



VP17 Series



SERVICE MANUAL

BUNN-O-MATIC CORPORATION

POST OFFICE BOX 3227

SPRINGFIELD, ILLINOIS 62708-3227

PHONE: (217) 529-6601 FAX: (217) 529-6644

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BUNN-O-MATIC COMMERCIAL PRODUCT WARRANTY

Bunn-O-Matic Corp. ("BUNN") warrants equipment manufactured by it as follows:

- 1) Airpots, thermal carafes, decanters, GPR servers, iced tea/coffee dispensers, MCR/MCP/MCA single cup brewers, thermal servers and ThermoFresh® servers (mechanical and digital) 1 year parts and 1 year labor.
- 2) All other equipment - 2 years parts and 1 year labor plus added warranties as specified below:
 - a) Electronic circuit and/or control boards - parts and labor for 3 years.
 - b) Compressors on refrigeration equipment - 5 years parts and 1 year labor.
 - c) Grinding burrs on coffee grinding equipment to grind coffee to meet original factory screen sieve analysis - parts and labor for 4 years or 40,000 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, non periodic cleaning and descaling, equipment failures related to poor water quality, damage or casualty. In addition, the warranty does not apply to replacement of items subject to normal use including but not limited to user replaceable parts such as seals and gaskets. 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.

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SERVICE

This manual provides procedures for testing and replacing various major components used in this brewer should service become necessary. Refer to *Troubleshooting* for assistance in determining the cause of any problem.

WARNING - Inspection, testing, and repair of electrical equipment should be performed only by qualified service personnel. The brewer should be unplugged when servicing, except when electrical tests are required and the test procedure specifically states to plug in the brewer.

COMPONENT ACCESS

WARNING - Disconnect the brewer from the power source before the removal of any panel or the replacement of any component.

All components are accessible by the removal of the top cover and front inspection panel and warmer assemblies.

The top cover is attached with one #4-40 screw.

The front inspection panel is attached with four #6-32 screws.

The warmer assembly is attached with three #4-40 screws.

Contents

Control Thermostat.....	4
Limit Thermostat.....	5
ON/OFF Switch.....	6
Tank Heater.....	7
Tank Heater Switch.....	8
Warmer Elements.....	10
Wiring Diagrams.....	11

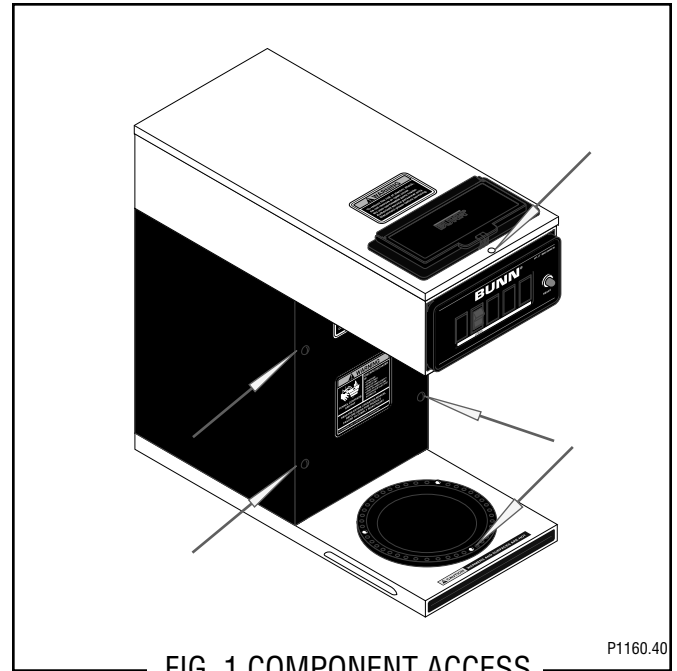


FIG. 1 COMPONENT ACCESS

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SERVICE (cont.)

CONTROL THERMOSTAT

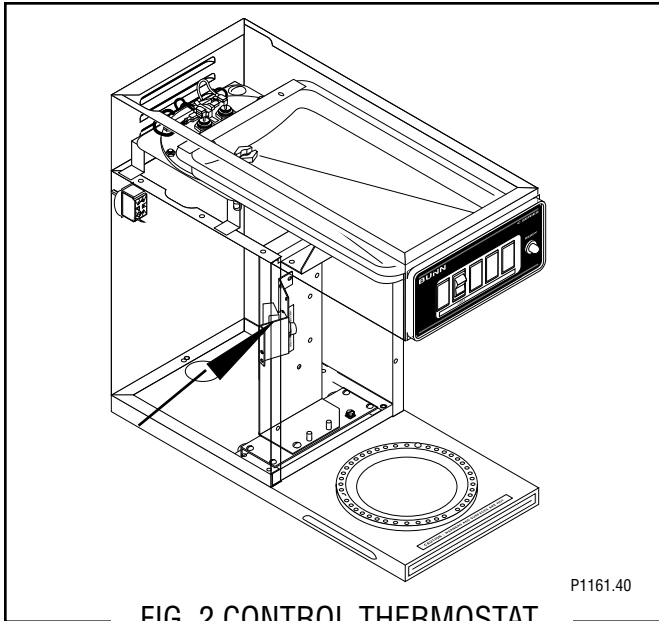


FIG. 2 CONTROL THERMOSTAT

Location:

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

Test Procedures:

1. Disconnect the brewer from the power source.
2. With a voltmeter, check the voltage across the blue wire on the control thermostat and the white wire on the tank heater. Connect the brewer to the power source. The indication must be:
 - a) 100 volts ac for two wire 100 volt models.
 - b) 120 volts ac for two wire 120 volt models.
3. Disconnect the brewer from the power source.

If voltage is present as described, proceed to #4.

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

4. Gently remove the capillary bulb and grommet from the tank.
5. With a voltmeter, check the voltage across the black wire of the control thermostat and the white wire on the tank heater when the control thermostat is turned "ON" (Fully clockwise). Connect the brewer to the power source. The indication must be:
 - a) 100 volts ac for two wire 100 volt models.
 - b) 120 volts ac for two wire 120 volt models.
6. Voltage must not be present when the thermostat is turned to the "OFF" position.

7. 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 leads.
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 component bracket inside the trunk.
8. Refer to Fig. 3 when reconnecting the wires.
9. Adjust the control thermostat as required.

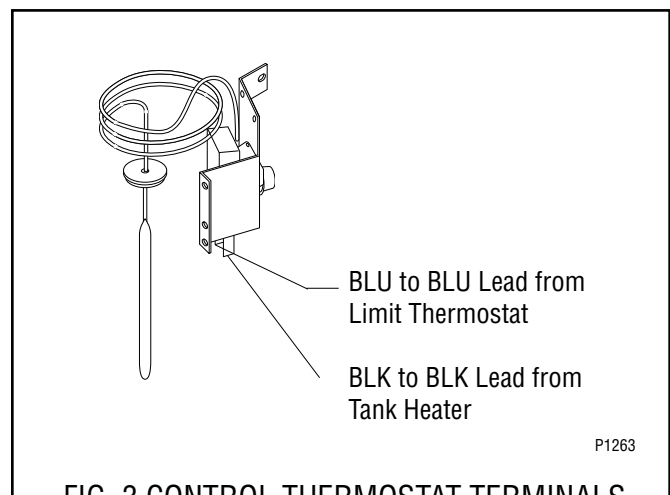


FIG. 3 CONTROL THERMOSTAT TERMINALS

SERVICE (cont.)

LIMIT THERMOSTAT

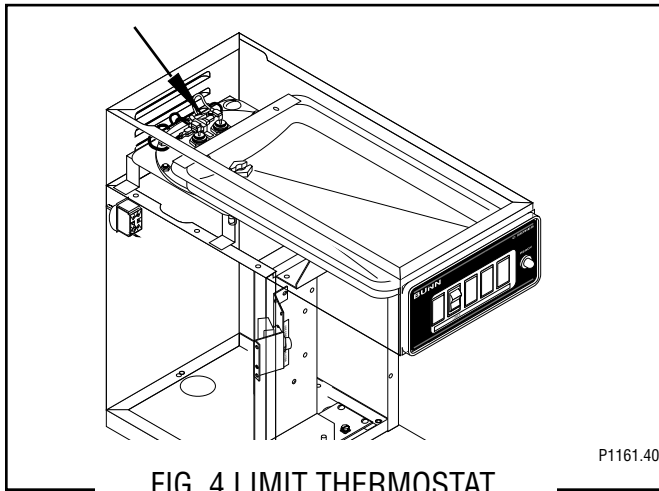


FIG. 4 LIMIT THERMOSTAT

Location:

___ The limit thermostat is located inside the rear of the hood on the tank lid.

Test Procedures:

1. Disconnect the brewer from the power source.
2. Disconnect the blue and black wires from the limit thermostat.
3. With an ohmmeter, check for continuity across the limit thermostat terminals.

If continuity is present as described, the limit thermostat is operating properly.

If continuity is not present as described, replace the limit thermostat.

Removal and Replacement:

1. Remove all wires from limit thermostat terminals.
2. Carefully slide the limit thermostat out from under the retaining clip and remove limit thermostat.
3. Carefully slide the new limit thermostat into the retaining clip.
4. Refer to Fig. 5 when reconnecting the wires.

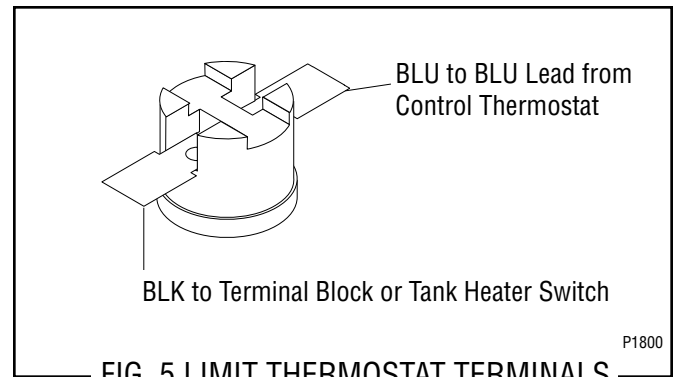


FIG. 5 LIMIT THERMOSTAT TERMINALS

SERVICE (cont.)

ON/OFF WARMER SWITCH

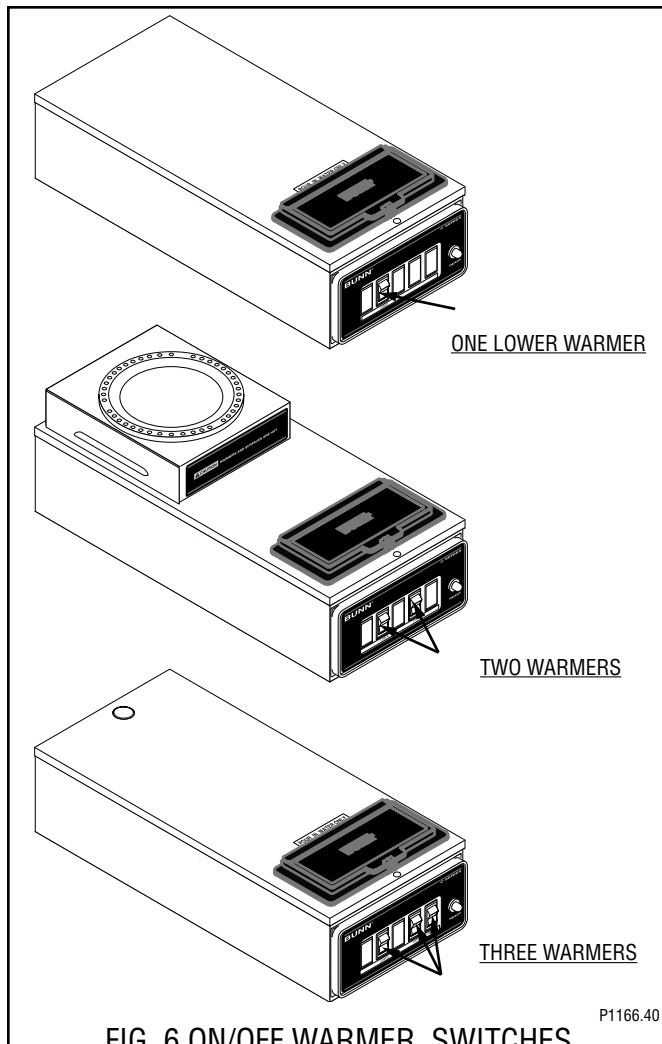


FIG. 6 ON/OFF WARMER SWITCHES

Location:

The ON/OFF warmer switch(es) are located on the front of the hood.

Test Procedure:

1. Disconnect the brewer from the power source.
2. Viewing the switch from the back, remove the white wire from the upper terminal and the black wire from the center terminal.
3. With a voltmeter, check the voltage across the white wire and the black wire. Connect the brewer to the power source. The indication must be:
 - a) 100 volts ac for two wire 100 volt models.
 - b) 120 volts ac for two wire 120 volt models.
4. Disconnect the brewer from the power source.

If voltage is present as described, reconnect the white wire and proceed to #5.

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

5. With the black wire removed, remove the wire from the lower terminal.
6. Check for continuity across the center and lower terminal with the switch in the "ON" (upper) position. Continuity must not be present when the switch is in the "OFF" (lower) position.

If continuity is present as described, reconnect the black wire to the center terminal and the remaining wire to the lower terminal.

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

Removal and Replacement:

1. Remove the wires from the switch terminals.
2. Remove front end cap.
3. Compress the clips inside the hood and gently push the switch through the opening.
4. Push the new switch into the opening and spread the clips to hold switch in the hood.
5. Reinstall front end cap.
6. Refer to Fig. 7 when reconnecting the wires.

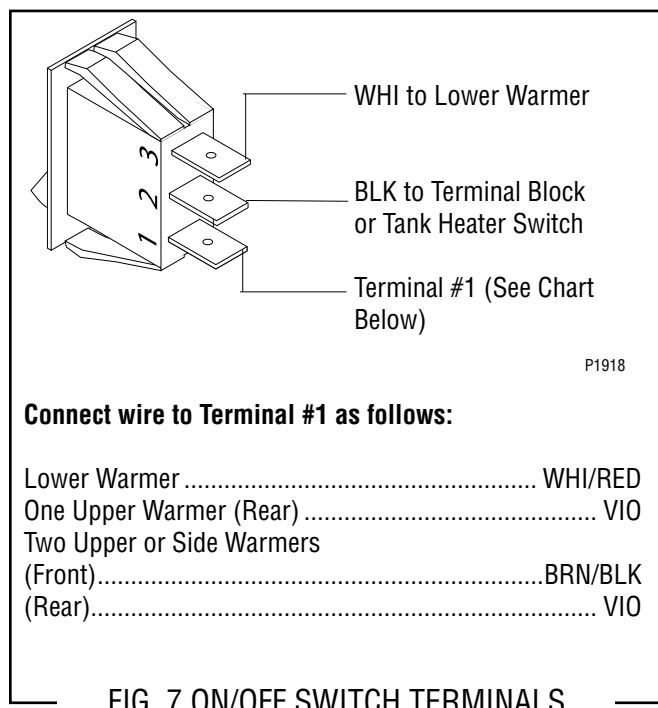
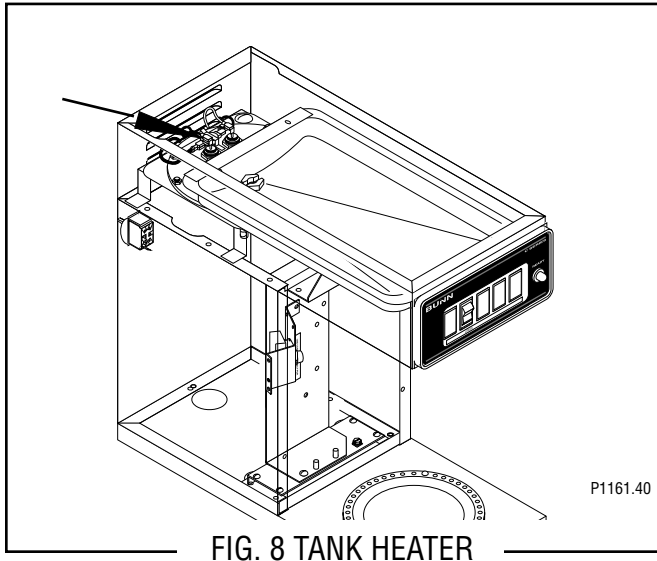


FIG. 7 ON/OFF SWITCH TERMINALS

SERVICE (cont.)

TANK HEATER



Location:

The tank heater is located inside the tank and secured to the tank lid.

Test Procedures:

1. Disconnect the brewer from the power supply.
2. With a voltmeter, check the voltage across the black and white wires on the tank heater. Connect the brewer to the power source. The indication must be:
 - a) 100 volts ac for two wire 100 volt models.
 - b) 120 volts ac for two wire 120 volt models.
3. Disconnect the brewer from the power source.

If voltage is present as described, proceed to #4

If voltage is not present as described, refer to the *Wiring Diagrams* and check wiring harness.

4. Disconnect the black wire and the white wire from the tank heater terminals.
5. Check for continuity across the tank heater terminals.

If continuity is present as described, reconnect the wires, the tank heater is operating properly.

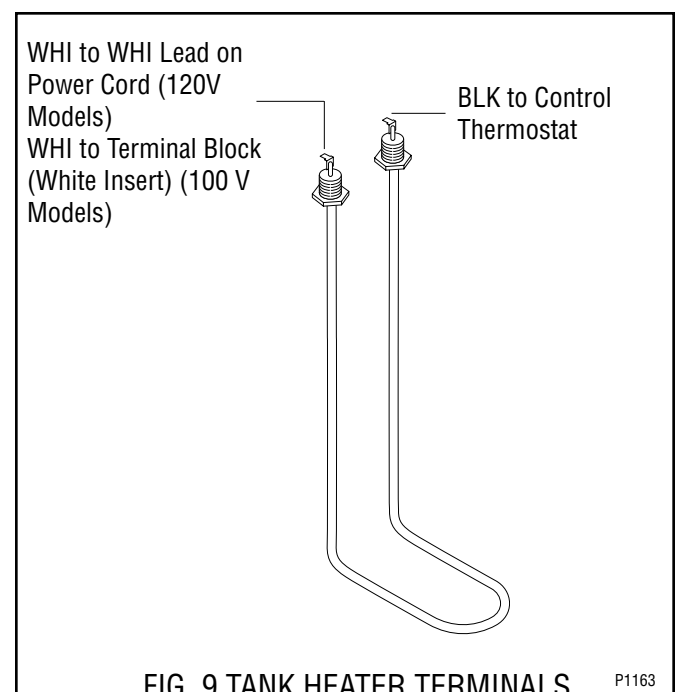
If continuity is not present as described, replace the tank heater.

NOTE- If the tank heater remains unable to heat, remove and inspect heater for cracks in the sheath.

Removal and Replacement:

1. Remove the tank inlet fitting securing the fill basin to the tank lid, remove fill basin and tank inlet gasket. Set all three parts aside for reassembly.

2. Disconnect the black wire on the limit thermostat from the tank heater switch and disconnect the blue wire from the limit thermostat to the control thermostat.
3. Disconnect the black wire and the white wire from the tank heater terminals.
4. Remove sprayhead and the hex nut securing the sprayhead tube to the hood. Set aside for reassembly.
5. Remove the eight #8-32 nuts securing the tank lid to the tank.
6. Remove the tank lid with limit thermostat, sprayhead tube and tank heater
7. Remove the two hex nuts securing the tank heater to the tank lid. Remove tank heater with gaskets and discard.
8. Install new tank heater with gaskets on the tank lid and secure with two hex nuts.
9. Install tank lid with limit thermostat, sprayhead tube and tank heater using eight #8-32 hex nut.
10. Secure sprayhead tube to hood using a hex nut.
11. Install sprayhead.
12. Reconnect the wires to the limit thermostat, tank heater and control thermostat. See *Limit Thermostat* and *Control Thermostat* sections in this manual when reconnecting wires.
13. Install fill basin, secure with tank inlet fitting and gasket.
14. Refer to Fig. 9 when reconnecting the tank heater wires.



SERVICE (cont.)

TANK HEATER SWITCH (VP17B and early model VP17)

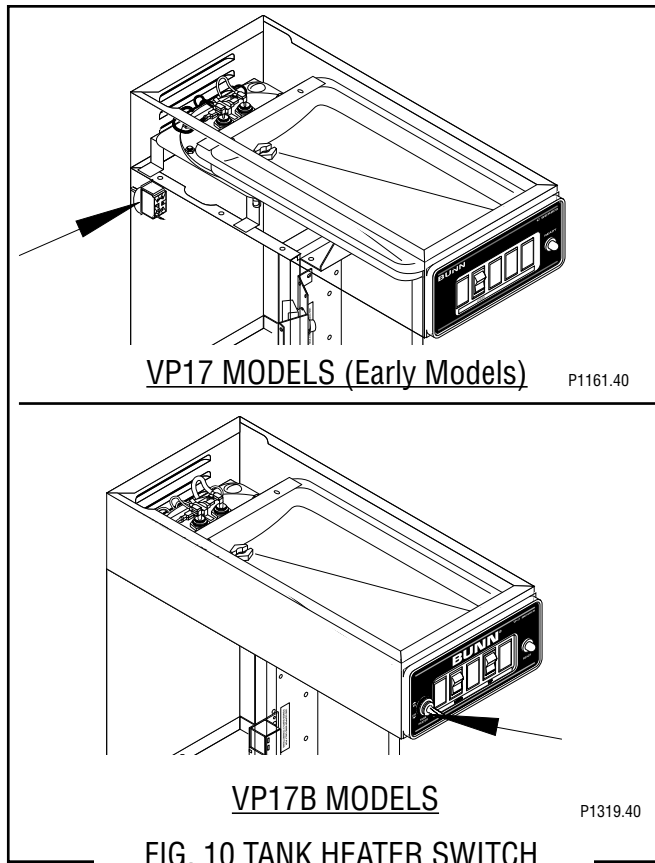


FIG. 10 TANK HEATER SWITCH

Location:

On Early VP17 Models the tank heater switch is located on the rear of the brewer on the upper left side of the trunk.

On VP17B Models the tank heater switch is located on left side of the control panel.

Test Procedure:

1. Disconnect the brewer from the power source.
2. Disconnect the black wire from the limit thermostat.
3. With a voltmeter, and with the tank heater switch in the "ON" (upper) position check the voltage between the black wire removed from the limit thermostat and the white wire on the tank heater. Connect the brewer to the power source. The indication must be:
 - a) 100 volts ac on two wire 100 volt models.
 - b) 120 volts ac on two wire 120 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 harness.

5. Check for continuity between the black wire removed from the limit thermostat and the black insert on the terminal block, with the tank heater switch in the "ON" (upper) position. Continuity should not be present in the "OFF" (lower) position.

If continuity is present as described, the tank heater switch is operating properly.

If continuity is not present as described, replace the tank heater switch.

Removal and Replacement: (VP17)

1. Remove the tank inlet fitting securing fill basin to the tank lid. Remove fill basin and gasket. Set all three parts aside for reassembly.
2. Remove sprayhead and hex nut securing sprayhead tube to the hood. Set aside for reassembly.
3. Disconnect the wires on the limit thermostat and the tank heater.
4. Gently pull the thermostat sensor and grommet from the tank lid.
5. Insert a tube to the bottom of the tank and syphon ALL of the water out.
6. Gently reinstall the thermostat sensor and grommet in the tank lid.
7. Remove the two #8-32 screws securing the tank assembly to the hood.
8. Lift tank and components out as an assembly and set aside for reassembly.
9. Disconnect the two black wires from the tank heater switch.
10. Remove the plastic facenut, hex facenut and the switch indicator/guard bracket that secures tank heater switch to the brewer. Remove switch and discard.
11. 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.
12. Reconnect the two black wires the tank heater switch terminals.

SERVICE (cont.)

TANK HEATER SWITCH (cont.)

13. Set tank assembly inside the hood on mounting brackets and secure with two #8-32 screws.
14. 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.
15. Secure the sprayhead tube to the hood using hex nut.
16. Install sprayhead.
17. Install fill basin, inlet gasket and secure to tank lid with tank inlet fitting.
18. Refer to Fig. 11 when reconnecting the wires.

Removal and Replacement: (VP17B)

1. Remove the tank inlet fitting securing fill basin to the tank lid. Remove fill basin and gasket. Set all three parts aside for reassembly.
2. Disconnect the two black wires from the tank heater switch.
3. Remove the plastic facenut, hex facenut and the switch indicator/guard bracket that secures tank heater switch to the brewer. Remove switch and discard.
4. Insert new tank heater switch through the hole in the lower left of the control panel and secure with switch indicator/guard bracket, hex facenut and plastic facenut.
5. Reconnect the two black wires to the tank heater switch terminals.
6. Install fill basin, inlet gasket and secure to tank lid with tank inlet fitting.
7. Refer to Fig. 11 when reconnecting the wires.

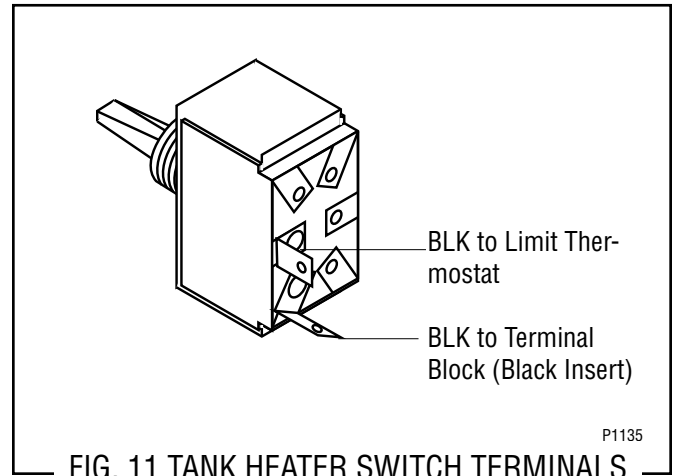
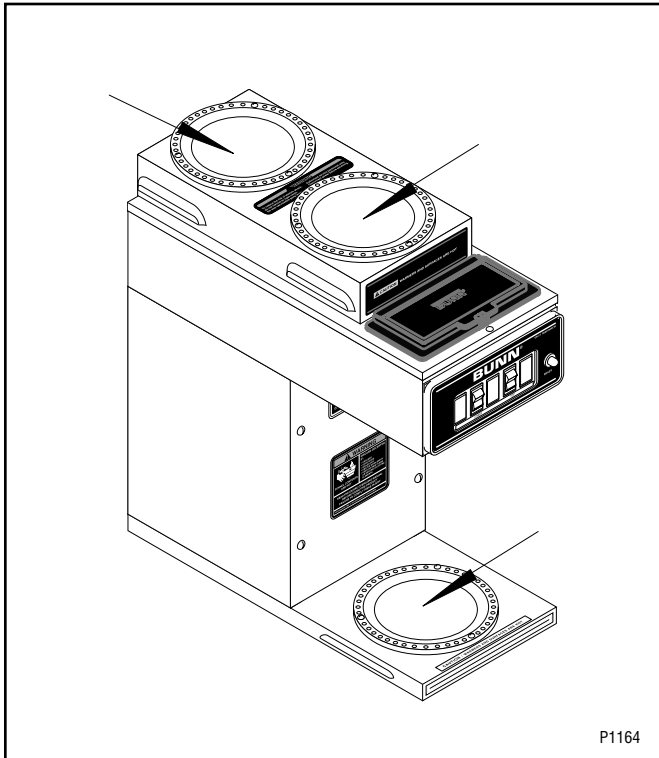


FIG. 11 TANK HEATER SWITCH TERMINALS

SERVICE (cont.)

WARMER ELEMENT(S)



If continuity is not present as described, replace the warmer element.

Removal and Replacement:

1. Remove the three #4-40 screws securing the warmer assembly to the brewer.
2. Lift the warmer assembly from the brewer.
3. Disconnect the two wires from the warmer element terminals.
4. Remove the two #8-32 nuts securing the warmer element to the warmer plate.
5. Securely install new warmer element.
6. Reconnect the two wires to warmer element terminals.
7. Securely install warmer assembly on the brewer.
8. Refer to the illustration below when reconnecting the wires.

Location:

___ The warmer element(s) is located under the warmer plate.

Test Procedures:

1. Disconnect the brewer from the power source.
2. With a voltmeter, check voltage across the white wire to the power cord and the white/red, brown/black or violet wire to the "ON/OFF" switch, with the "ON/OFF" switch in the "ON" (upper) position. The indication must be:
 - a) 100 volts ac for two wire 100 volt models.
 - b) 120 volts ac for two wire 120 volt models.
3. Disconnect the brewer from the power source.

If voltage is present as described, proceed to #4.
If voltage is not present as described, refer to *Wiring Diagrams* and check brewer wiring harness.

4. Check the continuity across the two terminals on the warmer element.

If continuity is present as described, reconnect the white wire and white/red, brown/black or violet wires on the warmer element.

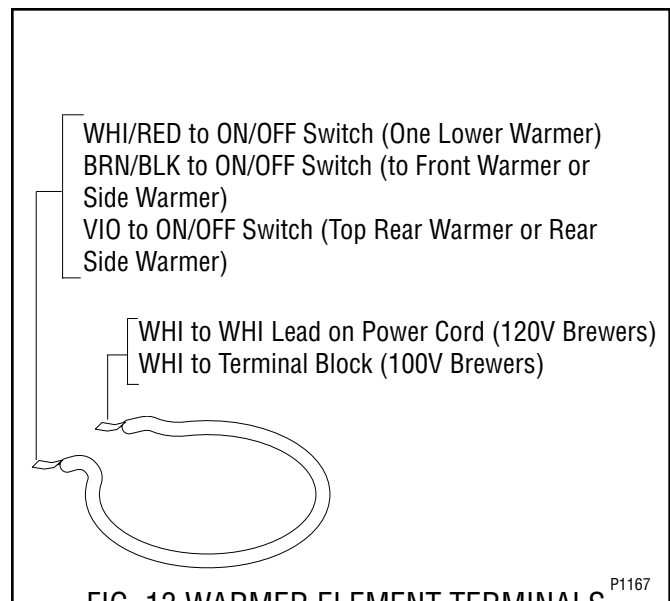
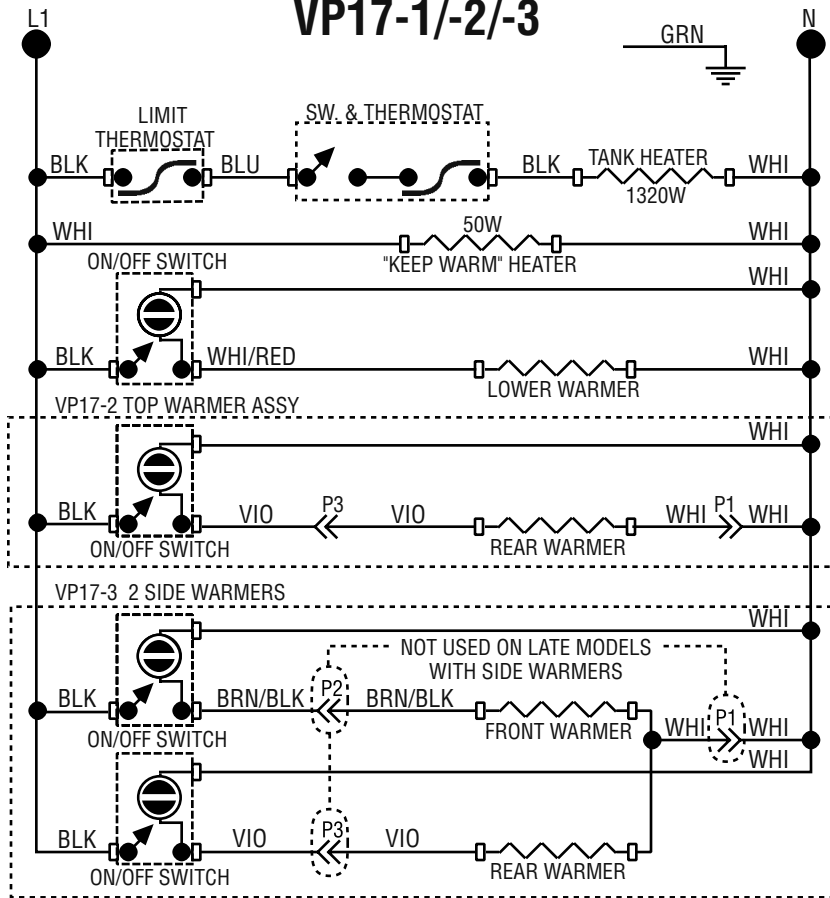


FIG. 13 WARMER ELEMENT TERMINALS

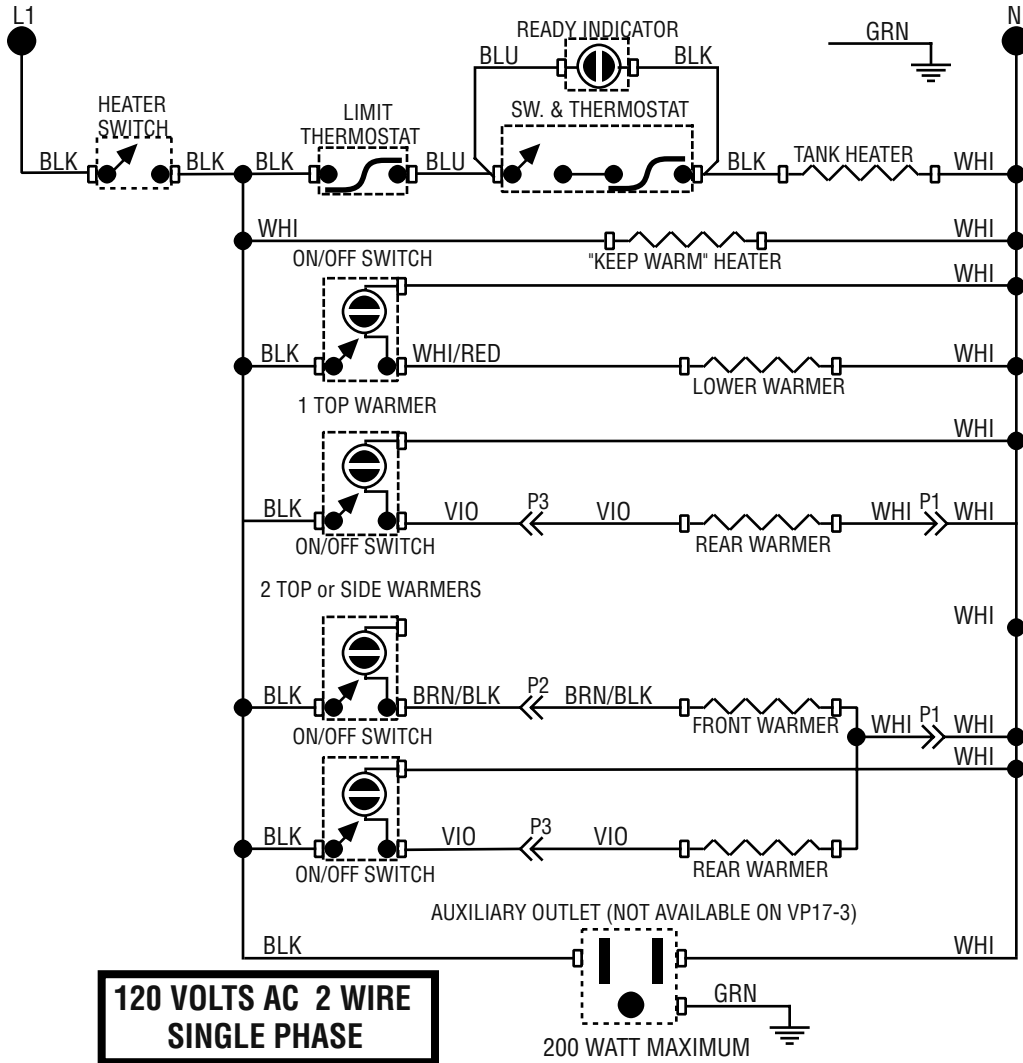
SCHEMATIC WIRING DIAGRAM

VP17-1/-2/-3



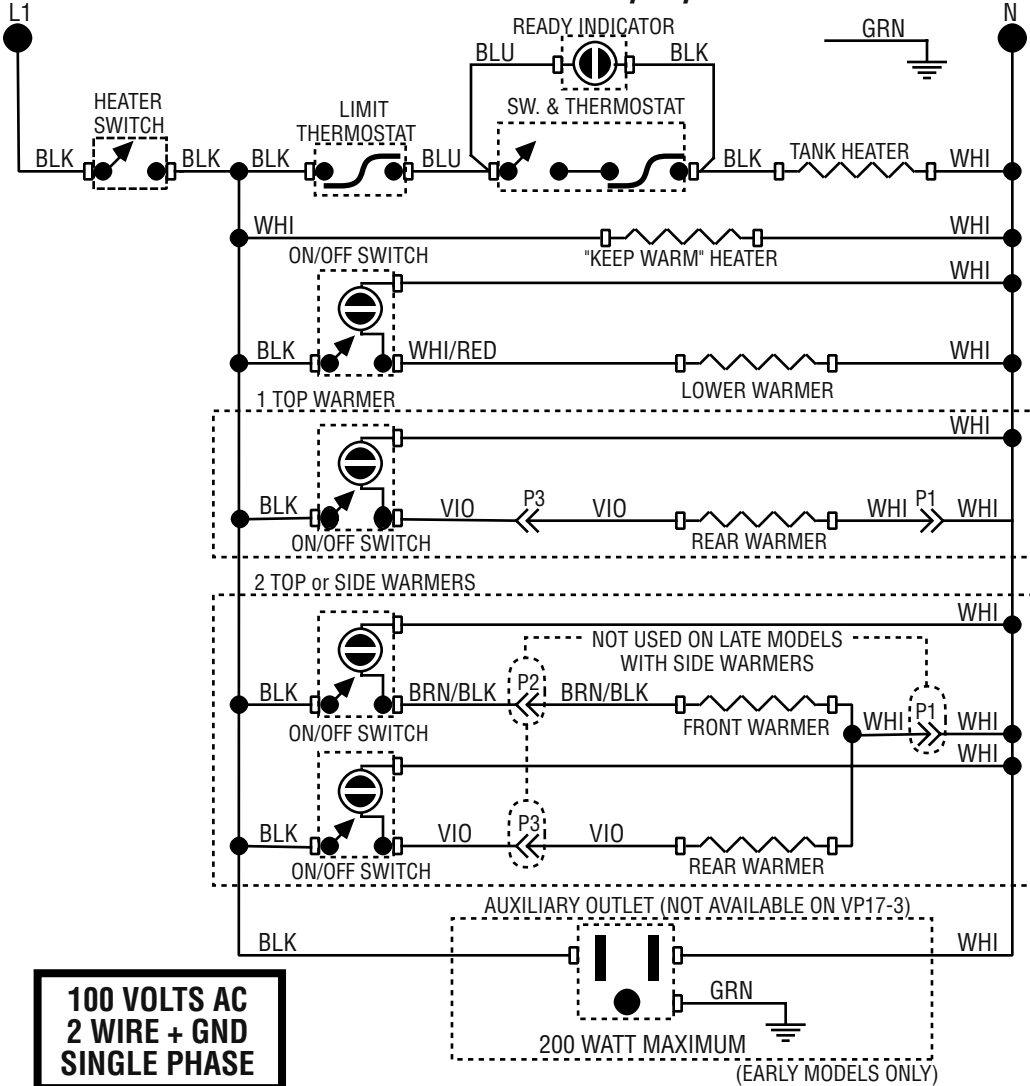
**120 VOLTS AC
2 WIRE + GND
SINGLE PHASE**

SCHEMATIC WIRING DIAGRAM VP17-1/-2/-3

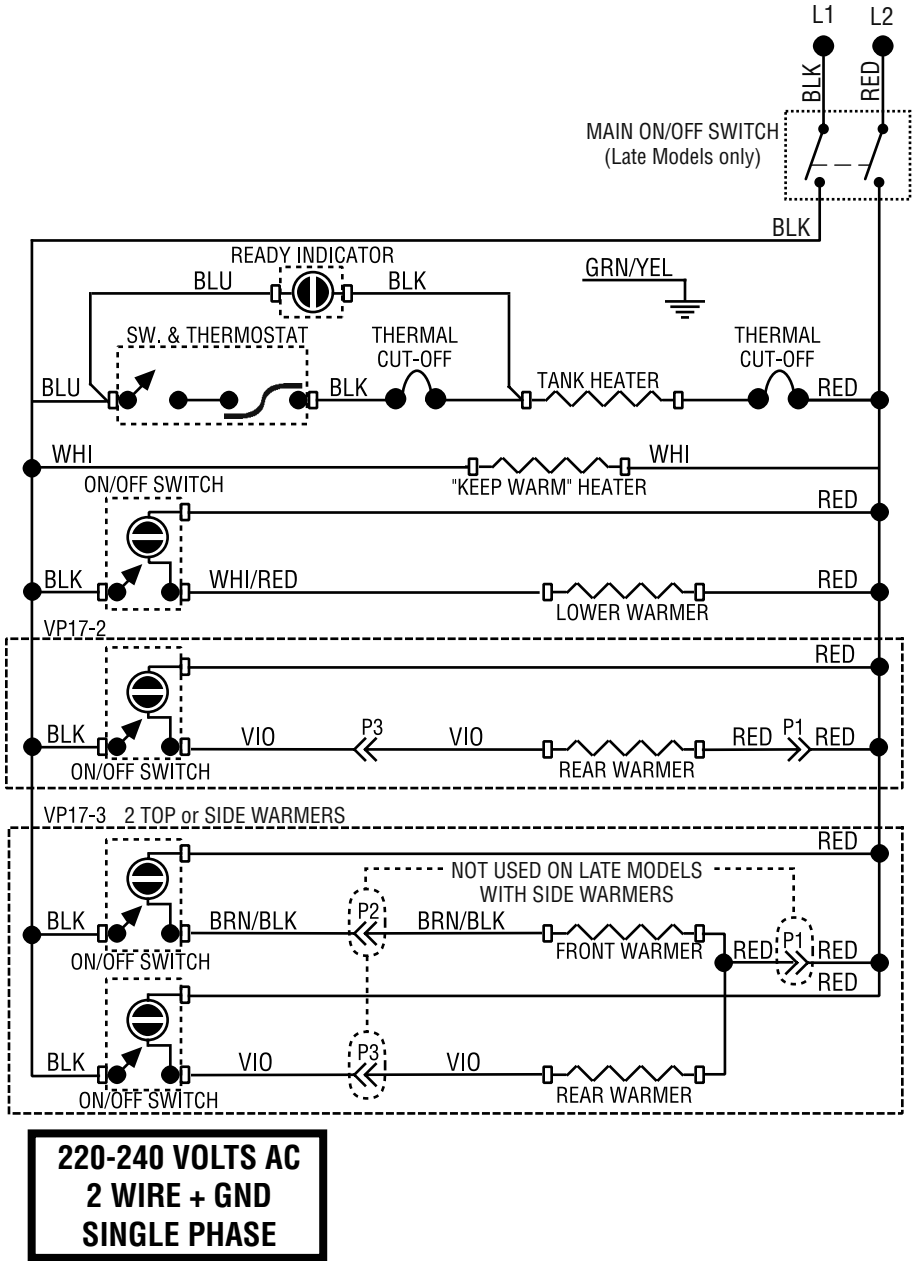


**120 VOLTS AC 2 WIRE
SINGLE PHASE**

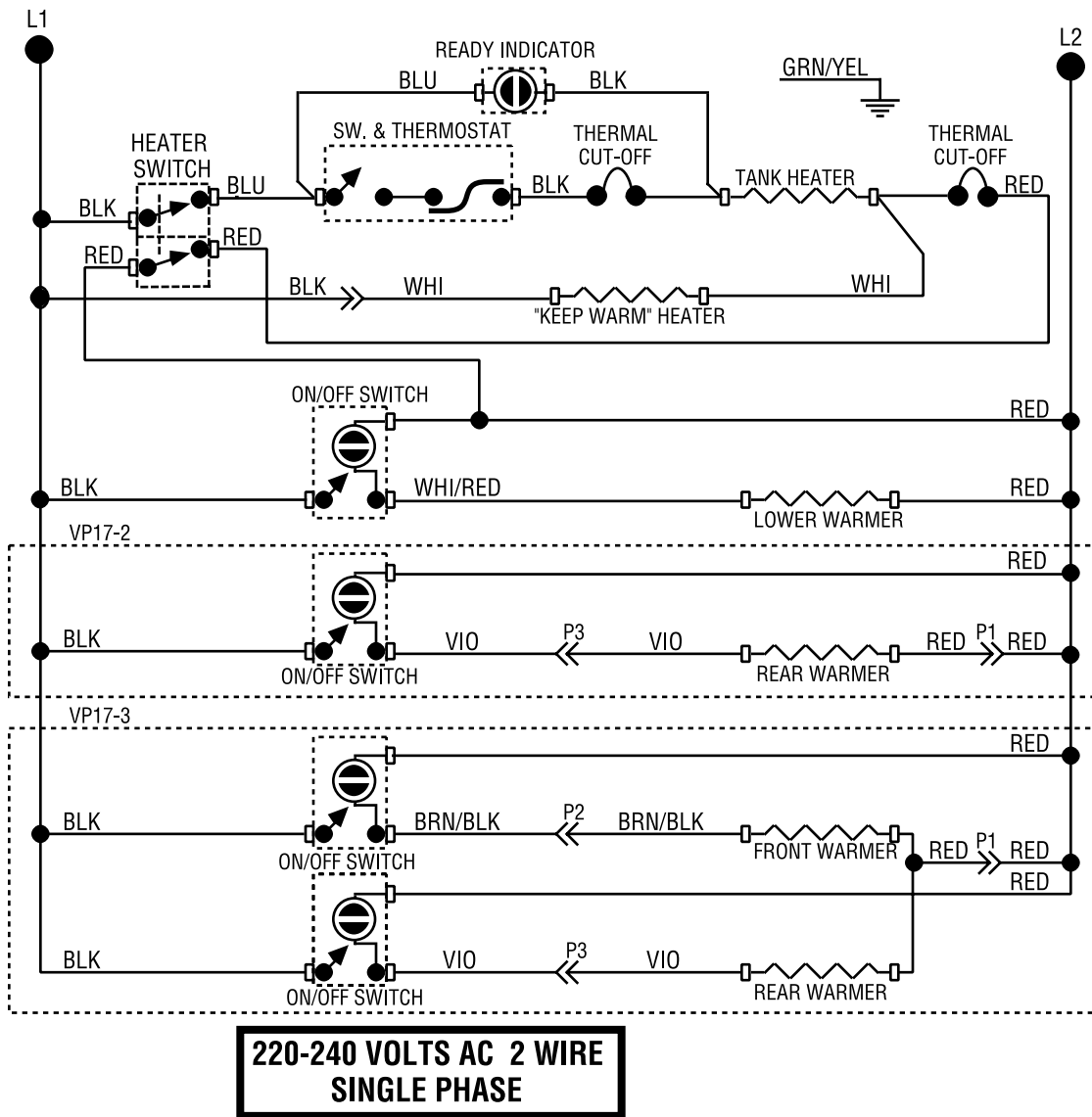
SCHEMATIC WIRING DIAGRAM VP17B-1/-2/-3



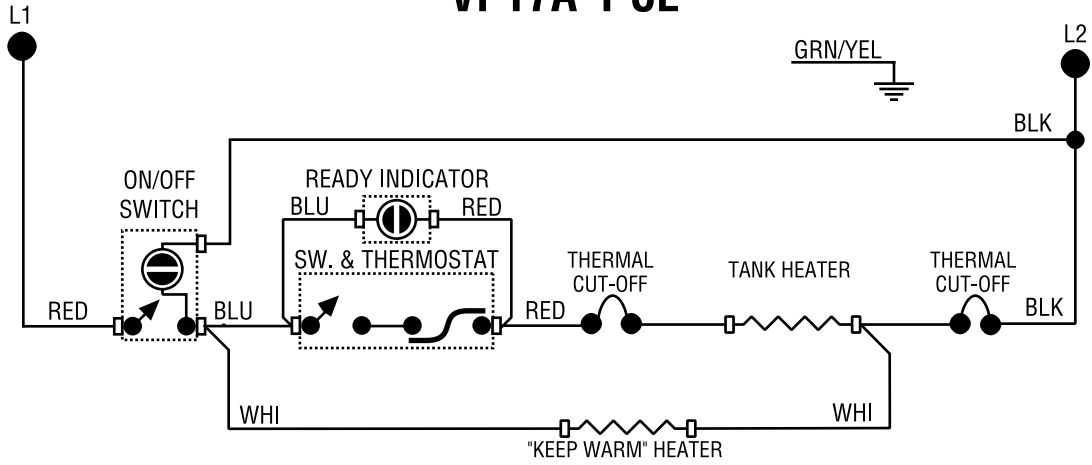
SCHEMATIC WIRING DIAGRAM VP17A-1/-2/-3 W/O TANK HEATER SWITCH



SCHEMATIC WIRING DIAGRAM VP17A-1/-2/-3 with TANK HEATER SWITCH



SCHEMATIC WIRING DIAGRAM VP17A-1 CE



**230 VOLTS AC 2 WIRE
SINGLE PHASE**