



Internal Use Only

Website <http://us.lgservice.com>

30" Freestanding Gas Range

SERVICE MANUAL

**MODEL: LRG3091ST
LRG3091SB
LRG3091SW**

CAUTION

BEFORE SERVICING THE UNIT, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

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FORWARD

This LG Service Manual, “30” Freestanding Self-Cleaning Gas Range,” provides the technician with information on the operation and service of the Freestanding Self-Cleaning Gas Range. It is to be used as a training Service Manual. For specific information on the model being serviced, refer to the “Owner’s Manual” or “Tech Sheet” provided with the gas range.

SAFETY PRECAUTIONS

- Repairs of the appliance should be carried out by a licensed technician only. Incorrect repairs may result in dangerous situations. If you need repairs, contact an LG Service Center or your dealer.
- If the power cord is defective, it must be replaced by a qualified service agent with a UL listed range cord.
- Electrical leads and cables should not be allowed to touch the oven.
- Rating plate is located on the left side of warming drawer.
- The power supply of the appliance should be turned off when it is being repaired.

WARNING

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

WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace all panels and parts before operating.**
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.
- **DO NOT Touch when the oven operates.**
 - The interior parts will be very hot.

LG Electronics assumes no responsibility for any repairs made on our products by anyone other than Authorized Service Technicians.

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GENERAL

IMPORTANT SAFETY INSTRUCTIONS

Read and follow all instructions before using your oven to prevent the risk of fire, electric shock, injury to person, or damage when using the range. This guide don't cover all possible conditions that may occur. For further assistance contact your service agent or manufacturer.



This is the safety alert symbol. This symbol alerts you to potential hazards that can kill or hurt you and others. All safety messages will follow the safety alert symbol and either the word "WARNING" or "CAUTION". These word means :



WARNING

This symbol will alert you to hazards or unsafe practices which could cause serious bodily harm or death.



CAUTION

This symbol will alert you to hazards or unsafe practices which could cause bodily injury or property damage.



WARNING

- **DO NOT step or sit on the door and install the Anti-Tip Bracket packed with range.**
 - The range could be tipped and injury might result from spilled hot liquid, food, or the range itself.
 - If the range is pulled away from the wall for cleaning, service, or any other reason, ensure that the Anti-Tip Device is properly reengaged when the range is pushed back against the wall.
- **DISCONNECT power supply cord from the outlet before servicing.**
- **Replace all panels and parts before operating.**
- **RECONNECT all grounding devices.**
 - Failure to do so can result in severe personal injury, death or electrical shock.
- **DO NOT touch burners, grates or interior surfaces of oven.**
 - Heating element may be hot even though they are off.
 - Interior surfaces of an oven become hot enough to cause burns.
- **During and after use, do not touch, or let clothing or other flammable materials contact burners, grates or interior surfaces of oven until they have had sufficient time to cool.**
 - Other surfaces of the appliance may become hot enough to cause burns among these surfaces are oven vent openings and surfaces near these openings, oven doors, and windows of oven doors.
- **DO NOT store items of interest to children in cabinets above a range or on the back guard of a range.**
 - Children climbing on the range to reach items could be seriously injured.



CAUTION

- **Always use Pot Holders or oven mitts when removing food from the Warming Drawer.**
 - You can be burned as cookware and plates will be hot.
- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.
- **Be careful not to bend the fan blade**
 - Failure to do so can result in vibration, noise, and poor performance of convection when operating.
- **Be careful not to scratch or chip the oven liner paint when you remove the oven light socket in the next step.**
- **Turn power OFF before removing the Warming Drawer.**
- **Be careful when removing and lifting the door.**
- **DO NOT lift the door by the handle.**
 - Failure to do so can result in personal injury as the door is very heavy.

GENERAL

IMPORTANT SAFETY INSTRUCTIONS

- Be sure your appliance is properly installed and grounded by a qualified technician.
- Do not repair or replace any part of the appliance unless specifically recommended in the manual. All other servicing should be referred to a qualified technician.
- Always disconnect power to appliance before servicing by removing the fuse or switching off the circuit breaker

WARNING



- **ALL RANGES CAN TIP**
- **INJURY TO PERSONS COULD RESULT**
- **INSTALL ANTI-TIP DEVICES PACKED WITH RANGE**
- **SEE INSTALLATION**



- **DO NOT step or sit on the door and install the Anti-Tip Bracket packed with range.**
 - The range could be tipped and injury might result from spilled hot liquid, food, or the range itself.
 - If the range is pulled away from the wall for cleaning, service, or any other reason, ensure that the Anti-Tip Device is properly reengaged when the range is pushed back against the wall.

To reduce the risk of tipping of the range, the range must be secured by properly installed anti-tip devices. To check if the bracket is installed properly.

- **Warning drawer** : grasp the top rear edge of the Range and carefully attempt to tilt it forward. Verify that the anti-tip devices are engaged.
 - **Storage drawer** : Remove drawer and verify leveling leg is inserted into and fully secured by the anti-tip devices.
- Refer to the installation manual for proper anti-tip bracket installation.

WARNING

- **DO NOT touch burners, grates or interior surfaces of oven.**
 - Burners, grates may be hot even though they are off.
 - Interior surfaces of an oven become hot enough to cause burns.
- **During and after use, do not touch, or let clothing or other flammable materials contact burners, grates or interior surfaces of oven until they have had sufficient time to cool.**
 - Other surfaces of the appliance may become hot enough to cause burns among these surfaces are oven vent openings and surfaces near these openings, oven doors, and windows of oven doors.

WARNING

- **DO NOT store items of interest to children in cabinets above a range or on the back guard of a range.**
 - Children climbing on the range to reach items could be seriously injured.

- **Do Not Leave Children Alone** - Children should not be left alone or unattended in area where appliance is in use. They should never be allowed to sit or stand on any part of the appliance.
- **Never Use Your Appliance for Warming or Heating the Room.**
- **Storage in or on Appliance** – Flammable materials should not be stored in an oven or near surface units. Be sure all packing materials are removed from the appliance before operating it. Keep plastics, clothes and paper away from parts of the appliance that may become hot
- **Wear Proper Apparel** – Loose-fitting or hanging garments should never be worn while using the appliance.
- **Do Not Use Water on Grease Fires** – Turn off oven to avoid spreading the flame. Smother the fire or flame by closing the door or use dry chemical, baking soda or foam- type extinguisher.
- Make sure your range is properly adjusted by a qualified service technician or installer for the type of gas (natural or LP) that is to be used. Your range can be converted for use with either type of gas.
- **NEVER** block the vents (air holes) of the range. They provide the air inlet and outlet that are necessary for the range to operate properly with correct combustion. Air openings are located at the rear of the cooktop, at the top and bottom of the oven door, and at the bottom of the range under the warming drawer.

WARNING

- **DISCONNECT power supply cord from the outlet before servicing.**
- **Replace all panels and parts before operating.**
- **RECONNECT all grounding devices.**
 - Failure to do so can result in severe personal injury, death or electrical shock.

GENERAL

IMPORTANT SAFETY INSTRUCTIONS

SURFACE COOKING UNITS

- If the top burner flame goes out, gas is still flowing to the burner until the knob is turned to the "OFF" position. Do not leave the burners "ON" unattended.
- **Use Proper Pan Size** – This appliance is equipped with one or more surface units of different sizes. Select utensils having flat bottoms large enough to cover the surface unit heating element. The use of undersized utensils will expose a portion of the heating element to direct contact and may result in ignition of clothing. Proper relationship of utensil to burner will also improve efficiency.
- **Never Leave Surface Units Unattended at High Heat Settings** – Boil overs may cause smoking and greasy spillovers may ignite.
- **Make Sure Reflector Pans or Drip Bowls Are in Place** – Absence of these pans or bowls during cooking may subject wiring or components underneath to damage.
- **Protective Liners** – Do not use aluminum foil to line surface unit drip bowls or oven bottoms, except as suggested in the manual. Improper installation of these liners may result in a risk of electric shock, or fire.
- **Glazed Cooking Utensils** – Only certain types of glass, glass/ceramic, ceramic, earthenware, or other glazed utensils are suitable for range-top service without breaking due to the sudden change in temperature.
- **Utensil Handles Should Be Turned Inward and Not Extend Over Adjacent Surface Units** – To reduce the risk of burns, ignition of flammable materials, and spillage due to unintentional contact with the utensil, the handle of a utensil should be positioned so that it is turned inward, and does not extend over adjacent surface units.
- Be sure you know which knobs operate each burner. Make sure you turned on the correct burner.
- To prevent burns, always be sure that the controls for all burners are at the "OFF" position and all grates are cool before attempting to remove them.

SELF-CLEAN OVENS

- **Do Not Clean Door Gasket** – The door gasket is essential for a good seal. Care should be taken not to rub, damage, or move the gasket.
- **Do Not Use Oven Cleaners** – No commercial oven cleaner or oven liner protective coating of any kind should be used in or around any part of the oven.
- **Clean in the self-clean cycle only parts listed in this manual.** Before self-cleaning the oven, remove the broiler pan and any utensils from the oven.
- **Never keep pet birds in the kitchen** – the health of birds is extremely sensitive to the fumes released during an oven self-clean cycle. Fumes may be harmful or fatal to birds. Move birds to well-ventilated room.
- **Important Instruction** – In the event the self-clean mode "F" code goes on, or three long beeps sound, oven is malfunctioning in the self-clean mode. Turn off or disconnect appliance from power supply and have serviced by a qualified technician.

VENTILATING HOODS:

- **Clean Ventilating Hoods Frequently** – Grease should not be allowed to accumulate on hood or filter.
- **When flaming foods under the hood, turn the fan on.**

OVEN

- **Use Care When Opening Door** – Let hot air or steam escape before you remove or replace food in the oven
- **Do Not Heat Unopened Food Containers** – Build-up of pressure may cause container to burst and result in injury.
- **Keep Oven Vent Ducts Unobstructed** – the oven vent is located above the center burner. This area could become hot during oven use. Never block this vent and never place plastic or heat-sensitive items on vent.
- **Placement of Oven Racks** – Always place oven racks in desired location while oven is cool. If rack must be moved while oven is hot, do not let potholder contact hot heating element in oven.
- **Do Not** allow aluminum foil or meat probe to contact heating elements.

DEEP FAT FRYERS:

- Use extreme caution when moving the grease kettle or disposing of hot grease.

GENERAL

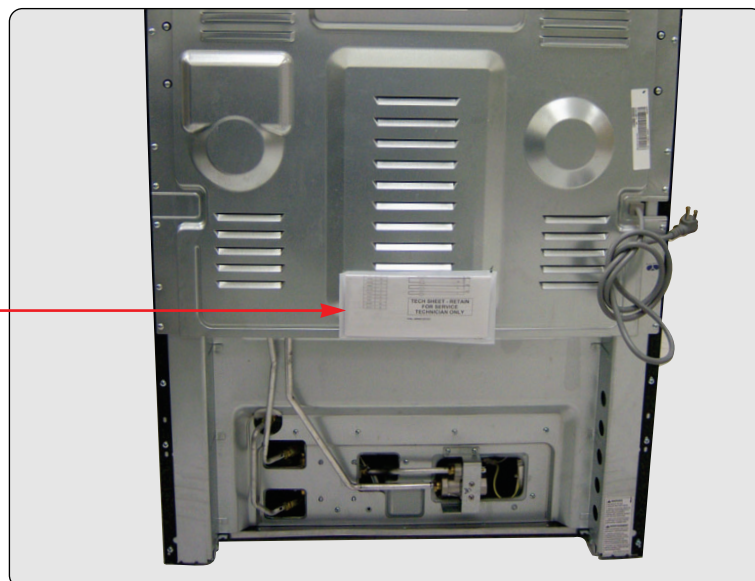
MODEL & SERIAL NUMBER LABEL AND TECH SHEET LOCATIONS

The Model/Serial Number label and Tech Sheet locations are shown below.

**Model & Serial
Number Location**



**Tech Sheet Location
(On Low Rear Cover)**



GENERAL

SPECIFICATIONS

Model Number		LRG3091ST	LRG3091SB	LRG3091SW
Category		Non Convection		
Overall	Width	30"		
	Installation type	Freestanding		
	Color availability	STS	Black	White
Control	Oven	Push button key pad		
	Cooktop	Knob		
	Display	LED Green		
	Electronic clock & timer	Yes		
	Control lock capability	Yes		
	Audible preheat signal	Yes		
	Special function	1. Thermostat Adjustment 2. Preheating Alarm Light On/Off 3. Beeper Volume (High, Low, Off) 4. Temperature unit (°F / °C) 5. Clock (12hr, 24hr)		
	Cooktop	Material	Enamel	
# of element		5	5	5
Input Rate NAT / LP [BTU/hr]	LR	9.1k / 9.1k		
	RR	5k / 5k		
	CR	9.1k / 9.1k		
	LF	12k / 9.5k		
	RF	17k / 10k		
Oven	Capacity(cu.fe)	5.4		
	Broil (NAT/ LP)[BTU/hr]	14.5k / 13.5k		
	Bake (BTU/hr)	18k / 18k		
	Convection system	No		
	# of Racks	2 (standard)		
	Interior oven light	auto / manual		
	Proof	No		
	Cook & warm	Yes		
	Favorites	No		
	Door lock out	Yes		
Broiler pan	No			
Drawer	Type	Storage		
Dimensions	Oven Interior(W x H x D)	24 1/2 x 19 1/2 x 19 3/8		
	Exterior - Width	30		
	Exterior - Height	36 (cooktop), 47 7/16 (backguard top)		
	Exterior - Depth	26 1/2 (Door), 28 3/4 (with handle)		
	Net weight: lbs (kg)	269 lbs (122kg)		
Power	Rating	120V 4.5A		

USING YOUR RANGE

GENERAL INFORMATION

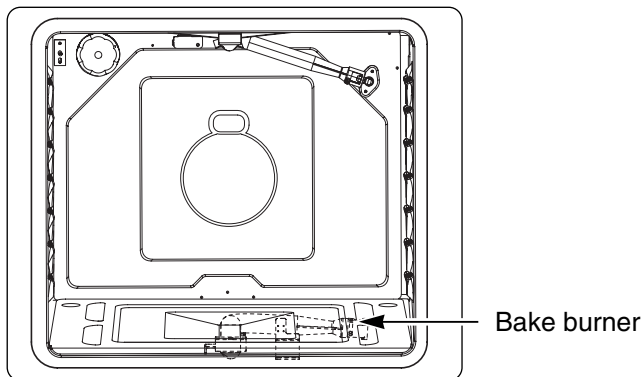
Rating Label

Model numbers are recorded on the rating label. Rating label is located on the lower front left corner of the oven frame. It can be seen by opening the storage drawer or warming drawer. Before ordering parts, write down the correct model and serial number from rating label. This avoids incorrect shipments and delays. Please refer to parts reference material when ordering replacement parts.

Functional Operation

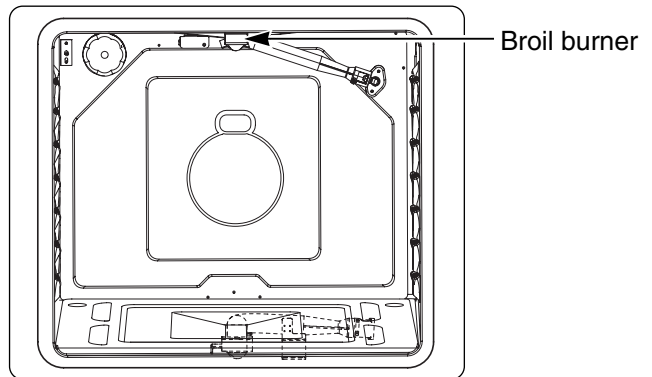
Bake Mode

Bake burner operates during bake mode. Bake can be used to cook foods which are normally baked. Oven must be preheated.



Broil Mode

Broil burner operates during broil mode. Broil can be used to cook foods which are normally broiled. Preheating is not required when using broil. All foods should be turned at least once except fish, which does not need to be turned.

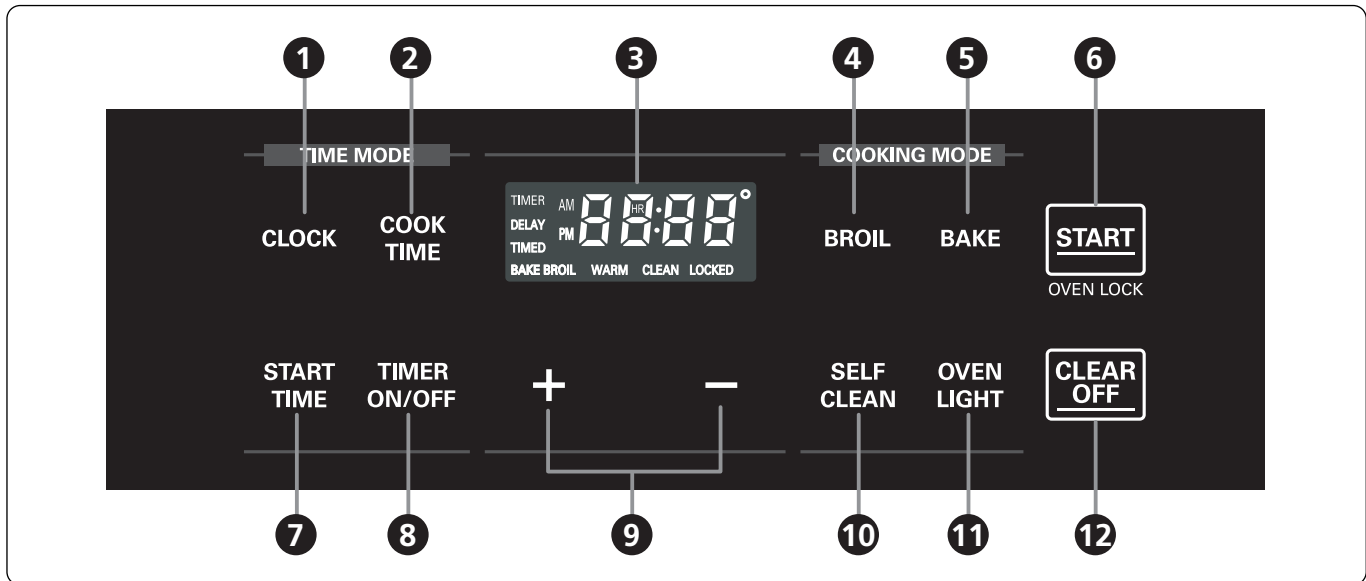


Cooking Guide

Refer to the owners manual for recommendations of times and temperatures. Times, rack position, and temperatures may vary depending on conditions and food type. For best results, always check food at minimum time. When roasting, choose rack position based on size of food item.

USING YOUR RANGE

CONTROL PANEL FEATURES



- 1. CLOCK Pad:** Press before setting the time of day.
- 2. COOK TIME Pad:** Press and then use the + and - pads to set the amount of time you want your food to cook. The oven will shut off when the cooking time has run out.
- 3. Display:** Shows the time of day, oven temperature, whether the oven is in the bake, broil or self-cleaning mode, and the times set for the timer or automatic oven operations.
- 4. BROIL Pad:** Press to select the broil function.
- 5. BAKE Pad:** Press to select the bake function.
- 6. START Pad:** Must be pressed to start any cooking or cleaning function.
- 7. START TIME Pad:** Use along with Bake, Cook Time, and Self Clean pads to set the oven to start and stop automatically at a time you set.
- 8. TIMER ON/OFF Pad:** Press to select the timer feature.
- 9. +/- Pad:** Enters or changes time, oven temperature. Sets HI or LO broil.
- 10. SELF CLEAN Pad:** Press to select self-cleaning function. See the using the Self-Cleaning Oven section.

- 11. OVEN LIGHT Pad:** Press to turn the oven light on or off.
- 12. CLEAR OFF Pad:** Press to cancel all oven operations except the clock and timer.

NOTE:

If F- and a number appear in the display and the oven control signals, this indicates a function error code.

Press the **CLEAR OFF** pad. Allow the oven to cool for one hour. Put the oven back into operation. If the function error code repeats, disconnect the power to the oven and call for service.

If your oven was set for a timed oven operation and a power outage occurred, the clock and all programmed functions must be reset.

The time of day will flash in the display when there has been a power outage.

USING YOUR RANGE

1. TO TURN ON THE SURFACE BURNER

1. Be sure all the surface burners are placed in their respective positions.
2. Push the control knob in and turn it to the "LITE" positions.
3. You can hear a little CLICKING noise - the sound of the electric spark igniting the burners.
4. To control the flame size, turn the knob. If the knob stays at "LITE", it will continue to click.

NOTE:

- When turning a burner to LITE, all the burners spark. Do not attempt to disassemble or clean around any burner while another burner is on. An electric shock may result, which could cause you to knock over hot cookware.
- The medium (left rear) and the large (left front) burners are the primary burners for most cooking. These general-purpose burners can be turned down from "HI" to "LO" suit a wide range of cooking needs.
- The extra large burner (right front) is the maximum output burner. Like the other four burners, it can be turned down from "HI" to "LO" for a wide range of cooking applications.
- This burner is also designed to quickly bring large amounts of liquid to a boil. It has a special "Ultra Heat" setting designed to be used with cookware 10 inches or larger in diameter.
- The oval burner (center) is for large pots/pans or for use with the griddle.
- The extra large burner (dual) can be also turned down to "LO" for a low simmer setting almost like the small burner.

2. SETTING THE CLOCK



3. START, CLEAR/OFF

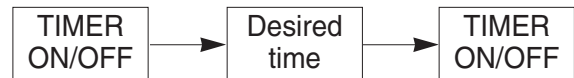
1. Touch **START** pad to start oven.
2. Touch **CLEAR/OFF** pad to cancel a program during cooking or Erase during programming.

4. TO TURN ON/OFF THE OVEN LIGHT

The oven light automatically turns ON when the door is opened. The oven light may also be manually turned ON or OFF by press the **OVEN LIGHT** pad

NOTE: The oven light cannot be turned on if self-clean feature is active.

5. TIMER ON/OFF



To cancel timer at any time, touch **TIMER ON/OFF** pad.

NOTE:

1. If you press **TIMER ON/OFF** pad once, this allows you to select "seconds"
(for example: if you press "5" and "6", it means 56 seconds)
2. If you press **TIMER ON/OFF** pad twice, this allows you to select "minutes"
(for example: if you press "5" and "6", it means 56 minutes)

6. OVEN TEMPERATURE ADJUSTMENT

The oven temperature can be adjusted from -35°F (-19°C) to 35°F (19°C).

NOTE: The oven temperature adjustments made with this feature will just change Bake, temperature.

To increase the oven temperature:

1. Press and hold **BAKE** for 3 Seconds.
2. Press **the desired temperature**
3. Press **START** pad.

To decrease the oven temperature:

1. Press and hold **BAKE** for 3 Seconds.
2. Press **the desired temperature**
3. Press **START** pad

USING YOUR RANGE

7. PREHEATING ALARM LIGHT ON/OFF

1. Press and hold **TIMER ON/OFF** for 3 seconds.
The display will show Opt.
2. Press **OVEN LIGHT** to switch between On and OFF.
3. Press **START** pad.

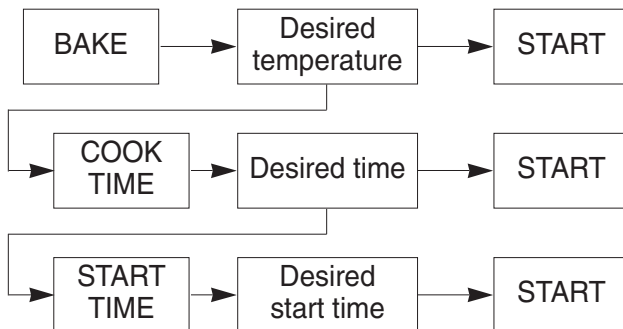
8. BEEPER VOLUME

1. Press and hold **TIMER ON/OFF** for 3 seconds.
The display will show Opt.
2. Press **-** to switch beeper volume (Hi, Lo, and OFF.)
3. Press **START** pad.

9. TEMPERATURE UNIT(°F or °C)

1. Press and hold **TIMER ON/OFF** for 3 seconds.
The display will show Opt.
2. Press **+** to switch between the F and C.
3. Press **START** pad.

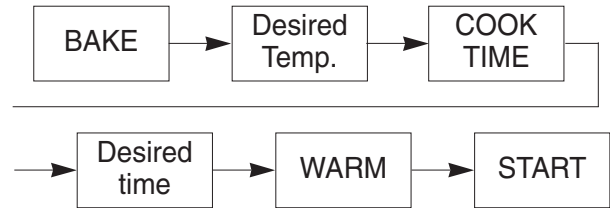
10. BAKE, TIMED BAKE, DELAYED TIMED BAKE



11. BROIL



12. TIMED COOK WITH WARM

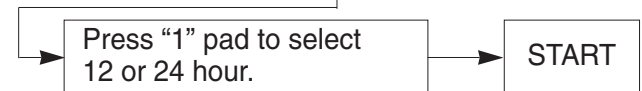


13. OVEN LOCKOUT

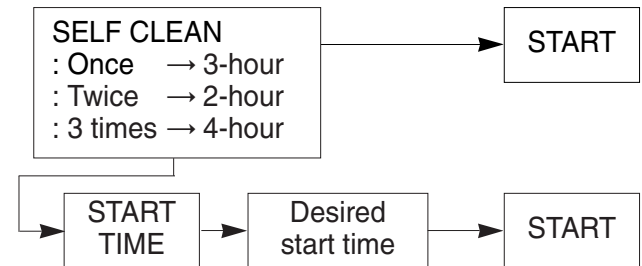
Press and hold the **CLOCK** pad for 3 seconds (to activate or reactivate LOCKOUT)

14. CHANGING HOUR MODE ON CLOCK (12HR, 24HR)

Press and hold the **CLOCK** pad for 3 seconds



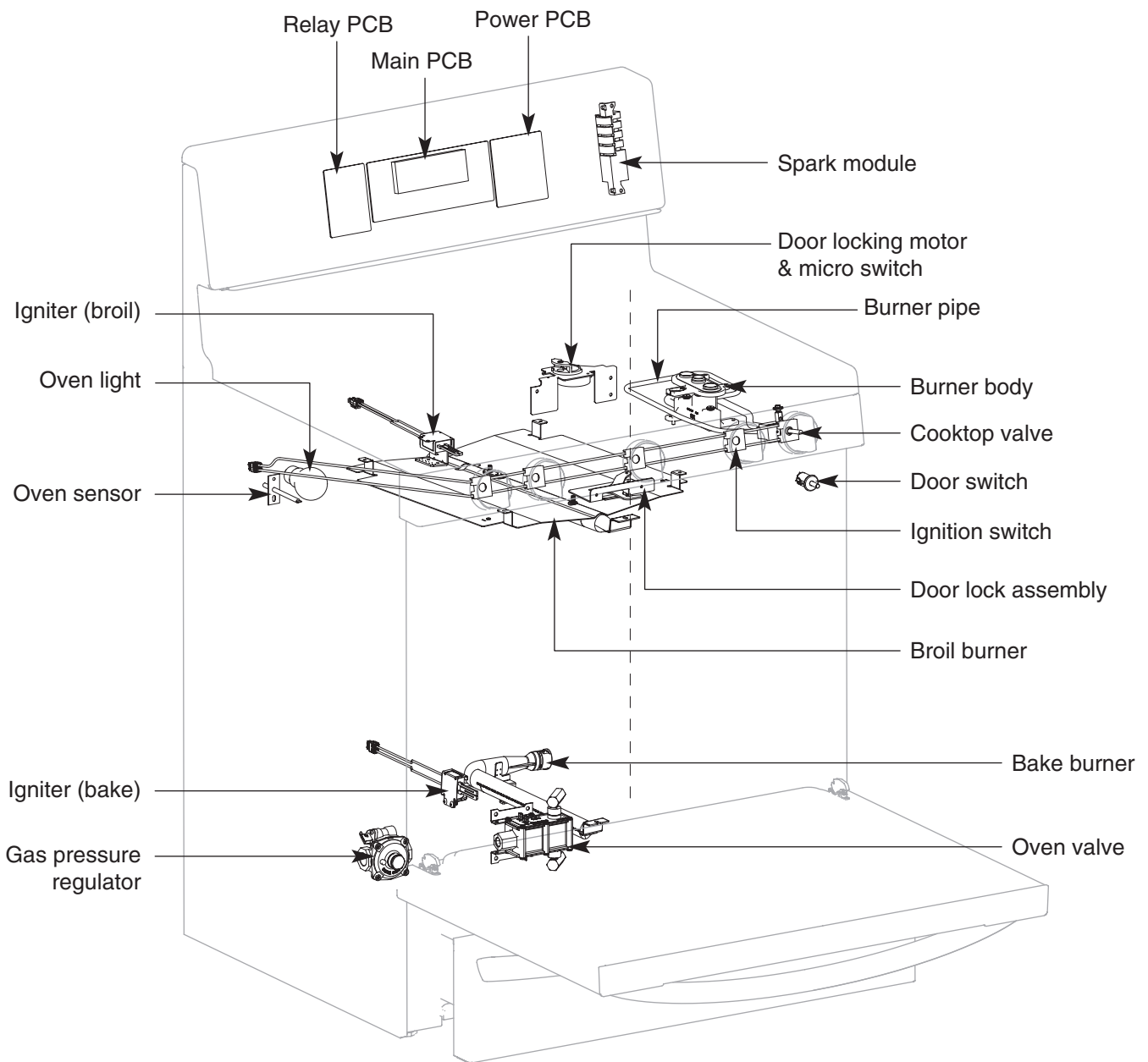
15. SELF-CLEAN



COMPONENT ACCESS

This section instructs you on how to service each component inside the range. The components and their locations are shown below.

COMPONENT LOCATIONS



COMPONENT ACCESS

REMOVING THE BACK, CONTROL COVER AND KEY PAD ASSEMBLY

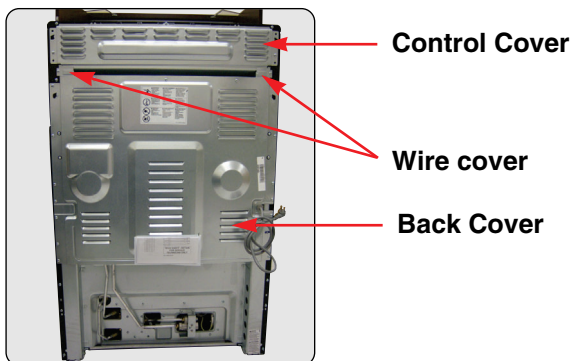
⚠ WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

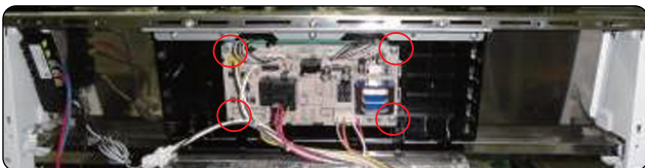
⚠ CAUTION

- **Be careful** when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

1. Turn off the electrical supply and gas supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove two wire covers by removing the screw.
4. Remove the 3 screws from the rear control cover and remove the cover.
5. Remove the 16 screws from the rear back cover and remove the cover.



6. Remove the 4 screws of PCB assembly and separate PCB assembly after unplugging the connectors.



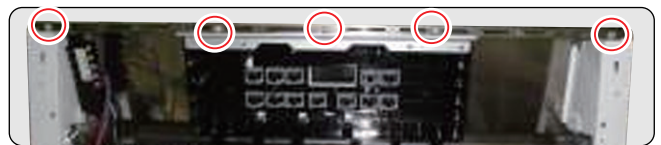
7. Remove the 6 screws of PCB assembly and separate PCB assembly after unplugging the connectors.



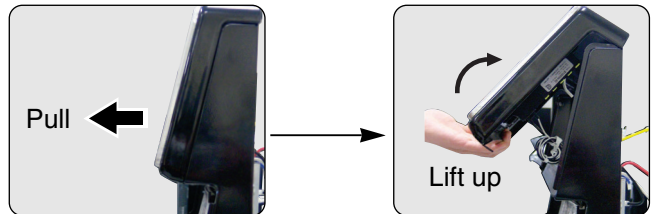
8. Remove the 2 screws of the eyebrow from the controller sub assembly and remove the eyebrow.



9. Remove the 5 screws of controller sub assembly.



10. Pull the controller sub assembly and lift it up from the supporters.



11. Remove the 3 screws of controller sub assembly.



12. Replace the key pad assembly.



COMPONENT ACCESS

REMOVING THE SPARK MODULE (IG TRANS) AND POWER CONTROL BOARD (PCB)

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- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

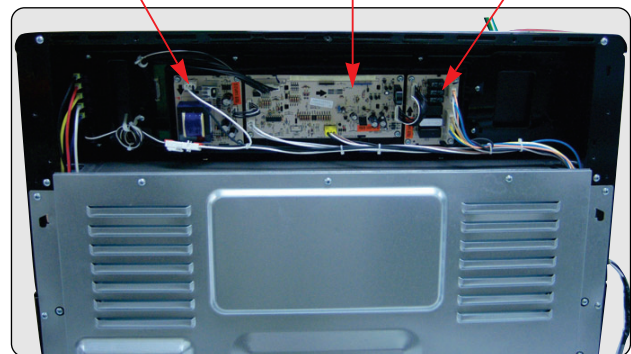
- **Be careful** when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

1. Turn off the electrical supply and gas supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove wire cover & control cover (See step 3-4 on page 3-2)

4. There are 3 PCB's (power control board). When you check PCB, check the proper pcb in default mode and check main pcb.

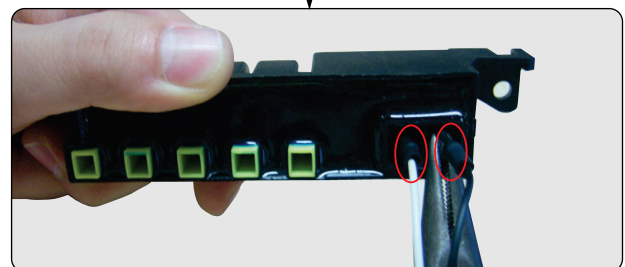
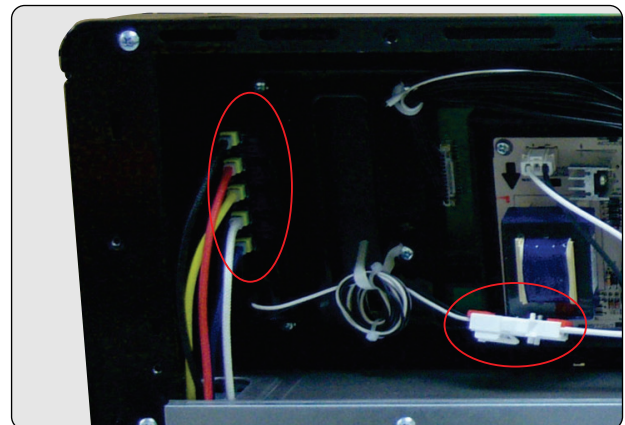
NOTE: Refer to the page 6-1~6-2 for composition of control board

Power Supply PCB Main PCB Relay PCB



5. **5 connectors of the electrode and a connector of the harness.**

- a) Disconnect 6 connectors.
- b) Remove the 2 screws.
- c) Remove the 2 tabs by using long nose pliers.



COMPONENT ACCESS

REMOVING THE COOKTOP PLATE

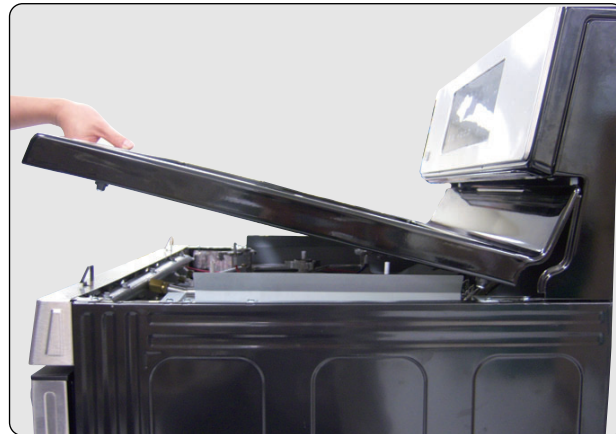
WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the griddle, grates, burner caps and burner heads.
3. Remove all 15 screws from cooktop burner housings.
4. Disengage 2 front clips using a flat blade screwdriver.



5. Lift top up at front.



NOTE : Before lowering the top onto the front clips, line up the burner body and with the cooktop to replace screws.

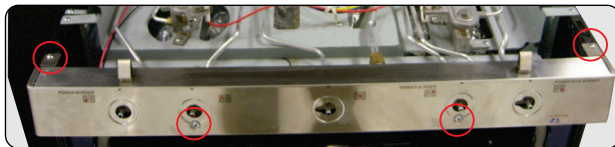
COMPONENT ACCESS

REMOVING THE CASE ASSEMBLY (COOKTOP BURNER ASSEMBLY)

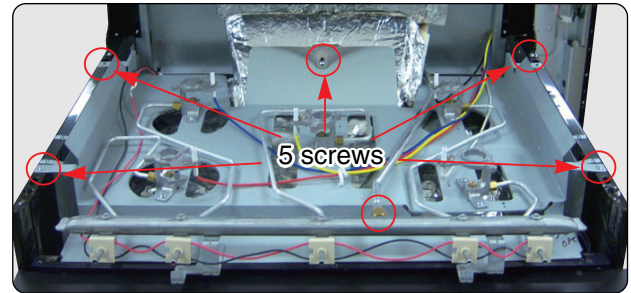
WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the cooktop plate (See “REMOVING THE COOKTOP PLATE” on page 3-4).
3. Remove the manifold panel by unfastening the 9 phillips head screws.



4. Remove the tubing fitting (5/8-inch).
5. Remove 5 phillips head screws.



COMPONENT ACCESS

REMOVING THE COOKTOP PARTS

⚠ WARNING

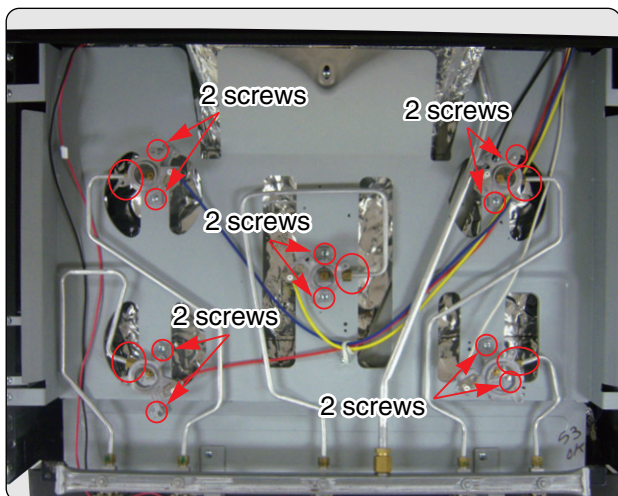
- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace all panels and parts before operating.**
- **RECONNECT** all grounding devices.
- Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

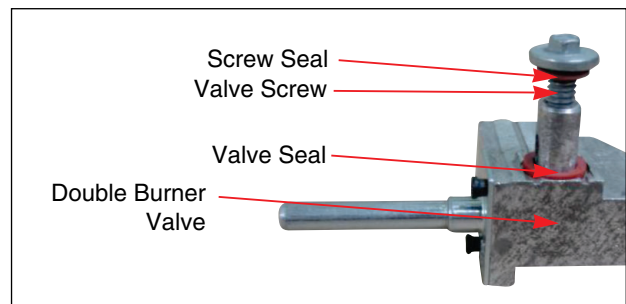
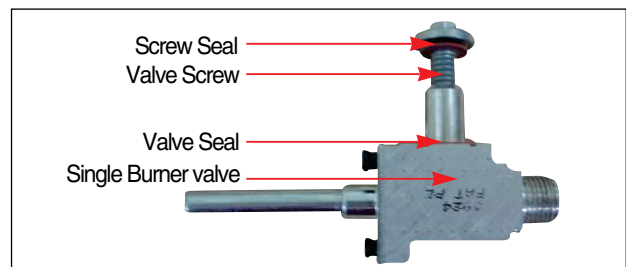
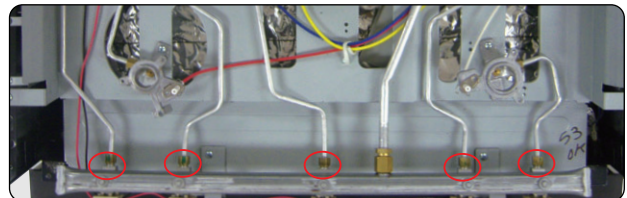
- The 2 lock tabs on each igniter switch are fragile. Tab breakage can occur if excessive release pressure is applied.
- Check that the gas seal gasket on the screw and the gas valve remain in place before installing the new gas valve.

NOTE: When servicing the burner housing or the valve, it is necessary to service also the pipe which is designated.

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the cooktop plate (See "REMOVING THE COOKTOP PLATE" on page 3-4).

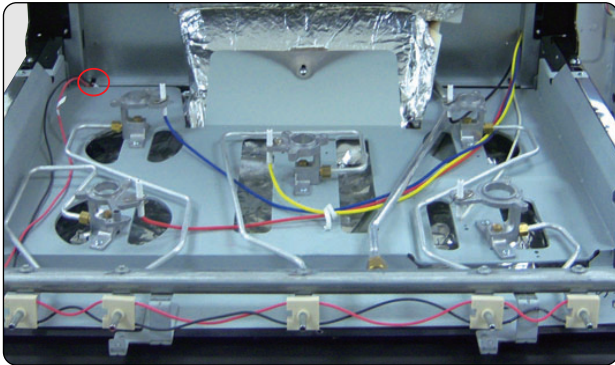


4. To remove the valve:
 - a) Remove the manifold panel (See the step 3 on page 3-5).
 - b) Remove the fitting that you need to remove.
 - c) Remove the ignition switch by prying on the 2 release tabs and slide the switch off the valve stem.
 - d) Remove the valve screw and remove the valve.

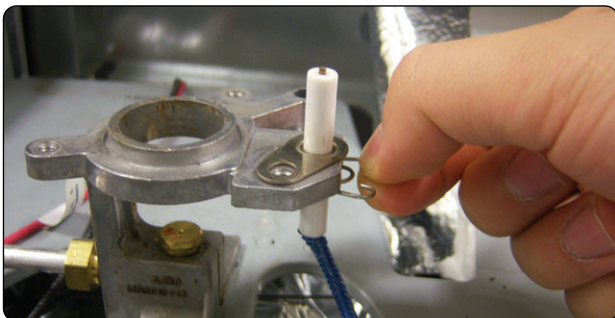


COMPONENT ACCESS

5. To remove the ignition switch:
 - a) Remove the manifold panel (See the step 3 on page 3-5).
 - b) Pry on the 2 release tabs and slide the switch off the valve stem.
 - c) Remove the connector and remove the ignition switch.



6. To remove the electrode (spark plug):
 - a) Remove the rear control panel (See the step 2-3 on page 3-2).
 - b) Remove the connector from the spark module.
 - c) Remove the wire ring
 - d) Remove the electrode from the burner housing.



COMPONENT ACCESS

REMOVING THE DOOR LATCH & DOOR SWITCH

⚠ WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace all panels and parts before operating.**
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

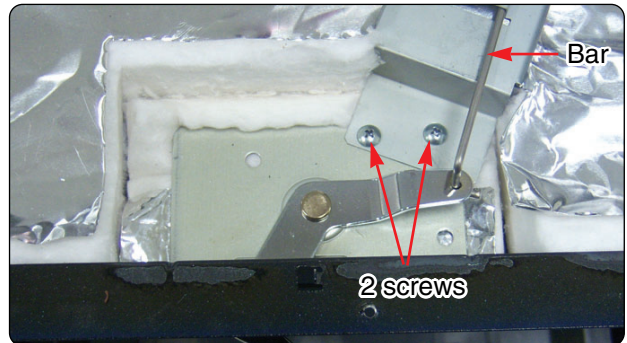
- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.

1. Turn off the electrical supply and gas supply going to the range.
2. Open the oven door.
3. Remove the cooktop plate, manifold and the case assembly (see page 3-5 for the procedure).
4. To remove the door latch:
 - a) Remove the two screws from the door latch and remove the latch.



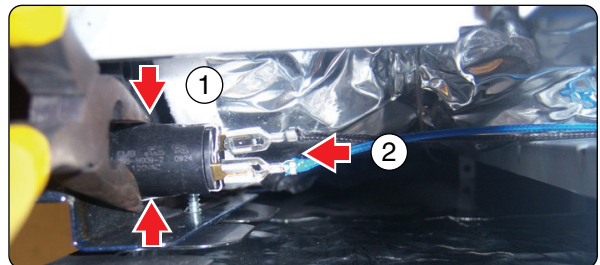
2 Screws

- b) Remove the 2 screws and then remove the bar from the door latch.
- c) Remove the door latch.

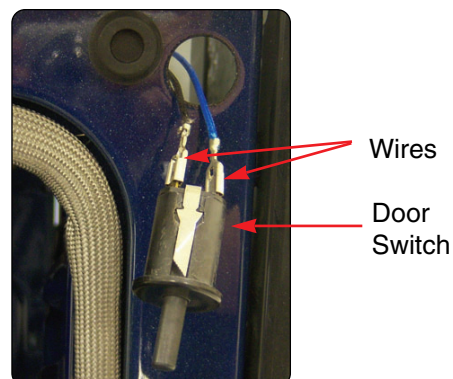


5. To remove the door switch:

- a) Remove the door switch from the range. To do this, squeeze tabs and use a ratchet extension or a small socket, and tap it out of the hole with a hammer.



- b) Disconnect the wires from the terminals.



COMPONENT ACCESS

REMOVING THE BROIL BURNER ASSEMBLY

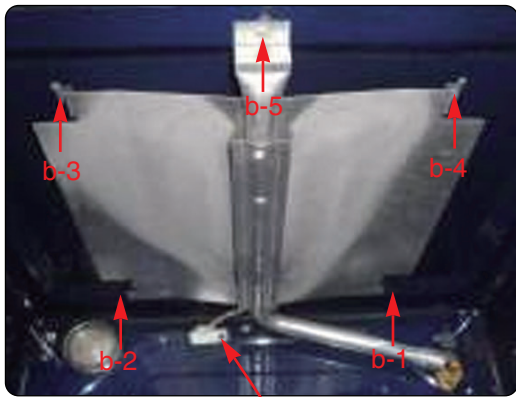
WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace all panels and parts before operating.**
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.
- **Make sure the igniter connector is completely outside when reinstalling the broil burner assembly.**

CAUTION

- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the oven door and remove the racks from inside the oven.
3. **To remove the broil Burner assembly:**
 - a) Remove the wire cover by removing the screw.
 - b) Remove the 5 screws in the order for easily removing.
 - c) Remove the broil burner assembly.



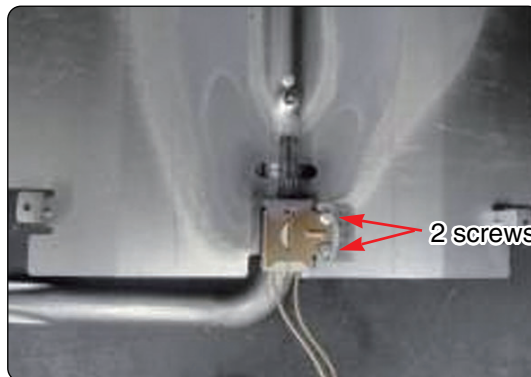
a) Wire cover screw

- d) Remove the igniter connector in the cavity (To get the connector, pull the wire toward the cavity).
- e) Remove the broil burner assembly.

NOTE : When removing the screws, make sure holding the Broil burner assembly.



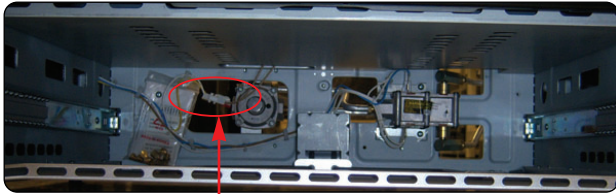
4. To remove the igniter:
 - a) Perform step 1-3 on this page.
 - b) Remove the 2 screws and then remove the igniter.



COMPONENT ACCESS

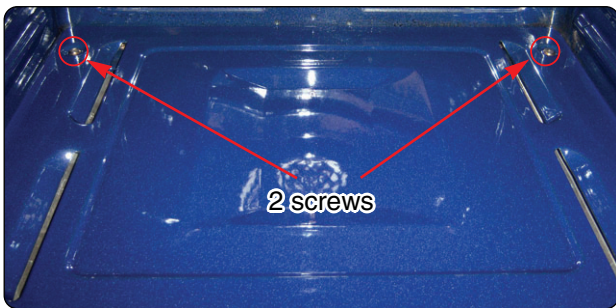
OVEN BOTTOM, THE FRAME GUIDE AND THE BURNER ASSEMBLY

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the drawer and then disconnect the igniter plug.



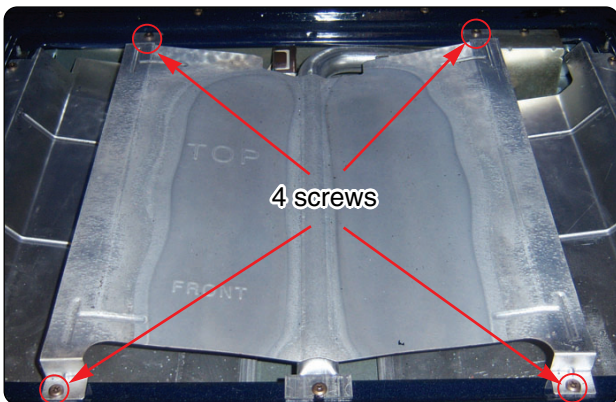
Igniter plug

3. Remove the oven door and racks from inside of the oven.
4. To remove the oven bottom:
 - Remove the 2 screws and then remove oven bottom.



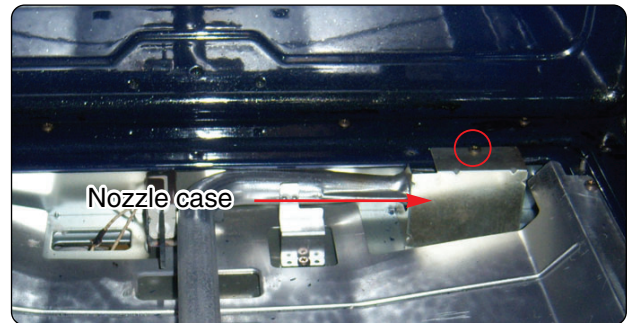
2 screws

5. To remove the flame guide:
 - Remove the 4 screws and then remove flame guide.



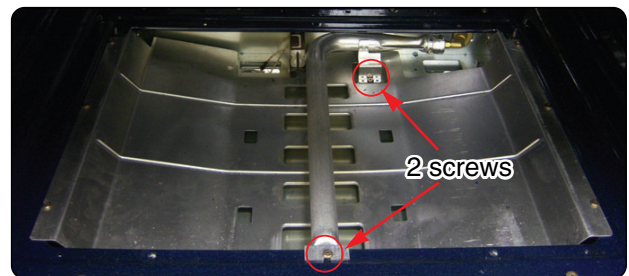
4 screws

6. To remove the nozzle case:
 - Remove the screw and then remove nozzle case.



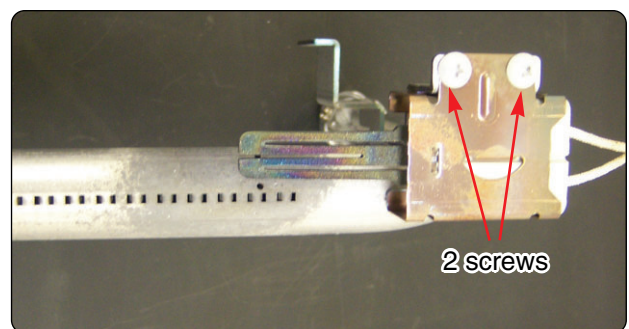
Nozzle case

7. To remove the bake burner assembly:
 - Remove the 2 screws and then remove the burner assembly.



2 screws

8. To remove the igniter:
 - Remove the 2 screws and then remove the igniter.



2 screws

COMPONENT ACCESS

REMOVING THE OVEN LIGHT & SOCKET ASSEMBLY

⚠ WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace all panels and parts before operating.**
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

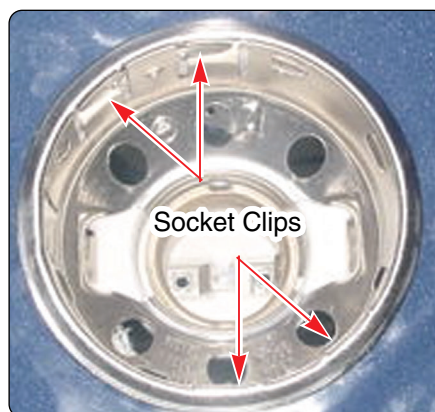
⚠ CAUTION

- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.

⚠ CAUTION

- **Be careful not to scratch or chip the oven liner paint when you remove the oven light socket in the next step.**

5. Use a screwdriver and bend the clips on the oven light socket away from the edges of the liner hole, and pull the socket out of the liner.
NOTE: If it is too difficult to remove the socket from the front of the oven, you will have to push the socket out from the back of the unit.

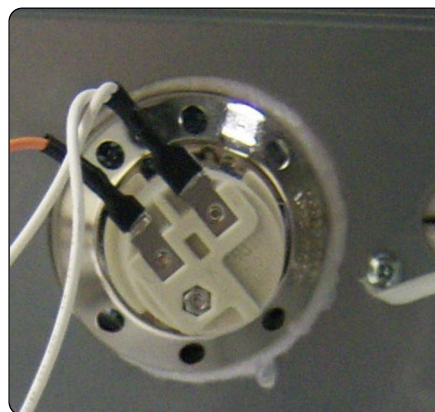
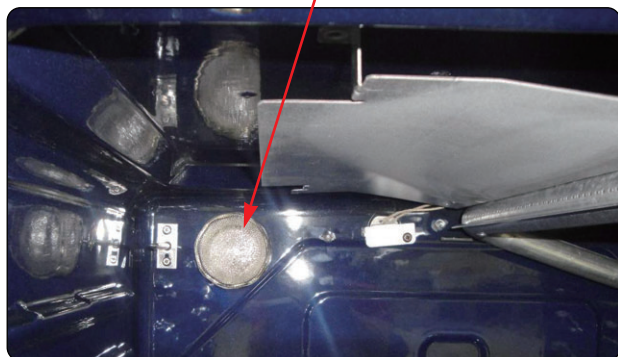


To replace:

1. Turn off the electrical supply and gas supply going to the range.
2. Turn the glass bulb cover in the back of the oven counterclockwise to remove.
3. Turn bulb counterclockwise to remove from socket.
4. Replace bulb and bulb cover by turning clockwise.

6. Disconnect the wires from the socket terminals.

Glass cover & Bulb



<Viewed From Rear Panel>

COMPONENT ACCESS

REMOVING THE LATCH DRIVE ASSEMBLY

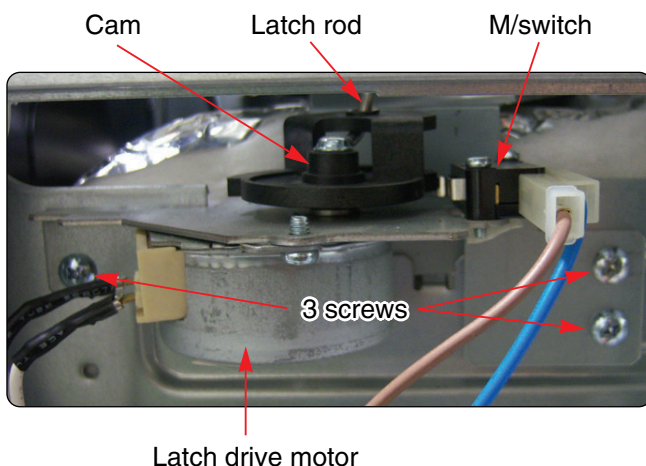
⚠ WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

- **Be careful** when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

1. Turn off the electrical supply and gas supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove the back cover (see step 5 on page 3-2).
4. Disconnect the wires from the latch drive motor and switch.
5. Remove the 3 mounting screws from the latch drive.



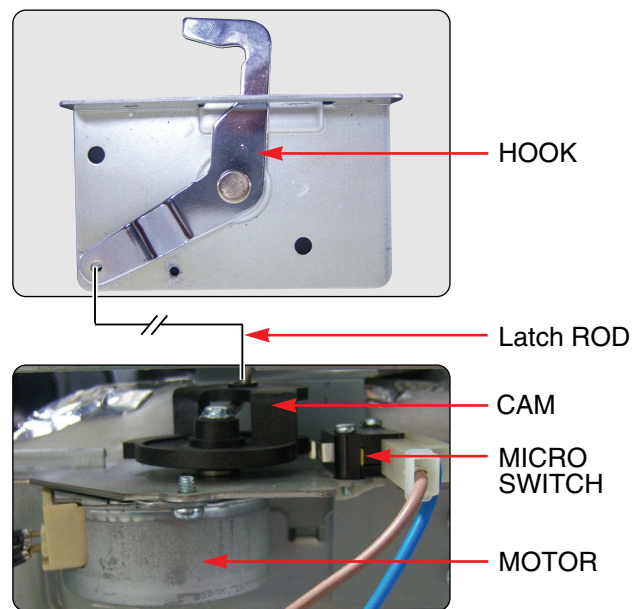
6. Unhook the Latch rod from the cam.

DOOR LOCKING MECHANISM

The door lock assembly is located at the back side of range.

The structural elements are as below.

1. When the oven control is programmed and started for the Self clean and Lock out mode, PCB (Power control board) chip operates the motor.



2. The cam moves the door hook connected to latch rod from unlocked position to locked position (from locked Position to unlocked position)
3. The cam activates the micro switch that causes the motor to stop.
4. The locked status remains until the range temperature drops to approximately 500F after end of the self clean or lock out feature is reactivated. The motor operates to unlock door at that time.

COMPONENT ACCESS

REMOVING THE OVEN TEMPERATURE SENSORS

WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

CAUTION

- **Be careful** when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

1. Turn off the electrical supply and gas supply going to the range.
2. Open the oven door and remove the racks from the oven.
3. To remove an oven temperature sensor :
 - a) Remove the 2 screws.
 - b) Remove the connector in the cavity (To get the connector, pull the wire toward the cavity).
 - c) Remove the oven sensor.



Oven temperature sensor

COMPONENT ACCESS

REMOVING & REPLACING THE WARMING DRAWER

WARNING

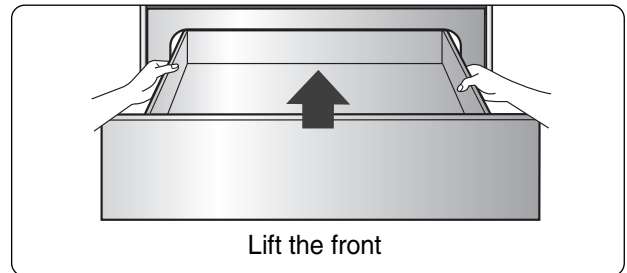
- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace all panels and parts before operating.**
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

CAUTION

- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.

To Replace the Storage Drawer:

1. Place the drawer rails on the guides.
2. Push the drawer back until it stops.
3. Lift the front of the drawer and push back until the stops clear the guides.
4. Lower the front of the drawer and push back until it closes.

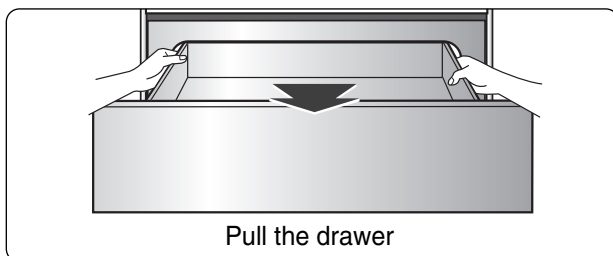


To Remove Storage Drawer:

CAUTION

- **Turn power OFF** before removing the storage drawer.

1. Pull the drawer out until it stops.
2. Lift the front of the drawer until the stops clear the guides.
3. Remove the drawer.



COMPONENT ACCESS

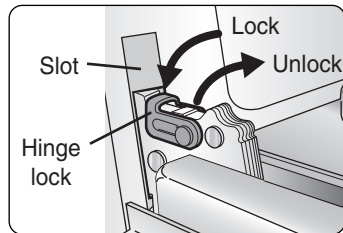
REMOVING & REPLACING THE LIFT-OFF OVEN DOOR

CAUTION

- Be careful when removing and lifting the door.
- DO NOT lift the door by the handle.
 - Failure to do so can result in personal injury as the door is very heavy.

To remove the door:

1. Fully open the door.

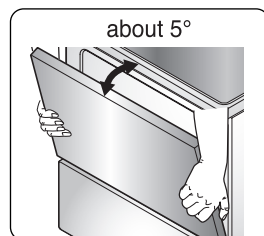


<Fig.1>

2. Pull the hinge locks down toward (Fig.1) the door frame, to the unlocked position.

3. Firmly grasp both sides of the door at the top.

4. Close door to the door removal position, which is approximately 5 degrees. (refer to the Fig.2)

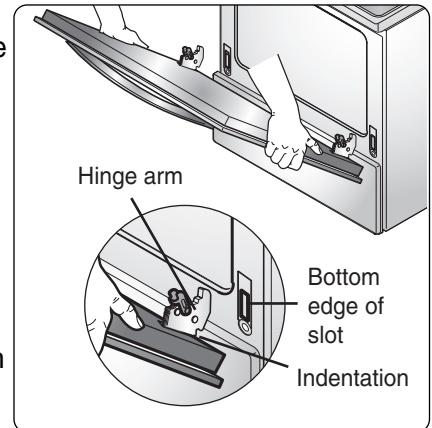


<Fig.2>

5. Lift door up and out until the hinge arm is clear of the slot.

To replace the door:

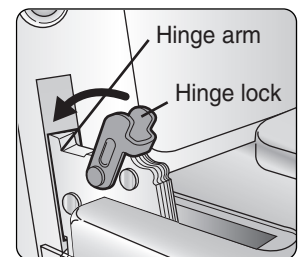
1. Firmly grasp both sides of the door at the top.



2. With the door at the same angle as the removal position, seat the indentation of the hinge arm into the bottom edge of the hinge slot. The notch in the hinge arm must be fully seated into the bottom of the slot.

3. Fully open the door. If the door will not fully open, the indentation is not seated correctly in the bottom edge of the slot.

4. Push the hinge locks up against the front frame of the oven cavity to the locked position.



5. Close the oven door.

COMPONENT ACCESS

REMOVING THE OVEN DOOR HANDLE & GLASS

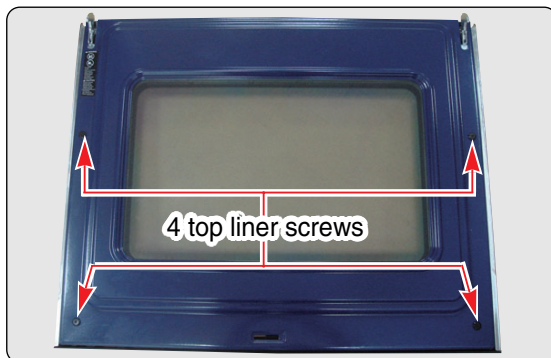
⚠ WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

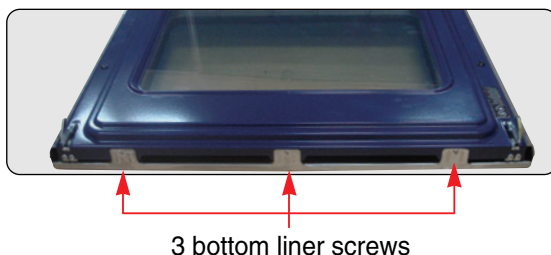
⚠ CAUTION

- **Be careful** when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

1. Remove the oven door from the range (see page 3-15 for the procedure).
2. Place the oven door on a padded work surface with the front glass facing down.
3. Remove the 4 top door screws.



4. Remove the three bottom screws from the door liner.



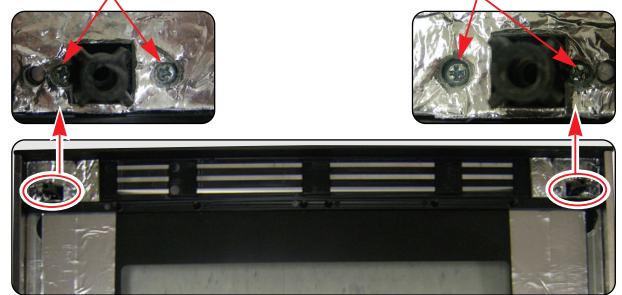
5. Lift the liner assembly off the front glass and set it aside.

6. To remove the door handle & trim

- a) Remove the 4 door handle screws and lift the door handle off door trim and slide up the door trim.

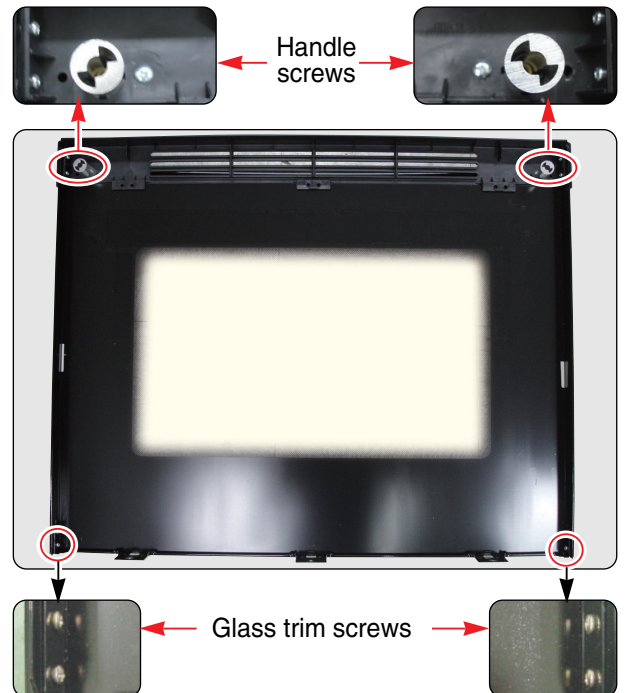
2 door handle screws

2 door handle screws

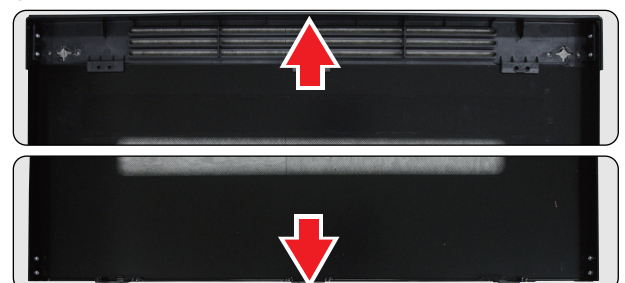


7. To remove the door handle trim & glass (for white / Black model)

- a) Remove the handle and glass trim screws



- b) Lift the door handle off door trim



- c) Slide up the door trim and pull the glass trim forward

COMPONENT ACCESS

8. To remove a hinge hanger assembly:

- Remove the 2 top liner screws
(See step 3 on page 3-14)
- Place the door liner assembly on a padded work surface with the hinge hangers over the edge.
- Remove the two bottom screws.
- Lift the hinge hanger out of the door liner slot.



- Lift the inner oven door glass and bracket assembly out of the door liner.



REASSEMBLY NOTE: When you reinstall the insulation around the oven door glass, make sure that the insulation is not visible in the glass after the door is reassembled.

9. To remove the oven door glass assembly:

- Remove the 8 screws.
- Lift the insulation cover off the door liner.



COMPONENT ACCESS

REMOVING THE OVEN DOOR GASKET

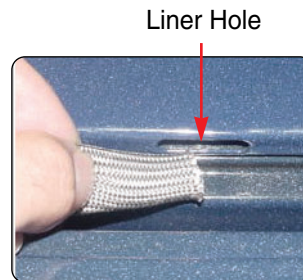
⚠ WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

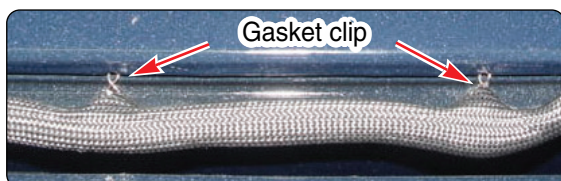
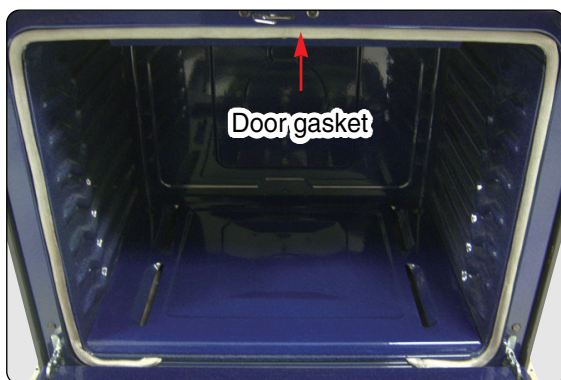
⚠ CAUTION

- **Be careful** when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

3. Pull the ends of the gasket out of the liner holes.



1. Open the oven door to its fully down position.
2. Pull the oven door gasket clips out of the liner holes until all of the clips are removed.



COMPONENT ACCESS

REMOVING A SIDE PANEL

WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace all panels and parts before operating.**
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

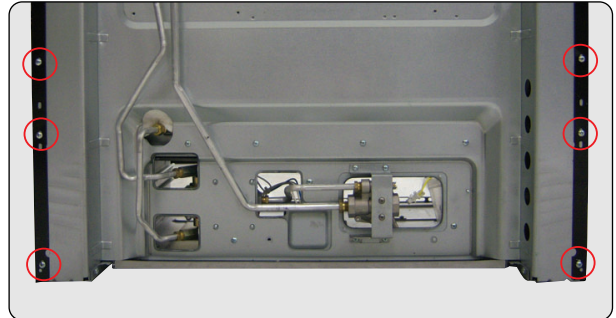
CAUTION

- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.

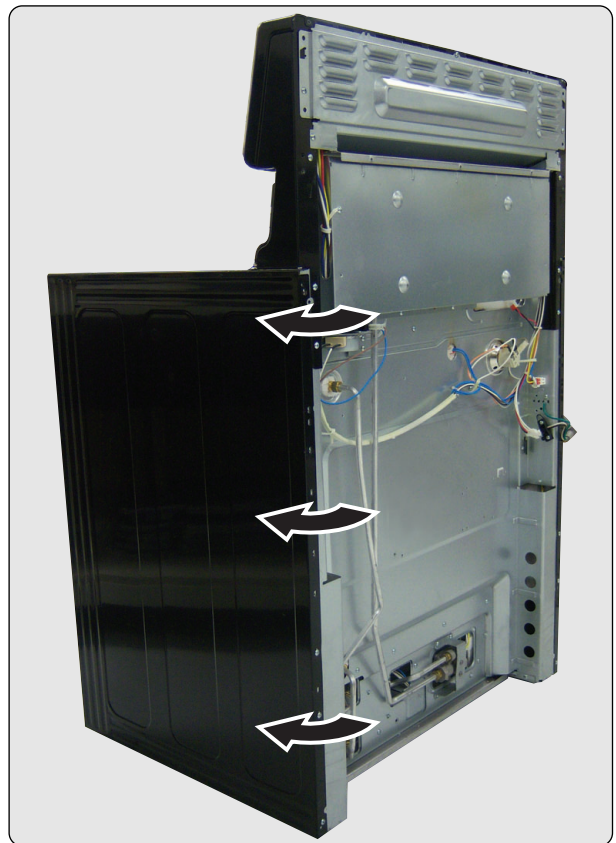
1. Turn off the electrical supply and gas supply going to the range.
2. Remove the oven door from the range (see page 3-12 for the procedure).
3. Pull the range away from the wall so you can access the back of the unit.
4. Remove the 15 screws from the rear panel and remove the panel (see step 4 on page 3-2).
5. Raise the cooktop plate (see the page 3-4 for the procedure).
6. Remove the two screws from the top rear of the side panel.



7. Remove the 6 screws from the left or right side panel.



8. Pull the back of the side panel out from the range approximately 10°.



9. Push forward and remove the side panel.

COMPONENT ACCESS

REMOVE THE OVEN VALVE (SAFETY VALVE) & GAS REGULATOR

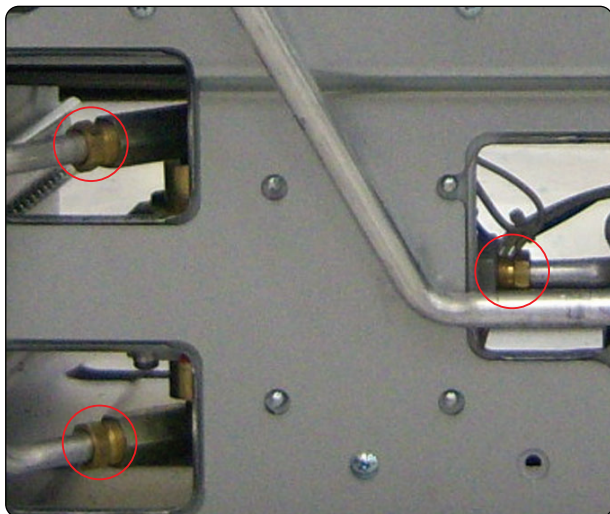
⚠ WARNING

- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

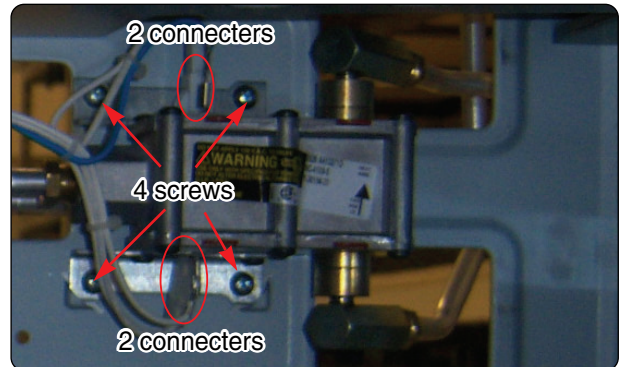
⚠ CAUTION

- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.

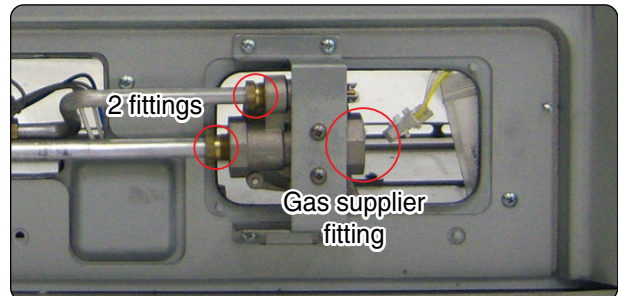
1. Turn off the electrical supply and gas supply going to the range.
2. Pull the range away from the wall so you can access the pipe of the unit.
3. To remove the oven valve:
 - a) Remove the drawer (see page 3-13 for the procedure).
 - b) Remove the 3 fittings.



- c) Remove the 4 connectors.
- d) Remove the 4 screws and then lift the oven valve.



4. To remove the gas regulator:
 - a) Remove the 2 fittings and a gas supplier fitting.



COMPONENT TEST

Before testing any of components, perform the following checks:

NOTE:

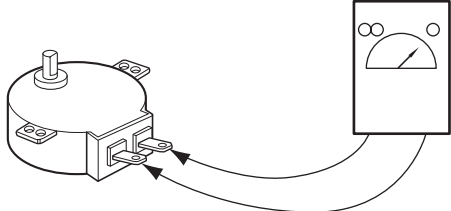
1. The most common cause for control failure is corrosion on connectors.
Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures
2. ALL units in the first few days of use should be checked for mis-wiring or loose connections

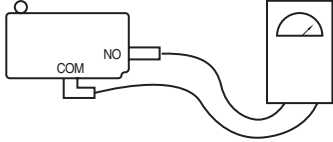


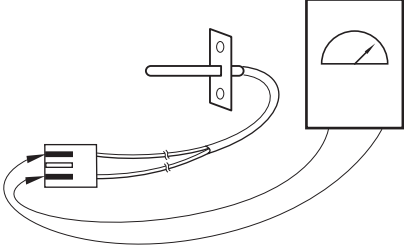
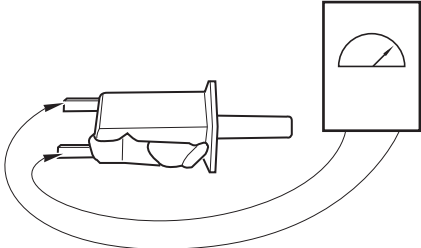


1. All/tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms per-volt DC, or greater.
2. Check all connections before replacing components, looking for broken or loose wires, Failed terminals, or wires not pressed into connectors far enough.
3. Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

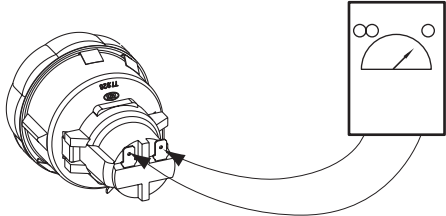
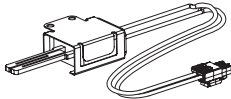
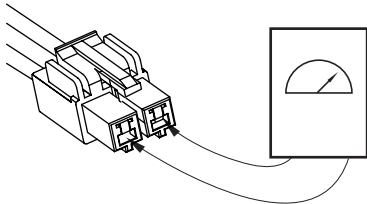
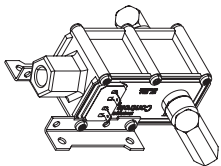
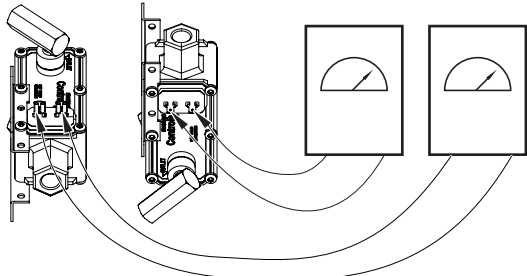
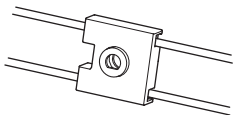
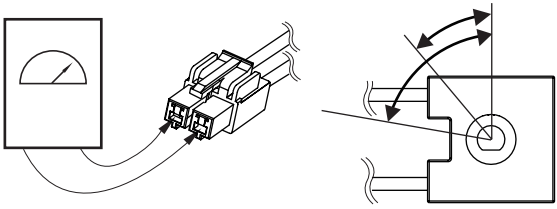


! WARNING

- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating
- Reconnect all grounding devices after servicing
- Failure to do so can result in death or electrical shock

NOTE: Below Ω value were tested at room temperature (77F/25°C)

Components	Test procedures	Results
Door locking Motor	<ol style="list-style-type: none"> 1. Refer to page 3-13 for the servicing procedure 2. Measure the resistance (Multiple meter scale: R x 1000) 	<p>Normal: Approximately 2.6 kΩ \pm 10% If not replace</p> <p>Abnormal: Infinite(open) below 5Ω (shorted)</p>

Components	Test procedures	Results	
Micro Switch (normally open type)	1. Refer to page 3-13 for the servicing procedure 2. Measure the resistance (Multiple meter scale: R x 1000) 	Door latch open	Door latch Locked
	<p>NOTE: After checking for the continuity of switch, make sure that they are connected correctly</p>	 Continuity	 Infinite
Oven Sensor	1. Refer to page 3-14 for the servicing procedure 2. Measure the resistance after cooling down (Multiple meter scale: R x 1000) 	Normal: Approximately 1.09 kΩ ± 10% If not replace <div style="background-color: #e0e0e0; padding: 5px; border: 1px solid #ccc;"> <p>NOTE: Ω Value was tested at room temperature (77F/25°C)</p> </div>	
	<p>NOTE: Oven sensor is so sensitive to temperature Do test after cooling down sufficiently</p>		
Door switch	1. Refer to page 3-8 for the servicing procedure 2. Measure the resistance after cooling down (Multiple meter scale: R x 1) 	Door open	Door closed
	 Continuity	 Infinite	

Components	Test procedures	Results	
<p>Oven lamp</p>	<p>1. Measure the resistance after cooling down (Multiple meter scale: R x1)</p> 	<p>Normal: Approximately $5 \Omega \pm 10\%$ If not replace</p>	
<p>Broil or bake igniter</p> 	<p>1. Refer to page 3-9 or 3-10 for servicing procedure. 2. Measure the resistance after cooling down. (Multiple meter scale : R x 1)</p> 	<p>Normal: $45 \Omega \sim 100 \Omega$ (Room Temperature Resistance) If not replace</p>	
<p>Oven (safety) valve</p> 	<p>1. Refer to page 3-21 for servicing procedure. 2. Measure the resistance after cooling down. (Multiple meter scale : R x 1)</p> <p>Upside Downside</p> 	<p>Normal: Approximately $1 \sim 3 \Omega$ If not replace</p>	
<p>Ignition switch</p> 	<p>1. Refer to page 3-21 for servicing procedure. 2. Measure the resistance by rotating the cam of each switch slowly. (Multiple meter scale : R x 1)</p> 	<p>approximately $40^\circ \sim 80^\circ$</p>	<p>other</p>
		 Continuity	 Infinite

CONVERSION TO LP GAS

⚠ WARNING

- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

- Be careful when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

Tools required

- Adjustable wrench
- 13/32" or 10mm open-end wrench
- Phillips head screwdriver
- Flat bladed screwdriver(blade width approximately 3/32" across)
- Nut drivers : 13/32" or 10mm

1. PREPARE RANGE FOR CONVERSION

- 1) Turn off gas supply to the range.
- 2) Turn off the electrical power to the range.

⚠ CAUTION

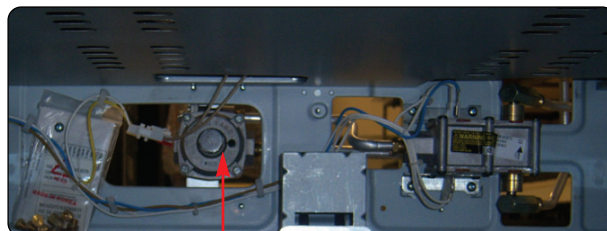
- If the gas supply to the range is disconnected for any reason see the installation instructions for proper connection and safety precautions.

2. CONVERT THE PRESSURE REGULATOR

⚠ WARNING

- Do not remove the pressure regulator from the range.

Remove the storage drawer and the pressure regulator is located at the rear of the range.



Pressure regulator

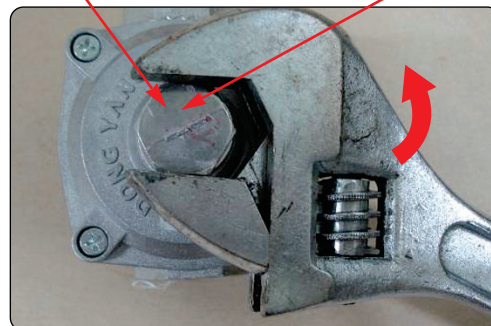
3. CONVERTING YOUR REGULATOR

- 1) Unscrew the hex-nut cap by using an adjustable wrench.
- 2) Separate plastic cap and hex-nut cap by turning the plastic cap to 90°.
- 3) Assemble plastic cap in the opposite side.
- 4) Screw the hex-nut cap back into the regulator.
Do not over tighten.

LPG



Natural



CONVERSION TO LP GAS

⚠ WARNING

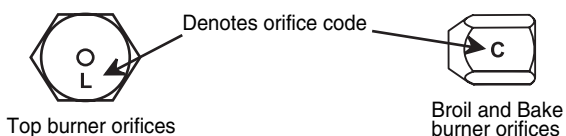
- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating.
- RECONNECT all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

- Be careful when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

- 1) Remove grates, burner caps and burner heads.
- 2) Remove the brass orifice spud in the chimney of each burner using a 13/32" or 10 mm nut driver.
- 3) Install the LP orifice spuds into their correct positions as described previously.

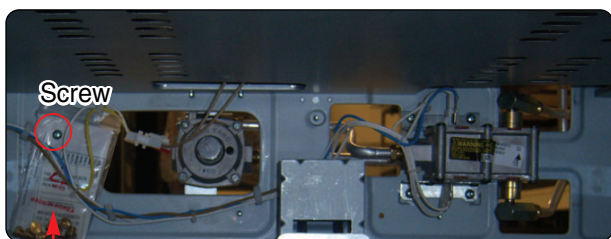
BURNER OUTPUT RATINGS; BTU/HR		
LP (Propane) Gas, 10" W.C.P		
MODEL	BTU RATE	ORIFICE CODE
	LRG3091S	LRG3091S
LF	9,500	L
LR	9,100	M
RR	5,000	P
RF	10,000	Q
CTR	9,100	M
BROIL	13,500	F
BAKE	18,000	D



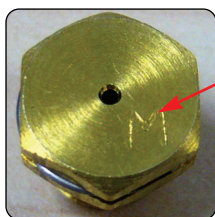
4. CONVERTING THE SURFACE BURNERS

Remove the conversion kit (see illustration below).

LP orifice spuds have an orifice code on the top or the side, denoting the location on the range where it is to be installed.

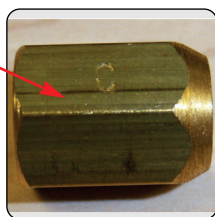


Conversion Kit



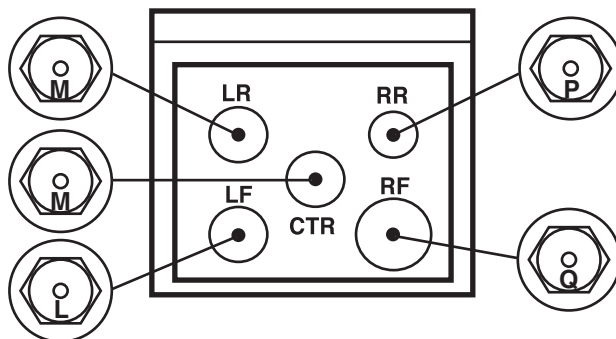
Top burner orifices

Denotes orifice code



Broil and Bake burner orifices

Orifice Locations for LP Gas [LRG3091S]



CONVERSION TO LP GAS

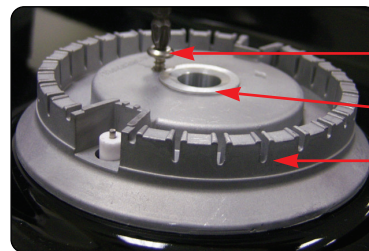
⚠ WARNING

- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating.
- RECONNECT all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

- Be careful when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

- 4) To prevent leakage, make sure the orifice spuds are securely screwed into the gas supply tubes.
- 5) For the right front burner of LRG3091S, the choke and self threading screw will be needed as shown Fig. 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 choke notch), so it does not have any rotational movement.



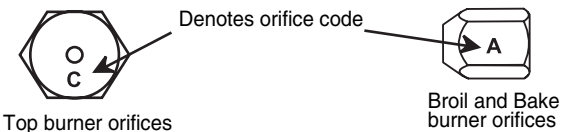
Self threading screw
Choke
17k burner base

<Fig>

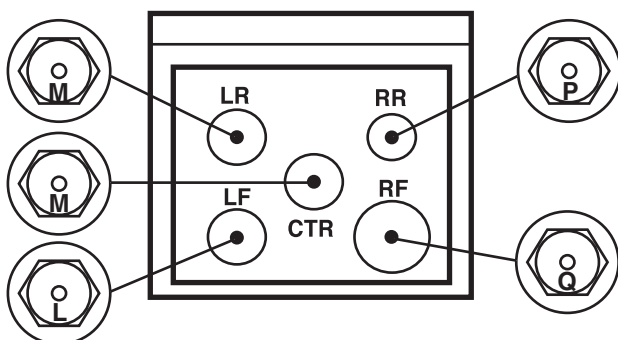
- 6) Put the old orifice spuds into conversion kits and place back on the range for possible future conversion.

NOTE: If an orifice spud is accidentally dropped, the cooktop plate can be raised (see the page 3-4)

BURNER OUTPUT RATINGS; BTU/HR		
Natural Gas, 5" W.C.P		
MODEL	BTU RATE	ORIFICE CODE
BURNER	LRG3091S	LRG3091S
LF	12,000	C
LR	9,100	D
RR	5,000	G
RF	17,000	H
CTR	9,100	D
BROIL	14,500	A
BAKE	18,000	B



Orifice Locations for LP Gas [LRG3091S]



CONVERSION TO LP GAS

⚠ WARNING

- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating.
- RECONNECT all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

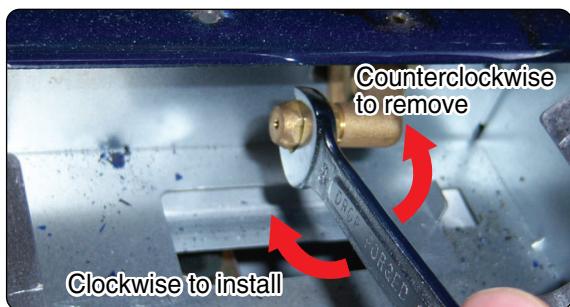
⚠ CAUTION

- Be careful when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

5. CONVERT THE OVEN BURNER ORIFICES

1) OVEN LOWER BURNER(BAKE)

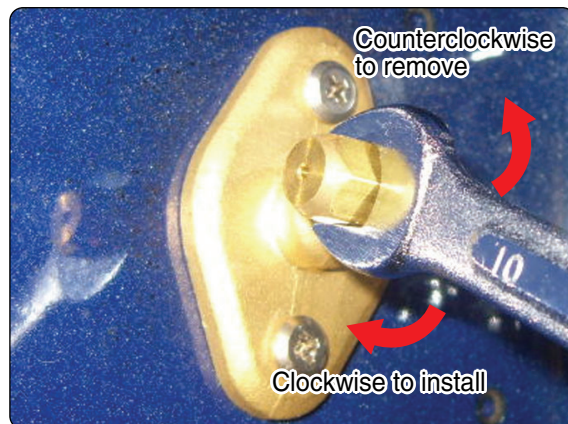
- Remove oven door, oven bottom, frame guide, nozzle case and oven burner assembly (See the page 3-10).
- Remove the orifice spud from nozzle holder using a 13/32" or 10mm wrench.
- Install the LP orifice spud(D) to the nozzle holder. To prevent leakage, make sure the orifice spud is securely screwed into the nozzle holder.



2) OVEN UPPER BURNER(BROIL)

- Remove oven door and Broil burner assembly. Then remove the wire cover using a phillips head screwdriver (See the page 3-11).
- Release the connector of the Igniter.

- Remove the orifice spud from nozzle holder using a 13/32" or 10mm wrench.
- Install the LP orifice spud(C) to the nozzle holder. To prevent leakage, make sure the orifice spud is securely screwed into the nozzle holder.



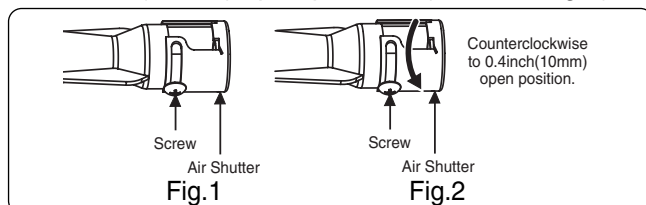
6. Turn on the Electrical and Gas Supply to continue with flame adjustment.

7. ADJUSTING THE AIR SHUTTER

For bake burner, adjust the Air Shutter for LP gas, loosen the Philips head screw and rotate the shutter to the fully open position as shown Fig.1. NOTE: When converting the unit back to natural gas the bake burners air shutter should be also in fully open position.

For broil burner, adjust the Air Shutter for LP gas, loosen the Philips head screw and rotate the air shutter to the fully open position as shown Fig.1 (Refer to Fig.1)

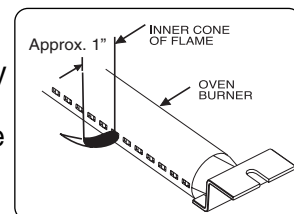
NOTE: When converting the unit back to natural gas the broil burners air shutter should be in 0.4inch (10mm) open position. (Refer to Fig.2)



Check the flame size. The flame should have approximately 1-inch blue cones.

After 30 seconds of the burner operation, check for flame stability.

If the flame is lifting off of the burner ports gradually reduce the air shutter opening until flames have stabilized. Some yellow tipping may be normal when used on LP.



CONVERSION TO LP GAS

WARNING

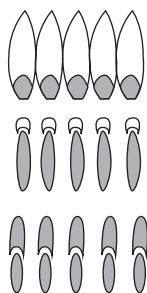
- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating.
- RECONNECT all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

CAUTION

- Be careful when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

8. CHECK QUALITY OF THE FLAMES

The combustion quality of the burner flames needs to be determined visually.



- A. Yellow Flames:**
Further Adjustment Required
- B. Yellow tips on outer cones:**
Normal for LP Gas
- C. Soft Blue flames:**
Normal for Natural Gas.

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

9. ADJUST THE SURFACE BURNER LOW FLAME(SIMMER) SETTING.

- 1) Light all surface burners.
- 2) Turn the knob on the burner being adjusted to "LO"
- 3) Remove knob.

- 4) Insert a small, flat bladed screwdriver into the valve shaft as shown in Fig. 1.
Turn the adjustment screw until the flame reaches the desired size.
- 5) Replace the knob.



Center adjustment screw

Fig.1

- 6) Test the flame stability.
 - Test 1:** Turn the knob from "HI" to "LOW" quickly. If the flame goes out, increase the flame size and test again.
 - Test 2:** With the burner on a "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.
- 7) Repeat steps 1-5 for each surface burner.

10. CONVERSION STICKER

Upon completion of the conversion, fill out the LP sticker located with the instructions. Once complete, attach the sticker to the back of the range near the regulator.

Place all orifice's that were removed for natural gas back into the plastic bag along with the instructions. Place the kit back into its original location.

CONVERSION IS FINISHED

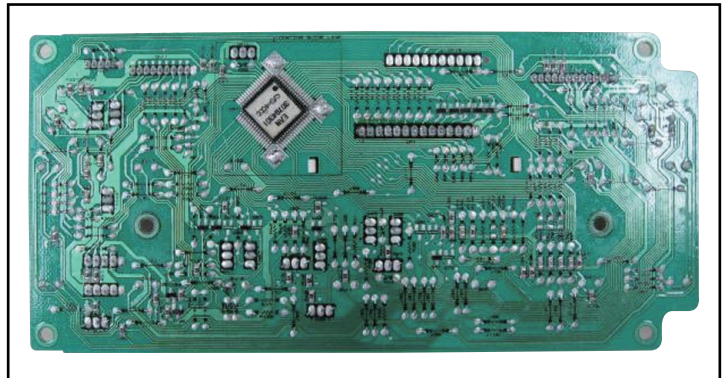
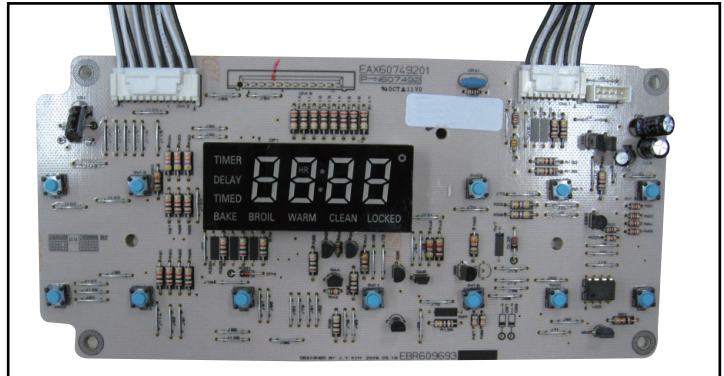
To convert to the original gas.

Follow conversion process with original orifices to convert the appliance to the original gas.

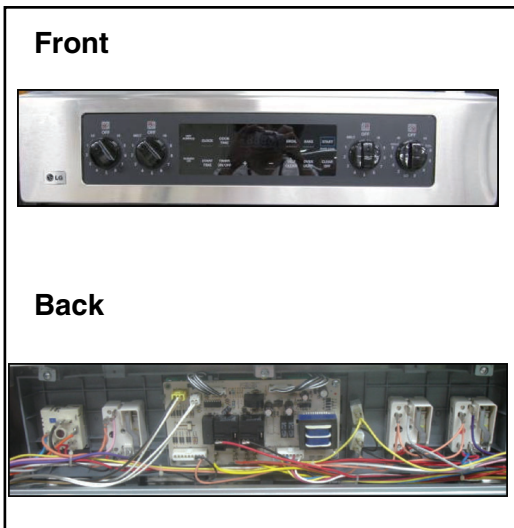
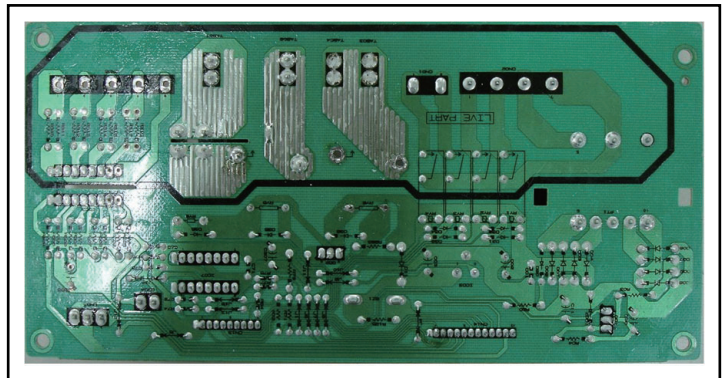
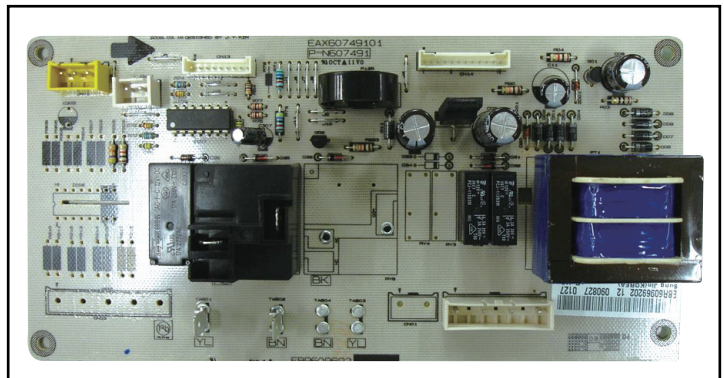
NOTE: The choke for the 17k top burner must be removed when converting the range back to natural gas.

COMPOSITION OF CONTROL

Main PCB (P/N : EBR60969303)



Power PCB (P/N : EBR60969203)

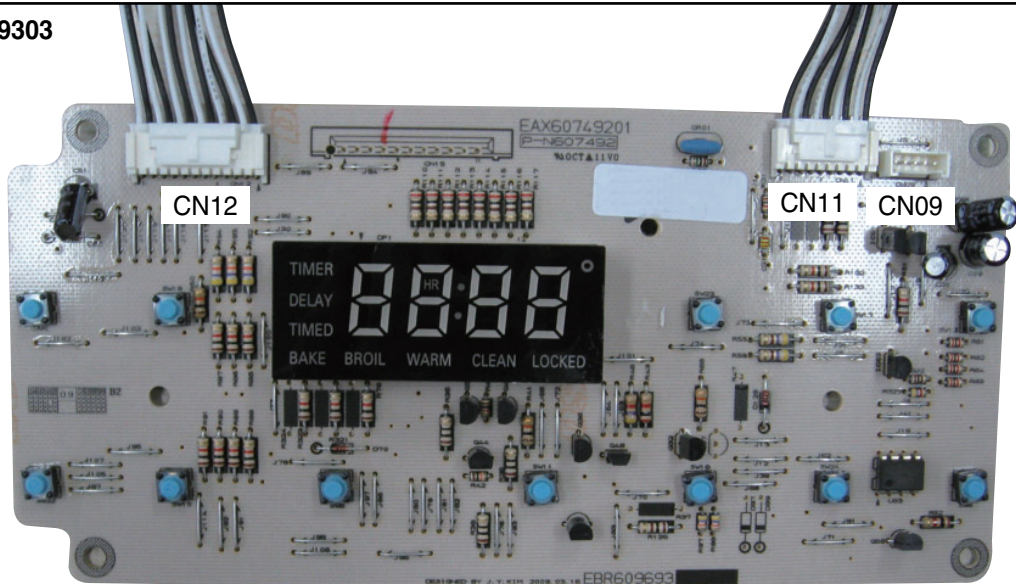


Controller assembly

COMPOSITION OF CONTROL

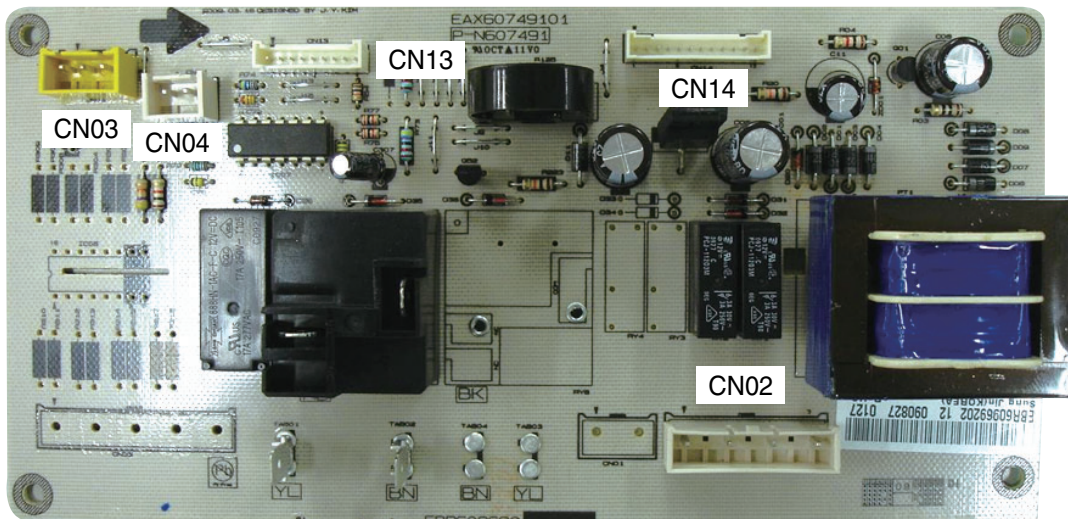
Main PCB

P/N : EBR60969303

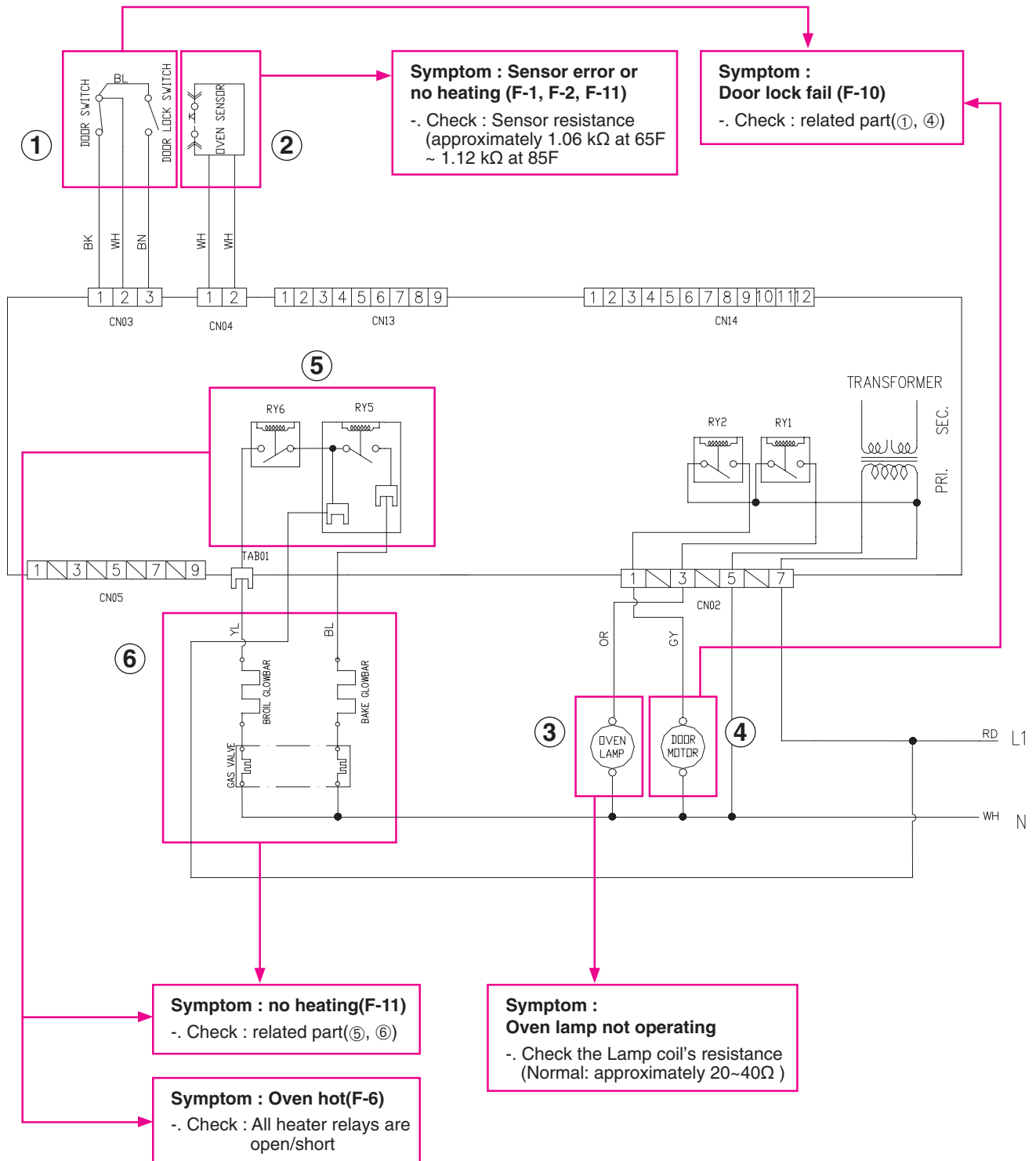


Power PCB

P/N : EBR60969203



DIAGNOSIS THROUGH SCHEMATIC



CHECK THE FAILURE CODE (F-code)

■ When the oven has some failure on cooking,

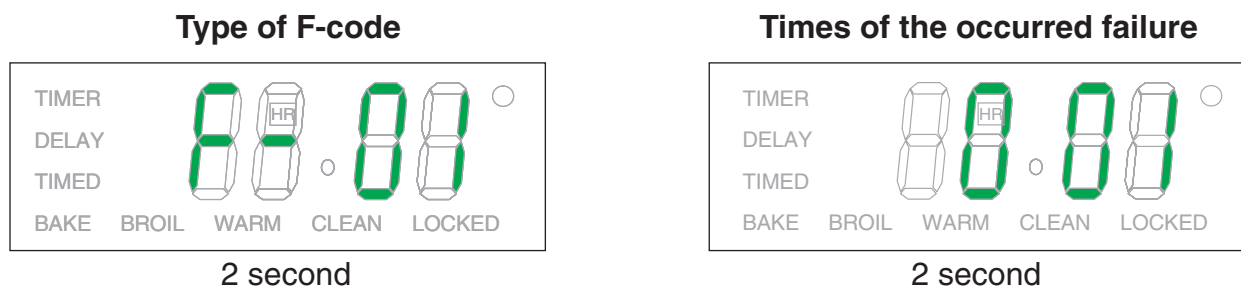
- . Cancel the cook.
- . In case of failure, F-code will not display.
- . It memorizes F-code logs in EEPROM.

■ Check the failure code as below steps.

1. press the “clear” key
2. press the “BAKE” and “BROIL” key at the same time for 1 second.

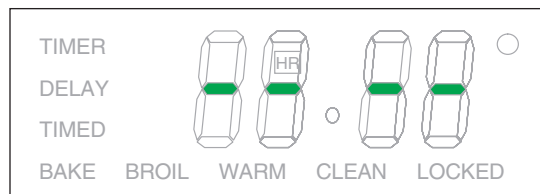
If the oven has some failure, the oven will show the failure code, like FIG. 1

It shows the type of F-code and times of occurred failure alternately for each two seconds



< FIG. 1 >

If the oven does not have any failure, the oven will display like FIG. 2



< FIG. 2 >

NOTE:

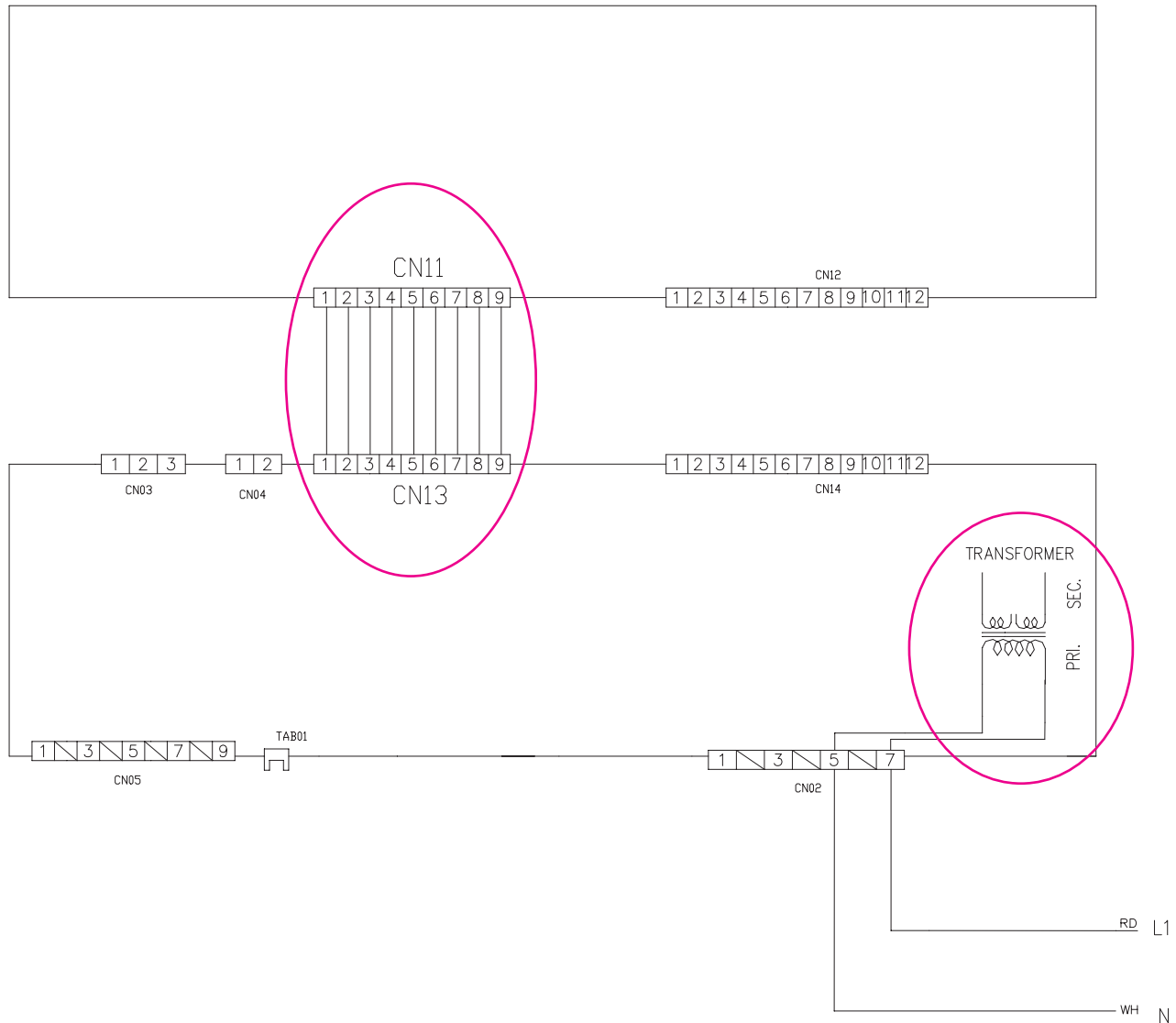
After checking the failure code, press the “CLEAR” key

FAILURE CODE SUMMARY

Code	Description	How to detect	Check point
F-1	Opened Sensor	Oven sensor(thermistor) remains open for over 1 min during cooking.	1. Wiring 2. Oven Sensor
F-2	Shorted Sensor	Oven sensor (thermistor) is short for over 1 min during cooking.	1. Wiring 2. Oven Sensor
F-3	Key shorted Error	When some keys are continuously short for over 60 seconds.	Key malfunction
F-6	Oven hot	The oven temperature is over 650°F continuously during 2 minutes on cooking except self cleaning.	1. Oven Sensor 2. Relay
F-10	Door Lock Fail	In case of Door Lock Failure in operating Lock motor.	1. Electric Wiring 2. Motor's Resistance 3. Micro Switch
F-11	No heating	If starting oven temperature does not exceed 150°F and oven temperature is less Than or equal to starting temperature over 5 minutes during preheating, while door is closed.	1. Electric Wiring 2. Gas Valve 3. Ignitor 4. Oven Sensor

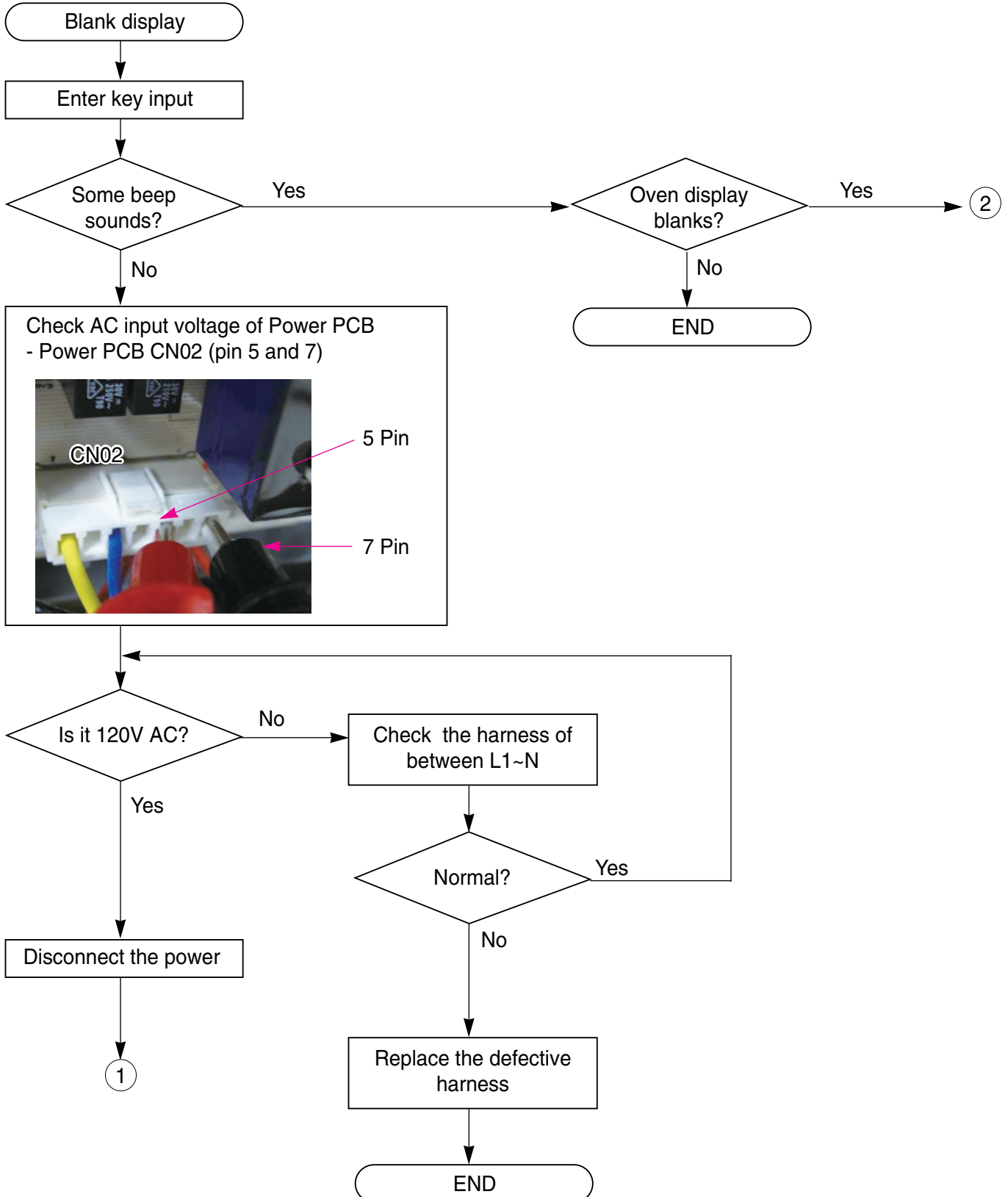
CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. Power Failure (Dead) 2. No Display	1. Check Electric Wiring 2. Check the Power PCB and Main PCB Voltage



CHECKING FLOW CHART BY FAILURE

No display (No power)



CHECKING FLOW CHART BY FAILURE

No display (No power)

1

Check the LVT coil resistance



PIN No. of CN02	Resistance
PIN5 ~ PIN7	approximately 138 (Ω)

Normal?

No

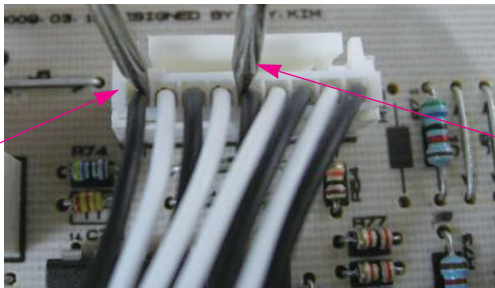
Yes

Replace the power PCB (EBR60969203)

END

Power On

Check the voltage of Power PCB
- CN13(pin 1 and pin 3, pin1 and pin 4)

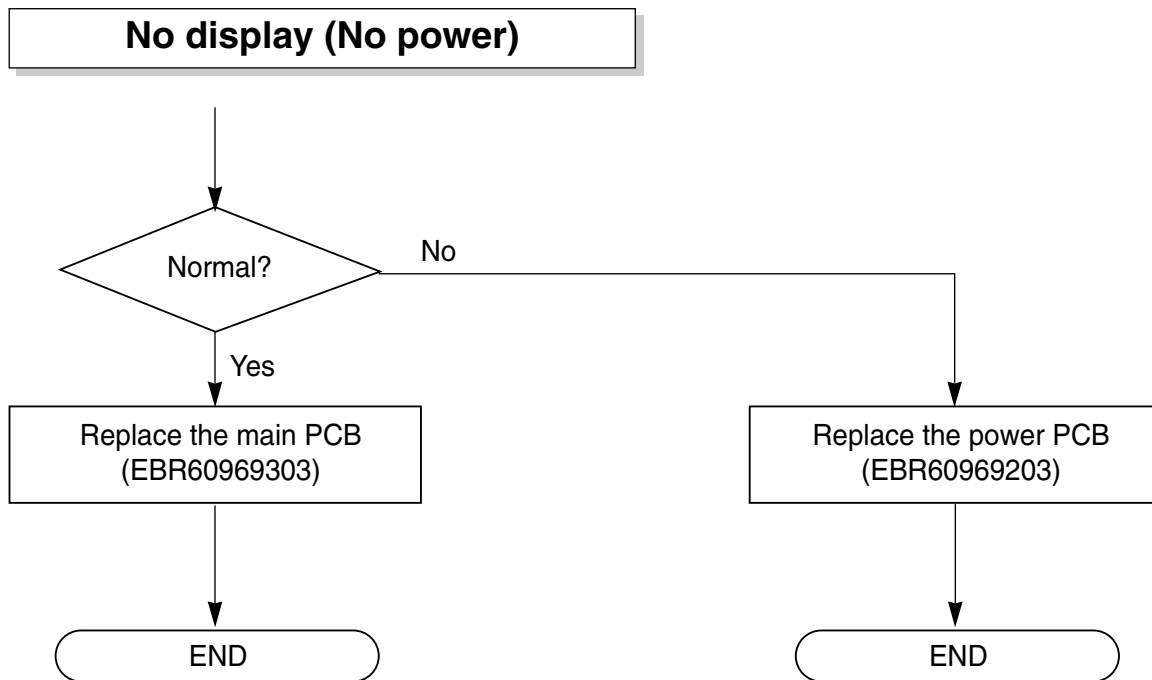


1 Pin

4 Pin

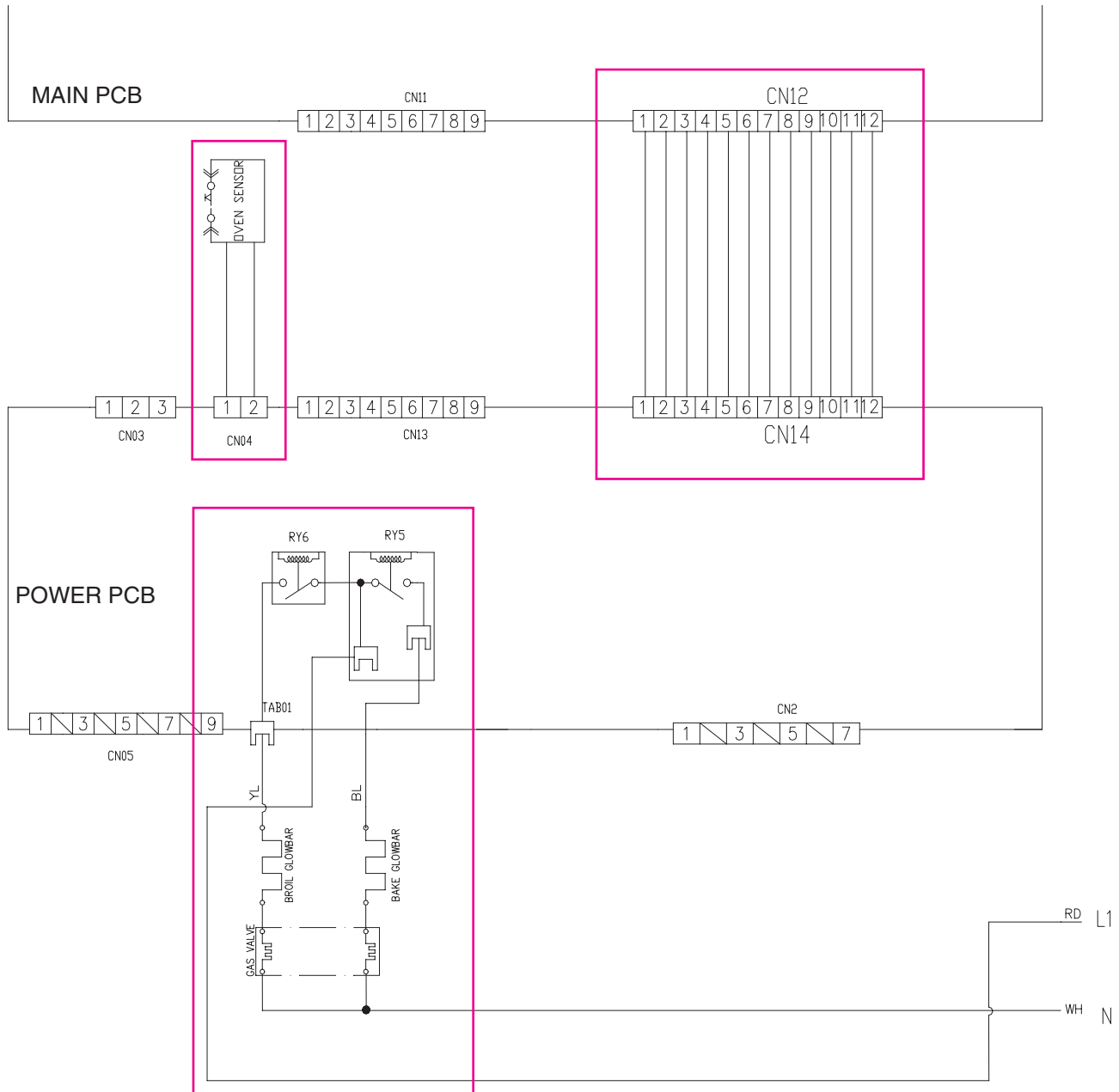
PIN No. of CN13	Voltage
PIN1(GND) ~ PIN3	approximately 9V
PIN1(GND) ~ PIN4	approximately 4.5V ~ 5.5V

CHECKING FLOW CHART BY FAILURE



CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. No heating 2. F11	1. Check Electric Wiring 2. Check Heater's Resistance. 3. Check the Sensor (thermistor).



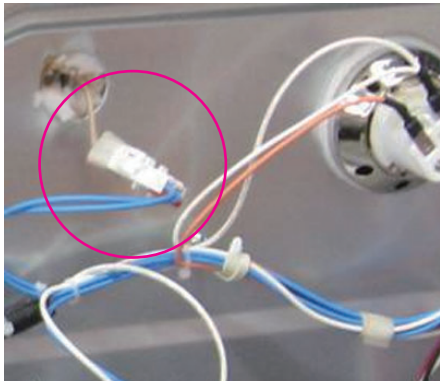
CHECKING FLOW CHART BY FAILURE

Oven does not heat

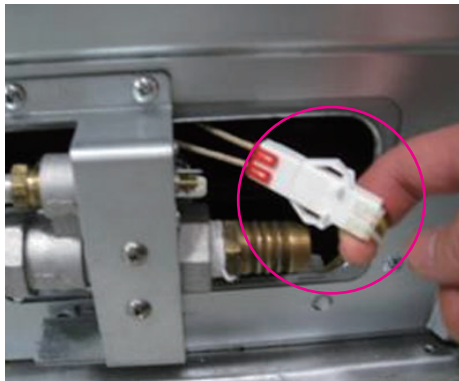
No Heating

Disconnect the power

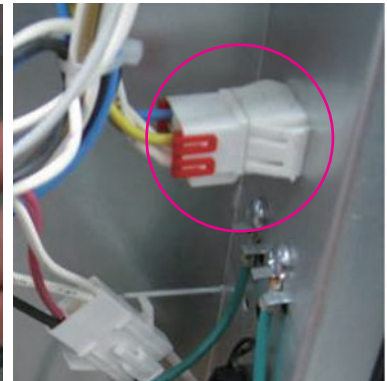
Check the looseness of bake, broil heater connection



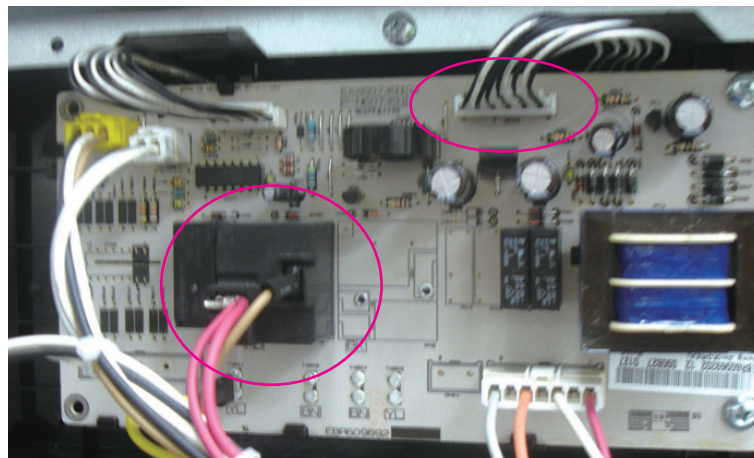
Broil global ignitor



Bake global ignitor

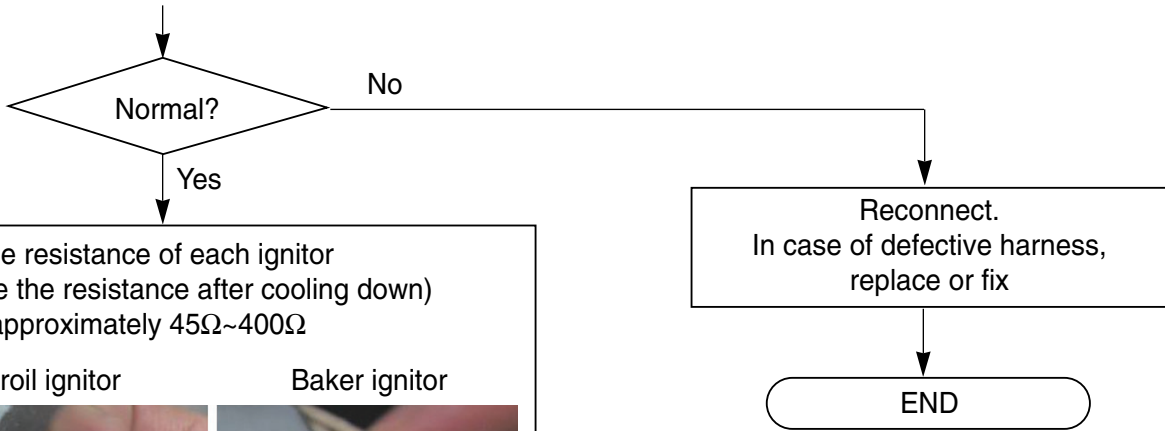


Gas Valve


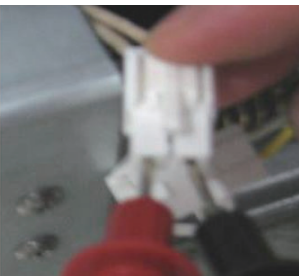


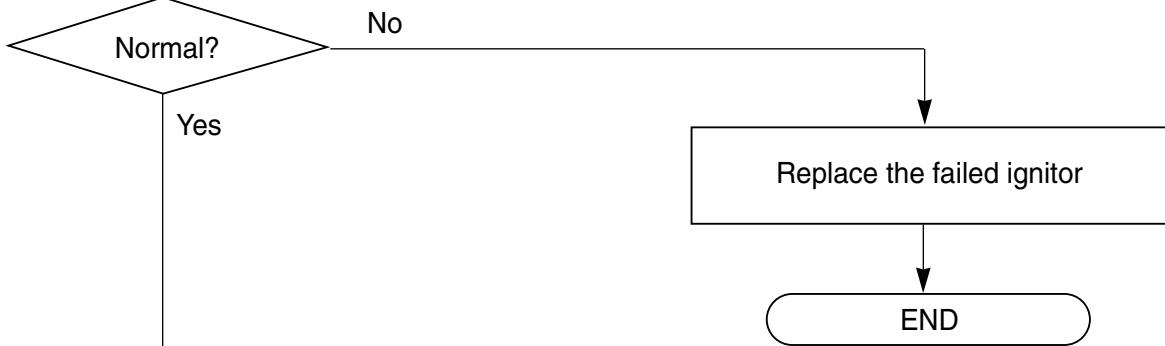
CHECKING FLOW CHART BY FAILURE

Oven does not heat

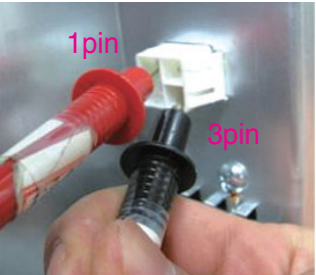
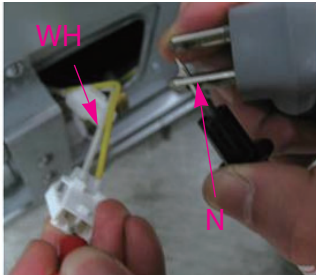
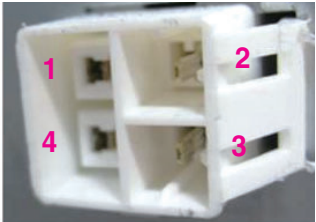


Check the resistance of each ignitor
(measure the resistance after cooling down)
Normal: approximately 45Ω~400Ω

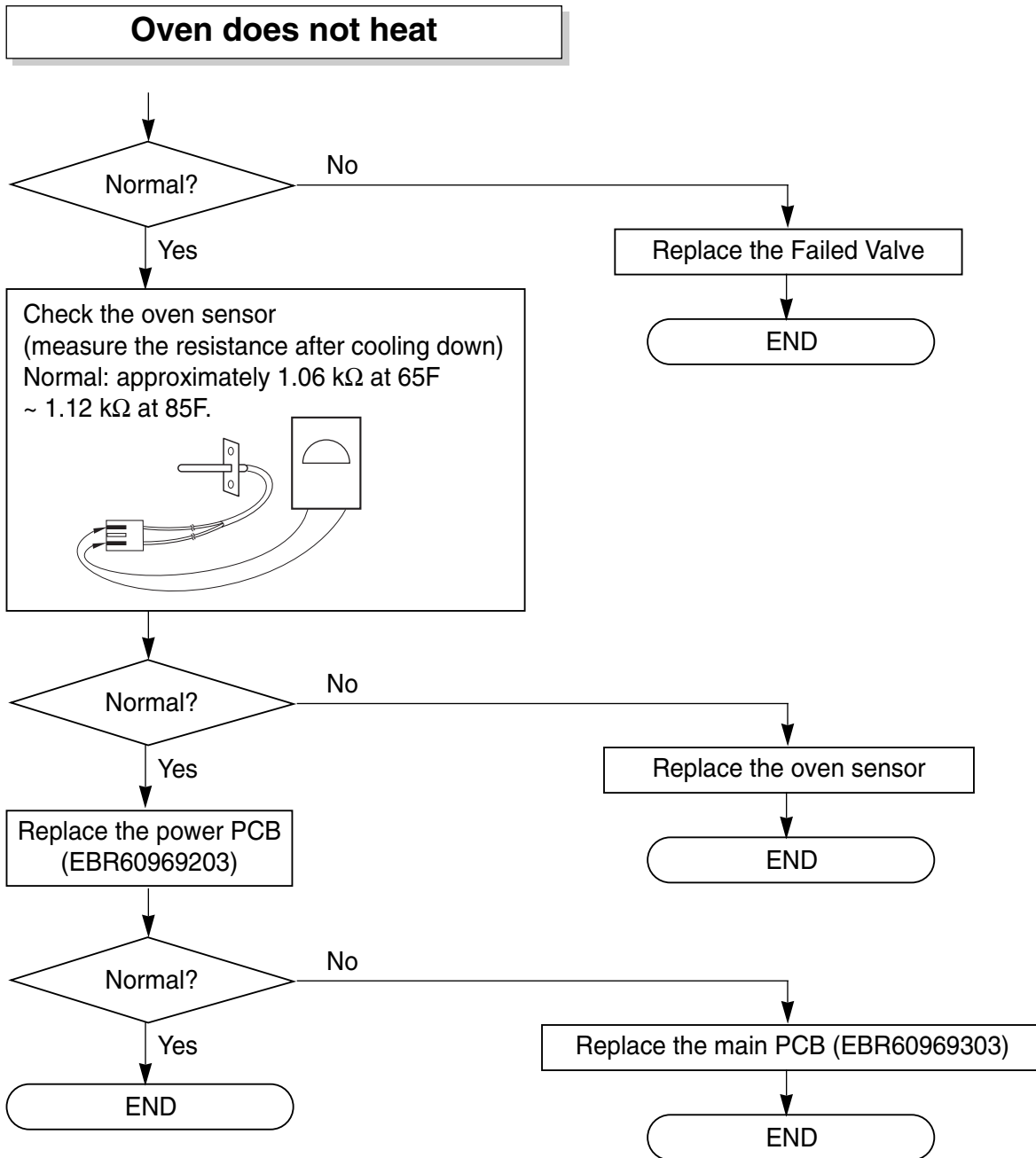
Broil ignitor	Baker ignitor
	



Check the resistance of Gas valve
Normal: approximately 1~1.5Ω

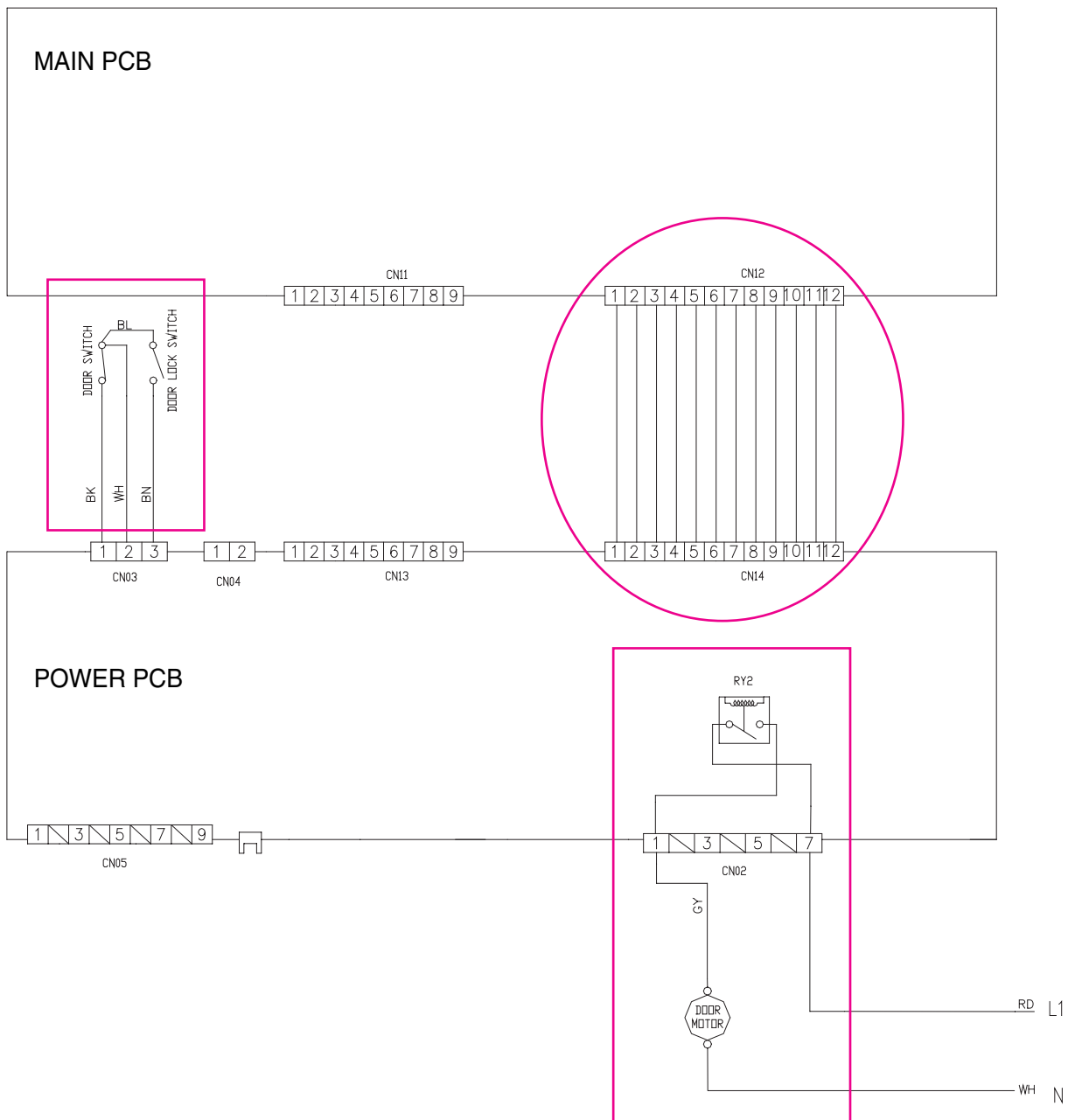
Broil Gas Valve	Bake Gas Valve	Pin No.
		

CHECKING FLOW CHART BY FAILURE



CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. Door Lock System Failure 2. F-10	1. Check the Electric wiring 2. Check the Motor's Resistance



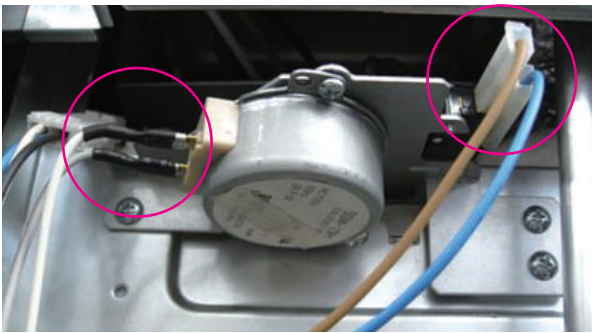
CHECKING FLOW CHART BY FAILURE

Door lock system error → F-10 error

Door lock failed

Disconnect the power

Check the terminal looseness of micro switch and door locking motor



Normal?

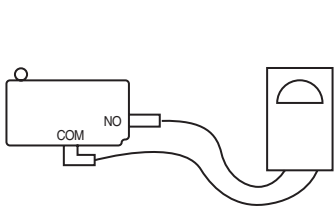
No

Yes

Reconnect

END

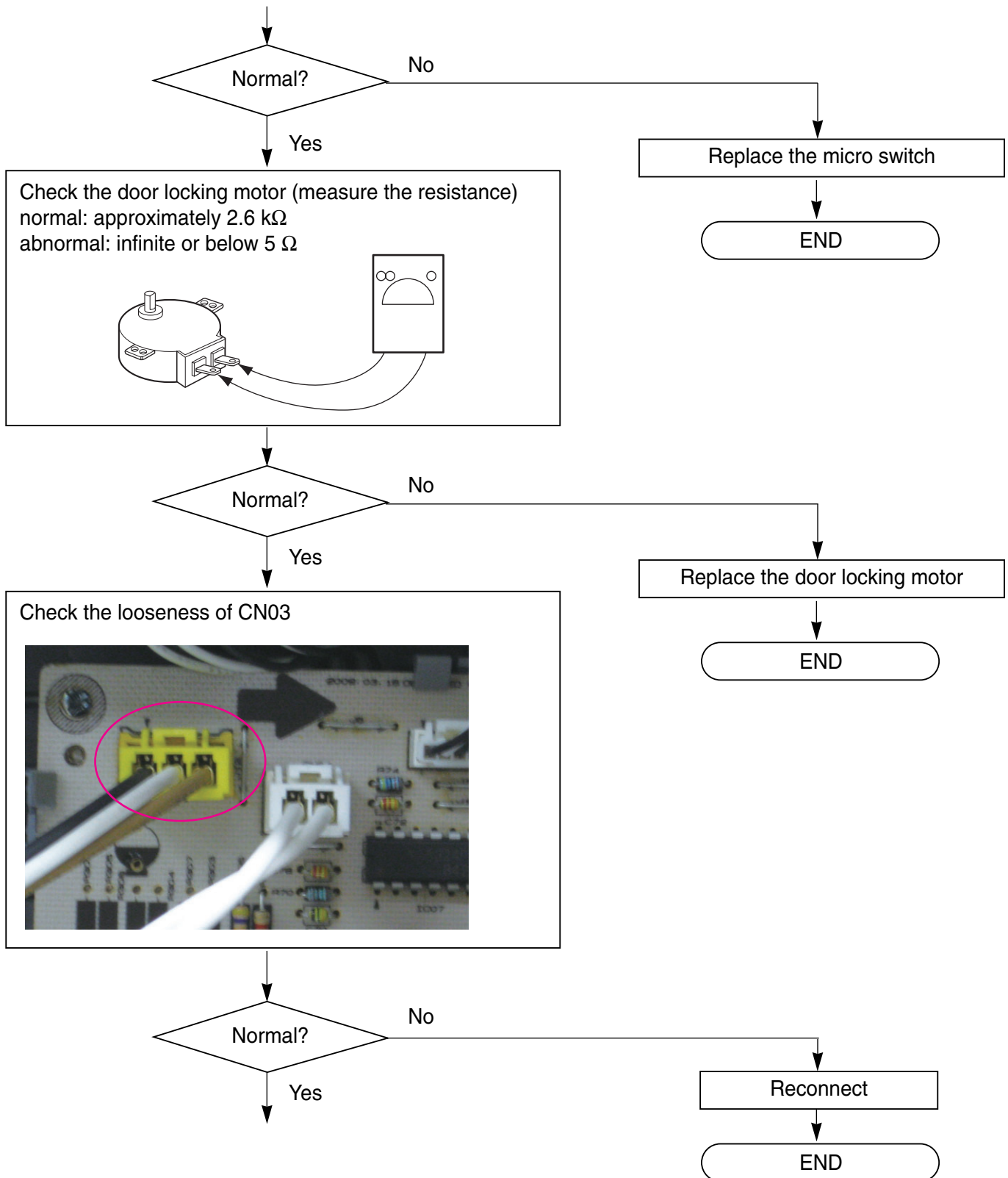
Check the oven door lock switch(micro switch)
(measure the resistance → Normally open type)



Door latch open	Door latch Locked
Continuity	Infinite

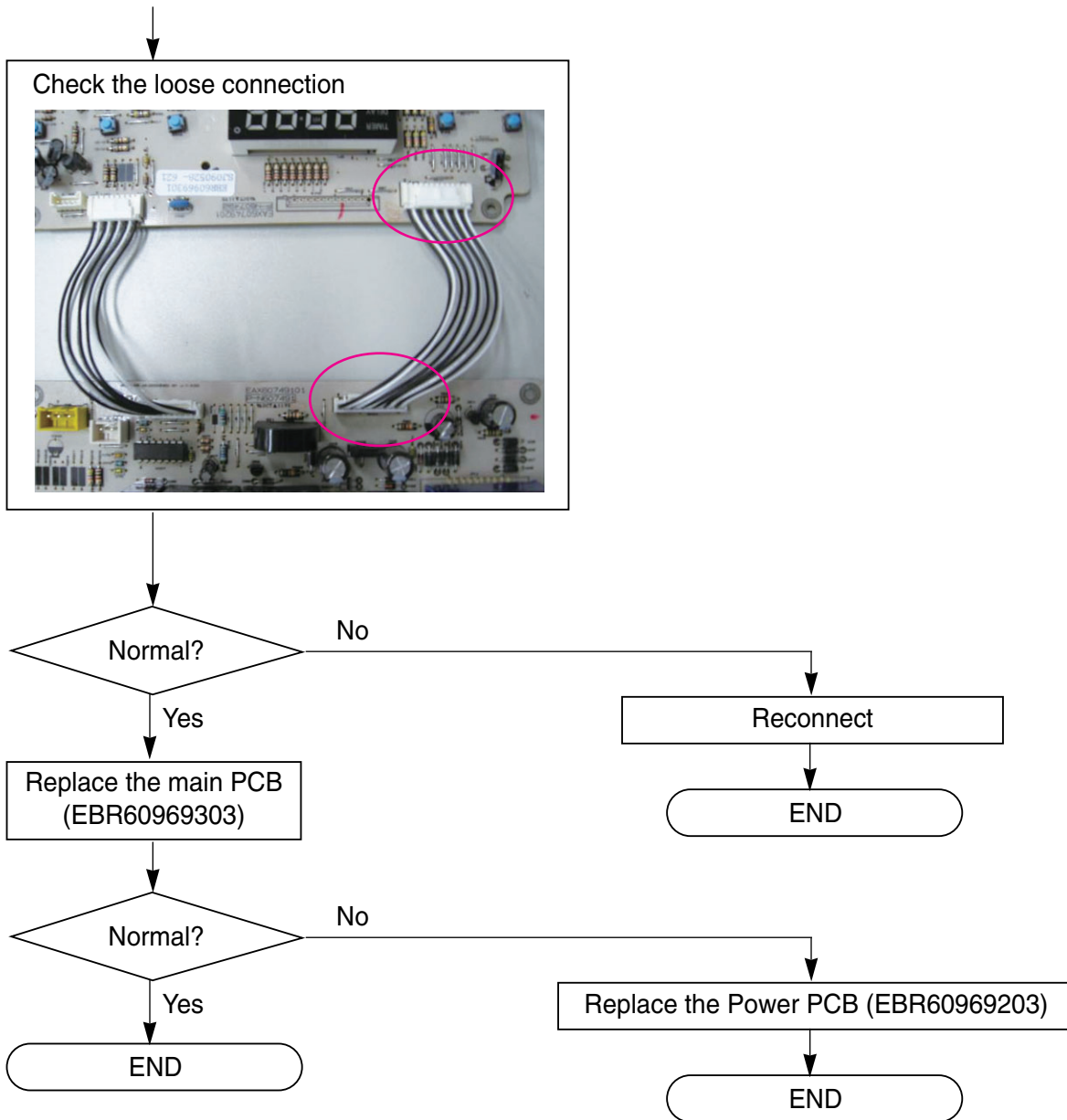
CHECKING FLOW CHART BY FAILURE

Door lock system error → F-10 error



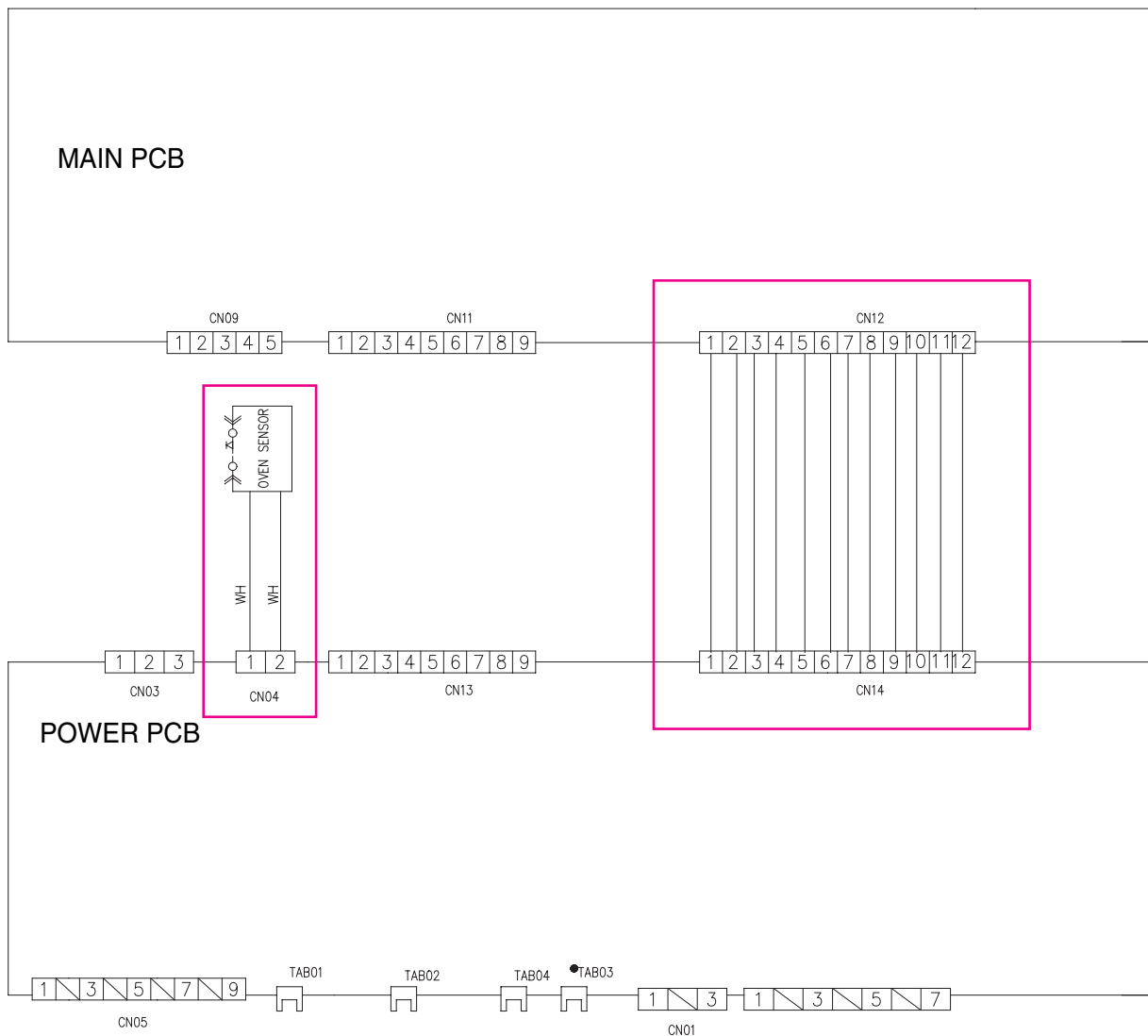
CHECKING FLOW CHART BY FAILURE

Door lock system error → F-10 error



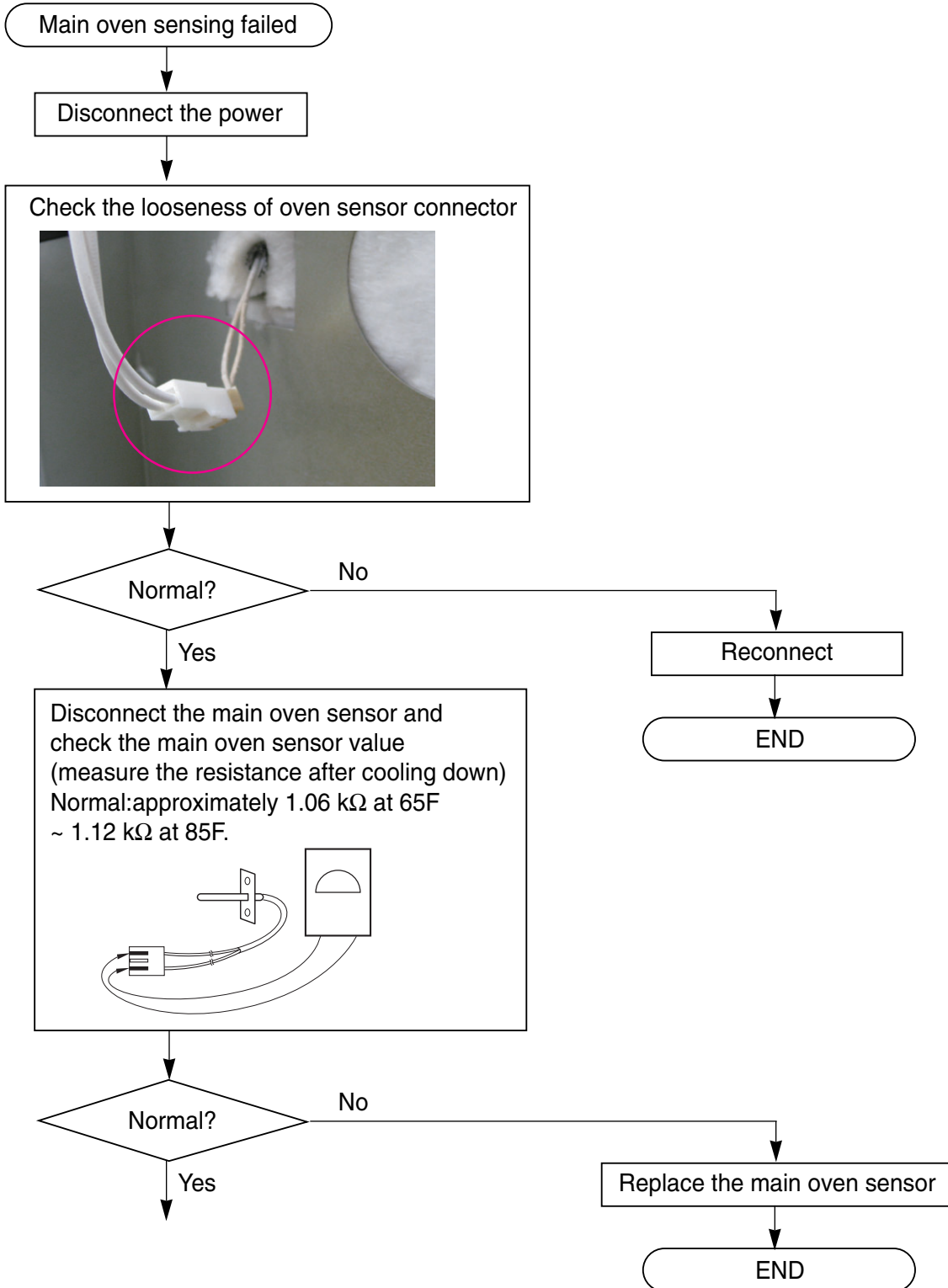
CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. Sensing Fail 2. F-1 3. F-2	1. Check the electric wiring 2. Check the test Mode 3. Check the sensor(thermistor) resistance (approximately 1.06 kΩ at 65F ~ 1.12 kΩ at 85F.)



CHECKING FLOW CHART BY FAILURE

Main oven sensing error → F-1, F-2 error

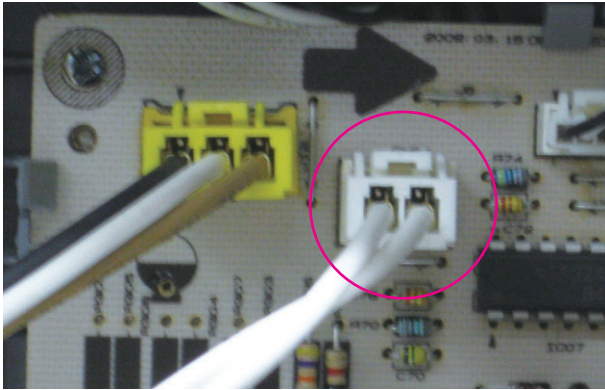


CHECKING FLOW CHART BY FAILURE

Main oven sensing error → F-1, F-2 error

Yes

Check the looseness of connector (Power PCB CN04) and look for harness terminal damage



Normal?

No

Reconnect and replace the bad harness

Yes

Connect the power

END

Check the value of thermistor by using the test mode

※ To enter the test mode, follow these steps:

1. press the "clear" key
2. press the "BAKE", "BROIL" key at the same time for one second
➔ failure code display mode
3. press the "BAKE", "BROIL" key at the same time again.
➔ S/W version and model option display mode
4. press the "COOK TIME" key

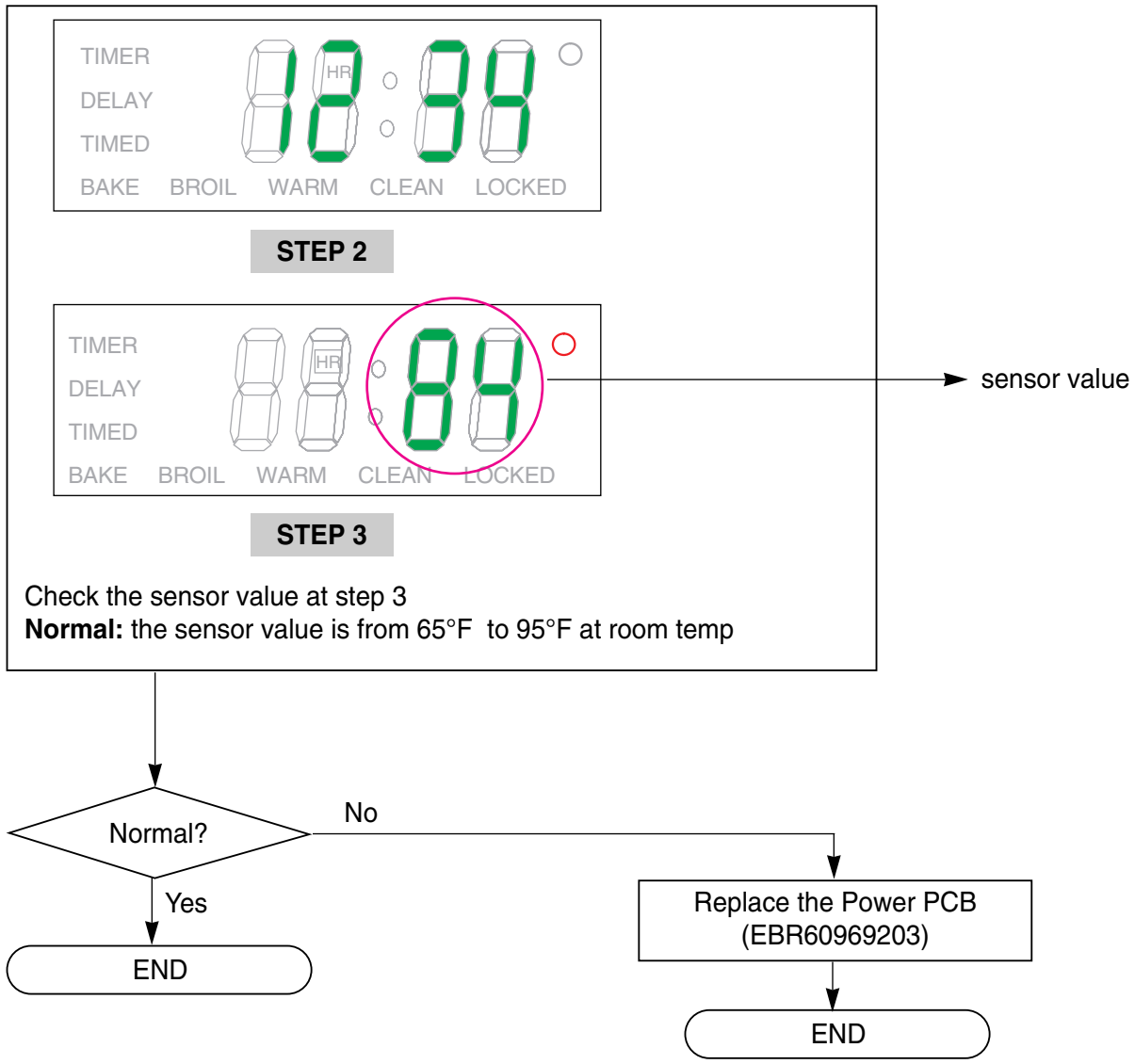
It show the display from step1 to step3 alternately each two seconds



STEP 1

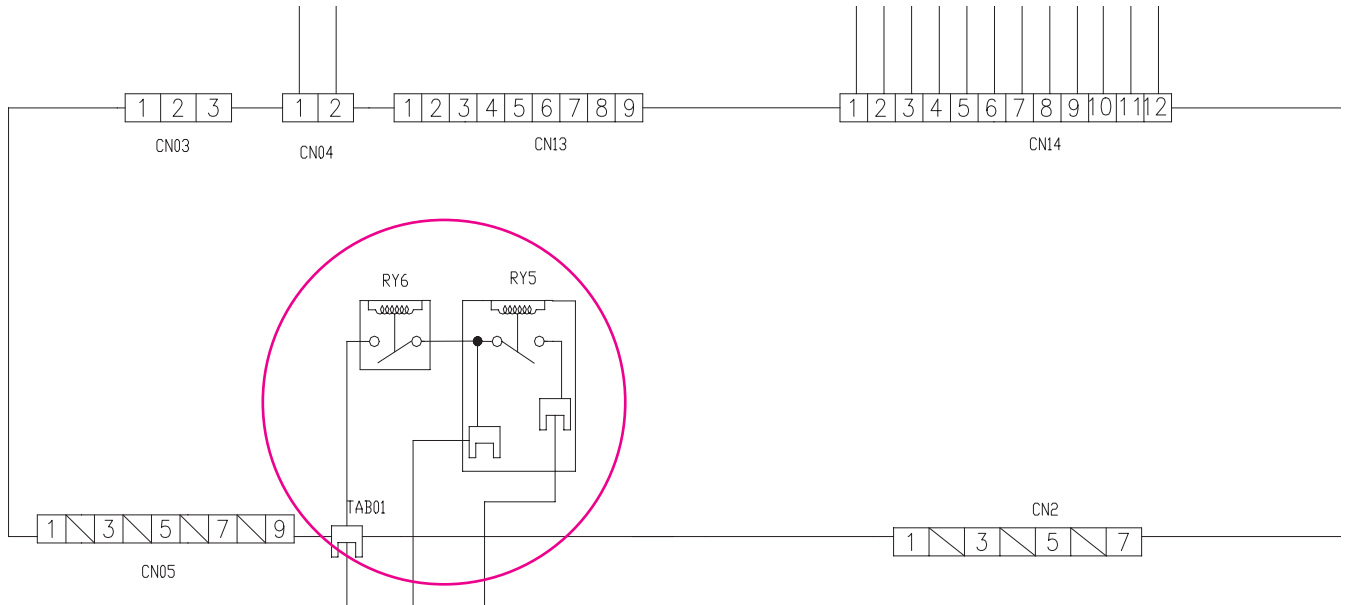
CHECKING FLOW CHART BY FAILURE

Main oven sensing error → F-1, F-2 error



CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. Oven hot 2. F-6	1. Check the Resistance of the Relay.

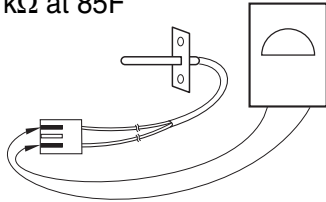


CHECKING FLOW CHART BY FAILURE

Oven too hot error → F-6 error

Oven is hot (F6)

Disconnect the power and main oven sensor.
Check the main oven sensor value
(measure the resistance after cooling down)
Normal: approximately 1.06 kΩ at 65F
~ 1.12 kΩ at 85F



Normal?

No

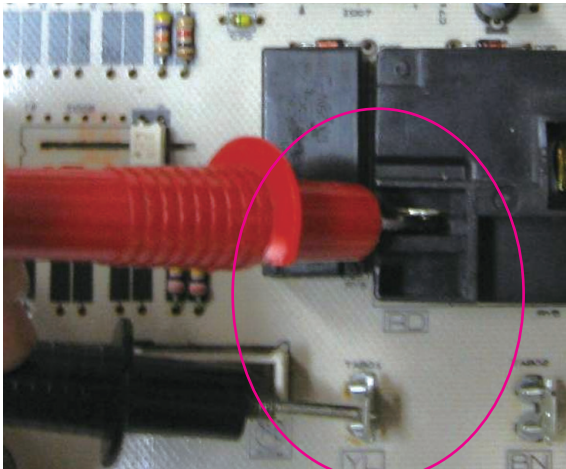
Yes

Replace the main oven sensor

Remove the Power relay PCB
(EBR60969203) harness

END

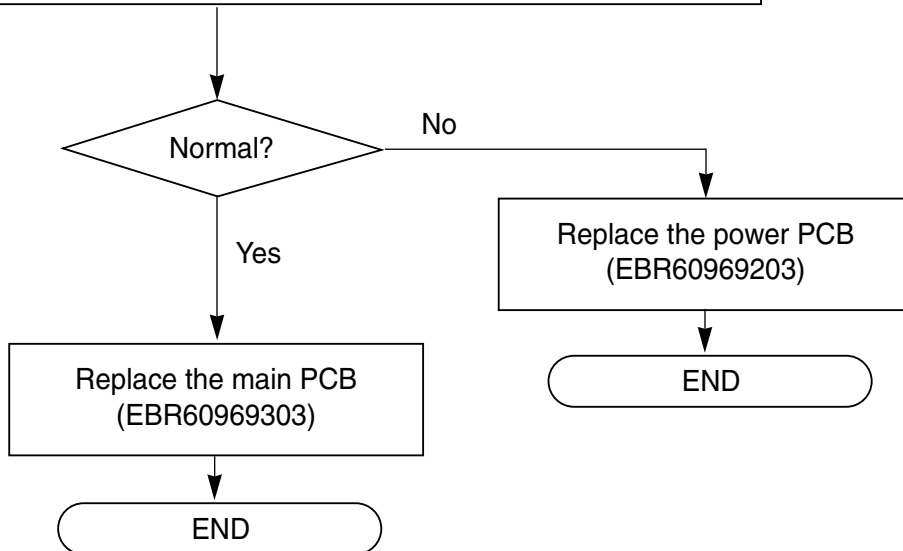
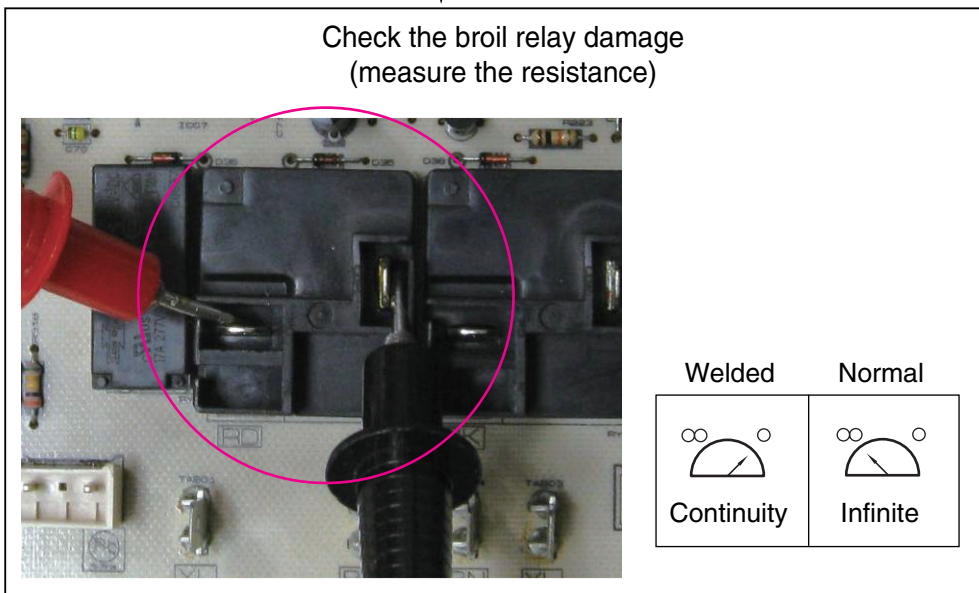
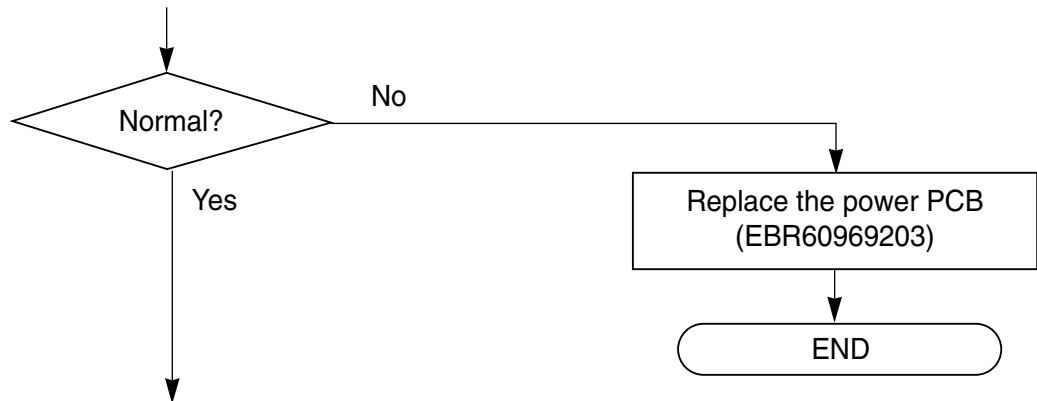
Check the bake relay damage
(measure the resistance)



Welded	Normal
Continuity	Infinite

CHECKING FLOW CHART BY FAILURE

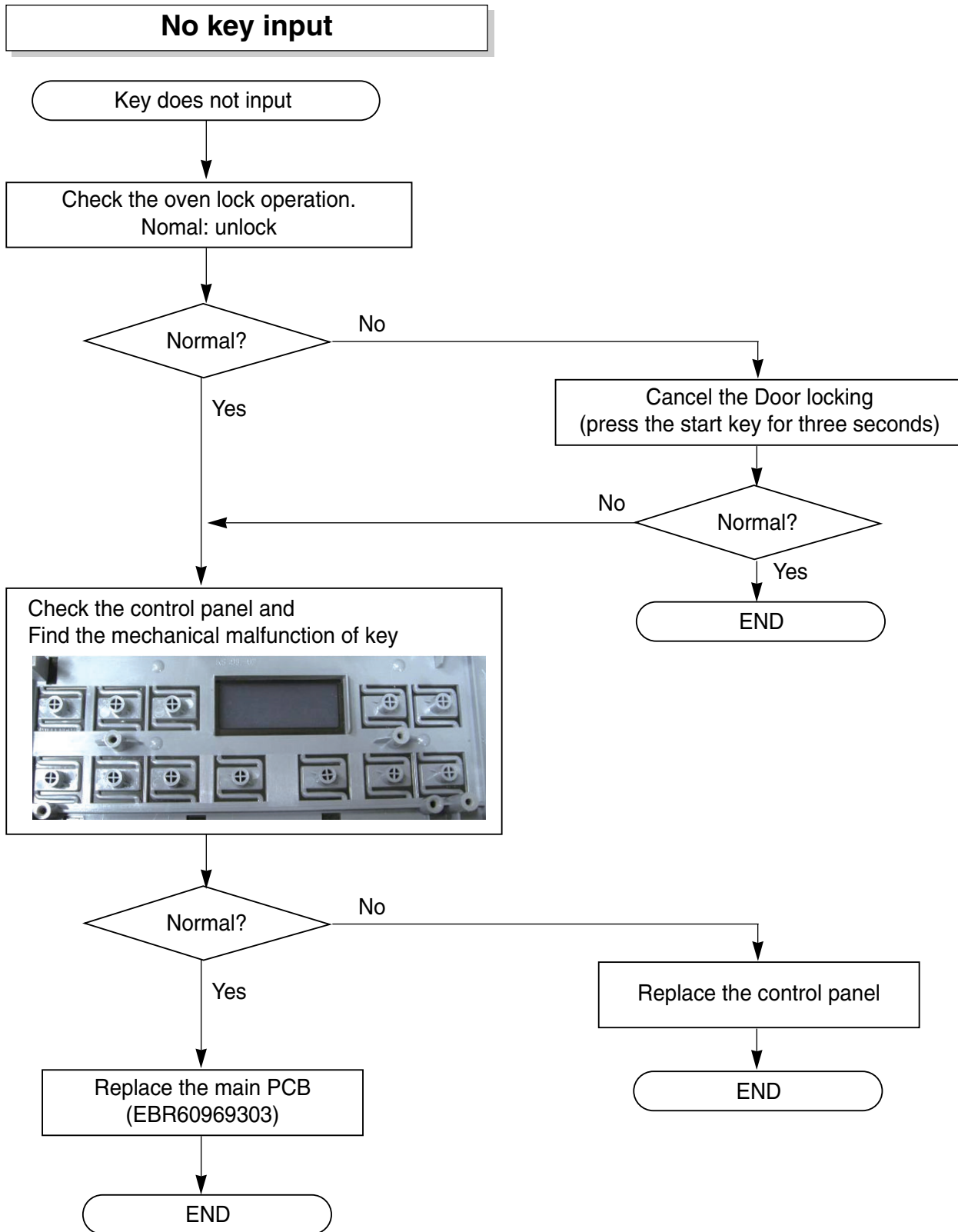
Oven too hot error → F-6 error



CHECKING FLOW CHART BY FAILURE

<i>Symptom</i>	<i>Check Point</i>
1. Keypad Failure 2. F-3 Error	1. Check the Oven lock operation. 2. Check the mechanical malfunction of key

CHECKING FLOW CHART BY FAILURE



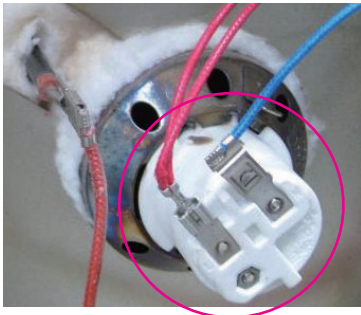
CHECKING FLOW CHART BY FAILURE

Oven lamp does not operate

Oven lamp does not operate

Disconnect the power

Check the looseness of oven lamp terminal and harness

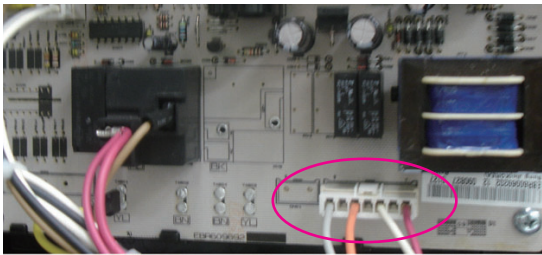


Normal?

No

Yes

Check the looseness of connector (Power PCB CN02)



Normal?

No

Yes

Reconnect
In case of the defective harness,
replace or fix

END

Reconnect

END

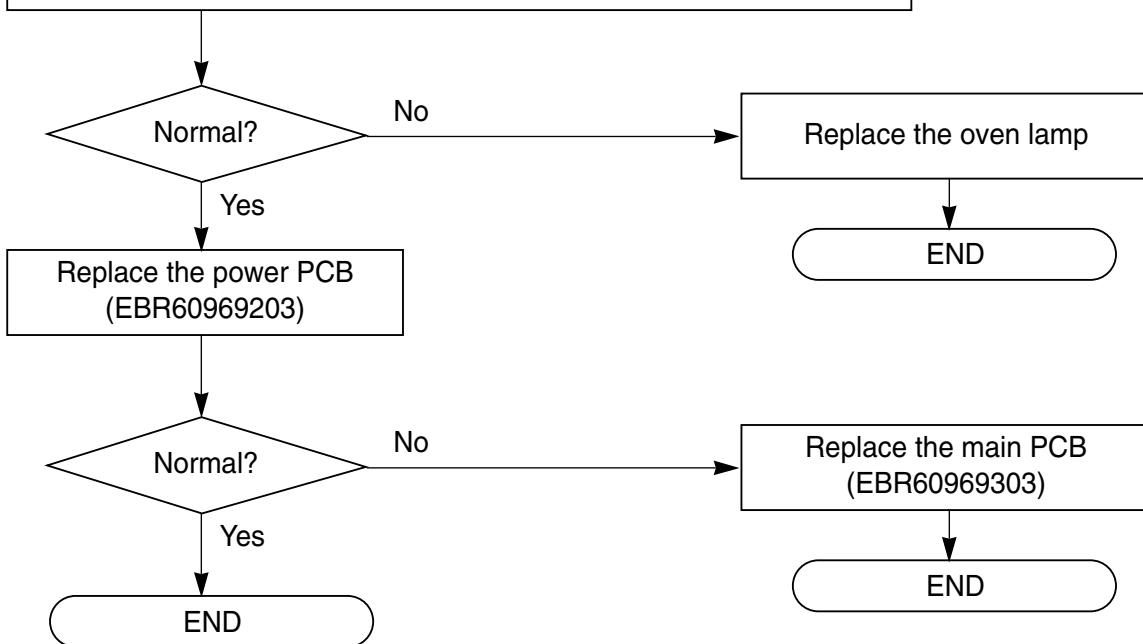
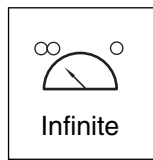
CHECKING FLOW CHART BY FAILURE

Oven lamp does not operate

Check the oven lamp (measure the resistance)
Normal: approximately 20~40Ω, Abnormal : infinite



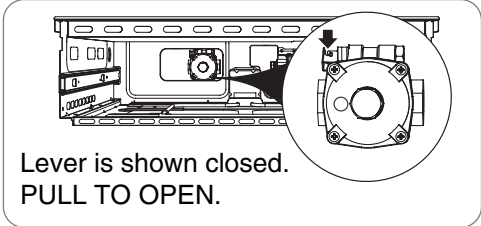
Abnormal



TROUBLE SHOOTING

BEFORE CALLING FOR SERVICE

Before you call for service, review this list. It may save you time and expense. The list includes common occurrences that are not the result of defective workmanship or materials in this appliance.

PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
Range is not level	<ul style="list-style-type: none"> • Poor installation. • Poor floor. • Floor is sagging or sloping. • Kitchen cabinet alignment may make range appear unlevel. 	<ul style="list-style-type: none"> • Place oven rack in center of oven. Place a level on the oven rack. Adjust leveling legs at base of range until the oven rack is level. • Be sure floor is level and is strong and stable enough to adequately support range. • Contact a carpenter to correct the situation. • Be sure cabinets are square and have sufficient room for range clearance.
Top burners do not light or do not burn evenly	<ul style="list-style-type: none"> • The plug on range is not completely inserted in the electrical outlet. • Burner slits on the side of the burner may be clogged. • Improper burner assembly. 	<ul style="list-style-type: none"> • Make sure the electrical plug is inserted into a live, properly grounded outlet. • Remove the burners and clean them. Check the electrode area for burned-on food or grease. See the "CARE AND CLEANING OF THE RANGE" section in user's guide. • Make sure the burner parts are installed correctly. See the "CARE AND CLEANING OF THE RANGE" section in user's guide.
Burner flames very large or yellow	<ul style="list-style-type: none"> • Improper air to gas proportion. 	<ul style="list-style-type: none"> • If range is connected to LP gas, contact the technician who installed your range or made the conversion.
Surface burners light but the oven does not	<ul style="list-style-type: none"> • The oven gas shut-off valve may have accidentally been moved during cleaning or moving. 	<ul style="list-style-type: none"> • To check the oven gas shut-off valve, remove the warming drawer (see the "CARE AND CLEANING OF THE RANGE" section in user's guide.) and look for the gas shut-off lever at the back of the range. <div style="text-align: center;">  <p>Lever is shown closed. PULL TO OPEN.</p> </div>

TROUBLE SHOOTING

PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
Food does not bake or roast properly	<ul style="list-style-type: none"> • Improper oven controls setting. • Incorrect rack position. • Incorrect cookware or cookware of improper size being used. • Oven thermostat needs adjustment. • Clock not set correctly. • Aluminum foil used improperly in the oven. 	<ul style="list-style-type: none"> • See the “USING THE OVEN” section in user’s guide. • See the “USING THE OVEN” section in user’s guide. • See the “USING THE OVEN” section in user’s guide. • See the “HOW TO ADJUST THE OVEN THERMOSTAT” section in user’s guide. • See the “USING THE CLOCK AND TIMER” section in user’s guide. • See the “CARE AND CLEANING OF THE RANGE” section in user’s guide.
Food does not broil properly in the oven	<ul style="list-style-type: none"> • Improper oven controls setting. • Oven door not closed. • Incorrect rack position. • Food being cooked in a hot pan. • Cookware not suited for broiling. • Aluminum foil used on the broiling pan and grid has not been fitted properly and slit as recommended. 	<ul style="list-style-type: none"> • Make sure you touch the “BROIL HI/LO” pad. • See the “USING THE OVEN” section in user’s guide. • See the “BROILING GUIDE” in user’s guide. • Use the broiling pan and grid that came with your range. Make sure it is cool. • Use the broiling pan and grid that came with your range. • See the “USING THE OVEN” section in user’s guide.
Moisture collects on oven window or steam comes from oven vent	<ul style="list-style-type: none"> • When cooking foods high in moisture. • Excessive moisture was used when cleaning the window. 	<ul style="list-style-type: none"> • This is normal
Oven temperature too hot or too cold	<ul style="list-style-type: none"> • Oven thermostat needs adjustment. 	<ul style="list-style-type: none"> • See the “HOW TO ADJUST THE OVEN THERMOSTAT” section in user’s guide.
Clock and timer does not work	<ul style="list-style-type: none"> • The plug on range is not completely inserted in the electrical outlet. • A fuse in your home may be blown or the circuit breaker tripped. • Improper oven controls setting. 	<ul style="list-style-type: none"> • Make sure the electrical plug is inserted into a live, properly grounded outlet. • Replace the fuse or reset the circuit breaker. • See the “USING THE CLOCK AND TIMER” section in user’s guide.
Oven light does not work	<ul style="list-style-type: none"> • The light bulb is loose or defective. • The plug on range is not completely inserted in the electrical outlet. 	<ul style="list-style-type: none"> • Tighten or replace the bulb. • Make sure the electrical plug is inserted into a live, properly grounded outlet.

TROUBLE SHOOTING

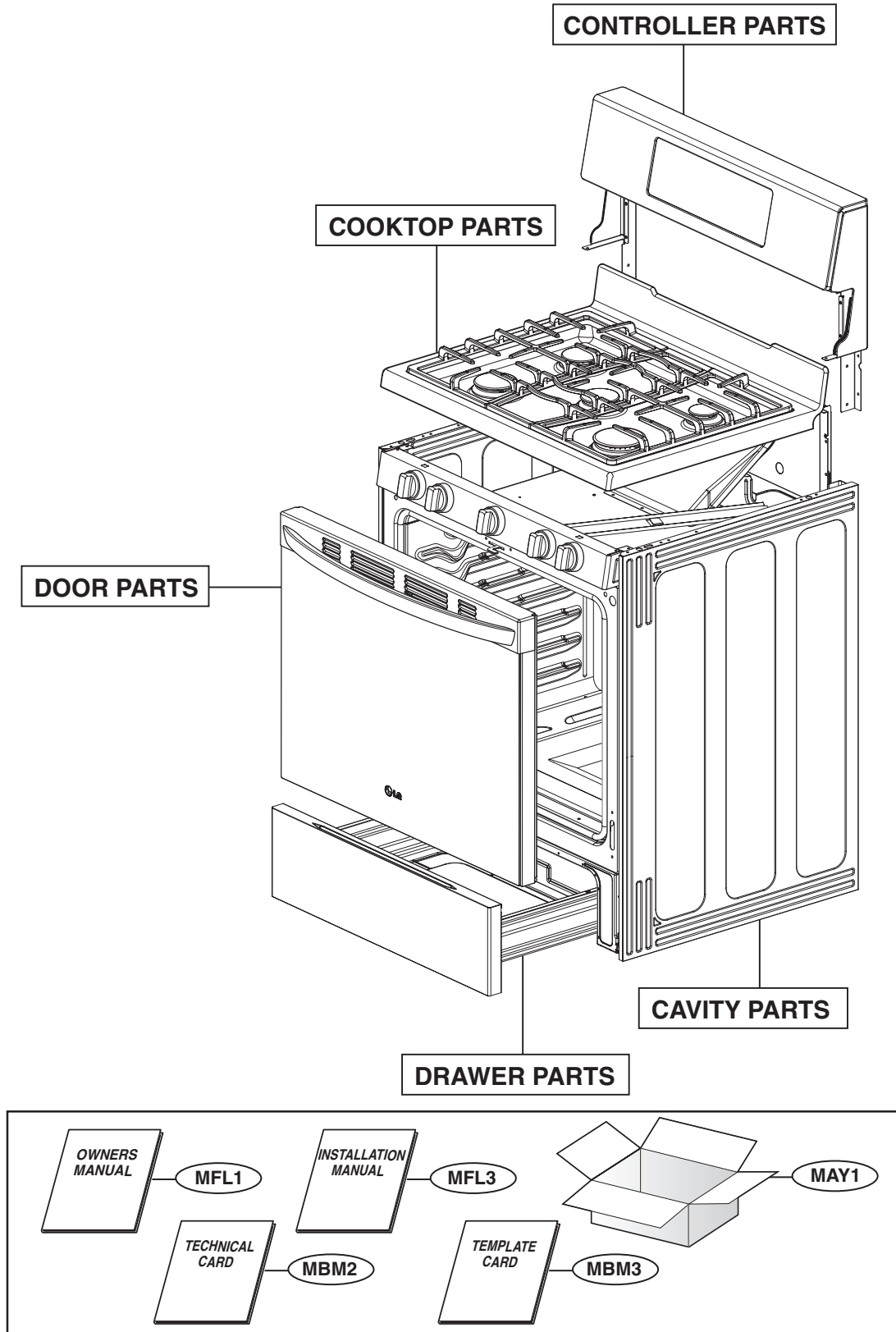
PROBLEMS	POSSIBLE CAUSES	SOLUTIONS														
Oven will not selfclean	<ul style="list-style-type: none"> The oven temperature is too high to set a self-clean operation. Improper oven controls setting. 	<ul style="list-style-type: none"> Allow the range to cool to room temperature and reset the controls. See the "USING THE SELF-CLEANING OVEN" section in user's guide. 														
"Crackling" or "popping" sound	<ul style="list-style-type: none"> This is the sound of the metal heating and cooling during both the cooking and cleaning functions. 	<ul style="list-style-type: none"> This is normal. 														
Too much smoking during a self clean cycle.	<ul style="list-style-type: none"> Too much soil. 	<ul style="list-style-type: none"> Touch the "CLEAR OFF" pad. Open the windows to get rid of smoke from the room. Wait until the DOOR LOCKED light goes off. Wipe up the excess soil and reset the clean cycle. 														
Oven door will not open after a self-clean cycle	<ul style="list-style-type: none"> The oven temperature is too high. 	<ul style="list-style-type: none"> Allow the oven to cool below locking temperature. This can take up to 1 hr after the cycle is complete. 														
Oven not clean after a self-clean cycle	<ul style="list-style-type: none"> Improper oven controls setting. The oven was heavily soiled. 	<ul style="list-style-type: none"> See the Using the "USING THE SELF-CLEANING OVEN" section in user's guide. Clean up heavy spillovers before beginning the self- clean cycle. Heavily soiled ovens may need to self-clean again or for a longer period of time. 														
"CLOSE DOOR TO CONTINUE BROILING" or "DOOR OPENED" appears in the display	<ul style="list-style-type: none"> The broil or self-clean cycle has been selected but the door is not closed. 	<ul style="list-style-type: none"> Close the oven door. 														
"DOOR LOCKED" light is on when you want to cook	<ul style="list-style-type: none"> The oven door is locked because the temperature inside the oven has not dropped below the locking temperature. 	<ul style="list-style-type: none"> Touch the "CLEAR OFF" pad. Allow the oven to cool. 														
Oven control beeps and displays any F code error.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">CODE</th> <th style="text-align: center;">CAUSE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">F-1</td> <td>Open oven sensor</td> </tr> <tr> <td style="text-align: center;">F-2</td> <td>Shorted oven sensor</td> </tr> <tr> <td style="text-align: center;">F-3</td> <td>Shorted keypad</td> </tr> <tr> <td style="text-align: center;">F-6</td> <td>Oven is too hot</td> </tr> <tr> <td style="text-align: center;">F-10</td> <td>Door locking system don't operate</td> </tr> <tr> <td style="text-align: center;">F-11</td> <td>No heating</td> </tr> </tbody> </table>	CODE	CAUSE	F-1	Open oven sensor	F-2	Shorted oven sensor	F-3	Shorted keypad	F-6	Oven is too hot	F-10	Door locking system don't operate	F-11	No heating	<ul style="list-style-type: none"> See the page 9-1 in this manual
CODE	CAUSE															
F-1	Open oven sensor															
F-2	Shorted oven sensor															
F-3	Shorted keypad															
F-6	Oven is too hot															
F-10	Door locking system don't operate															
F-11	No heating															

TROUBLE SHOOTING

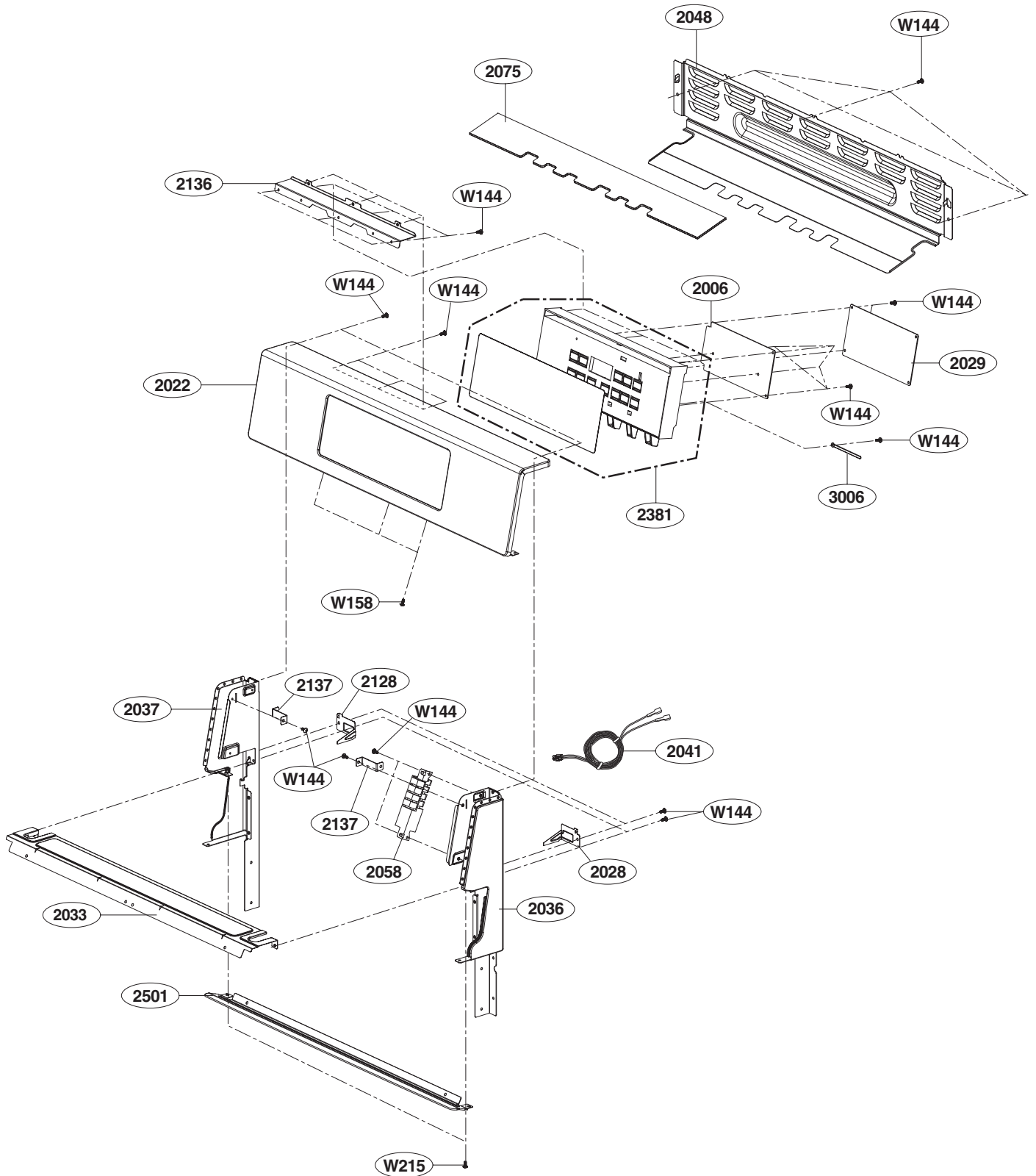
PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
Oven racks are difficult to slide	<ul style="list-style-type: none"> The oven racks were cleaned in a self-clean cycle. 	<ul style="list-style-type: none"> Apply a small amount of vegetable oil to a paper towel and wipe the edges of the oven racks with the paper towel. Do not use lubricant sprays.
Power outage, clock flashes	<ul style="list-style-type: none"> Power outage or surge. 	<ul style="list-style-type: none"> Reset the clock. If the oven was in use, you must reset it by touching the "CLEAR OFF" pad, setting the clock and resetting any cooking function.
"Burning" or "oily" odor emitting from the vent	<ul style="list-style-type: none"> This is normal in a new oven and will disappear in time. 	<ul style="list-style-type: none"> To speed the process, set a self-clean cycle for a minimum of 3 hours. See the "USING THE SELF-CLEANING OVEN" section.
Strong odor	<ul style="list-style-type: none"> An odor from the insulation around the inside of the oven is normal for the first few times the oven is used. 	<ul style="list-style-type: none"> This is temporary.
Drawer does not slide smoothly or drags	<ul style="list-style-type: none"> The drawer is out of alignment. Drawer is over-loaded or load is unbalanced. 	<ul style="list-style-type: none"> Fully extend the drawer and push it all the way in. See "<i>CARE AND CLEANING OF THE RANGE</i>" section in user's guide. Reduce weight. Redistribute drawer contents.

INTRODUCTION (II)

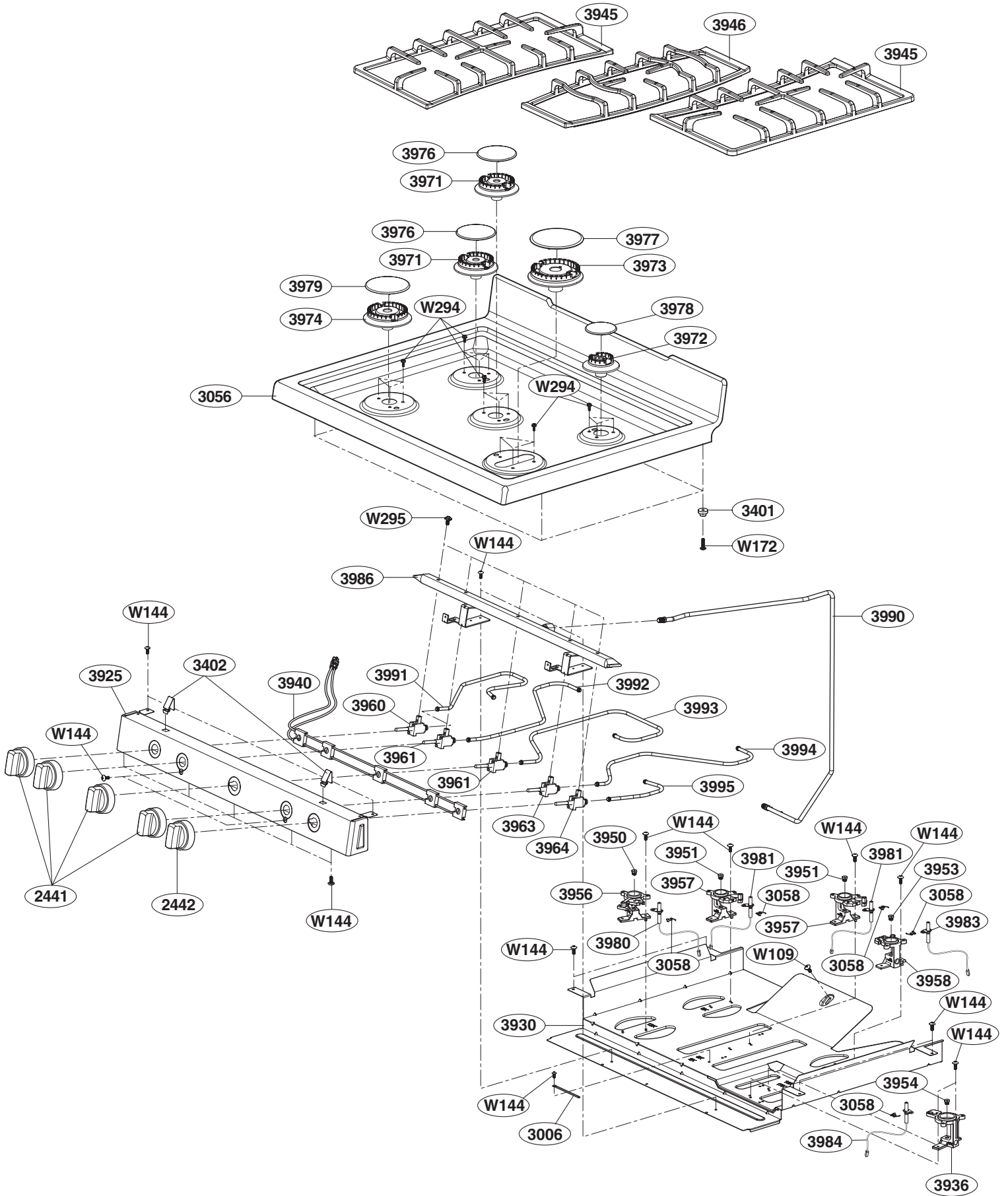
For Model: LRG3091SB
LRG3091SW



CONTROLLER PARTS



COOKTOP PARTS



DRAWER PARTS

