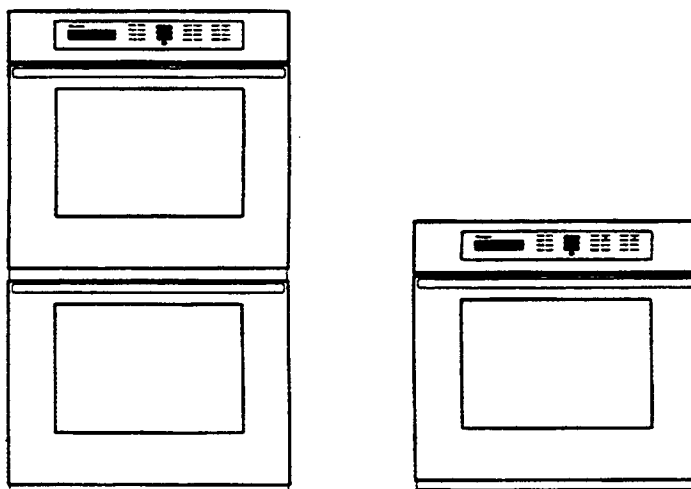


SERVICE MANUAL

FOR THERMADOR®
BUILT-IN ELECTRIC OVENS



Models:
SCD302T / SCD272T
SC302T / SC301T / SC272T
S302T / S301T / S272T

Thermador®

THIS MANUAL CONTAINS INFORMATION THAT IS NECESSARY FOR SERVICING THE THERMADOR® BUILT-IN ELECTRIC OVENS, MODELS:

SCD302T / SCD272T

SC302T / SC301T / SC272T

S302T / S301T / S272T

THIS MANUAL IS DESIGNED TO BE USED ONLY BY QUALIFIED SERVICE PERSONNEL. THERMADOR RECOMMENDS THAT CUSTOMERS DO NOT SERVICE THEIR OWN UNITS, DUE TO THE COMPLEXITY AND THE RISK OF HIGH-VOLTAGE ELECTRICAL SHOCK.

THE INFORMATION IS ORGANIZED TO HELP THE SERVICER EASILY FIND WHAT IS NEEDED TO REPAIR THE UNIT.

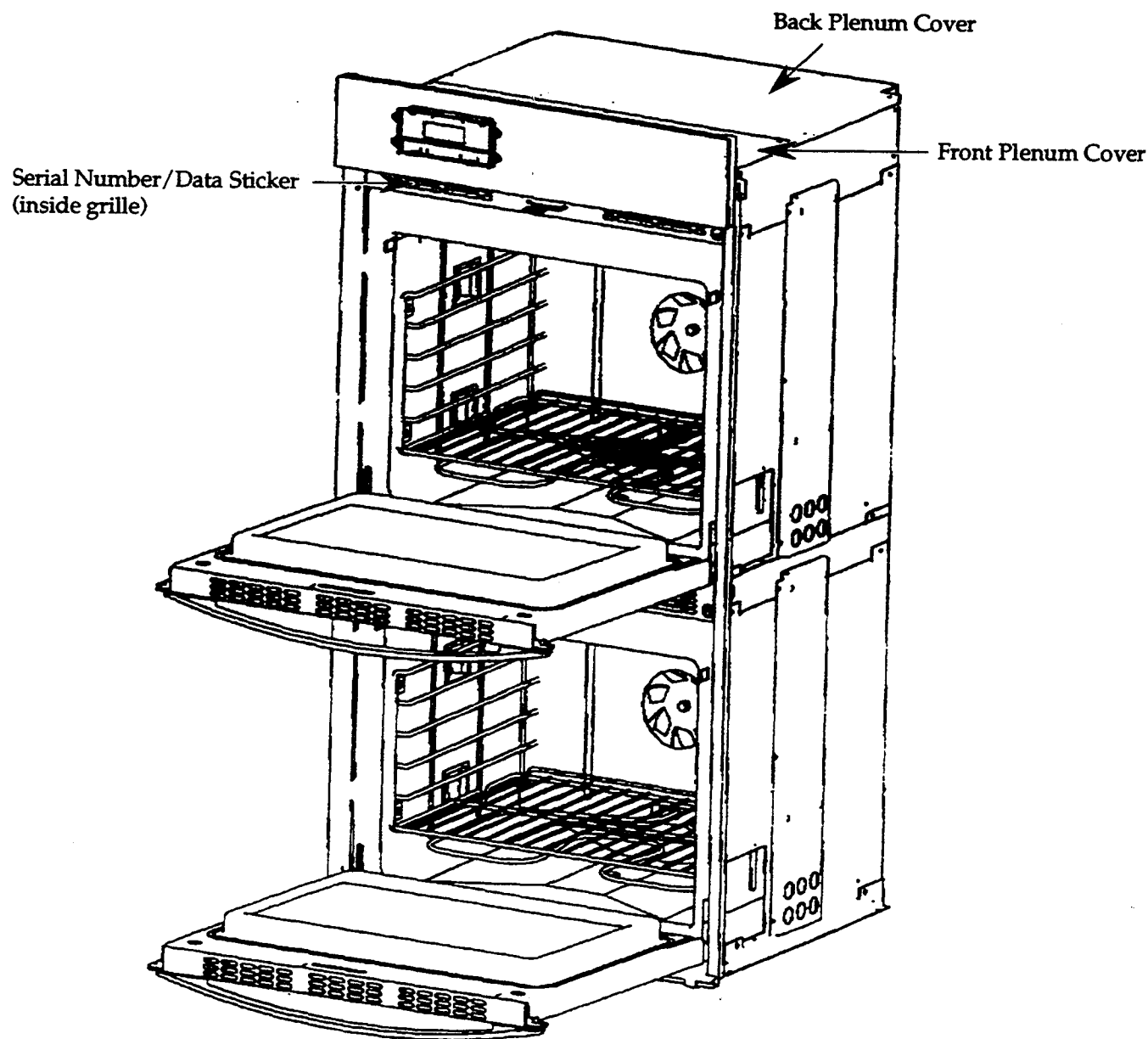
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— NOTES —

GENERAL

SERIAL NUMBER/DATA STICKER LOCATION



NOTE: The front plenum cover is mounted with 5 screws and the rear plenum cover with 6 screws. The front plenum cover is not mounted the same on the 27" oven as on the 30" oven.

SPECIFICATIONS

Features & Options

MODEL #	COOKING MODE					FINISHES					
	THERMAL BAKE	CONVECTION	CONVECTION ROAST	VARIABLE BROIL	SELF-CLEAN	CABINET SIZE		WHITE GLASS	BLACK GLASS	STAINLESS STEEL	(D)DOUBLE/ (S)SINGLE
						27"	30"				
SCD302T	U/L	U/L	U/L	U/L	U/L		•	•	•	•	D
SCD272T	U/L	U/L	U/L	U/L	U/L	•		•	•	•	D
SC302T	U/L	U	U	U/L	U/L		•	•	•	•	D
SC272T	U/L	U	U	U/L	U/L	•		•	•	•	D
S302T	U/L			U/L	U/L		•	•	•	•	D
S272T	U/L			U/L	U/L	•		•	•	•	D
SC301T	•	•	•	•	•		•	•	•	•	S
S301T	•			•	•		•	•	•	•	S

U = Upper oven only; U/L = Upper and lower ovens

Dimensions

DOUBLE OVENS MODEL #	OVERALL SIZE (H x W x D)	CUTOUT (H x W x D)	CONVECTION INTERIOR OVEN CAVITY		NON-CONVECTION INTERIOR OVEN CAVITY	
			(H x W x D)	Cubic Feet	(H x W x D)	Cubic Feet
SCD302T	51-1/2 x 29-7/8 x 23-7/8	51-1/4 x 28-1/2 x 24	25 x 16-1/4 x 17	4.00	N/A	N/A
SCD272T	51-1/2 x 26-7/8 x 23-7/8	51-1/4 x 25-1/2 x 24	22 x 16-1/4 x 17	3.52	N/A	N/A
SC302T	51-1/2 x 29-7/8 x 23-7/8	51-1/4 x 28-1/2 x 24	25 x 16-1/4 x 17	4.00	25 x 16-1/4 x 18-1/2	4.35
SC272T	51-1/2 x 26-7/8 x 23-7/8	51-1/4 x 25-1/2 x 24	22 x 16-1/4 x 17	3.52	22 x 16-1/4 x 18-1/2	3.83
S302T	51-1/2 x 29-7/8 x 23-7/8	51-1/4 x 28-1/2 x 24	N/A	N/A	25 x 16-1/4 x 18-1/2	4.35
S272T	51-1/2 x 26-7/8 x 23-7/8	51-1/4 x 25-1/2 x 24	N/A	N/A	22 x 16-1/4 x 18-1/2	3.83
SINGLE OVENS MODEL #						
SC301T	28-1/2 x 29-7/8 x 23-7/8	28-1/4 x 28-1/2 x 24	25 x 16-1/4 x 17	4.00	N/A	N/A
S301T	28-1/2 x 29-7/8 x 23-7/8	28-1/4 x 28-1/2 x 24	N/A	N/A	25 x 16-1/4 x 18-1/2	4.35

SYMBOLS YOU WILL SEE IN THE MANUAL

The following symbols are provided throughout this manual. For reasons of personal safety and

proper operation and servicing of the oven, follow the instructions carefully each time you see one of the symbols.

WARNING

This symbol alerts you to such dangers as personal injury, burns, fire, and electrical shock.

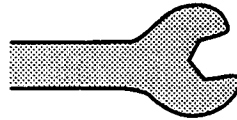
CAUTION

This symbol alerts you to actions that could cause product damage (scratches, dents, etc.), and damage to your personal property.

WARNING

Be sure to turn off all electrical supplies to the oven before servicing; otherwise, a fire may result causing property damage, personal injury, or death.

TECH TIP!!



This symbol alerts you to a service tip or a special procedure.

THERMADOR ASSUMES NO RESPONSIBILITY FOR ANY REPAIRS MADE ON OUR PRODUCTS BY ANYONE OTHER THAN AUTHORIZED THERMADOR SERVICE TECHNICIANS.

THERMADOR® WARRANTY

Length of Warranty	Thermador will pay for:	Thermador will not pay for:
<p>FULL ONE YEAR WARRANTY Covers one year from date of installation. Save all dated receipts or other evidence of the original purchase date.</p>	<p>All repair labor and replacement parts found to be defective due to materials and workmanship. Service must be provided by a Factory Authorized Service Agency, during normal working hours.</p>	<ol style="list-style-type: none"> 1. Service by an unauthorized agency. Damage or repairs by an unauthorized agency or use of unauthorized parts. 2. Service visits to: <ul style="list-style-type: none"> • Teach you how to use the appliance. • Correct the installation. You are responsible for providing electrical wiring and other connecting facilities. • Reset circuit breakers or replace home fuses. 3. Damage caused from accident, abuse, alteration, misuse, incorrect installation or installation not in accordance with local codes. 4. Repairs due to other than normal home use.

This warranty applies to appliances used in residential applications; it does not cover their use in commercial situations.

This warranty is for products purchased and retained in the 50 states of the U.S.A., the District of Columbia, and Canada. The warranty applies even if you should move during the warranty period. Should the appliance be sold by the original purchaser during the warranty period, the new owner continues to be protected until the expiration of the original purchaser's warranty period.

This warranty gives you specified legal rights. You may also have other rights which vary from state-to-state.

HOW TO OBTAIN SERVICE

For service, contact the Factory Authorized Service Agency in your area, the dealer from whom you purchased the appliance, or write us at the address shown below.

We want you to be a satisfied customer. If a problem arises that has not been resolved to your satisfaction, please let us know. Write to:

Customer Support Department
 5551 McFadden Avenue
 Huntington Beach, CA 92649

or phone:

(800) 735-4328

Please be sure to include the Model Number, Serial Number (located on the data sticker), and the Date of Original Purchase.

SERVICING THE COMPONENTS

OVEN COMPONENT LOCATIONS

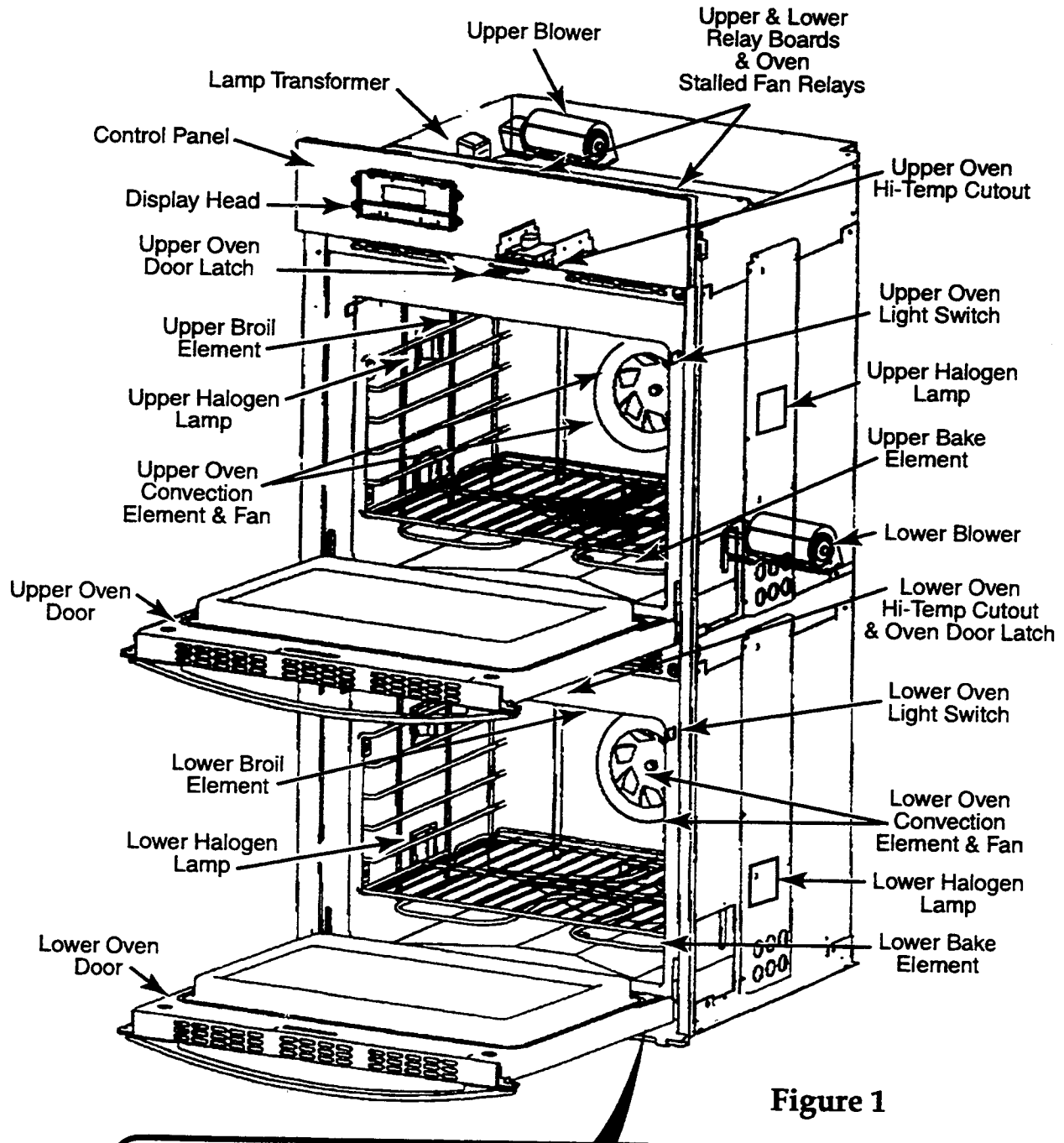
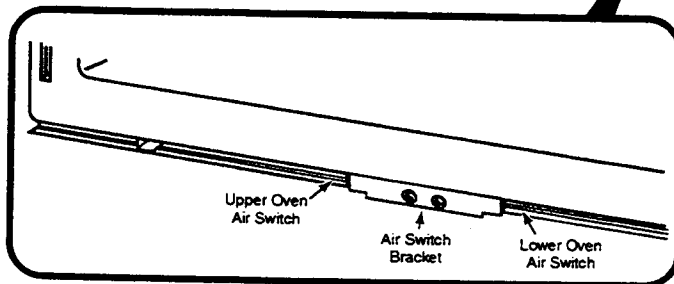


Figure 1



REMOVING THE BAKE & BROIL ELEMENTS & THE CATALYST

WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the electrical power to the oven.
2. To make servicing easier, remove the oven door (see page 2-21).
3. Remove the racks from the oven.
4. To remove the bake element (see Figure 2):
 - a) Remove the screws from the bake element brackets on the back of the oven liner.
 - b) Pull the bake element forward so you can access the wires, then tie a 12" piece of string around each of the wire connectors so you can retrieve the wires if they should slide back inside the liner.
 - c) Disconnect the wires from the bake element terminals.
 - d) Connect the wires to the terminals of the new bake element, remove the string, and mount the element to the liner with its screws. **NOTE:** Do not allow the wires to "bunch up" inside the insulation material when pushing them into the liner holes.
5. To remove the broil element (see Figure 3):
 - a) Remove the screws from the broil element brackets on the rear of the oven liner, and the screws from the two top front brackets of the element. Then, remove the four screws from the shield, lower the broil element, and pull it forward.
 - b) Tie a 12" piece of string around each of the wire connectors so you can retrieve the wires if they should slide back inside the liner.
 - c) Disconnect the wires from the broil element terminals.
 - d) Connect the wires to the terminals of the new broil element, remove the string, and mount the element to the liner with its mounting screws. **NOTE:** Do not allow the wires to "bunch up" inside the insulation material when pushing them into the liner holes.
6. To remove the catalyst (see Figure 4):
 - a) Remove the screws and pull it out of the oven cutout.
 - b) Install the new catalyst.
7. Reassemble the oven.

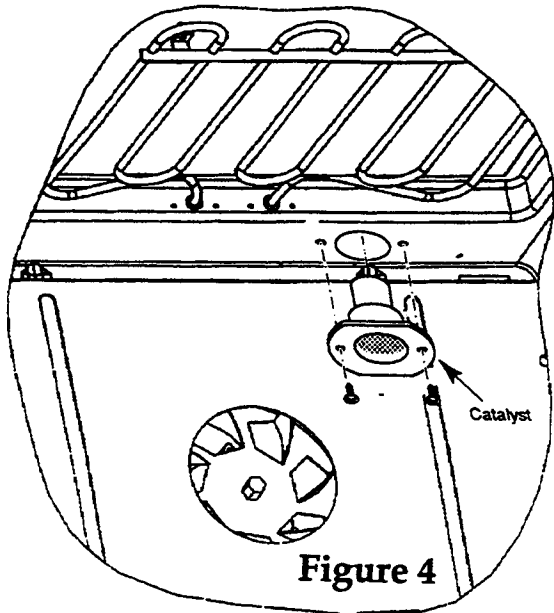
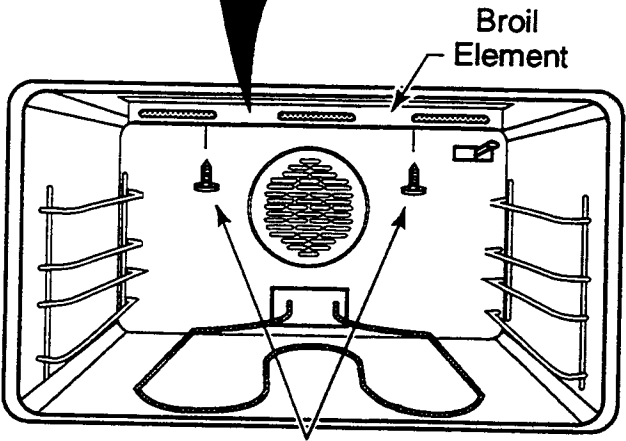
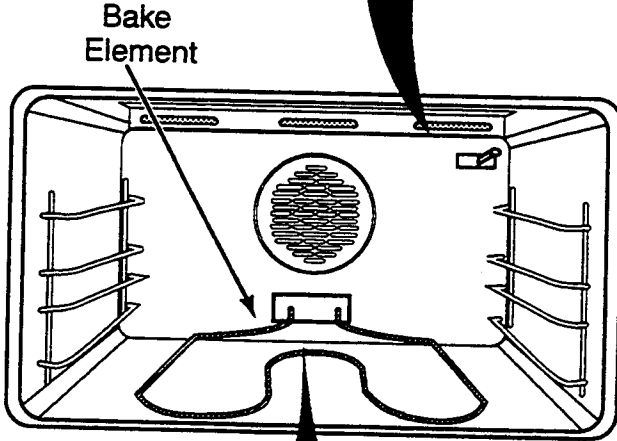
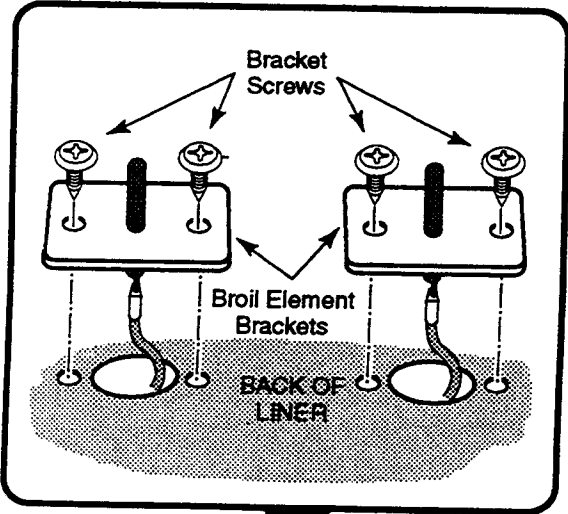


Figure 4



2 Top Front Mounting Screws

Figure 3

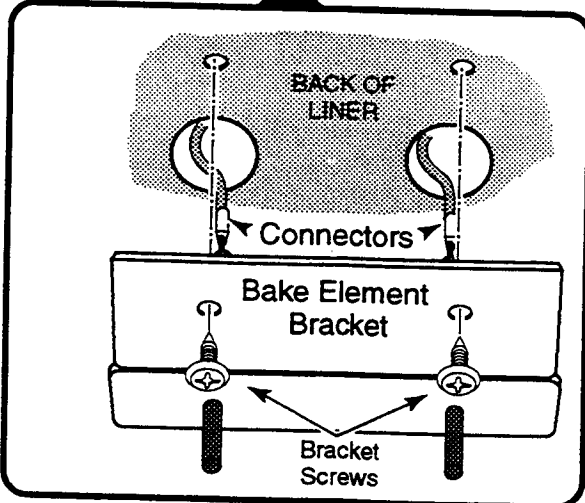


Figure 2

REMOVING THE OVEN TEMPERATURE SENSOR

⚠ WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 5 for the following steps.

1. Turn off the electrical power to the oven.
2. To make servicing easier, remove the oven door (see page 2-21).

3. Remove the racks from the oven.
4. Remove the screws from the bracket and pull the oven temperature sensor forward until the wire connectors are through the opening.
5. Cut the inline splices from the oven temperature sensor and main harness wires.
6. Connect the wires from the new oven temperature sensor to the main harness wires with two red inline splices. After you connect the wires, pull on them to make sure that the inline splices are secure.
7. Use a screwdriver and push the wires into the back of the oven as far as they will go, then install the oven temperature sensor in the oven liner with its two screws.
8. Reassemble the oven.

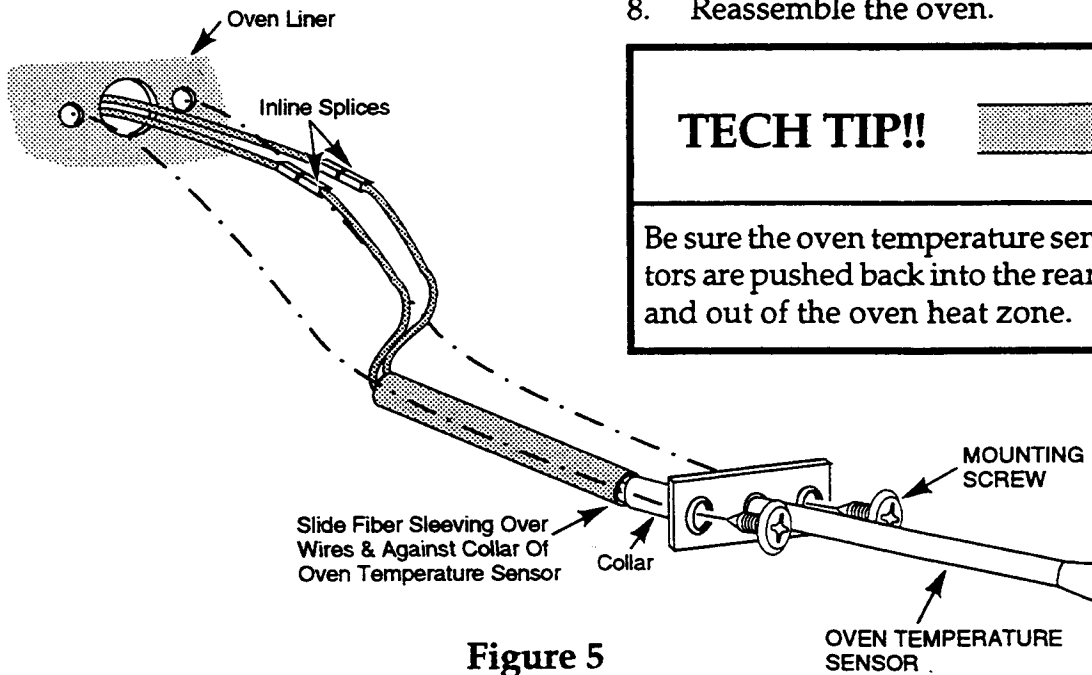
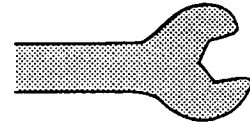


Figure 5

TECH TIP!!



Be sure the oven temperature sensor connectors are pushed back into the rear of the oven and out of the oven heat zone.

REMOVING THE CONVECTION BAKE ELEMENT

⚠ WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 6 for the following steps.

1. Turn off the electrical power to the oven.
2. To make servicing easier, remove the oven door (see page 2-21).
3. Remove the racks from the oven.
4. Remove the front screws from the left and right oven rack supports and remove the supports from the oven liner.
5. Remove the screws from the convection baffle and remove the baffle from the back of the oven liner.
6. Remove the screws from the convection bake element bracket and the screw from the bottom support and pull the element forward, then disconnect the wires from the terminals.
7. Install the new convection bake element and connect the wires to the terminals.
8. Reassemble the oven.

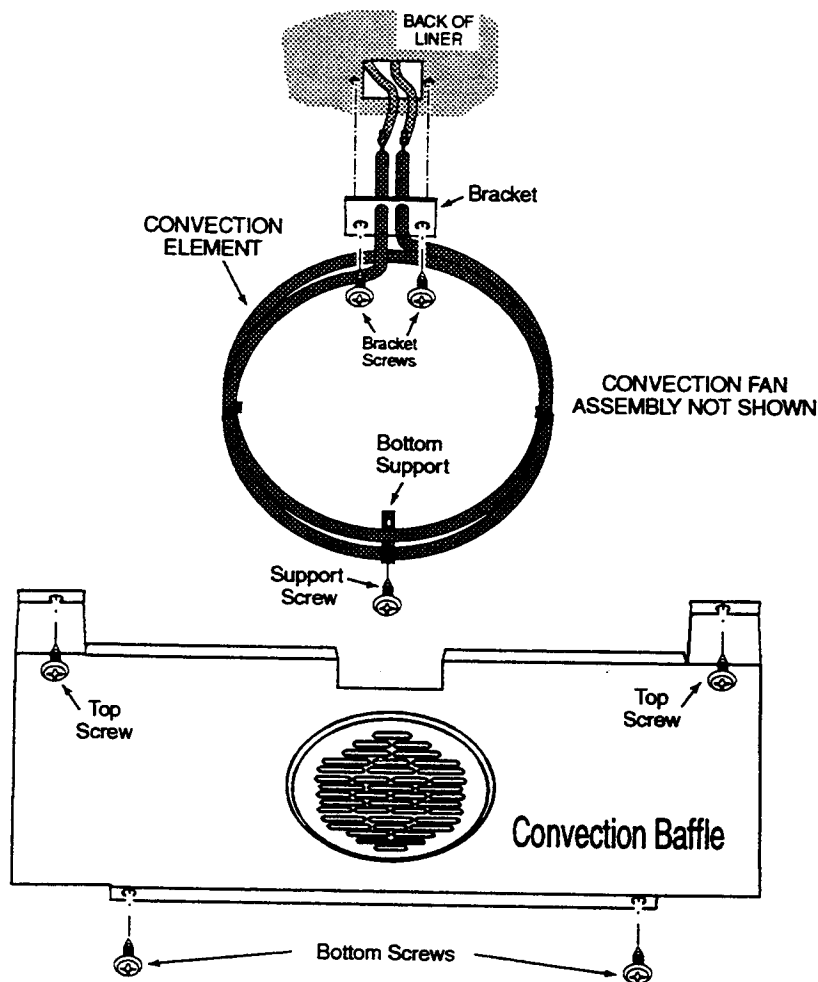


Figure 6

REMOVING A CONVECTION FAN MOTOR

WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

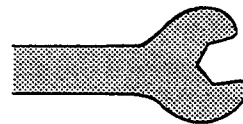
CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 7 for the following steps.

1. Turn off the electrical power to the oven.
2. To make servicing easier, remove the oven door (see page 2-21).
3. Remove the racks from the oven.
4. Remove the front screws from the left and right oven rack supports and remove the supports from the oven liner.
5. Remove the screws from the convection baffle and remove the baffle from the back of the oven liner.
6. Remove the hex nut from the front of the convection blade. NOTE: The nut has left-rotating threads.
7. Remove the flat washer and e-ring from the convection blade and remove the blade from the motor shaft.
8. Remove the screws from the pan and remove the pan.
9. Remove the motor screws from the bracket and remove the motor from the bracket.
10. Disconnect the two wires from the fan motor terminals.
11. Connect the brown wire (#45) to the right terminal of the new convection fan motor, and the white wire (#44) to the left terminal, then install the motor assembly.
12. Reassemble the oven.

TECH TIP!!



The convection blade hex nut has left-rotating threads.

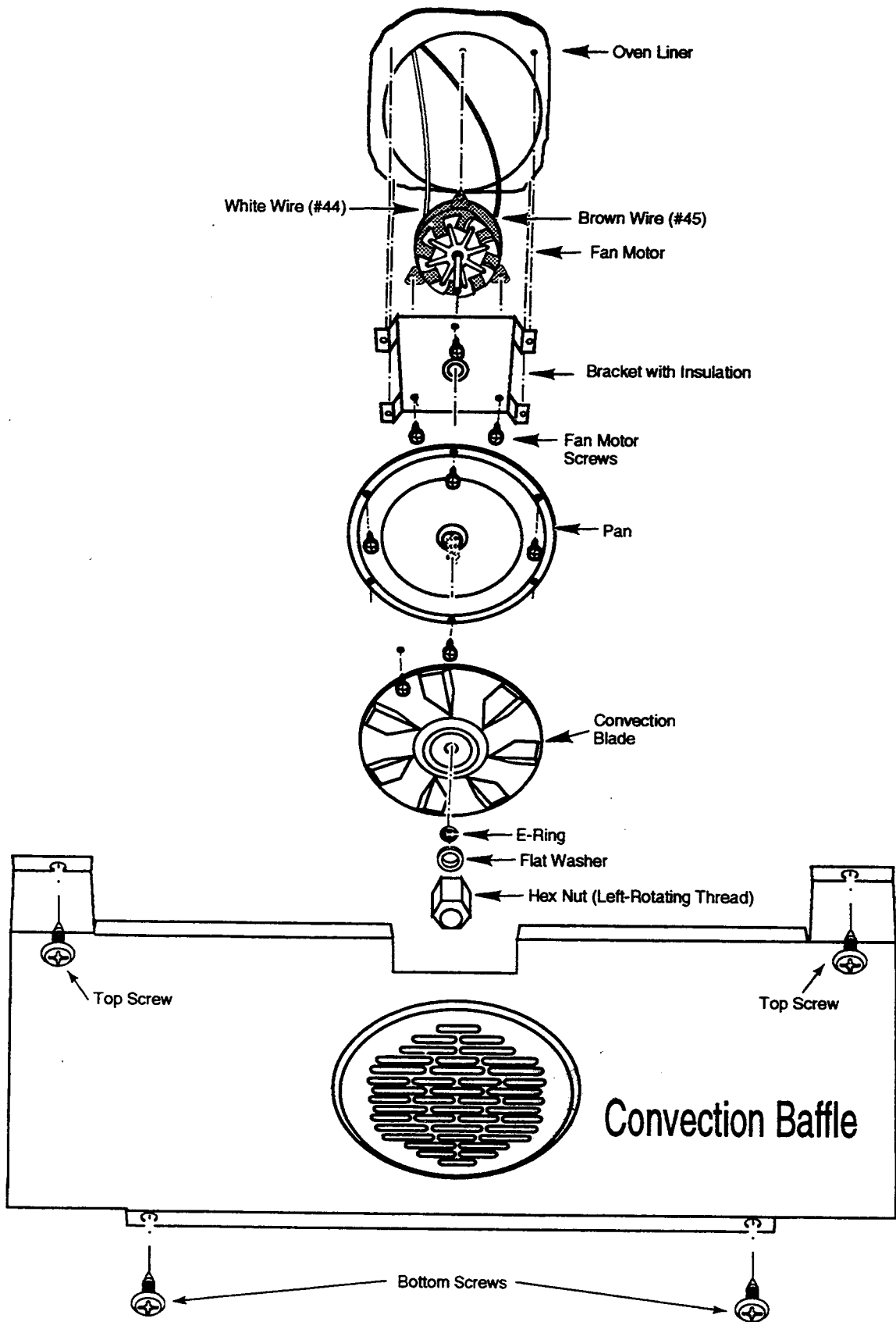


Figure 7

REMOVING A HALOGEN LAMP HOLDER

WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 8 for the following steps.

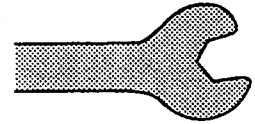
1. Turn off the electrical power to the oven.
2. Remove the oven racks.
3. Remove the oven rack support for the halogen lamp holder you are removing.

CAUTION: Make sure that the halogen bulb is cool before you remove it in the next step.

4. Pull the lamp cover out of the halogen lamp holder and remove the bulb.
5. Pry the lamp holder out of the oven liner and cut the wires approximately 2" from the lamp holder body. **CAUTION: Be careful not to chip or scratch the oven liner when you pry the lamp holder out of the cutout.**

6. Cut the plug off the new lamp holder.
7. Connect the cut wires to the new lamp holder with two red inline splices. After you connect the wires, pull on them to make sure that the inline splices are secure.
8. Gently pull the lamp holder wires up into the plenum area until you can see the red wire splices in the plenum area.
9. Reassemble the oven.

TECH TIP!!



Make sure that the two red inline splices are in the top plenum area and not in the oven heat zone.

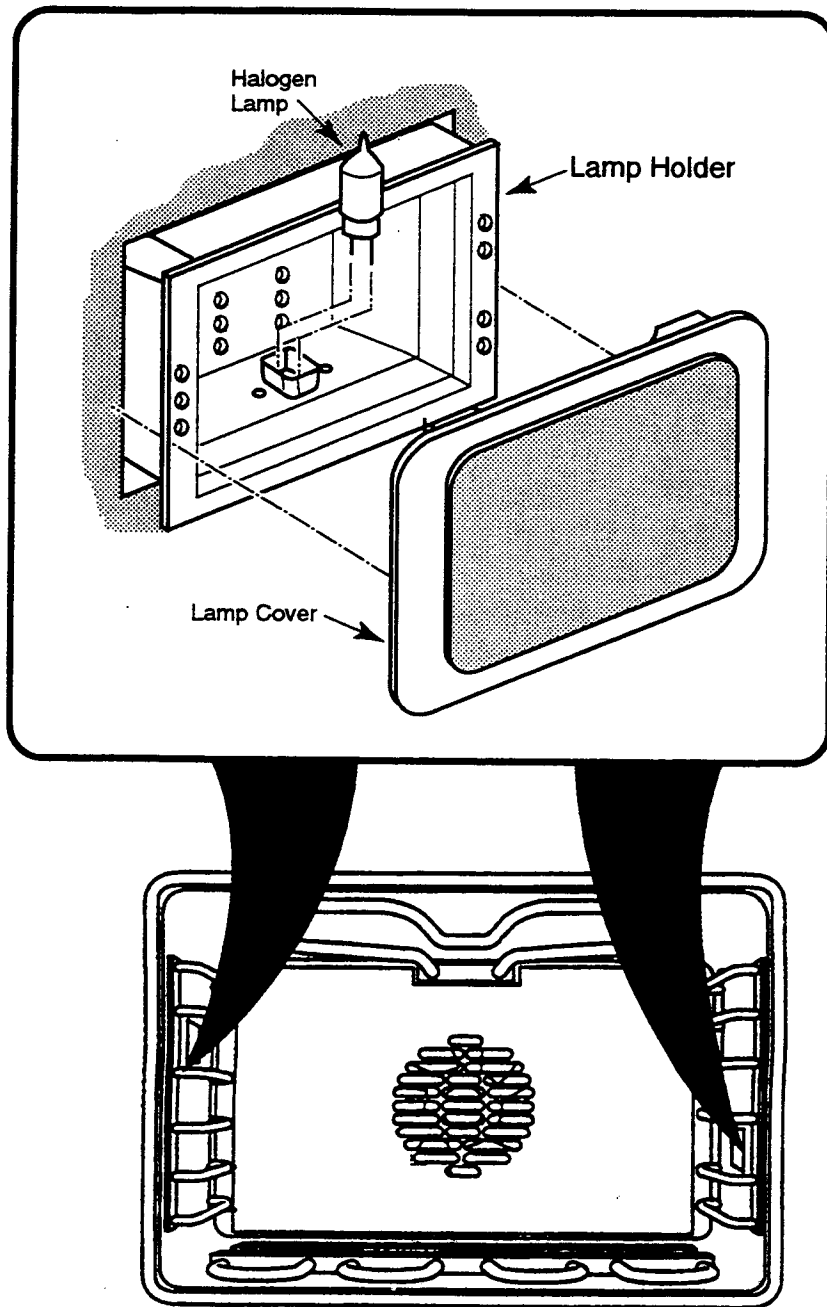


Figure 8

REMOVING THE CONTROL PANEL & DISPLAY HEAD

WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 9 for the following steps.

1. Turn off the electrical power to the oven.
2. Open the upper oven door.
3. **To remove the control panel:**
 - a) Remove the two bottom end screws from the control panel frame.

IMPORTANT: To prevent pulling 4-wire connector P2 from the control panel plug in the next step, support the control panel with both hands.

- b) Using both hands, pull the top of the front panel forward and unsnap the posts on both sides of the panel from the catches in the sub-panel (see inset 1).
- c) Being careful not to bend the pins, grasp the ribbon cable connector, (not the ribbon cable), and pull it off the circuit board pins (see inset 2).
- d) Unplug 4-wire connector P2 from its circuit board connector (see inset 3).

4. **To remove the display head (see inset 4):**

- a) Remove the three screws from the plastic frame and pull the display forward.

IMPORTANT: Ribbon cable J3 is not indexed. Note the the orientation before you disconnect it in the next step so that you can position it the same way when you reconnect it.

- b) Pull up on the end tabs of the locking strip and remove the ribbon cable from its connector at J3.
 - c) Disconnect connectors J1 and J2.
5. Install the replacement control panel or display head.
 6. Reassemble the oven

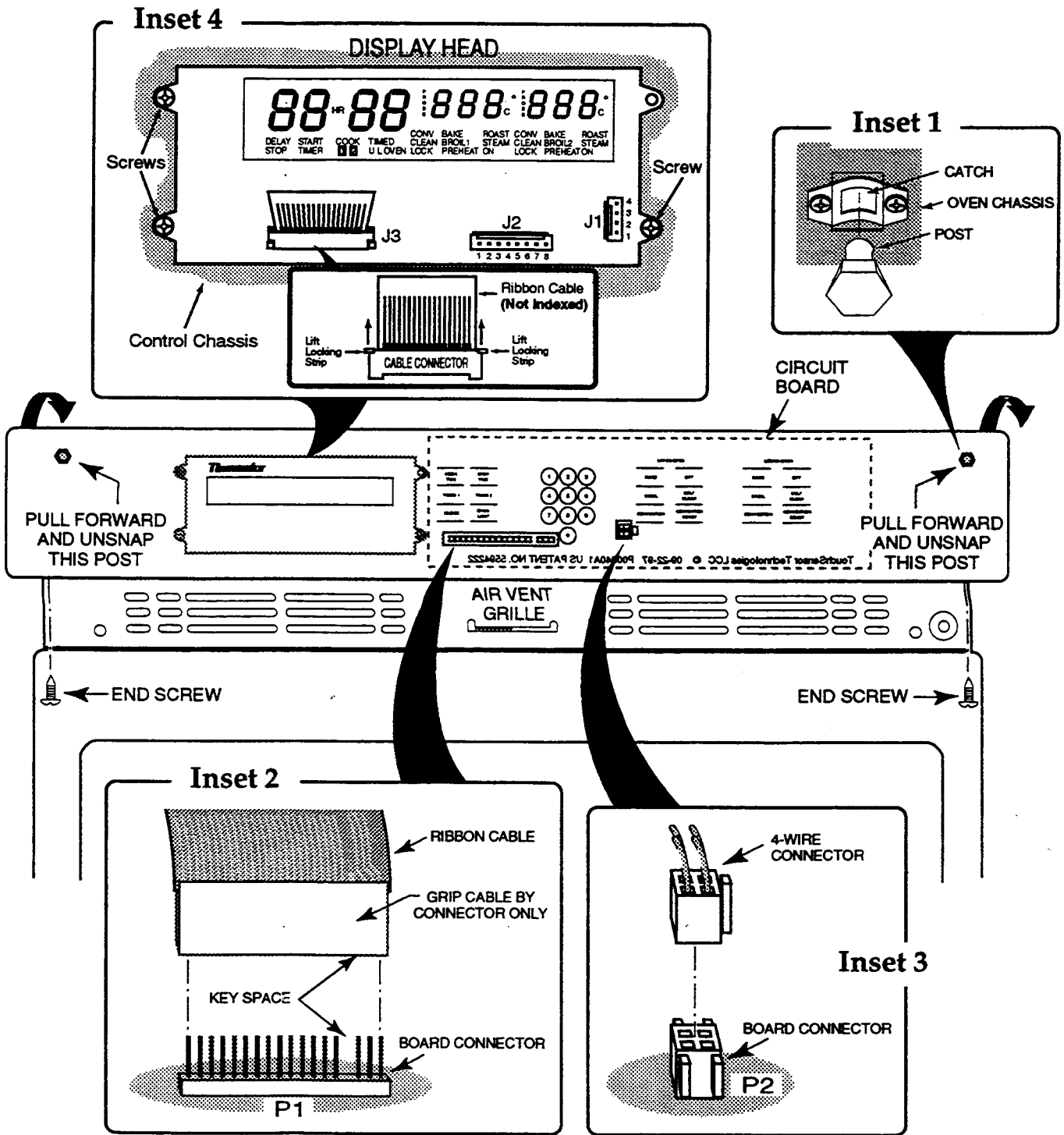


Figure 9

REMOVING THE OVEN LIGHT SWITCH, THE OVEN DOOR LATCH ASSEMBLY, & THE HI-TEMP CUTOUT

⚠ WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

Refer to Figure 11 on the next page for the following steps.

1. Turn off the electrical power to the oven.
2. Open the oven door for the component you wish to remove.
3. To remove the upper air vent grille, remove the four bottom screws and the two front oven door latch screws.
4. To remove the lower air vent grille, remove the two front oven door latch screws, (see Figure 10), then pull the posts on the ends of the air vent grille out of the catches in the chassis.
5. To remove the oven light switch, disconnect the wires from the terminals, press in on the locking arms, and push the switch out of the vent (see inset 1).
6. To remove the oven door latch assembly (see inset 2):
 - a) Use a 1/4" ratchet and a 1/4" thin-wall socket and remove the two front hex-head screws from the latch bracket.
 - b) Pull the latch assembly to the right so that the flange on the left side clears the bracket, and then pull it forward as far as the wires will allow.
 - c) Remove the wires from the switch connectors and the motor wires from the main harness.
 - d) To replace a door lock or door unlock switch on the latch assembly, remove the two screws from the switch body, and remove the switch.
7. To remove the hi-temp cutout (see inset 3):
 - a) Remove the two 1/4" hex-head screws from the bracket.
 - b) Remove the hi-temp cutout and disconnect the wires.
8. Install the replacement component.
9. Reassemble the oven.

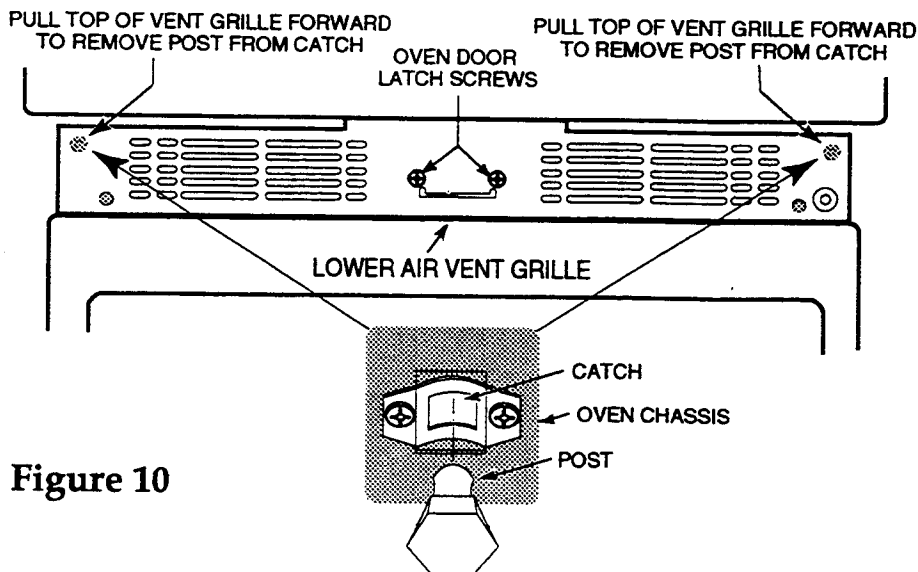
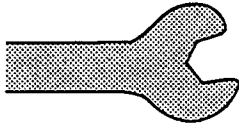


Figure 10

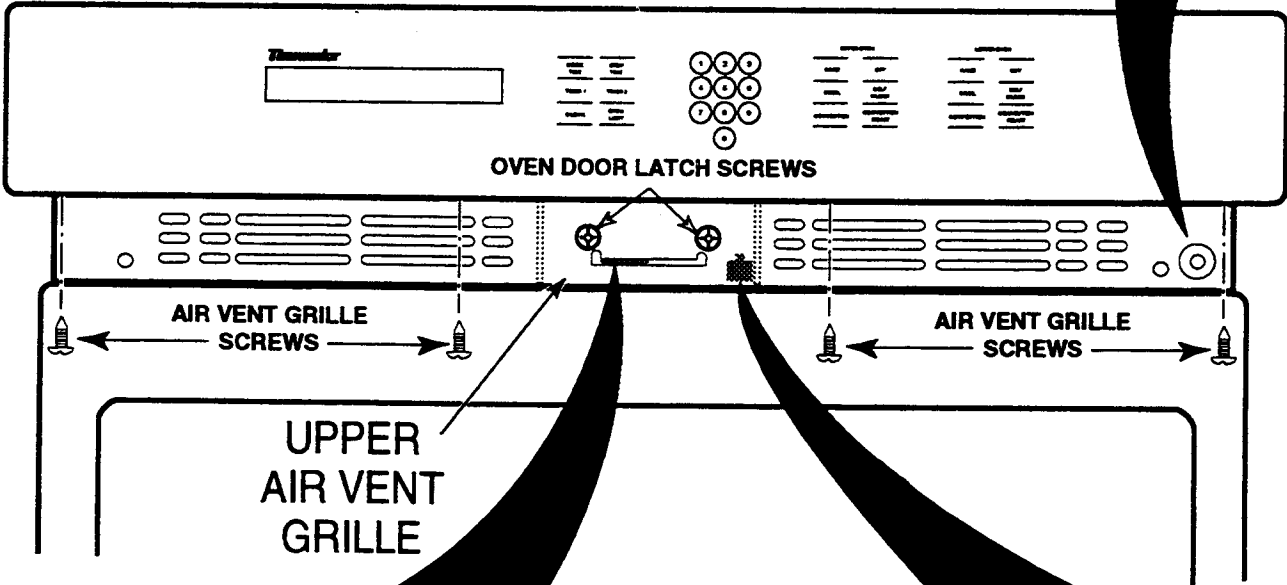
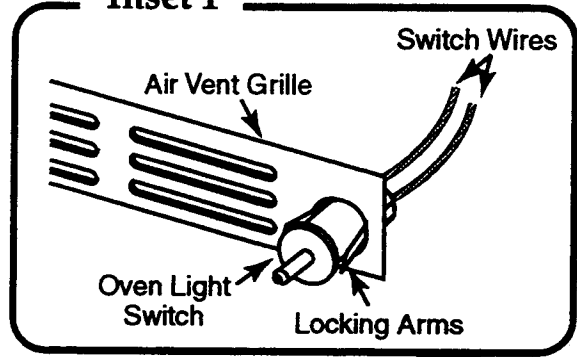
TECH TIP!!



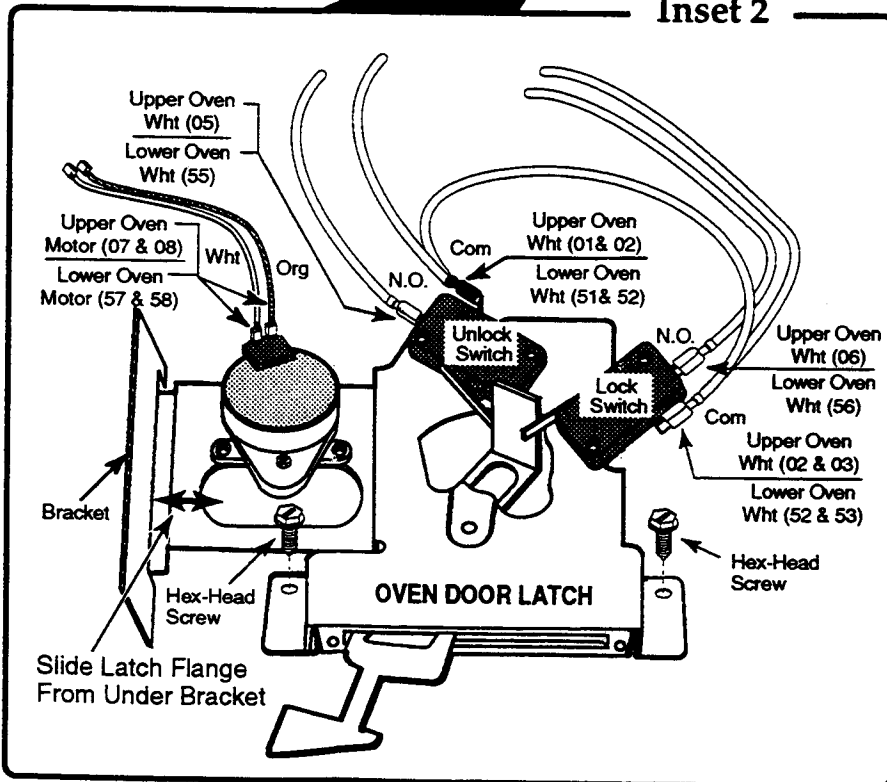
You will need the following tools to remove the components:

- 1/4" ratchet
- 1/4" thin-wall socket
- #2 Phillips Offset Screwdriver

Inset 1



Inset 2



Inset 3

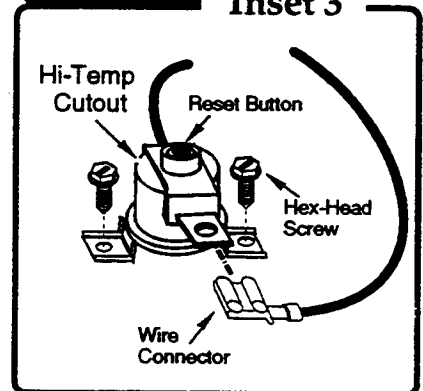


Figure 11

REMOVING A RELAY BOARD

⚠ WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

⚠ CAUTION

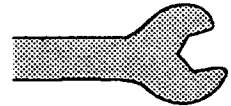
The Oven Relay Boards are subject to failure if static electricity is transferred to the solid state components during handling. The replacement boards are packaged in antistatic bags. When removing the boards from their bags, use a grounding strap, or touch a grounded metal surface (appliance chassis) prior to handling the boards. When you handle a board, handle it by the edges of the plastic frame. DO NOT TOUCH the connector pins or the microprocessor chip.

IMPORTANT NOTE: Repack the old boards in the antistatic bags before returning them to a parts distributor.

Refer to Figure 12 below, and Figures 13 and 14 on the next page, for the following steps.

1. Turn off the electrical power to the oven.
2. Open the upper oven door.
3. Remove the control panel and display head from the oven (see pages 2-10 and 2-11 for the procedure).
4. Remove the front subpanel (see Figure 12).
5. Remove the wiring from the relay board.
6. Remove the screw from the board holder, (see Figure 12), slide the holder to the right to unhook it from the slot in the chassis, and remove the board and holder.

TECH TIP!!



The board and holder comes as an assembly. **DO NOT** remove the relay boards from their holders.

7. Install the new relay board and holder and reconnect the wiring.
8. Reassemble the oven.

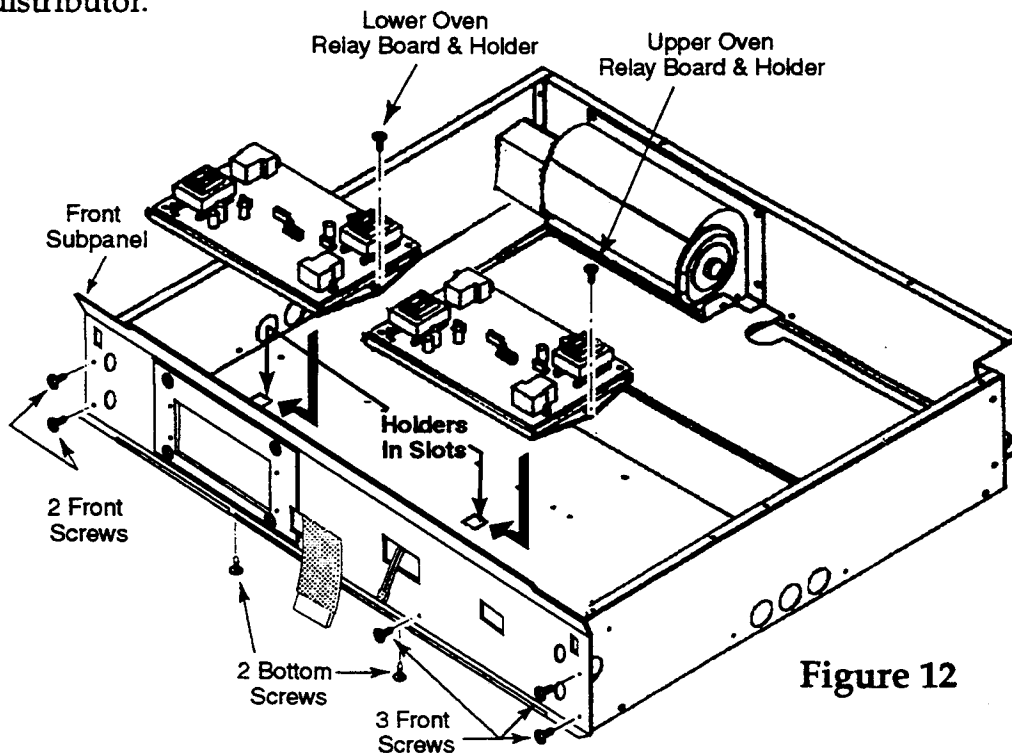


Figure 12

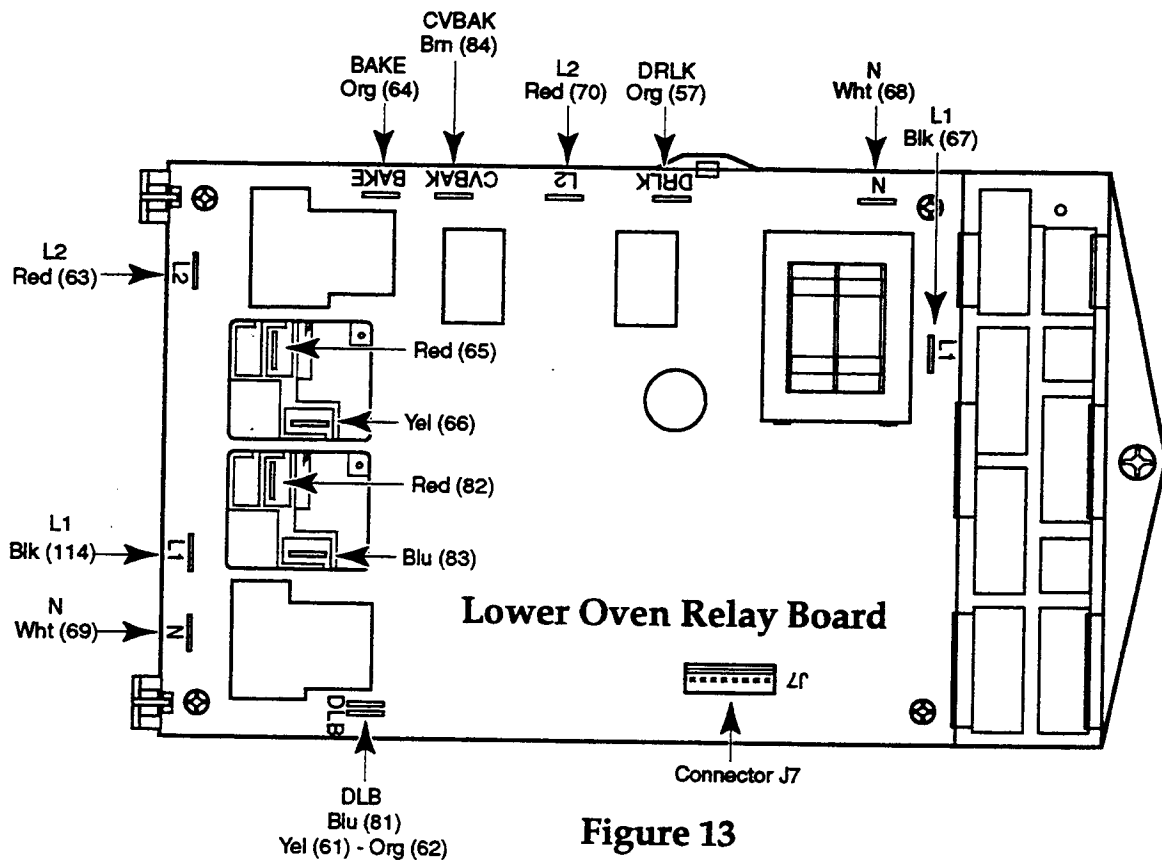


Figure 13

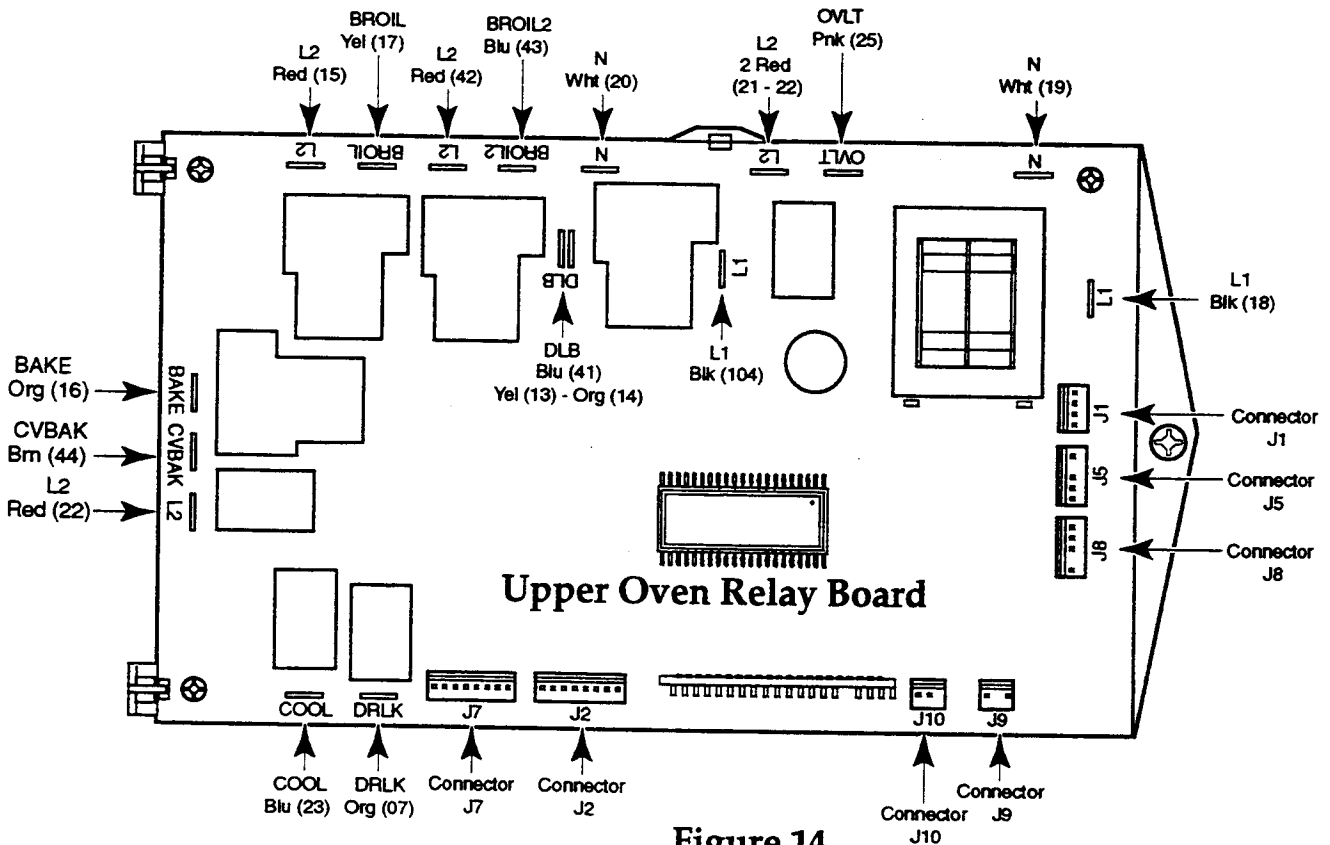


Figure 14

REMOVING THE AIR SWITCHES

⚠ WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

NOTE: The air flow to the air switch in the lower oven base compartment of all 27" S-Series ovens has been improved with the addition of an air diverter (#16-10-101). This improvement has been made to all 27" and 30" ovens built in 1998. The new air diverter is located on the right side of the lower oven base compartment (see Figure 15 below). If you encounter a 27" oven that was built in 1997 with no oven heat, due to the air switch not closing, order and install the new diverter. You will not see any error code messages in control display window if these problems occur.

Refer to Figure 16 on the next page for the following steps.

1. Turn off the electrical power to the oven.
2. Open the lower oven door. The bottom trim mounting screws (see inset 1) are visible at each side of the oven door, below the left and right hinges.
3. Remove the two screws from the bottom trim, pull it forward, and remove it.
4. Remove the two front switches from the air switch bracket and flange, and pull the air switch bracket assembly forward so you can access the switches (see inset 2).
5. To remove an air switch from the bracket, remove the two screws from the switch body, and disconnect the wires from the terminals (see inset 3).
6. Install the new air switch in the mounting bracket.
7. If you intend to install the air switch diverter, do so at this time. Make sure that the spacing between the air switch paddle and the end of the diverter is as shown below.
8. Reassemble the oven.

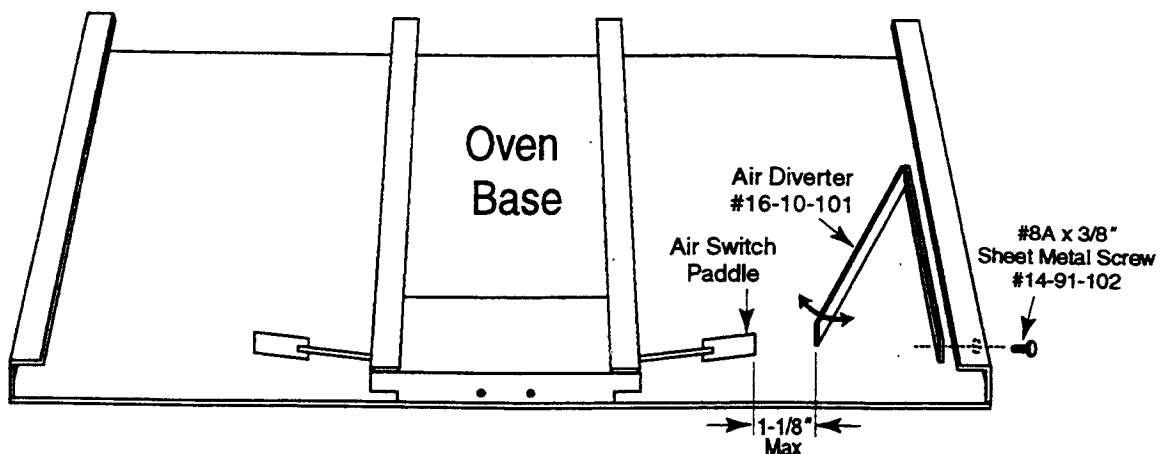


Figure 15

NOTE: After mounting the air diverter, bend the arm, as necessary, so that the space between the air switch paddle and the end of the arm is as shown.

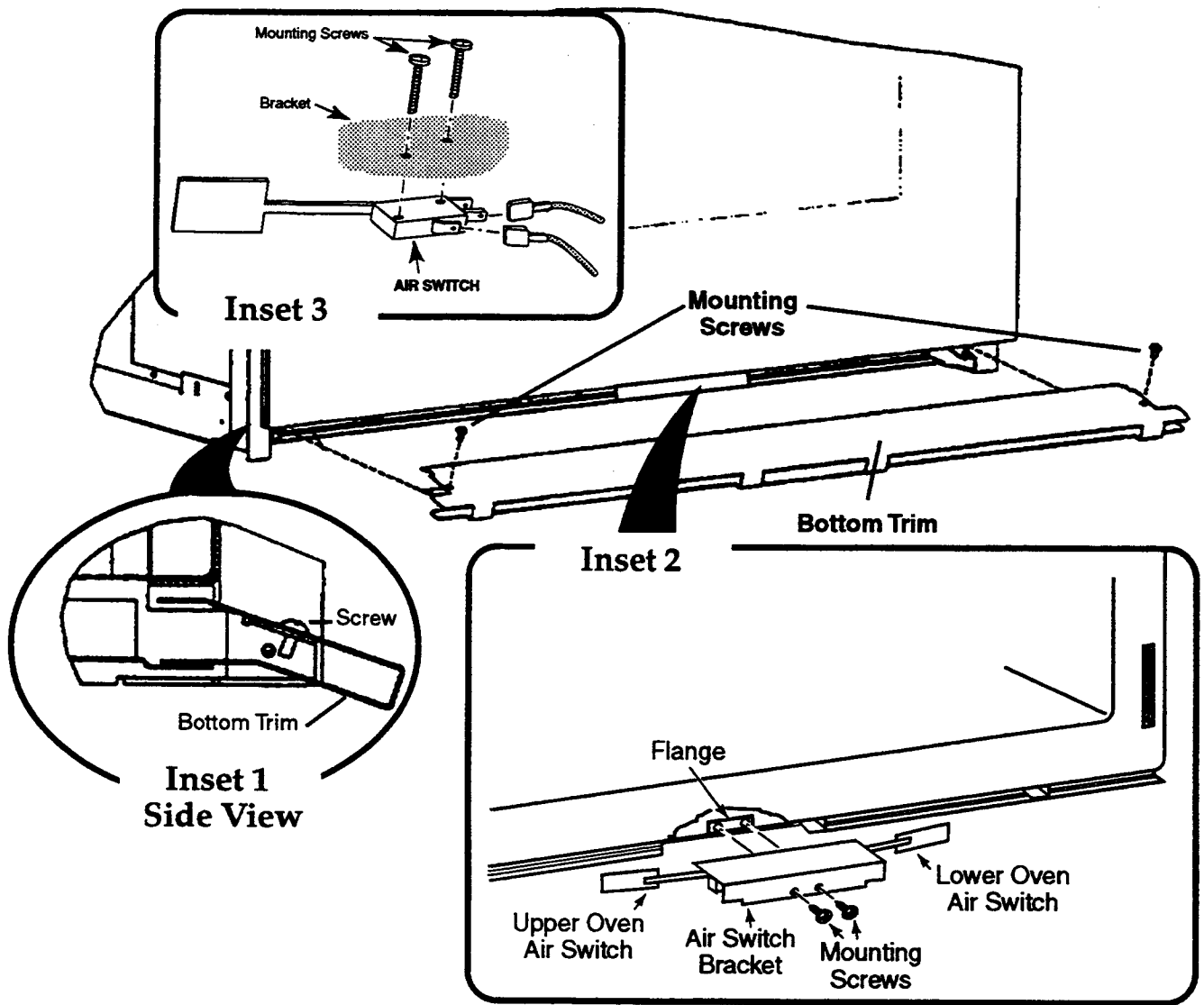


Figure 16

REMOVING A BLOWER

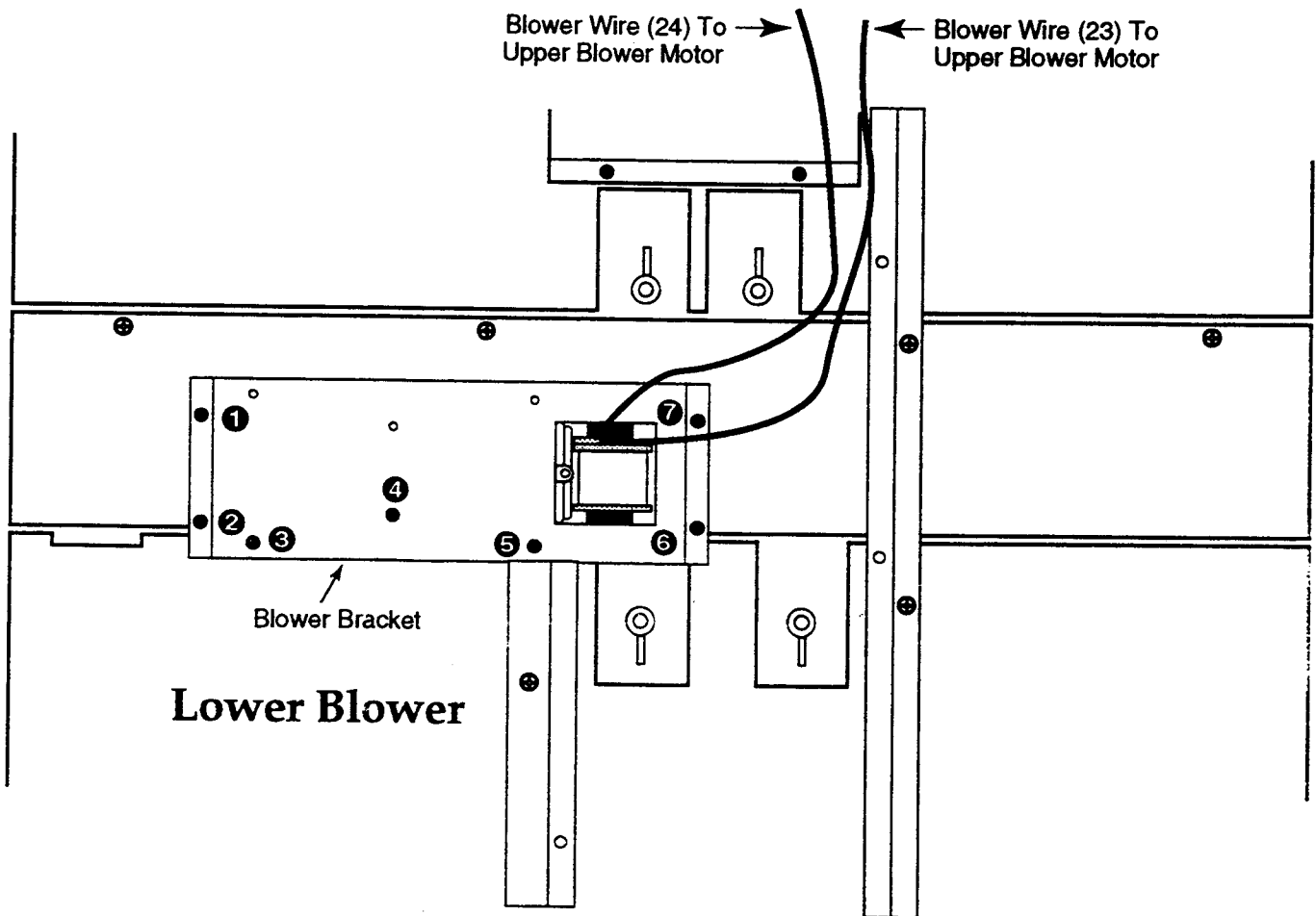
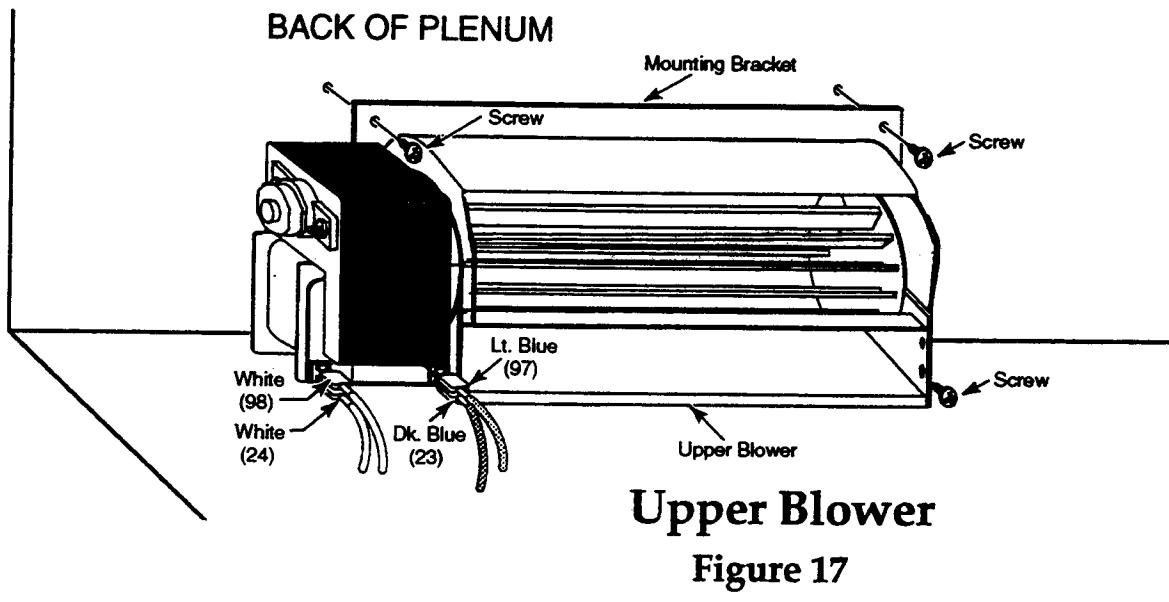
WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the electrical power to the oven.
2. To make servicing easier, remove the oven doors (see page 2-21).
3. **To remove the upper blower (see Figure 17):**
 - a) Remove the oven from the wall.
 - b) Remove the screws from the front and back plenum covers and remove the covers.
 - c) Remove the three screws from the blower motor bracket on the back of the plenum and turn the assembly around so that the back faces you.
 - d) Remove the three screws that mount the motor to the bracket.
 - e) Disconnect the four wires from the motor terminals.
 - f) Install the new blower in the mounting bracket and mount the assembly to the plenum.
4. **To remove the lower blower (see Figure 18):**
 - a) Remove the oven from the wall.
 - b) Remove the rear panel from the oven.
 - c) Remove the four bracket screws (1,2,6, & 7) from the back of the oven.
 - d) Remove the three blower screws (3, 4, & 5) from the bracket and remove the motor.
 - e) Loosen the wire ties and remove the two motor wires from the rest of the wire harness.
 - f) Install the new blower in the mounting bracket, mount the assembly to the back of the oven, and connect the wires.
 - g) Install the motor wires in the wire harness ties with the rest of the wires and dress them neatly.
5. Reassemble the oven.



REMOVING THE LAMP TRANSFORMER & THE UPPER OR LOWER OVEN STALLED FAN RELAY

⚠ WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the electrical power to the oven.
2. Open the upper oven door.
3. Remove the control panel and display head (see pages 2-10 and 2-11 for the procedure).
4. Remove the front subpanel (see page 2-14).
5. To remove the lamp transformer (see Figure 19):
 - a) Remove the screws and disconnect the wires from the terminals.
 - b) Install the new lamp transformer and reconnect the wiring.

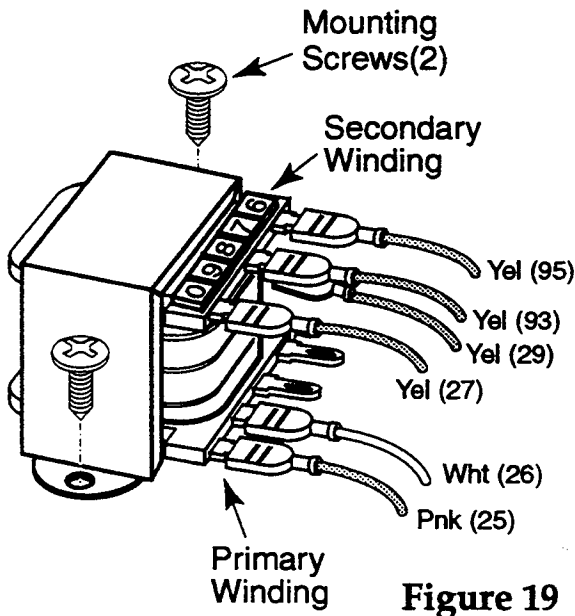


Figure 19

6. To remove a stalled fan relay (see Figure 20):
 - a) Remove the screws and disconnect the wires from the relay terminals.
 - b) Install the new stalled fan relay with the terminals positioned as shown and reconnect the wiring.

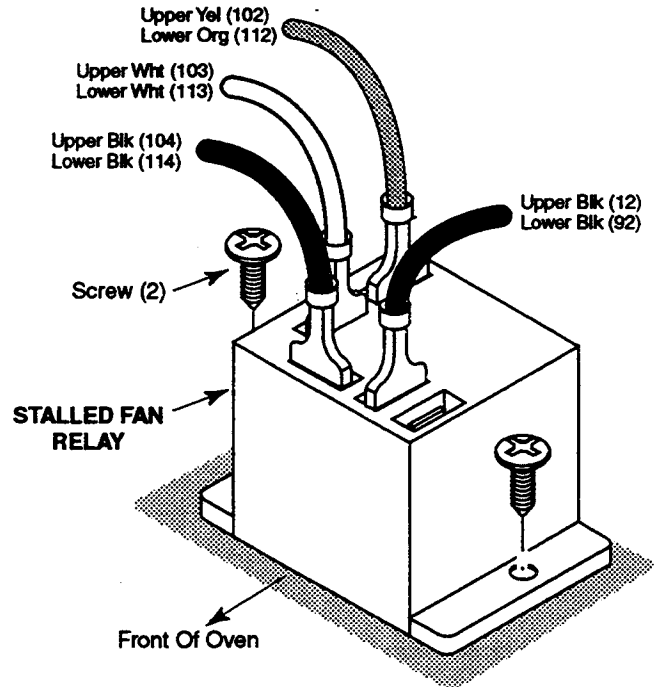


Figure 20

7. Reassemble the oven.

REMOVING AN OVEN DOOR

Refer to Figure 21 for the following steps.

1. Open the door to its fully open position.
2. Raise the hinge latch over the hook on each of the hinges.

3. To remove the door:

- a) Grasp the door by the sides toward the back and raise the front of the door several inches (there will be some resistance in the spring mechanism because the hinge is locked).
- b) When the door is high enough, lift it until the hinges clear the indents, and pull it out of the slots in the front frame.

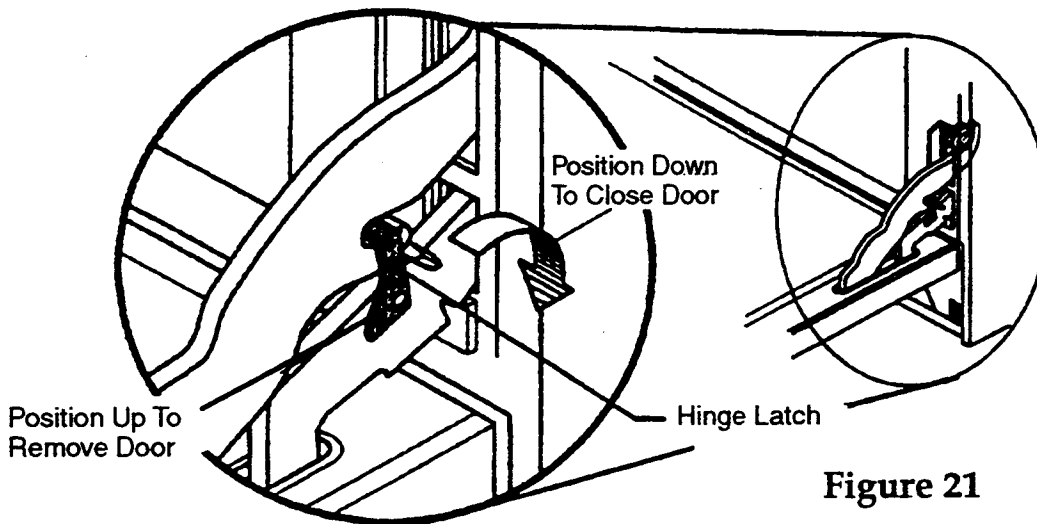


Figure 21

REMOVING THE OVEN DOOR GASKET

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

CAUTION: Before you replace the fiberglass gasket on the oven door, make sure that the oven control is turned OFF and that the oven is cool.

Refer to Figure 22 for the following steps.

1. Open the oven door to its fully open position.
2. Pull the ends of the old gasket out of the holes in the door (see inset 1 on the illustration).
3. Working from one end of the gasket to the other, carefully pull the clips that are attached to the gasket out of the holes in the oven door (see inset 2 on the illustration).
4. Position the new fiberglass gasket around the oven door so that the clips are near the holes.
5. Working from one end of the gasket to the other, insert the gasket clips into the holes in the oven door. NOTE: Once inserted, gently pull on the clip to make sure that it is locked into place.
6. Using the eraser end of a pencil, push the ends of the gasket fully into the holes in the oven door.
7. Check the entire gasket to make sure that all of the clips are properly inserted, and that it is flush and even with the surface of the door.
8. Close the oven door and check to make sure that the gasket fits firmly and evenly with the front of the oven.

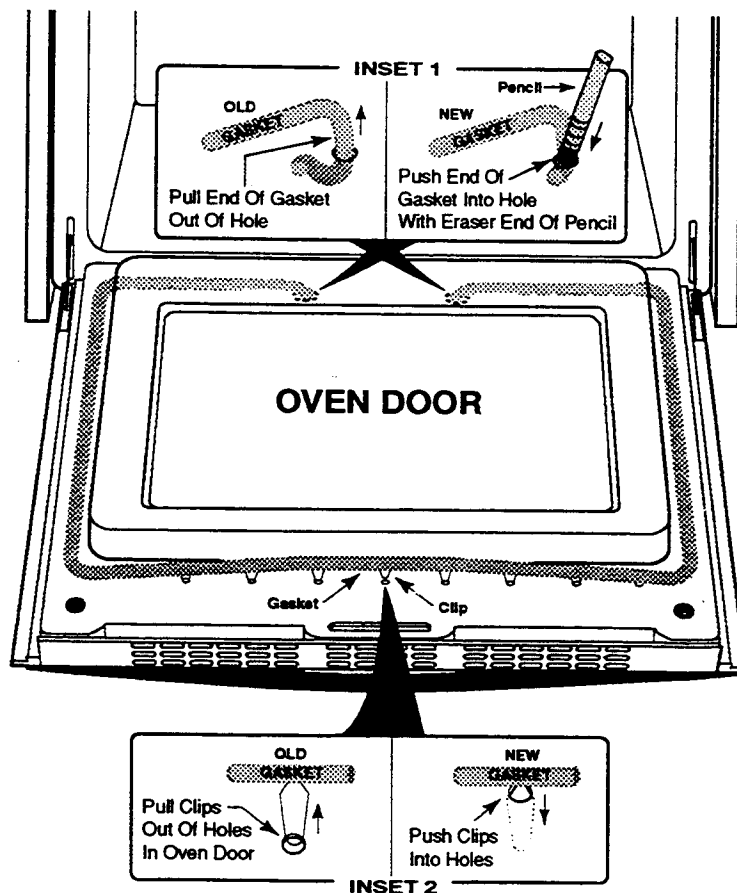


Figure 22

REMOVING THE OVEN DOOR COMPONENTS

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. To remove any of the oven door components, remove the oven door from the oven (see page 2-21).

2. Refer to Figure 23 as you remove the door components. The illustration shows the order of removal.

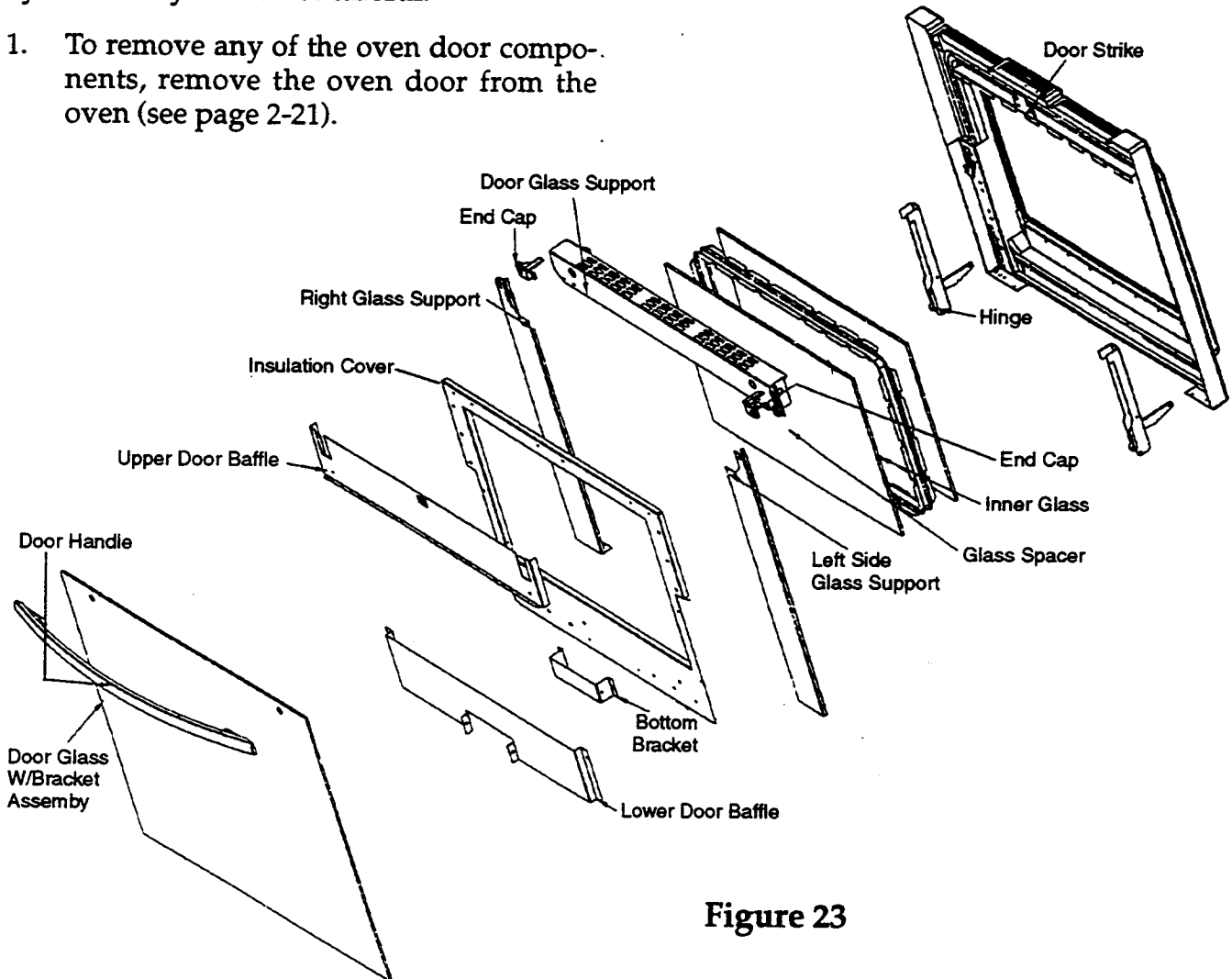


Figure 23

REMOVING THE OVEN MODULE
(27") Non-Convection Kit — #35-00-659
(30") Non-Convection Kit — #35-00-660
(27") Convection Kit — #35-00-661
(30") Convection Kit — #35-00-662

⚠ WARNING

Turn off the electrical power circuit to the oven at the main junction box before servicing this unit.

⚠ CAUTION

When you work on the oven, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the electrical power to the oven.
2. To make servicing easier, remove the oven doors (see page 2-21).
3. Remove the oven from the wall.
4. Remove the components from the oven, shown in Figure 24. Refer to the sections in this manual for the procedures on removing the components.
5. With all of the oven components removed, remove the six screws (three on each side) from the front sides of the oven can.
6. Pull the oven can forward and remove it.

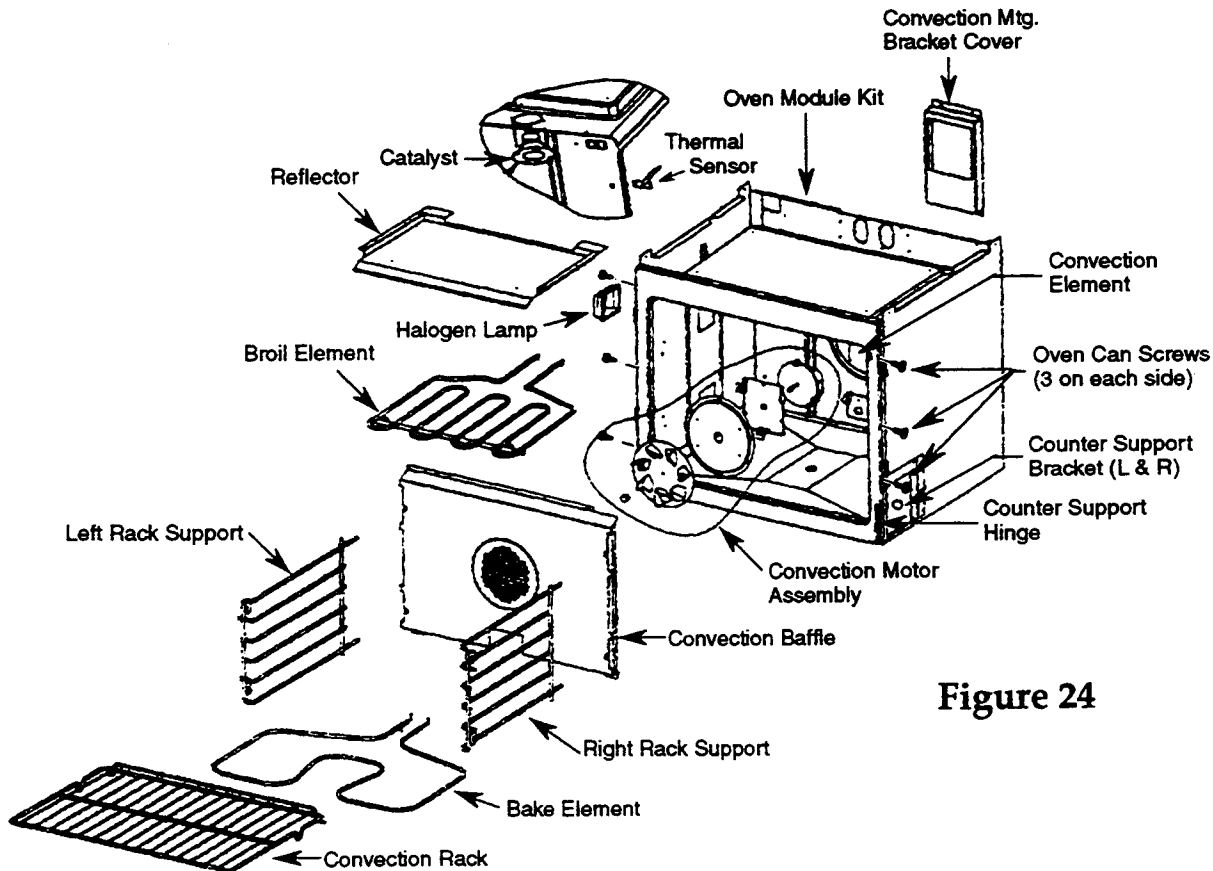


Figure 24

TROUBLESHOOTING

TESTING THE COMPONENTS

⚠ WARNING

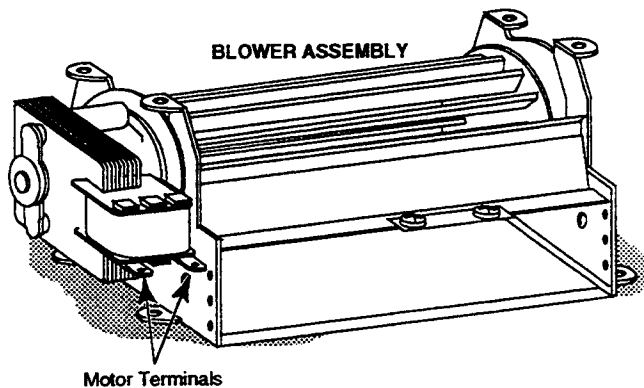
TO AVOID ELECTRICAL SHOCK

- DISCONNECT THE POWER TO THE APPLIANCE BEFORE SERVICING.
- FOR THOSE CHECKS REQUIRING THE USE OF ELECTRICAL POWER, EXERCISE EXTREME CARE.

THE BLOWER MOTOR

Refer to page 2-18 to access the blower motor.

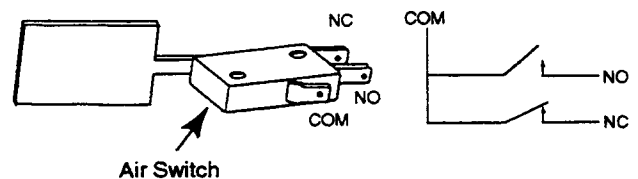
1. With no power applied, disconnect the motor wire connectors from their terminals.
2. Set the ohmmeter to the R x 1 scale.
3. Touch the ohmmeter leads to the motor terminals. The meter should indicate 13 Ω .
4. If the reading is not correct, remove and replace the blower motor.



THE AIR SWITCH

Refer to page 2-16 to access the air switch.

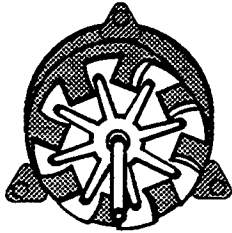
1. With no power applied, remove the wire connectors from the terminals.
2. Set the ohmmeter to the R x 1 scale.
3. Connect one of the ohmmeter leads to the common (C) terminal of the switch (the terminal callouts are stamped on the switch).
4. Touch the free ohmmeter lead to the N.O. (normally-open) switch terminal. The meter should show no continuity with the switch in its normal position, and continuity when it is activated.
5. If the readings are not correct, remove and replace the switch.



THE CONVECTION FAN MOTOR

Refer to page 2-6 to access the convection fan motor.

1. With no power applied, disconnect the motor wire connectors from their terminals.
2. Set the ohmmeter to the R x 1 scale.
3. Touch the ohmmeter leads to the motor terminals. The meter should indicate 12 Ω .
4. If the reading is not correct, remove and replace the convection fan motor.

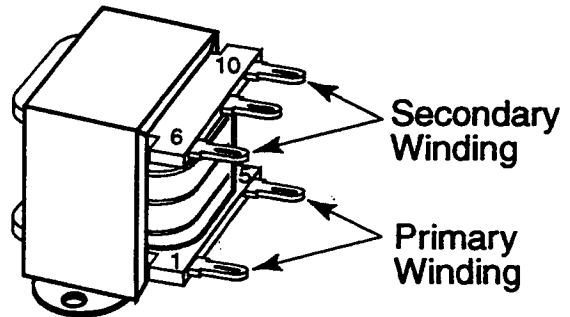


Convection Fan Motor

THE LAMP TRANSFORMER

Refer to page 2-20 to access the lamp transformer.

1. With no power applied, remove the wires from the terminals of the lamp transformer.
2. Set the ohmmeter to the R x 1 scale.
3. Touch the ohmmeter leads to the primary terminals. The meter should indicate 9 Ω .
4. Touch the ohmmeter leads to the secondary terminals. The meter should indicate 2 Ω .
5. If the readings are not correct, remove and replace the lamp transformer.

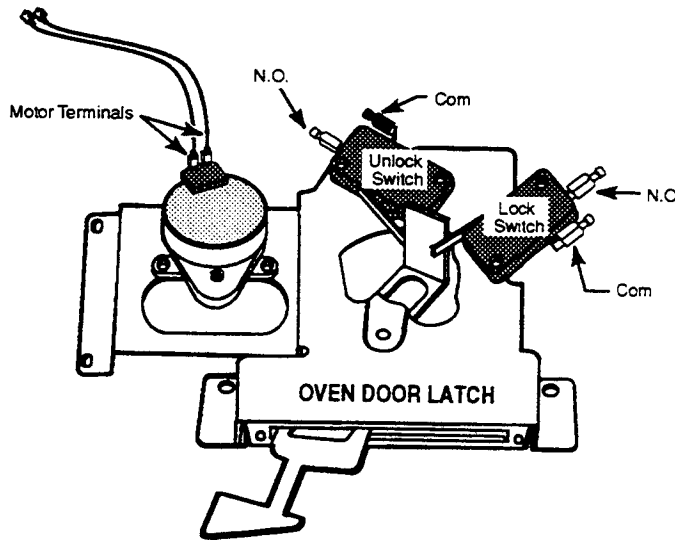


THE OVEN DOOR LATCH ASSEMBLY

The oven door latch locks the oven door during the *CLEAN* cycle (see the illustration at the bottom of the next column for the various latch positions). Refer to page 2-12 to access the oven door latch assembly.

To test one of the latch switches:

1. With no power applied, remove the wire connectors from the switch terminals.
2. Set the ohmmeter to the R x 1 scale.
3. Connect one of the ohmmeter leads to the common (C) terminal of the switch.
4. Touch the other ohmmeter lead to the N.O. (normally-open) switch terminal. The meter should indicate no continuity with the switch in its normal position, and continuity when it is activated.

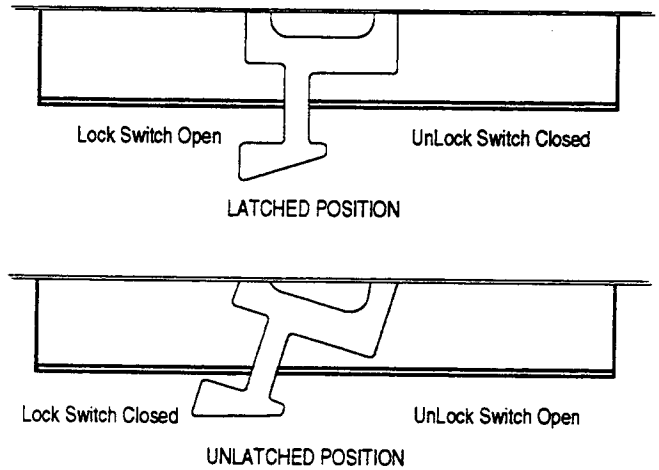


5. If the reading is not correct, remove and replace the switch.

To test the door latch motor windings:

1. With no power applied, disconnect the motor wires from the terminal block and main harness connector.
2. Set the ohmmeter to the R x 100 scale.
3. Touch the ohmmeter leads to the motor wire connectors. The meter should read between 700 Ω and 750 Ω .
4. If the reading is not within this range, remove and replace the door latch assembly.

Door Latch Positions

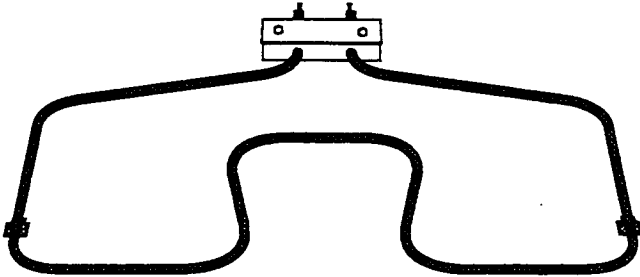


Latch Position	Lock Switch	Unlock Switch
Unlatched	Yes	No
Latched	No	Yes

THE BAKE ELEMENT

Refer to page 2-2 to access the bake element.

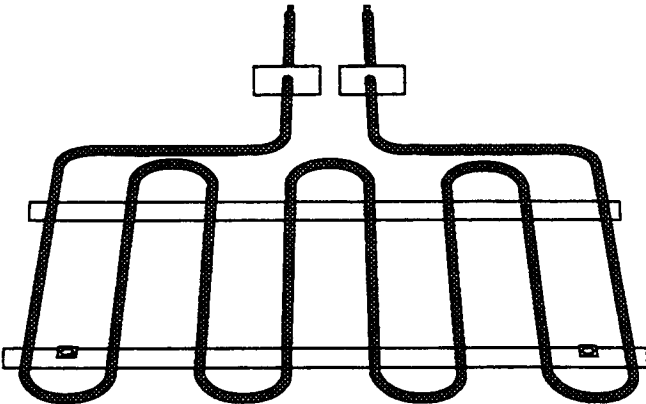
1. With no power applied, remove the wires from the terminals of the bake element.
2. Set the ohmmeter to the $R \times 1$ scale.
3. Touch the ohmmeter leads to the bake element terminals. The meter should indicate 19Ω (27" Models).
4. If the reading is not correct, remove and replace the bake element.



THE BROIL ELEMENT

Refer to page 2-2 to access the broil element.

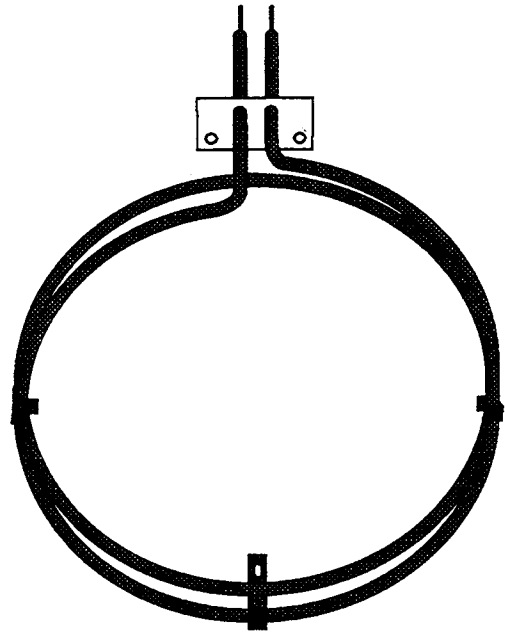
1. With no power applied, remove the wires from the terminals of the broil element.
2. Set the ohmmeter to the $R \times 1$ scale.
3. Touch the ohmmeter leads to the broil element terminals. The meter should indicate 15Ω .
4. If the reading is not correct, remove and replace the broil element.



THE CONVECTION BAKE ELEMENT

Refer to page 2-5 to access the convection bake element.

1. With no power applied, remove the wires from the terminals of the convection bake element.
2. Set the ohmmeter to the $R \times 1$ scale.
3. Touch the ohmmeter leads to the convection bake element terminals. The meter should indicate 18Ω .
4. If the reading is not correct, remove and replace the convection bake element.



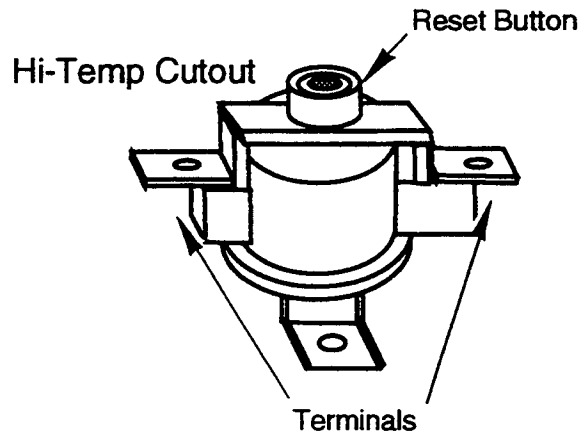
THE HI-TEMP CUTOUT

The hi-temp cutout contacts open at or above 350°F ±8°, and are manually reset by pressing the reset button.

Refer to page 2-12 to access the hi-temp cutout.

1. With no power applied, remove the wires from the terminals of the hi-temp cutout.

2. Set the ohmmeter to the R × 1 scale.
3. Touch the ohmmeter leads to the terminals. The meter should indicate continuity.
4. If the reading is not correct, remove and replace the hi-temp cutout.



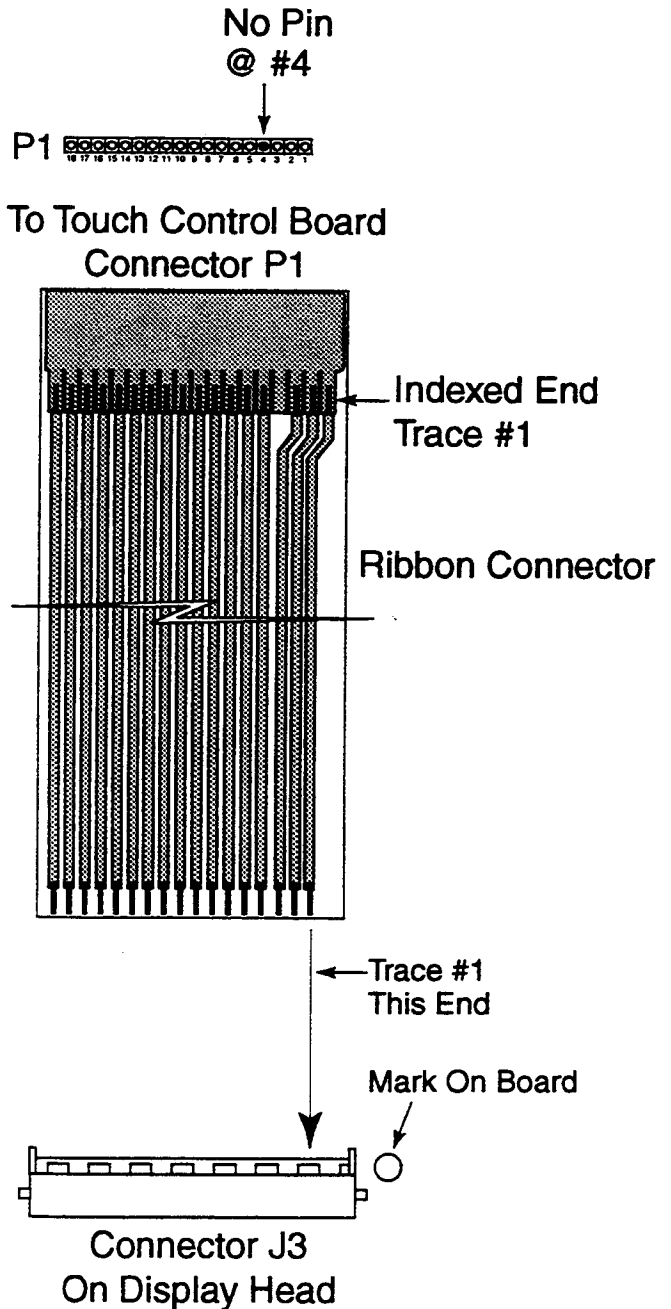
CONNECTORS

RIBBON CONNECTOR

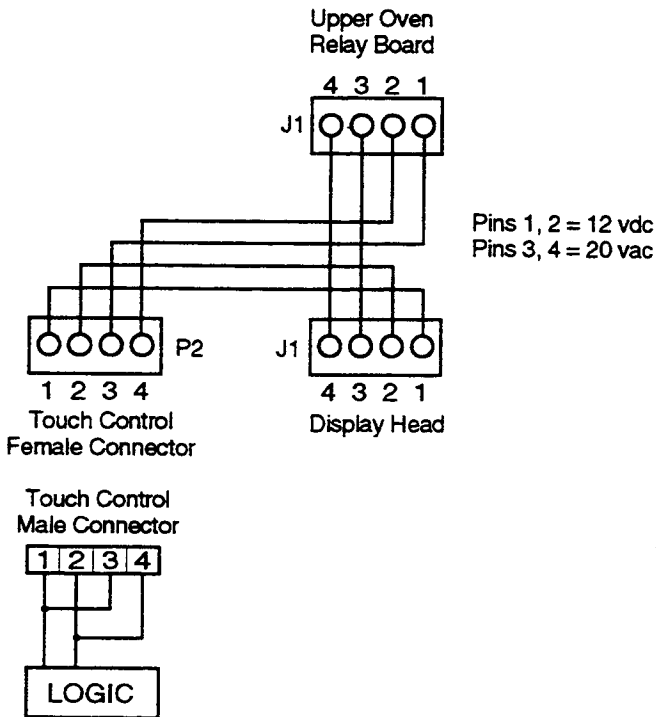
A ribbon connector is used to connect the touch control board to the display head. The ribbon has eighteen carbon traces (conductors) that transfer the signals from control board connector P1 to display head connector J3 (see the illustration). The number four (#4) trace is not used.

One end of the ribbon connector has an indexed edge so that it can be inserted into the touch control board socket P1 only one way.

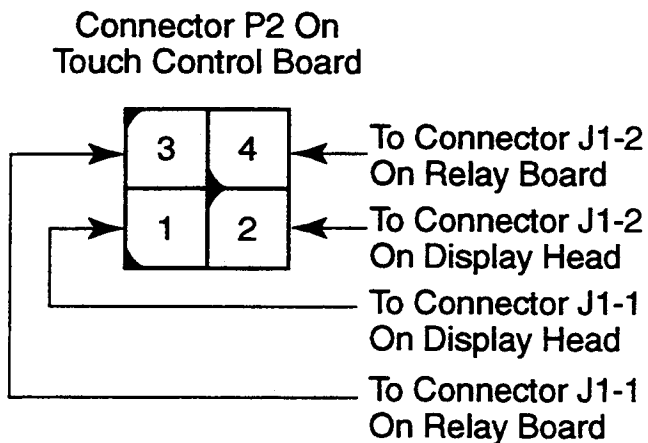
The other end of the ribbon connector that goes to the display head has no markings and is not indexed. This end will be connected properly as long as the ribbon connector is not reversed or twisted. If it is, an F7 error will appear on the display.



CONNECTORS J1 & P2



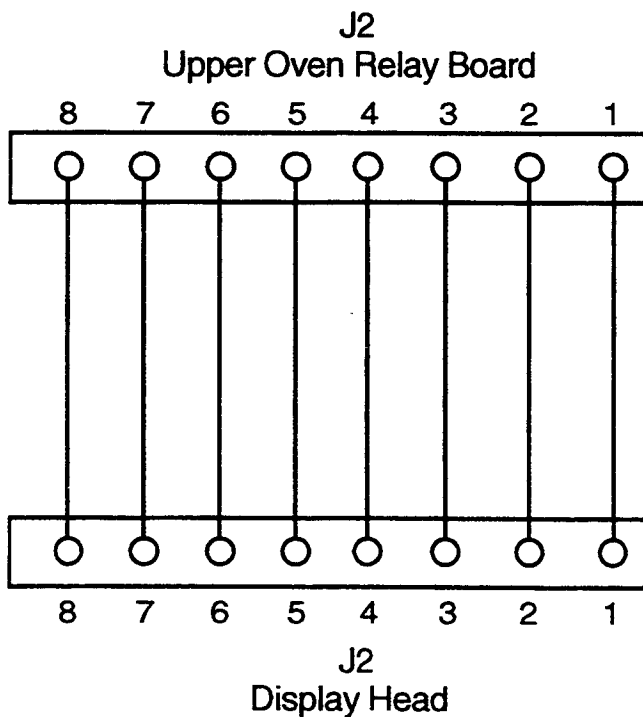
CONNECTOR P2



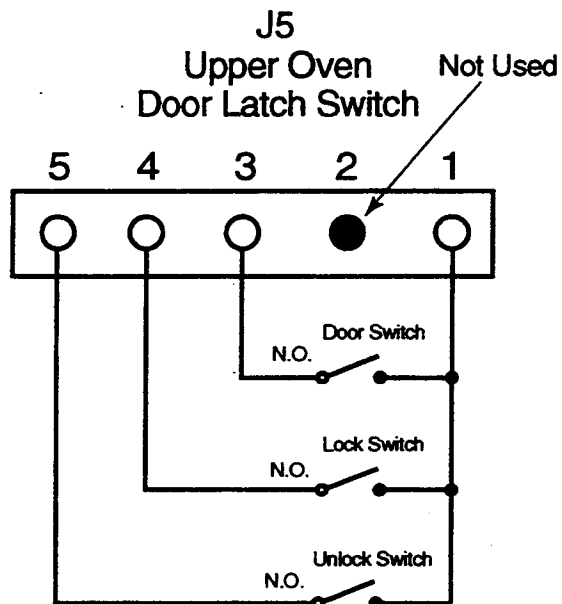
J1-1 = Connector J1, Terminal 1

J1-2 = Connector J1, Terminal 2

CONNECTOR J2

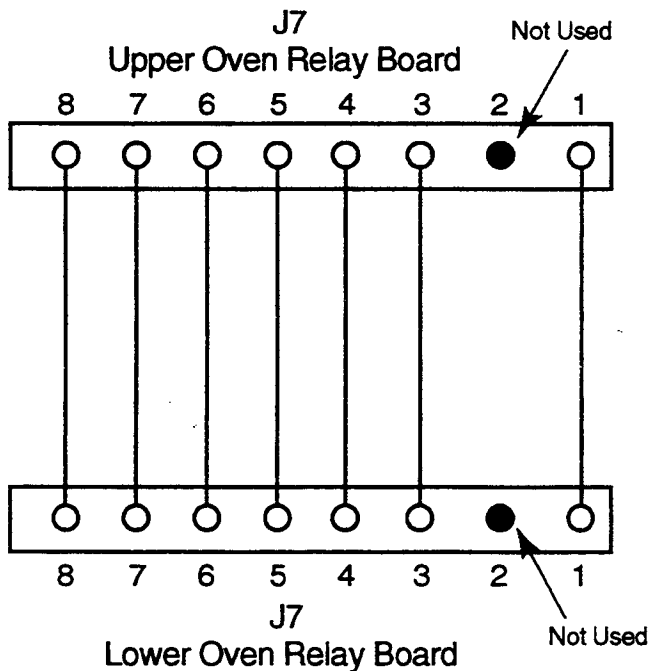


CONNECTOR J5

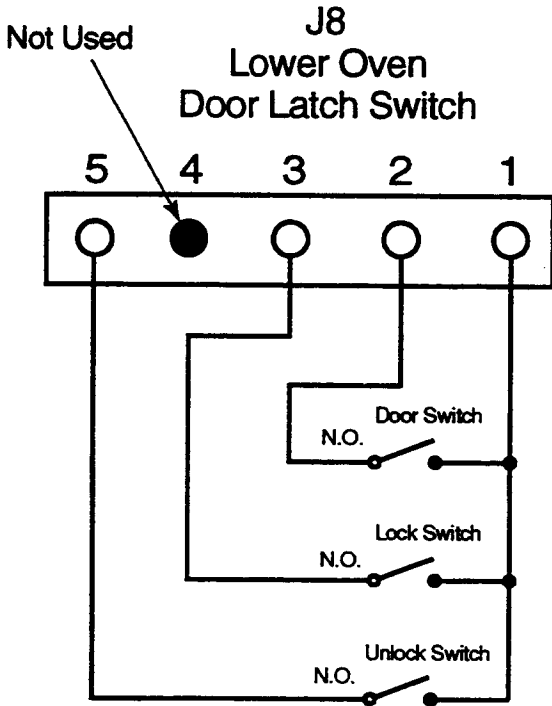


NOTE: The #2 pin is missing to avoid miswiring connectors J5 and J8.

CONNECTOR J7

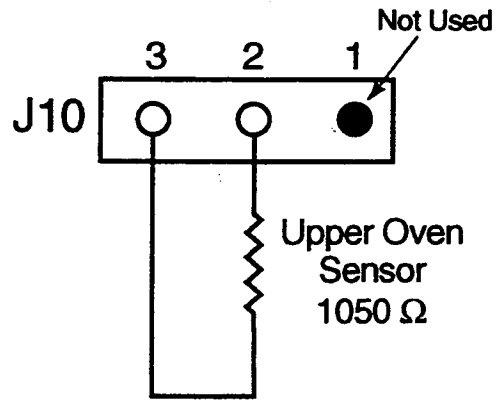
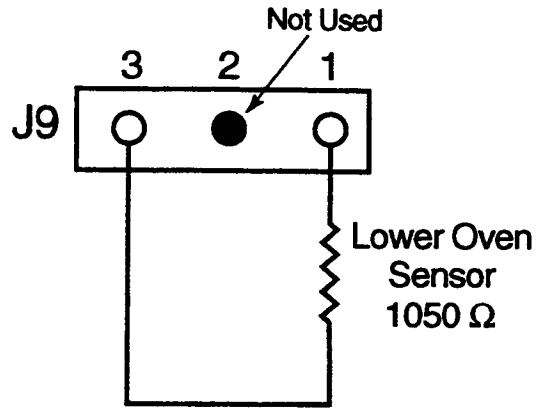


CONNECTOR J8



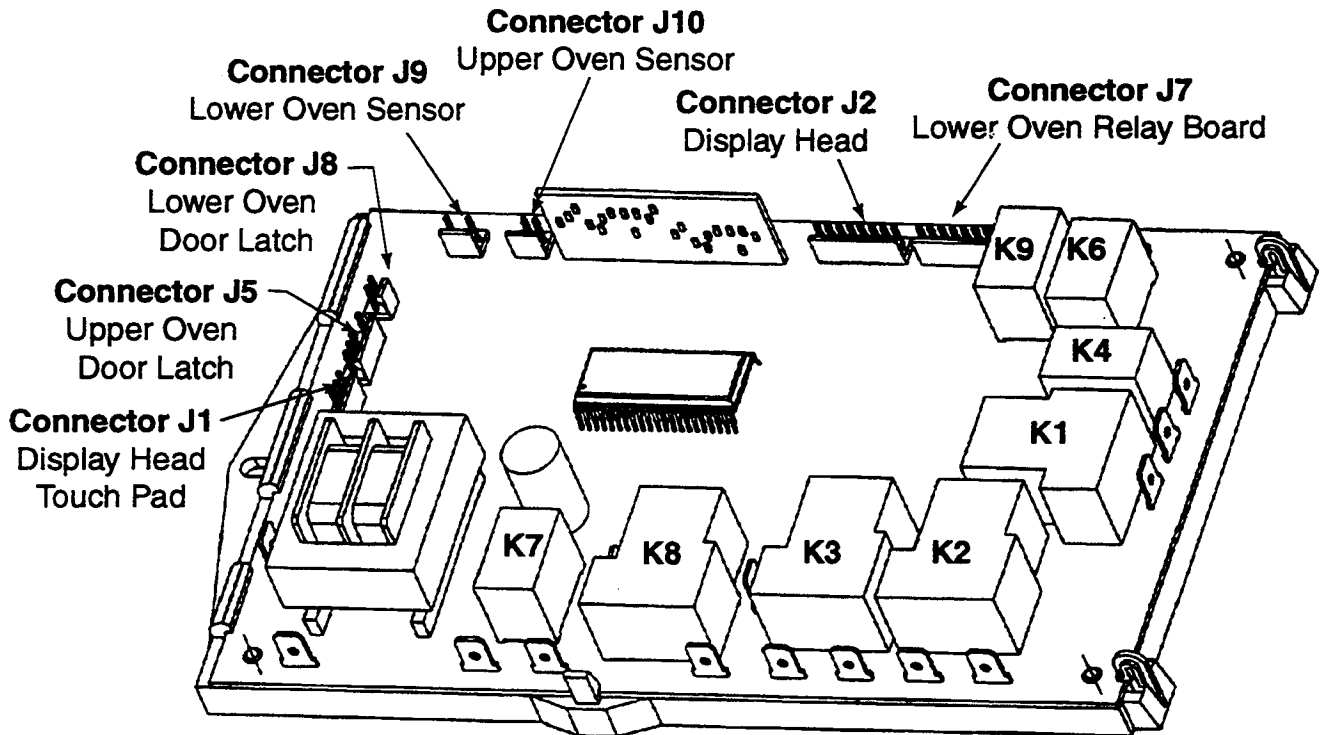
NOTE: The #4 pin is missing to avoid miswiring connectors J5 and J8.

CONNECTORS J9 & J10



OVEN RELAY BOARDS

Non-Convection Oven Relay Board Upper Oven — #14-38-904



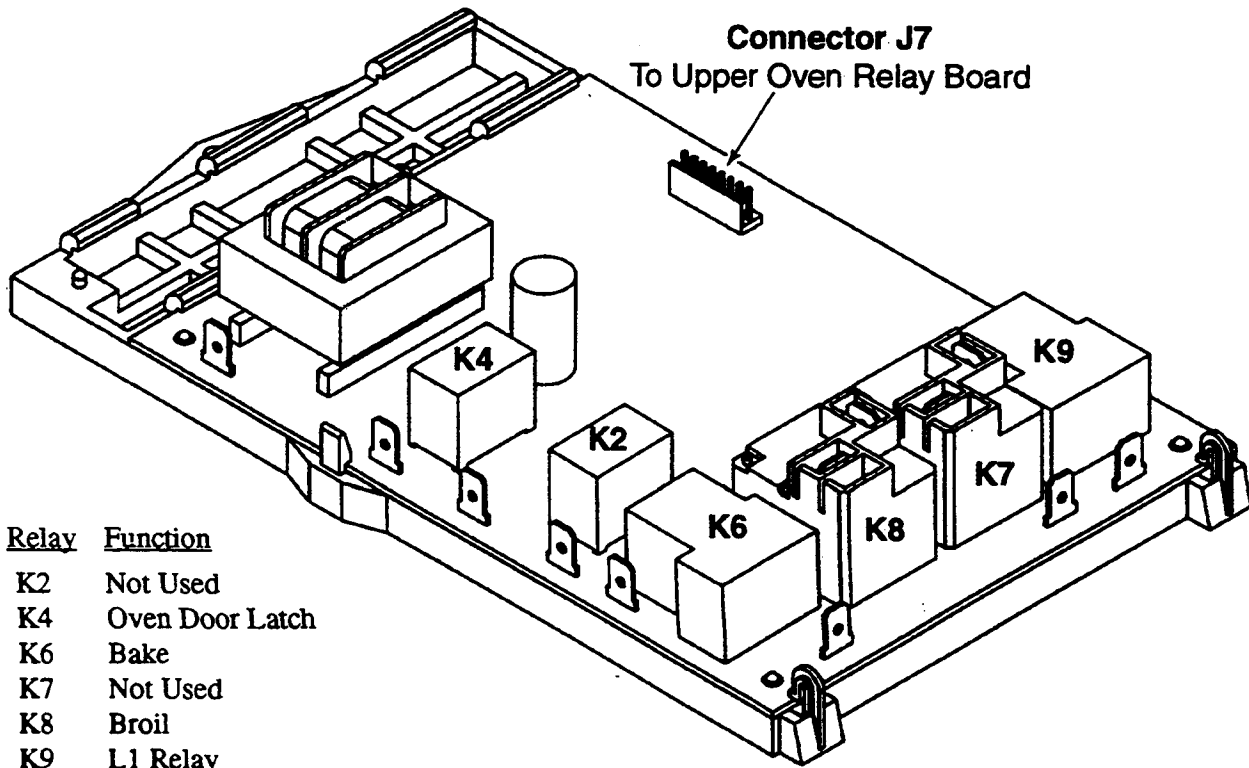
<u>Relay</u>	<u>Function</u>
K1	Bake
K2	Broil
K3	Not Used
K4	Not Used
K6	Cooling Fan
K7	Oven Lights
K8	L1 Relay
K9	Oven Door Latch

CAUTION

The Oven Relay Boards are subject to failure if static electricity is transferred to the solid state components during handling. The replacement boards are packaged in antistatic bags. When removing the boards from their bags, use a grounding strap, or touch a grounded metal surface (appliance chassis) prior to handling the boards. When you handle a board, handle it by the edges of the plastic frame. DO NOT TOUCH the connector pins or the microprocessor chip.

IMPORTANT NOTE: Repack the old boards in the antistatic bags before returning them to a parts distributor.

Non-Convection Oven Relay Board Lower Oven — #14-38-906



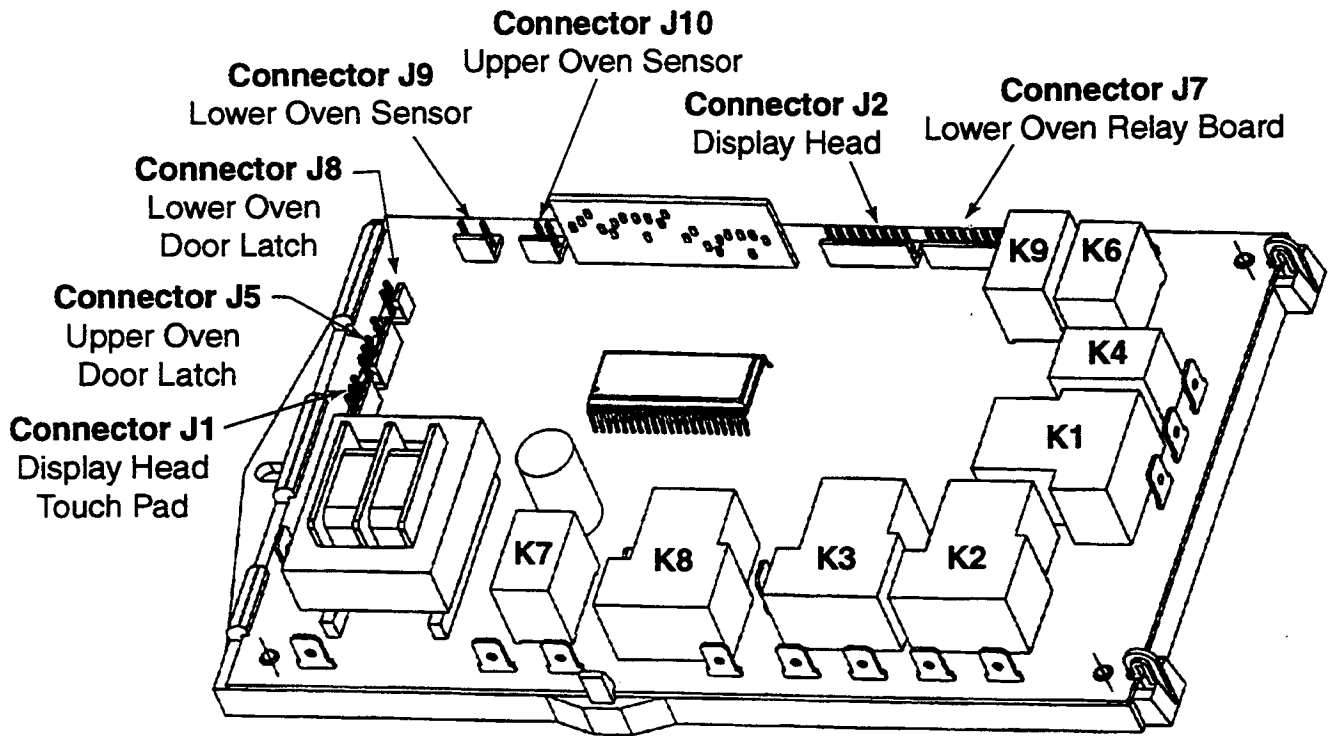
Relay	Function
K2	Not Used
K4	Oven Door Latch
K6	Bake
K7	Not Used
K8	Broil
K9	L1 Relay

CAUTION

The Oven Relay Boards are subject to failure if static electricity is transferred to the solid state components during handling. The replacement boards are packaged in antistatic bags. When removing the boards from their bags, use a grounding strap, or touch a grounded metal surface (appliance chassis) prior to handling the boards. When you handle a board, handle it by the edges of the plastic frame. DO NOT TOUCH the connector pins or the microprocessor chip.

IMPORTANT NOTE: Repack the old boards in the antistatic bags before returning them to a parts distributor.

Convection Oven Relay Board Upper Oven — #14-38-903



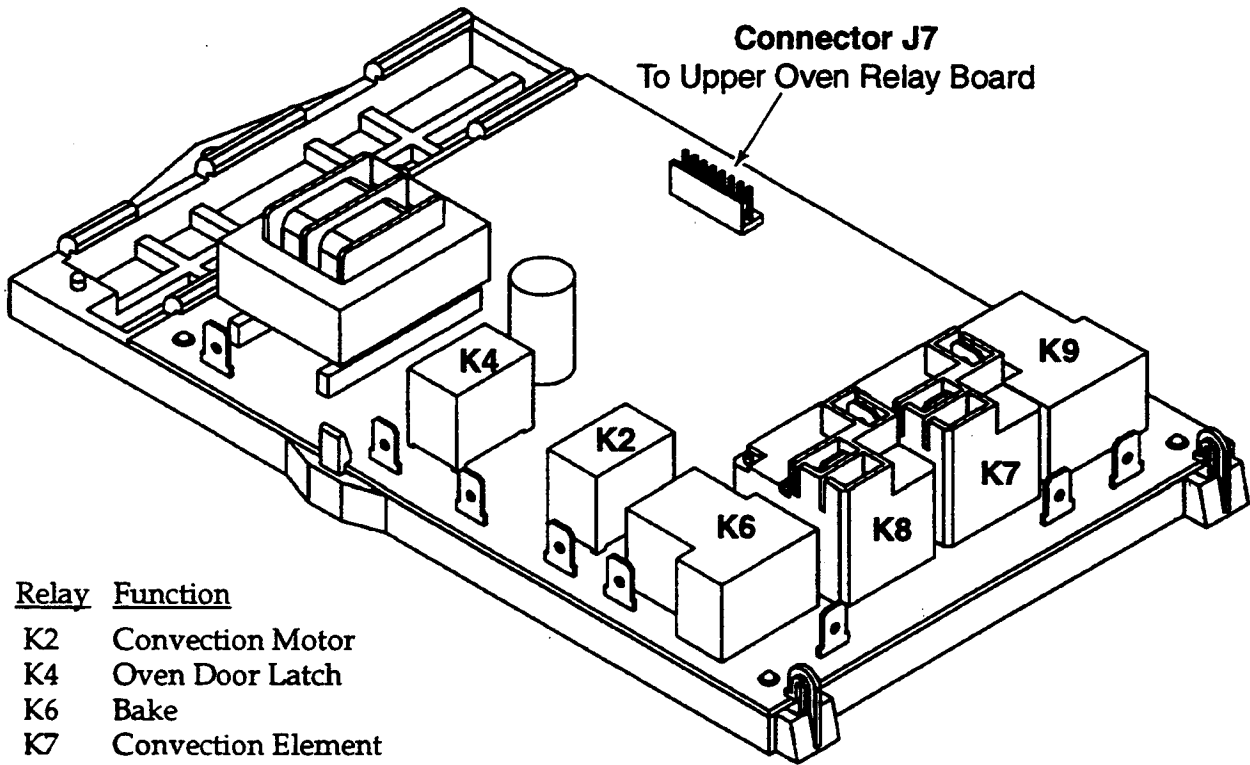
Relay	Function
K1	Bake
K2	Broil
K3	Convection Element
K4	Convection Motor
K6	Cooling Fan
K7	Oven Lights
K8	L1 Relay
K9	Oven Door Latch

⚠ CAUTION

The Oven Relay Boards are subject to failure if static electricity is transferred to the solid state components during handling. The replacement boards are packaged in antistatic bags. When removing the boards from their bags, use a grounding strap, or touch a grounded metal surface (appliance chassis) prior to handling the boards. When you handle a board, handle it by the edges of the plastic frame. **DO NOT TOUCH** the connector pins or the microprocessor chip.

IMPORTANT NOTE: Repack the old boards in the antistatic bags before returning them to a parts distributor.

Convection Oven Relay Board Lower Oven — #14-38-905



<u>Relay</u>	<u>Function</u>
K2	Convection Motor
K4	Oven Door Latch
K6	Bake
K7	Convection Element
K8	Broil
K9	L1 Relay

⚠ CAUTION

The Oven Relay Boards are subject to failure if static electricity is transferred to the solid state components during handling. The replacement boards are packaged in antistatic bags. When removing the boards from their bags, use a grounding strap, or touch a grounded metal surface (appliance chassis) prior to handling the boards. When you handle a board, handle it by the edges of the plastic frame. **DO NOT TOUCH** the connector pins or the microprocessor chip.

IMPORTANT NOTE: Repack the old boards in the antistatic bags before returning them to a parts distributor.

Oven Relay Board Matrix

RELAY	CONVECTION		NON-CONVECTION	
	UPPER	LOWER	UPPER	LOWER
K1	Bake	None	Bake	None
K2	Broil	Convect. Motor	Broil	None
K3	Convect. Element	None	None	None
K4	Convect. Motor	Oven Door Latch	None	Oven Door Latch
K5	None	None	None	None
K6	Fans	Bake	Fans	Bake
K7	Both Oven Lights	Convect. Element	Both Oven Lights	None
K8	L1	Broil	L1	Broil
K9	Oven Door Latch	L1	Oven Door Latch	L1

ERROR CODE MESSAGES

Error Code	Cause	Example	Corrective Action
F1	Element supervisor is enabled.	Bad main relay board.	Replace main relay board.
F2	Over temperature detected.	Intermittent temperature sensor or bad main relay board.	Replace temperature sensor. If control still displays F2, replace main relay board.
F3	Open temperature sensor.	An open circuit in the oven sensor wiring.	Check all connections. Check resistance of sensor (approx. 1050 ohms at room temperature).
F4	Shorted sensor.	A short circuit in the oven sensor wiring.	Check all connections. Check resistance of sensor (approx. 1050 ohms at room temperature).
F5	Element supervisor is disabled (single / upper oven).	Intermittent single / upper oven temperature sensor or bad main relay board.	Replace single / upper oven temperature sensor. If control still displays F5, replace main relay board.
F7	The control is reading a shorted key. Possible bad connection to the touch control board or a bad touch control board.	Bad touch control board.	Check all connections between the display head and the touch control board. Check voltage across touch control board test pads. Voltmeter should read 5 VDC when a key is touched and 0 VDC when no key is touched.
F8	Shorted meat probe (the meat probe option is not used in this appliance).	Bad main relay board.	Replace main relay board.
F9	Invalid door lock switch status (single / upper oven).	Defective or jammed single / upper oven latch switches.	Make sure single / upper oven latch switches are operating properly.

Error Code	Cause	Example	Corrective Action
FC	Communication error detected by display head.	Lower oven relay board not powered up.	Check all power connections to the oven relay boards and the display head. Check all communication connections to the oven relay boards and the display head.
FF	Bad analog-to-digital (A/D) converter.	Intermittent temperature sensor or bad main relay board.	Replace temperature sensor. If control still displays FF, replace main relay board.
F-	Communication error detected by main relay board.	Bad display head.	Check all power connections to the oven relay boards and the display head. Check all communication connections to the oven relay boards and the display head.
Fr	Invalid door lock switch status (lower oven).	Defective or jammed lower oven latch switches.	Make sure lower oven latch switches are operating properly.
	Communication error detected by main relay board.	Bad display head.	Check all power and communication connections to the oven relay boards and the display head.
	Element supervisor is disabled (lower oven).	Intermittent lower oven temperature sensor or bad lower oven relay board.	Replace lower oven temperature sensor. If control still displays Fr, replace lower oven relay board.

ELECTRONIC OVEN CONTROL TEST MODES

HANDLING THE BOARDS

The Touch Control Board and the Display Head are subject to failure if static electricity is transferred to the components during handling. When handling these parts, use a grounding strap, if available. If not, touch any grounded metal surface, (e.g. the appliance chassis), prior to handling these components.

The replacement Touch Control Board and the Display Head are packaged in antistatic bags. When removing the boards from their bags, handle them as follows:

Touch Control Board

Handle the Touch Control Board only by the edges of the glass and the plastic frame. **DO NOT TOUCH** the connector pins, or the microprocessor chips (see Figure A).

Display Head

Handle the Display Head only by the edges of the plastic frame. **DO NOT TOUCH** the connector pins, the microprocessor chip, or jumper wires (see Figure B).

IMPORTANT NOTE: Repack the old boards in the antistatic bags before returning them to a parts distributor.

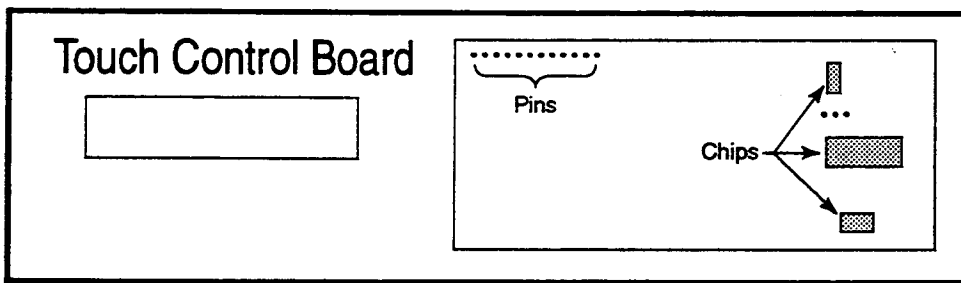


Figure A

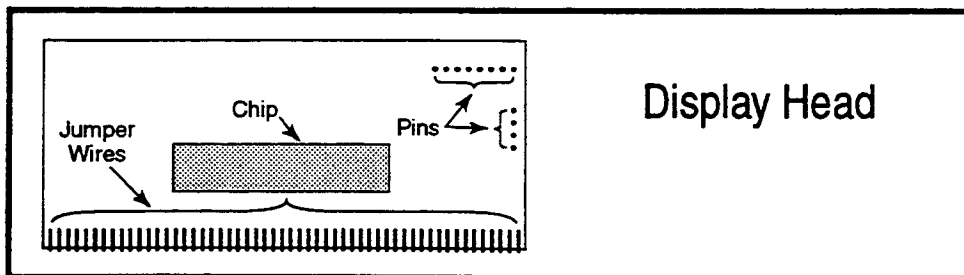


Figure B

The test mode is designed to allow quick testing of the control inputs and outputs.

The test mode is accessed by holding the STOP TIME key down at power up or by holding the STOP TIME key for 10 seconds within 5 minutes of

power up, provided no other key is pushed prior to STOP TIME. The control will immediately enter the test mode. When keys are released, all display digits will display "--" to indicate that the test mode is active.

The following will occur when a button is pressed:

KEY PRESSED	ACTION																																													
Bake Keys Broil Keys	Corresponding bake relay closes (bake element turns on). Corresponding broil and convection relays close (broil and convection elements turn on). Note: The total current drawn by the broil and convection elements may exceed the rating of the power supply circuit breaker, which will cause the circuit breaker to trip open.																																													
Convection Keys	Corresponding convection fan relay closes (convection fan turns on).																																													
Convection Roast Keys	No action.																																													
Oven light	Oven light and cooling fan relays close (oven lights and cooling fans turn on).																																													
Timer 1	If the upper oven element supervisor is not active, a four digit EEPROM CRC checksum is displayed in the blue digits. If the CRC is incorrect, 4 F's will be displayed. The oven temperature for each oven is displayed in the appropriate red digits. If the upper oven element supervisor is active, all the display segments are lit.																																													
Timer 2	If the lower oven element supervisor is not active, a four digit EEPROM CRC checksum is displayed in the blue digits. If the CRC is incorrect, 4 F's will be displayed. The oven temperature for each oven is displayed in the appropriate red digits. If the lower oven element supervisor is active, all the display segments are lit.																																													
Clean Keys	Corresponding door latch status number indication shown in the blue digits. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th><u>Display</u></th> <th><u>Unlock Switch</u></th> <th><u>Lock Switch</u></th> <th><u>Door Switch</u></th> <th><u>Latch Status</u></th> </tr> </thead> <tbody> <tr> <td>7</td> <td>closed</td> <td>closed</td> <td>closed</td> <td>invalid</td> </tr> <tr> <td>6</td> <td>open</td> <td>closed</td> <td>closed</td> <td>latched</td> </tr> <tr> <td>5</td> <td>closed</td> <td>open</td> <td>closed</td> <td>unlatched, door closed</td> </tr> <tr> <td>4</td> <td>open</td> <td>open</td> <td>closed</td> <td>in transition</td> </tr> <tr> <td>3</td> <td>closed</td> <td>closed</td> <td>open</td> <td>invalid</td> </tr> <tr> <td>2</td> <td>open</td> <td>closed</td> <td>open</td> <td>invalid</td> </tr> <tr> <td>1</td> <td>closed</td> <td>open</td> <td>open</td> <td>unlatched, door open</td> </tr> <tr> <td>0</td> <td>open</td> <td>open</td> <td>open</td> <td>invalid</td> </tr> </tbody> </table>	<u>Display</u>	<u>Unlock Switch</u>	<u>Lock Switch</u>	<u>Door Switch</u>	<u>Latch Status</u>	7	closed	closed	closed	invalid	6	open	closed	closed	latched	5	closed	open	closed	unlatched, door closed	4	open	open	closed	in transition	3	closed	closed	open	invalid	2	open	closed	open	invalid	1	closed	open	open	unlatched, door open	0	open	open	open	invalid
<u>Display</u>	<u>Unlock Switch</u>	<u>Lock Switch</u>	<u>Door Switch</u>	<u>Latch Status</u>																																										
7	closed	closed	closed	invalid																																										
6	open	closed	closed	latched																																										
5	closed	open	closed	unlatched, door closed																																										
4	open	open	closed	in transition																																										
3	closed	closed	open	invalid																																										
2	open	closed	open	invalid																																										
1	closed	open	open	unlatched, door open																																										
0	open	open	open	invalid																																										

KEY PRESSED	ACTION
Stop Time	Speaker will beep.
Clock	All the display segments are lit.
Cook Time	Any error codes stored in the EEPROM will be displayed. The time digits will display the last display head error code. The upper oven temperature digits will display the last upper oven relay board error code. The lower oven temperature digits will display the last lower oven relay board error code. If no error codes exist, F0 is displayed. The error codes stored in the EEPROM can be cleared by pressing and holding both the COOK TIME and STOP TIME keys for 5 seconds while in the test mode.
0 - 9 Keys	Corresponding number is displayed in the blue digits.

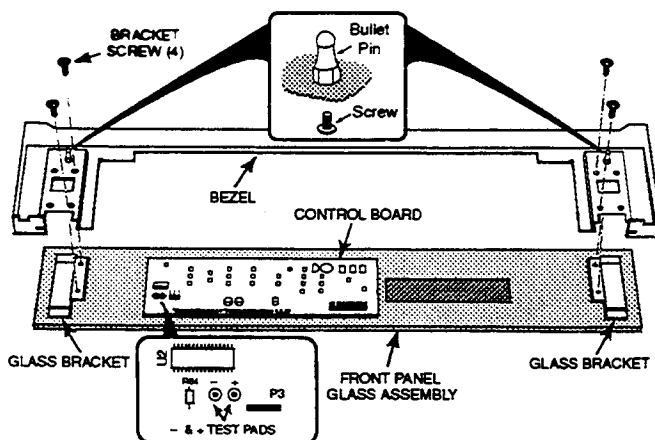
The control will exit the test mode by two methods. First, by pressing either OFF key, and second, by using a 16 second timer. Sixteen seconds after the last key action, the test mode will be cancelled.

TESTING THE TOUCH CONTROL PADS

The control panel is comprised of the following (see the illustration):

- *Control Panel Frame* (black, white, stainless steel). The control panel brackets are mounted on the frame and a bullet pin (see the small inset at the top of the illustration) is screwed onto the brackets.
- *Control Panel Glass*. The control board and brackets are glued to the control glass.

The control panel is mounted to the front subpanel with four screws (see page 2-10 in this manual for the removal procedure).



A ribbon cable connects the control board to the touch control board. One end of the cable has an

edge connector that connects to the touch control board pins. The pin connector on the board and the edge connector are both indexed (the #4 pin is missing and the corresponding #4 pin opening is plugged) to prevent the connector from being reversed.

The touch control board has 28 touch pads, however, not all of the pads are active. For example, a unit with no lower oven convection feature will not have a position on its control panel glass for that function. Thus, the control board touch pad at that location will not be used.

The touch pads operate as follows:

1. An electromagnetic field surrounds each touch pad so that when the glass over a pad is touched, the field is disturbed.
2. The disturbance in the field is sensed by the microprocessor on the touch control board as a mode, or a command.

The touch control board has a positive and a negative test pad (see the small inset at the bottom of the illustration). To test the board:

1. Set a volt meter to read 10-volts D.C.
2. Touch the meter test probes to the **bare foil circles** of the touch control board's positive and negative test pads (do not touch the green solder resist area at the centers).
 - The meter should indicate 0-volts when a touch pad is activated.
 - The meter should indicate 5-volts D.C. when no touch pad is activated.

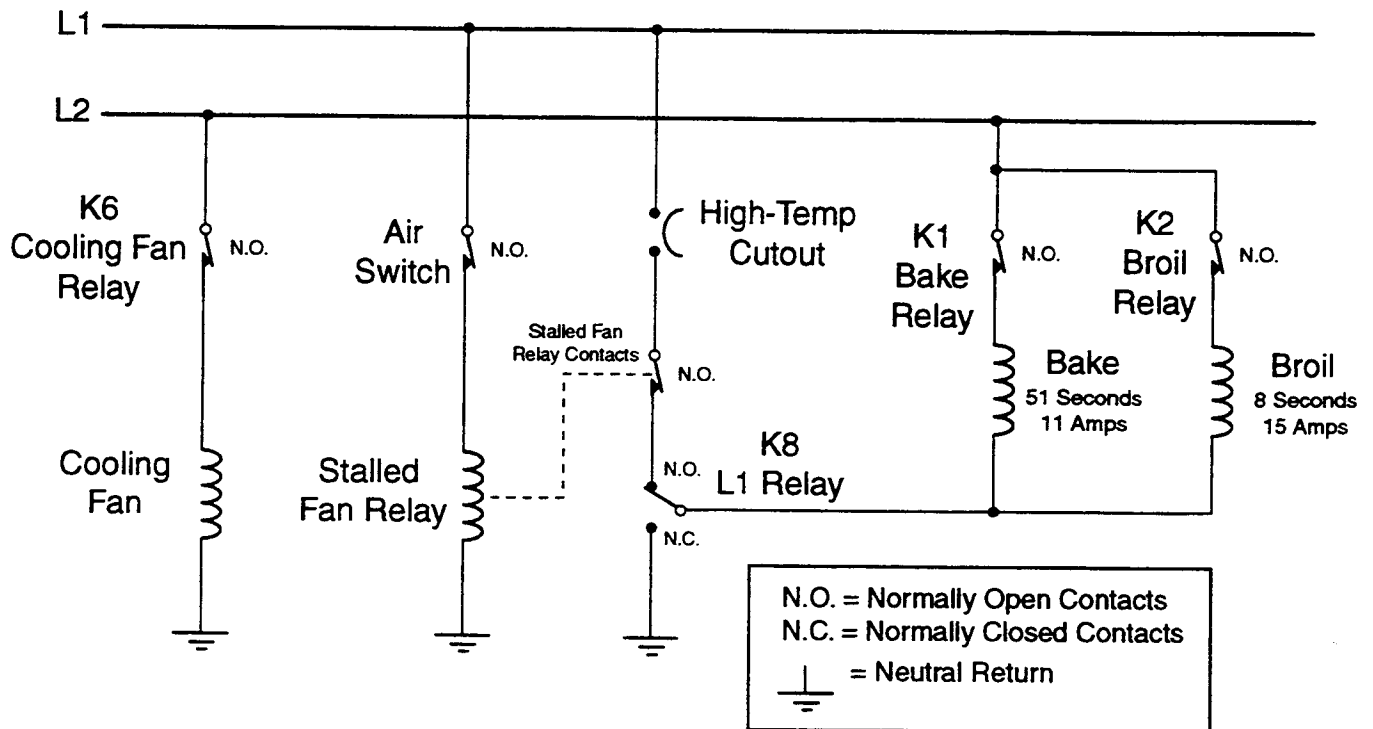
SEQUENCE OF OPERATION

Upper Oven

Bake Cycle — Bake Preheat & Bake Mode

Press the BAKE keypad and select an oven temperature and the following events will occur on the relay board:

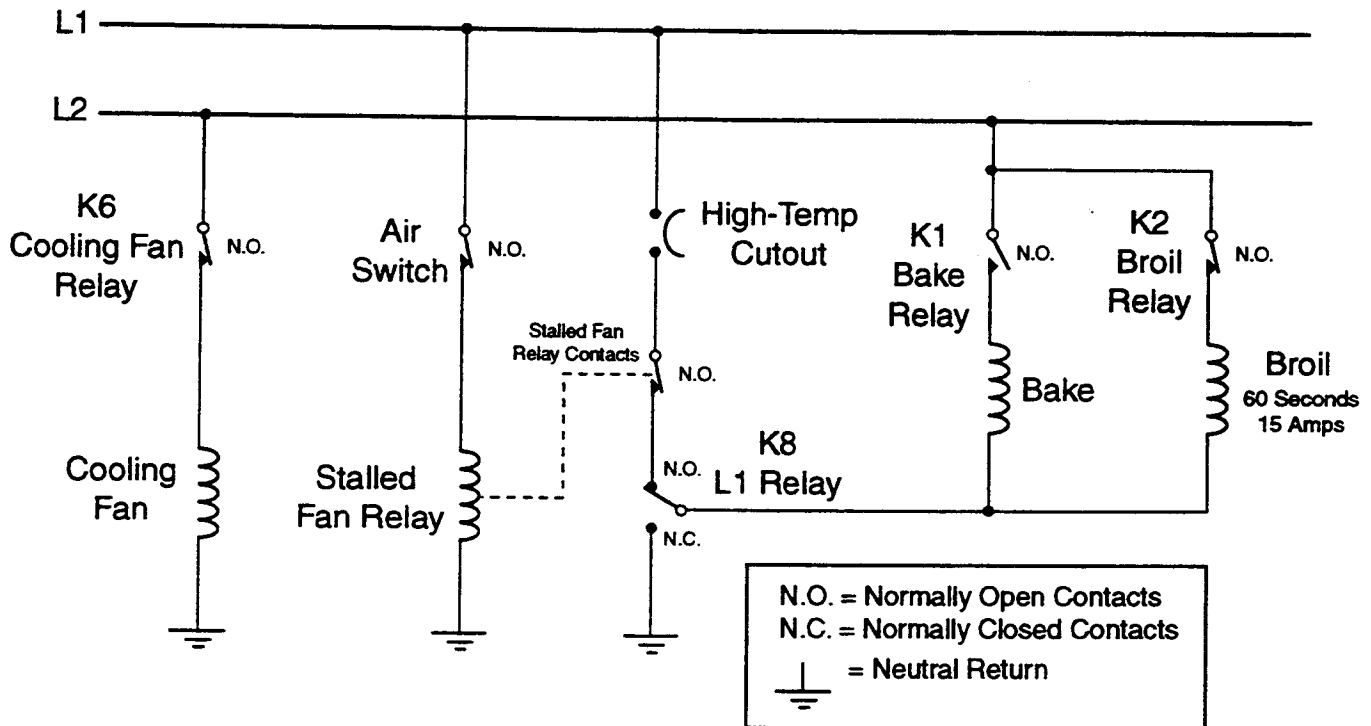
- Line Relay K8 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K8 (already activated).
- The L1 Relay connects L1 line voltage to the Bake and Broil Elements.
- Bake Relay K1 and Broil Relay K2 alternately open and close, and connect the L2 (120-volt) line to the Bake and Broil elements. NOTE: The Bake Element is on for 51-seconds, and draws 11-amperes during each 1-minute cycle. The Broil Element is on for 8-seconds and draws 15-amperes during each 1-minute cycle.



Broil Cycle — Broil Preheat & Broil Mode

Press the BROIL keypad and select an oven temperature and the following events will occur on the relay board:

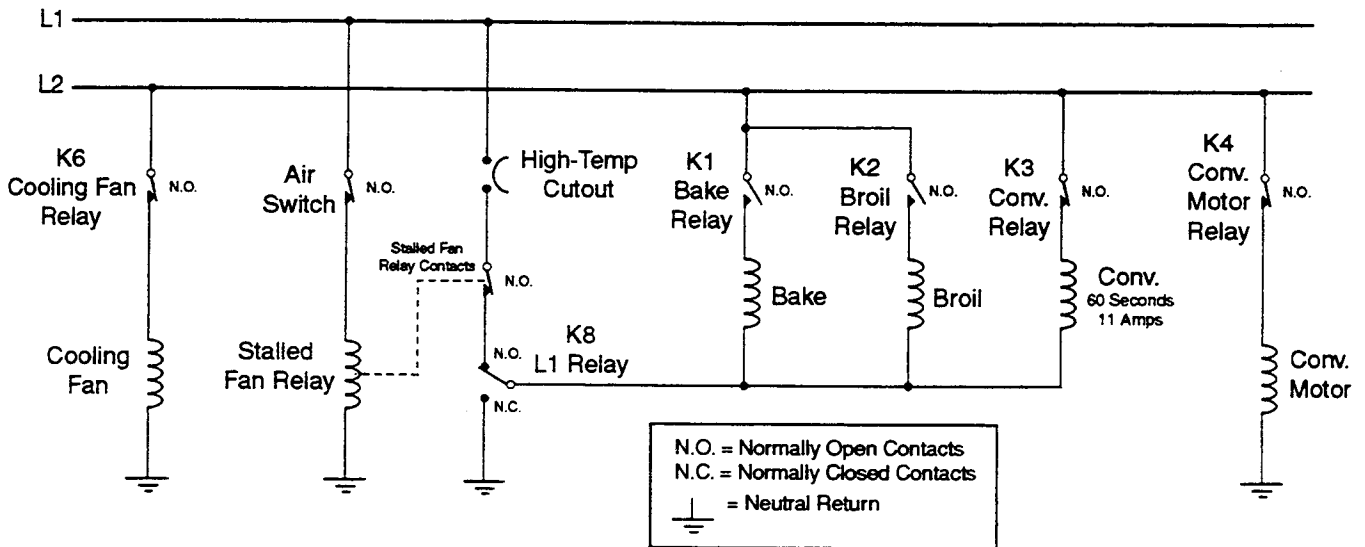
- Line Relay K8 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K8 (already activated).
- The L1 Relay connects L1 line voltage to the Broil Element.
- Broil Relay K2 closes and connects the L2 (120-volt) line to the Broil element. NOTE: The Broil Element is on for 60-seconds and draws 15-amperes during each 1-minute cycle.



Convection Cycle — Convection Preheat & Convection Mode

Press the CONVECTION keypad and select an oven temperature and the following events will occur on the relay board:

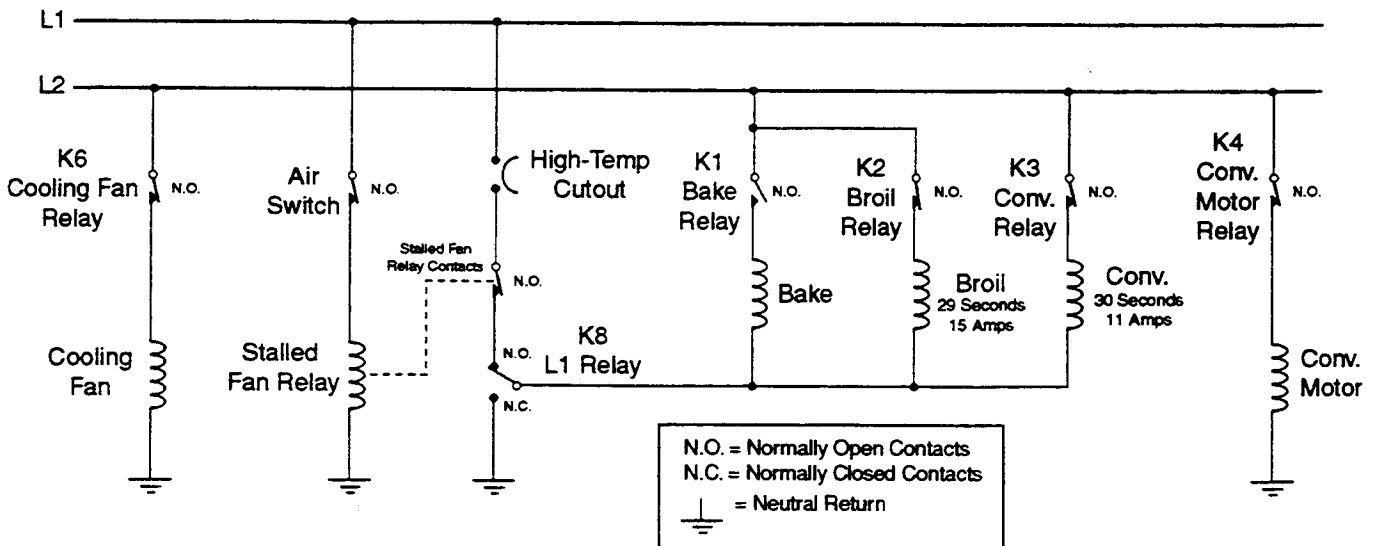
- Line Relay K8 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K8 (already activated).
- The L1 Relay connects L1 line voltage to the Convection Element.
- Convection Relay K3 closes and connects the L2 (120-volt) line to the Convection element. NOTE: The Convection Element is on for 60-seconds, and draws 11-amperes during each 1-minute cycle.
- Convection Motor Relay K4 closes and activates the Convection Motor.



Convection Roast Cycle — Convection Roast Preheat

Press the CONVECTION ROAST keypad and select an oven temperature and the following events will occur on the relay board:

- Line Relay K8 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K8 (already activated).
- The L1 Relay connects L1 line voltage to the Convection and Broil Elements.
- Broil Relay K2 and Convection Relay K3 alternately open and close, and connect the L2 (120-volt) line to the Convection and Broil elements. NOTE: The Convection Element is on for 30-seconds, and draws 11-amperes during each 1-minute cycle. The Broil Element is on for 29-seconds and draws 15-amperes during each 1-minute cycle.
- Convection Motor Relay K4 closes and activates the Convection Motor.

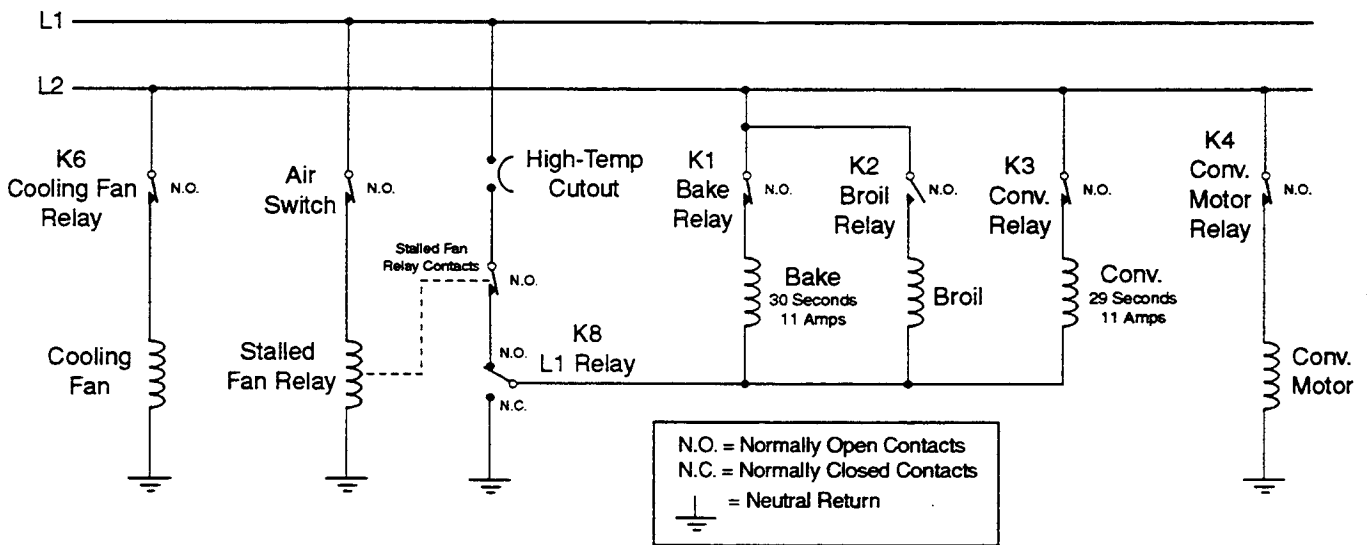


Convection Roast Cycle

NOTE: The Convection Roast cycle is a continuation of the Convection Roast Preheat cycle.

Press the CONVECTION ROAST keypad and the following events will occur on the relay board:

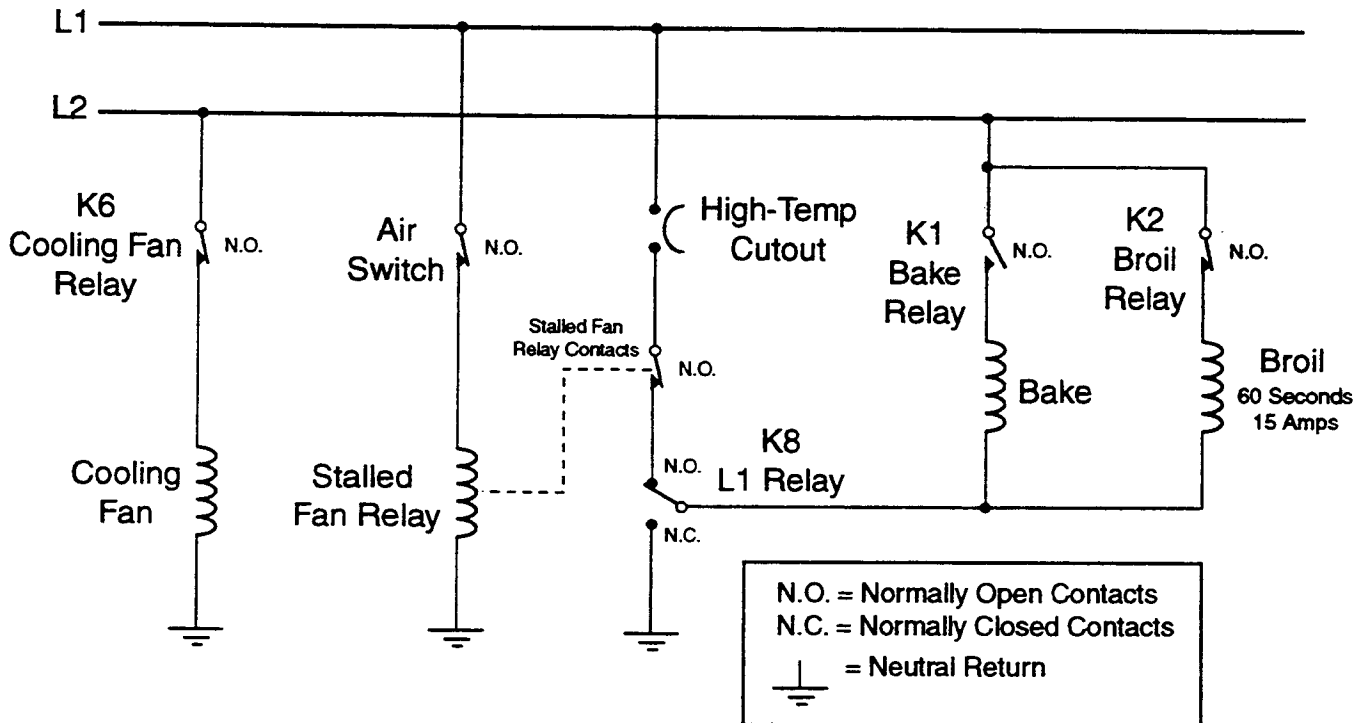
- The L1 Relay connects L1 line voltage to the Convection and Bake Elements.
- Bake Relay K1 and Convection Relay K3 alternately open and close and connect the L2 (120-volt) line to the Bake and Convection elements. NOTE: The Convection Element is on for 29-seconds, and draws 11-amperes during each 1-minute cycle. The Bake Element is on for 30-seconds, and draws 11-amperes during each 1-minute cycle.
- Convection Motor Relay K4 closes and activates the Convection Motor.
- After the Convection Roast Preheat temperature has been reached, Relays K2 and K3 cycle off (open). When the thermostat cycles back on, the circuit switches from Relays K2 and K3, to Relays K1 and K3, for the rest of the selected temperature and cooking time. Relays K1 and K3 will cycle on and off to maintain the selected temperature.



Self-Clean Cycle — Preheat Below 840°

Press the SELF-CLEAN keypad and select a self-clean time period and the following events will occur on the relay board:

- Line Relay K8 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K8 (already activated).
- The L1 Relay connects L1 line voltage to the Broil Element.
- Broil Relay K2 closes and connects the L2 (120-volt) line to the Broil element. NOTE: The Broil Element is on for 60-seconds, and draws 15-amperes during each 1-minute cycle. It is also on continuously for the first 55-minutes of the Self-Clean cycle, or until the oven reaches 850 F.

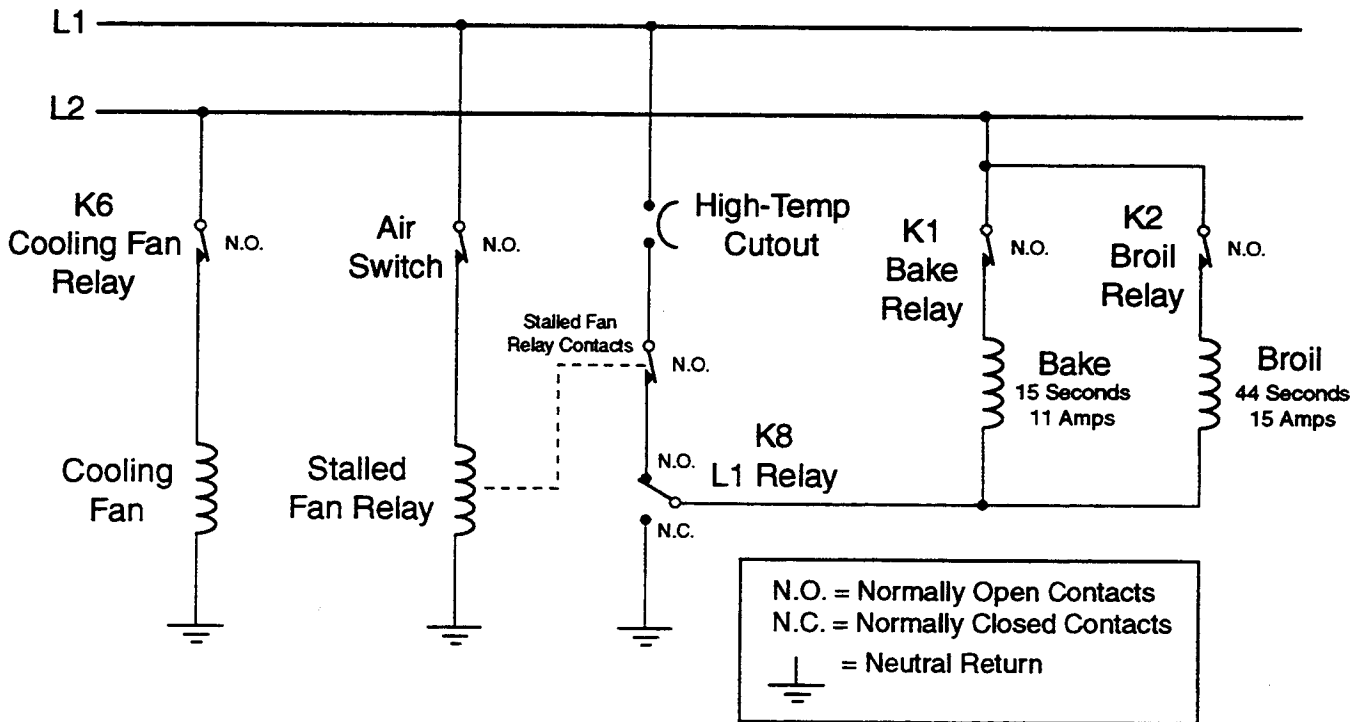


Self-Clean Cycle

NOTE: The Self-Clean cycle is a continuation of the Self-Clean Preheat cycle.

Press the SELF-CLEAN keypad and the following events will occur on the relay board:

- The L1 Relay connects L1 line voltage to the Bake and Broil Elements.
- Bake Relay K1 and Broil Relay K2 close and connect the L2 (120-volt) line to the Bake and Broil elements. NOTE: The Broil Element is on for 44-seconds, and draws 15-amperes during each 1-minute cycle. The Bake Element is on for 15-seconds, and draws 11-amperes during each 1-minute cycle.
- After Self-Clean Preheat, Relay K2 cycles off, via the thermostat. When the thermostat cycles back on, (to maintain the 850 °F self-clean temperature), Relays K1 & K2 are alternately used to maintain the self-clean temperature until its time has expired, at which point, the oven turns off.

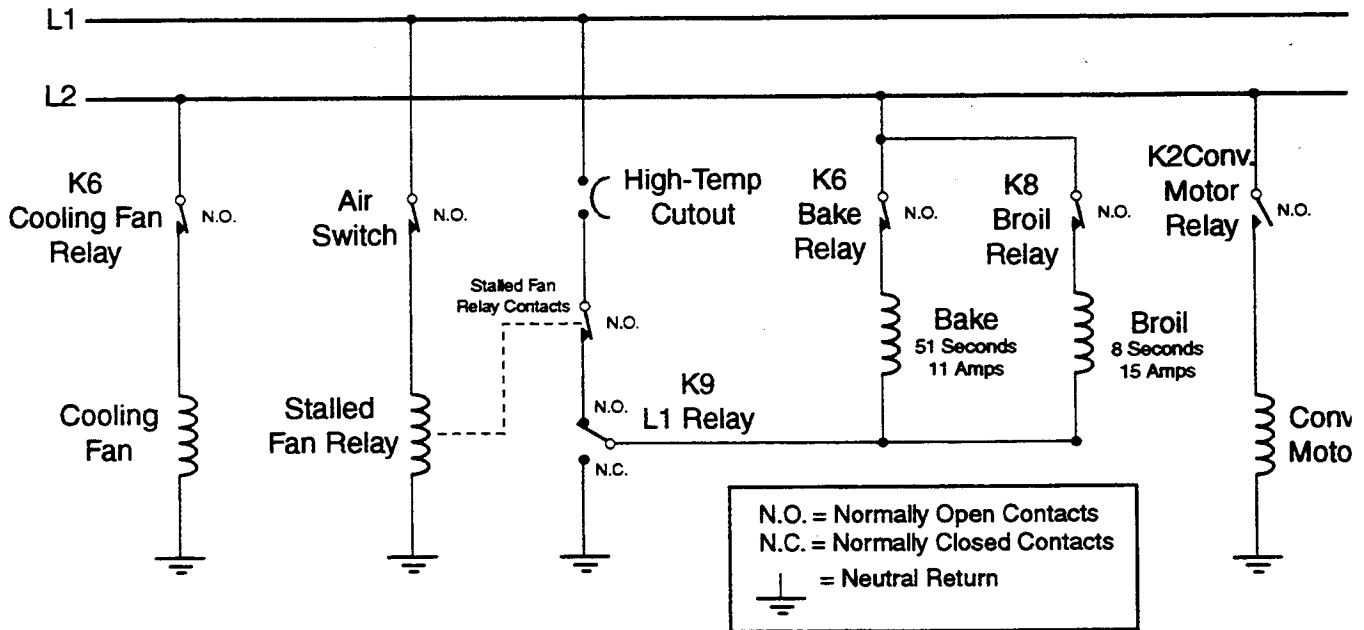


Lower Oven

Bake Cycle — Bake Preheat & Bake Mode

Press the BAKE keypad and select an oven temperature and the following events will occur on the relay board:

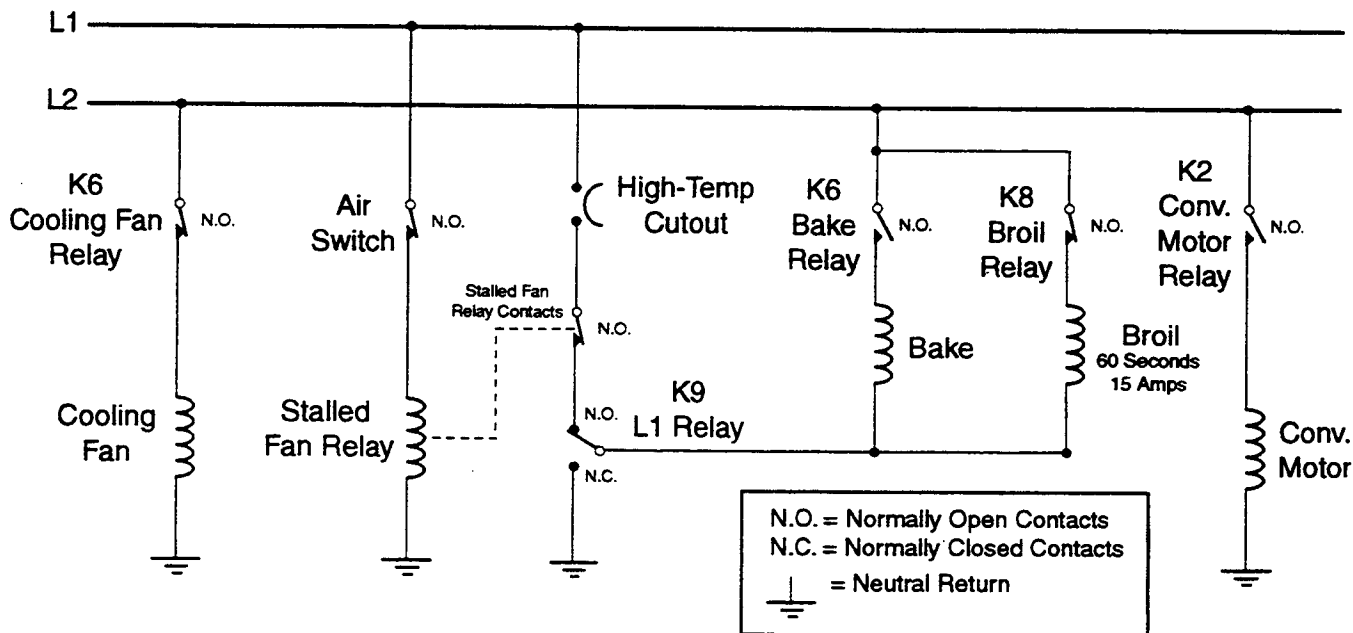
- Line Relay K9 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K9.
- The L1 Relay connects L1 line voltage to the Bake and Broil Elements.
- Bake Relay K6 and Broil Relay K8 close and connect the L2 (120-volt) line to the Bake and Broil elements. NOTE: The Broil Element is on for 8-seconds, and draws 15-amperes during each 1 minute cycle. The Bake Element is on for 51-seconds, and draws 11-amperes during each 1-minute cycle.



Broil Cycle — Broil Preheat & Broil Mode

Press the BROIL keypad and select an oven temperature and the following events will occur on the relay board:

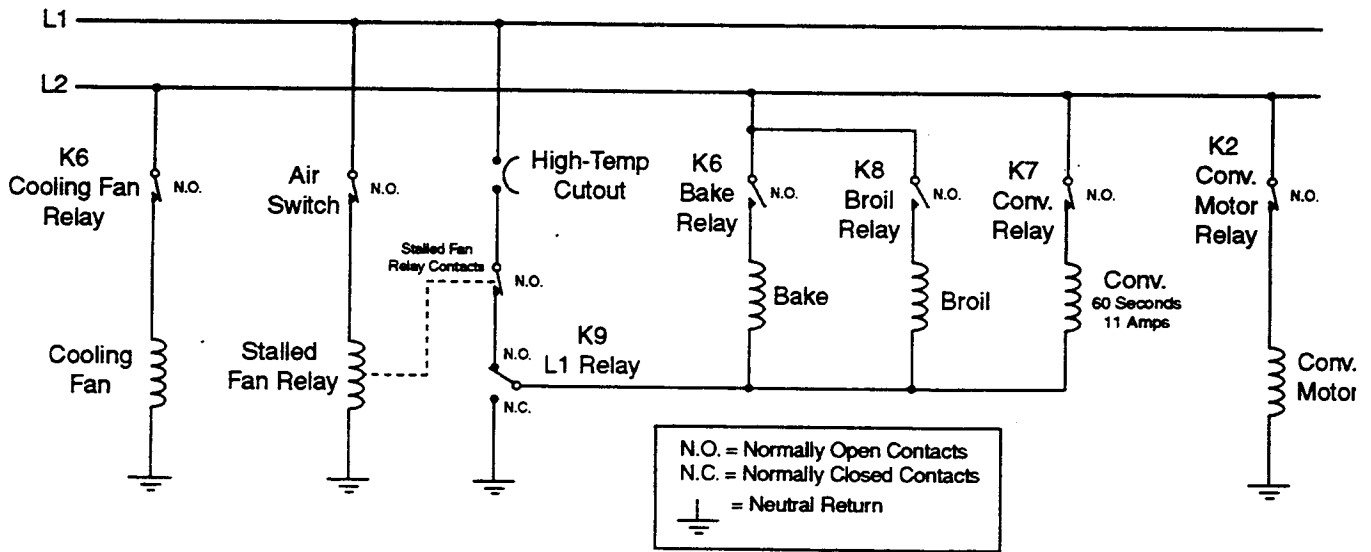
- Line Relay K9 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K9.
- The L1 Relay connects L1 line voltage to the Bake and Broil Elements.
- Broil Relay K8 closes and connects the L2 (120-volt) line to the Broil element. NOTE: The Broil Element is on for 60-seconds, and draws 15-amperes during each 1-minute cycle. The variable Broil is controlled by the thermostat. The element is always fully on, but the length of time is determined by the thermostat setting.



Convection Cycle — Convection Preheat & Convection Mode

Press the CONVECTION keypad and select an oven temperature and the following events will occur on the relay board:

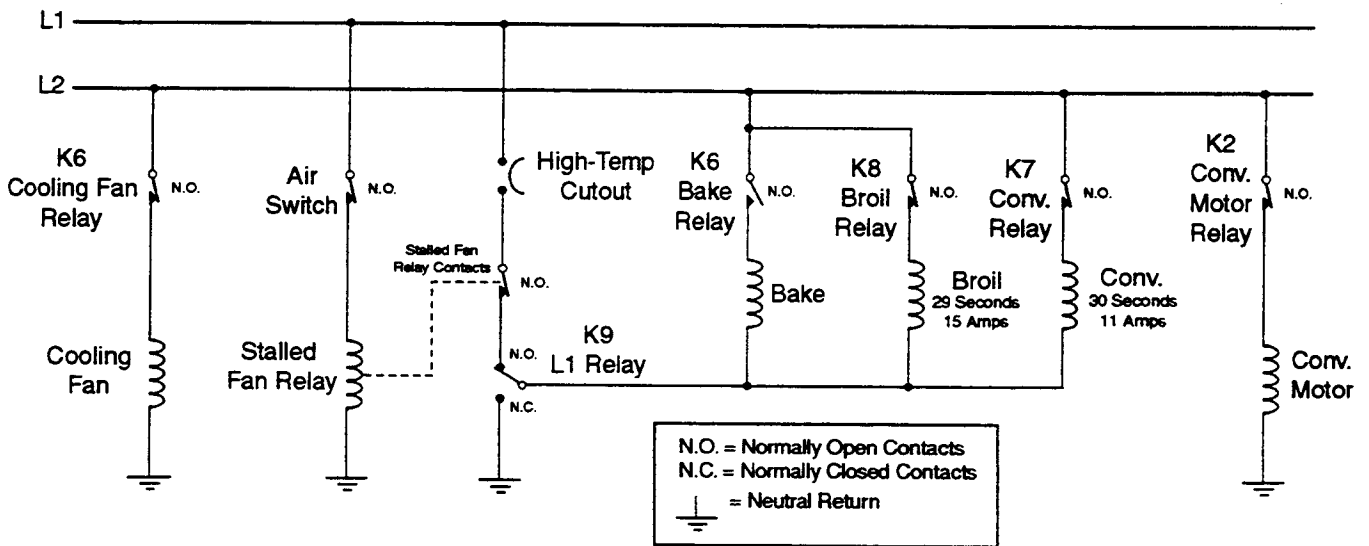
- Line Relay K9 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K9.
- The L1 Relay connects L1 line voltage to the Convection Element.
- Convection Relay K7 closes and connects the L2 (120 -volt) line to the Convection Element. NOTE The Convection Element is on for 60-seconds, and draws 11-amperes during each 1-minute cycle
- Convection Motor Relay K2 closes and activates the Convection Motor.



Convection Roast Cycle — Convection Roast Preheat

Press the CONVECTION ROAST keypad and select an oven temperature and the following events will occur on the relay board:

- Line Relay K9 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K9.
- The L1 Relay connects L1 line voltage to the Convection and Broil Elements.
- Broil Relay K8 and Convection Relay K7 close and connect the L2 (120-volt) line to the Convection and Broil Elements. NOTE: The Convection Element is on for 30-seconds, and draws 11-amperes during each 1-minute cycle. The Broil Element is on for 29-seconds, and draws 15-amperes during each 1-minute cycle.
- Convection Motor Relay K2 closes and activates the Convection Motor.

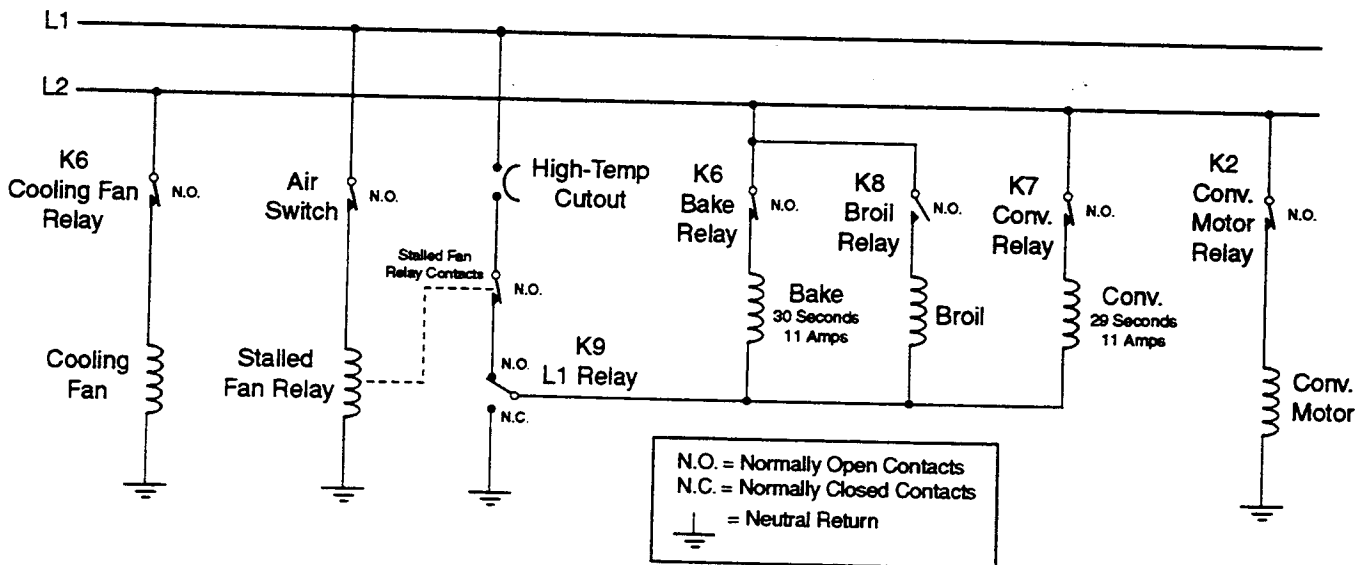


Convection Roast Cycle

NOTE: The Convection Roast cycle is a continuation of the Convection Roast Preheat cycle.

Press the CONVECTION ROAST keypad and select an oven temperature and the following events will occur on the relay board:

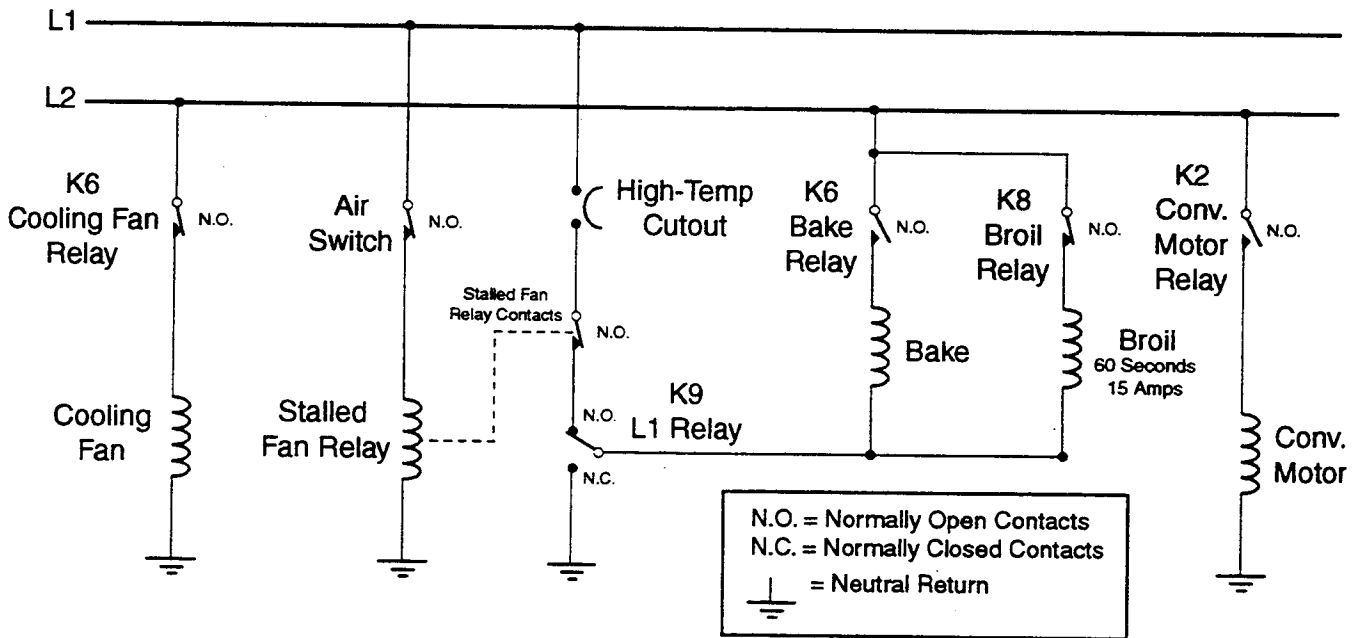
- The L1 Relay connects L1 line voltage to the Convection and Bake Elements.
- Bake Relay K6 and Convection Relay K7 alternately open and close and connect the L2 (120-volt) line to the Bake and Convection Elements. NOTE: The Convection Element is on for 29-seconds, and draws 11-amperes during each 1-minute cycle. The Bake Element is on for 30-seconds, and draws 11-amperes during each 1-minute cycle.
- Convection Motor Relay K2 closes and activates the Convection Motor.
- After the Convection Roast Preheat temperature has been reached, Relays K8 and K7 cycle off (open). When the thermostat cycles back on, the circuit switches from Relays K8 and K7, to Relays K6 and K7, for the rest of the selected temperature and cooking time. Relays K6 and K7 will cycle on and off to maintain the selected temperature.



Self-Clean Cycle — Pre-Heat Below 840°

Press the SELF-CLEAN keypad and select a self-clean time period and the following events will occur on the relay board:

- Line Relay K9 closes.
- Cooling Fan Relay K6 closes and turns the Cooling Fan on.
- Cooling Fan air flow closes the Air Switch and activates the Stalled Fan Relay.
- The Stalled Fan Relay contacts close and supply L1 to one side of Relay K9.
- The L1 Relay connects L1 line voltage to the Broil Element.
- Broil Relay K8 closes and connects the L2 (120-volt) line to the Broil Element. NOTE: The Broil Element is on for 60-seconds, and draws 15-amperes during each 1-minute cycle. It is also on continuously for the first 55-minutes of the Self-Clean cycle, or until the oven reaches 850 °F.



Self-Clean Cycle

NOTE: The Self-Clean cycle is a continuation of the Self-Clean Preheat cycle.

Press the SELF-CLEAN keypad and the following events will occur on the relay board:

- The L1 Relay connects L1 line voltage to the Bake and Broil Elements.
- Bake Relay K6 and Broil Relay K8 close and connect the L2 (120-volt) line to the Bake and Broil Elements. NOTE: The Broil Element is on for 44-seconds, and draws 15-amperes during each 1-minute cycle. The Bake Element is on for 15-seconds, and draws 11-amperes during each 1-minute cycle.
- After Self-Clean Preheat, Relay K8 cycles off, via the thermostat. When the thermostat cycles back on, (to maintain the 850°F self-clean temperature), Relays K6 & K8 are alternately used to maintain the self-clean temperature until its time has expired, at which point, the oven turns off.

