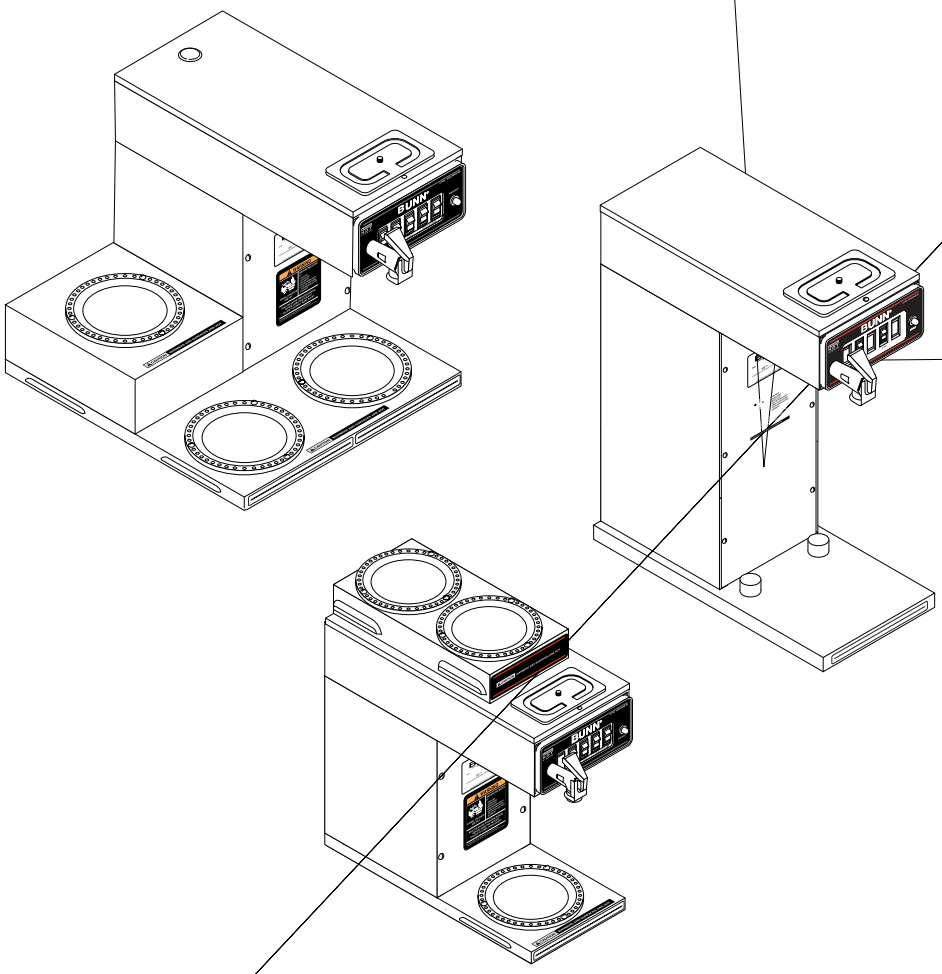
BUNN®

CWT -DV, CWT APS-DV, CWTF-DV, CWTF APS-DV



OPERATING & SERVICE MANUAL

BUNN-O-MATIC CORPORATION

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INTRODUCTION

This equipment will brew a half-gallon batch of coffee into an awaiting dispenser. It can be easily configured for 120V 15 amp, 120/208V 20 amp or 120/240V 20 amp. The brewer has a hot water faucet for allied beverage use. It is only for indoor use on a sturdy counter or shelf.

BUNN-O-MATIC COMMERCIAL PRODUCT WARRANTY

Bunn-O-Matic Corp. ("BUNN") warrants equipment manufactured by it as follows:
1) All equipment other than as specified below: 2 years parts and 1 year labor.
2) Electronic circuit and/or control boards: parts and labor for 3 years.
3) Compressors on refrigeration equipment: 5 years parts and 1 year labor.
4) Grinding burrs on coffee grinding equipment to grind coffee to meet original factory screen sieve analysis: parts and labor for 3 years or 30,000 pounds of coffee, whichever comes first.

These warranty periods run from the date of installation BUNN warrants that the equipment manufactured by it will be commercially free of defects in material and workmanship existing at the time of manufacture and appearing within the applicable warranty period. This warranty does not apply to any equipment, component or part that was not manufactured by BUNN or that, in BUNN's judgment, has been affected by misuse, neglect, alteration, improper installation or operation, improper maintenance or repair, damage or casualty. This warranty is conditioned on the Buyer 1) giving BUNN prompt notice of any claim to be made under this warranty by telephone at (217) 529-6601 or by writing to Post Office Box 3227, Springfield, Illinois 62708-3227; 2) if requested by BUNN, shipping the defective equipment prepaid to an authorized BUNN service location; and 3) receiving prior authorization from BUNN that the defective equipment is under warranty.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY OTHER WARRANTY, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The agents, dealers or employees of BUNN are not authorized to make modifications to this warranty or to make additional warranties that are binding on BUNN. Accordingly, statements by such individuals, whether oral or written, do not constitute warranties and should not be relied upon.

If BUNN determines in its sole discretion that the equipment does not conform to the warranty, BUNN, at its exclusive option while the equipment is under warranty, shall either 1) provide at no charge replacement parts and/or labor (during the applicable parts and labor warranty periods specified above) to repair the defective components, provided that this repair is done by a BUNN Authorized Service Representative; or 2) shall replace the equipment or refund the purchase price for the equipment.

THE BUYER'S REMEDY AGAINST BUNN FOR THE BREACH OF ANY OBLIGATION ARISING OUT OF THE SALE OF THIS EQUIPMENT, WHETHER DERIVED FROM WARRANTY OR OTHERWISE, SHALL BE LIMITED, AT BUNN'S SOLE OPTION AS SPECIFIED HEREIN, TO REPAIR, REPLACEMENT OR REFUND.

In no event shall BUNN be liable for any other damage or loss, including, but not limited to, lost profits, lost sales, loss of use of equipment, claims of Buyer's customers, cost of capital, cost of down time, cost of substitute equipment, facilities or services, or any other special, incidental or consequential damages.

[redacted]

This equipm
comply with the
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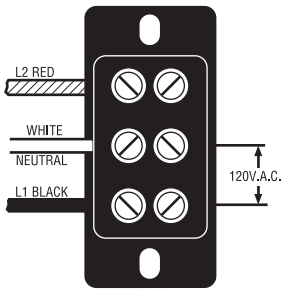
ELECTRICAL REQUIREMENTS

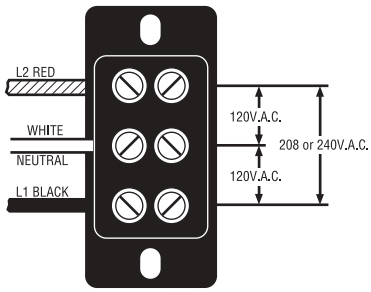
CAUTION - The brewer must be disconnected from the power source until specified in *Initial Set-Up.*

Requirements for brewers without an attached cord set are as follows:



120V VERSION

Requires 2-wire, grounded service rated 120 volts ac, 15 amp, single phase, 60 Hz.



120/208-240V VERSION

Requires 3-wire, grounded service rated 120/240 volts ac, 20 amp, single phase, 60 Hz.

ELECTRICAL HOOK-UP

CAUTION – Improper electrical installation will damage electronic components.

1. An electrician must provide electrical service.
2. Determine the available on-site electrical service.
3. Select the desired unit voltage based on the available on-site electrical service.
4. Using a voltmeter, check the voltage and color coding of each conductor at the electrical source.
5. Remove the front access panel beneath the sprayhead to gain access to the terminal block.
6. Feed the supply leads through the rear of the brewer.
7. Using the above diagrams, connect the desired electrical service to the field wiring terminal block.
8. Before proceeding, verify the voltage at the field wiring terminal block.
9. Set toggle switch on component bracket to the appropriate position and replace the access panel.
10. If plumbing is to be hooked up later be sure the brewer is disconnected from the power source. If plumbing has been hooked up, the brewer is ready for *Initial Set-Up*.

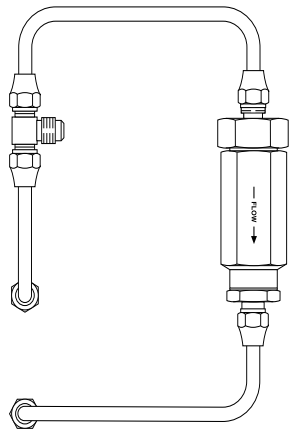
PLUMBING REQUIREMENTS

These brewers must be connected to a cold water system with operating pressure between 20 and 90 psi (138 and 620 kPa) from a ½" or larger supply line. A shut-off valve should be installed in the line before the brewer. Install a regulator in the line when pressure is greater than 90 psi (620 kPa) to reduce it to 50 psi (345 kPa) . The water inlet fitting is ¼" flare.

NOTE - Bunn-O-Matic recommends ¼" copper tubing for installations of less than 25 feet and ⅜" for more than 25 feet from the ½" water supply line. A tight coil of copper tubing in the water line will facilitate moving the brewer to clean the countertop. Bunn-O-Matic does not recommend the use of a saddle valve to install the brewer. The size and shape of the hole made in the supply line by this type of device may restrict water flow.

This equipment must be installed to comply with the Basic Plumbing Code of the Building Officials and Code Administrators International, Inc. (BOCA) and the Food Service Sanitation Manual of the Food and Drug Administration (FDA).

CWTF



BE SURE TO INSTALL THE ABOVE ASSEMBLY AS SHOWN

1. Flush the water line and securely attach it to the inlet flare.
2. Turn on the water supply.
3. On faucet models, place an empty vessel beneath the faucet and lift the handle until water is dispensed.

INITIAL SET-UP

CAUTION - The brewer must be disconnected from the power source throughout the initial set-up, except when specified in the instructions.

1. Insert an empty funnel into the funnel rails.
2. Place an empty dispenser under the funnel.
3. Place the heater switch at the rear of the brewer in the "OFF" (lower) position and connect the brewer to the power source.
4. Place the "ON/OFF" switch in the "ON" (upper) position, and momentarily press and release the start switch. Water will begin flowing into the tank. When water stops flowing into the tank, initiate a second and a third brew cycle. During the third brew cycle the tank will fill to its capacity and the excess will flow from the sprayhead, out of the funnel, and into the dispenser.
5. When the flow of water from the funnel stops, place the heater switch at the rear of the brewer in the “ON” (upper) position and wait approximately twenty minutes for the water in the tank to heat to the proper temperature. Some water will drip from the funnel during this time; this is due to expansion and should not occur thereafter.
6. Empty the dispenser, place the "ON/OFF" switch in the "ON" (upper) position, and momentarily press and release the start switch.
7. Place the "ON/OFF" switch in the "OFF" (lower) position after water has stopped flowing from the funnel, and let the water in the tank reheat to the proper temperature.
8. Empty the dispenser, place the "ON/OFF" switch in the "ON" (upper) position, and momentarily press and release the start switch. Check the water volume in the dispenser after water has stopped flowing from the funnel. It should be 64 ounces.
9. If not, adjust the brew timer as required. See *Adjusting Brew Volumes.* Start, and measure another brew cycle.
10. Repeat step 9 until 64 oz water volume is achieved.
11. The brewer is now ready for use in accordance with the coffee brewing instructions.

ADJUSTING BREW VOLUMES

CAUTION - Disconnect the power source from the brewer prior to the removal of any panel for the replacement or adjustment of any component.

NOTE: Prior to setting or modifying batch sizes, check that the brewer is connected to water supply, the tank is properly filled, and a funnel and dispenser are in place.

1. **Modifying batch sizes.** To modify a batch volume, first check that the SET/LOCK switch is in the "SET" position on the circuit board.

   To increase a batch size. Press and hold the START or BREW switch until three clicks are heard. Release the switch (Failure to release the switch within two seconds after the third click causes the volume setting to be aborted and previous volume setting will remain in memory) and press it again one or more times. Each time the switch is pressed, two seconds are added to the brew time period. Allow the brew cycle to finish in order to verify that the desired volume has been achieved.

   To decrease a batch size. Press and release the START or BREW switch once for every two-second interval to be removed from the total brew time period; then immediately press and hold down the START or BREW switch until three clicks are heard. Release the switch. (Failure to release the switch within two seconds after the third click causes the volume setting to be aborted and previous volume setting will remain in memory). Allow the brew cycle to finish in order to verify that the desired volume has been achieved.

ADJUSTING BREW VOLUMES (cont.)

2. **Setting batch sizes.** To set a batch volume, first check that the SET/LOCK switch is in the "SET" position on the circuit board. Press and hold the START or BREW switch until three distinct clicks are heard, and then release the switch. (Failure to release the switch within two seconds after the third click causes the volume setting to be aborted and previous volume setting will remain in memory). View the level of the liquid being dispensed. When the desired level is reached, turn the ON/OFF switch to "OFF" (lower). The brewer remembers this volume and will continue to brew batches of this size until the volume setting procedure is repeated.

NOTE: When brewing coffee, batch volumes will decrease due to absorption by the coffee grounds.

3. **Setting programming disable feature.** If it becomes necessary to prevent anyone from changing brew times once programmed, you can set the SET/LOCK switch to the "LOCK" position. This will prevent any programming to be done until switch is once again placed in the "SET" position.

OPERATING CONTROLS

ON/OFF SWITCH

Placing the "ON/OFF" switch in the "OFF" (lower) position stops brewing. Stopping a brew cycle after it has been started will not stop the flow of water into the funnel until the tank syphons down to its proper level. Placing the switch in the "ON" (upper) position supplies power to enable the brew circuit on all brewers, and the brew station warmer on CWT & CWTF-DV Models.

START SWITCH

Momentarily pressing and releasing the switch starts a brew cycle when the "ON/OFF" switch is in the "ON" (upper) position.

NOTE – The "ON/OFF" switch must be in the "ON" (upper) position to initiate and complete a brew cycle.

COFFEE BREWING

1. Insert a BUNN® filter into the funnel.
2. Pour the fresh coffee into the filter and level the bed of grounds by gently shaking.
3. Slide the funnel into the funnel rails.
4. Place an empty dispenser beneath the funnel.
5. Place the "ON/OFF" switch in the "ON" (upper) position. Momentarily press and release the start switch.
6. When brewing is completed, simply discard the grounds and filter.

CLEANING

1. The use of a damp cloth rinsed in any mild, non-abrasive, liquid detergent is recommended for cleaning all surfaces on Bunn-O-Matic equipment.
2. Check and clean the sprayhead. The sprayhead holes must always remain open.
3. With the sprayhead removed, insert the deliming spring (provided) all the way into the sprayhead tube. When inserted properly, no more than two inches of spring should be visible. Saw back and forth five or six times.

NOTE – In hard water areas, this may need to be done daily. It will help prevent liming problems in the brewer and takes less than a minute.

TROUBLESHOOTING

A troubleshooting guide is provided to suggest probable causes and remedies for the most likely problems encountered. If the problem remains after exhausting the troubleshooting steps, contact the Bunn-O-Matic Technical Service Department.

- Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel.
- All electronic components have 120 volt ac and low voltage dc potential on their terminals. Shorting of terminals or the application of external voltages may result in board failure.
- Intermittent operation of electronic circuit boards is unlikely. Board failure will normally be permanent. If an intermittent condition is encountered, the cause will likely be a switch contact or a loose connection at a terminal or crimp.
- Solenoid removal requires interrupting the water supply to the valve. Damage may result if solenoids are energized for more than ten minutes without a supply of water.
- The use of two wrenches is recommended whenever plumbing fittings are tightened or loosened. This will help to avoid twists and kinks in the tubing.
- Make certain that all plumbing connections are sealed and electrical connections tight and isolated.
- This brewer is heated at all times. Keep away from combustibles.

WARNING
- Exercise extreme caution when servicing electrical equipment.
- Unplug the brewer when servicing, except when electrical tests are specified.
- Follow recommended service procedures
- Replace all protective shields or safety notices

PROBLEM	PROBABLE CAUSE	REMEDY
Brew cycle will not start	1. No water	Water lines and valves to the brewer must be open.
	2. No power or incorrect voltage to the brewer	(A1) Check the terminal block for 120 volts across the black and white terminals on two wire 120 volt brewers. (A2) Check the terminal block for 120 volts ac across the red and white and the black and white terminals on 120/208V and 120/240V volt brewers. (B) Check circuit breakers or fuses.
	3. ON/OFF Switch	Refer to *Service* - ON/OFF Switch for testing. See page 18
	4. Start Switch	Refer to *Service* - Start Switch for testing procedures. See page 20

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Brew cycle will not start (cont.)	5. Timer	Refer to *Service* - Timer for testing procedures. See page 26 and 27
	6. Solenoid Valve	Refer to *Service* - Solenoid Valve for testing procedures. See page 19
	7. Water strainer/flow control (.222 GPM)	(A) Direction of flow arrow must be pointing towards brewer. (B) Remove the strainer/flow control and check for obstructions. Clear or replace.
Water is not hot	1. Tank Heater Switch	Refer to *Service* - Tank Heater Switch for testing procedures. See page 23
	2. Limit Thermostat **CAUTION -** Do not eliminate or bypass limit thermostat. Use only replacement part #29329.1000	Refer to *Service* - Limit Thermostat for testing procedures. See page 17
	3. Control Thermostat	Refer to *Service* - Control Thermostat for testing procedures. See page 16
	4. Tank Heater(s)	Refer to *Service* - Tank Heater(s) for testing procedures. See page 21
	5.ThermalFuse (Faucet Models Only)	Refer to *Service* - Thermal Fuse for testing procedures. See page 26

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Inconsistent beverage level in dispenser	1. Strainer/flow control (.222 GPM)	(A) Direction of flow arrow must be pointing towards the brewer. (B) Remove the strainer/flow control and check for obstruction. Clear or replace.
	2. Syphon System	The brewer must be level or slightly lower in front to syphon properly.
	3. Lime Build-up **CAUTION -** Tank and tank components should be delimed regularly depending on local water conditions. Excessive mineral build-up on stainless steel surfaces can initiate corrosive reactions resulting in serious leaks.	Inspect the tank assembly for excessive lime deposits. Delime as required.
	4. Water Pressure	The water pressure to the brewer must be at least 20 psi (138 kPa).
Consistently low beverage level in the dispenser	1. Timer	Refer to *Service* - Timer for adjusting procedures. See page 27 and 28
	2. Strainer/flow Control (.222 GPM)	(A) Direction of flow arrow must be pointing towards brewer. (B) Remove the strainer/flow control and check for obstructions. Clear or replace.
Spitting or excessive steaming	1. Lime Build-up **CAUTION -** Tank and tank components should be delimed regularly depending on local water conditions. Excessive mineral build-up on stainless steel surfaces can initiate corrosive reactions resulting in serious leaks.	Inspect tank assembly for excessive lime deposits. Delime as required.

TROUBLESHOOTING (cont.)

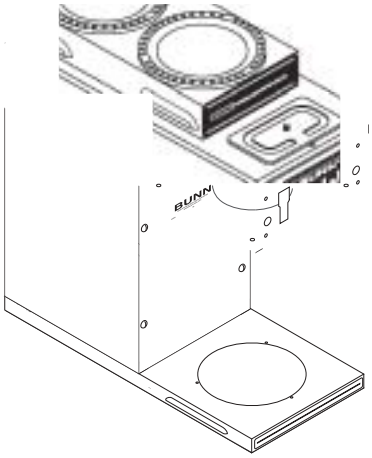
PROBLEM	PROBABLE CAUSE	REMEDY
Spitting or excessive steaming (cont.)	2. Control Thermostat	Refer to *Service* - Control Thermostat for testing procedures. See page 16
Dripping from sprayhead	1. Syphon System	The brewer must be level or slightly lower in front to syphon properly.
	2. Lime Build-up **CAUTION -** Tank and tank components should be delimed regularly depending on local water conditions. Excessive mineral build-up on stainless steel surfaces can initiate corrosive reactions resulting in serious leaks.	Inspect the tank assembly for excessive lime deposits. Delime as required.
	3. Solenoid Valve	Remove the solenoid valve and clear any obstructions. Rebuild or replace the valve if necessary. See page 19
Water flows into tank continuously (ON/OFF Switch "ON")	1. Timer	Refer to *Service* - Timer for testing procedures. See page 27 and 28
Water flows into tank continuously (ON/OFF Switch "OFF")	1. Solenoid Valve	Remove the Solenoid Valve and clean any obstruction. Rebuild or replace the valve if necessary. See page 19
Beverage overflows dispenser	1. Dispenser	The dispenser must be completely empty before starting a brew cycle.
	2. Timer	Refer to *Service* - Timer for testing procedures. See page 17 and 28
	3. Solenoid Valve	Remove the Solenoid Valve and clean any obstruction. Rebuild or replace the valve if necessary. See page 19

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Weak beverage	1. Filter Type	BUNN® paper filters must be used for proper extraction.
	2. Coffee Grind	A fine or drip grind must be used for proper extraction.
	3. Sprayhead	A clean spray-head must be used for proper extraction.
	4. Funnel Loading	The BUNN® paper filter must be centered in the funnel and the bed of ground leveled by gentle shaking.
	5. Water Temperature	Place an empty funnel on an empty dispenser beneath the sprayhead. Initiate a brew cycle and check the water temperature immediately below the sprayhead with a thermometer. The reading should not be less than 195°F(91°C). Adjust the control thermostat to increase the water temperature. Replace if necessary.
Dry coffee grounds remain in the funnel	1. Funnel Loading	The BUNN® paper filter must be centered in the funnel and the bed of grounds leveled by gently shaking.
Brewer is making unusual noises	1. Solenoid	The nut on the solenoid must be tight or it will vibrate during operation.
	2. Plumbing Lines	Plumbing lines should not be resting on the counter top.
	3. Water Supply	(A) The brewer must be connected to a cold water line.
		(B) Water pressure to the brewer must not exceed 90 psi (620 kPa). Install a regulator if necessary to lower the working pressure to approximately 50 psi (345 kPa).

TROUBLESHOOTING (cont.)

PROBLEM	PROBABLE CAUSE	REMEDY
Brewer is making unusual noises (cont.)	4. Tank Heater(s)	Remove and clean lime off the tank heater(s). See page 20
Low beverage serving temperature (CWTF Only)	1. Warmer	Refer to *Service* - Warmer element for testing procedures. See page 29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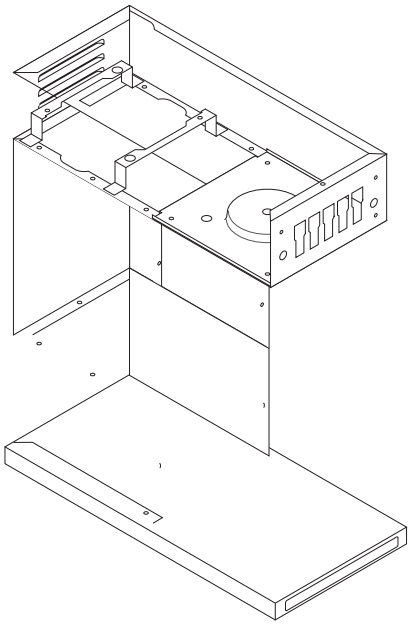

SERVICE (cont.)
CONTROL THERMOSTAT

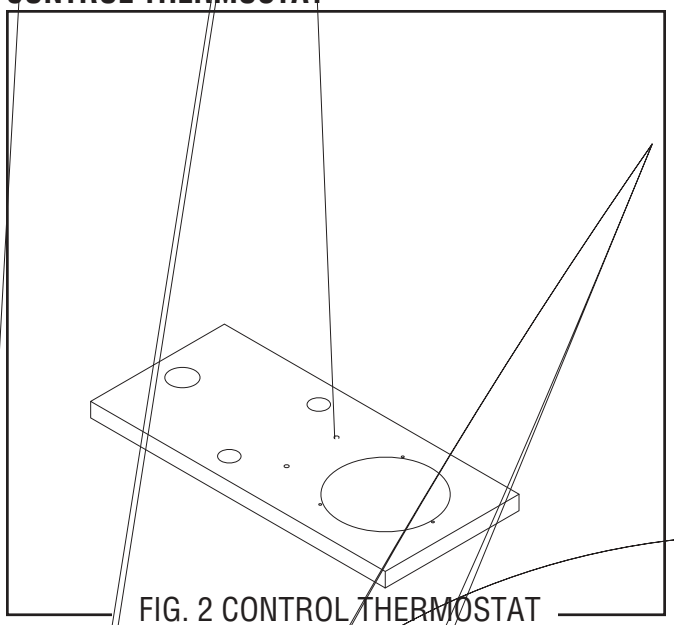

FIG. 2 CONTROL THERMOSTAT

Location:

The control thermostat is located inside the trunk on the upper left side of the component bracket.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Locate the blue wire on the control thermostat.
3. With a voltmeter, check the voltage across the blue wire on the control thermostat and the white insert on two wire 120 volt, three wire 120/208 volt or 120/240 volt terminal block. Connect the brewer to the power source. The indication must be:
   a) 120 volts ac for two wire 120 volt models.
   b) 120 volts ac for three wire 120/208 volt models or 120/240 volt models.
4. Disconnect the brewer from the power source.

If voltage is present as described, proceed to #5.
If voltage is not present as described, refer to the *Wiring Diagrams* and check the brewer wiring har-
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   :ate the black wire on the control thermostat.
   ntly remove the capillary bulb and grommet
   m the tank.
   th a voltmeter, check the voltage across the
   ck wire of the control thermostat and the white
   ert on two wire 120 volt model, three wire 120/
   3 volt model or three wire 120/240 volt model
   minal blocks when the control thermostat is
   turned fully clockwise. Connect the brewer to the
   power source. The indication must be:
   a) 120 volts ac for two wire 120 volt models.
   b) 120 volts ac for three wire 120/208 volt models or 120/240 volt models.
8. Disconnect the brewer from the power source.

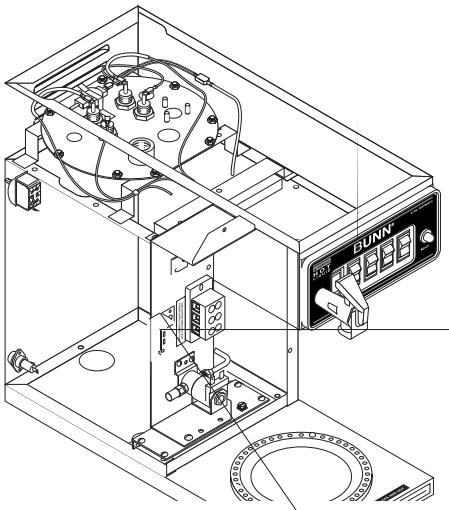
If voltage is present as described, reinstall the capillary tube into the tank to the line 4.5" above the bulb, the control thermostat is operating properly.
If voltage is not present as described, replace the thermostat.

Removal and Replacement:

1. Remove wires from control thermostat.
2. Remove the thermostat capillary bulb by firmly pulling up on the capillary at the tank lid. This will disengage the grommet from the tank lid.
3. Remove the one #8-32 screw securing the control thermostat to the component bracket in the trunk.
4. Slide the grommet to the line 4.5" above the bulb on the new capillary tube.
5. Insert the capillary bulb through the hole in the tank lid and press the grommet firmly and evenly so that the groove in the grommet fits into the tank lid.
6. Carefully bend the capillary tube so that the tube and bulb inside the tank are in the vertical position.

NOTE - The capillary tube must be clear of any electrical termination and not kinked.

7. Using one #8-32 screw secure the control thermostat to the upper left side of the component bracket inside the trunk.
8. Refer to Fig. 3 when reconnecting the wires.
9. Adjust the control thermostat as required.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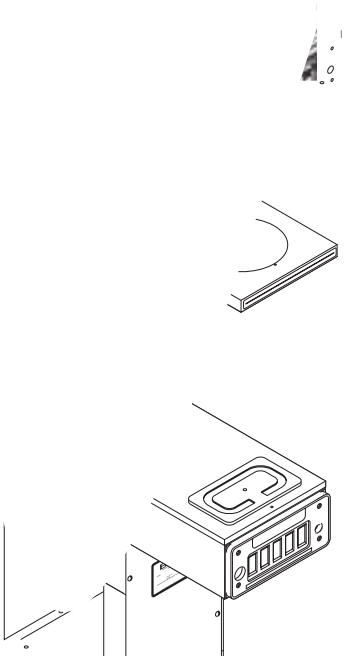

SERVICE (cont.)

SOLENOID VALVE

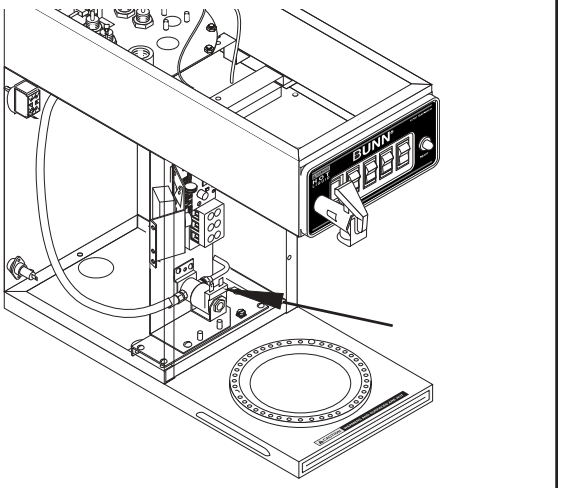

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FIG. 8 SOLENOID VALVE

Location:

The solenoid valve is located inside the trunk on the lower center part of the component bracket.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Disconnect both wires from the solenoid valve. Connect the brewer to the power source. With the lower warmer "ON/OFF" switch in the "ON" (upper) position press the start switch.
3. With a voltmeter, check the voltage across the two wires. The indication must be:
   a) 120 volts ac for two wire 120 volt models.
   b) 120 volts ac for three wire 120/208 volt and 120/240 volt models.
4. Disconnect the brewer from the power source

If voltage is present as described, proceed to #5
If voltage is not present as described, refer to *Wiring Diagrams* and check brewer wiring harness.

5. Check for continuity across the solenoid valve coil terminals.

If continuity is present as described, reconnect the wires from the timer.
If continuity is not present as described, replace the solenoid valve

6. Check the solenoid valve for coil action. Connect the brewer to the power source. With "ON/OFF" switch in the "ON" (upper) position press start switch and listen carefully in the vicinity of the solenoid valve for a "clicking" sound as the coil magnet attracts.

7. Disconnect the brewer from the power source.

If the sound is heard as described and water will not pass through the solenoid valve, there may be a blockage in the water line before the solenoid valve, or the solenoid valve may require inspection for wear, and removal of waterborne particles.
If the sound is not heard as described, replace the solenoid valve.

Removal and Replacement:

1. Remove all wires from the solenoid valve.
2. Turn off the water supply to the brewer.
3. Disconnect the water lines to and from the solenoid valve.
4. Remove the two #8-32 screws securing the solenoid mounting bracket to the component bracket. Remove solenoid bracket and solenoid valve as an assembly.
5. Remove the two #10-32 screws and lockwashers securing the solenoid valve to the solenoid bracket.
6. Using two #10-32 screws and lockwashers install new solenoid valve on solenoid mounting bracket.
7. Using two #8-32 screws install solenoid valve and bracket to the component bracket.
8. Securely fasten the water lines to and from the solenoid valve.
9. Refer to Fig. 9 when reconnecting the wires.

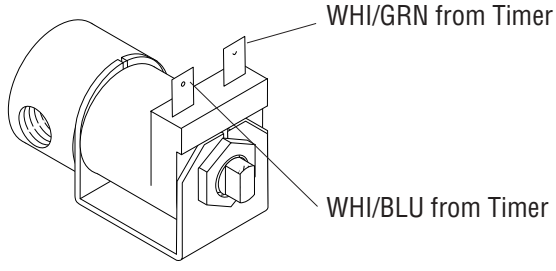

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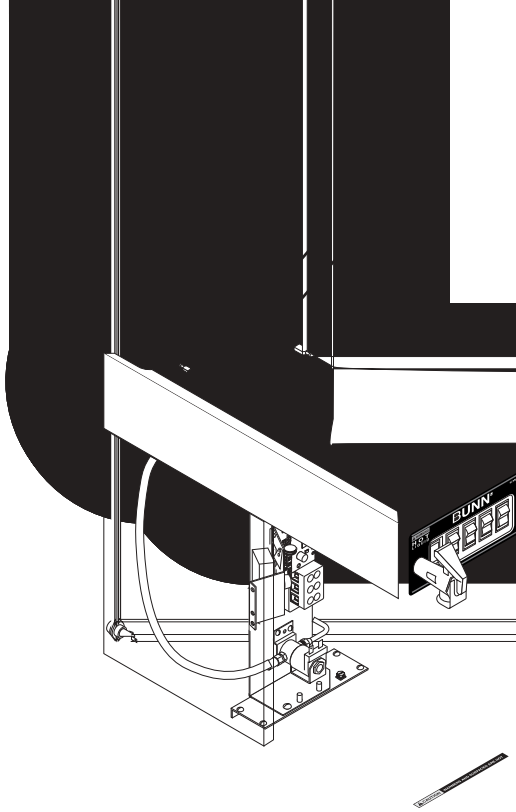
FIG. 9 SOLENOID VALVE TERMINALS



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Wiring Diagrams and check wiring harness.

3. Disconnect the black and blue wires or the red and white/violet wires from the tank heater terminals.
4. Check for continuity across tank heater terminals.

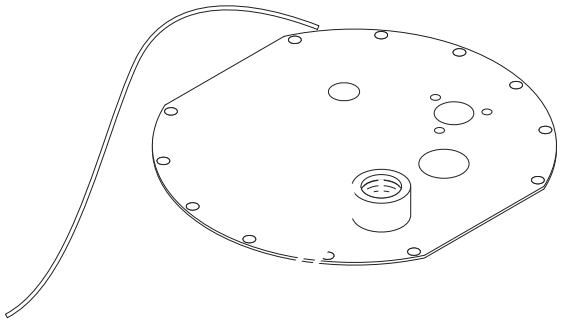
wires, the tank heaters are operating properly.
If continuity is not present as described, replace the

Removal and Replacement:

1. Disconnect the water supply tube from the fill basin.
2. Remove the tank inlet fitting securing the fill basin to the tank lid, remove fill basin, splash guard and tank inlet gasket. Set all parts aside for reassembly.
3. Turn off water supply to the brewer and disconnect the inlet and outlet water lines to the faucet coil assembly.
4. Disconnect the black wire on the limit thermostat from the tank heater switch. Disconnect the blue wire from the limit thermostat to the control thermostat.
5. Disconnect the black, red, white/violet and blue wires from the tank heater terminals.
6. Remove sprayhead and the hex nut securing the sprayhead tube to the hood. Set aside for reassembly.
7. Remove the eight #8-32 nuts securing the tank lid to the tank.
8. Remove the tank lid with limit thermostat, sprayhead, tank heaters and coil assembly.
9 Remove the two hex nuts securing each tank heater to the tank lid. Remove tank heater(s) with gaskets and discard.
10. Install new tank heater(s) with gaskets on the tank lid and secure with two hex nuts.
11. Install tank lid with limit thermostat, sprayhead tube, tank heaters, coil assembly using eight #8-32 hex nut.
12. Reconnect the inlet and outlet water lines to the faucet coil assembly.
13. Secure sprayhead tube to hood using a hex nut.
14. Install sprayhead.

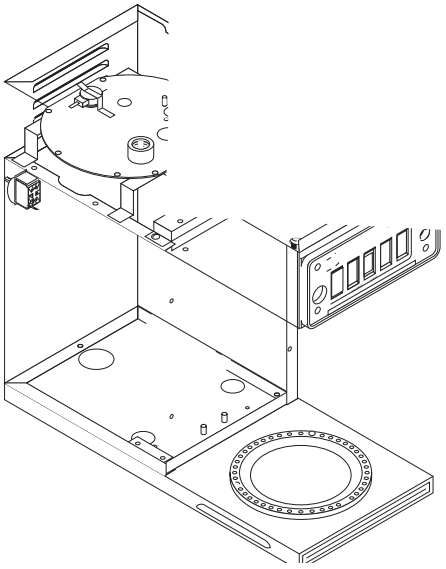
ɜ limit thermostat and
thermostat. See *Limit*
Thermostat sections in
ınecting wires.
, with tank inlet fitting and
ɹpply line through grommet

ı reconnecting the tank heater



SERVICE (cont.)

TANK HEATER SWITCH



SERVICE (cont.)
TANK HEATER SWITCH (cont.)

13. Remove the plastic facenut, hex facenut and the switch indicator/guard bracket that secures tank heater switch to the rear of the brewer. Remove switch and discard.
14. Insert new tank heater switch through the hole in the upper left rear of the trunk and secure with switch indicator/guard bracket, hex facenut and plastic facenut.
15. Reconnect the two black wires the tank heater switch terminals.
16. Set tank assembly inside the hood on mounting brackets and secure with two #8-32 screws.
17. Reconnect the wires to the limit thermostat, tank heater and the control thermostat. Refer to limit thermostat, tank heater and control thermostat sections in this manual when reconnecting wires.
18. On brewers with a faucet, reinstall the faucet tube and reconnect the water supply tube to the coil assembly.
19. Secure the sprayhead tube to the hood using hex nut.
20. Install sprayhead.
21. Install fill basin, inlet gasket and secure to tank lid with tank inlet fitting.
22. Carefully install water fill tube into the back of the fill basin.
23. Reconnect and turn on the incoming water supply.
24. Refer to FIG. 15 when reconnecting the wires.

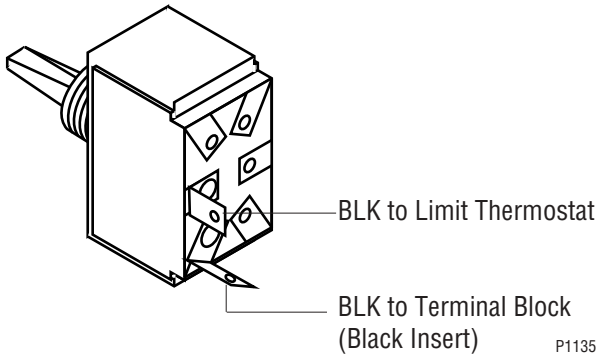
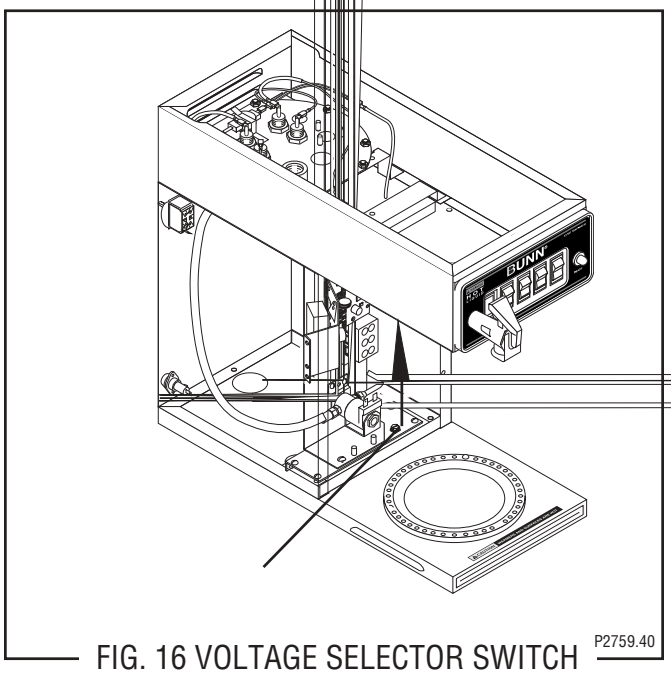


FIG. 15 TANK HEATER SWITCH TERMINALS

VOLTAGE SELECTOR SWITCH - DV models only



P2759.40

FIG. 16 VOLTAGE SELECTOR SWITCH

If continuity is not present as described, replace the voltage selector switch.

Removal and Replacement:

1. Disconnect the brewer from the power source.
2. Disconnect the three wires from the selector switch.
3. Remove the switch mounting nut from the under side of component mounting bracket; remove switch from bracket.
4. Install new switch in component mounting bracket and secure with mounting nut.
5. Refer to FIG. 17 when reconnecting wires to the switch.

Location:

The voltage selector switch is located on the component mounting bracket behind the front access panel.

Test Procedure:

1. Disconnect the brewer from the power source.
2. Disconnect the white and blue wires from the selector switch. With the selector switch in the 120V position, check for continuity between the two empty terminals of the switch.

If continuity is present as described, reconnect the white wire and continue to Step 3.
If continuity is not present as described, replace the voltage selector switch.

3. With the selector switch in the 120/208-240V position, disconnect the white/violet wire from the selector switch. check for continuity between the two empty terminals.

If continuity is present as described, the voltage selector switch is operating properly.

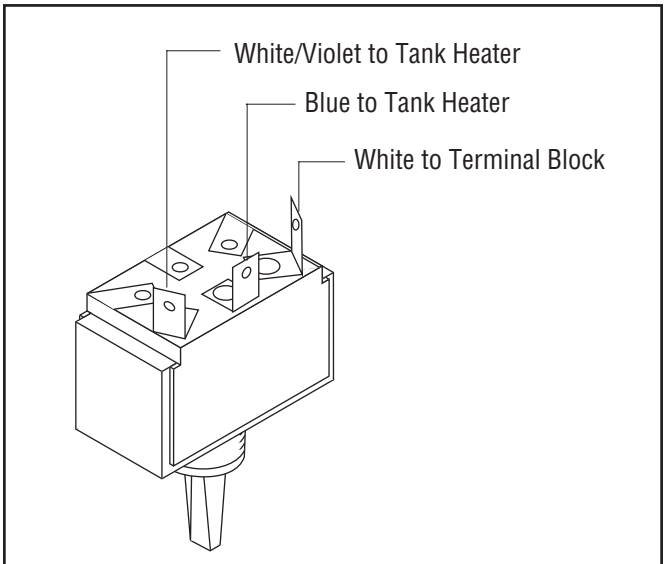


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FIG. 17 VOLTAGE SELECTOR SWITCH TERMINALS

SERVICE (cont.)

THERMAL FUSES

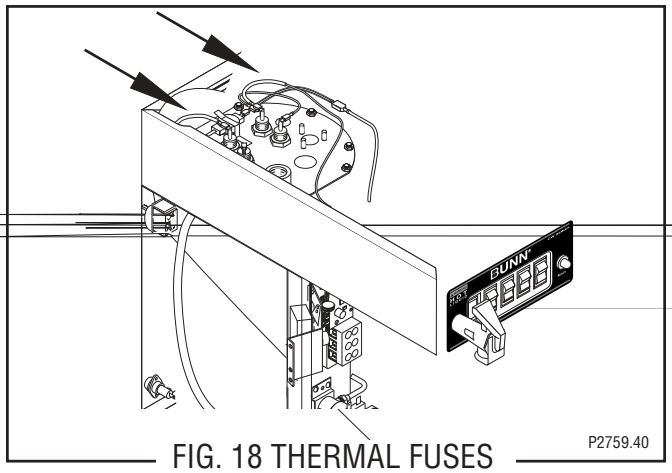


FIG. 18 THERMAL FUSES

Location:

The thermal fuse is located inside the rear of the hood connected to the right front tank heater terminal.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Disconnect the thermal fuse from the right tank heater terminal black wire lead.
3. With an ohmmeter, check for continuity across the thermal fuse terminals.

If continuity is present as described, the thermal fuse is operating properly.
If continuity is not present as described, replace the thermal fuse.

Removal and Replacement:

1. Disconnect the thermal fuse from the tank heater and black lead of the control thermostat.
2. Remove thermal fuse and discard.
3. Connect new thermal fuse to the tank heater terminal and black lead.
4. Refer to Fig. 19 when reconnecting thermal fuse.

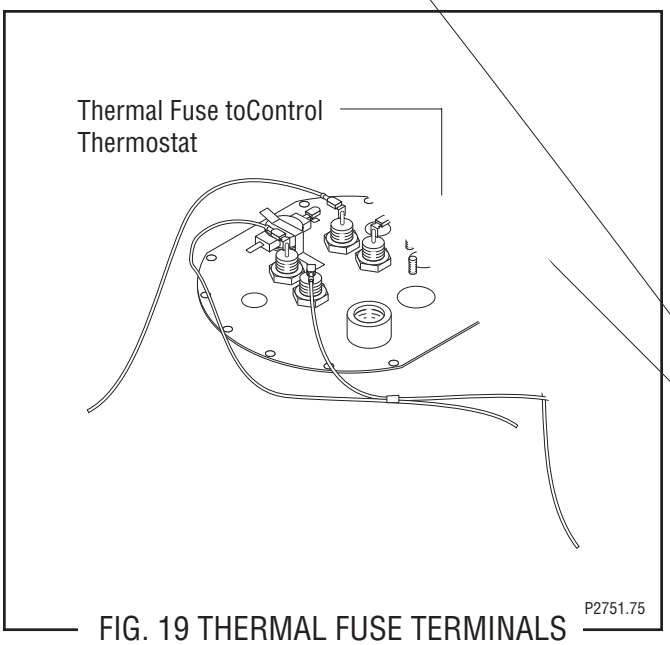


FIG. 19 THERMAL FUSE TERMINALS

SERVICE (cont.)

DIGITAL TIMER

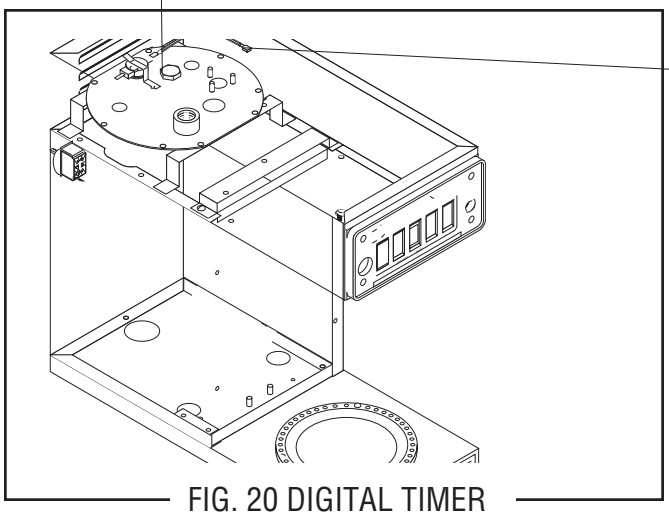


FIG. 20 DIGITAL TIMER

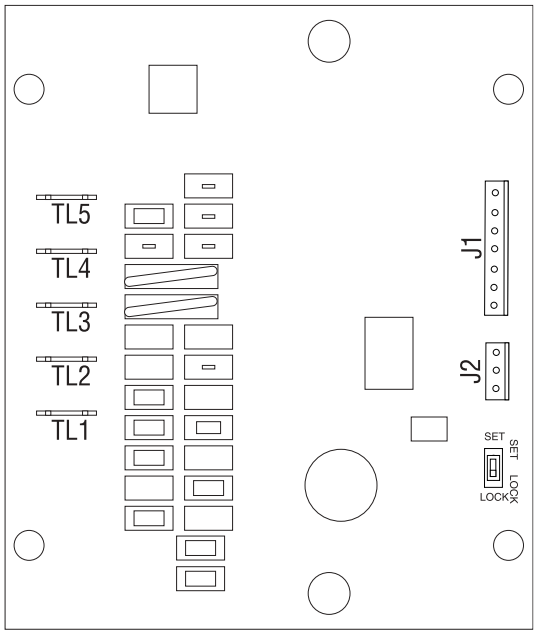
To increase a brew volume, place the ON/OFF switch in the "ON" position, press and hold the START switch until three clicks are heard. Release the switch and press it again one or more times. (Failure to release the switch within two seconds after the third click causes the volume setting to be aborted and previous volume setting will remain in memory.) Each time the switch is pressed, two seconds are added to the brew time period. Allow the brew cycle to finish in order to verify that the desired volume has been achieved.

To decrease a brew volume, place the ON/OFF switch in the "ON" position, press and release the START switch once for every two-second interval to be removed from the total brew time period; then immediately press and hold down the START switch until three clicks are heard. Release the switch. (Failure to release the switch within two seconds after the third click causes the volume setting to be aborted and previous volume setting will remain in memory). Allow the brew cycle to finish in order to verify that the desired volume has been achieved.

2. **Setting brew volumes.** To set a brew volume, first check that the SET/LOCK switch is in the "SET" position on the circuit board. Place the ON/OFF switch in the "ON" position, press and hold the START switch until three distinct clicks are heard and then release the switch. (Failure to release the switch within two seconds after the third click causes the volume setting to be aborted and previous volume setting will remain in memory.)
View the level of the liquid being dispensed. When the desired level is reached, turn the ON/OFF switch to "OFF".

NOTE: Several ounces of water will continue to syphon from the tank after turning the switch "OFF". The brewer remembers this volume and will continue to brew batches of this size until the volume setting procedure is repeated.
NOTE: When brewing coffee, volume will decrease due to absorption by the coffee grounds.

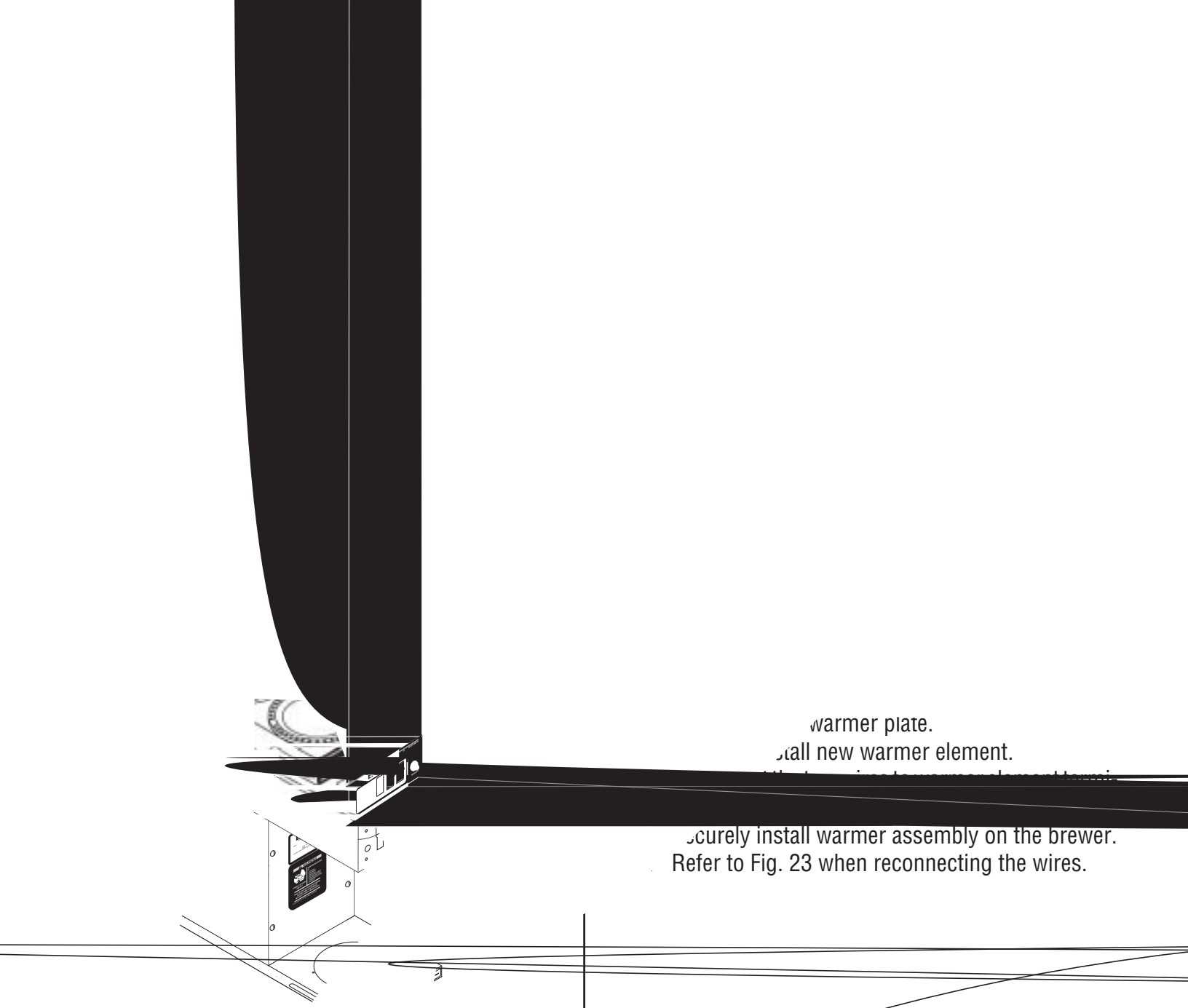
3. **Setting programming disable feature.** If it becomes necessary to prevent anyone from changing brew time once programmed, you can set the SET/LOCK switch to the "LOCK" position. This will prevent any further programming until switch is once again put into the "SET" position.



BLU wire from TL5 to Start Switch
WHI/GRN wire from TL4 to Solenoid
WHI/BLU wire from TL3 to Solenoid
WHI wire from TL2 to Terminal Block
WHI/RED wire from TL1 to ON/OFF Switch

P2037

FIG. 21 DIGITAL TIMER WIRING



warmer plate.
stall new warmer element.
ecurely install warmer assembly on the brewer.
Refer to Fig. 23 when reconnecting the wires.

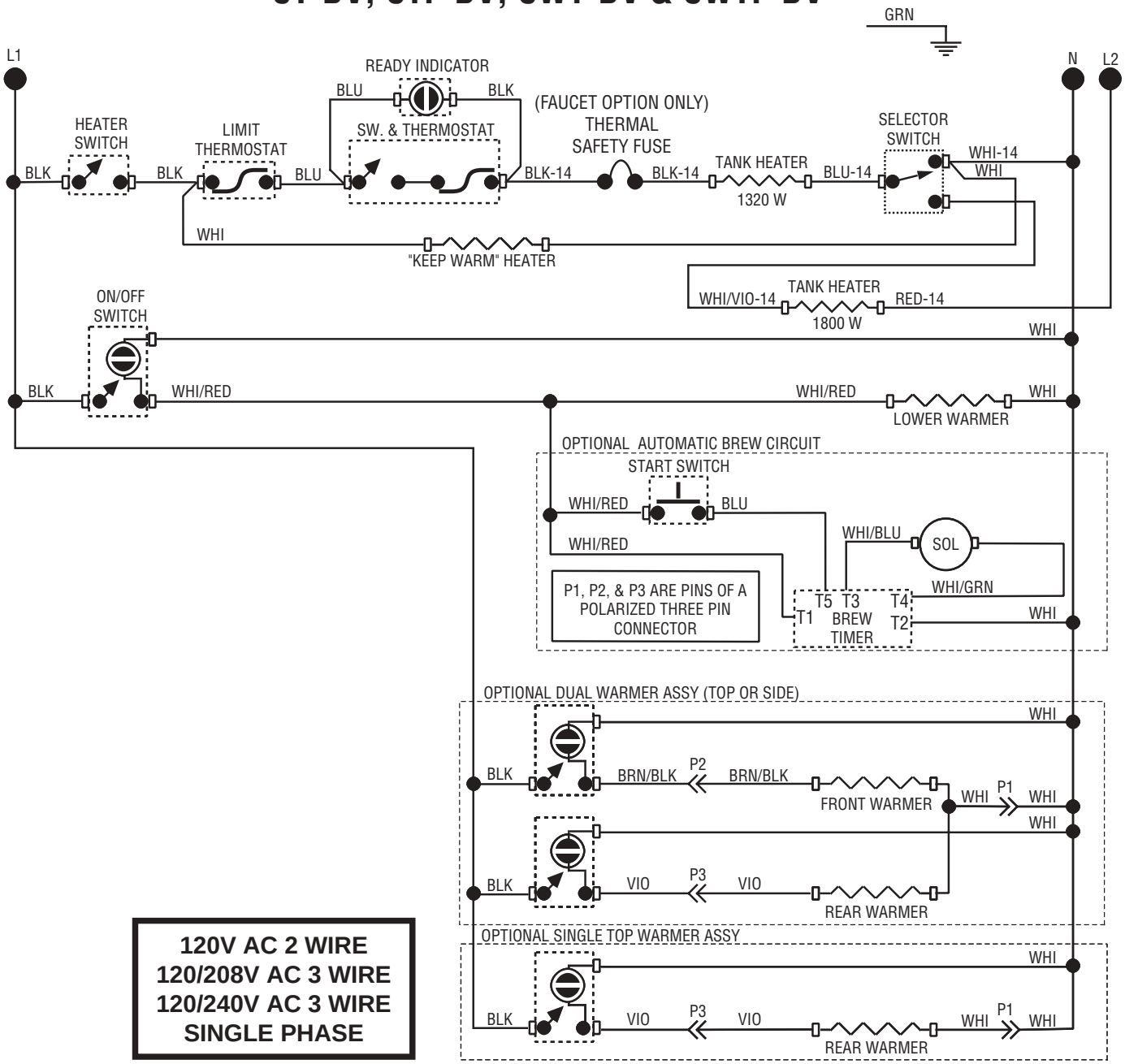
FIG. 22 ' IENTS

armer elements are ed under the warmer

dures:

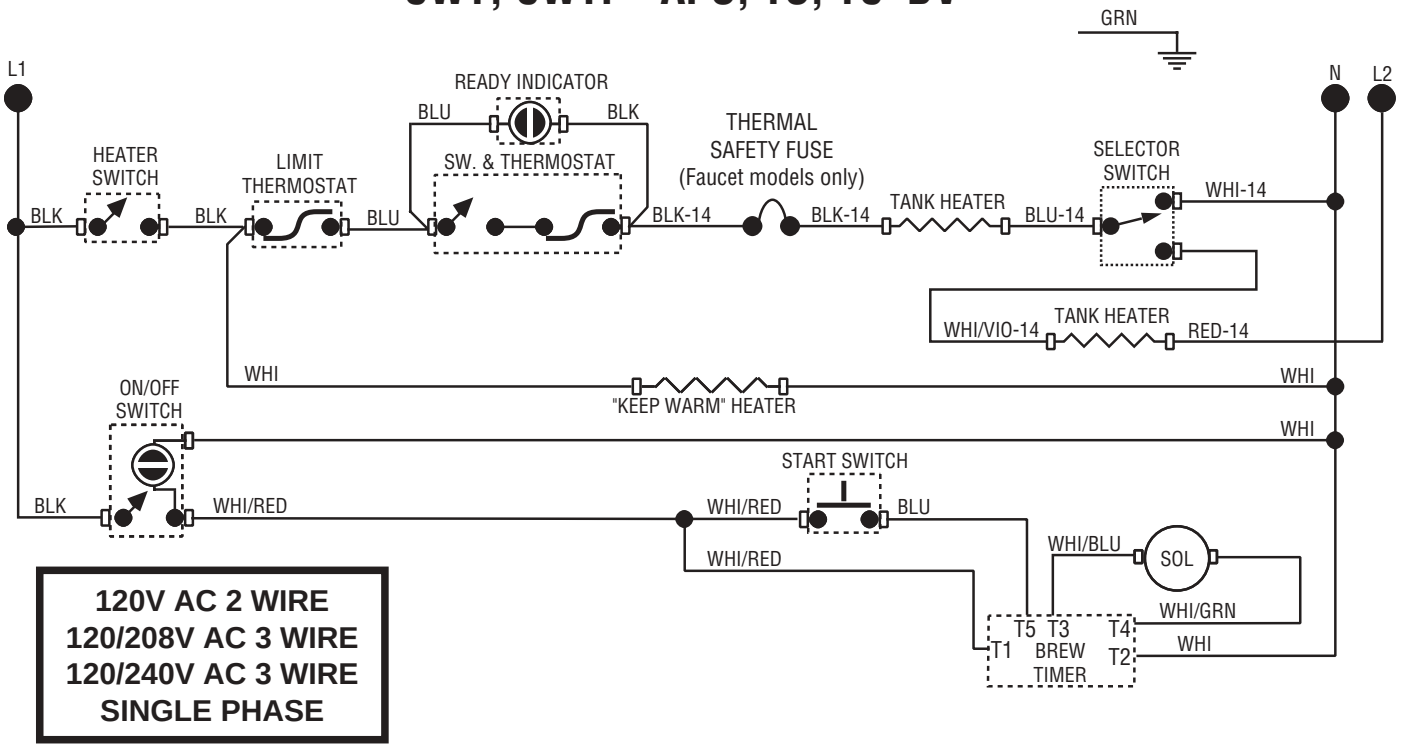
1. nect the brewer from e power source.
2. oltmeter, check tage across the white wire from th and the wire from the "ON/OFF" mer element with the "ON/OFF" s (upper) position. The indication m
   a) 120 volts a 120 volt models.

SCHEMATIC WIRING DIAGRAM
CT-DV, CTF-DV, CWT-DV & CWTF-DV



120V AC 2 WIRE
120/208V AC 3 WIRE
120/240V AC 3 WIRE
SINGLE PHASE

SCHEMATIC WIRING DIAGRAM
CWT, CWTF - APS, TS, TC DV



120V AC 2 WIRE
120/208V AC 3 WIRE
120/240V AC 3 WIRE
SINGLE PHASE