


⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

Replace all panels before operating.

Failure to do so can result in death or electrical shock.

DIAGNOSTICS

Before servicing, perform the following checks:

- The most common cause for control failure is corrosion on connectors. Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures.
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms per volt DC or greater.
- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
- Voltage checks **must** be made with all connectors **attached** to the boards.
- Resistance checks **must** be made with power cord unplugged from outlet, and with wiring harness or connectors **disconnected**.

Fahrenheit (° F) to Celsius (° C) Conversion

The default is Fahrenheit (° F).

1. Press the BROIL pad for 5 seconds. The temperature will be displayed in degrees Celsius indicated by the “C” in the temperature display.
2. To return the display to degrees Fahrenheit press the BROIL pad again for 5 seconds. “F” will show in the temperature display.

PROBLEM: Bake Temperature Needs Adjustment

1. Press BAKE pad for 5 seconds. The default temp. 0° or a previously entered offset temperature will show in the Temperature Display.
 - Press the TEMP pad “up” arrow (⬆) to **increase** the temperature in 10° F or 5° C increments.
 - Press the TEMP pad “down” arrow (⬇) to **decrease** the temperature in 10° F or 5° C increments.

Maximum offset temperature adjustment is ±30° F or ±15° C.
2. Press the START pad to save the temp. adjustment.

IMPORTANT

Electrostatic Discharge (ESD) Sensitive Electronics

ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an anti-static wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance
-OR-
Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.
- Before removing the part from it’s package, touch the anti-static bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in anti-static bag, observe above instructions.

Programming the Cavity Size

When replacing the electronic control, be sure to program the cavity size:

1. For **Self-Clean** models, within 60 seconds of power up, press the following touchpads:
STOP TIME, TEMP UP, COOK TIME, BAKE, BROIL, CLOCK, CANCEL, OVEN LIGHT.
For **Standard-Clean** models, within 60 seconds of power up, press the following touchpads:
TEMP UP, BAKE, BROIL, CLOCK, CANCEL, OVEN LIGHT.
2. Size is shown in display - “id 24”.
3. Press CLOCK pad until correct size is displayed.
4. Press CANCEL.
5. To verify programming:
Press and hold CANCEL pad for 5 seconds, then press and hold START pad for 5 seconds.

The first digit of the clock display will read as follows:

Model Width	24”	27”	30”
Clock Display First Digit	4	7	0

**FAILURE/ERROR
DISPLAY CODES****NOTES:**

- Always disconnect power before touching internal parts of the oven!
- Upon replacement, immediately return old electronic oven control using the mailing label supplied with each new control.

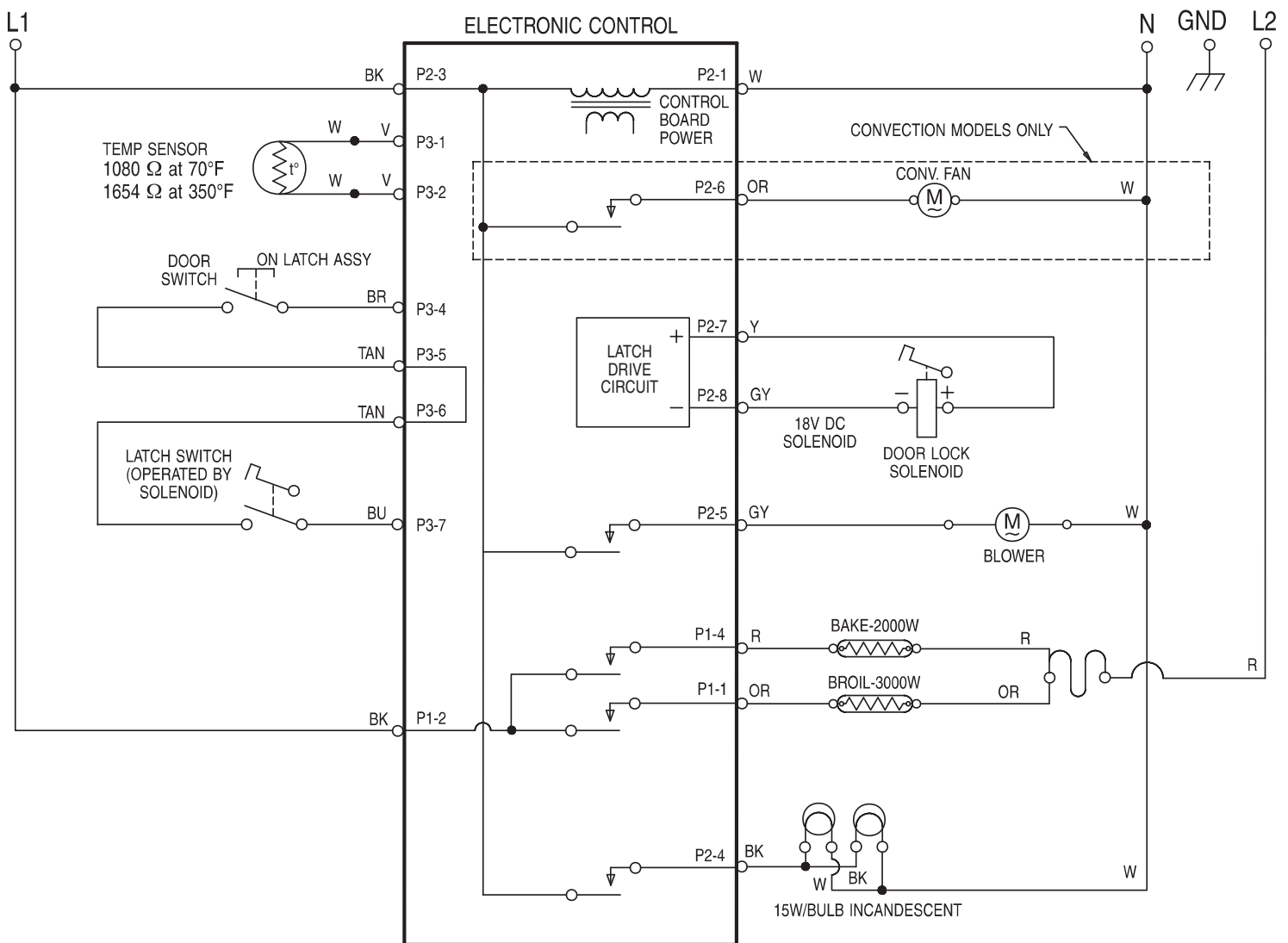
FAULT CODE	ERROR CODE	CODE EXPLANATION	RECOMMENDED REPAIR PROCEDURE
F0		Default F code - no failure	Will only be displayed if user presses and holds "CANCEL" key for 5 seconds and there are no pre-existing faults. Press CANCEL to clear display.
F1	All E Codes	Electronic control malfunction	Replace control.
F2	E0	Key held down too long, or key is shorted	<ol style="list-style-type: none"> 1. Check keypad connector for firm connection. 2. Press CANCEL. If error code returns after 60 sec., replace keypad. 3. Replace control.
	E1	Keypad keytail not connected	
	E5 E6	CANCEL key drive line open	
F3	E0	Temperature sensor opened	<ol style="list-style-type: none"> 1. Check sensor connection. 2. Measure sensor resistance (1080Ω at 21° C (70° F). Add 2Ω per degree.) 3. If resistance is not valid, replace sensor. 4. If sensor resistance and connections are good, then the oven cavity temperature must have exceeded a safe level. Check for welded-closed relays on the control.
	E1	Temperature sensor shorted	
	E2	Oven temp too high - over 301° C (575° F) in COOK mode	
	E3	Oven temp too high - over 510° C (950° F) in CLEAN mode	
F5	E0	Door is open, but latch is locked (condition exists when door switch is closed indicating an open door, and latch switch is closed indicating a locked door).	<ol style="list-style-type: none"> 1. Check the latch assembly: latch arm pivot joint, arm/solenoid connection, solenoid spring, and spring washer. 2. Check the Latch Solenoid: <ul style="list-style-type: none"> - Check for firm electrical connections. - Disconnect the two wires from the solenoid and measure the resistance of the solenoid. A small resistance (approx. 175Ω) is normal. If the solenoid is open ($\infty\Omega$) or shorted (0Ω), it should be replaced. 3. Check the Latch Switch. Disconnect it and use a continuity tester: <ul style="list-style-type: none"> - Door latched = switch closed, continuity should read 0Ω. - Door unlatched = switch open, continuity should read $\infty\Omega$. 4. Check Door Open/Closed Switch. Disconnect it and use a continuity tester: <ul style="list-style-type: none"> - Door open = switch closed, continuity should read 0Ω. - Door closed = switch open, continuity should read $\infty\Omega$. 5. Check power and element connections.
	E1	Self-clean latch will not lock	
	E5	Self-clean temperature 288° C (550° F) not reached within 45 min.	
	E7	Self-clean latch will not unlock	
F6	E0	Return line not connected	If switch pulse return line not connected, electronic control will display F6 within 60 seconds after power up. Replace control.

WIRE HARNESS SCHEMATIC

NOTES:

- When replacing the electronic control, be sure to program the cavity size. See "Programming the Cavity Size" on page 1.
- Dots indicate connections or splices.
- Circuit shown in STANDBY/OFF mode with oven door closed.

GROUND (CHASSIS)		AC DRIVE MOTOR		SOLENOID	
PLUG WITH FEMALE CONNECTOR		RELAY COIL		ENCLOSED THERMISTOR	
RECEPTACLE WITH MALE CONNECTOR		RELAY CONTACTS		OPERATED BY DOOR	
LIGHT		HEATING ELEMENT		THERMAL FUSE/T.O.D.	

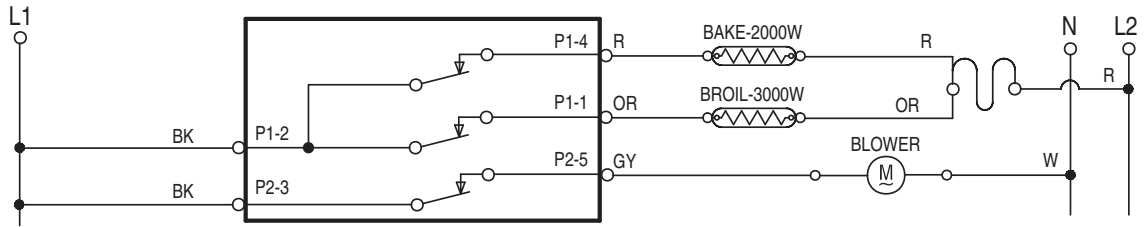


OVEN STRIP CIRCUITS

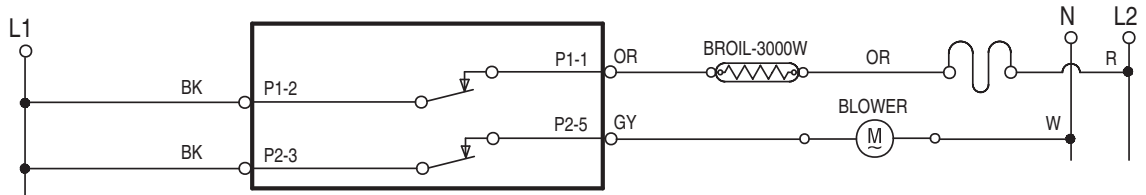
The following individual circuits are for use in diagnosis.

Before starting diagnosis, check the line voltage and for blown fuses.

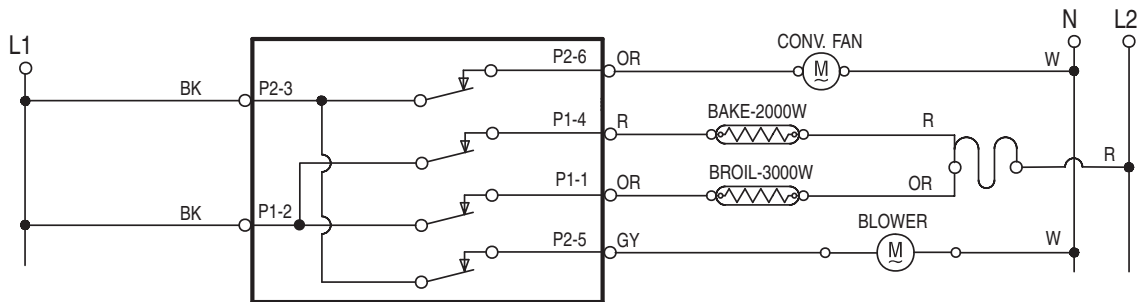
BAKE AND PREHEAT-BAKE



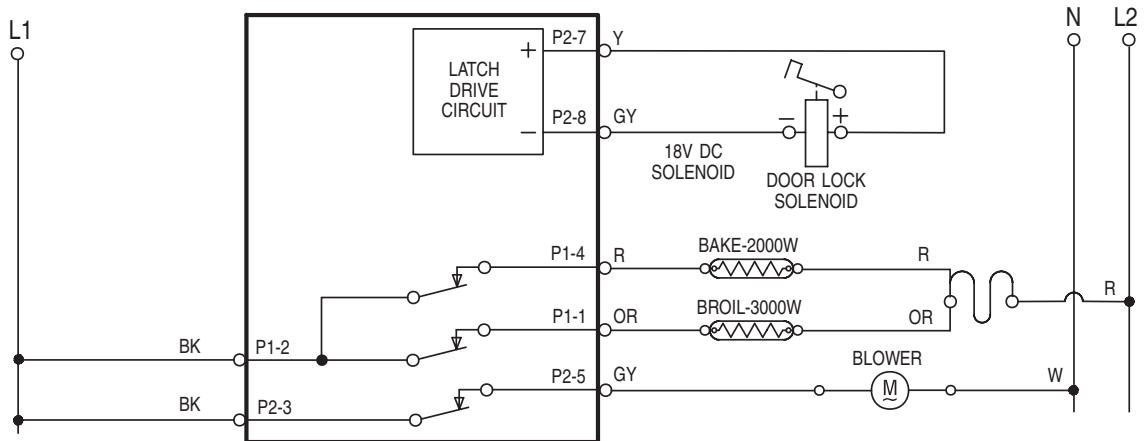
BROIL



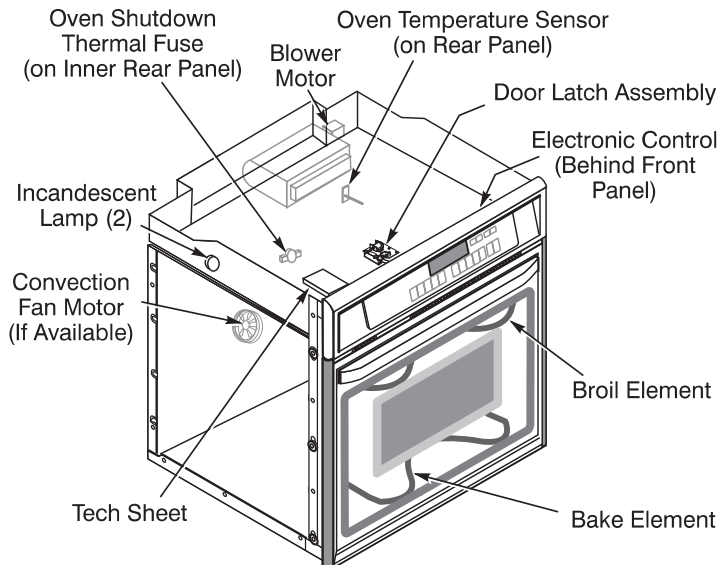
CONVECTION AND PREHEAT-CONVECTION



CLEAN AND PREHEAT-CLEAN



OVEN COMPONENTS



ELECTRONIC CONTROL PINOUTS

PIN	FUNCTION	COLOR
P1-1	BROIL	OR
SPACE	—	—
P1-2	L1	BK
P1-3	NOT CONNECTED	—
P1-4	BAKE	R
P3-1	OVEN SENSOR	V
P3-2	OVEN SENSOR	V
P3-3	NOT CONNECTED	—
P3-4	DOOR SWITCH	BR
P3-5	SWITCH COMMON	TAN
P3-6	SWITCH COMMON	TAN
P3-7	LATCH SWITCH	BU
P2-1	NEUTRAL	W
P2-2	NOT CONNECTED	—
P2-3	L1	BK
P2-4	OVEN LIGHT	BK
P2-5	BLOWER	GY
P2-6	CONVECTION FAN	OR
P2-7	LATCH SOLENOID (+)	Y
P2-8	LATCH SOLENOID (-)	GY

RELAY LOGIC

MODES	RELAYS				
	BAKE	BROIL	CONV. FAN	OVEN LIGHT	BLOWER
OFF	O	O	O	⊗	⊗
■ PREHEAT-BAKE	+	+	O	⊗	X
BAKE 24", 27"	■	+	O	⊗	X
BAKE 30"	■	X	+	O	⊗
BROIL 24"	O	+	O	⊗	X
BROIL 27", 30"	O	X	O	⊗	X
● PREHEAT-CONV.	+	+	X	⊗	X
CONV ●	+	+	X	⊗	X
▲ PREHEAT-CLEAN	+	+	O	O	X
CLEAN ▲	X	+	O	O	X

RELAY LOGIC KEY

- O - OFF
- X - ON
- + - CYCLING
- ⊗ - ON OR OFF

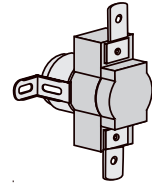
ELECTRICAL COMPONENTS KEY

OVEN COMPONENT	FRONT / REAR SERVICEABLE
ELECTRONIC CONTROL	FRONT
MEMBRANE SWITCH	FRONT
DOOR SWITCH	FRONT
LATCH SWITCH	FRONT
LATCH SOLENOID	FRONT
OVEN TEMPERATURE SENSOR	FRONT
BAKE ELEMENT	FRONT
CONSOLE BLOWER	REAR
BROIL ELEMENT	FRONT
INCANDESCENT LIGHTS	LIGHT BULB - FRONT LIGHT ASSY. - REAR
CONVECTION FAN MOTOR	REAR
THERMAL FUSE/T.O.D.	REAR

OVEN SHUTDOWN THERMAL FUSE

The oven shutdown thermal fuse is located at the back of the oven. It will shut down the elements if the temperature at the back of the oven exceeds component limits.

Verify that the Oven Shutdown Thermal Fuse is okay.



THE FOLLOWING COMPONENTS CAN BE TESTED AT THE CONTROL PANEL:

COMPONENTS	FRONT/REAR SERVICEABLE	CHECK POINTS	RESULTS
Door Switch	Front	P3-4 (BR) to P3-5 (TAN)	Door Open = Closed Circuit Door Closed = Open Circuit
Door Lock Solenoid	Front	P2-7 (Y) to P2-8 (GY)	80 Ω to 100 Ω
Oven Temperature Sensor	Front	P3-1 (V) to P3-2 (V)	1080 Ω @ 70°F
Blower	Rear	P2-5 (GY) to Neutral (W)	10 Ω to 15 Ω
Oven Shutdown Thermal Fuse	Rear	P1-1 (OR) or P1-4 (R) to Red Wire at Terminal Block	Closed Circuit
Bake Element	Front	P1-4 (R) to Red Wire at Terminal Block	25 Ω to 30 Ω
Broil Element	Front	P1-1 (OR) to Red Wire at Terminal Block	45 Ω to 55 Ω
Convection Fan Motor	Rear	P2-6 (OR) to Neutral (W)	8 Ω to 12 Ω
Latch Switch	Front	P3-7 (BU) to P3-6 (TAN)	Door Unlocked = Open Circuit Door Locked = Closed Circuit

PART NO. 4451884 REV. A

NOTE: This sheet contains important
Technical Service Data

**FOR SERVICE TECHNICIAN ONLY
DO NOT REMOVE OR DESTROY**

MANUFACTURED UNDER ONE OR MORE OF THE
FOLLOWING UNITED STATES PATENTS:

4,102,322 4,364,589 4,467,184

OTHER PATENTS PENDING