

**KIT PART NUMBERS 6300022, 6310011, 6330106, 6330107, 6340016,
6340017, 6530010, 6530011**
**INSTRUCTIONS FOR INSTALLING A CANISTER/MIXING BOWL
EXHAUST UPGRADE KIT**

CHECK THE PARTS RECEIVED IN THE KIT WITH THE PARTS LIST IN THESE INSTRUCTIONS. IF ANY PARTS ARE MISSING, CONTACT THE NATIONAL VENDORS PARTS DEPARTMENT IMMEDIATELY.

NOTE

This kit is only applicable to machines configured with the front-mounted exhaust system.

**Read these instructions carefully before installing the kit.
Keep these instructions for part numbers and for future reference.**

Table 1 Kit usage

KIT PART NUMBER	MODEL NUMBER/VOLTAGE
6300022	630, 638 (110 V)
6310011	631, 639 (230 V)
6330106	633, 635, 637 (110 V)
6330107	633, 635, 637 (230 V)
6340016	634, 636 (110 V)
6340017	634, 636 (230 V)
6530010	653, 655, 657 (110 V)
6530011	653, 655, 657 (230 V)

Table 2 This kit contains the following:

PART NUMBER	DESCRIPTION	QUANTITY PER KIT							
		6300022	6310011	6330106	6330107	6340016	6340017	6530010	6530011
P6306009	IC ASSEMBLY - VERSION 630.07	1							
P6396036	IC ASSEMBLY - VERSION 639.09		1						
P6336041	IC ASSEMBLY - VERSION 633.18			1	1	1	1		
P6536004	IC ASSEMBLY - VERSION 653.04							1	1
P6537019	VENT & DIVIDER ASSEMBLY	6	6	7	7	6	6	8	8
P6537027	PLUG & AUGER ASSEMBLY	5	5	6	6	5	5	7	7
6301006	BRACKET, BLOWER & COVER ASSEMBLY - 110	1				1			
6391021	BRACKET, BLOWER & COVER ASSEMBLY		1				1		
6331089	BRACKET, BLOWER & COVER ASSEMBLY - 110			1				1	
6331090	BRACKET, BLOWER & COVER ASSEMBLY - 230				1				1
6537013	GATE - NOZZLE - PLASTIC	5	5	6	6	5	5	7	7
6537014	NOZZLE - DISPENSING	5	5	6	6	5	5	7	7
6537030	MIXING BOWL	6	6	7	7	6	6	8	8

Overview of the modification:

The modification kit is being offered to upgrade several components to improve product performance and reliability. These changes better accommodate the product manufacturer's current product dispensing and mixing characteristics.

Part I. Prepare the machine:

1. Turn off the power switch and unplug the machine from its power source.

Part II. Replace the bracket, blower, and cover assembly:

1. Remove the following components to gain access and visibility to the bracket, blower, and cover assembly: cup station assembly, front-mounted exhaust manifold, canister assemblies, and if your machine is equipped with filter paper, remove the filter paper housing.
2. Disconnect the harness from the blower assembly.
3. Remove the fastening screw at the bottom of the assembly.
4. Replace the assembly with the unit supplied in the kit.

Special note for 230V EuroBev and EuroTwin models not equipped with a FB selection:

Additionally, prior to replacing the assembly, replace the small motor cover on the supplied assembly with the larger motor guard from the original assembly (see figure 1).

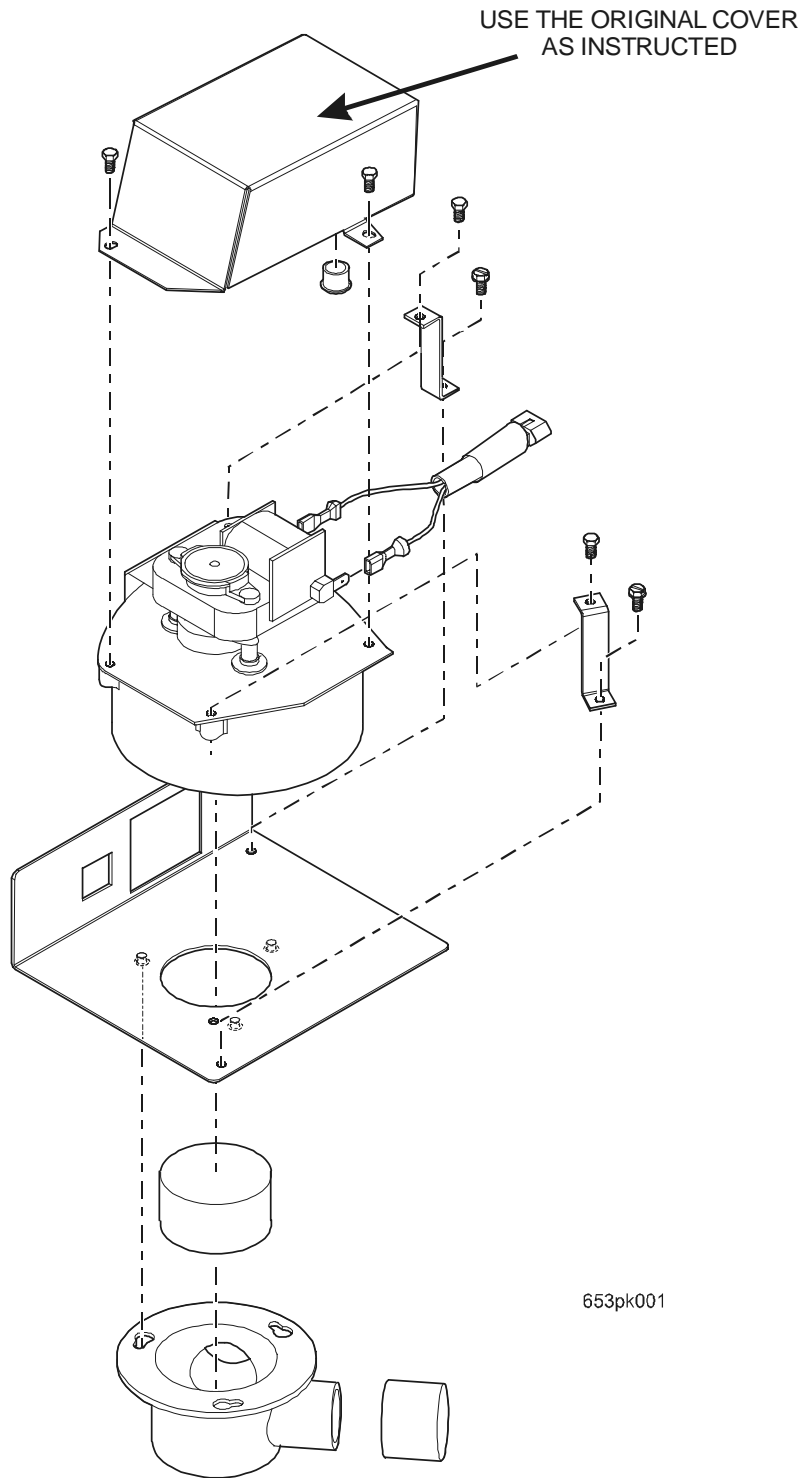


Figure 1

5. Replace the filter paper housing.
6. Replace the cup station assembly.

Part III. Modify the canister assembly:

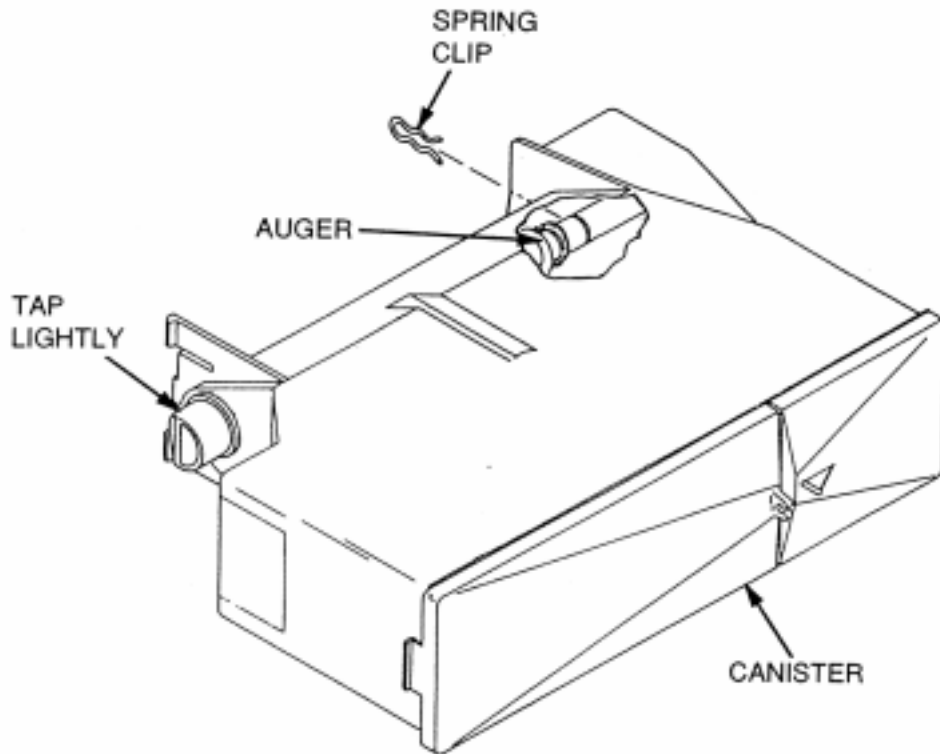
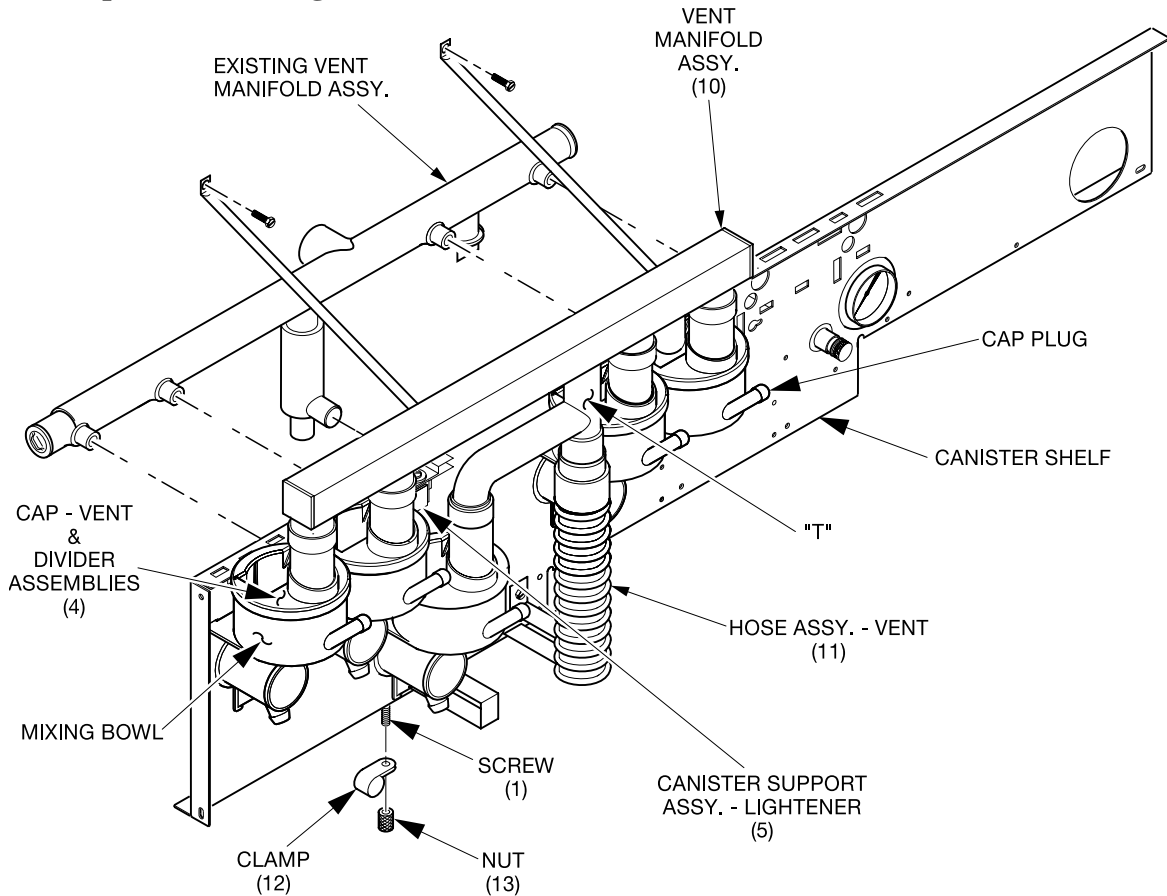


Figure 2

1. Rework all base product canisters with the new auger except: FB coffee, FB decaf, FB tea, sugar, lightener, or sugar substitute. There are enough augers packaged to supply the upgrade to the most featured machine. Therefore, for certain configurations, there will be more auger assemblies supplied than necessary for machines equipped with any number of FB products (see figure 2).
 - a. Select one of the appropriate canisters removed from the machine.
 - b. Place the canister on its' side and tap the nozzle lightly on the side in order to remove it from the canister.
 - c. Pull the spring clip off the back end of the auger shaft.
 - d. Remove the auger from the canister by turning it clockwise as if you were unscrewing it. This is necessary to get the auger past the mixing wheel teeth.
 - e. Insert the new auger assembly into the front of the canister and turn the auger counterclockwise to pass the mixing wheel teeth. Insert the auger until the retaining ring rests against the rear of the canister.
 - f. Put the spring clip on the auger in the retaining slot.
 - g. There is a large and a small tab in the nozzle opening of the canister. There are corresponding slots in the nozzle. Align the tabs with the slots and press the new nozzle into the canister.
 - h. Slide the nozzle gate into the nozzle from the top.
 - i. Place the canister into the machine.
 - j. Repeat steps a through i for the balance of canisters.

Part IV. Replace the mixing bowl and vent & divider assemblies:



633pk004

Figure 3

1. Remove the mixing bowl assemblies (see figure 3).
2. Remove the cap plugs from all mixing bowls, and outlet spouts from the mixing bowls without whippers. Discard the mixing bowls.
3. Fit the cap plugs and spouts to the mixing bowl and cap & divider assemblies provided with the kit.
4. Re-assemble using the new mixing bowl and cap & divider assemblies from step 3.
5. Re-install the front mounted exhaust manifold.

Part V. Replace the EPROM:

CAUTION

*Following all of the procedures listed in this section may result in the resettable data being cleared. If you need to maintain records of these 'Counts and Cash', please record them before proceeding. Refer to the section titled **View Data** or **Data Recall** in your appropriate Programming Guide and/or Operator's Guide.*

1. Follow the cautions and procedures beginning on the next page.



CAUTION



PREVENTING CIRCUIT DAMAGE FROM ELECTROSTATIC DISCHARGE

Electronic printed circuit board assemblies are susceptible to physical damage, for example, broken components due to rough handling. In addition, printed circuit board assemblies (and their components, such as EPROMs) are subject to damage by various types of static electricity. Damage of this type is called **ELECTROSTATIC DISCHARGE (ESD)**. ESD can cause immediate damage to components on a circuit board assembly, or it can weaken them to the point where the damage will show up days, weeks, or months later.

PRECAUTIONS TO TAKE WHEN HANDLING PCB ASSEMBLIES

1. The PCB assembly is usually shipped in a cardboard shipping carton to prevent physical damage. Inside the carton, the PCB was placed in 1 of 3 types of closed protective bags: black translucent, smoked gray transparent, or pink transparent.
2. For storage, the best protection for the assembly is to leave it in its shipping carton. If it is removed from the carton, leave the assembly in its **CLOSED storage bag while transporting, or until it is ready to be installed in a machine.**
3. Before handling the PCB assembly, be sure you are wearing a conductive wrist strap or other suitable ESD protective device. The conductive wrist strap should be connected to ground in the machine. This can be any **PLATED exposed metal part. DO NOT CONNECT YOUR WRIST STRAP TO A PAINTED PART.**
4. Remove the new PCB assembly from its bag. Set the PCB assembly on top of the bag on a flat surface while you remove the old PCB assembly from the machine.
5. Pick up the new PCB assembly and set the old one down on the protective bag. Install the new PCB assembly in the machine.
6. Insert the old PCB assembly into the protective bag. Seal the bag.
7. If the old PCB assembly is to be returned to National Vendors, it is best to ship it in the same shipping carton you received with the new PCB assembly.

Replacing the EPROM:

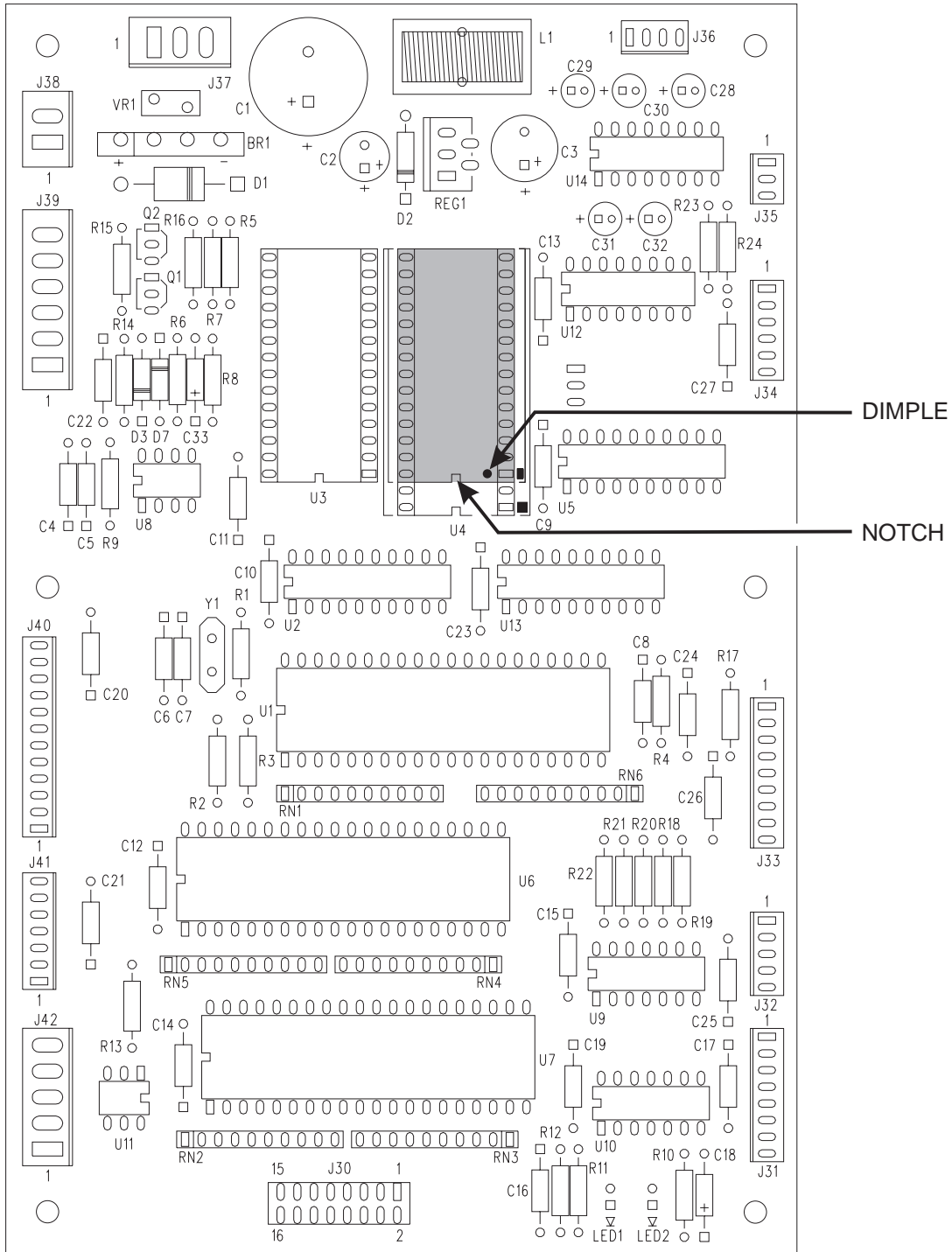
CAUTION

Do not remove the new EPROM from its shipping carton until you are ready to use it.

CAUTION

Observe electrostatic discharge precautions to protect the electronics from damage while they are being handled. Wear a grounded wrist strap connected to any unpainted metal part of the machine. If a wrist strap is not available, remove any electrostatic charge (static electricity) from yourself by touching any unpainted metal part of the machine before handling any electronic component. Do this often during the removal and installation process.

1. On the figure, see the shaded area representing EPROM U4. These devices have various means of showing how they are to be oriented on the circuit board. Some EPROMs will have a small notch which matches the notch printed on the controller board. Other EPROMs may have a small dimple as shown, others may have a painted stripe. Take note of where the locating mark is on the EPROM currently mounted on the controller board. Your new EPROM will be placed in that same orientation. Some EPROMs have 28 pins, so it does not use the entire socket. The shaded area on the figure is where the new EPROM will go, leaving the four holes at the bottom of the socket empty.
2. Carefully remove the old EPROM from the controller board. Use an EPROM removal tool or a thin tool such as a small screwdriver or knife blade to gently rock the EPROM from its socket.
3. Carefully insert the new EPROM in the controller board. **MAKE SURE THE LOCATING MARK (NOTCH, DIMPLE, STRIPE) ON THE EPROM IS FACING THE SAME WAY AS ON THE OLD EPROM!** Make sure each of the pins is in its respective hole in the socket before pushing the EPROM into place.
4. Carefully seat the EPROM into place using uniform pressure all around.



Controller Card Showing the Location of EPROM U4

Part VI. Set the Machine Configuration Code:

1. Enter as a supervisor, verify proper machine configuration or set machine configuration per the included table. Refer to the sections titled **Supervisor Mode** and **Set the Machine Configuration Code** in your appropriate *Programming Guide* and/or *Operator's Guide*.



2. For a Hot Drink Center, Press , then press  until the display shows **D+J+ WXYZ**.
W, X, Y, and Z represent the four numbers comprising the configuration code. Set per table 3.

Table 3 Hot Drink Center Configuration Codes

MACHINE TYPE CONFIGURATION			
Enter for W	Definition		
1	Hot Drink Center		
2	Reserved for alternate use		
6TH PRODUCT (SELECTION C) CONFIGURATION			
Enter for X	Definition		
1	No 6th product		
2	6th product present, but receives no condiments		
3	6th product present, may receive condiments		
4	Water only		
BREWER CONFIGURATION			
Enter for Y	Coffee Mix	Number 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 4)			
Enter for (Z)	Menu Selection Letters for Canister Numbers		
	3 (Single condiment only)	2	1
1	F	B	A
2	F	A	B
3	B	F	A
4	B	A	F
5	A	F	B
6	A	B	F

A = Coffee

B = Decaf

F = Tea

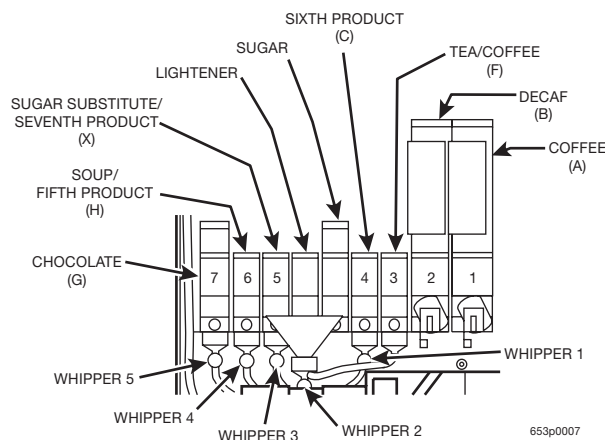


Figure 4 Canister Mapping




4. For a EuroDrink, press , then press  until the display shows *CONFIGURE*. Press . The display shows *WXYZ*. W, X, Y, and Z represent the four numbers comprising the configuration code. Set per table 4.

Table 4 EuroDrink Configuration Codes

MACHINE TYPE CONFIGURATION			
Enter for W	Definition		
1	Reserved for alternate use		
2	EuroDrink		
SOUP AND SUGAR SUBSTITUTE CONFIGURATION			
Enter for X	Definition		
1	Canister 5 not used		
2	Canister 5 contains sugar substitute		
3	Canister 5 contains soup		
BREWER CONFIGURATION			
Enter for Y	Definition		
1	Single brew - coffee or leaf tea		
2	Dual brew - coffee and decaf coffee		
3	Freeze dry only - no brewer		
CANISTER MAPPING (SEE FIGURE 5)			
Enter for (Z)	Menu Selection Letters for Canister Numbers		
	3 (Single condiment only)	2	1
1	F	B	A
2	F	A	B
3	B	F	A
4	B	A	F
5	A	F	B
6	A	B	F

A = Coffee

B = Decaf

F = Tea

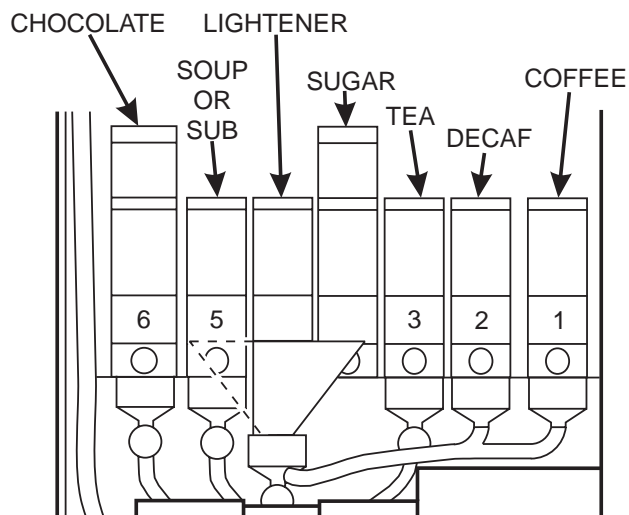


Figure 5. Canister Mapping



5. For a EuroTwin, Press  then  until the display shows *D- J- WXYZ*. W, X, Y, and Z represent the four numbers comprising the configuration code. Set per table 5

Table 5 EuroTwin Configuration Codes

MACHINE TYPE CONFIGURATION			
Enter for W	Definition		
1	Reserved for alternate use		
2	EuroTwin		
SOUP AND SUGAR SUBSTITUTE CONFIGURATION			
Enter for X	Definition		
1	Canister 5 not used		
2	Canister 5 contains sugar substitute		
3	Canister 5 contains soup		
4	Canister 5 contains topping mix		
BREWER CONFIGURATION			
Enter for Y	Definition		
1	Single brew - coffee or leaf tea		
2	Dual brew - coffee and decaf coffee		
3	Freeze dry only - no brewer		
CANISTER MAPPING (SEE FIGURE 5)			
Enter for (Z)	Menu Selection Letters for Canister Numbers		
	3 (Single condiment only)	2	1
1	F	B	A
2	F	A	B
3	B	F	A
4	B	A	F
5	A	F	B
6	A	B	F

A = Coffee

B = Decaf

F = Tea

6. For a GPL machine, proceed as follows:
- Pull out the door switch button to the ON position.
 - Press **#** until the display shows *COFFEE*.
 - Press ***** until 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.
 - Enter one of the following configurations using the number keys:
 - If you have a:enter this code:
 - Single brew machine2111**
 - Dual brew machine2121**
 - Freeze dry machine.....2131**
 - Press **#** to exit.

IMPORTANT NOTE:

The proper operation of the machine is dependent on loading the new factory default times. Both the water flow rates and product flow rates have been modified. Before proceeding to Parts VIII and IX you must successfully complete Part VII.

Part VII. Load the new factory default times:

Refer to the section titled **Setup Cup Sizes or Product Configuration** in your appropriate *Programming Guide* and/or *Operator's Guide*.

1. Set one of the cup sizes to 8 oz.
2. Load the new factory default times and verify the proper load operation. For example, the new times for an 8 oz hot chocolate are as follows:
 - a. Water: 8.25 sec
 - b. Product: 4.65 sec
3. If you have confirmed the proper load operation, set the cup sizes to your desired sizes and repeat the loading sequence for the factory defaults.

Part VIII. Gram the dry products:

NOTE:

The new factory default times in software will not match the times listed in your Guides (supplied with the initial machine purchase). However, the new times are correct to provide the published gram throws per cup size.

1. Refer to the section titled **Collecting Dry Product Gram Throws** in your appropriate *Programming Guide* and/or *Operator's Guide*.

Part IX. Set the water valves:

NOTE:

The new factory default times in software will not match the times listed in your Guides (supplied with the initial machine purchase). However, the new times are correct to provide the published water volume per cup size once the valves are adjusted.

1. Refer to the section titled **Collecting Hot Water Throws** in your appropriate *Programming Guide* and/or *Operator's Guide*. **DO NOT CHANGE THE DISPENSE TIMES.** Obtain the correct water volume by adjusting the dispense valve metering screw.

Part X. Return the machine to service:

1. Restore power to the machine.
2. The modification procedure is complete.