

INSTALLATION INSTRUCTIONS FOR INSTALLING A FREEZE DRY CONVERSION KIT IN A NATIONAL VENDORS[®], CROWN SEVENTY TWO[®], SERIES AND GOLDEN FURNITURE LINE (610 AND 611) HOT BEVERAGE MERCHANDISER

CHECK THE PARTS RECEIVED IN THE KIT WITH THE PARTS LIST IN THESE INSTRUCTIONS. FIGURE 1 SHOWS ALL THE PARTS IN THE KIT. IF ANY PARTS ARE MISSING, CONTACT NATIONAL VENDORS' PARTS DEPARTMENT IMMEDIATELY.

These instructions cover the procedure for installing a Freeze Dry Conversion Kit in a Crown Seventy Two, Series and Golden Furniture Line HBM-72 (610 and 611) Hot Beverage Merchandiser.

Read these instructions carefully and thoroughly before installing the Kit. Retain these instructions for part number, electrical, and installation information.

Kit, Part Number 611-0101, contains the following parts:

Part Number	Description	Quantity
613-7148	Coffee Dispenser Assembly	1
612-0101	Coffee Canister Assembly	1
612-0104	Exhaust Hose Assembly	1
475-1243	Hot Water Valve Assembly	1
612-0107	Freeze Dried Coffee Harness Assembly	1
613-8102	Hot Water Valve Tube	1
611-0102	Installation Instructions	1
611-0103	Freeze Dried Packaged Parts	1
	consists of:	1
112-7057	Thumb Screw	2
121-1162	1/2 inch Wire Clamp	1
404-2121	Wire Tie	3
404-7052	.187 Series Faston Receptacle Housing	3
610-6197	Adjustable Insert Cam	1
610-6409	Timer Label	1
610-7231	Vinyl Cap	2
610-6362	Front Test Light Jumper	1
611-7011	Spout Caplug	1
612-0103	Main Timer Label	1
612-0109	Valve to Mixing Bowl Tube	1
612-0110	Mixing Bowl to Mixing Bowl Tube	1
612-0111	1/2 x 14 NPTF Pipe Plug	1
612-0112	Mixing Bowl Rinse Label	1
612-2011	Extra Lightener Sugar Display Sign	1
618-7002	Coffee Mixing Bowl Vent	1
618-7001	Coffee Mixing Bowl	1
9900-019	No.8-32 x 3/8 RHS Screw	1
9900-081	No.8-32 Nut W/LW	1
9900-197	No.8-32 x 1/2 PHS T/C Screw W/LW	2
611-6154	Brew San Jumper Plug	1
612-0106	Brewer Jumper Plug Assembly	1
	* * *	

Special Tools Required: Electric Drill
No.29 Drill Bit

NOTE

Before proceeding with the installation of the Kit check to be sure the Merchandiser is working properly in its present configuration. Any areas needing attention should be either noted or corrected at this time.

TO INSTALL THE KIT

A. PARTS REMOVAL

1. Disconnect the Merchandiser's electrical Service Cord from the wall receptacle.
2. Unlock and open the Cabinet Door.
3. Shut off the water supply at its source.
4. Remove and empty the Waste Pail and Grounds Pail.

WARNING

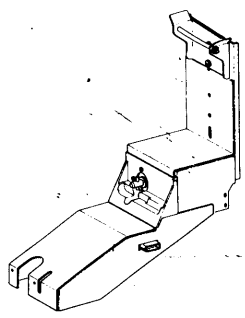
1. The Water Tank and Jacket Assembly, and the water contained in it, can be extremely hot. If the Merchandiser has been in operation prior to servicing, exercise caution to avoid possible burns.
2. Place the entire bottom of the Waste Pail on a flat solid surface to avoid the possibility of the Waste Pail tipping over.
3. The Waste Pail should not be filled with water more than 5 inches from the top.
4. Exercise caution when transporting the hot water in the Waste Pail.

5. Drain one bucket of water into the Waste Pail using the Drain Hose shipped with the Merchandiser.

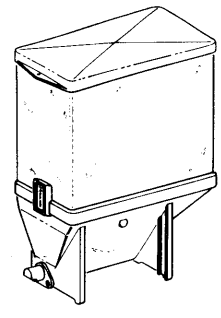


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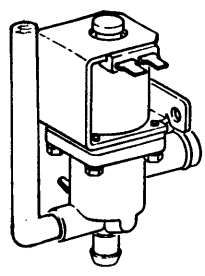
611-0102
Rev. D



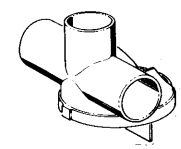
COFFEE DISPENSER ASSEMBLY 613 7148



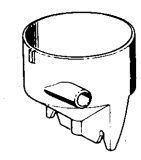
FREEZE DRIED COFFEE CANISTER ASSEMBLY 612 0101



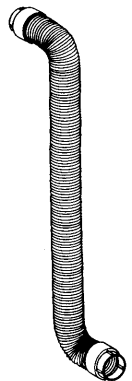
HOT WATER VALVE ASSEMBLY 4751243



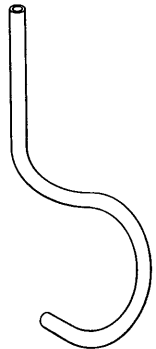
MIXING BOWL VENT 618 7002



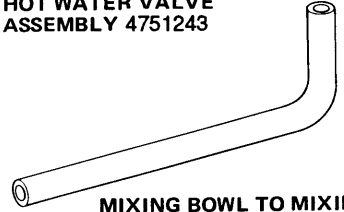
COFFEE MIXING BOWL 618 7001



EXHAUST HOSE ASS'Y. 612 0104



VALVE TO MIXING BOWL TUBE 612 0109



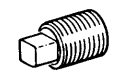
MIXING BOWL TO MIXING BOWL TUBE 612 0110



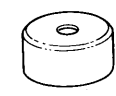
ADJUSTABLE CAM INSERT 610 6197



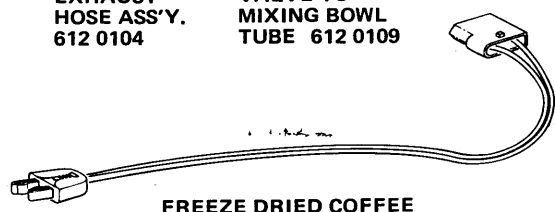
SPOUT CAPLUG 611 7011



1/2 x 1/4 NPTF PIPE PLUG 612 0111



VINYL CAP 610 7231



FREEZE DRIED COFFEE CONVERSION HARNESS 612 0107



THUMB SCREW 112 7057(2)



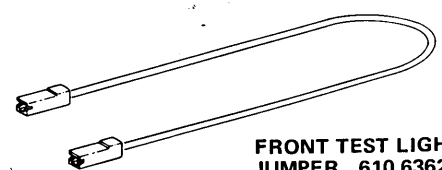
NO.8-32 x 1/2 P.H.S. T/C SCREW W/L.W. 9900 197(2)



NO.8-32 x 3/8 R.H. SCREW 9900 019



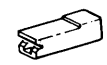
NO.8-32 NUT W/L.W. 9900 081



FRONT TEST LIGHT JUMPER 610 6362



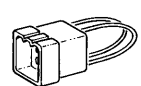
1/2 INCH WIRE CLAMP 121 1162



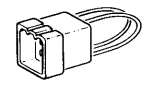
.187 SERIES FASTON 404 7052(3)



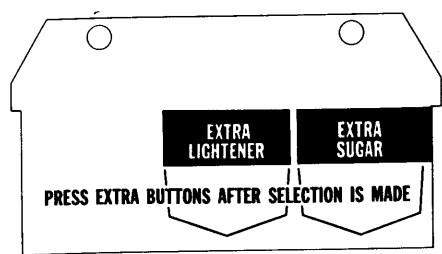
WIRE TIE 404 2121(3)



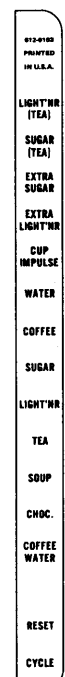
BREWER CLEANING SYSTEM JUMPER PLUG (611 ONLY) 611 6154



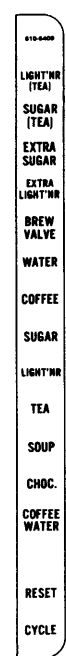
BREWER JUMPER PLUG ASSEMBLY 612 0106



EXTRA LIGHTENER AND SUGAR SIGN DISPLAY 612 2011



MAIN TIMER LABEL 612 0103



FREEZE DRIED TIMER LABEL (610 ONLY) 610 6409

FIGURE 1

6. Disconnect the Coffee Hopper Harness Connector from the Dispenser Shelf and remove the Coffee Hopper from the Merchandiser.
7. Remove the Coffee Grounds Chute from the Merchandiser.
8. Remove the Brewer Cleaning System Mechanism Assembly from the Right Sidewall on Merchandisers equipped with an Automatic Brewer Cleaning System. See Figure 2.
9. Remove the Pump and Container Assembly from Merchandisers equipped with an Automatic Brewer Cleaning System.
10. Remove the Coffee Brewer Assembly from the Merchandiser.
11. Remove the Brewer Mechanism Support Assembly from the Merchandiser.
12. Remove the Filter Paper Guard from 611 Merchandisers.
13. If Merchandiser is equipped with an Automatic Brewer Cleaning System remove the Brewer Cleaning Valve Assembly from the Water Tank

Assembly. If Merchandiser is not equipped with an Automatic Brewer Cleaning System remove the Valve Plug from the Water Tank Assembly. Retain the two Screws for installation of the Kit. See Figure 2.

WARNING

Hot water may be present in the tubing. Exercise caution to prevent possible burns.

14. Remove the tubing attached to the Brewer Water Valve Funnel from the Merchandiser. See Figure 2.
15. Remove the small tube attached to the small spout on the Mixing Bowl from the Merchandiser.
16. On 611 Merchandisers remove the Tee from the Water Feeder Cup Overflow Tube and the short Tee to Tee Tubing. See Figure 2.
17. On 611 Merchandisers connect the Water Feeder Cup Overflow Tube to the remaining Tee.
18. Remove the Brewer Water Valve Funnel from the Merchandiser. See Figure 2.

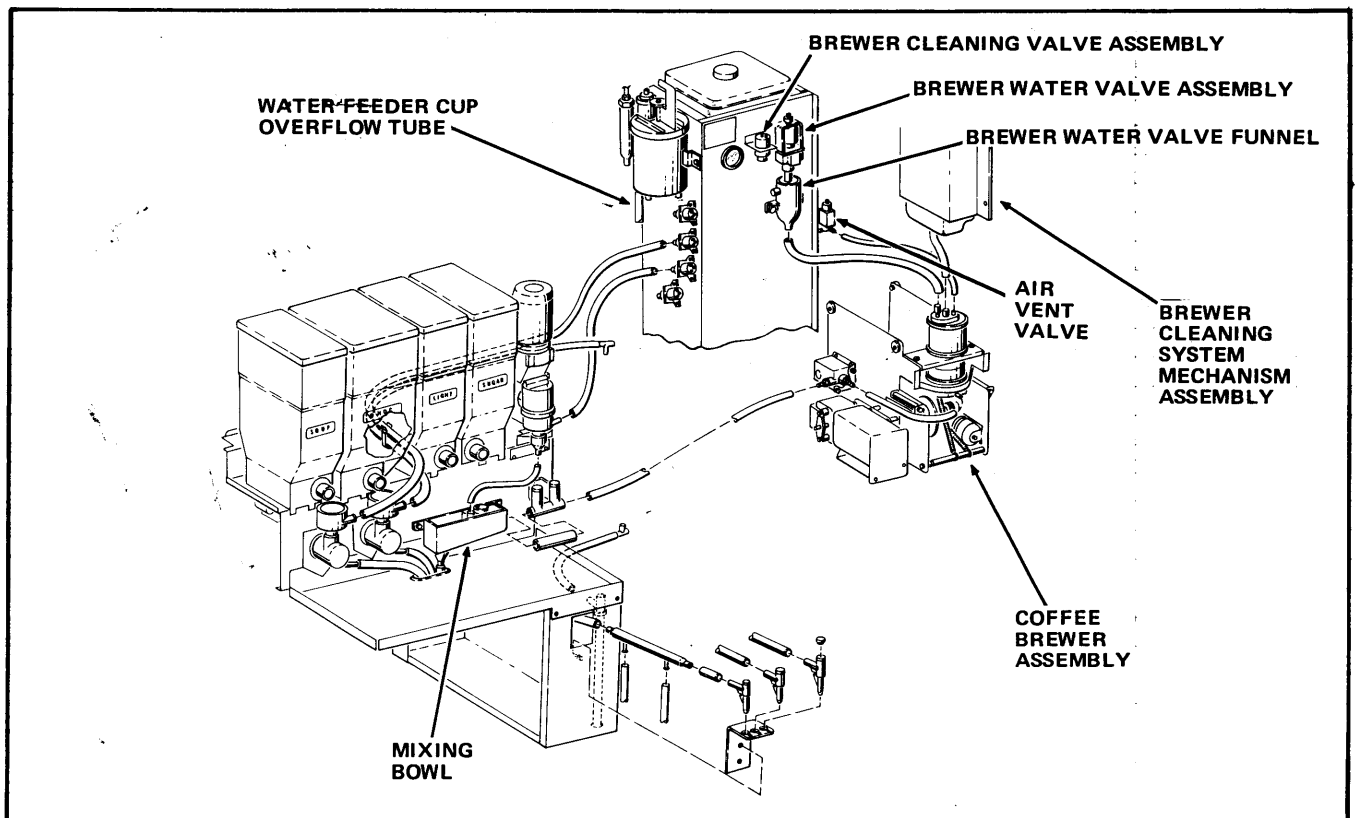


FIGURE 2

19. Remove the Wires from the Brewer Water Valve Assembly. Be sure to tag the two wires to assure proper attachment during installation. Those two wires will be installed on the replacement Hot Water Valve Assembly. See Figure 2.
20. Remove the Brewer Water Valve Assembly from the Merchandiser. See Figure 2.
21. Remove the Air Vent Valve Assembly and Tubing from the Merchandiser.
22. Remove the Air Compressor Assembly and tubing from the Merchandiser. Reinstall the two Bolts attaching the Water Tank Support Bracket.
23. Remove the Vend Cam Timer Assembly from the Control Box Assembly.

B. INSTALLATION OF THE KIT

1. Using the template on the last page on these instructions, locate the hole centers on the Right Sidewall for mounting the Coffee Dispenser Assembly, Part Number 613-7148, included in the Kit. Center punch the hole locations and drill two holes with a No.29 (.136 dia.) drill bit.
2. Attach the Tube (Valve to Mixing Bowl), Part Number 612-0109, to the Coffee Dispenser Assembly, using the 1/2 inch Wire Clamp, Part Number 121-1162, No.8-32 x 3/8 Round Head Screw, Part Number 9900-019, and No.8-32 Nut with Lockwasher, Part Number 9900-081, all parts included in the Kit. Do not tighten. See Figure 3.
3. Attach the Coffee Dispenser Assembly to the Right Sidewall at the holes drilled in Step B-1 using two No.8-32 x 1/2 Pan Head Thread Cutting Screws with Lockwashers, Part Number 9900-197, included in the Kit.
4. On 611 Merchandisers equipped with the Automatic Brewer Cleaning System, connect the Brewer Cleaning System Jumper Plug, Part Number 611-6154, to the Cleaning System Receptacle.
5. Install the Brewer Jumper Plug Assembly, Part Number 612-0106, included in the Kit, in the right side of the Dry Ingredients Shelf. Be sure that the Water Tank Harness is also plugged in. The Brewer Jumper Plug Assembly completes the CREM Circuit and Brew Safety Circuit when Brewer is removed.
6. Install the 1/2 x 1/4 NPTF Pipe Plug, Part Number 612-0111, included in the Kit, in the Brewer Water Valve Outlet in the Water Tank Assembly.

7. Using a pair of pliers, bend the terminals up on the Hot Water Valve Assembly, Part Number 4751243, included in the Kit, and install in the Brewer Cleaning Valve Outlet in the Water Tank Assembly. Attach with the two Screws removed in Step A-13.
8. Deleted.
9. Connect the two wires which were removed from the Brewer Water Valve Assembly and tagged in Step A-19 to the terminals on the Hot Water Valve Assembly which was installed in Step B-7.
10. Fit the Spout Caplug, Part Number 611-7011, included in the Kit, into the open branch of the Tee in Water Feeder Cup Overflow Tube.
11. Install the Coffee Mixing Bowl, Part Number 618-7001, on the Coffee Dispenser Assembly using two Thumb Screws, Part Number 112-7057, all parts included in the Kit.
12. Connect one end of the Valve to Mixing Bowl Tube (installed in Step B-2) to the Hot Water Valve Assembly (installed in Step B-7) and the other end of the Tube to the side of the Coffee Mixing Bowl. Be sure to route the tubing so it has a continuous fall; no traps or kinks.
13. Connect one end of the Mixing Bowl to Mixing Bowl Tube, Part Number 612-0110, included in the Kit, on the inlet spout of the regular Mixing Bowl and the other end of the Tube to the bottom of the Coffee Mixing Bowl.
14. Connect the Freeze Dried Coffee Conversion Harness, Part Number 612-0107, included in the Kit, to the Coffee Dispenser Assembly. Route wires as shown in Figure 4 and connect the other end of the Harness to the Air Compressor Outlet on the rear of the Control Box. Tie Freeze Dried Coffee Conversion Harness to Main Harness using one Wire Tie, Part Number 404-2121, included in the Kit.
15. Install the Mixing Bowl Vent, Part Number 618-7002, included in the Kit, on top of the Mixing Bowl as shown in Figure 4.

NOTE

Step 16 applies only to Merchandisers equipped with tea.

16. a. On 610 Merchandisers equipped with tea, remove the Tea Exhaust Hose from the Exhaust Filter Housing and connect it to the Mixing Bowl Vent. See Figure 5.

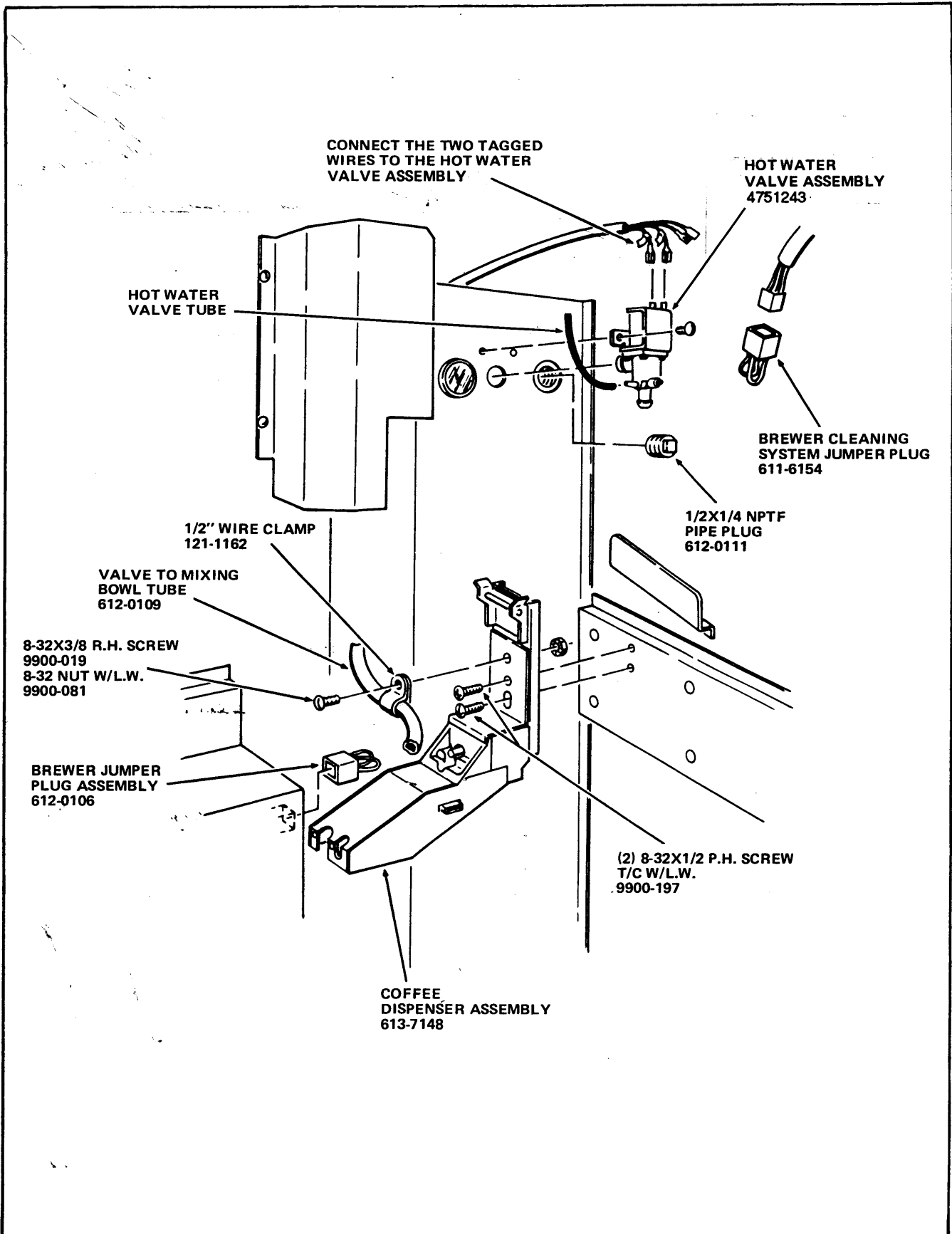


FIGURE 3

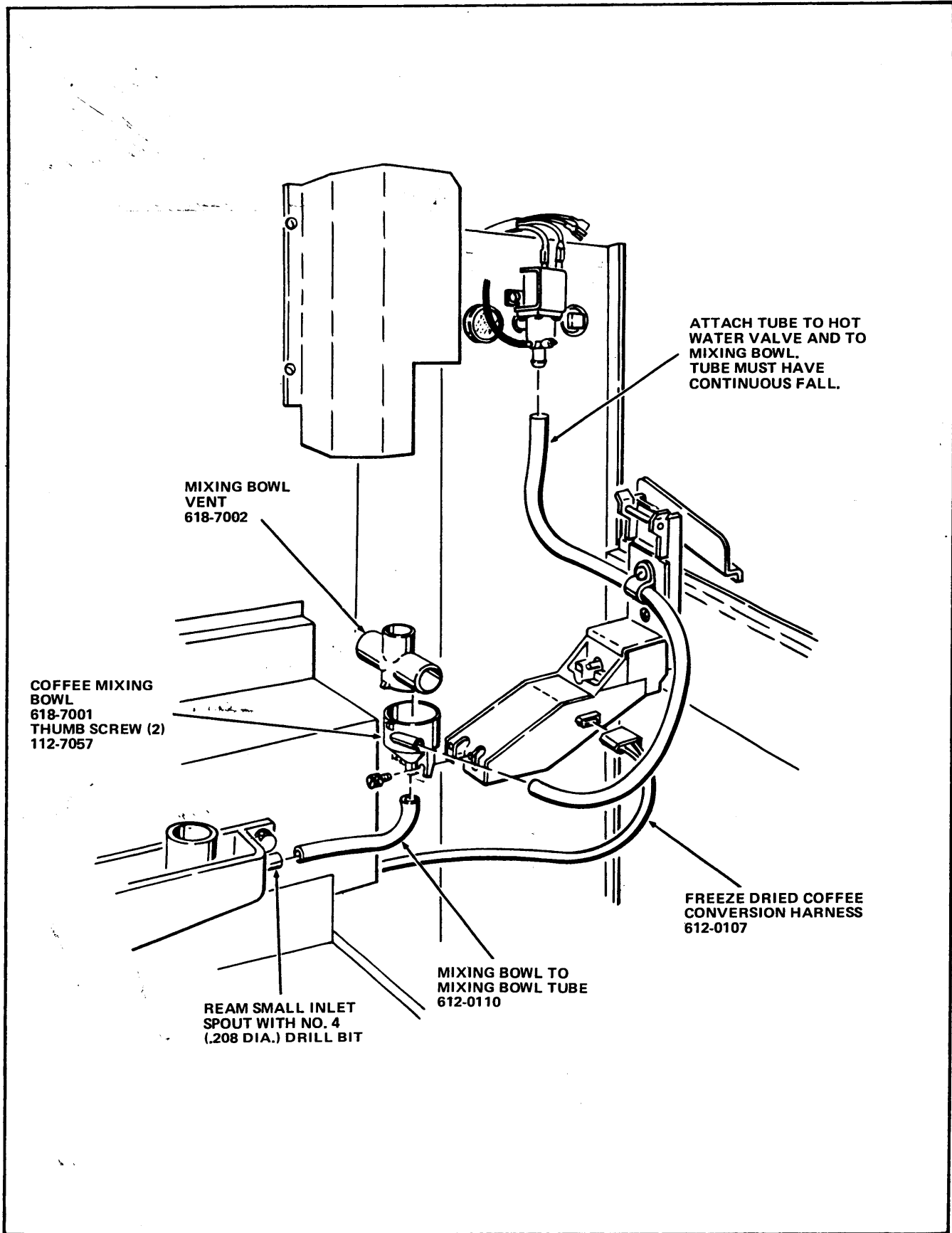


FIGURE 4

- b. On 611 Merchandisers equipped with tea, remove the Mixing Bowl Exhaust Hose from the Exhaust Filter Housing and connect it to the Mixing Bowl Vent. See Figure 6.
- c. Connect the Exhaust Hose Assembly, Part Number 612-0104, included in the Kit, to the Mixing Bowl Vent and connect the other end to the Exhaust Filter Housing. See Figure 5 or 6.
- d. Fit the Vinyl Cap, Part Number 610-7231, included in the Kit, over the opening in the Mixing Bowl Vent. See Figure 5 or 6.

NOTE

Step 17 applies only to Merchandisers not equipped with tea.

17. a. On 610 and 611 Merchandisers not equipped with tea, removed the cap from the Exhaust Filter Housing and connect the Exhaust Hose Assembly, Part Number 612-0104, included in the Kit, to the Exhaust Filter Housing and connect the other end to the Mixing Bowl Vent. See Figure 7 for 610 Merchandisers and Figure 8 for 611 Merchandisers.
- b. Fit the two Vinyl Caps, Part Number 610-7231, included in the Kit, over the opening in the Mixing Bowl Vent. See Figure 7 or 8.
18. On 611 Merchandisers only, place the Mixing Bowl Rinse Label, Part Number 612-0112, included in the Kit, on front of the Control Box, covering the words BREWER TEST.
19. a. On 611 Merchandisers, install the Front Test Light Jumper, Part Number 610-6362, included in the Kit, from terminal No.43 to terminal No.21 on the test board in the Control Box. The Front Test Light Jumper by-passes the Time Delay Circuit taking the Time Delay Module out of the circuit.
- b. On 610 Merchandisers connect the Front Test Light Jumper, Part Number 610-6362, included in the Kit, from +2 to No.69 on the test board in the Control Box. The Front Test Light Jumper by-passes the Time Delay Circuit taking the Time Delay Module out of the circuit.
20. Disconnect and remove the Solid State Delay Module Assembly from the Control Box Assembly.

21. Remove two Screws and the Probe Assembly from the Merchandiser. Tape the ends of the Wires and tuck in through the insulator.

NOTE

1. *Step 22 applies to the Vend Cam Timer Assembly on 611 Merchandisers only.*
2. *Refer to Main Timer Label, Part Number 612-0103, included in the Kit, to determine where the new switches are located on the Vend Cam Timer Assembly. Do not affix the Main Timer Label at this time.*
3. *Refer to Figure 9 while performing Step 22.*

22. a. Remove the three Wires from the old Probe 1 switch and place the three .187 Series Fastons, Part Number 404-7052, included in the Kit, over the ends of the three Wires.
- b. Remove the GRAY/BLACK Wire from the common position of the old Air Compressor switch and place on the common position of the new Coffee Water switch.
- c. Remove the RED/BLACK Wire and PINK/BLACK Wire from the old Brew Water switch and place the RED/BLACK Wire on the NO position of the new Coffee Water switch and place the PINK/BLACK Wire on the NC position of the new Coffee Water switch.
- d. Remove the GREEN/WHITE Wire from the NO position of the old Air Compressor switch and place on the NC position of the new Coffee switch.
- e. Tie the Wires together on the Vend Cam Timer Assembly using the three Wire Ties, Part Number 404-2121, included in the Kit.

NOTE

1. *Step 23 applies to the Vend Cam Timer Assembly on 610 Merchandisers only.*
2. *Refer to Freeze Dried Timer Label, Part Number 610-6409, included in the Kit, to determine where the new switches are located on the Vend Cam Timer Assembly. Do not affix the Freeze Dried Timer Label at this time.*
3. *Refer to Figure 10 while performing Step 23.*

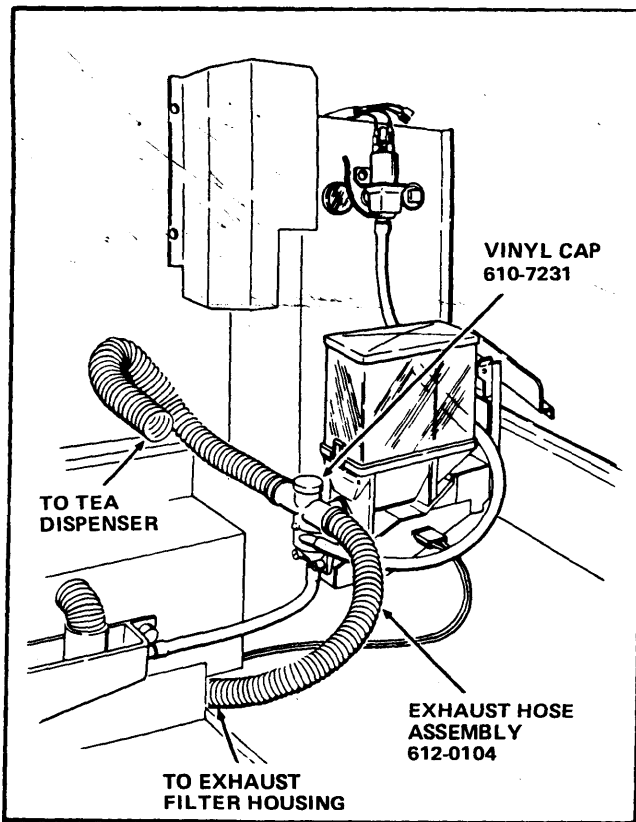


FIGURE 5. 610 WITH TEA

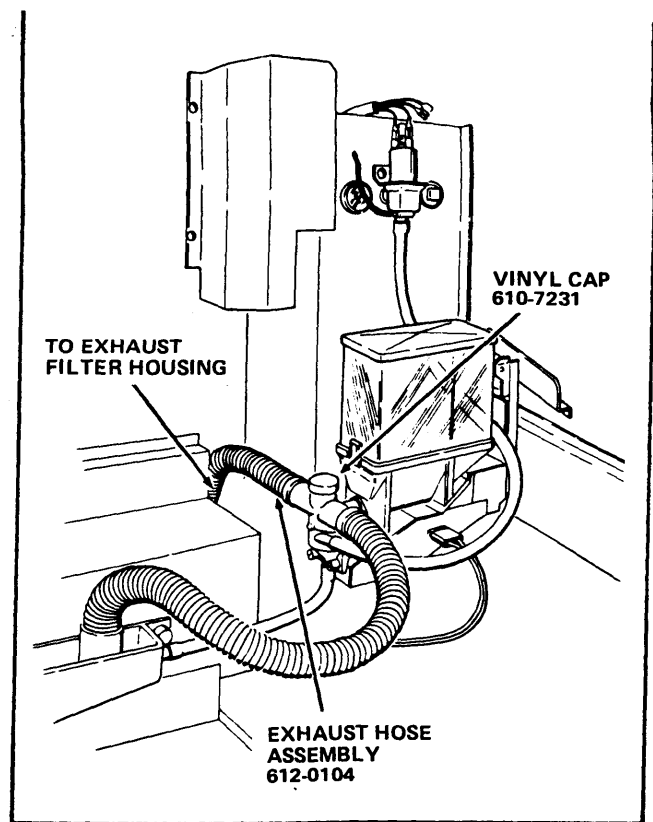


FIGURE 6. 611 WITH TEA

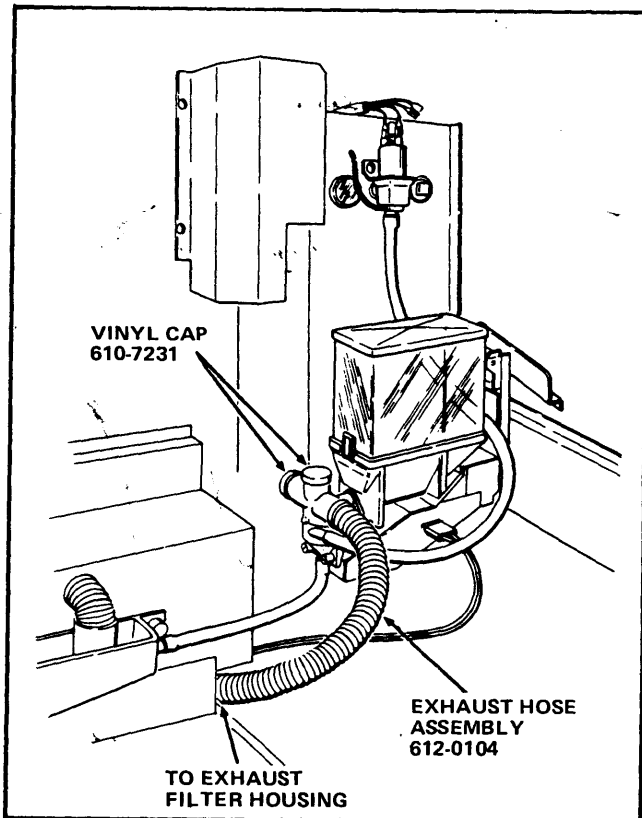


FIGURE 7. 610 WITHOUT TEA

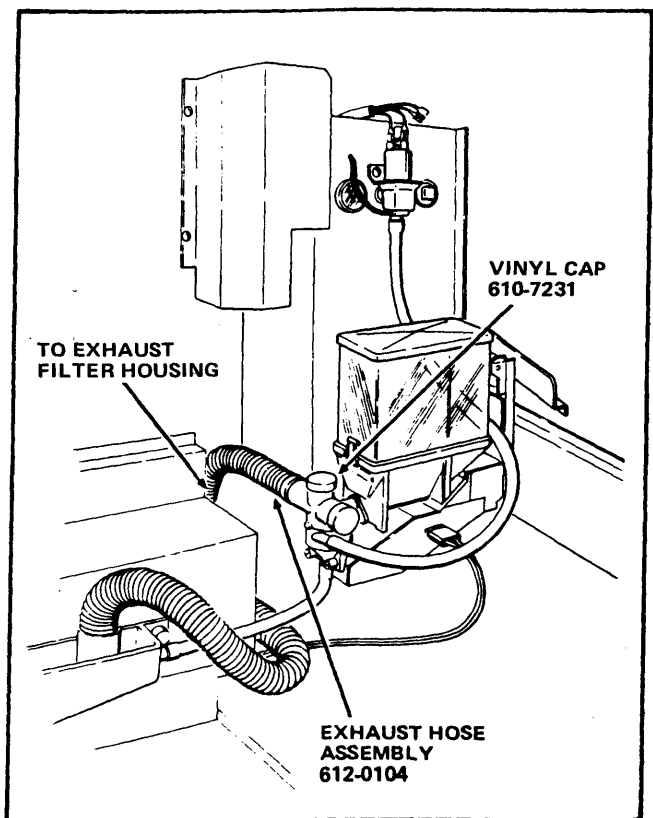
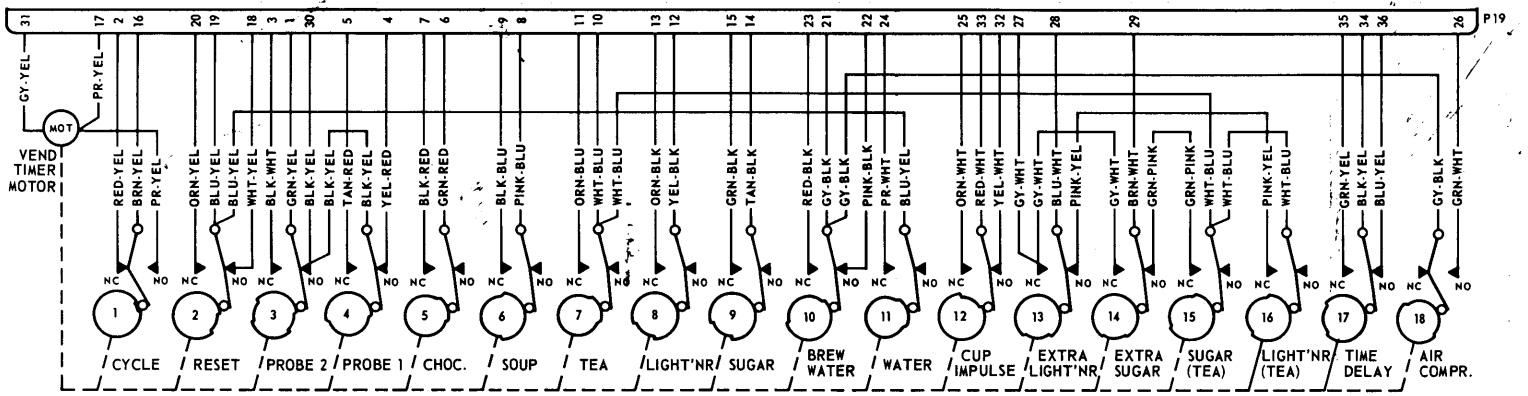
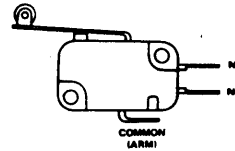


FIGURE 8. 611 WITHOUT TEA

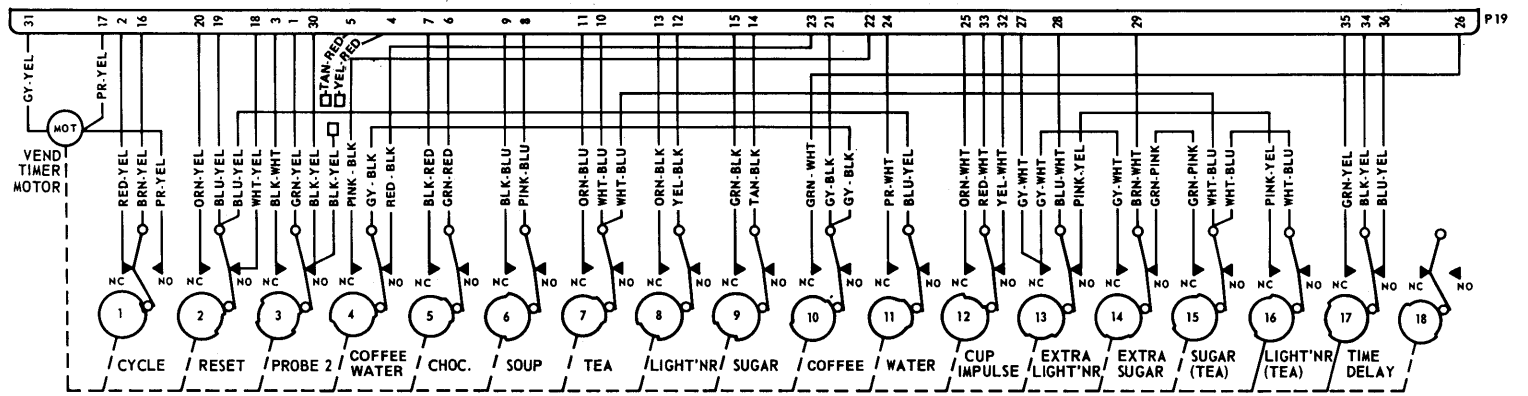


BEFORE CONVERSION



Typical Switch in Vend Cam Timer Assembly

611 VEND CAM
TIMER ASSEMBLY



AFTER CONVERSION

FIGURE 9
9 of 13

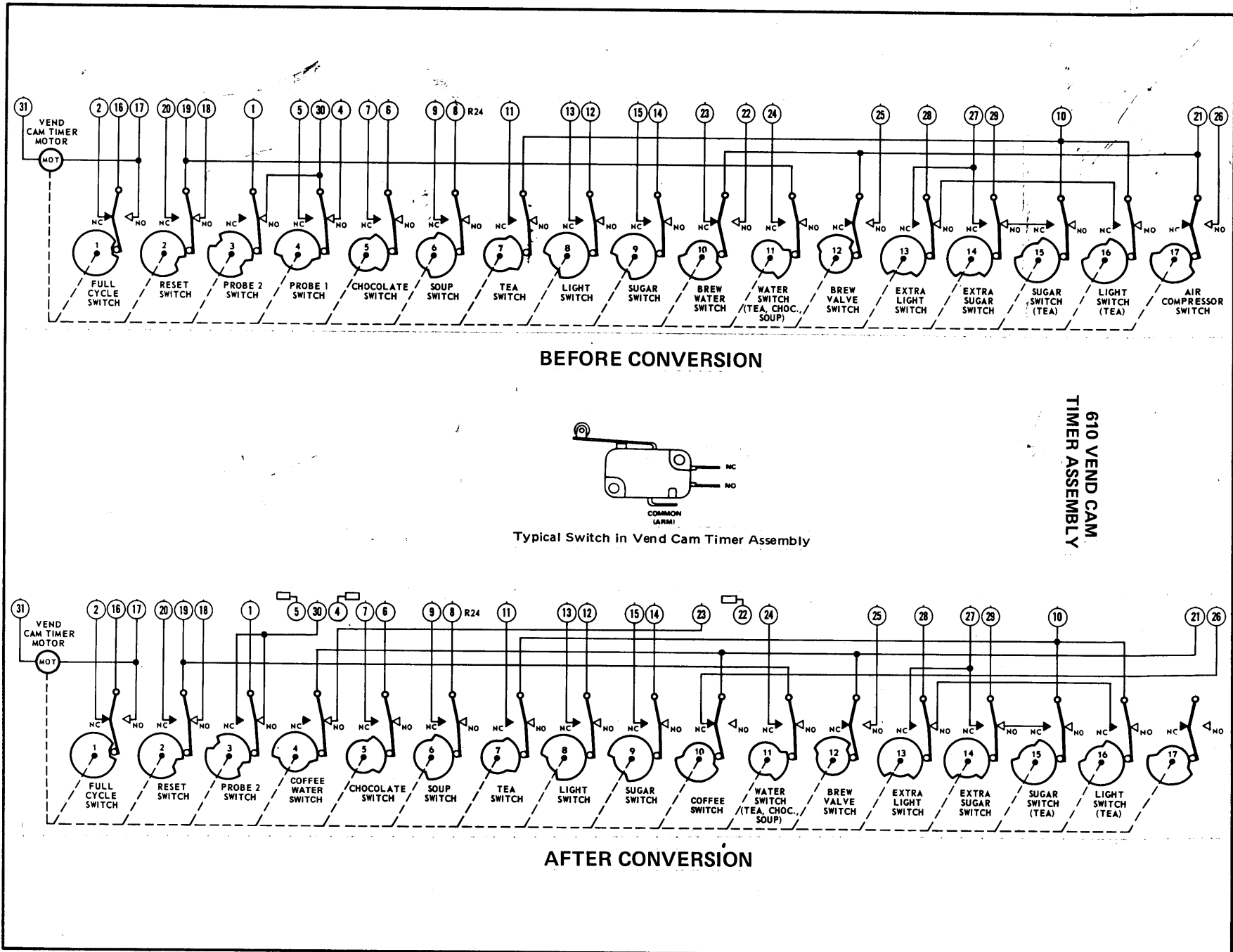


FIGURE 10

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23. a. Remove the YELLOW/RED and GREY/BLACK Wires from the old Brew Water switch.
 - b. Remove the GREEN/WHITE, TAN, and WHITE/YELLOW Wires from the old Probe 1 switch and place the WHITE/YELLOW Wire in the NC position on the old Probe 2 switch.
 - c. Place the YELLOW/RED Wire disconnected in Step B-22a on the NO position of the new Coffee Water switch.
 - d. Remove the ORANGE/BLUE Wire from the Brew Valve switch.
 - e. Remove the ORANGE/BLUE Wire from the Brew Valve switch.
 - f. Remove the ORANGE/BLUE Wire from the Brew Water switch and place it on the common position of the new Brew Valve switch.
 - g. Replace the two remaining terminals of the BLUE/ORANGE Wire to the common position of the new Coffee switch and the common position of the new Coffee Water switch.
 - h. Remove the PINK/GREEN Wire from the Air Compressor switch and place it on the NC position of the new Coffee switch.
24. Place the three .187 Series Fastons, Part Number 404-7052, included in the Kit, over the ends of the three loose Wires (GREEN/WHITE, TAN, GREY/BLACK).
 25. Tie the Wires together on the Vend Cam Timer Assembly using two Wire Ties, Part Number 404-2121, included in the Kit.

NOTE

Step 26 applies only to 610 Merchandisers.

26. Install the Adjustable Cam Insert, Part Number 610-6197, included in the Kit, in the Coffee Cam (formerly Brew Water Cam).
 - a. Rotate the Vend Timer Cam Assembly 180° so that the Notch in the Cycle Cam is straight up. (counter-clockwise from motor end).

- b. Separate the segments of the Coffee Cam and rotate the movable segment toward you (clockwise from motor end) until the high part of this segment extends one inch beyond the high part of the stationary cam. Moveable cam WILL NOT Lock in this position.
 - c. Rotate the Vend Timer Cam Assembly an additional 1/4 turn so that the Notch on the Cycle Cam is facing the back plate of the Vend Timer Assembly.
 - d. Pick up Adjustable Cam Insert, included in the Adjustable Cam Insert between the segments. Properly installed, the tab on the Adjustable Cam Insert will be protruding through the serrated slot in the movable cam at the end nearest the top, or highest point of the cam. The Adjustable Cam Insert will now provide a method of locking the adjustable portion of the Coffee Cam.
 - e. Separate the Coffee Cam segments and install the Adjustable Cam Insert between the segments. Properly installed, the tab on the Adjustable Cam Insert will be protruding through the serrated slot in the movable cam at the end nearest the top, or highest point of the cam. The Adjustable Cam Insert will now provide a method of locking the adjustable portion of the Coffee Cam.
27. Attach the Main Timer Label, Part Number 612-0103, included in the Kit, on the Vend Timer Assembly of 611 Merchandisers and Freeze Dried Timer Label, Part Number 610-6409, included in the Kit, on the Vend Cam Timer Assembly of 610 Merchandisers.
 28. Install the Vend Cam Timer Assembly back in the Control Box Assembly and push the Control Box Assembly back in the Merchandiser.
 29. Install the Coffee Freeze Dried Canister Assembly, Part Number 612-0101, included in the Kit, on the Coffee Dispenser Assembly.

CAUTION

If more than one bucket of water has been removed from the Water Tank Assembly, remove the 20 amp fuse before turning the power on to the Merchandiser.

30. Turn on the water supply at its source.
31. Connect the Merchandiser power cord to a properly polarized and grounded wall receptacle.

32. After the Water Tank is full, install the 20 amp fuse if the fuse was removed.
33. Test vend a black coffee selection and adjust water volume throw with adjusting screw on Hot Water Valve.
34. Fill the Coffee Freeze Dried Canister Assembly with product and adjust gram throw at Vend Timer Coffee Cam.
35. Install the Extra Lightener and Sugar Sign Display, Part Number 612-2011, included in the Kit.
36. Check all selections to assure proper function of merchandiser. Turn temperature control to lowest setting.
37. Close and lock the Cabinet Door.

TOP

CENTER PUNCH
2 PLACES

5"

7/16"

1 1/8"

DRILL 2 HOLES
WITH A NO. 29 (.136 DIA.)
DRILL BIT

EXISTING HOLES

EXISTING HOLES

FRONT OF CABINET

TEMPLATE

R
L

13 of 13

611-0102

