the brewer between the paper mechanism housing and basket housing assembly and push paper into the top of the paper mechanism housing between paper rollers.

LIP OF PAPER MECHANISM HOUSING

SWING ARM ASSEMBLY

PAPER MECHANISM HOUSING

BASKET HOUSING ASSEMBLY
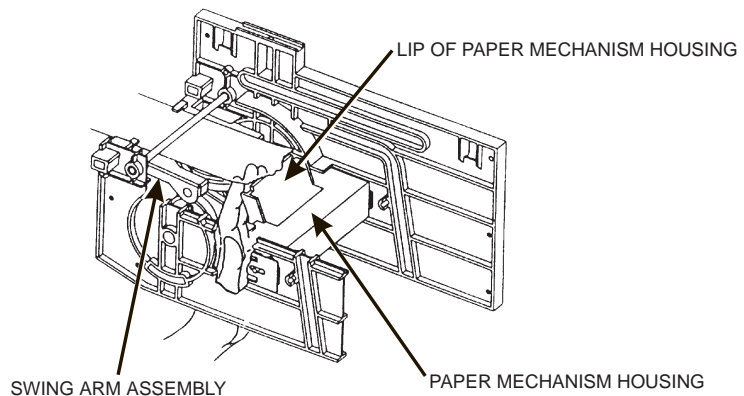
10. Reach underneath the brewer and pull paper roller to the right.

11. Pull paper down between the paper rollers.

12. Release the paper roller.

PAPER MECHANISM HOUSING
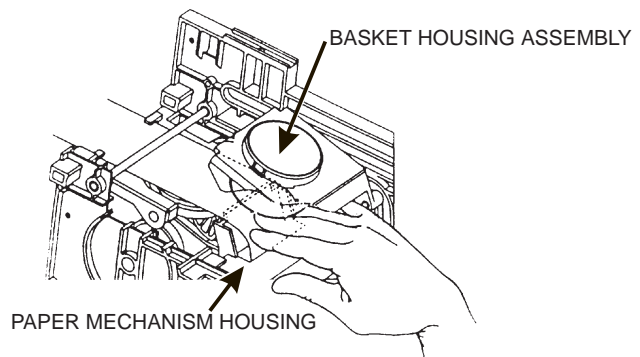
13. Place the main power switch in the *ON* position.

14. Enter *BREWER TEST* mode (see SERVICE) and cycle the brewer to observe that paper feeds properly.

15. Replace the cup station and grounds bucket.

PAPER ROLLER
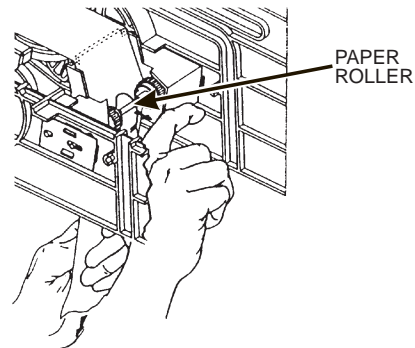
HOT WATER TANK CLEANING PROCEDURE

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

PROGRAMMING

Standby Message

#

DATA → * → Paid Sales → * → Paid Vends → * → Unpaid Sales → * → Unpaid Vends → * → Mug Vends → * → Total Test Vends → * → View or Change Machine ID

# # # # # # #

#

PAYOUT (NDQ = 123)

☐ = These items do not appear when an EXEC coin mech is used.

Note:
Pressing and holding # will return to the standby message from anywhere.

#

PRICE → * → Price Individual Selections
← # ←

#

FAULTS → * → First Machine Fault Display → * → Second Machine Fault Display → - - - → Last Machine Fault Display → *

# # #

#

SERVICE (SEE NEXT PAGE FOR DETAILS)

#

SETUP → * → Free Vend On/Off → * → Select Coin Mech → * → Validator Options → * → Select Card Options → * → Change Options → * → Low Change Message → * → Declining Balance → * → Select Display Language → *

# # # # # # # #

#

COFFEE (SEE NEXT PAGE FOR DETAILS)

Up to 4 freevend periods are supported.

#

TIME OF DAY → * → Date → * → Activate Freevend Periods → * → First Freevend Period Start Time → * → First Freevend Period Stop Time → * → First Freevend Period Selections → * → Last Freevend Period Start Time → * → Last Freevend Period Stop Time → * → Last Freevend Period Selections

# # # # # # #

#

The diagram on these pages is a map of the programming functions in your merchandiser. These functions will be described in greater detail, but this will help you get around once you are familiar with how programming works. The symbols * and # represent special keys that move you around inside the programming modes, and from one mode to another. As you can see on the diagram, these symbols show up in the pathways in and around the modes.

Hot Drink Operation and Service Manual

```
┌─────────┐
│ SERVICE │◄──────────┐
└─────────┘           │
    │ *               │
    ▼          #       │
┌─────────┐──────►    │
│Test Vend│          │
└─────────┘          │
    │ *              │
    ▼          #      │
┌──────────────┐──►  │
│  Software     │    │
│Version Number │    │
└──────────────┘    │
    │ *             │
    ▼          #     │
┌──────────────┐──► │
│ Water Tank    │   │
│  Temp.        │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌─────────┐──►     │
│Cup Test │        │
└─────────┘        │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│ Whipper Test  │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│Air Compressor │   │
│    Test       │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│ Brewer Test   │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│ Bowl Rinse    │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│ Brewer Rinse  │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│Fill Water Tank│   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►┘
│ Input Test    │
└──────────────┘
    │ *
    ▼
```

☐ = These items only appear when a brewer is used.

```
┌─────────┐
│ COFFEE  │◄──────────┐
└─────────┘           │
    │ *               │
    ▼          #       │
┌─────────┐──────►    │
│ Lockout │          │
└─────────┘          │
    │ *              │
    ▼          #      │
┌──────────────┐──►  │
│   Select      │    │
│  Regular      │    │
│ Drink Size    │    │
└──────────────┘    │
    │ *             │
    ▼          #     │
┌──────────────┐──► │
│   Select      │   │
│   Large       │   │
│ Drink Size    │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│   Set         │   │
│  Water        │   │
│  Throws       │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│   Set         │   │
│  Product      │   │
│  Throws       │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│   Set         │   │
│  Sugar        │   │
│  Throws       │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│   Set         │   │
│ Lightener     │   │
│  Throws       │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│   Set         │   │
│  Steep        │   │
│  Time         │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│  Set Air      │   │
│ Compresor     │   │
│ Run Time      │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│   Set         │   │
│ Cappuccino    │   │
│  Ratio        │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►│
│ Set Water     │   │
│  Tank         │   │
│ Temperature   │   │
└──────────────┘   │
    │ *            │
    ▼          #    │
┌──────────────┐──►┘
│ Set Machine   │
│Configuration  │
└──────────────┘
    │ *
    ▼
```
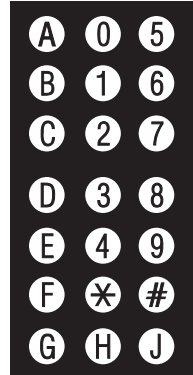
THE KEYPAD

During vending, customers use the keypad to make selections. When you pull the door switch to the ON position, the keypad becomes your programming input device. For reference, we will show the keypad on all the pages.

SPECIAL PROGRAMMING KEYS

Press this key to move from one function to another.

From within a function, press once to return to the beginning of the function; press and hold to return to the standby message.

＊ This key moves you around inside of a function.

Ⓗ This key allows you to switch between two or more choices.

Ⓙ This is the "action" key. It will start tests, fill the water tank, etc.

DATA

View several types of sales data:

NOTE
All data is not resettable.

1. Pull out the door switch button to the ON position.
2. Press **#** until the display shows *DATA*.
3. If you have the DEX option, press Ⓙ to transfer data into your DEX device.
4. Press **＊**. The display shows **＊＊$ .XX**. This is the dollar and cents amount of paid sales.
5. Press **＊**. The display shows **＊＊ XX**. This is the count of paid vends.
6. Press **＊**. The display shows **_O$ .XX**. This is the dollar and cents amount of unpaid "sales". (Does not display if the total is zero.)
7. Press **＊**. The display shows **_O XX**. This is the total count of unpaid vends. (Does not display if the total is zero.)
8. Press **＊**. The display shows *MUG XX*. This is the count of mug vends. (Does not display if the total is zero.)
9. Press **＊**. The display shows *TST XX*. This is the total count of test vends. (Does not display if the total is zero.)
10. Press **＊**. The display shows *ID XXXXXX*. This is the machine ID number. Use Ⓐ - Ⓖ and Ⓞ - Ⓨ to enter a unique identifier for the machine.
11. Press **＊** to return to step 4, or **#** to exit.

PAY OUT (Does not apply to machines with EXEC coin mechanisms.)

Pay out coins:
1. Pull out the door switch button to the ON position.
2. Press # until the display shows

   $NDO = 1.2.3$ (dumb mech). This is telling you that pressing ① pays out nickels, pressing ② pays
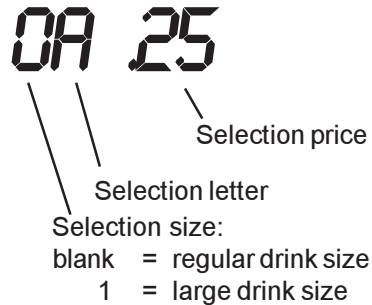
   out dimes, and pressing ③ pays out quarters.

<div align="center">OR</div>

   $PAY = 1.2.3$ (MDB mech). This is telling you that pressing ① pays out from tube 1 (nickels), pressing

   ② pays out from tube 2 (dimes), and pressing ③ pays out from tube 3 (quarters).
3. Press the appropriate key once to pay out one coin.
4. Press and hold the appropriate key to pay out coins continuously.
5. Press and hold │#│ to return to the standby message.

PRICE
Set prices for all the selections in your merchandiser:

<div align="right">0A 25</div>

The price display:

Selection price

Selection letter

Selection size:
blank = regular drink size
   1 = large drink size

1. Pull out the door switch button to the ON position.
2. Press │#│ until the display shows $PRICE$.
3. Press │✶│, and the display shows $A .XX$. "XX" is the price for the regular size **A** selection.
4. Press │✶│ until the selection you want to price is displayed.

<div align="center">OR</div>

   Press the letter of the selection you want to price, then press the selection size, and it will be displayed immediately.
5. Enter a new price with the number keys.
6. Repeat steps 4 and 5 until you have priced all the selections.

<div align="center">OR</div>

7. Press │#│ to return to the $PRICE$ display, or hold │#│ to exit.

Keypad layout:
A	0	5
B	1	6
C	2	7
D	3	8
E	4	9
F	✶	#
G	H	J
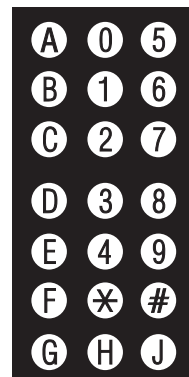
FAULTS

Display all the <u>active</u> faults on your merchandiser:

1. Pull out the door switch button to the ON position.

2. Press [#] until the display shows *FAULTS*.

3. Press [*] to see the list of faults:

NO ERRORS	There are no faults on the machine.
KEYPAD XY	Key(s) "X" and "Y" are stuck.
ROM ERROR	Error with ROM.
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 and drink settings. Be sure you have written this information down before continuing.** Press AND HOLD (C). You will see *CLEARING* in the display. Continue holding until two beeps are heard and the display shows *FINISHED*.
CONFIG ERR	Error with machine configuration.
RING MTR	The cup ring is jammed.
MOTOR 12	Cup turret motor 1 or 2 is jammed.
NO CUPS 1	Out of cups.
WASTE PAIL	The waste pail is full.
LOW WATER	The water level in the tank is low.
COLD TANK	Water is too cold to vend.
NO SENSOR	Illegal temperature reading.
TANK ERR	A fault occurred in the inlet system.
WHP 123	Whipper motor failure (motor 1, 2, or 3).
BREWER JAM	The brewer is jammed.
MECH ERR	Problem with the coin mechanism.
CARD. ERR	Problem with the card reader.
DBV. ERR	Problem with the bill validator.
NONE READY	Time of day inhibit is active, or all selections are out of service.
CHK PRICE	Illegal price is detected.
LOCKS SET	All selections are locked.

When the first fault item (if any) repeats, you have seen all the faults.

When active faults exist, pulling the door switch will automatically display *FAULTS*.

4. Press [*] to see more faults or [#] to exit.

(A) (0) (5)
(B) (1) (6)
(C) (2) (7)
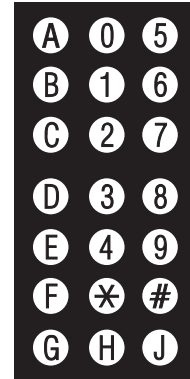(D) (3) (8)
(E) (4) (9)
(F) (*) (#)
(G) (H) (J)
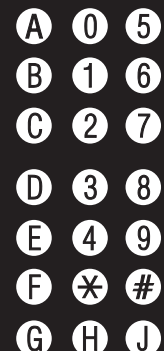
Hot Drink Operation and Service Manual

SERVICE

View machine status and test certain functions:

1. Pull out the door switch button to the ON position.
2. Press ⬚#⬚ until the display shows *SERVICE*.
3. Press ⬚✳⬚. The display shows *TEST .00*. You can test vend selections. Insert coins and bills into the merchandiser, and the amount you inserted is displayed.
4. Press ⬚✳⬚. The display shows the software version number.
5. Press ⬚✳⬚. The display shows the water tank temperature. Temperature is displayed in either degrees Fahrenheit (F) or Celsius (C), depending upon what was set in the *COFFEE* mode.
6. Press ⬚✳⬚. The display shows *CUP TEST*. To drop a cup, press Ⓙ.
7. Press ⬚✳⬚. The display shows *WHIP TEST*. To test the whipper(s), do one of the following:
    a. Press the selection letter that uses the whipper you want to test. For example, pressing Ⓐ will test whipper #1. (The display shows *WHIP 1*.)
    b. Press the number of the whipper. The display shows the whipper number you pressed. (If you press a whipper number that does not exist, nothing happens.)
8. Press ⬚✳⬚. The display shows *AIR TEST*. To test the air compressor, press Ⓙ.
9. Press ⬚✳⬚. The display shows *BREW TEST*. Press Ⓙ, and each brewer position is displayed:

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

    a. *BREW'R BREW* - The brewer is in the BREW position.
    b. *BREW'R FLIP* - The brewer is in the FLIP position.
    c. *BREW'R HOME* - The brewer is in the HOME position.

10. Press ⬚✳⬚. The display shows *BOWL RINSE*. To rinse the bowls, press Ⓙ. Hot water is delivered to the mixing bowl(s), and the display shows *RINSING* until the cycle is complete.
11. Press ⬚✳⬚. The display shows *BREW RINSE*. To rinse the brewer, press Ⓙ. The brewer cycles and the display shows *CLEANING* until the cycle is complete.
12. Press ⬚✳⬚. The display shows *TANK.FILL*.

a. Press ⒥. The display shows: *FILLING*. This indicates that the tank is filling and/or the error is cleared. When the tank is full, the display returns to *TANK.FILL*.

b. If it is taking longer than 12 minutes to fill the tank **AND THERE ARE NO LEAKS**, you may see the *TANK ERR* message again. Just repeat step a after making sure there are no other problems, such as a restriction in the water inlet line.

NOTE

The heater does not function until the tank is full. The normal heat up time to reach operating temperature is 90 minutes, depending upon incoming water temperature.

13. Press ✳. The display shows *IN KPHL1*. This screen lets you test the **IN**put switches.

K = the letter or number of any key (except ✳ and #) being pressed replaces "*K*"
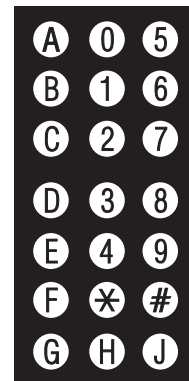
P = waste pail overflow switch

H = water tank upper level

L = water tank lower level (a decimal point appearing after the "L" indicates that the inlet valve is energized)

1 = cup ring empty sensor

14. Press ✳ to return to step 3, or # to exit.

Keypad:

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

SETUP

Configure various machine functions:

1. Pull out the door switch button to the ON position.
2. Press ⌗ until the display shows *SETUP*.
3. Press ✳. The display shows either *FREE ALL* or *FREE OFF*. When *FREE ALL* is displayed, all selections are free. Press Ⓗ to switch between **ALL** and **OFF**.
4. Press ✳. The display shows either *DUMB MECH*, *MDB MECH*, *EXEC MECH*, or *NO MECH*. Press Ⓗ to switch between these coin mech choices.
5. Press ✳. The display shows the bill validator choices. Press Ⓗ to switch between the choices:

   SER. 1.2.5.10.20 = A serial validator is installed. Press ①, ②, ⑤, ⑥, or ⑦ (respectively) to display the bill (s) which will be accepted.

   <div align="center">**OR**</div>

   MDB. 1.2.5.10.20 = An MDB validator is installed. Press ①, ②, ⑤, ⑥, or ⑦ (respectively) to display the bill (s) which will be accepted.

   <div align="center">**OR**</div>

   MDB. <✳> = A special MDB validator has been detected after *MDB. 1.2.5.10.20* was installed and interrogated. Press Ⓙ to enter the list of bill(s) or tokens which will be accepted. Press ✳ to scroll through the list and press Ⓗ to turn a particular selection ON or OFF. Press ⌗ when you have completed the list. *MDB. <✳>* will again be displayed.

   <div align="center">**OR**</div>

   PULSE DBV = A pulse validator is installed.

   <div align="center">**OR**</div>

   NO DBV = No bill validator installed.

6. Press ✳. The display shows either:
   NO CARD = No card reader is installed,
   DUMB CARD = A dumb (12 pin) card reader is installed,
   MDB CARD = An MDB card reader is installed.

   Press Ⓗ to switch between the choices.

7. Press ✳. The display shows *CHANGE X.XX*. Change will be given for coins or bills up to this amount without the customer having to make a selection. For example, if **1.00** is displayed, the machine will give the customer change for a dollar without requiring a selection. Entering **0.00** means that no change will be given without a purchase.

8. Press ✳. The display shows: *LOW.MSG X.XX*. The customer will see *USE EXACT CHANGE* in the display when the amount of available change in the coin mechanism falls below the level you set for **X.XX**. Enter a value with the number keys. For example, if *LOW.MSG 1.00* is selected, the customer sees the *USE EXACT CHANGE* message when less than a dollar's worth of change is in the coin mechanism.

A	0	5
B	1	6
C	2	7
D	3	8
E	4	9
F	✳	⌗
G	H	J
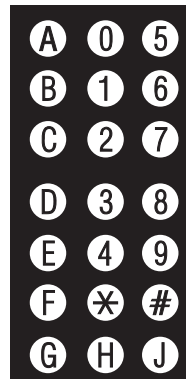
9.   Press ✳. The display shows either:

DECLINE.ON = More than one vend is allowed, with a declining balance. This means that the customer can choose multiple products until the amount of credit is lower than the lowest priced product in the machine.

OR

DECLINE.OFF = A declining balance is not allowed. Press Ⓗ to switch between these two choices.

10.   Press ✳. The display shows either *ENGLISH, DEUTSCH, FRANCAIS, ESPANOL, PORTUGUES, SWEDISH* or *NEDERLANDS*. Press Ⓗ to select the appropriate language for your display.

11.   Press ✳ to return to step 3, or # to exit.

COFFEE

1.   Pull out the door switch button to the ON position.

2.   Press # until the display shows *COFFEE* .

3.   Press ✳. The display shows *LK. ABCDEFG*. When letters **A** through **G** are displayed, it indicates the selections that are locked out. An active selection is indicated by a dash (-). Pressing the appropriate letter key(s) switches from active to locked out.

Ⓐ	⓪	⑤
Ⓑ	①	⑥
Ⓒ	②	⑦
Ⓓ	③	⑧
Ⓔ	④	⑨
Ⓕ	✳	#
Ⓖ	Ⓗ	Ⓙ
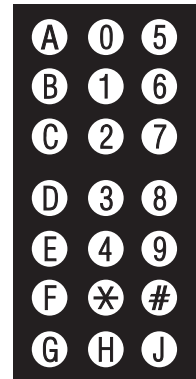
NOTE

If your machine is **NOT** equipped with the International Coffee option, you **MUST** lock out selection C. Failure to do so will allow "vending" a non-existant selection.

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4.   In the next two steps, you will set up the two drink sizes. **Your machine only supports one cup size.** Therefore, the large size drink selection vends a full cup, while the regular size drink selection vends a ***partially filled cup***. First, be sure that the cups you have loaded in your machine have the capacity to hold the large size drink volume. Then follow the two steps below to set up the two drink sizes:

a.   Press ✳. The display shows **CUP   X OZ**. Press Ⓗ until the regular size drink volume you want is displayed.

•   If you want to load the factory default water and product throw times for your new cup size, press and hold Ⓓ. The display shows *CLEARING*, then *FINISHED*.

b.   Press ✳. The display shows **CUP.1   X OZ**. Press Ⓗ until the large size drink volume you want is displayed.

•   If you want to load the factory default water and product throw times for your new cup size, press and hold Ⓓ. The display shows *CLEARING*, then *FINISHED*.

When setting up throw times for water, product, etc., each selection letter shows the time for a regular size drink and the time for a large drink. The large size drink throw time is shown with a "1" in front of the selection letter.


NOTE

When changing timer setups, you must enter throw times for Caffé Latte (1D) manually. These times will not be set when loading factory defaults.


CAFFE'LATTE RECIPE
(12 oz. recommended)

1. Make sure the machine is configured to use 12 oz. cups.
2. Set up the 1D selection as follows:
   a. Water: 6.00 seconds = 6 ounces (about 177 ml)
   b. Coffee: 4.77 seconds = 17 grams
   c. Sugar: 0.24 seconds = 2.5 grams
   d. Lightener: 2.8 seconds = 5 grams
   e. Steep time: 12.5 seconds

---

5. Press ⟨✻⟩. The display shows *WATER*. This is the main screen for setting up water throws. If you don't want to do this, continue to step 6.
   a. Do one of the following:
      Press the letter of the selection whose water throw you want to set

      OR

      Press ⟨H⟩ to go to the **A** selection, then press ⟨✻⟩ until the desired selection is displayed.
   b. Example: The display shows *WAT.A 5.90*. This is the water screen for the **A** selection. The numbers on the right are the throw time for the selection (5.90 seconds in this example).
   c. Enter a new throw time, using the number keys.
   d. Press ⟨J⟩ test throw the water.
   e. Repeat steps a through d to set another selection.
   f. Press ⟨#⟩ to return to the *WATER* display.

6. Press ⟨✻⟩. The display shows *PRODUCT*. This is the main screen for setting up dry product throws. If you don't want to do this, continue to step 7.
   a. Do one of the following:
      Press the letter of the selection whose dry product throw you want to set
      OR

      Press ⟨H⟩ to go to the **A** selection, then press ⟨✻⟩ until the desired selection is displayed.
   b. Example: The display shows *DRY.A 1.90*. This is the water screen for the **A** selection. The numbers on the right are the throw time for the selection (1.90 seconds in this example).
   c. Enter a new throw time, using the number keys.
   d. Press ⟨J⟩ test throw the dry product.
   e. Repeat steps a through d to set another selection.
   f. Press ⟨#⟩ to return to the *PRODUCT* display.

|		
Ⓐ	⓪	⑤
Ⓑ	①	⑥
Ⓒ	②	⑦
Ⓓ	③	⑧
Ⓔ	④	⑨
Ⓕ	✳	#
Ⓖ	Ⓗ	Ⓙ
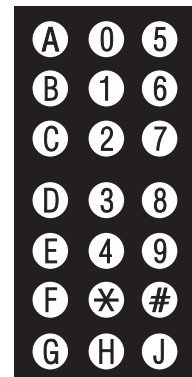
7. Press ✳. The display shows *SUGAR*. This is the main screen for setting up sugar throws. If you don't want to do this, continue to step 8.
    a. Do one of the following:
        Press the letter of the selection whose sugar throw you want to set

        OR

        Press Ⓗ to go to the **A** selection, then press ✳ until the desired selection is displayed.
        NOTE
        The **A** and **B** selections are represented by a star (**✳**). All other selections using sugar are represented normally.

    b. Example: The display shows *SUG.F 1.90*. This is the sugar screen for the **F** selection. The numbers on the right are the throw time for the selection (1.90 seconds in this example).
    c. Enter a new throw time, using the number keys.
    d. Press Ⓙ test throw sugar.
    e. Repeat steps a through d to set another selection.
    f. Press # to return to the *SUGAR* display.

8. Press ✳. The display shows *LIGHTENER*. This is the main screen for setting up lightener throws. If you don't want to do this, continue to step 9.
    a. Do one of the following:
        Press the letter of the selection whose lightener throw you want to set.

        OR

        Press Ⓗ to go to the **A** selection, then press ✳ until the desired selection is displayed.
        NOTE
        The **A** and **B** selections are represented by a star (**✳**). All other selections using lightener are represented normally.

    b. Example: The display shows *LIT.F .90*. This is the lightener screen for the **F** selection. The numbers on the right are the throw time for the selection (0.90 seconds in this example).
    c. Enter a new throw time, using the number keys.
    d. Press Ⓙ test throw lightener.
    e. Repeat steps a through d to set another selection.
    f. Press # to return to the *LIGHTENER* display.

9. Press ✳. The display shows *STEEP*. This is the main screen for setting up steep times for brewed selections. If you don't want to do this, continue to step 10.
    a. Do one of the following:
        Press the letter of the selection whose steep time you want to set.

        OR

        Press Ⓗ to go to the **A** selection, then press ✳ until the desired selection is displayed.
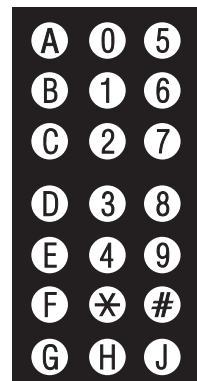
b. Example: The display shows $STP.A+ 2.10$. This is the steep time screen for the **large A** selection. The numbers on the right are the steep time for the selection (2.10 seconds in this example).

c. Enter a new steep time, using the number keys.

d. Repeat steps a through c to set another selection.

e. Press #️ to return to the $STEEP$ display.

10. Press ✳️. The display shows AIR. This is the main screen for setting up air compressor running times for brewed selections. If you don't want to do this, continue to step 11.

a. Do one of the following:
Press the letter of the selection whose compressor running time you want to set.
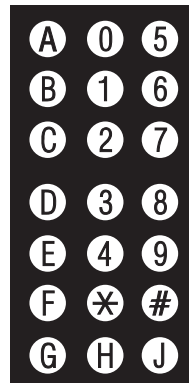
OR

Press Ⓗ to go to the **A** selection, then press ✳️ until the desired selection is displayed.

b. Example: The display shows $AIR.A 4.10$. This is the air compressor time screen for the **A** selection. The numbers on the right are the steep time for the selection (4.10 seconds in this example).

c. Press **J** to run the air compressor.

d. Repeat steps a through c to set another selection.

e. Press #️ to return to the AIR display.

11. Press ✳️. The display shows $RATIO .25$. This is the ratio of chocolate to coffee in a cappuccino drink. In this example, cappuccino uses 25% chocolate.

a. Enter a new ratio using the number keys. **A ratio between 5 and 50% must be present, or you can't leave this step.**

12. Press ✳️. The display shows $SET XXX°F$. This is the setpoint for the hot water tank (in degrees Fahrenheit). The hot water tank will maintain this temperature within a few degrees. If you don't want to change the setpoint, continue to step 13.

a. Enter a new setpoint using the number keys. Acceptable range: 149°-205° F (65°-96° C).

b. Press Ⓗ to switch the display between degrees Celsuis and degrees Fahrenheit.

13. Press ✳️. The display shows $CONF XXXX$. The four "X"s represent the configuration code for your machine. **BE SURE THE CODE MATCHES YOUR MACHINE'S ACTUAL CONFIGURATION!** An invalid configuration will cause an "out of service" condition and a diagnostic message.

a. Enter one of the following configurations using the number keys:

               If you have a . . .   . . . enter this code:
               Single brew machine 2111
               Dual brew machine 2121
               Freeze dry machine 2131

b. Press ✳️ to return to step 3 or #️ to exit.

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
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 0.35	1.20 0.50	1.50 0.60	1.60 0.65	1.80 0.70	2.20 0.90
A	Strong freeze dry coffee	1.10 0.65	1.50 0.90	1.80 1.10	2.00 1.20	2.20 1.35	2.60 1.60
B	Fresh brew decaf	5.70 1.60	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 0.35	1.20 0.50	1.50 0.60	1.60 0.65	1.80 0.70	2.20 0.90
B	Strong freeze dry decaf	1.10 0.65	1.50 0.90	1.80 1.10	2.00 1.20	2.20 1.35	2.60 1.60
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 0.35	1.20 0.50	1.50 0.60	1.60 0.65	1.80 0.70	2.20 0.90
D	Strong freeze dry coffee ESPRESSO	1.10 0.65	1.50 0.90	1.80 1.10	2.00 1.20	2.20 1.35	2.60 1.60
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 0.35	1.20 0.50	1.50 0.60	1.60 0.65	1.80 0.70	2.20 0.90
E	Strong freeze dry coffee CAPPUCCINO	1.10 0.65	1.50 0.90	1.80 1.10	2.00 1.20	2.20 1.35	2.60 1.60
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 2.80	24.00 4.00	28.00 4.65	31.00 5.15	34.00 5.65	41.00 6.80
H	Soup	4.30 0.70	6.00 1.00	7.00 1.15	7.60 1.25	8.50 1.35	10.20 1.65
H	Soluble Product	10.0 2.45	13.5 3.35	16.2 4.00	17.8 4.35	19.7 4.85	23.7 5.80

Table D1. Dry Product 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
I	Chocolate used in cappuccino	3.10 0.55	4.50 0.75	5.00 0.85	5.80 1.00	6.20 1.05	7.60 1.30
D	Sugar used in espresso	2.10 0.35	3.00 0.45	3.50 0.55	4.00 0.60	4.50 0.65	5.50 0.80
D	Extra sugar used in espresso	3.00 0.50	4.35 0.65	4.80 0.75	5.35 0.80	6.25 0.90	7.20 1.05
E	Sugar used in cappuccino	3.50 0.45	5.10 0.65	6.00 0.75	6.80 0.85	7.70 0.95	9.40 1.20
E	Extra sugar used in cappuccino	4.60 0.60	6.80 0.90	7.70 1.00	8.50 1.10	9.40 1.20	11.00 1.45
F	Sugar used in tea	4.20 0.55	6.00 0.75	7.00 0.90	8.00 1.00	9.00 1.15	11.00 1.40
F	Extra sugar used in tea	5.50 0.70	8.00 1.00	9.00 1.15	10.00 1.25	11.00 1.40	13.00 1.65
F	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
F	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
F	Sugar substitute used in tea	0.60 0.75	0.85 1.05	1.00 1.25	1.10 1.35	1.30 1.60	1.50 1.90
F	Extra sugar substitute used in tea	0.80 1.00	1.10 1.35	1.30 1.60	1.40 1.75	1.60 2.00	1.90 2.40
-	Sugar	4.20 0.55	6.00 0.75	7.00 0.90	8.00 1.00	9.00 1.15	11.00 1.40
-	Extra sugar	5.50 0.70	8.00 1.00	9.00 1.15	10.00 1.25	11.00 1.40	13.00 1.65
-	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
-	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
-	Sugar substitute	0.60 0.75	0.85 1.05	1.00 1.25	1.10 1.35	1.30 1.60	1.50 1.90
-	Extra sugar substitute	0.80 1.00	1.10 1.35	1.30 1.60	1.40 1.75	1.60 2.00	1.90 2.40

D = Espresso   I = Chocolate times for cappuccino
E = Cappuccino

* 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.

*- Separate sugar, lightener, and sugar substitute timers are available for selections A/B/C, D, E, and F.
*

Table D2. Dry Product Settings for Cappuccino (5 oz. cup)

CHOCOLATE					FREEZE DRY COFFEE			FRESH BREW COFFEE		
Percent	Weight (gm)	Timing (sec)	Water Settings		Percent	Water Settings		Percent	Water Settings	
			Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)
15 (default)	3.10	0.40	52	2.50	85 (default)	57	2.50	85 (default)	58	2.25
20	4.10	0.55	54	2.60	80	54	2.35	80	55	2.15
25	5.00	0.65	56	2.70	75	52	2.25	75	53	2.05
30	5.80	0.75	59	2.85	70	49	2.10	70	49	1.90
35	6.70	0.85	61	2.95	65	47	2.00	65	47	1.80
40	7.60	0.95	63	3.05	60	44	1.85	60	45	1.70
45	8.40	1.05	66	3.20	55	41	1.70	55	41	1.55
50	9.30	1.15	68	3.30	50	38	1.60	50	38	1.45

Table D2. Dry Product Settings for Cappuccino (7 oz. cup)

CHOCOLATE					FREEZE DRY COFFEE			FRESH BREW COFFEE		
Percent	Weight (gm)	Timing (sec)	Water Settings		Percent	Water Settings		Percent	Water Settings	
			Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)
15 (default)	4.50	0.55	56	2.55	85 (default)	101	4.35	85 (default)	115	4.00
20	5.80	0.70	59	2.70	80	97	4.20	80	110	4.85
25	7.10	0.85	63	2.90	75	92	4.00	75	104	3.65
30	8.00	0.95	65	3.00	70	90	3.90	70	102	3.60
35	9.30	1.10	69	3.20	65	86	3.75	65	96	3.40
40	10.50	1.25	72	3.35	60	81	3.55	60	92	3.25
45	11.80	1.40	76	3.55	55	77	3.35	55	87	3.05
50	13.10	1.55	79	3.70	50	72	3.15	50	83	2.90

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Table D2. Dry Product Settings for Cappuccino (8 oz. cup)

CHOCOLATE					FREEZE DRY COFFEE			FRESH BREW COFFEE		
Percent	Weight (gm)	Timing (sec)	Water Settings		Percent	Water Settings		Percent	Water Settings	
			Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)
15 (default)	5.40	0.65	59	2.80	85 (default)	132	5.55	85 (default)	153	5.05
20	6.80	0.80	62	2.95	80	128	5.40	80	150	4.95
25	8.00	0.95	66	3.20	75	122	5.15	75	144	4.75
30	9.30	1.10	69	3.40	70	117	4.95	70	137	4.50
35	11.00	1.30	73	3.70	65	112	4.75	65	131	4.30
40	12.70	1.50	78	3.95	60	108	4.60	60	124	4.05
45	14.00	1.65	82	4.20	55	105	4.45	55	118	3.85
50	15.65	1.85	85	4.40	50	91	3.85	50	112	3.65

Table D2. Dry Product Settings for Cappuccino (9 oz. cup)

CHOCOLATE					FREEZE DRY COFFEE			FRESH BREW COFFEE		
Percent	Weight (gm)	Timing (sec)	Water Settings		Percent	Water Settings		Percent	Water Settings	
			Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)
15 (default)	5.8	0.75	60	2.75	85 (default)	140	5.90	85 (default)	172	5.60
20	7.6	1.00	64	2.95	80	134	5.65	80	155	5.05
25	8.8	1.15	68	3.15	75	130	5.50	75	152	4.95
30	10.5	1.35	72	3.35	70	125	5.30	70	144	4.70
35	12.3	1.60	77	3.60	65	119	5.05	65	138	4.50
40	13.9	1.80	82	3.85	60	113	4.80	60	133	4.35
45	15.3	2.00	85	4.00	55	109	4.65	55	126	4.10
50	17.1	2.25	90	4.25	50	105	4.50	50	124	4.05

Table D2. Dry Product Settings for Cappuccino (10 oz. cup)

CHOCOLATE					FREEZE DRY COFFEE			FRESH BREW COFFEE		
Percent	Weight (gm)	Timing (sec)	Water Settings		Percent	Water Settings		Percent	Water Settings	
			Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)
15 (default)	6.2	0.80	60	2.80	85 (default)	166	7.00	85 (default)	185	6.40
20	8.0	1.05	65	2.95	80	161	6.80	80	178	6.15
25	9.8	1.30	70	3.20	75	155	6.55	75	172	5.95
30	11.3	1.50	74	3.40	70	150	6.35	70	167	5.80
35	13.6	1.80	80	3.70	65	143	6.05	65	159	5.50
40	15.3	2.05	85	3.95	60	137	5.80	60	152	5.25
45	17.1	2.30	90	4.20	55	131	5.55	55	144	4.95
50	18.7	2.50	94	4.40	50	126	5.35	50	138	4.75

Table D2. Dry Product Settings for Cappuccino (12 oz. cup)

CHOCOLATE					FREEZE DRY COFFEE			FRESH BREW COFFEE		
Percent	Weight (gm)	Timing (sec)	Water Settings		Percent	Water Settings		Percent	Water Settings	
			Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)		Volume (ml)	Timing (sec)
15 (default)	7.6	1.00	64	3.00	85 (default)	223	9.35	85 (default)	231	8.15
20	9.8	1.30	70	3.30	80	215	9.00	80	223	7.85
25	11.8	1.55	76	3.60	75	208	8.70	75	215	7.55
30	13.9	1.85	82	3.90	70	201	8.40	70	207	7.25
35	16.1	2.15	87	4.15	65	193	8.05	65	201	7.05
40	18.2	2.45	93	4.45	60	185	7.70	60	193	6.75
45	20.4	2.75	99	4.75	55	178	7.40	55	185	6.45
50	22.3	3.00	105	5.05	50	171	7.10	50	178	6.20

Table W1. Water Throw Default Times and Volumes

Selection		Time (in seconds) per size cup					
		Volume (in ml) per size cup					
		5 oz	7 oz	8 oz	9 oz	10 oz	12 oz
A	Fresh brew coffee	4.50 130	6.40 190	7.50 220	8.20 240	9.00 265	11.00 315
B	Fresh brew decaf	4.50 130	6.40 190	7.50 220	8.20 240	9.00 265	11.00 315
A	Freeze dry coffee	4.95 120	7.00 170	8.25 200	8.65 210	9.90 240	12.60 305
B	Freeze dry decaf	4.95 120	7.00 170	8.25 200	8.65 210	9.90 240	12.60 305
D	Espresso (FB)	2.25 65	3.20 95	3.75 110	4.10 120	4.50 133	5.50 158
D	Espresso (FD)	2.50 60	3.50 85	4.15 100	4.35 105	4.95 120	6.30 153
F	Tea	4.95 120	7.00 170	8.25 200	8.65 210	9.90 240	12.60 305
G	Chocolate	4.85 100	6.80 140	8.25 170	8.75 180	9.70 200	11.65 240
H	Soup	4.80 110	6.95 160	8.25 190	8.70 200	10.00 230	12.15 280
H	Soluble Product	4.85 100	6.80 140	8.25 170	8.75 180	9.70 200	11.65 240

TIME OF DAY FEATURES

You can set the clock and calendar features of your machine, as well as set up to four intervals during the day when the machine will freevend.

1. Pull out the door switch button to the ON position.
2. Press #️⃣ until the display shows *TIME HH.MM* . This is the currently set time, expressed in 24-hour format.
    a. If desired, set the time using the number keys. Remember to express the time in 24-hour format: 2:00 pm = 14.00.
3. Press ✳️. The display shows the current date: MM/DD   YY. For example, *07/25   97* is July 25, 1997.
    a. If desired, set the month, day, and year using the number keys.
    b. To display the date in the European format (DD-MM), press Ⓗ. Note that the European format uses a dash (-) instead of a slash (/) between the day and month to avoid confusing the two formats. The display for our example would then be *25 ▭ 07   97*.
4. Press ✳️. The display shows *FREEV 1 ▭ 3 ▭*. This shows the number of active "time-of-day freevend" periods. In this example, freevend periods 1 and 3 are active.
    a. To turn on or off the freevend periods, press the corresponding number key (1, 2, 3, or 4).
5. Press ✳️. The display shows *1.STRT 10.00*. This is the start time of the first freevend period, expressed in 24-hour time format. This example shows period #1 beginning at 10:00 am.
    a. If desired, enter a new start time using the number keys.
6. Press ✳️. The display shows *1.STOP 14.00*. This is the stop time of the first freevend period, expressed in 24-hour time format. This example shows period #1 ending at 2:00 pm.
    a. If desired, enter a new stop time using the number keys.

    The machine will freevend between the hours of 10:00 am and 2:00 pm every day.

7. Press ✳️. The display shows **. ABCDEFG* . These are the selections to be free vended during this period. Pressing Ⓞ or ① will show selections to be free vended by cup size.
8. Press ✳️. The display shows *3.STRT 0.00*. This is the start time of freevend period #3. Notice that the display did not show freevend period #2, since it is inactive (see step 4). This time period and any others are treated exactly the same as freevend period #1.
9. Press ✳️ once to return to step 2, or press and hold #️⃣ to exit.

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CLEANING AND SANITATION

Basics

INTRODUCTION

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

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

The information in this section will explain how to clean and sanitize the merchandiser on a day to day 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 also 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.

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 high enough to kill bacteria. Water must be at least 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.

Turn the machine off before using water on the machine.

In either case, the object 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.

SANITIZING IS NO SUBSTITUTE FOR A GOOD CLEANING

A GOOD PLACE TO START -- YOUR SANITATION KIT

You need to be sure that each machine is clean, safe, and functioning when you leave it. In order to properly do this, you need to have a complete set of the right tools. In addition to the screwdrivers, pliers, and test equipment necessary to repair a machine, you need to have the tools to clean the machine.

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 re-contaminate 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.

SANITATION PROCEDURES

Refer to the recommended cleaning and sanitation interval table on the final page of this section. For each item, complete the procedure as outlined here.

Food-Contact Parts

NOTE
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 by washing with warm water and detergent. Sanitize with hot water and allow to air dry completely before returning to the cabinet.

Mixing Bowls - It is important that the mixing bowls be kept clean. The inside of all mixing bowls should be rinsed whenever the machine is serviced by performing the "Bowl Rinse" operation as outlined in the Programming section of this manual.

When required by the cleaning and sanitation schedule at the end of this section or more often if needed, remove the mixing bowls from the dry ingredient shelf. Thoroughly clean the mixing bowls by washing with warm water and detergent. Sanitize with hot water and allow to air dry before reassembling.

Whipper Cover and Impellers - Remove lids and impellers from the whipper housings, wash the lids and impeller housing. Sanitize with hot water and allow to air dry before reassembling.

FLAT SECTION OF WHIPPER MOTOR SHAFT

WHIPPER COVER

WHIPPER HOUSING

IMPELLER

IMPELLER REMOVAL TOOL

DETAIL A
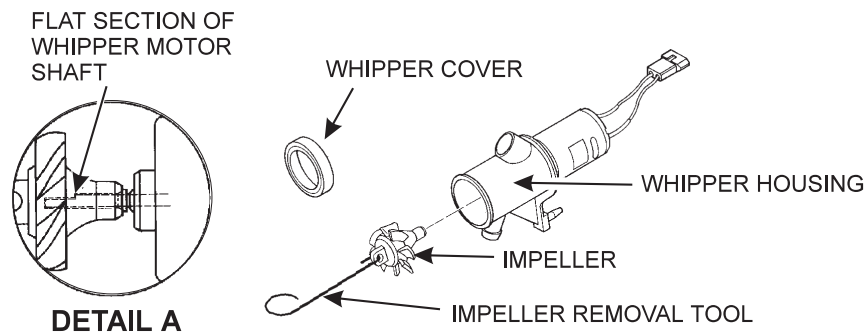
a.   Remove the whipper assembly from its mounting and remove the whipper cover.
b.   Using the impeller removal tool (located in the plastic bag assembly), remove the impeller from the whipper housing as shown.
c.   Wash the cover, impeller, and impeller housing. Sanitize with hot water and allow to air dry before reassembling.
d.   To reassemble, see detail A. Note that the whipper motor shaft has a flat section. Make sure this flat section lines up with the "D" shaped hole in the impeller. Press the impeller all the way onto the whipper motor shaft. Replace the cover.

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Beverage Discharge Nozzles - Disconnect the beverage dispensing tube from the nozzles. Remove the nozzles from the mounting bracket. Remove the cap from the nozzle, wash clean and sanitize the nozzles and cap. Refer to the tubing connection diagram for proper routing.

Brewer, Brewer Basket, and Brewer Funnel - The tubing and brewer may be sanitized by performing the BREW RINSE operation as outlined in the programming section. The machine features an automatic brewer sanitizing feature also described in the programming section.

At times, it may be necessary to wash and sanitize the individual brewer parts. If so, disconnect the tubes from the brewer manifold. Remove the brewer barrel and manifold assembly from its support. Remove the brewer basket and funnel assemblies.

Thoroughly wash all parts using soap and water. Sanitize by rinsing thoroughly with hot water.

Ingredient Chutes - Remove the metal chute(s), wash clean, and sanitize by rinsing with hot water. Air dry before reinstalling.

Condiment Chute Assembly - Remove the condiment chute and cover from the condiment canisters. Thoroughly wash all parts using soap and water. Sanitize by rinsing thoroughly with hot water.

Non Food-Contact Parts

Brewer Mechanism Cleaning - Remove the brewer mechanism from its mounting and rinse with the spray hose.

Cup Delivery Compartment - Remove the compartment from the merchandiser. Wash clean 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.

Grounds Pail - Empty and rinse the grounds pail. Reline the pail with a clean plastic liner.

Waste Pail - Empty, wash, and rinse with hot water. Sprinkle detergent powder in the bottom of the pail to help control odors.

Ingredient Rinse Tray - Remove product canisters. Wash and rinse with hot water. Allow to air dry.

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.

National Vendors recommends using the following supplies:

A commercial glass cleaner on the glass in the cabinet door.

A mild detergent and warm water on the cabinet, brewer, and other NON ELECTRICAL components.

CAUTION!
The plastic parts in your merchandiser should be cleaned with mild detergent and warm water. The use of other cleaning agents may damage the material, and should be avoided.

Do not get electrical connections or electrical components wet.

Do not use wax or lubricants which contain silicone on or in the merchandidser. Silicone or silicone vapors can cause electrical failures.

Set the main switch to OFF before cleaning or servicing the merchandiser.

Be sure the area is well ventilated and no open flames are present before using any aerosol spray.

Use protective glasses or a protective shield if an air hose is used for cleaning or drying.

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.

TO
CHOCOLATE
BOWL
TO
SOUP
BOWL
TO
CONDIMENT
BOWL
TO
HOT WATER
VALVE

DISPENSING
NOZZLE
SUPPORT
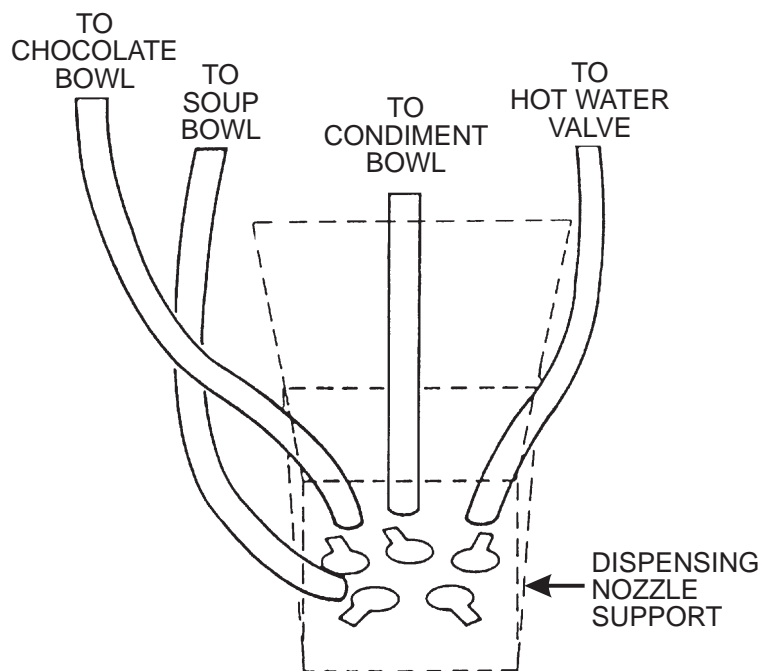
TUBE ROUTING DIAGRAM

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RECOMMENDED CLEANING AND SANITATION INTERVALS

ITEM	DAILY	WEEKLY	MONTHLY	QUARTERLY	SEMI-ANNUALLY
Ingredient Canisters			C/S		
Mixing Bowls	R	C/S			
Whipper Lids and Impellers	R	C/S			
Beverage Discharge Nozzles		C/S			
Cup Delivery Compartment	C				
Exhaust Fan Filter			C		
Waste Pail	C				
Brewer, Basket, Funnel	C	S			
Ingredient Chutes	C	S			
Brewer Mechanism		C			
Grounds Pail	C				

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

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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.

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

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.

1. Remove the plastic cap in the rear of the sensing unit, exposing the potentiometer adjusting screw, as shown.
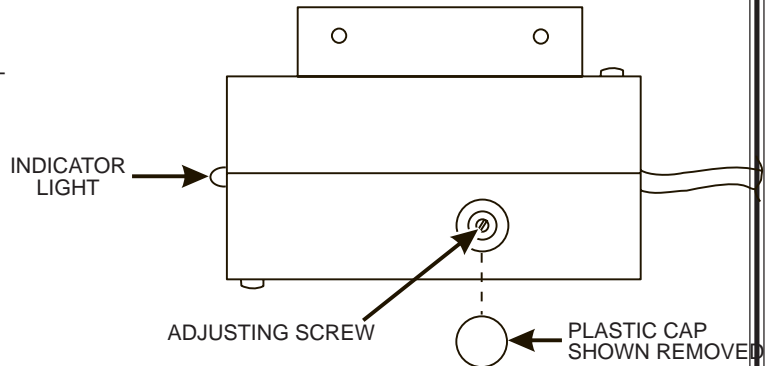
2. Turn the screw clockwise to increase sensitivity of cup detection, or counter-clockwise to decrease sensitivity.

3. Calibrate the sensor:

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

VIEWING REAR OF SENSOR ASSEMBLY

INDICATOR LIGHT

ADJUSTING SCREW

PLASTIC CAP SHOWN REMOVED

   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. 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 **counterclock-wise** very slowly until the indicator just turns OFF.

PLASTIC CAP

INDICATOR LIGHT

CUP DEFLECTORS

CUP
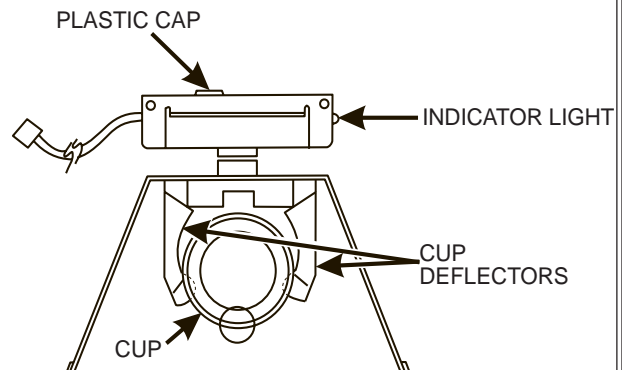
4. Replace the plastic cap.

5. Insert a mug into the cup station in the vending position and check to see that the red indicator light is ON.

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.

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APPENDIX B. THE AUTOMATIC VEND DOOR

Your merchandiser may be equipped with an automatic vend door. There is no setup or configuration available for this option. If you should need to test the operation of the door, go to the service mode and make a test vend. The machine will try to operate the door with every vend.

Notes