



Internal Use Only



30" Freestanding Gas Single Oven Range

SERVICE MANUAL

MODEL: LRG4115ST

CAUTION

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

P/NO : MFL37118330

June, 2015
Printed in Korea

FORWARD

This LG Service Manual, “30” Freestanding Self-Cleaning Gas single oven 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/CSA listed range cord.
- Electrical leads and cables should not be allowed to touch the oven.
- Rating plate is located on the lower door right side.
- 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 the oven when it is in operation.**
 - 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.

TABLE OF CONTENTS

(PAGE)

GENERAL	1-1 ~ 1-5
• Important safety instructions	1-1 ~ 1-3
• Model & Serial number label and tech sheet locations	1-4
• Specifications	1-5
USING YOUR RANGE	2-1 ~ 2-4
• General information	2-1
• Control panel features	2-2 ~ 2-4
- To turn on on the surface burners	
- Setting the Clock	
- Start, Clear/Off	
- To turn On/Off the oven light	
- Timer On/Off	
- SETTING : (6 types of category)	
- Timed cook, Delayed timed cook(For Bake, Conv. Bake & Roast)	
- Broil	
- Convection Bake	
- Convection Roast	
- Warm	
- Proof	
- Lockout	
- Self clean	
- Easy clean	
COMPONENT ACCESS	3-1 ~ 3-20
• Component Locations	3-1
• Removing the back, control cover and glass touch assembly	3-2
• Removing the spark module(Ig trans) and power control board(PCB)	3-3
• Service instructions(Signal wire)	3-4
• Removing the cooktop plate	3-5
• Removing the Cooktop Parts	3-6~3-7
• Removing the Door Latch and Door Switch	3-8
• Removing the Broil Burner assembly	3-9
• Removing the convection Fan blade and fan motor	3-10
• Removing the oven light & socket assembly	3-11
• Removing the door lock assembly	3-12
- Door locking mechanism	3-12
• Removing the Oven temperature Sensor	3-13
• Removing & Replacing the drawer	3-14
• Removing & Replacing the Lift-off Oven Door	3-15
• Removing the Oven Door Handle & Glass	3-16 ~ 3-17
• Removing the Oven Door Gasket	3-18
• Removing a Side Panel	3-19
• Removing the Oven Valve (Safety Valve) & Gas Pressure Regulator	3-20

COMPONENT TEST	4-1 ~ 4-4
• Convection Motor	4-1
• Door locking Motor	4-2
• Micro Switch (normally open type)	4-2
• Oven Sensor	4-2
• Door switch	4-3
• Oven lamp	4-3
• Igniter type 1,2.....	4-4
• Oven (safety) valve	4-4
• Ignition switch	4-4
CONVERSION TO LP GAS	5-1 ~ 5-5
COMPOSITION OF CONTROL	6-1 ~ 6-4
• Wiring Diagram	6-1
• Composition of control.....	6-2
• Main PCB	6-3
• Touch PCB	6-3
• NFC PCB	6-4
• Buzzer PCB	6-4
SVC TEST MODE.....	7-1~7-3
• Sequence of SVC Test Mode	7-1
• Basic Check Summary	7-3
TROUBLESHOOTING	8-1 ~ 10-16
• Check the Failure Code	8-1
• Failure Code Summary	8-2
• Troubleshooting	8-3~8-24
APPENDIX	9-1
EXPLODED VIEW	10-1 ~ 10-6

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.**
 - Doing 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

- **Use caution when handling the sheet metal part while servicing the range.**
 - Some part may have sharp eddge, which could result injury.
- **Be careful not to bend the fan blade**
 - Doing 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.**
- **Be careful when removing and lifting the door.**
- **DO NOT lift the door by the handle.**
 - Doing 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

- **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 lower oven.

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.

* Nameplate is located on Left corner of drawer front plate

**Model & Serial
Number Location**



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



GENERAL

SPECIFICATIONS

Model Number		LRG4115ST
Category		Convection
Overall	Width	30"
	Installation type	Freestanding
	Color availability	STS
Control	Oven	Glass Touch
	Cooktop	Knob
	Display	VFD
	Electronic clock & timer	Yes
	Control lock capability	Yes
	Audible preheat signal	Yes
	Special function	Setting (6 categories) 1. Change hour mode on Clock 2. Convection Auto Conversion On/Off 3. Oven Temp Adjust 4. Preheat alarm light On/Off 5. Beeper volume High/Low/Mute 6. Select Fahrenheit or Celsius temperature
Cooktop	Material	Enamel
	# of element	5
Input Rate NAT / LP [BTU/hr]	LR	9.1k / 9.1k
	RR	5k / 5k
	CTR	10k / 10k
	LF	12k / 10k
	RF	18.5k / 12.5k
Oven	Capacity(cu.ft)	6.3 cu.ft
	Broil (NAT/ LP)[BTU/hr]	15K / 12.5K
	Bake(BTU/hr)	19K / 17K
	Convection system	Yes
	# of Racks	3 (standard)
	Interior oven light	auto / manual
	Proof	Yes
	Cook & warm	Yes
	Favorites	No
	Door lock out	Yes
	Broiler pan	No
Dimensions	Oven Interior(W x H x D)	24 ⁷ / ₈ x 21 ³ / ₈ x 20
	Exterior - Width	29 ⁷ / ₈
	Exterior - Height	36, 47 ⁵ / ₁₆
	Exterior - Depth	26 ⁹ / ₁₆ , 28 ¹⁵ / ₁₆
	Net weight: lb (kg)	163.1lb (74kg)
Power	Rating	120V 8.3A
Drawer	Type	Warming
	Element	500W
	Warming rack	No

USING YOUR RANGE

GENERAL INFORMATION

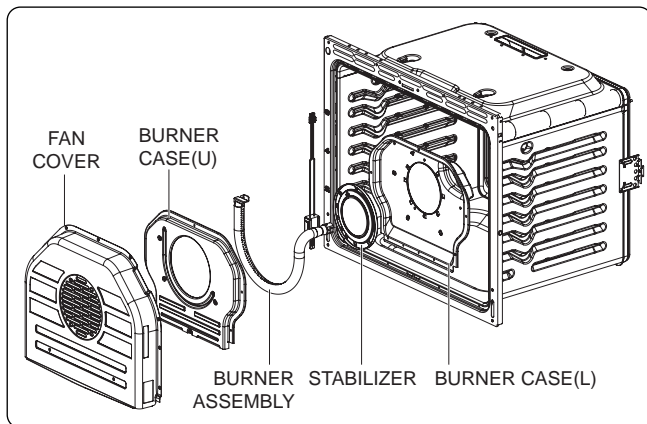
Rating Label

Model numbers are recorded on the rating label. Rating label is located on the left corner of drawer front plate. 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.



Convection Bake / Roast Mode

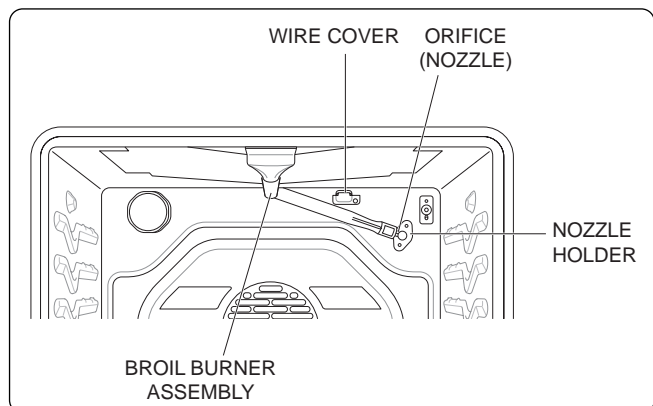
Convection bake should be used for cooking casseroles and roasting meats. Oven should be preheated for best results when using convection bake. The convection cooking modes automatically reduce the oven temperature by 25 °F (14 °C). The display shows the changed temperature.

- This feature is called auto conversion.
- The range comes with this feature enabled.
- The oven fan runs while convection baking.

If the door is left open for longer than 30 seconds during baking, the fan stops.

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.



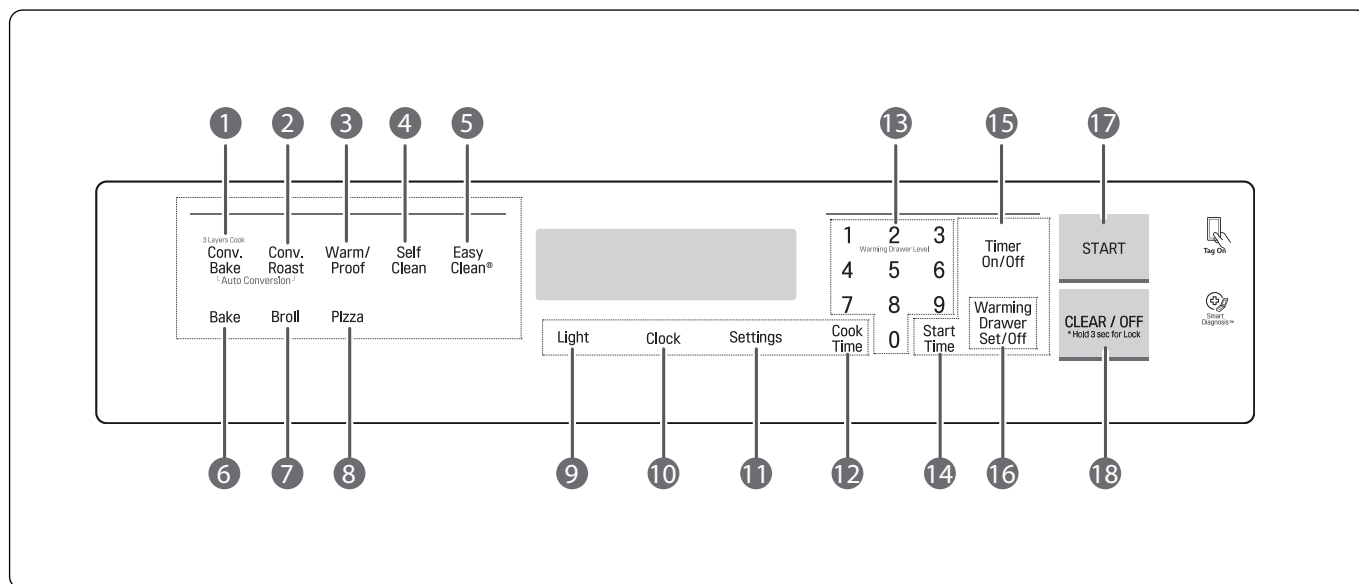
Cooking Guide

Refer to the Owner's 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

Model: LRG4115ST



oven

1. **CONV.BAKE:** Use to select the Conv. Bake function of the lower oven.
2. **CONV.ROAST:** Use to select the Conv. Roast function of the oven.
3. **WARM/PROOF:** Use to select the Warm/Proof function of the oven.
4. **SELF CLEAN:** Use to select the Self Clean of the oven.
5. **EASY CLEAN:** Use to select the Easy Clean of the oven
6. **BAKE:** Use to select the Bake function of the lower oven.
7. **BROIL:** Use to select the Broil function of the oven.
8. **PIZZA:** Use to select the Pizza function of the oven.

9. **LIGHT:** Use to turn the Oven lights of the oven on and off.
10. **CLOCK:** Use to set the time of day.
11. **SETTINGS:** Use to change the oven settings.
12. **COOK TIME:** Use to set the length of the cook time. (Bake, Conv. Conv.Roast only)
13. **NUMER PADS:** Use to enter a temperature and all times.
14. **START TIME:** Use to set delay time. (Bake, Conv. Conv.Roast, Self clean only)
15. **TIMER ON/OFF:** Use to set or cancel the timer of the oven.
16. **WARMING DRAWER SET/OFF:** Use to set or cancel the warming drawer.
17. **START:** Use to START all functions in the oven.
18. **CLEAR/OFF:** Use to stop cooking, cancel settings of the oven.
To activate LOCKOUT press and hold for 3 seconds.

USING YOUR RANGE

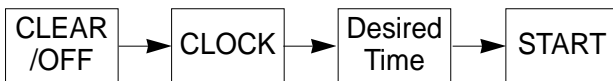
1. TO TURN ON THE SURFACE BURNERS

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.
- The extra large burner 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

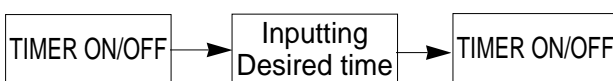
1. Touch **START** to start oven
2. Touch Start to cancel a program during cooking or Erase during programming.

4. TO TURN ON/OFF THE OVEN LIGHT

The interior oven light automatically turns on when the door is opened. Touch Light to manually turn the oven light on.

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.

NOTE:

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

6. SETTING : (6 types of category).

1) Setting the Hour Mode.

1. Touch Settings once.
2. Touch 1 to toggle between a 12-hour and 24-hour clock.
3. Touch Start to accept the change.

2) Setting the Convection Auto Conversion.

1. Touch Settings repeatedly until. Auto appears in the display.
2. Touch 1 to disable or enable auto conversion.
3. Touch Start to accept the change.

3) Adjusting the Oven Thermostat

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

NOTE: This adjustment does not affect the broiling or Self Clean temperatures. The adjustment is retained in memory after a power failure.

1. Touch Settings repeatedly until L_AJ or U_AJ appears in the display.
2. Use the number keys to enter the number of degrees you want to adjust the oven thermostat.
3. Adjust the thermostat either up or down by touching Settings repeatedly to toggle between plus (+) or minus (-).
4. Touch Start to accept the change.

4) Turning the Preheat Alarm Light On/Off

1. Touch Settings repeatedly until PrE appears in the display.
2. Touch 1 to turn the light on/off.
3. Touch Start to accept the change.

USING YOUR RANGE

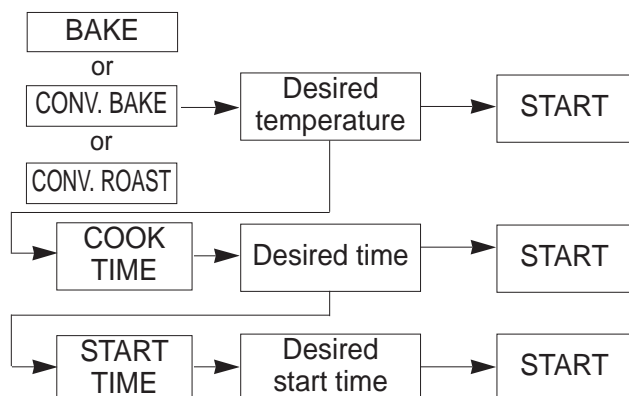
5) Adjusting the Beeper Volume

1. Touch Settings repeatedly until Beep appears in the display.
2. Touch 1 to select Hi, Lo or Off.
3. Touch Start to accept the change.

6) Selecting Fahrenheit or Celsius

1. Touch Settings repeatedly until Unit appears in the display.
2. Touch 1 to select F (Fahrenheit) or C (Celsius).
3. Touch Start to accept the change.

7. TIMED COOK, DELAYED TIMED COOK (FOR BAKE, CONV. BAKE & ROAST)



8. BROIL



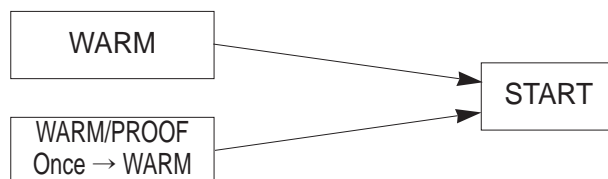
9. CONVECTION BAKE



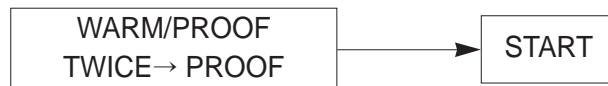
10. CONVECTION ROAST



11. WARM



12. PROOF

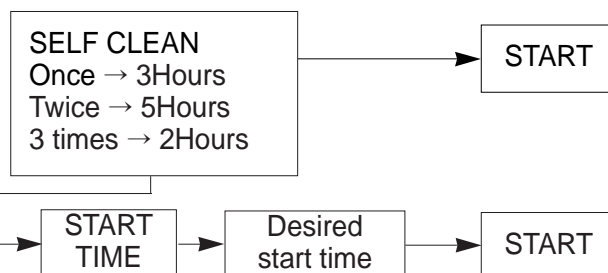


13. LOCKOUT

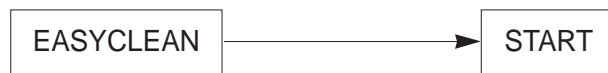
(For Door lock, Oven & Cooktop control lock)

Press and hold the Lower CLEAR/OFF pad 3 seconds (In order to activate or deactivate LOCKOUT)

14. SELF CLEAN



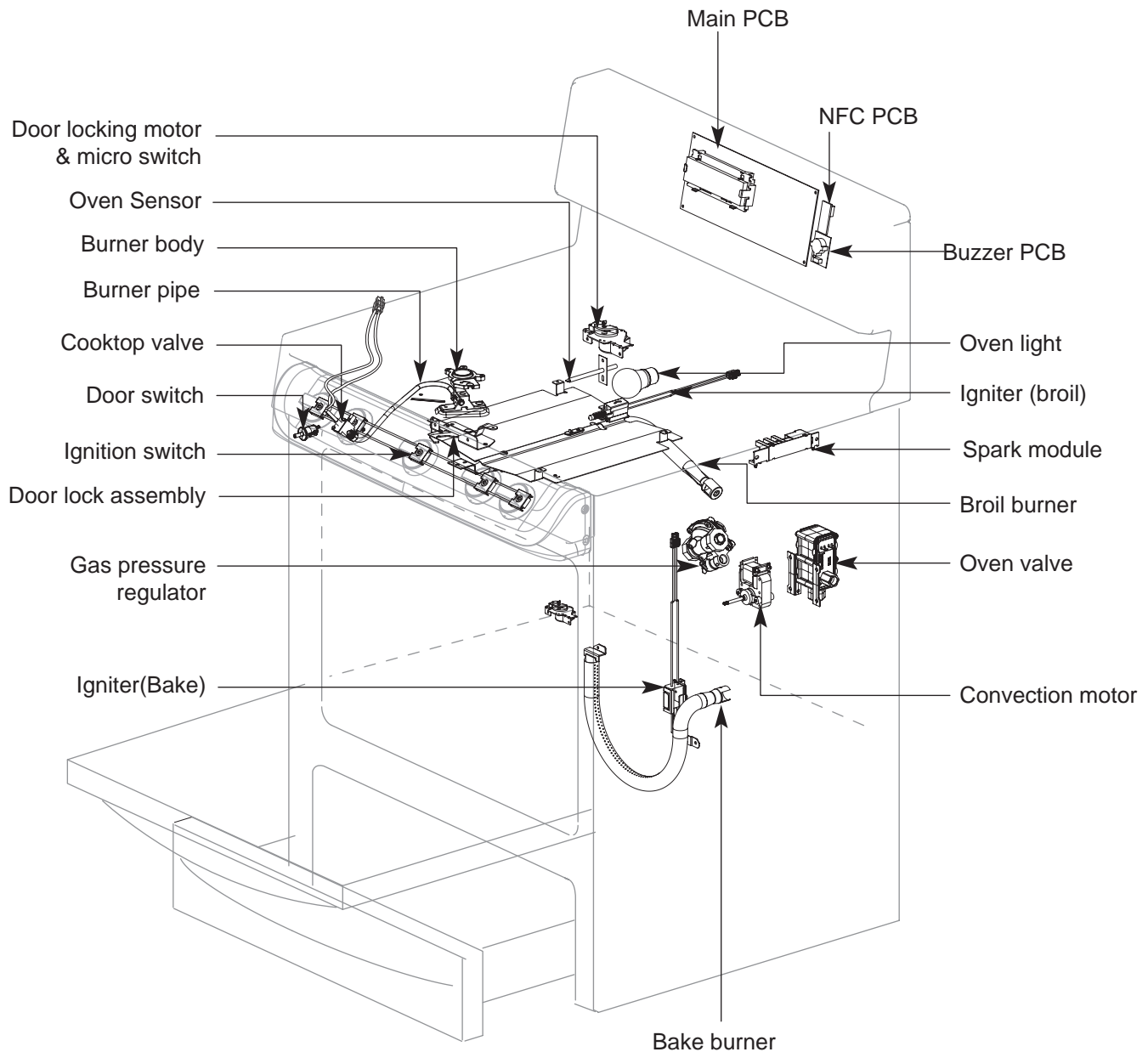
15. EASY CLEAN



COMPONENT ACCESS

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

COMPONENT LOCATIONS



COMPONENT ACCESS

REMOVING THE BACK, CONTROL COVER AND GLASS TOUCH ASSEMBLY

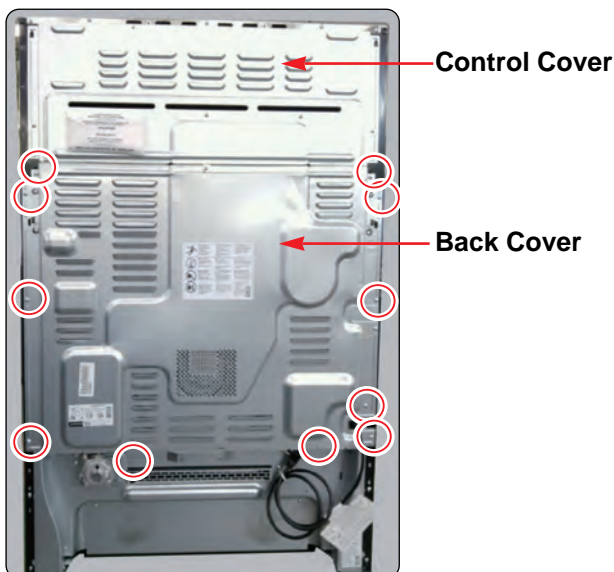
⚠ WARNING

- **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 electric shock.

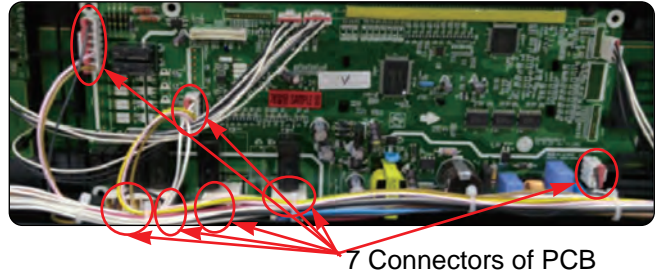
⚠ CAUTION

- **Use caution when handling sheet metal parts while servicing the range.**
 - Some parts may have sharp edges, which could result in injury.

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 8 screws from the rear control cover and remove the cover.
4. Remove the 11 screws from the rear back cover and remove the cover.



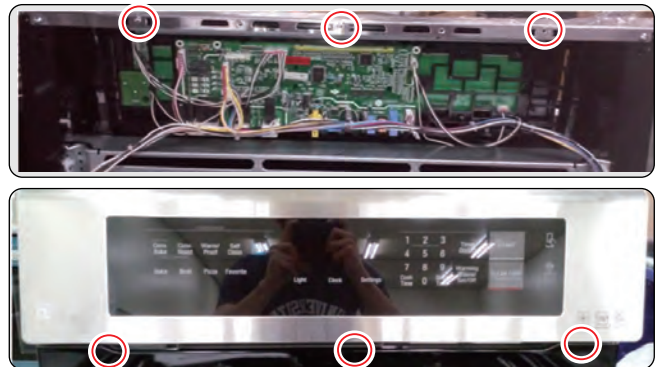
5. Separate PCB assembly after unplugging the connectors.



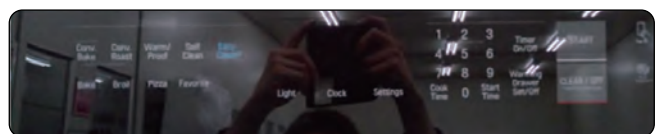
6. Remove the 2 screws of the eyebrow from the controller sub assembly and remove the eyebrow.



7. Remove the 6 screws of the controller sub assembly.



8. Pull the controller sub assembly out.
9. Replace the Glass touch assembly.



COMPONENT ACCESS

REMOVING THE SPARK MODULE (IG TRANS) AND POWER CONTROL BOARD (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 electric shock.

CAUTION

- **Use caution** when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

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 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 pages 6-1~6-2 for composition of control board

NFC PCB

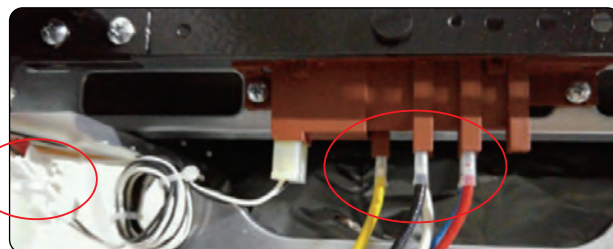
Main PCB



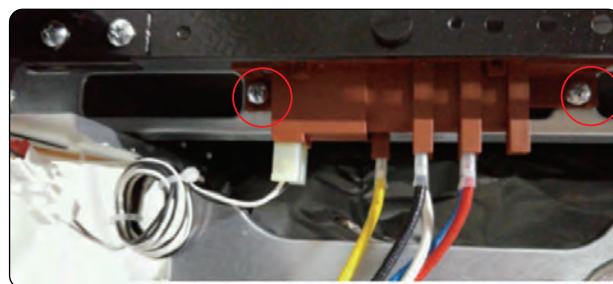
Buzzer PCB

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

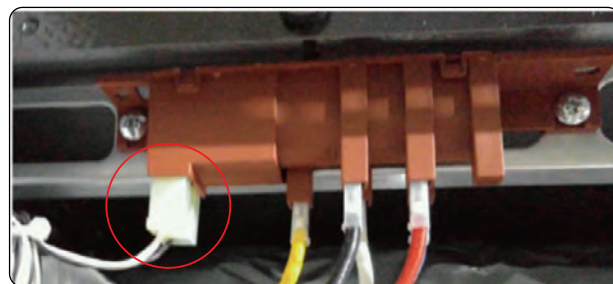
a) Disconnect 6 connectors.



b) Remove the 2 screws.



c) Remove the 2 housings by your hands.



COMPONENT ACCESS

SERVICE INSTRUCTIONS (SIGNAL WIRE)

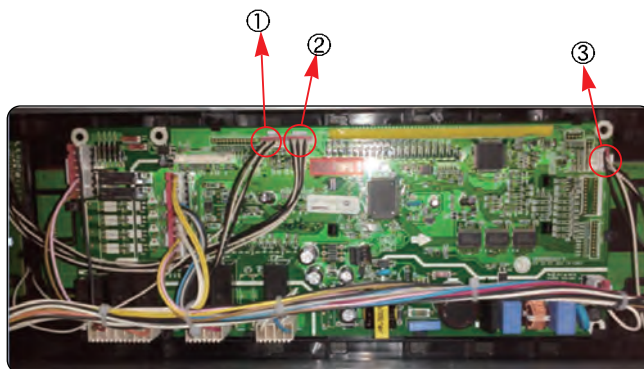
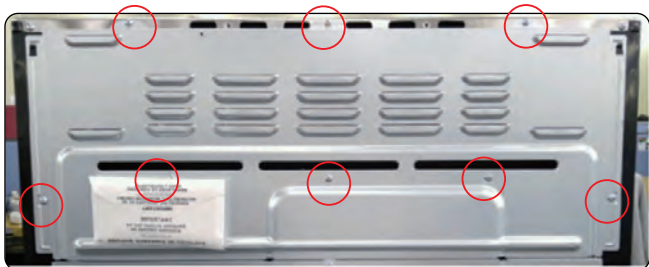
WARNING

- **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 electric shock.

CAUTION

- **Use caution** when handling sheet metal parts while servicing the range.
 - Some parts may have sharp edges, which could result in injury.

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 8 screws from the rear control cover and remove the cover.



INSTRUCTIONS:

If you want to replace the signal harness, refer to the above picture.

- ① NFC to Main PCB
- ② Buzzer PCB to Main PCB
- ③ Touch PCB to Main PCB

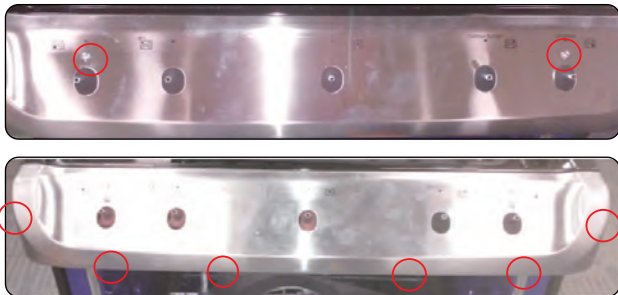
COMPONENT ACCESS

REMOVING THE COOKTOP PLATE

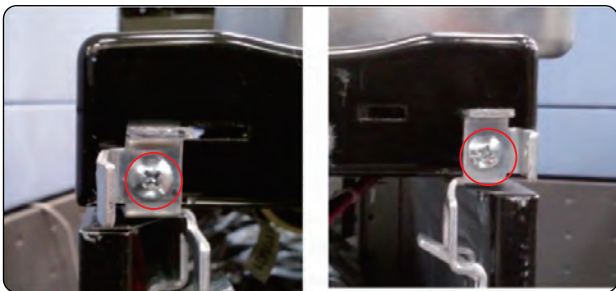
WARNING

- **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 electric 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. Pull knobs out.
4. Remove the manifold panel by unfastening the 8 screws



5. Remove the 2 screws of cook top plate.



6. Remove all 11 screws from cooktop burner housing.



7. Lift top up at front.



COMPONENT ACCESS

REMOVING THE COOKTOP PARTS

⚠ WARNING

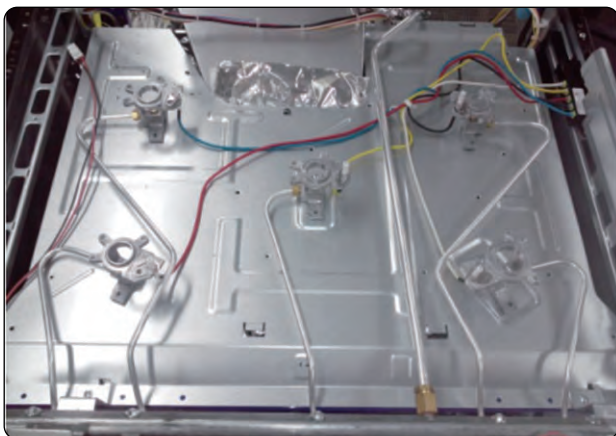
- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace all panels and parts before operating.**
- **RECONNECT** all grounding devices.
- Failure to do so can result in severe personal injury, death or electric shock.

⚠ CAUTION

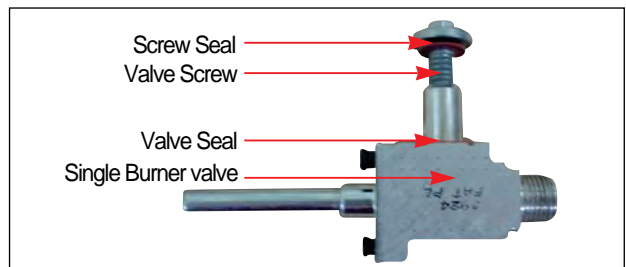
- The 2 lock tabs on each igniter switch are fragile. Tab breakage can occur if excessive release pressure is applied.
- Check that the gas seal gasket on the screw and the gas valve remain in place before installing the new gas valve.

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 manifold panel (See the page 3-5).
3. Remove the cooktop plate (See "REMOVING THE COOKTOP PLATE" on page 3-5).

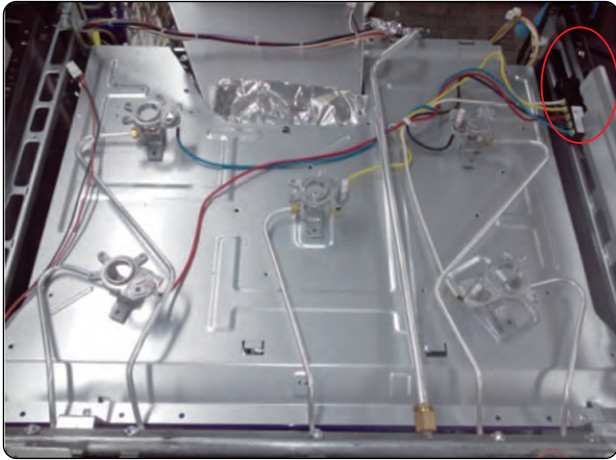


4. To remove the valve:
 - a) Remove the fitting that you need to remove.
 - b) Remove the ignition switch with rubber packing by prying on the 2 release tabs and slide the switch off the valve stem.
 - c) Remove the valve screw and remove the valve.

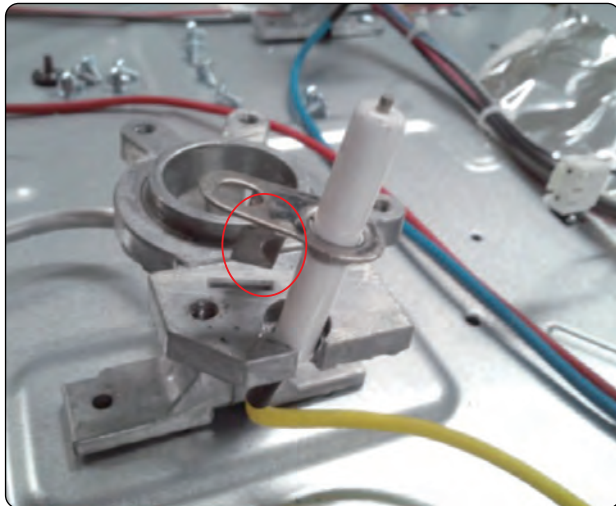


COMPONENT ACCESS

5. To remove the ignition switch:
 - a) Remove the manifold panel (See the page 3-5).
 - b) Remove the 2 housings 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 connector from the spark module.
 - b) Stretch the electrode bracket.
 - c) Remove the electrode from the burner housing.



COMPONENT ACCESS

REMOVING THE DOOR LATCH & DOOR SWITCH

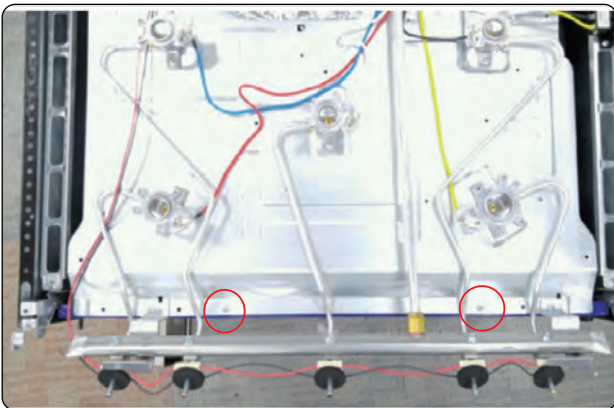
WARNING

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

CAUTION

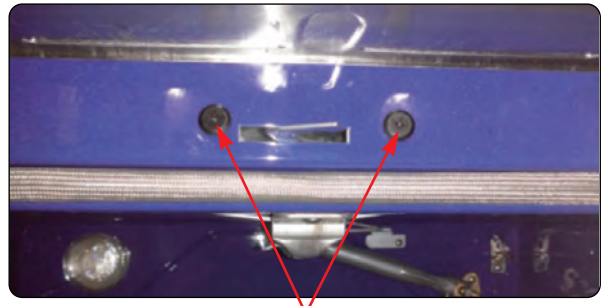
- **Use caution** when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

1. Turn off the electrical supply and gas supply going to the range.
2. Open the oven door.
3. Remove the manifold, cooktop plate (see page from 3-5 for the procedure).
4. Remove 2 screws from the duct upper and then remove the duct upper.



5. To remove the door latch:

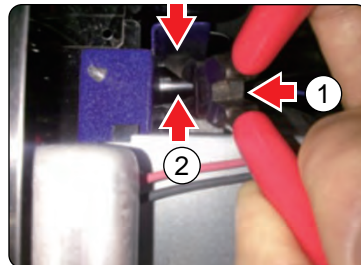
- a) Remove the two screws from the door latch and remove the latch.
- b) Remove the door latch.



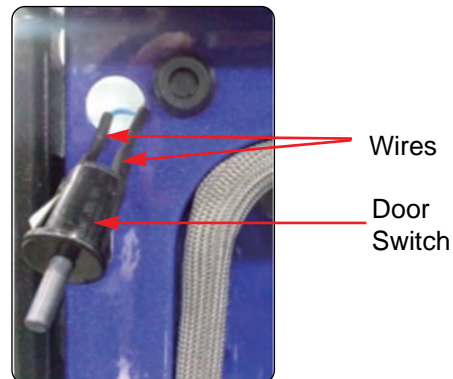
2 Screws

6. 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

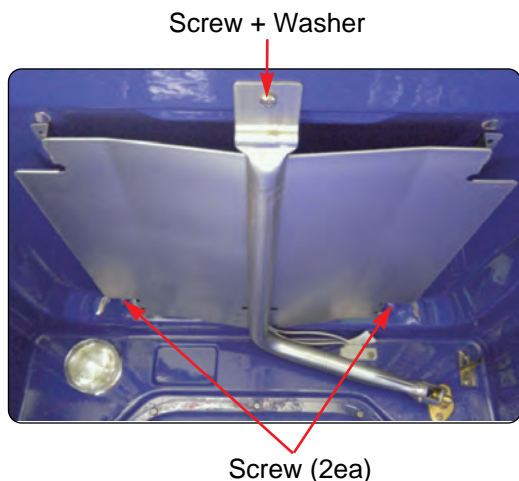
WARNING

- **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 electric shock.
- **Make sure the igniter connector is completely outside when reinstalling the broil burner assembly.**

CAUTION

- **Use caution when handling sheet metal parts while servicing the range.**
 - Some parts may have sharp edges, which could result in injury.

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 back cover by removing the screw.
 - b) Remove the 3 screws in the order for easily removing.



- c) Remove the igniter connector in the cavity (To get the connector, remove 1 screw of wire supporter and pull the wire toward the cavity.).

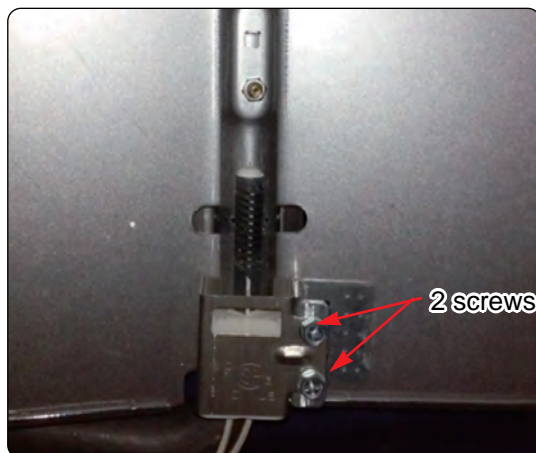


- d) Remove the broil burner assembly.

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



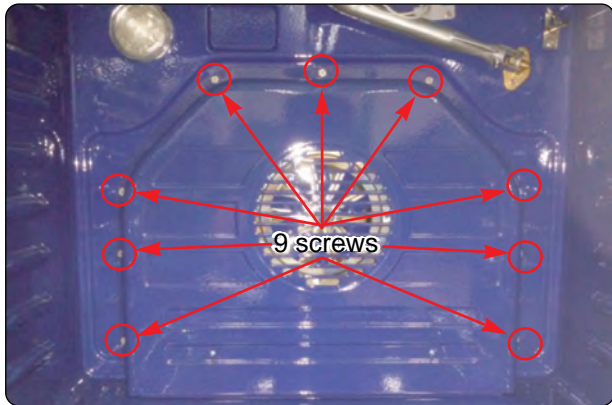
4. To remove the igniter:
 - a) Perform step 1-3 on this page.
 - b) Remove the 2 screws and then remove the igniter.



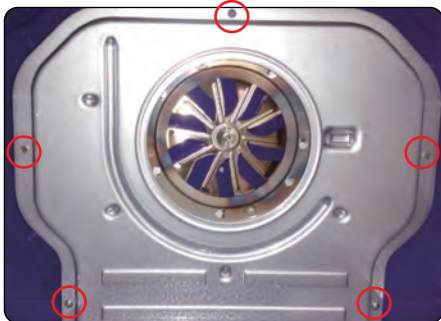
COMPONENT ACCESS

REMOVING THE CONVECTION FAN BLADE AND FAN MOTOR

1. Turn off the electrical supply and gas supply going to the range and remove the oven racks.
2. Remove the 9 Fan cover screws and remove Fan cover.

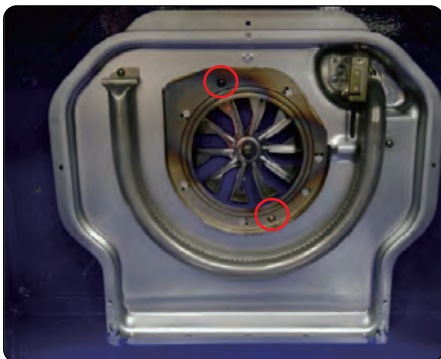


3. Remove 5 screws from the burner assembly and then remove the burner cover U.



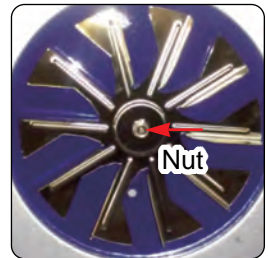
< burner cover U >

4. Remove 2 screws from the burner assembly and then Remove the stabilizer.



< Stabilizer >

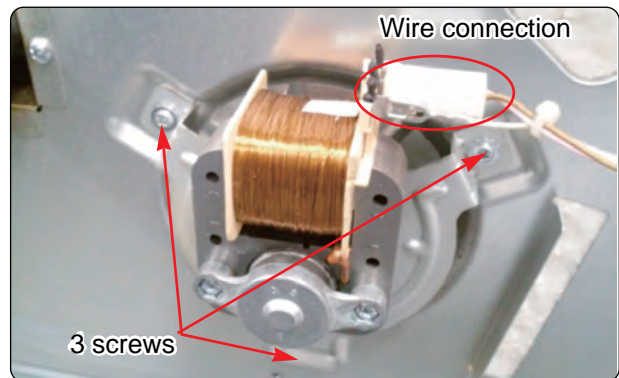
5. To remove the fan blade :
 - Remove the nut by screwing clockwise. The fan blade can be replaced from inside oven.



CAUTION

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

6. To remove the fan motor assembly :
 - a) Pull the range out of its mounting location so that you can access the rear of the unit.
 - b) Remove the rear panel from the unit (See step 3~4 on page 3-2 for procedure).
 - c) Disconnect the wire connection and remove the 3 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 electric shock.

⚠ CAUTION

- **Use caution when handling sheet metal parts while servicing the range.**
 - Some parts may have sharp edges, which could result in injury.

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.

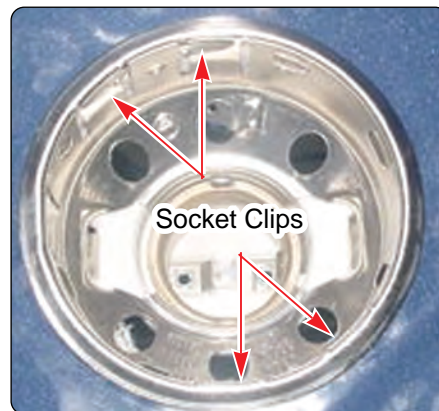


⚠ CAUTION

- **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 DOOR LOCK ASSEMBLY

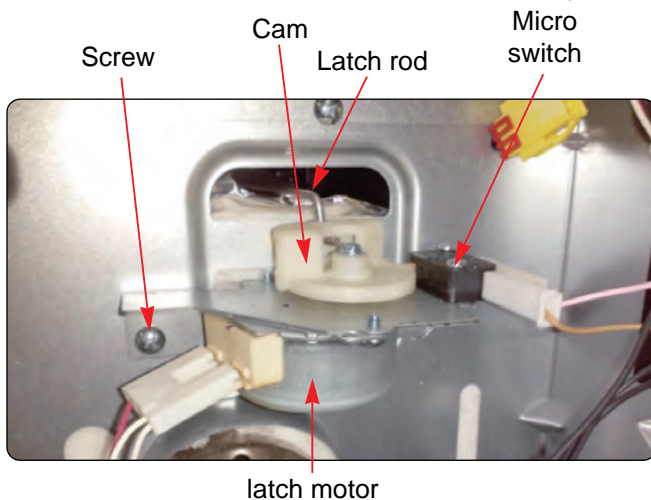
WARNING

- **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 electric shock.

CAUTION

- **Use caution** when handling sheet metal parts while servicing the range.
 - Some parts may have sharp edges, which could result in injury.

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 4 on page 3-2 for procedure.)
4. Disconnect the wires from the latch motor and switch.
5. Remove the Screw from the latch assembly.



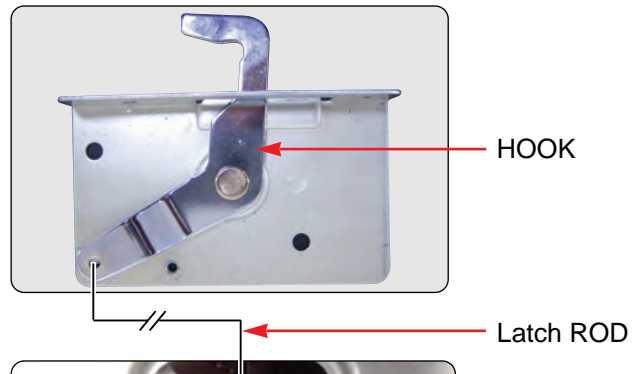
6. Unhook the Latch rod from the cam.

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 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 electric shock.

CAUTION

- **Use caution** when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

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 1 screws.
 - b) Disconnect the connector in the back of the oven. (To get the connector, pull the wire toward the cavity).
 - c) Remove the oven sensor.



Oven temperature sensor

COMPONENT ACCESS

REMOVING & REPLACING THE DRAWER

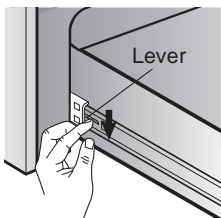
CAUTION

- **Disconnect the electrical power to the range at the main fuse or circuit breaker panel. Failure to do so can result in severe personal injury, death, or electric shock.**

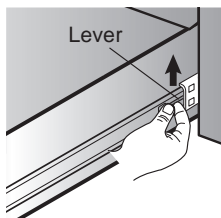
Most cleaning can be done with the drawer in place;

however, the drawer may be removed if further cleaning is needed. Use warm water to thoroughly clean.

1. Fully open the drawer.
2. Locate the glide lever on each side of the drawer.
Push down on the left glide lever and pull up on the right glide lever.

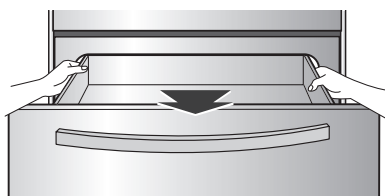


Push down with finger



Pull up with finger

3. Pull the storage drawer away from the range.



Pull the drawer

Replacing the Drawer

Pull the bearing glides to the front of the chassis glide.

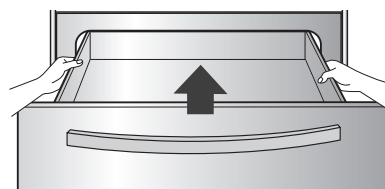
Align the glide on each side of the drawer with the glide slots on the range.

Push the drawer into the range until levers "click" (approximately 2 inch).

Pull the drawer open again to seat bearing glides into position.

CAUTION

- **DO NOT touch interior surfaces of oven between door and drawer.**
 - During and after use, do not touch interior surfaces of oven between door and drawer until they have had sufficient time to cool.
 - Failure to follow this warning result in severe personal injury.



Lift the front

COMPONENT ACCESS

REMOVING & REPLACING THE LIFT-OFF OVEN DOOR

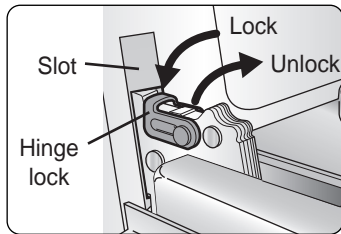
CAUTION

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

To remove the door:

1. Fully open the door.

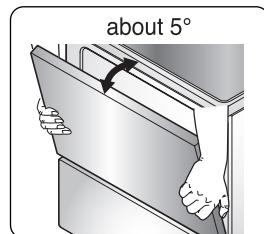
2. Pull the hinge locks up toward (Fig.1) the door frame, to the unlocked position.



<Fig.1>

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)



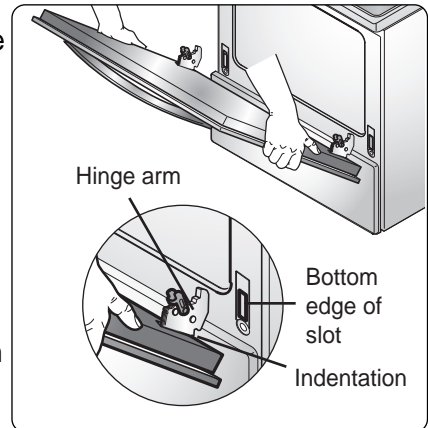
<Fig.2>

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

To replace the door:

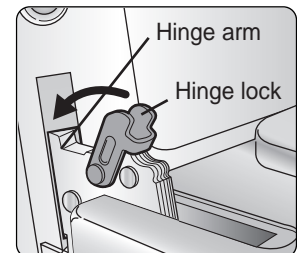
1. Firmly grasp both sides of the door at the top.

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 down 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

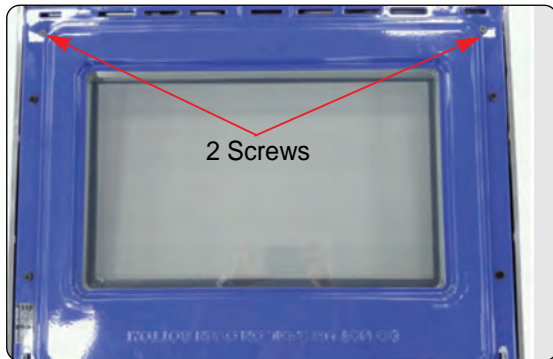
WARNING

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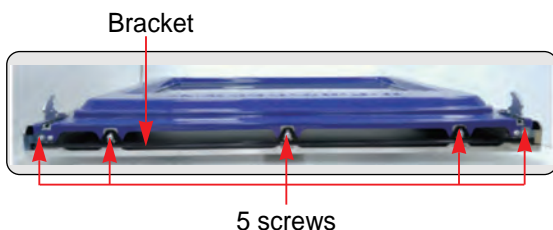
CAUTION

- **Use caution** when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

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 2 screws from door frame top.



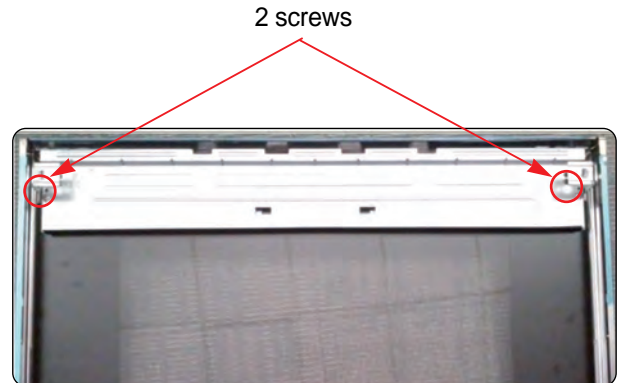
4. Remove 5 screws from door bottom and remove the bracket.



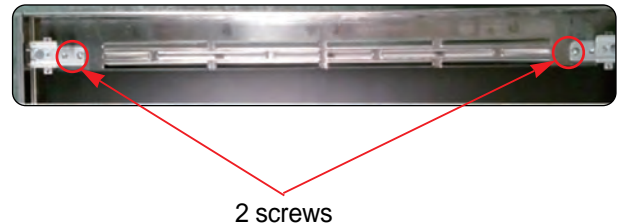
5. After disassembling the frame assembly set it aside.

6. To remove the door handle & air guide

- a) Remove 2 screws from air guide and then remove the air guide by lifting that.



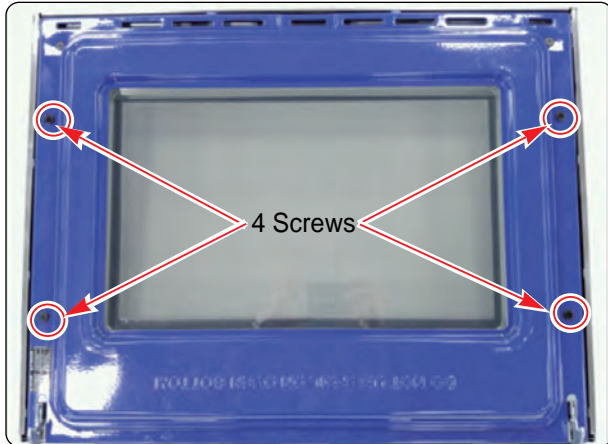
- b) Remove 2 screws from handle and then remove the door bracket and door handle.



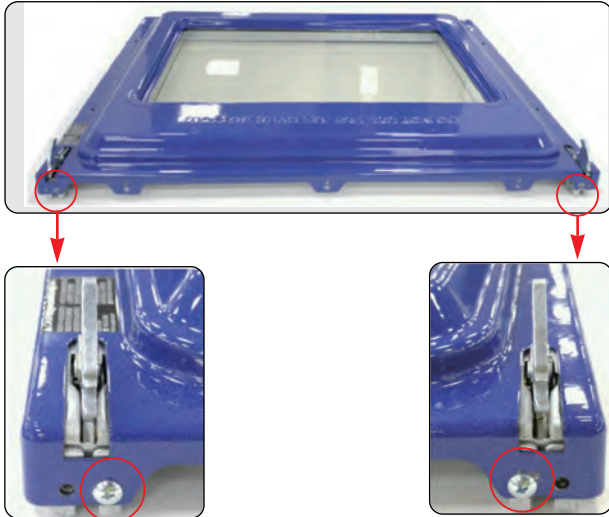
COMPONENT ACCESS

7. To remove a hinge hanger assembly:

- Follow the step 3~4 on page 3-16.
- Place the frame assembly on a padded work surface.
- Remove 4 screws from door frame middle.



- Remove the 2 screws from the hinge bottom.



- Remove the hinge hanger after removing the door frame.

8. To remove the oven door glass assembly:

Lift the inner oven door glasses and bracket assembly out of the door inner assembly.



Inner oven door glass(2ea) & Bracket

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

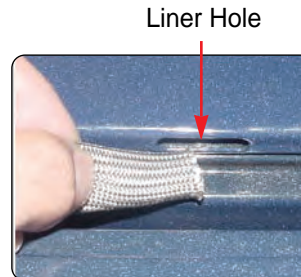
⚠ WARNING

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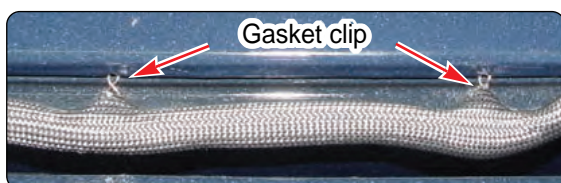
⚠ CAUTION

- Use caution when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

- c) Pull the ends of the gasket out of the liner holes.



1. To remove the door gasket:
- a) Open the oven door to its fully down position.
 - b) Pull the oven door gasket clips out of the cavity clip holes.



COMPONENT ACCESS

REMOVING A SIDE PANEL

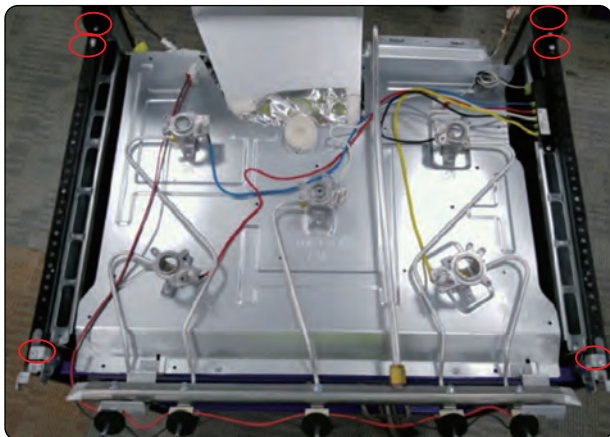
WARNING

- **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 electric shock.

CAUTION

- **Use caution** when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

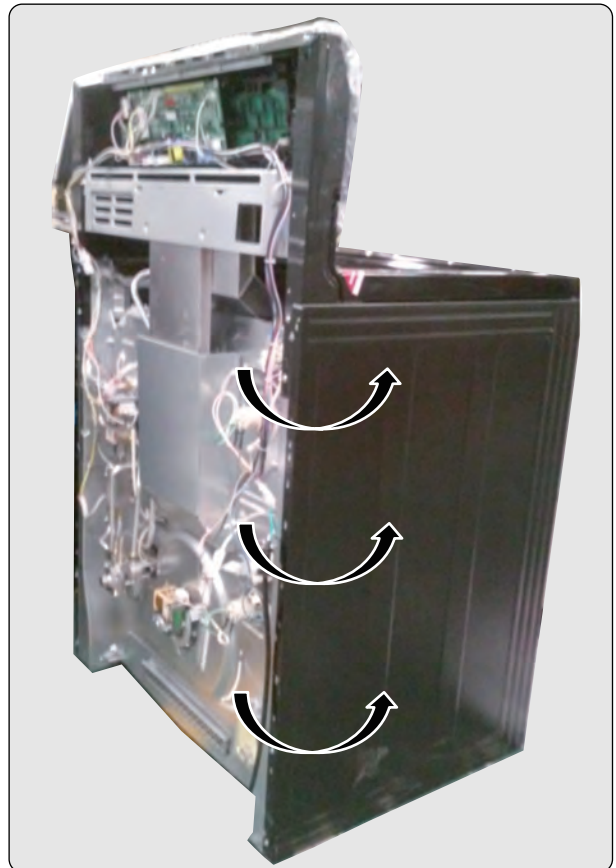
1. Turn off the electrical supply and gas supply going to the range.
2. Remove the oven door from the range (see page 3-15 for the procedure).
3. Pull the range away from the wall so you can access the back of the unit.
4. Remove the back cover (see step 4 on 3-2 for procedure)
5. Remove the manifold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



7. Remove the screw from the left and right each 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 PRESSURE REGULATOR

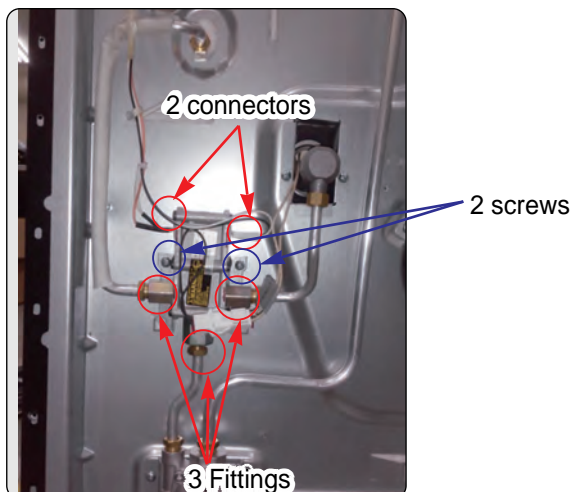
WARNING

- **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 electric shock.

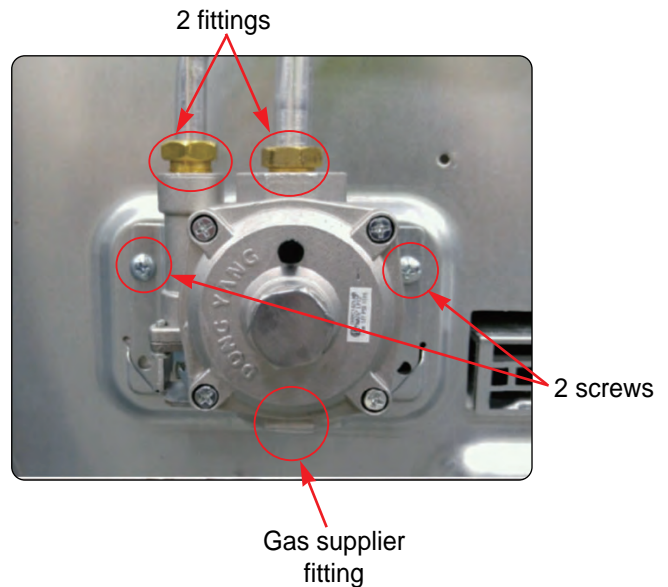
CAUTION

- **Use caution** when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

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. Remove the back cover (see step 4 on page 3-2 for procedure).
4. To remove the oven valve:
 - a) Remove the 3 fittings.
 - b) Remove the 2 connectors.
 - c) Remove the 2 screws and then lift the oven valve.



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



COMPONENT TEST

Before testing any components, perform the following checks:

NOTE:

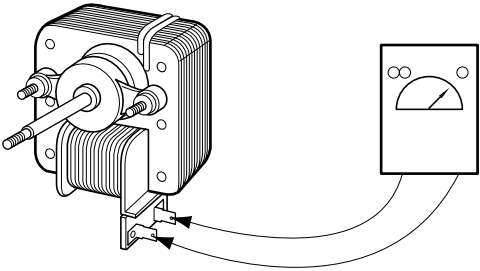
1. The most common cause for control failure is corrosion on connectors.
Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures
2. ALL units in the first few days of use should be checked for mis-wiring or loose connections

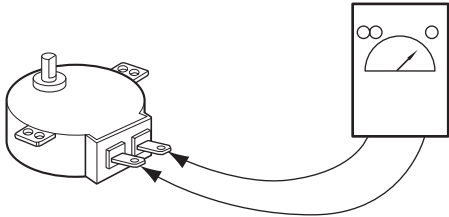
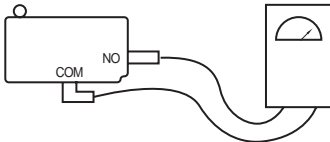


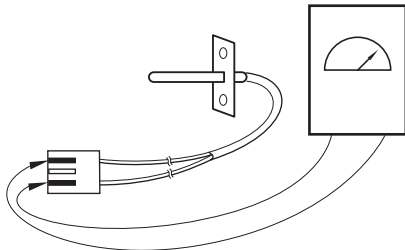
1. All/tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms per-volt DC, or greater.
2. Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
3. Resistance checks must be made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

WARNING

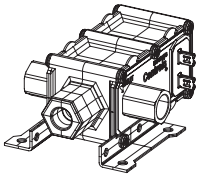
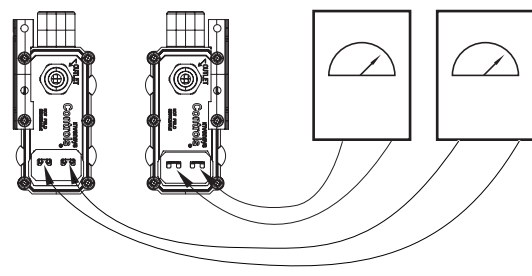
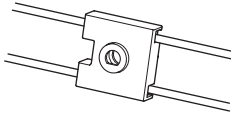
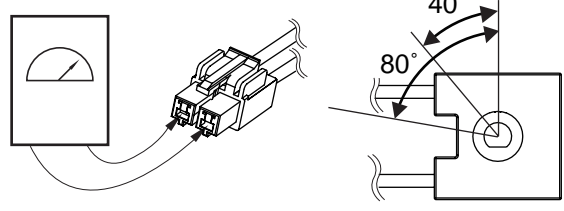


- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating
- Reconnect all grounding devices after servicing
- Failure to do so can result in death or electrical shock

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

Components	Test procedures	Results
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 Hi RPM : $24.8 \Omega \pm 10\%$ Lo RPM : $30.1 \Omega \pm 10\%$ If not replace</p> <p>Abnormal: Infinite (open) below 5Ω (shorted)</p>

Components	Test procedures	Results	
Door locking Motor	<div>1. Refer to page 3-12 for the servicing procedure</div> <div>2. Measure the resistance (Multiple meter scale: R x 1000)</div> <div></div>	<div>Normal: Approximately 2.6 kΩ ± 10%</div> <div>If not replace</div> <div>Abnormal: Infinite(open) below 5Ω (shorted)</div>	
Micro Switch (normally open type)	<div>1. Refer to page 3-12 for the servicing procedure</div> <div>2. Measure the resistance (Multiple meter scale: R x 1000)</div> <div></div>	Door latch open	Door latch locked
		<div></div> <div>Continuity</div>	<div></div> <div>Infinite</div>
	<div>NOTE: After checking for the continuity of switch, make sure that they are connected correctly</div>		
Oven Sensor	<div>1. Refer to page 3-13 for the servicing procedure</div> <div>2. Measure the resistance after cooling down (Multiple meter scale: R x 1000)</div> <div></div>	<div>Normal: Approximately 1.09 kΩ ± 10%</div> <div>If not replace</div> <div><div>NOTE: Ω Value was tested at room temperature (77F/25°C)</div></div>	
<div>NOTE: Oven sensor is so sensitive to temperature Do test after cooling down sufficiently</div>			

Components	Test procedures	Results	
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) <div data-bbox="565 476 984 732" data-label="Image"> </div>	Door open	Door closed
		<div data-bbox="1159 438 1256 497" data-label="Image"> </div> Continuity	<div data-bbox="1338 438 1435 497" data-label="Image"> </div> Infinite
Oven lamp	1. Measure the resistance after cooling down (Multiple meter scale: R x 1) <div data-bbox="574 978 1016 1200" data-label="Image"> </div>	Normal: Approximately $25.7 \Omega \pm 10\%$ If not replace	
Igniter type 1 <div data-bbox="175 1357 406 1459" data-label="Image"> </div>	1. Remove wire leads 2. Measure resistance.	Normal: $45 \Omega \sim 400 \Omega$ (Room Temperature Resistance) Replace if: Infinite(opened)	
Igniter type 2 <div data-bbox="188 1519 415 1621" data-label="Image"> </div>	1. Remove wire leads 2. Measure resistance.	Normal: $50 \Omega \sim 500 \Omega$ (Room Temperature Resistance) Replace if: Infinite(opened)	

Components	Test procedures	Results	
Oven (safety) valve 	1. Refer to page 3-20 for servicing procedure. 2. Measure the resistance after cooling down. (Multiple meter scale : R x 1) Upside Downside 	Normal: Approximately $1 \sim 3 \Omega$ If not replace	
Ignition switch 	1. Refer to pages 3-6~3-7 for servicing procedure. 2. Measure the resistance by rotating the cam of each switch slowly. (Multiple meter scale : R x 1) 	approximately $40^\circ \sim 80^\circ$	other
		 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 electric shock.

⚠ CAUTION

- Use caution when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

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 GAS PRESSURE REGULATOR

⚠ WARNING

- Do not remove the gas pressure regulator from the range.

Pull the range away from the wall and the pressure regulator is located at the rear of the range.



Gas pressure regulator

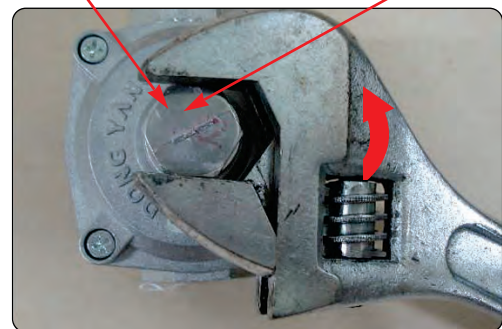
3. CONVERTING YOUR REGULATOR

- 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) Flip the plastic cap and then assemble back.
- 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 electric shock.

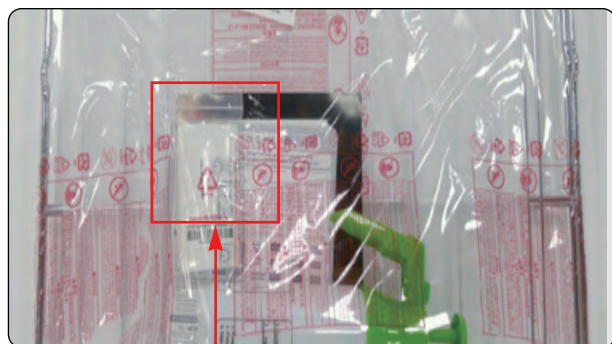
⚠ CAUTION

- Use caution when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

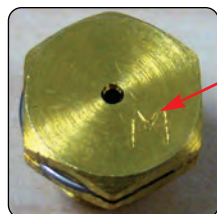
4. CONVERTING THE SURFACE BURNERS

take conversion kit out of the accessory assembly.(see illustration the below)

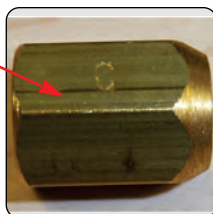
LP orifice spuds have a orifice code on the top or the side, denoting the location on the range where it is to be installed.



Conversion kit



Top burner orifices



Broil and Bake burner orifices

- 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		
BURNER	LRG4115ST	
	BTU RATE	ORIFICE CODE
LF	10,000	Q
LR	9,100	M
RR	5,000	W
RF	12,000	G
CTR	10,000	Q
BROIL	12,500	F
BAKE	17,000	Y



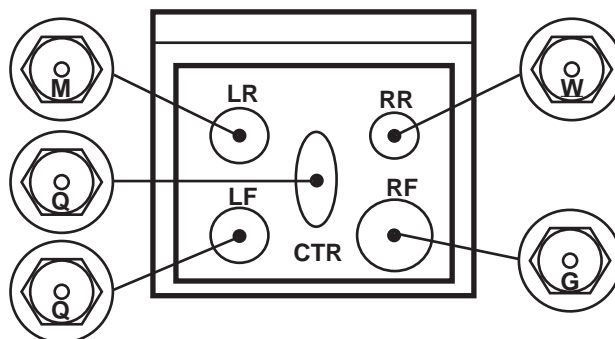
Top burner orifices



Broil and Bake burner orifices

- Orifice Locations for LP Gas

Orifice Locations for LP Gas [LRG4115ST]



CONVERSION TO LP GAS

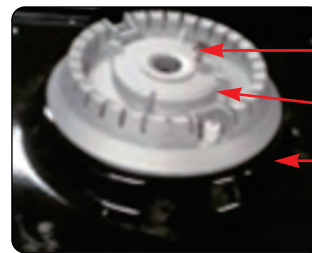
⚠ WARNING

- 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 electric shock.

⚠ CAUTION

- Use caution when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

- 4) To prevent leakage, make sure the orifice spuds are securely screwed into the gas supply tubes.
- 5) For the right front burner of LRG4115ST, 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.

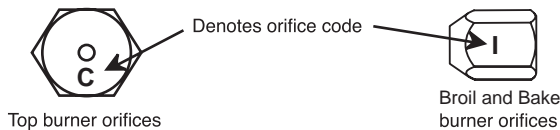


Self threading screw
Choke
18.5k burner base

<Fig>

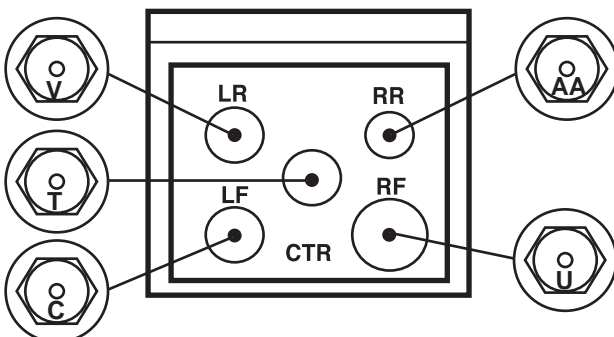
• Natural Gas Orifice Specifications

BURNER OUTPUT RATINGS; BTU/HR		
Natural Gas, 5" W.C.P		
MODEL	LRG4115S	
BURNER	BTU RATE	ORIFICE CODE
LF	12,000	C
LR	9,100	V
RR	5,000	AA
RF	18,500	U
CTR	10,000	T
BROIL	15,000	A
BAKE	19,000	H



Orifice Locations for Natural Gas

[LRG4115ST]



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

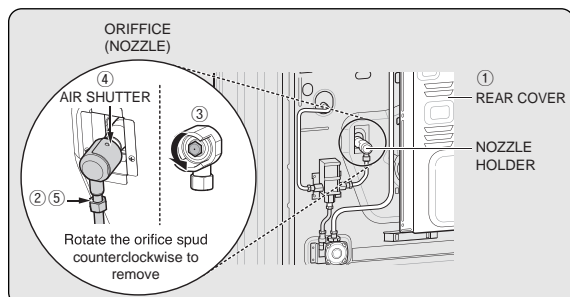
NOTE: If an orifice spud is accidentally dropped, the cooktop plate can be raised (see the page 3-6)

CONVERSION TO LP GAS

5. CONVERT THE OVEN BURNER ORIFICES

BAKE BURNER

I. Unit has Air Shuttle bracket



- 1) Remove rear cover.
- 2) Remove the nozzle holder using 13/32" or 10 mm wrench and Phillips head screwdriver.
- 3) Remove the orifice spud from nozzle holder using a 13/32" or 10 mm nut driver.
Install the LP orifice spud (Y) to the nozzle holder. To prevent leakage, make sure the orifice spud is securely screwed into the nozzle holder.
- 4) Remove the air shutter when converting to LP gas.

NOTE: Air shutter must be installed if using natural gas.

- 5) Re-install the nozzle holder.

II. Unit doesn't have Air shuttle bracket

- 1) Remove oven door, Fan cover and burner cover U (See the page 3-10).
- 2) Remove the orifice spud from nozzle holder using a 13/32" or 10mm wrench.
- 3) Install the LP orifice spud(Y) to the nozzle holder. To prevent leakage, make sure the orifice spud is securely screwed into the nozzle holder.



OVEN UPPER BURNER(BROIL)

- 1) Remove oven door and Broil burner assembly. Then remove the wire cover using a Phillips head screwdriver.
- 2) Release the connector of the Igniter.

- 3) Remove the orifice spud from nozzle holder using a 13/32" or 10mm wrench.
- 4) Install the LP orifice spud(F) 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

To adjust the air shutter on the broil burner for LP gas, loosen the Phillips head screw and rotate the shutter fully open. As shown in Fig. 1.

NOTE : When converting the unit back to natural gas the broil burner's air shutter should also be fully open.

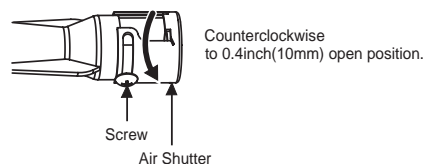
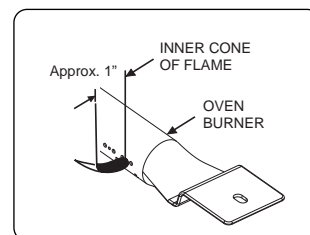


Fig.1

Check the flame size. The flame should have approximately 1-inch blue cones. After operating the burner for 30 seconds, 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. See step 8.



CONVERSION TO LP GAS

⚠ WARNING

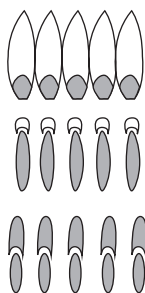
- **Turn off the electrical supply and gas supply going to the range.**
- **Replace all panels and parts before operating.**
- **RECONNECT all grounding devices.**
 - Failure to do so can result in severe personal injury, death or electric shock.

⚠ CAUTION

- **Use caution when handling sheet metal parts while servicing the range.**
 - Some parts may have sharp edges, which could result in injury.

8. CHECK QUALITY OF THE FLAMES

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



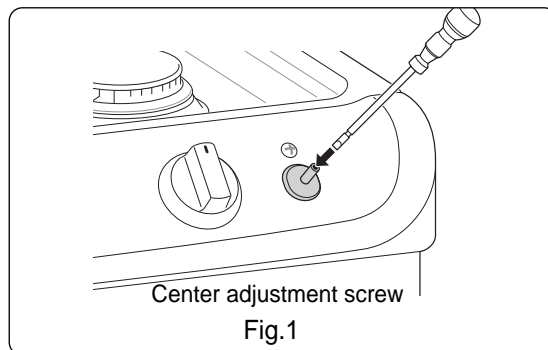
- A. Yellow Flames:**
Further Adjustment Required
- B. Yellow tips on outer cones:**
Normal for LP Gas
- C. Soft Blue flames:**
Normal for Natural Gas.

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) Reassemble the knob.
- 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

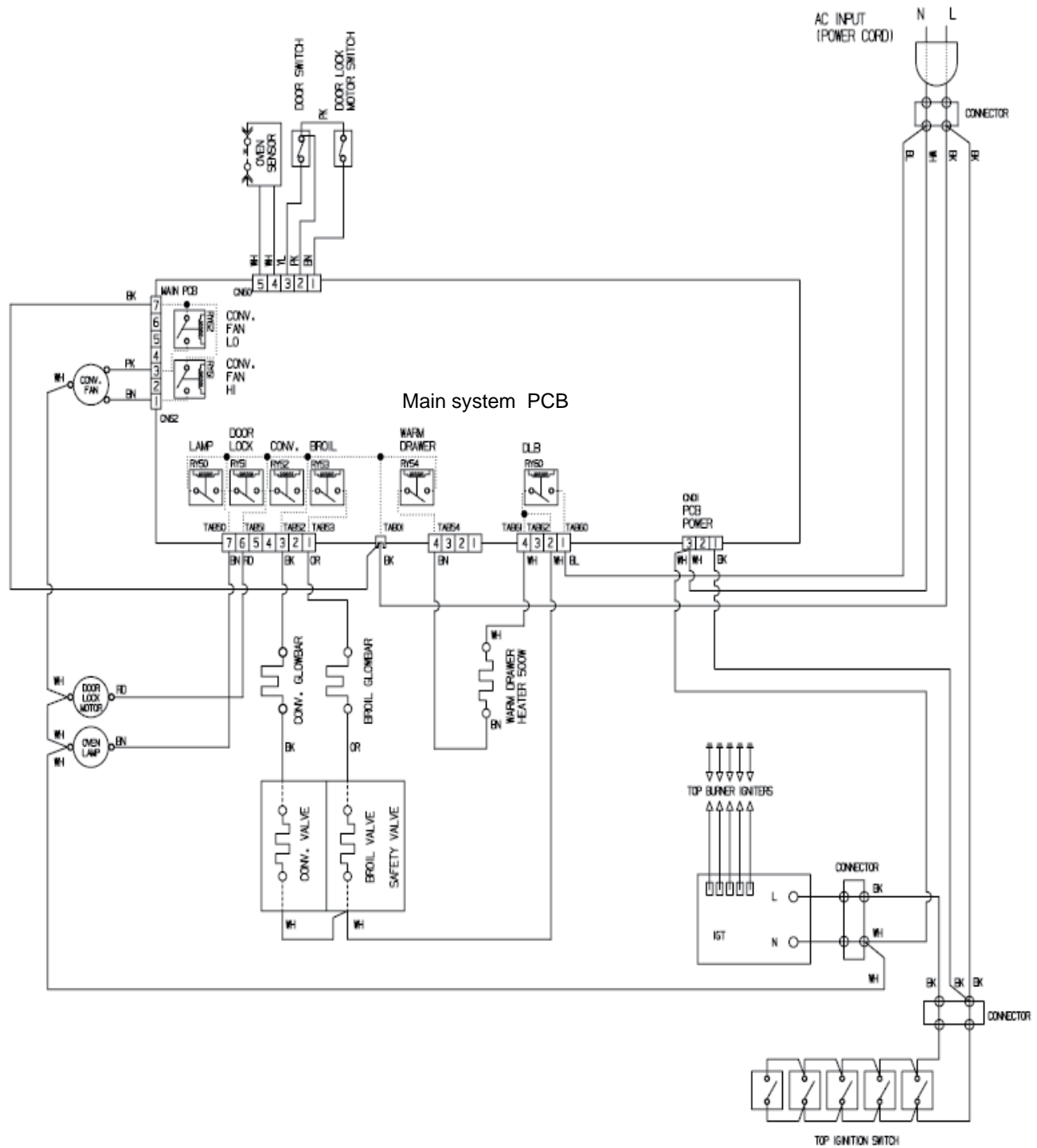
To convert to the original gas.

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

NOTE: The choke for the 18.5k top burner must be removed when converting the range back to natural gas.

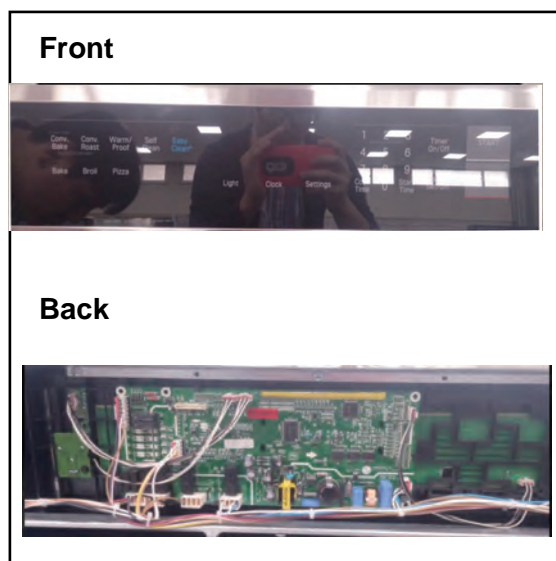
COMPOSITION OF CONTROL

1. Wiring Diagram



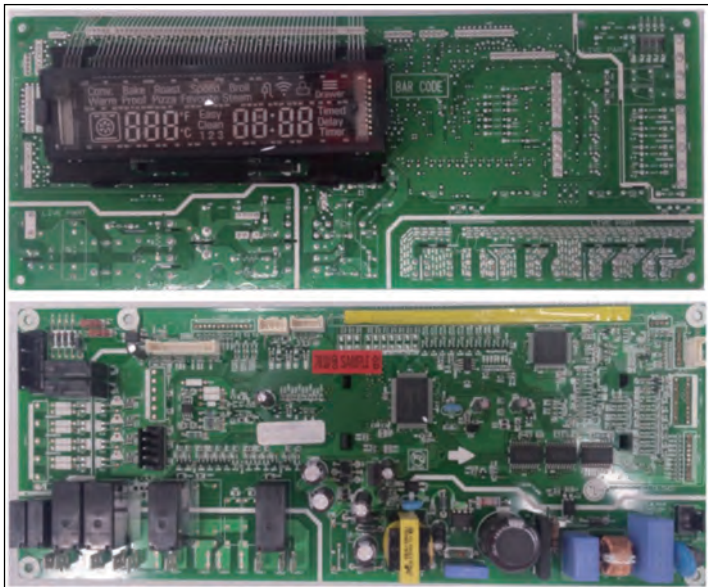
COMPOSITION OF CONTROL

2. Composition of control



Controller assembly

Main PCB (P/N : EBR80595311)



Touch PCB (P/N : EBR80089901)



NFC PCB (P/N : EBR78789101)



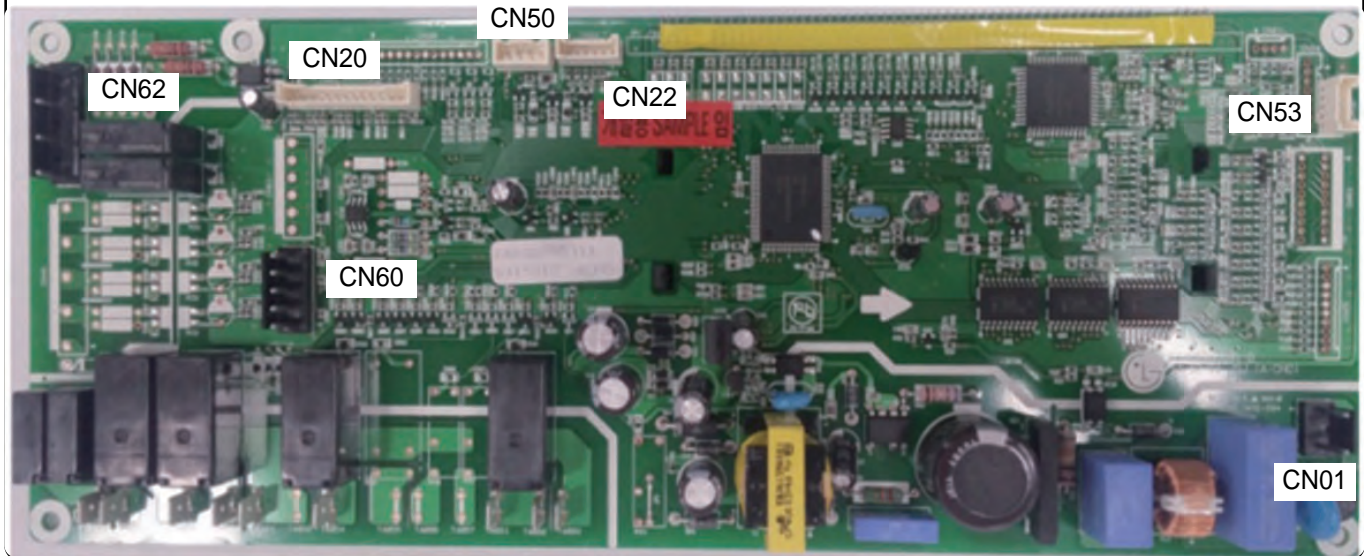
Buzzer PCB (P/N : EBR76332902)



COMPOSITION OF CONTROL

Main PCB

(P/N : EBR80595311)



Touch PCB

(P/N : EBR80089901)



COMPOSITION OF CONTROL

NFC PCB

(P/N : EBR78789101)



Buzzer PCB

(P/N : EBR76332902)



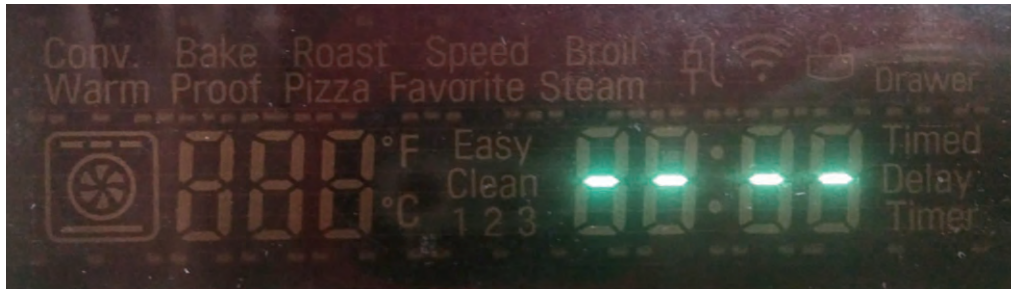
SVC TEST MODE

SEQUENCE OF SVC TEST MODE

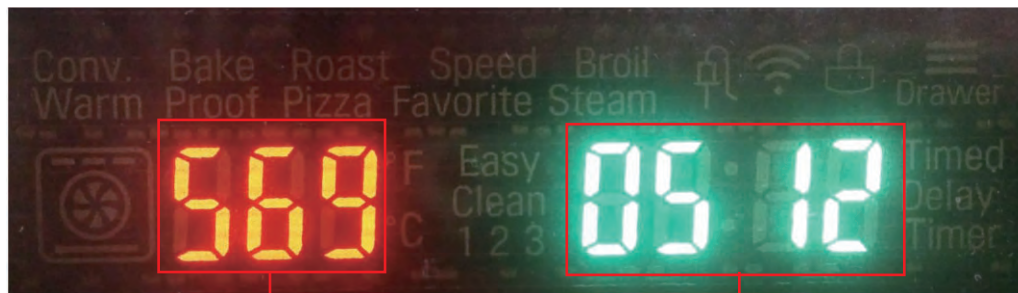
1 Sequence of SVC Test Mode

To enter the test mode, follow these steps:

- (1) press the Clear button
- (2) press the BAKE and BROIL buttons at the same time



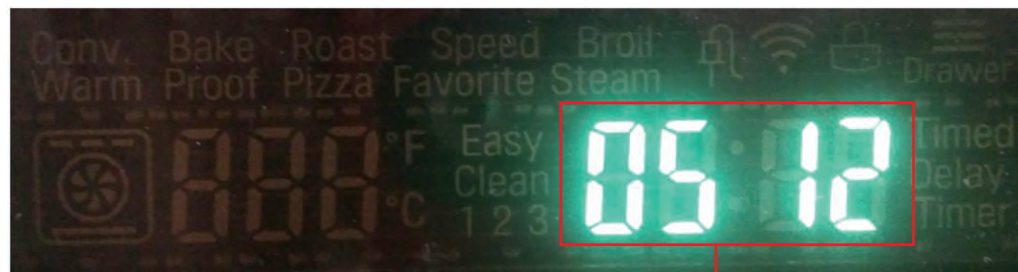
- (3) press the BAKE and BROIL buttons at the same time again.



Model Option

Software version

- (4) press the NUM 0 button



Only software version is displayed at the left digits

- (5) Press the START button

SVC TEST MODE



Current inspecting Relay's information is displayed

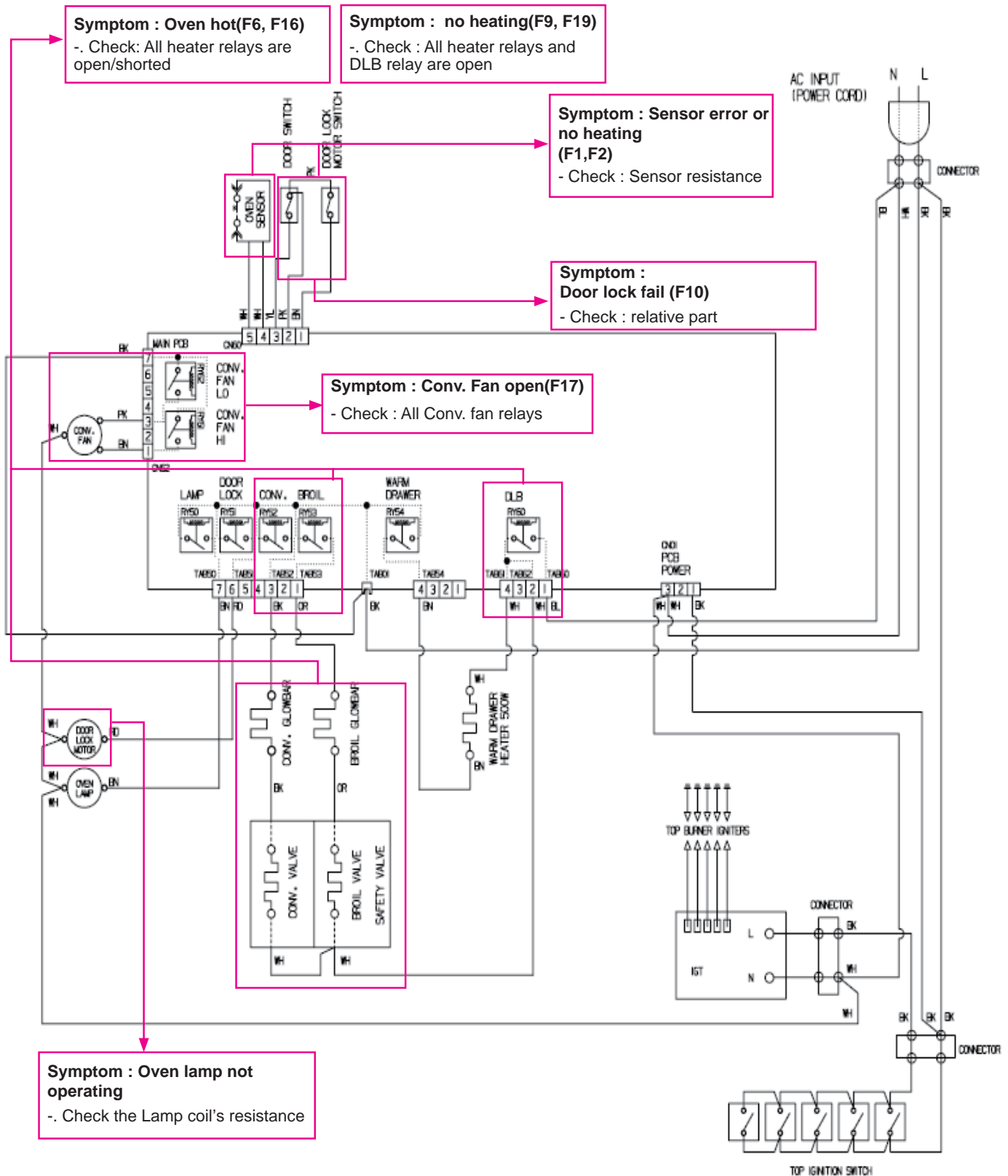
(6) Whenever you input the START button, the relay operation sequence should be as seen below.

※ Relay Operation Sequence

Step	RY 53 Broil	RY 52 Conv. Heater	RY 54 Warm Drawer	RY 62 Conv. Fan Lo	RY 61 Conv. Fan High	RY 60 DLB
1	●	○	○	○	○	●
2	○	●	○	●	○	●
3	○	●	○	○	●	●
4	○	○	●	○	○	○
5	●	○	○	○	○	●
6	○	●	○	●	○	●
7	○	●	○	○	●	●
8	○	○	●	○	○	○
9	●	○	○	○	○	●
10	○	●	○	○	●	●
11	○	●	○	●	○	●
12	○	○	●	○	○	○

SVC TEST MODE

2 Basic Check Summary



TROUBLESHOOTING

1. Check the Failure Code

- When the oven has a malfunction while cooking, Cooking will be canceled and log data of F-code will be recorded in EEPROM. F-code will not display during normal operation.
- Check the failure code following these steps.
 - (1) Press the CLEAR button
 - (2) Press the BAKE and BROIL buttons at the same time.

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

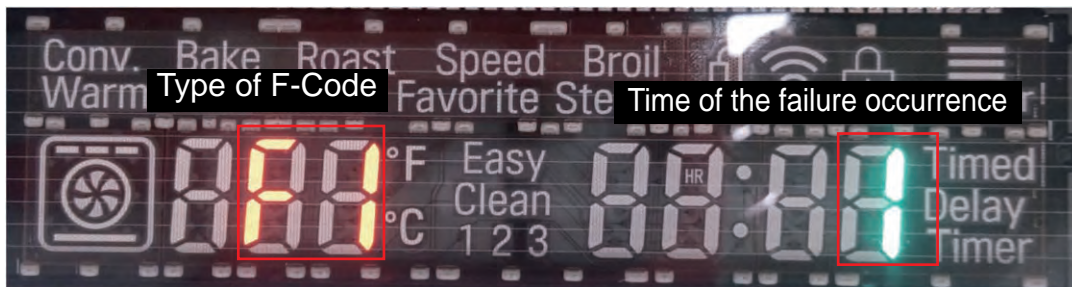


FIG. 1

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

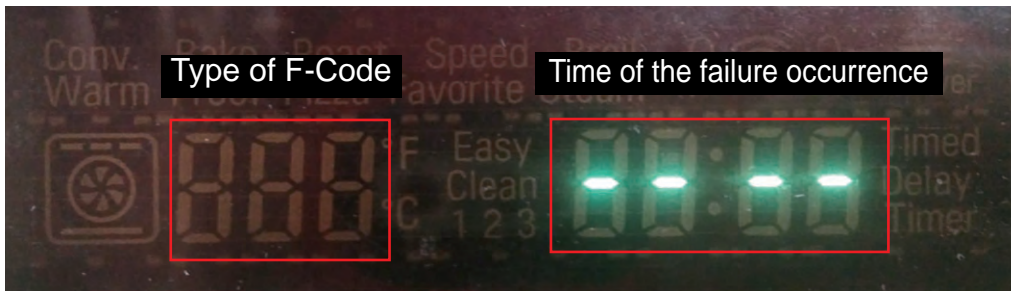


FIG. 2

NOTE:

- After checking the F code, press the CLEAR button to remove all codes.

TROUBLESHOOTING

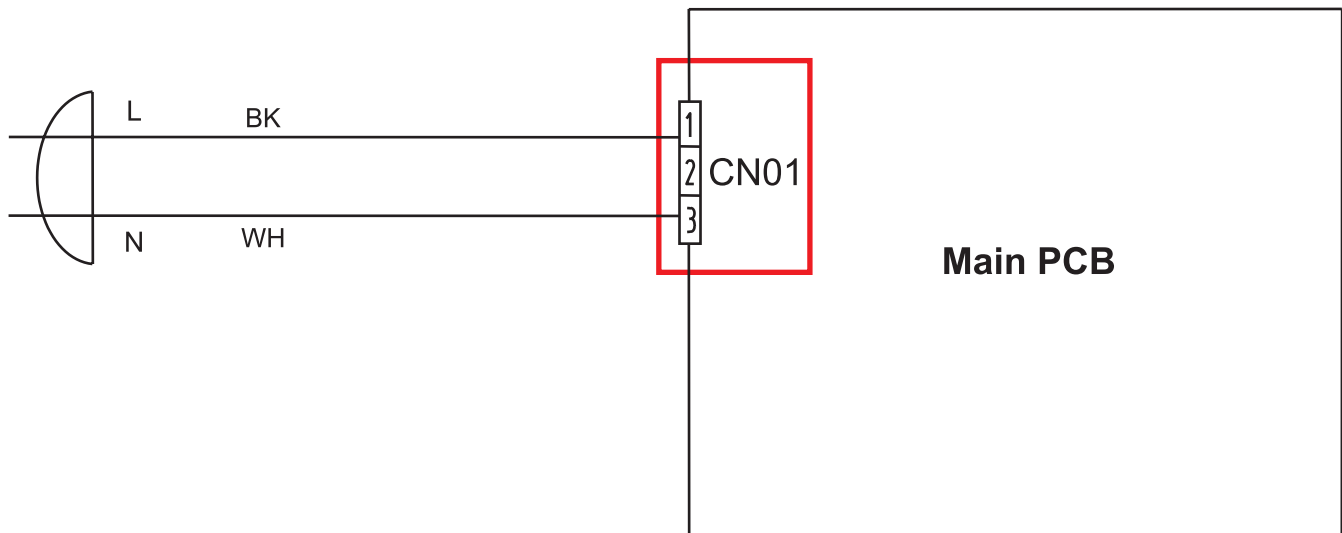
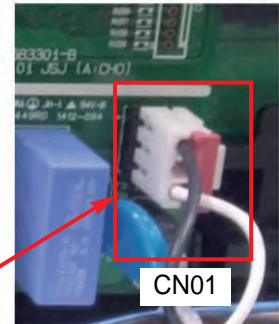
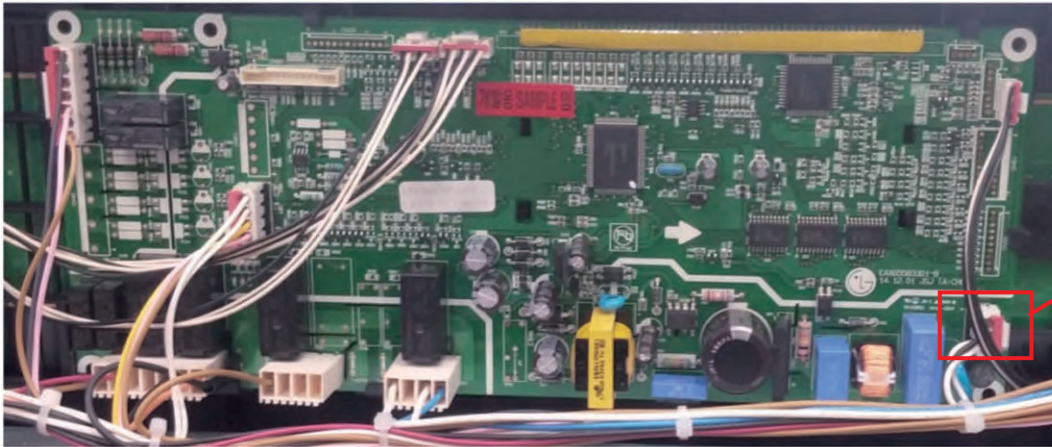
2. Failure Code Summary

Code	Description	explanation	Check point
F1	Sensor open	Oven Thermistor is open	1.Wiring 2.Oven Sensor
F2	Sensor short	Oven Thermistor is shorted.	1.Wiring 2.Oven Sensor
F-3	Key short	1. If '25 key short' occurred 3 times in 90 seconds. 2. If communication is impossible with Touch IC more than 60 seconds	1.Wiring 2.Touch PCB
F6	Oven hot	The oven temperature is over 650°F continuously for 2 minutes during cooking except self cleaning.	Oven Sensor
F7	Conv. Fan Motor Open	During cook, if convection fan does not operate while 1 minute (cumulative time) in the period of convection fan operation.	1. Wiring 2. Motor's Resistance
F9	Oven No heating	EXCEPT PROOF, WARM and EASY CLEAN Starting temperature of 130°F or less, and the oven door is closed, the oven inside temperature does not go up more than 10°F compared with the starting temperature for 5minutes after the start of cooking.	1.Electrical Wiring 2.Oven Sensor
F10	Door Lock Fail	If Door Lock fails while operating the Lock motor.	1. Electrical Wiring 2. Motor's Resistance 3. Micro Switch

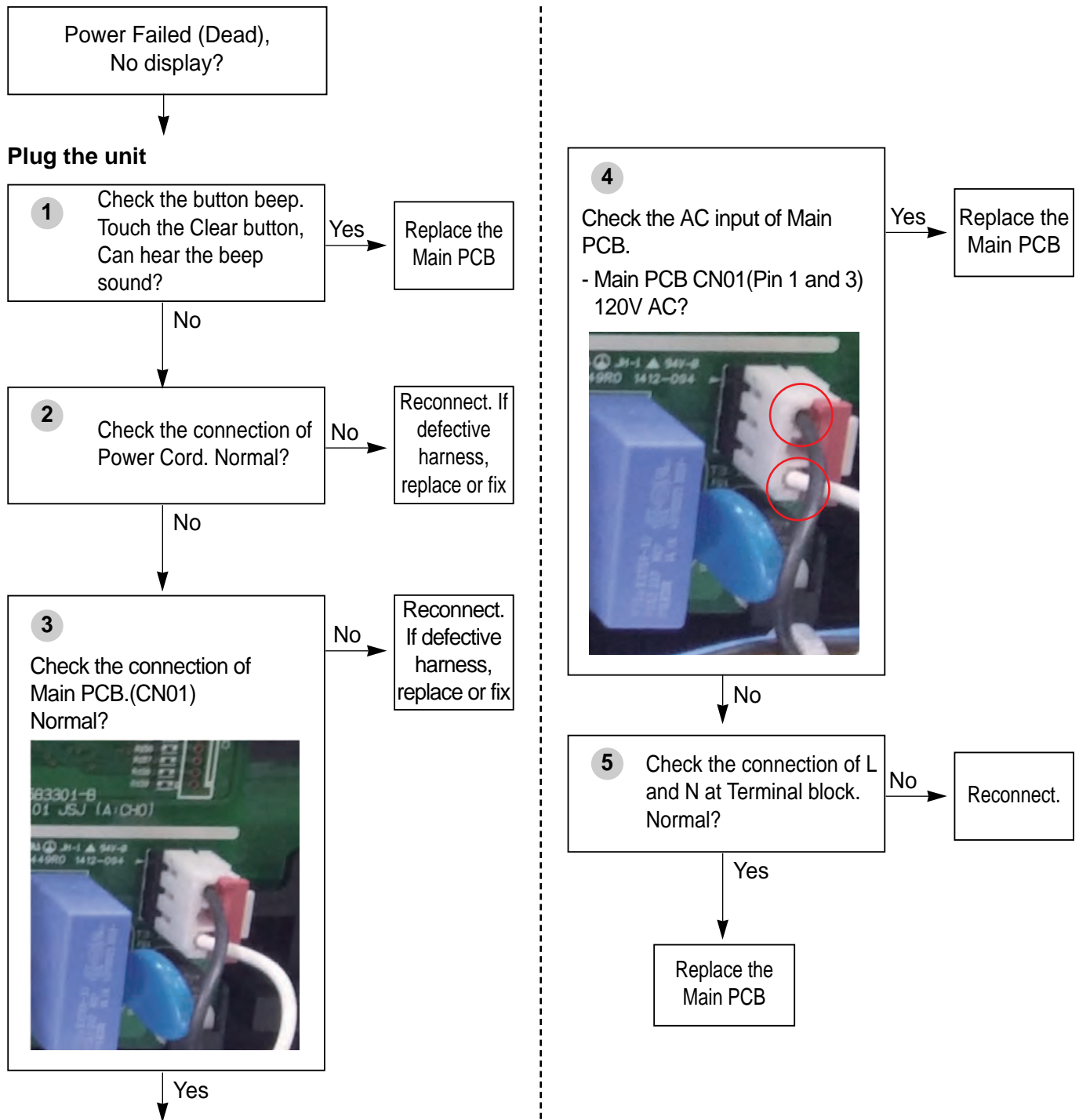
TROUBLESHOOTING

3. Troubleshooting

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

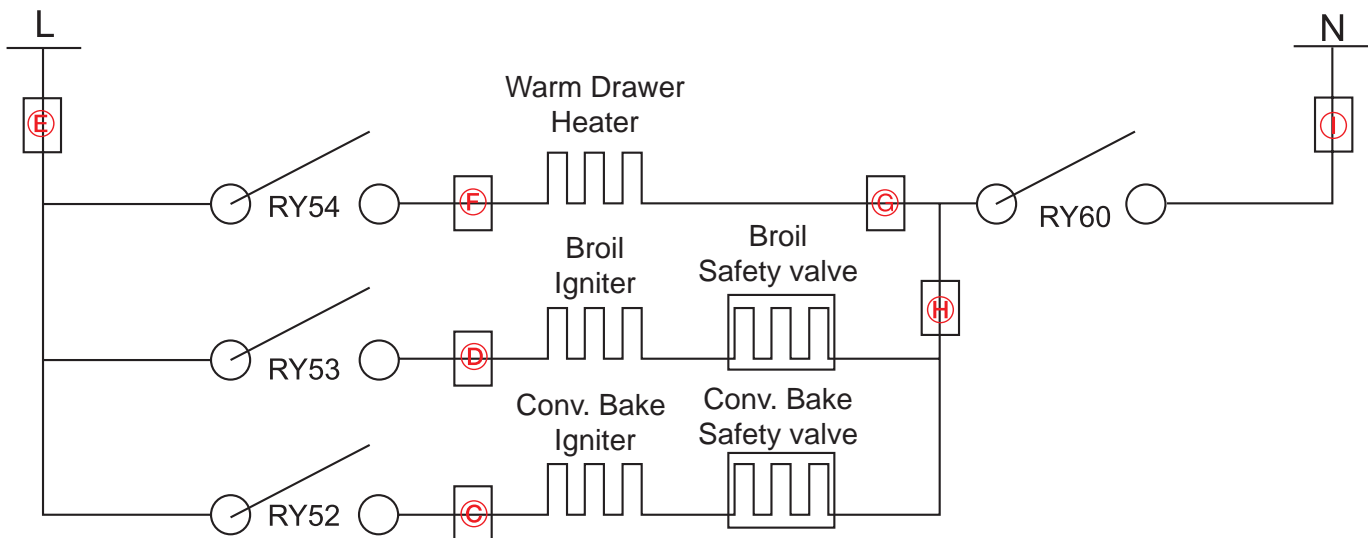
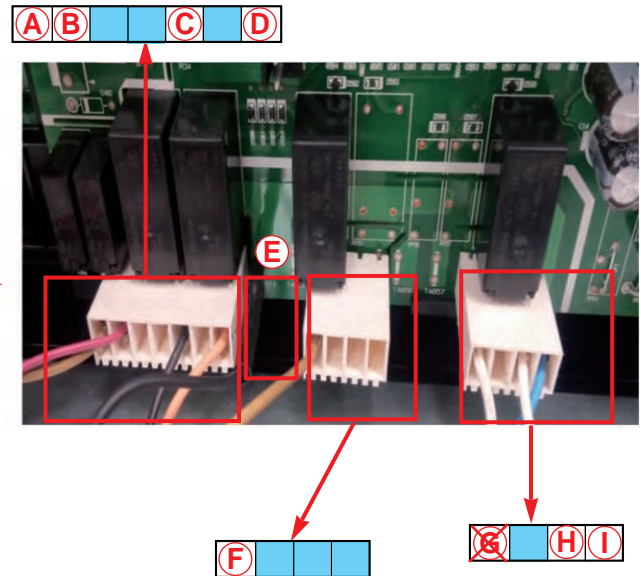
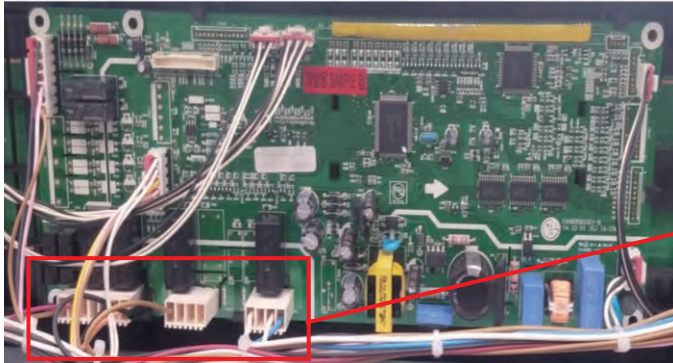


TROUBLESHOOTING



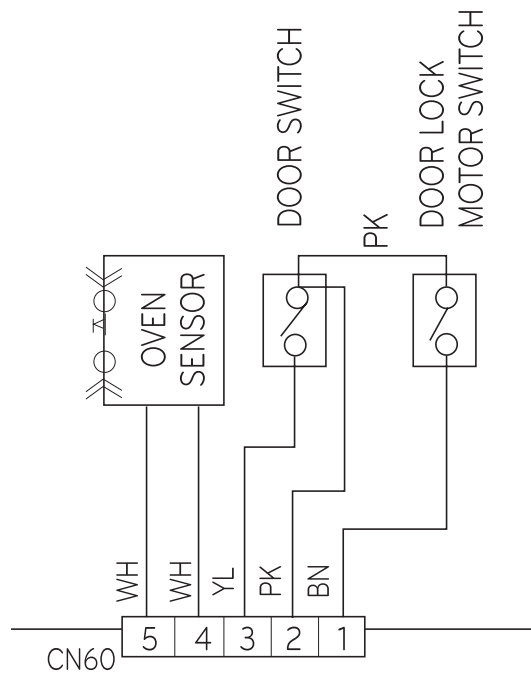
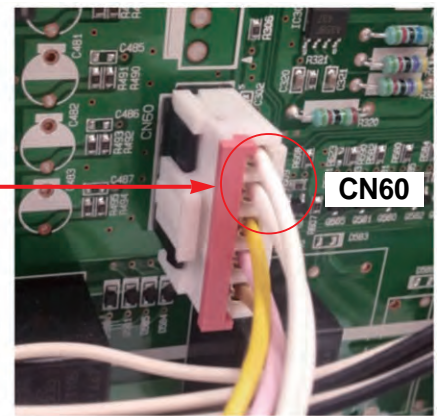
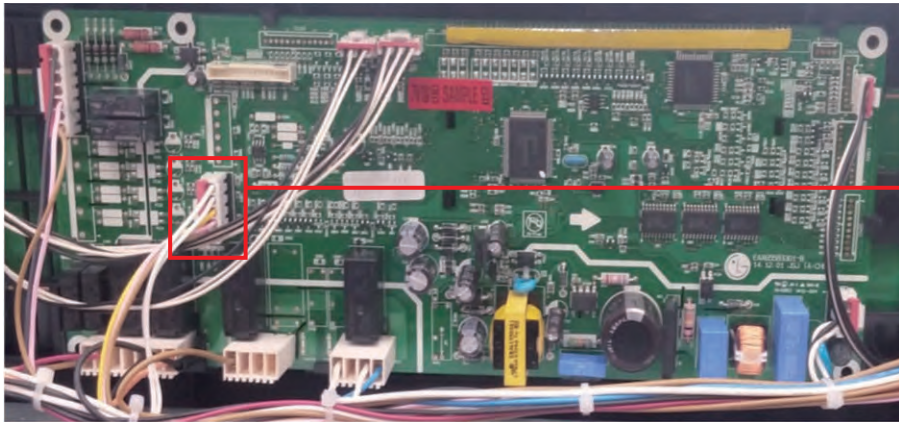
TROUBLESHOOTING

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



TROUBLESHOOTING

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



TROUBLESHOOTING

Oven does NOT heat, F9

Unplug the unit

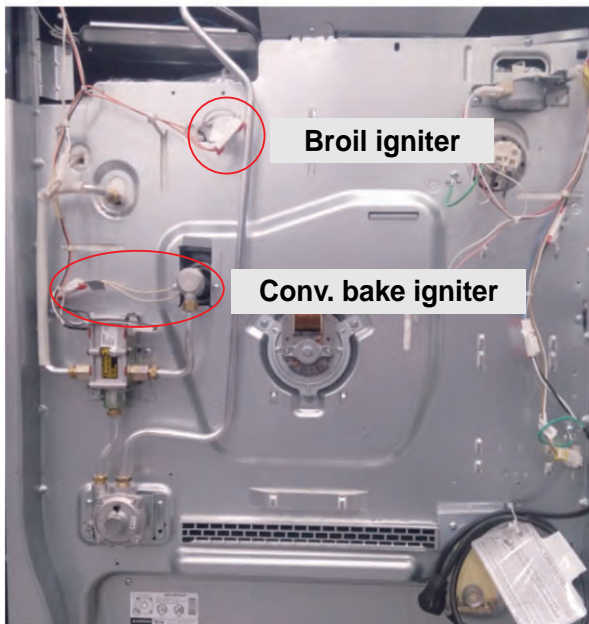
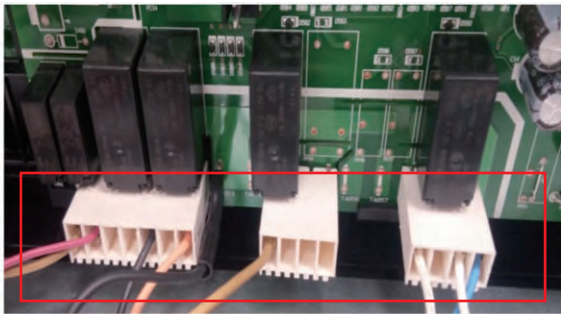
1

Is the Connector disconnected or loose?

- (1) Electric wiring of Main PCB All taps.
- (2) Electric wiring of electric element

Yes

Reconnect. If defective harness, Replace or fix



Broil igniter

Conv. bake igniter

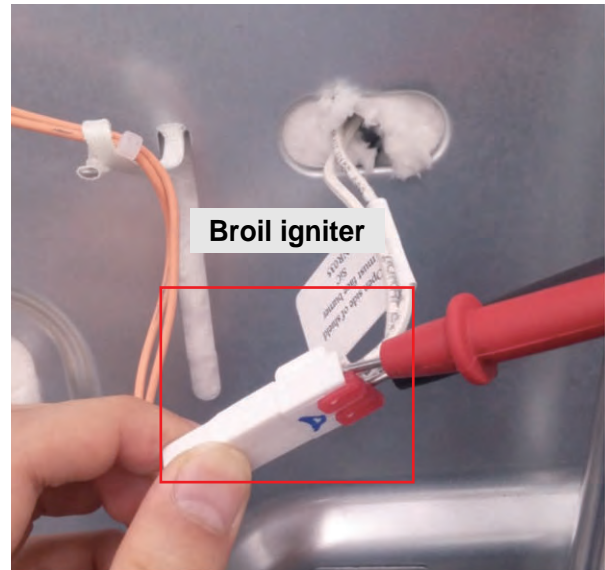
No

2

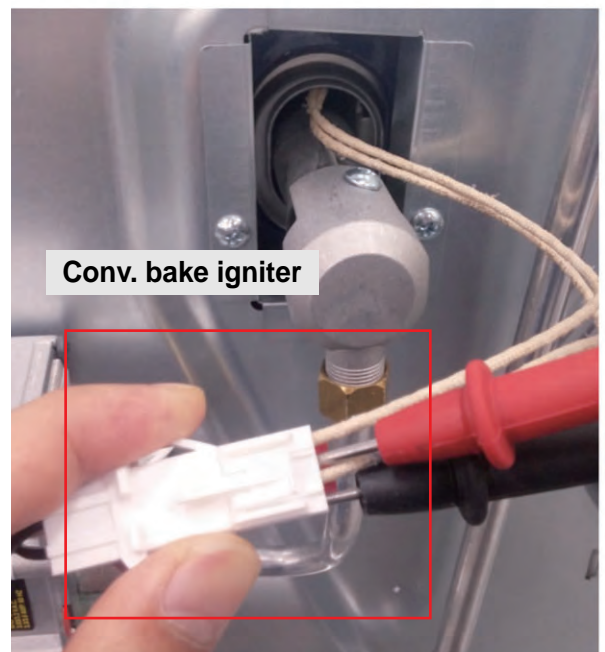
Check the resistance of each igniter. Normal?
(Measure the resistance after cooling down.
The resistance is shown below)

No

Replace the failed igniter



Broil igniter



Conv. bake igniter

yes

TROUBLESHOOTING

3

Range Of the resistance

igniter	Resistance[Ω] Approximately
Norton Igniter	45~400
SIC Igniter	50~500

Yes

Plug in the unit

4

Is the value of thermistor normal? (Refer below)

Check with the test mode

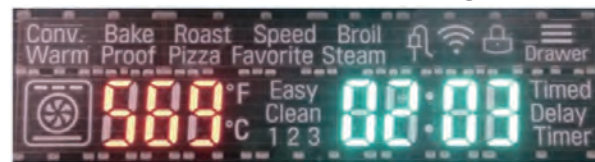
To enter the test mode, follow these steps:

(1) press the CLEAR button

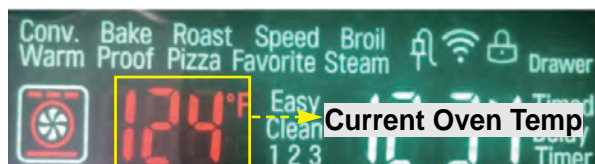
(2) press the BAKE and BROIL buttons at the same time.



(3) press the BAKE and BROIL buttons at the same time again.



(4) press the NUM 3 button



Normal : Thermistor value at room temp is from 70°F to 90°F

No

Unplug the unit

5

Is the resistance of thermistor normal?

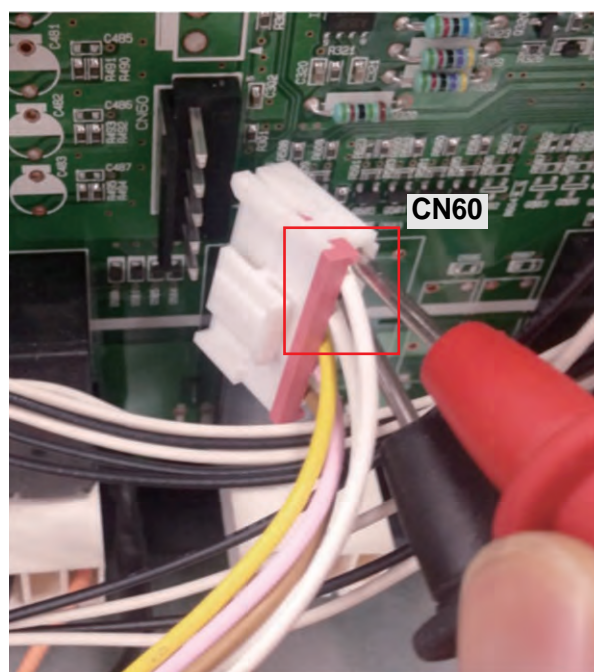
No

Replace the defected Themistor

Check:

Pins 4 and 5 of CN60 in main PCB

Normal- approximately 1.09kΩ at 25°C



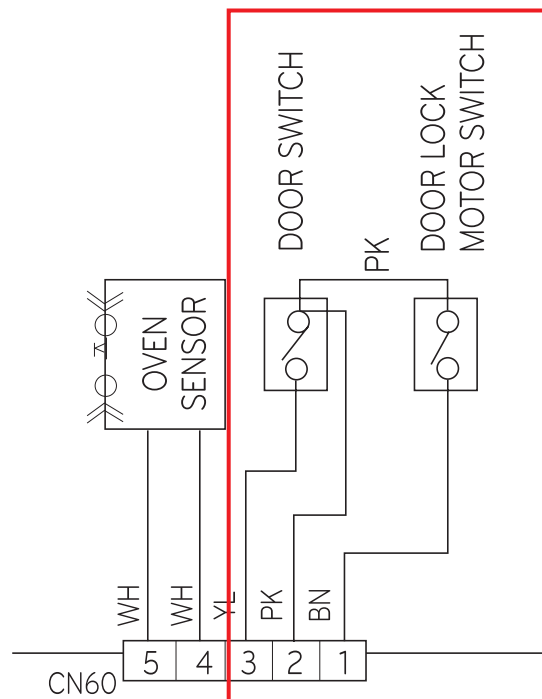
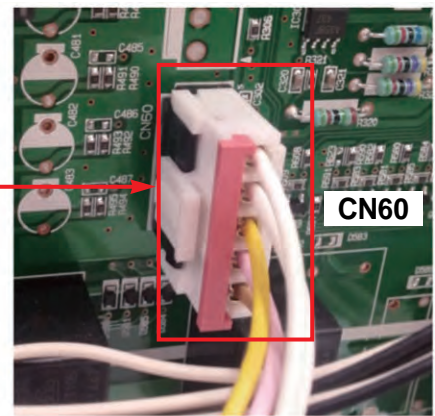
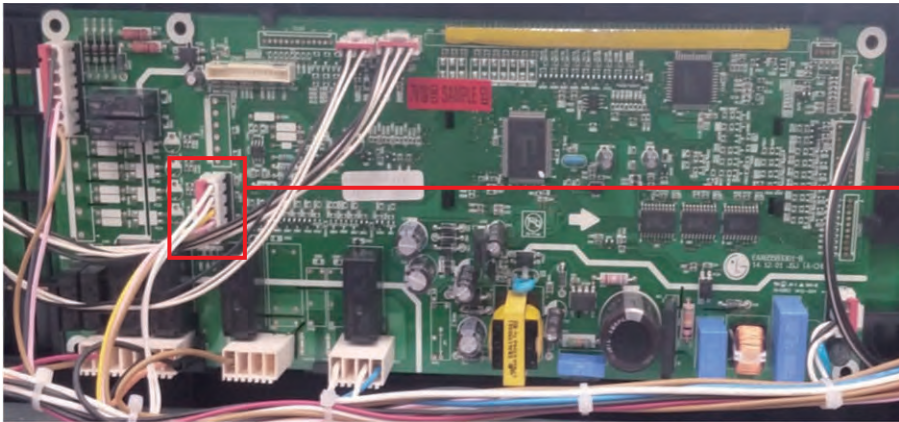
Yes

6

Replace the Main PCB

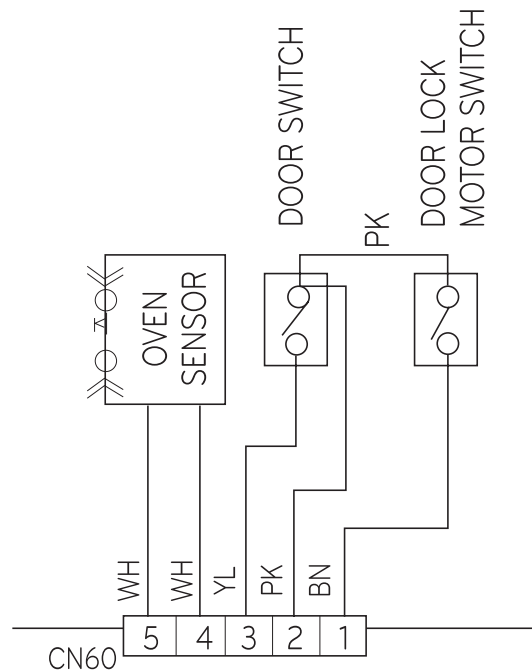
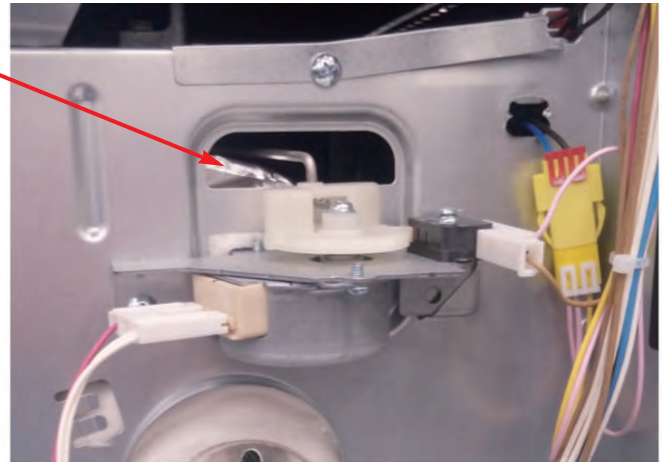
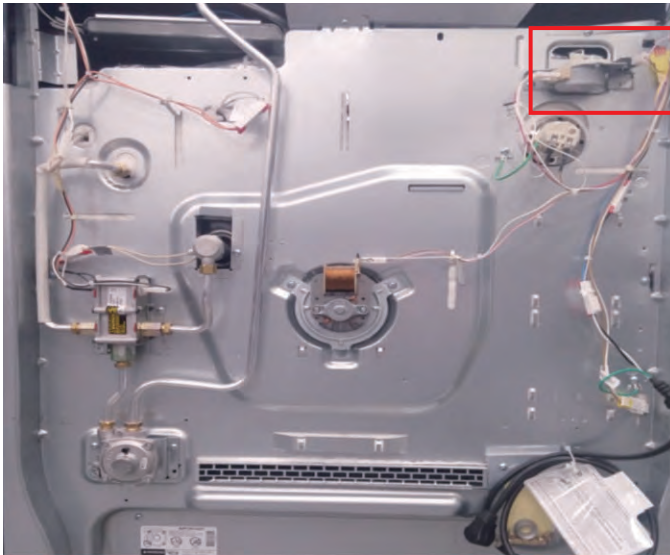
TROUBLESHOOTING

Symptom	Check Point
1. Door Lock System Failure 2. F10	1. Check the Electrical wiring 2. Check the Motor's Resistance 3. Check the Relay PCB (Door Lock Relay)



TROUBLESHOOTING

Symptom	Check Point
1. Door Lock System Failure 2. F10	1. Check the Electrical wiring 2. Check the Motor's Resistance 3. Check the Relay PCB (Door Lock Relay)



TROUBLESHOOTING

Door Lock System Failure, F10?

Plug in the unit

Note :

Just after self-clean start, the door lock motor starts to rotate. During this time if the door lock switch does NOT operate properly after rotating twice, then supervising circuit detects a Door Lock failure and the F10 error code appears.

1

Check the operation of door lock motor.

Yes

Go to No 2

Press Clear/Off button for 3 seconds. and try to open the door. Does the door open?



Door lock icon turns on.

No

It is normal. Check the wiring

Unplug the unit

2

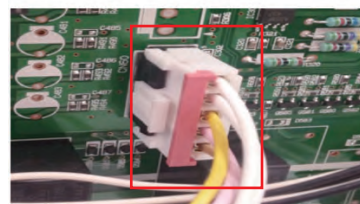
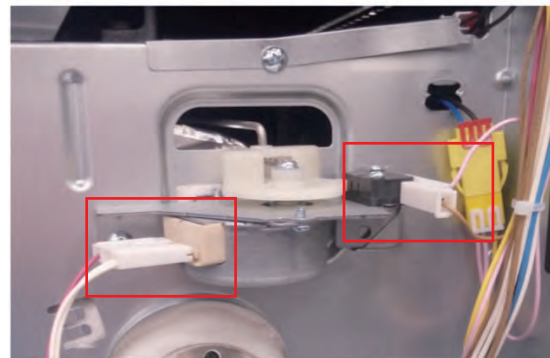
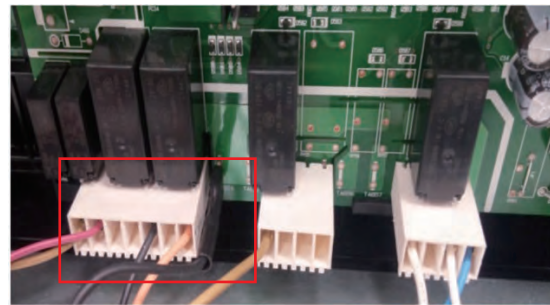
Is the Connector disconnected or loose?

No

Reconnect. If defective harness, replace or fix

Check the following :

- (1) Electric wiring of relay in Main PCB
- (2) Electric wiring of Locking Motor and Micro Switch
- (3) Electric wiring of CN60 and CN61 of Main PCB



Yes

TROUBLESHOOTING

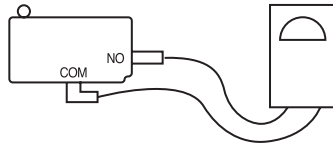
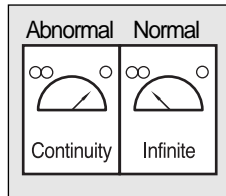
3

Is the door lock switch (micro switch) normal?

No

Replace the micro switch

measure the resistance of door lock switch → normally open type



Yes

4

Is the resistance of the lock motor normal ?

No

Replace the lock motor

measure the resistance of lock motor

Normal : approximately $2.6k\Omega$
Abnormal : infinite or below 5Ω

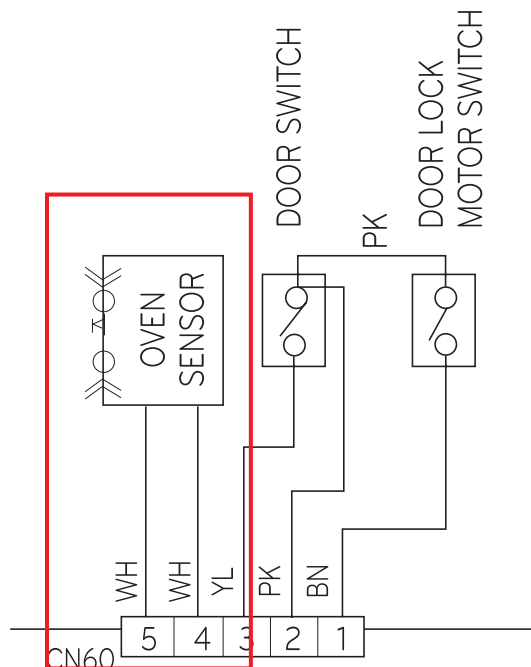
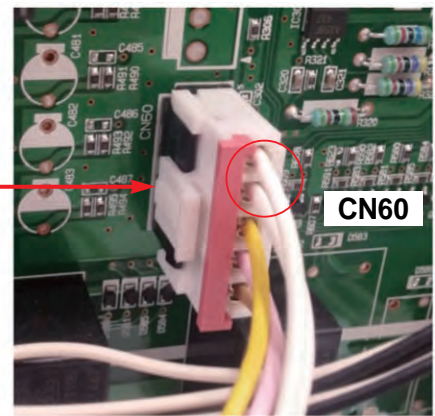
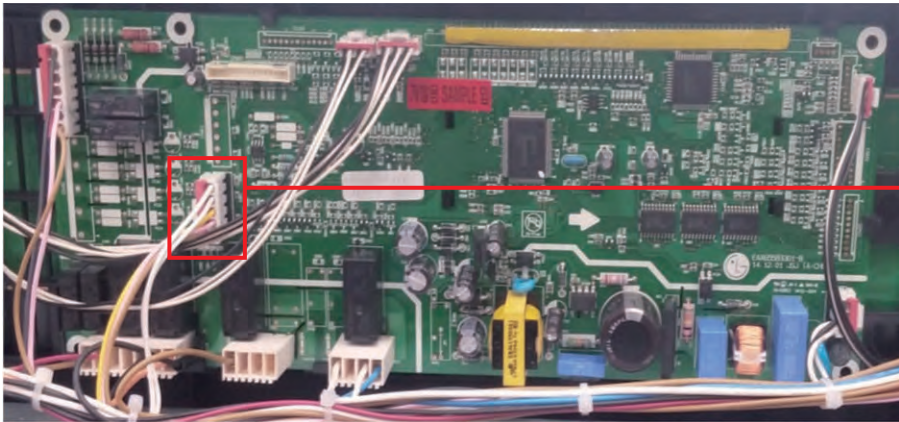


Yes

Replace the Main PCB

TROUBLESHOOTING

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



TROUBLESHOOTING

Sensing Fail, F1, F2?

Unplug the unit

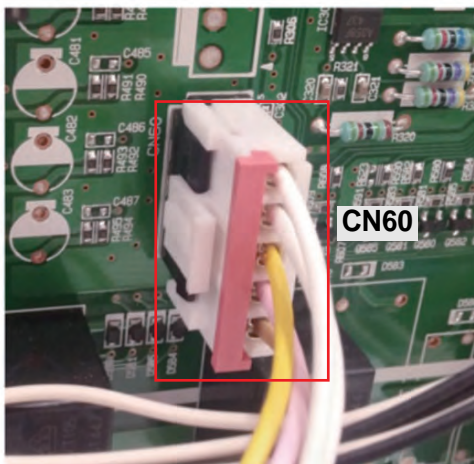
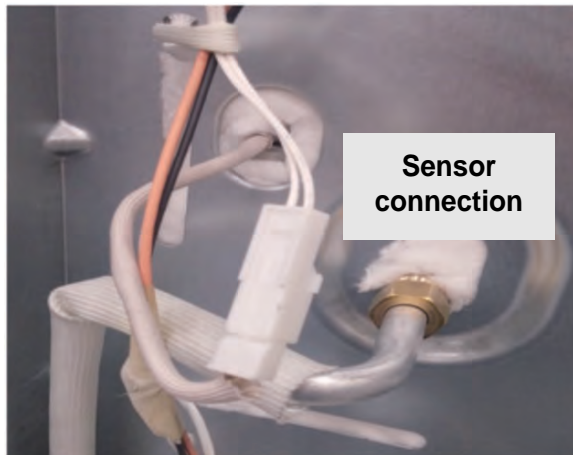
1

Is the Connector disconnected or loose?

- (1) Sensor connection
- (2) CN60 of Main PCB

Yes

Reconnect
or adjust the
connection



No

2

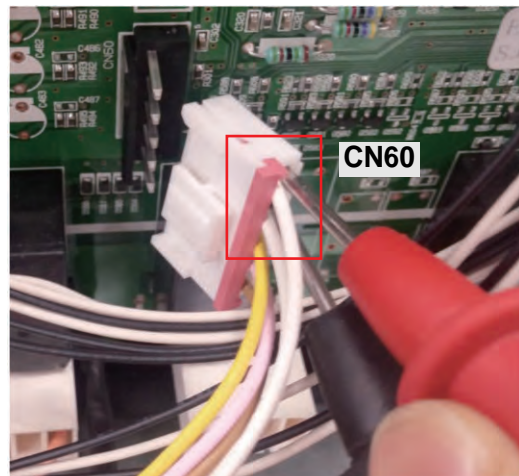
Is the resistance of thermistor normal?

No

Replace the defective Thermistor

Check:

Pins 4 and 5 of CN60 in main PCB
Normal- approximately $1.09k\Omega$ at 25°C



Yes

TROUBLESHOOTING

Plug in the unit

3

Is the value of thermistor normal? (Refer below)

Check with the test mode

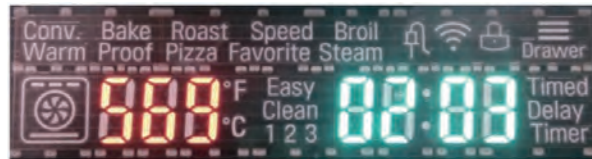
To enter the test mode, follow these steps:

(1) press the CLEAR button

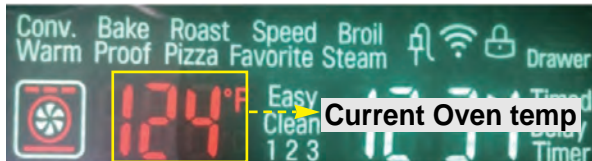
(2) press the BAKE and BROIL buttons at the same time.



(3) press the upper BAKE and BROIL buttons at the same time again.



(4) press the NUM 3 button



Normal : Thermistor value at room temp is from 70°F to 90°F

Yes

Go to No 1

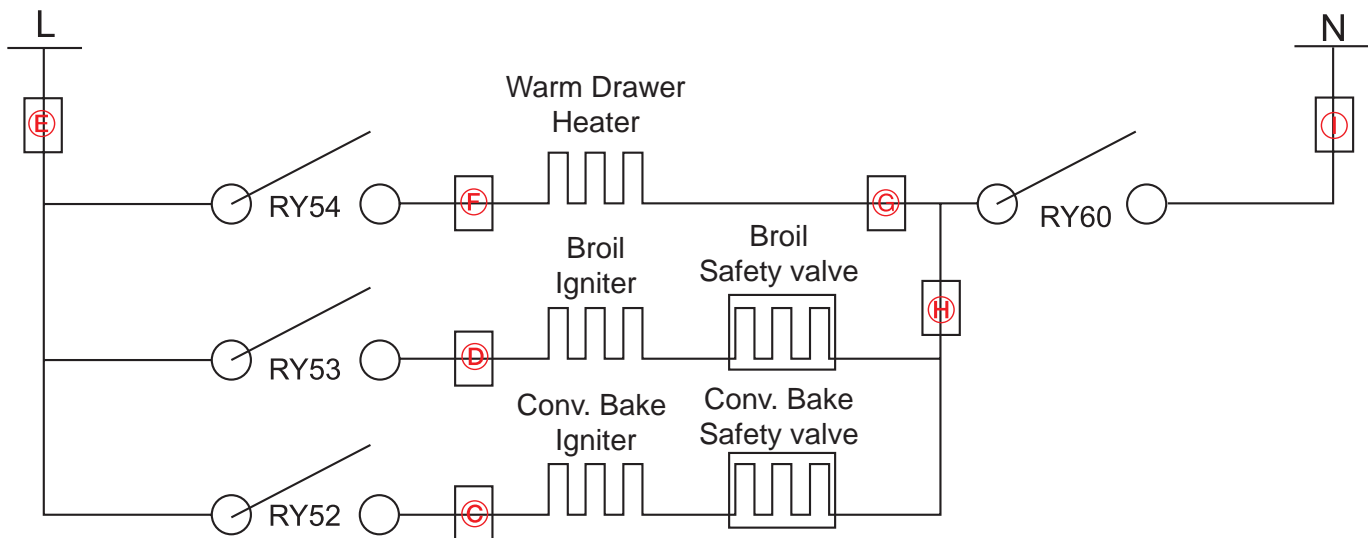
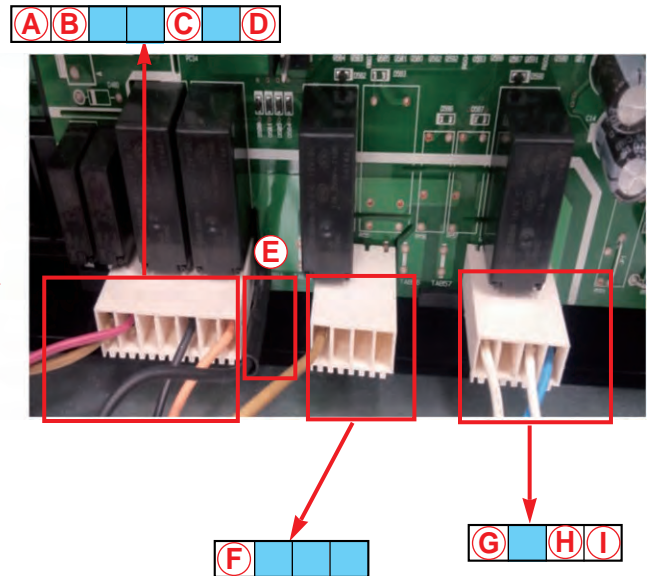
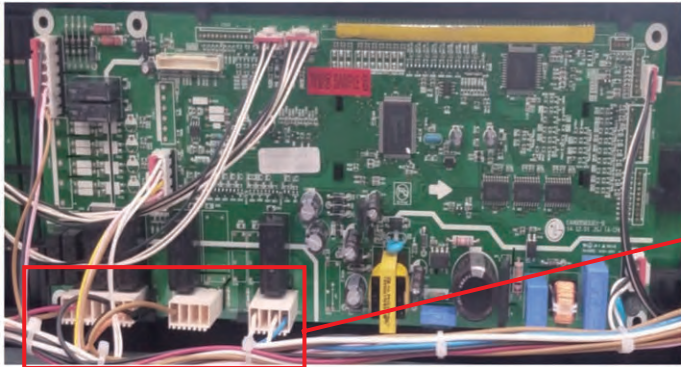
No

4

Replace the Main PCB

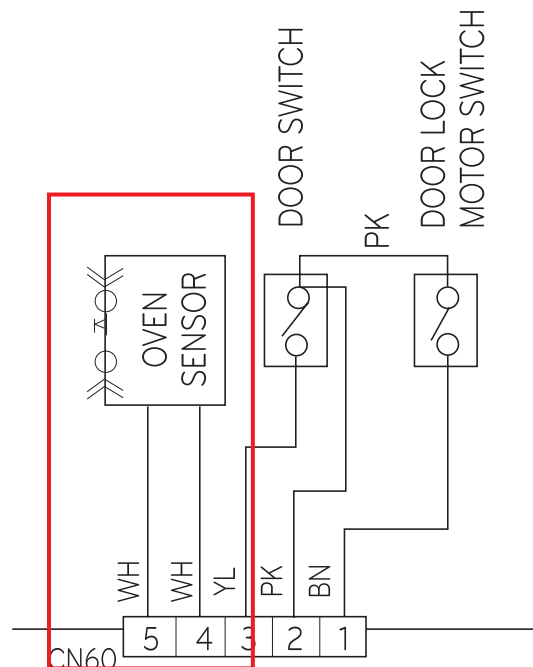
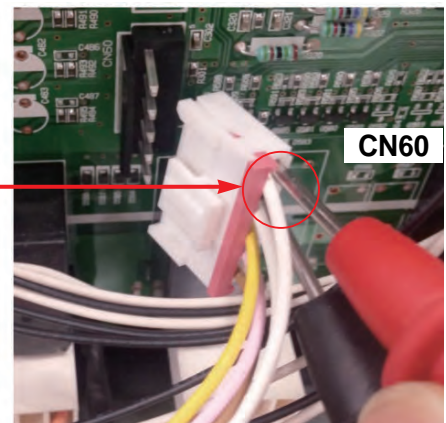
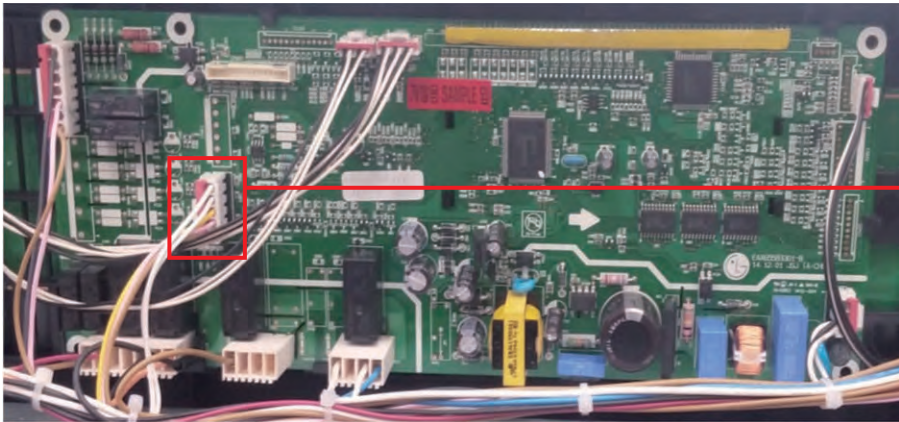
TROUBLESHOOTING

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



TROUBLESHOOTING

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



TROUBLE SHOOTING

Oven hot, F6?

Unplug the unit

1

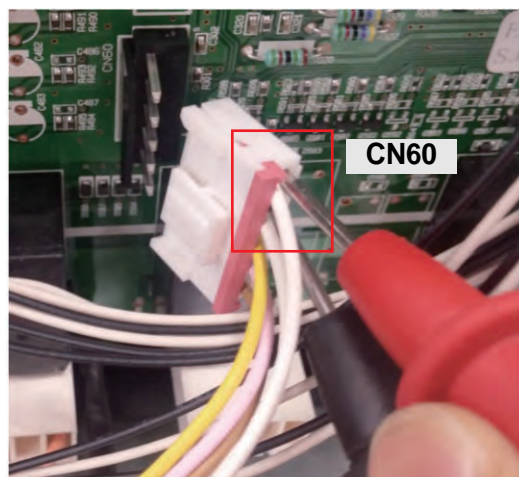
Is the resistance of thermistor normal?

No

Replace the defective Thermistor

Check:

Pins 4 and 5 of CN60 in main PCB
Normal- approximately 1.09kΩ at 25°C



Yes

2

Is the igniter relay normal?

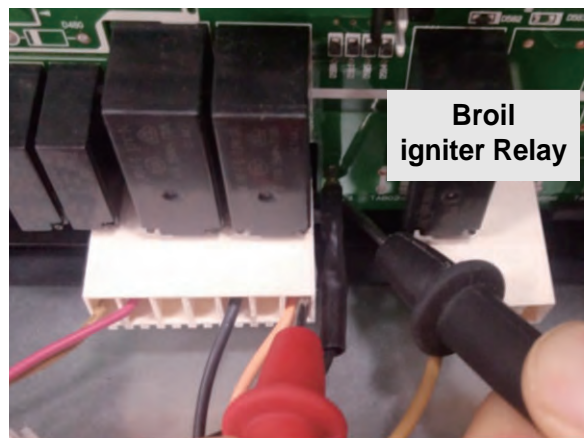
No

Replace the Main PCB

Measure the resistance of igniter relay and Live.

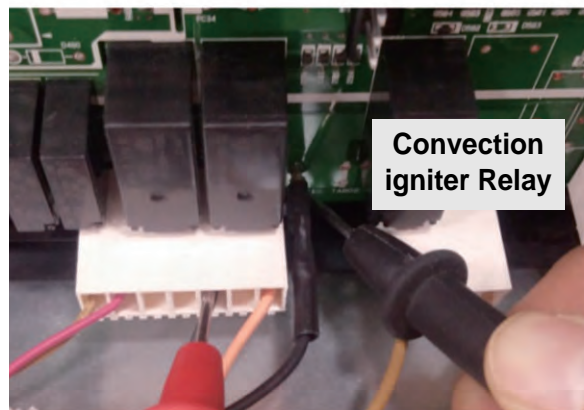
Normal: infinite

Abnormal : shorted



Broil igniter Relay

Tab 01 and Tab 53 : RY53



Convection igniter Relay

Tab 01 and Tab 52 : RY52

Yes

TROUBLE SHOOTING

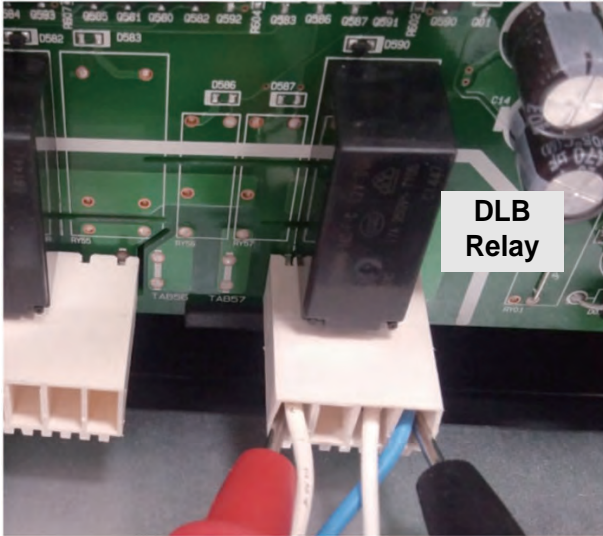
3

Is the DLB relay normal?
Measure the resistance

No

Replace the
Main PCB

Normal: infinite
Abnormal : shorted



Tab 62(or Tab61)
and Tab 60 : RY60

Yes

Plug in the unit

4

Is the value of thermistor
normal? (Refer below)
Check with the test mode
To enter the test mode,
follow these steps:

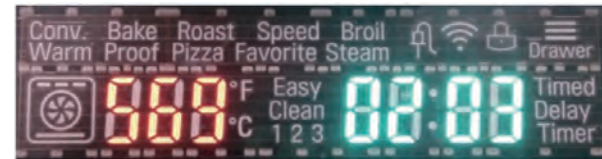
No

Replace the
Main PCB

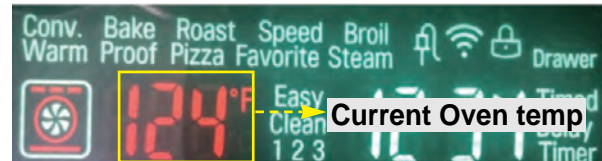
(1) press the CLEAR button
(2) press the BAKE and
BROIL buttons at the same time.



(3) press the BAKE and
BROIL buttons at the same time again.



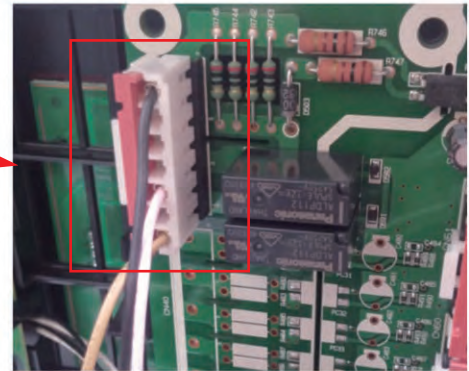
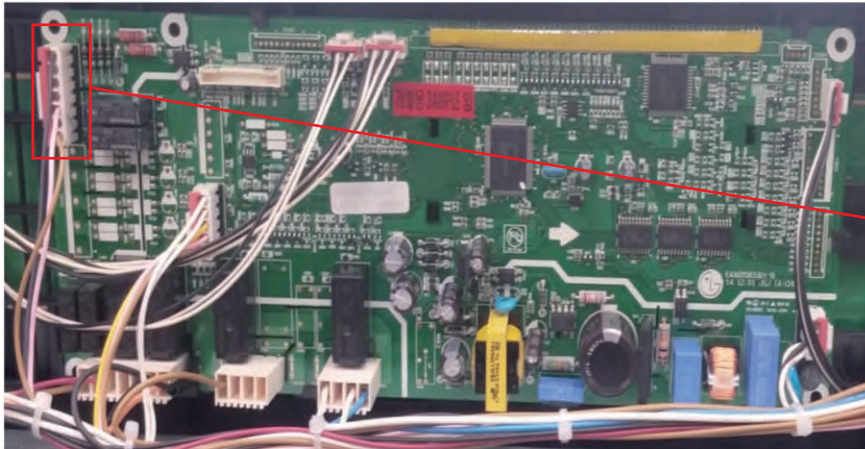
(4) press the NUM 3 button



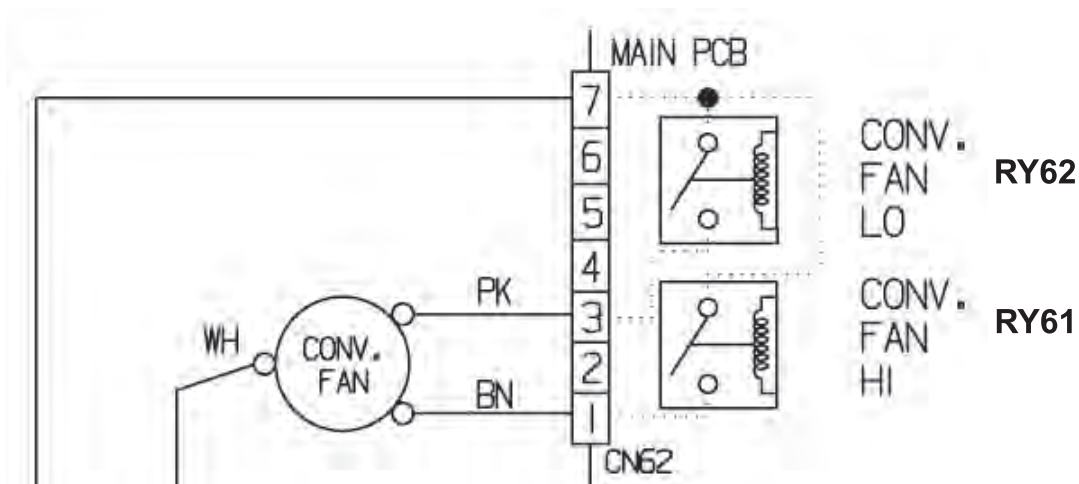
Normal : Themistor value at room temp is from
70°F to 90°F

TROUBLE SHOOTING

Symptom	Check Point
1. Convection Fan not working 2. F7	1. Check the Resistance of the Relay. 2. Check the Motor's Resistance



CN62



TROUBLE SHOOTING

Convection fan not work, F7?

Unplug the unit

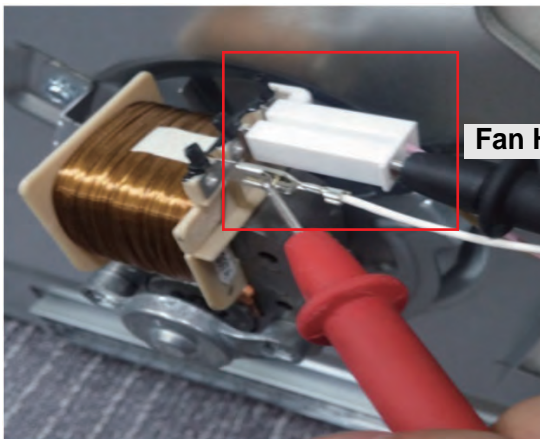
1

Check the resistance of each fan motor. Normal?

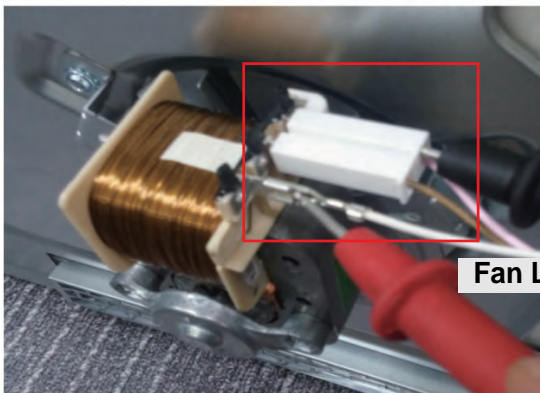
No

Replace the Fan motor

(Measure the resistance after cooling down.
The resistance is shown below)



Fan High



Fan Low

Fan motor	Resistance[Ω] Approximately
Fan High	25 ± 10%
Fan Low	30 ± 10%

Yes

2

Is the fan motor relay normal?

No

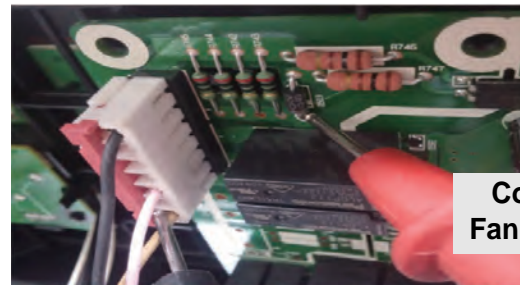
Replace the Main PCB

Measure the resistance of fan motor relay and Live

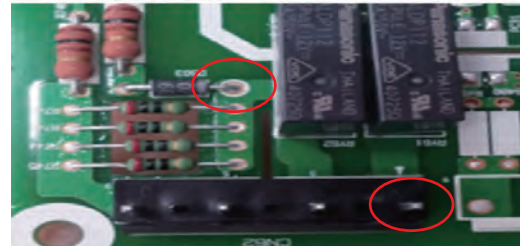
Normal: infinite

Abnormal : shorted

(It is also sure to disconnect the connector.)



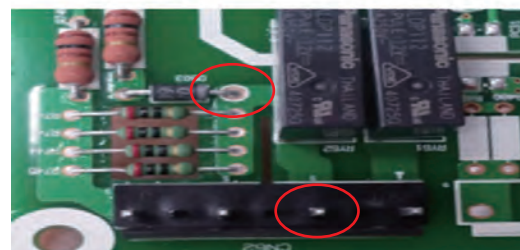
Conv.
Fan High



1st pin of CN62 and cathode of D503
: RY 61



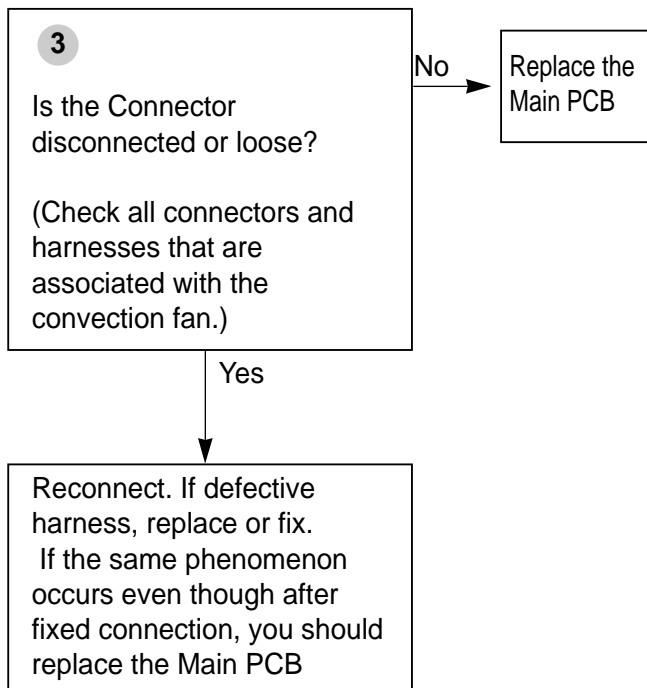
Conv.
Fan Low



3rd pin of CN62 and cathode of D503
: RY 62

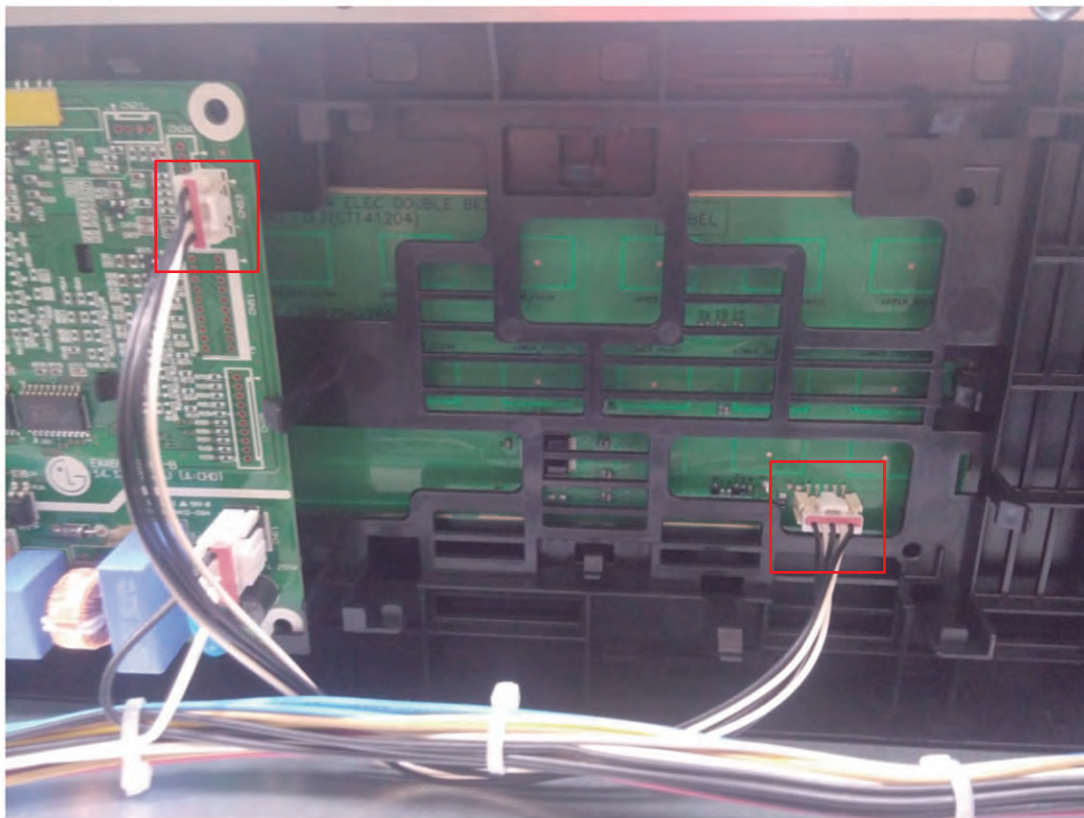
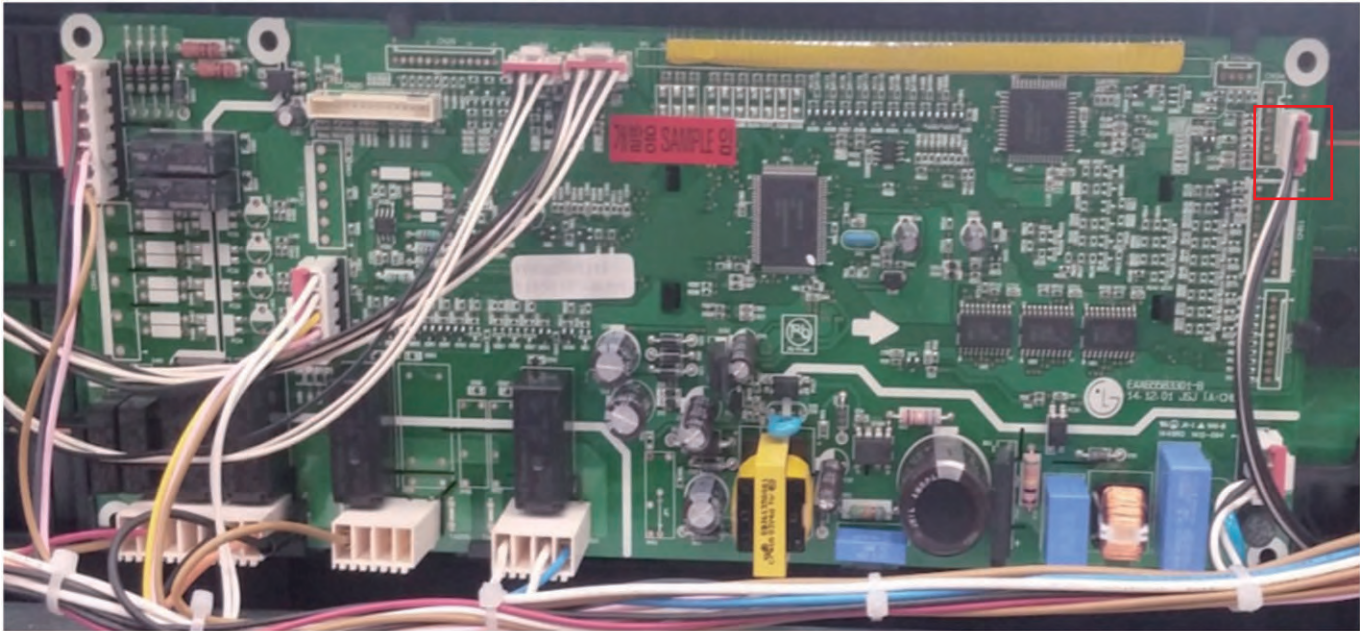
Yes

TROUBLE SHOOTING



TROUBLE SHOOTING

Symptom	Check Point
1. Key not working 2. F3 Error	1. Check the Door Locking System. 2. Check the Electrical Wiring.



TROUBLE SHOOTING

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

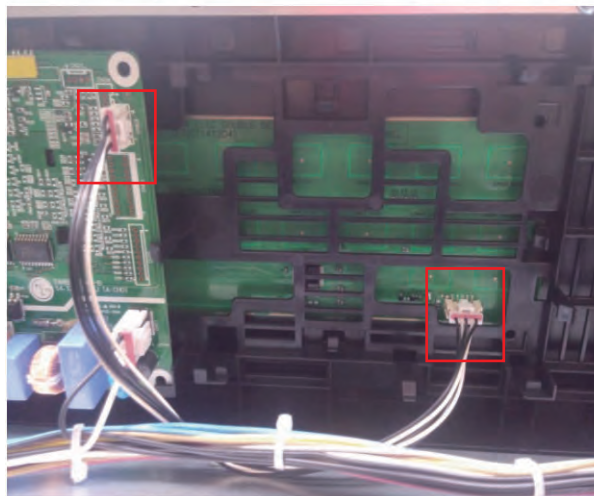
Unplug the unit

1

Check the connecting states between Touch PCB and CN53 of Main PCB.
Is it OK?

No

Reconnect
or adjust the
connection



Yes

Plug in the unit

2

Replace the Control panel.
(With Glass Touch PCB)
And then check button operation
using key test mode

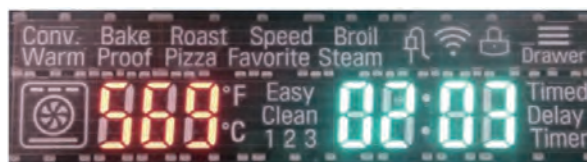
To enter the test mode, follow these steps:

(1) press the CLEAR button

(2) press the BAKE and
BROIL buttons at the same time



(3) press the BAKE and
BROIL buttons at the same time again.



(4) press the NUM 7 button

(5) Check the button.

(Refer to the next page, appendix)

3

If button is not operated,
Replace the Main PCB

APPENDIX

Key operation Test sequence



※ How to check button operation

1. Keys should be accessed according to the above sequence and check the beep sound when key is accessed
If Key is the normal operation will be the number that corresponds to the Key displayed on the VFD
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

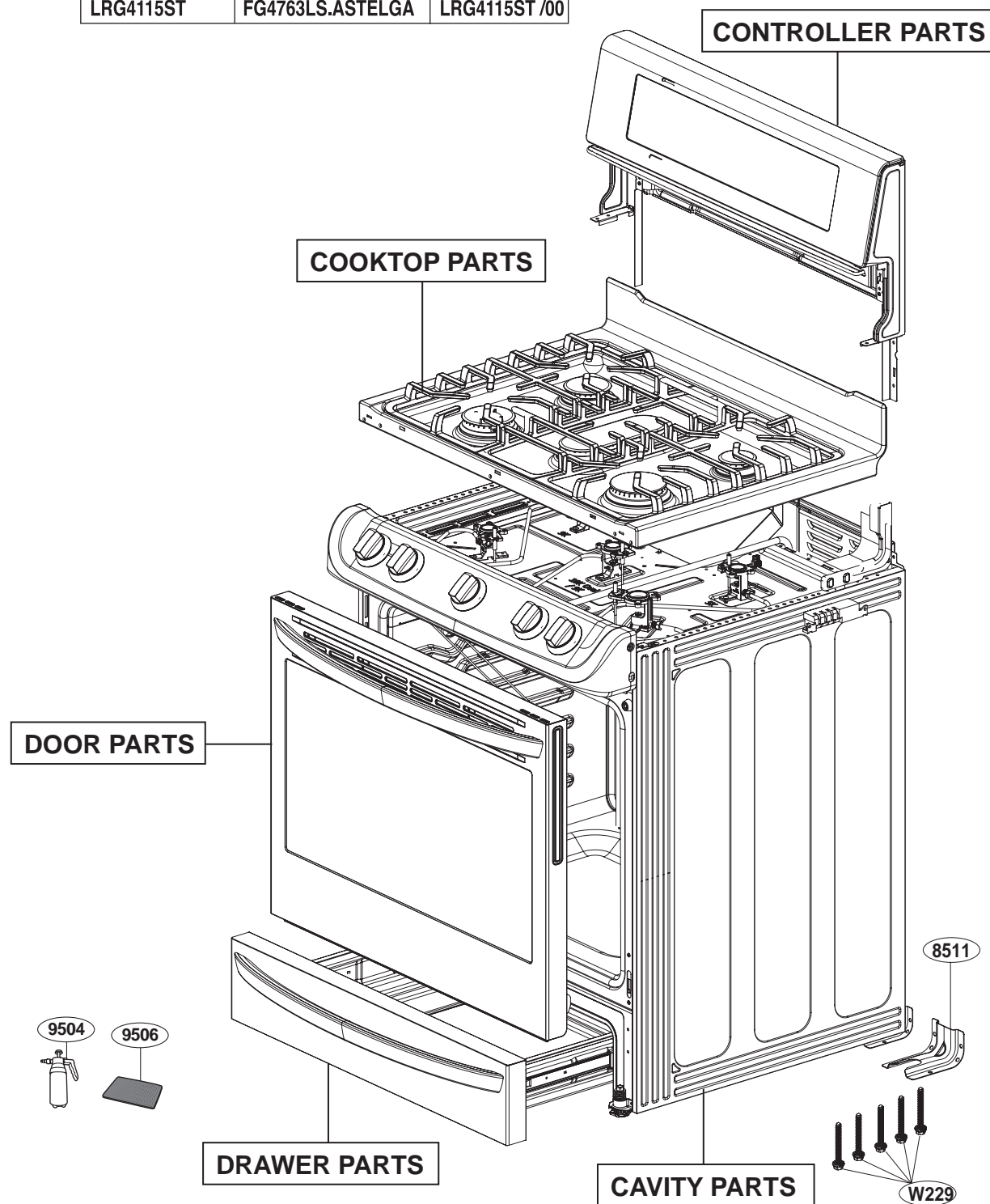
- Press 1st(Conv. Bake) → 2nd →... →27th (CLEAR/OFF)

EXPLODED VIEW

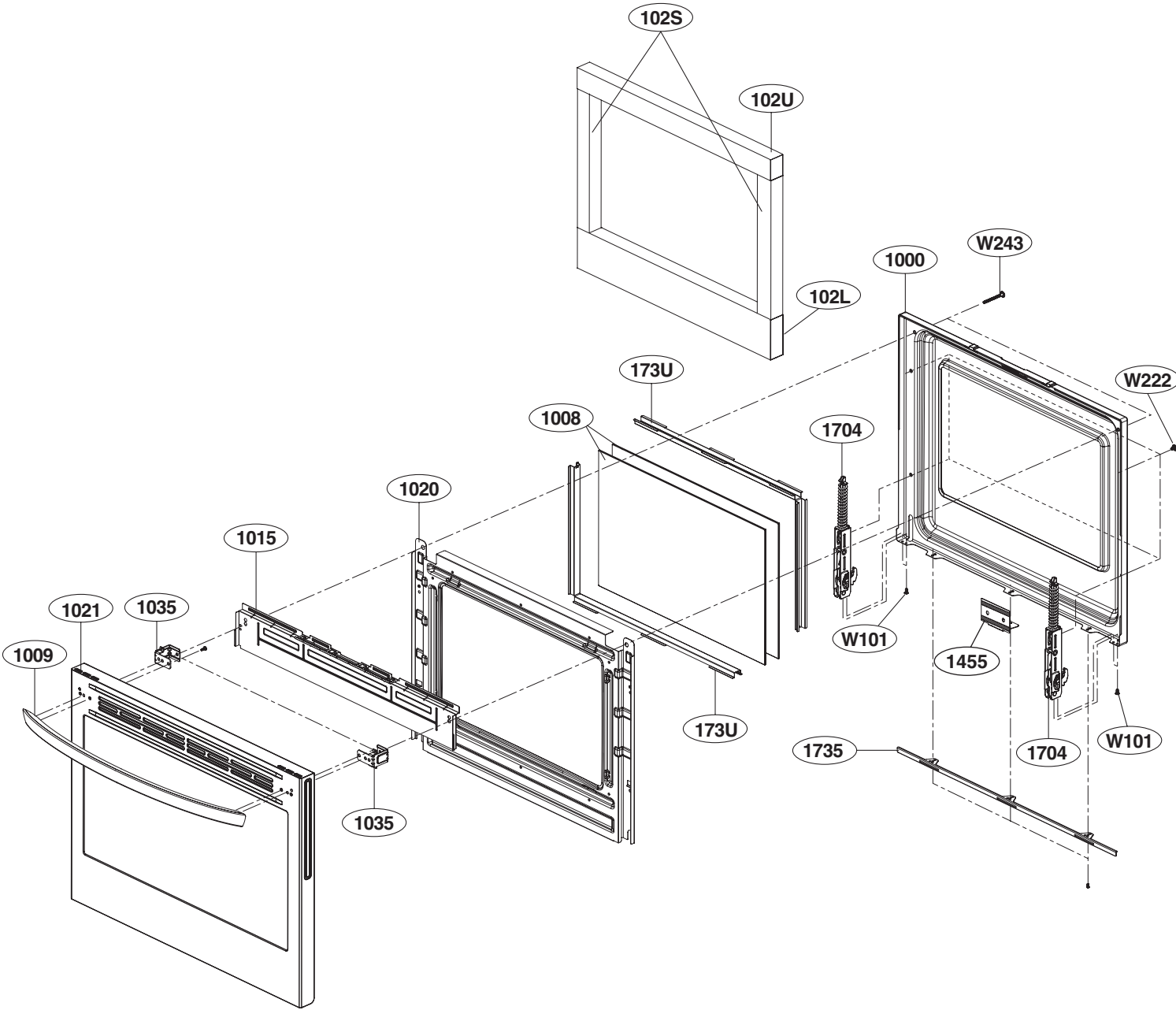
INTRODUCTION

MODEL:

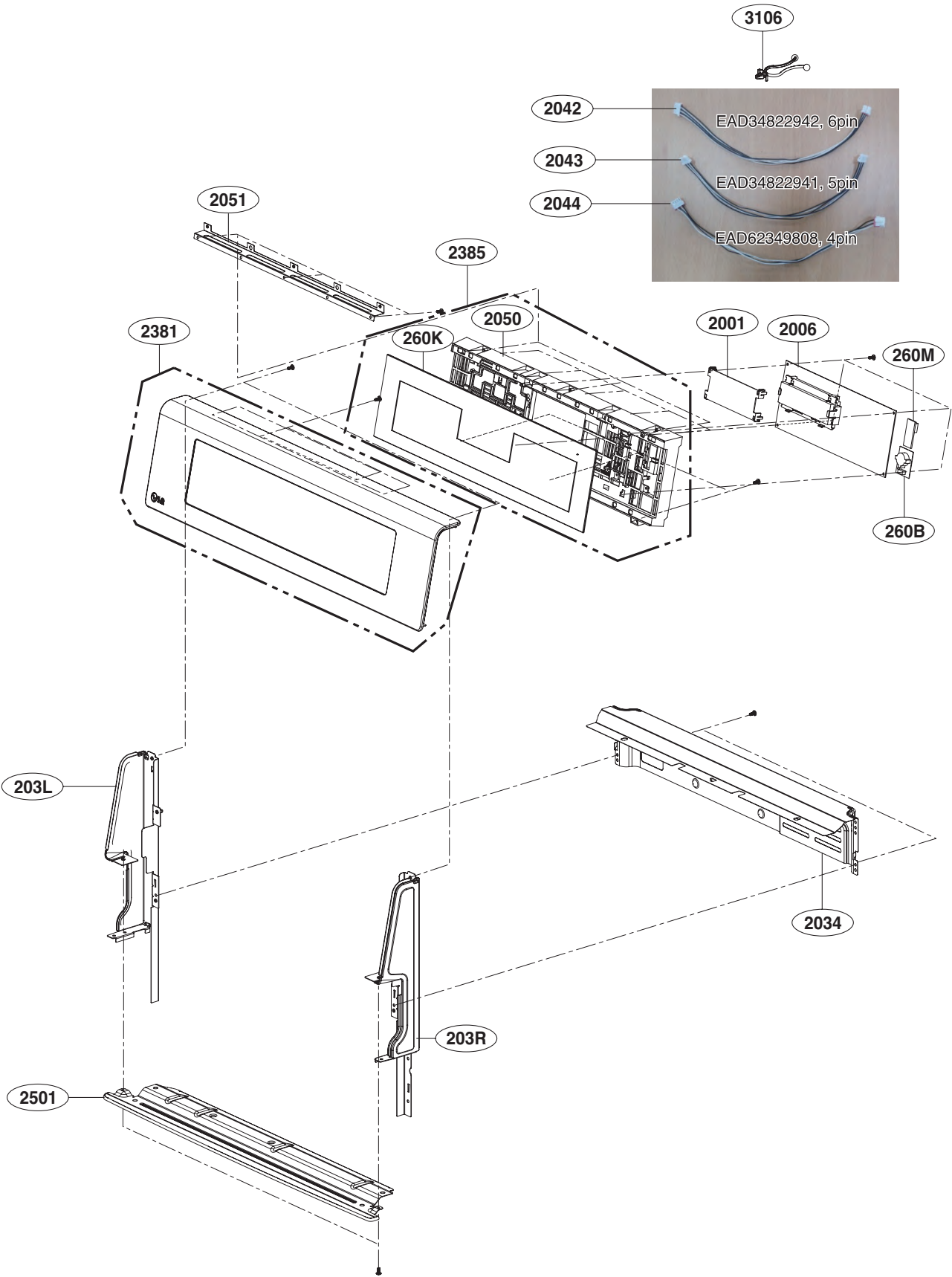
Customer Model	Product Code	SVC Model
LRG4115ST	FG4763LS.ASTELGA	LRG4115ST /00



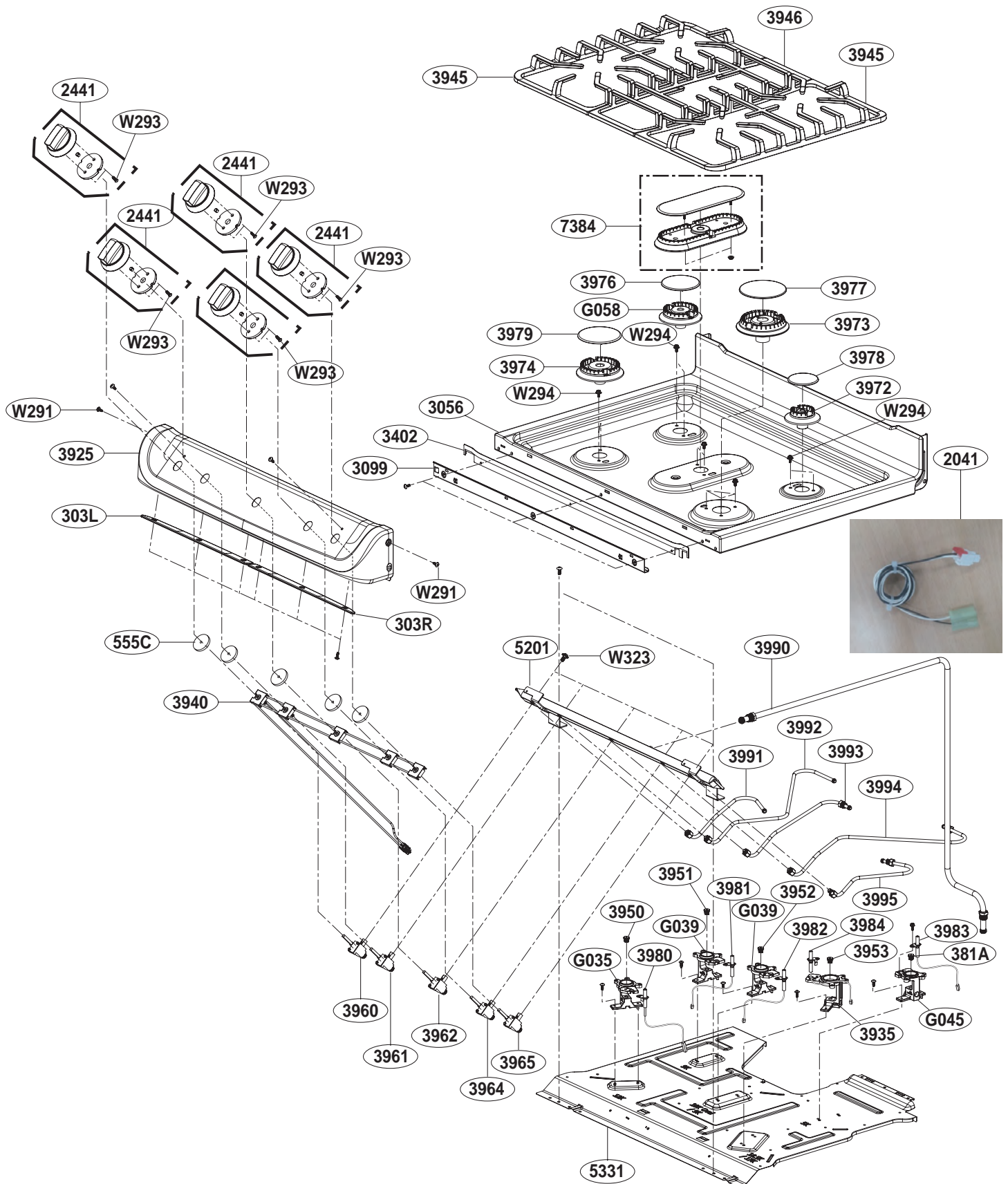
DOOR PARTS



CONTROLLER PARTS



COOKTOP PARTS



DRAWER PARTS

