

LG TRAINING MANUAL

LRG30855Sx Gas Range - Fall 2007



IMPORTANT SAFETY NOTICE

The information in this training manual is intended for use by persons possessing an adequate background in electrical equipment, electronic devices, and mechanical systems. In any attempt to repair a major appliance, personal injury and property damage can result. The manufacturer or seller maintains no liability for the interpretation of this information, nor can it assume any liability in conjunction with its use. When servicing this product, under no circumstances should the original design be modified or altered without permission from LG Electronics. Unauthorized modifications will not only void the warranty, but may lead to property damage or user injury. If wires, screws, clips, straps, nuts, or washers used to complete a ground path are removed for service, they must be returned to their original positions and properly fastened.

CAUTION

To avoid personal injury, disconnect the power before servicing this product. If electrical power is required for diagnosis or test purposes, disconnect the power immediately after performing the necessary checks. Also be aware that many household appliances present a weight hazard. At least two people should be involved in the installation or servicing of such devices. Failure to consider the weight of an appliance could result in physical injury.

ESD NOTICE

Some of the electronics in appliances are electrostatic discharge (ESD) sensitive. ESD can weaken or damage the electronics in these appliances in a manner that renders them inoperative or reduces the time until their next failure. Connect an ESD wrist strap to a ground connection point or unpainted metal in the appliance. Alternatively, you can touch your finger repeatedly to a ground connection point or unpainted metal in the appliance. Before removing a replacement part from its package, touch the anti-static bag to a ground connection point or unpainted metal in the appliance. Handle the electronic control assembly by its edges only. When repackaging a failed electronic control assembly in an anti-static bag, observe these same precautions.

REGULATORY INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna; Increase the separation between the equipment and the receiver; Connect the equipment to an outlet on a different circuit than that to which the receiver is connected; or consult the dealer or an experienced radio/TV technician for help.

DISCLAIMER

The information in this training manual was accurate at the time of publication. Every effort has been made to ensure accuracy. Updates, changes, etc. are available via GCSC and LGCSacademy.

COMPLIANCE

The responsible party for this device's compliance is LG Electronics Alabama, Inc.; 201 James Record Road, Huntsville, AL, 35813.

LRG30855** (GAS RANGE)

Safety Notices and Warnings	1
Contents	2
General Information	4
Introduction	5
Warranty	6
Installation	7
Anti-tip Device	8
Tools For Servicing	8
Operation	9
Surface Elements	9
Oven Vent	9
Other Controls	9
Touchpad Controls	10
Oven – Baking or Roasting	11
Oven – Broiling	11
Convection Baking or Roasting	12
Auto Recipe Conversion™	12
Clock and Timer	12
Probe	13
Warming Drawer	13
Self-Cleaning Cycle	14
Component Location Views	15
Oven Door Removal and Replacement	18
Warming Drawer Removal and Replacement	19
Warming Drawer Element and Gasket	19
Gas Shutoff Valve	20
Main Top Removal	21
Side Panel Removal	21
Oven Hinge Removal	22
Door	23
Oven Light and Switch	24
Oven Burner Ignition	25
Broil Burner and ignitor	26
Bake Burner and Ignitor	27
Broil and Bake Burner Flame Adjustments	28
Bake and Broil Burner Test	28
Regulating Gas Pressure	29
Safety Valve and Pressure Regulator	30
Convection Fan Motor	31
Probe Outlet	32

Release 1.1 070822

Oven Temperature Sensor	32
Control Panel	34
Spark Module	34
Electronic Range Control (ERC)	35
Control Panel and Touch Board	35
Surface Burner Assembly	36
Burner Removal	36
Main Burner Alignment	37
Maintop (Surface) Burner Flame Adjustments	37
Low Flame Simmer Adjustments	37
Testing Burner Flame Stability	38
Manifold Burner Valves	39
Ignitor Switches	40
Gas Manifold	41
Door Latch Assembly	42
Gas Conversion (Natural Gas vs. Propane or LP)	43
Convert The Surface Orifices (Spuds)	43
Convert The Bake and Broil Orifices	45
Check the Flame Quality	45
Oven Calibration	46
Lock Motor and Latch Circuit	47
Clean And Lock Sequence	48
Service Test Mode	49
Test Mode Chart	50
Failure Codes (F-Codes)	51
Key Panel Test	52
Warming Drawer Performance	52
Oven Self-Clean Operation	52
Convection Fan Operation	52
Parts List	53
Exploded View	60
Appendices	64
Installation Dimensions	64
Schematic and Wiring Diagrams	65
ERC (Electronic Range Control) Test Locations	67
Component Resistance Test Measurements	68
Component Voltage Test Measurements	69
Oven Sensor and Door Switch Test	70
Notes	72

GENERAL INFORMATION

IMPORTANT SAFETY NOTICES

The information in this training manual is intended for use by persons who have adequate backgrounds of electrical, electronic, and mechanical experience. Any attempt to repair a major appliance may result in personal injury or property damage. The manufacturer claims no responsibility for the interpretation of this information not can it assume any liability in connection with its use.

If the information in this manual is not followed exactly, fire or explosion may result, causing property damage, injury, or death. Gas (natural gas or propane) is explosive.

If you smell gas:

- Do not try to light any appliance.
- Do not touch or operate any electrical switch.
- Do not use any phone (wired, portable, or cellular) in the building.
- Immediately call the gas supplier from a neighbor's phone.
Follow the gas supplier's instructions.
- If you can not contact the gas supplier, call the fire department.

To avoid personal injury, disconnect the power before servicing the appliance. If electrical power is required diagnosis or testing, disconnect it immediately after performing the necessary checks.

If grounding devices, wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be replaced in their original positions and properly secured.

This oven is not designed for open-door cooking.

INTRODUCTION

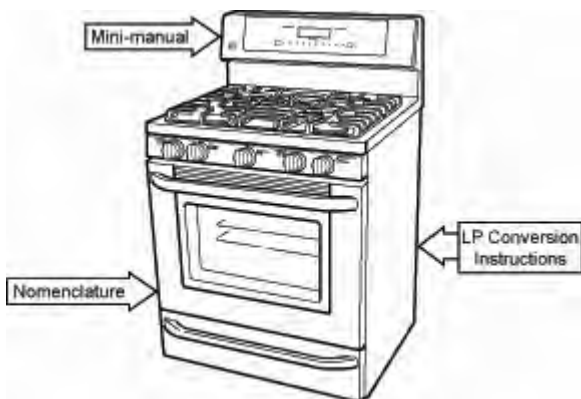


The self-cleaning gas oven has a tactile, electronic touchpad control. It is user-friendly and easy to operate.

The surface burners are controlled by manually operated valves.

The convection baking and roasting cycles provide even cooking and superior baking results.

The nomenclature plate, with model and serial numbers, is on the oven frame above the warming drawer. This plate also shows the burner ratings, fuel type, and pressure settings from the factory.



The mini-manual is in an envelope taped behind the back panel.



The propane (LP Gas) instructions are attached to the back of the range. Inside, near the gas valve, is a set of LP orifices for the conversion.

We recommend re-using this bracket to save the natural gas orifices in the event the range must be restored to burn natural gas in the future.

The gas conversion should be performed **ONLY** by a certified gasfitter who has the proper training and tools to accomplish the job.

WARRANTY

LG ELECTRONICS, INC. LG GAS RANGE LIMITED WARRANTY — USA



LG Electronics Inc. will repair or replace your product, at LG's option, if it proves to be defective in material or workmanship under normal use, during the warranty period set forth below, effective from the date of original consumer purchase of the product. This limited warranty is good only to the original purchaser of the product and effective only when used in U.S.A.

<p>WARRANTY PERIOD: LABOR: One year from date of original purchase PARTS: One year from date of original purchase WHAT IS COVERED: Any part of the range which fails due to a defect in materials or workmanship. During this full one-year warranty, LG will also provide, free of charge, all labor and in-home service to replace the defective part.</p>	<p>HOW SERVICE IS HANDLED: In-Home Service: Please retain dealer's dated bill of sale as evidence of the Date of Purchase for proof of warranty, and submit a copy of the bill of sale to the service person at the time warranty service is provided. Please call 1-800-243-0000 and choose the appropriate option to locate your nearest LG Authorized Service Center. Or visit our Web site at www.lgservice.com.</p>
--	---

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY IMPLIED WARRANTY IS REQUIRED BY LAW, IT IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD ABOVE. LG WILL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INDIRECT, OR INCIDENTAL DAMAGES OF ANY KIND, INCLUDING LOST REVENUES OR PROFITS, IN CONNECTION WITH THE PRODUCT. SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

THIS LIMITED WARRANTY DOES NOT APPLY TO:

1. Service calls to correct the installation of your appliance, to instruct you how to use your appliance, to replace house fuses or correct house wiring, or to replace owner-accessible light bulbs.
2. Repairs when your appliance is used in other than normal, single-family household use.
3. Pickup and delivery. Your appliance is designed to be repairable in the home.
4. Damage resulting from accident, alteration, misuse, abuse, fire, flood, improper installation, acts of God, or use of products not approved by LG Corporation.
5. Repairs to parts or systems resulting from unauthorized modifications made to the appliance.
6. Replacement parts or repair labor costs for units operated outside the United States.
7. Any labor costs during the limited warranty period.

This warranty is extended to the original purchaser and any subsequent owner for products purchased for home use within the USA. In Alaska, the warranty excludes the cost of shipping or service calls to your home. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion or limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To know what your legal rights are, consult your local or state consumer affairs or your state's Attorney General.

TO CONTACT LG ELECTRONICS BY MAIL:

LG Customer Interactive Center
P. O. Box 240007
201 James Record Road
Huntsville, Alabama 35824
ATTN: CIC

Product Registration Information

Model: _____
Serial Number: _____
Date of Purchase: _____



INSTALLATION

POWER SUPPLY

This appliance must be connected to 120 VAC, 60Ø current on a 20-amp, dedicated circuit. Do not use an adapter or an ungrounded outlet.

GROUNDING SPECIFICATIONS

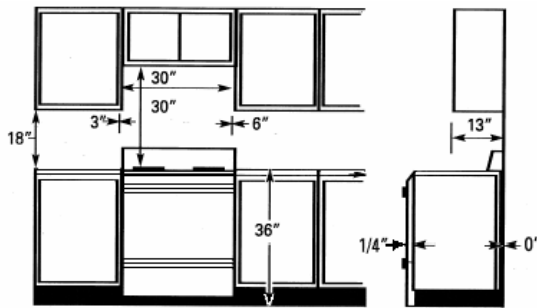
This appliance must be properly grounded. Wiring must conform to the National Electrical Code (NEC) and all local codes.

Ground path resistance	0.10 W	Max.
Insulation resistance	250 KW	Min.

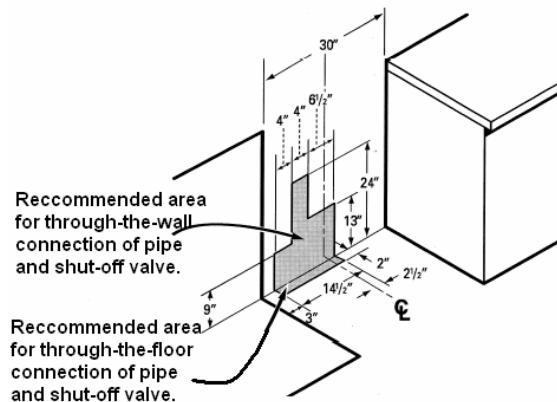
GAS SUPPLY

This range is designed to operate at a pressure of 5 inches of water column on natural gas or 10 inches on LP (propane or butane).

MINIMUM CLEARANCES



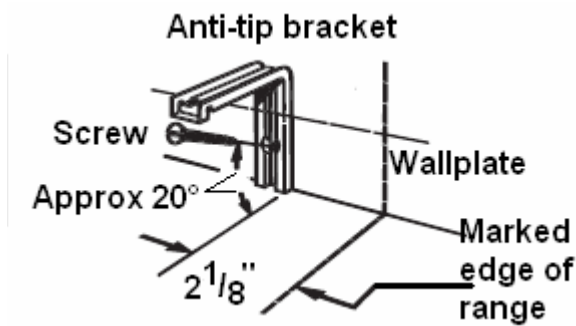
This drawing shows the minimum clearances for the gas range. The 30" requirement between stovetop and cabinet bottom allows sufficient space to the installation of a standard over-the-range microwave oven.



This drawing shows the dimensions and suggested placement of the electrical and gas connections behind the range. The template makes it easy to locate all items properly.

(See the larger drawing on page 64.)

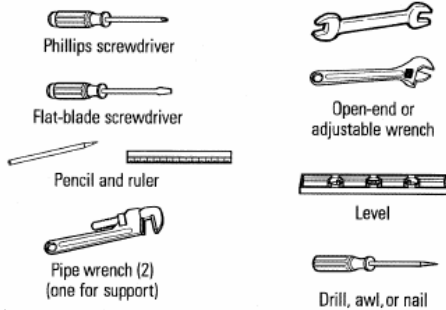
ANTI-TIP DEVICE



Be sure to install the anti-tip bracket. This prevents tipping the range in the event someone stands on the door or otherwise puts the range off balance. Use the installation template to locate the wall bracket; then, attach the bracket to the wall with a large wood screw.

When the range is pushed back into place, the bracket attached to the range will be positioned under the wall bracket and it will keep the range from tipping.

TOOLS



For the most part, ordinary hand tools are sufficient for installing the range. It will be necessary to check the incoming gas pressure and to regulate it if it is out of specification.



A manometer is essential for proper regulation of gas pressure and diagnosis of supply and combustion problems. You can use either a digital manometer or the older style slack-tube manometer.

OPERATION

We include brief operating instructions for the technician to allow a thorough check-out of the appliance and to use during diagnosis and repair.

SURFACE ELEMENTS

There are five surface elements, each of which is a different output. The controls are all the same, though. Press the knob that corresponds to the element you wish to operate and turn it counterclockwise (to the left) to the light position. You will hear the tik-tik-tik of the igniter as it sparks to ignite the gas.



When the burner is lit, turn the knob to the desired setting. Turn it clockwise to the OFF position to extinguish the flame. When one burner control is in the IGNITE position, the igniters on all the surface elements will fire. The surface burners are controlled by manual valves. These valves have a low flame or simmer adjustment, which will be covered later in this manual.

OVEN VENT

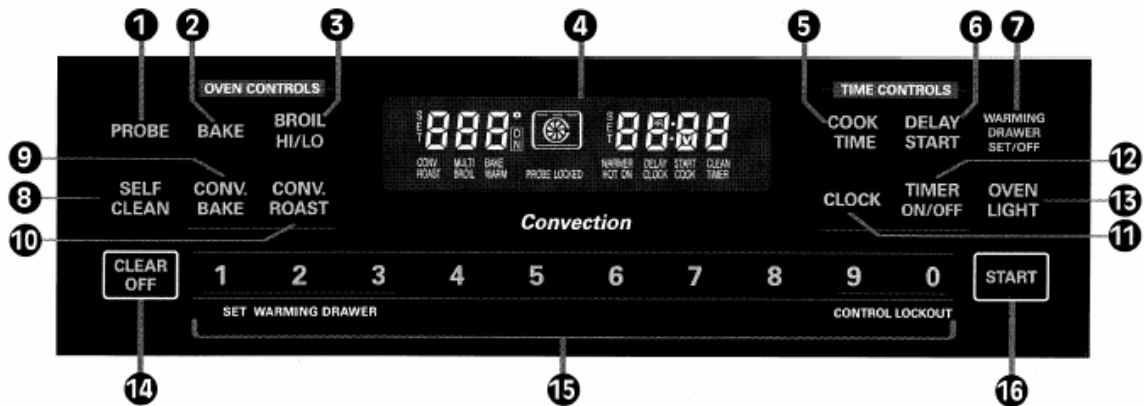
The oven is vented through ducts at the rear of the range top. Do not block these vents while cooking in the oven. Because of the heat, do not leave closed containers on the cooktop due to the burst hazard. Do not leave plastic or flammable items on the cooktop; they may melt or ignite. Pot handles and utensils will become very hot if left on the cooktop near the vent and could cause burns.

OTHER CONTROLS



The gas oven, electric warming drawer, convection, and self-cleaning functions are operated from the electronic touchpad control on the back of the range.

TOUCHPAD CONTROLS



1. **PROBE** – Press to select the probe function.
2. **BAKE** – Press to select the bake function.
3. **BROIL HI/LO** – Press to select the broil function.
4. **DISPLAY** – Shows the time of day, oven temperature, mode (bake, broil, convection or clean), warming drawer, and others.
5. **COOK TIME** – Press, then enter the cooking time. The oven will stop when the time has elapsed.
6. **DELAY START** – Use with COOK TIME or SELF CLEAN to set a start time to cook or clean.
7. **WARMING DRAWER** – Press this and number pads 1, 2, or 3 to turn on the warming drawer.
8. **SELF CLEAN** – Press to start a self-cleaning cycle.
9. **CONV BAKE** – Press to select convection baking.
10. **CONV ROAST** – Press to select convection roasting.
11. **CLOCK** – Press, then use the number pads to set the time.
12. **TIMER ON/OFF** – Press to use the timer feature.
13. **OVEN LIGHT** – Turns the oven light ON or OFF.
14. **CLEAR/OFF** – Press to cancel any oven setting. It does not affect the warming drawer, clock, or timer.
15. **NUMBER PADS** – Press to enter a number to a setting.
16. **START** – Press to start a cooking, warming drawer, or cleaning function.

A brief description of the controls and cycles follows to enable the technician to test all the cycles and to verify that the repairs have been accomplished and the range is now working to specification.

OVEN – BAKING or ROASTING

This oven is not designed for open-door cooking. To operate the oven for regular (non-convection) baking or roasting:

1. Touch **BAKE**
2. Touch the **number pads** to enter the desired temperature.
3. Touch **START**.
The display will show **ON** and **100°** (or **40°** if set for Celsius.) As the oven heats, the display will show the changing temperature. When the set point is reached, the buzzer will sound.
4. Touch **CLEAR/OFF** when cooking is complete.

OVEN – BROILING

This oven is not designed for open-door cooking. To operate the oven for regular broiling:

1. Place the meat or fish on the broiler grid in the broiler pan.
2. Follow the suggestions for shelf positions in the Broiling Guide (owner's manual, page 15).
3. The oven door must be closed during broiling.
4. Touch **BROIL HI/LO** once for high or twice for low.
5. Touch **START**.
6. Touch **CLEAR/OFF** when broiling is complete.

CONVECTION BAKING or ROASTING

The oven fan is turned off when the oven door is opened. Do not leave the door open for long periods of time while using convection cooking. Since the oven is not designed for any sort of open-door cooking, we recommend leaving the door shut all the time other than when placing items in the oven or removing them.

1. Touch **CONV BAKE** or **CONV ROAST**.
2. Touch the number pads to set the desired temperature.
3. Touch **START**.
The display will show **ON** and **100°** (or **40°** if set for Celsius.) As the oven heats, the display will show the changing temperature. When the set point is reached, the buzzer will sound.
4. To change the oven temperature, touch **CONV BAKE** or **CONV ROAST** and then touch the number pads to set the new desired temperature.
5. Touch **CLEAR/OFF** when broiling is complete.

AUTO RECIPE CONVERSION™

When using the convection oven, it will automatically convert the temperatures from regular baking to convection baking. No user intervention is necessary.

CLOCK and TIMER

1. Touch **CLOCK**.
2. Touch the **number pads** to enter the time. You must touch them in the order they are read; for example, to enter a time of 10:54, you must touch **1**, **0**, **5**, and **4**.
3. Touch and hold **START** until the time shows in the display.
4. To check the time while something else is showing on the display, simply touch **CLOCK**.

PROBE

The probe allows a reading of the internal temperature of the food during cooking. Insert the probe into the food (typically a large roast or portion of meat) and plug it in to the socket in the oven.

1. Insert the probe into the food.
2. Plug the probe into the socket inside the oven.
3. Touch **PROBE**.
4. Touch the **number pads** to set the desired internal temperature of the food between 100° F (38° C) and 200° F (93° C).
5. Touch **BAKE**.
6. Touch the **number pads** to set the desired oven temperature.
7. Touch **START**.
8. When the internal temperature of the food reaches the setpoint, the oven turns off and the buzzer sounds. To stop the buzzer, touch **CLEAR/OFF**.

If the probe is removed from the food before the setpoint is reached, the buzzer sounds and the display flashes until the probe is removed from the socket. You can use the timer even though you cannot use timed oven functions while using the probe.

To avoid damaging the probe, be certain the food is defrosted before inserting the probe. It should not touch bone, fat, or gristle. When removing the probe, use a hot pad rather than tongs to avoid damage. Never leave the probe in the oven during a self-clean cycle.

WARMING DRAWER

The warming drawer uses a 500-watt, 110 V_{AC} electric element.

Always start with hot food. Do not use the warming drawer to heat cold food. Allow approximate 25 minutes for the warming drawer to preheat. Do not put liquids, water, or aluminum foil in the warming drawer. The warming drawer cannot be used during a self-cleaning cycle.

To use the warming drawer:

1. Touch **WARMING DRAWER**.
2. Touch **1**, **2**, or **3** on the number pad to select low, medium, or high.
3. Touch **START**.
4. To turn it off, touch **WARMING DRAWER**. Touching **CLEAR/OFF** does nothing to the warming drawer.

SELF-CLEANING CYCLE

Before using the self-cleaning cycle, especially for the first time, we recommend ventilating the kitchen with an open window or ventilation fan or hood. Remove the broiler pan and grid, all cookware, all shelving and racking, and any trace of aluminum foil.

Soils on the sealing surfaces of the door and the oven frame must be cleaned by hand. Use hot water, a soap-filled scouring pad, or a cleanser like SoftScrub[®]. Rinse well and dry thoroughly.

Do not attempt to clean the gasket. The fiberglass material cannot withstand abrasion. It is essential for the gasket to remain intact. If you detect fraying or wear, have the gasket replaced.

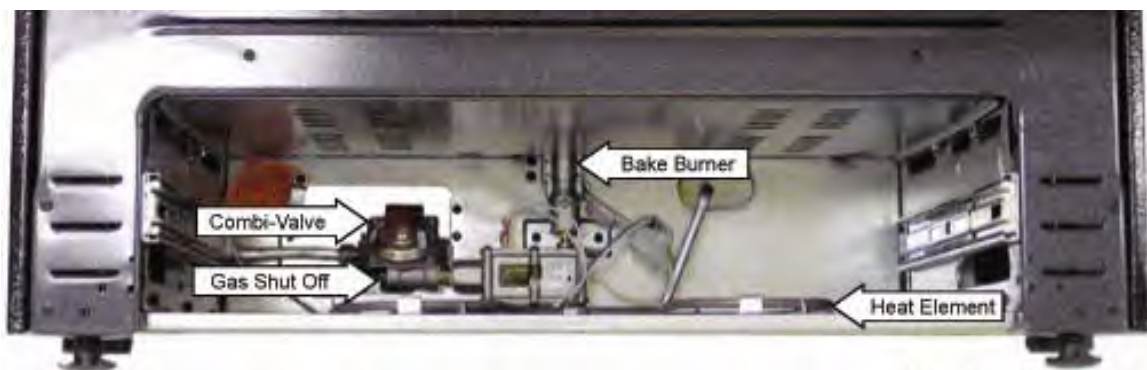
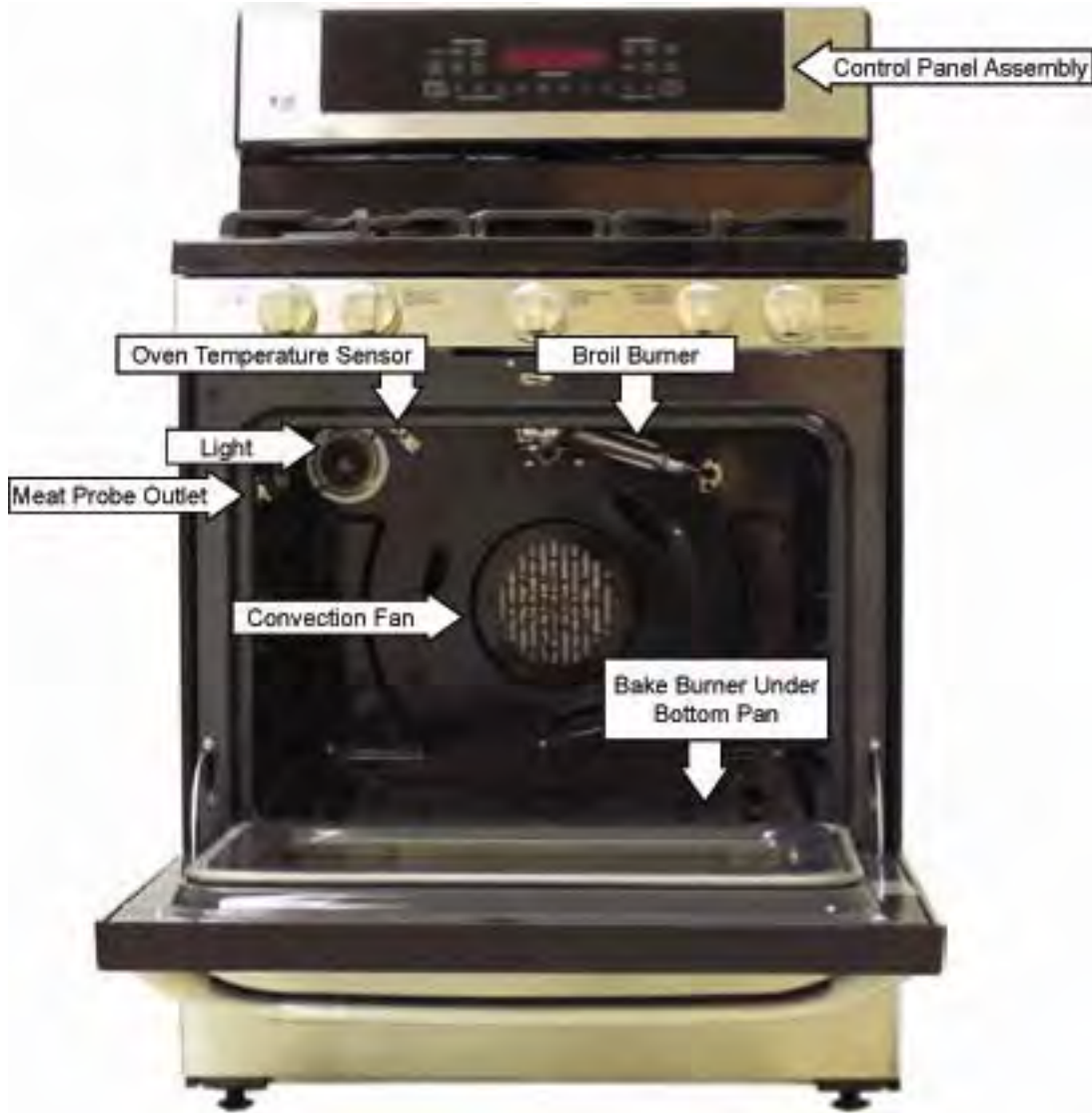
To set the oven for self cleaning:

1. Touch **SELF CLEAN**.
2. Use the **number pads** to set a clean time or go with the default of **420** (four hours and twenty minutes.)
3. Touch **START**.
4. When the cycle is complete, the **LOCKED** light will extinguish and the door will be unlocked.

If you set a self-clean cycle and forget to close the oven door, the display will flash **LOCKED**. To stop a self-clean cycle, touch **CLEAR/OFF**. The **LOCKED** light will extinguish and the door will unlock when the temperature has dropped to a safe level.

After a self-clean cycle, there may be some white ash in the oven. This may be wiped away with a damp cloth after the oven cools.

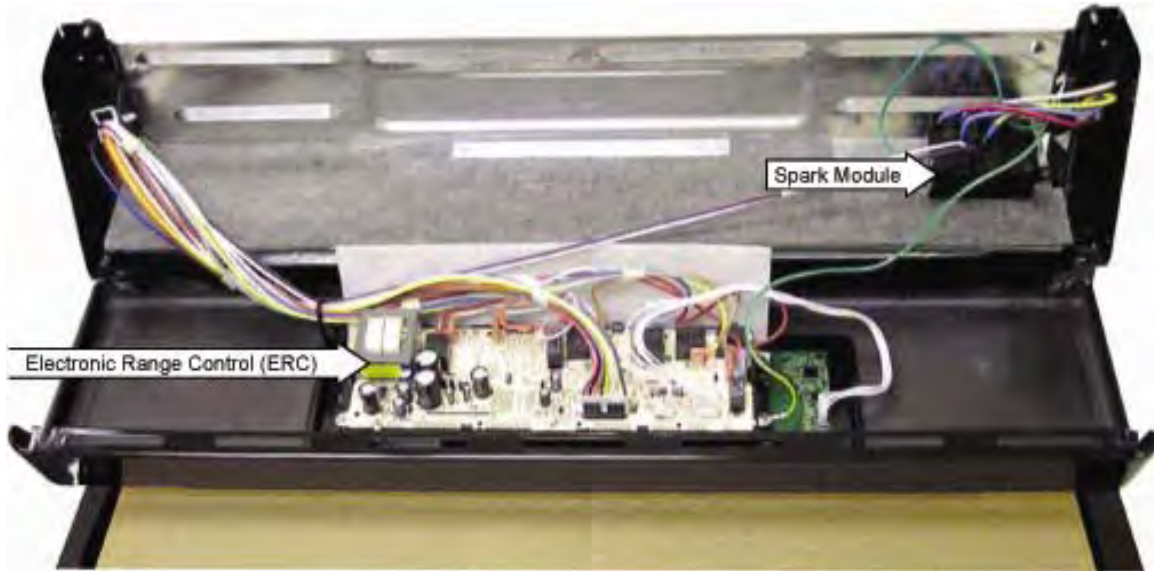
COMPONENT LOCATION VIEWS



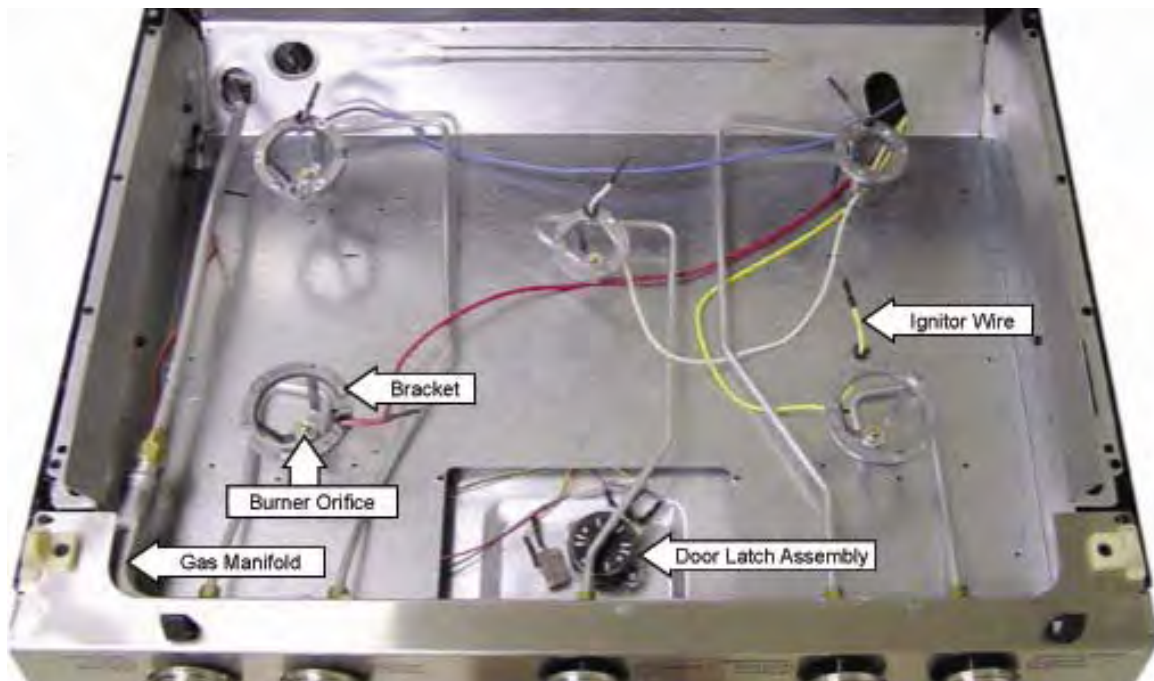
COMPONENT LOCATION VIEWS



COMPONENT LOCATION VIEWS



Control panel in service position



Cooktop removed, with heat shield and latch assembly cover removed

OVEN DOOR REMOVAL



WARNING!

Sharp edges are exposed when servicing the oven. Wear Kevlar[®] gloves or an equivalent protective hand cover.



OVEN DOOR REMOVAL

To remove the door, open it to the first stop near the vertical (closed) position. Lift the door and pull it straight up.

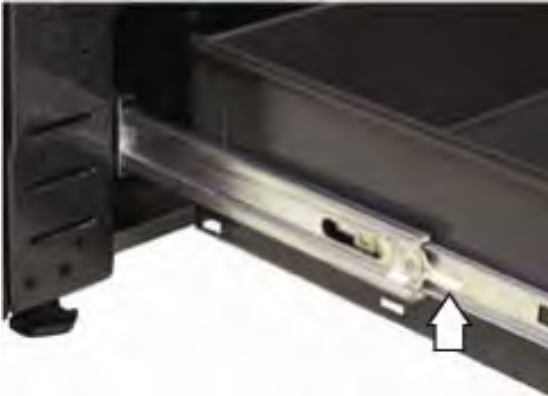


OVEN DOOR REPLACEMENT

Hold the door by the top corners in a nearly vertical position (similar to removal in the previous step.) Guide the hinge arms into the door slots and push the door onto the arms firmly. Close the door and check for alignment. Operate the door a couple of times to make sure it opens and closed properly and without binding.

If the door cannot be closed properly, it is not seated on the hinge arms.

WARMING DRAWER AND GASKET REPAIR



DRAWER REMOVAL

Pull the drawer out all the way to the stop. There are tabs in the drawer rails. Lift the left tab and push down the right tab to pull the drawer off the rail.

DRAWER REPLACEMENT

To replace the drawer, place the rails into the slides and push the drawer into the range.



WARMING DRAWER TRACKS

Each track is attached to the range with a Phillips screw and two tabs. To remove the track, remove the screw from the front of the track and pull the slide out. Lift the track slightly and twist it toward the center of the range to disengage the front tab. Then pull the track forward to release it.



WARMING DRAWER ELEMENT

Reminder! Unplug the range before servicing the element! You'll need to remove the warming drawer to service the heating element. Remove the two T-15 Torx® screws that hold the terminal cover. The element is attached to the bottom of the range with six clips held by 1/4" hex-head screws.

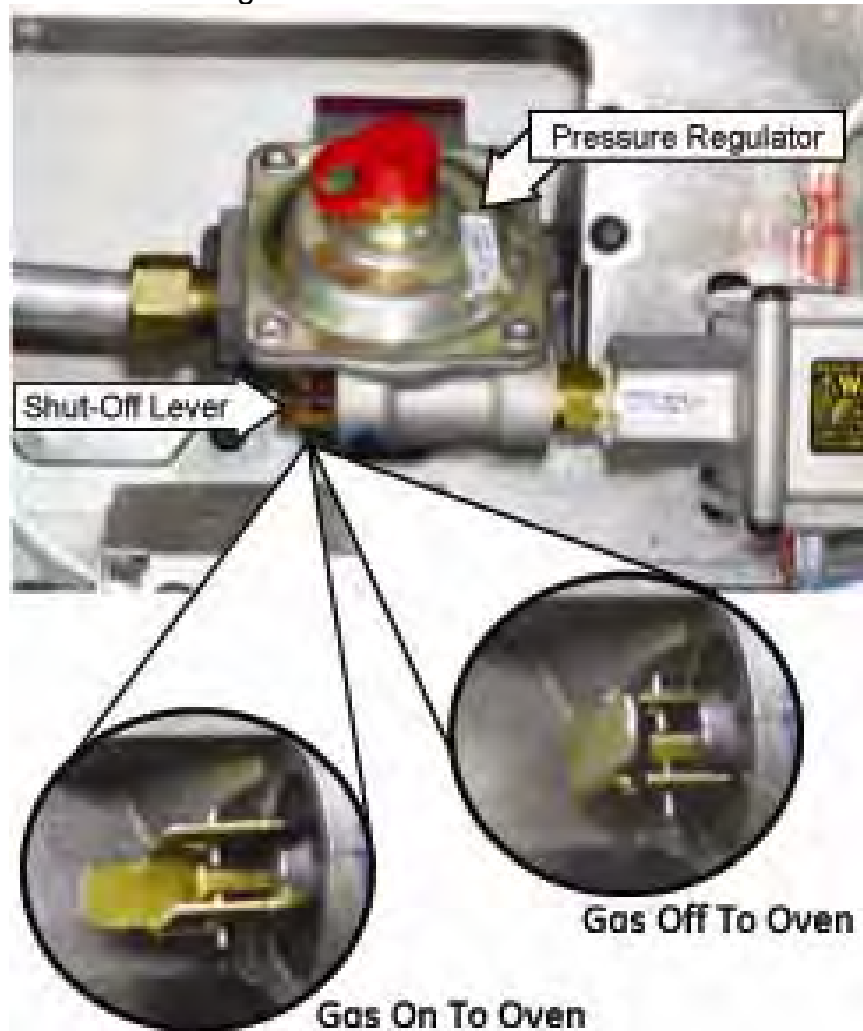


WARMING DRAWER GASKET

The gasket is held by several small, wire clips that are supplied already formed into the gasket. Use needle-nosed pliers to remove the clips. This gasket forms a seal around the top and sides of the drawer.

GAS SHUTOFF VALVE (OVEN ONLY)

NOTE: The gas shutoff valve shuts off the gas to the oven **ONLY** and has no effect on the surface burners. This shutoff valve is accessible from the inside of the range after the warming drawer is removed.



The shutoff valve allows servicing the oven burners without having to pull the range out and shut off the gas main.

MAIN TOP REMOVAL



Remove the grates, burner caps, burner heads, igniters, and the T-15 Torx® screws from the cooktop.

Insert a putty knife under the edge of the main top press the clips and allow removal of the main top.

SIDE PANEL REMOVAL



1. Remove the range from its installation.
2. Remove the door. (Page 18.)
3. Remove the warming drawer. (Page 19.)
4. Remove the main top. (Page 21, above.)
5. Remove six Phillips screws from the top of the side panel.
6. Remove the Phillips screw from the front panel under the hinge.
7. Remove four ¼" hex head screws from the back edge of the side panel.
8. Slide a putty knife into the side panel under the manifold panel and gently pry the side panel off the snap fastener.

OVEN HINGE REMOVAL



1. Remove the range from its installation.
2. Remove the door. (Page 18.)
3. Remove the warming drawer. (Page 19.)
4. Remove the side panel. (Page 21.)
5. Note the position of the hinge spring and the paint indicator.

Remove the hinge spring.



6. Remove the E-clips from the hinge pin and remove the pin.



7. Remove the two 1/4" hex head screws that attach the hinge to the frame.



8. Position the top of the hinge body into the notch in the hinge arm (see photo) and rotate the hinge body clockwise to remove.

DOOR

The doors can be separated into two assemblies: (1) the outer assembly, consisting of the handle, vent trim, outer glass, and frame; and (2) the inner assembly, consisting of the inner panel, gasket, glass panels, and insulation. The inner and outer assemblies are held together by two T-20 Torx[®] screws in the top corners and four 1/4" hex head screws across the bottom edge.

The gasket is held in place between the inner and outer sections of the inner door panel.



1. Remove the oven door. (Page 18.)
2. Place the door inside up on a padded surface.
3. Remove the two Torx T-20[®] screws from the top corners of the inner panel. Remove the four 1/4" hex head screws from the bottom of the door and remove the inner assembly.



4. Place the inner assembly inside up on a padded surface.
5. Remove the four 1/4" hex head screws, the inner door panel, and the insulation.
6. Remove the four 1/4" hex head screws from the outer frame and carefully lift off the outer frame.

NOTE!

When replacing the gasket, be sure the gasket bead is positioned evenly and uniformly between the outer and inner sections of the inner door panel.

OVEN LIGHT

CAUTION!

Before replacing the light bulb, unplug the range.

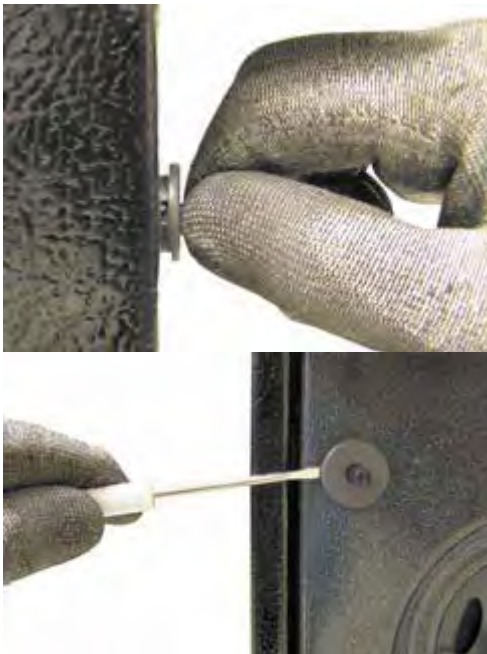
The glass cover should be removed only when cold. Be sure to let the cover and bulb cool completely. Do not touch a hot bulb with bare hands or a damp cloth. Replace the bulb with an appliance type bulb, 120 V_{AC} and no more than 40 watts. If the bulb is not working, replace the bulb with a new one. The bulb should come on when the oven door is open. If that doesn't resolve the issue, check for 120 V_{AC} across the terminals. If 0 volts, check the door switch and wiring.



1. Unplug the oven.
2. Push the wire clip to the side and remove the glass cover.
3. Remove and replace the bulb.
4. Clean the glass cover using a wet cloth. Be sure the cover is completely cool.

OVEN DOOR SWITCH

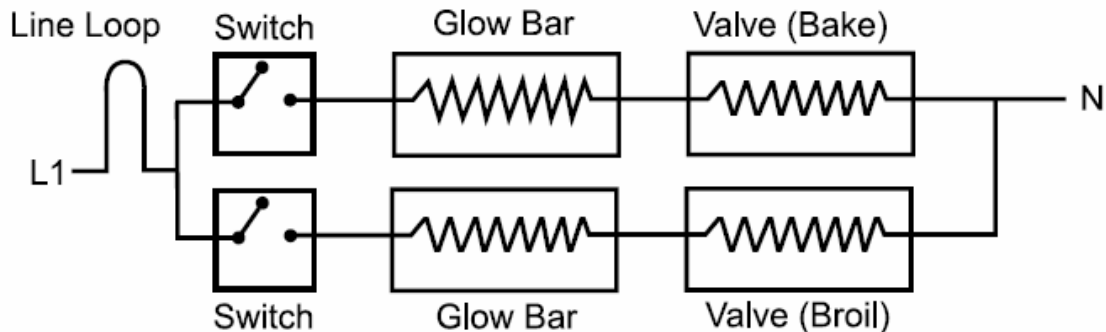
The switch is on the left side of the door frame and is accessible from the front.



1. Unplug the oven.
2. Pull the switch forward to reveal the spring clips on each side.
3. Depress one of the clips with a small screwdriver while pulling the switch out.
4. Depress the other clip and pull the switch free of the door frame.
5. Disconnect the switch wiring harness. Secure it so it doesn't fall back into the hole.

OVEN BURNER IGNITION

The oven BAKE and BROIL burners are ignited by Norton style glow bar ignitors. The ignition circuits consist of the electronic control (main board), the ignitor, and the gas valve. The gas valve and the pressure regulator are supplied as a complete assembly. It is sometimes called a combination valve.



As shown in the schematic, the valve is in series with the ignitor (glow bar). When 120 V_{AC} is applied, the ignitor requires a minimum of 116, leaving only about 4 volts to operate the valve. The ignitor will remain energized at all times the burner is operating.

From a cold start, the ignitor requires 30 to 60 seconds with a minimum of 116 V_{AC} to reduce its electrical resistance sufficiently to provide a minimum of 2.9 amps of current flow in the series circuit. This is the required current flow necessary for the valve to open. The ignitor should provide a steady current flow of 3.3 to 3.6 amps (3.03 to 3.30 V_{AC}) in the circuit, which keeps the gas valve open. If the ignitor ages and its resistance increases significantly, the current flow will decrease respectively, and the gas valve will no longer open.

If the ignitor glows red but does not draw a minimum of 2.9 amps, the failure is usually with the ignitor rather than the valve. ALWAYS check the gas valve on the pressure regulator to be sure it is not in the OFF position.

WARNING!

This range uses rectangular Norton glow bar ignitors. These are NOT interchangeable with cylindrical carborundum glow bars. They operate at different amperages and work in conjunction with different gas valves.

If the ignitor glows but ignition does not occur, be sure the regulator valve is not in the OFF position. Slow ignition can be caused by the following conditions: blockage of the primary air intake, improper alignment of the orifice hood and burner, improper air/gas adjustment, blockage of the crossover slots on the burner, improper installation (drafts in installation area), or a faulty gas valve.

BROIL BURNER AND IGNITOR



1. Remove the oven door. (Page 18.)
 2. Remove the screw that holds the burner in place.
 3. Lower the burner.
 4. Remove the two hex head screws that hold the ignitor to the burner.
 5. Remove the burner.
- NOTE:** When reinstalling the burner, be sure the tab on the burner is inserted into the slot on the rear wall of the oven. Make sure the orifice hood is inserted into the burner inlet opening.
6. Remove the access cover from the back of the range and disconnect the ignitor connector.
 7. Remove the wire retainer and gently pull the connector through the oven wall and remove the ignitor.

IMPORTANT!

When replacing the ignitor, the connector end must be positioned **OUTSIDE** the range insulation. Do not allow the connector to be inside or next to the insulation. Allow the rigid over-sleeve to position the connector away from the insulation.

The insulation should be allowed to surround the ignitor lead wires, protecting the connector from any heat loss at the insulation opening.

BAKE BURNER AND IGNITOR



1. To remove the bake burner ignitor, remove the oven door. (Page 18.)
2. Remove the warming drawer. (Page 19.)
3. Remove the bottom pan by removing two screws, lifting the back of the pan, and sliding the pan back until it can be removed from the oven.



4. Remove the two hex head screws that hold the ignitor to the bake burner.



5. Disconnect the ignitor wires located behind the warming drawer. Gently pull the connector through the oven floor and remove the ignitor.



6. Remove the hex head screw that holds the front of the burner in place.



7. Remove the two hex head screws, located behind the warming drawer, that hold the burner in place and then remove the burner.

NOTE!

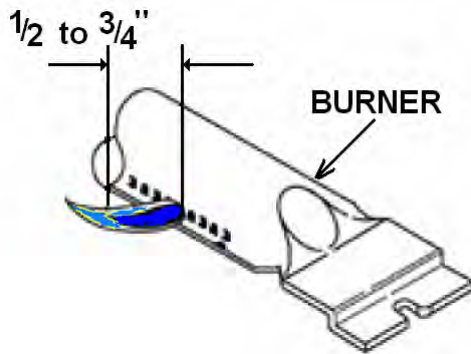
When replacing the bake burner, be sure the orifice hood is inserted correctly into the burner inlet opening.

BAKE AND BROIL BURNER FLAME ADJUSTMENTS

WARNING! Adjustments require disassembly of the burner section. To avoid handling hot parts, the oven should be cool.

NOTE! A small amount of odor is normal and will be present when the range is first turned on. If there is a strong odor, the bake and broil assemblies should be inspected.

BAKE and BROIL BURNER TEST



1. Remove the oven door. (Page 18.)
2. Remove the bottom pan. (Page 27.)
3. Replace the oven door.
4. Close the oven door and set the oven to **BAKE** at 350° F. Observe the bake burner flame.
5. Set the control to **BROIL** and observe the broil burner flame.
6. Allow the oven to cool and reassemble it.

NOTE! The oven door must remain closed when testing the bake and broil flames. The window should be clean before starting.

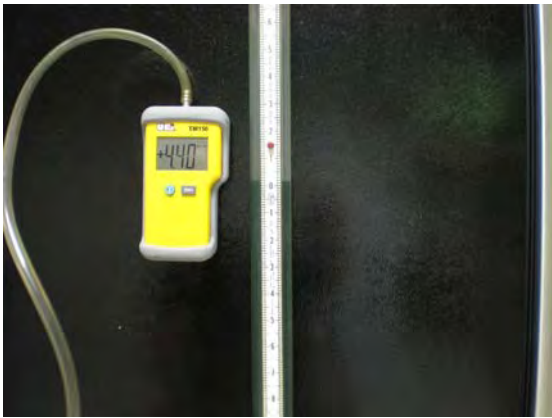
When testing the bake and broil elements, observe the flames for a minimum of two minutes. Give the burners time to reach operating temperature. The flame should not lift or blow off the burner during any period of operation. It should be blue with an inner cone between $\frac{1}{2}$ " and $\frac{3}{4}$ " (12 to 19 mm).



To correct a BAKE flame problem, remove the warming drawer, loosen the air shutter, and adjust the opening to $\frac{11}{16}$ ". Run the flame test. If the flames are yellow, open the shutter an additional $\frac{1}{32}$ ". If they lift off or flutter, close it by $\frac{1}{32}$ ". Repeat the flame test until the flame is acceptable.

REGULATING GAS PRESSURE

Correct gas pressure is essential for quick burner ignition, correct burner BTUH input, and to minimize the byproducts of combustions, such as carbon monoxide. The recommended regulated pressure for natural gas is 3.5 to 4 inches of water column. Likewise, for LP the recommended pressure is 10.5 to 11 inches of water column.



To measure the gas pressure, you'll need either a digital or water (slack tube) manometer.



Measuring gas pressure can be easily accomplished at any of the 5 surface burners.

Remove a burner grate and one of the sealed burners. Then place the gas pressure measuring tube over the orifice.

With the pressure fitting over the orifice and the range unplugged, turn the surface valve to an open position and record the gas pressure.

If the gas pressure measured is incorrect, check the gas regulator cap position. If it is properly installed for the gas type (natural or LP), replace the regulator and retest pressure.

(See the LP Conversion section for gas regulator cap positioning on page 43.)

SAFETY VALVE and PRESSURE REGULATOR

WARNING! Before servicing the range, disconnect the power and the gas supply. Be sure the oven is absolutely cool.

NOTE! The pressure regulator and the safety valve are a combination unit (combi-valve) and must be replaced as an assembly.

NOTE! The combi-valve is front serviceable. The amperage should be between 3.3 and 3.6 amps at 3.0 to 3.3 V_{AC}.



1. Remove the oven door. (Page 18.)
2. Remove the warming drawer. (Page 19.)
3. Remove the bake burner. (Page 27.)
4. Remove the gas line connections at the valve. (The line by the regulator is $1\frac{1}{16}$ " and the line by the oven shutoff safety valve is $\frac{9}{16}$ ".)
5. Remove the 5 hex head screws that secure the combi-valve.
6. Remove the valve.



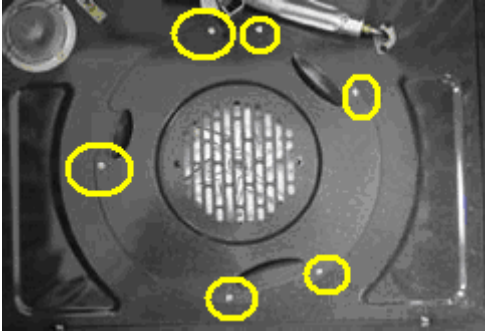
The regulator has an adjustment for converting the range from natural gas to propane (LP). The adjustment screw is marked to show which way is up for natural gas or propane (LP).



Note the marking that shows the short end to be installed for natural gas. On the other side, the arrow points toward the longer end for propane (LP).

Conversion includes changing or adjusting the orifices as well. (See page 43.)

CONVECTION FAN MOTOR

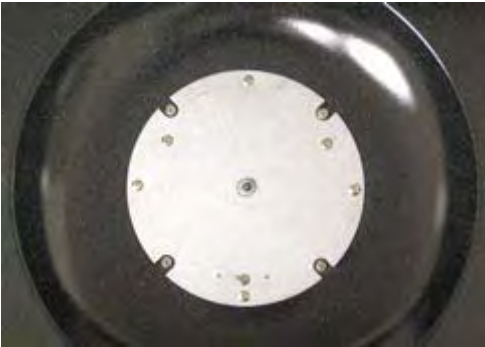


1. Remove the oven door.
(Page 18.)
2. Remove six Phillips screws that secure the convection fan guard to the back wall of the oven. Then remove the fan guard.



3. Use a 1/2" wrench to remove the nut from the convection fan blade. Hold the blade securely and turn the nut clockwise.

NOTE! This nut has a left handed thread.



4. Remove the fan blade and washer from the motor shaft.
5. Remove the four Phillips screws that attach the motor to the back of the range and remove the motor.



6. Disconnect the 3-wire connector from the motor.
7. Remove the six Phillips screws that mount the motor frame to the range. Then remove the motor.

PROBE OUTLET

The probe outlet is near the top left corner of the oven.



1. Remove the two Phillips screws that attach the probe outlet to the oven.



2. The outlet and wiring can be pulled out approximately 1½”.

NOTE! When replacing the probe outlet, cut the wires as close to the end as possible. Then splice them to the new outlet using heat-resistant connectors.

OVEN TEMPERATURE SENSOR



1. Remove the oven door. (Page 18.)
2. Remove the two ¼" hex head screws that secure the wiring cover on the back of the range.



3. Disconnect the sensor wire harness.



4. Remove the two ¼" hex head screws that attach the sensor to the oven wall.



5. Gently pull the sensor wire in to the oven cavity.

NOTE! When replacing the sensor, use a small flat-blade screwdriver to push and guide the sensor wire harness into the oven liner.



NOTE! When replacing the oven temperature sensor, the connector end must be positioned OUTSIDE the range insulation. The insulation should be allowed to fill around the lead wires to protect the sensor from any heat loss at the opening.

CONTROL PANEL



1. Loosen but do not remove the two ¼" hex head screws at the top corners of the back panel.



2. From the front, remove the two T-15 Torx® screws that attach the bottom of the control panel to the back guard.

NOTE! To prevent damage to the control panel, put a piece of cardboard or a towel or blanket over the grates.



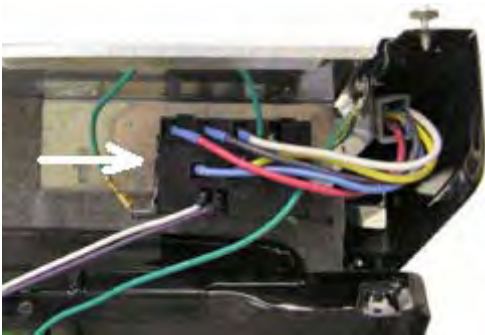
3. Grasp and pull the bottom of the control panel out about one inch and lift it off the top rear corner screws.



4. Carefully fold the control panel over the grates into the service position.

NOTE! To avoid damage to the porcelain components, do not overtighten the screws.

SPARK MODULE



The spark module is in the back guard and held in place by two plastic tabs, one on each side. Put the control panel into service position, and press either tab to remove the module.

NOTE! Make a note of the wire positions before disconnecting the module.

ELECTRONIC RANGE CONTROL (ERC)

To access the electronic range control (ERC or main board), put the control panel into the service position. Remove the four Phillips screws (two on each side). Mark and label the wire locations before disconnecting the ERC.



1. Wire tie holding wire harness to ERC.
2. Ground wire to ERC board.



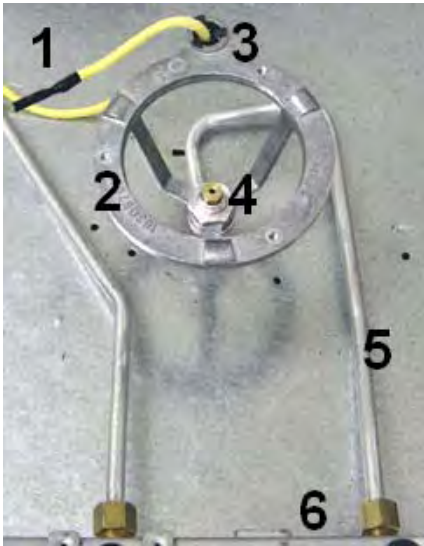
3. Wiring harness to touch panel.

CONTROL PANEL AND TOUCH BOARD

The control panel and touch board are supplied as an assembly. If the touch board is damaged, the entire control assembly must be replaced.

To replace the control panel and touch board, put the control panel into service position. The ERC must be removed and the wiring harness must be disconnected from the touch board before it can be removed.

SURFACE BURNER ASSEMBLY



1. Ignitor wire
2. Bracket
3. Wire inlet
4. Orifice
5. Inlet tube
6. ½" fitting

WARNING! Shut off the gas to the range before proceeding!



Each main top burner consists of:

1. Burner cap
2. Burner head
3. Orifice
4. Ignitor
5. Inlet tube (not visible, see photo above)

BURNER REMOVAL

1. Remove the maintop. (See page 21.)
2. Remove the two ¼" hex head screws that attach the shield to the top right side of the manifold panel. (Omit this step if servicing the left front or left rear burner.)
3. Pull the ignitor wire out of the wire inlet bracket.
4. Use a 5/8" socket and extension to remove the nut that holds the bracket to the inlet tube and lift the bracket away.
5. Remove the ½" nut that secures the inlet tube to the valve.

MAIN BURNER ALIGNMENT

For proper operation of the burner, alignment of the orifice holder, orifice, and air/gas mixer tube must be correct. The alignment can be checked by placing 7 mm or $\frac{9}{32}$ in. nut driver over the orifice to exaggerate the angle. The nut driver should stand straight, indicating the alignment and gas injection angle is correct. A slight downward pressure may be necessary to seat the nut-driver over the orifice-retainer ring. If an angle adjustment is necessary remove the burner cap, head, and bowl to inspect the orifice holder and the brackets that hold them in place. Adjust as necessary by carefully bending the supply tube. A misaligned burner may result in uneven flames around the burner head.

MAINTOP BURNER FLAME ADJUSTMENTS

The top burners do not have air shutters and fixed, non adjustable orifices are used. If the flames blow off the burner or have yellow tips, check the following:

- Gas pressure - 5" Natural gas 10" LP gas.
- Inspect orifice to be sure it is drilled on center and free of debris or burrs.
- Be sure the correct size orifice is in the proper location
- Make sure the range was properly converted if on LP gas.

LOW FLAME SIMMER ADJUSTMENTS



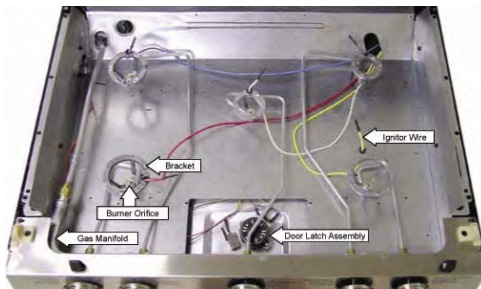
Remove the surface control knob and locate the adjustment screw in the center of the control valve shaft. A thin flat-blade screwdriver, approximately $\frac{3}{32}$ " across, is needed to access the screw. Turn the adjustment screw until the flame reaches the desired size.

Note! Low setting adjustments must be made with 2 other burners in operation on a medium setting. This procedure prevents the low flame from being set too low, resulting in the flame's being extinguished when other burners are turned on.

TESTING BURNER FLAME STABILITY

- Test 1** Turn the knob from **HI** to **LOW** quickly. If the low flame goes out, increase the flame size and test again.
- Test 2** With the burner on **LOW** setting, open and close the oven door quickly. If the flame is extinguished by the air currents created by the door movement, increase the flame height and test again.
- Test 3** With 2 burners on **HIGH** setting, set a third adjusted burner on **LOW**. Turn the first knob from **HI** to **LOW** quickly. The third burner should stay lit.

MANIFOLD PANEL



1. Remove the oven door.
(See page 18.)
2. Remove the main top.
(See page 21.)
3. Remove the surface burner valve knobs by pulling each knob straight out.
4. Remove the two 1/4" hex head screws that attach the shield to the top right side of the manifold panel.
5. Remove the 2 Phillips-head screws and the 2 guides from the main top.
6. Remove the 4 Phillips-head screws that hold the front of the manifold panel to the gas manifold.
7. Remove the three 1/4" hex head screws from the bottom of the manifold panel.
8. Pull the manifold panel straight out from the range.

MANIFOLD BURNER VALVES

The manifold burner valves are located behind the manifold panel. Each valve is attached to the manifold by a single screw.



1. Turn off the gas supply.
2. Remove the manifold panel. (See page 38.)
3. Using a ½-in. open end wrench, disconnect the burner inlet tube from the valve.
4. Remove the ¼-in. hex-head screw that holds the valve to the manifold.
5. Lower the valve from the manifold.
6. Remove the protective cover from the valve stem.
7. Remove the ignitor switch from the valve. (See page 40.)



WARNING!

Ensure the valve seal and the screw seal are carefully positioned before installing the valve.

IGNITOR SWITCHES

The ignitor switches are located inside the manifold panel and are attached to each maintop burner valve. The back of each switch is molded to conform to the front of the burner valve and is locked in place by 2 tabs. All switches are wired to a single harness and can be replaced separately.

Note! To replace the ignitor switch for the left or right rear burner, it is necessary to remove the left or right rear burner valve from the gas manifold.

Caution! The 2 lock tabs on each ignitor switch are fragile. Tab breakage can occur if excessive release pressure is applied.

When replacing the ignitor switch for the left or right rear burner, remove the valve from the gas manifold.



1. Be sure the range is unplugged.
2. Remove the manifold panel. (See page 39.)
3. Remove the protective cover from the valve stem.
4. Using a small flat blade screwdriver, carefully pry on the two release tabs and slide the switch off the valve stem.

NOTE! When replacing an ignitor switch, cut the switch wires and splice the new switch using approved connectors and heat shrink tubing.

GAS MANIFOLD

WARNING! Shut off the gas before proceeding.

To remove the gas manifold:

1. Remove the maintop. (See page 21.)
2. Remove the two ¼" hex head screws that attach the shield to the top right side of the manifold panel.
3. Remove the ½" nut that holds the inlet tube to each valve.
4. Using a $\frac{13}{16}$ " open-end or adjustable wrench, disconnect the gas inlet tube from the gas manifold.
5. Remove the left and right rear burner knobs then remove the four Phillips head screws from the front of the manifold panel.
6. Remove the two ¼-in. hex-head screws that attach the gas manifold to the range.



7. Remove the five burner valves from the gas manifold.

DOOR LATCH ASSEMBLY

The door latch assembly consists of a lock motor, cam and switch assembly, lock hook, and mounting plate. It will be supplied as a complete assembly. The door latch assembly is located under the main top in a recess that is concealed by a metal cover.

To replace the door latch assembly:

1. Remove the oven door.
(See page 18.)



2. Remove the main top.
(See page 21.)

3. Remove the two 1/4" hex screws that attach the shield to the top right side of the manifold panel.



4. Remove the four 1/4" hex screws that hold the latch assembly cover in place.

5. Remove the cover.



6. Mark and disconnect the wiring from the latch assembly.



7. Remove the two T-15 Torx® screws that attach the latch assembly to the frame and slide the assembly out of the recess.

GAS CONVERSION (NATURAL GAS vs. PROPANE or LP)

The range comes with the parts necessary to convert it to LP. Conversion includes the regulator and the surface burner orifices, or spuds.

CONVERT THE REGULATOR

The regulator is located in the lower, left hand, rear corner of the range, as viewed from the front.

To access the regulator, remove the warming drawer. (See page 19.)

Remove the large hex-nut which is located in the center of the regulator. Remove the plastic pin from the bottom side of the cap, turn the pin 180 degrees, and snap the pin back into the cap.

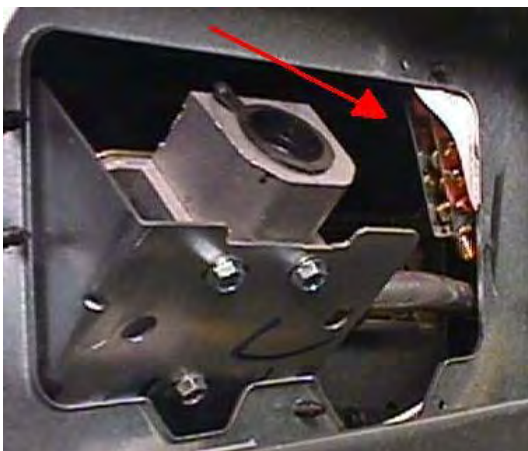


The hex nut is marked with NG for natural gas and LP for propane. There is an arrow showing which way to install the nut.

The nut pictured at the left is marked to install with the bottom end screwed into the regulator to set it for natural gas.

If you turn it over, you will see the LP marking. The long end goes into the regulator to set it for LP.

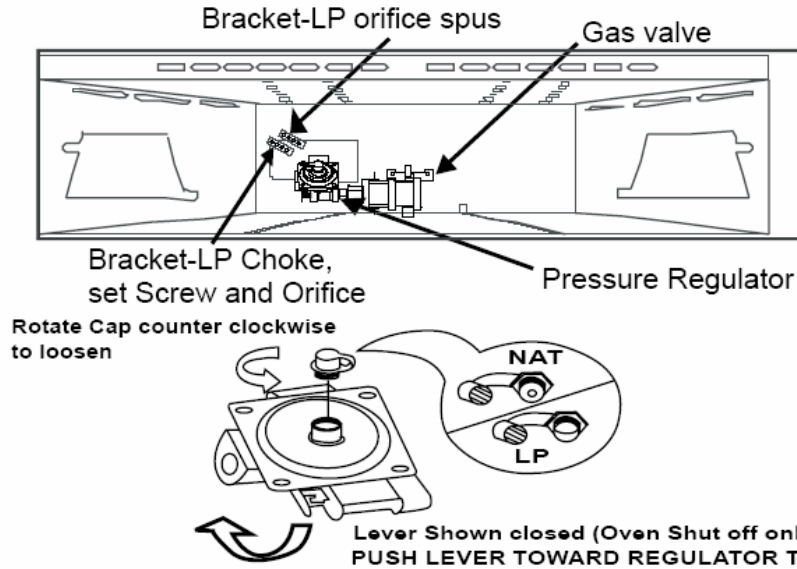
CONVERT THE SURFACE ORIFICES (SPUDS)



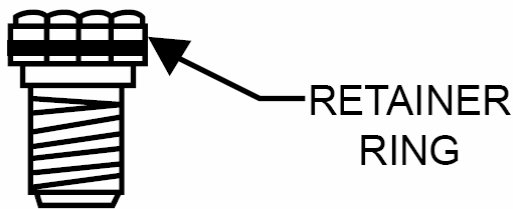
LP orifice spuds are located at the back of the warming drawer compartment. The spuds are in a metal bracket next to the pressure regulator and are attached to the back wall of the compartment by a 1/4" hex head screw.

An LP conversion instruction sheet is also located in this area.

(See drawing, next page.)

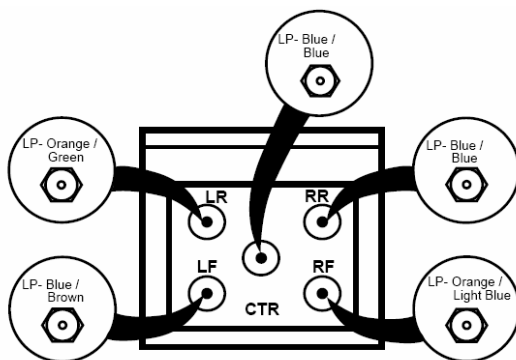


Remove the grates, burner caps, and burner heads. Then remove the brass orifice (spud) in the chimney of each burner using a $\frac{9}{32}$ " (7 mm) wrench or nut driver.



NOTE:

The orifices have spring-loaded retaining rings around the hex head to hold the orifice in the nut driver during installation and removal. A slight amount of force is required to push the nut driver down over the ring.



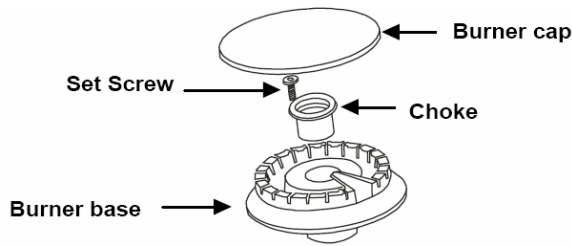
Install the LP orifice spuds into their correct positions as described as follows. A mark (I, II, or III) is engraved on the top of the orifice to denote the location of the orifice as shown in the illustration.

The marks appear on both the LP and Natural Gas orifices. The locations indicated by the marks are the same for both gasses.

The LP orifices are color coded as well as marked with an L and the orifice size.

RIGHT FRONT	10,000 BTU	Orange/Light Brown
LEFT FRONT	9,500 BTU	Blue/Brown
LEFT REAR	9,100 BTU	Orange/Green
RIGHT REAR	5,000 BTU	Blue/Blue
CENTER	5,000 BTU	Blue/Blue

To prevent leakage, make sure the orifices (spuds) are securely screwed into the gas supply tubes.



For the extra large burner (right front), the choke and self threading screw will be needed. Insert the choke into the burner base, then insert the set screw into the burner base and tighten securely. Make sure the screw head is against the shoulder (within the choke notch), so it does not have any rotational movement.

Replace the old natural gas spuds in the bracket and replace it on the back of the range in the event the range must be reverted to natural gas in the future.

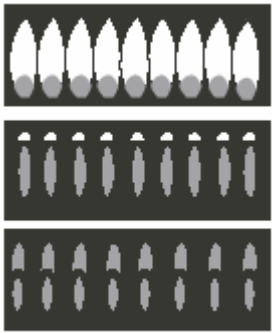
CONVERT THE BAKE and BROIL ORIFICES

Remove oven door, warming drawer and oven bottom. The oven burner orifice hood is located behind the warming drawer. The broil burner orifice hood is located on the right upper corner of the oven cavity.

To convert to LP, use a ½" wrench to turn the orifice hoods clockwise until it is snug with the base, approximately 2 ½ turns. To prevent damage when converting back to Natural Gas, do not over tighten the hood.

Open the air shutter on the burners to the full open position and adjust as needed. (See page 28.)

CHECK THE FLAME QUALITY

	<p>(A) Yellow Flames Further Adjustment Required</p> <p>B) Yellow tips on outer cones Normal for LP Gas</p> <p>(C) Soft Blue flames Normal for Natural Gas.</p>
---	--

Note!

If burner flames look like **A**. Further air shutter adjustment is required. Normal burner flames should look like **B** or **C**, depending on the type of gas you use. With LP gas, some yellow tipping on the outer cones is normal.

The broil burner will cycle off when the sensor temperature reaches 460°F (238°C) set on Lo Broil, and at 570°F (299°C) set on Hi Broil.

Upon completion of the conversion, fill out the LP sticker located with the instructions. Once complete, apply the sticker to the back of the range near the regulator. If converting back to natural gas from LP, remove the LP sticker from the back of the range.

OVEN CALIBRATION

Testing has shown that this oven has the best cooking performance at a control setting of 350°F (177°C) when the average center oven temperature is between 350°F and 390°F (177°C and 199°C). Customers may change the average center oven temperature by $\pm 35^\circ\text{F}$ ($\pm 2^\circ\text{C}$) to satisfy their own cooking needs.

To recalibrate the oven:

Touch the **BAKE** and **BROIL HI/LO** pads simultaneously and hold for 3 seconds until the display shows **SF**. Touch the **BAKE** pad. A number shows in the display. Touch **BAKE** once to decrease (–) the oven temperature, or twice to increase (+). The oven temperature can be adjusted up or down as much as 35°F (2°C). Touch the number pads the same way you read them. For example, to change the oven temperature 15°F, touch **1** and **5**. When you have made the adjustment, touch the **START** pad to go back to the time of day display.

Note!

The thermostat adjustment for baking will also affect Convection Baking or Convection Roasting. This adjustment will not affect the broiling or the self-cleaning temperatures. The adjustment will be retained in memory after a power failure.

LOCK MOTOR and LATCH SWITCH CIRCUIT

The lock motor circuit and the door latch switch circuit control the locking and unlocking of the door.

The lock motor is energized when the **SELF CLEAN** cycle is initiated with the door closed. The lock motor circuit applies voltage (120 V_{AC}) to the lock motor. This circuit is from the motor door lock relay (MDL location on ERC), to the lock motor, through the door switch to neutral.

For this circuit to be complete, the lock motor circuit must be energized by the ERC and the door must be closed. An open oven door results in **LOCKED** flashing in the display and alarm sounding after the control has been programmed for clean and **START** has been selected.

The door latch switch circuit signals the control if the lock motor is in the unlocked or locked position or somewhere in between (transition). There are two latch switches operated by the cam located below the lock motor.

The door latch switch circuit is from the ERC, through one of the latch switches (switch 1 for unlocked or switch 2 for locked) back to the ERC. If neither switch is closed, and the oven temperature is below 450°F (232°C) the ERC will energize the lock motor circuit until the correct switch closes to complete the circuit. (If circuit to the correct switch is open, the lock motor will run continuously with the oven below 450°F (232°C).

The cam on the motor performs two functions:

- Positions the lock hook in the door to prevent opening during the **CLEAN** operation.
- Operates the latch switches which tell the control if the door is unlocked or locked and ready for **CLEAN** operation.

Note! When the door is either being locked or unlocked, both latch switches will be in the open position.

The movement of the cam has also closed lock switch 2 which signals the control that the door is locked. The control then removes power from the lock motor circuit by de-energizing the lock relay. The lock motor stops and lock switch 2 is held closed by the cam through the clean cycle. The word **LOCKED** stops flashing and remains illuminated in the display. The word **ON** remains illuminated in the display. During the Clean Cycle, the oven will cycle to maintain an average clean temperature of 815° F (435° C).

CLEAN and LOCK SEQUENCE

Programming the Clean Cycle:

Press **SELF-CLEAN** pad. 4 hours and 20 minutes (**4:20**) appears on the time display. (Cleaning time can be changed from the 4 hour and 20 minute starting point by pressing the **SELF-CLEAN** pad a second time.)

After **START** has been pressed, the word **ON** illuminates in red and the word **LOCKED** flashes to indicate the cycle has begun.

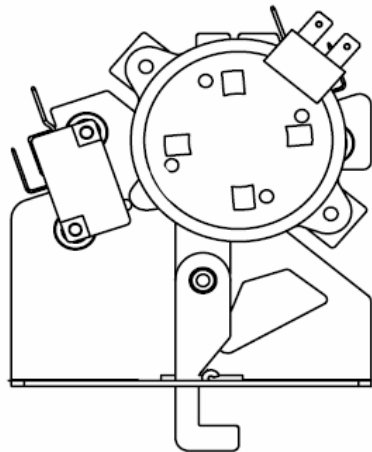
Locking the Door:

After programming the clean cycle and pressing **START** pad, the control energizes the lock relay. Voltage (120 VAC) is applied to the lock motor circuit. Oven door must be closed before lock motor can run. **LOCKED** will flash and control will beep until the door is closed.

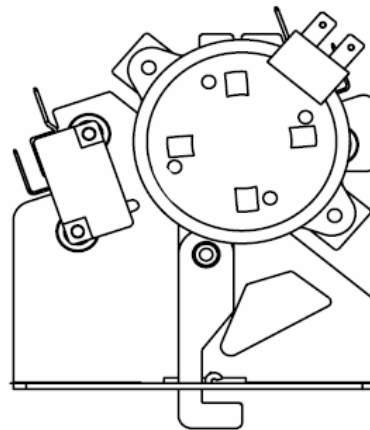
The lock motor begins to revolve and turns a cam mounted to the motor shaft.

The word **LOCKED** will flash on and off on the display while the lock motor is in motion.

Door Unlocked



Door Locked



As the cam revolves about $\frac{1}{2}$ revolution (approximately 12 seconds), it has moved the lock hook into a corresponding slot in the oven door which secures the door.

The words **LOCKED** and **ON** with the clean cycle time remaining will be displayed.

SERVICE TEST MODE

The sealed burner 30" gas range has a service test mode that can be utilized by the service technician in order to test certain oven components or functions. The selected components or functions will help the service technician to quickly identify failed or improper operation of the range.

Caution! Testing is accomplished through built-in test procedures. Unplugging components for testing can damage component connections.
The range must be powered down (unplugged) before entering the test mode.

Test Mode Entry:

1. Unplug the range for a minimum of **15** seconds.
2. Power up the range (all segments in the display and the control panel selections illuminate), and wait until the time of day is flashing.
3. Touch **COOK TIME**, **DELAY START**, and **8** simultaneously. The display will show the **TEST** on the convection model or **SAVE** on the non-convection model.

Note! The test will time out in approximately 4½ minutes. Repeat the test mode entry sequence to continue.

See **TEST MODE CHART**, next page.

TEST MODE CHART

Component/Function	Action
SENSOR	Touch COOK TIME . The display will show the sensor temperature in the temperature digits.
BAKE	Touch BAKE then hold START . The START key will initiate the bake cycle as long as it is held.
BROIL	Touch BROIL HI/LO then hold START . The START key will initiate the broil cycle as long it is held.
CONV. FAN LO SPEED	Hold the CONV. ROAST key. The fan will operate at low speed in a clockwise direction with door shut as long as the CONV. ROAST key is held.
CONV. FAN HI SPEED	Hold the CONV. BAKE key. The fan will operate at high speed in a clockwise direction with door shut as long as CONV. BAKE key is held.
SELF-CLEAN	Hold the SELF-CLEAN key. This action will energize the Door Motor relay, and display the door inputs in select decimal format in the temperature center digit. 0 = Transition - Locked icon blinks 1 = Unlocked - No icon 2 = Locked - Locked icon solid
WARMING DRAWER	Touch WARMING DRAWER SET/OFF then hold START . The START key will initiate the warming drawer cycle as long as it is held.
PROBE	Touch PROBE . The display will show 99°F with the probe out (or the actual probe temperature with the probe plugged in), and the word PROBE .
CLOCK	Touch CLOCK . The display will show a defined pattern.
START	Touch START . The display will show ON and flash SET word (unless a relay type has been previously touched)
DIGITS	Touch any number. That number will be displayed.

FAILURE CODES

The oven may stop operating but not give an **F-code** on the display immediately. Generally, a fault must exist continuously for 5 minutes before an F code is recorded (**F2** is sooner). **F-codes** are stored in non-volatile EEPROM memory until the same fault occurs twice consecutively. After that, the **F-code** will be displayed. F codes can be recalled by pressing together **TIMER, CLOCK, 9**.

F-CODE	MEANING	RESOLUTION
F0	CLEAR/OFF key input failure	Short for approximately 100 seconds
F1	Control failure	Loss of element relay redundant driver protection
F2	Oven temperature condition due to sensor input to control	Oven above 615°F with lock input untrue. Oven above 915°F with lock input true.
F3	Open sensor	Sensor is 2900 to infinite ohms while in a heating mode.
F4	Shorted sensor	Sensor is 0 to 950 ohms maximum while in a heating mode.
F6	START key input failure	Shorted START key detection
F7	Shorted key detection except for slew entry and CLEAR/OFF keys	Short for approximately 40 seconds
FC	Door latch error	Unlock home and lock home are true simultaneously
FD	Probe failure	Shorted probe
FF	Control failure	Loss of door motor redundant driver protection

Multiple fault codes may be displayed. The latest fault code will appear on the right of the display. While **F-codes** are displayed, pressing **8** and **6** simultaneously will clear the codes from the memory. Clear the fault code after the failure has been corrected.

KEY PANEL TEST

The key panel and ERC are separate components but must be tested together. Press each pad on the key panel followed by the **START** pad. If the key panel is functioning properly, the following should occur:

BAKE, CONV. BAKE, CONV. ROAST, BROIL HI/LO, COOK TIME, DELAY START, WARMING DRAWER SET/OFF, SELF CLEAN, CLOCK, TIMER ON/OFF, and CONTROL LOCKOUT Modes –

- Audible tone plus display showing mode of operation selected.

CLEAR/OFF - Audible tone and display shows time of day.

PROBE - Audible tone and response if meat probe is plugged in

NUMBERS - Audible tone.
(Can be used only after another function has been selected.)

WARMING DRAWER PERFORMANCE

The operation of the warming element is controlled by user settings and the ERC. One of three warming drawer heat settings can be selected. After a pre-determined timed preheat period, cycling of the element is controlled by the ERC with a four-minute duty cycle.

Setting	Preheat Time On	Duty Cycle On Time	Duty Cycle Off Time	Target Temp
1 (LOW)	900 seconds	144 seconds	96 seconds	200° F (93° C)
2 (MED)	1,200 seconds	192 seconds	48 seconds	250° F (121° C)
3 (HIGH)	60 seconds	Constant ON	0 seconds	284° F (140° C)

OVEN SELF-CLEAN OPERATION

The broil burner heats the oven to approximately 775°F (413°C). After 775°F (413°C) is reached, only the bake burner maintains clean temperature of approximately 815°F (435°C) center temperature. The convection fan does not operate in the clean cycle.

CONVECTION FAN OPERATION

The convection fan is operated by a 2-speed non-reversing motor. The fan motor operates on **low** speed during convection bake and on **high** speed during convection roast.

The convection fan does not operate during preheat or self-clean.

PARTS LIST

Loc #	Part No	Description
1	EBZ37171902	USE & CARE MANUAL
1	EBZ37171903	CONVERSION KIT ASM
1	EBZ37171904	INTALLATION INSTRUCTIONS
1	EBZ37171905	PM MINI MANUAL/ELEC. DIA
2	EBZ37189603	LG KNOB ASSEMBLY
3	EBZ37188201	ORIFICE-LP MED .89MM LF
3	EBZ37188202	ORIFICE-LP SM RR/CENTER
3	EBZ37188203	ORIFICE SPUD (VIS) LR
3	EBZ37188204	ORIFICE SPUD LP RF
4	EBZ37170505	ECONOMIC NUT
5	EBZ37169819	PANEL MANIFOLD SLD
8	EBZ37170506	SCREW 8-32
9	EBZ37169801	BOX BURNER SP
10	EBZ37184501	CKT BRACKET SM
11	EBZ37184502	CKT BRACKET MID
12	EBZ37170001	SW VALVE SERVICE 270 2WI
12	EBZ37170002	SW VALVE SERVICE 270 1WI
13	EBZ37184503	CKT BRACKET LG
14	EBZ37170201	MANIFOLD PIPE
15	EBZ37170601	VALVE BURNER 270 9100
15	EBZ37170603	VALVE BURNER 270 HI-CAP
15	EBZ37170604	VALVE BURNER 270 11000
15	EBZ37170605	VALVE BURNER 2700
16	EBZ37184504	BRACKET COOKTOP XL
18	EBZ37170602	COVER VALVE
20	EBZ37186401	ORIFICE HOLDER ASM
21	EBZ37170501	SCR 8 HD 10-32
21	EBZ37170502	SCR 12-24 UNC
22	EBZ37186402	ORIFICE HOLDER ASM
23	EBZ37186403	ORIFICE HOLDER ASM
24	EBZ37186404	ORIFICE HOLDER ASM

Loc #	Part No	Description
25	EBZ37186405	ORIFICE HOLDER ASM
26	EBZ37170204	BURNER BAKE
27	EBZ37171702	TUBE BURNER SUPPLY
28	EBZ37170503	SCREW MTG IGNITER
28	EBZ37170504	SCREW MTG IGNITER
29	EBZ37171101	ELBOW HI BROIL
30	EBZ37170202	BURNER BROIL
32	EBZ37170203	INSULATION BURNER BOX
37	EBZ37169807	COVER IGNITER
42	EBZ37169802	COVER BURNER BOX
43	EBZ37191706	TEMPERATURE SENSOR
88	EBZ37170805	PAD FELT (WH)
92	EBZ37170514	SCREW GROUND
100	EBZ37191510	END SUPPORT RT
100	EBZ37191511	END SUPPORT LF
104	EBZ37191508	GLASS AND TRIM ASM
105	EBZ37191708	CONTROL GLASS TOUCH
106	EBZ37191502	COVER BACK UPPER
107	EBZ37191503	COVER BACK LOWER
108	EBZ37170516	SCR 8-18 AB HXW 5/8 S
108	EBZ37170517	SCREW (CR)
108	EBZ37170518	SCR 8-18 AB PHR 1/2 S
108	EBZ37170519	SCR 8-18 AB PHR 1/2 S
110	EBZ37191705	SPARK MODULE 5 0
111	EBZ37191702	HARNESS MODULE
111	EBZ37191703	HARNESS HV
112	EBZ37170804	HINGE RANGE TOP
113	EBZ37191905	GRATE LF
114	EBZ37169820	RANGETOP & BRKT ASM
115	EBZ37191909	GRATE
116	EBZ37191908	GRATE RT
117	EBZ37170802	PIN LOCATOR

Loc #	Part No	Description
118	EBZ37170801	PIN LOCATOR
121	EBZ37170520	SCREW
121	EBZ37170521	SCREW
122	EBZ37170522	SCREW CKTP
146	EBZ37169809	CLIP RANGETOP
150	EBZ37192709	CAP-BURNER MED (GRAY)
151	EBZ37192710	CAP-BURNER SMALL (GRAY)
152	EBZ37192711	CAP-BURNER LARGE (GRAY)
153	EBZ37192712	CAP BURNER ASM (15K)
154	EBZ37170523	ELECTRODE TOP
155	EBZ37192705	BURNER-SMALL
156	EBZ37192706	BURNER LARGE (12000)
157	EBZ37192707	VISION BURNER XL
159	EBZ37192708	BURNER MEDIUM (9500)
168	EBZ37169813	CLIP-ELECTRODE
169	EBZ37169814	VENTURI 15K LP
170	EBZ37170524	SCREW WH
170	EBZ37170525	SCREW WH
171	EBZ37191709	HARNESS INTERFACE
200	EBZ37193001	RACK OVEN
201	EBZ37193002	RACK BROILER PAN
202	EBZ37193003	PAN BROILER
203	EBZ37191707	LINE CORD
204	EBZ37170509	SCREW (BLK)
204	EBZ37170510	SCREW 8-18X5/8 HXW
204	EBZ37170513	SCREW 8-18X5/8 HXW
205	EBZ37170511	COVER BACK PANEL
206	EBZ37170507	SCREW
207	EBZ37170512	CLAMP CABLE
208	EBZ37197005	RANGE BACK
209	EBZ37197006	PANEL SIDE (WH)
210	EBZ37197004	BOTTOM OVEN ASM

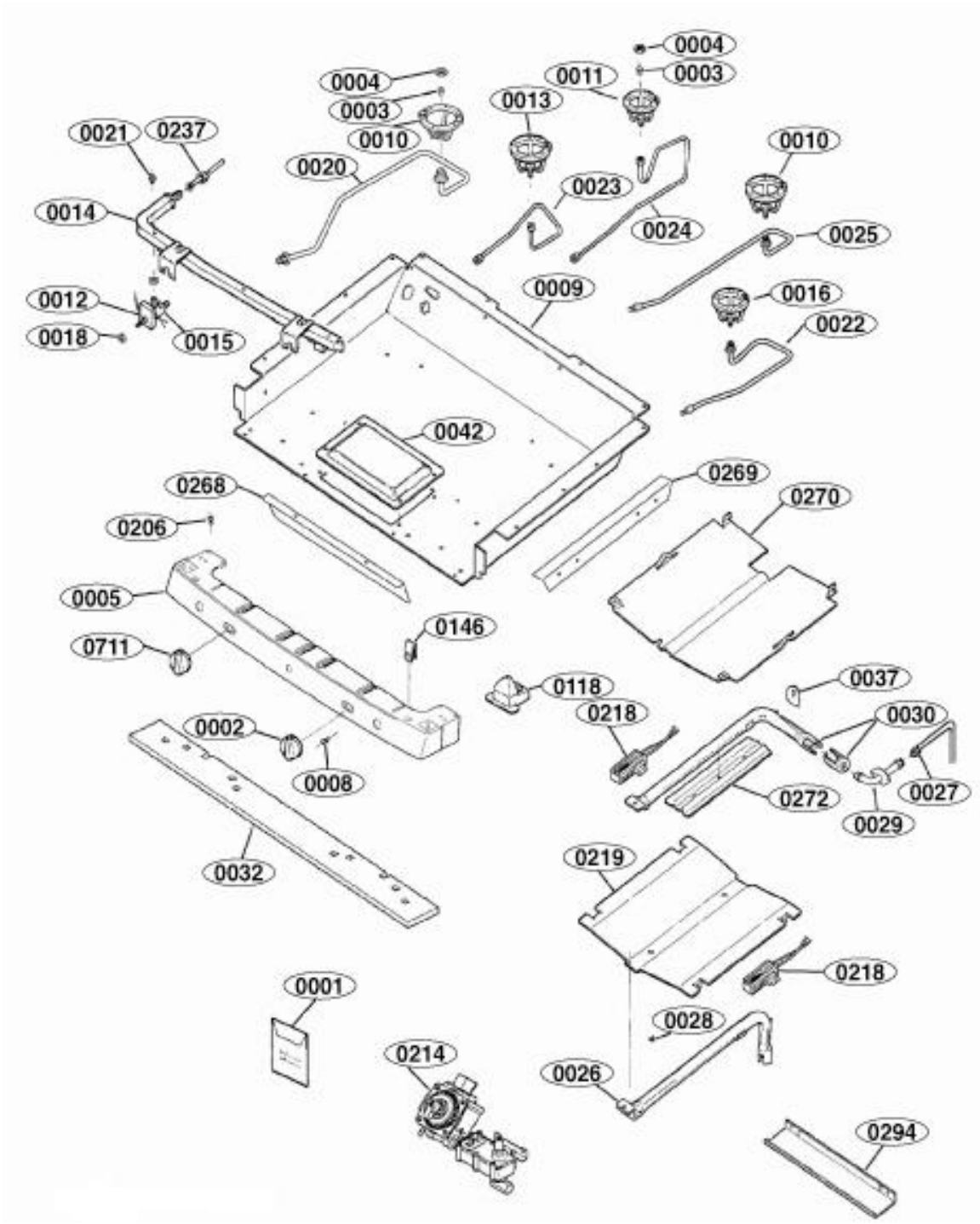
Loc #	Part No	Description
211	EBZ37170515	BOTTOM OVEN SCREW
212	EBZ37169815	SPEEDNUT
213	EBZ37169816	NUT SPEED
214	EBZ37171801	DUAL COMBI ASSY
218	EBZ37171601	IGNITER GLOWBAR
218	EBZ37171602	IGNITER GLOWBAR
219	EBZ37169806	FLAME SPREADER
220	EBZ37169817	GROMMET
221	EBZ37171603	HEATING ELEMENT
222	EBZ37197401	HINGE ASM GUIDE
223	EBZ37197402	PIN HINGE DOOR
224	EBZ37197403	RING RETAINING
226	EBZ37197404	HOOK DOOR SPRING
227	EBZ37197405	SPRING DOOR
228	EBZ37197501	CLIP WIRE
229	EBZ37198002	HOUSING RECEPTACLE
230	EBZ37198001	PUSH-IN RECEPTICLE
231	EBZ37213201	ARM ANTI TIP
232	EBZ37213202	BRACKET ASM ANTI-TIP
233	EBZ37198003	SWITCH PLUNGER
235	EBZ37198004	OVEN LAMP
235	EBZ37213207	OVEN LAMP
236	EBZ37213203	SPACER BASE
237	EBZ37171701	TUBE MANIFOLD SUPPLY
238	EBZ37213204	SPACER BASE
238	EBZ37213205	SPACER BASE
239	EBZ37213206	PANEL REAR BROIL
240	EBZ37213208	PANEL SIDE BROIL RT
240	EBZ37213209	PANEL SIDE BROIL LFT
241	EBZ37213210	BOTTOM RANGE
242	EBZ37213211	BRACE BOTTOM

Loc #	Part No	Description
243	EBZ37213212	BASE SUPPORT RT
243	EBZ37213213	BASE SUPPORT LF
245	EBZ37213214	LEG LEVELER
246	EBZ37213215	FRONT FRAME ASM
247	EBZ37213216	OVEN TOP
248	EBZ37213217	OVEN SIDE RIGHT
249	EBZ37213222	OVEN SIDE LEFT
250	EBZ37213223	OVEN BACK
251	EBZ37213220	CLAMP-HEAT ELEMENT
253	EBZ37213221	COVER ACCESS SPRING
254	EBZ37197406	SCREW MTG HINGE (TORX)
254	EBZ37197407	SUPPORT RIVET LFT
254	EBZ37197408	SUPPORT RIVET RT
256	EBZ37214101	GASKET VENT
257	EBZ37214102	VENT ASSEMBLY
258	EBZ37214103	BRACE VENT
259	EBZ37197701	SLIDE & BEARING ASM RT
259	EBZ37197702	SLIDE & BEARING ASM LF
260	EBZ37214104	GASKET OVEN SEAL LG
261	EBZ37214105	INSULATION OVEN WRAP
262	EBZ37214122	INSULATION OVEN BACK
268	EBZ37169810	DEFLECTOR THERMOSTAT
269	EBZ37169803	DEFLECTOR SIDE
270	EBZ37169804	OVEN DEFLECTOR
272	EBZ37169805	SHIELD BROIL
273	EBZ37214107	GUARD INSUL. OVEN RIGHT
273	EBZ37214108	GUARD INSULATION LEFT
274	EBZ37214109	SCREW LATCH
275	EBZ37192904	GLASS OVEN LAMP
275	EBZ37198005	GLASS OVEN LAMP
276	EBZ37198006	BAIL

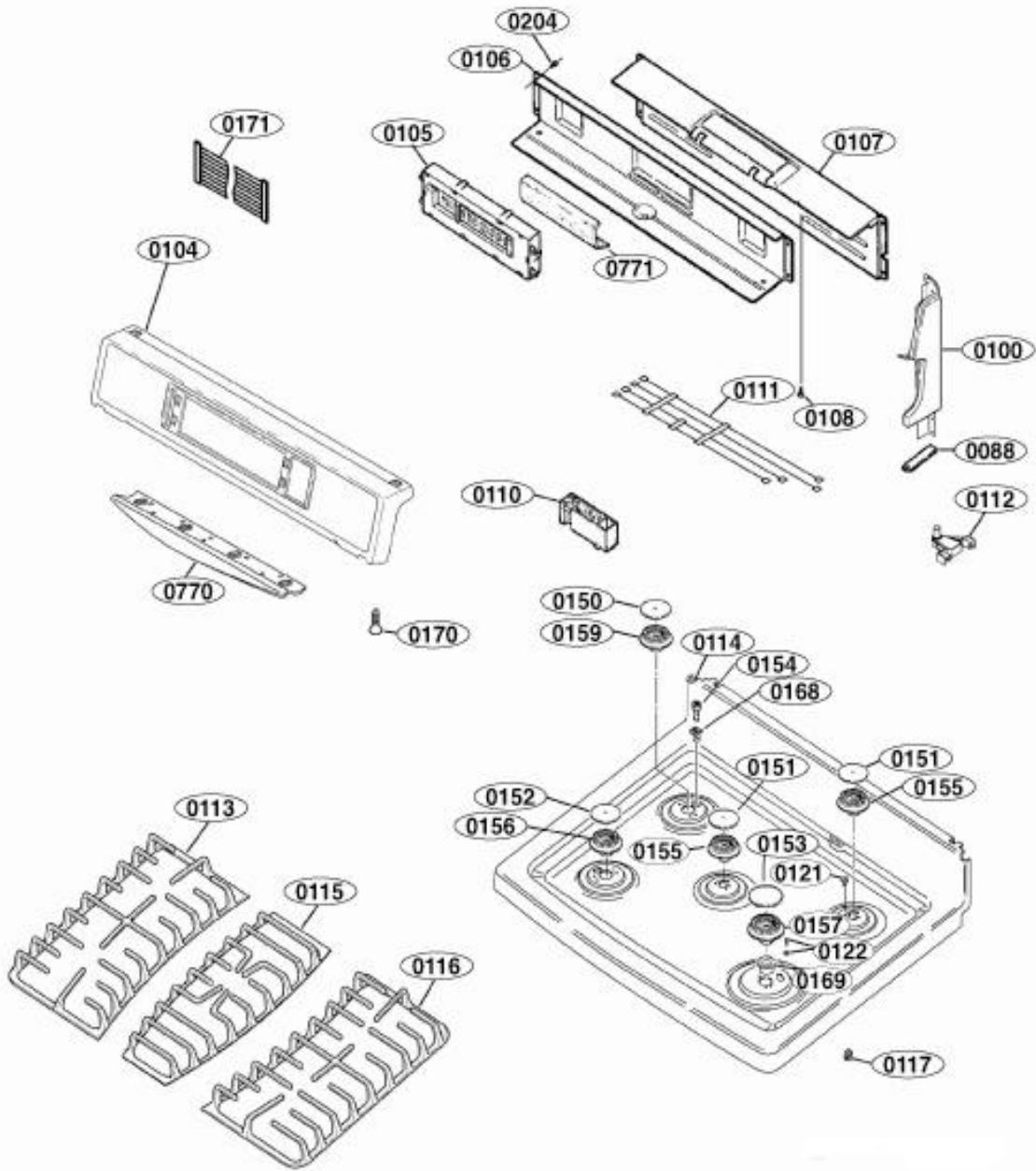
Loc #	Part No	Description
277	EBZ37198007	GASKET OVEN LIGHT
278	EBZ37214110	GUARD TOP INSULATION
279	EBZ37171802	ONE SWITCH MOTOR LACTH
283	EBZ37214111	CLIP CABLE
284	EBZ37214112	BOTTOM OVEN BRACKT SUPPO
287	EBZ37214113	BAFLE
288	EBZ37214114	BRACE BOTTOM
289	EBZ37214115	LOWER HEAT SHIELD
290	EBZ37214116	SHIELD RADIATION
291	EBZ37214117	GUARD BOTTOM
292	EBZ37214118	BOTTOM INNER GUARD
293	EBZ37214119	GUARD BOTTOM MIDDLE
294	EBZ37169808	COVER TERMINALS
295	EBZ37192902	INSULATION VENT
296	EBZ37214120	SHIELD HEAT INNER
299	EBZ37214121	CLIP WIRE
300	EBZ37215101	BODY-DRAWER
306	EBZ37215126	PANEL DRAWER
312	EBZ37215103	WASHER CONTOURED
312	EBZ37215113	WASHER CONTOURED
314	EBZ37215127	GLASS DOOR
315	EBZ37215105	LINER ASM WELD DOOR
317	EBZ37215129	VENT TRIM
318	EBZ37215107	GASKET ASM DOOR
322	EBZ37215131	TRIM DOOR RIGHT (WH)
322	EBZ37215132	TRIM DOOR LEFT (WH)
323	EBZ37215119	SUPPORT HANDLE
327	EBZ37215110	SPEEDNUT
329	EBZ37215111	SCREW NAIL POINT
329	EBZ37215123	SCREW NAIL POINT

Loc #	Part No	Description
330	EBZ37215112	REFLECTOR 9.5 INCH
330	EBZ37215124	REFLECTOR 9.5 INCH
332	EBZ37215114	INSULATION SIDE DOOR
332	EBZ37215115	INSULATION BOTTOM DOOR
338	EBZ37215116	WINDOW PACK KIT LG
339	EBZ37215117	GUARD INSULATION
340	EBZ37215118	PANEL ASM WELD INNER
343	EBZ37215120	SLIDE INTERNAL
344	EBZ37215121	BRACKET MOUNTING DRAWER
345	EBZ37215122	LINER DRAWER
354	EBZ37215601	SCREW 10-32 MTG HNDL
359	EBZ37215611	TRIM BOTTOM DOOR (WH)
360	EBZ37215602	SEAL DRAWER
361	EBZ37215603	SCREW
365	EBZ37215614	HANDLE
366	EBZ37215605	SCREW - DOOR ASM (4 PER)
375	EBZ37215606	PANEL DRAWER SPACER
375	EBZ37215607	BRACKET DOOR
400	EBZ37215608	WINDOW SPACER ASM
461	EBZ37215701	SCREW
700	EBZ37214901	RETAINER-INSULATION VENT
703	EBZ37214902	BRACKET OVEN CORNER
709	EBZ37214903	RETAINER INSULATION LAMP
711	EBZ37189605	LG KNOB ASSEMBLY
770	EBZ37191512	EYEBROW
771	EBZ37192901	CONTROL INSULATION
780	EBZ37192903	DIFFUSER VENT

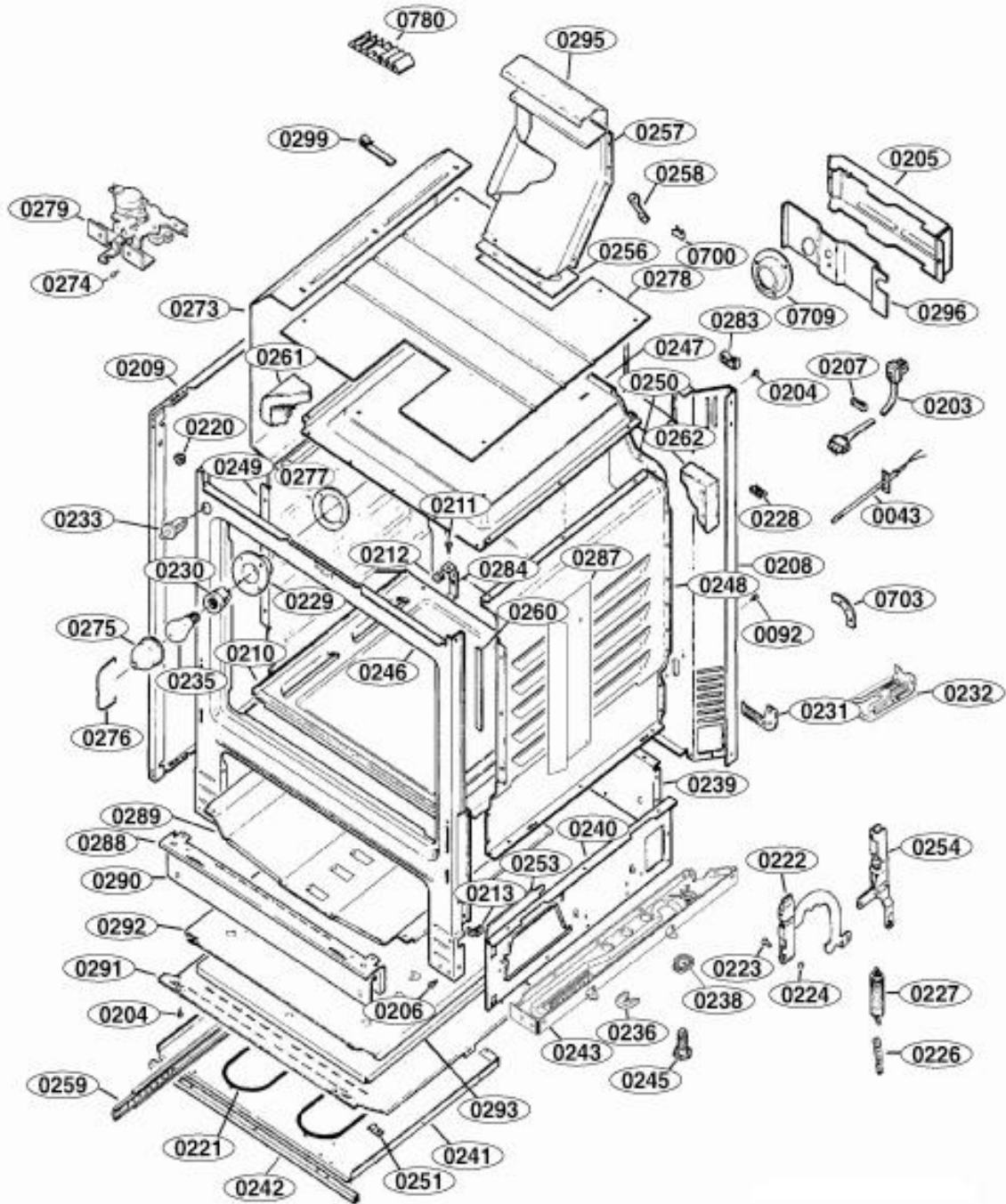
EXPLODED VIEW



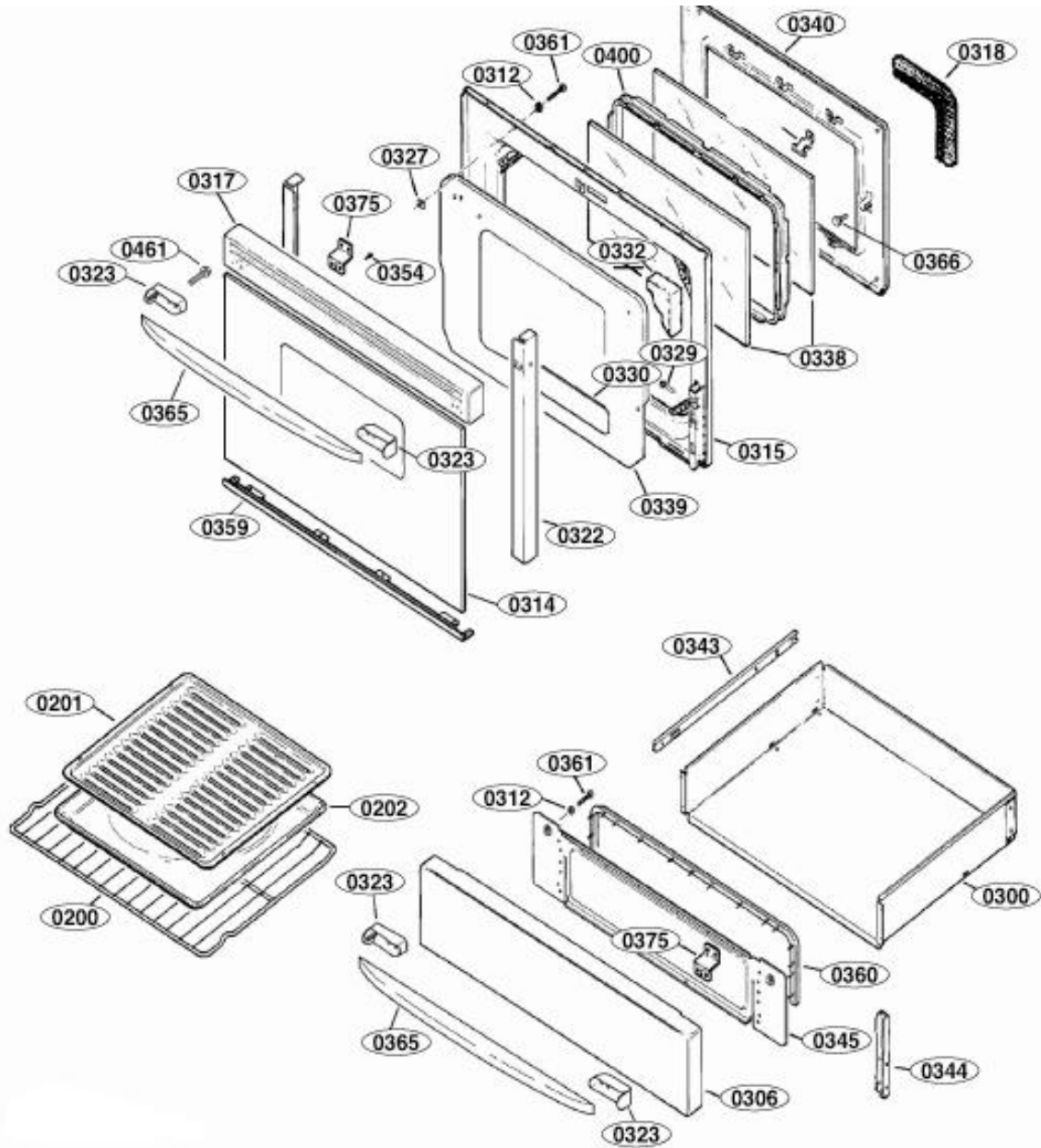
EXPLODED VIEW



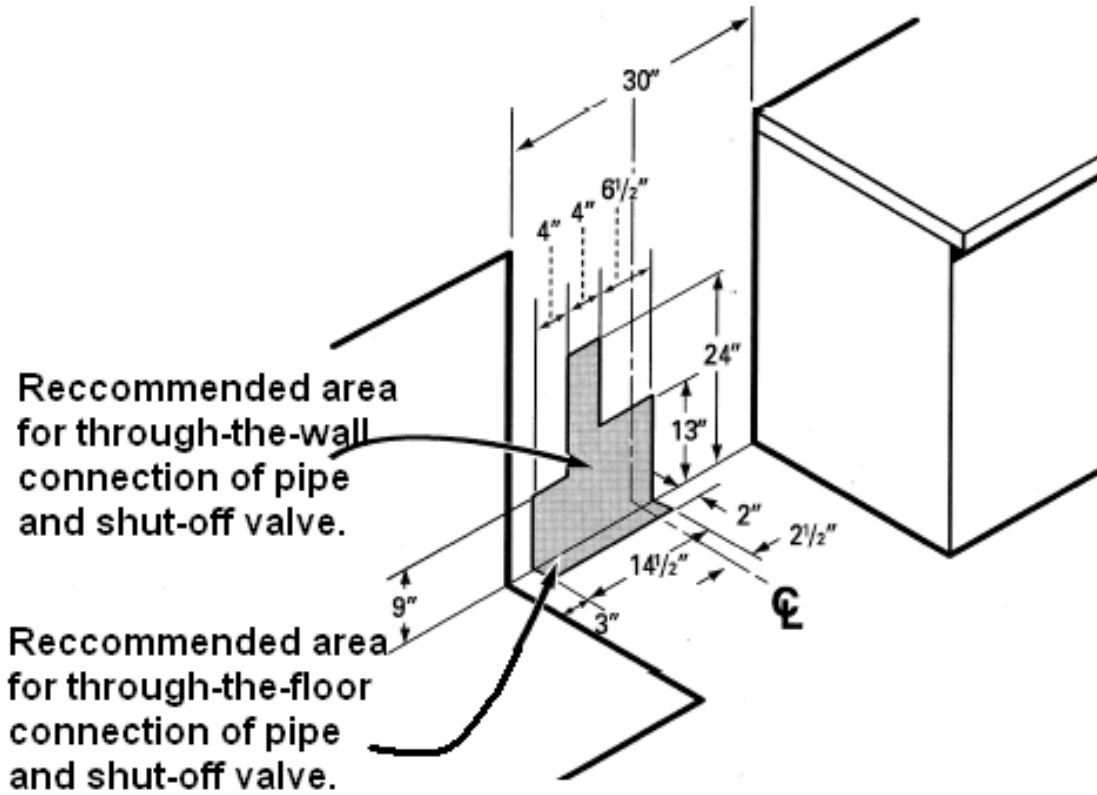
EXPLODED VIEW



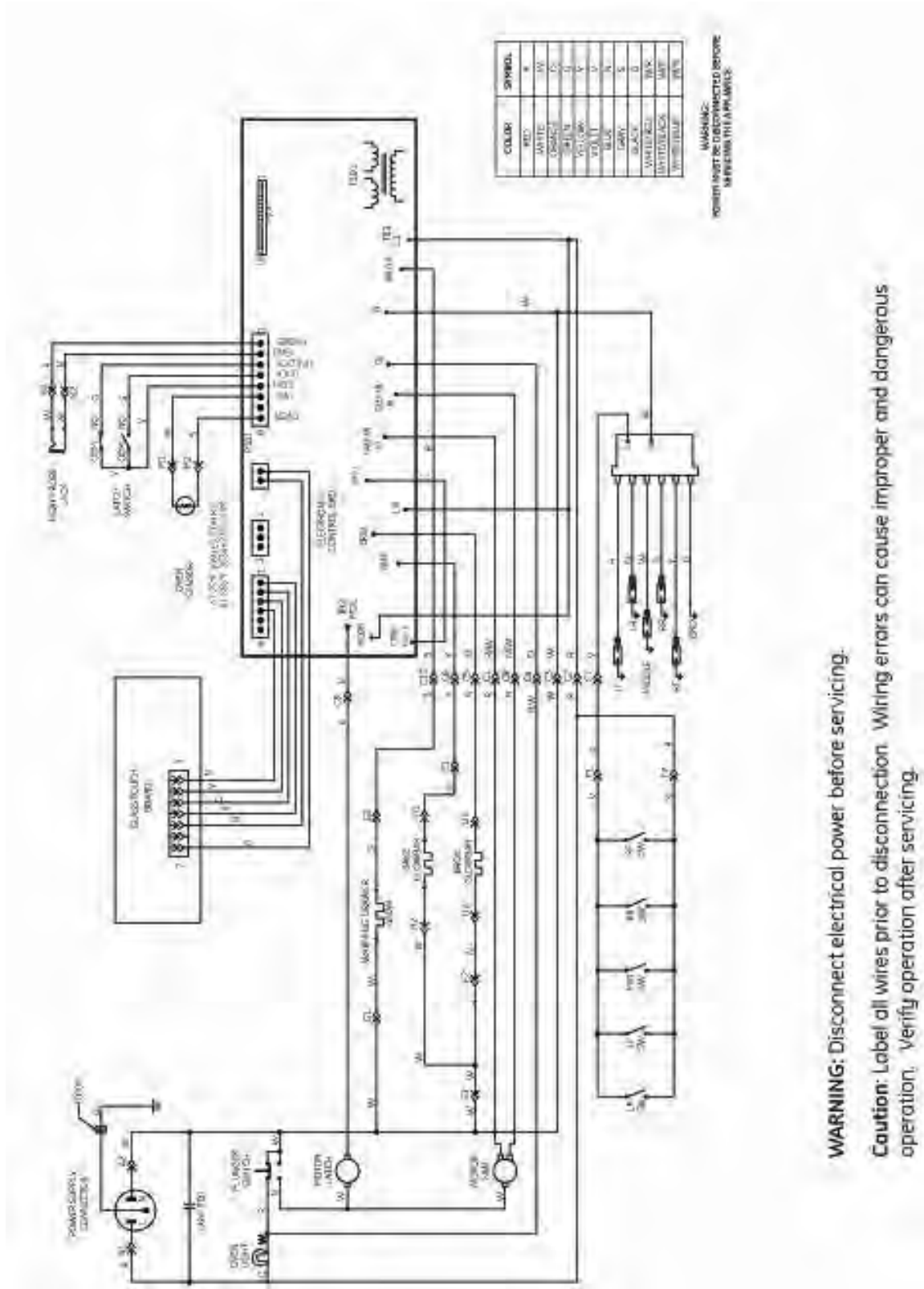
EXPLODED VIEW



INSTALLATION DIMENSIONS



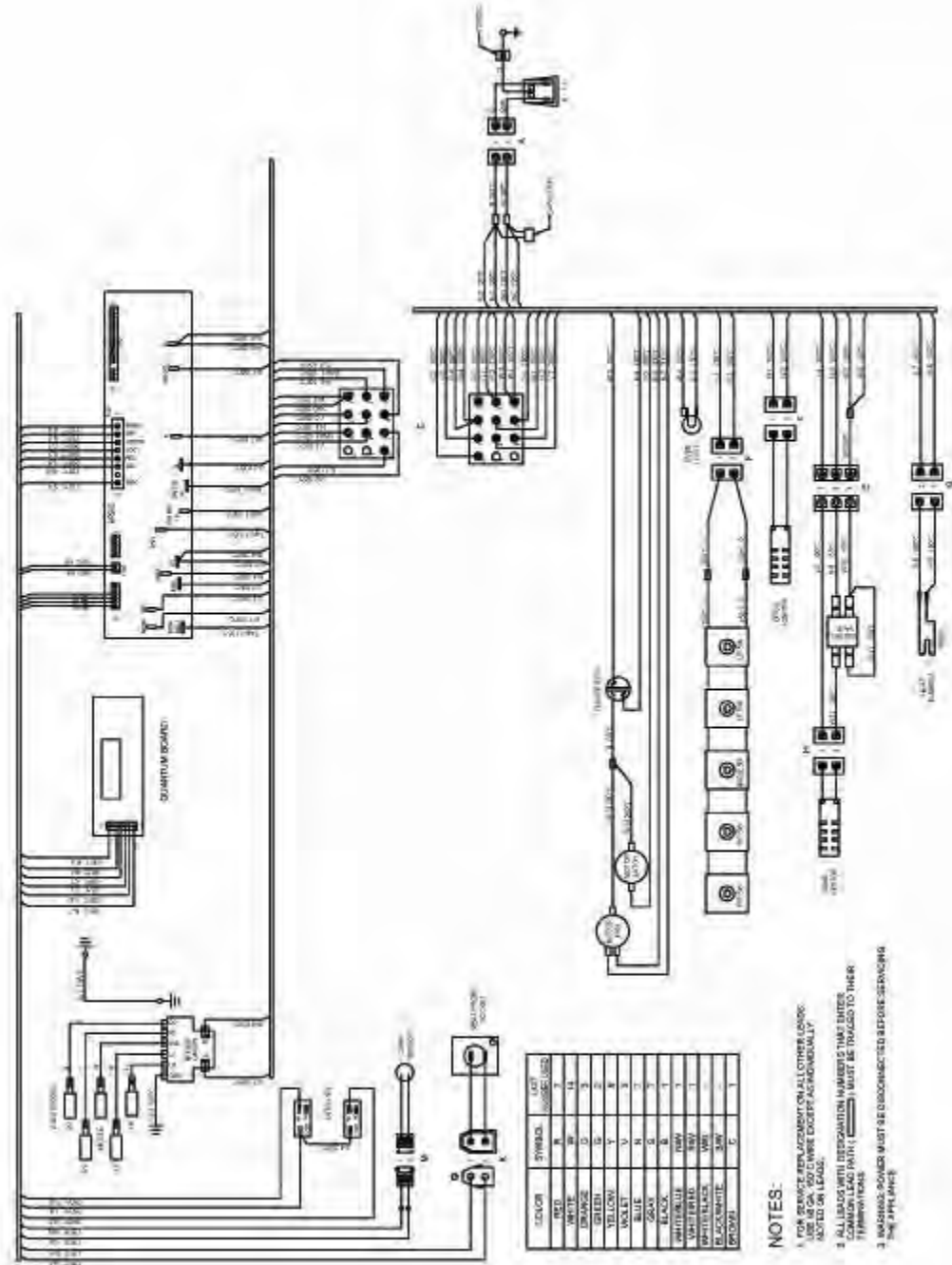
SCHEMATICS AND WIRING DIAGRAMS



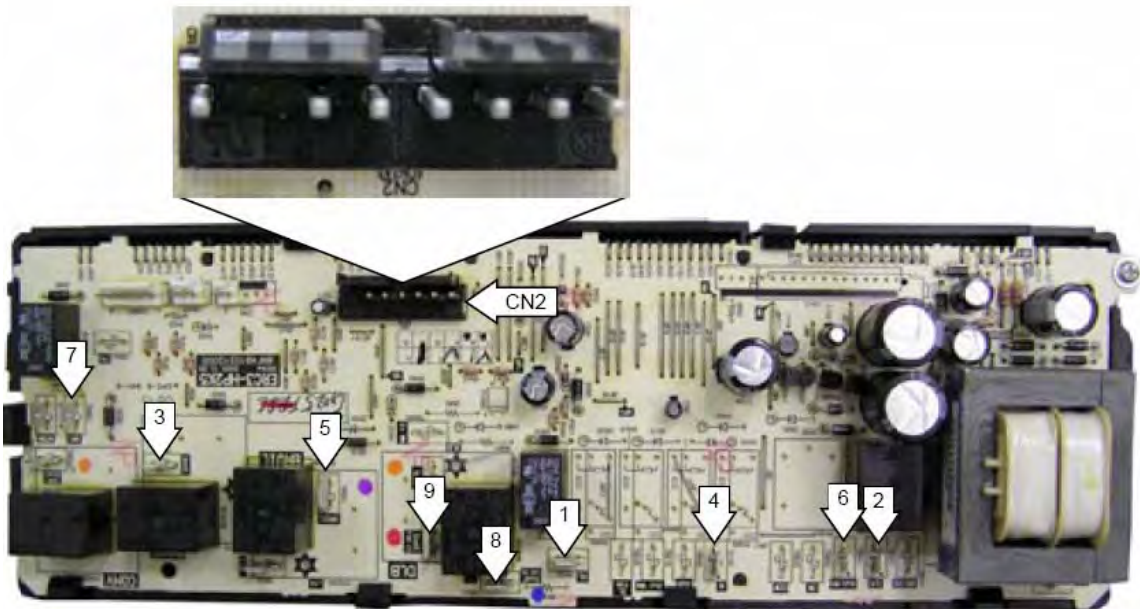
WARNING: Disconnect electrical power before servicing.

Caution: Label all wires prior to disconnection. Wiring errors can cause improper and dangerous operation. Verify operation after servicing.

SCHEMATICS AND WIRING DIAGRAMS



ERC TEST LOCATIONS



TEST POINTS

1. Oven light
2. Line
3. Bake
4. Neutral
5. Broil
6. Warming drawer
7. Lock motor
8. Convection Fan High
9. Convection Fan

CONNECTOR 2

- Pin 1 Probe
- Pin 2 Ground
- Pin 3 Unlock (Latch switch #1)
- Pin 4 Lock (Latch switch #2)
- Pin 5 Common
- Pin 6 VDD (Sensor)
- Pin 7 Blank
- Pin 8 Oven (Sensor)

COMPONENT RESISTANCE TEST MEASUREMENTS

COMPONENT	TEST LOCATION	CONDITIONS	RESISTANCE
Oven light	OL to L1	None	25Ω
Bake ignitor	Bake to N	None	124Ω*
Broil ignitor	Broil to N	None	164Ω*
Warming element	WD OUT to N	None	32Ω
Latch motor	MDL to N	Door Closed	1.97KΩ
Fan motor high speed	GAS F Fan HI to N	Door Closed	19Ω
Fan motor low speed	GAS S Fan LO to N	Door Closed	25Ω
Oven sensor	CN2-6 to CN2-8	CN2 disconnected**	1.1KΩ @ room temp
Latch switch 1	CN2-3 to CN2-5	Door unlocked	0Ω
		Door locked, CN2 disconnected	open
Latch switch 2	CN2-4 to CN2-5	Door locked	0Ω
		Door unlocked, CN2 disconnected**	open
Door switch***	OL to N	Door open	open
		Door closed	130Ω
	N to blue wire terminal on switch	Door open	open
		Door closed	0Ω
Probe	CN2-1 to CN2-1	Probe plugged in, CN2 disconnected**	56KΩ @ room temp
	CN2-1 to Ground	CN2 disconnected**	open
	CN2-2 to Ground	CN2 disconnected**	0Ω
Surface ignitor	Violet wire (disconnected from module) to L1 on board	Knob in LITE position	0Ω
		Knob NOT in LITE position	open
Oven safety valve	Bake terminals	Wires disconnected from valve	1Ω
	Broil terminals	Wires disconnected from valve	1Ω

* Resistance will vary widely with the temperature of the ignitor. If the circuit tests open, repair the wiring or replace the ignitor.

** CN2 connector must be physically separated from the board

*** Alternate method - Remove door switch (See page 24.) Leave the wire harness connected to the switch.
 Check white to red wire:
 Switch plunger out = 0 Ω, switch plunger in = approximately 130 Ω.
 Check white to blue wire:
 Switch plunger out = open, switch plunger in = 0 Ω.

COMPONENT VOLTAGE TEST MEASUREMENTS

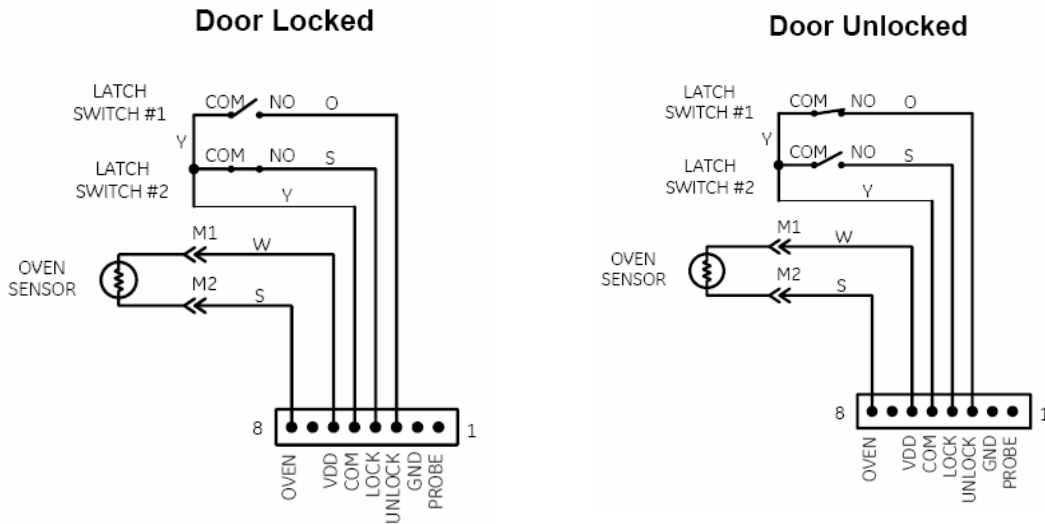
COMPONENT	TEST LOCATION	CONDITIONS	VOLTAGE
Oven light	OL to N	Door closed and oven light not selected ON from control panel	120 V _{AC}
		Door open	0 V _{AC}
		Door closed and oven light selected ON from control panel (relay clicks)	120 V _{AC}
Bake ignitor	Bake to N	Bake operation initiated (relay clicks)	120 V _{AC}
		Bake not initiated or burner in cycle OFF status	0 V _{AC}
Broil ignitor	Broil to N	Broil operation initiated (relay clicks)	120 V _{AC}
		Broil not initiated or burner in cycle OFF status	0 V _{AC}
Warming drawer element	WD OUT to N	Warming drawer operation initiated (relay clicks)	120 V _{AC}
		Warming drawer not initiated or burner in cycle OFF status	0 V _{AC}
Latch motor	MDL to N	Door closed and clean cycle initiated (relay clicks)	120 V _{AC} for 10 seconds (lock door)
		Door closed and clean cycle cancelled (relay clicks)	120 V _{AC} for 10 seconds (unlock door)
		Door open and clean cycle initiated (relay clicks)	120 V _{AC} until alarm stops (25 seconds, then 0 V _{AC})
Fan motor high speed	GAS F Fan HI to N	Door closed and CONV BAKE or CONV BROIL initiated	120 V _{AC} (0 V _{AC} during pre-heat)
Fan motor low speed	GAS S Fan LO to N	Door closed and CONV BAKE or CONV BROIL initiated	120 V _{AC} (0 V _{AC} during pre-heat)
Surface ignitor switches	Violet wire (disconnected from module) to N	Rotate knob to LITE position	120 V _{AC}

OVEN SENSOR and DOOR SWITCH TEST

Note! See *Lock Motor and Door Latch Switch Circuit Information* for door switch function explanation.

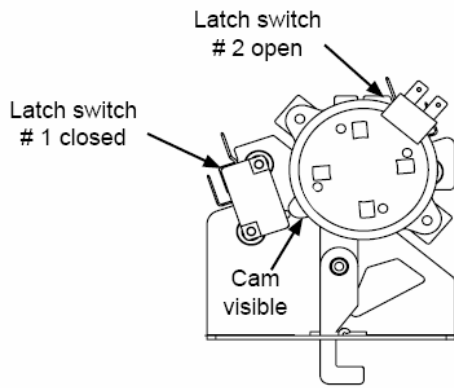
1. Unplug the oven.
2. Locate and disconnect the wire harness from the CN2 location on the ERC (main board).
3. Make resistance measurement from the side of the wire harness connector with exposed terminals.
4. If abnormal reading is observed, check leads in the wire harness connector. If any variation, repair or replace wire harness.

Circuit	Terminals	Ohms (Ω)
Oven sensor	6 to 8	1,100 Ω (approx.) @ room temperature
		2,545 Ω (approx.) @ 815° F (435° C)
Door unlatched	3 to 5	0 Ω
	2 to 5	open
Door latched	3 to 5	open
	4 to 5	0 Ω

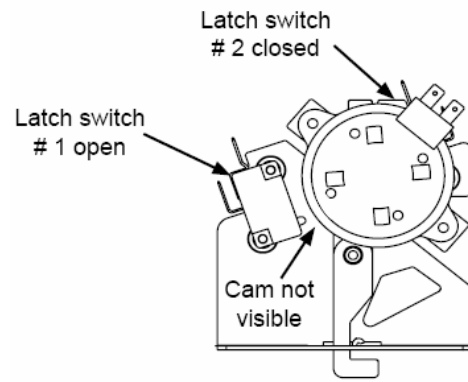




Door Unlocked



Door Locked





**Life's
Good**



LG