

**AMW B-SERIES** INSTALLATION

## START UP PROCEDURE

### WATER CONNECTION

The National Sanitation Foundation requires the following for an NSF approved water hook-up:

- · A quick disconnect water connection or enough coiled tubing so that the machine can be moved for cleaning underneath.
- An approved backflow prevention device, such as a double check valve to be installed between the machine and water supply. A 1/4" male flare adapter is provided. Installation to a water filter system is recommended to prevent lime and scale build-up in the machine.
- · Water pipe connections and fixtures directly connected to portable water supply shall be sized, installed and maintained in accordance with federal, state and local codes.
- Flush the water line to purge any debris from the supply line. Connect a 1/4" pressurized water line to the 1/4" male connection (on rear of brewer) and turn the water supply on.
- a) Minimum water pressure to the machine: 30 psi
- b) Maximum water pressure to the machine: 80 psi

NOTE: Single head machines may be used without a pressurized water supply. (See Pour-Over Mode section)

### **ELECTRICAL CONNECTION**

NOTE: Wiring connections should be performed by a qualified technician. (Refer to serial tag to verify model number of your machine)

- · Remove front panel.
- · Connect electrical service through rear of machine to terminal block (inside front panel) marked L1, N, and L2. (See Figures A and B)
- On dual volt units, flip voltage switch (inside front panel next to terminal block) to 120V for 120 Volt service or 240V for 120/208, or 120/240 Volt service. (See Figures A, B and table below)
- · Re-install front panel.
- Turn on (plug-in) electrical service to brewer.
- · Water tank will fill after a 7-second delay. The machine will make a hissing sound when this occurs. On single head models, allow approximately 1.5 minutes for the brewer to fill. On two head models, allow approximately five minutes for the brewer to fill.

For 120V, 15A or 20A Service (2 Wire + Ground)

On Dual Volt Units, FLIP SWITCH TO "120V

CONNECT NEUTRAL (N) TO MIDDLE CONNECT HOT (L1) TO LEFT SIDE CONNECT GROUND TO SCREW

Figure A For 120/208-240V, 20A Service (3 Wire + Ground)



ON DUAL VOLT UNITS, FLIP SWITCH TO "240V"

CONNECT HOT (L1) TO LEFT SIDE CONNECT GROUND TO SCREW CONNECT NEUTRAL (N) TO MIDDLE CONNECT HOT (L2) TO RIGHT SIDE

Figure B

NOTE: If water supply is inadequate or not connected, display will read "P-O" after 4 minutes of fill time (Refer to Pour-Over Mode section). If Fill Cycle times out and display reads "P-O" before tank is full, turn unit OFF then ON again to reset and continue filling.

- The tank will begin heating slightly before machine fills.
- Turn brewer on by pressing ON/OFF switch in front of machine. (Light will illuminate)
- The brewer settings can be adjusted through the front touch pad. (Refer to Adjustments section)
- The water will be hot and the brewer will be ready to brew when "READY" light illuminates.
- · Set Brew volume. (Refer to Setting Brew Volume section)

## POWER REQUIREMENTS: (Refer to serial tag for voltage to be supplied.)

Applied Volts	Models	Watts	Amps	NEMA Plug	Cord AWG	Connections
120	B-3, B-3WL, B-3WR	1800	15		3X14	Hot to L1 Neutral to N Ground to ground screw
	B-SAP, B-ID	1780	14.9	5-15P, 5-20P for CUL		
120/208	B-3, B-3WL, B-3WR	2920	14.1	144.000	4X12	Hot to L1 Neutral to N Hot to L2 Ground to ground screw
	B-SAP, B-ID, B-DAP, B-DGP	2620	12.6	L14-20P		
	B-6	5110	24.6	144.200	4X10	
	B-DAP, B-DGP (30A)	4510	21.7	_ L14-30P		
120/240	B-3, B-3WL, B-3WR	3800	15.9	L14-20P	4X12	Hot to L1 Neutral to N Hot to L2 Ground to ground screw
	B-SAP, B-ID, B-DAP, B-DGP	3500	14.6	L 14-20P	4712	
	B-6	6600	27.5	L14-30P	4X10	
	B-DAP, B-DGP (30A)	6000	25	L 14-30P		

Page 2 B-SERIES

## FACTORY SETTINGS (for each dispense head)

- Tank temperature is set at 200 degrees F.
- Brew time is pre-set at 2:20. (Volume/time to be set on-site)
- · Pulse Brew is set for 1 pulse, 20 sec on, 20 sec off.
- · Warmer Energy Savings mode is set for 60-minutes. ("OFF" for models without warmers)
- Low Temp / No Brew option is set to "OFF" or disabled.
- Pour over setting override is set to "no" or plumb in.
- · Settings lock-out jumper on controller is set in "unlock" position.

## **ADJUSTMENTS:**

Refer to B-Series Programming Chart on page 5.

NOTE: Set each dispense head individually on two head models with two controllers and serial numbers A166225 and lower (without a -P suffix). Tank temperature must be set to the same setting on both heads in order for the unit to operate properly.

## **Tank Temperature:**

Left display controls this.

- Press-and-hold both "up" and "down" arrows for 5 seconds.
- The display will indicate either "d F" or "d C". (Fahrenheit or Celsius)
- Press up or down arrow to change from one scale to the other.
- Press "BREW" button to accept and proceed to the next setting.
- The display will read temperature value in the scale previously selected.
- Press up or down arrow to change temperature value.
- Press "BREW" button to accept and proceed to the next setting.

#### **Brew Time:**

- The display will read "br ". (brew time)
- Press "BREW" button to proceed to the next setting.
- The display will read the set brew time in minutes and seconds. (ex: 2.20)
- · Press up or down arrow to change time value.
- Press "BREW" button to accept and proceed to the next setting.

## **Pulse Brewing Mode:**

- The display will read "P-b". (pulse brew)
- Press "BREW" button to proceed to the next setting.
- The display will read "OFF" "1"-"6".
- Press up or down arrow to change number of pulses.
- Press "BREW" button to proceed to the next setting.
- The display will read "0.05" "0.30".
- Press up or down arrow to change pulse-on time for each pulse in seconds.
- Press "BREW" button to proceed to next setting.
- The display will read "0.05" "0.30".
- Press up or down arrow to change pulse-off time for each pulse.
- Press "BREW" button to accept and proceed to the next setting.

### **Energy Savings Mode (Warmer shut-off):**

- The display will read "E-S". (energy savings)
- Press "BREW" button to proceed to the next setting.
- The display will read "Off" "10" "240" in multiples of 10.
- Press up or down arrow to change time value in minutes. Must be "OFF" for models without warmers.
- Press "BREW" button to accept and proceed to the next setting.

### Low Temp/No Brew Mode:

- The display will read "Ltn" (Low Temp/No Brew).
- Press "BREW" button to proceed to the next setting.
- · Press up or down arrow to change to "ON" or "OFF".
- Press "BREW" to accept and proceed to the next setting.

## **ADJUSTMENTS** (cont.):

Refer to B-Series Programming Chart on page 5.

### **Pour-Over Mode**

Left display controls this.

- The display will read "P-O" (pour-over).
- Press "BREW" button to proceed to the next setting.
- Press up or down arrow to change to "YES" or "NO". Plumbed-in units must be set to "NO".
- Press "BREW" button to accept and exit menu.

## **SETTING BREW VOLUME:**

- · Remove brew basket & spray head.
- Make sure "READY" light is on.
- · Place empty server under exit nozzle to capture water.
- · Press "BREW" button to fill water lines.
- Press "BREW" button again after approximately 10 seconds to stop water flow.
- Empty server then place under exit nozzle.
- Press-and-hold "BREW" button for 5 seconds until display reads "Pro", then release.
- Press-and-release "BREW" button to initiate brew.
- The brew valve opens and the time begins to count up on display.
- · Water will flow into decanter.
- When water level reaches desired amount, press-and-release "BREW" button again.
- · Time value will flash in the display.
- Press-and-release "BREW" button within 10 seconds to set time.
- · Reinstall spray head and brew basket.
- · Repeat process for each brew head.

### **BREWING PROCEDURE:**

- Place a new paper filter in the brew basket.
- Put desired amount of ground coffee in brew basket. (3.5 oz (100 grams) maximum)
- Place decanter or airpot under brew basket.
- Be sure lower warmer is on. (if available)
- Press "BREW" button to start brewing.

The "READY" light will flash for the entire brew cycle.

Water will dispense for the set time of brew, and light will flash after water is dispensed to denote "drip time".

(ex.. Time set for 2:30, water is dispensed for 2:30, and light continues to flash for another 1:15 for total brew cycle of 3:45.)

Do not remove the brew basket while the "READY" light is blinking.

A stop function is added to the "BREW" switch. Pressing the "BREW" switch during a brew cycle will stop the brew. Coffee will need to be emptied from brew basket and brew procedure will need to be started again.

After a brew cycle, the tank must reheat and the "READY" light must be lit before starting the next cycle. Reheat (recovery) time is dependent on voltage applied and inlet water temperature.

Approximate reheat times for a 64 oz decanter are as follows:

120 Volt supply: 3-4 minutes; 120/208 Volt supply: 30-90 seconds; 120/240 Volt supply: 0 - 30 seconds

## **PULSE BREWING MODE:**

- When mode is "ON" (number of pulses, pulse on, and pulse off time), and a brew cycle is initiated, water is dispensed for the ON time then stops for the OFF time to define one pulse. This repeats for number of pulses programmed. After pulsing is finished, the water continues to dispense for the remaining set time. During the pulse-off time, the water infuses the coffee and the bed rises to allow for better extraction.
- · When mode is "OFF" and a brew cycle is initiated, water is dispensed continually for the entire set time without any delay.

## **ENERGY SAVINGS MODE (WARMER SHUT-OFF):**

(ONLY FOR MODELS WITH WARMERS)

When set time has elapsed after a brew cycle, the lights above the warmer switches will flash and the warmers will automatically turn off. To stop lights from flashing, press one of the warmer switches. To turn warmers back on, press corresponding warmer switch. The timer will reset when a new brew cycle is initiated.

Refer to Adjustments section to adjust time values or simply disable mode. Time values may be adjusted from OFF to 10 minutes to 240 minutes in increments of 10 minutes.

Page 4 B-SERIES

## LOW TEMP/NO BREW MODE:

When set to "ON", a brew cycle cannot be initiated until tank is hot and "READY" light is ON. When set to "OFF", a brew cycle may be initiated at any time.

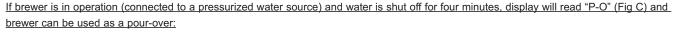
## **POUR-OVER MODE:**

Note: Not available on B-6, B-DAP, and B-DGP (twin) models.

Brewers are capable of operating without a pressurized water source.

If there is no pressurized water source, brewer can be set-up as a pour-over.

- 1. If no water is in the tank to begin with, pour about three decanters of fresh water into the basin (Fig. D). A small amount of water should remain in the basin.
- 2. If tank already has water, pour fresh water into basin (Fig D) until a small amount is in the basin and no longer drains into the tank.
- 3. Place server under the EMPTY brew basket.
- 4. Turn power on to machine
- 5. Go into Settings Mode and change "P-O" to "YES".
- 6. Display will read "P-O". (Fig C)
- 7. Wait until Ready light illuminates.
- 8. Press-and-release Brew button to initiate a brew cycle.
- 9. Water should stop flowing before READY light stops flashing to create a "short pot".
- 10. After tank water recovers and READY light illuminates, brewer is ready to brew coffee. See Brew Procedure.



- 1. Place server under the EMPTY brew basket.
- 2. Wait until Ready light illuminates.
- 3. Press-and-release Brew button to initiate a brew cycle.
- 4. Water should stop flowing before READY light stops flashing to create a "short pot".
- 5. After tank water recovers and READY light illuminates, brewer is ready to brew coffee. See Brew Procedure.

If water pressure problem is resolved, simply press Off then On.

## Brew Procedure while brewer is in pour over "P-O" mode:

- 1. Wait until tank water heats up and READY light is on.
- 2. Place brew basket in place with ground coffee inside filter.
- 3. Pour a full (64oz) maximum container of fresh water into basin at top/front of brewer. (Fig D)
- 4. Place container under brew basket.
- 5. Press-and-release "BREW" button to initiate brew cycle.

## **COUNTER:**

The brewer is equipped with a counter that displays the total number of brew cycles for each dispense head. After turning the brewer on, the number will scroll across the display two times and then clears.

## **CLEANING CABINET**

- The outside of the brewer can be cleaned with a damp cloth, a household dusting spray or a stainless steel cleaner. Do not use an abrasive such as Scotchbrite or Brillo pads. These may mar the finish.
- Wipe the underside of the cabinet hood with a clean cloth. Be especially careful when using soap or detergent around the sprayhead.
   Any soap left on the deflector may impart an unpleasant taste to the first brews.

## **CLEANING WARMERS**

The warmer plates are easy to clean and will maintain its appearance longer if cleaned regularly. Coffee stains can be wiped off with a damp cloth. Use detergent or sanitizer for heavy deposits, but refrain from using abrasives.

## CLEANING BREW BASKET, AIRPOTS AND DECANTERS

Use commercial grade urn cleaner (as directed by manufacturer) and rinse thoroughly.



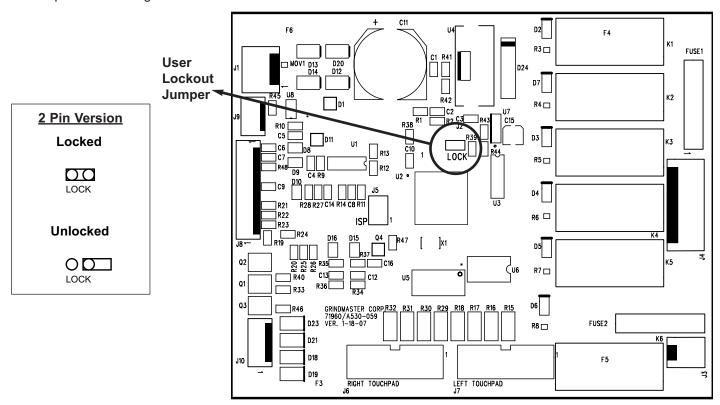


Figure C

Figure D

## **User Lockout**

User Lockout is achieved via the position of the LOCK jumper on the board header. Locate the header on the board (shown below) and place the jumper in the desired position. In the *Locked* position all menus in this document are locked out, and the unit will only allow brewing or grinding functions. There are two versions of the header, 10 pin and 2 pin. Both configurations are shown below.



**User Lockout Jumper** 

# **Controller Fuse Sizes**

## **Fuses**

Controller (pn A530-059) uses (2) 5mm x 20mm 5 Ampere fuses.

Controller (pn A530-056) uses (2) fuses - 1.25" x 0.25" 3AG series 312.

- (1) is a 1 Ampere 3AG-1
- (1) is a 5 Ampere 3AG-5

Page 6 B-SERIES

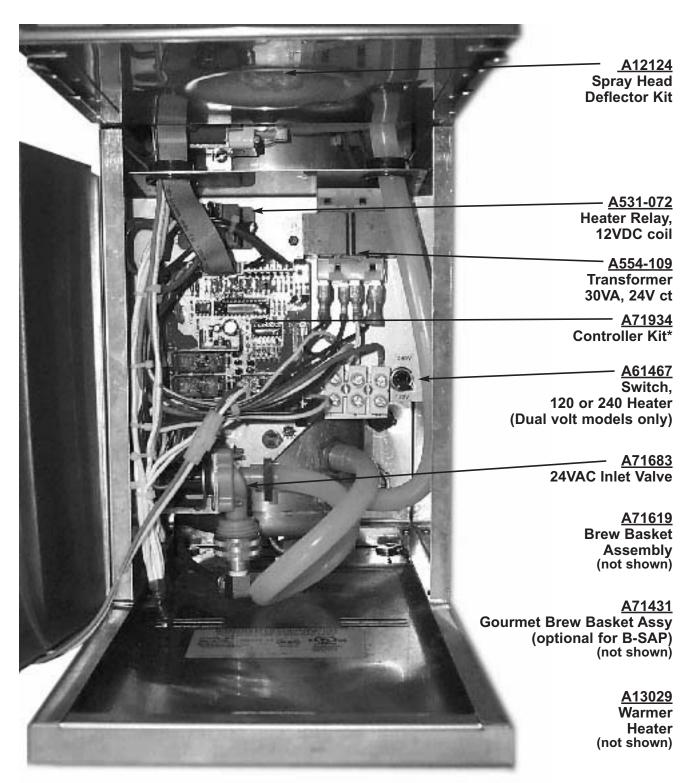
# **Programming for B-Series**

PRESS-AND-HOLD UP & DOWN ARROWS FOR 5 SECONDS. DISPLAY WILL READ AS FOLLOWS:					
DISPLAY READING	ADJUST	ADVANCE			
TEMP SCALE OR OR	$\triangle$				
TANK TEMP (170-202F)	$\triangle$				
BREW TIME					
BREW TIME (0:01-5:00)	$\triangle$				
PULSE BREW					
# OF PULSES (OFF, 1 - 6)	$\triangle$				
PULSE ON TIME (0:05-0:30)	$\triangle$				
PULSE OFF TIME (0:05-0:30)	$\triangle$				
ENERGY SAVINGS (WARMER SHUT-OFF)					
SHUT-OFF TIME TO TO	$\triangle$				
LOW-TEMP/NO-BREW					
LOW-TEMP/ NO-BREW OR OR	$\triangle$				
POUR-OVER MODE					
POUR-OVER MODE GOOD OR GOOD	$\triangle$				

## Models B-3, B-3WR, B-3WL, B-SAP & B-ID Parts List

serial numbers without a -P suffix only

Model B-3 Dual Voltage Unit Shown



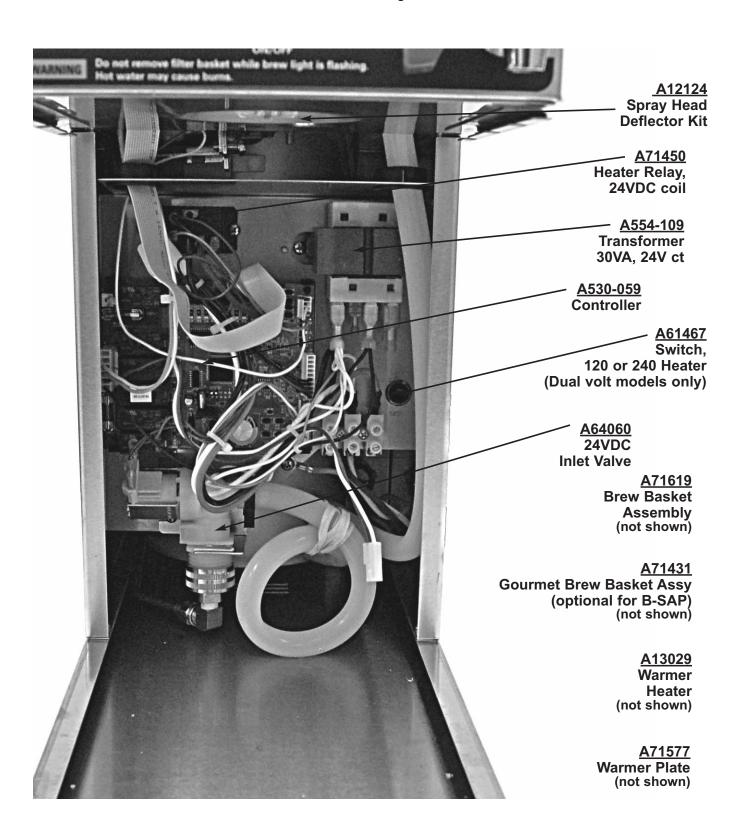
<sup>\*</sup> Each kit includes: (1) A530-056 controller and (1) A71933 touchpad

A71577 Warmer Plate (not shown) Page 8 B-SERIES

## Models B-3, B-3WR, B-3WL, B-SAP & B-ID Parts List

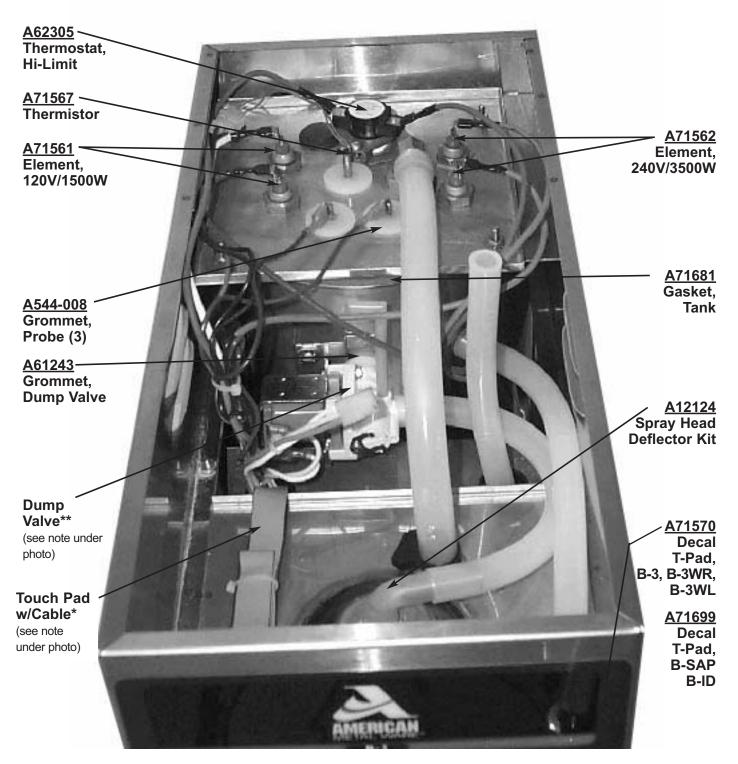
serial numbers with a -P suffix only

Model B-3 Dual Voltage Unit Shown



# Models B-3, B-3WR, B-3WL, B-SAP & B-ID Parts List

Dual Voltage Unit Shown



## Touch Pad w/ Cable:

\* A71933: used on serial numbers <u>without</u> a -P suffix and with controller # A530-056 A530-061: used on serial numbers <u>with</u> a -P suffix and with controller # A530-059

## **Dump Valve:**

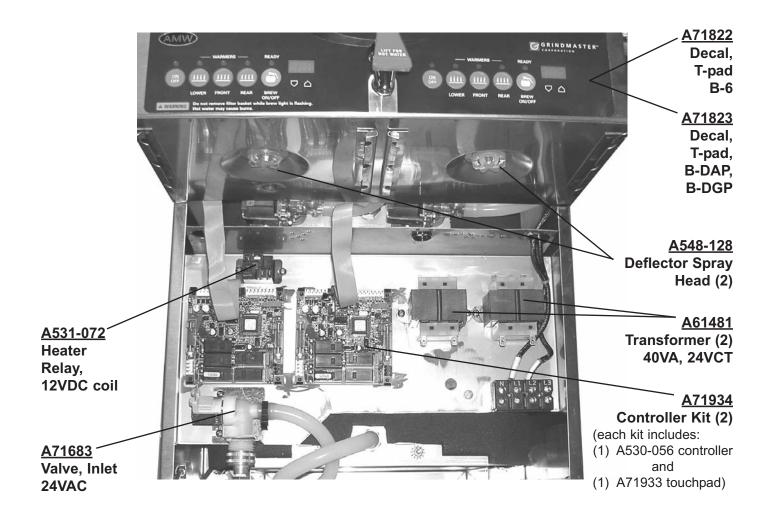
\*\* A71684 (24VAC): used on serial numbers <u>without</u> a -P suffix and with controller # A530-056 A64062 (24VDC): used on serial numbers <u>with</u> a -P suffix and with controller # A530-059

Page 10 B-SERIES

## Models B-6, B-DGP & B-DAP Parts List

serial numbers without a -P suffix only

Model B-6 Shown



A71619

Brew Basket Assy. (not shown) (2)

A13029

Warmer Heater (not shown)

A71577

Warmer Plate (not shown)

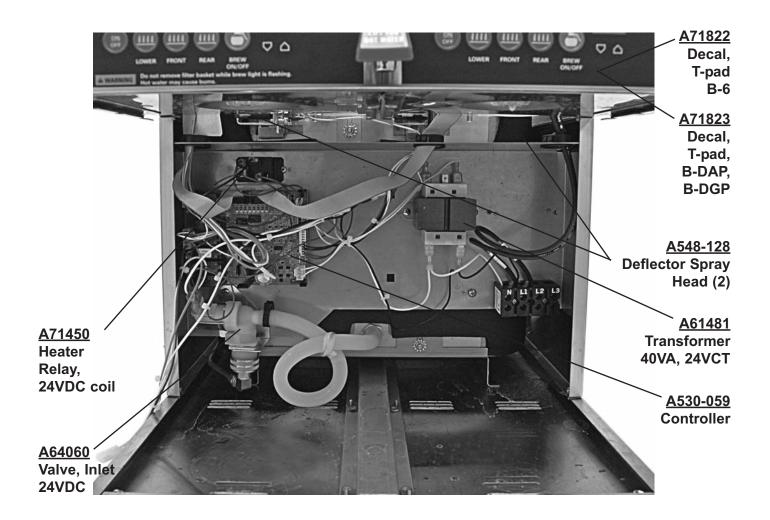
A71431

Gourmet Brew Basket Assy (optional for B-DAP, B-DGP) (not shown)

# Models B-6, B-DGP & B-DAP Parts List

with a -P suffix only

Model B-6 Shown



## A71619

Brew Basket Assy. (not shown) (2)

## A13029

Warmer Heater (not shown)

## A71577

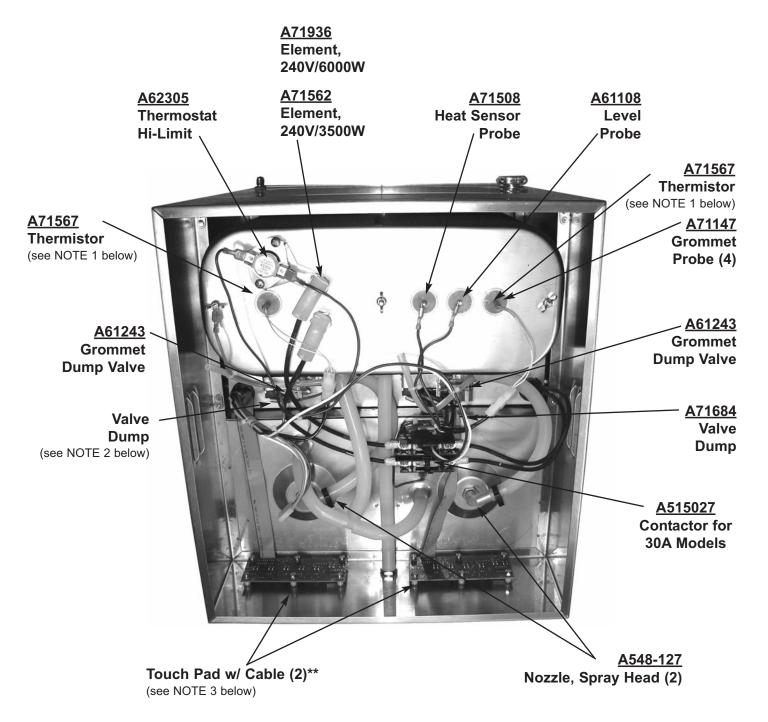
Warmer Plate (not shown)

## A71431

Gourmet Brew Basket Assy (optional for B-DAP, B-DGP) (not shown)

Page 12 B-SERIES

## Models B-6, B-DGP & B-DAP Parts List



## **Thermistor:**

**NOTE 1:** (2) Thermistors (pn A71567) used on serial numbers without a -P suffix only and with controller # A530-056. (1) Thermistor (pn A71567) used on serial numbers with a -P suffix only with controller # A530-059.

## **Dump Valve:**

**NOTE 2:** A71684 (24VAC): used on serial numbers <u>without</u> a -P suffix and with controller # A530-056. A64062 (24VDC): used on serial numbers <u>with</u> a -P suffix and with controller # A530-059.

## Touch Pad w/ Cable:

**NOTE 3:** A71933: used on serial numbers without a -P suffix and with controller # A530-056. A530-061: used on serial numbers with a -P suffix only and with controller # A530-059.

TROUBLESHOOTING GUIDE					
Problem	Possible Cause	Solution			
Weak coffee	Not enough coffee used Grind is too coarse Water not hot enough Coffee bed has dry areas	Set to portion more coffee     Readjust to finer grind     Check spray temp; should be greater than 185°F/85°C     Spray deflector broken or missing. Replace			
Strong coffee	Too much coffee used	Use less coffee			
Bitter coffee	Grind is too fine	Use a coarser grind			
Grounds in coffee	Paper filter collapsed during brewing	Use proper filter     Position filter carefully			
Brew basket overflowed	Too much coffee     Grind is too fine     Double batching	Use no more than 3 1/2 oz. (100 grams) of coffee Use a coarser grind You must dump old coffee and use fresh new filter for each brew			
Unpleasant taste	Water tank or brew basket needs cleaning	Clean, sanitize (delime)			
Quantity of coffee dispensed each throw is not the same	Lime scale build-up     Hose kinked     Dump Valve not adjusted properly     Defective timer	Delime machine Check hoses Turn screw on Dump Valve to open fully Check the length of time brewer runs with watch			
Circuit breaker trips continuously	<ul> <li>Insufficient current due to use of extension cord</li> <li>Insufficient current due to overloaded line</li> </ul>	Plug unit directly into outlet. Do not use extension cord Designate single line for unit. Do not use multi-outlet box			
Control board displays "P-O"	Water supply turned off     Water fill valve on too long	Turn water supply on, then reset power     Clean or replace water fill valve			
Control board displays "ER2"	Problem with thermistor	Replace if defective			
Water boiling (or steaming)	Temperature set too high     Defective thermistor	Check settings with actual temperature			
No lights are on (including warmer lights)	No power to brewer     Power switch turned off     Touch pad disconnected	Check power at source     Turn switch on     Reconnect touchpad			
Too much or not enough water in server	Water volume adjustment	Readjust			
Spray head dripping	Lime build up in dump valve	Delime unit			
Hot water spigot dripping	Faulty seal	Replace seal			
Hot water spigot not dispensing	Tube limed up     Defective valve seat	Delime tank     Replace seat			
Warmer failure	Loss of power     Bus fuse (5 Amp) on controller board is blown     Defective warmer heater	Check power source     Replace fuse     Replace defective heater			
Water solenoids not working	Bus fuse (1 Amp) on controller board is blown	Replace fuse			
One indicator light will not illuminate	LED burned out	Replace touchpad			

Error Messages					
Problem	Possible Causes	Service Check	Remedy		
ER1	Fill valve on for over     6 min. (This occurs     during initial fill on some units –     see Initial Start-up.)	Check system for water leaks.	Correct any leaks and reset controller.		
ER2	Thermistor failure or loose connections in thermistor circuit.	Ensure that connector is securely attached to controller and that thermistor is securely connected.	Secure connections and reset controller. If error reoccurs, replace thermistor.		
ER3	Thermistor is reading out of range.	Check tank temperature.	Replace thermistor.		
ER4	No heating is detected	Verify power to heating element and high limit operation	Repair as needed.		

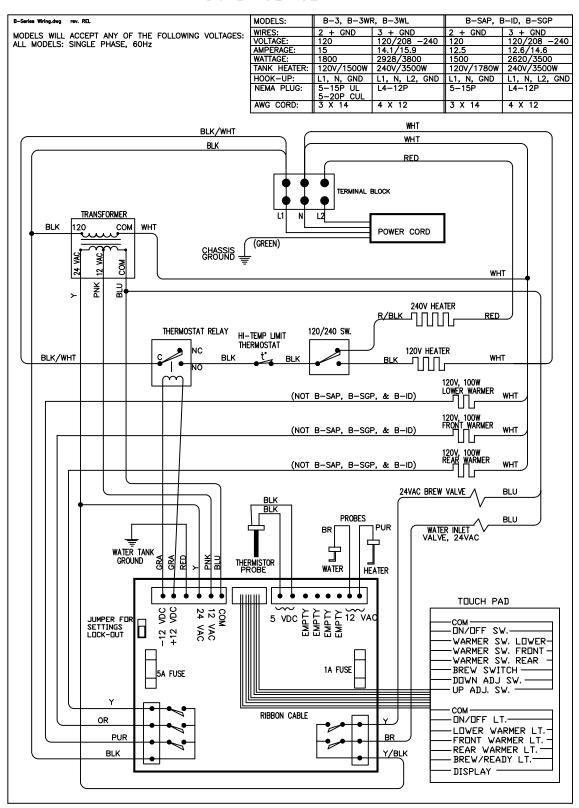
If you still need help, call an authorized dealer in your area or our Technical Service Department. You can reach Grindmaster Corporation's Technical Service Department at 800-695-4500 (USA & Canada only) or 502-425-4776 Monday-Friday, 8:00 AM - 6:00 PM EST. Please have the model and serial number ready so that accurate information can be given.

Prior authorization must be obtained from Grindmaster Corporation's Technical Services Department for all warranty claims.

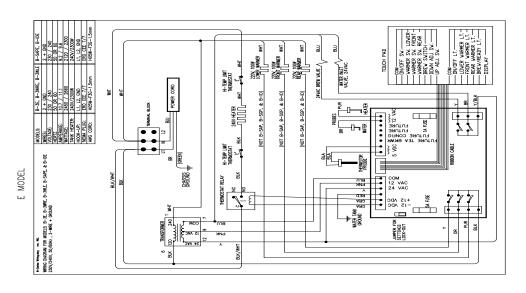
Page 14 B-SERIES

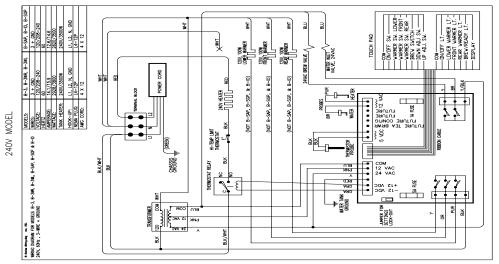
# Wiring Diagram Models B-3, B-3WR, B-3WL, B-SAP & B-ID without a -P suffix

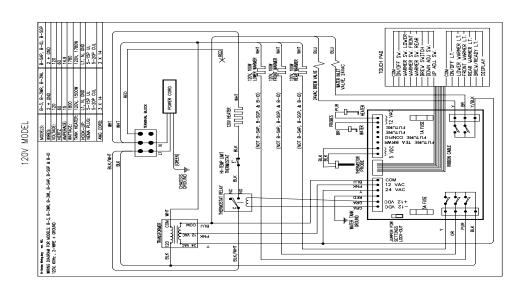
DUAL VOLTAGE



# Wiring Diagram Models B-3, B-3WR, B-3WL, B-SAP & B-ID without a -P suffix

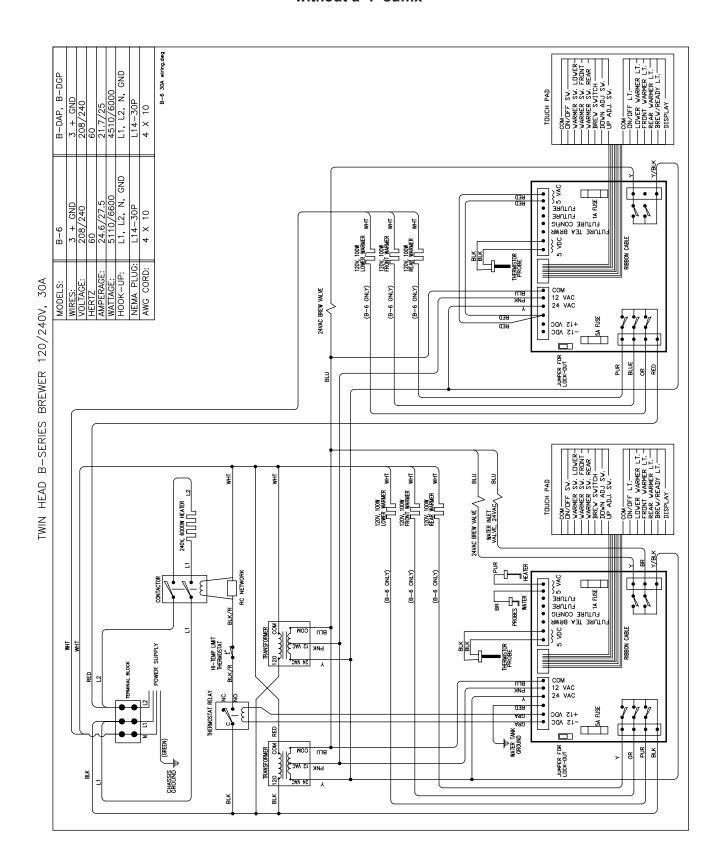




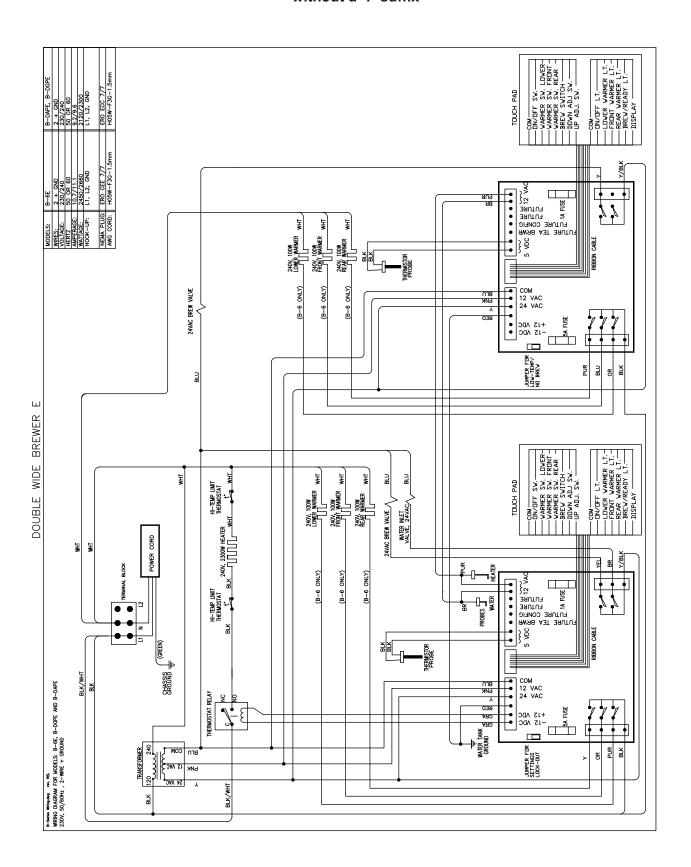


Page 16 B-SERIES

# Wiring Diagram Models B-6, B-DAP, B-DGP without a -P suffix



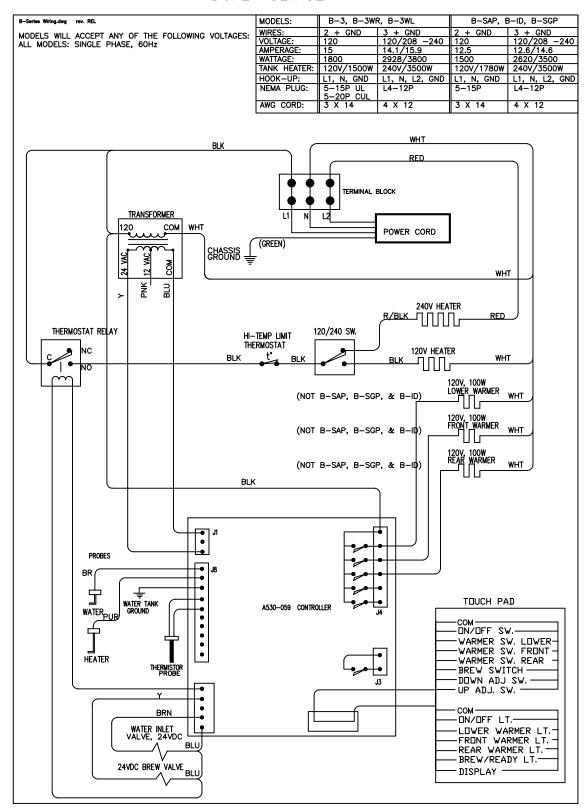
# Wiring Diagram - E Models Models B-6, B-DAP, B-DGP without a -P suffix



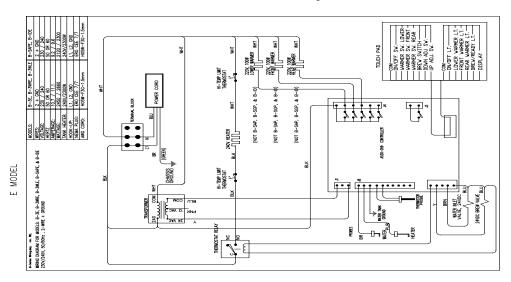
Page 18 B-SERIES

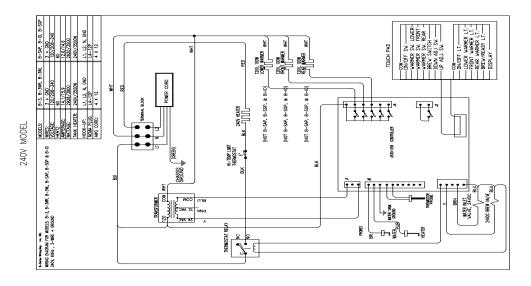
# Wiring Diagram Models B-3, B-3WR, B-3WL, B-SAP & B-ID with a -P suffix only

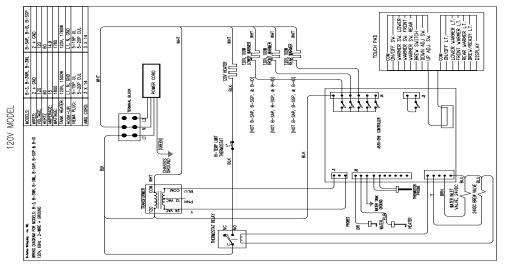
DUAL VOLTAGE



# Wiring Diagram Models B-3, B-3WR, B-3WL, B-SAP & B-ID with a -P suffix only

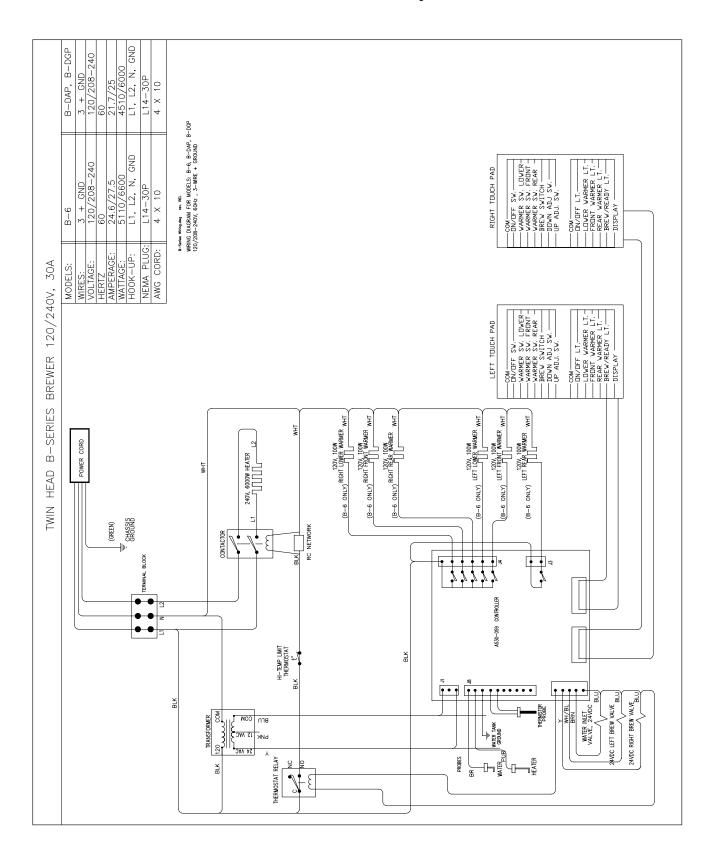




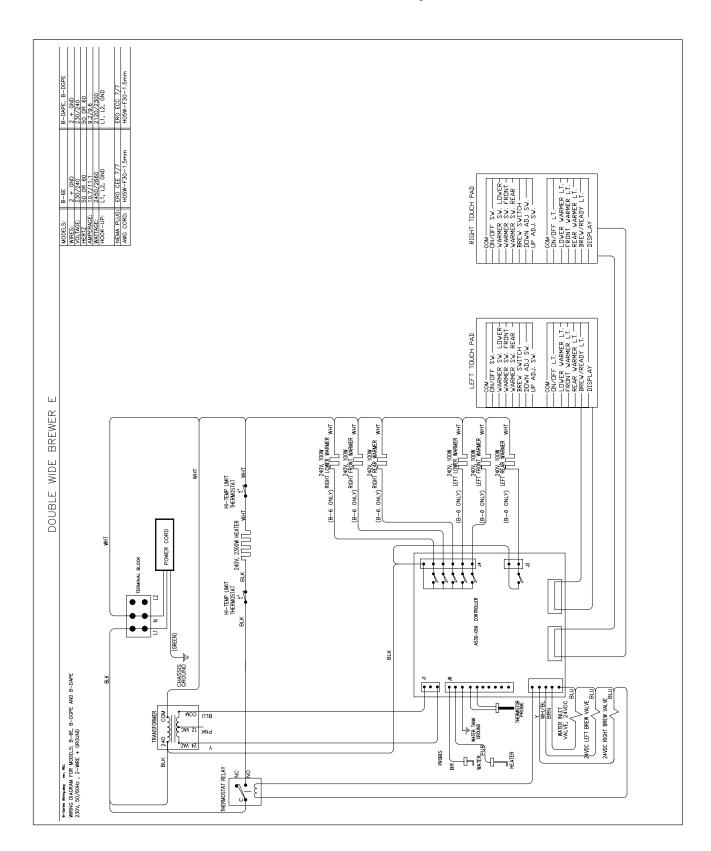


Page 20 B-SERIES

# Wiring Diagram Models B-6, B-DAP, & B-DGP with a -P suffix only



# Wiring Diagram - E Models Models B-6, B-DAP, & B-DGP with a -P suffix only





CORPORATION

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