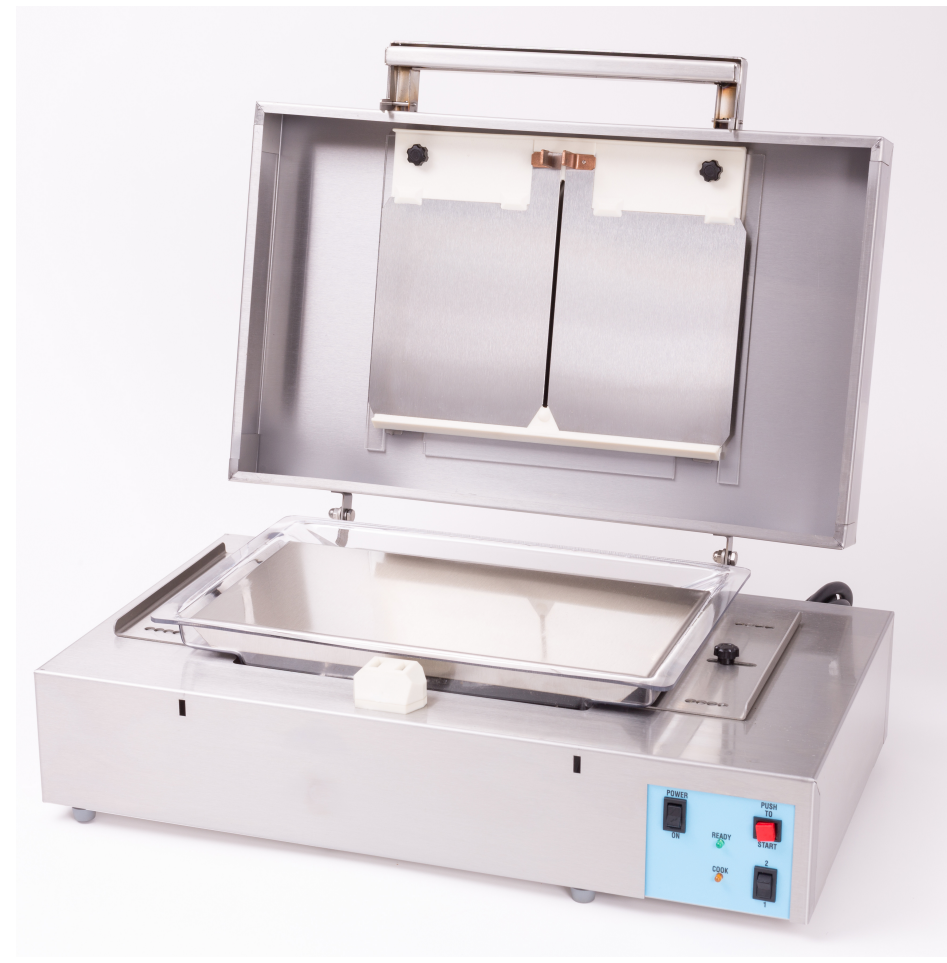
SERVICE AND PARTS MANUAL
MODEL A975

Be sure ALL installers read, understand, and have access to this manual at all times.



Broaster Company
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Design Certified By:
UL, CUL & NSF

Manual #17925 5/17 Rev: 1/23

FOR YOUR SAFETY

Do not use or store gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

⚠WARNING Improper installation, adjustments, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

For the sake of safety and clarity, the following words used in this manual are defined as follows:

⚠WARNING **Indicates an imminently hazardous situation which, if not avoided, could result in serious injury or death.**

⚠CAUTION **Indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.**

⚠DANGER **Indicates a potentially hazardous situation which, if not avoided, could result in minor injury, property damage or both.**

All adjustments and repairs shall be made by an authorized Broaster Company representative.

If there is a power failure, turn power switch OFF.

⚠WARNING **Failure to read and understand this manual completely could result in serious injury or death. Be sure ALL operators read, understand and have access to this manual at all times.**

⚠WARNING **Rags or paper containing cooking oil can catch fire if exposed to heat. Laundering will not remove the oil. Dispose of all oil-soiled papers and rags in a trash container that is in a ventilated area away from all cooking equipment or other heat sources such as direct sunlight.**

⚠WARNING **<u>DO NOT</u> clean this unit with a water jet. Use of this cleaning method could result in serious injury or death.**

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SERVICE NOTES

1 - WARNING LABELS

THIS PAGE PROVIDED FOR FUTURE USE ONLY

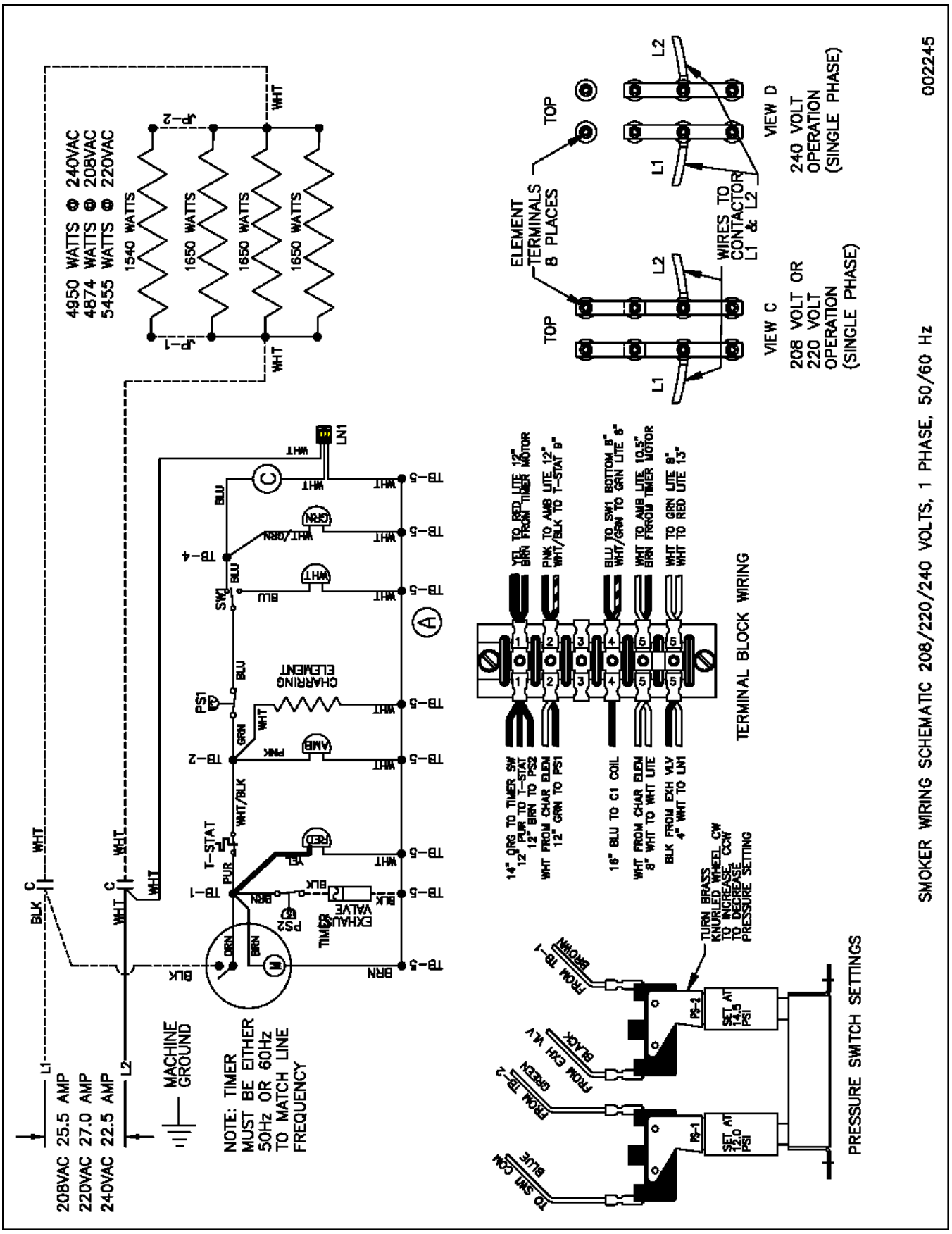
2 - ELECTRICAL SUPPLY

ELECTRICAL CHARACTERISTICS:

This unit is designed to operate on a grounded 120V, 30 Amp, 1 phase dedicated line. The Instant Burger® will stop operating if the voltage drops below 90 volts.

⚠WARNING **DO NOT** connect to a circuit rated less the 30 amps.

WIRING DIAGRAM:



3 - CONTROL PANEL

2020 CONTROL MODELS

POWER SWITCH: Applies power to the unit.

GREEN READY LIGHT: Indicates unit is on

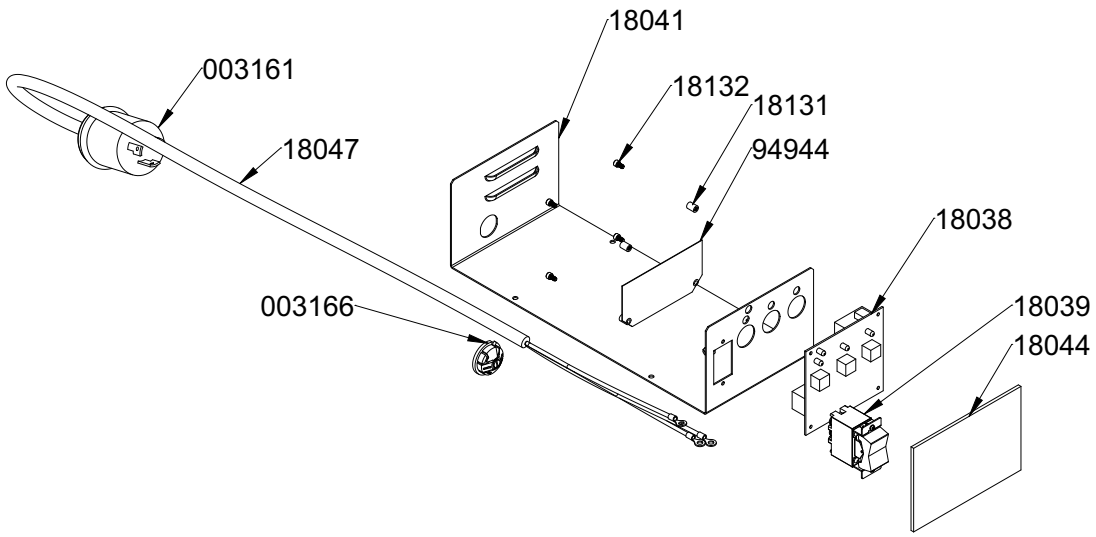
AMBER LIGHT: Illuminates when a cooking cycle is in progress.

COOK BUTTON: Push to start a cooking cycle.

NOTICE **When the COOK button is pushed the green READY light goes off and the amber light comes on. When the cooking cycle is done the amber light goes off and the green READY light illuminates again.**

COOKING MODE SETTING: Select cooking mode 1 or cooking mode 2 as required. The green light above either button will indicate which cooking mode is active.

3 - CONTROL PANEL



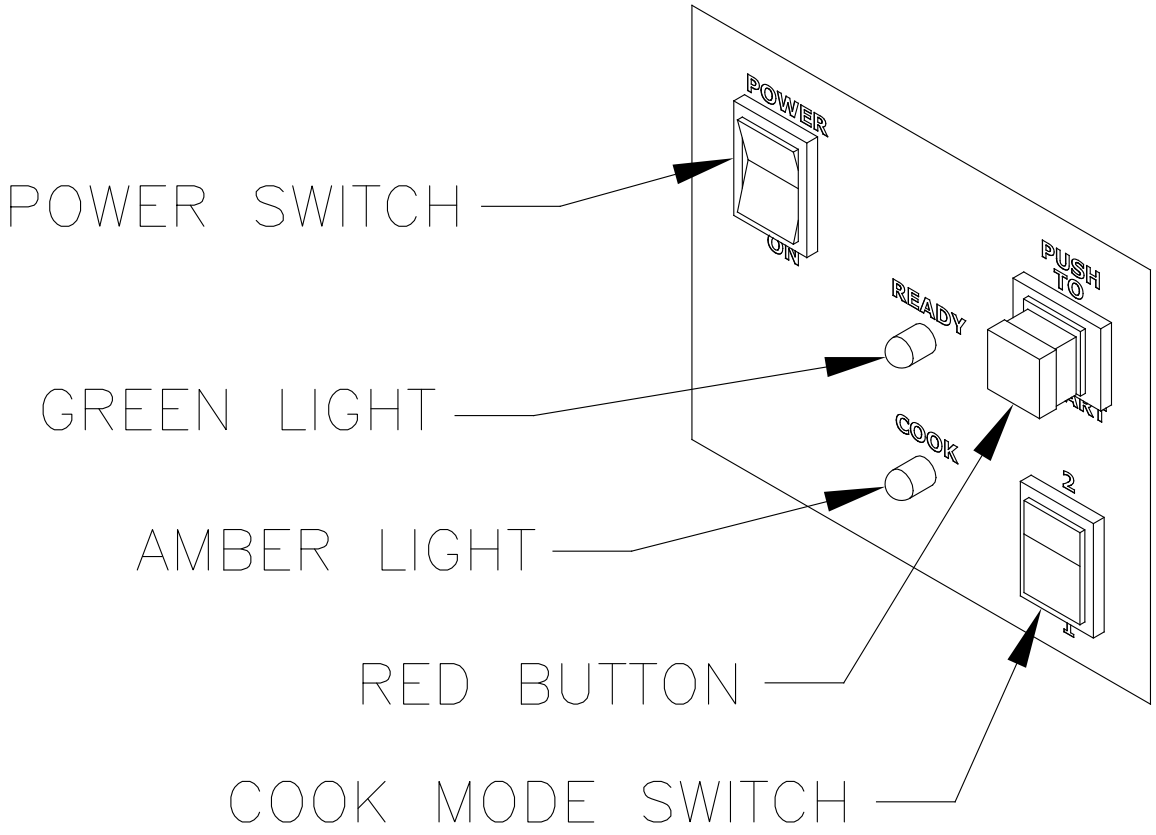
CONTROLLER (PC BOARD)

NOTICE **Before removing the PC board perform the full function test (see page 3-7) to determine if the board needs to be replaced.**

Controller Replacement:

1. Disconnect the wires from the switch and plates.
2. Remove the (4) mounting screws from the board.
3. Carefully remove the board by pulling it straight back.
6. Install the new PC board in reverse order.
7. Perform the Calibration Setting Check and either the Quick Function Test or the Full Function Test.

3 - CONTROL PANEL



POWER SWITCH: Applies power to the unit.

GREEN LIGHT: Indicates unit is on

AMBER LIGHT: Illuminates when a cooking cycle is in progress.

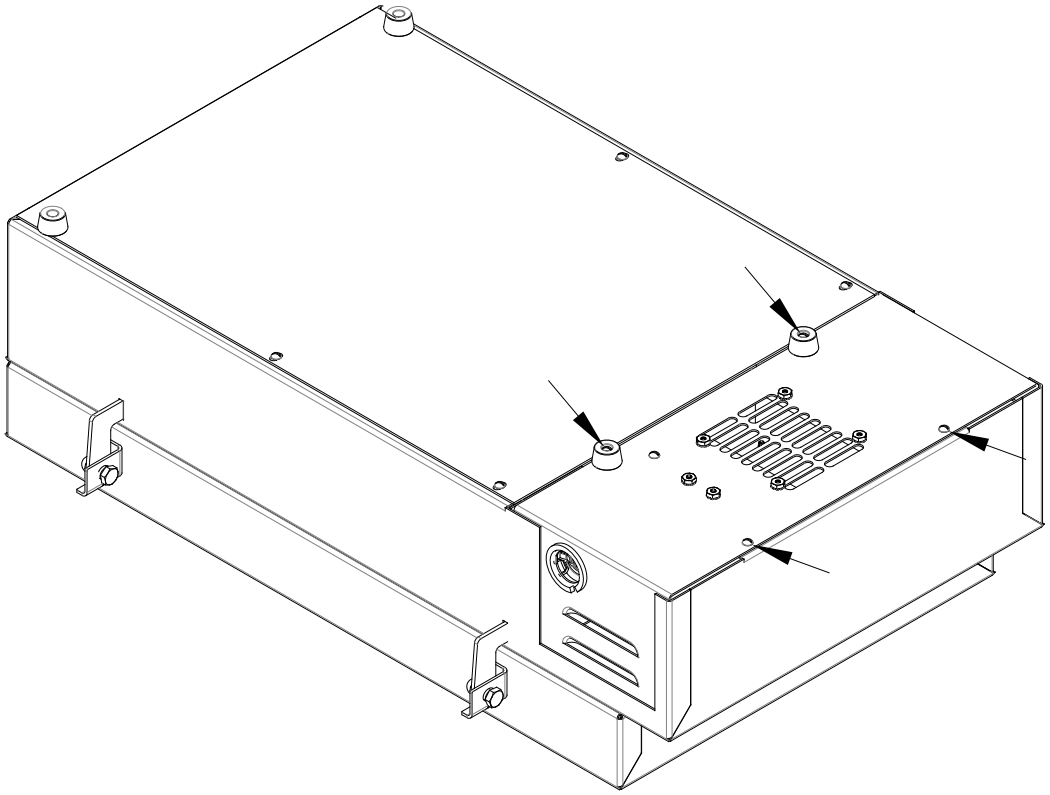
RED BUTTON: Push to start a cooking cycle.

NOTICE **When the red START button is pushed the green light shuts off and the amber light illuminates. When the cooking cycle is done the amber light shuts off and the green light illuminates again.**

COOK MODE SWITCH: This switch controls the cooking time relative to the type of meat being cooked.

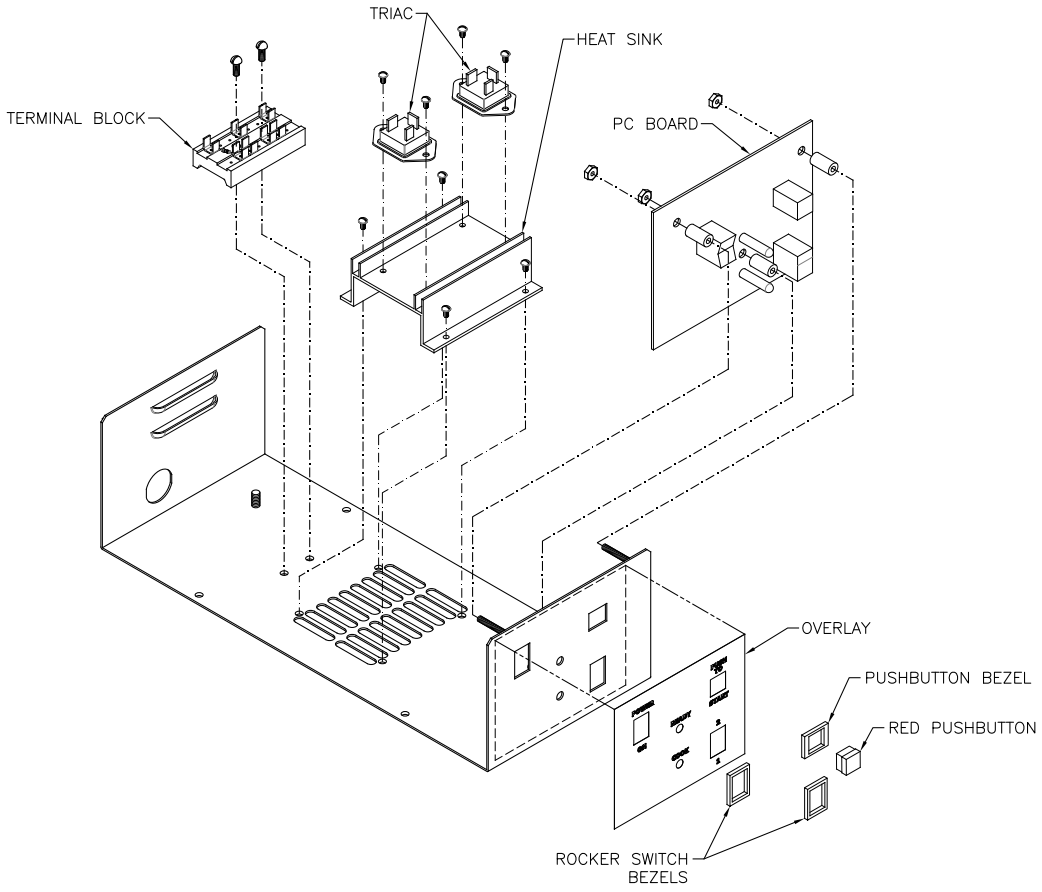
NOTICE The switch actuators and the lights are part of the PC board inside the power supply module.

NOTICE The bezels around the switches are not removable from the front of the unit with the power module installed.



ACCESS FOR SERVICE

1. Unplug unit from power source.
2. Turn unit over on it's top and remove screws shown at arrows.
3. Lift power module partially out of unit and disconnect black and white wires from connector block cord.
4. Remove power module from unit.



CONTROLLER (PC BOARD)

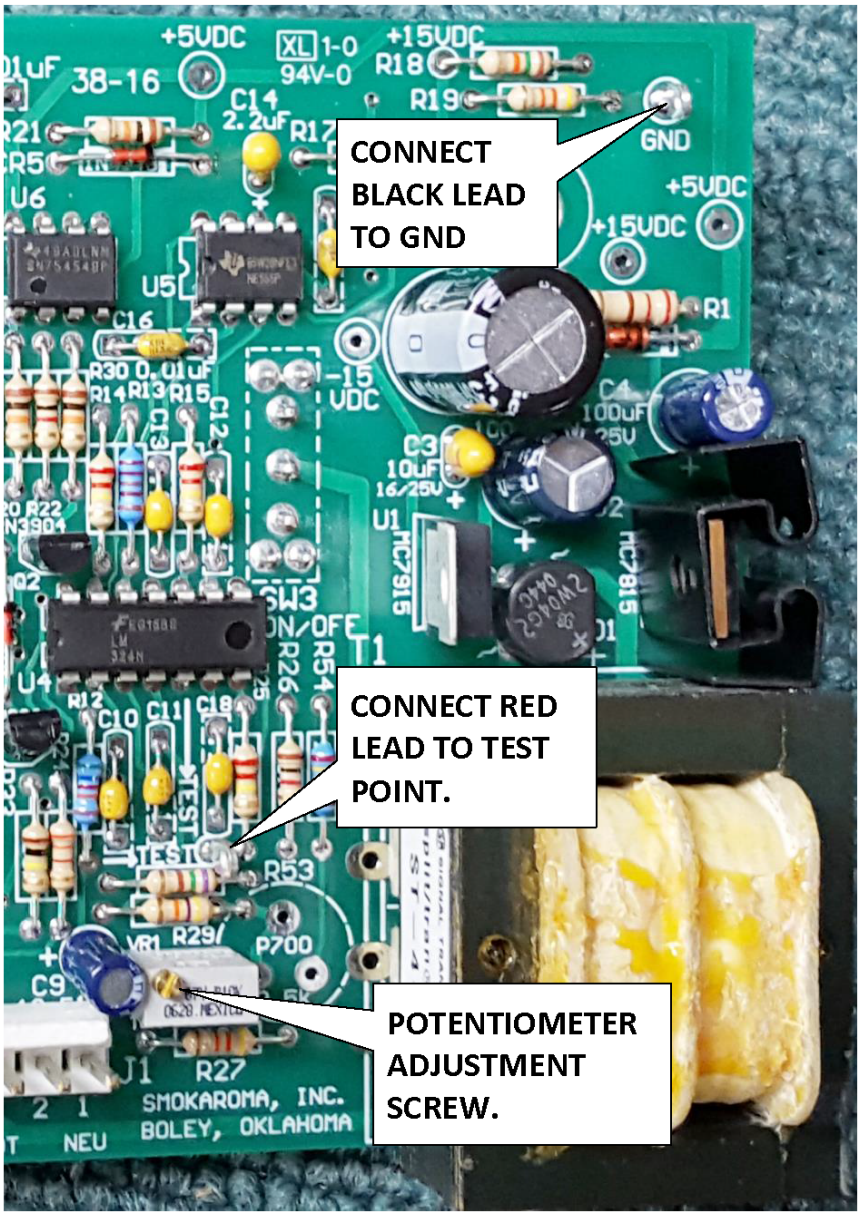
NOTICE **Before removing the PC board perform the full function test (see page 3-7) to determine if the board needs to be replaced.**

Controller Replacement:

1. Unplug the wire connector with the (4) thin wires located at the bottom center of the board.
2. Disconnect one end of the wire going through the coil on the PC board located in the lower left corner of the board.
3. Pull off the red start button and set it aside.
4. Remove the (3) mounting nuts from the board.
5. Carefully remove the board by pulling it straight back until the switches and lights are clear of the front of the power module.
6. Install the new PC board in reverse order.
7. After reconnecting all of the wires, check PC Board wiring with diagram on page 2-2.

NOTICE **Be sure the large black wire goes through the hole in the coil on the new controller.**

8. Perform the Calibration Setting Check and either the Quick Function Test or the Full Function Test.



CALIBRATION SETTING CHECK:

1. See ACCESS FOR SERVICE.
2. Connect voltmeter leads as shown above and set meter to read VDC.
3. Plug power module into power source.

⚠WARNING Be careful, potential shock hazard exists.

3. Turn power on switch to on. Voltmeter should read +0.29 ±.005 VDC.
4. If adjustment is required use a small screwdriver and turn the screw on the top of the potentiometer to adjust.
5. Unplug power module.
6. Reconnect black and white wires from connector block cord.
7. Insert power module into unit and reinsert screws. Make sure the feet are mounted as shown in the picture on page 3-2.

8. Turn unit right side up, plug unit to power source and perform Function Test.

QUICK FUNCTION TEST:

NOTICE **Perform calibration setting check before doing this test.**

1. Plug in unit and turn on.

2. Open cover and insert the leads of the voltmeter into the connector block as shown below.

NOTICE **The red and black leads can be in either side of the connector block. You will have to hold the leads in place while this test is being conducted.**

3. Press the START button and the amber light should come on and stay on for 10 seconds minimum. The voltmeter should read line voltage.

4. Turn unit off then back on. The green light should come on and the voltmeter should read zero at the connector block.

5. If the unit performs this test satisfactorily, then the unit is ready to operate.

FULL FUNCTION LOAD TEST:

The "Load Test" is a better test than the "Quick Check" as it provides a definite test as to whether the board and the Triacs are working.

The equipment needed is a hair dryer of about 1800 watts. This will put a load on the machine of about 16 amps, which is just a little less than amperage draw when cooking a 3.2 ounce hamburger. The hair dryer must have a switch with "High," "Medium," "Low" and "Off ', in that sequence.

There are two tests.

First you need to adapt the plug-in of the hair dryer such that i t will mate with the power connector block of the Instant Burger. This may be done by attaching two #12 solid wires (the type used in house wiring) on each end as follows.

Strip one end on each wire back 3/4 of an inch. Strip the other end 1/4 inch. Place yellow slip on connectors on 1/4 inch end of wire and then crimp. Place yellow slip-on connectors on the blade of the dryer plug. You may have to grind down the blades for the yellow connectors to fit.

FIRST TEST: This test allows you to test the COOK MODE “1” circuit.

To run this test:

1. Set the COOK MODE switch to “1”.

2. Insert the 3/4 inch bare ends into the power connector block, one in each side, of the Instant Burger. (**Omit steps 4 & 5, if the unit does not have a "Rare Well-Done" knob on the control.**)

3. Place the switch on the hair dryer to "High ."

4. *Place the "Rare Well-Done " Knob in the "Rare " position. Press the "Start" button. The hair dryer should start running. It should stay on approximately 5 seconds and then automatically cutoff by itself.*

5. *Turn the "Rare Well-Done " Knob to the full "Well-Done " position.*

6. Press the red "Start" button, the hair dryer should come on and stay on for at least 10 seconds. (You should count to 10 because, if you attempt to turn it off prematurely during the time, the 5-second timer is still energized and it will not cut off)

7. After counting to 10, slide switch on the hair dryer to “Medium.” The amber light on the control board should shut off and the hair dryer should stop running immediately. If it does, the board is functioning properly on cook mode setting “1” and the Triacs are functioning properly.

If the dryer comes on immediately without pressing the start button and the green light is in the ready position, the Triacs are bad. Go to “Triac Test” to find and replace the defective Triac(s). If the dryer will not operate when the “Start” button is pushed, the board is most likely defective. Replace it.

SECOND TEST: This test tests the COOK MODE “2” circuit.

To run this test:

1. Set the COOK MODE switch to “2”.

2. Switch the hair dryer to “High”.

3. Press start button. The hair dryer should run.

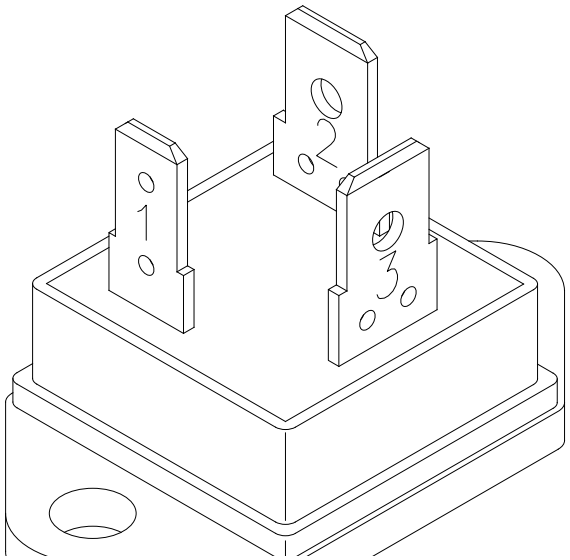
4. Time for approximately 10 seconds and then slide the switch to “Medium. There should be a slight delay in time that you switch the hair dryer to "Medium" and the time that the amber light goes out and the hair dryer will stop.

If it occurs, the control board is working fine. and the Triacs are working fine.

You may also adapt the hair dryer to check the control box by itself. This may be done by attaching a #12 solid wire to each blade of the hair dryer male plug. Install a yellow slip-on connector to each end of both wires. Connect one end of each wire to the hair dryer plug, and the other end of each wire to the terminal block where the wires to the connector block would normally be connected.

TRIACS:

See ACCESS FOR SERVICE on page 3-2.



It is recommended to test the triacs before replacing them.

TRIAC TESTING PROCEDURE:

NOTICE **Unplug from power source and disconnect all wires from the triacs.**

1. Align Triac with small terminal toward you. Set ohmmeter to lowest setting (probably 200 OHMS). Terminals are labeled “1”, “2”, and “3” with small terminal as “1” and continuing clockwise.

NOTICE **The numeral “1”, “2”, “3” are not marked on the Triac, but are used just to identify the terminals as shown above.)**

2. Perform the next (3) tests on each triac.

   Test A - Place ohmmeter leads on terminals 1 & 2 (see above). The meter should indicate continuity.
   Continuity - Good
   No continuity - Bad

   Test B - Place the ohmmeter leads on terminals 1 & 3 (see above). The meter should **NOT** indicate continuity.
   Continuity - Bad
   No Continuity - Good

   Test C - Place the ohmmeter leads on terminals 2 & 3 (see above). The meter should **NOT** indicate continuity.
   Continuity - Bad
   No Continuity - Good

3. If the Triac tests “bad” in any one of these 3 tests, the Triac is bad, replace it and discard the bad triac.

NOTES:

A. Older Triacs (slotted screw hole, one end), “Continuity” meter reading on test A “good” will read about 28 OHMS.

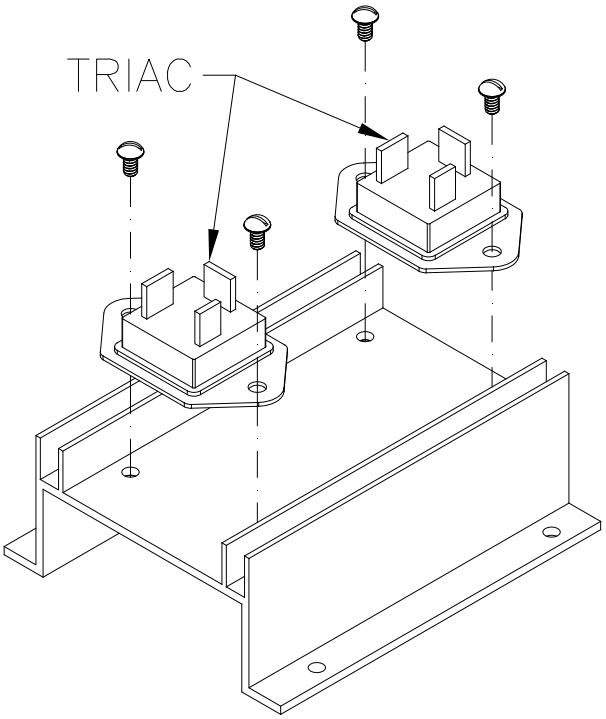
B. Newer Triacs (round hole, both ends), “Continuity'' meter reading on test A “good” will read about 62 ± 5 OHMS.

C. “Continuity” meter readings on “bad” may be anything, but it is generally about 200 OHMS.

D. “No Continuity” meter reading will generally read “OL” on newer meters and “T” on older meters.

E. This method of testing Triacs is very effective in determining a defective Triac when the symptom is “cooking all the time”. However, it will not determine all the defects in a Triac. When trouble persists, replace both Triacs.

TRIAC REPLACEMENT:



1. Disconnect all wires from the triac being replaced.
2. Remove mounting screws, lift off old triac and discard.
3. Apply a small amount of Heat Sink Compound to the metal side of the new triac.
4. Mount new triac with the screws removed in step 1 making sure the small terminal is toward the PC Board.
5. Check triac wiring with diagram on page 2-2.

TERMINAL BLOCK REPLACEMENT:

See Access For Service on page 3-2.

1. Disconnect the wires from the power cord.
2. Remove the (2) mounting screws.
3. Lift the terminal block up and out of the way.
4. Mount new terminal block using the (2) screws removed in step 2.

NOTICE **Make sure the resistor on the new terminal block is on the left side of the power module as you look at it from the controller end.**

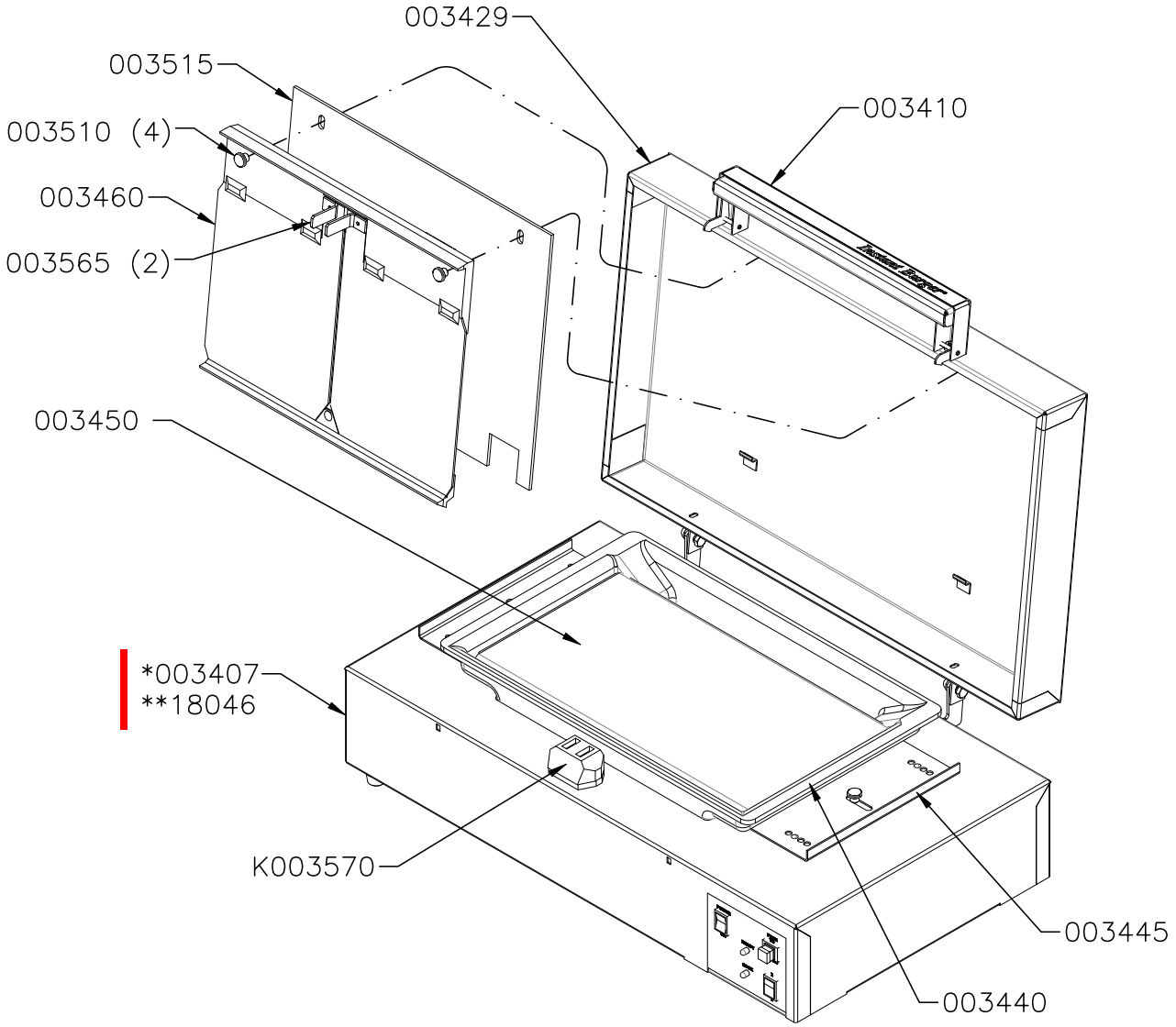
5. Move the wires from the old terminal block to the same terminal on the new terminal block.

4 - TROUBLESHOOTING

COMPLAINT	CAUSE	REMEDY
Cooks continuously.	1. “START” button stuck 2. Triac failure 3. Circuit board malfunction	1. Unstick button. 2. Replace bad Triac. 3. Replace circuit board.
Hamburger overcooking and sticks to top plate.	1. Dirty Top Plate. 2. Cook Mode switch in wrong position. 3. Bad Triac.	1. Clean Top Plate with Scotch-Brite pad. 2. Change switch to #1 position. 3. Replace bad Triac.
Hamburger cooks on one side but not the other.	1. Top plate not installed properly. 2. Slide adjustment brackets not in same position. 3. Worn plates. 4. Handle or hinges are out of adjustment.	1. Remove and reinstall top plate. 2. Reset slide adjustment plates to the same setting. 3. Replace worn plates. 4. Readjust handle and/or hinges.
Have to push start button several times to get hamburger done.	1. Voltage to unit is below 110VAC. 2. Wire installation to plug is faulty. 3. Using extension cord.	1. Must be on dedicated line. Call electrician. 2. Inspect and reconnect wires in plug. 3. Remove extension cord and plug unit into a dedicated 120VAC, 30 Amp receptacle.
Cooks for 5 seconds on #1 position then turns off.	1. Circuit board faulty.	1. Replace circuit board.
Green light is on but won’t cook when red button is pushed.	1. Loose wire connections in power module. 2. Break in wire to connector block. 3. Bad connector block. 4. Bad Triac.	1. Check wiring connections in power module. 2. Replace wire. 3. Replace connector block. 4. Replace bad Triac.
Cooks all the time unless cook mode switch is in #2 position.	1. Circuit board faulty.	1. Replace circuit board.
Meat is green on one side and raw on the other.	1. Loose connections on wires on triacs.	1. Replace terminals.

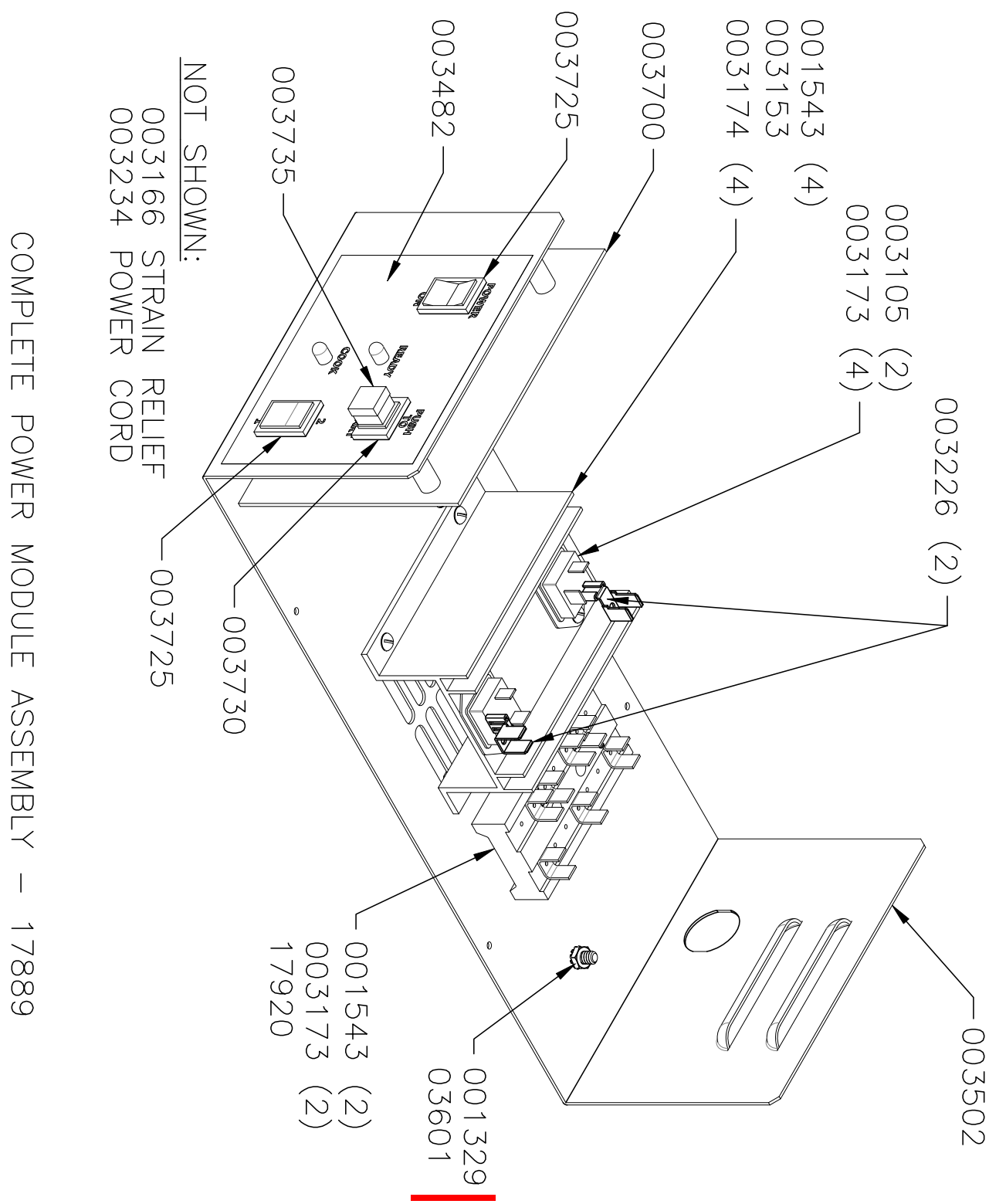
5 - PARTS

OUTER PANELS AND PARTS:



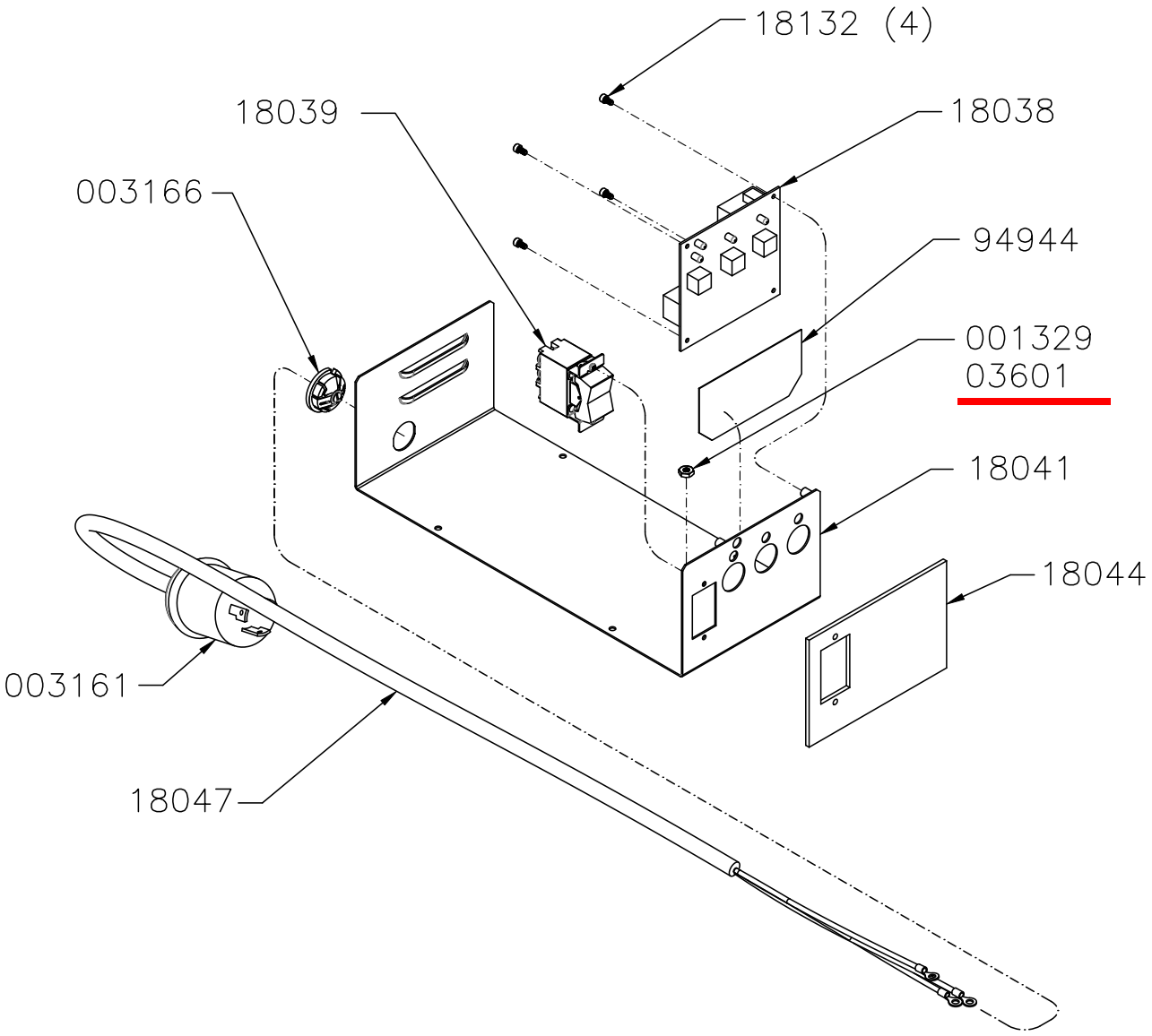
* USE 003407 ON UNITS WITH AN S/N THAT STARTS WITH 5.
** USE 18046 ON UNITS WITH AN S/N THAT STARTS WITH 6.

POWER MODULE: Serial Number 5XXXX



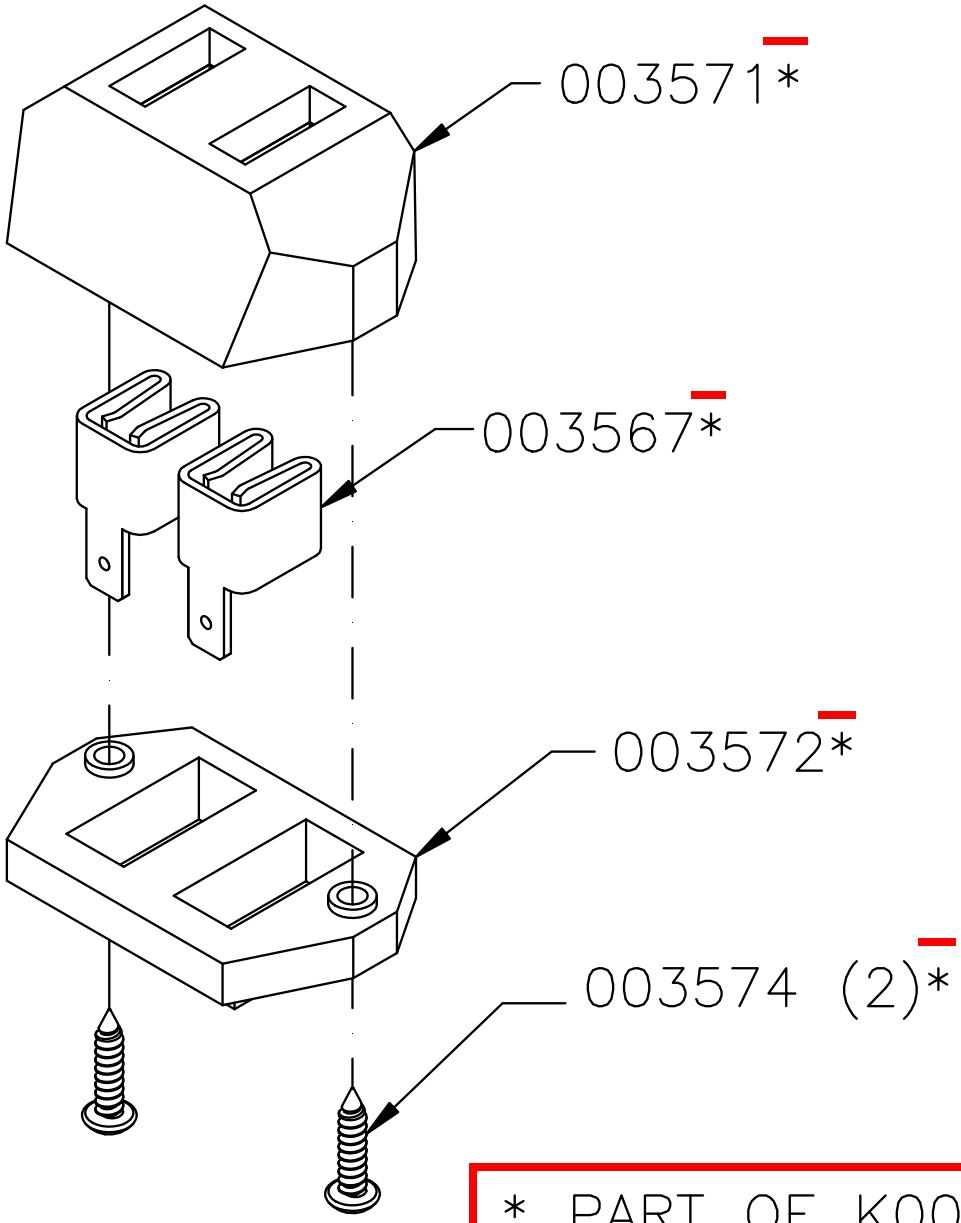
COMPLETE POWER MODULE ASSEMBLY – 17889

POWER MODULE: Serial Number 6XXXX



COMPLETE POWER MODULE ASSEMBLY – 18040

CONNECTOR BLOCK ASSEMBLY



* PART OF K003570
POWER BLOCK ASSY KIT

NOT SHOWN:
003630 CONNECTOR
BLOCK CORD ASSEMBLY

INSTANT BURGER PARTS LIST

Part No.	Description
00370	SCREW RD HD #6-32 X .375 SS
00388	NUT KEPS #6-32, ZPLTD
17889	MODULE ASSY- POWER, IB
18038	CONTROL, PCB, A975
18039	SWITCH- ROCKER DPST 30A 125V
18040	CHASSIS- POWER MODULE ASSY
18041	CHASSIS WELD- POWER MOD, IB
18044	OVERLAY, CONTROL, A975
18047	CORD ASSY, POWER, SJTOOW, IB
18131	STANDOFF .25 od X .334 lg,#6-32 SS
18132	SCREW, SHCS #6-32 X .25, OXIDE
94944	TAPE, VINYL, ELEC, 2” X 108’
001543	NUT HEX #6-32 SS
003105	TRIAC, IB ALL MODELS
003153	HEAT SINK- TRIAC, IB
003161	PLUG CAP- 30A, 120V
003165	WIRE #12 AWM BLACK
003166	BUSHING- STRAIN RELIEF, SJTO
003173	SCREW RD HD #6-32 X .375, SS
003226	ADAPTER- TERMINAL, TRIAC
003234	POWER CORD ASSY, COMPLETE, IB
003407	HOUSING- LOWER, IB
003410	HANDLE ASSY, COMPLETE
003429	COVER WELD- IB
003440	DRIPPING TUB ASSY, COMPLETE
003445	ADJ SLIDE BRACKET, EA, 2 REQ’D
003450	BOTTOM COOK PLATE, IB
003460	TOP PLATE ASSY, W/CON BLADES
003482	OVERLAY, BLACK, 00A975
003502	CHASSIS WELD- POWER MODULE, IB

Part No.	Description
003510	KNOB, ADJ SLIDE/TOP PLATE
003515	INSULATOR- BACK, TOP PLATE, IB
003565	BLADE, UPPER CONTACT 975/980
003567	CONTACT- LOWER, IB
003571	CONNECTOR BLOCK- UPPER, IB
003572	CONNECTOR BLOCK- LOWER, IB
003574	SCREW PN HD $6-32 X .625 TAP, PHIL
003630	CORD ASSY- CONNECTOR BLOCK
003700	CIRCUJIT BOARD, W/CABLE ASSY
003725	BEZEL- POWER SWITCH, IB
003730	BEZEL, START SWITCH
003735	RED BUTTON FOR START SWITCH
K003570	KIT- POWER CONN, BLOCK ASSY

SERVICE NOTES

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