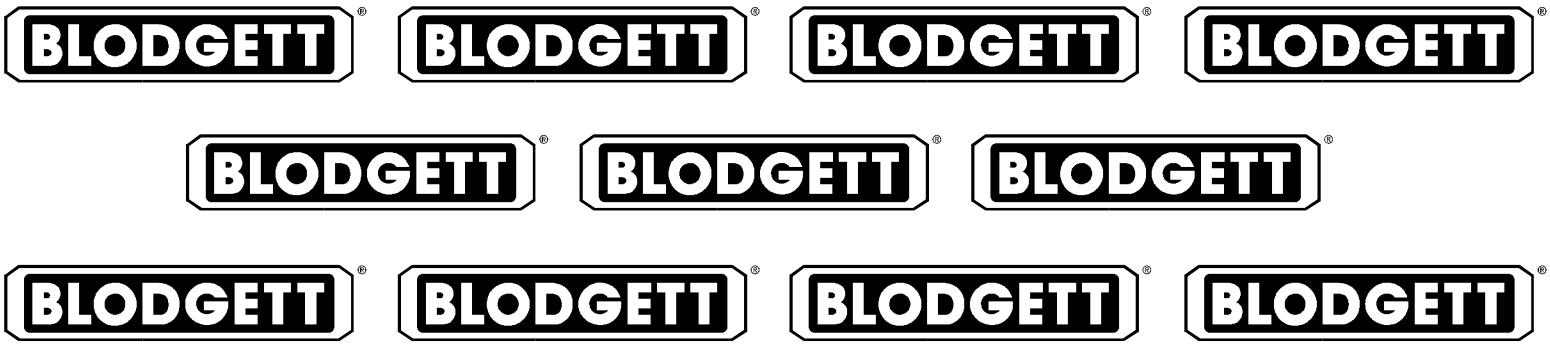

CTB & CTBR
ELECTRIC CONVECTION OVEN
SERVICE AND REPAIR MANUAL

BLODGETT OVEN COMPANY

www.blodgett.com

44 Lakeside Avenue, Burlington, Vermont 05401 USA Telephone (802) 658-6600 Fax: (802)864-0183

PN 36277 Rev D (7/02)

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CHAPTER 1

INTRODUCTION

OVEN SPECIFICATIONS

Cooking in a convection oven differs from cooking in a conventional deck or range oven since heated air is constantly recirculated over the product by a fan in an enclosed chamber. The moving air continually strips away the layer of cool air surrounding the product, quickly allowing the heat to penetrate. The result is a high quality product, cooked at a lower temperature in a shorter amount of time.

Blodgett convection ovens represent the latest advancement in energy efficiency, reliability, and ease of operation. Heat normally lost, is recirculated within the cooking chamber before being vented from the oven: resulting in substantial reductions in energy consumption and enhanced oven performance.

OVEN COMPONENTS

Heating Elements – located on the side of the oven, the elements provide heat to the baking chamber on electric ovens.

Control Panel – contains wiring and components to control the oven operation.

Oven Racks – five racks are provided standard. Additional racks are available.

Rack Supports – hold oven racks.

Blower Wheel Cover – located on the side interior wall of the oven. Protects the blower wheel.

Blower Wheel – spins to circulate hot air in the baking chamber.

Convection Motor – provides power to turn the blower wheel.

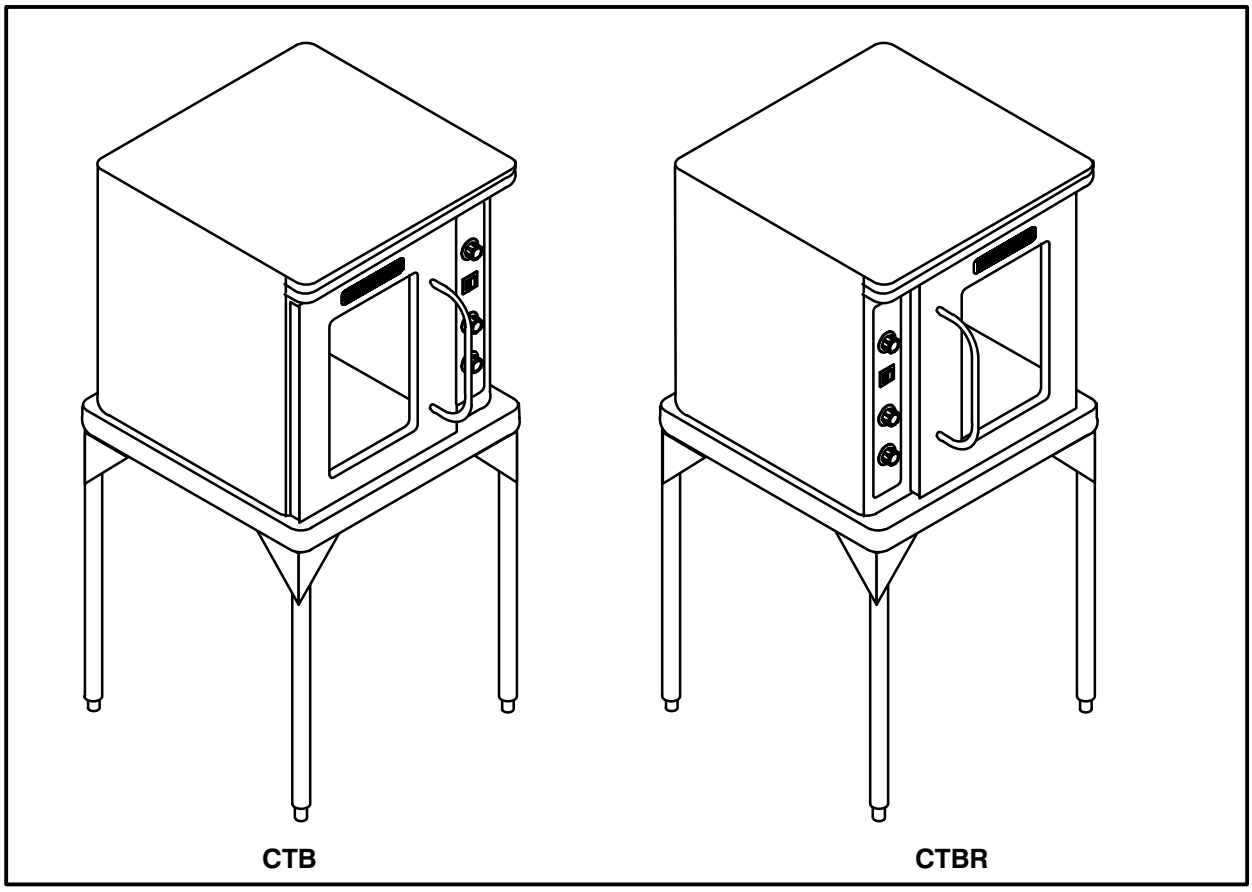

FIGURE 1

ELECTRICAL SPECIFICATIONS

Wiring diagrams are located in the blower compartment area.

Ovens are supplied for operation in several voltage choices, single or three phase grounded circuits.

The electric motor, indicator lights and related switches are interconnected through the one power source supplied to the oven.

1. The supply conduit enters through the rear of the oven and electrical block secured to the perforated panel at the back of the control compartment.

THE BLODGETT OVEN COMPANY CANNOT ASSUME RESPONSIBILITY FOR LOSS OR DAMAGE SUFFERED AS A RESULT OF IMPROPER INSTALLATION.

KW/Section	Volts	Phase	Amperes				Electrical Connection AWG*
			L1	L2	L3	N	
60 HZ UNITS							
5.6	208	1	27	—	27	—	8
5.6	208	3	24	12	15	—	10
5.6	220-240	1	24	—	24	—	8
5.6	220-240	3	21	11	14	—	10
8.0	208	1	35	—	35	—	6
8.0	208	3	22	20	21	—	10
8.0	220-240	1	32	—	32	—	6
8.0	220-240	3	20	18	19	—	10
50 HZ UNITS							
5.6	208	1	27	—	27	—	Size per local codes
5.6	220—240	1	24	—	—	24	
8	220—240	1	35	—	—	35	
5.6	220/380	3	10	8	8	2	
8	220/380	3	14	12	12	2	
5.6	240/415	3	10	7	7	3	
8	240/415	3	13	11	11	2	
5.6	230/400	3	9	8	8	1	
8	230/400	3	13	11	11	2	

*NOTE: *Electric connection wiring is sized for 90°C copper wire at 125% of rated input.*

NOTE: Double units can have phase loads partially equalized by matching lines during hook-up. Otherwise, CTB-Double or CTBR-Double load ratings are twice the above data.

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CHAPTER 2

ASSEMBLY

STAND ASSEMBLY

STAND OPTIONS

Small Stands Without Shelves

- The 5-3/4" (15cm) stand is used for a single oven, when short legs are required for countertop use.
- The 7" (18cm) stand is used for a double stacked oven, when the oven is to be located on the floor.

Stands With Shelves

- Three stands, 16" (40cm), 19" (48cm), and 24" (61cm) are available for different installation requirements.
- The 33" (84cm) stand is used for a single oven when counter space is limited.

Open Stands With Racks

- The 24" (61cm) or 33" (84cm) open stands are available with a rack support system located below the oven.

STAND ASSEMBLY

Small Stands Without Shelves

1. Place stand frame upside down on a work surface.
2. Attach one leg to each of the corner stud bolts on the bottom of the stand top.
3. Place a lock washer and nut on each stud, and tighten securely.
4. The stand is now ready for the oven assembly.

Stands With Shelves

1. Place stand frame upside down on a work surface.
2. Attach one leg to each of the corner stud bolts on the bottom of the stand top.
3. Place a lock washer and nut on each bolt, and tighten. DO NOT tighten leg bolts completely.
4. Place the shelf between the legs so that the smooth top surface is facing the top of the stand.
5. Align the shelf holes with the bolt holes found near the bottom of each leg.
6. Insert a carriage bolt from the outside of the leg, through the leg, and through the shelf corner bracket.
7. Place a lock washer and nut on each bolt, and tighten securely.
8. Tighten the leg frame bolts.

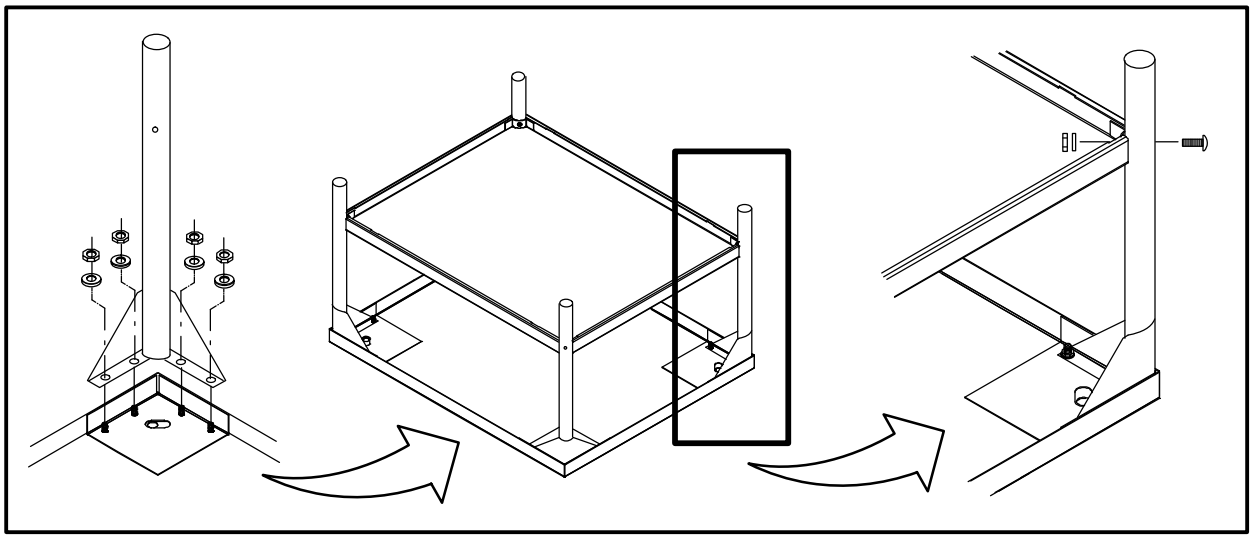

FIGURE 2

Open Stands With Racks

1. Lay stand frame top down on the floor as shown. See FIGURE 3.
2. Position the four leg assemblies and support angles as shown. Attach with the 5/16-18 nuts provided. DO NOT tighten leg bolts completely.

   NOTE: Be sure the support angles and clips are located correctly for your oven configuration. See FIGURE 3.
3. Position the bottom shelf between the legs so that the smooth top surface is facing the top of the stand.
4. Align the shelf holes with the bolt holes found near the bottom of each leg.
5. Insert a carriage bolt from the outside of the leg, through the leg, and through the shelf corner bracket.
6. Place a lock washer and nut on each bolt, and tighten securely.
7. Repeat Steps 3—6 for the top shelf.

   NOTE: Be sure the slots in the top shelf are aligned with the support angles.
8. Insert the top of the rack stops into the two back clips on the angle supports as shown. Insert the bottom of the rack stops into the slots in the top shelf as shown.
9. Insert the rack supports into the remaining four clips on the angle supports as shown. Insert the bottom of the rack supports into the slots in the top shelf as shown.
10. Tighten all loose bolts.

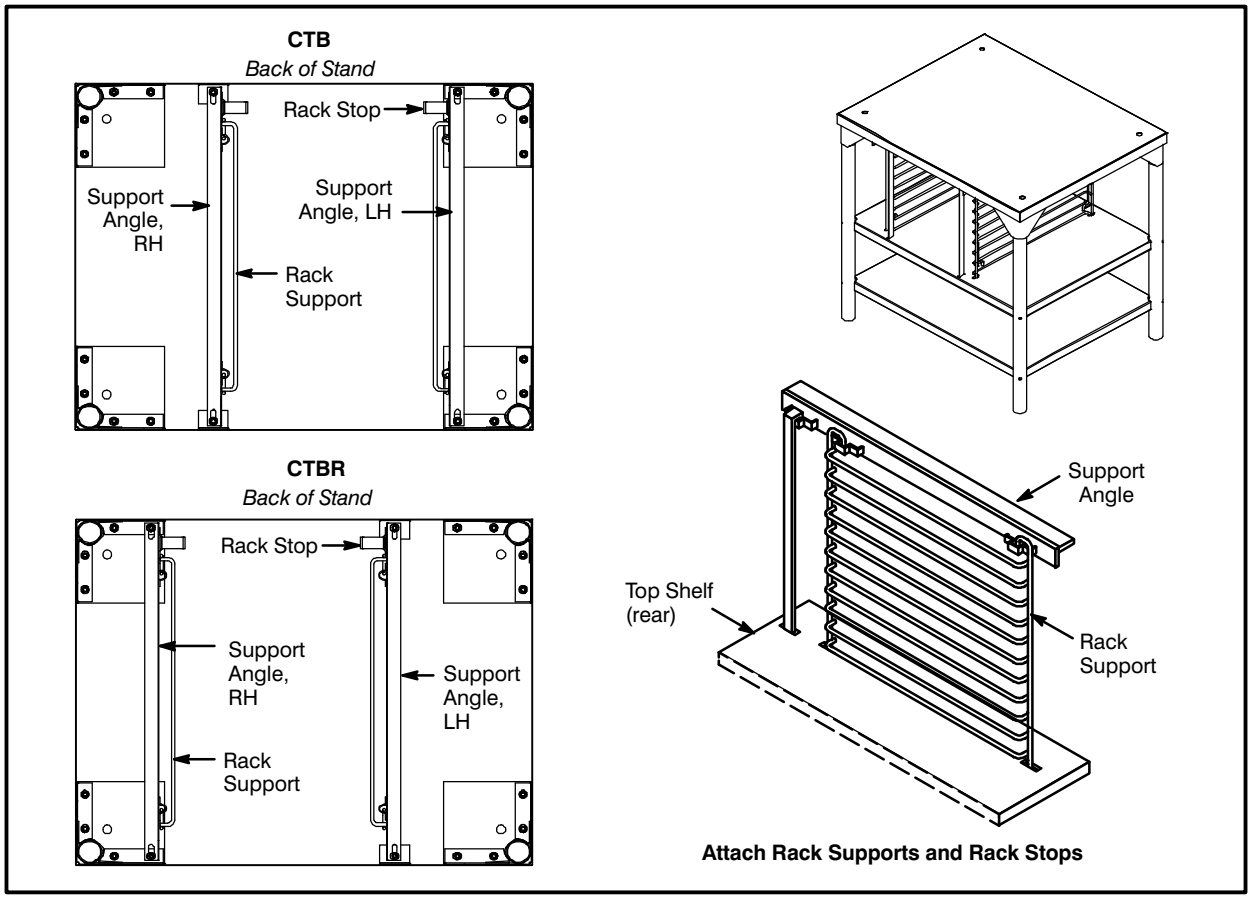

FIGURE 3

OVEN ASSEMBLY TO STAND

Single Section

1. Place the assembled stand in the location where the oven is going to be used.
2. Remove the side control compartment cover and open the front control panel of a single oven (or lower section).
3. With a tool, punch out the knock-outs in the oven bottom near each corner.
4. Set the oven on the stand. Center it to the frame.
5. Align the front, and rear bolt holes of the oven with the bolt holes in the stand.
6. Insert a bolt and washer, from the top down through each of the 2 holes.
7. Place a nut and washer on each of the 2 bolts, and tighten securely.
8. Replace the oven's side control compartment, and close the front control panel.

   NOTE: For single section ovens only. For double stacked ovens step 8 will be completed once the ovens are stacked.

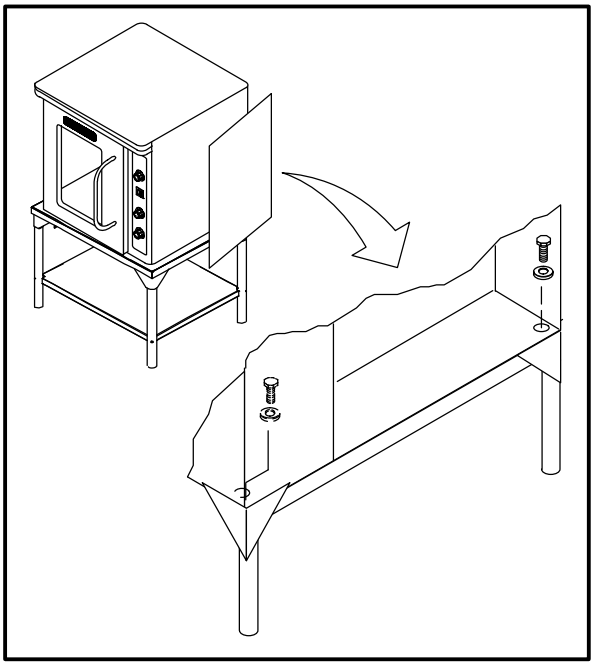

FIGURE 4

Double Section

1. Assemble the lower section to the stand as described. DO NOT replace the side control compartment or close the front control panel.
2. With a tool, punch out the knock-outs in the oven top of the lower oven.
3. Remove the side control compartment cover and open the front control panel of the upper oven.
4. With a tool, punch out the knock-outs in the bottom of the upper oven near each corner.
5. Set the upper oven on the lower oven.
6. Align the front, and rear bolt holes of the upper oven with the bolt holes in the bottom oven.
7. Insert a bolt and washer, from the top down through each of the 2 holes.
8. Place a nut and washer on each of the 2 bolts, and tighten securely.
9. Replace the control compartment cover, and close the front control panel on both of the ovens.

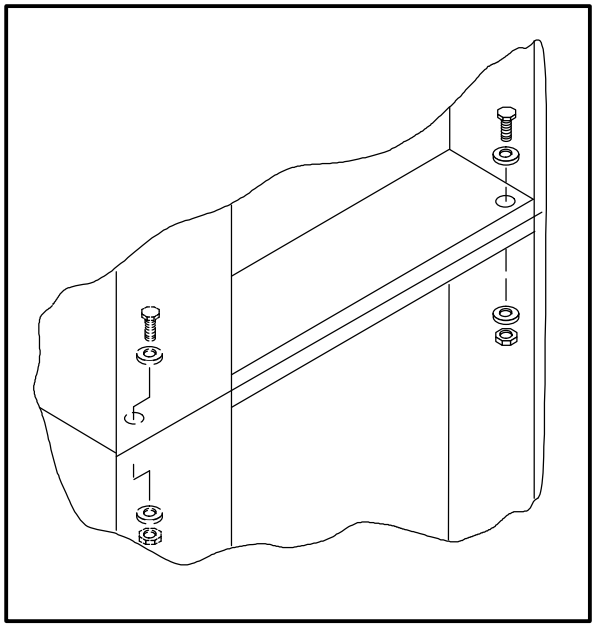

FIGURE 5

LEGS AND CASTERS

4" (10CM) LEG ATTACHMENT

1. Lay the oven on its side.
2. Screw one leg into each of the corner nuts.

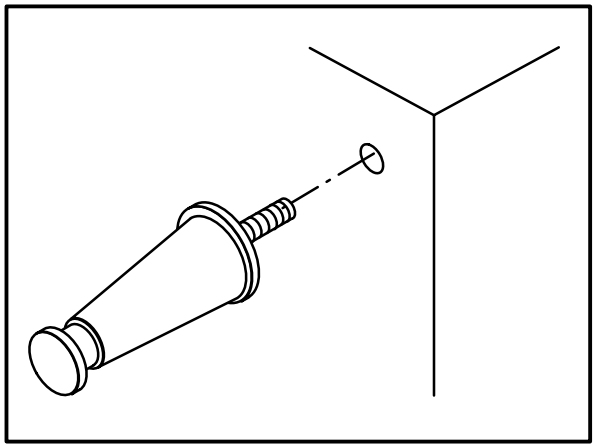

FIGURE 6

CASTER INSTALLATION

NOTE: Casters are not supplied for the 4" (10cm) legs, 5-3/4" (15cm) or 7" (18cm) stands.

NOTE: Install the locking casters on the front of the oven. Install the non-locking casters on the back of the oven.

1. Insert the caster into the leg. Secure the caster to the leg by tightening the locknut.

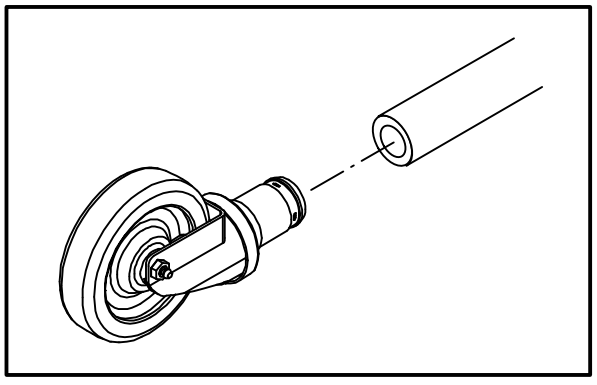

FIGURE 7

OVEN LEVELING

After assembly, the oven should be leveled and moved to the operating location.

1. The oven can be leveled by adjusting the feet or casters located on the bottom of each leg.

ADJUSTMENTS ASSOCIATED WITH INITIAL INSTALLATION

Each oven, and its component parts, have been thoroughly tested and inspected prior to shipment. However, it is often necessary to further test or adjust the oven as part of a normal and proper installation. These adjustments are the responsibility of the installer, or dealer. Since these adjustments are not considered defects in material or workmanship, they are not covered by the Original Equipment Warranty. They include, but are not limited to:

- calibration of the thermostat
- adjustment of the doors
- leveling
- tightening of fasteners.

No installation should be considered complete without proper inspection, and if necessary, adjustment by qualified installation or service personnel.

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CHAPTER 3

OPERATION

SEQUENCE OF OPERATION

NOTE: The following instructions represent the most common controllers. For questions regarding other options call the Blodgett Service Department at (800)331-5842.

COOK ONLY — 19031 REV A

Component Reference

NOTE: Refer to FIGURE 8 page 3—8 for component locations.

1. MODE SELECTOR SWITCH
2. TIMER
3. DOOR SWITCH
4. COOK TEMPERATURE CONTROL
5. BLOWER MOTOR
6. COOK THERMOSTAT
7. COOK LIGHT
8. CONTACTOR
9. HEATING ELEMENTS

Operation

1. Power is delivered to the mode selector switch (1) on terminals L1 and N.
2. When the mode selector switch is turned to the ON position power will be delivered to terminal 1 of the timer (2), one terminal of the door switch (3) and terminal 8 of the cook temperature control (4).
3. If the door is closed, the door switch will be closed sending power to the blower motor (5).
4. If the cook thermostat (6) is calling for heat, a switch is made between terminal 6 & 7 of the cook temperature control, sending power to the cook light (7) and the coil of the contactor (8), powering up the heating elements (9).

   NOTE: The temperature probe used has an ascending temperature coefficient.

SOLID STATE DIGITAL — 33285 REV F

Component Reference

NOTE: Refer to FIGURE 9 page 3—9 for component locations.

1. MODE SELECTOR SWITCH
2. DOOR SWITCH
3. TIME AND TEMPERATURE CONTROLLER
4. AXIAL FAN
5. HIGH LIMIT SWITCH
6. CONTACTOR
7. HEATING ELEMENTS
8. CONVECTION FAN

Operation

1. Power is delivered to terminal N of the mode selector switch (1). The other leg of power is not interrupted and will not be discussed.
2. If the mode selector switch is closed between N and terminal 3, one leg of power will be delivered to one side of the door switch (2) terminal J8 of the time and temperature controller (3) and the axial fan (4).
3. If the door is closed, the door switch must be closed sending power to the common terminal of the time and temperature controller.
4. If a temperature is programmed in the time and temperature controller, a switch is closed between J8 & J9 sending power to one terminal of a high limit switch 5. If the high limit switch (5) is closed, power goes to the contactor (6) closing it. Power then goes to a set of contacts powering up the heating elements (7).
5. Contacts within the time and temperature control close between terminals common and NO sending power to the convection fan (8).

   NOTE: The temperature probe used for this application has a descending temperature coefficient.

   NOTE: When the mode switch is made between N & 2 and L1 and 1 the oven will be in cool down.

INTELLIPLUS, INTELLIHOLD OR INTELLIRACK — 21448 REV E

Component Reference

NOTE: Refer to FIGURE 10 page 3—10 for component locations.

1. MODEL SELECTOR SWITCH
2. DOOR SWITCH
3. CONTROLLER
4. AXIAL FAN
5. CONTACTOR
6. OVEN READY LIGHT
7. CONVECTION MOTOR

Operation

1. Power is delivered to terminals 1 & N of the mode selector switch (1). If the mode selector switch is made between L1 & terminal 1 N & terminal 2, power goes to one terminal of the door switch (2), terminal E1 of the controller (3) and the axial fan (4).
2. When the door is closed, the door switch must be closed sending power to the contacts of relays E10 of K1, E11 of K2 and E6 of K3 in the controller. If the controller is powered up and set for hi or low speed then the contacts of E10 or E11 close sending power to the convection fan (7).
3. If a temperature has been programmed into the controller, the contacts within K1 close sending power to the contactor (5) and the oven ready light (6).

   NOTE: The temperature probe has an ascending temperature coefficient.

   NOTE: All components have one leg of power as long as the appliance is turned on. The only exception is the axial fan which has both legs of potential power.

BLODGETT IQ — 33237 REV C

Component Reference

NOTE: Refer to FIGURE 11 page 3—11 for component locations.

1. ON OFF SWITCH
2. AXIAL FAN
3. RELAY BOARD
4. TRANSFORMER
5. CONVECTION MOTOR
6. COMPUTER CONTROL
7. FOUR POLE DOUBLE THROW RELAY

Operation

1. Power is delivered to the off terminals of the on off switch (1). When the on off switch is turned to the on position, one leg of power will be delivered to all of the components. The other leg of power will be interrupted by various components.
2. Powered is delivered to the axial fan (2), one terminal of the heat relay, hi fan relay, and low fan relay located on the relay board (3), primary side of a transformer (4) and one terminal of a centrifugal switch in the convection motor (5).
3. If the computer control (6) is programmed for various functions such as high speed and 400 degrees F, the heat relay on the relay board will close sending power to terminal 5 of a four pole double throw relay (7). The convection motor ramps up to speed, closing a centrifugal switch, completing a circuit to the coil of the four pole double throw relay, causing a switch to be made between terminals 9 and 5 of the same relay. When this switch is toggled, power goes to the coil of a mercury contactor closing its switches and powering up the heating elements.

   NOTE: The four pole double throw relay also allows for a small current to pass through it proving to the control that the motor is spinning. If the motor does not spin, the centrifugal switch does not close and the current is not able to return to the control. The control sees this as a fault condition and displays a motor error.

   NOTE: The temperature probe used has an ascending temperature coefficient.

   NOTE: The cool down feature can only be activated by closing the door then activating the cool down switch. The door can be opened after the motor reaches speed. The door switch will also activate a fault condition if the door is opened during operation.

INFINITE WITH PULSE PLUS — 21062 REV A

Component Reference

NOTE: Refer to FIGURE 12 page 3—12 for component locations.

1. MODE SELECTOR SWITCH
2. FAN DELAY TIMER
3. COOK THERMOSTAT
4. AXIAL FAN
5. BLOWER MOTOR
6. COOK LIGHT
7. THREE POLE DOUBLE THROW RELAY
8. MERCURY CONTACTOR
9. OVEN LIGHT
10. TIMER

Operation

1. Power is delivered to the N terminal of the mode selector switch (1). When the Mode selector switch is set to the cook high mode, power is delivered to terminal 1 of the fan delay timer (2), terminal 7 of the solid state cook thermostat (3) and the axial fan (4).
2. If the fan delay timer is made between terminals 1 and 4, power will be delivered to the door switch and to terminal 1 of the cook timer. If the door is closed then the door switch must be closed sending power through the mode selector switch to the blower motor (5). If the fan delay timer has timed out a circuit is made between terminals 1 and 2 illuminating a cook light (6) and sending power to terminal 7 of a three pole double throw relay (7).
3. If the temperature control is calling for heat, a circuit is made between terminals 6 and 7 powering up a mercury contactor (8) and an oven light (9).
4. After approximately 30 seconds, the contacts in the solid state pulsing timer (10) open, stopping power from being delivered to the blower motor. The motor stops for approximately 30 seconds after which the contacts close again sending power to the blower motor for another 30 second interval. This process continues for as long as there is time set on the fan delay timer.

NOTE: The temperature probe has a descending temperature coefficient.

NOTE: The fan delay light stays illuminated for as long as there is time left on the fan delay timer.

NOTE: The solid state pulsing timer pulses the fan on and off every 30 seconds for the amount of time set on the fan delay timer.

TWO SPEED WITH INTEGRATED CONTROL — 21535 REV D

Component Reference

NOTE: Refer to FIGURE 13 page 3—13 for component locations.

1. MODE SELECTOR SWITCH
2. DOOR SWITCH
3. TRANSFORMER
4. SINGLE POLE DOUBLE THROW RELAY
5. AXIAL FAN
6. CONVECTION BLOWER
7. INTELLITOUCH CONTROL
8. MERCURY CONTACTOR
9. HEATING ELEMENTS

Operation

1. Power is delivered to Terminal N of the mode selector switch (1). If the switch is made between N and 3, one leg of power is delivered to one side of the door switch (2), the primary side of a transformer (3), the common terminal of a single pole double throw relay (4), and the axial fan (5).
2. If the door is closed, the door switch will also be closed sending power to the convection blower (6).
3. The secondary side of the transformer sends 24 volts to terminal T2 of the Intellitouch control (7).
4. If one or all of the program buttons are programmed with a time and temperature and activated, a circuit is completed between T2 and T5 of the control sending 24 volts to the coil of a mercury contactor (8), powering up the heating elements (9).

NOTE: The temperature probe used has an ascending temperature coefficient.

NOTE: The timer is built into the control and compensates with change in temperature.

NOTE: The motor is two speed, when the mode selector switch is closed between terminals N and 3 the motor is set for low speed.

TRIPLE SETPOINT THERMOSTAT — 22817 REV C

Component Reference

NOTE: Refer to FIGURE 14 page 3—14 for component locations.

1. MODE SELECTOR SWITCH
2. COOL DOWN SWITCH
3. DOOR SWITCH
4. BLOWER MOTOR
5. TEMPERATURE CONTROL BOARD
6. SELECTOR SWITCH
7. MERCURY CONTACTOR

Operation

1. Power is delivered to various components through the mode selector switch (1). When the switch is turned to the cook position, power is delivered to one terminal of a single pole double throw cool down switch (2) and the door switch (3).
2. If the door is closed, the door switch will also be closed sending power to two other terminals of the single pole double throw cool down switch.
3. When the switch is in the position shown in FIGURE 14, power is delivered to both the blower motor (4) and to terminal 3 of the triple set point temperature control board (5).
4. If the triple set point selector switch (6) is above actual temperature, a set of contacts closes in the control board sending power to the coil of the mercury contactor (7).

NOTE: Should the temperature control board, temperature probe or selector switch fail, turning off a toggle switch on the board will allow a backup thermostat to operate the oven.

SCHEMATICS

COOK ONLY

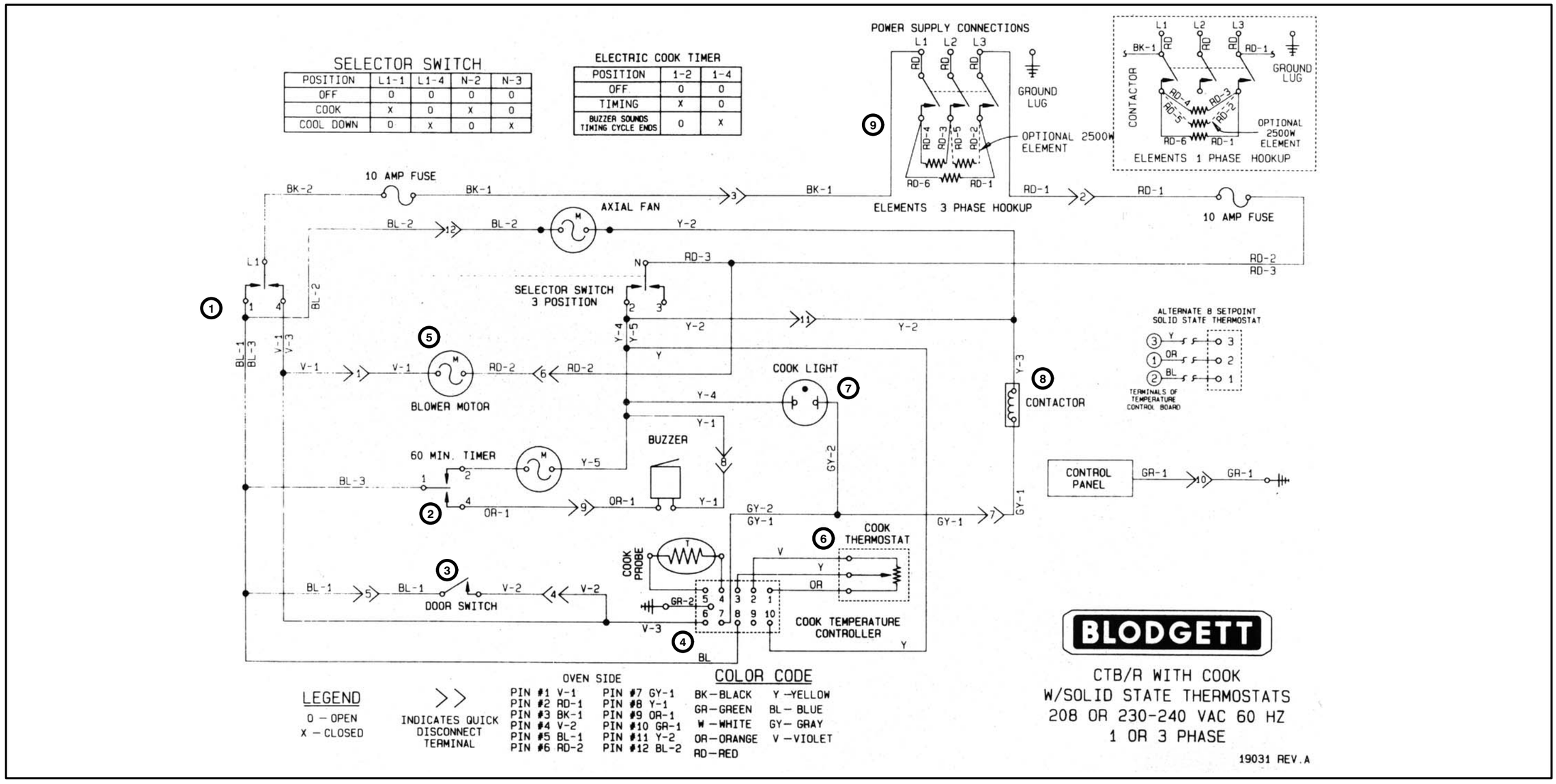


FIGURE 8

SOLID STATE DIGITAL

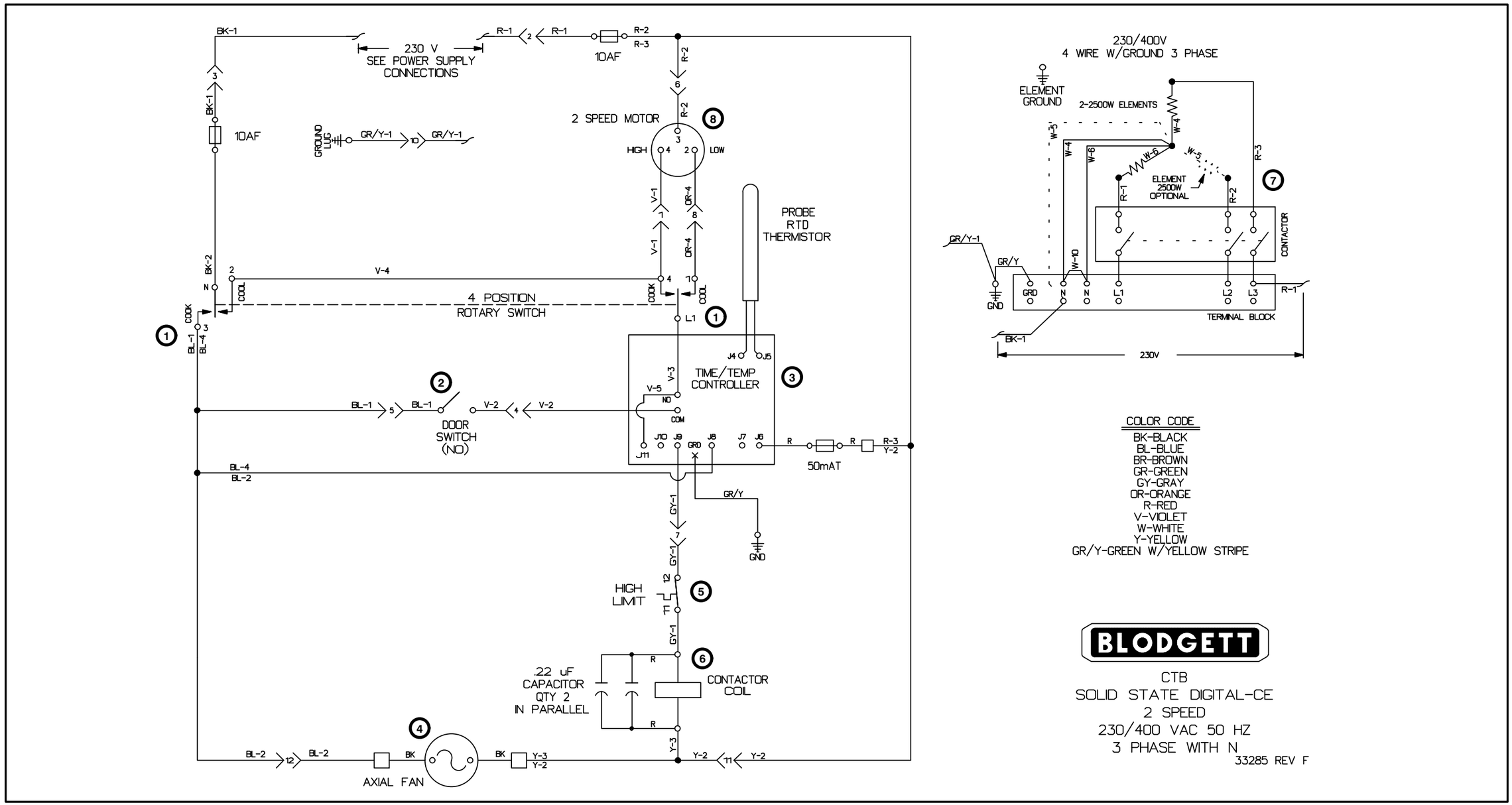


FIGURE 9

INTELLIPLUS, INTELLIHOLD OR INTELLIRACK

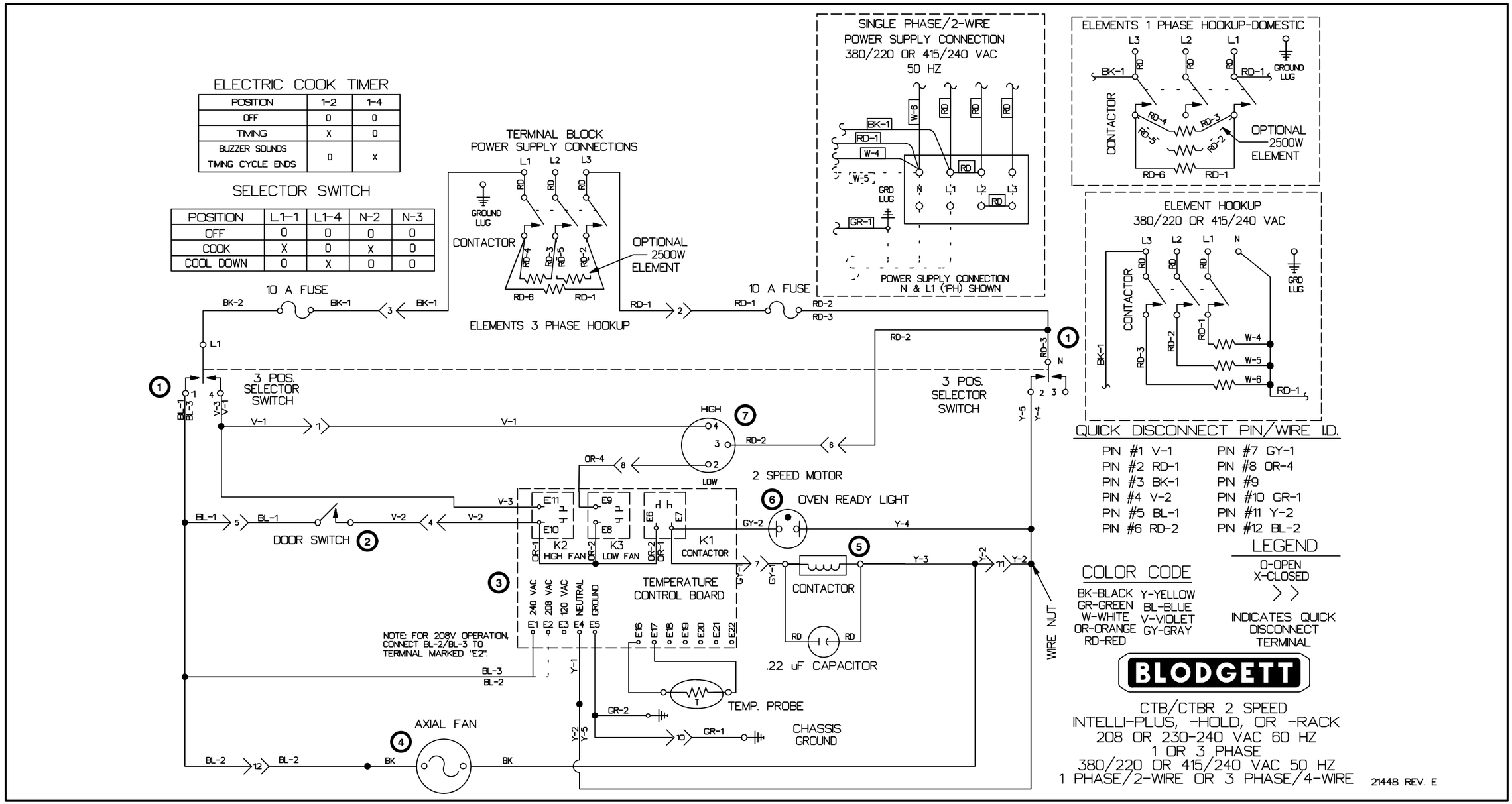


FIGURE 10

BLODGETT IQ

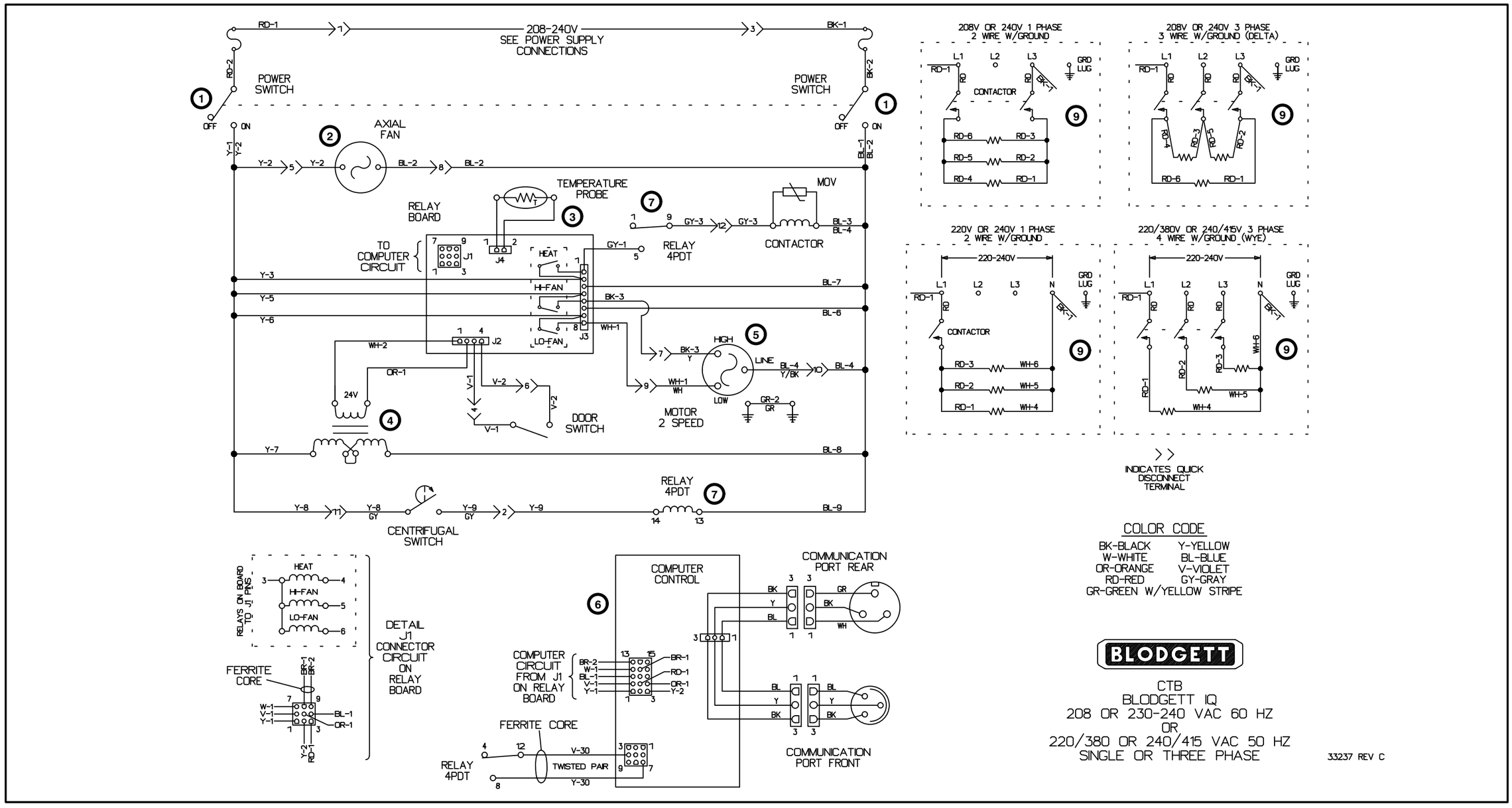


FIGURE 11

INFINITE WITH PULSE PLUS

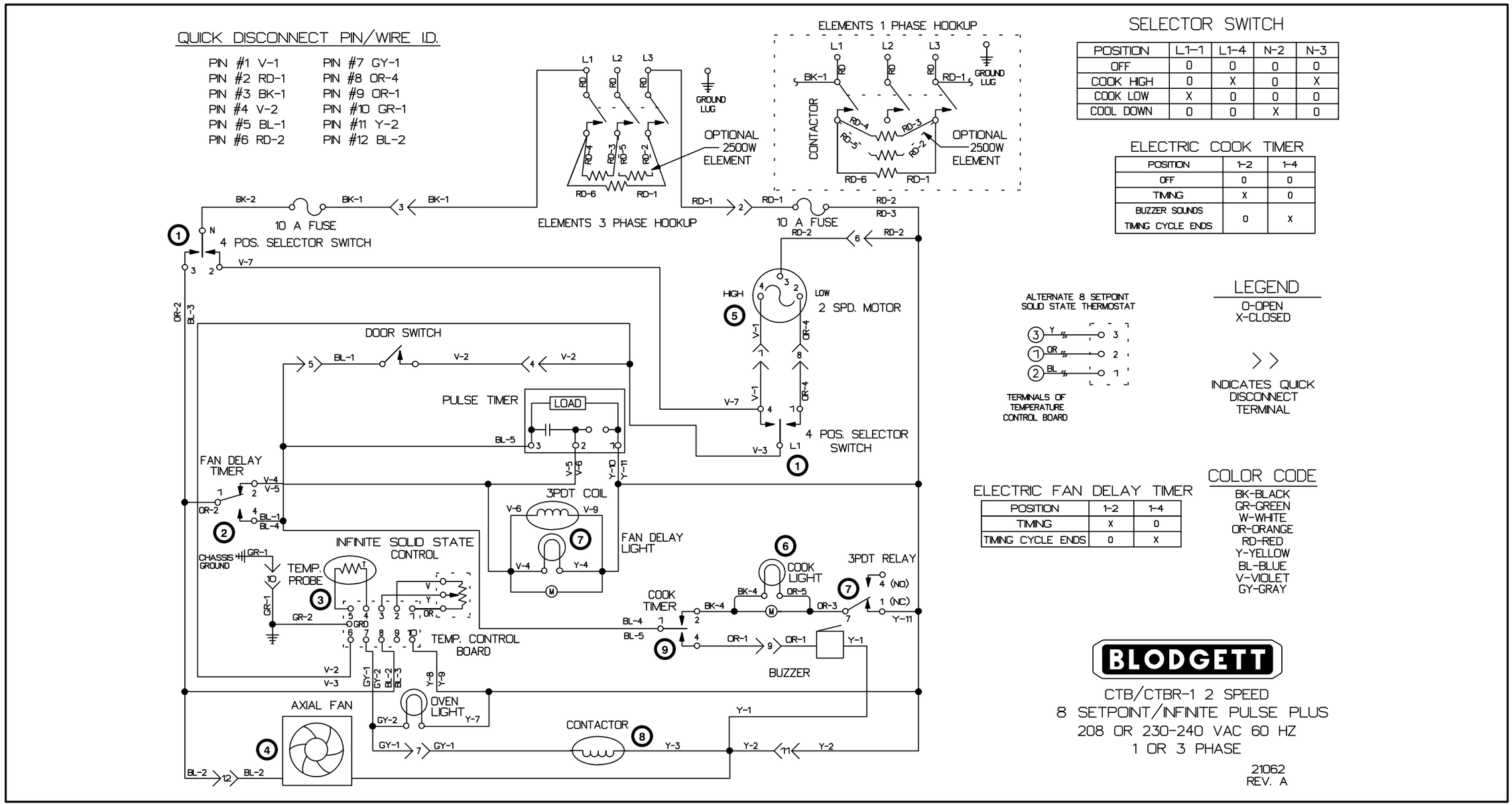


FIGURE 12

TWO SPEED WITH INTEGRATED CONTROL

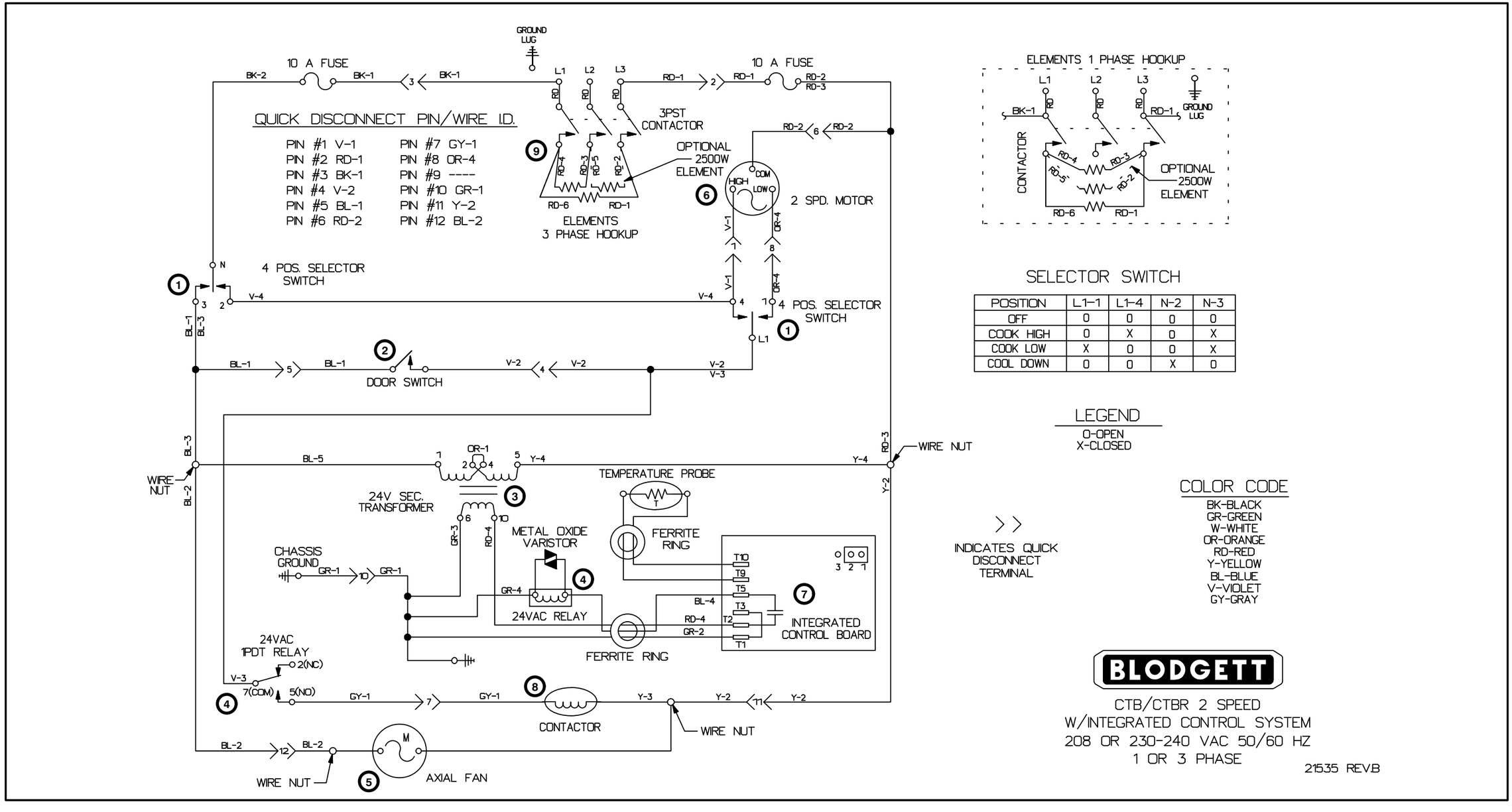


FIGURE 13

TRIPLE SETPOINT THERMOSTAT

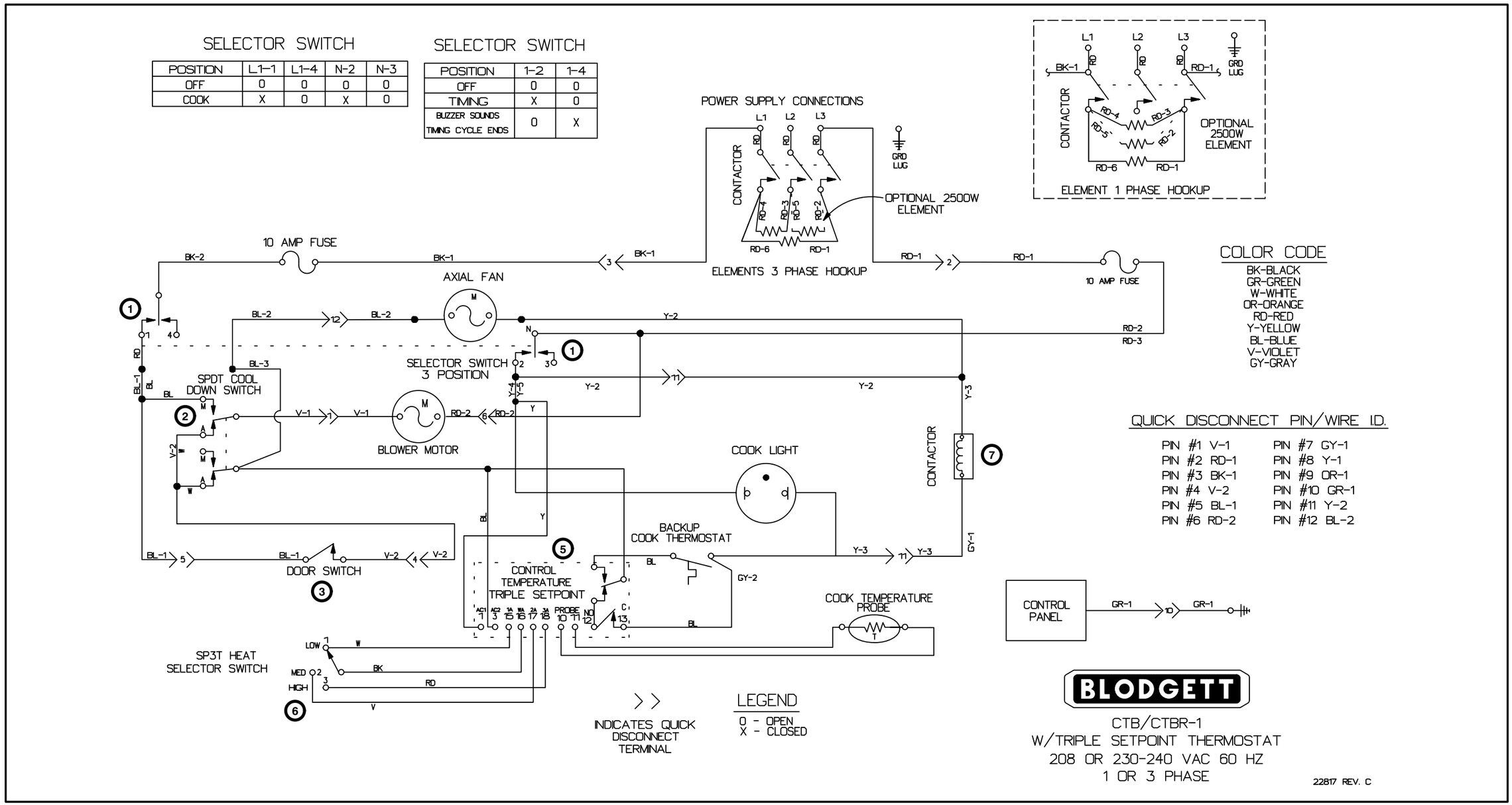


FIGURE 14

CHAPTER 4

CALIBRATION AND ADJUSTMENT

THERMOSTAT

BULB AND CAPILLARY THERMOSTAT

For units manufactured prior to August 1984

1. Turn the mode selector/power switch to COOK ONLY.
2. Toggle the blower switch to ON.
3. Toggle the cool down switch to MANUAL.
4. Place a pyrometer thermocouple at the center of the thermostat bulb or reliable mercury thermometer on the middle shelf 6" from the front edge and in the center of the shelf.
5. Turn the thermostat dial to 350°F (177°C)..
6. When the red indicator light on the control panel goes out, check the thermometer or pyrometer to determine oven temperature.

   If this reading is within 10°F (6°C) of the thermostat setting, do not change the thermostat.

   If this reading differs more than 10°F (6°C) from the thermostat setting recalibrate the thermostat.

For units manufactured after August 1984.

1. Turn the selector switch to COOK.
2. Place a pyrometer thermocouple at the center of the thermostat bulb or reliable mercury thermometer on the middle shelf 6" (15 cm) from the front edge and in the center of the shelf.
3. Turn the thermostat dial to 350°F (177°C). Let the oven heat for at least 1/2 hour.
4. When the red indicator light on the control panel goes out, check the thermometer or pyrometer to determine oven temperature. If this reading is within 10°F (6°C) of the thermostat setting, do not change the thermostat. If this reading differs more than 10°F (6°C) from the thermostat setting recalibrate the thermostat as follows. See FIGURE 16 page 4—2.

   A.) Loosen the set screws in the thermostat knob. Pull the knob forward.

   B.) With a screwdriver, turn the calibration screw in the center of the thermostat stem either clockwise to lower the temperature or counter-clockwise to raise the temperature.

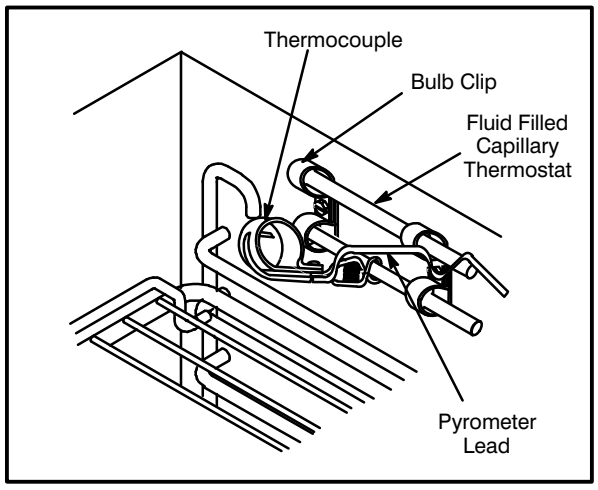


FIGURE 15

For units manufactured prior to December 1987.

1. Loosen the set screws in the thermostat knob. Pull the knob forward.
2. With a screwdriver, turn the calibration screw in the center of the thermostat stem either clockwise to lower the temperature or counterclockwise to raise the temperature.

   NOTE: Do not allow the main stem of the thermostat to turn when adjusting the calibration screw.
3. Open the doors.
4. Turn the selector switch to COOL DOWN. The blower will continue to operate. Let the temperature of the oven decrease 100-150°F (56-83°C).
5. Turn the selector switch to COOK.
6. Repeat the steps above until the oven temperature is within 10°F (6°C) of the thermostat setting.

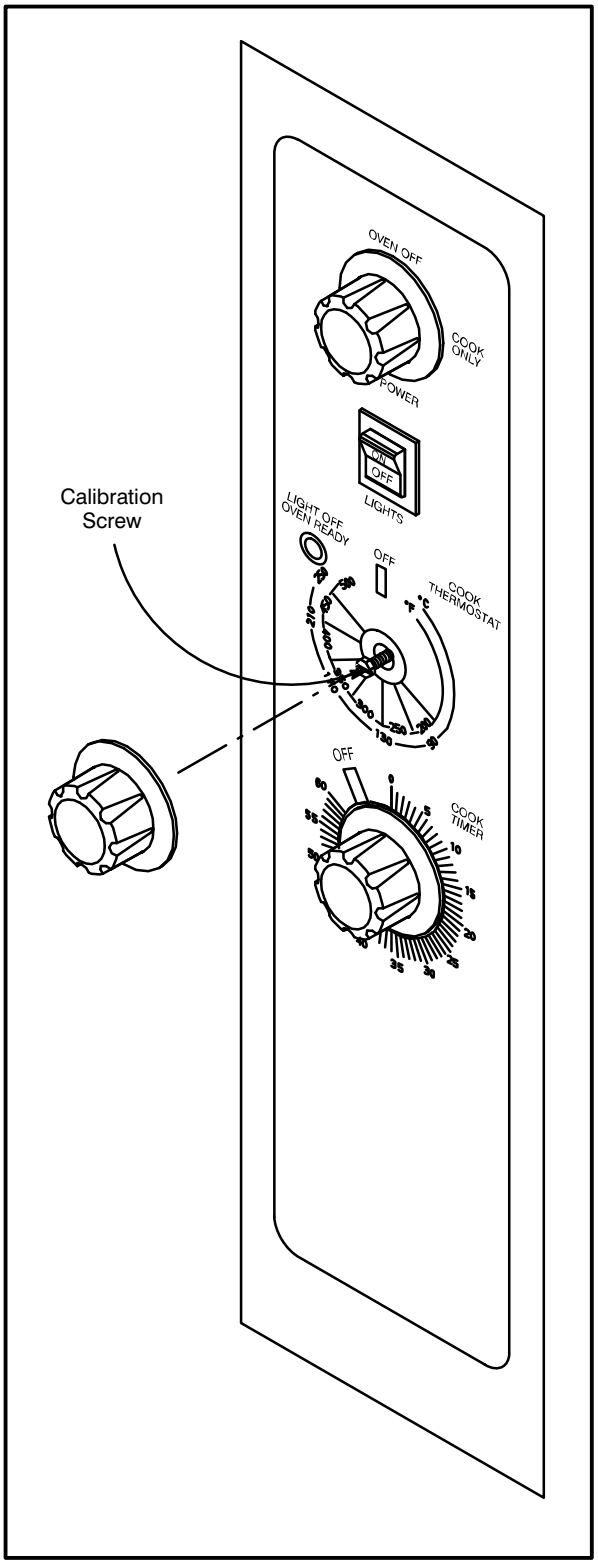


FIGURE 16

SOLID STATE MANUAL

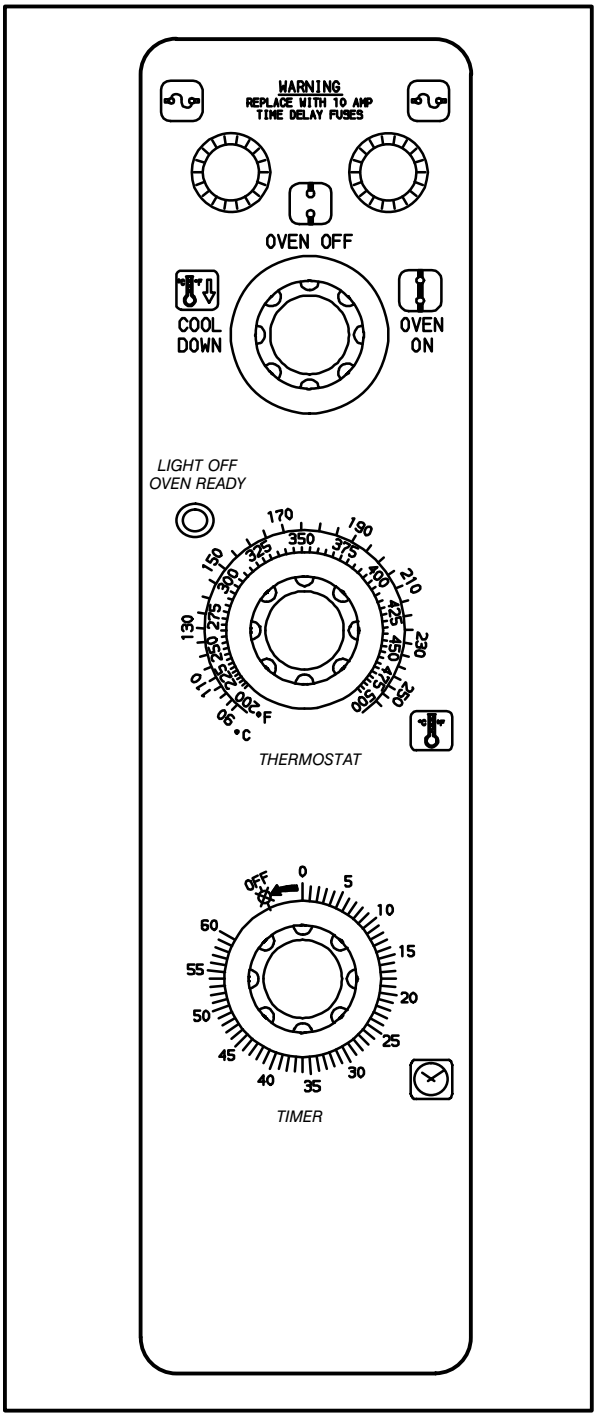


FIGURE 17

1. Place a pyrometer in the center of the oven.
2. Turn the mode selector switch to cook.
3. Turn the thermostat to 350°F (177°C).
4. When the red indicator light goes out, check the pyrometer to determine oven temperature.
5. If this reading is within 10° (6°C) of the thermostat setting no adjustment is needed.

   If the reading is greater than 10° (6°C) adjust as follows:

   A.) Locate the trim pot on the solid state temperature board.

   B.) Turn the adjustment screw to raise or lower the setting.

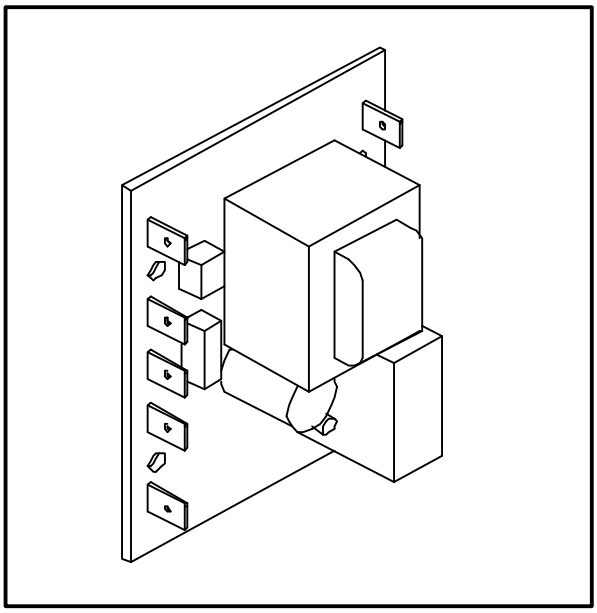


FIGURE 18

SELECTOR SWITCH CALIBRATION

1. Place a pyrometer in the center of the oven.
2. Turn the mode selector switch to cook.
3. Set 8 position selector switch to one of the eight positions.

   NOTE: The 8 individual positions are each set for a temperature of the customer's choosing. For example, if position 1 is set for 350°F (177°C) the red indicator light should go out when it gets to within 10 degrees of setpoint.

4. If the light goes out within 10 degrees, no adjustment is required. If the light does not go out within 10 degrees of setpoint calibrate the switch as follows:

   A.) Locate the potentiometer on the 8 position selector switch labeled R1.

   NOTE: There are 8 trim pots on this device. They are labeled R1, R2, R3, etc.

   B.) Turn the brass screw on top of the potentiometer clockwise to increase the temperature. Turn the brass screw on top of the potentiometer counter-clockwise to decrease the temperature.

5. Repeat steps 3—4 for all 8 positions.

   NOTE: It is possible for all 8 positions to be out of calibration but highly unlikely.

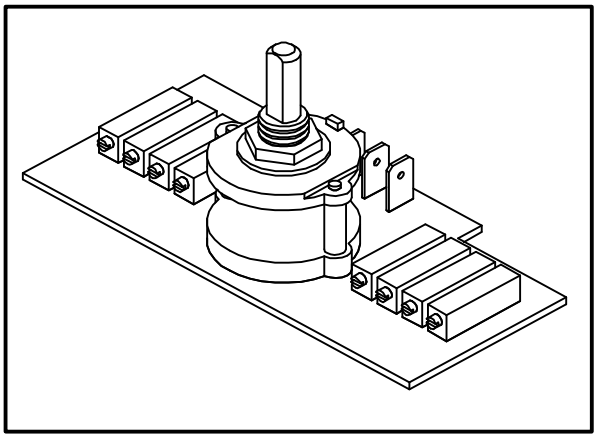


FIGURE 19

SOLID STATE DIGITAL CONTROL

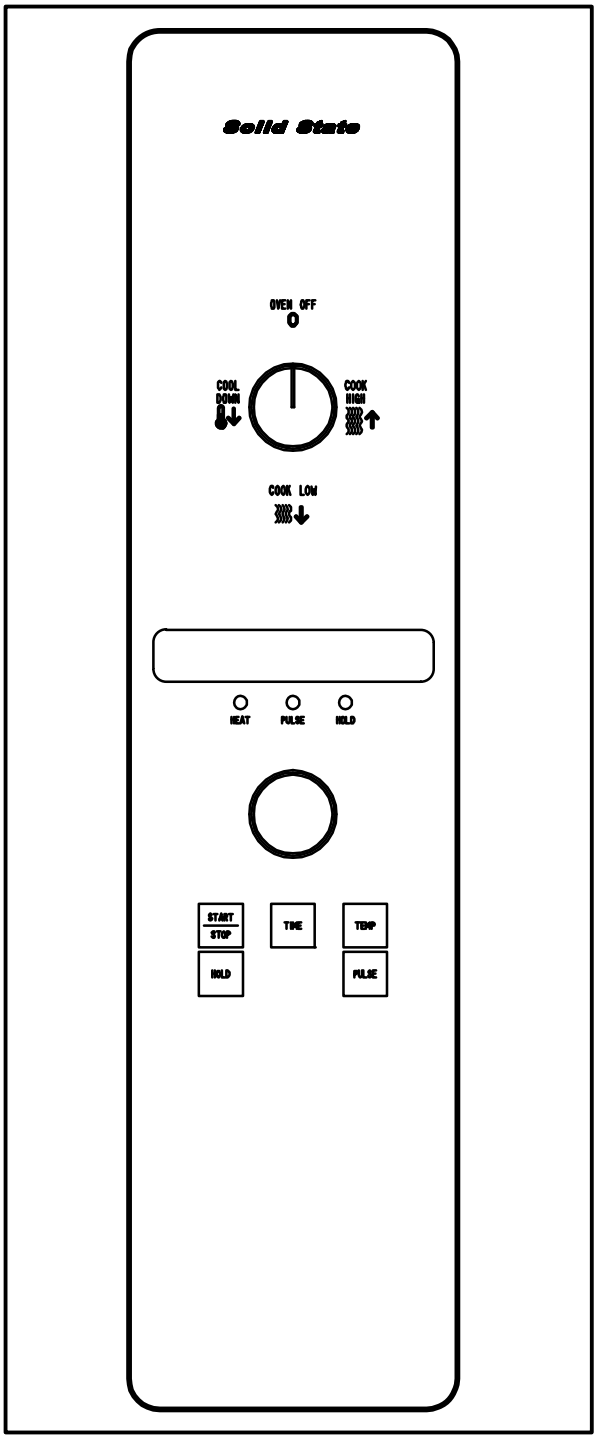


FIGURE 20

SECOND LEVEL PROGRAMMING (BEFORE 8/01/2001)

To Initiate Programming

1. Set the time to 1 minute (0:01 or 01:00).
2. Set the temperature to 151°F (66°C).

To Access Second Level Programming

1. Press and hold the temperature key and the start/stop key simultaneously.
2. The control beeps and displays the software version for a few seconds.
3. The control then displays *2NdL*. The control has entered the second level program.

To Change the Temperature Offset

1. Press the temperature key.
2. The control displays *OFFS* or offset for a few seconds. It then displays the current offset which should be 0°F.
3. Rotate the dial to enter a ± 50°F (28°C) offset. Use this to calibrate the oven if necessary.

To Set the Display Scales

1. Press the temperature key.
2. The control displays the current setting from the following menu. See FIGURE 21. This menu controls 3 separate parameters:
   A.) First Digit – the desired time display (ie hrs/min or min/sec)
   B.) Second Digit – Electric or Gas oven
   C.) Third and Fourth Digit – the desired temperature scale (ie °F or °C)
3. To adjust the setting turn the dial 1 click at a time.

NOTE: If the control is set for minutes and seconds the first digit will be blank. If the control is set for a gas oven the second digit will be blank.

To Return to Normal Operating Mode

1. Press the temperature key.
2. The control goes through self check then displays the set temperature 151°F (66°C).
3. The oven can now be controlled as normal.

SECCOND LEVEL PROGRAMMING (AFTER 8/01/2001)

To Initiate Programming

1. Set time to 1 minute.
2. Set temperature to 151°F (66°C).

To Access Second Level Programming

1. Press and hold TEMPERATURE key.
2. Press and hold START/STOP key.

   NOTE: Both keys should be pressed simultaneously for a few seconds.
3. The control beeps and displays the software version for a few seconds. (eg *0005*)
4. The control then displays *2NdL* to indicate that you have entered the second level program.

To Set the Display Scales

1. Press the TEMPERATURE key.
2. The control will display the current setting from the menu to the right. This menu controls 3 separate parameters:

   A.) The desired temperature scale (ie Celcuis or Farenheit)

   B.) Electric or Gas oven

   C.) The desired time display (ie hrs/min or min/sec)
3. To adjust the setting turn the knob 1 click at a time.

To Change the Temperature Offset

1. Press the TEMPERATURE key.
2. The control displays *OFFS* or offset for a few seconds. It then displays the current offset which should be 0°F or *0F*.
3. Rotating the knob allows entry of ±50°F offset. Use this to calibrate the oven if necessary.

To Return to Normal Operating Mode.

1. Press the TEMPERATURE key.
2. The control goes through self check then displays the set temperature *151°F (66°C)*.
3. The oven can now be controlled as normal.

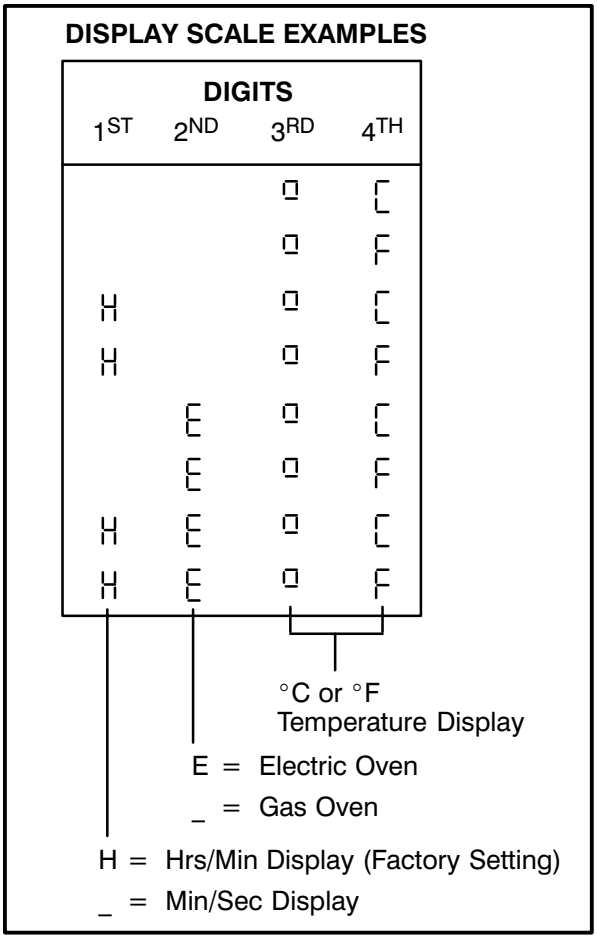


FIGURE 21

INTELLIHOLD AND INTELLIPLUS CONTROLS

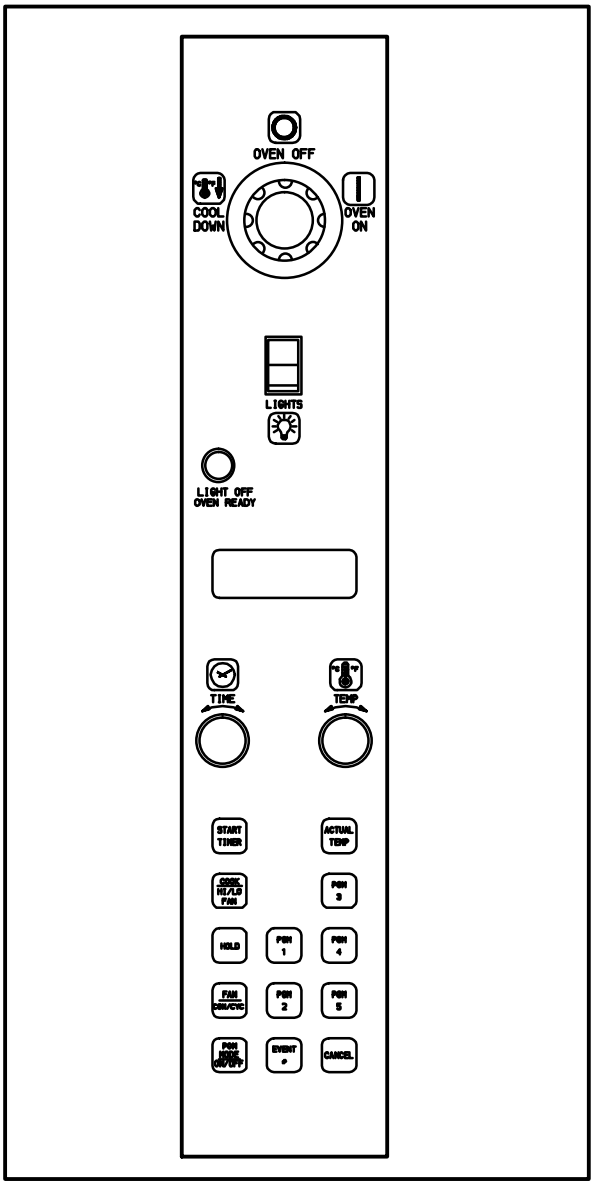


FIGURE 22

NOTE: For error code display information see page 5—3 of the Troubleshooting section.

Temperature Calibration

1. Turn the temperature control knob until the temperature in the display reads X10 (any number followed by 10).
2. Turn the time control knob until the time in the display is 00:00.
3. Press and hold the start/timer key. The display reads UPO.
4. Place a pyrometer in the center of the oven to measure the actual oven temperature.

   NOTE: During operation, the temperature control is based on the measured temperature and the temperature offset which is programmed into the control. If the temperature measured in the center of the oven is below the oven setpoint a positive offset is needed. If the temperature measured in the center of the oven is above the oven setpoint a negative offset is needed.
5. Turn the temperature control knob to set the offset, either positive or negative.
6. Press the act temp key to store the new offset and exit temperature calibration.

Temperature Display Scales

1. Turn the temperature control knob until the temperature in the display reads X20 (any number followed by 20).
2. Turn the time control knob until the time in the display is 00:00.
3. Press and hold the start/timer key. The display reads either CCC or FFF.
4. Press and hold the start/timer key to toggle from °C to °F.
5. Press the act temp key to store the new scale and exit temperature display.

Time Display Scales

1. Turn the temperature control knob until the temperature in the display reads X30 (any number followed by 30).
2. Turn the time control knob until the time in the display is 00:00.
3. Press and hold the start/timer key. The display reads either HRS or MIN.
4. Press and hold the start/timer key to toggle from hours to minutes.
5. Press the act temp key to store the time scale and exit time display.

INTELLITOUCH CONTROL

NOTE: For error code display information see page 5—3 of the Troubleshooting section.

To access 2nd level programming

1. Turn the oven off.
2. Locate the 3 pin header on the bottom right side of the control. Move the jumper from the middle and bottom pins to the middle and top pins exposing the bottom pin.
3. Turn the oven on. The program LED (1) lights.

Programming the 2nd level parameters

1. The #1 LED illuminates.

   NOTE: The LED's (3) are located next to the product and load keys. The LED identification numbers (2) are located to the left of the product and load keys. See FIGURE 23.

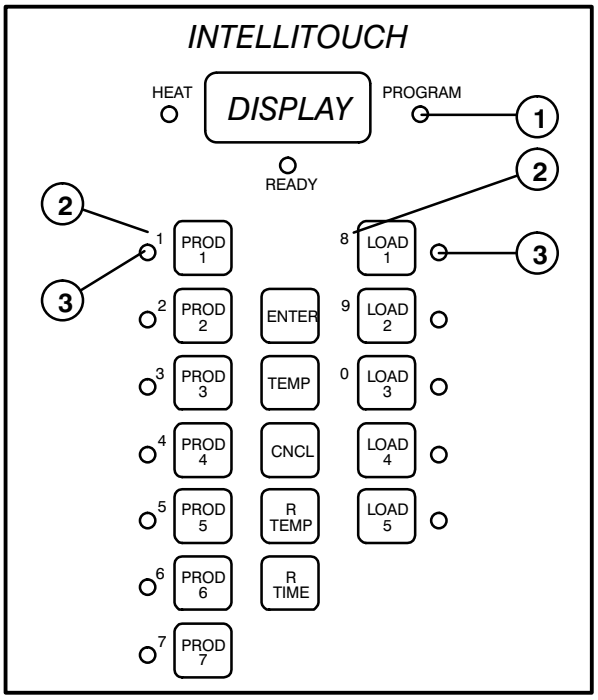


FIGURE 23

2. Use the product and load keys to enter numerical data. See TABLE 1 for correct parameter settings.

   NOTE: Use product keys 1-7 for numerals 1-7. Use load keys 1-3 for numerals 8,9 and 0 respectively.

3. Press the enter key to save the parameter setting.
4. The #2 LED illuminates
5. Repeat steps 1-3 for each parameter. When the final parameter setting is entered and saved the #1 LED illuminates.

LED(s)	Parameter	Setting
1	Offset	110
2	Hrs/Min timer	0F
1,2	Fahrenheit (0=°F, <1=°C)	0F
3	Proportional	0F
1,3	Integration	1F
2,3	Dead band	3F
1,2,3	Cycle time	12F
4	Minimum on time	3F
1,4	Hi temp alarm	550F
2,4	Ready temp differential	15F
1,2,4	Minimum setpoint	150F
3,4	Maximum setpoint cook	500F
1,3,4	Minimum setpoint hold	0F
2,3,4	Maximum setpoint hold	0F
1,2,3,4	Fan 2 speed	0F
5	Fan rev.	0F

TABLE 1

To exit the 2nd level programming

1. Turn the oven off.
2. Move the jumper from the middle and top pins to the middle and bottom pins exposing the top pin.
3. Turn the oven on.

BLODGETT IQ CONTROL

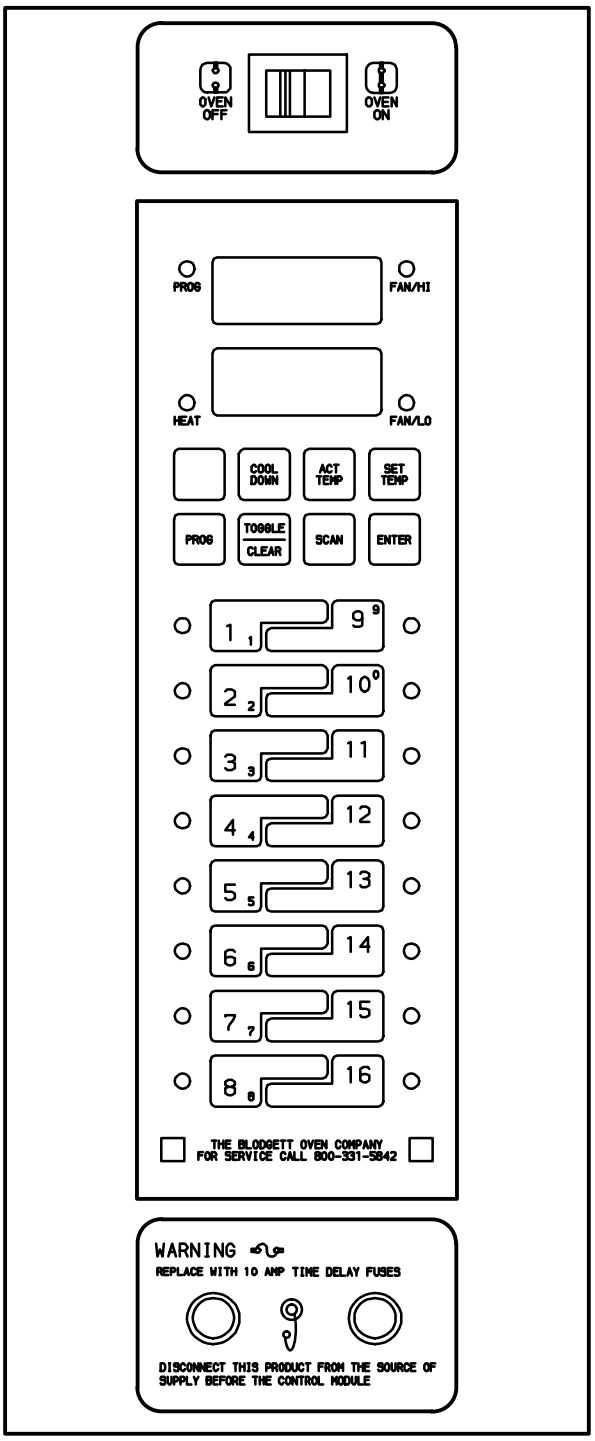


FIGURE 24

NOTE: For error code display information see page 5–3 of the Troubleshooting section.

2ND LEVEL PROGRAMMING

Entering the programming mode

1. Press the prog key. The top display reads *CodE*.
2. Use the product keys to enter the programming access code: 4 5 1 2. Press the enter key. The top display reads *SYS*.

Programming hold

1. Press the scan key. The top display reads *Hold*. Press the toggle/clear key to toggle between *YES* and *no*. Press the scan key.

   If no is chosen:

   A.) The controller advances to programming the setback mode.

   If yes is chosen:

   A.) The top display reads *AUTO*. Press the toggle/clear key to toggle between *YES* and *no*. Press the scan key to enter the desired hold mode.

   B.) The top display reads *HOLD*. The bottom display flashes the current hold time. Use the product keys to enter the desired hold time. Press the scan key to enter the new hold time.

   C.) The top display reads *HOLD*. The bottom display flashes the current hold temperature. Use the product keys to enter the desired hold time. Press the scan key to enter the new hold temperature.

   D.) The top display reads *FAn*. The bottom display gives the current fan mode. To change the fan mode press the toggle/clear key. The bottom display toggles between *Hi* and *Lo*. Press the scan key to enter the new fan mode and continue with programming the setback mode.

Programming the setback mode

1. The top display reads *SEtb*. The bottom display gives the setback mode. To change the setback press the toggle/clear key. The bottom display toggles between *YES* and *no*. Press the scan key.

   If no is chosen:

   A.) The controller advances to programming the temperature mode.

   If yes is chosen:

   A.) The bottom display gives the current setback time. Use the product keys to the enter the desired setback time. Press the scan key to enter the new setback time.

   B.) The bottom display gives the current setback temperature. Use the product keys to the enter the desired setback temperature. Press the scan key to enter the new setback and continue with programming the temperature mode.

Programming the temperature mode (°F or °C)

1. The top display reads *dEg*. The bottom display gives the units. To change the units press the toggle/clear key. The bottom display toggles between *F* and *C*.
2. Press the scan key to enter the new temperature units and continue programming the oven size.

Programming the oven size

1. The top display reads *APPL*. The bottom display reads either *FULL* or *HALF*. Press the toggle/clear key until the bottom display reads *HALF* for the CTB and CTBR.
2. Press the scan key to enter the oven size and continue with exiting the programming mode.

Exiting the programming mode

1. The top display reads *SYS*. Press the prog key. The control returns to the operating standby mode.

PROGRAMMING THE OFFSET

Entering the offset programming mode

1. Press the prog key. The top display reads *CodE*.
2. Use the product keys to enter the offset programming access code: 4 5 2 3. Press the enter key. The top display reads *oFF*. The bottom display reads *SEt*.

Programming the temperature offset

1. Press the scan key. The top display reads *oFST*. The bottom display reads either *xxF* or *–xxF*.
2. Press the toggle/clear key to toggle between positive and negative. Use the product keys to the enter the desired temperature offset.
3. Press the scan key to enter the new temperature offset.

Exiting the offset programming mode

1. Press the prog key. The control returns to the operating standby mode.

BLODGETT IQ2™ CONTROL FACTORY LEVEL PROGRAMMING

Entering the programming mode

1. Press the program key. The top display reads *CodE*.
2. Use the product keys to enter the factory programming accss code: 4 5 2 3. Press the enter key. The top dislay reads *Fact*.

Programming the oven configuration

1. Press the SCAN KEY. The display reads *Appl*.
2. Press the TOGGLE/CLEAR KEY to toggle between electric oven and gas oven. Set the choice for the oven type. Press the SCAN KEY to enter the choice.
3. Press the TOGGLE/CLEAR KEY to toggle between half sized or full sized oven. Set the choice for the oven type. Press the SCAN KEY to enter the choice.

   NOTE: Mark V and DFG-100 are full sized ovens. CTB and DFG-50 are half sized ovens.

Programming the temperature offset

1. The top display reads *oFF*. The bottom display reads *SEt*.
2. Press the SCAN KEY. The top display reads *oFST*. The bottom display reads either *xxF* or *–xxF*.
3. Press the TOGGLE/CLEAR KEY to toggle between positive and negative. Use the product keys to the enter the desired temperature offset.
4. Press the SCAN KEY to enter the new temperature offset.

Enabling/Disabling the fan error detection circuit

1. The top display reads *FanC. T*he bottom display reads *YES* or *NO*.
2. Press the TOGGLE/CLEAR KEY to toggle between choices.
3. Press scan to move to next operating parameter.

Programming fan speed option

1. The top display reads *FanS*. The bottom display reads *1* or *2*.
2. Press the TOGGLE/CLEAR KEY to toggle between choices: 1 for a single speed motor or 2 for a two speed motor.
3. Press SCAN to move to the next operating parameter.

Programming the maximum temperature setpoint

1. The top display reads *tELt* (temperature limit) and the bottom display reads either 500 or 550.
2. Press the TOGGLE/CLEAR key to toggle between choices 500°F or 550°F maximum temperature setting.
3. Press scan to enter the maximum setpoint temperature.

   NOTE: Use 500 °F for the DFG-100, DFG-200, Mark V, CTB and DFG-50. Use 550 °F for the DFG-100 XCEL and Mark V XCEL.

Exiting the factory programming mode

1. The top display reads *Fact*. Press the PROG KEY. The control returns to the operating mode.

IQ VVC-208 CONTROL

COMPONENT DESCRIPTION

1. Indicator Lights	• Light up when product key is activated.
2. Programming Buttons	• Used to access programming mode and change parameters.
3. VFD (Vacuum Fluorescent Display)	• Bright blue for easy viewing. Displays programming and cook cycle information.
4. Slide-In Menu Strips	• Menu items are printed directly on easy-to-change menu strip.
5. Product Buttons	• Used to activate cook cycles and for certain programming functions.
6. SCAN key	• Used for recipe review during idle. • Used to review time remaining during multiple cooks (press & hold)
7. COOL DOWN key	• Used to enter or exit cool down mode.
8. TEMP/ TOGGLE CLEAR key	• Used to check actual temperature; also used to clear value when in programming mode.
9. HOLD key	• *Holds are not used for KFC applications.* Used to toggle between upper and lower case letters when programming libraries.
10. SETBACK key	• Used to enter or exit Setback mode.
11. SCK LINK logo	• Signifies your control is communications-capable.

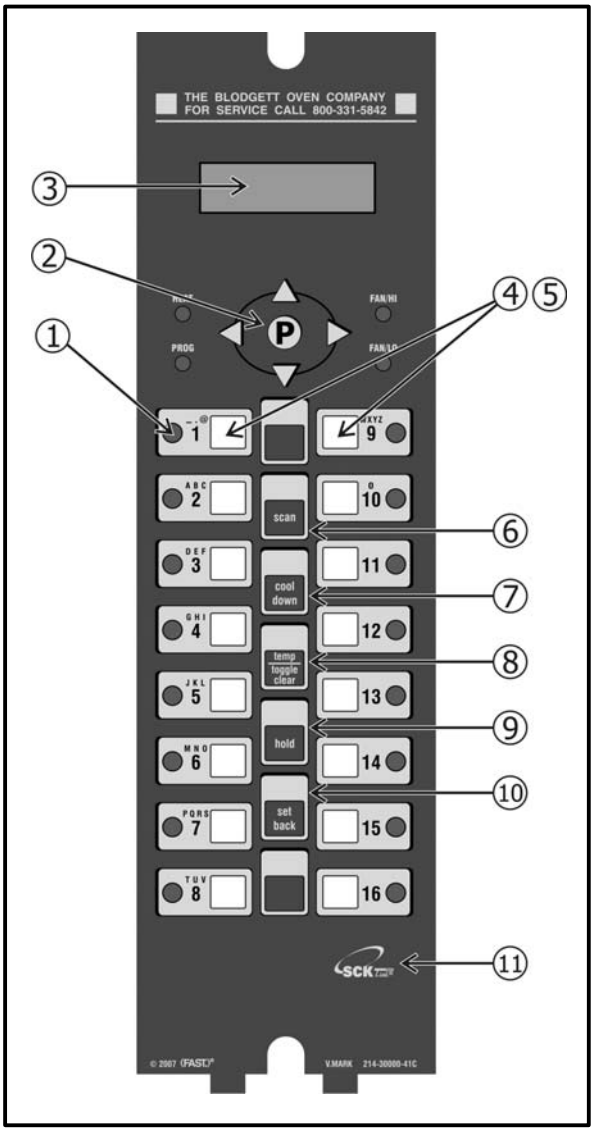


FIGURE 25

OPERATIONAL TEST PROCEDURE

1	Plug oven into electrical source
2	Turn the oven power switch on. *NOTE: AP and Mark V computer is unpowered if off. The XCEL is powered if plugged in.*
3	*NOTE: This scrolling can be bypassed by pressing SCAN.* The controller will scroll through the following: A.) Appliance Type B.) Software # C.) Download # D.) SCK Address E.) "PREHEAT"
4	The oven will enter "PREHEAT" mode and begin to warm up. When the set temperature (default 325˚F) is reached, the Preheat timer will count down from 45 minutes to zero. When "LOAD" is displayed, the oven is ready for use.
5	Press any illuminated product key.
6	The cook cycle will count down in the display.

RECIPE REVIEW – Quickly see what is programmed for each product key.

1. Press the SCAN key.
2. Select any product key previously programmed-LED will be lit above the key.
3. Press the DOWN arrow key to scroll through the list.
4. Press SCAN to exit.

VIEW TEMPERATURE SETTING

1. Press the TEMP key 'once' to view Actual Temperature, or
2. Press the TEMP key 'twice' to view Set Temperature.
3. Press the TEMP key 'three' times to view Fan Speed
4. Press the TEMP key 'four' times to view Fan Direction

COOL DOWN

1. To enter Cool Down, press the COOL DOWN key while the oven door is closed. When the display reads "COOL," the door can then be opened.

WARNING!!

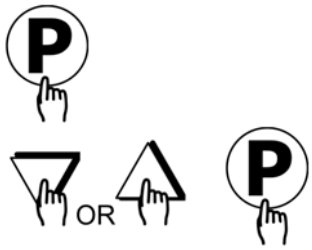
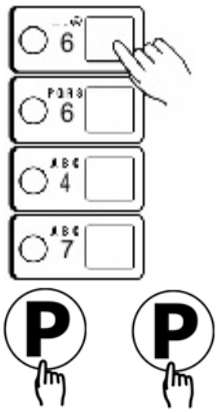
THE FAN IS STILL MOVING. DO NOT REACH INTO THE OVEN. The fan will automatically shut off when the actual temperature reaches 105˚F.

2. To exit Cool Down, press the COOL DOWN key again. The oven will come back up to set temperature.

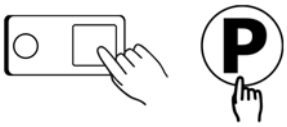
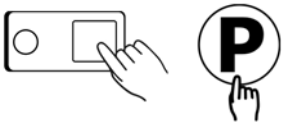
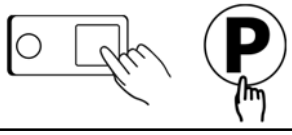
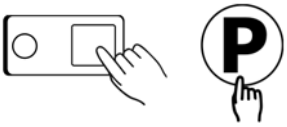
WARNING!!

ALWAYS TURN OFF MAIN POWER BEFORE REMOVING BAFFLE OR PLACING HANDS NEAR FAN.

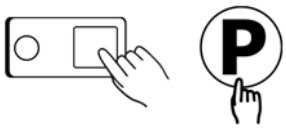
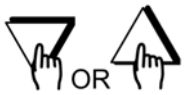
SYSTEM PROGRAMMING (6647)

	KEY PRESS	DISPLAY	ACTION
1	**Enter Program mode** 		• To enter programming mode, press and hold the "P" key for 3 seconds. • Scroll Down to Programming. • Press the "P" key to lock in your entry. • The display will prompt user to enter a pass code.
2	**Enter pass code** 	ENTER CODE ****	• Enter pass code 6 6 4 7. • Press the "P" key when "System" is displayed. • Press the "P" key again to enter System Programming.
3	**Confirm or Select Appliance Type** 	APPLIANCE TYPE (ELECTRIC HALF, ELECTRIC FULL) HALF = AP FULL = MARK V	• Press the LEFT or RIGHT arrow keys to select from a pre-programmed list of appliances. **NOTE: Changing appliance type clears all current recipe programs.** • Press the "P" key to lock in your entry
4	**Select Language** 	SELECT LANGUAGE (English, Other)	• Press the LEFT or RIGHT arrow key to select language • Press the "P" key to lock in your entry **NOTE: 'Other' is downloadable.**

SYSTEM PROGRAMMING (continued)

	KEY PRESS	DISPLAY	ACTION
5	**Set Tone Level** 	TONE LEVEL (None, 1, 2, 3, 4)	• Press the LEFT or RIGHT arrow keys to select a tone level. At each level the controller will continuously sound the selected tone. • Press the "P" key to lock in your entry
6	**Set Temperature Mode** 	TEMPERATURE F = FAHRENHEIT or C = CELSIUS	• Press the LEFT or RIGHT arrow keys to select the method that all temperatures will be displayed in. • Press the "P" key to lock in your entry
7	**Program Setback Time** 	SETBACK TIME HH:MM	• Press the numbered product keys to select the time in HH:MM format for activating Setback mode. *NOTE: 0:00 is default to disable Setback.* • Press the "P" key to lock in your entry
8	**Program Setback Temperature** 	SETBACK TEMP XXX	• Press the numbered product keys to select the Setback temperature in the range of 140-300˚F. • Press the "P" key to lock in your entry
9	**Set Hold Time** 	HOLD TIME HH:MM	• Type in the length of hold time required. The value is in the range of 00:00 to 99:59. • Press the "P" key to advance to the next stage or parameter.
10	**Set Hold Temperature** 	HOLD TEMP XXX	• Type in the desired Hold temperature. Hold Temperature Range is 140-210˚F • Press the "P" key to advance to the next stage or parameter.

SYSTEM PROGRAMMING (continued)

	KEY PRESS	DISPLAY	ACTION
11	**Set Hold Done** 	HOLD DONE (AUTOMATIC, MANUAL)	• Press the LEFT or RIGHT arrow keys to select Hold Done. • Press the “P” key to advance to the next stage or parameter.
12	**Set Hold Fan Speed** 	HOLD FAN SPEED (HIGH, LOW)	• Press the LEFT or RIGHT arrow keys to select Hold Fan Speed. • Press the “P” key to advance to the next stage or parameter.
13	**Set Preheat Time** 	PREHEAT TIME MM:SS	• Type in the desired Preheat Time. • Press the “P” key to advance to the next stage or parameter.
14	**Exit Program Mode** 	EXIT	• Press the UP or DOWN arrow keys to scroll to “Exit.”
15			• Press the “P” key to return to idle mode.

HEATING ELEMENTS RESISTANCE

Element	Resistance
208 volt	12.3—13.6 Ω
220 volt	13.8—15.2 Ω
240 volt	16.4—18.1 Ω

TABLE 2

PROBE RESISTANCE VS TEMPERATURE

Solid State Manual and Digital Controllers (probe P/N 18588)					
°F	°C	Ohms	°F	°C	Ohms
100	38	53029	310	155	1519
125	52	30785	320	160	1340
150	66	18591	330	166	1186
175	80	11633	340	171	1052
200	93	7528	350	177	936
210	99	6391	360	182	835
220	105	5471	370	188	747
230	110	4705	380	193	669
240	116	4030	390	199	601
250	121	3441	400	205	542
260	127	2967	425	219	421
270	132	2583	450	232	333
280	138	2255	475	246	265
290	143	1970	500	260	216
300	149	1728			

TABLE 3

Intellitouch II Controller (probe P/N 32289)					
°F	°C	Ohms	°F	°C	Ohms
32	0	500	212	100	693
68	20	539	250	120	730
75	24	545	300	150	787
86	30	558	356	180	842
125	50	597	392	200	879
140	60	616	450	230	934
175	80	655	500	260	989
200	93	680	554	260	1042

TABLE 4

Intellitouch (probe P/N 20360) and Blodgett IQ Controllers (probe P/N 33074					
°F	°C	Ohms	°F	°C	Ohms
60	16	1059	235	113	1422
65	18	1067	240	116	1432
70	21	1080	245	118	1442
75	24	1090	250	121	1453
80	27	1099	255	124	1463
85	29	1112	260	127	1473
90	32	1122	265	130	1483
95	35	1133	270	132	1493
100	38	1143	275	135	1503
105	41	1153	280	138	1514
110	43	1164	290	143	1534
115	46	1174	295	146	1544
120	49	1185	300	149	1554
125	52	1195	305	152	1564
130	55	1206	310	155	1574
135	57	1216	315	157	1584
140	60	1226	320	160	1594
145	63	1237	325	163	1604
150	66	1247	330	166	1614
155	68	1258	335	169	1624
160	71	1268	340	171	1634
165	74	1278	345	174	1644
170	77	1289	350	177	1654
175	80	1299	355	180	1664
180	82	1309	360	182	1674
185	85	1320	365	185	1684
190	88	1330	370	188	1694
200	93	1350	375	191	1704
205	96	1361	380	193	1714
210	99	1371	385	196	1724
215	102	1381	390	199	1734
220	105	1391	395	202	1744
225	107	1402	400	205	1754
230	110	1412	405	207	1764

Intellitouch (probe P/N 20360) and Blodgett IQ Controllers (probe P/N 33074					
°F	°C	Ohms	°F	°C	Ohms
410	210	1774	460	238	1872
415	213	1783	465	241	1882
420	216	1793	470	244	1892
425	219	1803	475	246	1901
430	221	1813	480	249	1911
435	224	1823	485	252	1921
440	227	1833	490	254	1931
445	230	1843	495	255	1940
450	232	1852	500	260	1950
455	235	1862			

TABLE 5

Intellihold and Intelliplus Controllers (probe P/N 23392)											
°F	Ohms	°F	Ohms	°F	Ohms	°F	Ohms	°F	Ohms	°F	Ohms
70	1080	108	1160	146	1239	184	1318	222	1395	260	1473
71	1082	109	1162	147	1241	185	1320	223	1398	261	1475
72	1084	110	1164	148	1243	186	1322	224	1400	262	1477
73	1086	111	1166	149	1245	187	1324	225	1402	263	1479
74	1089	112	1168	150	1247	188	1326	226	1404	264	1481
75	1091	113	1170	151	1249	189	1328	227	1406	265	1483
76	1093	114	1172	152	1251	190	1330	228	1408	266	1485
77	1095	115	1174	153	1253	191	1332	229	1410	267	1487
78	1097	116	1176	154	1255	192	1334	230	1412	268	1489
79	1099	117	1178	155	1258	193	1336	231	1414	269	1491
80	1101	118	1181	156	1260	194	1338	232	1416	270	1493
81	1103	119	1183	157	1262	195	1340	233	1418	271	1495
82	1105	120	1185	158	1264	196	1342	234	1420	272	1497
83	1108	121	1187	159	1266	197	1344	235	1422	273	1499
84	1110	122	1189	160	1268	198	1346	236	1424	274	1501
85	1112	123	1191	161	1270	199	1348	237	1426	275	1503
86	1114	124	1193	162	1272	200	1350	238	1428	276	1505
87	1116	125	1195	163	1274	201	1352	239	1430	277	1507
88	1118	126	1197	164	1276	202	1354	240	1432	278	1589
89	1120	127	1199	165	1278	203	1357	241	1434	279	1512
90	1122	128	1201	166	1280	204	1359	242	1436	280	1514
91	1124	129	1203	167	1282	205	1361	243	1438	281	1516
92	1126	130	1206	168	1284	206	1363	244	1440	282	1518
93	1128	131	1208	169	1287	207	1365	245	1442	283	1520
94	1131	132	1210	170	1289	208	1367	246	1444	284	1522
95	1133	133	1212	171	1291	209	1369	247	1447	285	1524
96	1135	134	1214	172	1293	210	1371	248	1449	286	1526
97	1137	135	1216	173	1295	211	1373	249	1451	287	1528
98	1139	136	1218	174	1297	212	1375	250	1453	288	1530
99	1141	137	1220	175	1299	213	1377	251	1455	289	1532
100	1143	138	1222	176	1301	214	1379	252	1457	290	1534
101	1145	139	1224	177	1303	215	1381	253	1459	291	1536
102	1147	140	1226	178	1305	216	1383	254	1461	292	1538
103	1149	141	1229	179	1307	217	1385	255	1463	293	1540
104	1151	142	1231	180	1309	218	1387	256	1465	294	1542
105	1153	143	1233	181	1311	219	1389	257	1467	295	1544
106	1156	144	1235	182	1313	220	1391	258	1469	296	1546
107	1158	145	1237	183	1315	221	1393	259	1471	297	1548

Intellihold and Intelliplus Controllers (probe P/N 23392)											
°F	Ohms	°F	Ohms	°F	Ohms	°F	Ohms	°F	Ohms	°F	Ohms
298	1550	335	1624	372	1698	409	1772	446	1845	483	1917
299	1552	336	1626	373	1700	410	1774	447	1846	484	1919
300	1554	337	1628	374	1702	411	1776	448	1848	485	1921
301	1556	338	1630	375	1704	412	1778	449	1850	486	1923
302	1558	339	1632	376	1706	413	1780	450	1852	487	1925
303	1560	340	1634	377	1708	414	1782	451	1854	488	1927
304	1562	341	1636	378	1710	415	1783	452	1856	489	1929
305	1564	342	1638	379	1712	416	1785	453	1858	490	1931
306	1566	343	1640	380	1714	417	1787	454	1860	491	1932
307	1568	344	1642	381	1716	418	1789	455	1862	492	1934
308	1570	345	1644	382	1718	419	1791	456	1864	493	1936
309	1572	346	1646	383	1720	420	1793	457	1866	494	1938
310	1574	347	1648	384	1722	421	1795	458	1868	495	1940
311	1576	348	1650	385	1724	422	1797	459	1870	496	1942
312	1578	349	1652	386	1726	423	1799	460	1872	497	1944
313	1580	350	1654	387	1728	424	1801	461	1874	498	1946
314	1582	351	1656	388	1730	425	1803	462	1876	499	1948
315	1584	352	1658	389	1732	426	1805	463	1878	500	1950
316	1586	353	1660	390	1734	427	1807	464	1880	501	1952
317	1588	354	1662	391	1736	428	1809	465	1882	502	1954
318	1590	355	1664	392	1738	429	1811	466	1884	503	1956
319	1592	356	1666	393	1740	430	1813	467	1886	504	1958
320	1594	357	1668	394	1742	431	1815	468	1888	505	1960
321	1596	358	1670	395	1744	432	1817	469	1890	506	1962
322	1598	359	1672	396	1746	433	1819	470	1892	507	1964
323	1600	360	1674	397	1748	434	1821	471	1893	508	1966
324	1602	361	1676	398	1750	435	1823	472	1895	509	1967
325	1604	362	1678	399	1752	436	1825	473	1897		
326	1606	363	1680	400	1754	437	1827	474	1899		
327	1608	364	1682	401	1756	438	1829	475	1901		
328	1610	365	1684	402	1758	439	1831	476	1903		
329	1612	366	1685	403	1760	440	1833	477	1905		
330	1614	367	1688	404	1762	441	1835	478	1907		
331	1616	368	1690	405	1764	442	1837	479	1909		
332	1618	369	1692	406	1766	443	1839	480	1911		
333	1620	370	1694	407	1769	444	1841	481	1913		
334	1622	371	1696	408	1770	445	1843	482	1915		

TABLE 6

CHAPTER 5

TROUBLESHOOTING

HEAT SYSTEM

POSSIBLE CAUSE(S)	SUGGESTED REMEDY
Symptom #1 — Oven heaters and motor do not run	
• Oven not plugged in.	• Plug in oven.
• Circuit breaker tripped.	• Reset breaker, check amp draw. Reference electrical specifications on page NO TAG of the Introduction.
• Doors not closed tightly.	• Close doors tightly.
• 10 amp fuse on control panel may be blown.	• Replace the fuse and check for shorts.
• Door switch inoperative.	• Replace door switch.
• Mode selector switch inoperative.	• Replace mode switch.
• If control configuration has fan delay pulse plus feature, this feature may be activated.	• Deactivate fan delay pulse plus.
• If control configuration has a cycle feature this feature may be activated.	• Deactivate the cycle feature.
• Convection motor out due to thermal overload.	• Check for external heat against the motor. (such as improper flue connectors on double stack unit.
	• Check for motor overamping. Replace the motor.
Symptom #2 — Convection fan motor does not operate	
• Oven is not plugged in	• Plug in oven.
• Oven not set to cook mode.	• Turn oven mode switch to on.
• Circuit breaker tripped.	• Reset circuit breaker and check the amp draw. Reference electrical specifications on page NO TAG of the Introduction.
• Door switch inoperative.	• Replace door switch.
• Motor off due to thermal overload.	• Check for external heat on the motor.
	• On double stacked units check that the flue connector is properly installed.
	• Check the amp draw. If too high, replace the motor.
• If control configuration has standard fan delay pulse plus feature, this feature may be activated.	• Deactivate fan delay pulse plus feature.
• If control configuration has solid state digital controls with pulse or cycle feature, this feature may be activated.	• Deactivate the pulse or cycle feature.

Symptom #3 – Heat system does not recover quickly	
• One, two or all three of the elements are bad. 208 volt = 32.8–36.4 Ω 220 volt = 36.8–40.6 Ω 240 volt = 43.6–48.4 Ω	• Replace bank of elements. Reference electrical specifications on page NO TAG of the Introduction for amp draw.
• Dropped a phase from circuit breaker at electrical panel.	• Check for voltage at the terminal block in the oven across L1–L2, L2–L3, and L1–L3. The voltage should match the supply to the building.
• Dropped phase at contactor.	• If voltage is not present across any phase call the electrician. Check for voltage at the contactor on terminals T1–T2, T2–T3 and T1–T3. Make sure the appliance is calling for heat. If voltage is not present across any phase, replace the contactor.
• The oven is out of calibration.	• Reference the calibration procedures for the controller configuration on your appliance. See pages 4–1 through 4–10 of the Calibration and Adjustment section.
• Inadequate voltage supplied for oven configuration. (ie. 240 volt oven in a 208 volt environment)	• Change the element configuration to match the incoming voltage. Transformers may also need to be added for some applications.
Symptom #4 – Heat system does not heat, but motor operates	
• Temperature controller set point below actual.	• Raise set point.
• Probe shorted or open.	• Take the resistance reading. Reference pages 4–17 through 4–20 of the Calibration and Adjustment section for probe resistance information. Refer to page NO TAG for wiring diagram P/N 18459. For solid state manual controls, remove the wires on terminals #6 and #7 on the solid state board. Touch the wires together to allow the contactor to power up. If the contactor closes, the problem is in the temperature control circuit (consisting of the board, probe and potentiometer). This is only a test. DO NOT leave the oven during this test. If the contactor closes place an ohm meter across the probe wire. Note the resistance reading of the probe as the temperature in the oven increases. At no time should the probe go infinite or open before the oven reaches 500°F (260°C). If it does the probe is bad and should be replaced.

• Potentiometer is bad.	• The potentiometer is approximately 900Ω and can also be tested with an ohm meter. Connect the test leads to the two outside wires of the potentiometer to get the value of the pot. Leave one lead connected to the outer wire of the potentiometer. Move the other lead to the middle wire of the potentiometer. To check the variable resistance, turn the stem clockwise or counter clockwise. The reading should change from 0Ω to the full value of the potentiometer. Move the test lead from the outer wire to the other outer wire of the potentiometer. Leave the middle lead connected to your meter. Turn the stem again to see the reverse effect.
• Temperature control board is bad.	• If both the probe and the pot are good and the the heating system does not work the temperature control board must be bad. Replace the board.

TABLE 1

DISPLAY ERROR CODES

INTELLITOUCH

HELP the temperature setting exceeds the maximum setting of 550°F. This will be shown as an alternating *HELP* and *PROB* display.

PROB
1. Defective temperature probe.
2. Stripped insulation on probe wires.
3. Poor connection of probe terminals.
4. Probe sensing temperatures above or below the probe sensing range.

8888 an Intellitouch computer failure.

INTELLIHOLD AND INTELLIPLUS

F2 Actual oven temperature is greater than the maximum temperature setpoint

F3 Open temperature sensor

F4 Shorted temperature sensor while the control is in the cook mode.

F6 The 50/60 Hz input does not change states.

F7 Total chain timer over 24 hours

F8 The calculated EEPROM check sum is not the same as the expected check sum retrieved from the EEPROM.

BLODGETT IQ CONTROL

NOTE: The error codes will appear in the top display. All error codes are accompanied by an audible alarm.

Hi Oven temperature is more than 40°F above the highest setpoint.

Prob Probe failure at greater than 693°F.

Probe (with alarm) — shorted temperture probe.

HEAT ERR From a cool start (below 140°F), the oven takes more than 10 minutes to climb from 150-300°F.

FAN ERR Control thinks motor is not operating

FAN C ERR usually occurs when dirt or grease collects on the veins of the blower wheel causing centrifugal switch to remain closed too long.

DOOR OPEN Occurs when a timer is activated and the door is open. This fault self clears once the door is closed.

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CHAPTER 6

PARTS REPLACEMENT

DOOR

1. Open door and locate hinge pin bolts.
2. Loosen top bolt of top hinge pin and remove the bottom bolt of top hinge pin.
3. Using the loosened bolt, push the hinge pin down into the door.
4. Lift the door out and up.
5. To reinstall reverse the above mentioned procedure.

DOOR INTERLOCK SWITCH

1. Shut off main power supply.
2. Open control compartment panel.
3. Remove wires from door interlock switch.
4. Remove retaining screws.
5. Install new switch by reversing the above mentioned procedure.

WINDOW ASSEMBLY

1. Remove the door as described. Place the door on a flat surface with the front facing up.
2. Remove the outer door skin. Turn the door onto its back.
3. Use the window insertion tool to pry up the corners of the window assembly in the following order:

   A.) Bottom right (farthest from the hinge pin)

   B.) Bottom left

   C.) Top right

   D.) Top left (closest to the hinge pin)

   NOTE: The window insertion tool is provided with the window assembly.
4. Use the window insertion tool to pry up the corners of the window assembly.
5. Reverse steps 1—4 to replace.

   NOTE: To install the door front start at the corner closest to the hinge pin.

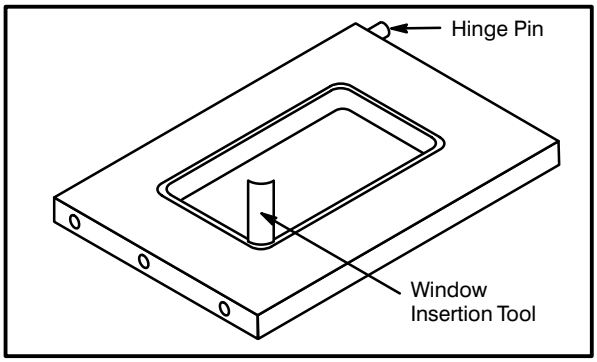

FIGURE 1

ELEMENT

1. Disconnect power from main power supply.
2. Remove right hand side panel (left hand on a CTBR)
3. Remove the element terminal cover found above motor and disconnect wires.
4. Remove element plate and insulation spacer.
5. Remove racks and rack support from oven.
6. Remove baffle by placing hand under back end and rotating up and out.
7. Remove the eight screws holding the element assembly to the side wall of the oven.
8. Install new elements by reversing the above mentioned procedure.

MOTOR

1. Shut off main power supply.
2. Remove Rack and rack supports.
3. Remove baffle by placing hand under back end and rotating up and out.
4. Remove blower wheel, pay particular attention to the style of blower wheel you have some of the wheels have built on wheel pullers.
5. Remove right hand side panel (left hand panel if the oven is a CTBR).
6. Disconnect wiring from motor.
7. Remove four bolts holding motor to motor mount.
8. Install new motor by reversing the above mentioned procedure.