

**THIS SUPPLEMENT CONTAINS
IMPORTANT
INFORMATION - PLEASE READ THOROUGHLY**



203
**HOT BEVERAGE MERCHANDISER
SERVICE MANUAL
SUPPLEMENT**

**SOFTWARE VERSION 003 - YELLOW LABEL
FOR USE WITH CUSTOM SELECT COFFEE
AP203 SERIAL NUMBER 44200 OR HIGHER**

300 JACKSONVILLE ROAD WARMINSTER, PA 18974

SUPPLEMENT TO SERVICE MANUAL AP 203 HOT BEVERAGE MERCHANDISER

INTRODUCTION

This supplement contains information regarding the changes to the AP203 Hot Beverage Merchandiser that permit the dispensing of a new selection - **CUSTOM SELECT COFFEE**. This additional new selection will retrofit to machines presently in operation. This retrofit is accomplished by installing a new software EPROM that contains the changes which include an increase in the number of channels available from which you can choose the ingredients of your **CUSTOM SELECT COFFEE**. If your machine uses a float and switch to control the water level in the heater tank, then the float and switch must be replaced with a probe and harness to make it compatible with the software change. A series of questions and answers to help decide whether to install **CUSTOM SELECT COFFEE** are located on page 5.

This supplement is divided into three basic sections:

- 1) Changes to the software that operates the machine and the information contained on the label of the program EPROM.
- 2) Changes to the operation of certain service modes.
- 3) Changes to the machine including pin assignments on the control boards.

Each section will contain information regarding the changes as they apply to specific items, however since all the changes are related, we recommend that this supplement be read thoroughly.

SOFTWARE AND LABEL CHANGES

Software revision for machines with **CUSTOM SELECT COFFEE** option will be known as "Version 003" and can be identified by a yellow label on the EPROM on the logic board. All future revisions of the standard software will be identified with a NUMBER in the third position - see example below. The other digits on the chip label also have specific meanings which are explained in the chart on the next page.

EXAMPLE - SOFTWARE LABEL

DATE CODE =

060192060192

ORDER # =

16901

CHART # =

003A08BC

The basic premise of the new software is that by redefining Mode 11, OPTION 3 and providing a number of new channels to create a new selection - **CUSTOM SELECT**

COFFEE allow the operator to create a new specialty drink without adding any additional products to the machine. The setting of **OPTION 3** in **MODE 11** and the duration of assigned channels in **Mode 12** determines what drink is delivered as the **CUSTOM SELECT COFFEE**.

SERVICE MODE CHANGES

The service modes listed in the following pages have some changes included in them. For the sake of clarity, all changes are marked in **BOLD ITALICS**. Mode 11 has the definition of Option #3 changed and Mode 12 has had different channels added to some of the selections to allow for more flexibility in programming special drink requests.

PHYSICAL CHANGES

The only physical change to the machine occurs when a machine is ordered with a single fresh brew coffee on the swingout bracket (example: single grinder or loose ground). In this case the freeze dried decaf on the rack now has been set so that is in the second label position on the door (**MODE 11, OPTION 2 = N**) and is controlled by channel 21 in **MODE 12**. The correct white wire on the decaf motor will now be marked "FDD" - Freeze Dried Decaf.

**DEFINITIONS OF INFORMATION
CONTAINED ON EPROM LABEL**

0	RESERVED FOR MANUFACTURING	
0	SETS MIS INFORMATION THAT IS RECORDED	0 = 10 PRICE LINES 1 = PRODUCT TOTALS
3	SOFTWARE VERSION	NUMBER = STANDARD SOFTWARE LETTER = DUAL VOLUME
A	IF DIGIT #3 IS A NUMBER INDICATES FACTORY SETTING OF MODE 11.OPTION 3	A = YES - CUSTOM SELECT COFFEE 0 = NO - FREEZE DRIED GOURMET F = CUSTOM CHIP
0	LARGE CUP SIZE (DUAL CUP VERSIONS ONLY)	L = 12oz J = 10oz 9 = 9oz 8 = 8 1/2oz 7 = 7oz 6 = 6oz 0 = Single cup size
8	CUP SIZE (REGULAR SIZE IN DUAL CUP VERSIONS)	L = 12oz J = 10oz 9 = 9oz 8 = 8 1/2oz 7 = 7oz 6 = 6oz
B	TEA CONFIGURATION	B = Fresh brew F = Freeze-dried G = Tea replaced with specialty coffee X = Disabled
C	CHART ASSIGNMENT	A = G or LG B = G or LG with FD decaf C = DG or DH D = DG or DH with FD decaf E = GLG H = All Freeze-dried

MODE 11 - MACHINE CONFIGURATION

THE PRIMARY CHANGE TO MODE 11 INVOLVES THE FUNCTIONS CONTROLLED BY OPTION #3. THE FACTORY SETTINGS OF OPTIONS 3 CAN BE DETERMINED BY CHECKING THE LABEL OF THE EPROM - SEE PAGE 2.

1. Open machine door.
2. Insert security key into the service key switch, turn the switch to the "on" position and then back to the "off" position. This allows the key to be removed and prevent it being left in the machine in error.
- The correct function of the key switch is: on then off - the key should always be in the position where key can be removed.
3. The display should indicate "MODE 11".
4. Depress the **START** switch. The display will indicate "CONFIG H/B/C". The "H" should be flashing to indicate that the machine is set up as a 203 hot drink machine.
5. If the "H" is not flashing, after having just installed a new control board or software for example, press the change digit switch until it is. Then depress the **START** switch. The machine will then jump automatically to mode 16 to load the default values appropriate for the 203 machine (see **MODE 16**).
6. If the "H" was flashing correctly continue with the configuration by depressing the **START** switch.
7. The machine will then advance through a series of four questions. Each selection is made by depressing the change digit switch until the "Y" (yes) or "N" (no) is flashing and then activating the selection by depressing the **START** switch. The flashing character indicates the selected choice. The following questions are indicated on the display:

8. When the **START** switch is pressed for the final question the display will indicate "MODE 11".

Note: It is important to return to the "MODE 11" on the display to ensure that the new values are loaded.

OPTION 3 YES

*This option allow the use of a new selection - **CUSTOM SELECT COFFEE** - for the third prime selection. There are a number of new channels available which allow you to create a custom drink using existing products in the machine. A few examples of this might be: cappuccino or cafe mocha defined as whipped, brewed coffee with whipped chocolate on top, or **BALANCED BLEND** - a half regular, half decaf fresh brewed coffee or an espresso which is a half volume, very strong whipped coffee. This selection - **CUSTOM SELECT COFFEE** allows the operator to create their own special drink. The channels are preset from the factory to deliver a cappuccino/cafe mocha.*

OPTION 3 NO

Leaving this option with the "N" flashing allows the standard gourmet selection to operate - that is a soluble drink that may have lightener and sugar added and may be whipped. This is normally set up as a freeze dried decaf using the white wire on the motor marked "FDG".

FOR ADDITIONAL INFORMATION ON CUSTOM SELECT COFFEE - SEE MODE 12

	FLASHING Y	FLASHING N
OPT 1 Y/N	Brewed regular coffee	No brewer - FD coffee
OPT 2 Y/N	Brewed decaf coffee †	No brewer - FD decaf.
OPT 3 Y/N	CUSTOM SELECT COFFEE	FREEZE-DRIED GOURMET
OPT 4 Y/N	Fresh brewed tea	FD tea or no tea

† OPTION 1 MUST BE YES TO HAVE FRESH BREWED DECAF

MODE 12 - SET INGREDIENTS

The primary changes to Mode 12 is not in the operation, testing or use of the service mode, but in the number of channels available for some selections. A number of the selections have had a channel added to allow a separate time channel for a whipper, while others have had a complete new definition of the channels available. Each selection in the machine has a number of channels organized into a RECIPE - the correct arrangement of these channels in each recipe is what creates a specific drink. For example, one of the simplest recipes is for a hot chocolate selection. The list of the channels required for a hot chocolate selection are:

Channel 02 Hot vend cycle
 Channel 03 Cup drop start pulse
 Channel 33 Chocolate water & whipper
 Channel 34 Chocolate auger

By increasing the number of channels available for a selection, the flexibility of that selection increases. *The selection that has this maximum flexibility is named "CUSTOM SELECT COFFEE" and is the third prime selection on the left side of the selector panel.* Because each of the four prime selections are directly affected by the setting of the four options in Mode 11, the following changes are organized by these options. *The function of the "CUSTOM SELECT COFFEE" is directly affected by whether the machine has fresh brewed coffee or freeze-dried coffee. The "CUSTOM SELECT COFFEE" is abbreviated as CSC in all the channel lists.* The hot vend cycle and the cup drop are common to all drinks so they are omitted from the following lists.

RECIPE CHANGES

MODE 11, OPTION 1 = Y - Fresh brew regular coffee
 No Change

MODE 11, OPTION 1 = N - Freeze dried regular coffee
 No Change

MODE 11, OPTION 2 = Y - Fresh brew decaf coffee
ADD
CHANNEL 75 FB DECAF WHIPPER/TROUGH

MODE 11, OPTION 2 = N - Freeze dried decaf coffee
ADD
CHANNEL 74 FD DECAF WHIPPER/TROUGH

MODE 11, OPTION 3 = Y - CUSTOM SELECT COFFEE
NEW DEFINITION

The new definition of OPTION 3 = Y is the most flexible selection available in the machine. Because the function of this selection is dependent upon the presence of a brewer, the recipe for both a fresh brew and freeze dried machine is listed.

CUSTOM SELECT COFFEE - FRESH BREW

OPTION 1 = Y, OPTION 3 = Y

<u>CHANNEL</u>	<u>FUNCTION</u>
82	LARGE GRINDER/CSC
73	LG COFFEE/CSC
72	BREWED DECAF (LG/SMALL GRINDER)/CSC
10	BREW WATER/CSC
11	BREWER FILL DELAY
12	PRESSURE RELIEF DELAY
13	MAKE-UP WATER - BREWED COFFEE
14	BREWED COFFEE LIGHTENER
15	BREWED COFFEE SUGAR
16	BREWED COFFEE SUGAR SUB
17	WHIPPER-TROUGH/CSC
80	CHOCOLATE AUGER/CSC
81	CHOCOLATE WATER & WHIPPER/CSC

CUSTOM SELECT COFFEE - FREEZE DRIED

OPTION 1 = N, OPTION 3 = Y

<u>CHANNEL</u>	<u>FUNCTION</u>
85	FREEZE-DRIED REGULAR COFFEE/CSC
84	FREEZE-DRIED DECAF COFFEE/CSC
79	FREEZE-DRIED WATER/CSC
23	FREEZE-DRIED COFFEE LIGHTENER
24	FREEZE-DRIED COFFEE SUGAR
25	FREEZE-DRIED COFFEE SUGAR SUB
71	GOURMET WHIPPER (TROUGH)
76	CHOCOLATE AUGER FD/CSC
77	CHOCOLATE WATER & WHIPPER FD/CSC

OPTION 3 = N - FREEZE-DRIED GOURMET

<u>CHANNEL</u>	<u>FUNCTION</u>
18	FD COFFEE WATER
22	FD GOURMET AUGER
23	FREEZE-DRIED COFFEE LIGHTENER
24	FREEZE-DRIED COFFEE SUGAR
25	FREEZE-DRIED COFFEE SUGAR SUB
71	GOURMET WHIPPER (TROUGH)
76	CHOCOLATE AUGER FD/CSC
77	CHOCOLATE WATER & WHIPPER FD/CSC

MODE 11, OPTION 4 = Y - FRESH BREWED TEA
ADD
CHANNEL 78 MAKE-UP WATER - BREWED TEA

MODE 11, OPTION 4 = N - FREEZE-DRIED TEA
ADD
CHANNEL 19 WATER FD TEA
CHANNEL 83 TEA WHIPPER (TROUGH)

Upon examination of the new recipes listed above, you will notice that there may be situations where you do not require all the available channels in a recipe. To disable a channel from working in a recipe, the duration for an unwanted channel should be set to zero (0.00).

QUESTIONS ABOUT CUSTOM SELECT COFFEE

- Q: WHAT IS A CUSTOM SELECT COFFEE?**
A: CUSTOM SELECT COFFEE is a new selection available in the AP203 Hot Beverage Merchandiser that allows the operator to choose a new specialty drink that can combine regular and decaffeinated coffee and whipped chocolate.
- Q: WHAT IS AN EXAMPLE OF A CUSTOM SELECT COFFEE**
A: Two examples of a CUSTOM SELECT COFFEE are:
 1) cappuccino/cafe mocha which is defined as a combination of coffee and chocolate, or
 2) BALANCED BLEND - a blend of regular and decaffeinated coffee to appeal to people who don't want all the caffeine in a regular coffee.
- Q: CAN I PUT CUSTOM SELECT COFFEE IN THE 203 MACHINES THAT I ALREADY OPERATE?**
A: YES! The software that contains CUSTOM SELECT COFFEE will be available as a retrofit kit for all AP203 that are presently in the field. Some older machines may also need an additional kit to make them compatible with current software.
- Q: HOW DO I TELL IF I NEED THIS ADDITIONAL KIT ?**
A: If your AP203 has a probe in the heater tank to control the water level, then you do not need the additional kit. If the water level in the tank is controlled by a float and a switch, then you must change over to the probe control when you install the software containing CUSTOM SELECT COFFEE
- Q: WHY SHOULD I PUT CUSTOM SELECT COFFEE IN MY AP203?**
A: A new selection will increase customer interest in buying a hot drink. This translates to increased sales without adding any additional product to the machine.
- Q: WHERE DOES MY CUSTOM SELECT COFFEE GO IN MY AP203?**
A: CUSTOM SELECT COFFEE occupies the third prime selection on the left side of the selector panel. If you currently have another selection in this position, you will need to move it to make room for the CUSTOM SELECT COFFEE.

CUSTOM SELECT COFFEE SAMPLE RECIPES

The following charts supply sample recipes for different cup sizes for half regular, half decaf drink and a cappuccino/cafe mocha (brewed coffee and whipped chocolate) drink. The cappuccino drink is set with mixture of 70% coffee and 30% chocolate. This ratio can be adjusted to suit your specific needs by changing the amounts of coffee or chocolate or the amount of water for either.

CUSTOM SELECT COFFEE

CREATING YOUR OWN RECIPE

Since the components on the Motor Control Board are shared to operate different drink selections, attempting to operate two ingredients at the same time will create a conflict. Therefore, some rules must be followed when creating the recipe for your CUSTOM SELECT COFFEE. The charts on the following pages contain times that have all these calculations considered. As long as your times do not exceed the durations or modifiers by an extreme amount, you should not have to perform any of these calculations.

1. Only one prime selection (LG regular coffee, fresh brew decaf, all FD augers, chocolate and soup) motor should be on at a time.
2. Only one prime selection (same as #1) water valve may be on at a time.
3. No trough whipper (channels 17,56,57,75,74,71) may have a START time less than 1.9 seconds.
4. A minimum of .1 second should be allowed between one device (motor or valve) turning off and the next similar device turning on. This is defined as the SEPARATION TIME.

The only exception to rule #1 is the large grinder. The large grinder can be used in combination with any other prime selection motor because it has a separate control circuit. As an example, below is list a sample calculation to determine the start time for the second coffee in a half regular, half decaf for an 8 1/4 ounce selection using a dual hopper (DH) swing out bracket.

START TIME			
DECAF LG CANISTER	= 0.0		1
DURATION			
DECAF LG + 2	= HALF DECAF TIME		
2.40 seconds - 2	= 1.20 seconds		2
MODIFIER DECAF LG	= .25 (25%)		
MODIFIER x DURATION	= ADDITIONAL TIME DECAF LG CANISTER IS ON		
.25 x 1.20	= .30		3
SEPARATION TIME	= .10		4

Using the above figures the minimum start time for the regular LG motor would be:

LG
 START = START + DURATION + MODIFIER + SEPARATION
 = 1 + 2 + 3 + 4
 1.6 = 0.0 + 1.20 + .30 + .1

The minimum start time for the regular LG motor (channel 6) would be 1.6 seconds, but please note if the duration or modifier is changed, then the START time for the LG motor should also be changed using the new times in the same formula.

CUSTOM SELECT COFFEE - 7 oz. BALANCED BLEND - HALF REGULAR, HALF DECAF				
FRESH BREW - OPTION 1 = Y, OPTION 3 = Y				
CHANNEL	FUNCTION	START	DURATION	MODIFIER
82	LARGE GRINDER/CSC	0.0	0.23	.25
73	LG COFFEE/CSC	1.5	0.70	.25
72	DECAF (LG OR SMALL GRINDER)/CSC	0.0	0.57	.25
10	BREW WATER/CSC	5.1	3.00	
11	BREWER FILL DELAY	6.4	1.00	
12	PRESSURE RELIEF DELAY	13.0	2.00	
13	MAKE-UP WATER	13.0	0.00	
14	BREWED COFFEE LIGHTENER	10.0	0.90	.30
15	BREWED COFFEE SUGAR	9.0	2.21	.15
16	BREWED COFFEE SUGAR SUB	9.0	0.40	.25
17	WHIPPER-TROUGH/CSC	NOT USED	NOT USED	
81	CHOCOLATE WATER & WHIPPER/CSC	NOT USED	NOT USED	
80	CHOCOLATE AUGER/CSC	NOT USED	NOT USED	

CUSTOM SELECT COFFEE - 7 oz. CAFE MOCHA/CAPPUCCINO - CHOCOLATE WITH COFFEE				
FRESH BREW - OPTION 1 = Y, OPTION 3 = Y				
CHANNEL	FUNCTION	START	DURATION	MODIFIER
82	LARGE GRINDER/CSC	0.0	0.75	.25
73	LG COFFEE/CSC	0.0	1.40	.25
72	DECAF (LG OR SMALL GRINDER)/CSC	0.0	0.00	.25
10	BREW WATER/CSC	3.1	2.20	
11	BREWER FILL DELAY	6.4	1.00	
12	PRESSURE RELIEF DELAY	13.0	2.00	
13	MAKE-UP WATER	13.0	0.00	
14	BREWED COFFEE LIGHTENER	10.0	0.90	.30
15	BREWED COFFEE SUGAR	9.0	2.21	.15
16	BREWED COFFEE SUGAR SUB	9.0	0.40	.25
17	WHIPPER-TROUGH/CSC	6.0	10.00	
81	CHOCOLATE WATER & WHIPPER/CSC	15.0	2.80	
80	CHOCOLATE AUGER/CSC	16.0	1.20	

CUSTOM SELECT COFFEE - 8 1/2 oz. BALANCED BLEND - HALF REGULAR, HALF DECAF				
FRESH BREW - OPTION 1 = Y, OPTION 3 = Y				
CHANNEL	FUNCTION	START	DURATION	MODIFIER
82	LARGE GRINDER/CSC	0.0	0.30	.25
73	LG COFFEE/CSC	1.5	0.80	.25
72	DECAF (LG OR SMALL GRINDER)/CSC	0.0	0.85	.25
10	BREW WATER/CSC	4.1	3.50	
11	BREWER FILL DELAY	7.4	1.50	
12	PRESSURE RELIEF DELAY	14.0	2.00	
13	MAKE-UP WATER	13.0	0.00	
14	BREWED COFFEE LIGHTENER	10.0	1.06	.30
15	BREWED COFFEE SUGAR	9.0	2.60	.15
16	BREWED COFFEE SUGAR SUB	10.0	0.50	.25
17	WHIPPER-TROUGH/CSC	NOT USED	NOT USED	
81	CHOCOLATE WATER & WHIPPER/CSC	NOT USED	NOT USED	
80	CHOCOLATE AUGER/CSC	NOT USED	NOT USED	

CUSTOM SELECT COFFEE - 8 1/2 oz. CAFE MOCHA/CAPPUCCINO - CHOCOLATE WITH COFFEE				
FRESH BREW - OPTION 1 = Y, OPTION 3 = Y				
CHANNEL	FUNCTION	START	DURATION	MODIFIER
82	LARGE GRINDER/CSC	0.0	0.90	.25
73	LG COFFEE/CSC	0.0	1.50	.25
72	DECAF (LG OR SMALL GRINDER)/CSC	0.0	0.00	.25
10	BREW WATER/CSC	5.1	2.50	
11	BREWER FILL DELAY	7.4	1.50	
12	PRESSURE RELIEF DELAY	14.0	2.00	
13	MAKE-UP WATER	12.0	0.00	
14	BREWED COFFEE LIGHTENER	10.0	1.06	.30
15	BREWED COFFEE SUGAR	9.0	2.60	.15
16	BREWED COFFEE SUGAR SUB	10.0	0.50	.25
17	WHIPPER-TROUGH/CSC	6.00	10.00	
81	CHOCOLATE WATER & WHIPPER/CSC	15.0	2.80	
80	CHOCOLATE AUGER/CSC	16.0	1.45	

CUSTOM SELECT COFFEE - 12 oz. BALANCED BLEND - HALF REGULAR, HALF DECAF				
FRESH BREW - OPTION 1 = Y, OPTION 3 = Y				
CHANNEL	FUNCTION	START	DURATION	MODIFIER
82	LARGE GRINDER/CSC	0.0	0.55	.25
73	LG COFFEE/CSC	1.5	1.00	.25
72	DECAF (LG OR SMALL GRINDER)/CSC	0.0	1.10	.25
10	BREW WATER/CSC	5.1	5.00	
11	BREWER FILL DELAY	7.4	3.30	
12	PRESSURE RELIEF DELAY	19.0	2.00	
13	MAKE-UP WATER	13.0	0.00	
14	BREWED COFFEE LIGHTENER	13.0	1.75	.30
15	BREWED COFFEE SUGAR	12.0	3.90	.15
16	BREWED COFFEE SUGAR SUB	12.0	0.90	.25
17	WHIPPER-TROUGH/CSC	NOT USED	NOT USED	
81	CHOCOLATE WATER & WHIPPER/CSC	NOT USED	NOT USED	
80	CHOCOLATE AUGER/CSC	NOT USED	NOT USED	

CUSTOM SELECT COFFEE - 12 oz. CAFE MOCHA/CAPPUCCINO - CHOCOLATE WITH COFFEE				
FRESH BREW - OPTION 1 = Y, OPTION 3 = Y				
CHANNEL	FUNCTION	START	DURATION	MODIFIER
82	LARGE GRINDER/CSC	0.0	0.80	.25
73	LG COFFEE/CSC	0.0	2.00	.25
72	DECAF (LG OR SMALL GRINDER)/CSC	0.0	0.00	.25
10	BREW WATER/CSC	5.1	4.30	
11	BREWER FILL DELAY	7.4	3.30	
12	PRESSURE RELIEF DELAY	19.0	2.00	
13	MAKE-UP WATER	13.0	0.00	
14	BREWED COFFEE LIGHTENER	13.0	6.00	.30
15	BREWED COFFEE SUGAR	12.0	1.00	.15
16	BREWED COFFEE SUGAR SUB	12.0	0.70	.25
17	WHIPPER-TROUGH/CSC	NOT USED	NOT USED	
81	CHOCOLATE WATER & WHIPPER/CSC	15.0	3.50	
80	CHOCOLATE AUGER/CSC	18.0	2.20	

VERSION 003 - CHANNEL NUMBERS & STANDARD TIMES

NOTE: Times shown below are for standard 8 1/2 oz. vend

CHANNEL #	DESCRIPTION	START	DURATION	MODIFIER	CUSTOMER SETTINGS		
					S	D	M
02	Vend time	0.0	25.00				
03	Cup drop start pulse	0.0	1.40				
04	Large grinder - reg.	0.0	0.75	0.25			
06	Loose Ground - reg coffee	0.0	1.40	0.25			
07	LG/small grinder - decaf	0.0	1.50	0.25			
08	Brew motor - coffee	3.0	23.00				
09	Water - coffee brew	4.1	3.50				
70†	WATER - CUSTOM SELECT COFFEE BREWED	4.1	2.50				
11	Open cylinder delay - coffee brewer	7.4	1.50	0.00			
12	Pressure relief delay - coffee brew	14.0	2.00				
13	Make up water - coffee brew	12.0	0.00				
14	Whitener auger - coffee brew	10.0	1.06	0.30			
15	Sugar auger - coffee brew	◆ 9.0	◆ 2.60	◆ 0.15			
16	Sugar substitute auger - coffee brew	10.0	0.50	0.25			
17†	WHIPPER - CUSTOM SELECT COFFEE BREW	6.0	10.00				
18	Water - FD coffee	2.8	7.10				
19†	WATER - FD TEA	2.8	7.10				
20	Regular coffee FD auger	5.8	2.45	0.25			
21	Decaf FD auger	5.8	2.45	0.25			
22	Coffee FD gourmet auger	5.8	2.45	0.15			
23	Whitener auger - coffee FD	5.8	1.06	0.30			
24	Sugar auger - coffee FD	5.8	2.60	0.15			
25	Sugar substitute auger - coffee FD	5.8	0.50	0.25			
26	Water - tea brew	0.5	10.35				
27	Tea FD auger	5.8	1.05	0.15			
28	Tea brew auger	0.5	0.30	0.15			
29	Brewer motor - tea	18.0	1.75				
30	Whitener auger - tea FD	5.8	0.50	0.30			
31	Sugar auger - tea FD	5.8	2.60	0.15			
32	Sugar substitute auger - tea FD	5.8	0.50	0.25			
33	Water/whipper - chocolate	1.0	7.15				
34	Chocolate auger	2.0	5.20				
35	Water/whipper - soup	1.0	7.15				
38	Soup auger	2.0	1.20				
39	Clean cycle - total time	0.0	25.00	*			
40	Clean cycle water - soup	12.0	4.00	*			
53	Clean water - chocolate	20.0	4.00	*			
56	Whipper - coffee brew	8.6	0.00				
57	Whipper - coffee FD	6.0	0.00				
60	Clean water FD	17.0	2.00	*			
61	Clean cycle water - coffee brew	5.0	2.50	*			
62	Clean cycle water - tea brew	16.7	0.10	*			
63	Clean cycle water - tea brew	0.0	1.75	*			
64	Clean cycle water - coffee brew	2.0	22.00	*			
65	Clean cycle - coffee whipper	8.0	2.00	*			
66	White auger - tea brew	4.5	0.47	0.30			
67	Sugar auger - tea brew	2.5	2.60	0.15			
68	Sugar substitute auger - tea brew	2.5	0.47	0.25			
71	Whipper - gourmet coffee & FD/CSC	6.0	0.00				
72†	COFFEE FRESH BREW DECAF/CSC	0.0	0.00	0.25			
73†	COFFEE FRESH BREW REGULAR - LG/CSC	1.5	1.40	0.25			
74†	WHIPPER - FREEZE DRIED DECAF/CSC	4.0	0.00				
75†	WHIPPER - FRESH BREW DECAF/CSC	8.6	0.00				
76†	CHOCOLATE AUGER FREEZE DRIED/CSC	13.0	2.20				
77†	CHOCOLATE WATER & WHIPPER FD/CSC	12.0	3.50				
78†	MAKE UP WATER FB TEA	8.6	0.00				
79†	WATER - FREEZE DRIED COFFEE/CSC	2.8	7.10				
80†	CHOCOLATE AUGER FRESH BREW/CSC	16.0	1.45				
81†	CHOCOLATE WATER & WHIPPER FB/CSC	15.0	2.80				
82†	LARGE GRINDER/CSC	0.0	0.90	0.25			
83†	WHIPPER - FD TEA	4.0	0.00				
84†	FREEZE DRIED DECAF COFFEE/CSC	7.6	0.00	0.25			
85†	FREEZE DRIED REGULAR COFFEE/CSC	2.8	2.45	0.25			

† INDICATES NEW CHANNEL ASSIGNMENT

◆ SEE NOTE NEXT PAGE ABOUT SUGAR

* Cleaning cycle channels

● **SPECIAL NOTE REGARDING SUGAR**

If residues of sugar are found in the mixing channel after a vend is completed or if the gram throw setting or the modifier setting for sugar, especially for brewed coffee, are considerably higher than the standard settings listed on the timing chart on the previous page, then it may become necessary to replace the current 90 rpm sugar motor with one of a higher speed (180 rpm). This will allow you to dispense the desired amounts of sugar and guarantee a correct and thorough rinse of the mixing channel.

CHANGES TO CONTROL BOARD CONNECTIONS

There are no physical changes to the harnesses or the control boards in a current production machine. The changes listed in *bold italics* reflect the additional channels that have been added and the board terminals that are controlled by these channels. If a probe assembly has been added to the machine (**ELECTRONIC LIQUID LEVEL CONTROL**), then the assignment of the connector that monitors the water level in the heater tank does change to P7 on the logic board. The changes to the pinouts for both control boards are listed below.

MOTOR CONTROL BOARD PIN CONNECTIONS

P4 BREWER AND SWING OUT BRACKET

- P4-1 Brewer motor 110Vac-controlled by channel 8
- P4-2 Key
- P4-3 Brew water valve 110Vac-controlled by channels 9 & 10
- P4-4 Neutral 110Vac brewer and brew water valve
- P4-5 Regular coffee auger 110Vac (through swing out interlock) controlled by channel 6 & 73
- P4-6 Decaf auger motor 110Vac (through swing out interlock) controlled by channel 7 & 72

P5 COMMODITY VALVES-ALL 110Vac

- P5-2 Commodity trough valve-controlled by channels 13,18,19,78,79
- P5-3 Brewed tea valve-controlled by channel 26
- P5-4 Chocolate valve-controlled by channels 33,77,81
- P5-5 Soup valve-controlled by channel 35
- P5-6 Key
- P5-7 Neutral

P6 CANISTER RACK-ALL 110Vac MOTORS

**CONTROLLED BY
CHANNEL #**

- P6-6 Sugar substitute 16,25,33,68
- P6-7 FD gourmet 22
- P6-8 FD coffee 20,85
- P6-9 FD decaf 21,84
- P6-10 Soup 36
- P6-11 Tea FD or FB 27
- P6-12 Lightener 14,23,30,66
- P6-13 Sugar 15,24,31,67
- P6-14 Key

P6 CANISTER RACK (cont.)

- P6-15 Neutral
- P6-16 Chocolate auger 34,76,80
- P6-17 Chocolate whipper 33,77,81
- P6-18 Soup whipper 35
- P6-19 Tea brewer motor 29
- P6-22 Coffee whipper motor 56,57,71,74,75,83

P10 GRINDER POWER

- P10-1 Large grinder 110Vac-controlled by channel 4 & 82
- P10-2 Neutral for large grinder and swing out bracket

LOGIC CONTROL BOARD PIN CONNECTIONS

**P7 ELECTRONIC LIQUID LEVEL CONTROL - PROBE
VERSION 2 & 3 ONLY - SWITCH #40**

- P7-1 To tank lid ground (green)
- P7-3 Key
- P7-4 Tank probe (white)