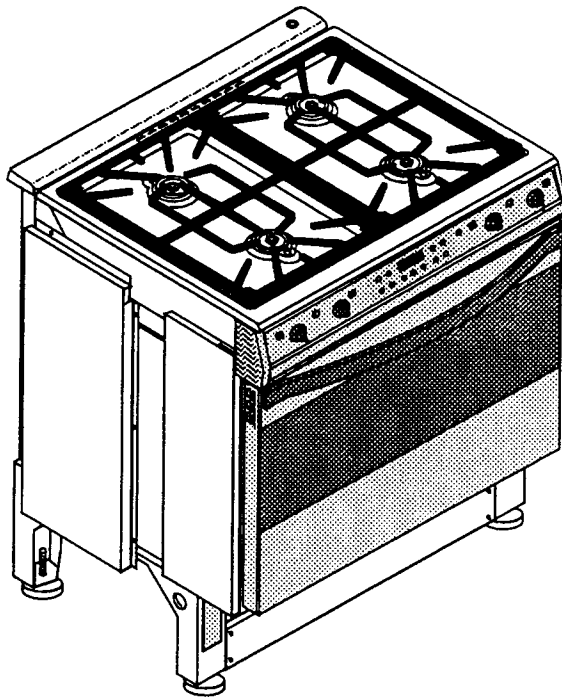


Thermador

30" ELECTRIC & DUAL-FUEL RANGE

**MODELS REF30, RES30, RED30V,
RDF30, RDFS30, RDSS30, & RDDS30V**

SERVICE MANUAL



Thermador[®]
CORPORATION

5551 MCFADDEN • HUNTINGTON BEACH, CALIFORNIA 92649 • TELEPHONE: 1(800) 735-4328

Lit. No. 90-91-005

March, 1999

THIS MANUAL CONTAINS INFORMATION THAT IS NECESSARY FOR SERVICING THE THERMADOR® ELECTRIC AND DUAL-FUEL RANGES, MODELS: *REF30, RES30, RED30V, RDF30, RDFS30, RDSS30, & RDDS30V.*

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.

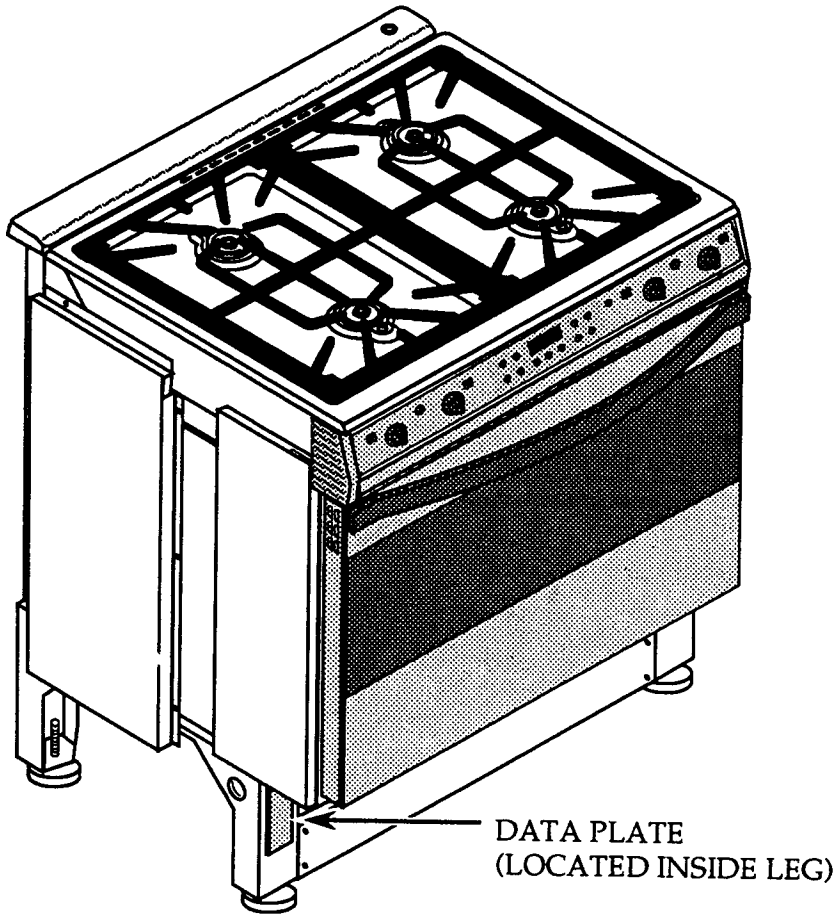
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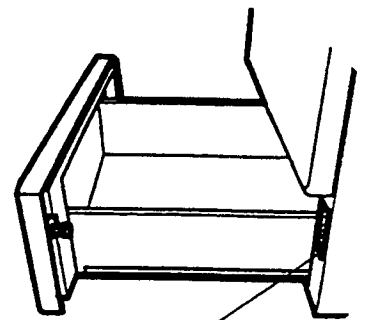
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GENERAL

DATA PLATE LOCATION



DROP-IN / SLIDE-IN MODELS



**FREESTANDING
MODELS**

TYPICAL DATA PLATE INFORMATION

THERMADOR CORPORATION, L.A., CA 90040

"E"

MODEL:

"A"

SER. NO:

"G"



GAS NATURAL PROPANE RATING: 120/208-240V, 60HZ, AC ONLY, 3-WIRE, 1PH,
 208V ("C1" AMPS), 240V ("C2" AMPS)
 MANIFOLD PRESSURE (IN. H₂O) "B1" "B2"
 LEFT REAR/RIGHT FRONT BURNER (BTU/HR) "D1" "D1"
 LEFT FRONT/RIGHT REAR BURNER (BTU/HR) "D2" "D2"
 LISTED 159J E8719
 P/N 14-33-606 ANSI Z21.1b (1993) HOUSEHOLD COOKING APPLIANCE



LEGEND:

"G" Serial Number (Ex: 95 08 0011)

Year: 1995

Month: August

Unit Number: 11

"Q" On Model Number Indicates Year of Introduction (1995)

| MODEL NO. "A" | MANIFOLD PRESSURE (in H ₂ O) | | INPUT ELECTRICAL RATING (AMPS) | | BURNER RATING BTU/HR | | RANGE TYPE "E" |
|------------------|--|-----------------|-----------------------------------|------------|------------------------------------|------------------------------------|---------------------------|
| | NATURAL "B1" | PROPANE "B2" | 208 V "C1" | 240 V "C2" | LEFT REAR & RIGHT FRONT "D1" | LEFT FRONT & RIGHT REAR "D2" | |
| RDF30QB | 5" | 10" | 15 | 17 | 11,000 | 6,500 | FREE-STANDING |
| RDF30QS | 5" | 10" | 15 | 17 | 11,000 | 6,500 | FREE-STANDING |
| RDF30QW | 5" | 10" | 15 | 17 | 11,000 | 6,500 | FREE-STANDING |
| RDFS30QB | 5" | 10" | 15 | 17 | 11,000 | 9,100 | FREE-STANDING X-LO™ |
| RDFS30QS | 5" | 10" | 15 | 17 | 11,000 | 9,100 | FREE-STANDING X-LO™ |
| RDFS30QW | 5" | 10" | 15 | 17 | 11,000 | 9,100 | FREE-STANDING X-LO™ |
| RDSS30QB | 5" | 10" | 15 | 17 | 11,000 | 9,100 | SLIDE-IN X-LO™ |
| RDSS30QS | 5" | 10" | 15 | 17 | 11,000 | 9,100 | SLIDE-IN X-LO™ |
| RDSS30QW | 5" | 10" | 15 | 17 | 11,000 | 9,100 | SLIDE-IN X-LO™ |
| RDDS30VQB | 5" | 10" | 19 | 21 | 11,000 | 9,100 | DROP-IN X-LO™ COOK & VENT |
| RDDS30VQS | 5" | 10" | 19 | 21 | 11,000 | 9,100 | DROP-IN X-LO™ COOK & VENT |
| RDDS30VQW | 5" | 10" | 19 | 21 | 11,000 | 9,100 | DROP-IN X-LO™ COOK & VENT |

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 range, 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.

IMPORTANT SAFETY INFORMATION

WARNING



TO REDUCE THE RISK OF TIPPING OF THE APPLIANCE, IT MUST BE SECURED BY A PROPERLY INSTALLED ANTI-TIP DEVICE. TO CHECK IF THE DEVICE IS INSTALLED PROPERLY, REMOVE THE STORAGE DRAWER/KICK PANEL BELOW THE OVEN DOOR AND VERIFY THAT THE ANTI-TIP DEVICE IS ENGAGED, PER INSTALLATION INSTRUCTIONS.

WARNING

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

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

GAS RANGES—WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch.
- Do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone.
- Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

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

THERMADOR® WARRANTY

30" ELECTRIC AND DUAL-FUEL RANGES

| Length of Warranty | Thermador will pay for: | Thermador will not pay for: |
|---|--|--|
| FULL ONE YEAR WARRANTY Covers one year from date of installation Save all dated receipts or other evidence of date of installation | 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. | <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. 5. Any service visits and labor costs during the limited warranty. |
| LIMITED THREE YEAR WARRANTY (Electric Models Only) Covers second through the fourth year from date of installation | Replacing the glass-ceramic surface when breakage is due to thermal shock (sudden temperature change) for a period of three years following the expiration of the full warranty. | |

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 to us at the address shown below.

We want you to remain a satisfied customer. If a problem does come up that cannot be resolved to your satisfaction, please let us know. Write to:

Consumer Relations Department
 Thermador, P.O. Box 22129
 Los Angeles, CA 90022

or phone:

(800) 735-4328

Please be sure to include the model and serial numbers located on the data plate, (see page 1-1), and the date of original purchase/installation.

SERVICING THE COMPONENTS

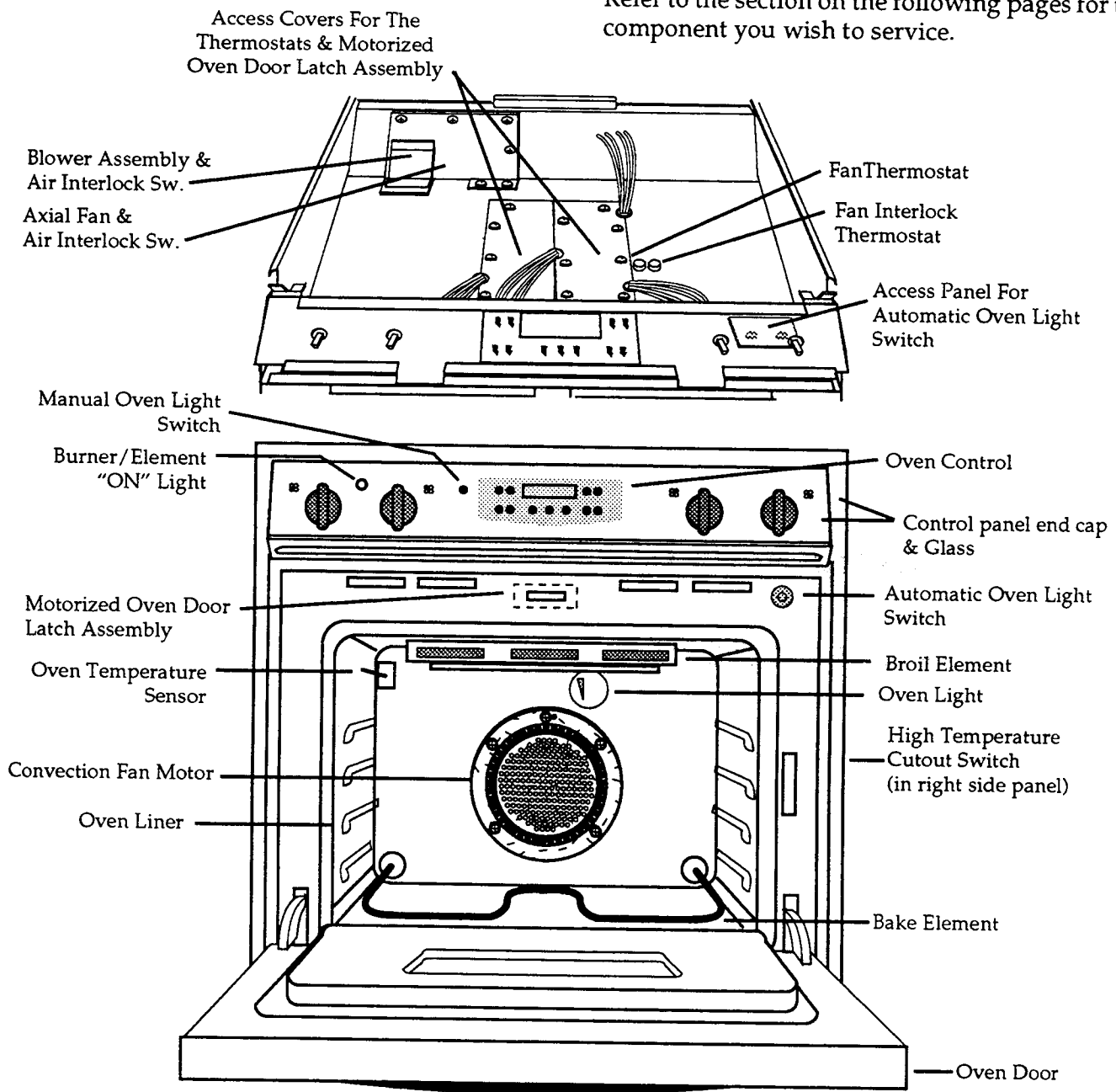
COMMON RANGE COMPONENTS

The serviceable components included in this section are as follows (see the illustration for the locations):

- Control panel end cap & Glass
- Burner/Element "On" Light
- Manual Oven Light Switch
- Oven Control
- Fan Thermostats & Motorized Oven Door Latch
- Automatic Oven Light Switch

- High Temperature Cutout Switch
- Oven Light
- Oven Temperature Sensor
- Broil Element
- Bake Element
- Convection Fan Motor
- Blower Assembly & Air Interlock Switch
- Axial Fan & Air Interlock Switch
- Oven Door Assembly
- Oven Liner

Refer to the section on the following pages for the component you wish to service.



Accessing The Components

REMOVING THE RANGE

WARNING

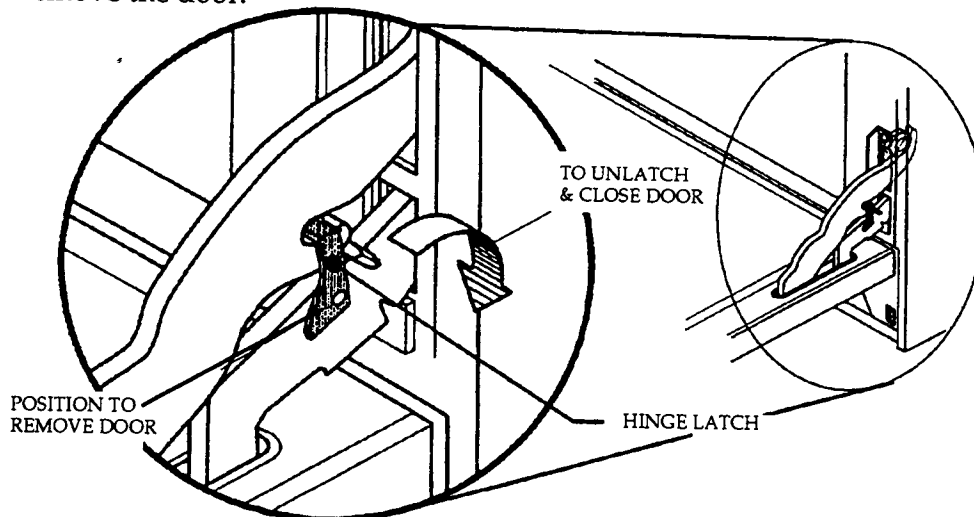
Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

If you find it necessary to remove the range from the cabinet mounting location in order to access and service a component, use the following procedure.

1. Turn off the gas supply and the electrical power going to the range.

NOTE: To help lighten the range for easier moving, you can remove the oven door. To do this, perform steps 2 through 4, otherwise proceed to step 5.

2. Open the oven door to its fully open position.
3. Raise the hinge latch over the hook on each of the hinges (see the illustration). This will lock the hinge and prevent it from snapping closed when the door is removed.
4. To remove the oven door:
 - a) Grasp it by the sides toward the back.
 - b) Raise the front of the door several inches (there will be some spring resistance to overcome because of the hinge being locked). When the front of the door is high enough, you will be able to lift the hinges to clear the indents.
 - c) Pull the hinges out of the slots in the front frame and remove the door.



Removing The Oven Door

CAUTION

Be careful not to damage the floor when you move the range in the next step. If possible, slide a rug or heavy piece of cardboard under it.

5. Pull the range out from the cabinet just far enough to access the component that you wish to service.

REINSTALLING THE RANGE

1. Push the range back into the cabinet and remove the protective covering from the floor.
2. To replace the oven door:
 - a) Grasp the sides of the door at the center and insert the ends of the hinges into the slots in the front frame as far as they will go.
 - b) With the door open all the way, lower the two hinge latches.
 - c) Close the oven door and make sure that it fits evenly with the front sides.
3. Turn on the power and gas supplies to the range.

Removing The Control Panel End Caps & Glass

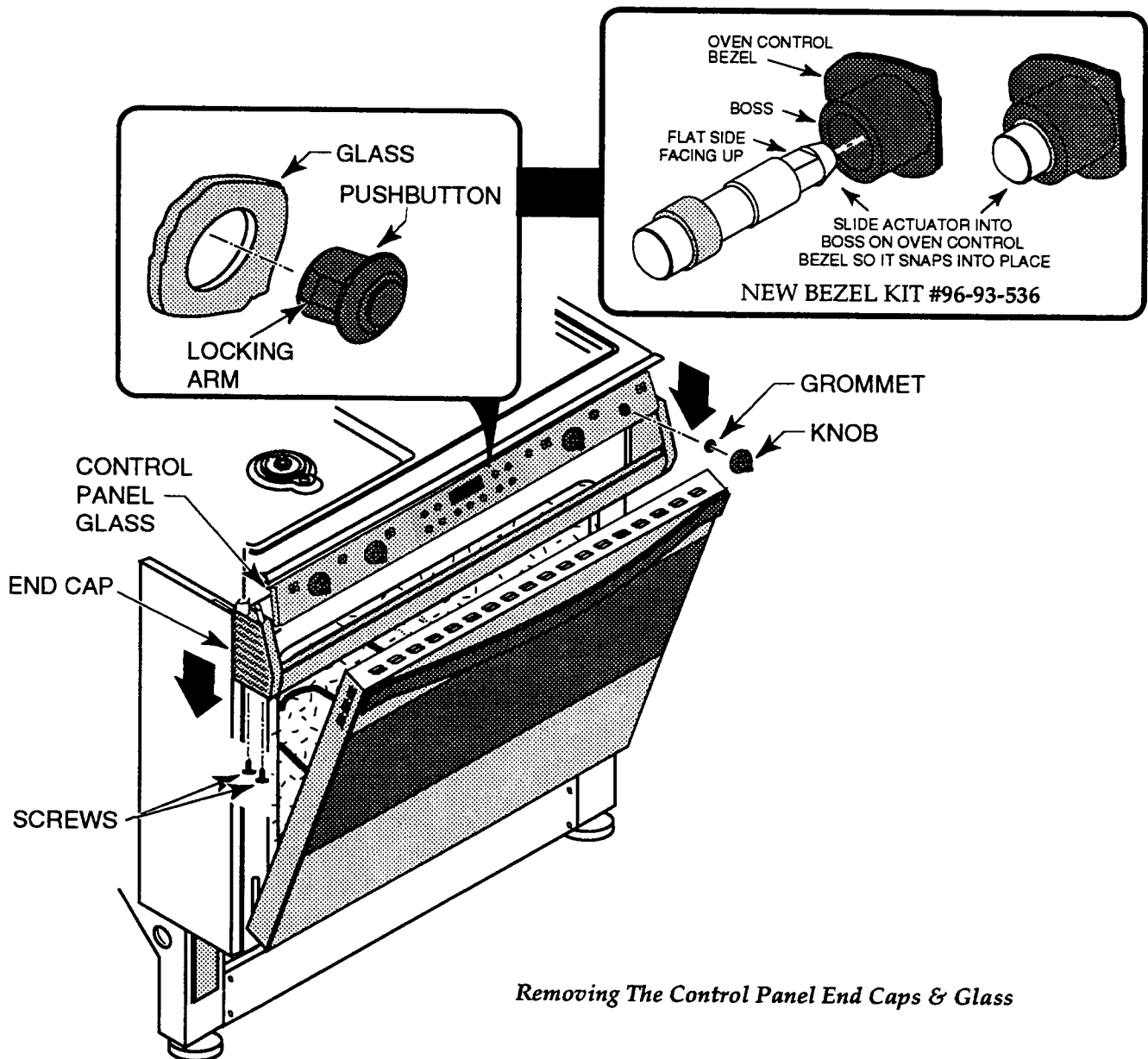
⚠ WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Open the oven door and remove the four screws (two on each side) from the bottom of the control panel end caps. Pull down on the end caps and slide them off the glass.
3. Remove the four knobs from the controls.
4. To remove the control panel glass, pull it out at the bottom and remove it from the range. If you are replacing the glass, remove the four grommets, and unsnap the eleven push-buttons, then install them on the new glass, or install the "New Bezel Kit" #96-93-536.
5. Reinstall the glass and control panel end caps.



Removing The Control Panel End Caps & Glass

Removing The Burner/Element "On" Light, The Manual Oven Light Switch, & The Oven Control

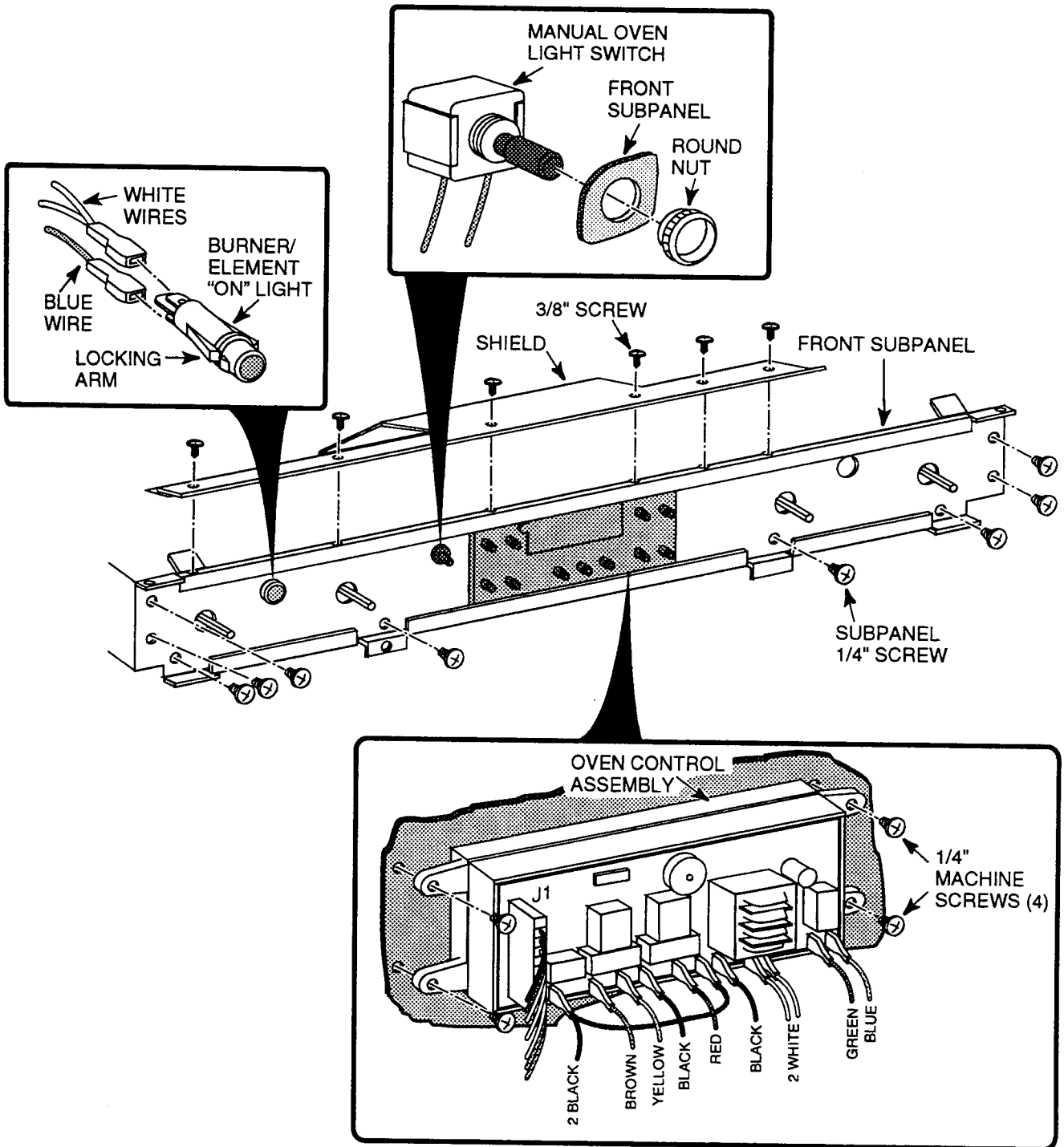
WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Remove the control panel end caps and glass from the range (see page 2-3 for the procedure).
3. **To remove the burner/element "ON" light**, unsnap the locking arms from the front subpanel and remove it.
4. Disconnect the wires from the old burner/element "ON" light and connect them to the terminals of the new light, then insert the light into the subpanel opening, and snap it into place.
5. **To remove the manual oven light switch**, disconnect the two wires from the harness connectors.
6. Remove the round nut, and remove the oven light switch from the front subpanel.
7. Connect the wires on the new oven light switch to the harness connectors, and mount the switch to the front subpanel with the round nut.
8. **To remove the oven control**, remove the $\frac{3}{8}$ " screws from the shield and remove the shield.
9. Remove the $\frac{1}{4}$ " screws from the front subpanel.
10. Tilt the front subpanel forward so that you can easily access the oven control assembly screws, and remove the $\frac{1}{4}$ " machine screws from the oven control bracket.
11. Disconnect the wires and 10-hole connector at J1 from the board.
12. Mount the new oven control assembly to the front subpanel, and reconnect the wires and 10-hole connector.
13. Reassemble the range.



Removing The Burner/Element "On" Light, The Manual Oven Light Switch, & The Oven Control

The Fan Thermostats & Motorized Oven Door Latch Assembly

⚠ WARNING

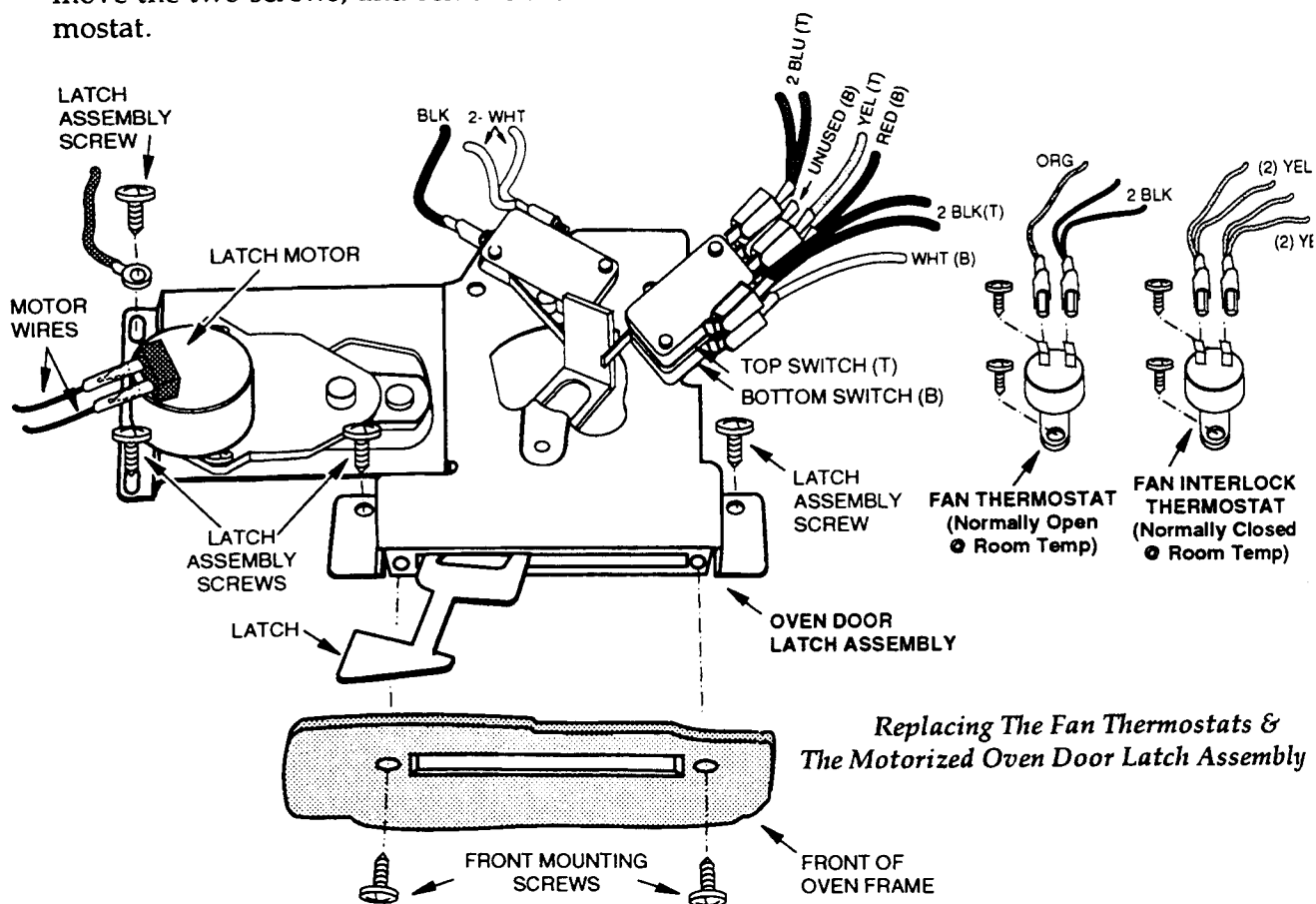
Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Remove the cooktop from the range (see page 2-22 (gas) or 2-29 (electric) for the procedure).
3. Remove the right access panel from the range top.
4. To replace a defective fan thermostat, disconnect the wires from the terminals, remove the two screws, and remove the thermostat.

5. Mount the new thermostat to the range top, and connect the two wires to the terminals.
6. To replace the oven door latch assembly, remove the left access panel from the range top.
7. Disconnect the wires from the terminals of the motor and latch switches on the oven door latch assembly.
8. Remove the six screws from the mounting plate of the oven door latch assembly (four on top and two in front), and remove the old assembly.
9. Mount the new oven door latch assembly to the range top and reconnect the wires to the motor and switch terminals, as shown in the illustration.
10. Reassemble the range.



Removing The Automatic Oven Light Switch

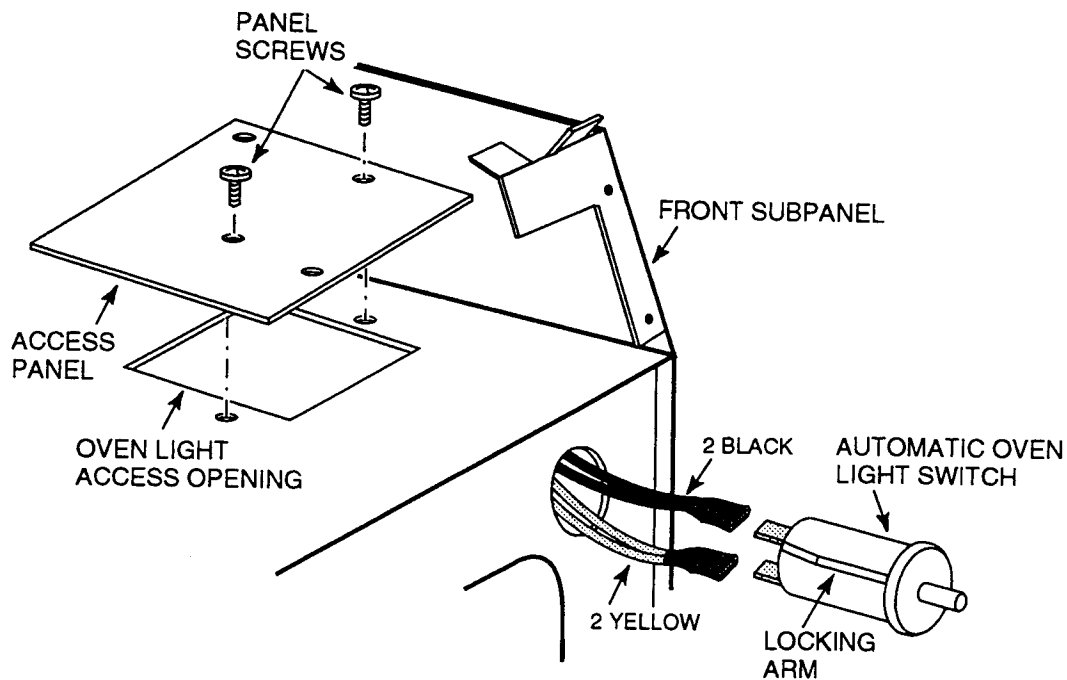
⚠ WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Remove the cooktop from the range (see page 2-22 (gas) or 2-29 (electric) for the procedure).
3. Remove the two screws from the oven light access panel and remove the panel from the range top.
4. To remove the automatic oven light switch, press against the locking arms on the sides of the switch body, and push the switch out of the front opening in the range.
5. Disconnect the wires from the switch terminals and connect them to the terminals on the new light switch.
6. Push the oven light switch into the range frame opening so that it snaps into place.
7. Reassemble the range.



Removing The Automatic Oven Light Switch

Removing The High Temperature Cutout Switch

WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

CAUTION

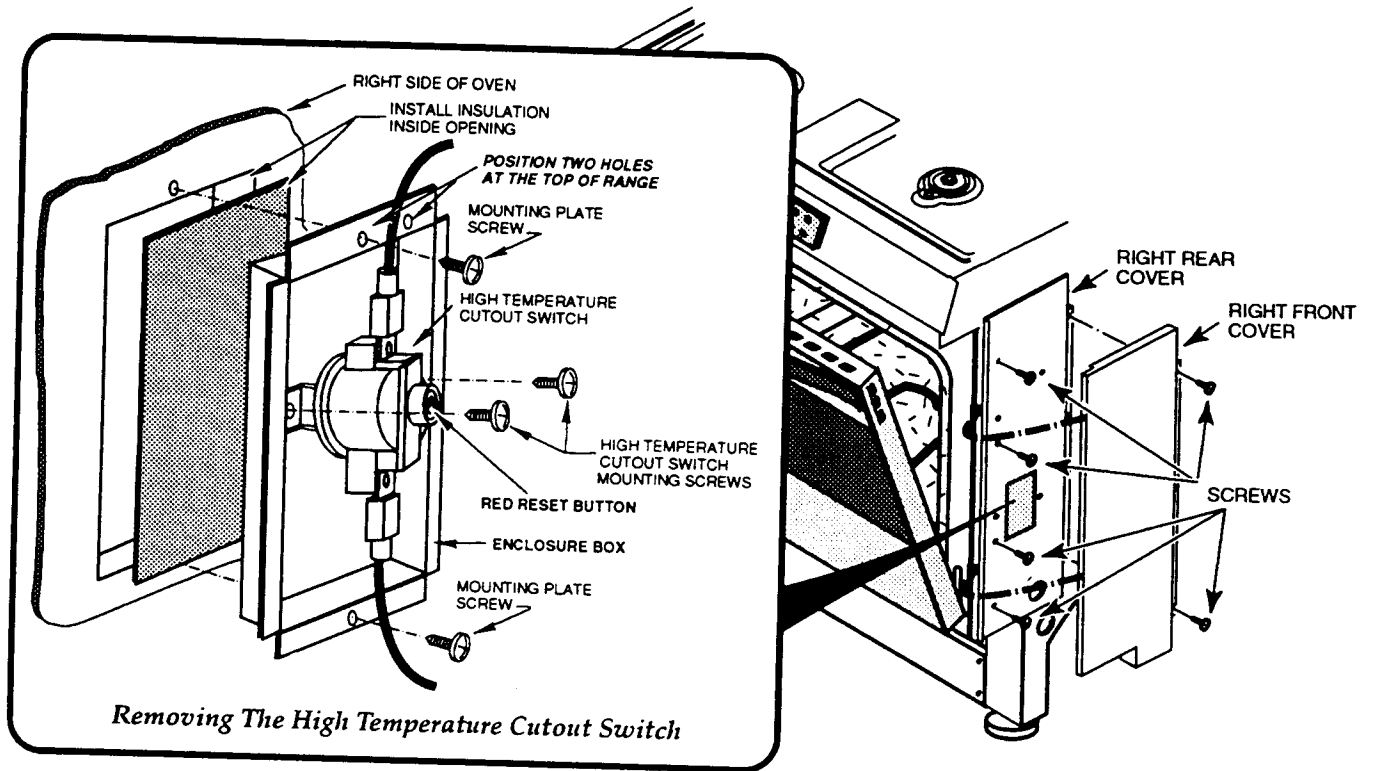
When you work on the range, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the gas supply and the electrical power going to the range.
2. Remove the control panel end caps and glass from the range (see page 2-3 for the procedure).
3. **Slide-In & Drop-In Ranges:**
 - a) Remove the two screws from the right front cover, slide the cover forward to unhook it, and remove it from the range.
 - b) Remove the four screws from the right rear cover and remove the cover.
Proceed to step 5.
4. **Freestanding Ranges:**
 - a) Remove the storage drawer and remove the two screws from the inside right base rail.

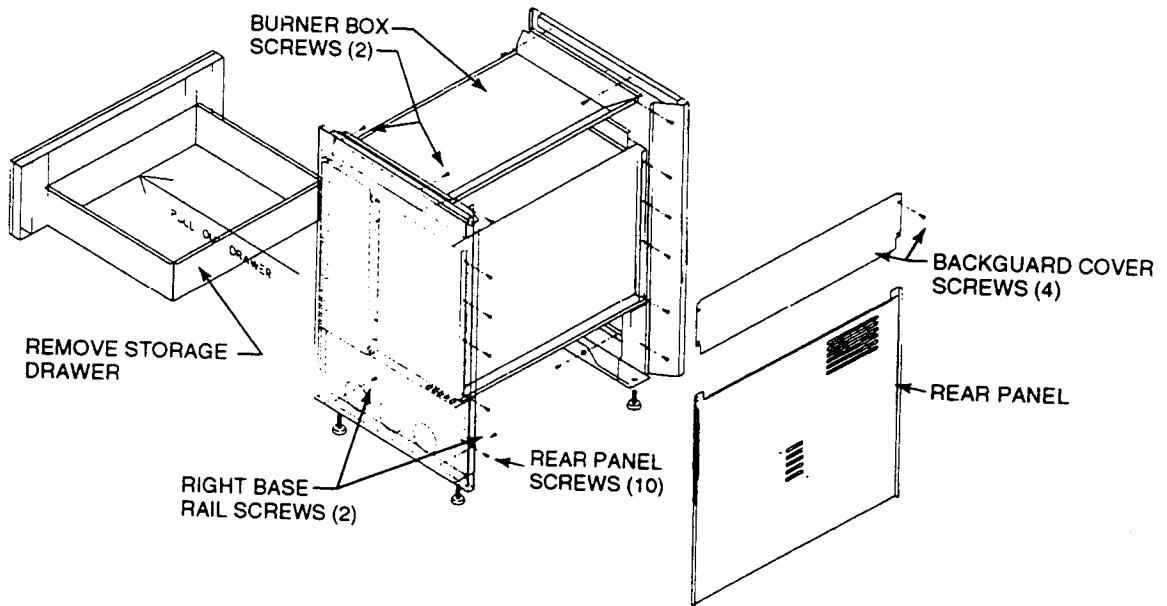
- b) Remove the cooktop from the range (see page 2-22 (gas) or 2-29 (electric) for the procedure).
- c) Remove the two screws from the right inside wall of the burner box.
- d) Remove the four screws from the back guard cover and the ten screws from the rear panel and remove them.

NOTE: The High Temperature Cutout (HTC) is a thermostat that opens when the area around it reaches a high enough temperature. The HTC will remain open until its manual reset button is pressed. Before pressing the red reset button, however, measure the electrical continuity across the terminals of the HTC. **IMPORTANT:** If the meter shows continuity, (the contacts are closed), the HTC has not failed, and should not be replaced.

5. **To remove the high temperature cutout switch,** remove the two screws from the switch, disconnect the wires from the terminals, and discard the old switch.
6. **To install the HTC Enclosure Box & Service Kit (#35-00-569):**
 - a) Remove the insulation from the cutout and discard it, then install the new insulation in its place.
 - b) Position the new enclosure box with the two holes in the flange at the top, then mount the enclosure to the range at the indicated holes with two screws.
 - c) Connect the wires to the terminals of the new high temperature cutout switch and mount it to the enclosure with its two screws.
 - d) Press the square red reset button on the high temperature cutout switch.
7. Reassemble the range. **REASSEMBLY NOTE:** When installing the rear panel on freestanding models, place the side edges behind the side panel.



Removing The Covers — Slide-In & Drop-In Models



Removing Panels — Freestanding Models

Removing The Oven Light Assembly

WARNING

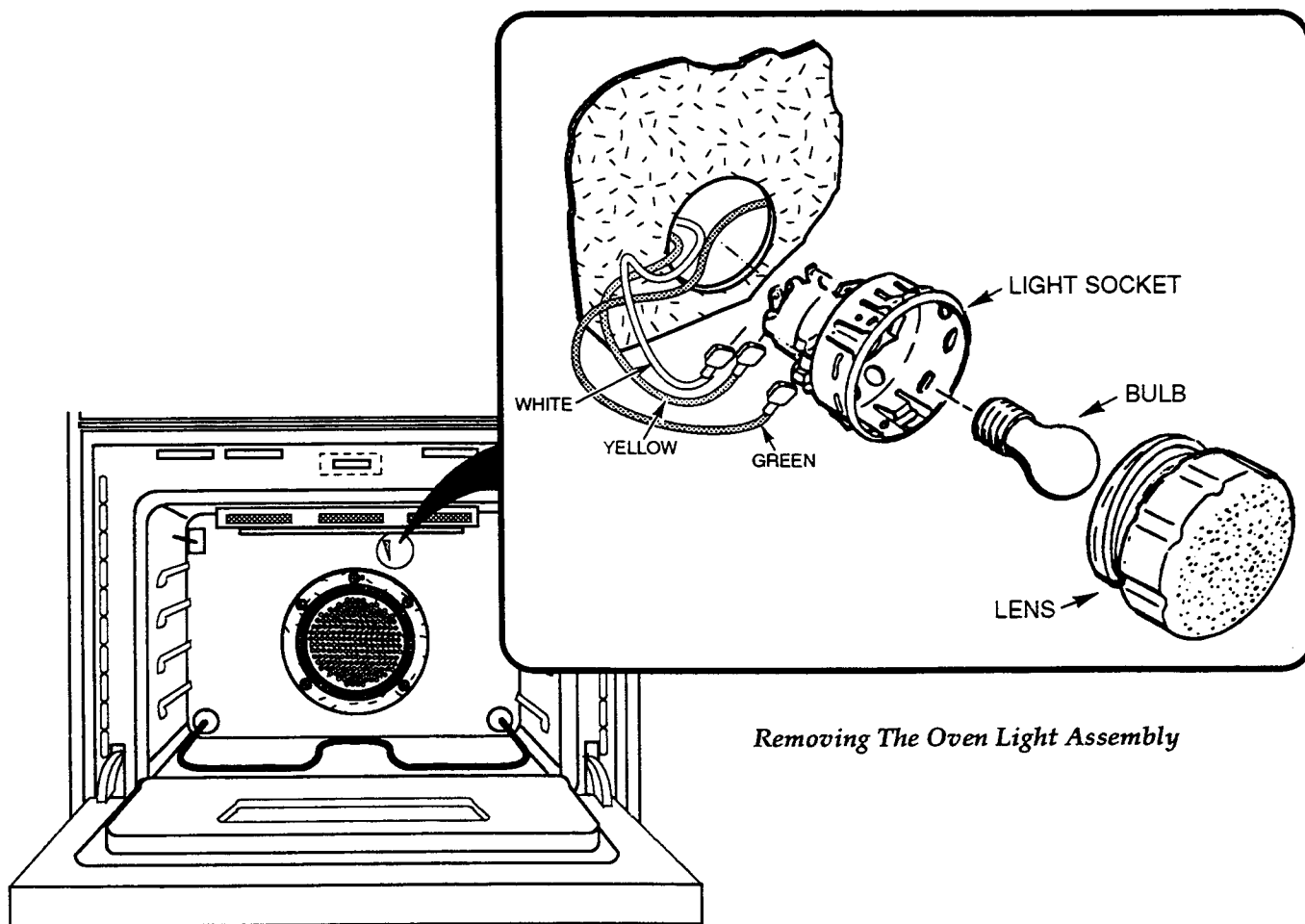
Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.

2. Open the oven door and unscrew the light lens and the bulb from the oven light assembly. **WARNING:** After several self-clean cycles, the lens and bulb may be difficult to remove. If this occurs, wear hand and eye protection before you try to remove the lens and bulb from the socket.
3. Pry the light socket assembly out of the opening in the oven liner. **NOTE:** You may have to deform the sides of the socket shield to remove it.
4. Disconnect the wires from the light socket.
5. Remove the green ground wire from the old light socket and connect it to the new socket.
6. Connect the remaining wires to the light socket terminals.
7. Reassemble the oven light.



Removing The Oven Light Assembly

Removing The Oven Temperature Sensor

⚠ WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

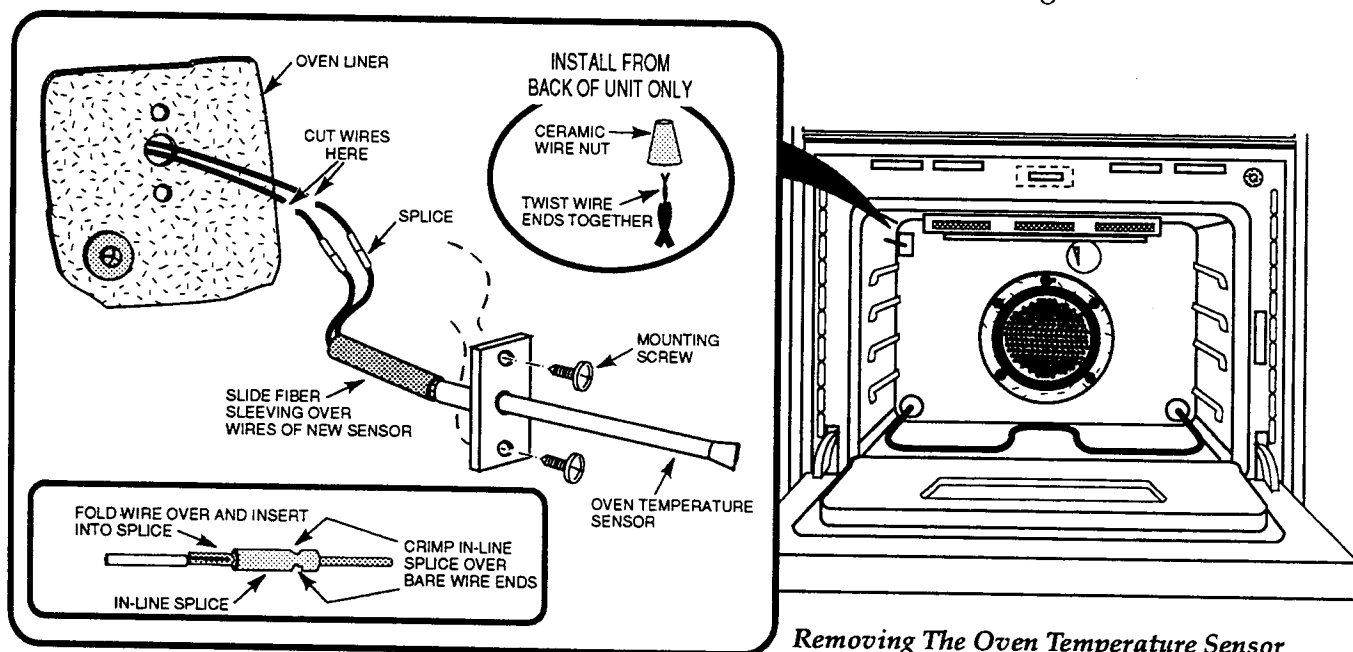
When you work on the range, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the gas supply and the electrical power going to the range.
2. Use an ohmmeter and check the continuity of the sensor at the control board. It should read between 1075 Ω and 1110 Ω , depending on the ambient temperature. If the temperature sensor is defective, proceed with the following steps.

IMPORTANT NOTES:

- A. For ease of servicing, the Oven Temperature Sensor can be accessed from inside the oven. However, if the wires coming from the sensor are not long enough to be pulled out of the oven liner hole, the unit will have to be pulled out from the wall, and the sensor accessed from the back.

- B. The wire nuts that are supplied in this kit can only be used when the sensor is accessed from the back of the unit, because they will not fit through the sensor mounting hole in the oven liner.
3. From inside the oven, remove the oven temperature sensor from the liner and pull it out until you have approximately 3" of wiring behind the two in-line splices, then cut the wires behind the splice connections.
 4. Slide the 4" length of fiber sleeving from the kit over the wires of the new sensor as far as it will go.
 5. Prepare the ends of the wires coming from the oven and from the new sensor by removing $\frac{5}{8}$ " of insulation from the ends, then bend the bare wire ends in half and fold them over.
 6. Splice the prepared wire ends together using in-line splice connectors from the kit. NOTE: If you are working from behind the unit, you can use the two wire nuts from the kit to splice the wires instead of the in-line splice connectors and fiber sleeving.
 7. Carefully push the wires and fiber sleeving into the oven liner and mount the oven temperature sensor with its two mounting screws.
 8. Reassemble the range.



Removing The Oven Temperature Sensor

Removing The Broil Element

⚠ WARNING

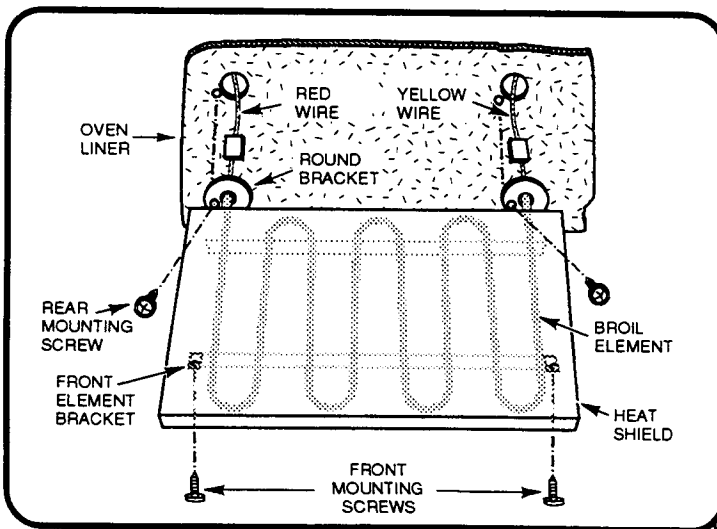
Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

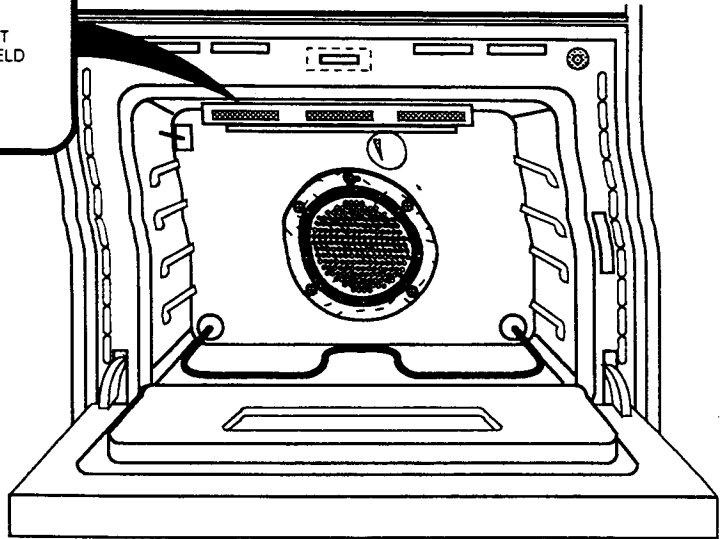
When you work on the range, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the gas supply and the electrical power going to the range.

2. Open the oven door and remove the two screws from the round brackets on the broil element at the back of the liner, and the two screws from the front of the broil element. Pull the broil element forward so the terminals are out of the liner openings, and disconnect the wires from the terminals.
3. Remove the heat shield from the old broil element, and position it over the new one.
4. Connect the wires to the terminals of the new broil element, then mount the heat shield and the broil element brackets to the top and rear range liner with the four screws you just removed.



Removing The Broil Element



Removing The Bake Element

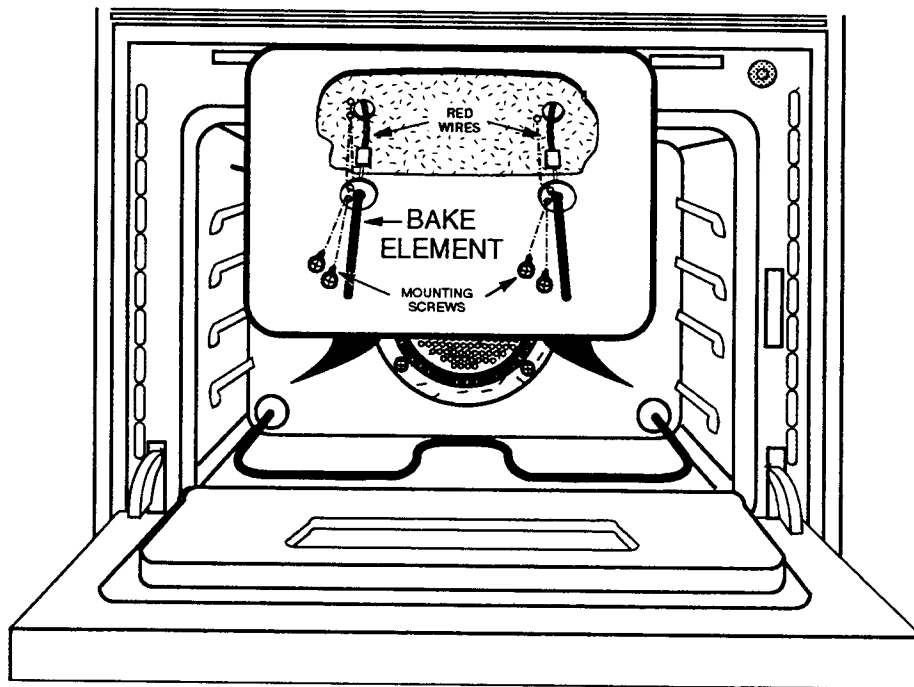
⚠ WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Open the oven door and remove the four screws from the round bake element brackets, then pull the bake element forward, and disconnect the wires from the terminals.
3. Connect the wires to the terminals of the new bake element, and mount it to the liner with its four screws.



Removing The Bake Element

Removing The Convection Fan Motor

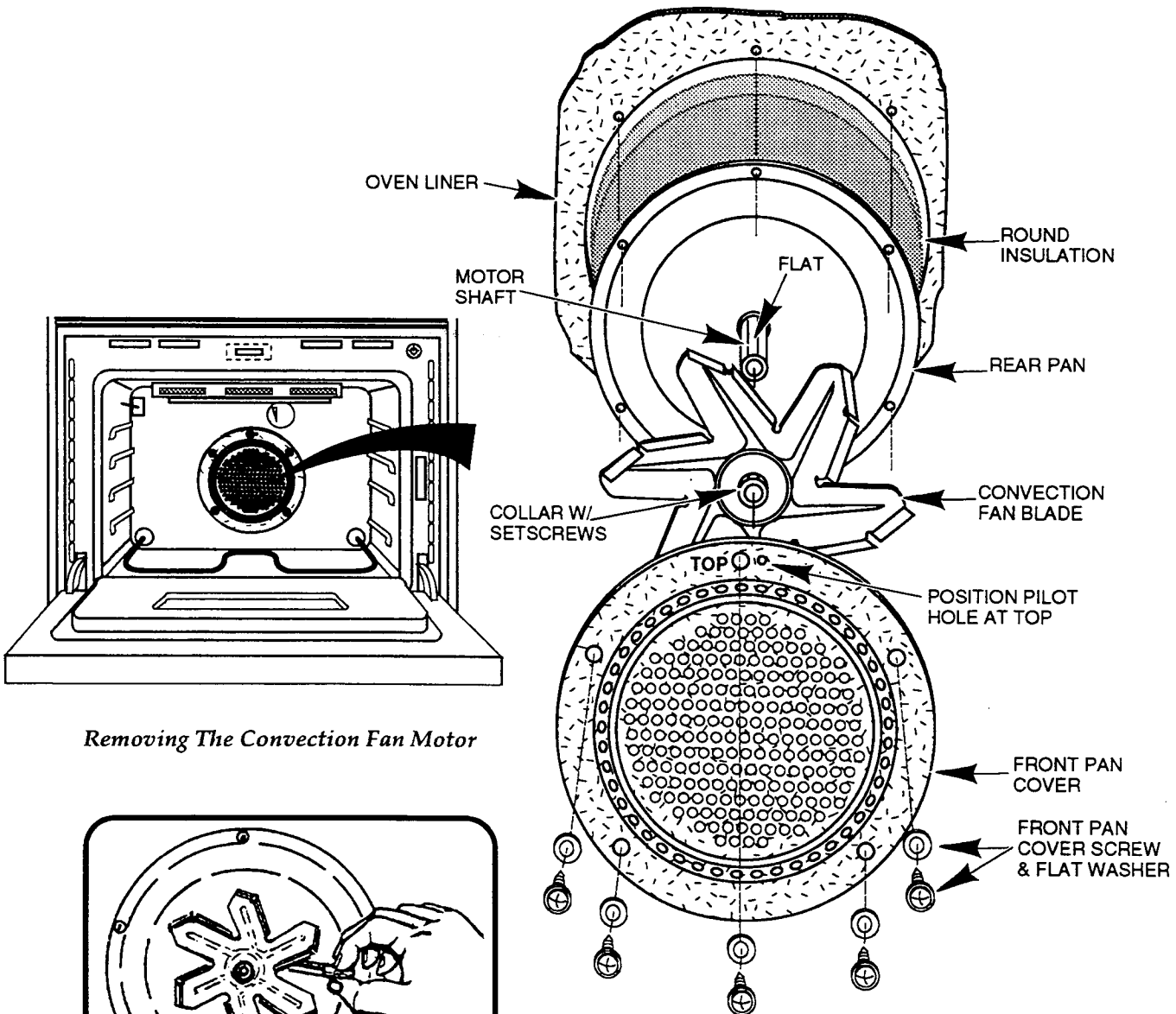
⚠ WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

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

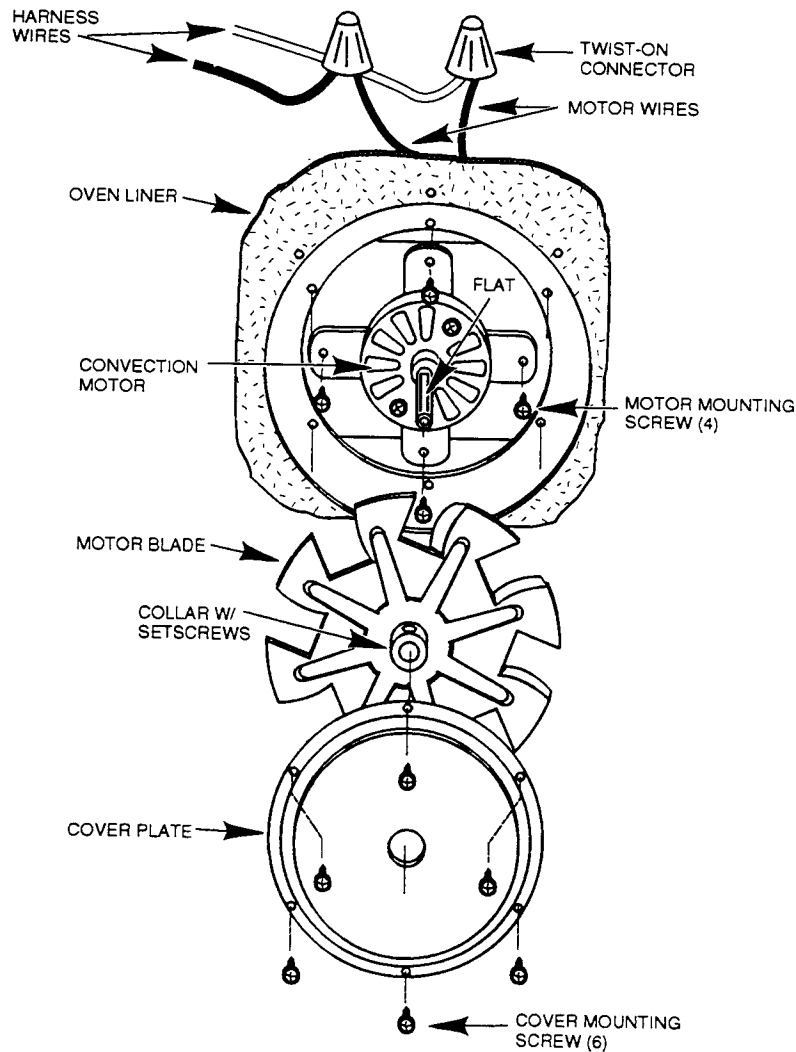
1. Turn off the gas supply and the electrical power going to the range.
2. Open the oven door and remove the five screws and flat washers from the front pan cover and remove the cover.
3. Loosen the allen setscrews on the convection fan blade collar and remove the blade from the motor shaft.
4. Remove the rear pan and the round insulation from the oven liner.



Removing The Convection Fan Motor

Using The Convection Fan Gauge

5. Remove the six screws from the cover plate and remove the plate.
 6. Loosen the allen setscrews on the motor blade collar and remove the blade from the motor shaft.
 7. Remove the four screws from the convection fan motor bracket and set the motor inside the oven.
 8. Remove the two twist-on connectors from the ends of the motor wires and disconnect the wires.
 9. Connect the wires to the new convection fan motor and install the two twist-on connectors over the wire ends.
 10. Mount the convection fan motor to the mounting bracket with its four screws.
 11. Reassemble the range.
- Reassembly Notes:**
- a) When you install the convection fan blade, use a gauge (#14-32-544) to make sure that the fan is spaced properly away from the rear pan. To use the gauge, place it against the pan, (see the inset in the illustration on the previous page), then slide the convection fan blade over the motor shaft (it has two flats) until it is against the gauge. Tighten the fan setscrews, and remove the gauge.
 - b) When you install the front pan cover, be sure to position the cover so that the pilot hole is at the top of the oven (see the previous page).



Removing The Convection Fan Motor

Removing The Blower Assembly & Air Interlock Switch Or The Axial Fan & Air Interlock Switch

⚠️ WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠️ CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Remove the cooktop from the range (see page 2-22 (gas) or 2-29 (electric) for the procedure).
3. **Freestanding/Drop-In Models Only:**
 - a) Remove the eight screws from the blower motor access cover and remove the cover from the range top.
 - b) Remove the two screws from the blower assembly bracket, remove the blower, and

disconnect the wires from the motor and switch terminals.

- c) To replace the blower assembly, remove the two screws from the air interlock switch bracket and remove the switch and bracket from the old blower, then install the new blower and the air interlock switch.
- d) To replace the air interlock switch, remove the two switch mounting screws and the switch from the bracket, then install the new switch in its place (see the "Reassembly Note" below).

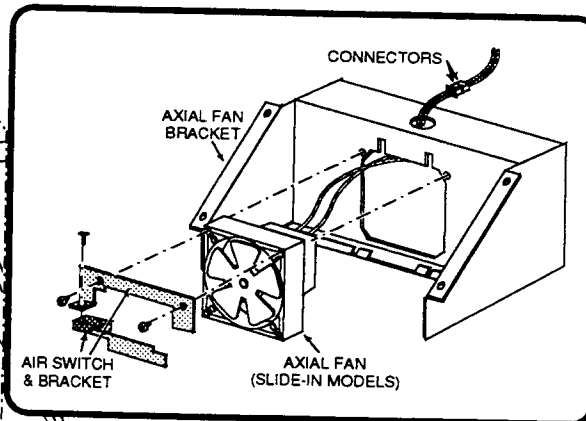
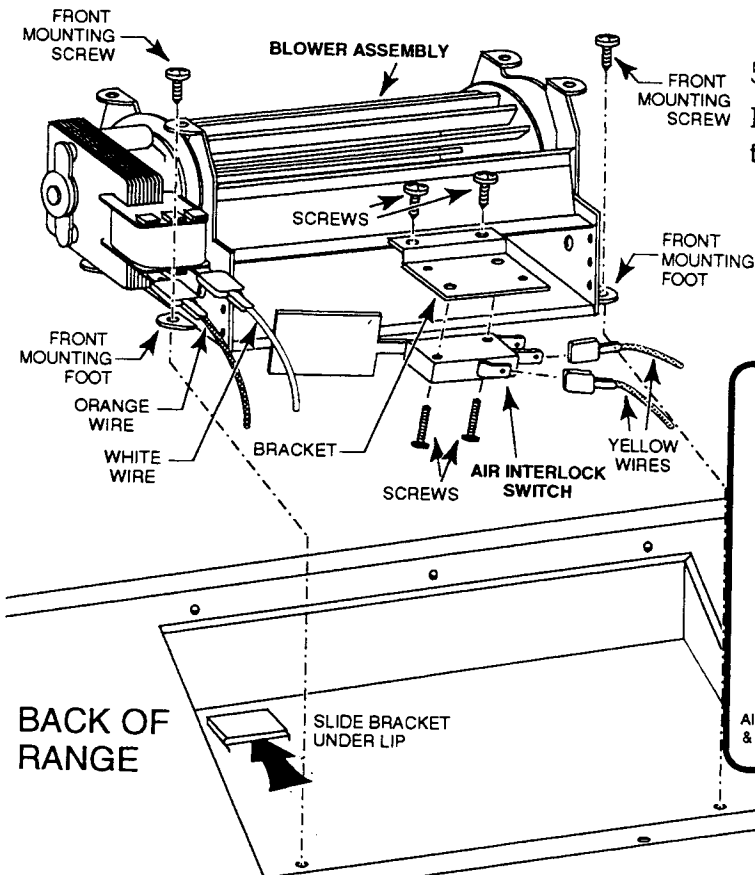
4. Slide-In Models Only:

- a) To replace the axial fan, unplug the motor wiring connector, remove the two screws from the air interlock switch bracket, and remove the old fan, then install the new fan and the air interlock switch.
- b) To replace the air interlock switch, disconnect the wires from the switch terminals and remove the mounting screws and the switch from the bracket, then install the new switch in its place (see the "Reassembly Note" below).

5. Reassemble the range.

Reassembly Note: When you connect the wires to the air interlock switch connect them as follows:

- a) Models prior to Serial #9512—Connect wires to the N.C. & COM terminals.
- b) Models starting with Serial #9512—Connect wires to the N.O. & COM terminals.



*Removing The Blower Assembly,
Axial Fan, & Air Interlock Switches*

Removing The Oven Door Glass, Handle, & Trim

⚠ WARNING

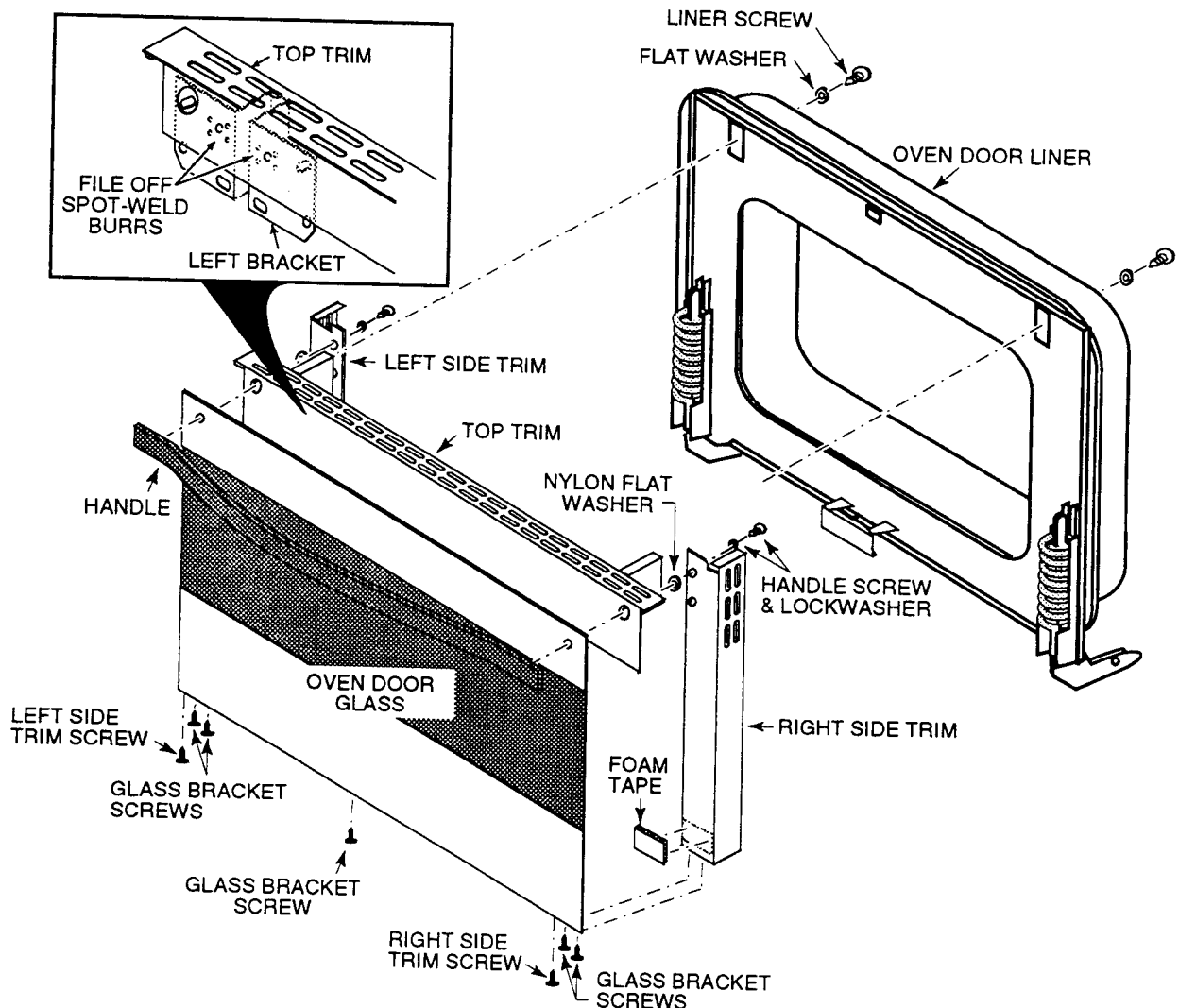
Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Open the oven door and remove it from the range (if necessary, see page 2-2 for the removal procedure).

3. Position the oven door on a flat padded surface with the door glass and handle facing down and the bottom edge facing you.
4. Remove the screws (7 total) from the glass retainer brackets and the left and right side trim at the bottom of the oven door.
5. Remove the two screws and washers from the oven door liner assembly and lift the assembly off the handle, glass, and trim sections.
6. Remove the two door handle and side trim screws from the glass support assembly and lift them off the door glass. Also remove the two nylon spacers from between the bracket and the door glass.
7. Reassemble the oven door and mount it to the range.



Removing The Oven Door Glass, Handle, & Trim

Removing A Hinge, The Inner Oven Door Glass Assembly, & The Fiberglass Gasket

WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

CAUTION

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

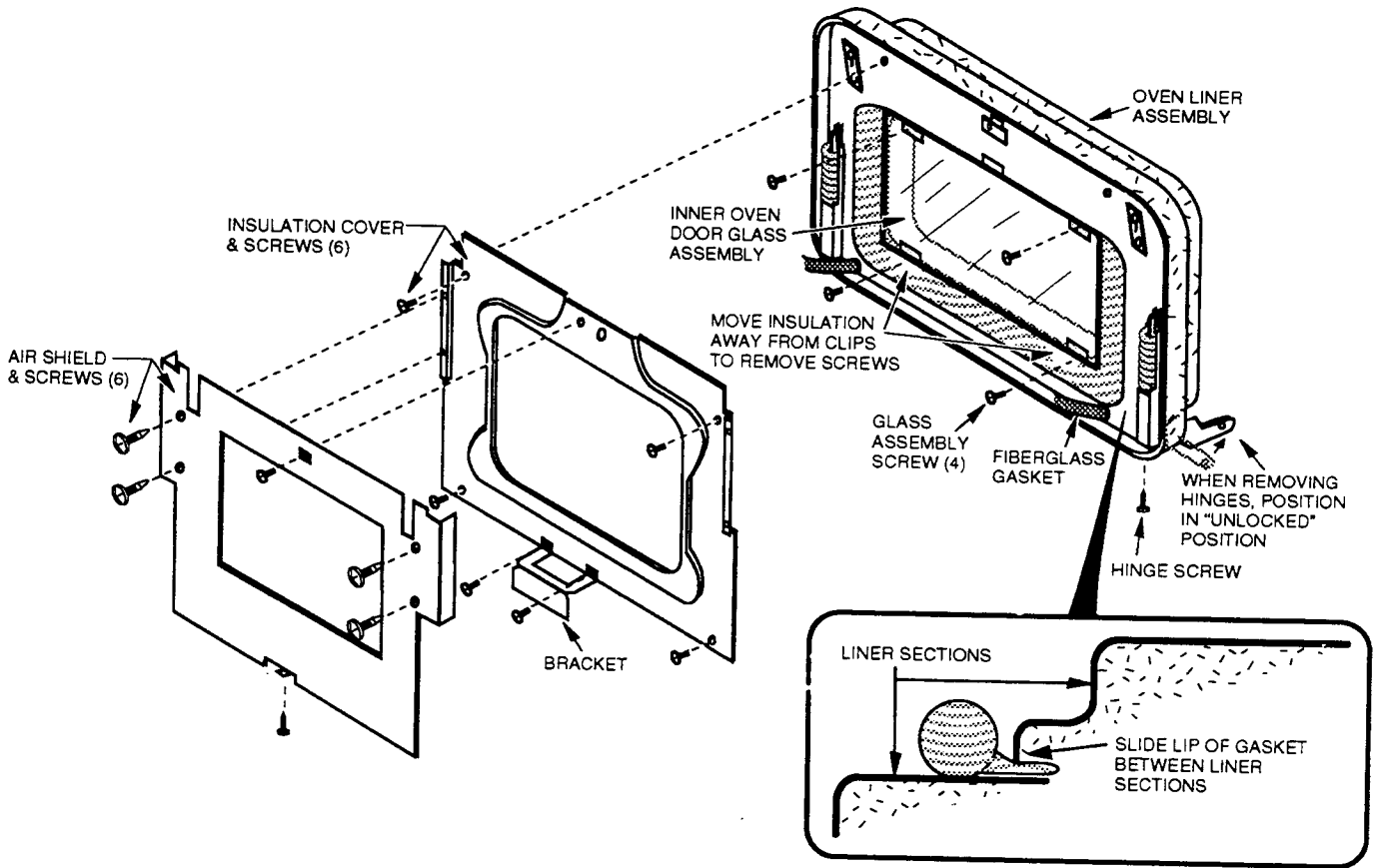
1. Turn off the gas supply and the electrical power going to the range.
2. Open the oven door and remove it from the frame (if necessary, see page 2-2 for the removal procedure).
3. Position the oven door on a flat padded surface with the door glass and handle facing down.
4. Remove the door glass, handle, and trim from the oven door liner (see the previous page for the procedure).
5. Remove the six screws from the air shield and remove the shield.
6. Remove the six screws from the insulation cover and the bottom bracket and remove the cover from the liner.
7. **To remove a door hinge**, unlock the hinge to the "unlocked" position. To do this, slide the end of a 1" diameter length of pipe over the end of the hinge, and move the hinge and unlock it.

8. Remove the screw from the hinge bracket, remove the hinge from the liner, and install the new hinge in its place.
9. **To remove the inner oven door glass assembly**, push the insulation back just far enough to access the four bracket screws, then remove the screws, lift the old glass assembly out of the door, and replace it with a new one.
10. **To remove the fiberglass gasket**, separate the two liner sections slightly and remove the old gasket, then install the new gasket around the liner so that the ends are in the liner holes, and are of equal length (about 4" each).

REASSEMBLY NOTE: When you install the new gasket, loosely mount the insulation cover to the liner with its four screws, then start at one side, and tuck the lip of the insulation between the liner sections, (see the inset in the illustration). Snug up the screws on that side to hold the gasket in place, and work the rest of the gasket between the liner sections using the other screws to hold it in place. When the gasket is properly positioned, tighten the screws securely.

11. Reassemble the oven door and mount it to the range.

REASSEMBLY NOTE: When you mount each panel to the oven door liner, loosely install the screws until they are all in place, then tighten them securely.



Removing The Inner Oven Door Glass Assembly

Removing The Oven Liner

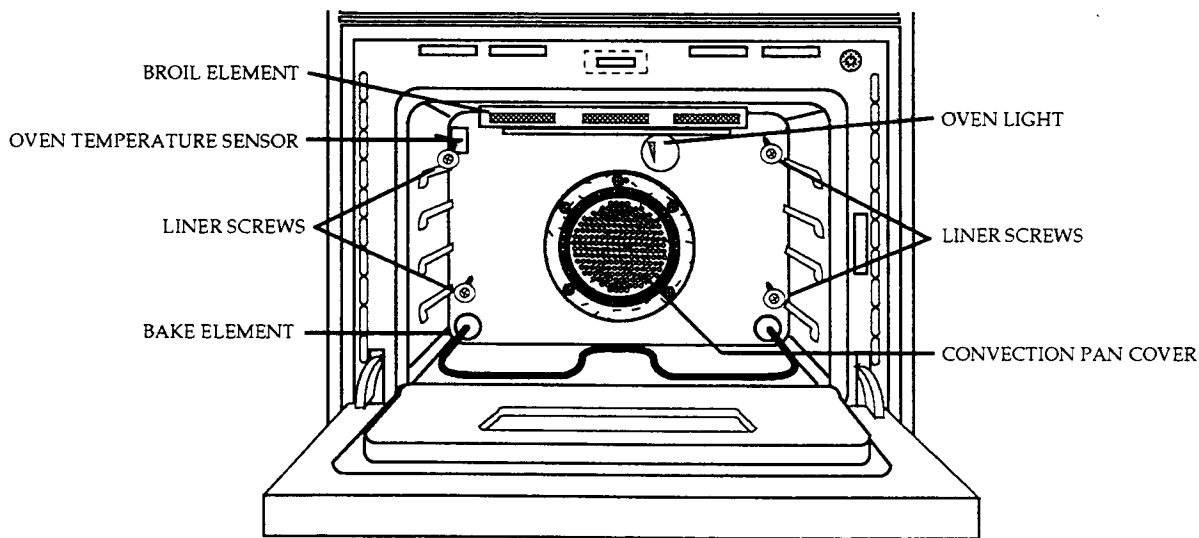
WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Open the oven door and remove it from the frame (if necessary, see page 2-2 for the removal procedure).
3. Remove the following components from inside the oven. If necessary, refer to the pages indicated for the removal procedures:
 - a) Oven light (see page 2-10).
 - b) Oven temperature sensor (see page 2-11).
 - c) Broil element (see page 2-12).
 - d) Bake element (see page 2-13).
 - e) Convection pan cover, convection blade, rear pan, and round insulation (see page 2-14).
4. Remove the four screws and flat washers from the corners of the oven liner. Pull the old liner out of the oven, and replace it with the new liner. Secure the new liner to the oven with the screws and flat washers.
5. Reinstall the components in the oven, and install the oven door on the range.



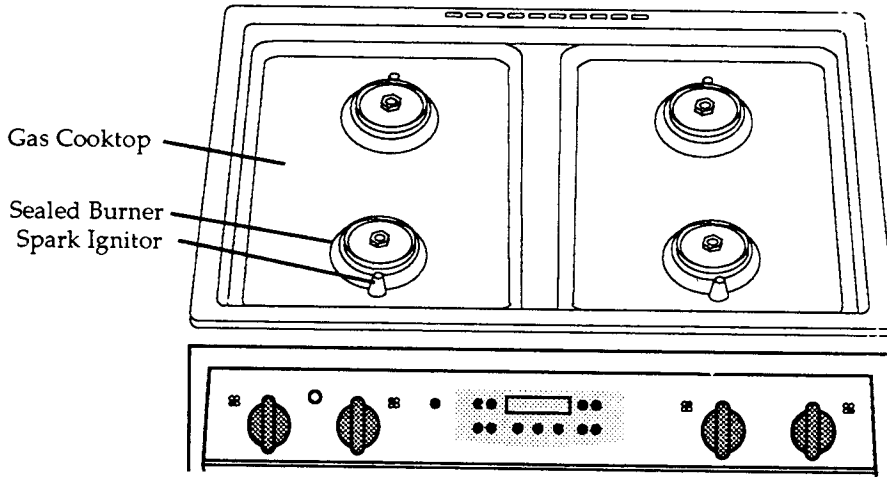
Removing The Oven Liner

GAS COOKTOP COMPONENTS

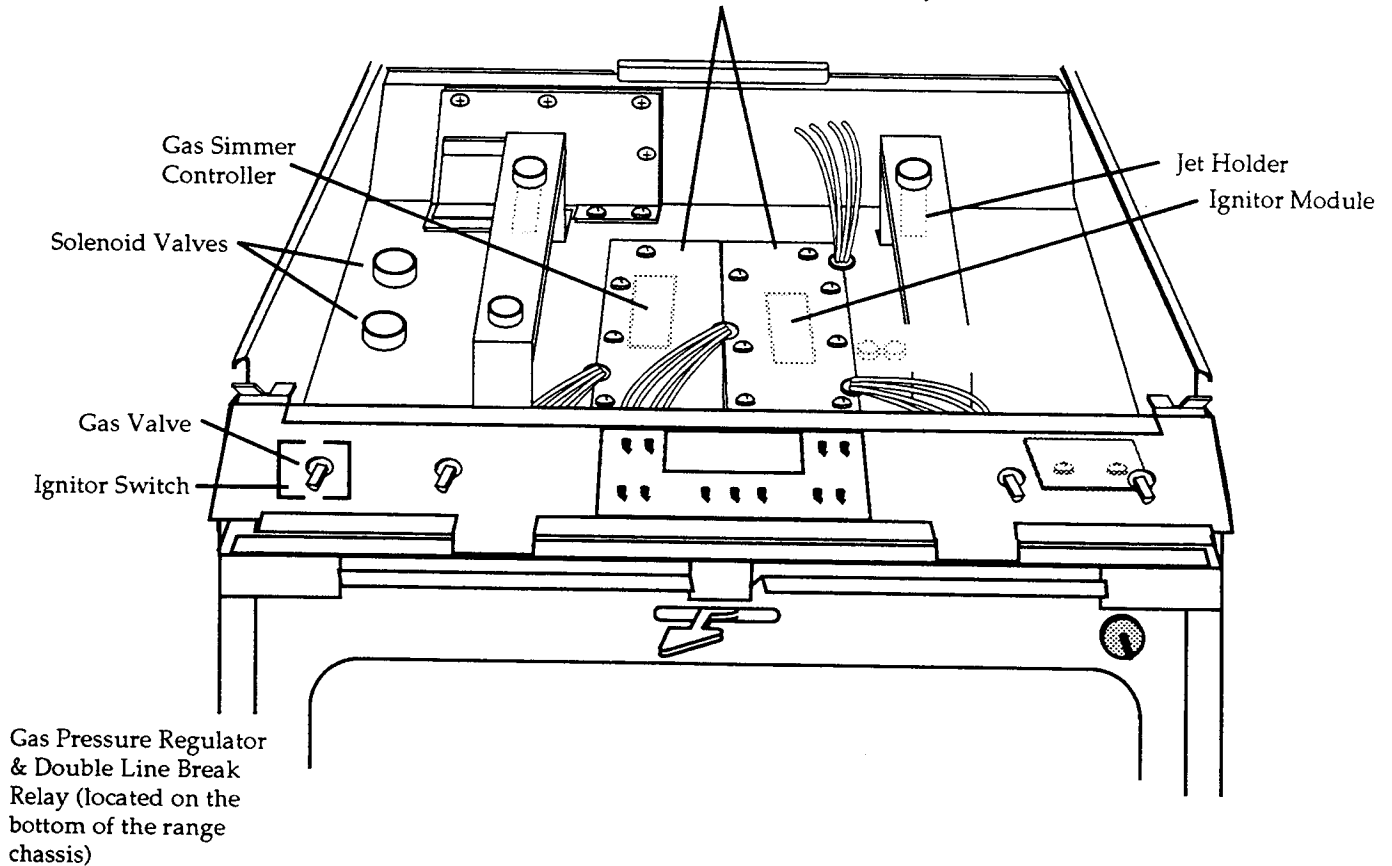
The serviceable components included in this section are as follows (see the illustration for the locations):

- Sealed Burners
- Spark Ignitors

- Jet Holders & Solenoid Valves
- Ignitor Switch & Gas Valve
- Ignitor Module
- Gas Simmer Controller
- Pressure Regulator & Double Line Break Relay



Access Covers For The Gas Simmer Controller, Ignitor Module, Thermostats, & Motorized Oven Door Latch Assembly



Removing The Cooktop, The Sealed Burners, & The Spark Ignitors

⚠ WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

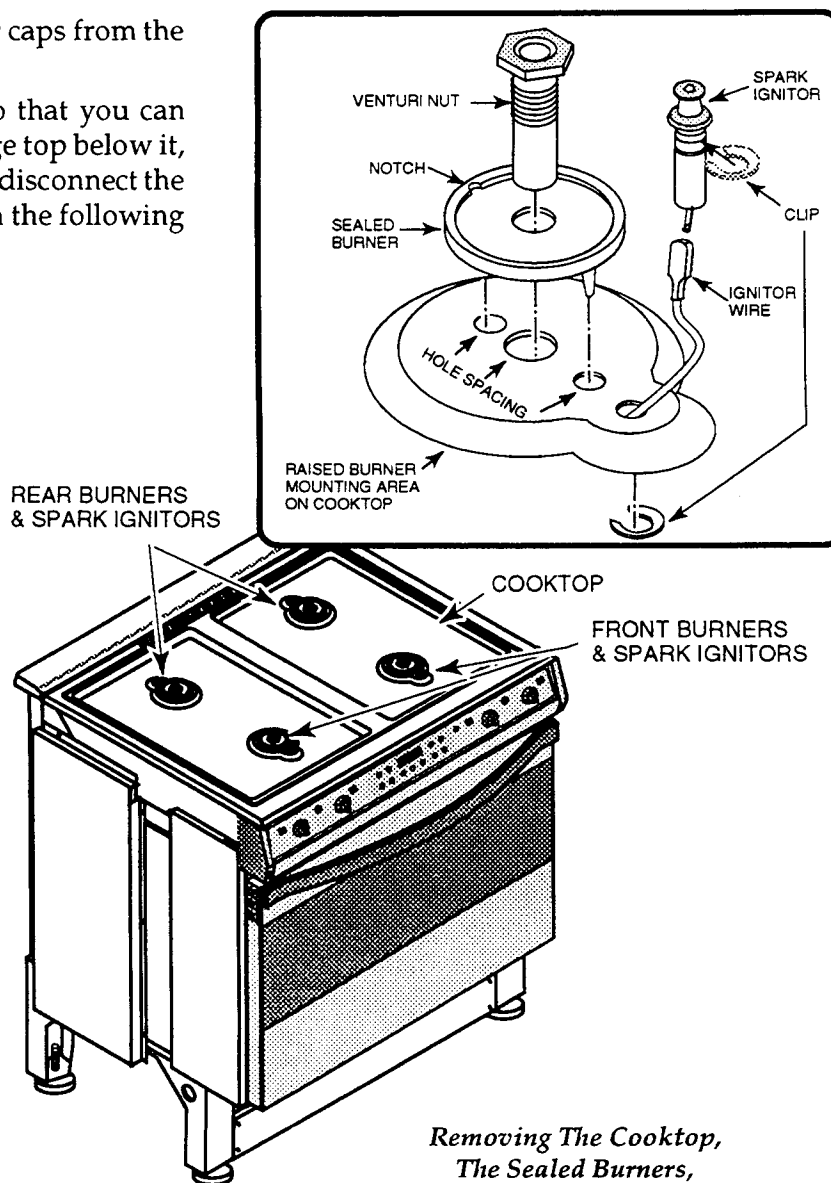
When you work on the range, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the gas supply and the electrical power going to the range.
2. Remove the grates and burner caps from the cooktop.

NOTE: To remove the cooktop so that you can service the components on the range top below it, remove all four sealed burners and disconnect the spark ignitor wires, as instructed in the following steps.

3. To remove a sealed burner, unscrew the venturi nut, and lift the burner from the cooktop.
4. To remove a spark ignitor, lift the cooktop from the range, and disconnect the wire from spark ignitor terminal, then unclip the ignitor from the cooktop, and remove it.
5. Reassemble the range.

REASSEMBLY NOTE: The large burners fit on the large raised areas of the cooktop, and the small burners fit on the small areas. The burners can only be installed one way due to the hole spacing of the pins.



*Removing The Cooktop,
The Sealed Burners,
& The Spark Ignitors*

Removing A Jet Holder & A Solenoid Valve

WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

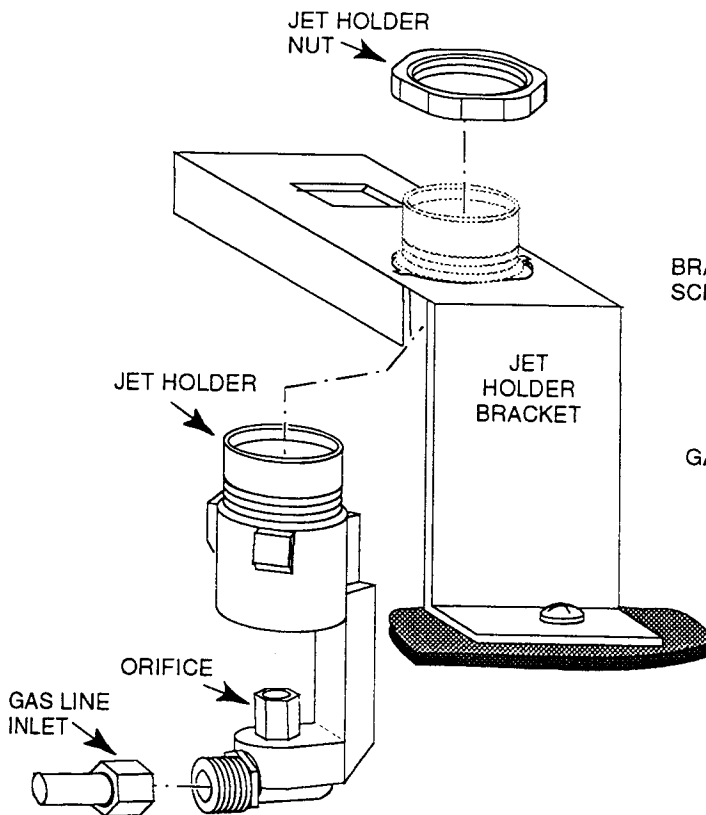
CAUTION

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

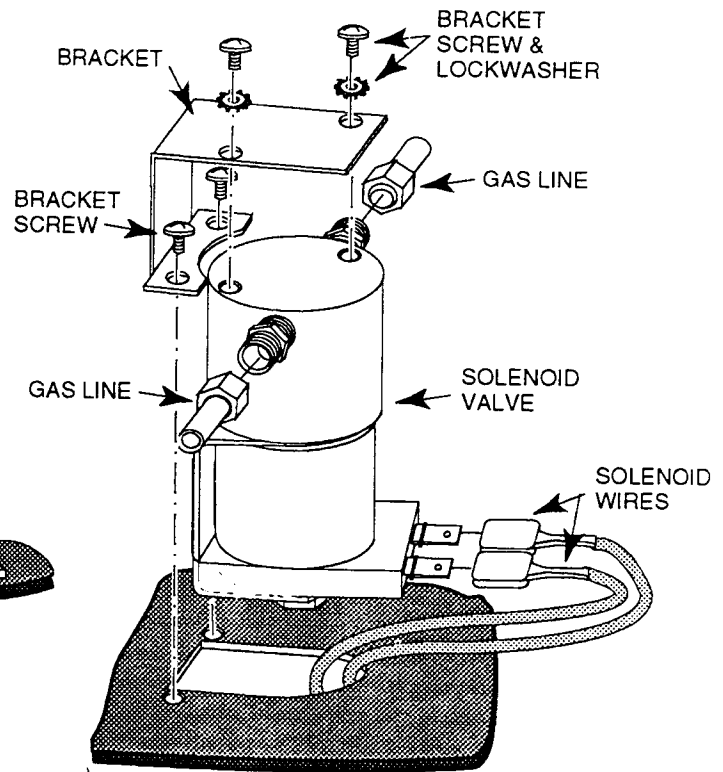
1. Turn off the gas supply and the electrical power going to the range.
2. Remove the grates and burner caps from the cooktop.
3. Remove the cooktop from the range (see page 2-22 for the procedure).
4. To replace a defective orifice from a jet holder, use a 7 mm or a 10 mm nut driver, (depending on the model), and unscrew the

old orifice from the holder, then install a new orifice of the same type in its place.

5. To remove a jet holder, remove the gas line from the connector, and the nut from the bracket, and remove the jet holder.
6. Mount the new jet holder assembly to the bracket.
7. To remove a solenoid valve, remove the two gas lines from the valve fittings.
8. Remove the four screws and two lockwashers from the solenoid valve bracket, and remove the valve from the range top, then disconnect the two wires from the solenoid terminals.
9. Connect the wires, and mount the new solenoid valve to the range top. **IMPORTANT NOTE:** Be sure to observe the gas flow direction markings on the new valve when you install it.
10. Reassemble the range.



Removing A Jet Holder



Removing A Solenoid Valve

Removing An Ignitor Switch & A Gas Valve

WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Remove the grates and burner caps from the cooktop.
3. Remove the control panel end caps and glass from the range (see page 2-3 for the procedure).
4. Remove the cooktop from the range (see page 2-22 for the procedure).
5. Remove the screws from the front subpanel and tip it forward.

NOTE: There are two types of ignitor switches: rotary and pushbutton. Refer to the following section that corresponds to the unit you are servicing.

6. **To remove a rotary ignitor switch & potentiometer**, grasp the switch at the sides, pull it straight forward, and unsnap the pins from the gas valve, then remove the switch from the shaft of the gas valve.
7. Disconnect the wire connector from the top of the old rotary ignitor switch & potentiometer.
8. Connect the wire connector to the top of the new rotary ignitor switch & potentiometer, install the switch on the gas valve stem, and press the pins into the gas valve holes so that they snap into place.
9. **To remove a pushbutton ignitor switch**, remove the screw from the switch and remove the switch from the gas valve, then disconnect the wires from the switch terminals.
10. Connect the wires to the terminals of the new pushbutton ignitor switch, (see the inset), and mount the switch to the gas valve with its

mounting screw. Make sure that the pin on the gas valve fits into the top hole of the switch body.

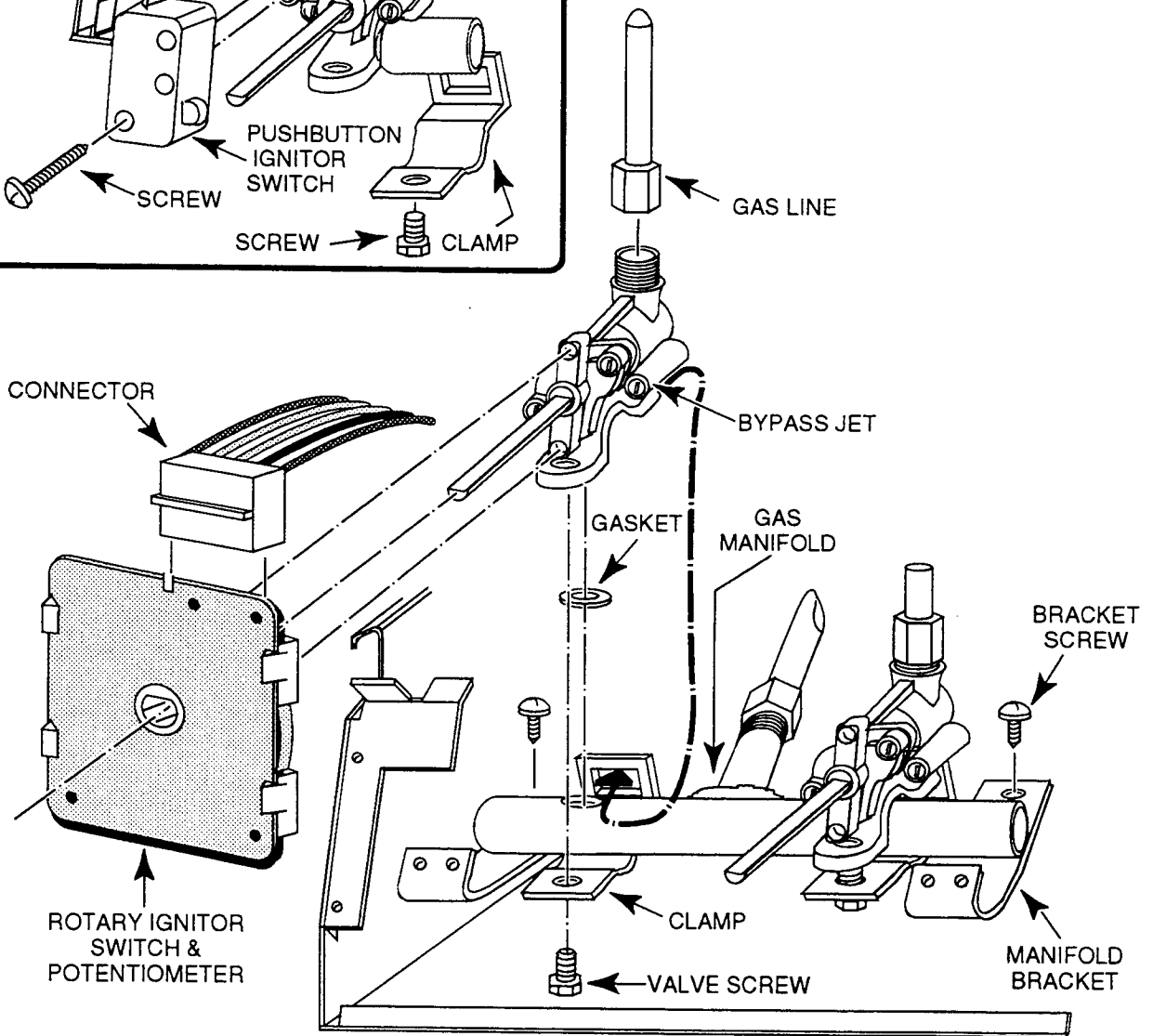
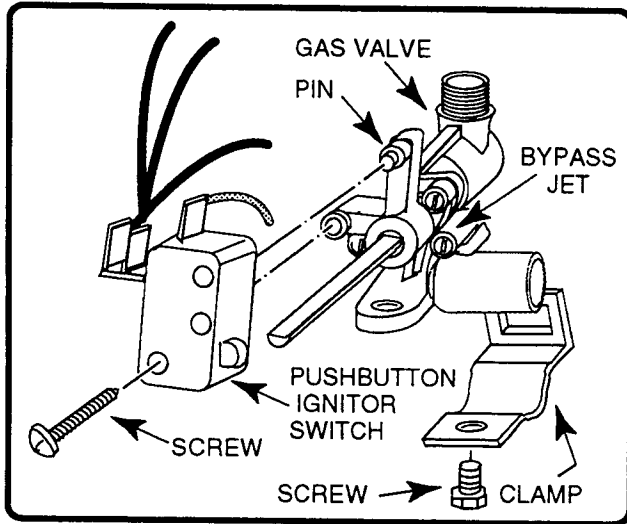
NOTE: There are two types of gas valves on the dual-fuel range: a regular valve, and an *ExtraLow*[®] simmer valve. Both gas valves are serviced in the same manner.

11. To remove a gas valve, remove the ignitor switch from the defective valve.
12. Remove the gas line from the gas valve.
13. Remove the two screws from the brackets of the gas manifold, then raise the manifold, remove the clamp screw, and remove the gas valve from the manifold.

NOTE: When you install a new gas valve, make sure that the valve is the same type as the one you are replacing. The following is a list of the various gas valves:

| SEQUENCED GAS VALVES | | |
|--------------------------|--------------------|--------------|
| Burner Location | Color & BTU Rating | Part Number |
| R.R. | Blue 9,100 | 14-33-486-01 |
| R.F. | Orange 11,000 | 14-33-486-04 |
| L.R. | Red 11,000 | 14-33-758-02 |
| L.F. | Violet 9,100 | 14-33-758-03 |
| NON-SEQUENCED GAS VALVES | | |
| Burner Location | Color & BTU Rating | Part Number |
| L.R. | Orange 11,000 | 14-33-486-04 |
| R.F. | Blue 9,100 | 14-33-486-01 |
| L.F./R.R. | Pink 6,500 | 14-33-486-05 |

14. Clamp the new gas valve to the manifold, secure the manifold to the range, and mount the ignitor switch and gas line to the valve.
15. Reassemble the range and check the gas connections for leaks.



Removing An Ignitor Switch & A Gas Valve

Removing The Ignitor Module & The Gas Simmer Controller

⚠ WARNING

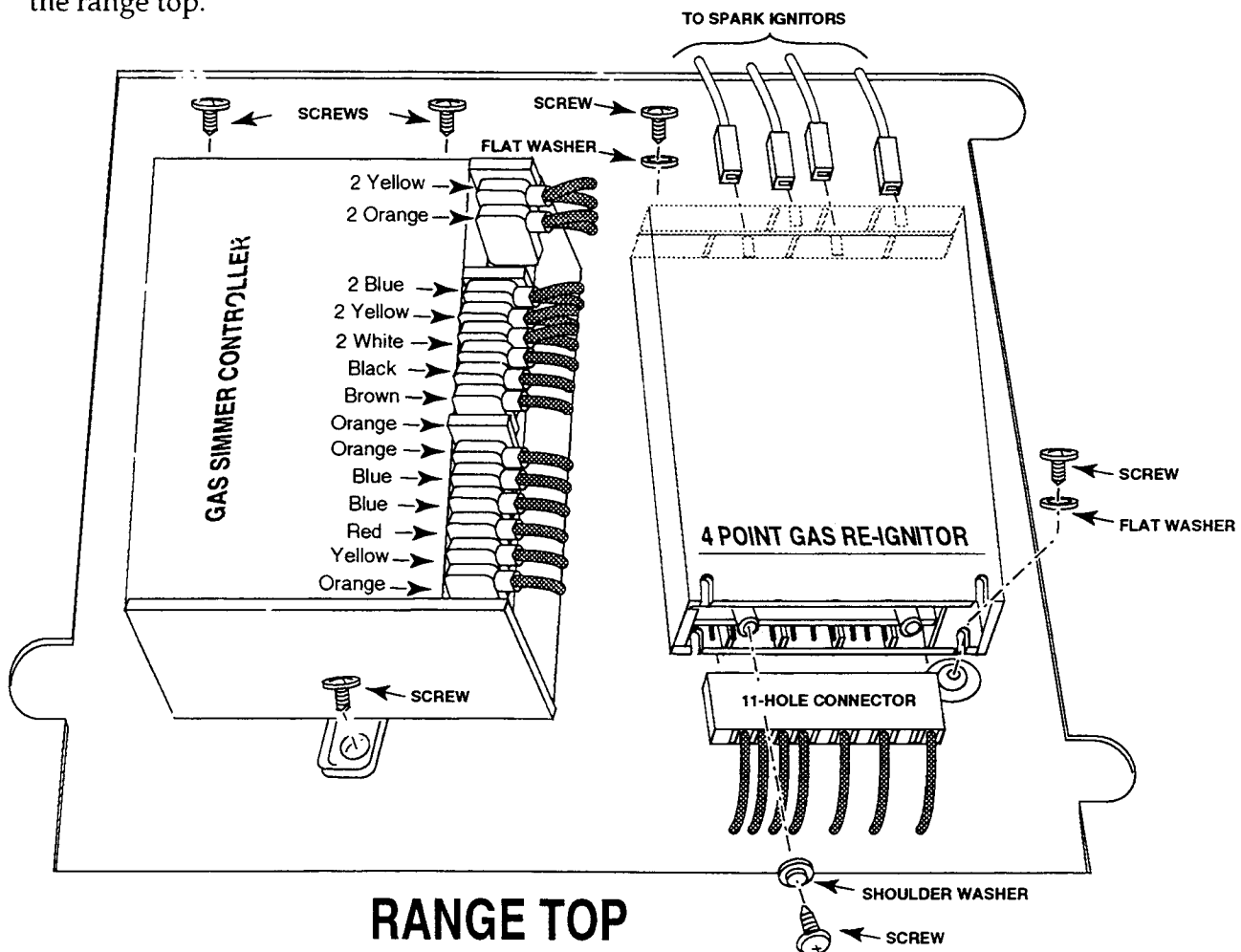
Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Remove the grates and burner caps from the cooktop.
3. Remove the cooktop from the range (see page 2-22 for the procedure).
4. Remove the right and left access panels from the range top.

5. To replace a defective ignitor module, remove the two screws and flat washers, and remove the module.
6. Remove the screw and shoulder washer and disconnect the 11-hole connector and four spark ignitor wires from their terminals.
7. Mount the new ignitor module to the range top and connect the wires.
8. To replace a defective gas simmer controller, remove the three screws and remove the module. DO NOT disconnect the wires yet.
9. Mount the new gas simmer controller to the range, then disconnect the wires from the old unit, and reconnect them to the same terminal locations on the new one.
10. Reassemble the range.



Removing The Pressure Regulator, Double Line Break Relay, & Cutout Relay

⚠️ WARNING

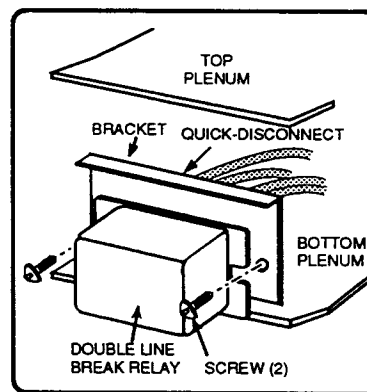
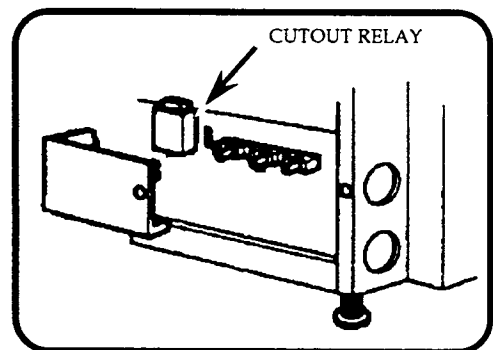
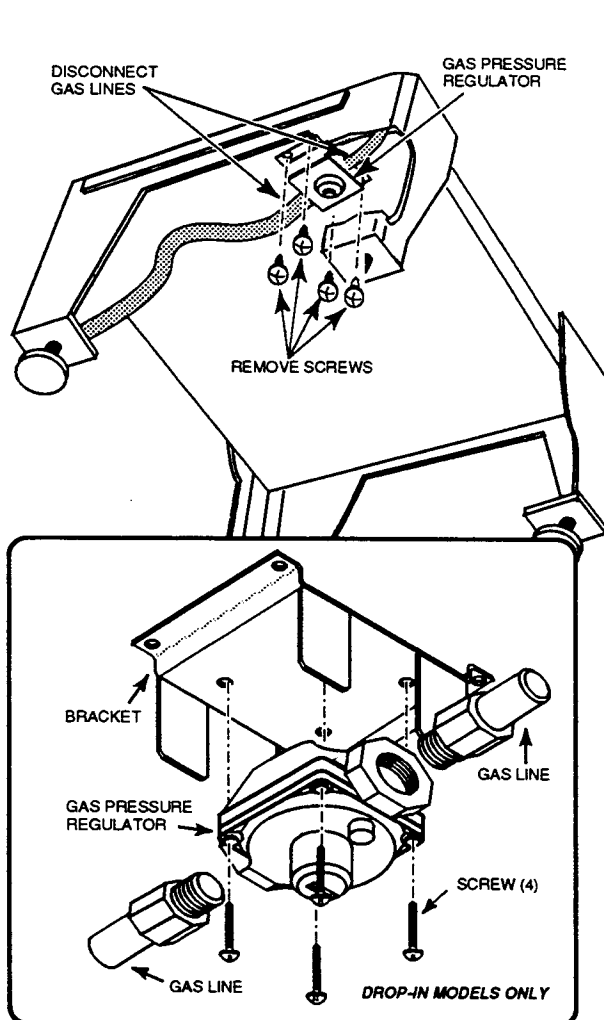
Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠️ CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Open the oven door and remove it from the frame (if necessary, see page 2-2 for the removal procedure).
3. Remove the lower front panel below the oven door so you can access the pressure regulator and the double line break relay or the cutout relay.

4. To remove the pressure regulator:
 - a) Disconnect the gas lines going to the regulator, remove the four mounting bracket screws, and remove the old regulator from the bottom of the range, then mount the new regulator to the bracket, and reconnect the gas lines.
 - b) Turn on the gas supply to the range and leak check the connections. When you are finished, turn off the gas.
5. To remove the double line break relay or the cutout relay, pull the quick-disconnect from the relay terminals, and remove the mounting screws and the old relay, then mount the new relay and reconnect the quick-disconnect.
6. Reassemble the range.

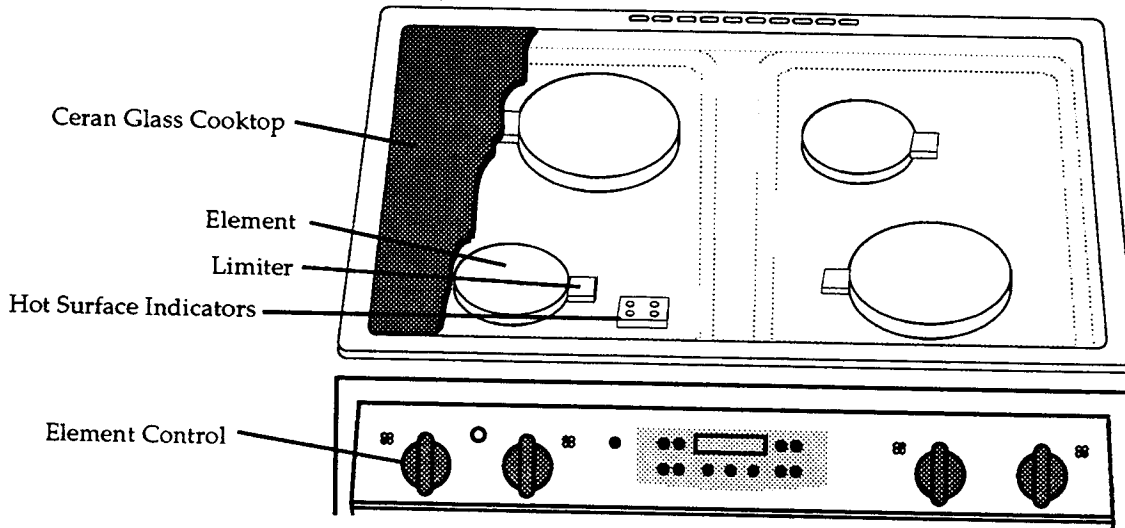


*Removing The Pressure Regulator,
Double Line Break Relay, Or Cutout Relay*

ELECTRIC COOKTOP COMPONENTS

The serviceable components included in this section are as follows (see the illustration for the locations):

- Element/Limiter
- Hot Surface Indicators
- Element Control



Removing The Cooktop

⚠ WARNING

Turn off the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

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

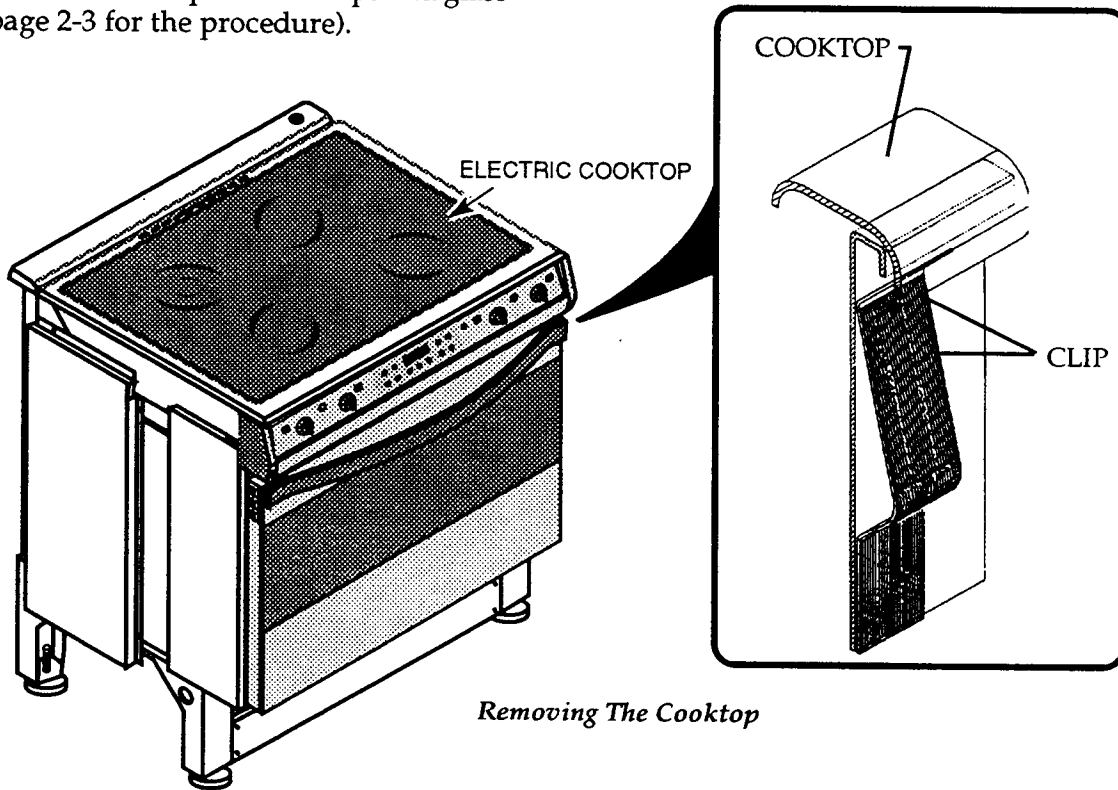
1. Turn off the electrical power going to the range.

NOTE: To remove the cooktop so that you can service the components below it, perform the following steps.

2. Remove the control panel end caps and glass (see page 2-3 for the procedure).

3. **Freestanding and Slide-In Ranges:** Pull forward on the ceran glass cooktop until it is free, then carefully turn it over, and lay it on top of the range on a padded covering to protect it.
4. **Drop-in Ranges:** Push the cooktop back to disengage the bottom lip at the rear edge of the locking bracket, then pull the cooktop forward and remove it.

Reassembly Note: When you reinstall the cooktop, overlap the rear edge of the top by approximately 1/2", then push down on the top and pull forward to engage the rear brackets.



Removing The Cooktop

Removing An Element/Limiter

⚠ WARNING

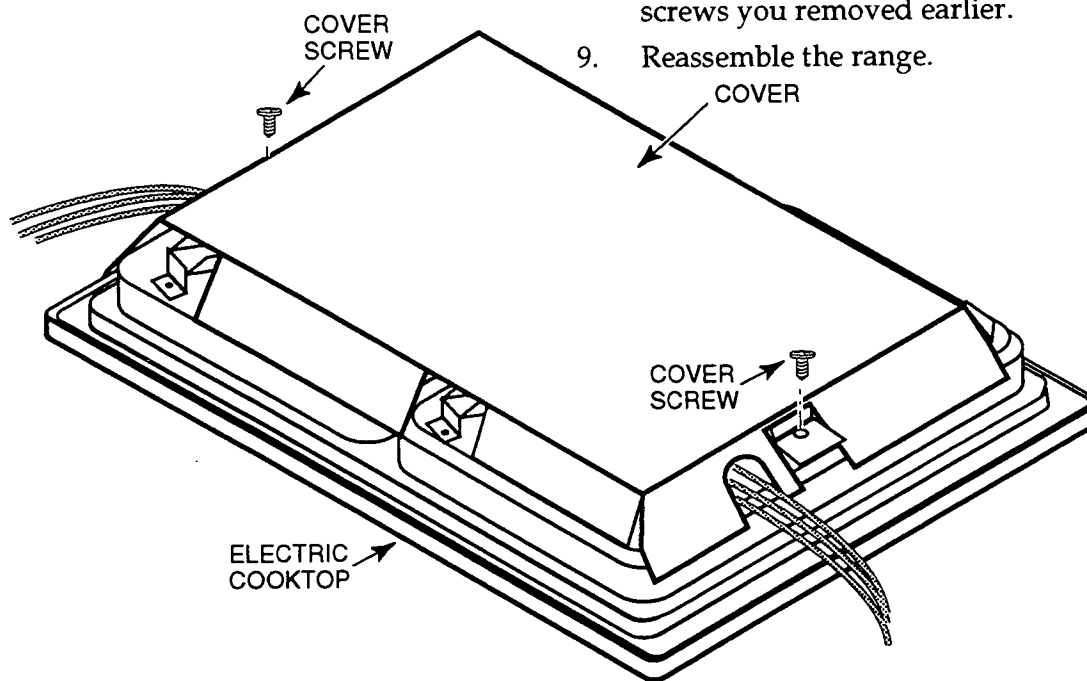
Turn off the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

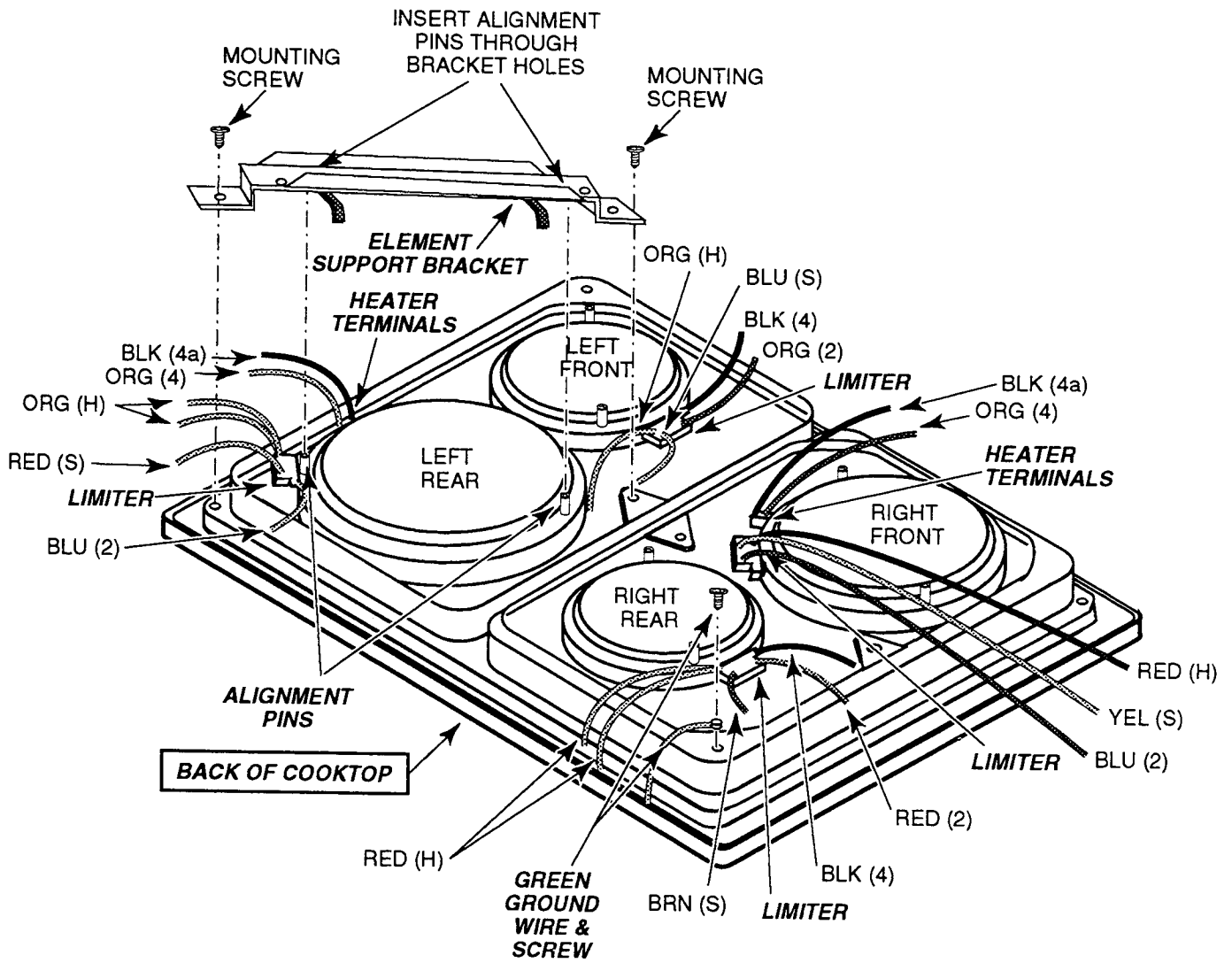
When you work on the range, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the electrical power going to the range.
2. Remove the cooktop from the top of the range, (refer to page 2-29), then turn the cooktop over from front to back, (see the illustration on the next page), and place it on a padded surface on top of the range to protect it.
3. Remove the two screws from the cover and remove it (and any insulation under it) from the cooktop.

4. To replace an element/limiter, lift the free end of the support brackets, and position the bracket that is over the defective element/limiter out of the way. NOTE: If you are servicing the elements on the left side of the cooktop, remove the screw from the ends of the two support brackets.
5. One at a time, disconnect the wires from the limiter and heater elements, and reconnect them to the identical terminal locations on the new element and limiter.
6. Remove the two alignment pins from the old element and install them in the same hole number locations of the new element.
7. Position the new element/limiter on the ceran glass cooktop, and position the support bracket over the element so that the alignment pins fit through the bracket holes. NOTE: If you removed the support bracket screw at the left side of the cooktop, mount the ends of the brackets.
8. Mount the cover to the cooktop with the two screws you removed earlier.
9. Reassemble the range.



Removing The Cover From The Bottom Of The Cooktop



Removing An Element/Limiter

Removing The Hot Surface Indicator Assembly

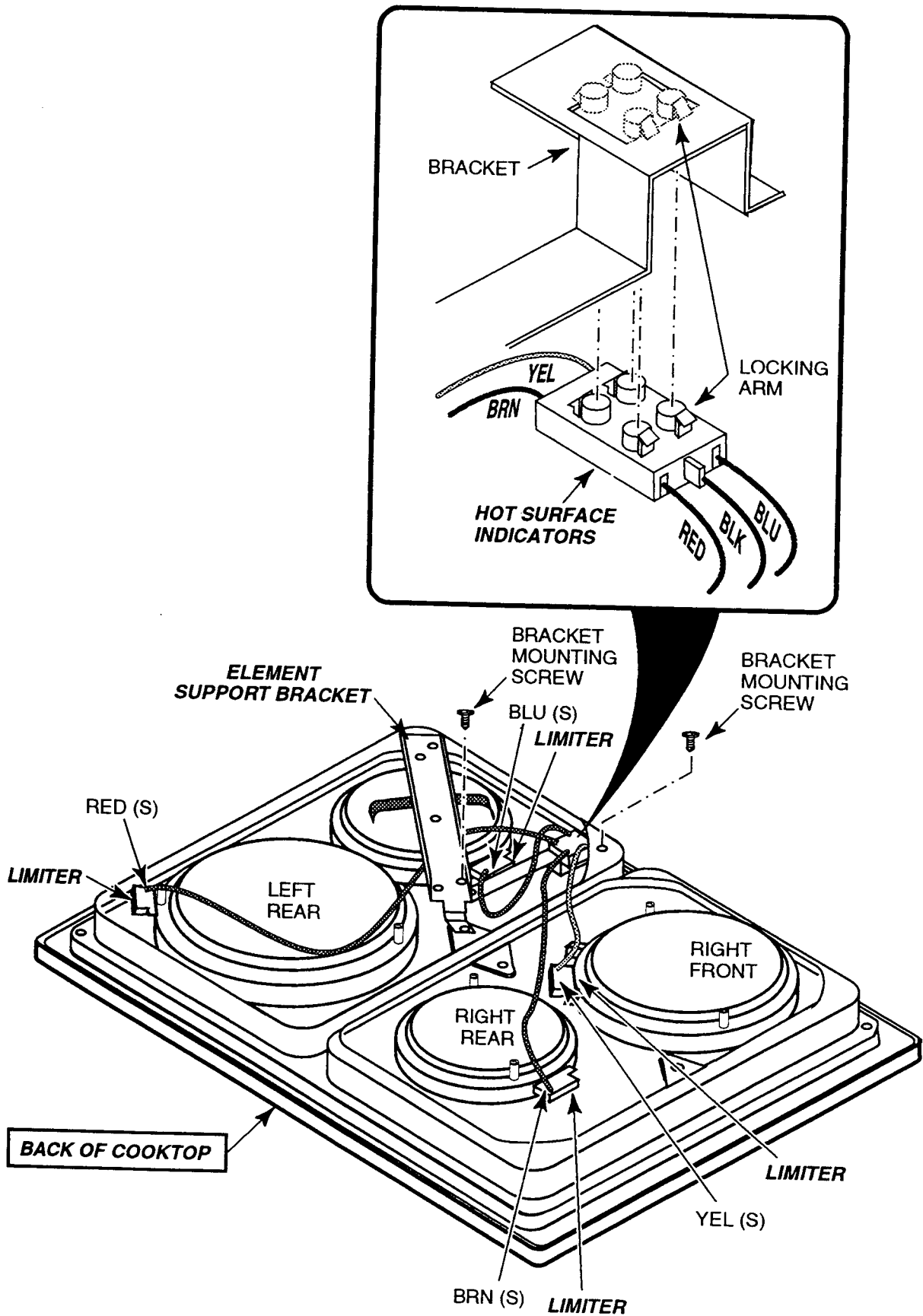
WARNING

Turn off the power circuit to the range at the main (house) junction box before servicing this unit.

CAUTION

When you work on the range, 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 going to the range.
2. Remove the cooktop from the top of the range, (refer to page 2-29), then turn the cooktop over from front to back, (see the illustration on the next page), and place it on a padded surface on top of the range to protect it.
3. Remove the cover from the bottom of the cooktop (see page 2-30).
4. Without disconnecting the wires, remove the two screws from the hot surface indicator assembly bracket, and remove the indicator and bracket from the cooktop.
5. Unsnap the locking arms on the old hot surface indicator assembly from the top of the bracket, and install the new assembly in its place. Be sure to position the indicator assembly correctly when you install it on the bracket (see the inset in the illustration).
6. One at a time, disconnect the yellow, brown, blue, and red wires coming from the old hot surface indicator assembly, and connect the same color wires coming from the new assembly, to the same terminals on the four limiters.
7. Remove the black wire from the old hot surface indicator assembly, and connect it to the terminal of the new assembly.
8. Reinstall the hot surface indicator assembly bracket with the screws you removed earlier.
9. Reassemble the range.



Removing The Hot Surface Indicator Assembly

Removing The Ceran Glass Assembly

⚠ WARNING

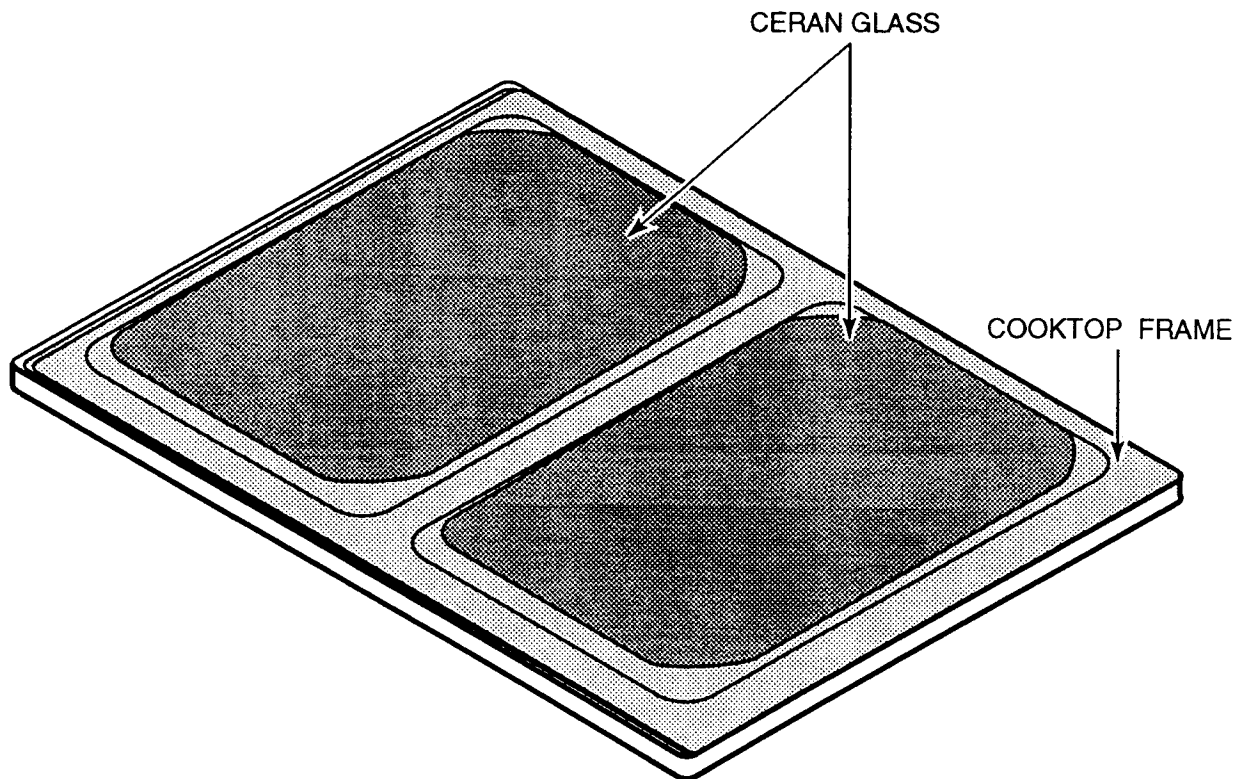
Turn off the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

When you work on the range, 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 going to the range.
2. Remove the cooktop from the top of the range, (refer to page 2-29), then turn the cooktop over from front to back, (see the illustration on page 2-31), and place it on a padded surface on top of the range to protect it.

3. Remove the cover from the bottom of the cooktop (see page 2-30)
4. Remove the screw from the green ground wire (lower right corner of the cooktop).
5. Without disconnecting any of the wires, remove the four elements/limiters and the end of the hot surface indicator bracket from the old ceran glass assembly (see the previous pages for the procedures).
6. Carefully lift the elements/limiters and the hot surface indicator assembly bracket off the old ceran glass assembly, and set them in the new assembly in the same positions.
7. Reassemble the range.



Removing The Ceran Glass Assembly

Removing An Element Control

⚠ WARNING

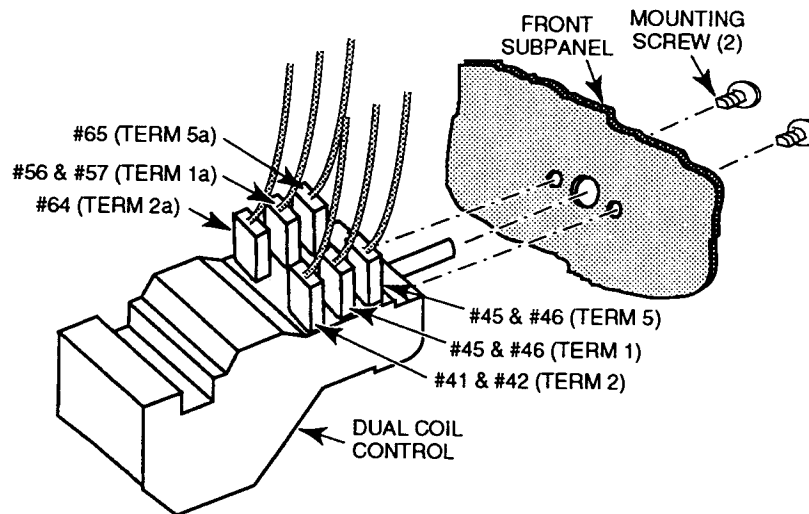
Turn off the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

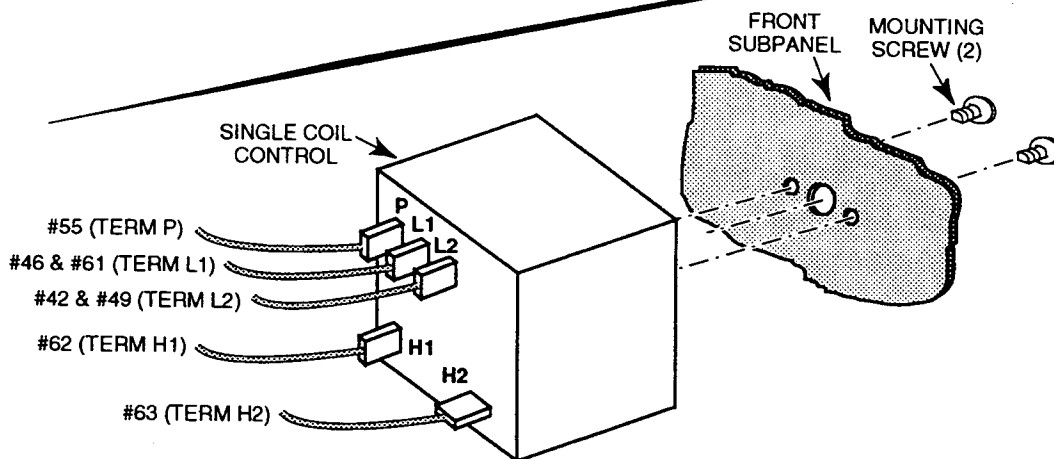
When you work on the range, be careful when handling the sheet metal parts. There are sharp edges present and you can cut yourself if you are not careful.

1. Turn off the electrical power going to the range.

2. Remove the control panel end caps and glass (see page 2-3 for the procedure).
3. Remove the screws from the defective element control and remove it from the front subpanel.
4. Disconnect the wires from the old element control (dual or single coil) and reconnect them to the same terminal locations on the new control.
5. Mount the new element control to the front subpanel with its two screws.
6. Reassemble the range.



LEFT CONTROL SHOWN



LEFT CONTROL SHOWN

Removing An Element Control

THE COOK 'N' VENT

Removing The Up/Down Switch & Speed Control

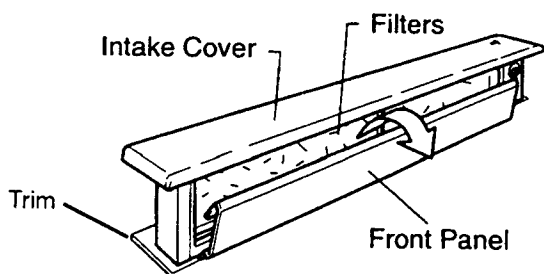
⚠ WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

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

1. Raise the Cook'n'Vent and remove the intake cover, the front panel, and the filters.



2. With the intake extended, turn off the gas supply and the electrical power going to the range.
3. Remove the four screws from the trim, then remove the trim and flip top.
4. Gently push back on the ventilator assembly and grasp the rear lip with your fingertips, then lift the assembly straight up and off of the unit.
5. Use a screwdriver through the back of the bezel and remove the knob from the speed control, then unsnap the bezel from the hole in the right corner of the intake.
6. Remove the two control bracket screws.
7. Slide the control bracket assembly up and out of the right corner of the intake.
8. **To remove the Up/Down switch**, remove the round nut from the switch, and remove it from the control bracket.
9. **To remove the speed control**, remove the two screws and flat washers from the control and remove it from the bracket.

10. At the lower component access panel, cut the two wire ties from the wiring.
11. Disconnect the wires from the component terminals for the component you are replacing. NOTE: Some of the wires have pins on the ends that you will have to push out of the connector.

For the Up/Down switch, the connectors are located as follows:

- a) White wire at upper limit switch.
- b) White wire at lower limit switch.
- c) Black wire at vent switch.

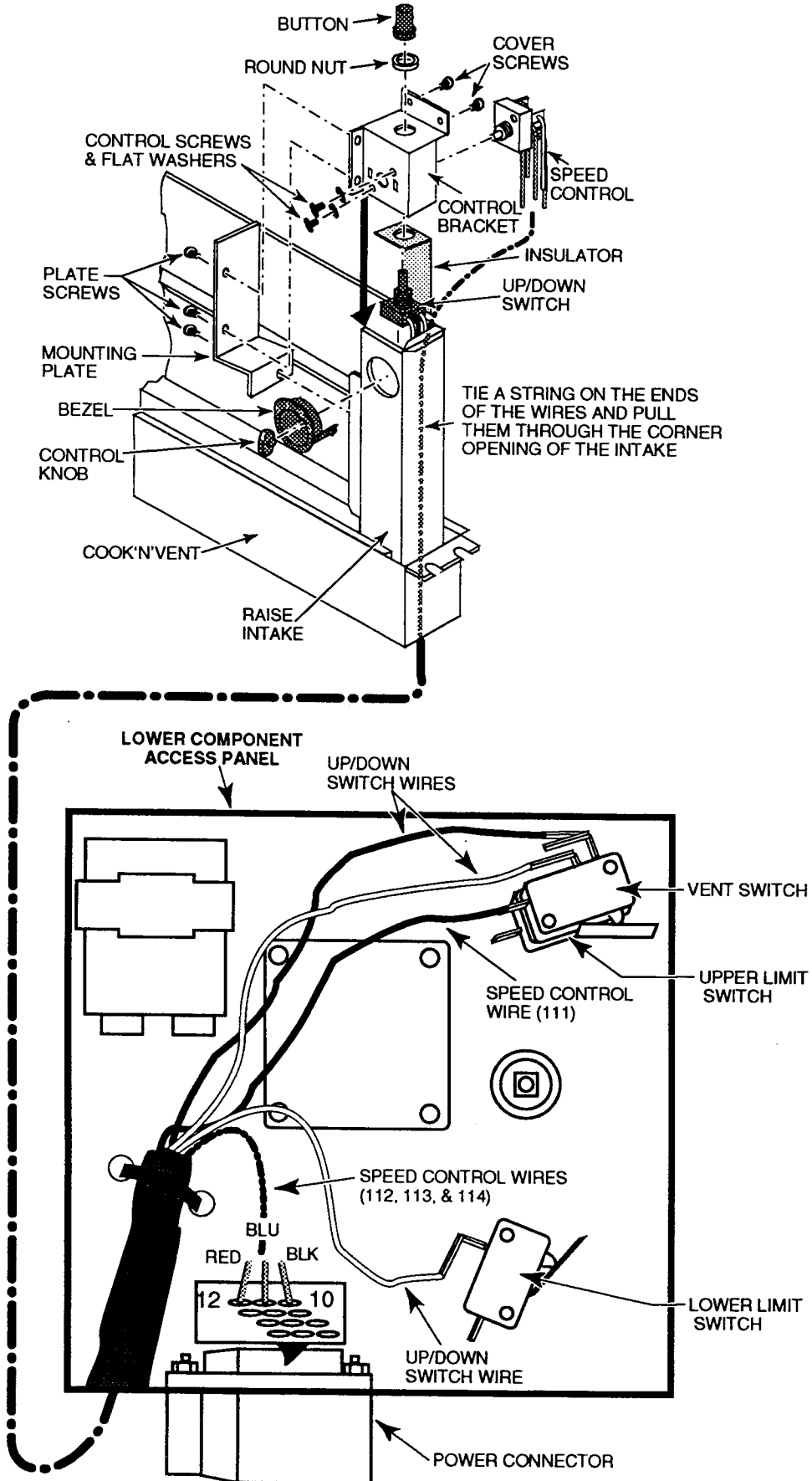
For the speed control, the connectors are located as follows:

- a) Black wire (111) at the vent switch.
- b) Black wire (113) at the power connector hole 10 (the number is molded into the connector next to the hole).
- c) Blue wire (114) at the power connector hole 11.
- d) Red wire (112) at the power connector hole 12.

12. Reassemble the Cook'n'Vent and the range.

IMPORTANT REASSEMBLY NOTE: To help you route the wires on the new switch or control through the fiberglass sleeving, use the following procedure:

- a) Cut the connectors off the ends of the wires of the component you are replacing.
- b) Tie a 3-foot piece of string to the ends of the wires, and pull the wires and string through the sleeving to the top of the intake.
- c) Remove the string from the old wires and tie it to the wires coming from the new component.
- d) Pull the wires through the intake and the fiberglass sleeving and connect the ends to the component terminals and the power connector holes.



Removing The Up/Down Switch & The Speed Control

Removing The Capacitor, Vent & Limit Switches, & Gear Motor

WARNING

Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

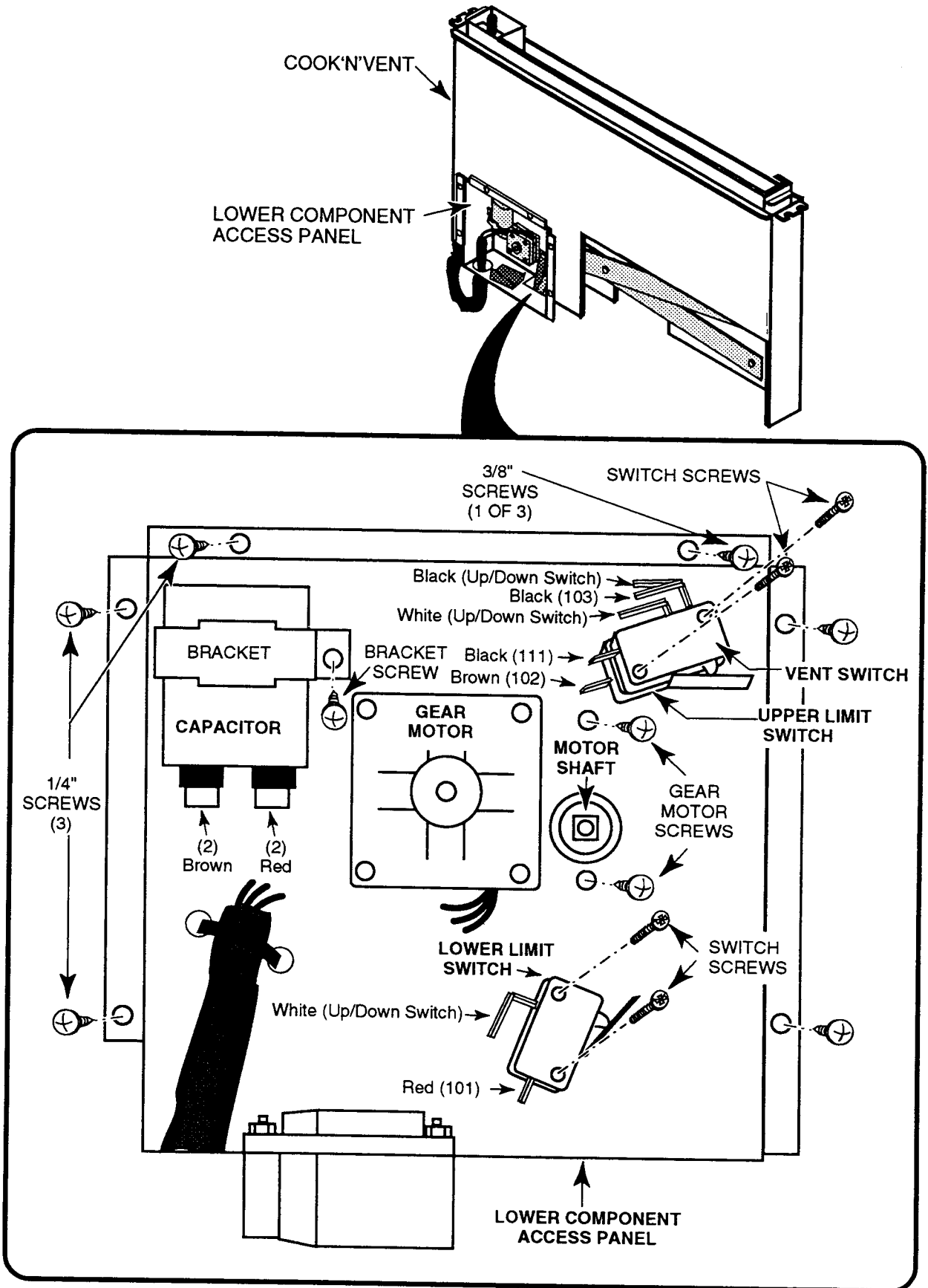
CAUTION

When you work on the range, 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 gas supply and the electrical power going to the range.
2. Remove the four screws from the trim, then remove the trim and flip top.
3. Gently push back on the ventilator assembly and grasp the rear lip with your fingertips, then lift the assembly straight up and off of the unit.
4. To replace the capacitor on the lower access panel, remove the screw from the bracket and unhook it, then lift the capacitor from the panel, disconnect the two red and two brown wires from the terminals, and reconnect them to the new capacitor. Mount the new capacitor to the panel with the bracket and screw.
5. To replace a limit or vent switch, remove the two screws from the defective switch and lift the switch from the panel, then disconnect the wires from the terminals and reconnect them to the new switch. Mount the new switch to the panel with the two screws.
6. To replace the gear motor, remove the screw from the linkage arm that is attached to the gear motor shaft, and move the arm out of the way.
7. Disconnect the ends of the three gear motor wires from the capacitor terminals and hole 4 of the power connector.
8. Remove the six screws from the lower access panel and pull the panel assembly away from the Cook'n'Vent.
9. Remove the two gear motor mounting screws from the lower access panel and remove the old motor from the back of the panel.
10. Mount the new gear motor to the lower access panel and reconnect the wires to their proper terminal and connector locations.
11. Reassemble the Cook'n'Vent and the range.

REASSEMBLY NOTES:

- a) When you mount the lower access panel, mount the $\frac{1}{4}$ " screws to the left three mounting hole locations and the $\frac{3}{8}$ " screws in the remaining hole locations.
- b) Be sure to verify that the limit switches activate when the intake is fully up or fully down.



Removing The Capacitor, Vent & Limit Switches, & Gear Motor

Removing The Rear Panel

⚠ WARNING

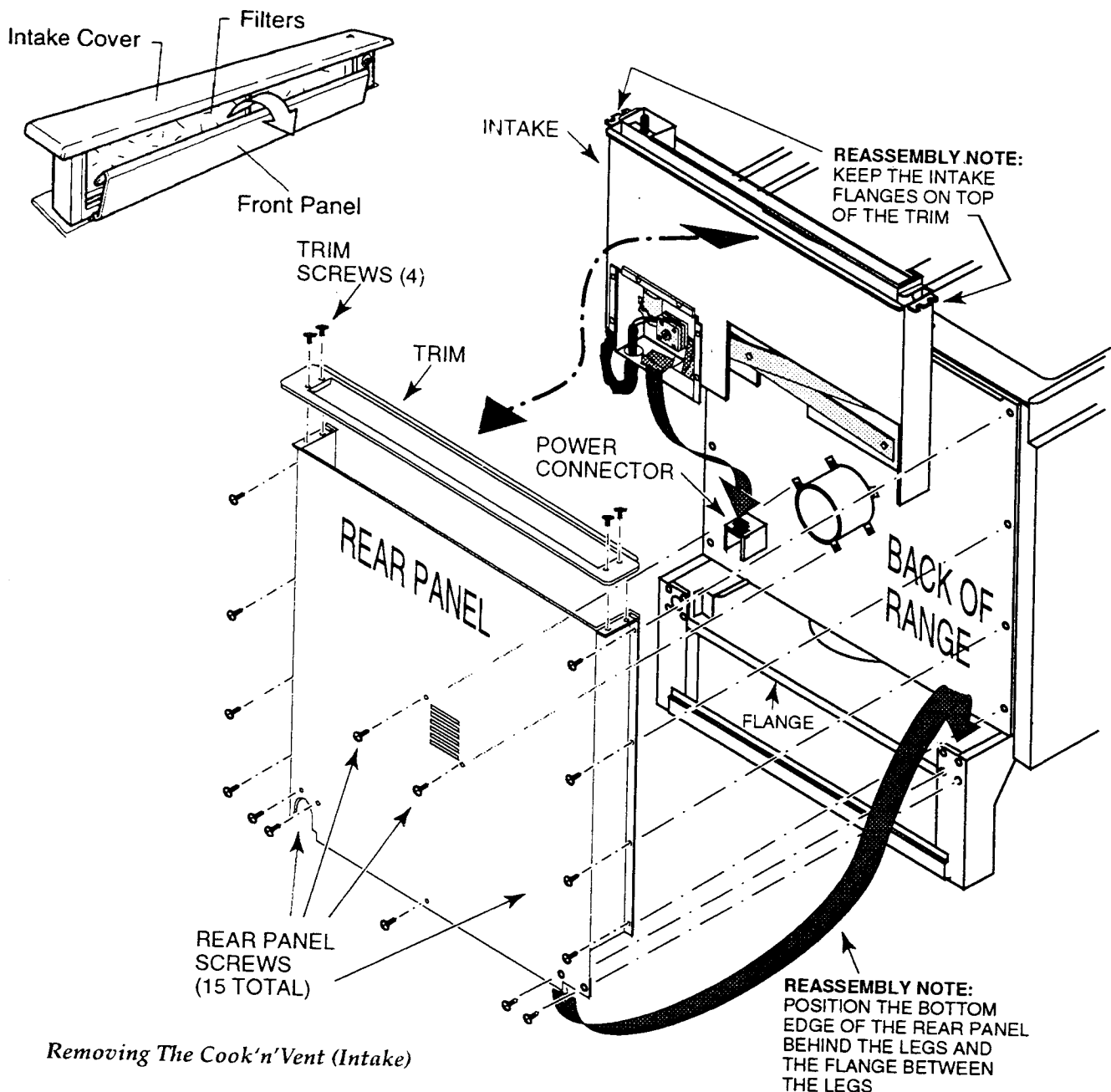
Turn off the gas supply and the power circuit to the range at the main (house) junction box before servicing this unit.

⚠ CAUTION

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

1. Raise the Cook'n'Vent (intake) and remove the cover, the front panel, and the filters.

2. Lower the intake.
3. Turn off the gas supply and the electrical power going to the range.
4. From the back of the range, remove the four screws from the trim and remove it from the intake.
5. Remove the screws (15) from the rear panel and remove the panel from the back of the range.



Removing The Cook'n'Vent (Intake)

TROUBLESHOOTING

FAILURE CODES

| Error Code | Cause | Example | Corrective Action |
|------------|--|--|---|
| F1 | Stuck Buttons: One or more buttons (except for + and -) are shorted for 32 seconds or more. | Button is jammed. | Make sure that none of the buttons is jammed. |
| | Invalid door lock switch status. Both the lock and unlock switches on the motorized door latch assembly are closed for 16 seconds or more. | Defective or jammed latch switches. | Make sure that the latch switches are operating properly. |
| F3 | Open Sensor: An open sensor is detected for 16 seconds or more. | An open circuit in the oven sensor wiring to the control connector J1. | Check all connections. Check the resistance of the sensor (approximately 1000 Ω at room temperature). |
| | Shorted Sensor: A shorted sensor is detected for 16 seconds or more. | One or both sensor wires are grounded (pinched wire). | Check all wire connections. Make sure that none of the wires are pinched. Check the resistance of the sensor (approximately 1000 Ω at room temperature). |

NOTE: If "F1" or "F3" still shows after eliminating all possible causes, as described above, replace the ERC3 control.

USING THE TEST MODE

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

To enter the "test" mode, press and hold the STOP TIME key at power up. When all of the buttons are released, the control will display dashes in the red digits if the unit detects a 60 Hz power source. If the unit senses a 50 Hz line frequency on power up, then it will automatically switch to operate at that line frequency, and will display "555" in the red digits.

The following action will occur when a key is pressed:

| KEY PRESSED | ACTION | | | | | | | | | | | | | | | | | | | | |
|----------------|--|------------------------|-----------------------------|------------------------|---------------------|---|------|------|---------------|---|------|--------|-----------------------------|---|--------|------|-----------------|---|--------|--------|---------|
| Bake | Relay K2 closes (bake element turns on). | | | | | | | | | | | | | | | | | | | | |
| Broil | Relay K1 closes (broil element turns on). | | | | | | | | | | | | | | | | | | | | |
| Convection | Relay K4 closes (convection fan turns on). | | | | | | | | | | | | | | | | | | | | |
| Clock | All display segments light up. Relay K3 closes (latch motor turns on). | | | | | | | | | | | | | | | | | | | | |
| Stop Time | Speaker will beep and the microprocessor ID will display in blue digits: 1762. | | | | | | | | | | | | | | | | | | | | |
| Cook Min/Hr. | The red digits show the oven sensor temperature. The EEPROM memory checksum is displayed in the blue digits. | | | | | | | | | | | | | | | | | | | | |
| Timer | The speaker will beep. | | | | | | | | | | | | | | | | | | | | |
| Clean | The following door latch status number indication is displayed: <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Display</u></th> <th style="text-align: left;"><u>Unlock Switch SW1</u></th> <th style="text-align: left;"><u>Lock Switch SW2</u></th> <th style="text-align: left;"><u>Latch Status</u></th> </tr> </thead> <tbody> <tr> <td>4</td> <td>open</td> <td>open</td> <td>in transition</td> </tr> <tr> <td>5</td> <td>open</td> <td>closed</td> <td>fully latched (door closed)</td> </tr> <tr> <td>6</td> <td>closed</td> <td>open</td> <td>fully unlatched</td> </tr> <tr> <td>7</td> <td>closed</td> <td>closed</td> <td>invalid</td> </tr> </tbody> </table> | <u>Display</u> | <u>Unlock Switch SW1</u> | <u>Lock Switch SW2</u> | <u>Latch Status</u> | 4 | open | open | in transition | 5 | open | closed | fully latched (door closed) | 6 | closed | open | fully unlatched | 7 | closed | closed | invalid |
| <u>Display</u> | <u>Unlock Switch SW1</u> | <u>Lock Switch SW2</u> | <u>Latch Status</u> | | | | | | | | | | | | | | | | | | |
| 4 | open | open | in transition | | | | | | | | | | | | | | | | | | |
| 5 | open | closed | fully latched (door closed) | | | | | | | | | | | | | | | | | | |
| 6 | closed | open | fully unlatched | | | | | | | | | | | | | | | | | | |
| 7 | closed | closed | invalid | | | | | | | | | | | | | | | | | | |
| Cancel | Exits the "test" mode. | | | | | | | | | | | | | | | | | | | | |

To exit the "test" mode, press the CANCEL button.

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.**
- **DO NOT PERFORM HIGH-VOLTAGE TESTS.**

The following service procedures show how to test the oven components. If necessary, refer to "Servicing The Components" in Section 2 for the procedures on removing and replacing the individual components. The page location for each component removal is shown in the test procedure.

THE FAN THERMOSTATS, BLOWER MOTOR, AXIAL FAN & AIR INTERLOCK SWITCHES

The blower motor components are located on the top compartment. The thermostats are located to the right of the center access panels. The blower thermostat activates at 180°F, and turns on the blower motor. The blower motor will turn off when the temperature drops below 120°F. To access the thermostats, see page 2-6. To access the blower motor, axial fan, and air interlock switches, see page 2-16. When you have access to the component, perform the following procedure that applies to it.

To test the fan thermostat and fan interlock thermostat:

1. With no power applied, disconnect the wires from the fan thermostat terminals.
2. Set the ohmmeter to the R x 1 scale.

3. Use an ohmmeter and check for continuity at the fan thermostat terminals and the fan interlock terminals.
4. If the fan thermostat shows continuity, remove and replace it. If the fan interlock thermostat does not show continuity, remove and replace it.

To test the blower or axial fan motor windings:

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:
 - a) Blower Motor = 20 Ω to 28 Ω .
 - b) Axial Fan Motor = 63 Ω to 73 Ω .
4. If the reading is not within this range, remove and replace the blower motor.

To test the air interlock 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.
4. Touch the other ohmmeter lead to the N.C. (normally-closed) switch terminal. The meter should indicate continuity with the switch in its normal position, and no continuity when it is activated.
5. 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.
6. Remove and replace the switch if the readings are not correct.

THE MOTORIZED OVEN DOOR LATCH ASSEMBLY

The motorized oven door latch locks the oven door during the *CLEAN* cycle. To access the switches, refer to page 2-6. When you have access to the switches, perform the following procedures.

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.C. (normally-closed) switch terminal. The meter should indicate continuity with the switch in its normal position, and no continuity when it is activated.
5. 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.
6. Remove and replace the switch if the readings are not correct.

To test the door lock motor windings:

1. Disconnect the motor wires from the terminal block and main harness connector.
2. Set the ohmmeter to the R x 1 scale.
3. Touch the ohmmeter leads to the motor wire connectors. The meter should read between 835 Ω and 870 Ω .
4. Replace the motorized door latch assembly if the motor is defective.

THE BAKE ELEMENT

To test the bake element, perform the following steps:

1. With no power applied, remove the bake element screws from the oven liner and pull it forward so you can access the terminals (if necessary, see page 2-13).
2. Set the ohmmeter to the R x 1 scale.
3. Touch the ohmmeter leads to the bake element terminals. The meter should indicate between 18 Ω and 26 Ω .
4. If the reading for the bake element is within the range shown, the element is okay. To check the rest of the circuit, perform the following "Bake Circuit Check."

BAKE CIRCUIT CHECK

1. Attach a snap-around ammeter or wattage tester across a bake element wire at the control board (refer to the schematic for the element wire terminal numbers on the model you are servicing).
2. Select *TIMED BAKE* on the control panel and program it to start five minutes in advance.
3. Set the oven temperature to 350°F.
4. Allow the oven to be activated by the digital clock. If current is reaching the oven elements, the ammeter will give an indication.
5. If the ammeter gives no indication, check the oven element (if not already done), and the associated wiring for problems. Repair as necessary.
6. If the element checks okay, check the control for defects.

THE BROIL ELEMENT

To test the broil element, perform the following steps:

1. With no power applied, remove the broil element screws from the oven liner and pull it forward so you can access the terminals (if necessary, see page 2-12).
2. Set the ohmmeter to the $R \times 1$ scale.
3. Touch the ohmmeter leads to the broil element terminals. The meter should indicate between 12Ω and 20Ω .
4. If the reading for the broil element is within the range shown, the element is okay. To check the rest of the circuit, perform the following "Broil Circuit Check."

BROIL CIRCUIT CHECK

1. Attach a snap-around ammeter or wattage tester across a broil element wire at the control board (refer to the schematic for the element wire terminal numbers on the model you are servicing).
2. Select *BROIL* on the control panel.
3. Set the oven temperature to *HIGH* broil.
4. If current is reaching the oven elements, the ammeter will give an indication.
5. If the ammeter gives no indication, check the oven broil element (if not already done), and the associated wiring for problems. Repair as necessary.
6. If the broil element checks okay, check the control for defects.

CLEAN CIRCUIT CHECK

There are many components in the clean circuit that must be closed or opened during operation. To verify their operation, perform the following steps:

1. Select *CLEAN* so it is displayed on the cook mode window.
2. Check to make sure that:
 - a) The air interlock switch is closing.
 - b) The blower and convection motors are operating.
 - c) The oven door cannot be opened after the temperature rises above 550°F .

3. Cancel the *CLEAN* operation. As the temperature lowers to below 525°F , verify that the oven door can be opened.
4. Readjust or replace the latch switches if they do not function properly (see page 3-4 for the testing procedure).

CALIBRATING THE OVEN TEMPERATURE SENSOR

The oven has an electronic thermostat which accurately maintains the selected temperature. However, the oven may be recalibrated by using the following method:

1. Press the *BAKE* pushbutton once.
2. Press the *+* pushbutton until a temperature above 500°F is shown.
3. Immediately press and hold the *BAKE* pushbutton for 3 to 4 seconds.
 - The current calibration value is displayed. Standard calibration is "0"
4. For a *HOTTER* oven, press the *+* pushbutton to raise the temperature from $+5^{\circ}$ to $+35^{\circ}$ in 5° increments.
5. For a *COOLER* oven, press the *-* (minus) pushbutton to lower the temperature from -5° to -35° in 5° increments.
6. Press the *CANCEL* pushbutton once to enter this new temperature calibration and to return to the regular display (Time of Day).

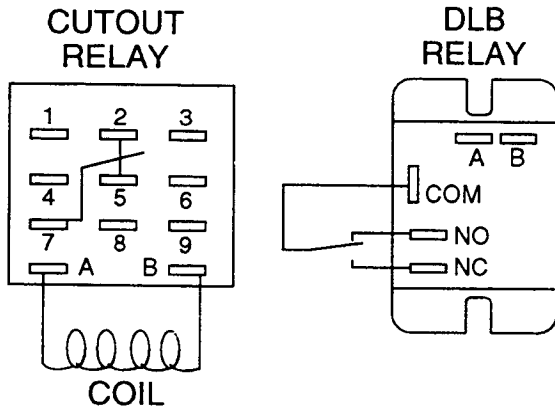
NOTE: This calibration affects both the *BAKE* and the *CONVECTION* temperatures. The calibration is not erased after a power loss.

THE CONVECTION FAN MOTOR

To test the convection fan motor, perform the following steps:

1. With no power applied, remove the convection fan motor from the oven and remove the twist-on connectors from the leads (if necessary, see page 2-14).
2. Set the ohmmeter to the $R \times 1$ scale.
3. Touch the ohmmeter leads to the convection fan motor wires. The meter should indicate between 55Ω and 80Ω .
4. If the reading for the convection fan motor is not within the range shown, replace the motor.

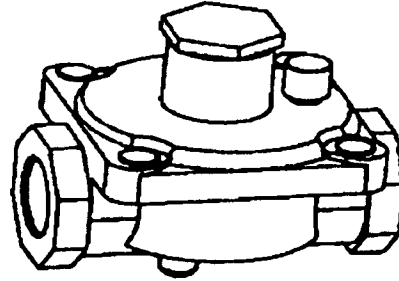
THE CUTOUT & DLB RELAYS



To test the relay, (see page 2-27 to access the relay), perform the following steps:

1. With no power applied, remove the mounting screws from the relay cover and from the relay body, then disconnect the connector from the terminals, and remove the relay.
2. Set the ohmmeter to the $R \times 1$ scale.
3. Touch the ohmmeter leads to coil terminals A and B. The meter should show less than 1Ω .
4. Touch one ohmmeter lead to the COM (7) terminal and the other lead to the normally-open (N.O. or #5) terminal. The meter should indicate an open circuit (no continuity).
5. Leave the ohmmeter lead at the COM (7) terminal and connect the other lead to the normally-closed (N.C. or #2) terminal. The meter should indicate a closed circuit (continuity).
6. If the readings are within the ranges shown, the relay is okay.

THE GAS PRESSURE REGULATOR



To test the regulator, (see page 2-27 to access the regulator), perform the following steps:

1. Turn off the gas to the pressure regulator.
2. Disconnect the gas line from the output of the regulator.
3. Attach one side of a manometer to the output of the pressure regulator.
4. Turn on the gas and allow the pressure to move the water column. When the water column has stopped, the gas pressure can be determined from the scale. The reading should be as follows:

Natural Gas

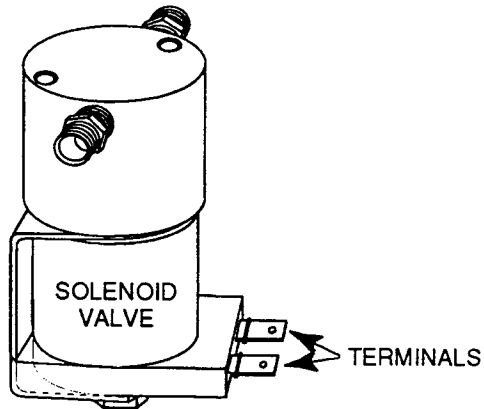
Minimum pressure = 5 inches WCP

L.P. Gas

Minimum pressure = 10 inches WCP

5. If the reading is not correct, the pressure regulator is defective and should be replaced.

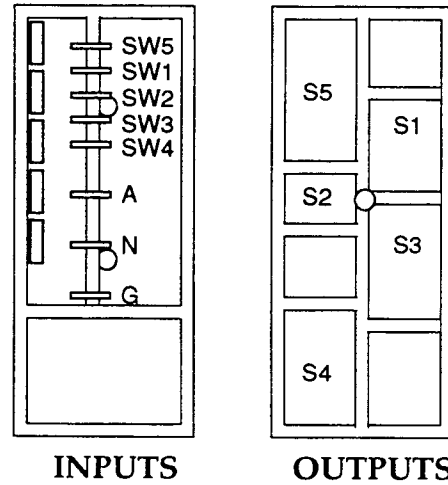
SOLENOID VALVE



To test the solenoid valve, (see page 2-23 to access the valve), perform the following steps:

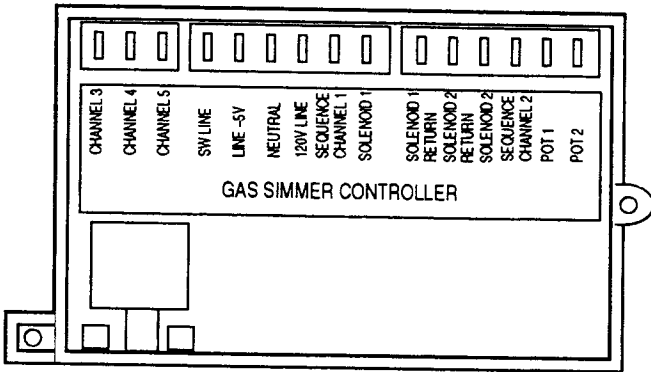
1. Turn off the gas to the range.
2. Remove the solenoid valve from the range and disconnect the wires from the terminals.
3. Set the ohmmeter to the $R \times 10K$ scale.
4. Touch the ohmmeter leads to the solenoid coil terminals. The meter should read 1760Ω .
5. If the meter is not within 20% of the reading, the solenoid is defective.

IGNITOR MODULE



To test the ignitor module, refer to "Troubleshooting Chart B" on page 3-11.

GAS SIMMER CONTROLLER

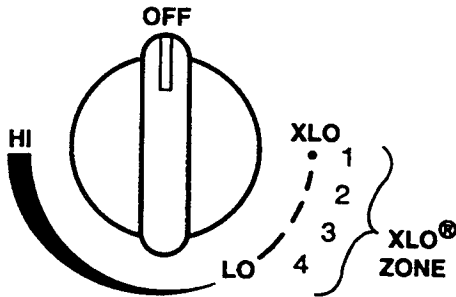


To test the gas simmer controller, refer to Troubleshooting Chart C on page 3-12.

XLO® BURNERS

IMPORTANT: The two XLO® burners cannot be used during a power failure. Be sure to turn the knobs to OFF if a power failure occurs.

The burners will not turn back on until both control knobs are turned OFF and then back ON again after power has been restored.

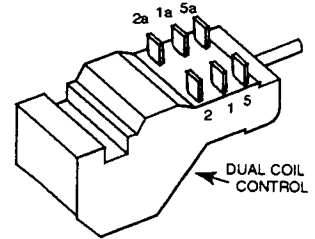
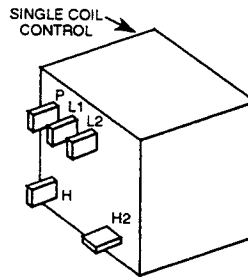


ELEMENT CONTROL

To test an element control, perform the following steps:

1. With no power applied, remove the control panel end caps and glass so you can access the controls (if necessary, see page 2-3).
2. Disconnect the wires from the control terminals.
3. Set the ohmmeter to the R x 1 scale.
4. Turn the control on and you should obtain continuity readings between the following terminals:

| <u>Single Coil</u> | <u>Single Coil</u> | <u>Dual Coil</u> |
|--------------------|--------------------|------------------|
| L1 and P | | 5 and 5a |
| L1 and H1 | 1 and 1a | 1 and 1a |
| P and H1 | 2 and 2a | 2 and 2a |
| L2 and H2 | | |



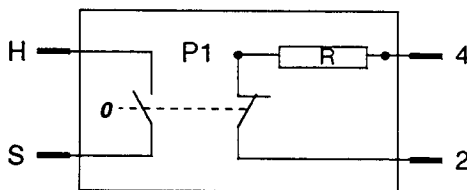
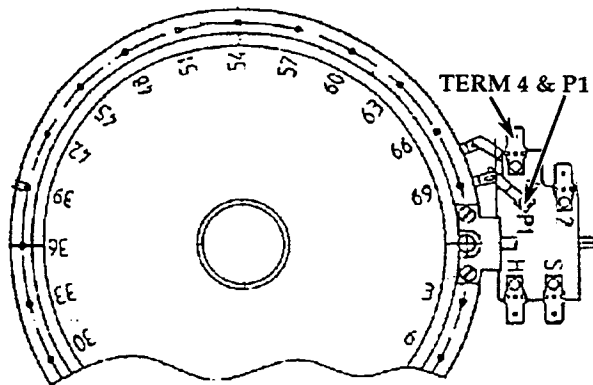
5. If the readings are not correct, the control is defective and should be replaced.

SINGLE ELEMENTS

To test a single element, perform the following steps:

1. With no power applied to the range, remove the cooktop and turn it over so that you can access the elements, (if necessary, see page 2-29).
2. Disconnect one wire from the element terminal that you wish to service.
3. Set the ohmmeter to the R x 1 scale.
4. Touch the ohmmeter to limiter terminals **P1** and **4**. You should obtain the following resistance readings:

| Thermador Part No. | AC Voltage Rating | Wattage (±5%) | Cold Resistance (±5%) |
|--------------------|-------------------|---------------|-----------------------|
| 14-33-421 | 240 | 1500 | P1 - 4 = 36 Ω |
| 14-33-423 | 240 | 1800 | P1 - 4 = 30 Ω |



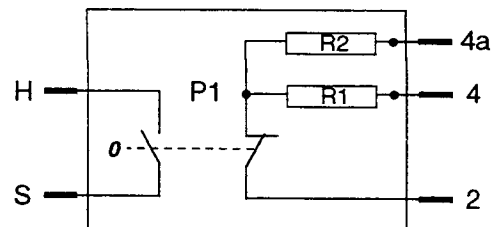
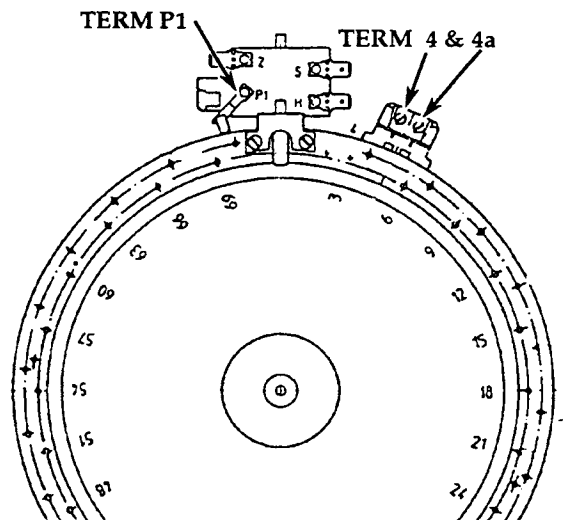
Schematic

DUAL ELEMENTS

To test a dual element, perform the following steps:

1. With no power applied to the range, remove the cooktop and turn it over so that you can access the elements, (if necessary, see page 2-29).
2. Disconnect one wire from the element terminal that you wish to service.
3. Set the ohmmeter to the K x 1 scale.
4. Clip an ohmmeter lead to limiter terminal P1. Touch the other lead to terminal 4 and then to terminal 4a. You should obtain the following resistance readings:

| Thermador Part No. | AC Voltage Rating | Wattage (±5%) | Cold Resistance (±5%) |
|--------------------|-------------------|---------------|-----------------------|
| 14-33-422 | 240 | 750 | P1 - 4 = 54 Ω |
| | 240 | 2200 | P1 - 4a = 46 Ω |
| 14-33-424 | 240 | 1000 | P1 - 4 = 56 Ω |
| | 240 | 2500 | P1 - 4a = 36 Ω |



Schematic

TROUBLESHOOTING CHARTS FOR GAS RANGES

The troubleshooting charts are intended to help correct the following conditions on all gas ranges equipped with the Sequential Burner System:

1. One or two burners are not sparking, but the non-sequence burners are working properly.
2. Igniters spark continuously when any one burner is on.
3. Igniters are sparking intermittently.
4. None of the igniters are sparking.
5. The gas solenoid valve is not opening, but the sequence burner igniters are sparking.

Chart A—Extra Low Gas Simmer Controller

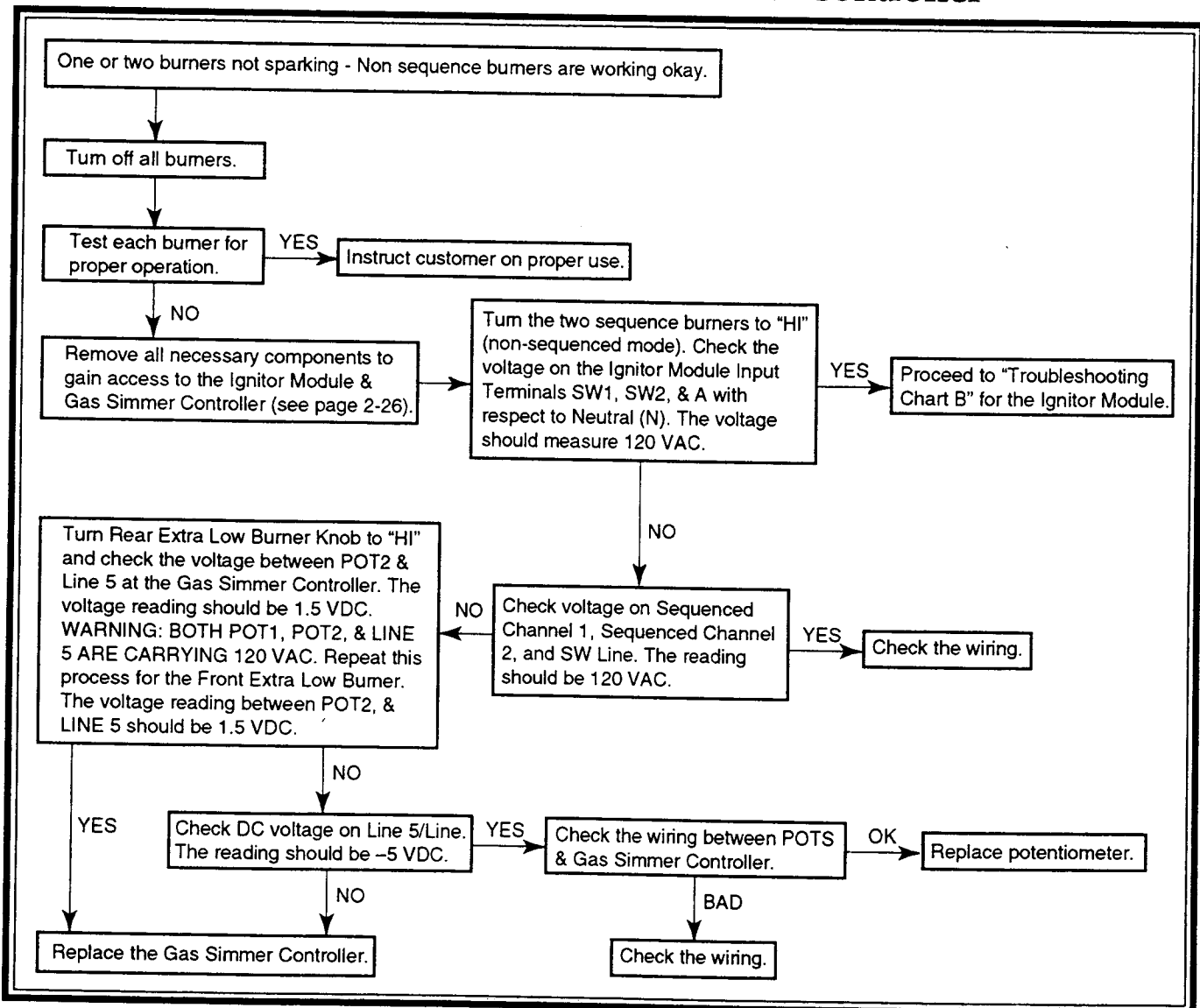


Chart B—Ignitor Module

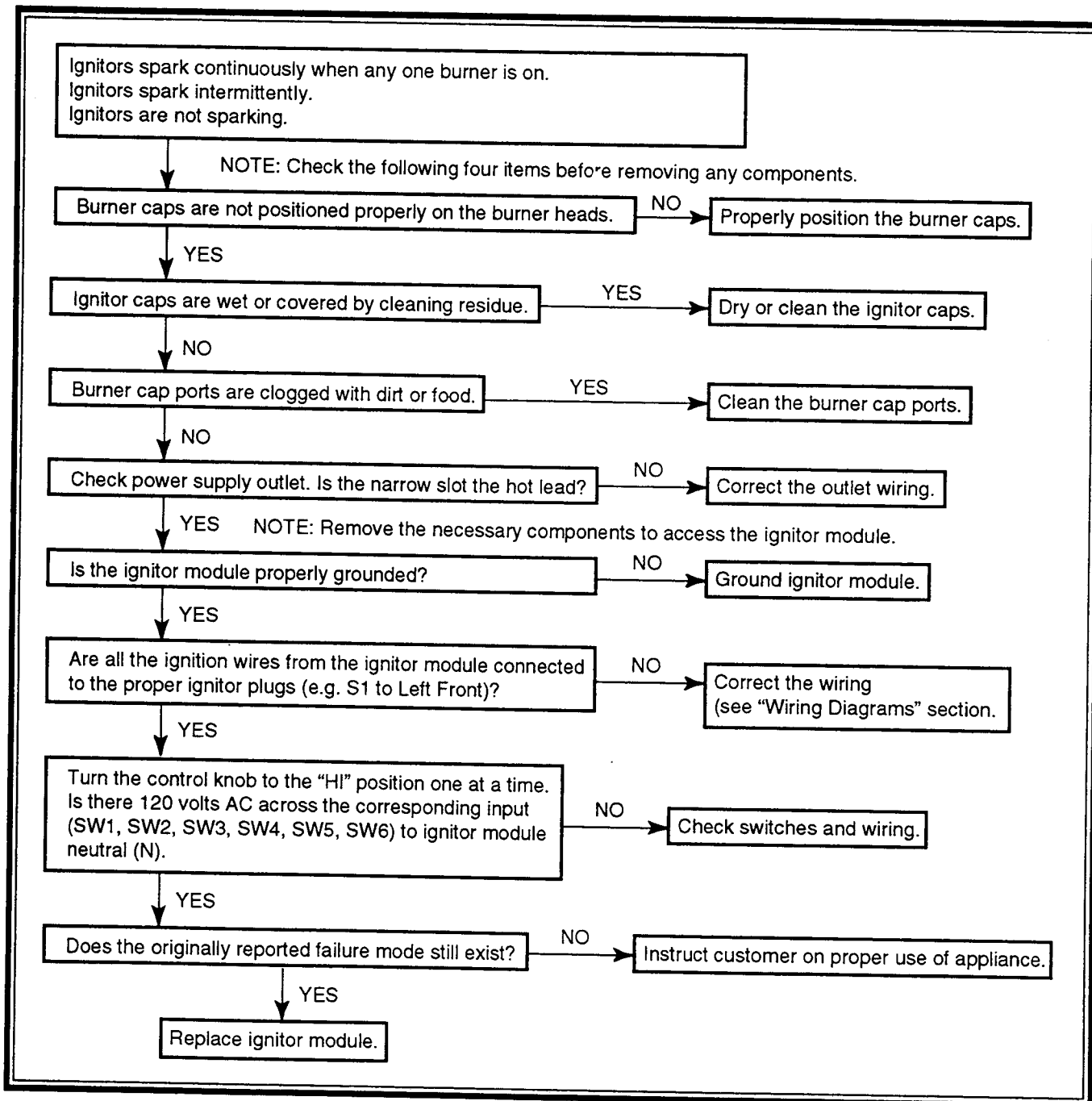
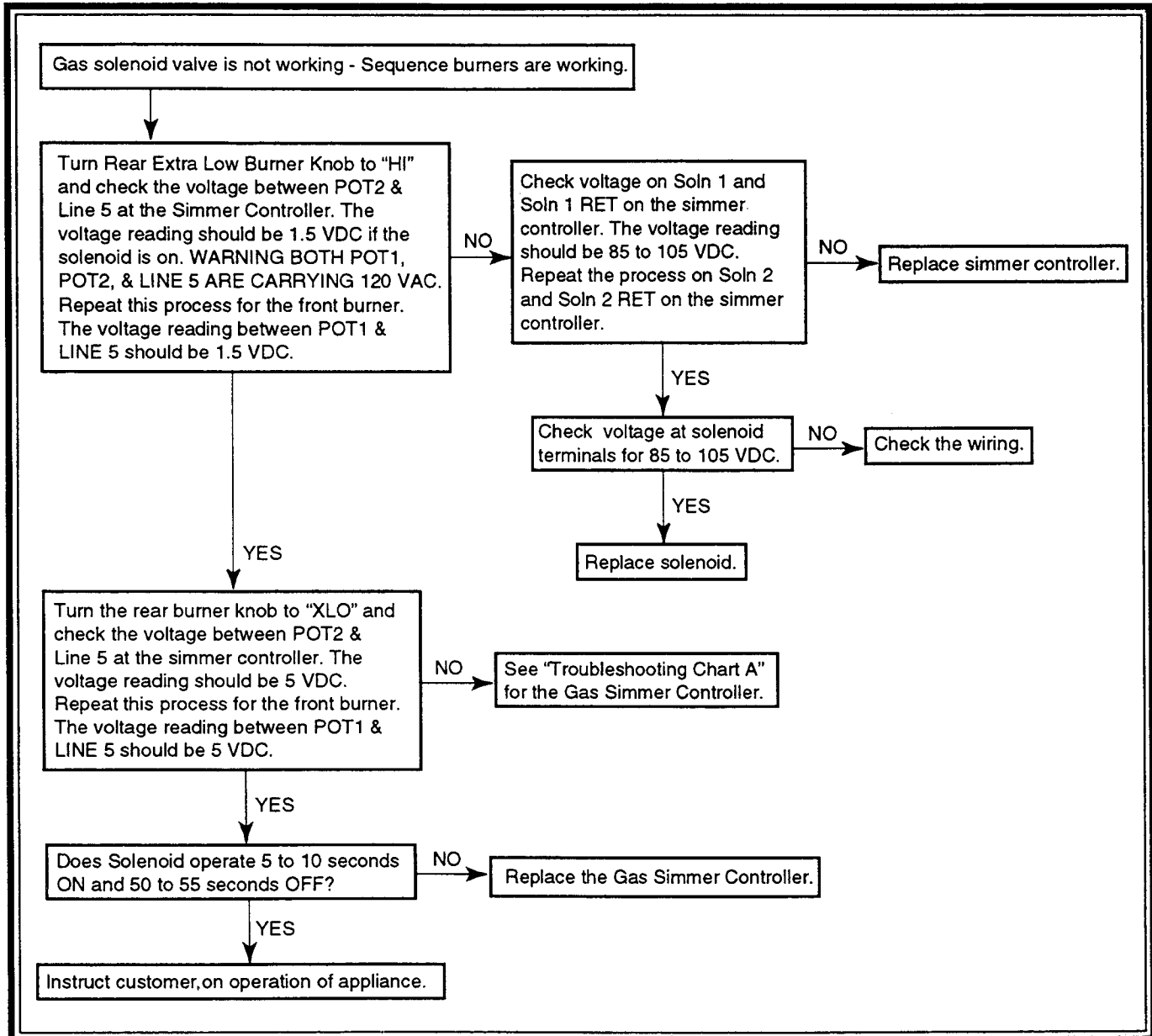


Chart C—Low Simmer Solenoid



WIRING DIAGRAMS

Table Of Contents

Ranges Prior To Serial #9512 (Cutout Relay)

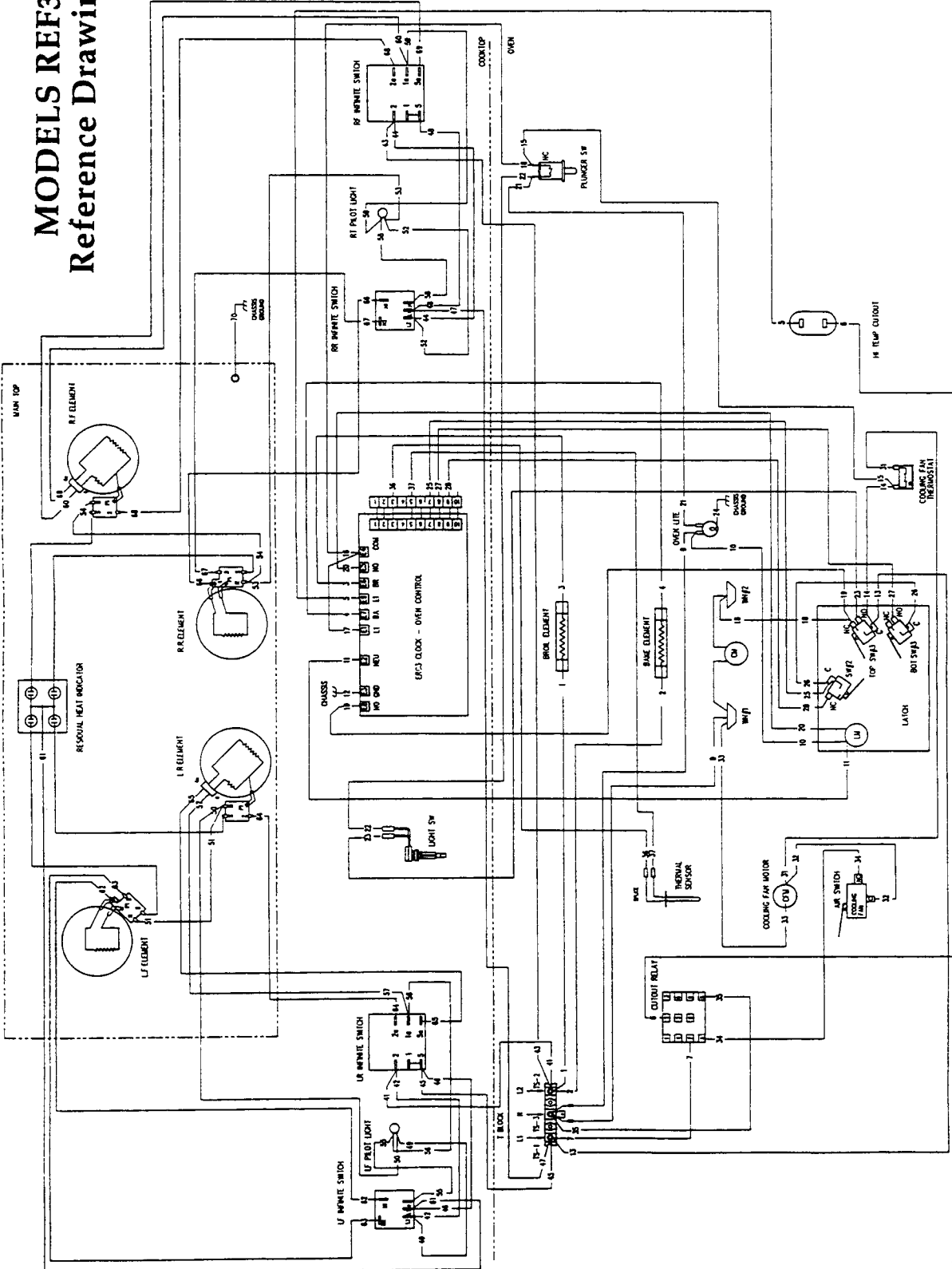
| | |
|------------------------------|-----------------|
| Models REF30 & RES30 | Pages 4-2 & 4-3 |
| Model RDF30 | Pages 4-4 & 4-5 |
| Models RDFS30 & RDSS30 | Pages 4-6 & 4-7 |

Ranges Starting With Serial #9512 (Double Line Break Relay)

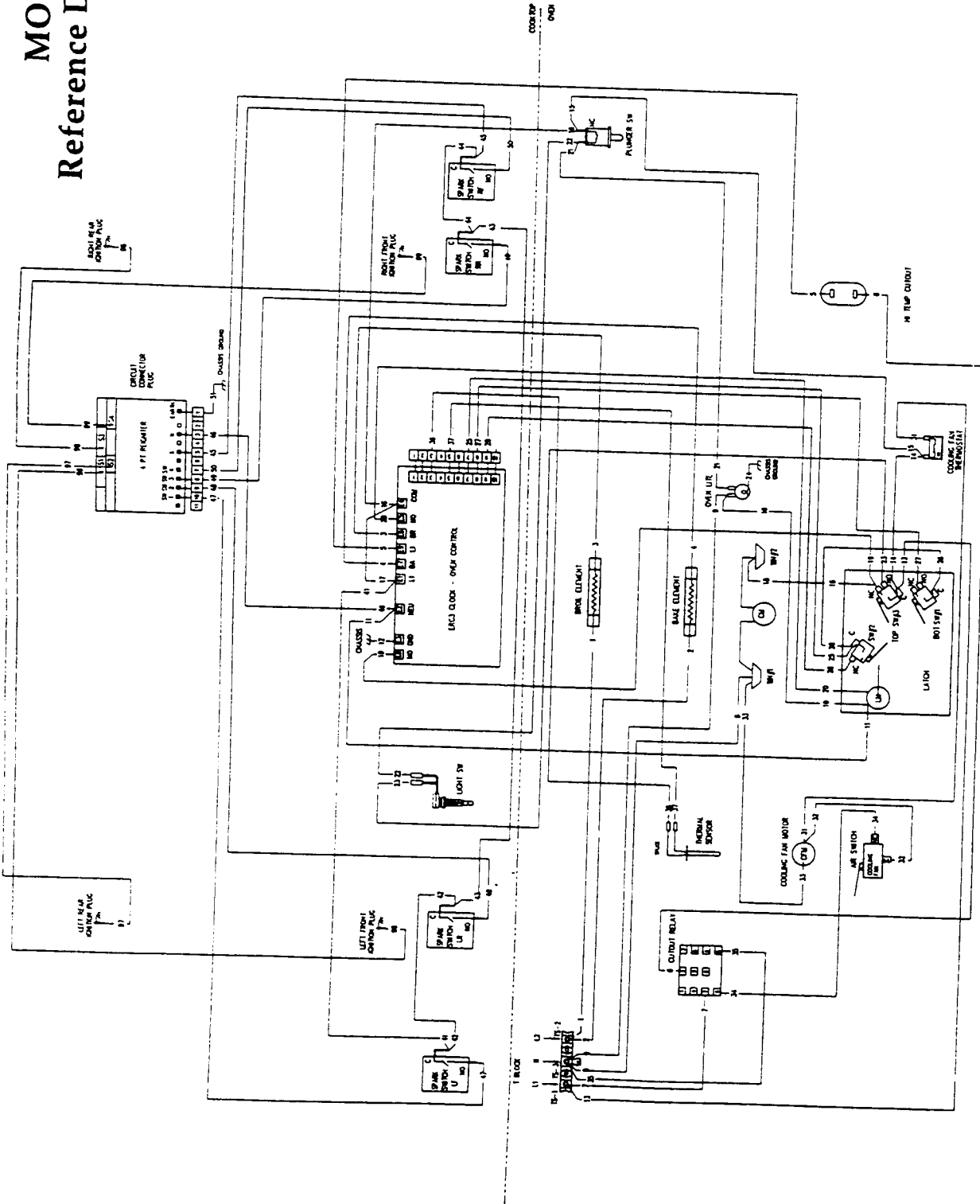
| | |
|------------------------------|-------------------|
| Models REF30 & RES30 | Pages 4-8 & 4-9 |
| Model RDF30 | Pages 4-10 & 4-11 |
| Models RDFS30 & RDSS30 | Pages 4-12 & 4-13 |
| Model RDDS30V | Pages 4-14 & 4-15 |
| Model RED30V | Pages 4-16 & 4-17 |

MODELS REF30 & RES30

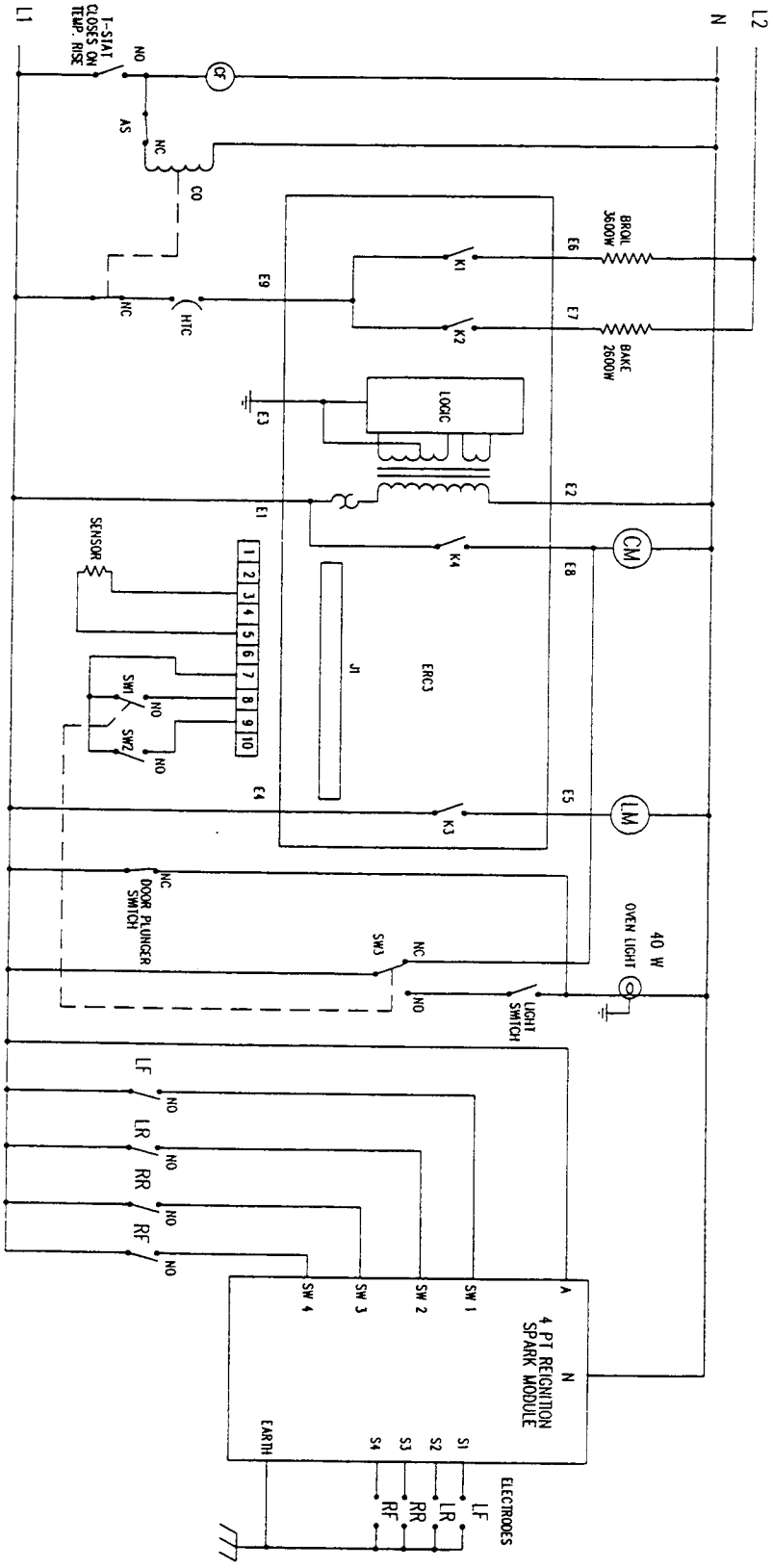
Reference Drawing #14-33-476



MODEL RDF30 Reference Drawing #14-33-475



MODEL RDF30 Reference Drawing #14-33-475

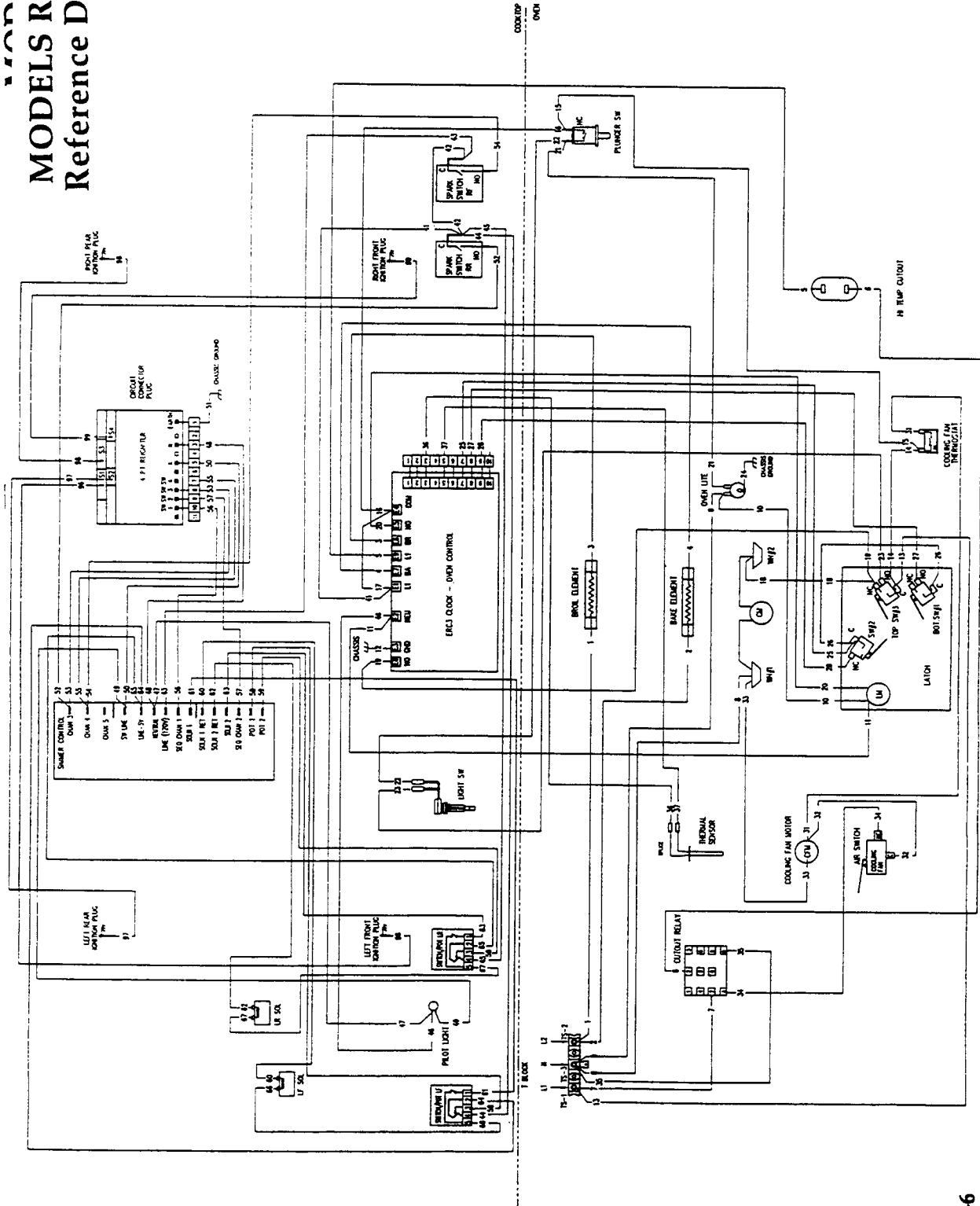


ABBREVIATIONS:

- CM = CONNECTION MOTOR
- CF = COOLING FAN
- I-STAT = THERMOSTAT
- LM = LATCH MOTOR
- CO = OUTPUT RELAY
- AS = AIR SWITCH
- RF = RIGHT FRONT
- RR = RIGHT REAR
- LF = LEFT FRONT
- LR = LEFT REAR
- K1 = BROIL RELAY
- K2 = BAKE RELAY
- K3 = LATCH MOTOR RELAY
- K4 = CONNECTION MOTOR RELAY
- SW1 = LINK LOCK SWITCH
- SW2 = LOCK SWITCH
- SW3 = INTERLOCK SWITCH
- SS = SPARK SWITCH
- NC = NORMALLY CLOSED
- NO = NORMALLY OPEN
- HIC = HIGH TEMPERATURE CUTOFF

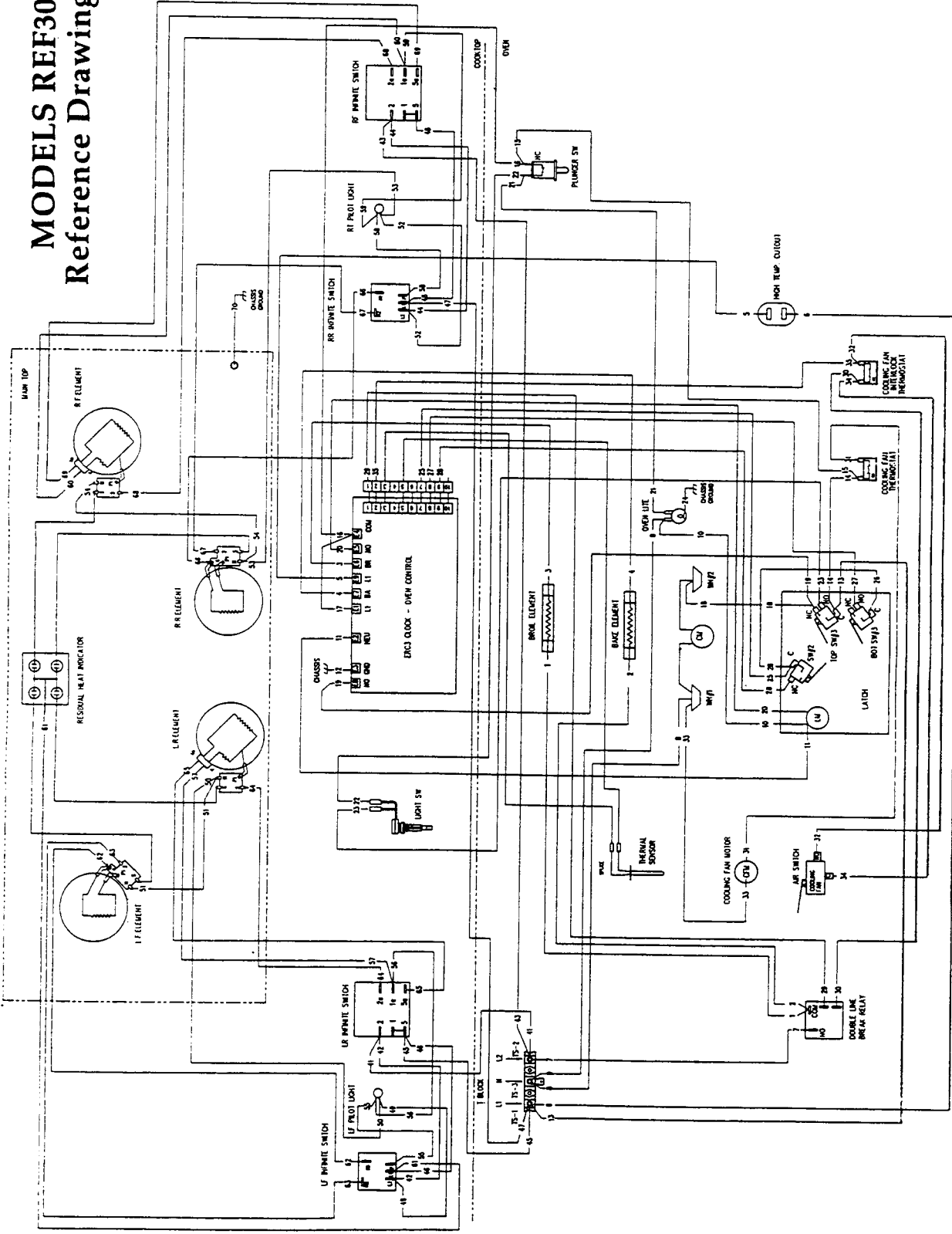
MODELS RDFS30 & RDSS30

Reference Drawing #14-33-477

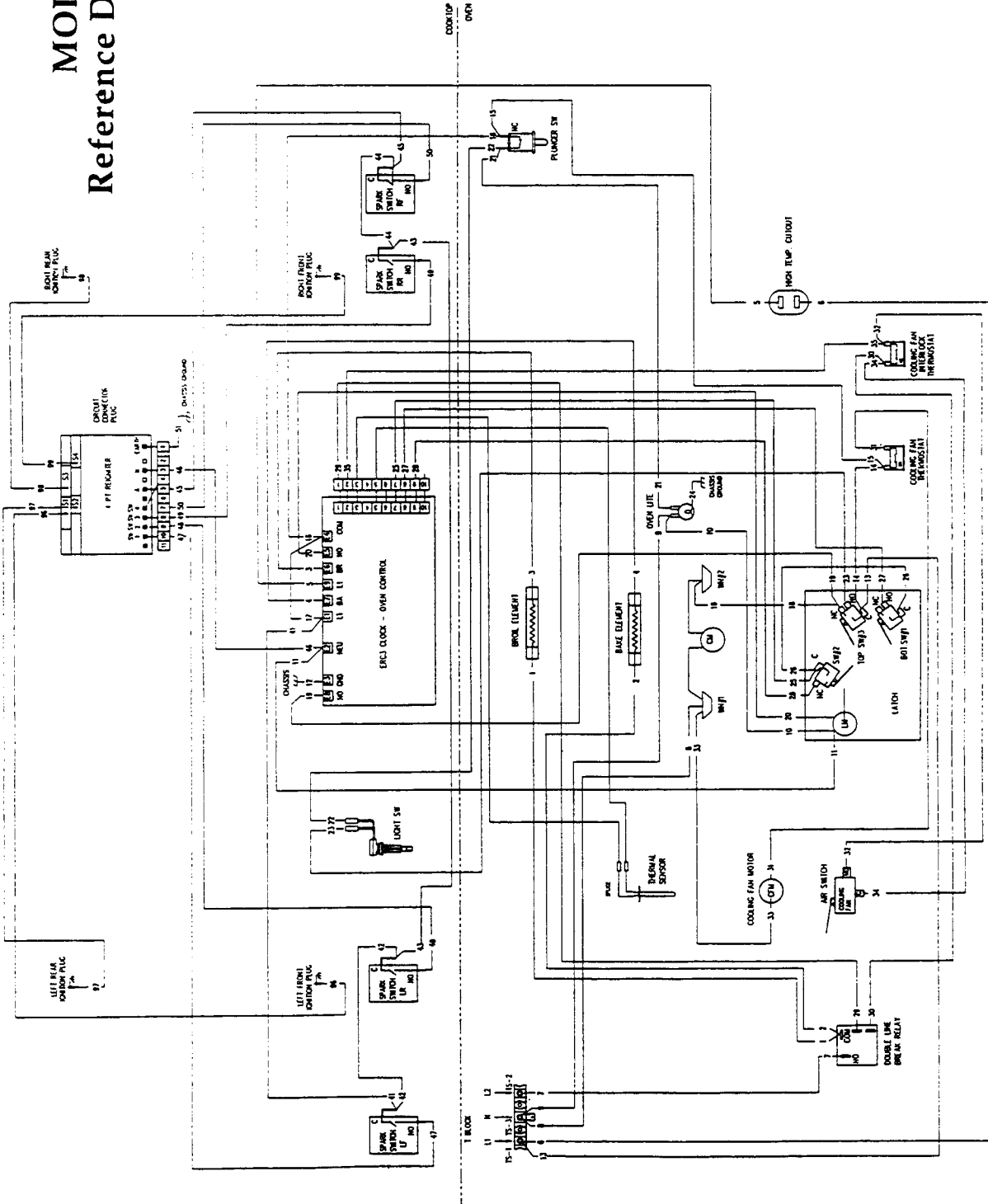


MODELS REF30 & RES30

Reference Drawing #14-33-765

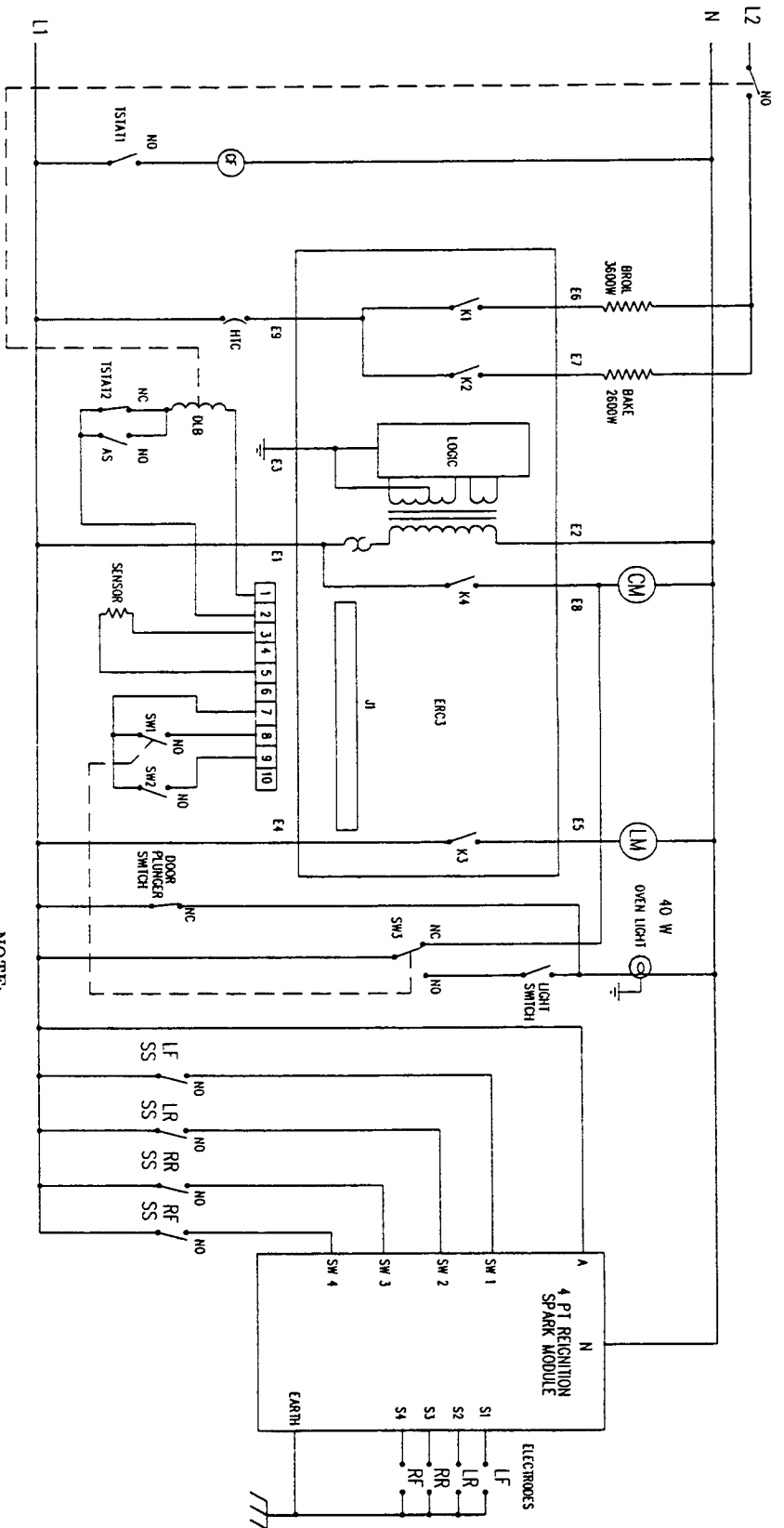


MODEL RDF30 Reference Drawing #14-33-764



MODEL RDF30

Reference Drawing #14-33-764



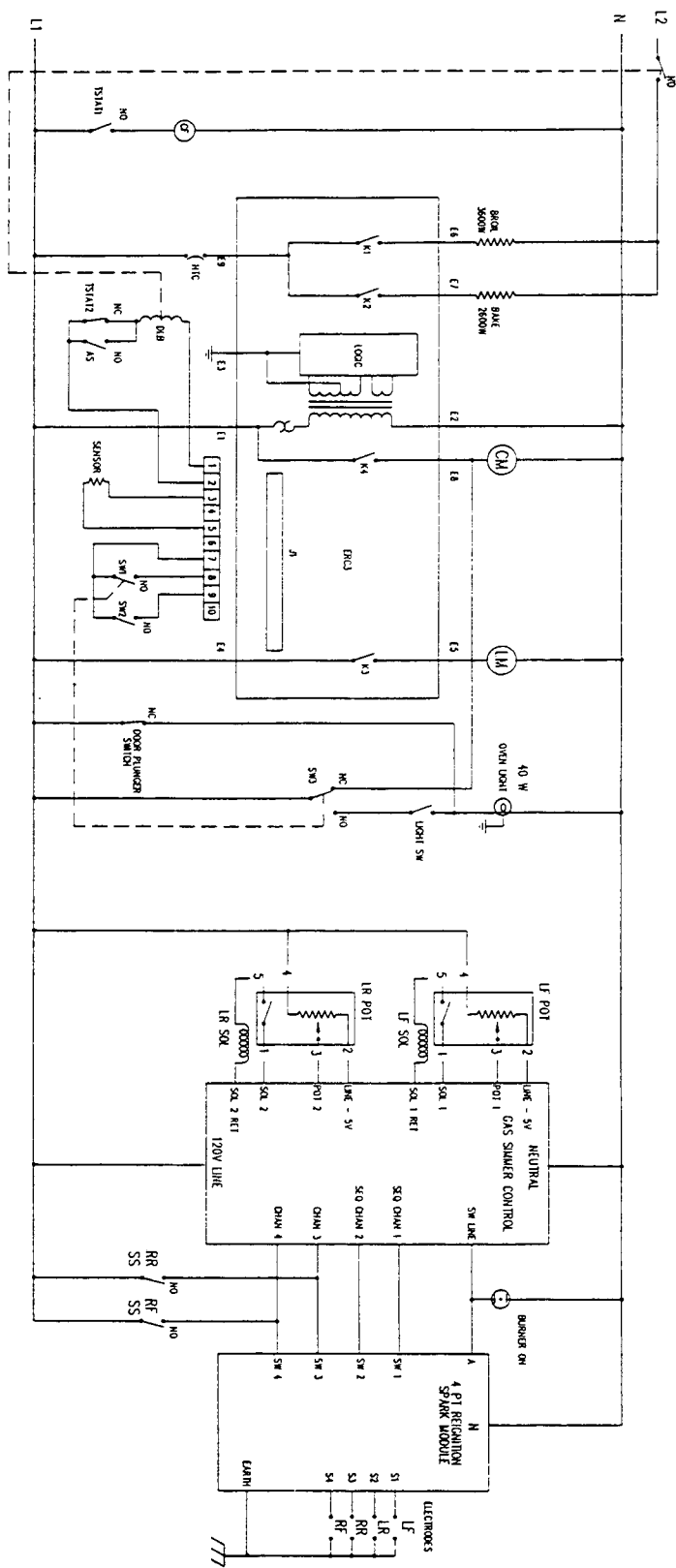
ABBREVIATIONS:

- CF = COOKING FAN
- CM = CONVECTION MOTOR
- OLB = OVEN LIGHT BULB
- AS = AIR SWITCH
- IS1A11 = COOKING FAN THERMOSTAT
- IS1A12 = COOKING FAN INTERLOCK THERMOSTAT
- HIC = HIGH TEMPERATURE CUTOFF
- K1 = BROIL RELAY
- K2 = BAKE RELAY
- K3 = LATCH MOTOR RELAY
- K4 = CONVECTION MOTOR RELAY
- SW1 = DOOR SWITCH
- SW2 = INTERLOCK SWITCH
- SS = SPARK SWITCH
- NO = NORMALLY OPEN
- NC = NORMALLY CLOSED
- DB = DOUBLE LINE BREAK RELAY
- HIC = HIGH TEMPERATURE CUTOFF

NOTE:

1. IS1A11 & IS1A12 ARE IN CLOSE PROXIMITY
2. IS1A11 CLOSURES AT 180° F. OPENS AT 120° F.
3. IS1A12 OPENS AT 200° F. CLOSERS AT 140° F.
- 3 TO BE PRINTED WITH WIRE DIAGRAM & 10-FRONT

MODELS RDFS30 & RDSS30 Reference Drawing #14-33-766



ABBREVIATIONS:

- CM - CONNECTION MOTOR
- LS - LIMIT SWITCH
- LS1 - LIMIT SWITCH
- LS2 - LIMIT SWITCH
- LS3 - LIMIT SWITCH
- LS4 - LIMIT SWITCH
- LS5 - LIMIT SWITCH
- LS6 - LIMIT SWITCH
- LS7 - LIMIT SWITCH
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- LS96 - LIMIT SWITCH
- LS97 - LIMIT SWITCH
- LS98 - LIMIT SWITCH
- LS99 - LIMIT SWITCH
- LS100 - LIMIT SWITCH

NOTE:

- 1. LS1A12 & LS1A12 ARE IN CLOSE PROXIMITY
- 2. LS1A12 CLOSERS AT 180° F., OPENS AT 170° F.
- 3. LS1A12 OPENS AT 200° F., CLOSERS AT 180° F.

