



Internal Use Only

30" Freestanding Electric Range

SERVICE MANUAL

CAUTION

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

MODEL: LRE3193BD LRE3193SB
 LRE3193ST LRE3193SW
 LRE3193BM

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FORWARD

This LG Service Manual, “30” Freestanding Self-Cleaning Electric Range,” provides the technician with information on the operation and service of the Freestanding Self-Cleaning Electric 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 electric 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

- **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 heating elements or interior surfaces of oven.**
 - Heating element may be hot even though they are dark in color.
 - 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 heating elements 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.

GENERAL

IMPORTANT SAFETY INSTRUCTIONS

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 electric 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



- **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,

- **Warming 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 heating elements or interior surfaces of oven.**
 - Heating element may be hot even though they are dark in color.
 - 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 heating elements 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.
- **Use Only Dry Potholders** – Moist or damp potholders on hot surfaces may result in burns from steam.
Do not let potholder touch hot heating elements. Do not use a towel or other bulky cloth.

GENERAL

IMPORTANT SAFETY INSTRUCTIONS

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.

SURFACE COOKING UNITS

- **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.
- **Do Not Soak Removable Heating Elements** – Heating elements should never be immersed in water.
- Be sure you know which control pads operate each surface unit.
Make sure you turned on the correct surface unit.

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 left rear surface unit. 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.

GLASS/CERAMIC COOKING SURFACES

- **Do Not Cook on Broken Cook-Top** – If cook-top should break, cleaning solutions and spillovers may penetrate the broken cook-top and create a risk of electric shock. Contact a qualified technician immediately.
- **Clean Cook-Top With Caution** – If a wet sponge or cloth is used to wipe spills on a hot cooking area, be careful to avoid steam burn. Some cleaners can produce noxious fumes if applied to a hot surface.

DEEP FAT FRYERS:

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

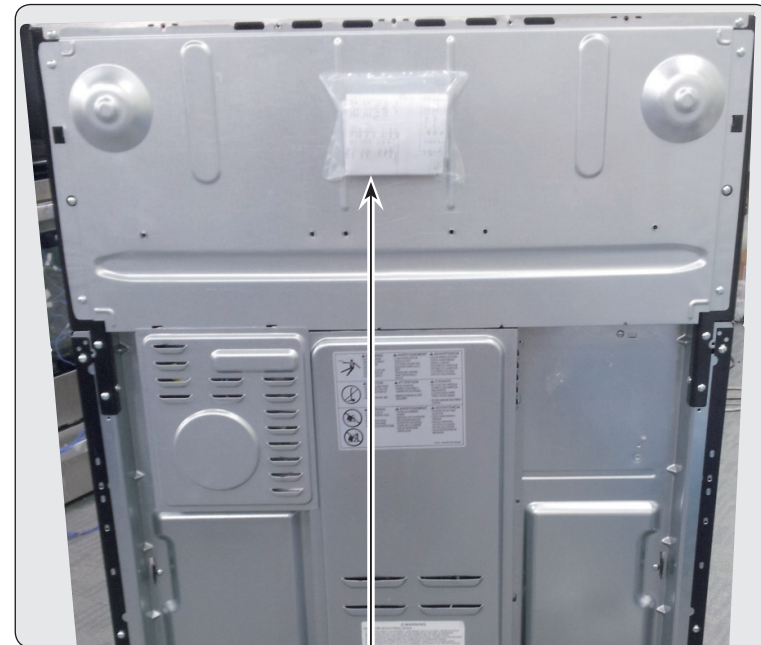
GENERAL

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 Rear Cover)**

GENERAL

SPECIFICATIONS

Model Number		LRE3193BD / LRE3193ST / LRE3193SB / LRE3193SB / LRE3193BM
Category		Convection
Overall	Width	30"
	Installation type	Freestanding
	Color availability	STS
Control	Oven	Glass Touch
	Cooktop	Glass Touch
	Display	Scroll VFD
	Electronic clock & timer	Yes
	Control lock capability	Yes
	Audible preheat signal	Yes
	Special function	Option(6 categories) 1. Convection auto conversion On/Off 2. Thermostat Adjustment 3. Language -English, Spanish, French 4. Preheating alarm light On/Off 5. Beeper Volume(normal, mute) 6. Temperature unit (°F / °C)
Cooktop	Material	Ceramic glass
	# of element	5
Power	LR	6"-1,200
	RR	6"-1,200
	CR	warming zone
	LF	Dual(6"/9"-1,400/3,200 watts)
	RF	Dual(9"/12"-1,700/2,700 watts)

GENERAL

SPECIFICATIONS

Model Number		LRE3193BD / LRE3193ST / LRE3193SB / LRE3193SB / LRE3193BM
Oven	Capacity(cu.ft)	6.3
	Broil element	4200 watts
	Bake element	3400 watts
	Convection element	700 watts
	Convection System	Yes
	-Convection element	Yes(700 watts, 240V)
	# of Racks	2 Standard
	Interior oven light	120V, 40Watts
	Proof	Yes
	Cook & warm	Yes
	Door lockout	Yes
Drawer	Type	Storage drawer
	Element	No
	Warming rack	No
Dimensions (inch)	Oven Interior(W x H x D)	24 1/2 x 20 1/4 x 19 3/8
	Exterior - Width	29 7/8
	Exterior - Height	36 (cooktop), 47 7/16 (backguard top)
	Exterior - Depth	25 11/16 (Door), 28 (with handle)
	Net weight: Lbs (Kg)	187.8 lbs (85.2 kg)
Power	Rating	120/240 V: 13.4 kW, 120/208 V: 10.0 kW

USING YOUR RANGE

GENERAL INFORMATION

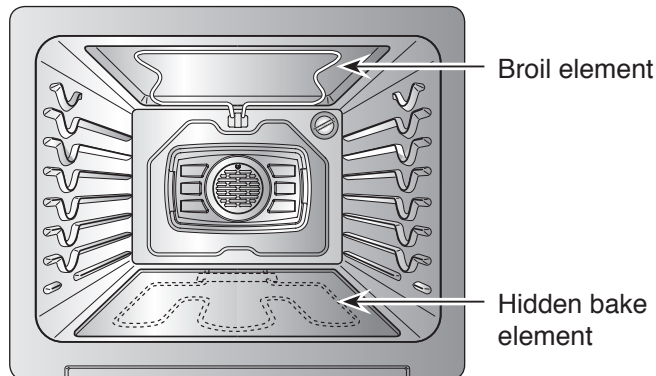
Rating Label

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

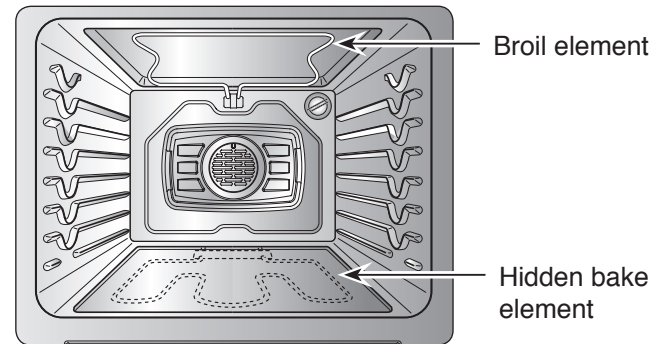
Bake Mode

Top and hidden bottom elements operate during bake. Bake can be used to cook foods which are normally baked. Oven must be preheated.



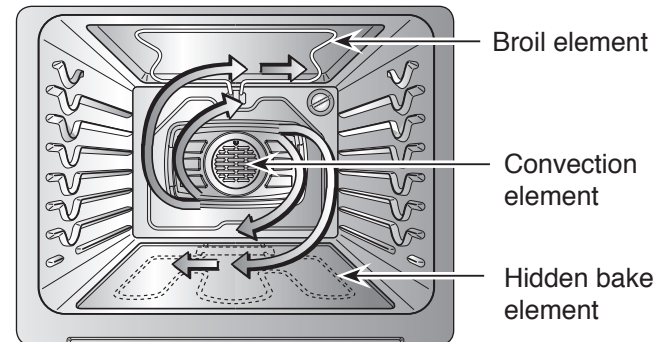
Broil Mode

Top element operates during broil. Broil can be used to cook foods which are normally broiled. All foods should be turned at least once except fish, which does not need to be turned.



Convection Bake / Roast Mode

Top(broil) element, convection element and fan operate during convection bake. Convection bake should be used for cooking casseroles and roasting meats. Oven should be preheated for best results when using convection bake. Pans do not need to be staggered. Cooks approximately 25% quicker than bake.

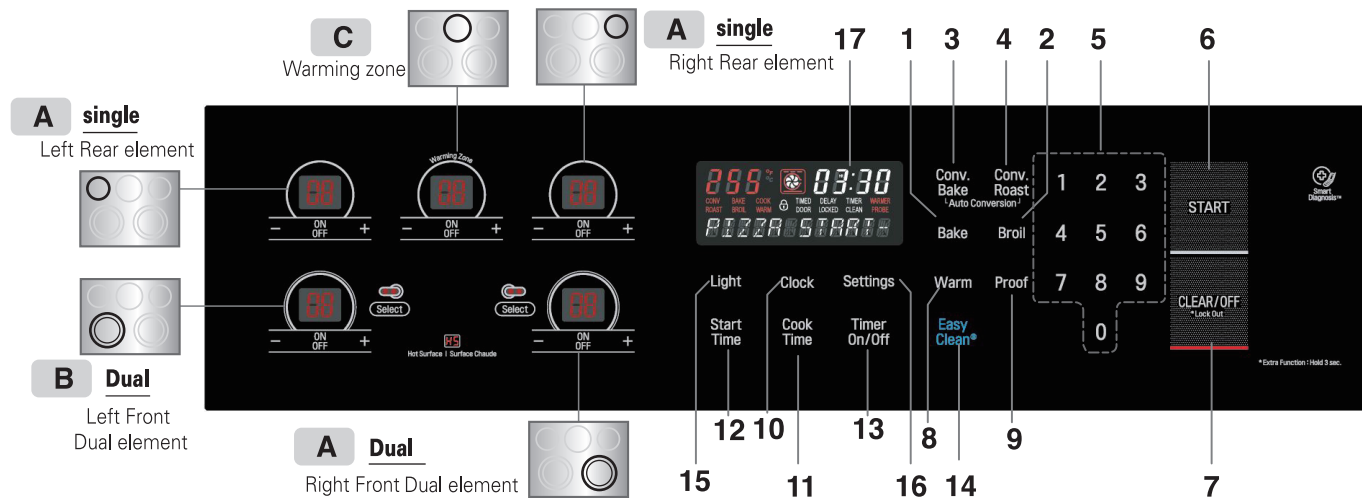


Cooking Guide

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. BAKE KEY:** Press to select the bake function.
- 2. BROIL KEY:** Press to select the broil function.
- 3. CONVECTION BAKE KEY:** Press to select baking with the convection function.
- 4. CONVECTION ROAST KEY:** Press to select roasting with the convection function.
- 5. NUMBER KEYS:** Use to set any function requiring numbers such as the time of day on the clock, the timer, the oven temperature, the start time and length of operation for timed baking.
- 6. START KEY:** Must be pressed to start any cooking or cleaning function.
- 7. CLEAR/OFF KEY:** Press to cancel all oven operations except the clock and timer.
- 8. WARM KEY:**
 - Press to keep cooked foods warm.
 - Press to select a warm environment useful for rising yeast-leavened products.
- 9. PROOF KEY:** Press to select a warm environment useful for rising yeast-leavened products.
- 10. CLOCK KEY:** Press before setting the time of day.
- 11. COOK TIME KEY:** Press and then use the number KEYS to set the amount of time you want your food to cook. The oven will shut off when the cooking time has run out.
- 12. START TIME KEY:** Use along with BAKE, CONV. BAKE, CONV. ROAST, COOK TIME KEYS to set the oven to start and stop automatically at a time you set.
- 13. TIMER ON/OFF KEY:** Press to select the timer feature.
- 14. EASY CLEAN:** Use to select the Easy Clean.
- 15. OVEN LIGHT KEY:** Press to turn the oven light on or off.
- 16. SETTINGS:** Press to set 6 types of option category.s
- 17. DISPLAY**
 - A Single surface unit :** Right Rear, Left Rear
 - B Dual surface unit :** Left Front, Right Front
 - C Warming Zone :** Center Rear

USING YOUR RANGE

A To turn on a single surface unit (Right Front, Right Rear, Left Rear)



1. Press **ON/OFF** KEY for the desired element.
2. Press (+ / -) KEY to choose the desired setting.

B To turn on a dual surface unit (Right Front, Left Front)



1. Press **ON/OFF** KEY
2. Press the **SELECT** KEY as needed to select the desired burner size. When first selected, 9" size is on. The light above the **SELECT** KEY indicates which size surface unit is on.
3. Press (+ / -) KEY to choose the desired setting.

Note:

- Each time a KEY is pressed a beep will sound.
- The power level decreases or increases by **0.5** from **9.0** through **3.0**. (by **0.2** from **3.0** through **1.0**)
- **Lo** is the lowest power level available.
- **"HS"** will appear when the unit is hot to touch

C To set the warming zone control

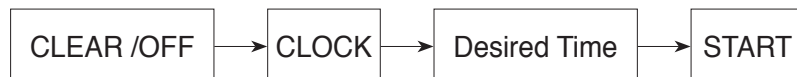


1. Press **ON/OFF** KEY for the desired element.
2. Press (+ / -) KEY to choose the desired setting.

Note:

- Each time a KEY is pressed a beep will sound.
- The controls for the warming zone allow for 5 different heat settings : **Lo~Hi**
- **"HS"** will appear when the unit is hot to touch.

1. SETTING THE CLOCK



2. START, CLEAR/OFF AND ON/OFF KEY

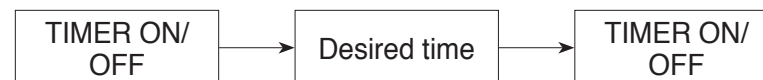
1. Touch **START** KEY to start oven.
2. Touch **CLEAR/OFF** KEY to cancel a program during cooking or Erase during programming.
3. Touch **ON/OFF** KEY to start or cancel the surface unit.

3. 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 pressing the **OVEN LIGHT** KEY

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

4. TIMER ON/OFF



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

Note:

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

5. SETTING KEY: 6 types of category

1) CONVECTION AUTO CONVERSION

1. Press **SETTING** KEY **once**
2. Press **"1"** KEY for ENABLE or **"2"** KEY for DISABLE
3. Press **START** KEY.

2) THERMOSTAT ADJUSTMENT

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

Note: The thermostat adjustments made with this feature will just change Bake, Convection Bake and Convection Roast temperature.

To increase the oven temperature:

1. Press **SETTING** KEY twice
2. Press **the desired temperature**
3. Press **START** KEY.

To decrease the oven temperature:

1. Press **SETTING** KEY twice
2. Press **the desired temperature**

USING YOUR RANGE

3. Press the **SETTING** KEY once
4. Press **START** KEY

3) LANGUAGE SELECTION (English or Spanish or French)

1. Press **SETTING** KEY 3 times
2. Press “1” KEY for **ENGLISH**
or “2” KEY for **SPANISH**
or “3” KEY for **FRENCH**
3. Press **START** KEY

4) PREHEATING ALARM LIGHT ON/OFF

1. Press **SETTING** KEY 4 times
2. Press “1” KEY for **ON**
or “2” KEY for **OFF**
3. Press **START** KEY

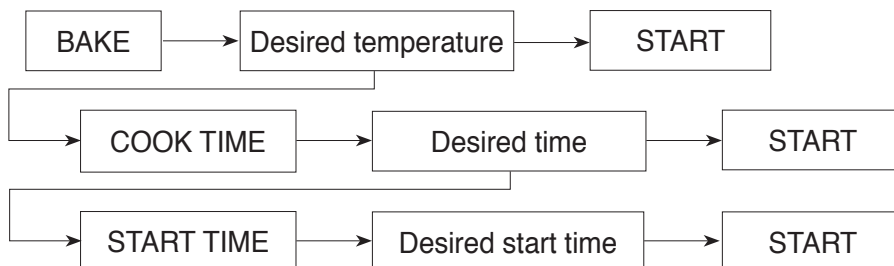
5) BEEPER VOLUME

1. Press **SETTING** KEY 5 times
2. Press “1” KEY for **loud** level,
“2” KEY for **normal** level,
“3” KEY for **low** level,
“4” KEY for **mute** level,
3. Press **START** KEY

6) TEMPERATURE UNIT (°F or °C)

1. Press **SETTING** KEY 6 times
2. Press “1” KEY for °F
or “2” KEY for °C
3. Press **START** KEY

6. BAKE, TIMED BAKE, DELAYED TIMED BAKE



* This feature can also be used with the:
CONVECTION BAKE and CONVECTION ROAST modes.

7. BROIL



8 FAVORITES



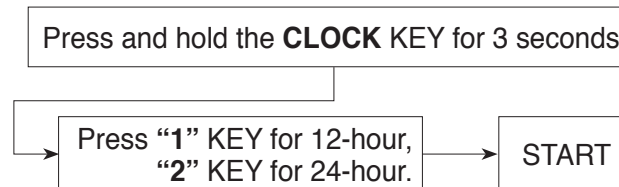
9. WARM



10. OVEN LOCKOUT

Press and hold the **CLEAR/OFF** KEY for 3 seconds (to activate or reactivate LOCKOUT)

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

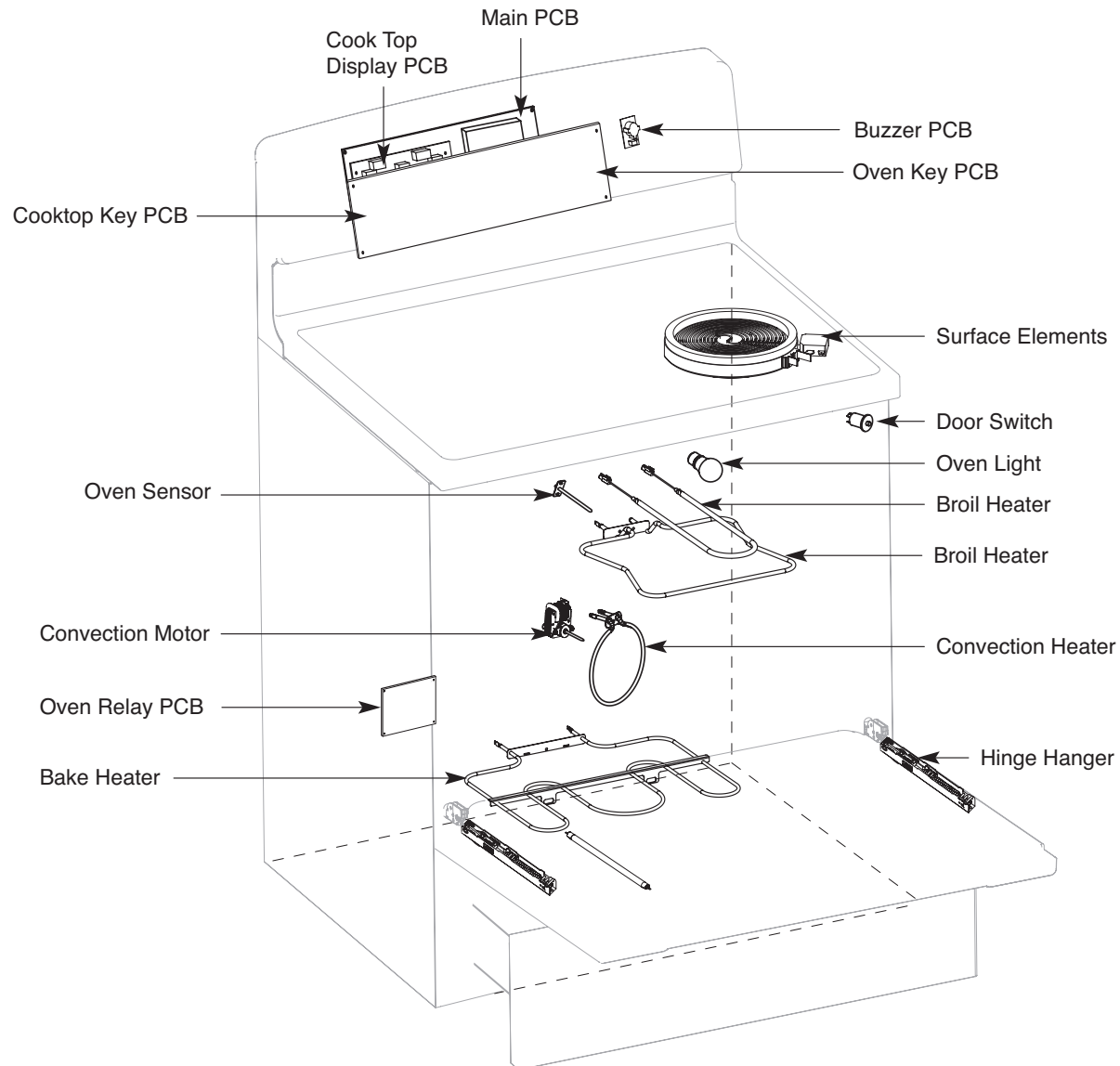


12. EASY CLEAN



COMPONENT ACCESS

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



COMPONENT ACCESS

REMOVING THE LAMP, CONTROLLER, BACK COVER AND CONTROLLER ASSEMBLY (Glass-Touch Assembly, PCB, SUPPORT)

⚠ 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 electric range handling the sheet metal part.
- Sharp edge may be present and you can cut yourself.

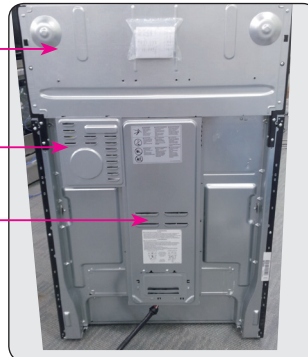
1. Turn off the electrical supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove 2 screws from the lamp cover and remove the lamp cover.
4. Remove 12 screws from the controller cover and remove the controller cover.
5. Remove the 4 screws from the back cover and remove the back cover.



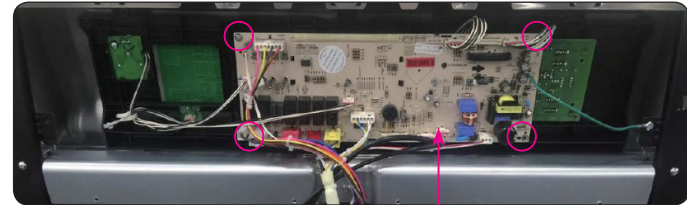
Control Cover

Lamp Cover

Back Cover

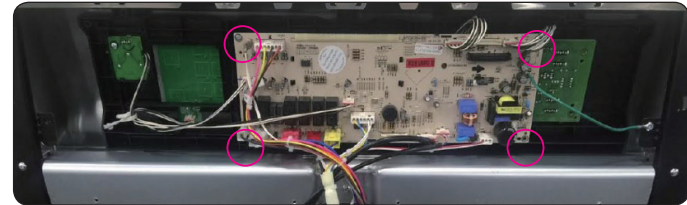


6. Remove the 5 screws and wirings from Main PCB and Main PCB can be detached from the support assembly.



Main PCB

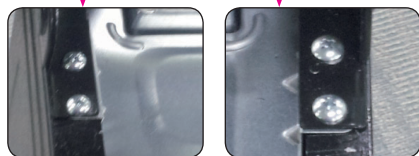
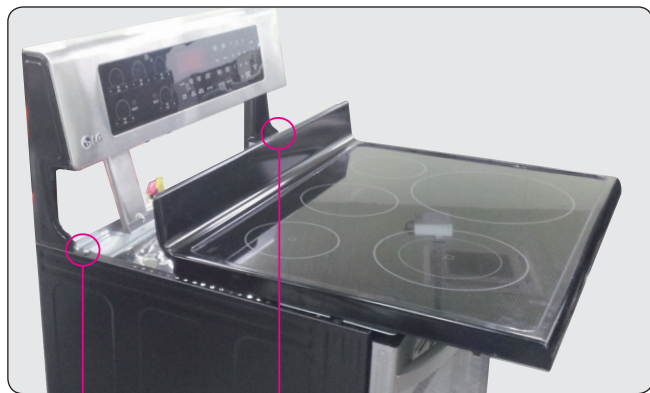
7. Remove 4 screws and detach a cooktop Display PCB.



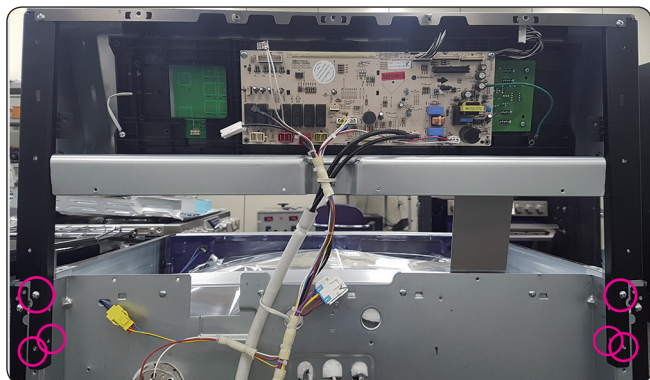
COMPONENT ACCESS

8. To replace Glass-Touch assembly, the controller assembly should be detached from the range.

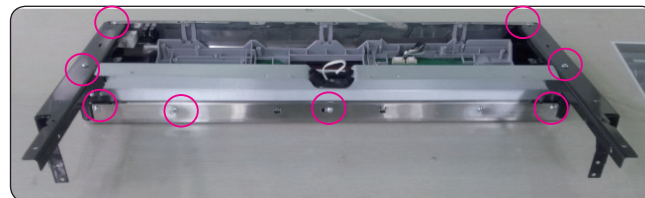
a) Remove wirings on Main PCB. Remove a cooktop plate assembly (See the page 3-5) and remove 4 screws from side panel.



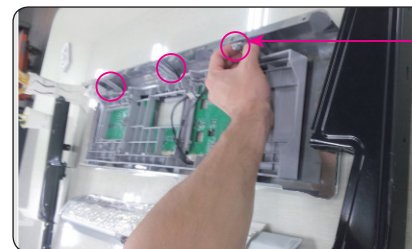
b) Remove 6 screws from the controller assembly (Back Guard R/L) and lift the controller assembly out of the range.



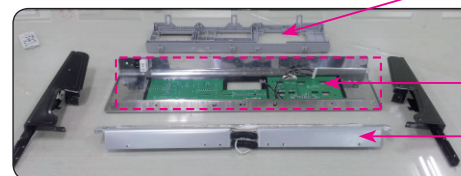
c) Remove 3 screws from controller's lower side and remove 6 screws from Back Guard R/L. Glass-Touch assembly can be detached.



c) Detach the PCB support out of the Glass-Touch assembly by pulling 3 hooks.



Hook
Pull 3 hooks
and the PCB
support can be
detached easily



PCB Support

Glass-Touch
Assembly
Barrier

9. For Servicing the Glass-Touch assembly, the controller sub assembly should be separated in whole. Both Control-panel and Glass-Touch are 1 service part.

COMPONENT ACCESS

REMOVING PCBs (MAIN PCB AND RELAY PCB)

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.

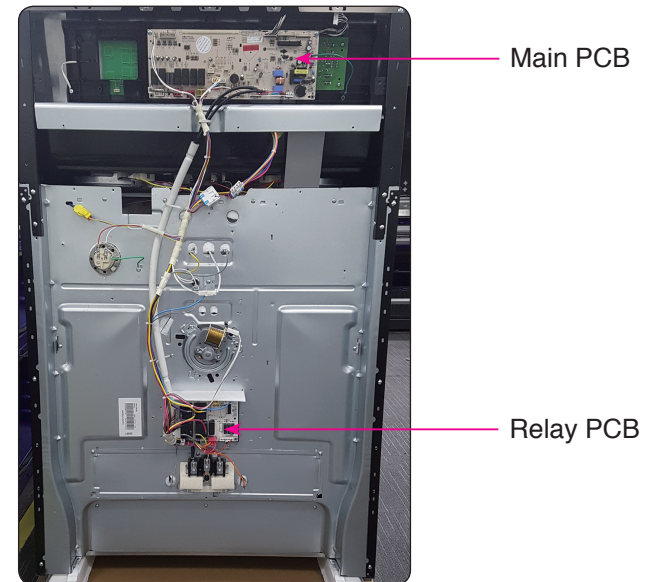
CAUTION

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

4. There are 2 PCBs. When you check PCB, check the proper PCB in default mode and check Main PCB.

NOTE: Refer to the page 5-1~5-6 for composition of control board.

1. Turn off the electrical supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove the lamp, controller and back cover.
(See the page 3-2)



COMPONENT ACCESS

REMOVING THE SURFACE ELEMENTS AND THE CERAMIC GLASS COOKTOP

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.

CERAMIC GLASS COOKTOP REMOVAL

Step. 1

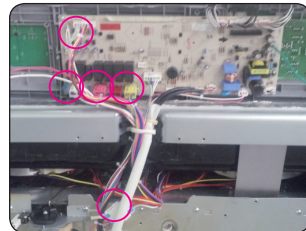
Unplug the cord or disconnect power

Step. 2

Remove lamp, controller and back cover (See the page 3-2)

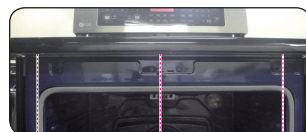
Step. 3

Remove wiring from the cooktop assembly.



Step. 4

Open oven door and remove the 3 screws located at the front of the cook-top, then close the door.



3 Screws

Step. 5

Lift up the cooktop assembly and turn the cooktop assembly over (protect the cooktop surface).

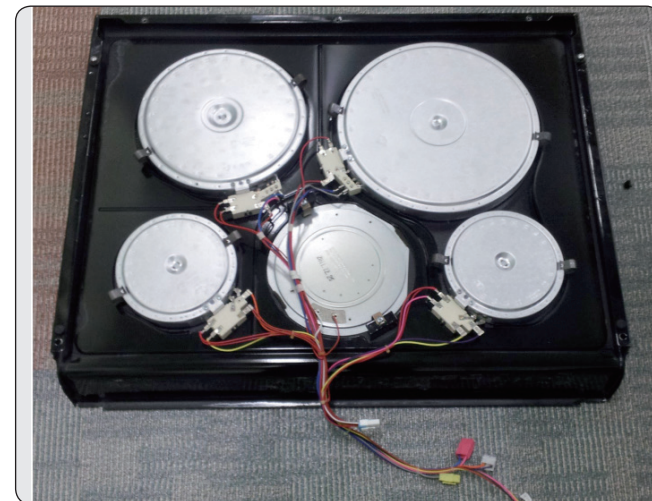


Step. 6

To remove the surface elements

- a) Remove the wires from the element and limiter terminals.
- b) Remove the element brackets for the element you are servicing and the element can be detached.

REASSEMBLY NOTE: When you reinstall the element, make sure that the wires are inserted into the correct tap and that the brackets are secured firmly. When wiring, refer to the technical card in order to prevent wires and connectors from mismatching.



COMPONENT ACCESS

REMOVING THE BROIL ELEMENT

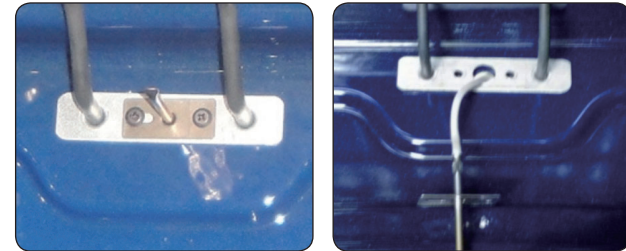
WARNING

- **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

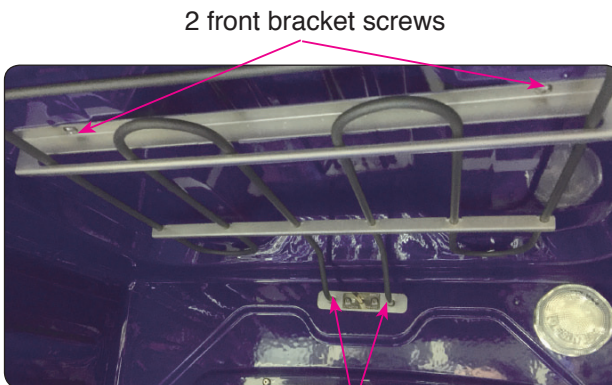
- **Be careful when you work on the electric range handling the sheet metal part.**
- Sharp edge may be present and you can cut yourself.

* 2 screws of the rear bracket do not only fasten broil heater's rear bracket but also a thermistor. While servicing broil elements, the thermistor also should be disassembled.



- b) Pull the element forward so that you can access the terminals and disconnect the wires.

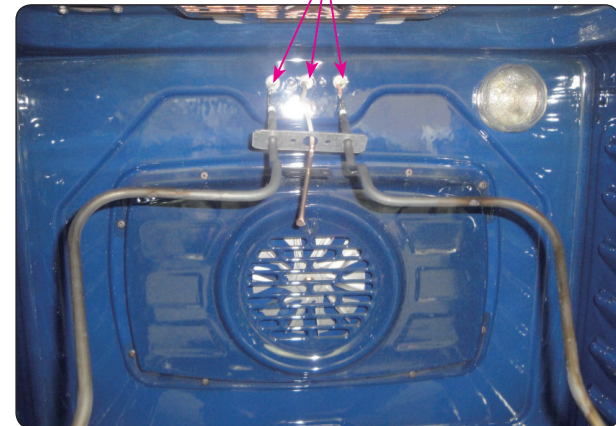
1. Turn off the electrical supply going to the range.
2. Open the oven door and remove the racks from inside the oven.
3. **To remove the outer broil element:**
 - a) Remove the 4 screws from the front and rear brackets.



2 front bracket screws

2 upper bracket screws

3 terminals(Broil heater/thermistor)

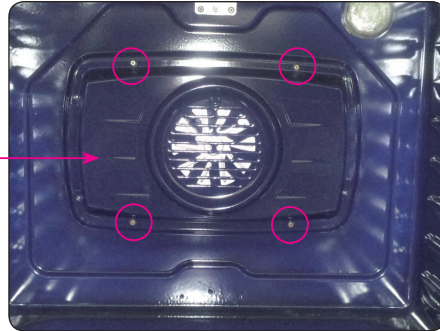


COMPONENT ACCESS

REMOVING THE CONVECTION, FAN BLADE AND FAN MOTOR

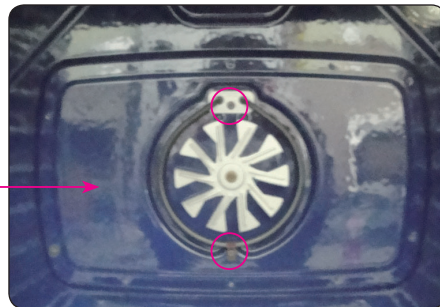
1. Disconnect power and remove oven racks.
2. Pull the range out of its mounting location so that you can access the rear of the unit.
3. To remove the convection heater, Remove 4 screws and detach the fan cover.

Fan cover



4. Remove 2 screws and pull the convection heater forward. Disconnect 2 wiring receptacles and the heater can be detached from range for service.

Convection heater



5. To remove the fan blade, Remove 1 nut, 1 washer, fan blade and 1 washer.

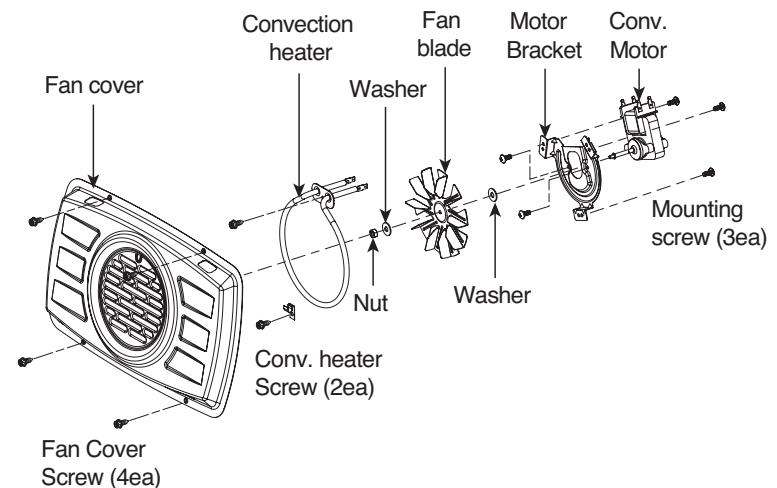
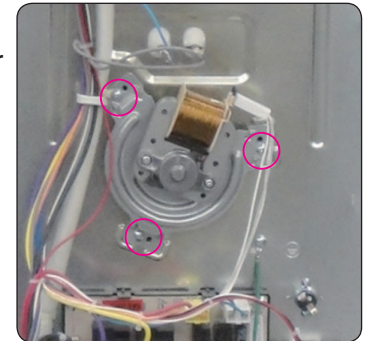
* Remove the nut by screwing clockwise. The fan blade can be replaced from inside oven.



CAUTION

- **Be careful not to bend the fan blade**
 - Failure to do so can result in vibration, noise, and poor performance of convection when operating.

6. To remove the fan motor assembly,
 - a) Remove lamp, controller and back cover (See the page 3-2)
 - b) Remove 3 screws from the fan motor bracket and disconnect 2 wiring connections.
 - c) Pull the fan motor out of the rear panel and the motor can be detached.



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.

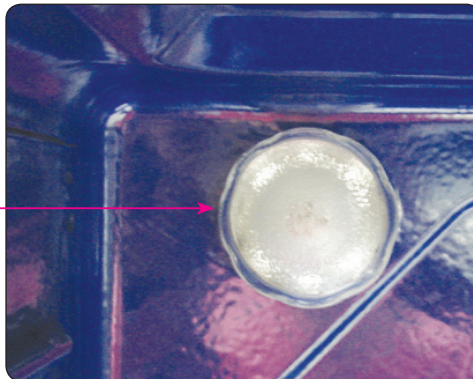
⚠ CAUTION

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

To replace:

1. Unplug range or disconnect power.
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.

Glass cover & Bulb



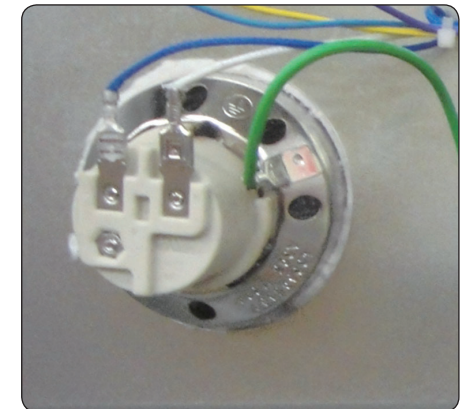
⚠ CAUTION

- **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.



6. Disconnect the wires from the socket terminals.



<Viewed From Rear Panel>

COMPONENT ACCESS

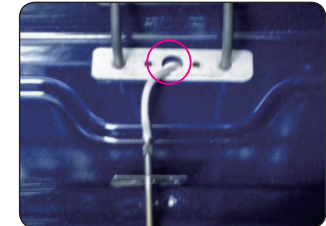
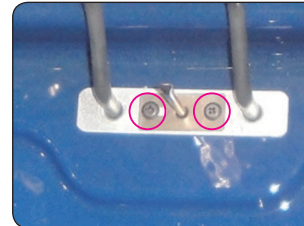
REMOVING THE OVEN TEMPERATURE SENSOR

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 electric range handling the sheet metal part.**
- Sharp edge may be present and you can cut yourself.



1. Turn off the electrical supply going to the range.
2. Open the oven door and remove the racks from the oven.
3. Remove 2 screws from a bracket and pull the oven temperature sensor forward in order to access a connector and disconnect the wirings.



COMPONENT ACCESS

REMOVING & REPLACING THE LIFT-OFF OVEN DOOR

WARNING

- 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.

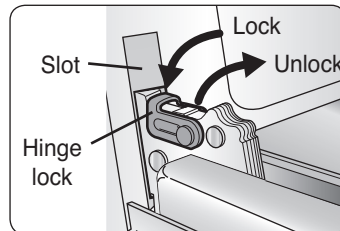
To remove the door:

Step. 1

Fully open the door.

Step. 2

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



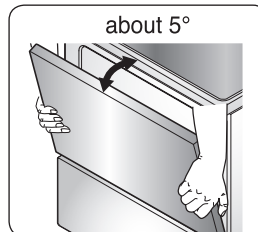
<Fig.1>

Step. 3

Firmly grasp both sides of the door at the top.

Step. 4

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



<Fig.2>

Step. 5

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

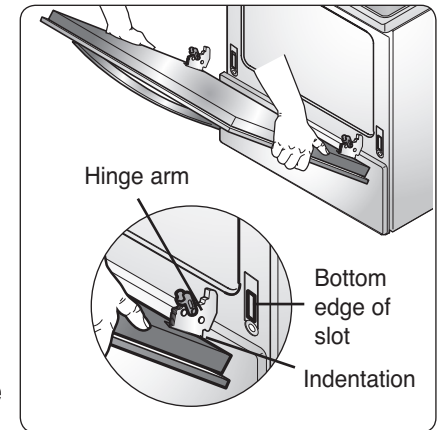
To replace the door:

Step. 1

Firmly grasp both sides of the door at the top.

Step. 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.

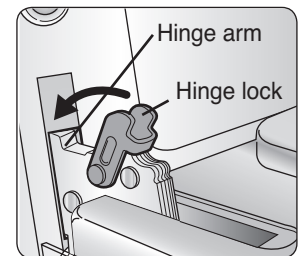


Step. 3

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

Step. 4

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



Step. 5

Close the oven door.

COMPONENT ACCESS

REMOVING THE OVEN DOOR HANDLE

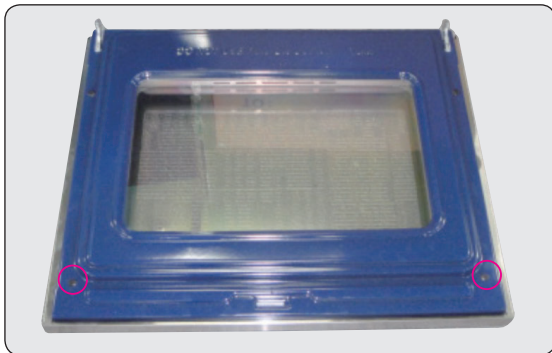
WARNING

- **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.

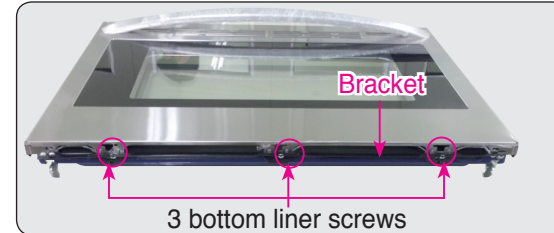
CAUTION

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

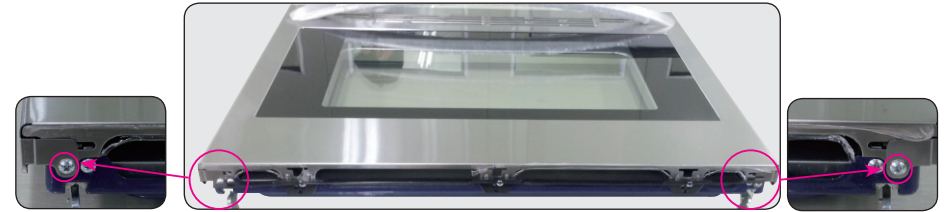
1. Remove the oven door from the range
(See page 3-16 for the procedure).
2. Place the oven door on a padded work surface with the front glass facing down.
3. Remove 2 screws.



4. Turn the door over. Remove 3 screws from the door cover assembly and detach the bracket



5. Remove 2 screws from the door cover assembly and lift the door cover assembly out and put it down.



6. To remove the door handle;
 - Remove 4 screws from plastic door deco and the handle can be detached from the door cover assembly.



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.

COMPONENT ACCESS

REMOVING THE OVEN DOOR'S INNER 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.

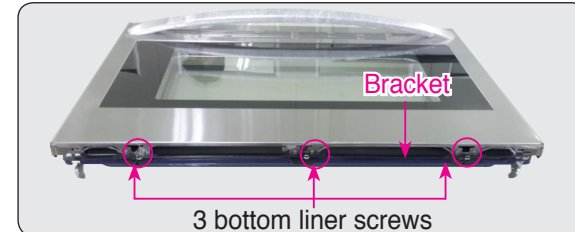
CAUTION

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

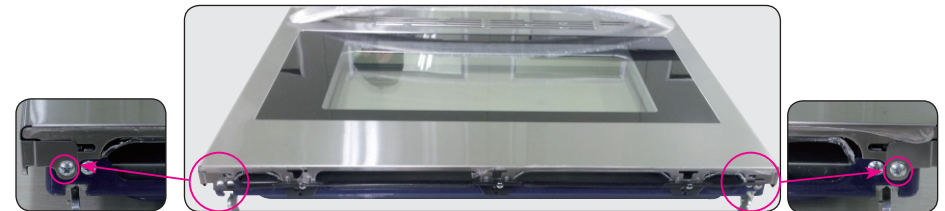
1. Remove the oven door from the range(See the page 3-14 for the procedure).
2. Place the oven door on a padded work surface with the front glass facing down.
3. Remove 4 screws.



4. Turn the door over. Remove 3 screws from the door cover assembly and detach the bracket



5. Remove 2 screws from the door cover assembly. and detach the door cover assembly from the door



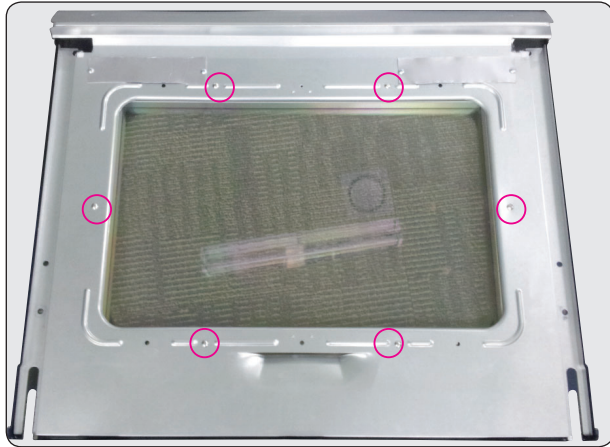
6. To remove a hinge hanger assembly:
Remove 2 screws and detach the hinge hanger from the door frame slot.



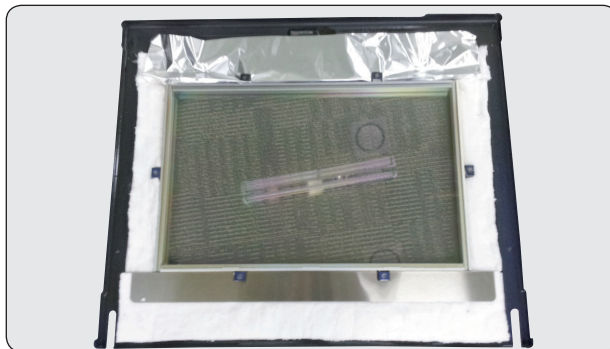
COMPONENT ACCESS

7. To remove the door's inner glass assembly:

a) Remove 6 screw.



b) Detach the inner cover and the inner glass assembly can be detached.



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.

COMPONENT ACCESS

REMOVING THE OVEN DOOR GASKET

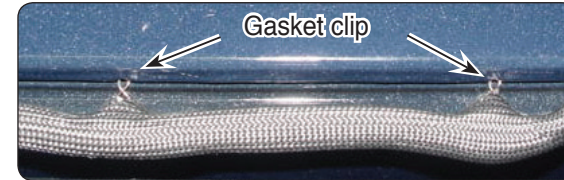
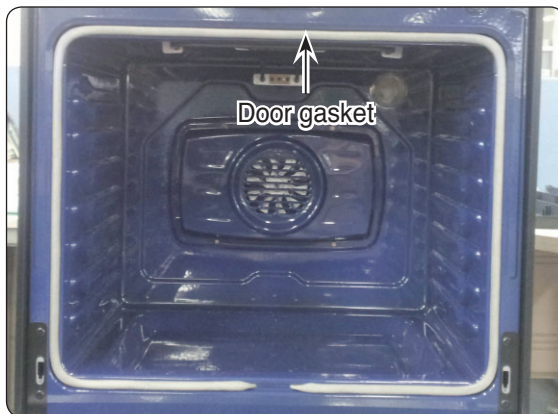
WARNING

- **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.

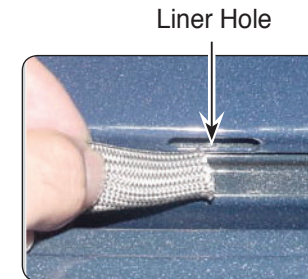
CAUTION

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

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.



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



REASSEMBLY NOTE: When you install the new gasket, make sure that all of the clips are seated in their liner holes, and that the ends of the gasket are pushed fully into their holes. Use the pointed end of a pencil to push the gasket ends into the holes.

COMPONENT ACCESS

REMOVING THE SIDE PANEL

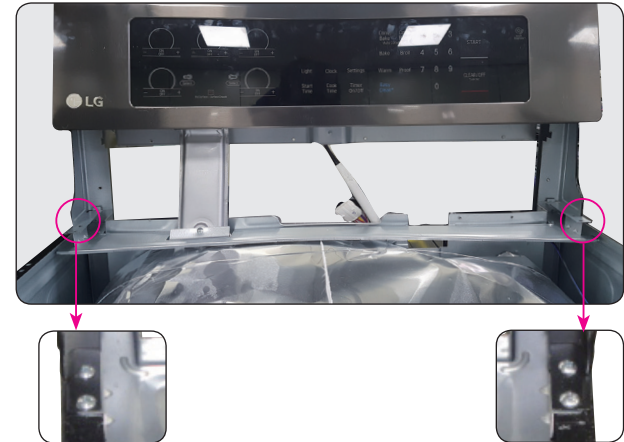
WARNING

- **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.

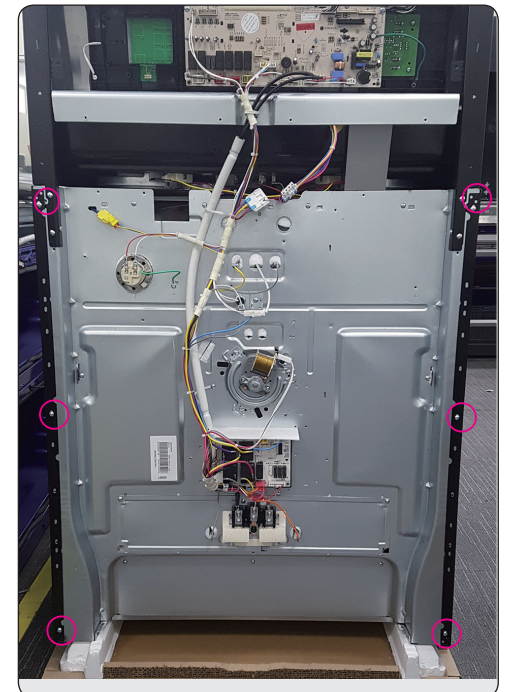
CAUTION

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

1. Turn off the electrical supply going to the range.
2. Remove the oven door from the range (see page 3-14 for the procedure).
3. Pull the range away from the wall so you can access the back of the unit.
4. Remove the lamp, controller and back cover. (See the page 3-2)
5. Raise the cooktop assembly (See the page 3-6 For the procedure).
NOTE: put the cooktop assembly down on the side panel which is not detached.
6. Remove 4 screws from the side panel.



7. Remove 6 screws from the side panel



COMPONENT ACCESS

8. Pull the back of the side panel out from the range approximately 10°. Push forward and remove the side panel.



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

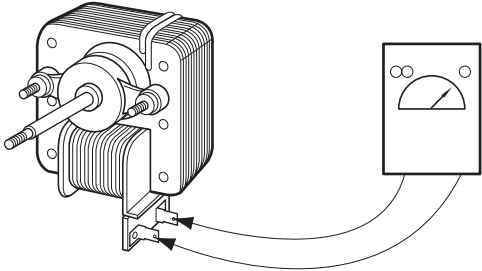
1. All/tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms per-volt DC, or greater.
2. Check all connections before replacing components, looking for broken or loose wires, Failed terminals, or wires not pressed into connectors far enough.

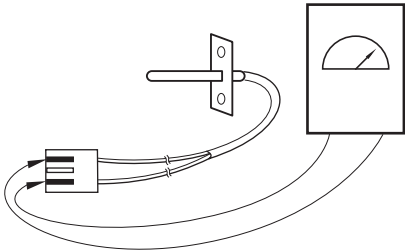
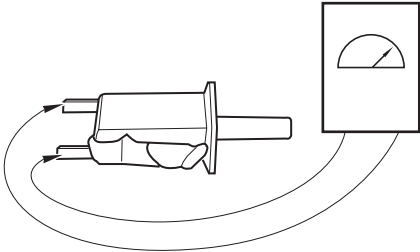


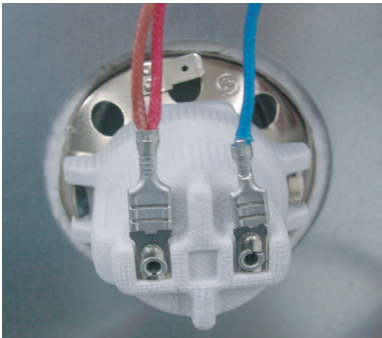
3. Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

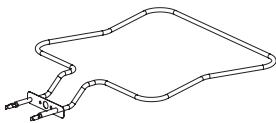
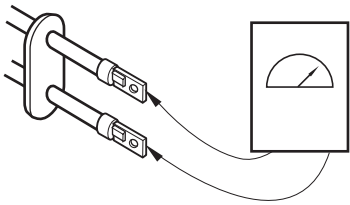
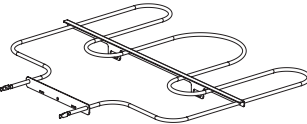
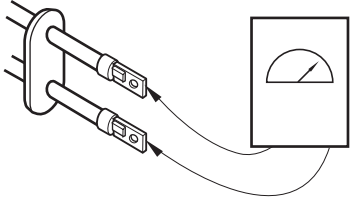
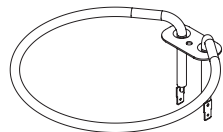
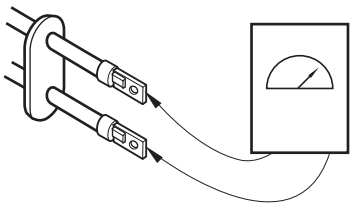
! WARNING

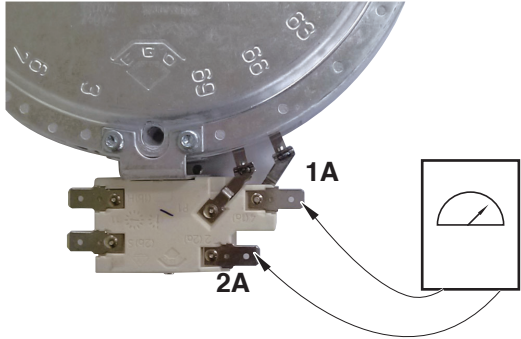
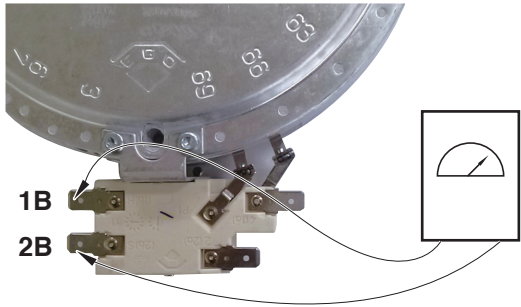
- Disconnect power supply cord from the outlet before servicing
- Replace all panels and parts before operating
- Reconnect all grounding devices after servicing
- Failure to do so can result in death or electrical shock

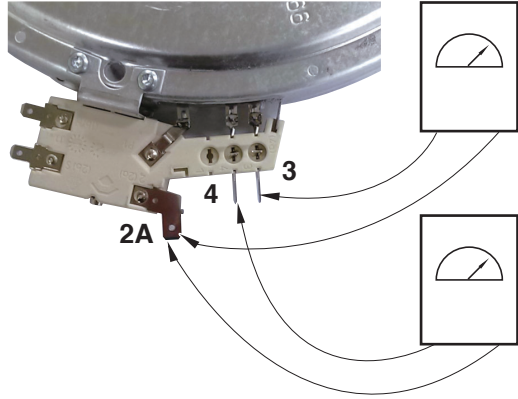
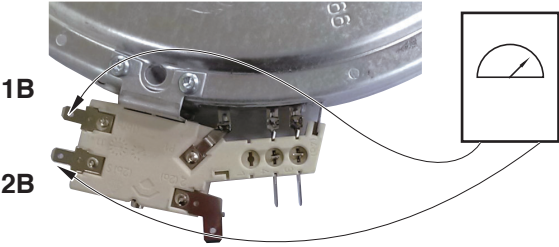
NOTE: Below Ω value were tested at room temperature (77F/25°C)

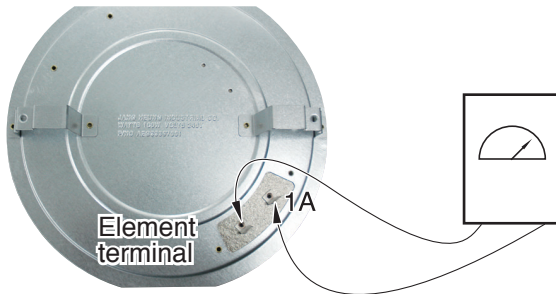
COMPONENTS	TEST PROCEDURE	RESULTS
Convection Motor	<ol style="list-style-type: none"> 1. Refer to page 3-10 for the servicing procedure 2. Measure the resistance (Multiple meter scale: R x 1) 	<p>Normal: Approximately 37Ω If not replace</p> <p>Abnormal: Infinite (open) below 5Ω (shorted)</p>

COMPONENTS	TEST PROCEDURE	RESULTS	
Oven Sensor	1. Refer to page 3-13 for the servicing procedure 2. Measure the resistance after cooling down (Multiple meter scale: R x 1000) 	Normal: Approximately $1.09\text{ k}\Omega \pm 10\%$ If not replace <div data-bbox="1327 272 1981 383" style="background-color: #f0f0f0; padding: 5px; border: 1px solid #ccc;"> NOTE: Ω Value was tested at room temperature (77F/25°C) </div>	
Door switch	1. Refer to page 3-7 for the servicing procedure 2. Measure the resistance after cooling down (Multiple meter scale: R x 1) 	Door open	Door closed
		 Continuity	 Infinite
Oven lamp	1. Measure the resistance after cooling down (Multiple meter scale: R x 1) 	Normal: Below 5 Ω . If not replace	

COMPONENTS	TEST PROCEDURE	RESULTS
<p>Outer Broil heater</p> 	<p>1. Remove wire leads 2. Measure resistance after cooling down</p> 	<p>Normal : Approximately 23 Ω Abnomal : Infinite(opened)</p> <p>NOTE: Ω Value was tested at room temperature (77F/25°C) Be careful the element is sensitive to temperature.</p>
<p>Broil heater</p> 	<p>1. Remove wire leads 2. Measure resistance after cooling down</p> 	<p>Normal : Approximately 16.5 Ω Abnomal : Infinite(opened)</p> <p>NOTE: Ω Value was tested at room temperature (77F/25°C) Be careful the element is sensitive to temperature.</p>
<p>Conv. heater</p> 	<p>1. Remove wire leads 2. Measure resistance after cooling down</p> 	<p>Normal : Approximately 82 Ω Abnomal : Infinite(opened)</p> <p>NOTE: Ω Value was tested at room temperature (77F/25°C) Be careful the element is sensitive to temperature.</p>

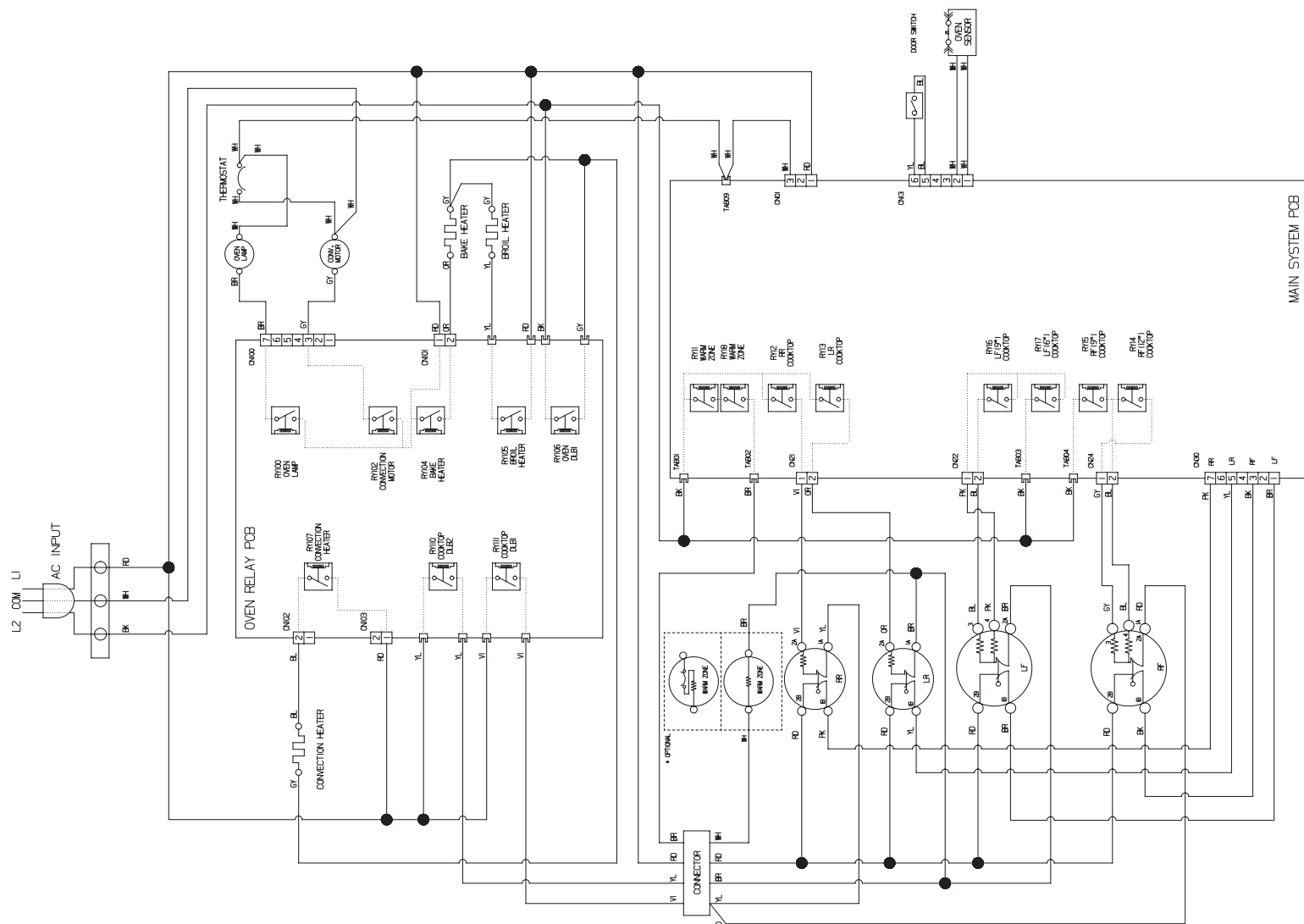
COMPONENTS	TEST PROCEDURE	RESULTS
<p>Single surface units: Left Rear(LR) Right Rear(RR) Element</p>	<ol style="list-style-type: none"> 1. Refer to page 3-5 for the servicing procedure 2. Set the Multiple meter scale to the R x 1 3. Disconnect wires from cook-top elements 4. Touch the ohmmeter test leads to the element terminal and 1A. The meter should indicate $46\ \Omega \pm 10\%$  <ol style="list-style-type: none"> 5. Touch the ohmmeter test leads to limiter terminals 1B and 2B. With the temperature below 150°F, the meter should indicate an open circuit(infinite). With the temperature above 150°F, the meter should indicate continuity ($0\ \Omega$). 	<p>Normal: Approximately $46\ \Omega$, If not replace</p> <p>Below 150°F M open circuit(infinite).</p> <p>Above 150°F M continuity ($0\ \Omega$)</p>

COMPONENTS	TEST PROCEDURE	RESULTS
Dual surface unit: Left Front(LF) Right Front (RF) Element	<ol style="list-style-type: none"> 1. Refer to page 3-6 for the servicing procedure 2. Set the Multiple meter scale to the R x1 3. Disconnect wires from cook-top elements 4. Touch the ohmmeter test leads to the (4 & 2A) and (3 & 2A) the meter should indicate : <ol style="list-style-type: none"> 1) LF element <ul style="list-style-type: none"> - (4 & 2A) → $41\ \Omega \pm 10\%$ - (3 & 2A) → $32\ \Omega \pm 10\%$ 2) RF element <ul style="list-style-type: none"> - (4 & 2A) → $34\ \Omega \pm 10\%$ - (3 & 2A) → $58\ \Omega \pm 10\%$  <ol style="list-style-type: none"> 5. Touch the ohmmeter test leads to limiter terminals 1B and 2B. With the temperature below 150°F, the meter should indicate an open circuit(infinite). With the temperature above 150°F, the meter should indicate continuity (0 Ω). 	<p>Normal: Approximately LF element: $41\ \Omega$ RF element: $34\ \Omega$</p> <p>Normal: Approximately LF element: $32\ \Omega$ RF element: $58\ \Omega$</p> <p>Below 150°F → open circuit(infinite).</p> <p>Above 150°F → continuity (0 Ω)</p>

COMPONENTS	TEST PROCEDURE	RESULTS
Center Rear(CR) Element : Warming Zone (Pane Heater)	<ol style="list-style-type: none"> 1. Refer to page 3-6 for the servicing procedure 2. Set the Multiple meter scale to the R x 1 3. Disconnect wires from CR elements 4. Touch the ohmmeter test leads to the between element terminal. The meter should indicate $571\ \Omega \pm 10\%$ <div data-bbox="572 386 1129 678">  </div>	<p>Normal: Approximately $571\ \Omega$, If not replace</p>

COMPOSITION OF CONTROL

Wiring Diagram



*Optional: Use the option according the part assembled by manuf

※ RADIANT COOK-TOP

Wattage	Ω
RR:1200W	approx.47Ω
LR:1200W	approx.47Ω
RF: 1700W(Inner) 1000W(Outer)	approx.34Ω approx.58Ω
LF: 1400W(Inner) 1800W(Outer)	approx.41Ω approx.32Ω
WARM ZONE: 100W	approx.570Ω

< TABLE 1 >

WIRE COLORS

SYMBOL	COLOR
WH	WHITE
BK	BLACK
RD	RED
YL	YELLOW
PK	PINK
BL	BLUE
BR	BROWN
GN	GREEN
GY	GRAY
OR	ORANGE
VI	VIOLET

COMPOSITION OF CONTROL

Key Matrix

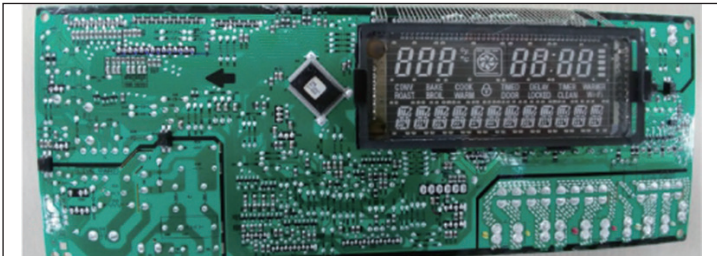
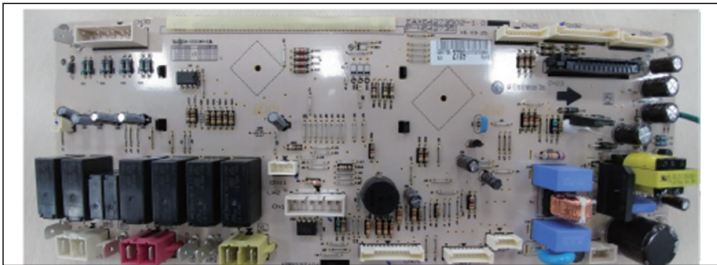
	14	13	12	11	10	9	8	7
6	Warm	Self Clean	Conv. Roast	Bake	Cook Time	Timer On/Off	(RR)	(RF)
5	N.C	N.C	Conv. Bake	Clock	Start Time	Broil	(RR)	(RF)
4	5	1	3	8	4	0	(LR)	(LF)
3	6	2	START	7	N.C	9	(LR)	(LF)
2	(RR) ON/OFF	(LR) ON/OFF	N.C	Oven Light	EasyClean	Setting	(W/Z)	N.C
1	(RF) ON/OFF	CLEAR OFF	(LF) ON/OFF	(W/Z) ON/OFF	N.C	Proof	(W/Z)	(LF) Select

COMPOSITION OF CONTROL

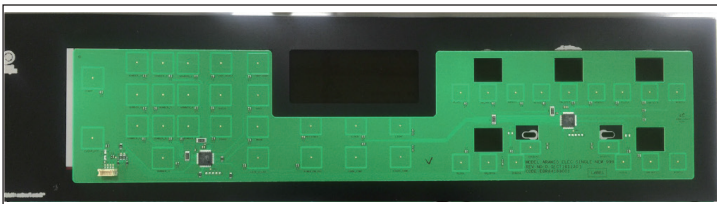


Controller assembly

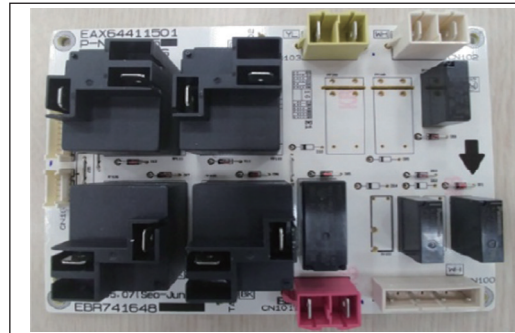
Main PCB (loc no #2006)



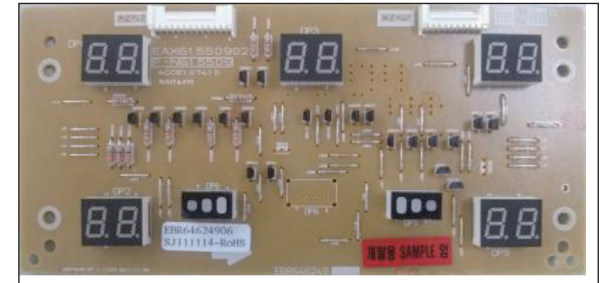
Key Pad



Oven Relay PCB (loc no #5070)

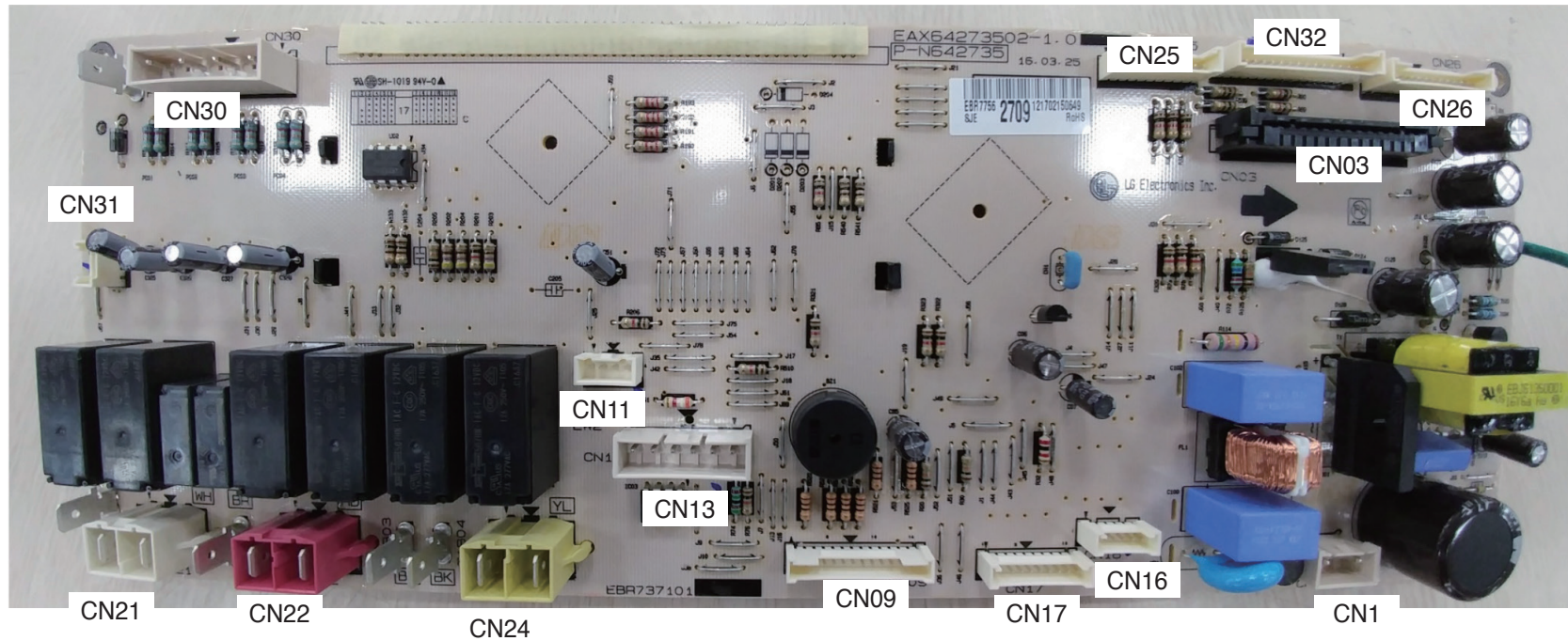


Cook top display PCB (loc no #2031)



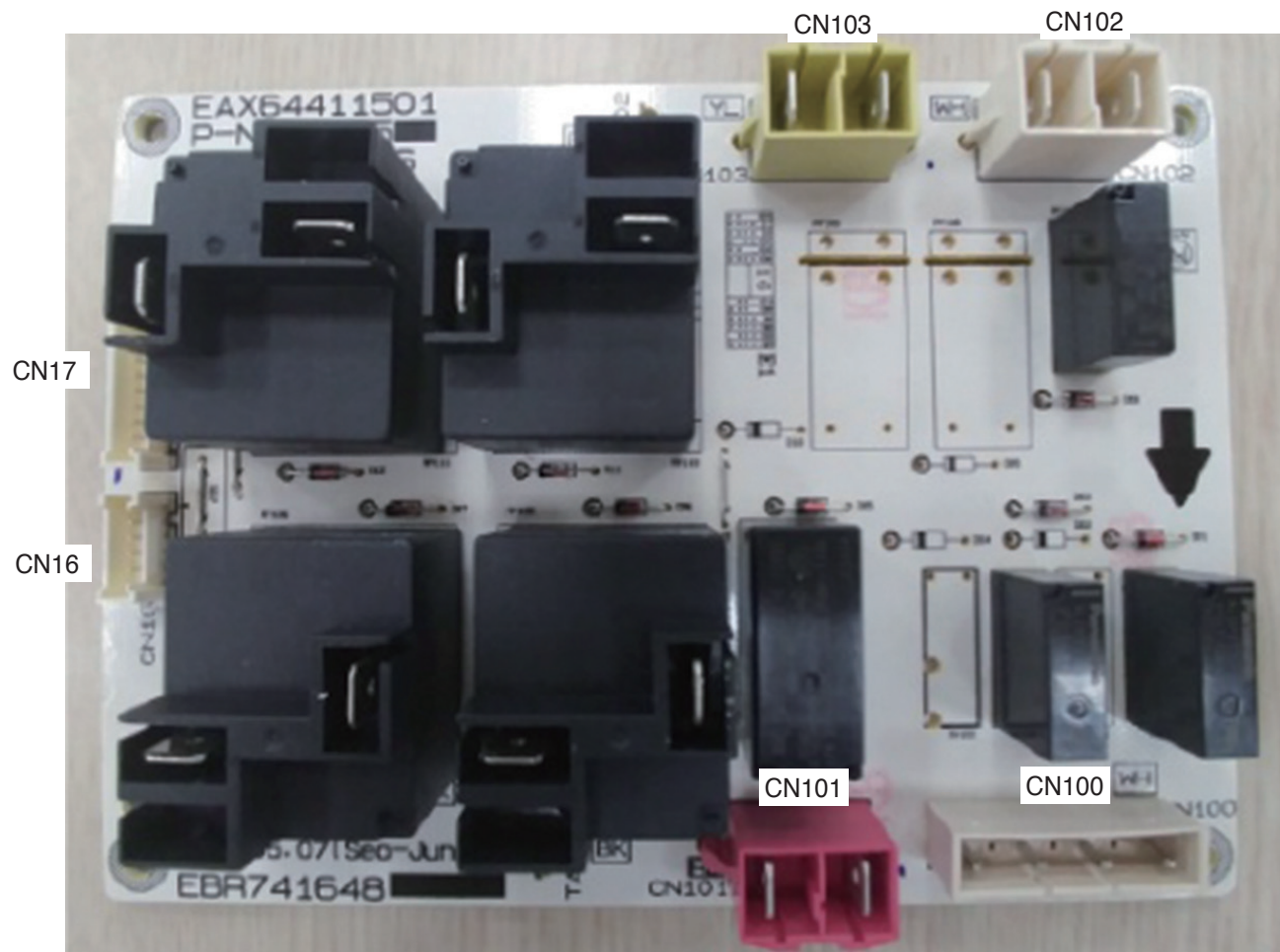
COMPOSITION OF CONTROL

Main PCB



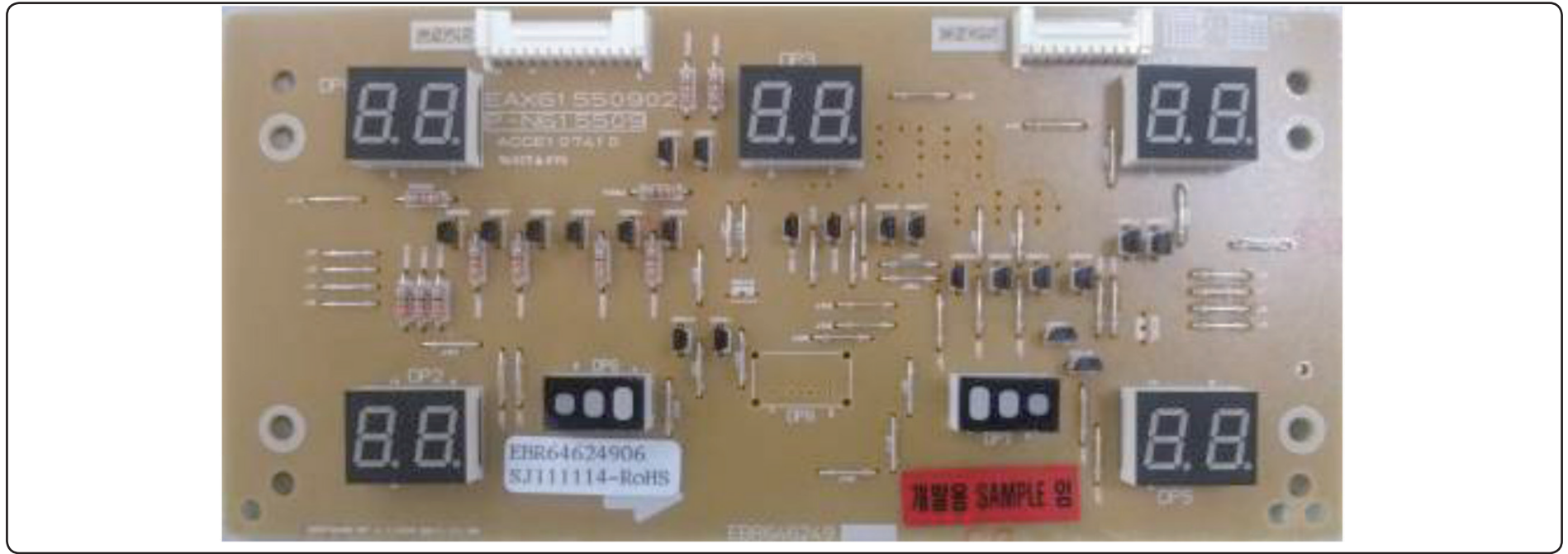
COMPOSITION OF CONTROL

Oven Relay PCB

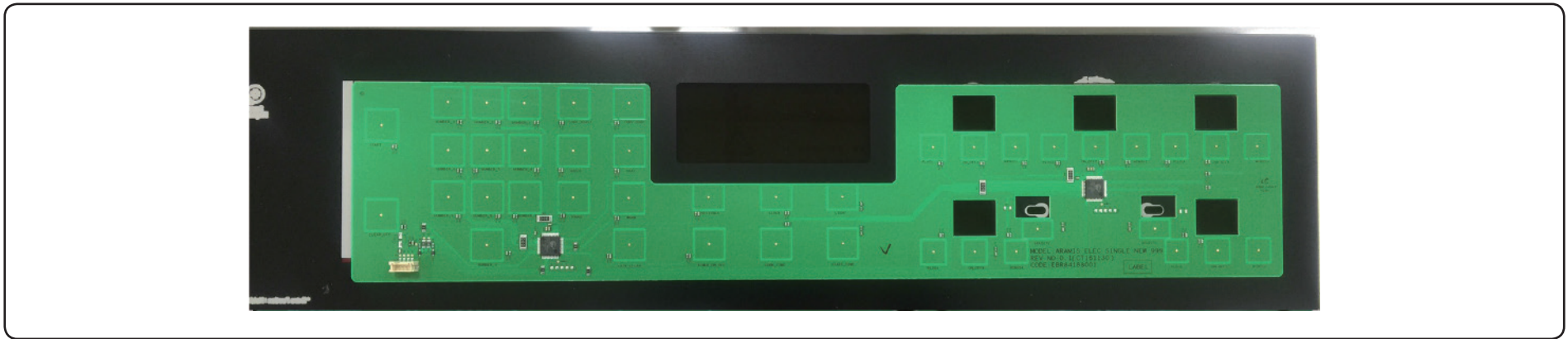


COMPOSITION OF CONTROL

Cook top display PCB



Control Panel (Glass Touch)



CHECK THE FAILURE CODE

■ When the oven has some failure on cooking,

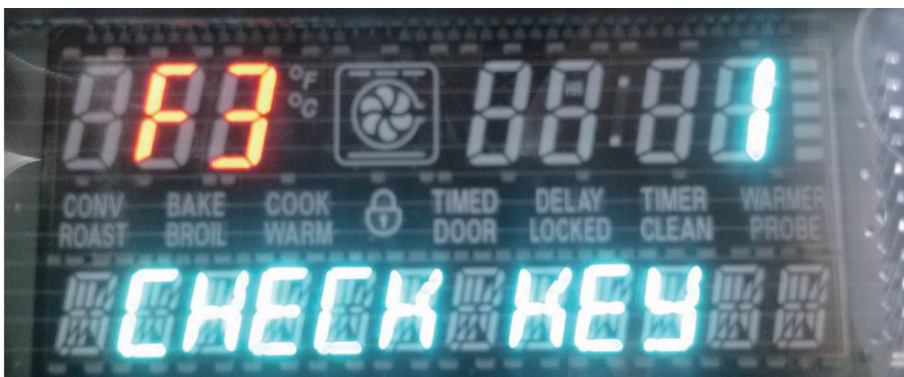
Cooking will be canceled automatic value and logs of F-code will be recorded in EEPROM.

F-code will not display during normal operation.

■ Check the failure code as follow these steps.

1. press the “clear” Button
2. press the “BAKE” and “BROIL” Button at the same time

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



< FIG. 1 >

If the oven do not has any failure, the Oven will show it like FIG. 2

Type of F-Code

Times of the occurred failure



< FIG. 2 >

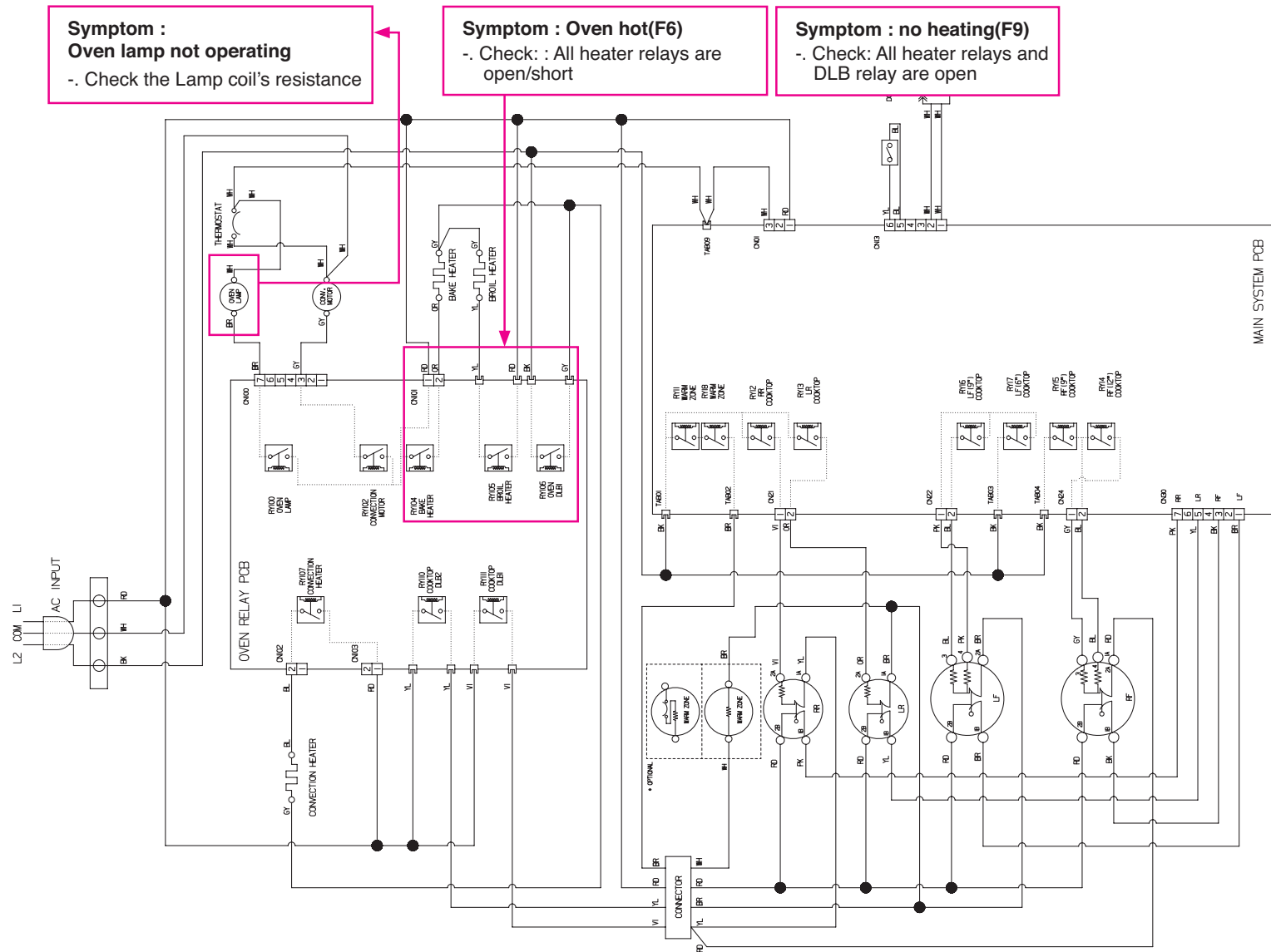
NOTE:

After checking for the F code, press the “CLEAR” key to remove all codes.

CHECK THE FAILURE CODE

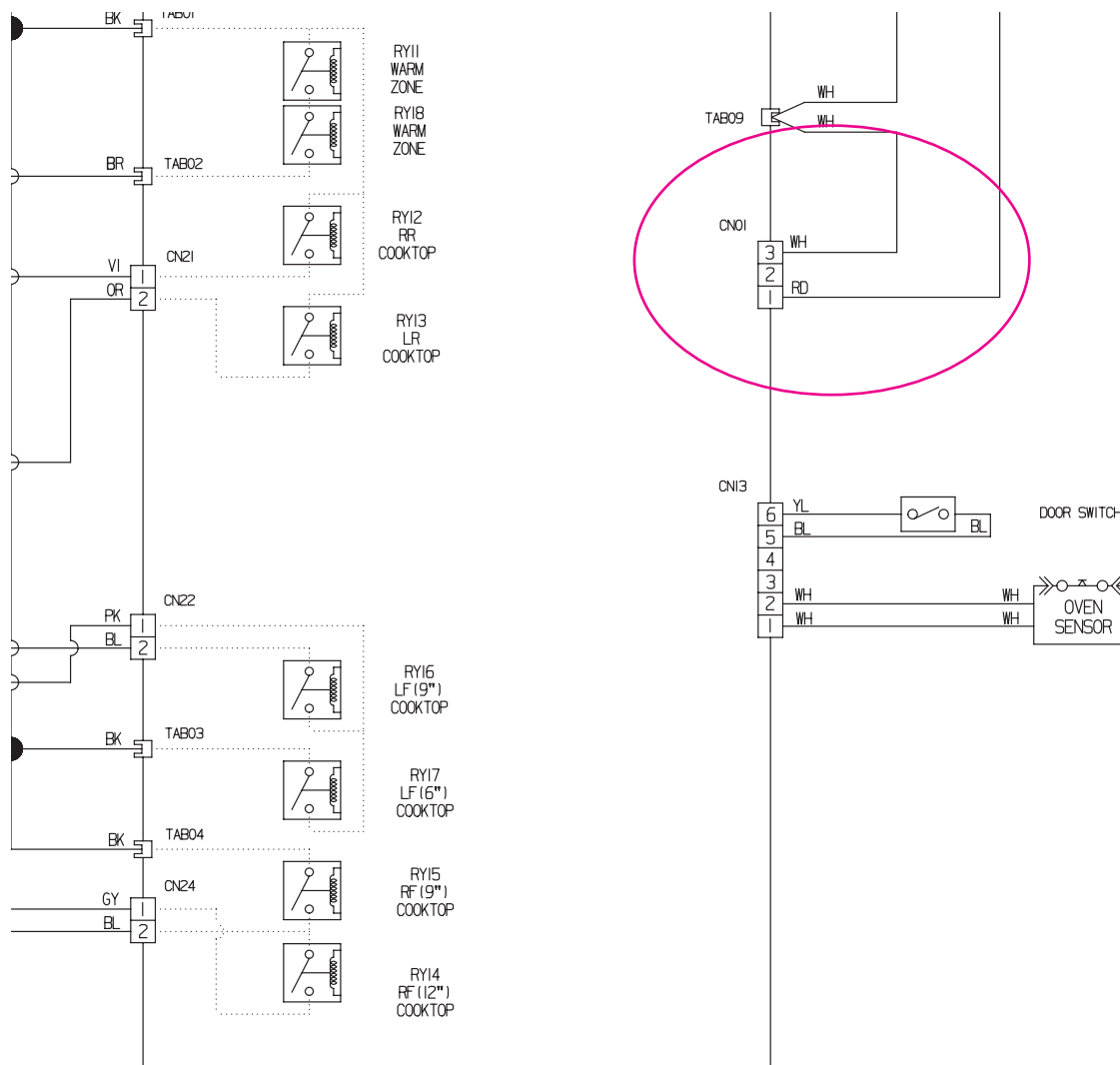
Code	Description	How to detect	Check point
F1	Sensor open	Oven Thermistor is open	1. Wiring 2. Oven Sensor
F2	Sensor short	Oven Thermistor is short	1. Wiring 2. Oven Sensor
F3	Button short	When some button is continuously short for ≥ 60 seconds.	1. Wiring 2. Touch PCB (in case of Glass Touch Model)
F6	Oven hot	The oven temperature is over 650 °F continuously during 2 minutes on cooking except self cleaning.	Oven Sensor
F9	Oven No heating	EXCEPT PROOF and WARM Case 1: start temperature does not exceed 130 °F and oven temperature is less equal than 150 °F and max oven temperature is less equal than start oven temp. Case 2: oven temperature is less equal than 100 °F over 5 minutes on preheating.	1. Electric Wiring 2. Oven Sensor

BASIC CHECK SUMMARY

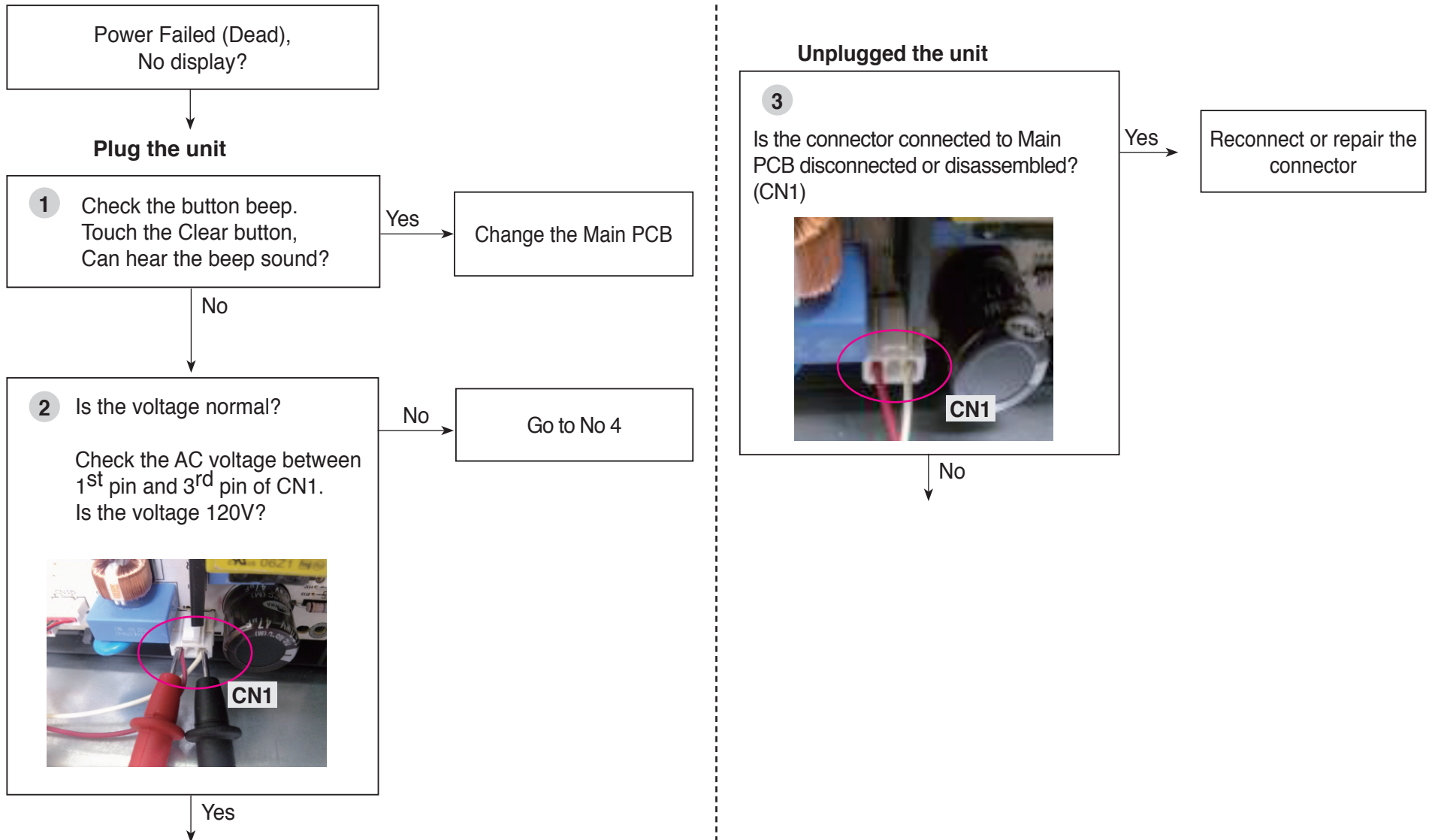


CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. Power Failure (Dead) 2. No Display	1. Check Electric Wiring 2. Check the Main PCB Input Voltage with CN01



CHECKING FLOW CHART BY FAILURE



CHECKING FLOW CHART BY FAILURE

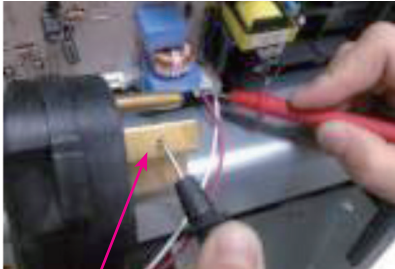
4

Is the electric wiring normal?
Measure the resistance Power cord and CN01's connection

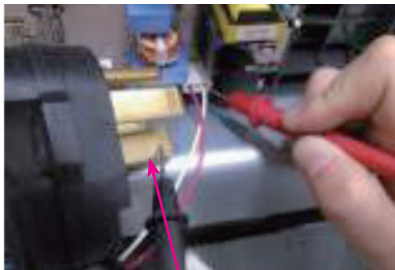
Normal : continuity

Abnormal: infinite

- Code L1 to Pin1 of CN01(RD)
- Code N to Pin3 of CN01(WH)



L1



N

Yes

Replace the Main PCB

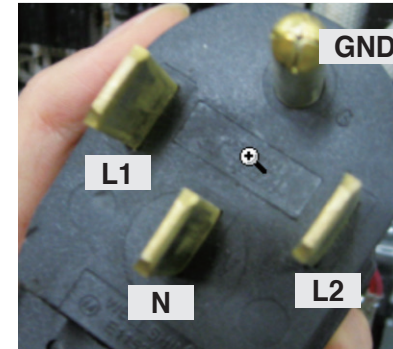
No

Replace the defective harness

Normal	Abnormal
Continuity	Infinite

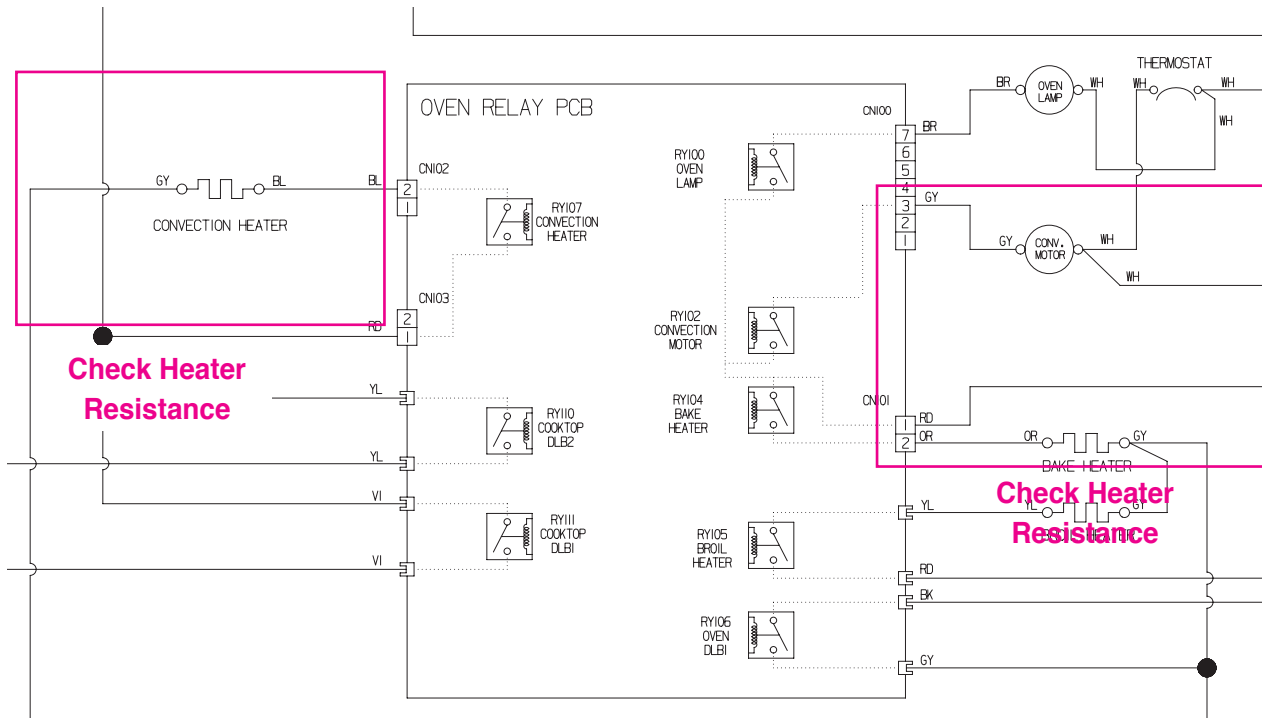
RD color is L1.

White color is N.

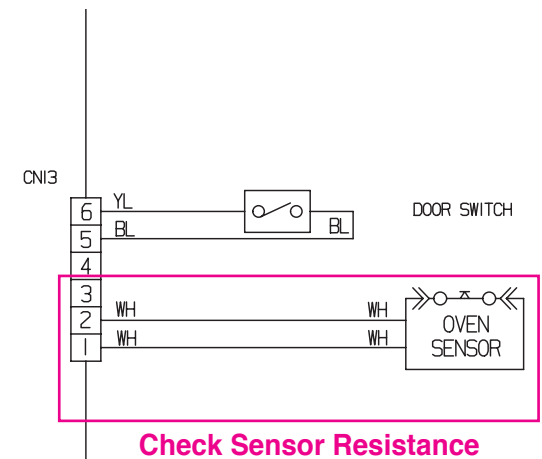


CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. No heating 2. F9	1. Check Electric Wiring 2. Check Heater's Resistance. 3. Check the Sensor.



Main PCB



CHECKING FLOW CHART BY FAILURE

Oven does not heat, F9

Unplugged the unit

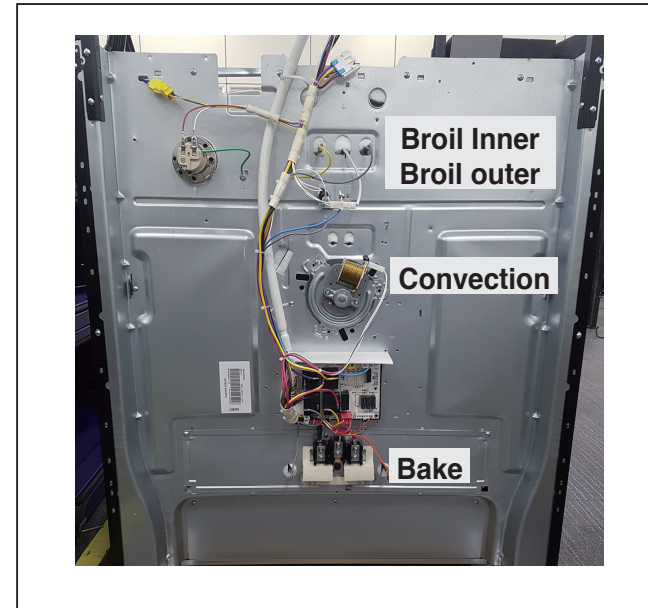
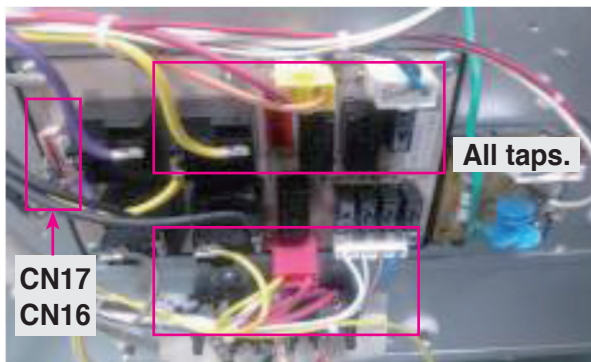
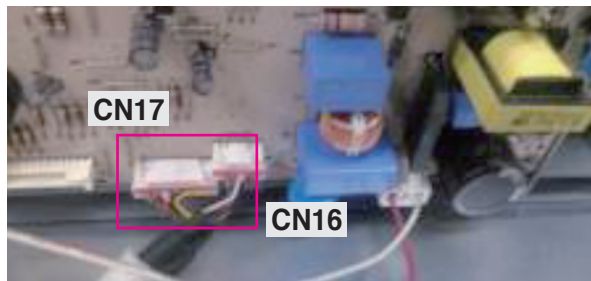
1

Is the disconnect or loose connector?

1. Between Main PCB and Relay PCB (CN16,CN17)
2. Electric wiring of relay PCB All taps.
3. Electric wiring of electric element

Yes

Reconnect or adjust the connection



CHECKING FLOW CHART BY FAILURE

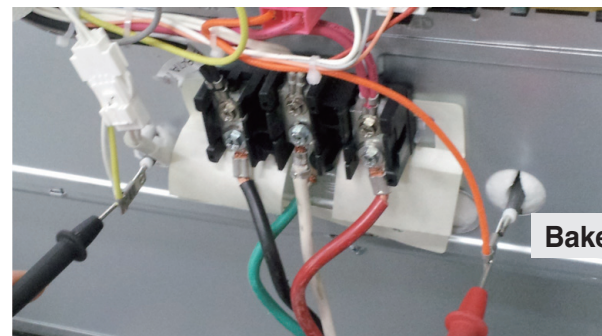
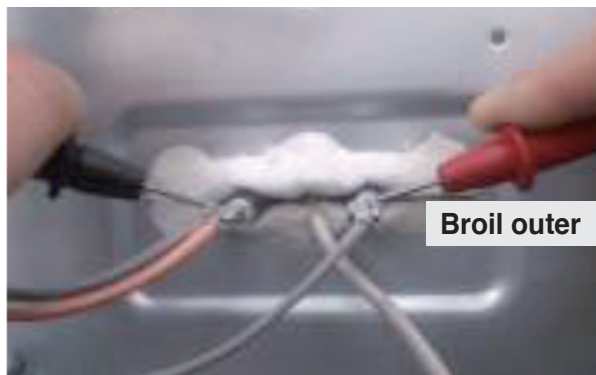
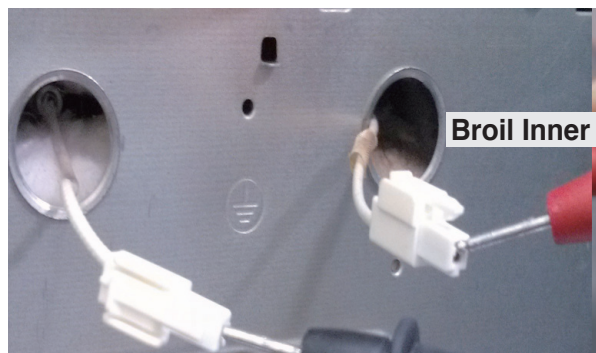
2

Is the connection of heater normal?

Yes

Replace the defected heater

Measure the resistance of each heater.
(The resistance is shown below)



Yes

CHECKING FLOW CHART BY FAILURE

3 Range Of the resistance

Heater	Resistance[Ω] Approximately
Broil (Inner)	13.7
Broil (Outer)	16.5
Convection	82
Bake	14.5

Plug the unit

Yes

4 Is the value of thermistor normal?
(Refer below) Check with the test mode

To enter the test mode, follow these steps:

1. press the "CLEAR" button
2. press the "BAKE", "BROIL" button at the same time



3. press the "BAKE", "BROIL" button at the same time again.



Software version is displayed at the left digits

4. press the NUM "3" button



Normal : Thermistor value at room temp is from 70°F to 90°F as the above figure.

No

Unplugged the unit

5

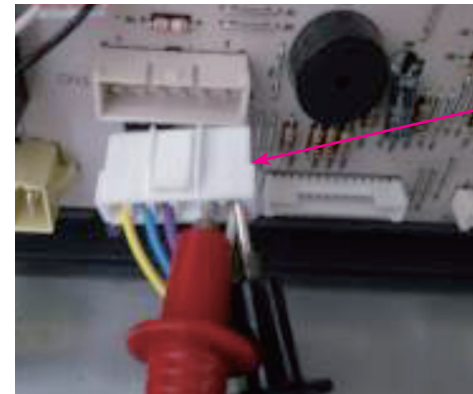
Is the resistance of thermistor normal?

No

Replace the defected
Themistor

Check:

Pins 1 and 2 of CN13 wiring in main PCB
Normal- approximately 1.09kΩ at 25°C



CN13

Yes

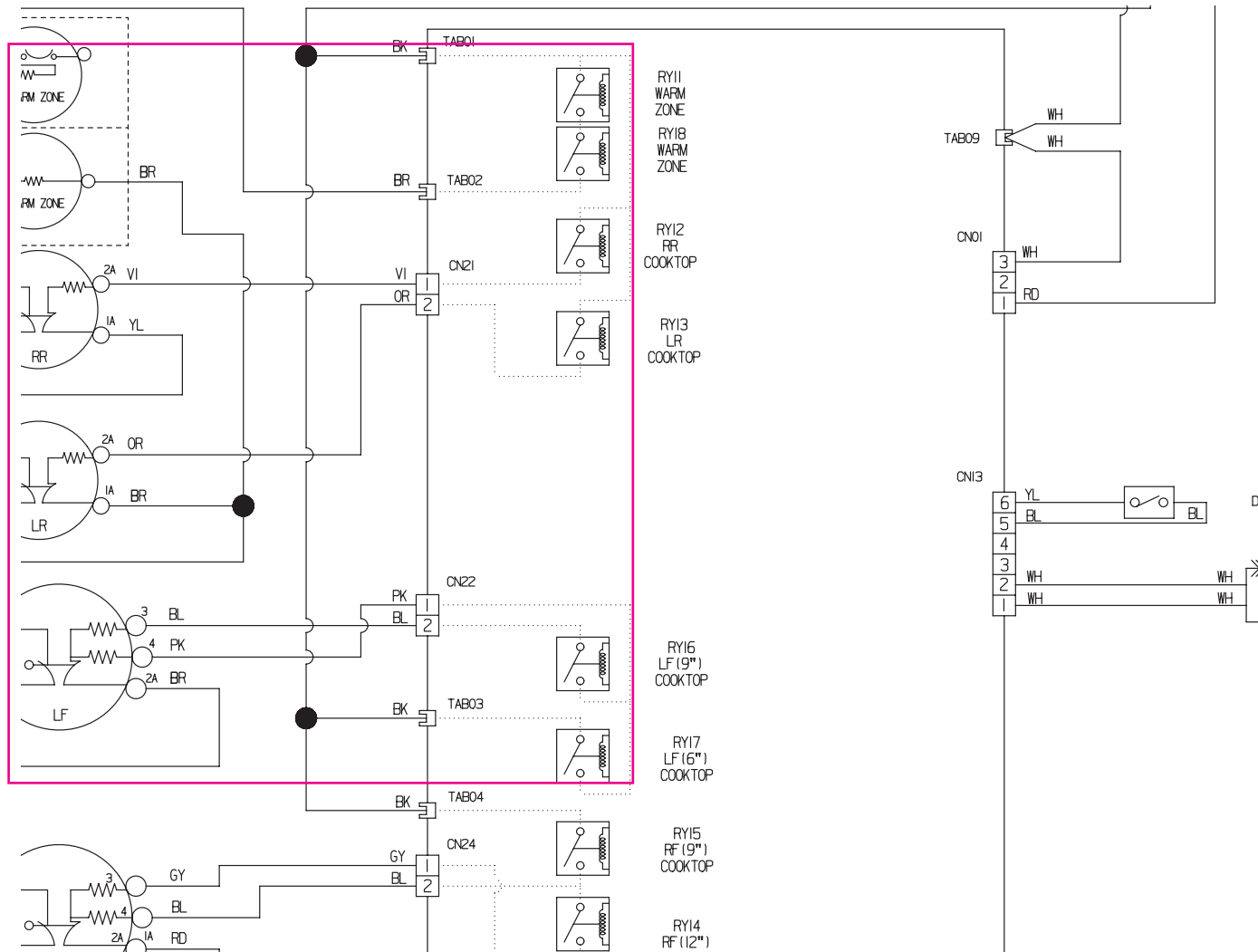
6

Replace the Relay PCB

If the unit does NOT work even though the Relay PCB
change, you should replace the Main PCB.

CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. Cook top No heating	1. Check Electric Wiring 2. Check the Resistance of each Heater



CHECKING FLOW CHART BY FAILURE

Oven does not heat

Unplugged the unit

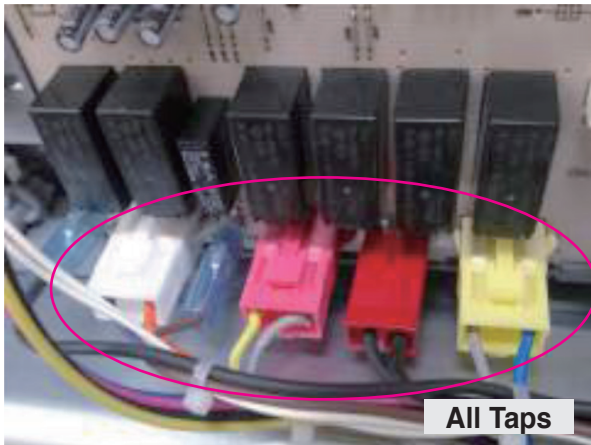
1

Is the Connector disconnected loose?

1. Electric wiring of Main PCB All taps.

No

Reconnect or adjust the connection

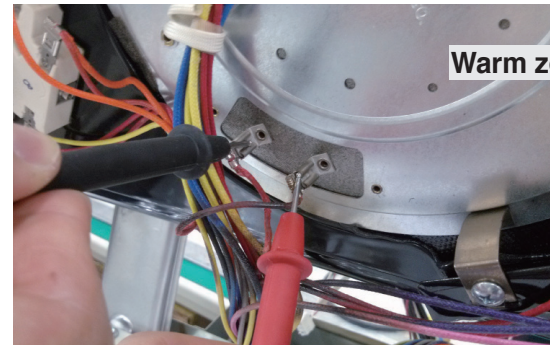
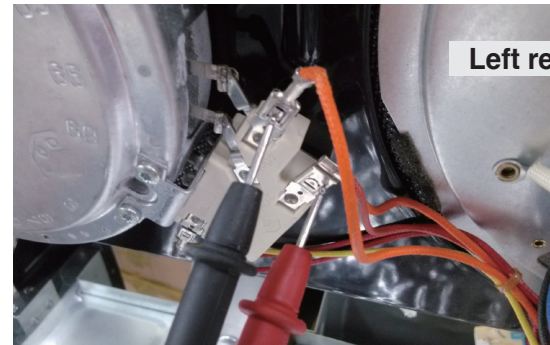
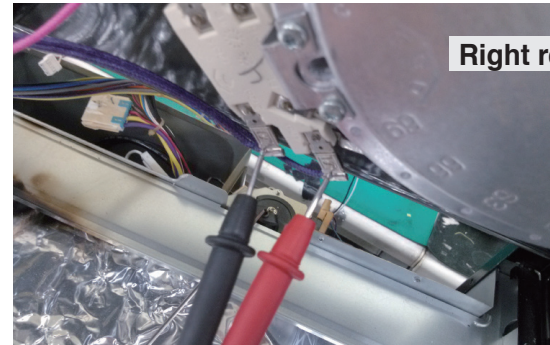


2

Measure the resistance of each heater.
(The resistance is shown Next page.)

No

Replace the defected heater

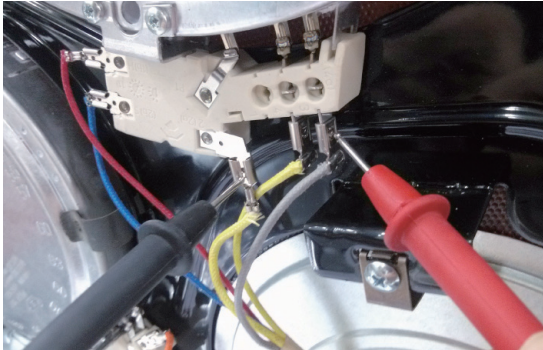


yes

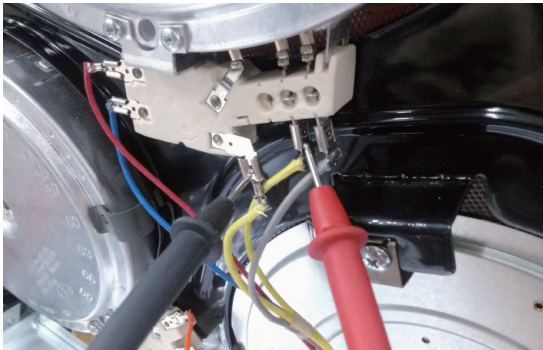
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Only training and service purposes.

CHECKING FLOW CHART BY FAILURE

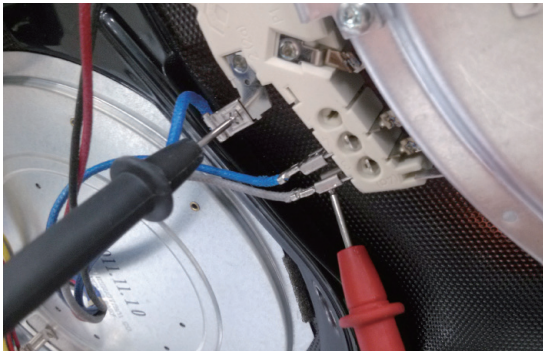
Left Front Outer



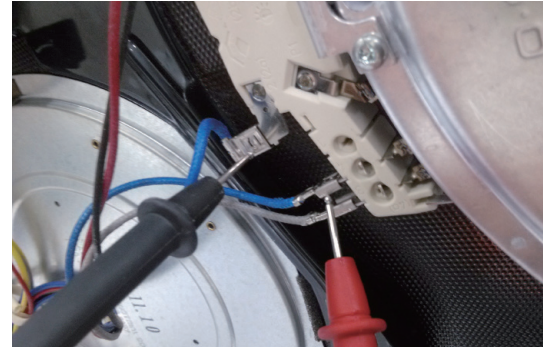
Left Front Inner



Right Front Outer



Right Front Inner



Range Of the resistance

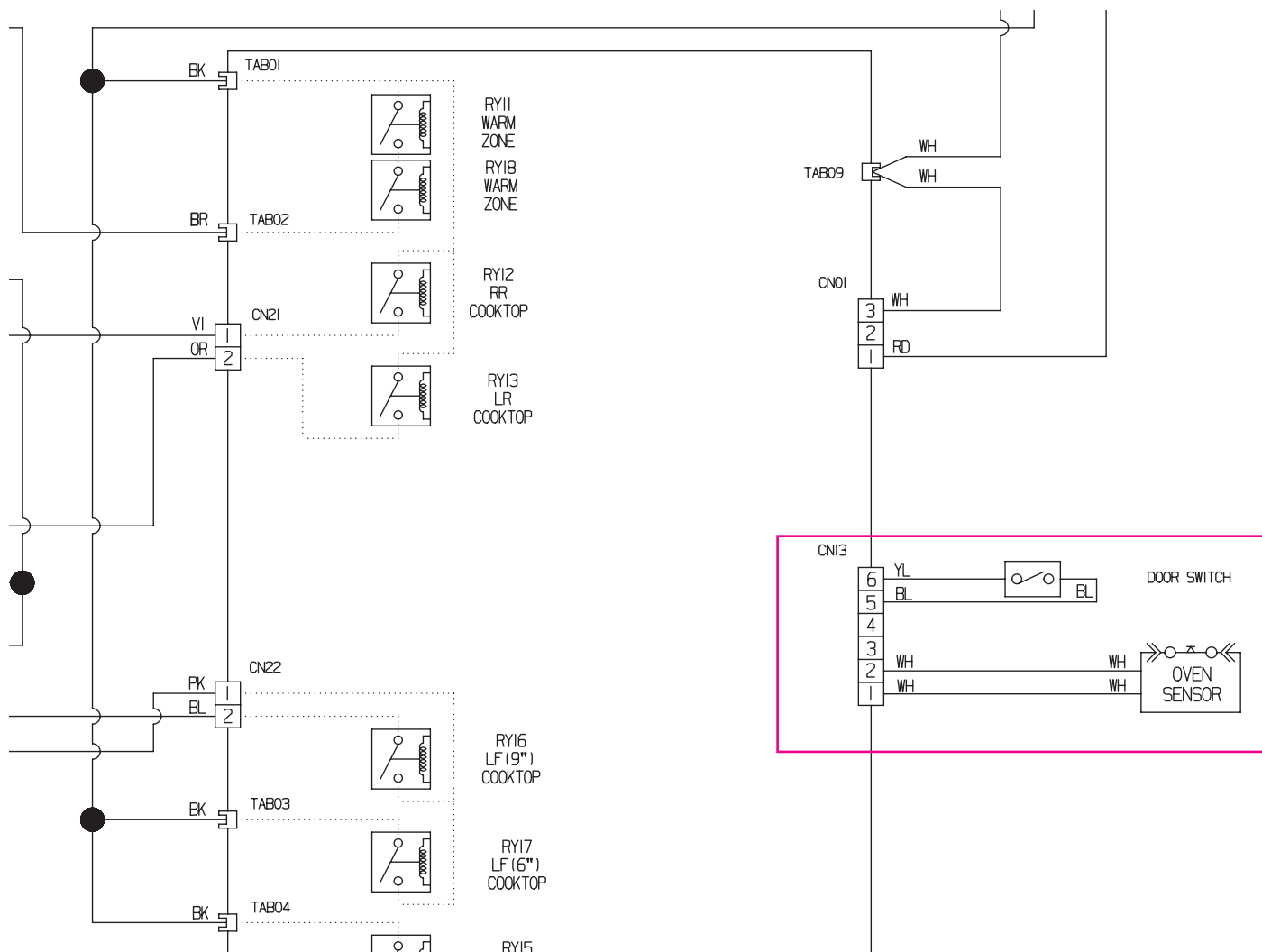
Heater	Resistance[Ω] Approximately
Right rear	47
Left rear	47
Right front (inner)	41
Right Front (Outer)	32
Left Front (Inner)	41
Left Front (Outer)	32
Center Rear	57

yes
↓

Replace the Main PCB

CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. Sensing Fail 2. F1 3. F2	1.Check the Electric Wiring 2.Check the Test Mode 3.Check the Sensor's Resistance



CHECKING FLOW CHART BY FAILURE

Sensing Fail, F1, F2?

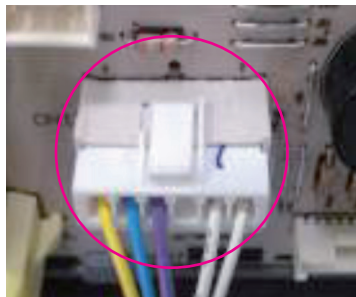
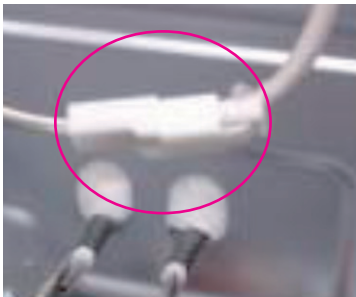
Unplugged the unit

- 1 Is the Connector disconnected or loose?
1. Sensor connection
2. CN13 of Main PCB

Yes → Reconnect or adjust the connection

Sensor connection

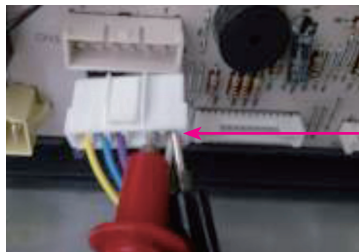
CN13 connection



No

- 2 Is the resistance of thermistor normal?
Check:
Pins 1 and 2 of CN13 wiring in main PCB
Normal- approximately 1.09kΩ at 25°C

No → Replace the failed thermistor



CN13

Yes

Plug the unit

- 3 Is the value of thermistor normal?
(Refer below) Check with the test mode
To enter the test mode, follow these steps:
1. press the "CLEAR" button
2. press the "BAKE", "BROIL" button at the same time

Yes → Go to No 1

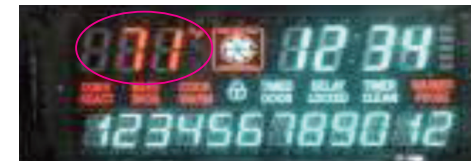


3. press the "BAKE", "BROIL" button at the same time again.



Software version is displayed at the left digits

4. press the NUM "3" button



Normal : Thermistor value at room temp is from 70°F to 90°F as the above figure.

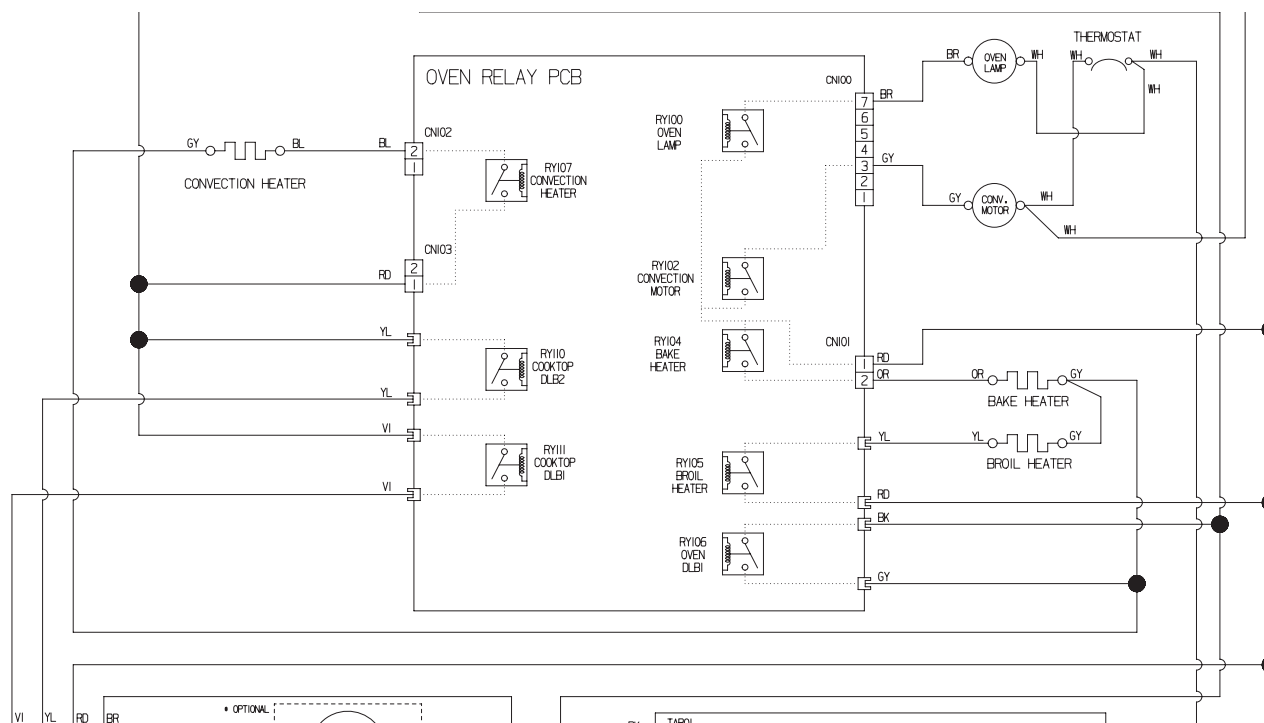
No

4

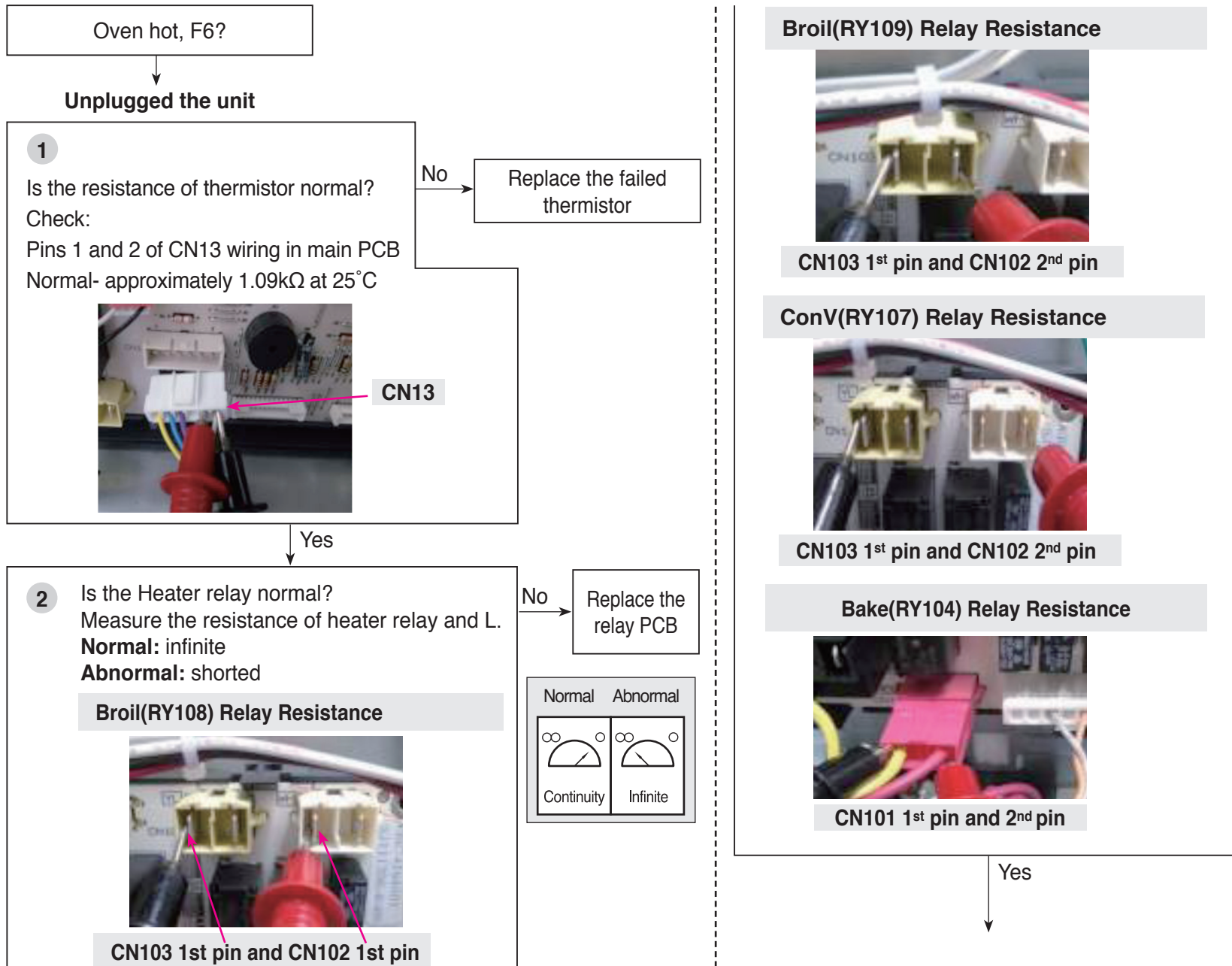
Replace the Main PCB.

CHECKING FLOW CHART BY FAILURE

Symptom	Check Point
1. Oven hot 2. F6	1. Check the Resistance of the Relay.



CHECKING FLOW CHART BY FAILURE

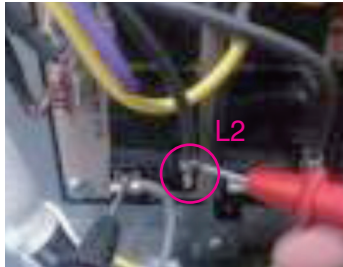


CHECKING FLOW CHART BY FAILURE

3

Is the DLB relay normal?
Measure the resistance

Normal : infinite
Abnormal : continuity



Normal	Abnormal
Continuity	Infinite

DLB1(RY106)
Relay Resistance

No

Replace the relay PCB

Yes

Plug the unit

4

Is the value of thermistor normal?
(Refer below) Check with the test mode

To enter the test mode, follow these steps:

1. press the "CLEAR" button
2. press the "BAKE", "BROIL" button at the same time

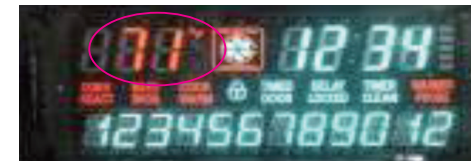


3. press the "BAKE", "BROIL" button at the same time again.



Software version is displayed at the left digits

4. press the NUM "3" button



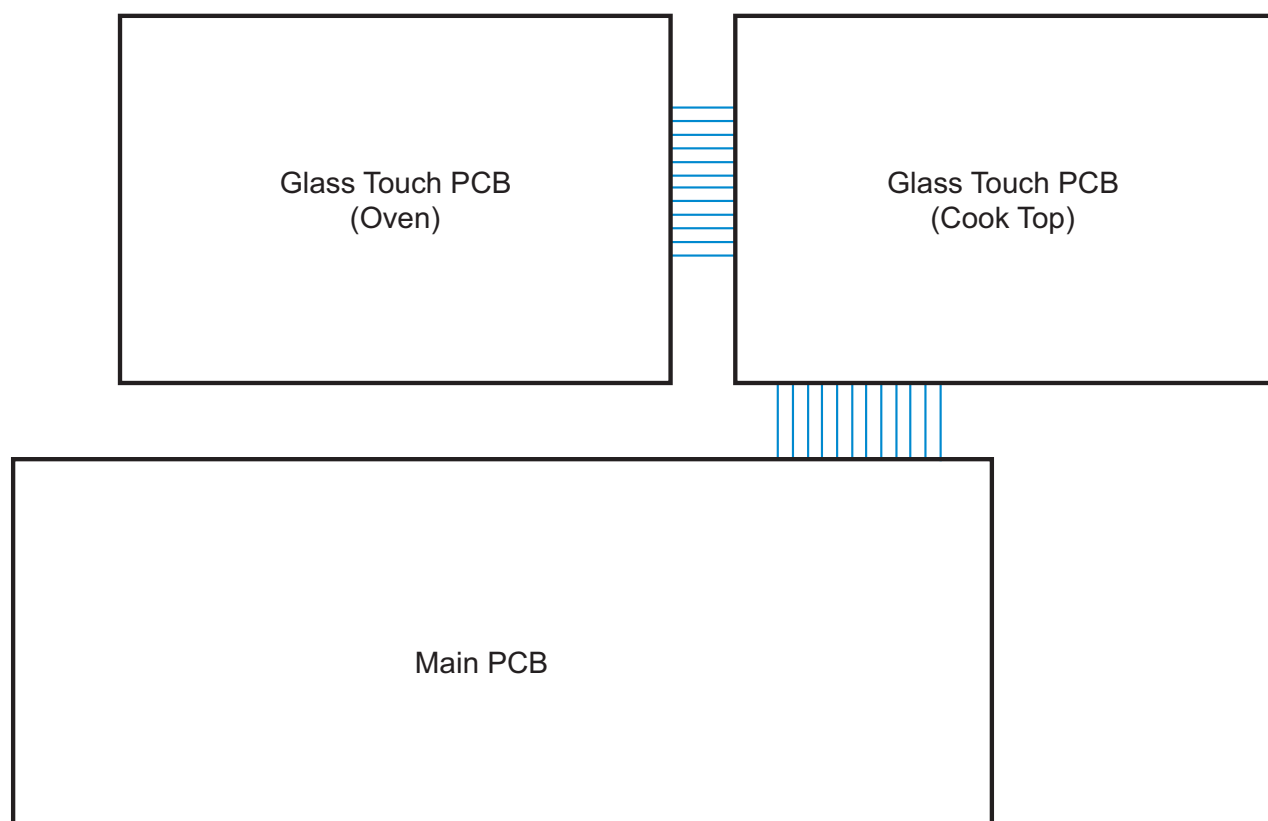
Normal : Thermistor value at room temp is from 70°F to 90°F as the above figure.

Yes

Replace the
Main PCB

CHECKING FLOW CHART BY FAILURE

<i>Symptom</i>	<i>Check Point</i>
1. Glass Touch Failure 2. F3 Error	1. Check the Door Locking System. 2. Check the Electric Wiring.



CHECKING FLOW CHART BY FAILURE

F3 error (Button short error)
Or button does not input

Unplugged the unit

1

Check the connecting states between
Key pad and CN31 of Main PCB.
Is it OK?



No

Reconnect or adjust the
connection

Yes

Plug the unit

2

Replace the Key pad.
And then check button operation using
key test mode

Yes

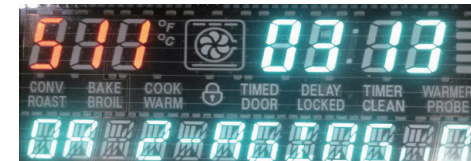
Go to No 1

To enter the test mode, follow these steps:

1. press the "CLEAR" button
2. press the "BAKE", "BROIL" button at the same time



3. press the "BAKE", "BROIL" button at the same time again.



Software version is displayed at the left digits

4. press the NUM "7" button



5. Check the button.
(Refer to the next page, appendix)

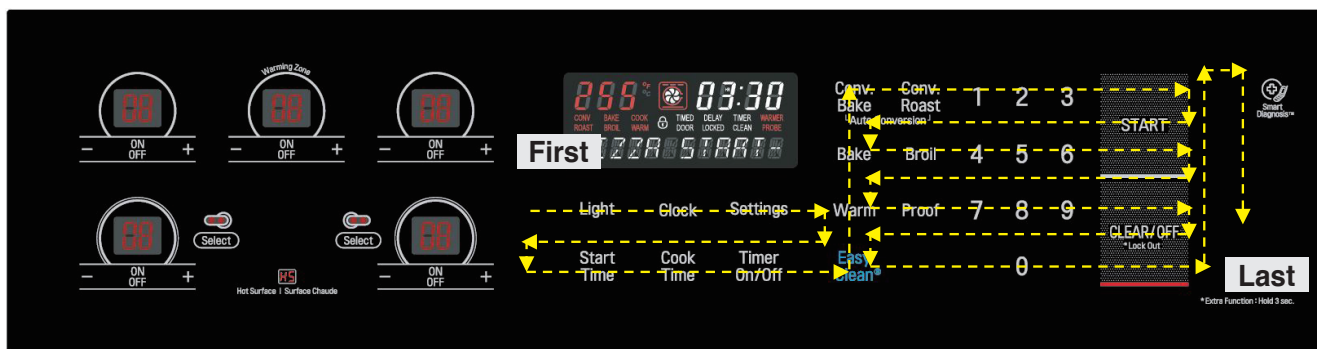
No

3

If button is not operated, Replace the Main PCB

APPENDIX

Key operation Test sequence



<Fig.1>

※ How to check button operation

1. Keys should be accessed according to the above sequence and check the beep sound when key is accessed
2. If the key access order was changed, the buzzer make double beep sound
3. The buzzer does NOT beep when a key was accessed, it would be defected.

※ How to stop - Key Test mode

- Press 1st → 2nd → ... → 29th (CLEAR)
- Press 'CLEAR' button one more.

TROUBLE SHOOTING

PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
Oven not operating.	<ul style="list-style-type: none"> • Bad main PCB • Power outage 	<ul style="list-style-type: none"> • Test and/or replace PCB → Refer to the page 9-1~9-3 • Verify power is present at unit. • Verify that the circuit breaker is not tripped • Replace household fuse capacity
Oven element does not heat.	<ul style="list-style-type: none"> • No line voltage • Loose or bad wiring. • Defective element. • Bad main PCB or relay PCB 	<ul style="list-style-type: none"> • Check circuit breaker. • Repair or replace wiring(see wiring diagrams). • Test and/or replace element. • Test and/or replace PCB
Surface element barely heats Surface element will not heat Higher than low-medium	<ul style="list-style-type: none"> • Loose or bad wiring connection at element or terminal block. • Defective Surface units control PCB • Defective Surface element. • Low line voltage 	<ul style="list-style-type: none"> • Verify all connections are clean and tight, replace broken wires • Test and/or replace main PCB • Test and/or replace element. • Line voltage should be minimum 240-volts. Of necessary, electrician should repair cause for low line voltage
Frequent cycling of surface Element or warming zone	<ul style="list-style-type: none"> • This is normal 	<ul style="list-style-type: none"> • The element will cycle on and off to maintain the heat setting
“HS” (Hot surface)Warning message does not light up	<ul style="list-style-type: none"> • Defective main PCB 	<ul style="list-style-type: none"> • Test and/or replace main PCB
Oven light fails to operate.	<ul style="list-style-type: none"> • Failed oven lamp. • Circuit breaker or fuse is open • Loose or bad wiring • Defective light socket. • Defective door switch 	<ul style="list-style-type: none"> • Check lamp and Replace is necessary • Check circuit breaker or replace fuse. • Repair or replace wiring • Check light socket for continuity. • Test and/or replace door switch

TROUBLE SHOOTING

PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
Oven does not begin clean cycle	<ul style="list-style-type: none"> • Bad wiring • Bad latch system • Programming error 	<ul style="list-style-type: none"> • Repair or replace wiring • Check door locking motor and micro switch • Shut off power to oven for five minutes by switching off circuit breaker. Reset circuit breaker and try oven again.
Oven stop for Self clean cycle	<ul style="list-style-type: none"> • Defective a point of contact with door switch 	<ul style="list-style-type: none"> • Test door switch and check the point of contact between door and door switch
Electronic timer will not accept Programming.	<ul style="list-style-type: none"> • Failed main PCB 	<ul style="list-style-type: none"> • Replace main PCB
Clock and timer not working	<ul style="list-style-type: none"> • Power outage 	<ul style="list-style-type: none"> • Verify power is present at unit. • Verify that the circuit breaker is not tripped • Replace household fuse, but do not fuse capacity • Refer to Owner's manual instructions
Oven does not bake (Selection is set for to BAKE or TIMED BAKE)	<ul style="list-style-type: none"> • Loose or bad wiring • Defective BAKE element • Defective electronic clock • Door switch sensing error 	<ul style="list-style-type: none"> • Verify all connections are clean and tight, replace broken wire • Test and/or replace BAKE element. • Replace main PCB or relay PCB • Test door switch and check the point of contact between door and door switch
Oven does not Broil	<ul style="list-style-type: none"> • Loose or bad wiring • Defective BROIL element • Defective main PCB or relay PCB 	<ul style="list-style-type: none"> • Verify all connections are clean and tight, replace broken wire • Test and/or replace BAKE element. • Replace main PCB or relay PCB
Overheating or "runaway" oven	<ul style="list-style-type: none"> • Loose or bad wiring to latch system • Defective Oven Sensor • Bad main PCB 	<ul style="list-style-type: none"> • Repair or replace wiring • Test and/or replace Oven Sensor • Test and/or replace PCB
Premature burnout of bake element	<ul style="list-style-type: none"> • Improper use of oven(e.g. being used to heat the home) 	<ul style="list-style-type: none"> • Use oven for baking only
Oven door difficult to open	<ul style="list-style-type: none"> • Worn or broken broil stop roller. 	<ul style="list-style-type: none"> • Replace oven door hinge

TROUBLE SHOOTING

PROBLEMS	POSSIBLE CAUSES	SOLUTIONS
Oven door sagging on one side	<ul style="list-style-type: none"> • Hinge loose or out of position to oven liner 	<ul style="list-style-type: none"> • Adjust hinges or replace hinges
Door does not close completely at top	<ul style="list-style-type: none"> • Broken or misadjusted door spring • Door fits too tight at bottom. 	<ul style="list-style-type: none"> • Adjust or replace hinges • Adjust hinges outward.
Door glass breaks.	<ul style="list-style-type: none"> • Oven racks covered with foil. • Glass installed backward. 	<ul style="list-style-type: none"> • Do not cover racks with foil. • Install tempered glass toward the heat.
Damaged oven door gasket.	<ul style="list-style-type: none"> • Improper Self clean 	<ul style="list-style-type: none"> • Do not use harsh abrasives or scouring pads. See Owner's manual instructions
Oven racks fit too tight.	<ul style="list-style-type: none"> • Racks were cleaned in self clean cycle • Tolerance buildup in oven liner. 	<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 spray with pam or other lubricant sprays. • Notify customer Assurance department.
Oven smokes/odor first few times of usage	<ul style="list-style-type: none"> • This is normal 	<ul style="list-style-type: none"> • Minor smoking or odor is normal for the first few times of oven usage • Ventilate area well and perform self clean cycle
Excessive smoking during a Self clean cycle	<ul style="list-style-type: none"> • Excessive soil 	<ul style="list-style-type: none"> • Press the CLEAR/OFF pad. Open the windows to rid the room of smoke. Wait until the Self Clean cycle is cancelled Wipe up the excess soil and reset the clean
Convection fan make a noise	<ul style="list-style-type: none"> • A convection fan may automatically turn on and off. Low level noise is normal • Loose nut of convection fan • Deformed convection fan 	<ul style="list-style-type: none"> • Low level noise is normal • Re-fasten the nut • Replace the convection fan.
Failures Codes	<ul style="list-style-type: none"> • Electronically controlled 	<ul style="list-style-type: none"> • Refer to "Failure codes" parts (page 7-1)
Oven temperature too hot or too cold	<ul style="list-style-type: none"> • Oven sensor needs to be adjusted 	<ul style="list-style-type: none"> • See "the adjusting your oven temperature" in owners manual

SCHEMATIC DIAGRAM

NOTE:

Schematic diagram shows oven door opened and unlocked. All elements are set to "OFF".

WARNING

POWER MUST BE DISCONNECTED BEFORE SERVICING THE APPLIANCE. FAILURE TO DO SO CAN RESULT IN DEATH OR ELECTRICAL SHOCK.

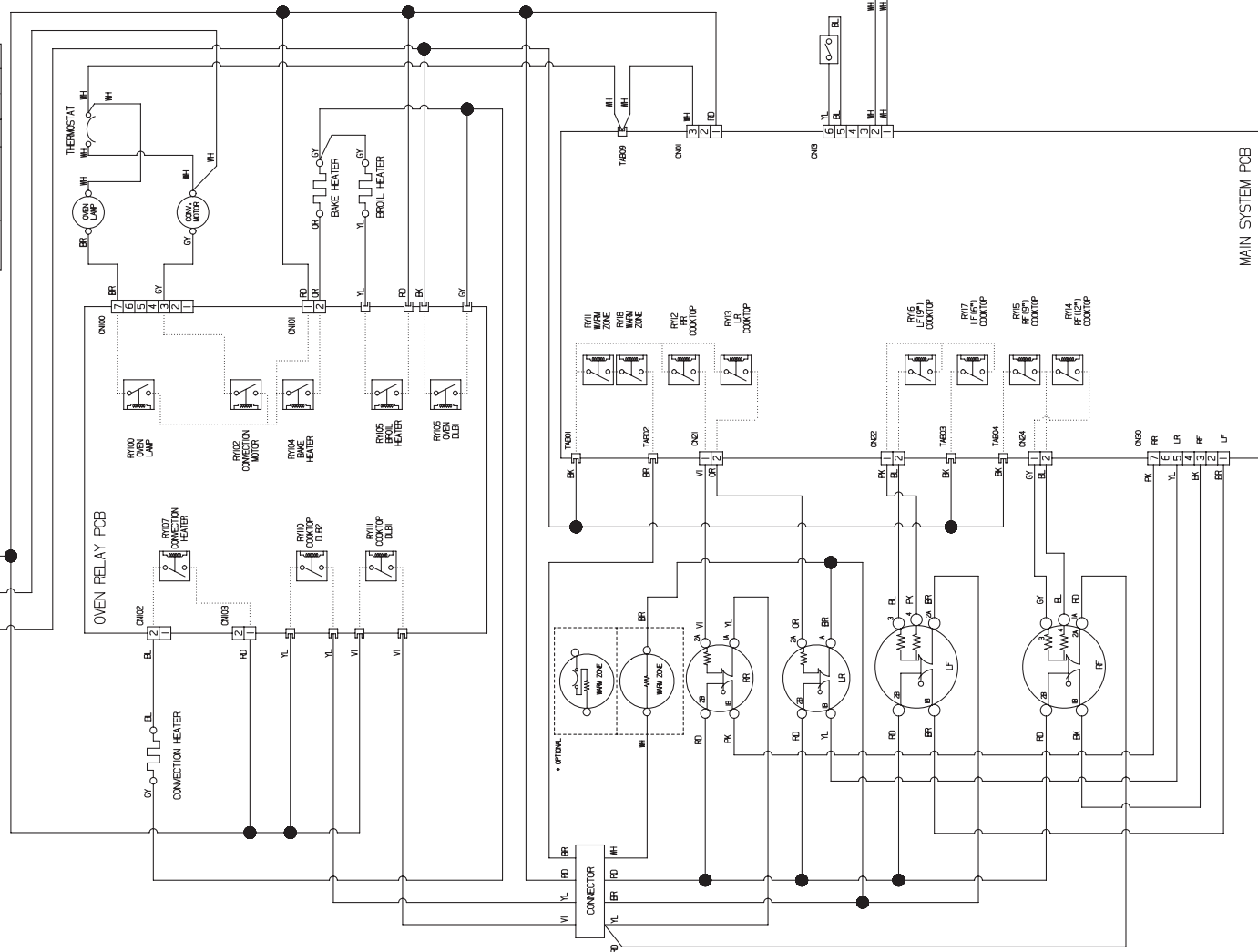
※ RADIANT COOK-TOP

Wattage	Ω
RR:1200W	approx.47 Ω
LR:1200W	approx.47 Ω
RF:2500W	approx. 23 Ω
LF: 1400W(Inner) 1800W(Outer)	approx.41 Ω approx.32 Ω
WARM ZONE: 100W	approx.570 Ω

< TABLE 1 >

WIRE COLORS

SYMBOL	COLOR
WH	WHITE
BK	BLACK
RD	RED
YL	YELLOW
PK	PINK
BL	BLUE
BR	BROWN
GN	GREEN
GY	GRAY
OR	ORANGE
VI	VIOLET



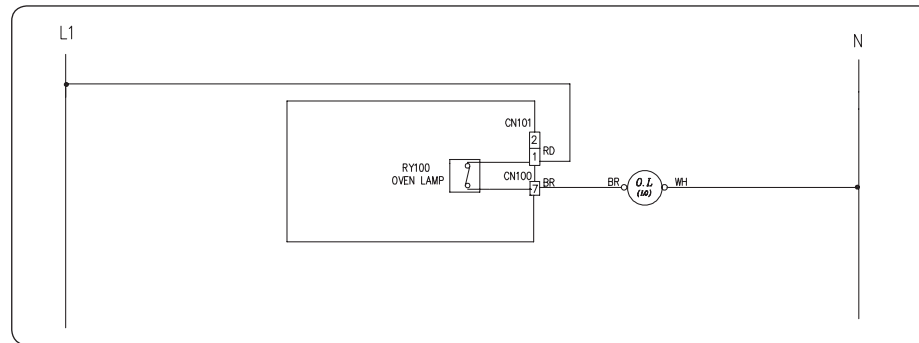
STRIP CIRCUITS

Complete the following steps before checking electric oven circuit

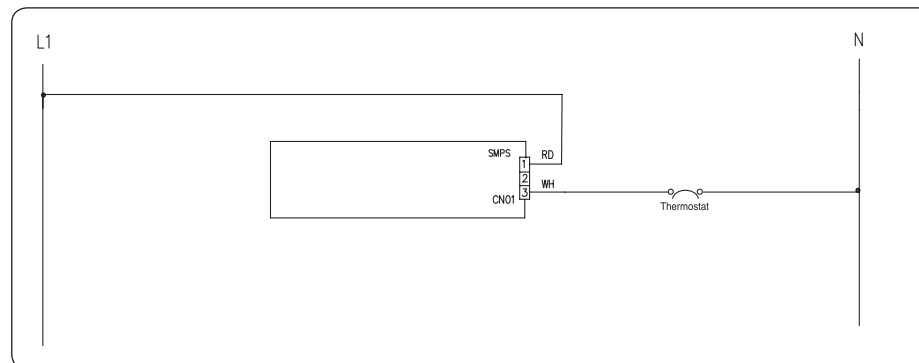
1. Check the line voltage, household fuse or circuit breaker.
2. Check for loose wiring or mis-wiring within electric range.

NOTE: The following individual circuits are for use in diagnosis, and are shown in the ON position.

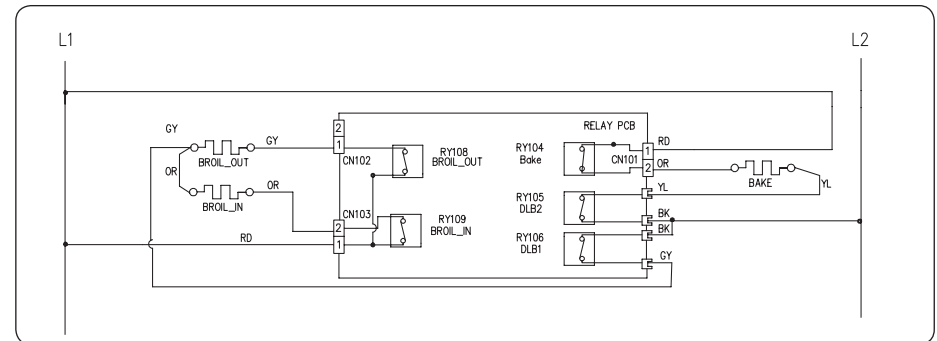
OVEN LIGHT



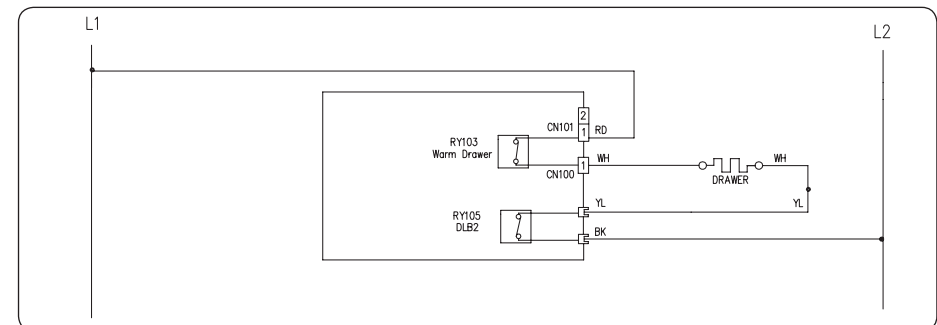
CLOCK DISPLAY ON



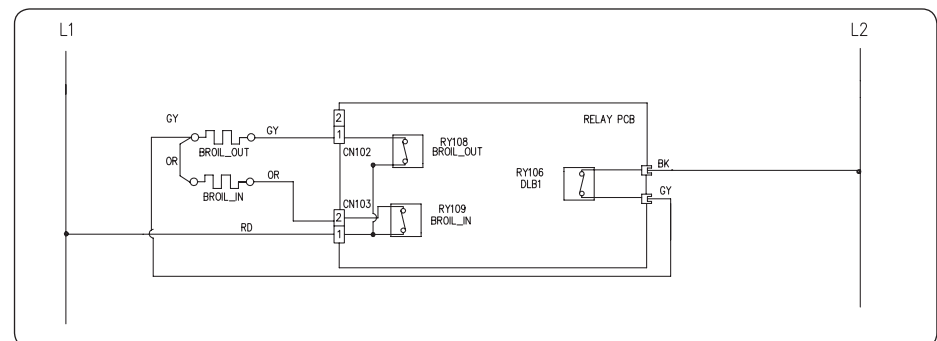
BAKE / COOK & WARM / PROOF



EASY CLEAN Circuit



BROIL

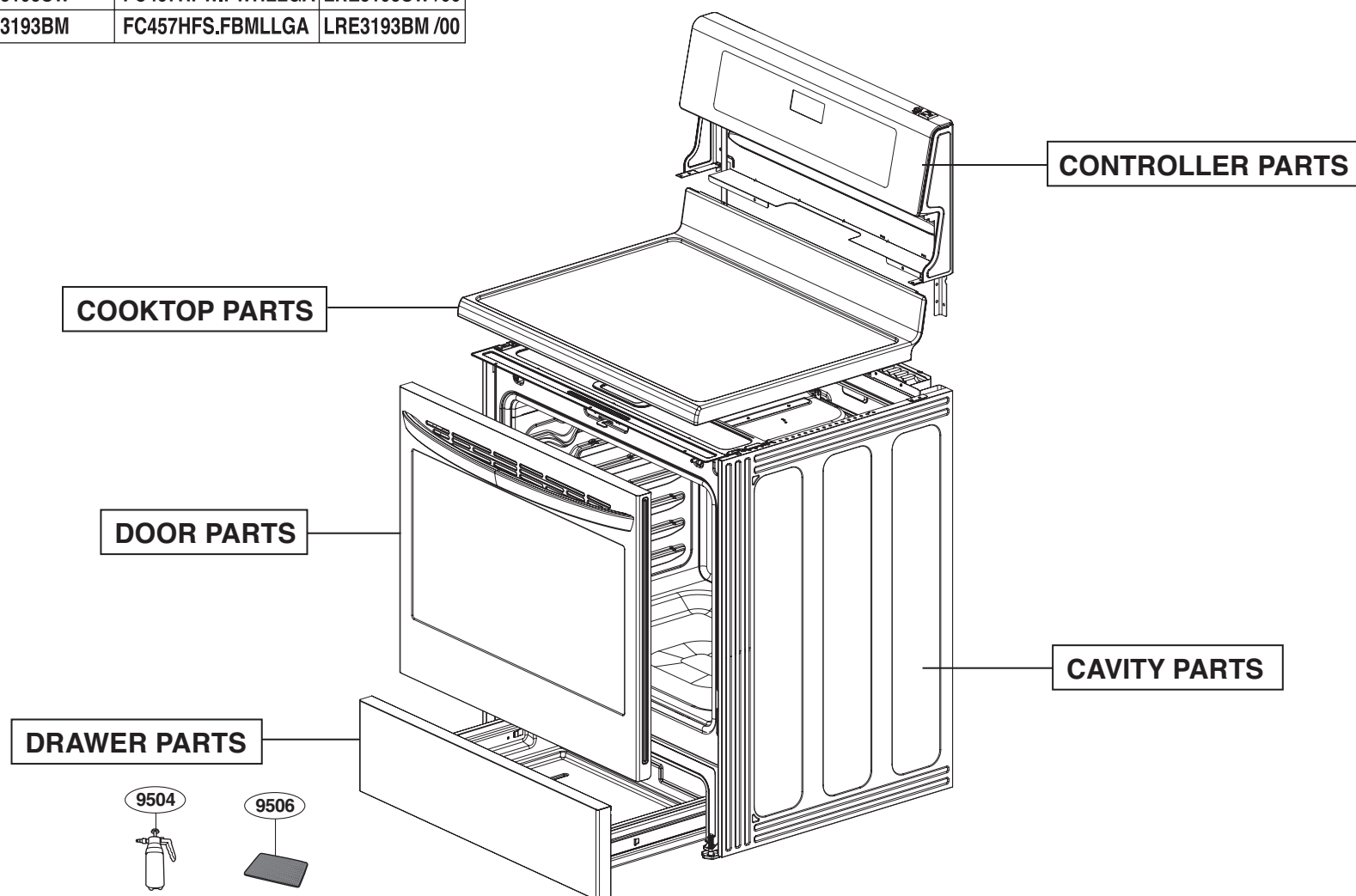


EXPLODED VIEW

INTRODUCTION

MODEL:

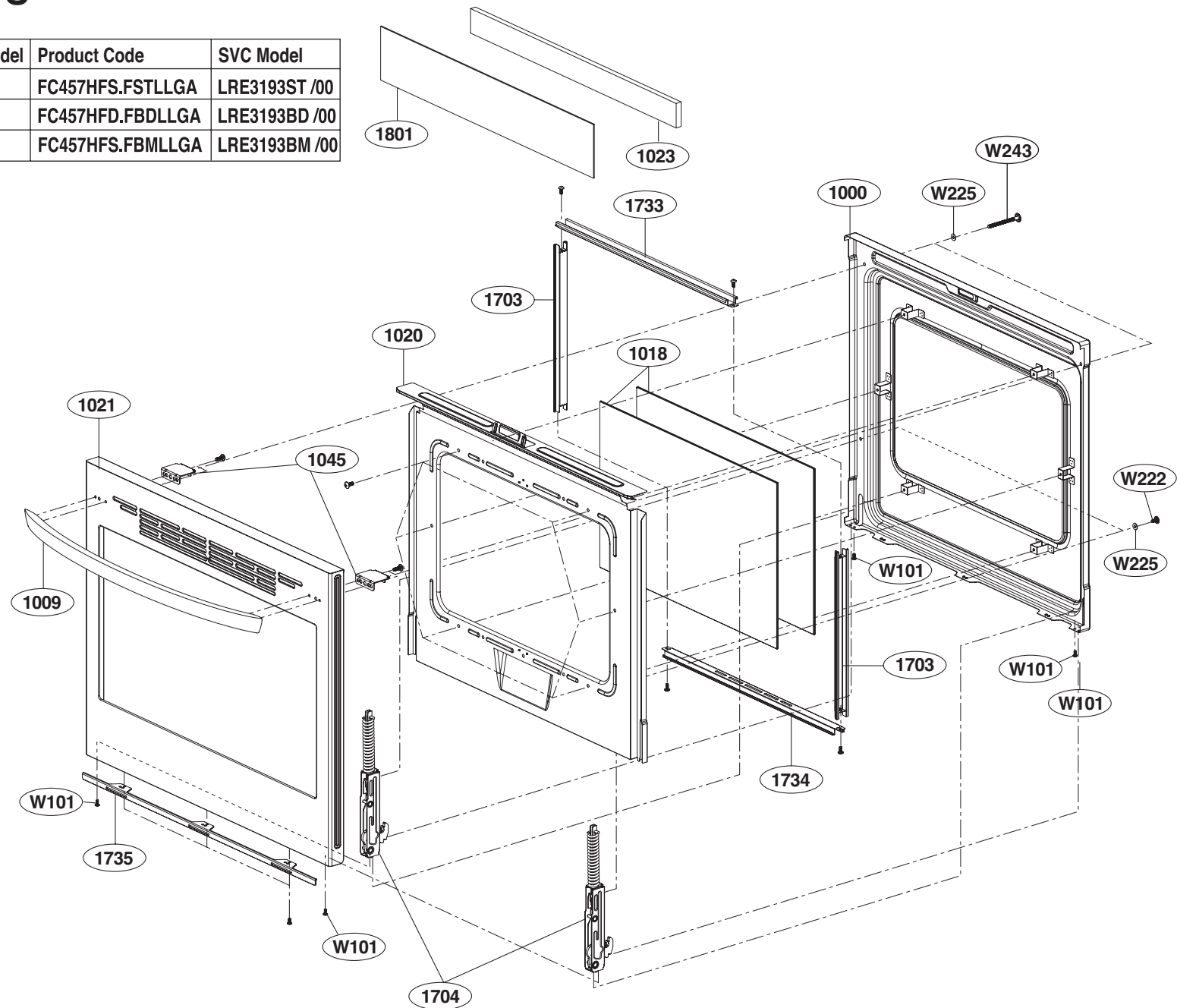
Customer Model	Product Code	SVC Model
LRE3193ST	FC457HFS.FSTLLGA	LRE3193ST /00
LRE3193BD	FC457HFD.FBDLLGA	LRE3193BD /00
LRE3193SB	FC457HFB.FBKLLGA	LRE3193SB /00
LRE3193SW	FC457HFW.FWHLLGA	LRE3193SW /00
LRE3193BM	FC457HFS.FBMLLGA	LRE3193BM /00



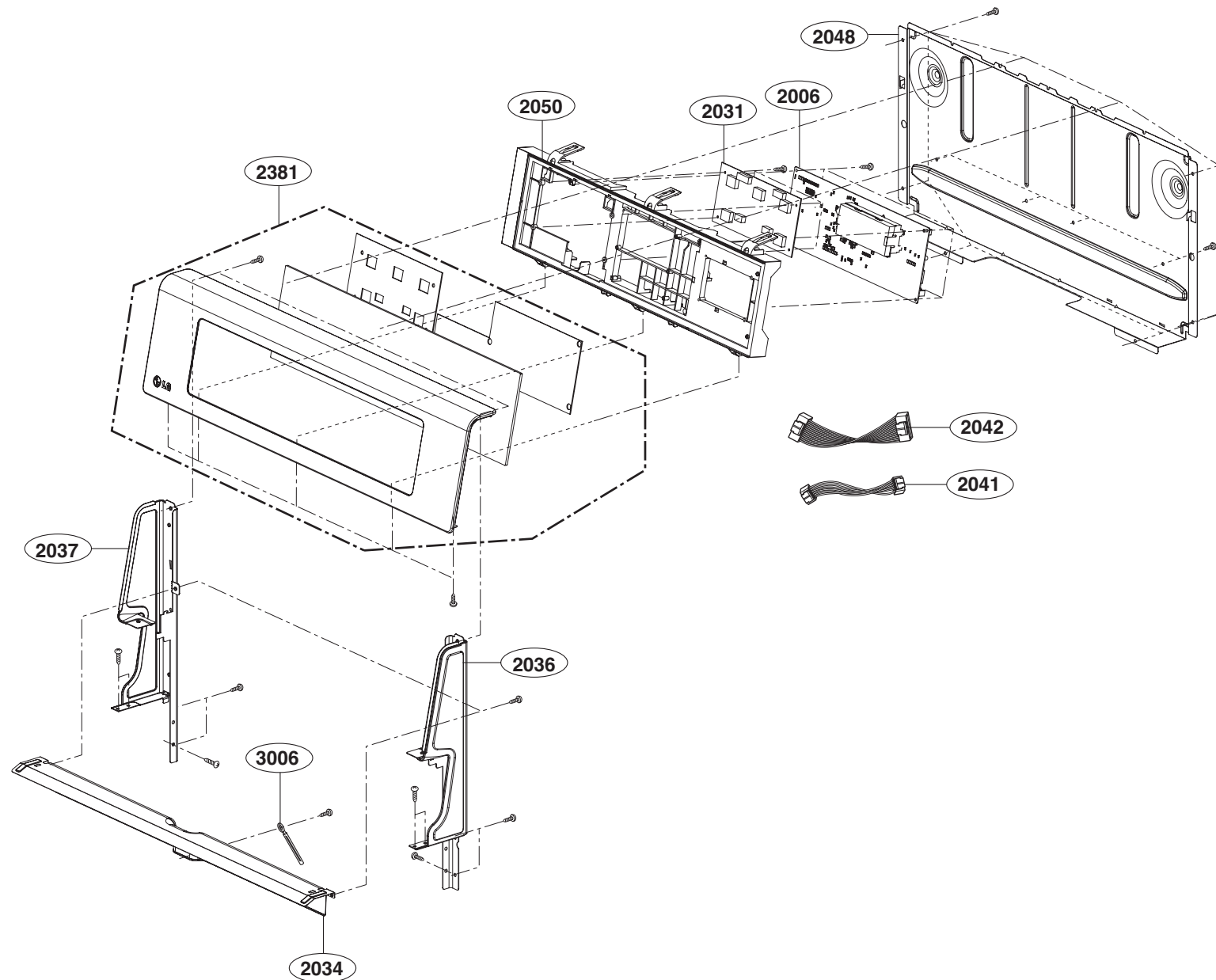
DOOR PARTS

MODEL:

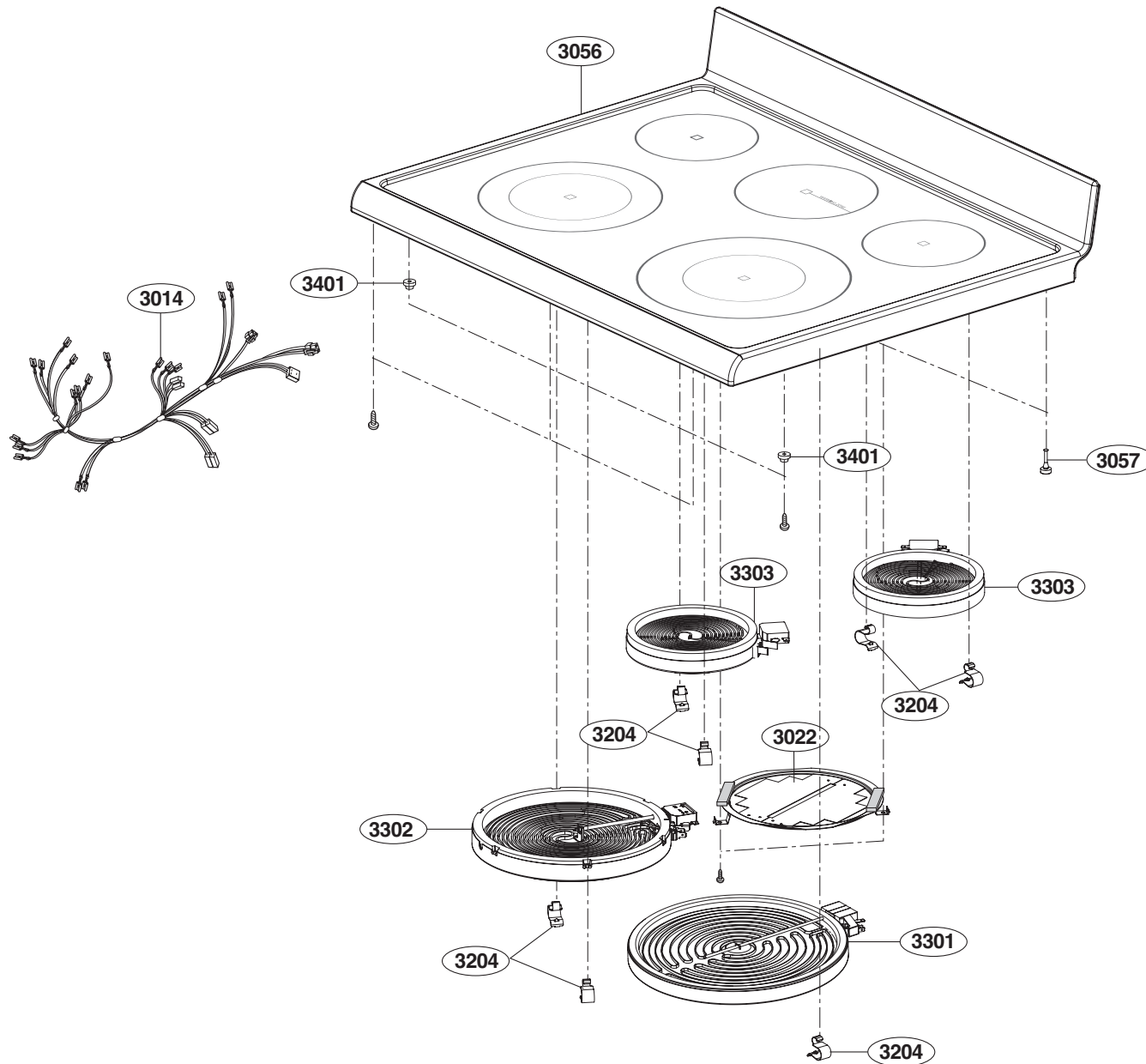
Customer Model	Product Code	SVC Model
LRE3193ST	FC457HFS.FSTLLGA	LRE3193ST /00
LRE3193BD	FC457HFD.FBDLLGA	LRE3193BD /00
LRE3193BM	FC457HFS.FBMLLGA	LRE3193BM /00



CONTROLLER PARTS



COOKTOP PARTS



DRAWER PARTS

