



Internal Use Only

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30" Freestanding Gas Double Oven Range **SERVICE MANUAL**

**MODEL: LDG4315ST
LDG4313ST**

CAUTION

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

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FORWARD

This LG Service Manual, “ 30” Freestanding Self-Cleaning Gas double 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.

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GENERAL

IMPORTANT SAFETY INSTRUCTIONS

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



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



WARNING

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



CAUTION

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



WARNING

- **DO NOT step or sit on the door and install the Anti-Tip Bracket packed with range.**
 - The range could be tipped and injury might result from spilled hot liquid, food, or the range itself.
 - If the range is pulled away from the wall for cleaning, service, or any other reason, ensure that the Anti-Tip Device is properly reengaged when the range is pushed back against the wall.
- **DISCONNECT power supply cord from the outlet before servicing.**
- **Replace all panels and parts before operating.**
- **RECONNECT all grounding devices.**
 - 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 reverse of control panel. Flip up to read nameplate from front of range.

**Model & Serial
Number Location**



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



GENERAL

SPECIFICATIONS

Model Number		LDG4315ST / LDG4313ST
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. Lower / Upper 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
	CRT	10k / 10k
	LF	12k / 10k
	RF	18.5k / 12.5k
Oven	Capacity(cu.ft)	2.6cu.ft(Upper)/ 4.3cu.ft(Lower)
	Broil (NAT/ LP)[BTU/hr]	14.5k / 12.5k
	Upper Bake(BTU/hr)	14.5k / 12.5k
	Lower Bake (BTU/hr)	14k / 12k
	Convection system	No(Upper) / Yes(Lower)
	# of Racks	LDG4315ST : 1 (Standard) / 1 (offset) / 1 (Gliding) LDG4313ST : 2 (Standard) / 1 (offset)
	Interior oven light	auto / manual
	Proof	Yes
	Cook & warm	Yes
	Favorites	No
	Door lock out	Yes
	Broiler pan	No
Dimensions	Upper Oven Interior(W x H x D)	24 ¹³ / ₁₆ x 9 ¹ / ₄ x 20
	Lower Oven Interior(W x H x D)	24 ¹³ / ₁₆ x 14 ¹ / ₄ x 20
	Exterior - Width	29 ⁷ / ₈
	Exterior - Height	36, 47 ⁵ / ₁₆
	Exterior - Depth	26 ⁹ / ₁₆ , 28 ¹⁵ / ₁₆
	Net weight: lbs (kg)	200 lbs (90.5kg)
Power	Rating	120V 8.3A

USING YOUR RANGE

GENERAL INFORMATION

Rating Label

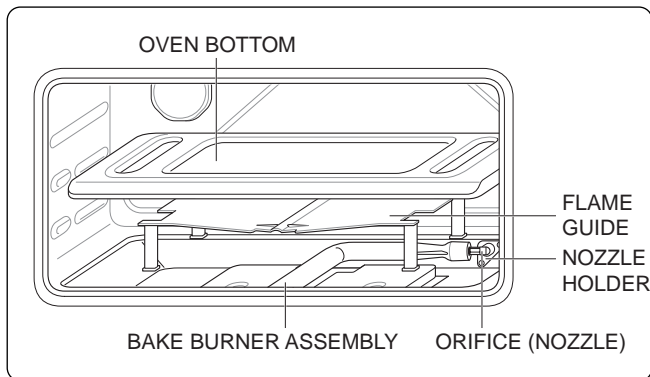
Model numbers are recorded on the rating label. Rating label is located on the Back side of Controller. Before ordering parts, write down the correct model and serial number from rating label. This avoids incorrect shipments and delays. Please refer to parts reference material when ordering replacement parts.

Functional Operation

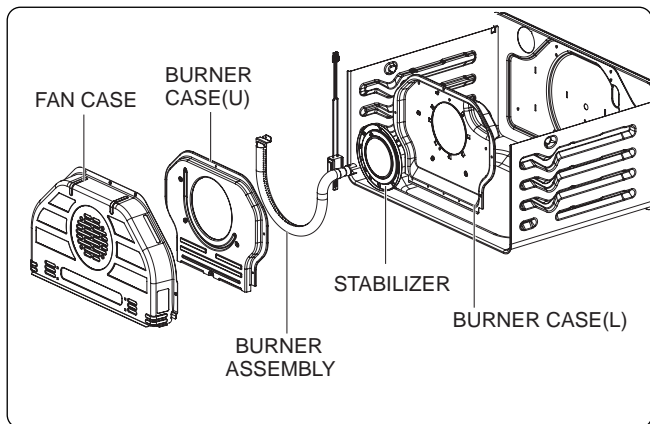
Bake Mode (For both the Upper & Lower oven)

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

Upper Oven



Lower Oven



Convection Bake / Roast Mode(For the Lower oven only)

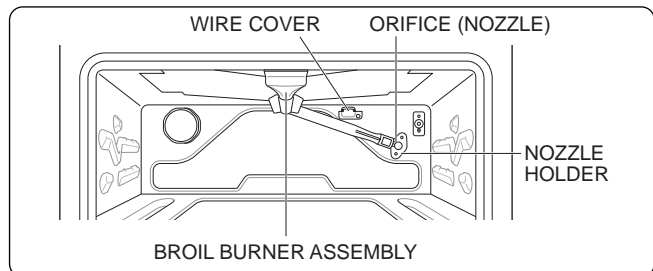
Convection bake should be used for cooking casseroles and roasting meats. Oven should be preheated for best results when using convection bake. The convection cooking modes automatically reduce the oven temperature by 25 °F (14 °C). The display shows the changed temperature.

- 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(For the Upper oven only)

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.

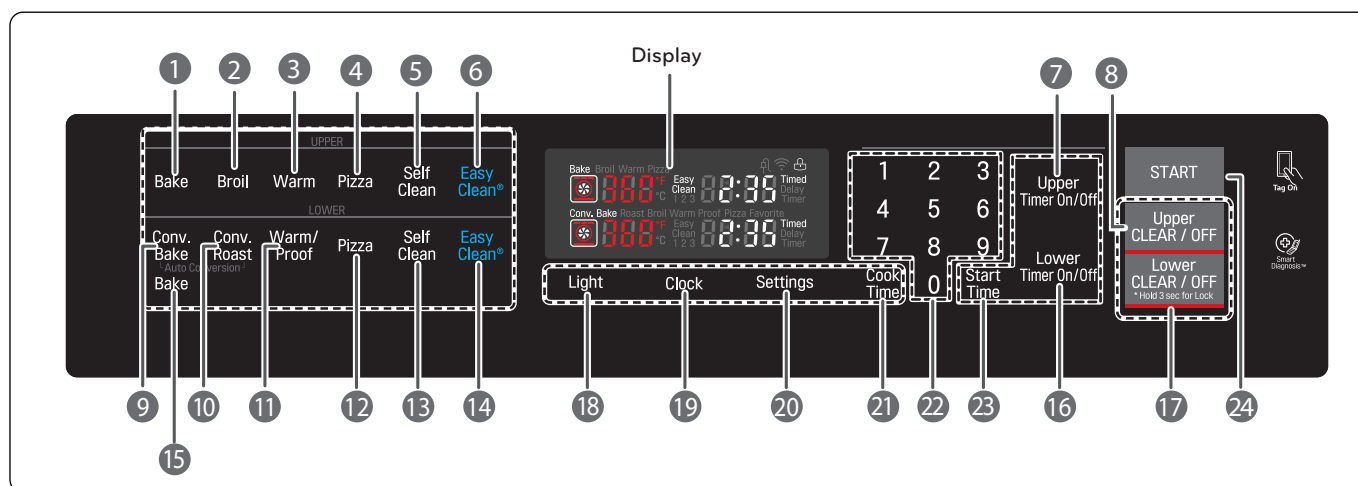


Cooking Guide

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



Upper oven

1. **BAKE:** Use to select the Bake function of the upper oven.
2. **BROIL:** Use to select the Speed Broil function of the upper oven.
3. **WARM:** Use to select the Warm function of the upper oven.
4. **PIZZA:** Use to select the Pizza function of the upper oven.
5. **UPPER SELF CLEAN:** Use to select the Self Clean of the upper oven.
6. **UPPER EASY CLEAN:** Use to select the Easy Clean of the upper oven.
7. **UPPER TIMER ON/OFF:** Use to set or cancel the timer of the upper oven.
8. **UPPER CLEAR OFF:** Use to stop cooking, cancel settings of the upper oven.

Lower oven

9. **CONV. BAKE:** Use to select the Conv. Bake function of the lower oven.
10. **CONV. ROAST:** Use to select the Conv. Roast function of the lower oven.
11. **WARM/PROOF:** Use to select the Warm/Proof function of the lower oven.
12. **PIZZA:** Use to select the Pizza function of the lower oven.

13. **LOWER SELF CLEAN:** Use to select the Self Clean of the lower oven.
14. **LOWER EASY CLEAN:** Use to select the Easy Clean of the lower oven
15. **BAKE:** Use to select the Bake function of the lower oven.
16. **LOWER TIMER ON/OFF:** Use to set or cancel the timer of the lower oven.
17. **LOWER CLEAR OFF:** Use to stop cooking, cancel settings of the lower oven.
To activate LOCKOUT press and hold for 3 seconds.

Common function

18. **LIGHT:** Use to turn the Oven lights of the oven on and off.
19. **CLOCK:** Use to set the time of day.
20. **SETTINGS:** Use to change the oven settings
21. **COOK TIME:** Use to set the length of the cook time. (Bake, Conv. Conv. Roast only)
22. **NUMER PADS:** Use to enter a temperature and all times.
23. **START TIME:** Use to set delay time. (Bake, Conv. Conv. Roast, Self clean only)
24. **START:** Use to START all functions in the oven.

USING YOUR RANGE

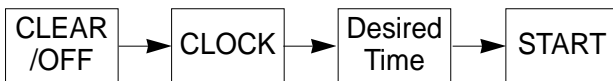
1. TO TURN ON THE SURFACE BURNER

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

NOTE:

- When turning a burner to LITE, all the burners spark. Do not attempt to disassemble or clean around any burner while another burner is on. An electric shock may result, which could cause you to knock over hot cookware.
- The medium (left rear) and the large (left front) burners are the primary burners for most cooking. These general-purpose burners can be turned down from "HI" to "LO" suit a wide range of cooking needs.
- The extra large burner (right front) is the maximum output burner. Like the other four burners, it can be turned down from "HI" to "LO" for a wide range of cooking applications.
- 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.

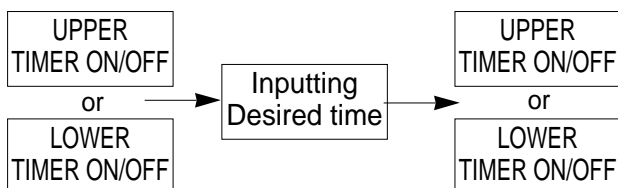
4. TO TURN ON/OFF THE OVEN LIGHT

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

(For Upper & Lower oven)



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 (LowerOven).

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

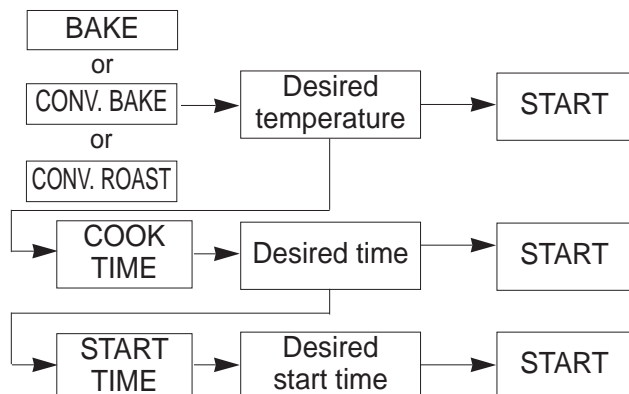
5) Adjusting the Beeper Volume

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 THE UPPER & LOWER BAKE, LOWER CONV. BAKE & ROAST)



8. BROIL(For the Upper oven only)



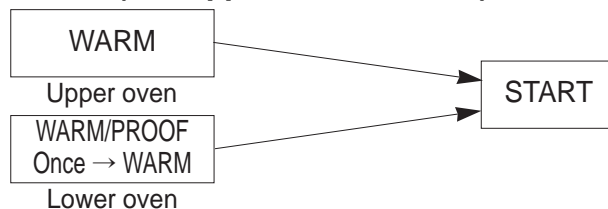
9. CONVECTION BAKE (For the Lower oven only)



10. CONVECTION ROAST (For the Lower oven only)



11. WARM(For Upper & Lower oven)



12. PROOF(For the Lower oven only)



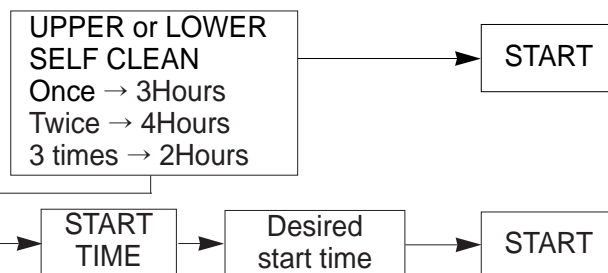
13. LOCKOUT

(For Upper & Lower 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

(For Upper & Lower oven)



15. EASY CLEAN

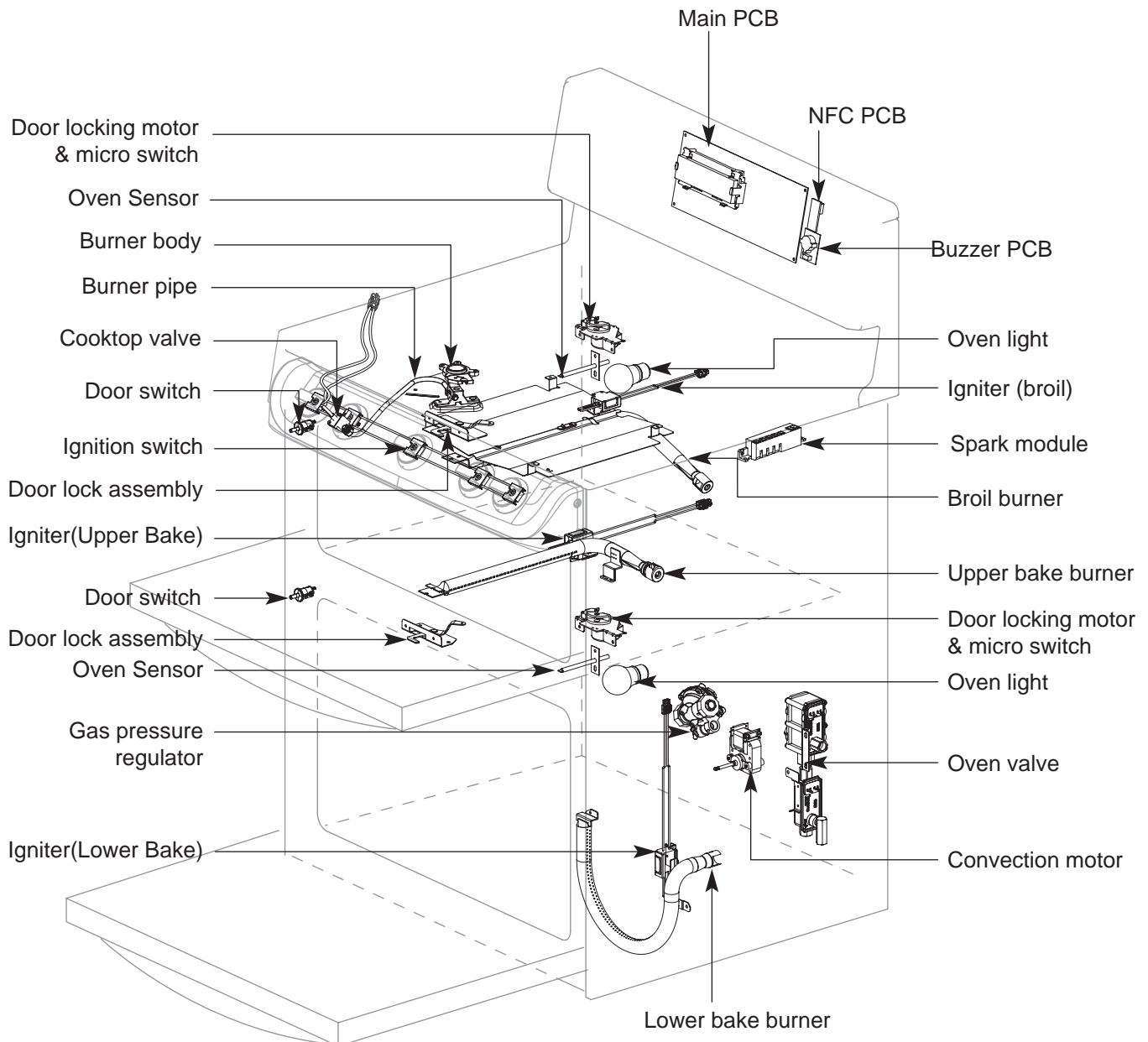
(For Upper & Lower oven)



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

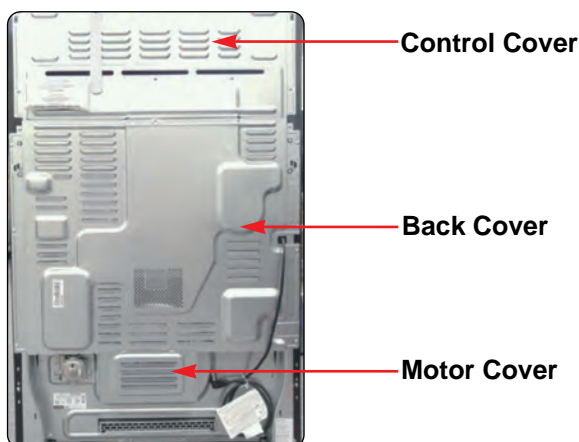
WARNING

- **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.

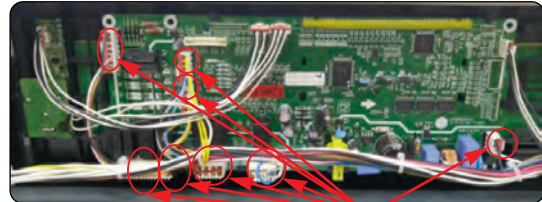
CAUTION

- **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 1 screw from the motor cover and remove motor cover.
5. Remove the 11 screws from the rear back cover and remove rear back cover.



7. Separate PCB assembly after unplugging the connectors.

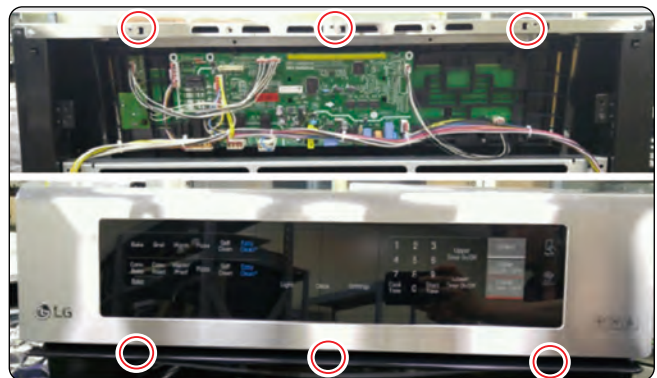


8 Connectors of PCB

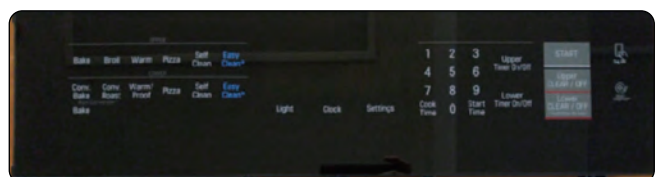
8. Remove the 2 screws of the eyebrow from the controller sub assembly and remove the eyebrow.



9. Remove 6 Screws of controller sub assembly.



10. Pull the controller sub assembly out.
11. 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 3~5 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 6-2~6-4 for composition of control board

NFC PCB

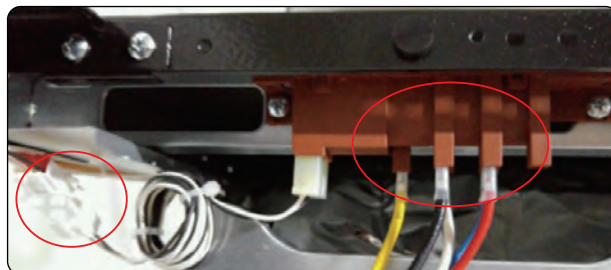
Main PCB



Buzzer PCB

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

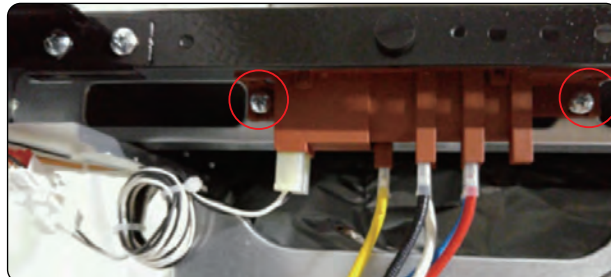
a) Disconnect 6 connectors.



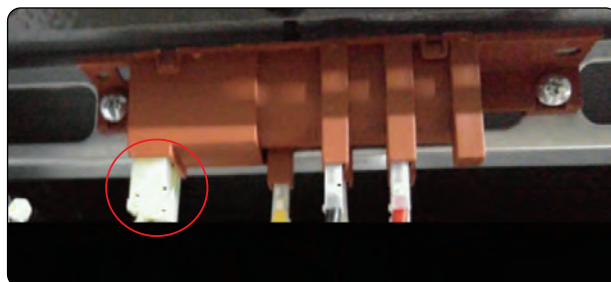
b) Remove the right side of cook top barrier by removing 2 screws.



c) Remove the 2 screws.



d) Remove the 2 housings by your hands.



COMPONENT ACCESS

SERVICE INSTRUCTIONS (SIGNAL WIRE)

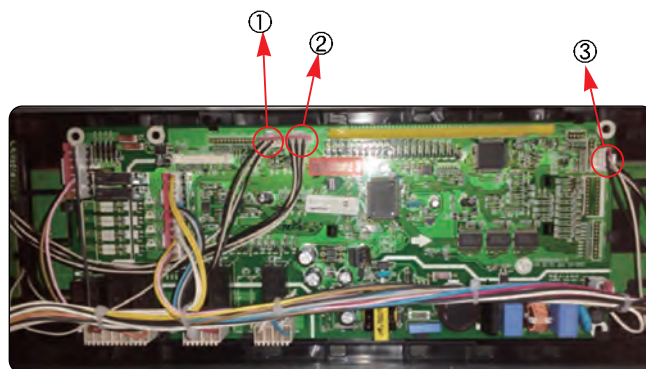
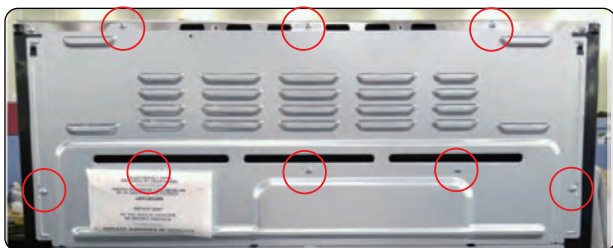
WARNING

- **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

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

1. Turn off the electrical supply and gas supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove the 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

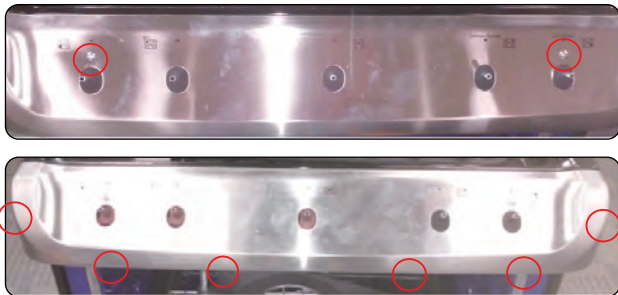
COMPONENT ACCESS

REMOVING THE COOKTOP PLATE

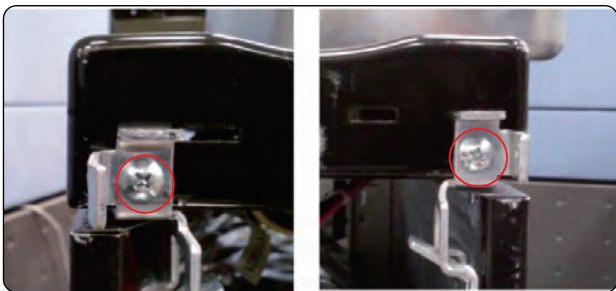
WARNING

- **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

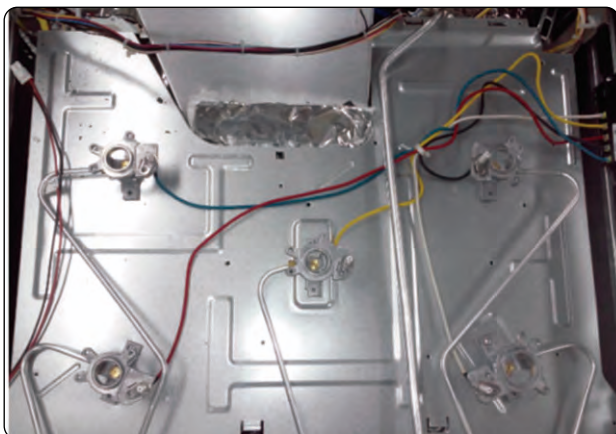
- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electric shock.

CAUTION

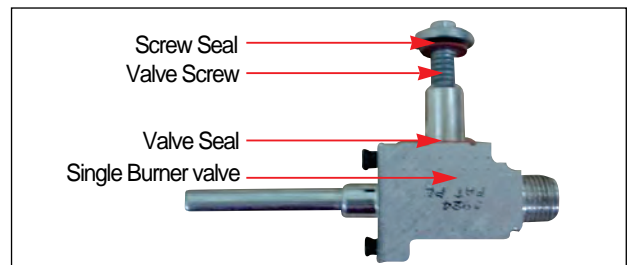
- The 2 lock tabs on each igniter switch are fragile. Tab breakage can occur if excessive release pressure is applied.
- Check that the gas seal gasket on the screw and the gas valve remain in place before installing the new gas valve.

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

1. Turn off the electric 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).

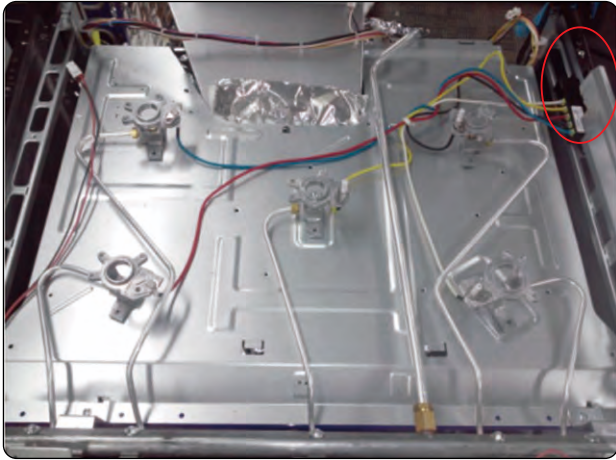


4. To remove the valve:
 - a) Remove the fitting that you need to remove.
 - b) Remove the ignition switch with rubber packing by prying on the 2 release tabs and slide the switch off the valve stem.
 - c) Remove the valve screw and remove the valve.

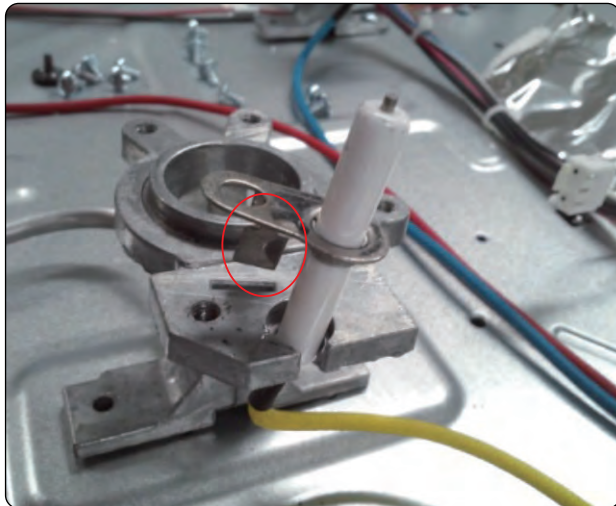


COMPONENT ACCESS

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 & UPPER DOOR SWITCH (For the Upper oven only)

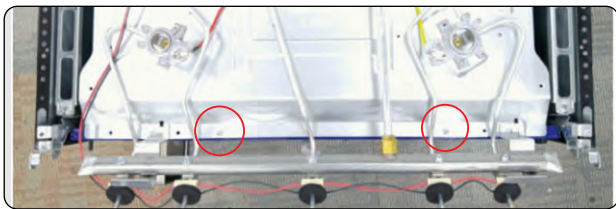
WARNING

- **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.

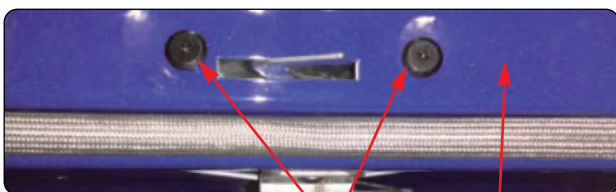
CAUTION

- **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 Upper door.
(See page 3-19 for the procedure)
3. Remove the manifold, cooktop plate(see page 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 front plate and remove the latch.



2 Screws Front plate

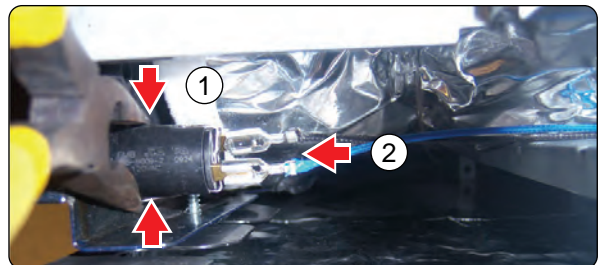
- b) Remove the door latch from the Upper cavity and unhook the actuating rod.



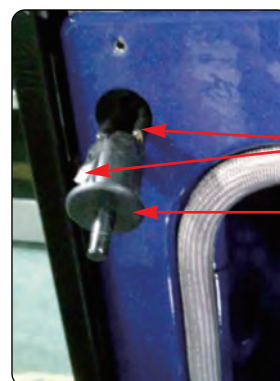
Unhook
Actuating
Rod

6. To remove the door switch:

- a) Remove the door switch from the range.
To do this, squeeze tabs and use a long nose plier or a snapping plier, and tap it out of the hole with a hammer.



- b) Disconnect the wires from the terminals.



Wires
Door
Switch

COMPONENT ACCESS

REMOVING THE DOOR LATCH & LOWER DOOR SWITCH (For the Lower oven only)

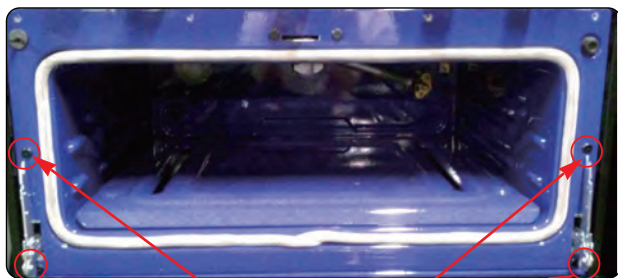
⚠ WARNING

- **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

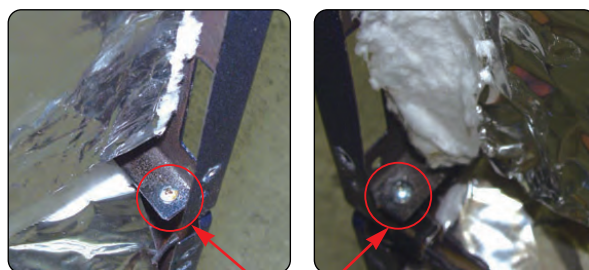
- **Use caution** when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the Upper & Lower door.
(See pages 3-19, 3-20 for the procedure)
3. Remove the manifold, cooktop and the case assembly (see page 3-5 for the procedure)
4. Remove the Side panels.
(See page 3-26 for the procedure.)
5. To remove the Lower door latch.
 - a) Remove 4 screws to detach 2 hinge supporters of Upper oven



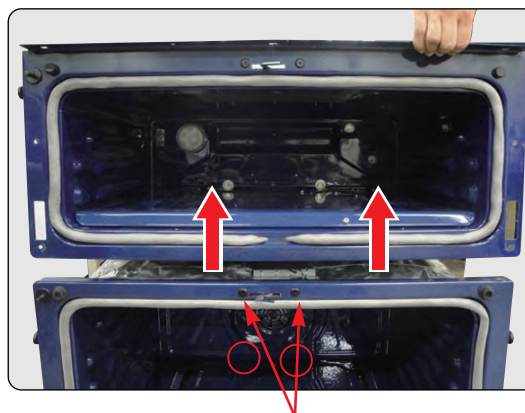
4 screws

- b) Remove 2 screws to widen the space between Upper & Lower cavities. After that remove the hinge bracket.



2 screws

- c) Tilt the Upper cavity cautiously, make sure that the controller does not fall down the floor.
- d) Remove 2 screws to replace the lower latch.



2 screws

- f) Pull out the Lower latch from the bar.

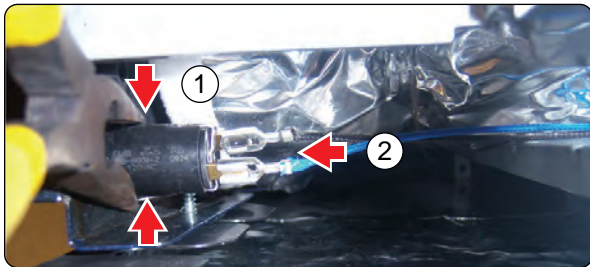


Unhook
Actuating
Rod

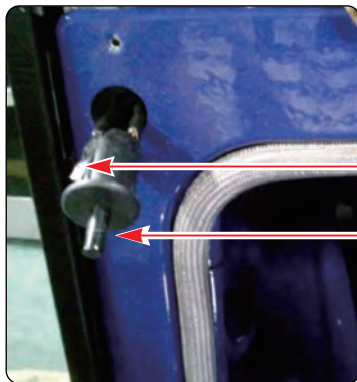
COMPONENT ACCESS

6. To remove the door switch:

- a) Remove the door switch from the range. To do this, squeeze tabs and use a long nose plier or a snapping plier, and tap it out of the hole with a hammer.



- b) Disconnect the wires from the terminals.



Wires

Door
Switch

COMPONENT ACCESS

REMOVING THE BROIL BURNER ASSEMBLY (For the Upper oven only)

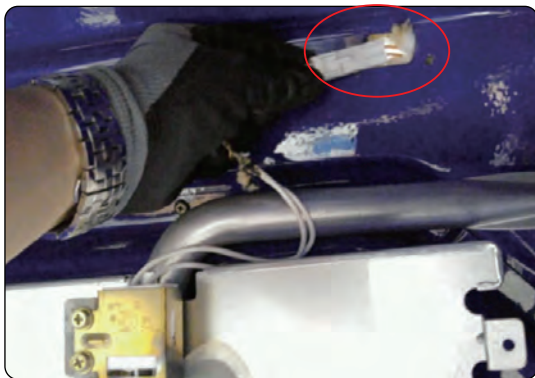
WARNING

- **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

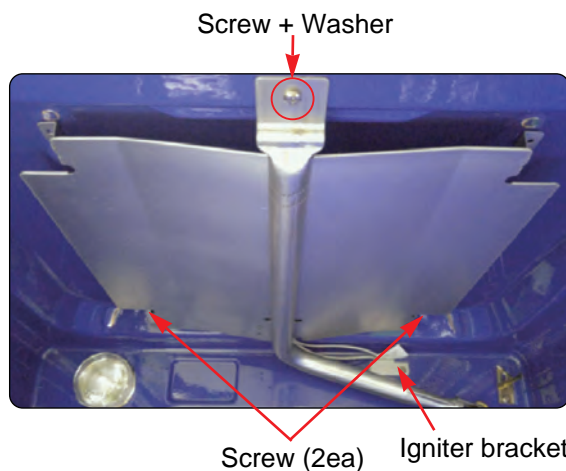
- **Use caution when handling sheet metal parts while servicing the range.**
 - Some parts may have sharp edges, which could result in injury.

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the upper oven door and remove the racks from inside the oven.
3. Remove the rear back cover, and motor cover : (see step 2,4,5 on page 3-2).
4. Disconnect the igniter plug.



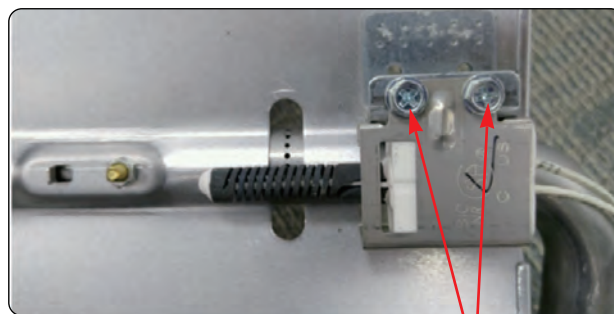
4 screws

5. 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 1 screw from the igniter bracket.
 - d) Remove the igniter connector in the cavity (To get the connector, pull the wire toward the cavity).
 - e) Remove the broil burner assembly.



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

6. To remove the igniter:
 - a) Perform step 1-5 on this page.
 - b) Remove the 2 screws and then remove the igniter.



Screw (2ea)

COMPONENT ACCESS

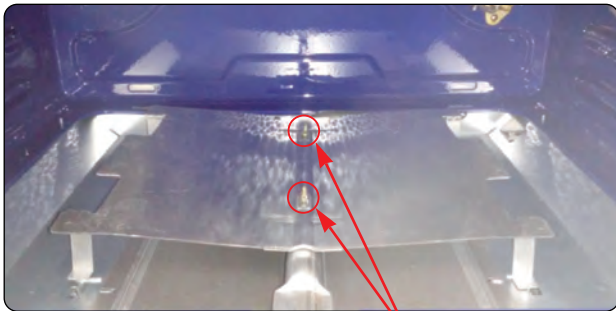
OVEN BOTTOM, THE FRAME GUIDE AND THE UPPER BAKE BURNER ASSEMBLY (For the Upper oven only)

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the upper oven door and racks from inside of the oven.
3. To remove the oven bottom:
 - Remove the 2 screws and then remove oven bottom.



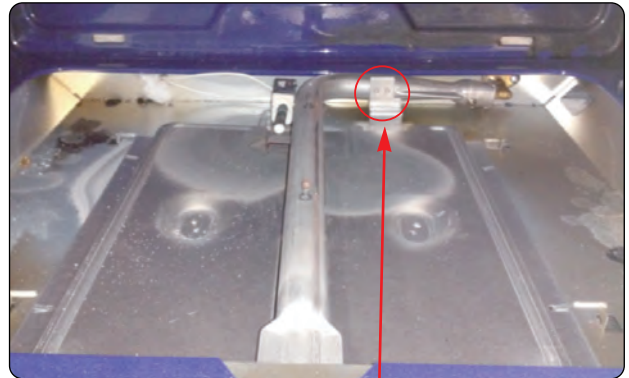
2 screws

4. To remove the flame guide:
 - Remove the 2 nuts and then remove flame guide.



2 nuts

5. To remove the bake burner assembly.
 - Remove the 1 screw and then remove the burner assembly.

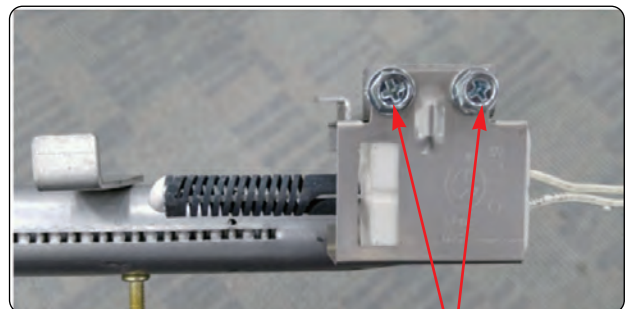


One screw

6. Remove the rear back cover, and motor cover see step 2,4,5 on page 3-2).
7. Disconnect the igniter plug.



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



Screw (2ea)

COMPONENT ACCESS

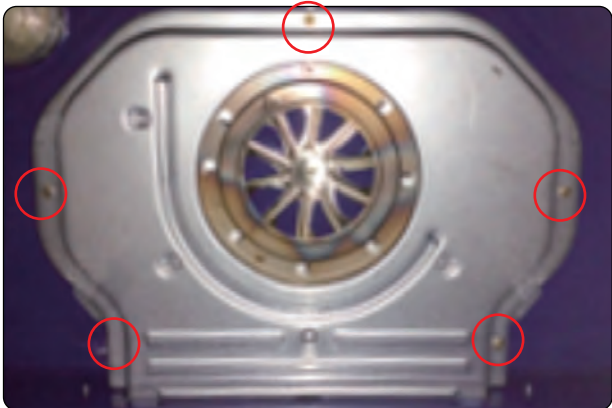
LOWER BAKE BURNER ASSEMBLY (For the Lower oven only)

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the lower door.(see page 3-20 for the procedure)
3. Remove the 4 screws and then remove fan cover.



<Fan cover >

4. Remove 5 screws of the burner cover U remove the burner cover U

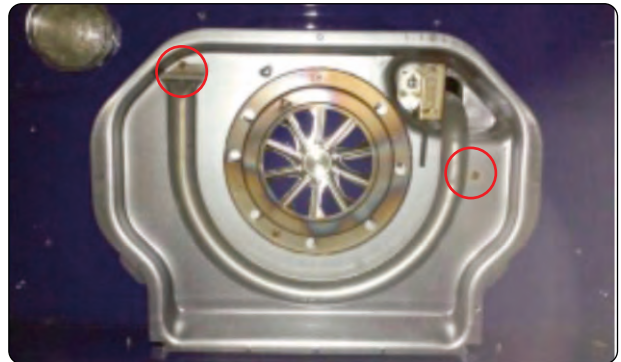


<burner cover U>

4. Remove the screw from nozzle holder of the back side.



5. Remove 2 screws of the bake burner from the burner cover L and then remove bake burner.



<burner cover L>

6. To remove the igniter:
 - a) Perform step 1-5 on this page.
 - b) Remove a screw and then remove the igniter.



COMPONENT ACCESS

REMOVING THE CONVECTION FAN BLADE AND FAN MOTOR (For the Lower oven only)

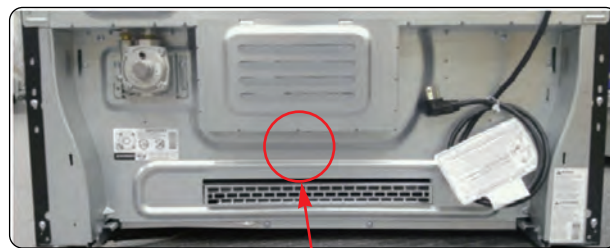
1. Remove the burner cover U.(See step 1~4 on page 3-13)
2. To remove the fan blade :
 - Remove the nut by screwing clockwise with 5/16 inch wrench. The fan blade can be replaced from inside oven.



CAUTION

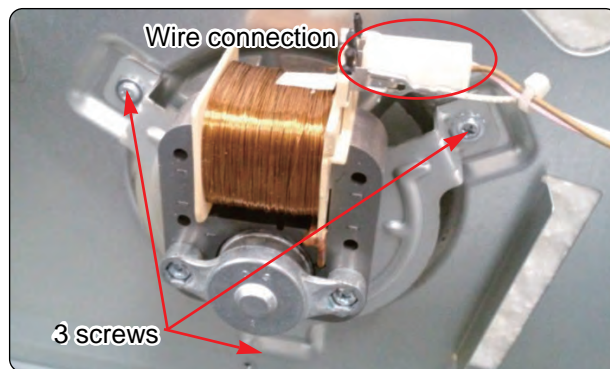
- **Be careful not to bend the fan blade**
 - Doing so can result in vibration, noise, and poor performance of convection when operating.

3. 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 screw from the motor cover and then remove motor cover.



screw

- c) Disconnect the wire connection and remove the 3 screws.



3 screws

COMPONENT ACCESS

REMOVING THE OVEN LIGHT & SOCKET ASSEMBLY (For both the Upper & 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 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.

Glass cover & Bulb

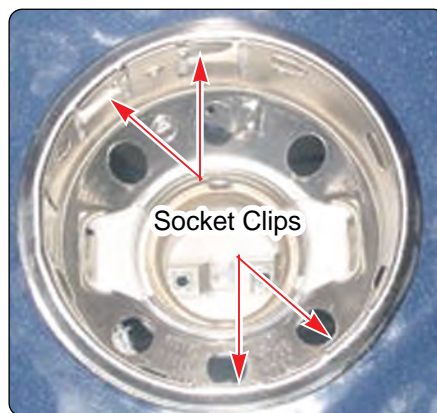


⚠ CAUTION

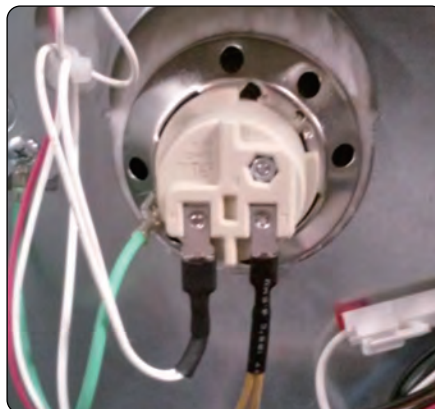
- Be careful not to scratch or chip the oven liner paint when you remove the oven light socket in the next step.

5. Use a screwdriver and bend the clips on the oven light socket away from the edges of the liner hole, and pull the socket out of the liner.

NOTE: If it is too difficult to remove the socket from the front of the oven, you will have to push the socket out from the back of the unit.



6. Disconnect the wires from the socket terminals.



<Viewed From Rear Panel>

COMPONENT ACCESS

REMOVING THE DOOR LOCK ASSEMBLY (For the Upper oven only)

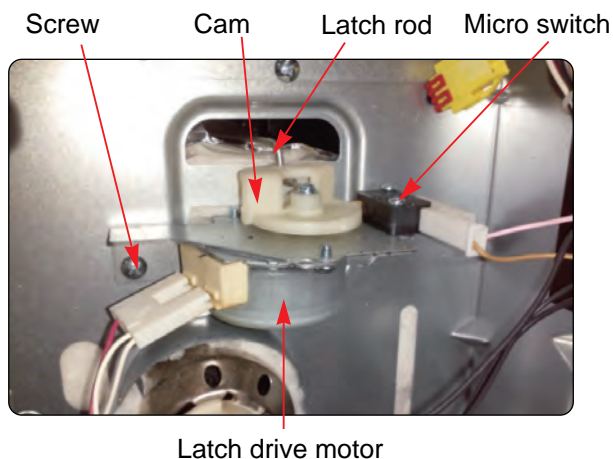
WARNING

- **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 rear back cover and motor cover (see step 4~5 on page 3-2)
4. Disconnect the wires from the latch motor and switch.
5. Remove the screw from the latch assembly.



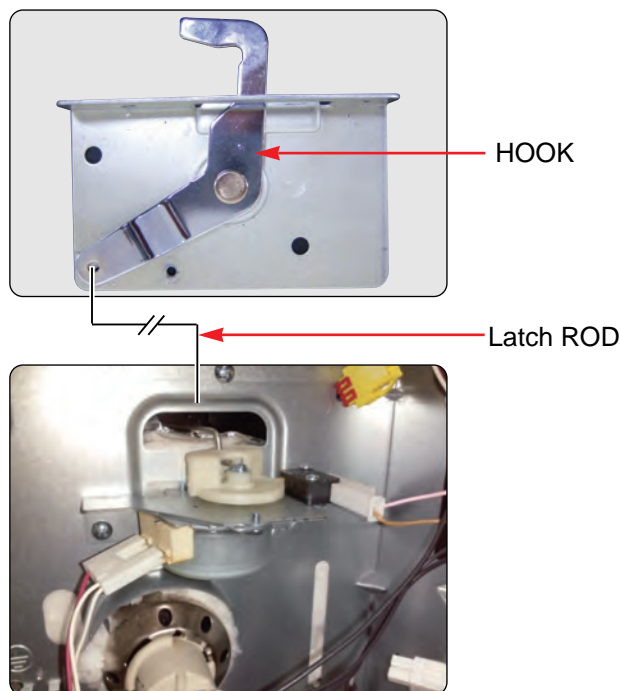
6. Unhook the Latch rod from the cam.

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 DOOR LOCK ASSEMBLY (For the Lower oven only)

WARNING

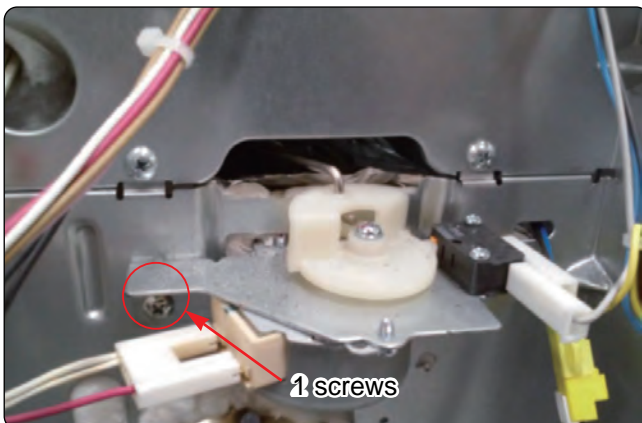
- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
- Failure to do so can result in severe personal injury, death or electric shock.

CAUTION

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

6. Unhook the Latch rod from the cam.

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 rear back cover and motor cover (see step 4~5 on page 3-2)
4. Disconnect the wires from the latch drive motor and switch.
5. Remove the 1 screw from the latch drive.



COMPONENT ACCESS

REMOVING THE OVEN TEMPERATURE SENSORS (For both Upper & 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 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 screw.
 - 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.



1 screw

COMPONENT ACCESS

REMOVING & REPLACING THE LIFT-OFF OVEN DOOR (For the Upper door)

CAUTION

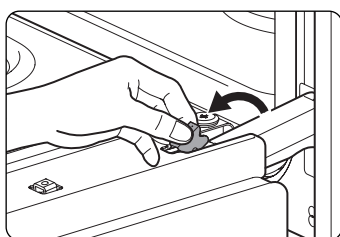
- Be careful when removing and lifting the door.
- DO NOT lift the door by the handle.
 - The door is very heavy.

UPPER OVEN

To remove the door:

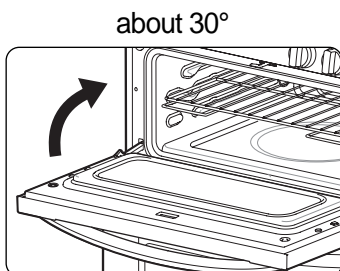
Step. 1

Fully open the door. Lift up the hinge locks toward the oven frame until they stop.



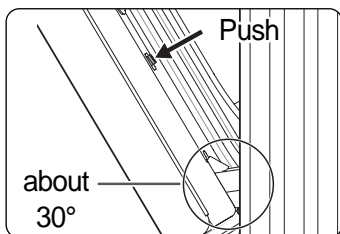
Step. 2

Close the door to approximately 30 degrees.



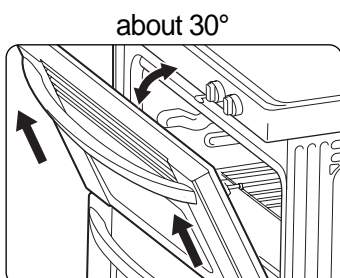
Step. 3

Press down the release buttons on each hinge on both sides of the door.



Step. 4

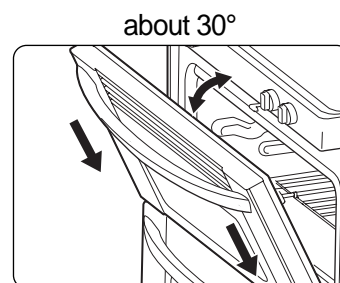
Lift up the door until it is clear off the hinge.



To replace the door:

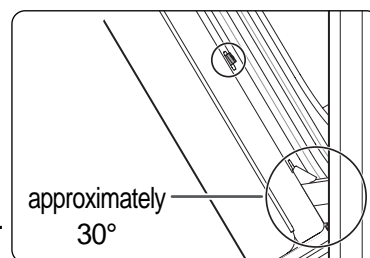
Step. 1

Be sure that the hinges are lined up at a 30 degree position.



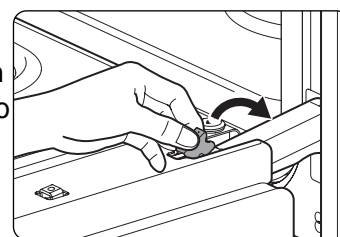
Step. 2

Slide the door back into the hinges until you hear a solid click and the release buttons have engaged.



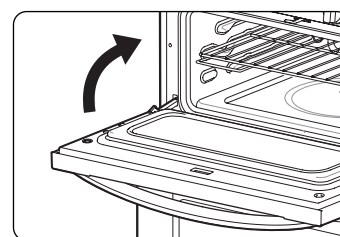
Step. 3

Fully open the door. Push the hinge locks down onto the hinge.



Step. 4

Close the oven door.



COMPONENT ACCESS

REMOVING & REPLACING THE LIFT-OFF OVEN DOOR (For the Lower door)

CAUTION

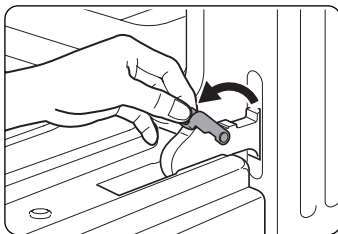
- Be careful when removing and lifting the door.
- **DO NOT** lift the door by the handle.
- Doing so can result in personal injury as the door is very heavy.

LOWER OVEN

To remove the door:

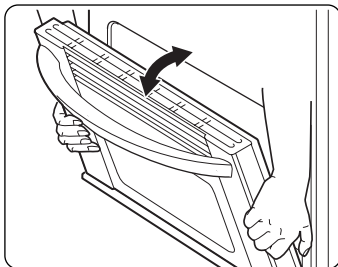
Step. 1

Indentation edge of slot
Bottom Hinge arm



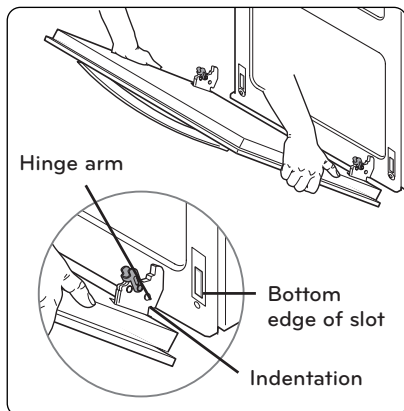
Step. 2

Close the door to the removal position (approximately five degrees).



Step. 3

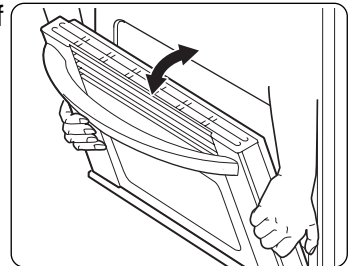
Lift the door up and out until the hinge arm is clear off of the slot. Put the door on the floor.



To replace the door:

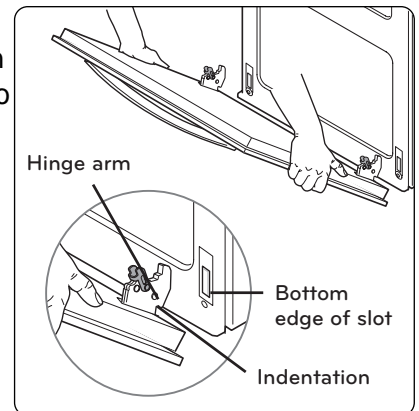
Step. 1

Firmly grasp both sides of the door at the top and close the door to the removal position (approximately five degrees).



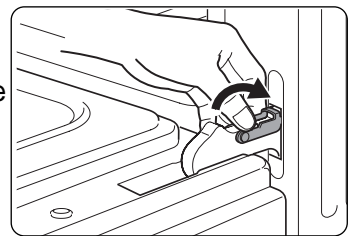
Step. 2

Seat the indentation of the hinge arm into the bottom edge of the hinge slot.



Step. 3

Open the door to its full extension. Push the hinge locks down against the front frame of the oven cavity to the locked position. Close the oven door.



COMPONENT ACCESS

REMOVING THE UPPER OVEN DOOR HANDLE & GLASS (For the Upper door)

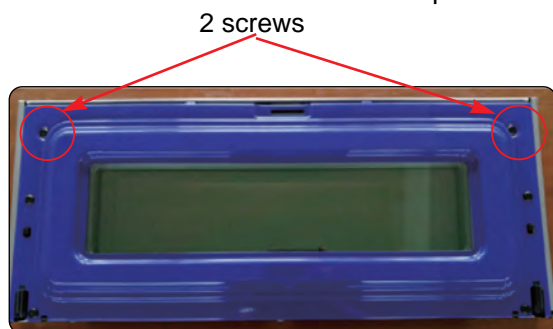
WARNING

- **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. Remove the oven door from the range (see page 3-19 for the procedure).
2. Place the upper oven door on a padded work surface with the front glass facing down.
3. Remove 2 screws from door frame top.

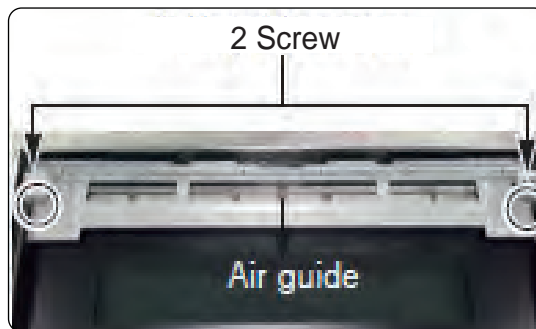


4. Remove 3 screws from door bottom.

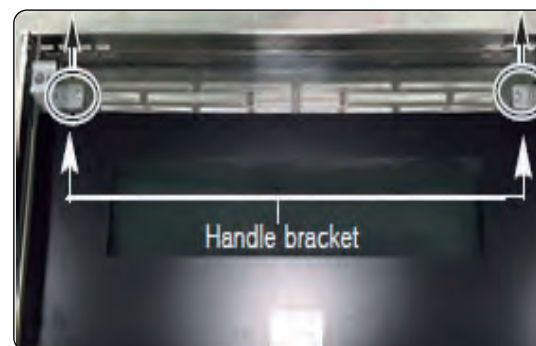
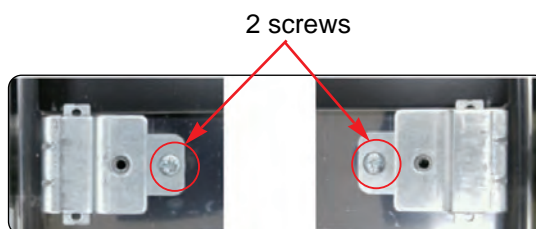


5. After disassembling the frame assembly set it aside.

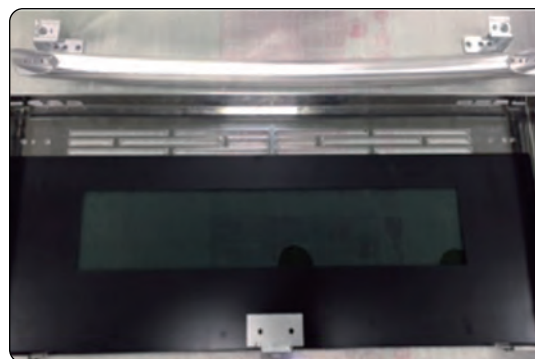
6. To remove the door handle
 - a) Remove 2 screws from air guide.



- b) Remove 2 screws from each handle bracket.

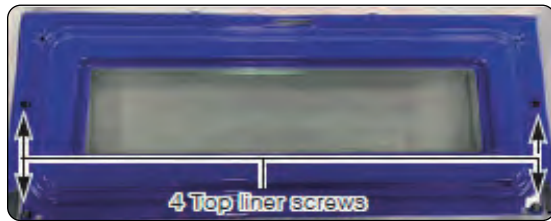


- c) Complete to remove the door handle.

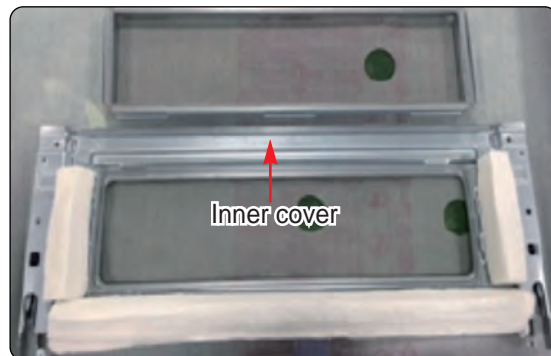


COMPONENT ACCESS

7. To remove a hinge receptacle assembly and glass
 - a) Remove the 4 top liner screws
(See step 3 on page 3-23)
 - b) Place the door liner assembly on a padded work surface with the hinge receptacles over the edge.
 - c) Lift the hinge receptacle out of the door liner slot.



- d) Lift the inner glass and bracket out of the inner cover.



COMPONENT ACCESS

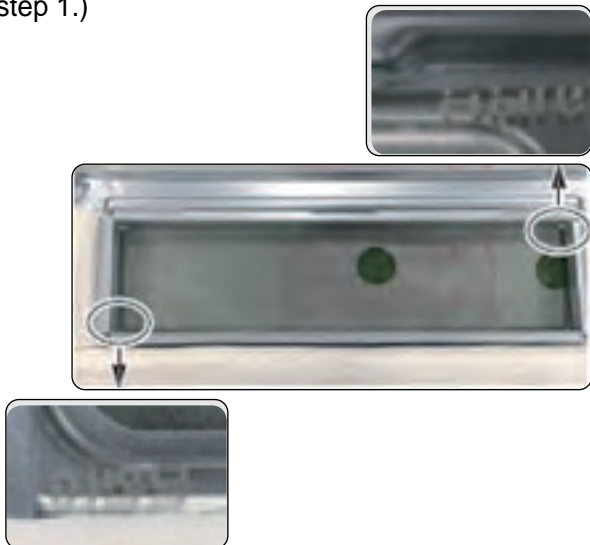
REASSEMBLING THE UPPER DOOR GLASS & HINGE RECEPTACLE (For the Upper Door)

RESSEMBLY METHOD OF INNER DOOR GLASS :

1. Insert one pane of glass in inner cover.
(Glass position : Surface printed with “단면LG” should be placed on bottom.)



2. Insert the other pane of glass and install the bracket on the glass.(Glass position same as step 1.)



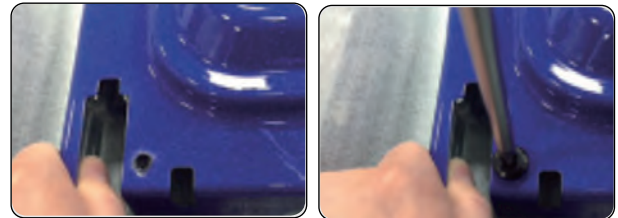
RESSEMBLY NOTE : When you reinstall the Insulation around the oven door glass, make sure that the insulation is not visible in the glass after the door is reassembled.

RESSEMBLY METHOD OF HINGE RECEPTACLE :

1. Cover the inner cover with the door frame.



2. Pull up the bottom of the hinge receptacle to align the hole with the hole in the frame, then insert and tighten the bottom screw.



3. Move the inner cover and pull the top of the hinge receptacle to align with the hole in the frame and insert the second screw in the hinge receptacle.



4. The opposite hinge receptacle is assembled using the same method.

COMPONENT ACCESS

REMOVING THE OVEN DOOR HANDLE & GLASS (For the Lower door)

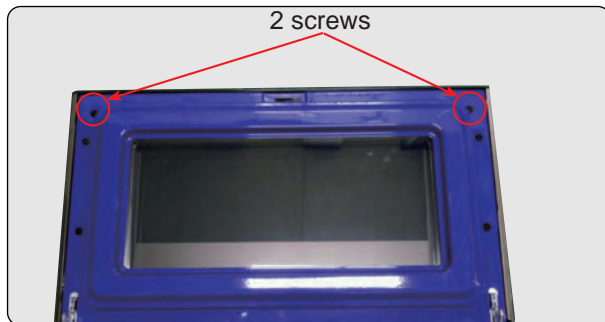
⚠ WARNING

- **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.

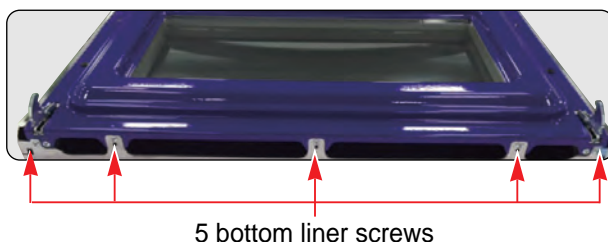
⚠ CAUTION

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

1. Remove the oven door from the range (see page 3-20 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.

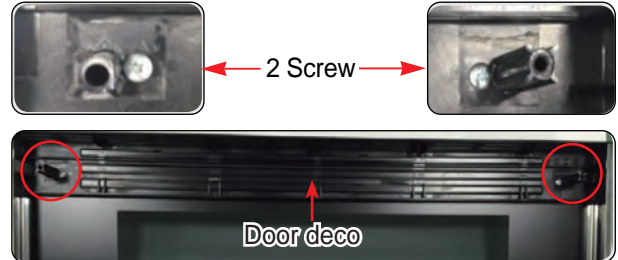


4. Remove the 5 bottom screws from the door liner.

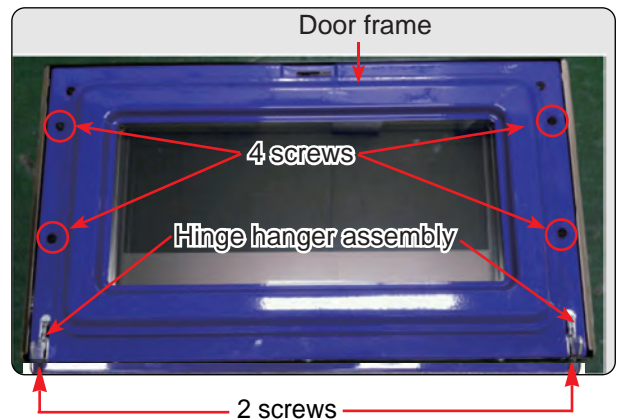


5. Lift the liner assembly off the front glass and set it aside.

6. To remove the door handle & door decor
 - a) Remove 2 screws from the door deco and lift the door handle off door decor and slide up the door decor.



7. To remove the hinge hanger assembly and glass
 - a) Place the door liner assembly on a padded work surface with door frame facing up. (same as Step 2)
 - b) Remove 2 screw from the door bottom.
 - c) Remove 4 screws from middle of door frame.



- d) Lift the door frame out of the inner cover.
- e) Remove the hinge hanger assembly and lift the inner glass and bracket out of the inner cover.

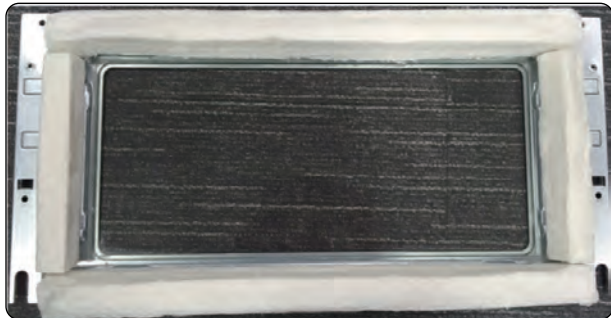


COMPONENT ACCESS

REASSEMBLING THE DOOR GLASS & HINGE HANGER (For the Lower Door)

RESSEMBLY METHOD OF INNER DOOR GLASS :

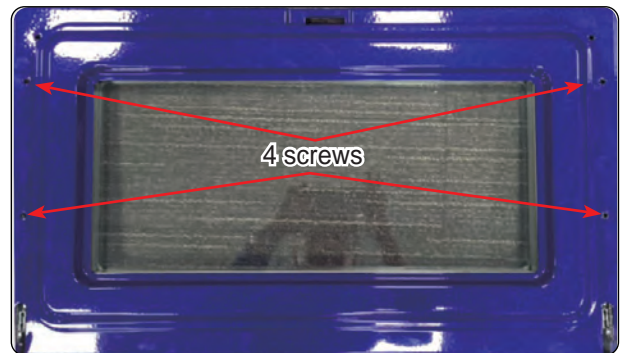
1. See steps 1-2 on page 3-23)



RESSEMBLY 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.

RESSEMBLY METHOD OF HINGE HANGER :

1. Cover the inner assembly into the door frame.
2. Fasten 4 screws in the middle of door frame.



3. Place the door liner assembly on a padded work surface with the hinge hangers over the edge.
4. Fasten 2 screws in the bottom of door frame.



COMPONENT ACCESS

REMOVING THE OVEN DOOR GASKET

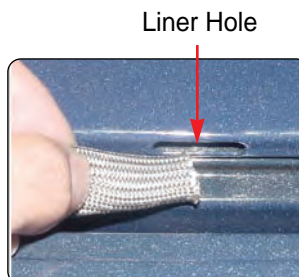
WARNING

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

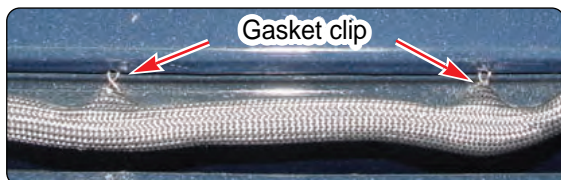
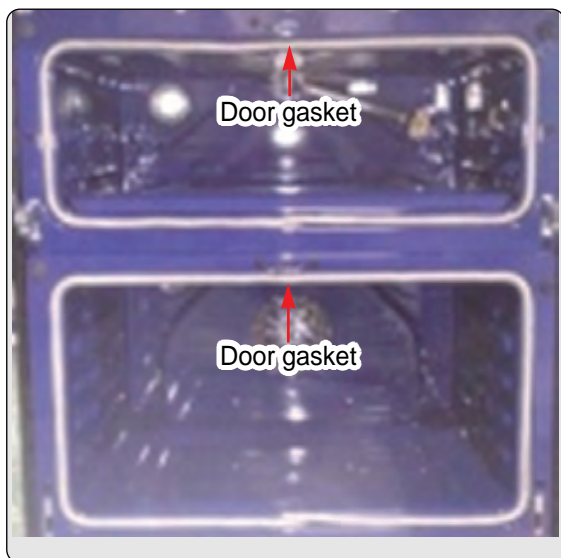
CAUTION

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

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



1. Open the oven door to its fully down position.
2. Pull the oven door gasket clips out of the cavity clip holes.



COMPONENT ACCESS

REMOVING A SIDE PANEL

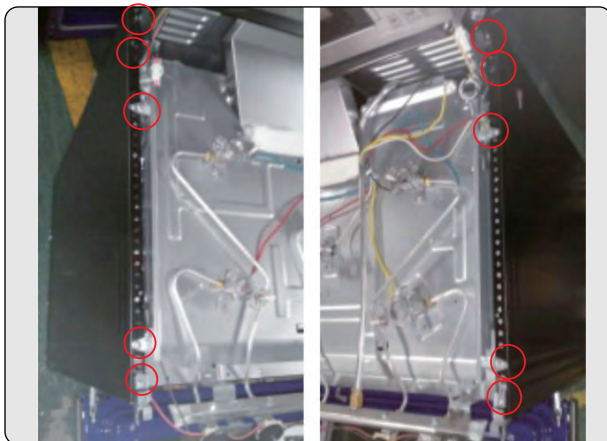
WARNING

- **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.

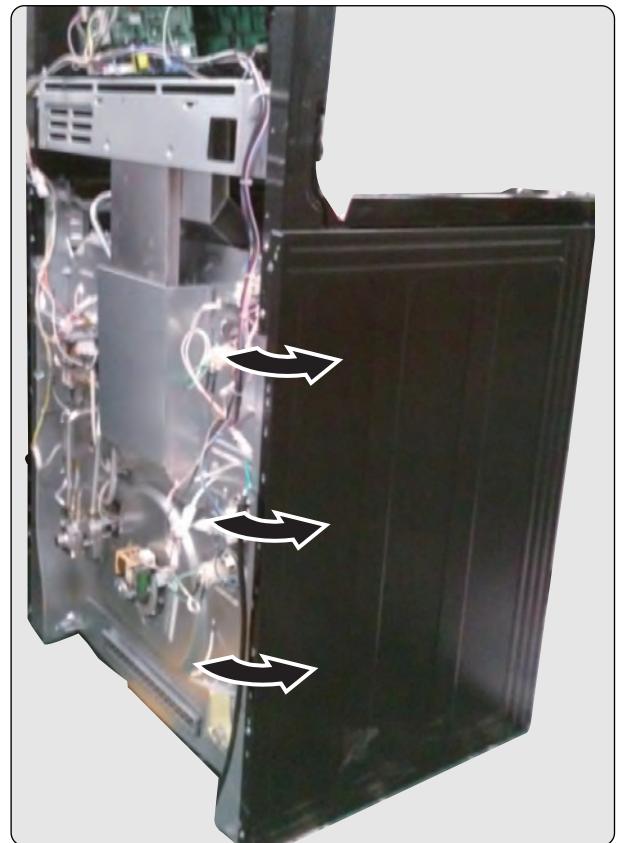
1. Turn off the electrical supply and gas supply going to the range.
2. Remove the upper & lower oven door from the range (see pages 3-19, 3-20 for the procedure).
3. Pull the range away from the wall so you can access the back of the unit.
4. Remove the rear back cover, and motor cover (see step 4~5 on page 3-2)
5. Remove the cooktop plate (see the page 3-5 for the procedure).
6. Remove 10 screws from the top rear of the side panel.



7. Remove 2 screws from 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

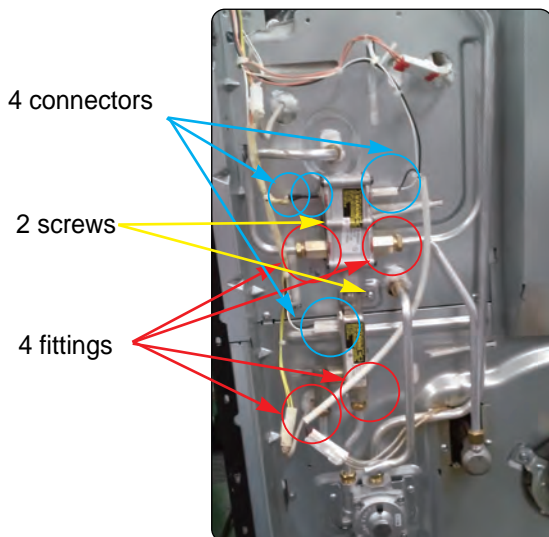
WARNING

- **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

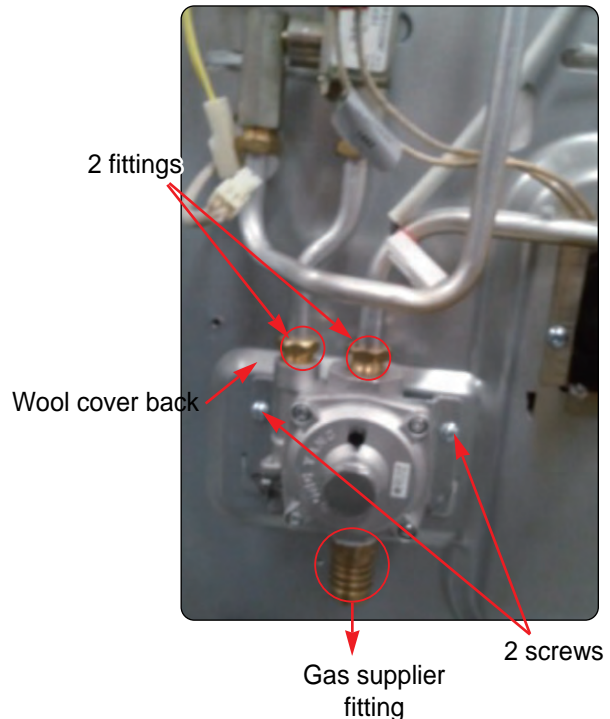
- **Use caution** when handling sheet metal parts while servicing the range.
- Some parts may have sharp edges, which could result in injury.

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. To remove the oven valve:
 - a) Remove the rear back cover and motor cover. (see step 4~5 on page 3-2)
 - b) Remove the 4 fittings.



- c) Remove 4 connectors.
- d) Remove 2 screws and then lift the oven valve.

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



- b) Remove 2 screws from the wool cover back.

COMPONENT TEST

Before testing any components, perform the following checks:

NOTE:

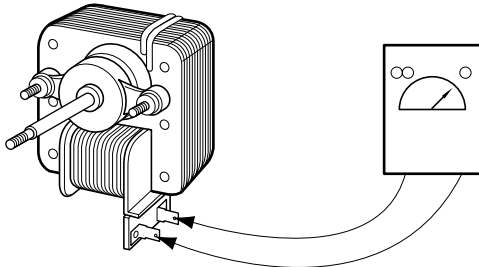
1. The most common cause for control failure is corrosion on connectors.
Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures
2. ALL units in the first few days of use should be checked for mis-wiring or loose connections

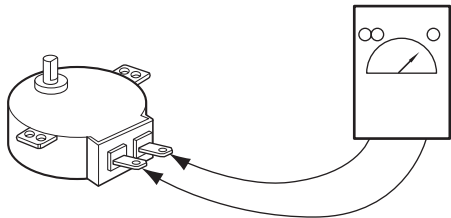
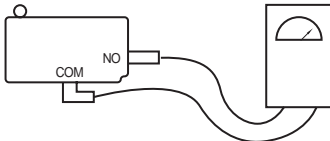


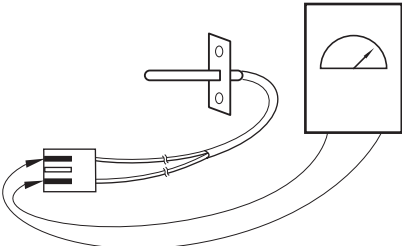
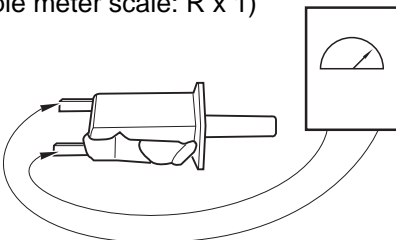


1. All/tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms per-volt DC, or greater.
2. Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
3. Resistance checks must be made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

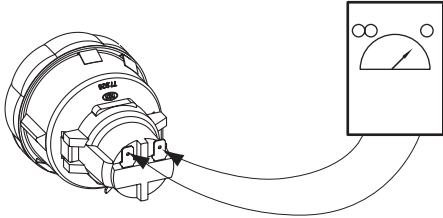
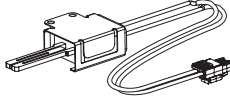
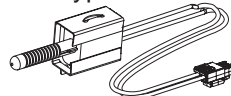
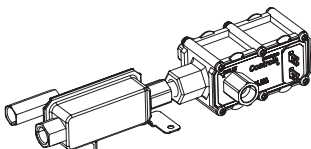
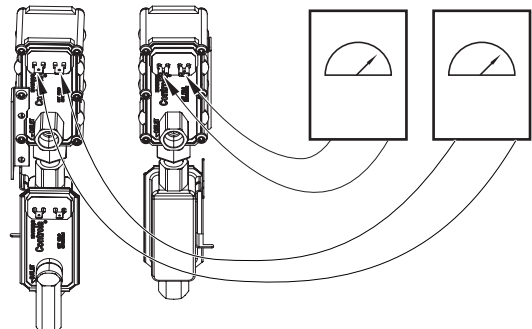
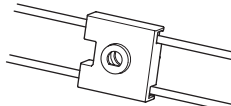
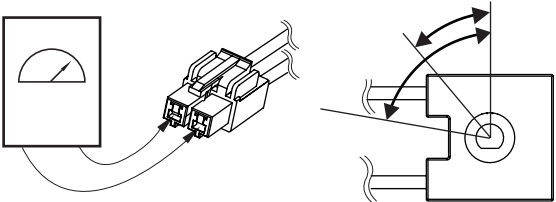


⚠ WARNING

- 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 electric 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 3-14 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 Abnormal: Infinite (open) below 5Ω (shorted)</p>

Components	Test procedures	Results	
Door locking Motor	<div>1. Refer to pages 3-16, 3-17 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 pages 3-16, 3-17 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>
	NOTE: After checking for the continuity of switch, make sure that they are connected correctly		
Oven Sensor	<div>1. Refer to page 3-18 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>NOTE: Ω Value was tested at room temperature (77F/25°C)</div>	
	NOTE: Oven sensor is so sensitive to temperature Do test after cooling down sufficiently		
Door switch	<div>1. Refer to pages 3-8, 3-10 for the servicing procedure</div> <div>2. Measure the resistance after cooling down (Multiple meter scale: R x 1)</div> <div></div>	Door open	Door closed
		<div></div> <div>Continuity</div>	<div></div> <div>Infinite</div>

Components	Test procedures	Results	
Oven lamp	1. Measure the resistance after cooling down (Multiple meter scale: R x1) 	Normal: Approximately $25.7 \Omega \pm 10\%$ If not replace	
Igniter Type-1 	1. Remove wire leads 2. Measure resistance.	Normal: $45 \Omega \sim 400 \Omega$ (Room Temperature Resistance) Replace if: Infinite(opened)	
Igniter Type-2 	1. Remove wire leads 2. Measure resistance.	Normal: $50 \Omega \sim 800 \Omega$ (Room Temperature Resistance) Replace if: Infinite(opened)	
Oven (safety) valve 	1. Refer to page 3-28 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 $40^\circ \sim 80^\circ$  Continuity	other  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
5/16" or 8mm open-end wrench
- Phillips head screwdriver
- Flat bladed screwdriver (blade width approximately 3/32" across)
- Nut drivers : 13/32" or 10mm
5/16" or 8mm

1. PREPARE RANGE FOR CONVERSION

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

⚠ CAUTION

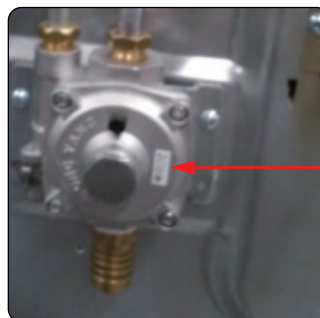
- If the gas supply to the range is disconnected for any reason see the installation instructions for proper connection and safety precautions.

2. CONVERT THE GAS PRESSURE REGULATOR

⚠ WARNING

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

The gas pressure regulator is located at the rear of the range.



gas pressure regulator

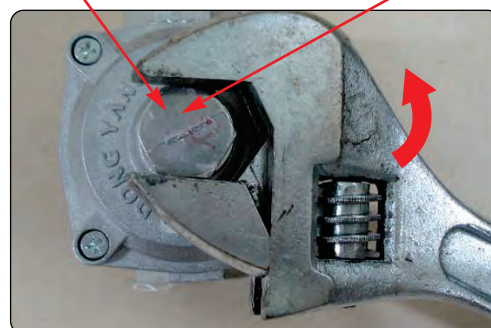
3. CONVERTING YOUR REGULATOR

- 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 180°.
- 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.

- 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.
- LP (Propane) Gas Orifice Specifications

BURNER OUTPUT RATINGS; BURNER		
LP(Propane) Gas. 10" W.C.P		
MODEL	LDG4315ST / LDG4313ST	
BURNER	BTU RATE	ORIFICE CODE
LF	10,000	Q
LR	9,100	M
RR	5,000	W
RF	12,500	G
CTR	10,000	Q
BROIL	12,500	F
BAKE(UPPER)	12,500	F
BAKE(LOWER)	12,000	G

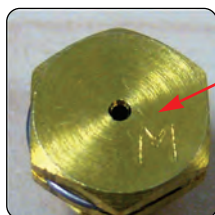
4. CONVERTING THE SURFACE BURNERS

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.

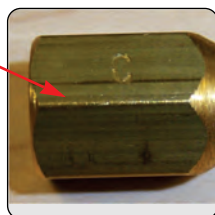


Conversion Kit



Top and Broil burner orifices

Denotes orifice code



Bake burner orifices



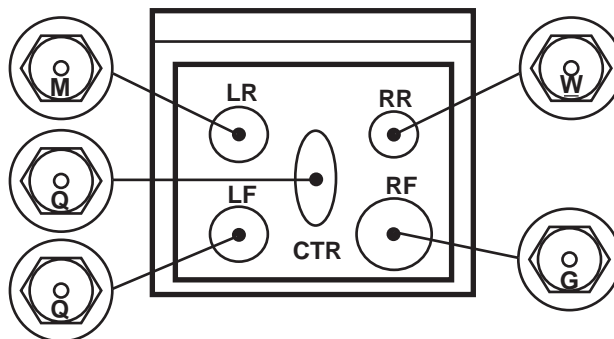
Top and Lower bake burner orifices



Upper broil and bake burner orifices

- LP (Propane) Gas Orifice Specifications

Orifice Locations for LP Gas [LDG4315ST / LDG4313ST]



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 LDG4315ST / LDG4313ST, 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>

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

NOTE: If an orifice spud is accidentally dropped, the cooktop plate can be raised (see the page 3-5)

5. CONVERT THE OVEN BURNER ORIFICES

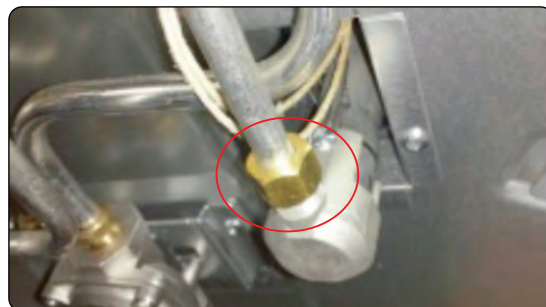
1) UPPER OVEN BAKE BURNER

- a) Remove oven door, oven bottom, frame guide, nozzle case and oven burner assembly (See the page 3-12).
- b) Remove the orifice spud from nozzle holder using a 13/32" or 10mm wrench.
- c) 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.



2) ACTIVE CONVERSION BURNER

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



CONVERSION TO LP GAS

⚠ WARNING

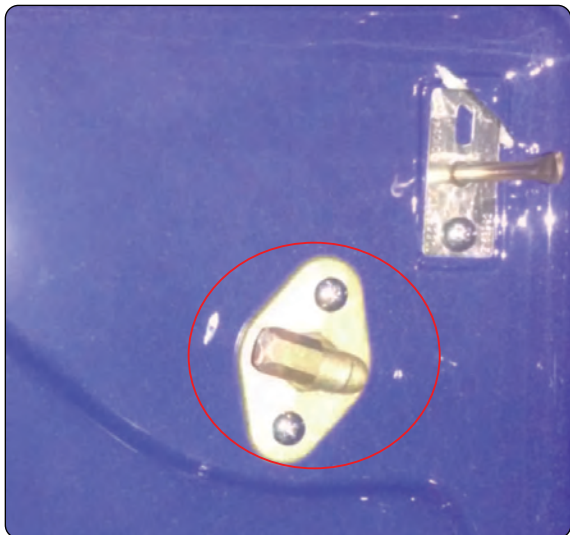
- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electric shock.

⚠ CAUTION

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

3) UPPER OVEN BROIL BURNER

- a) Remove oven door and Broil burner assembly. Then remove the wire cover using a phillips head screwdriver (See the page 3-11).
- b) Release the connector of the Igniter.
- c) Remove the orifice spud from nozzle holder using a 13/32" or 10mm wrench.
- d) 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 upper bake 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 upper bake burner's air shutter should also be fully open.

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

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

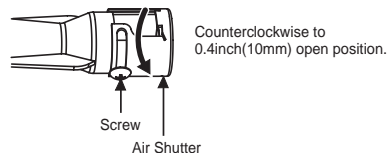
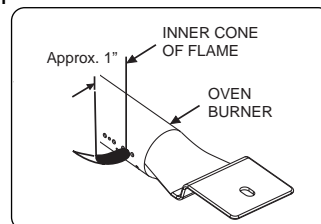


Fig.1

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.



CONVERSION TO LP GAS

⚠ WARNING

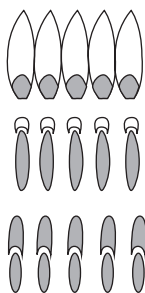
- Turn off the electrical supply and gas supply going to the range.
- Replace all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electric shock.

⚠ CAUTION

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

7. 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.

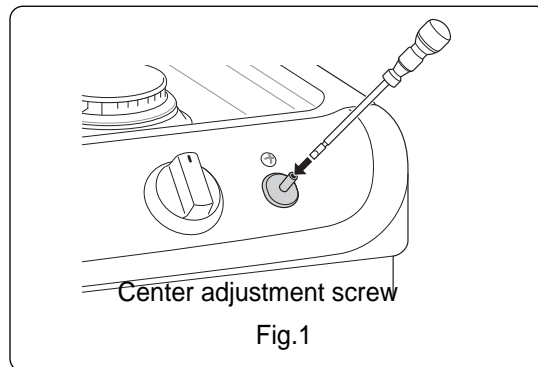
NOTE: B or C is normal burner flames, depending on the type of gas you use. With LP gas, some yellow tipping on the outer cones is normal.

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

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

- 4) Insert a small, flat bladed screwdriver into the valve shaft as shown in Fig. 1.

Turn the adjustment screw until the flame reaches the desired size.



- 5) Replace the knob.
- 6) Test the flame stability.

Test 1: Turn the knob from "HI" to "LO" quickly. If the flame goes out, increase the flame size and test again.

Test 2: With the burner on a "LO" 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.

9. 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

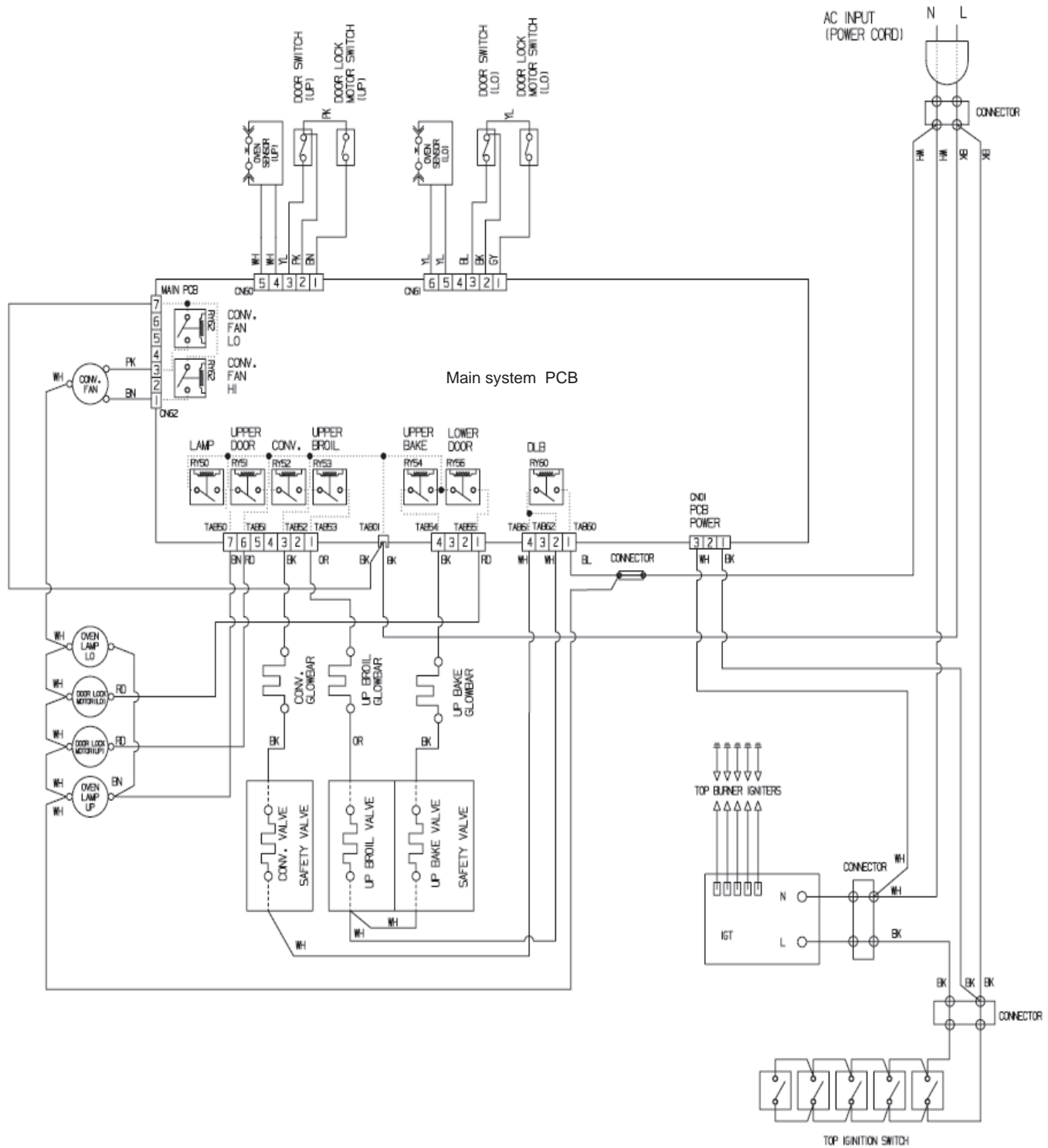
To convert to the original gas.

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.

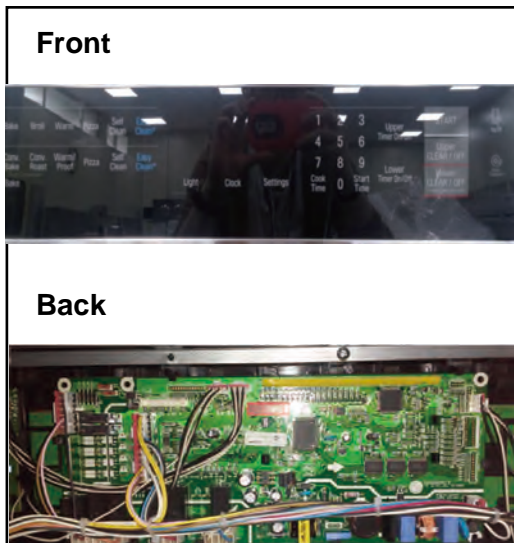
COMPOSITION OF CONTROL

1. Wiring Diagram



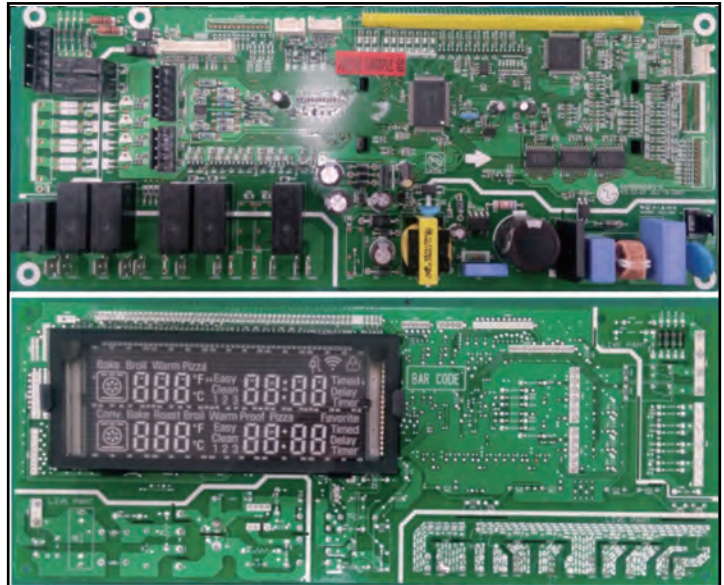
COMPOSITION OF CONTROL

2. Composition of control



Controller assembly

Main PCB (P/N : EBR80595308)



Touch PCB (P/N : EBR79627601)



NFC PCB (P/N : EBR78789101)



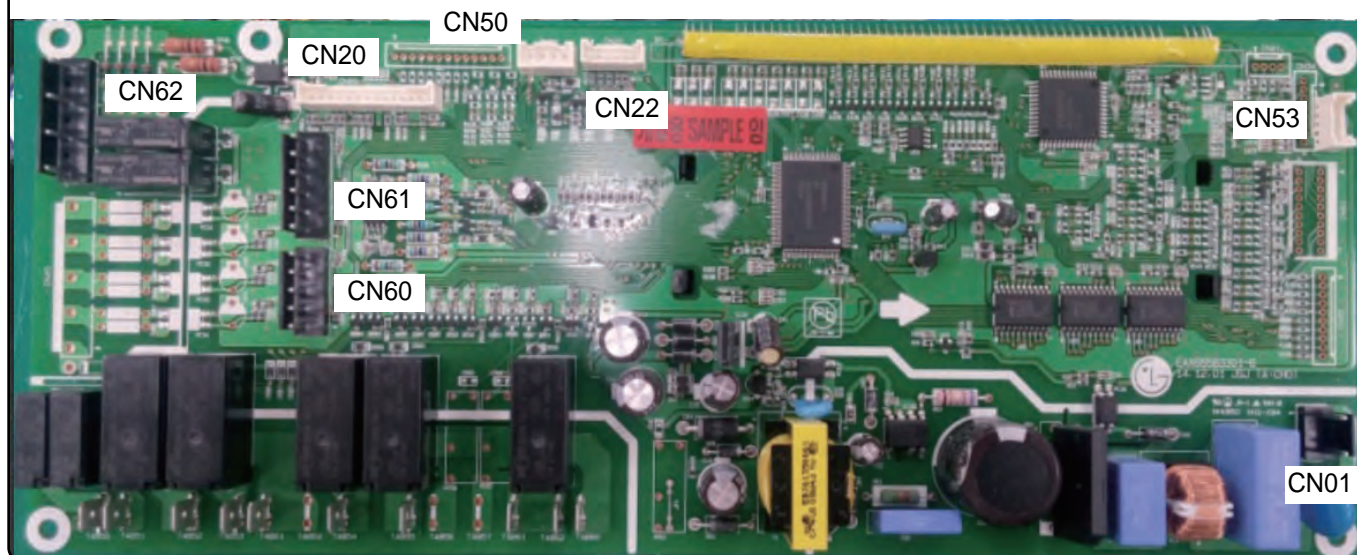
Buzzer PCB (P/N : EBR76332902)



COMPOSITION OF CONTROL

Main PCB

(P/N : EBR80595308)



Touch PCB

(P/N : EBREBR79627601)



COMPOSITION OF CONTROL

NFC PCB

(P/N : EBR78789101)



Buzzer PCB

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 upper BAKE and BROIL buttons at the same time



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



Model Option

Software version

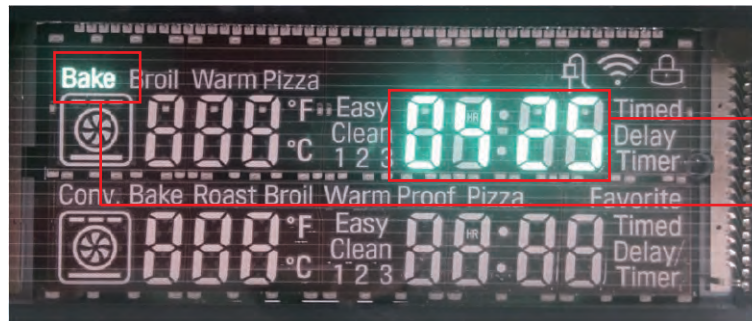
- (4) press the NUM 0 button



Only software version is displayed at the left digits

- (5) Press the START button

SVC TEST MODE



• SW Version

• Active load Icon

Current inspecting Relay's information is displayed

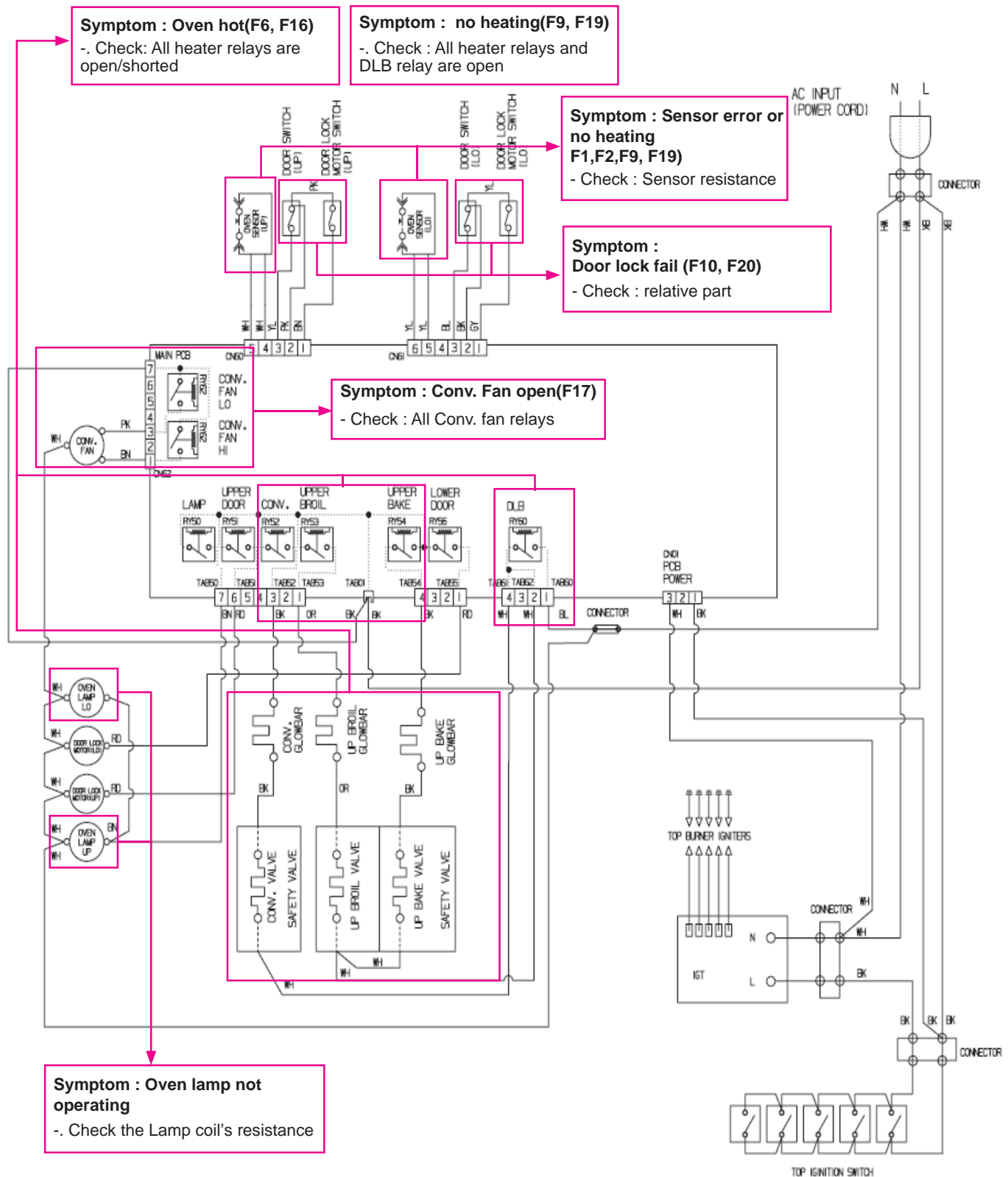
(6) Whenever you input the START button, the relay operation sequence should be as seen below.

※ Relay Operation Sequence

Step	RY 54 Upper Bake	RY 53 Upper Broil	RY 52 Conv. Heater	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 upper 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

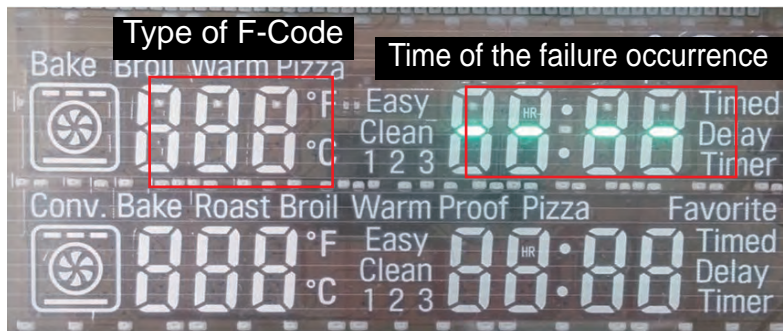


FIG. 2

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 (Upper) F4 (Lower)	Sensor open	Oven Thermistor is open	1.Wiring 2.Oven Sensor
F2 (Upper) F5 (Lower)	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 (Upper) F16 (Lower)	Oven hot	The oven temperature is over 650°F continuously for 2 minutes during cooking except self cleaning.	Oven Sensor
F17 (Lower)	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 (Upper) F19 (Lower)	Oven No heating	EXCEPT PROOF, WARM and EASY CLEAN Starting temperature of 130 _ or less, and the oven door is closed, the oven inside temperature does not go up more than 10_ compared with the starting temperature for 5minutes after the start of cooking.	1.Electrical Wiring 2.Oven Sensor
F10 (Upper) F20 (Lower)	Door Lock Fail	If Door Lock fails while operating the Lock motor.	1. Electrical Wiring 2. Motor's Resistance 3. Micro Switch

TROUBLESHOOTING

3. Before calling for service

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

Symptoms and Questions	Possible Cause/Solution
Top burners do not light or do not burn evenly.	<ul style="list-style-type: none"> • Make sure that the electrical plug is inserted into a live, properly grounded outlet. • Remove the burners and clean them. Check the electrode area for burnt on food or grease. See Cleaning Burner Heads/Caps in the MAINTENANCE section. • Make sure that the burner parts are installed correctly. See Removing and Replacing the Gas Surface Burners in the MAINTENANCE section.
Burner flames are very large or yellow.	If the range is connected to LP gas, contact the technician who installed your range or made the conversion.
Surface burners light but the oven does not.	Make sure that the oven gas shut-off valve, located behind the range, is fully open.
Food does not bake or roast properly.	<ul style="list-style-type: none"> • Incorrect oven control settings. See Control Panel Overview in the OPERATION section. • Incorrect rack position. See Removing and Replacing the Oven Racks in the OPERATION section. • Incorrect cookware is being used. See Convection Bake in the OPERATION section. • Oven thermostat needs adjustment. • See Adjusting the Oven Thermostat in the OPERATION section. • The Clock is not set correctly. See Changing Oven Settings in the OPERATION section. • Aluminum foil used improperly in the oven. See Removing and Replacing the Oven Racks.
Food does not broil properly in the oven.	<ul style="list-style-type: none"> • Incorrect oven control settings. See Control Panel Overview in the OPERATION section. • The oven door is not closed. See Broil in the OPERATION section. • Aluminum foil used on the broiling pan and grid is not fitted properly.
Oven temperature is too hot or too cold.	The oven thermostat needs adjustment. See Adjusting the Oven Thermostat in the OPERATION section.
Clock and timer does not work.	<ul style="list-style-type: none"> • Make sure the electrical plug is inserted into a live, properly grounded outlet. Replace the fuse or reset the circuit breaker. • Improper oven control settings. See Changing Oven Settings in the OPERATION section.
Oven light does not work.	<ul style="list-style-type: none"> • The light bulb is loose or defective. Tighten or replace the bulb. • The plug on the range is not completely inserted in the electrical outlet. Make sure the electrical plug is inserted into a live, properly grounded outlet.

TROUBLESHOOTING

Symptoms and Questions	Possible Cause/Solution								
Self Clean is not working.	<ul style="list-style-type: none"> The oven temperature is too high to set a self clean operation. Allow the range to cool down to room temperature and reset the controls. Improper oven control settings. See Self Clean in the MAINTENANCE section. 								
"Crackling" or "popping" sound.	This is the sound of the metal heating up and cooling down during both the cooking and cleaning functions. This is normal.								
Too much smoke during the Self Clean cycle.	Too much soil in the oven. Open the windows to get rid of the smoke from the room. Touch the Upper Clear/Off or Lower Clear/Off key. Wait until the light goes off before trying to open the oven door. Wipe up the excess soil and reset the clean cycle.								
The oven door does not open after a Self Clean cycle.	The oven temperature is too high. Wait up to one hour for it to cool down								
The oven door is not clean after a Self Clean cycle.	<ul style="list-style-type: none"> Incorrect oven control settings. See Self Clean in the MAINTENANCE section. The oven was heavily soiled. Clean up heavy spills before beginning the Self Clean cycle. Heavily soiled ovens may need either a longer Self Clean or two Self Clean cycles. 								
Clean and door flash in the display.	<ul style="list-style-type: none"> The self clean cycle has been selected, but the door is not closed. <ul style="list-style-type: none"> Close the oven door. 								
"Loc" message appears when you want to cook.	The oven door is locked because the temperature inside of the oven is too high.Touch the Upper Clear/Off or Lower Clear/Off key.								
Oven control beeps and displays an F error code.	<ul style="list-style-type: none"> Check the main gas shut-off valve or the oven gas shut-off valve and call for service. Remove the power from the range for five minutes and then reconnect the power. If the function error code repeats, call for service. <table border="1"> <thead> <tr> <th>CODE</th><th>CAUSE</th></tr> </thead> <tbody> <tr> <td>F-3</td><td>Touch key error</td></tr> <tr> <td>F-9</td><td>Main oven heating error (Upper oven)</td></tr> <tr> <td>F-19</td><td>Main oven heating error (Lower oven)</td></tr> </tbody> </table>	CODE	CAUSE	F-3	Touch key error	F-9	Main oven heating error (Upper oven)	F-19	Main oven heating error (Lower oven)
CODE	CAUSE								
F-3	Touch key error								
F-9	Main oven heating error (Upper oven)								
F-19	Main oven heating error (Lower oven)								
The oven racks were cleaned in a Self Clean cycle.	Apply a small amount of vegetable oil to a paper towel and wipe the edges of the oven racks. Do not use lubricant sprays.								
Clock is flashing.	Power outage or surge. Reset the clock. If the oven was in use, you must reset it by touching the Upper Clear/Off or Lower Clear/Off key. Reset the clock and any cooking function.								
"Burning" or "oily" odor emitting from the vent.	This is normal in a new oven. To speed the process, set a Self Clean cycle for a minimum of three hours. See Self Clean in the MAINTENANCE section.								
Strong odor.	An odor from the insulation around the inside of the oven is normal for the first few times the oven is used.								

TROUBLESHOOTING

Symptoms and Questions	Possible Cause/Solution
Fan noise	<ul style="list-style-type: none"> • A convection fan may automatically turn on and off. - This is normal.
Fan and burner operating in the oven at normal bake	<p>It is normal for the fan to run while preheating during a regular bake cycle. The fan motor may run periodically during a regular bake cycle. This is to ensure even baking results.</p> <p>The bake burner turns off if the door is left open during baking. If the door is left open for longer than 30 seconds during baking, the bake burner turns off. The bake burner turns back on automatically once the door is closed.</p>
Burners are not lighting properly after cleaning the cooktop surface.	Make sure that the burner heads and caps are completely dry and properly positioned.
When lighting just one burner, clicking noise is heard from all the burners.	This is normal. Electric spark igniters from the burners cause the clicking noise. All the spark igniters on the cooktop will activate when igniting just one burner.
My range is still dirty after running the EasyClean® cycle. What else should I do?	The EasyClean® cycle only helps to loosen light soils in your oven range to assist in hand-cleaning of your oven. It does not automatically remove all soils after the cycle. Some scrubbing of your oven range is required after running the EasyClean® cycle.
I tried scrubbing my oven after running EasyClean®, but some soils still remain. What can I do?	EasyClean® feature works best when the soils are fully soaked and submerged in water before running the cycle. If soils are not sufficiently soaked in water, it can negatively affect cleaning performance. Repeat the EasyClean® process using sufficient water. Sugar-based and certain grease soils are especially hard to clean. If some stubborn soils remain, use the Self Clean feature to thoroughly clean your oven.
Soils on my oven walls are not coming off. How can I get my walls clean?	Soils on the side and rear walls of your oven range may be more difficult to fully soak with water. Repeat the EasyClean® process with more than the 1/4 cup (2 oz) spray recommended.
Will EasyClean® get all of the soils and stains out completely?	It depends on the soil type. Sugar-based and certain grease stains are especially hard to clean. Also, if stains are not sufficiently soaked in water, then this can also negatively affect cleaning performance. If stubborn or built-up stains remain, use the Self Clean feature. Refer to the Self Clean section of your owner's manual.
Are there any tricks to getting some of the stubborn soils out?	Scraping the soils with a plastic scraper before and during handcleaning cleaning is recommended. Fully saturating soils with water is also recommended. However, certain types of soils are harder to clean than others. For these stubborn soils, the Self Clean cycle is recommended. Consult the Self Clean section of your owner's manual for details.
Is it safe for water to spill into the oven bottom vents during cleaning?	Some water spillage into the oven bottom vents (gas range) is okay. However, it is recommended to try avoid spilling too much water into the vents.

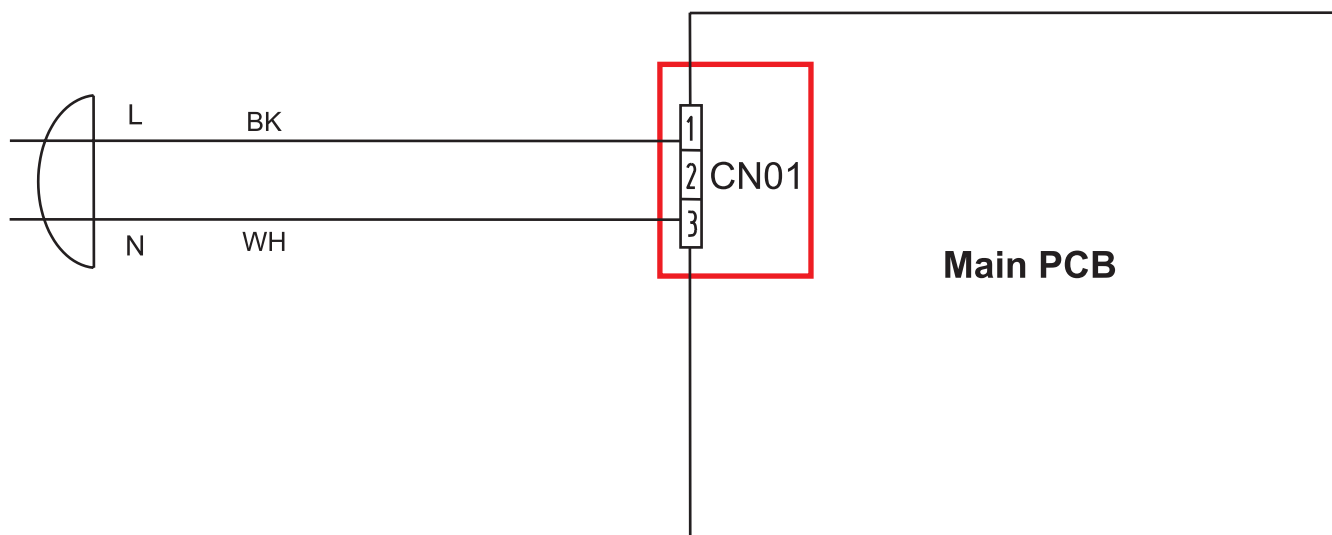
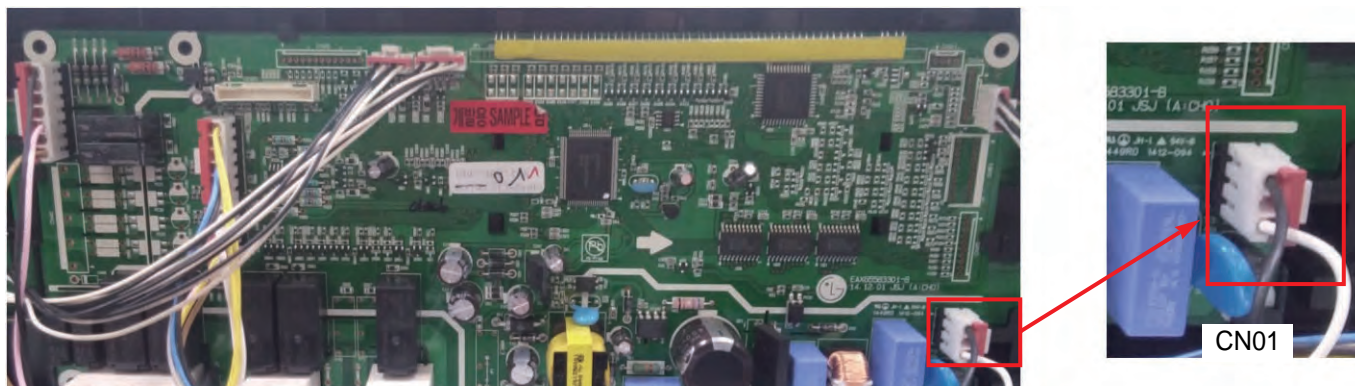
TROUBLESHOOTING

Symptoms and Questions	Possible Cause/Solution
Is it safe for my broil burner or heater element to get wet during EasyClean®?	Yes. The broiler burner or heater element may get a little wet during cleaning. However, direct spray onto the broil burner and heater elements is not necessary because these are self-cleaning during regular use.
Do I need to use all 1 1/4 cup (10 oz) of water for EasyClean®?	Yes. It is highly recommended that 1 cup (8 oz) of water be sprayed or poured on the bottom and additional 1/4 cup (2 oz) of water be sprayed on walls and other soiled areas to fully saturate the soils for better cleaning performance.
I see smoke coming out of my oven range's cooktop vents during EasyClean®. Is this normal?	This is normal. This is not smoke. It is actually water vapor (steam) from the water in the oven cavity. As the oven heats briefly during EasyClean®, the water in the cavity evaporates and escapes through the oven vents.
How often should I use EasyClean®?	EasyClean® can be performed as often as you wish. EasyClean® works best when your oven is LIGHTLY soiled from such things as LIGHT grease splatter and small drops of cheese. Please refer to the EasyClean® section in your owner's manual for more information.
What is required for EasyClean®?	A spray bottle filled with 1 1/4 cup of water, a plastic scraper, a nonscratch scrubbing pad and a towel. You should not use abrasive scrubbers such as heavyduty scouring pads or steel wool.
Can I run the EasyClean® cycle on both of my ovens at once?	Yes. You can run the EasyClean® cycle on both ovens at the same time. Some oven surfaces will be hot after the cycle completes running. Avoid leaning or resting on the oven door glass while cleaning the oven cavities. You can not run the Self Clean cycle on both ovens at the same time.

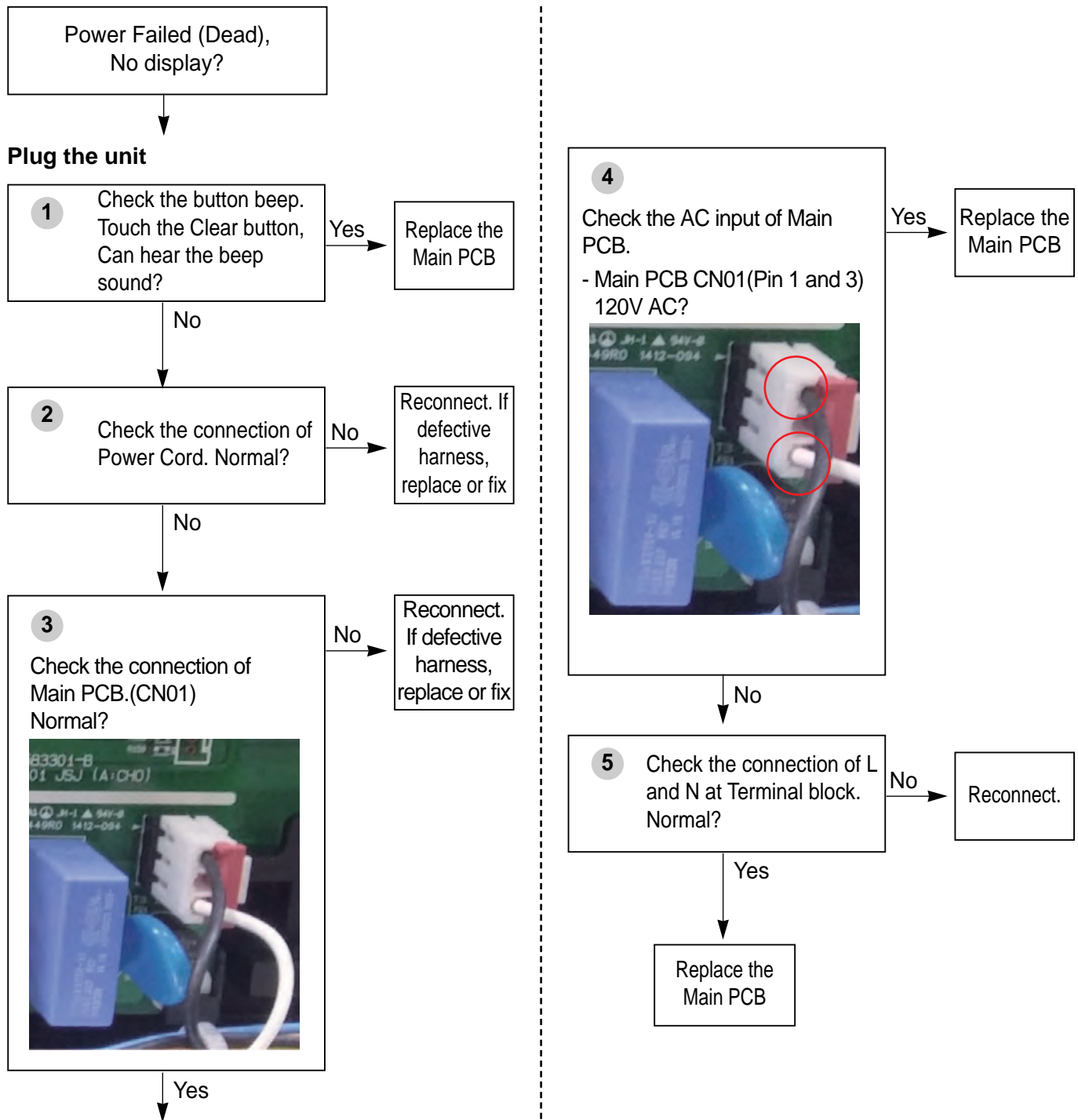
TROUBLESHOOTING

4. Troubleshooting

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

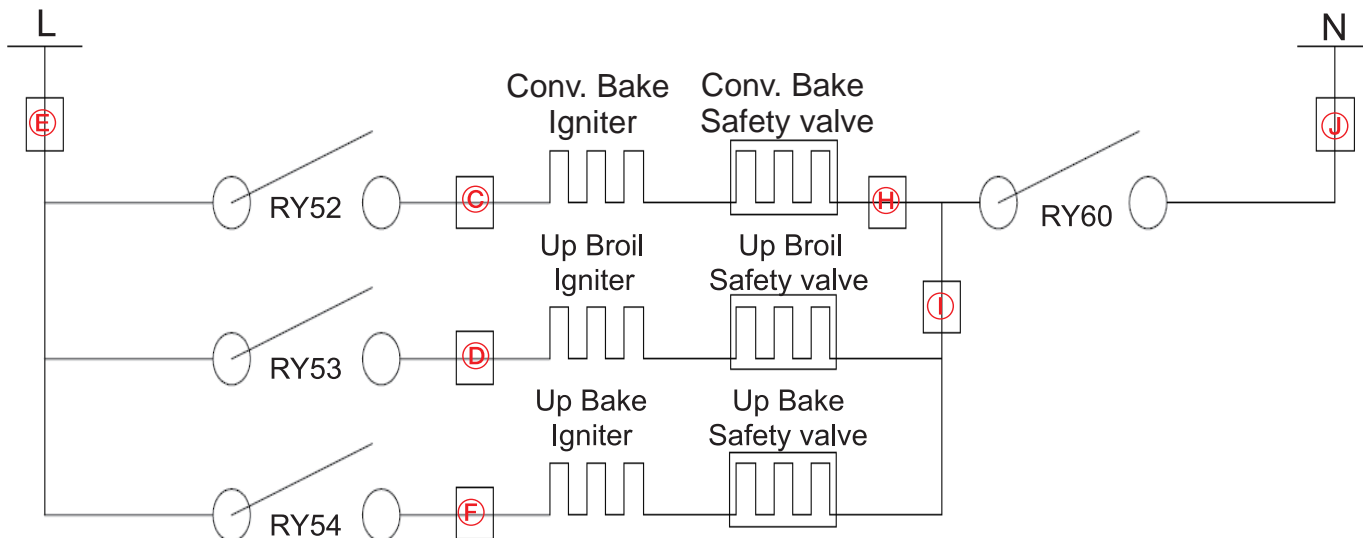
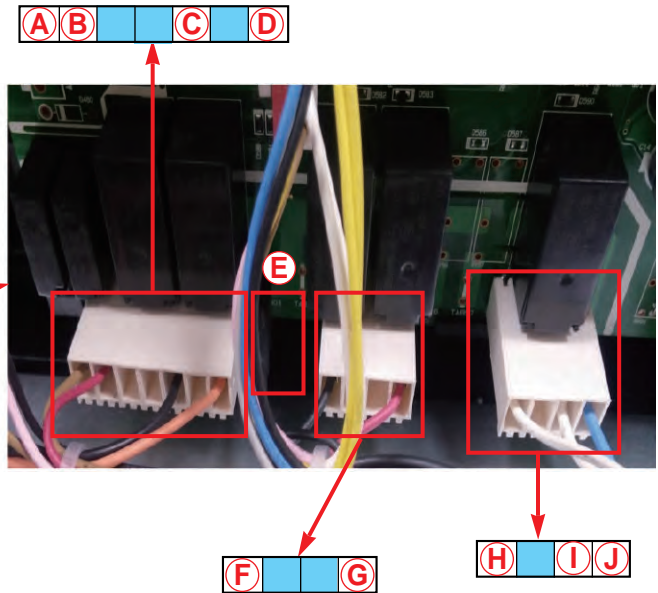
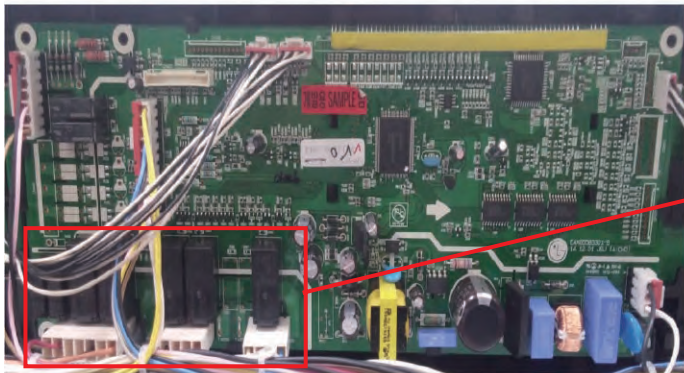


TROUBLESHOOTING



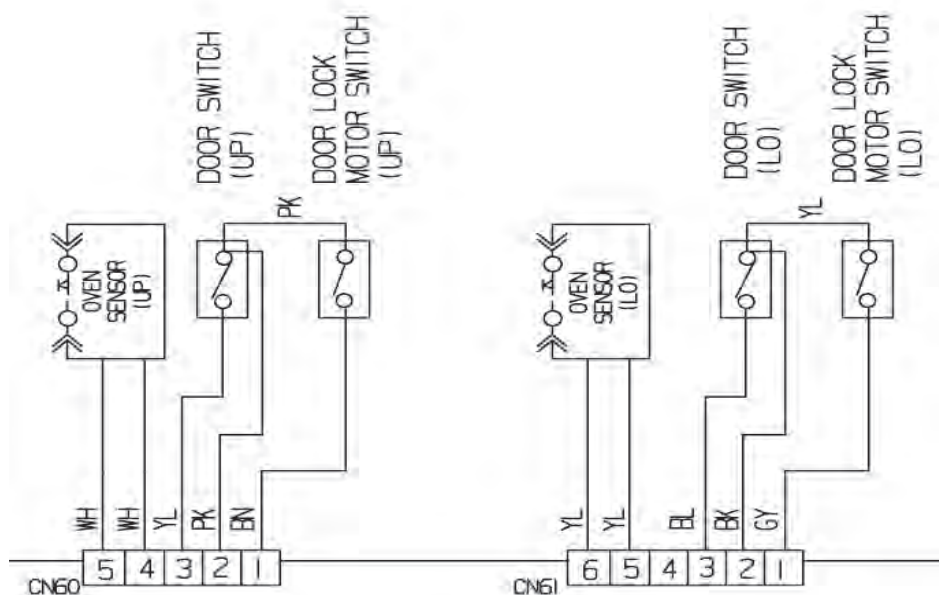
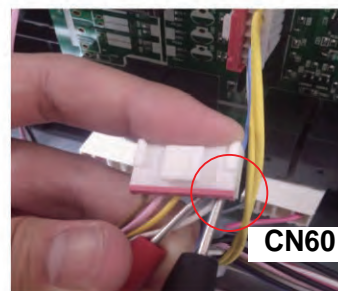
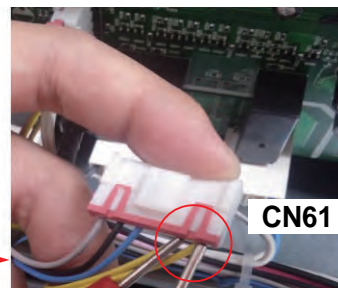
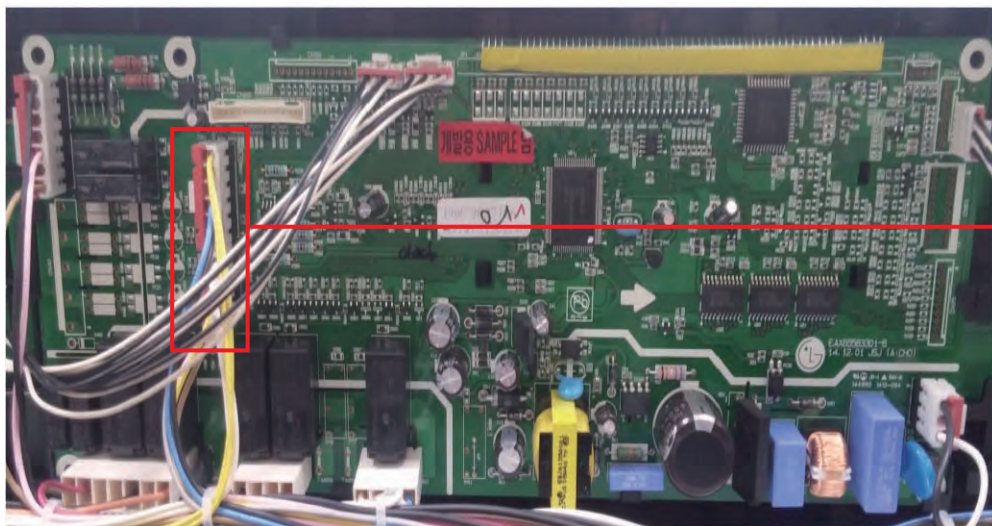
TROUBLESHOOTING

Symptom	Check Point
1. No heating 2. F9, F19	1. Check Electrical Wiring 2. Check igniter's Resistance. 3. Check the Sensor.



TROUBLESHOOTING

Symptom	Check Point
1. No heating 2. F9, F19	1. Check Electrical Wiring 2. Check Igniter's Resistance. 3. Check the Sensor.



TROUBLESHOOTING

Oven does NOT heat, F9, F19

Unplug the unit

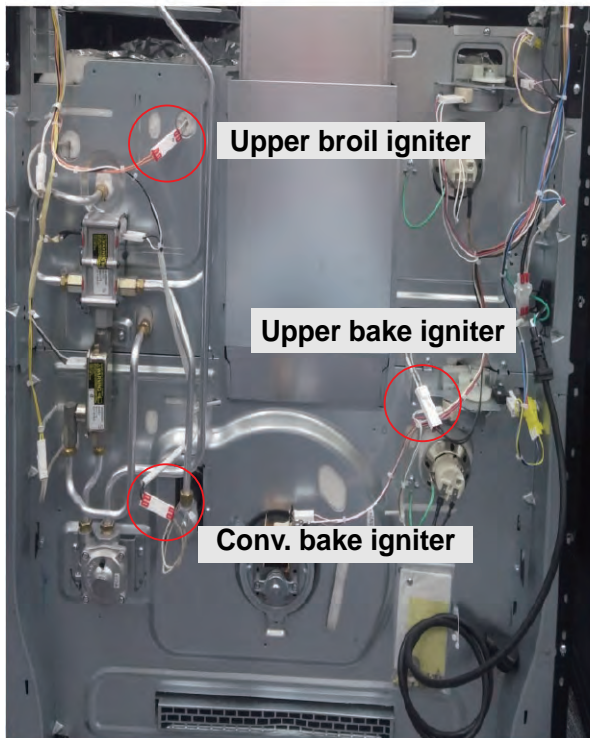
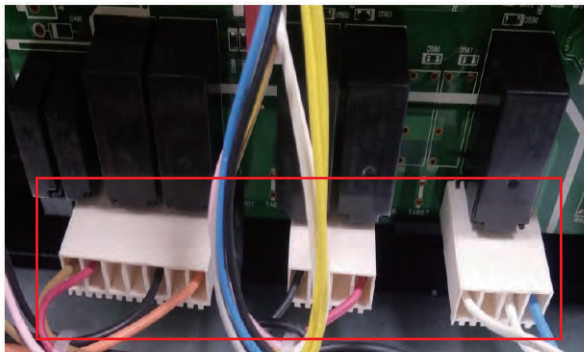
1

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



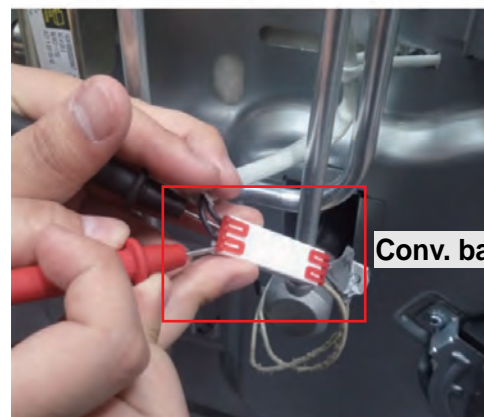
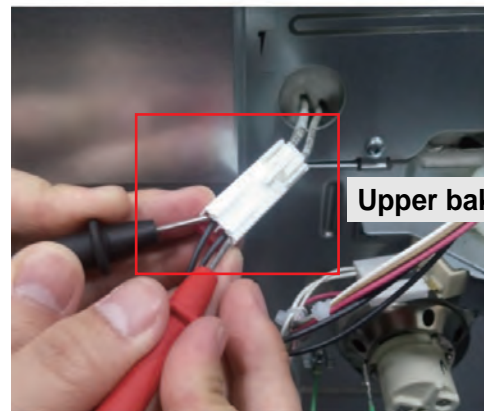
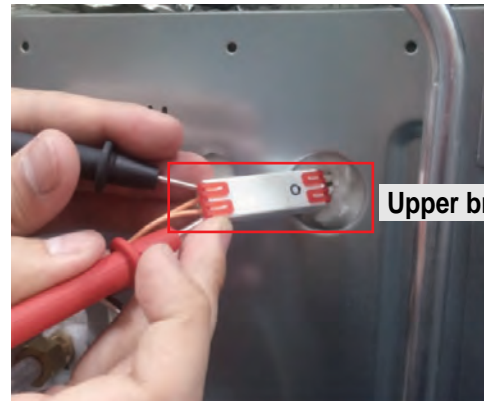
No

2

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

No

Replace the failed igniter



yes

TROUBLESHOOTING

3

Range Of the resistance

igniter	Resistance[Ω] Approximately
Upper Broil	50~500
Upper Bake	50~500
Conv. Heater	45~400

Yes

Plug in the unit

4

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

Yes

Go to No 6

**To enter the test mode,
follow these steps:**

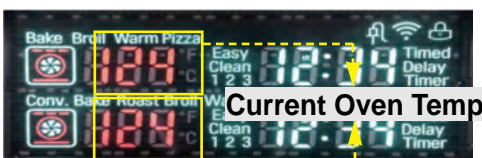
- (1) press the CLEAR button
- (2) press the upper BAKE and BROIL buttons at the same time.



- (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 as the above figure.

No

Unplugged the unit

5

Is the resistance of thermistor normal?

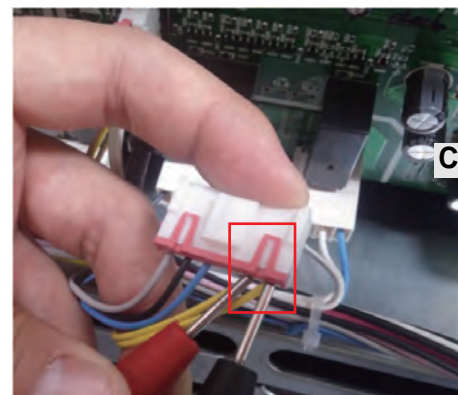
No

Replace the
defected
Themistor

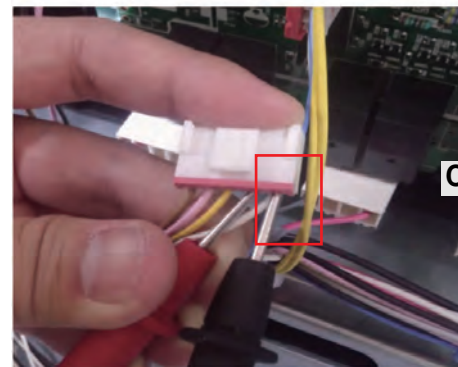
Check:

Pins 4 and 5 of CN60 and pins 5 and 6 of CN61
in main PCB

Normal- approximately 1.09kΩ at 77°F(25°C)



CN61



CN60

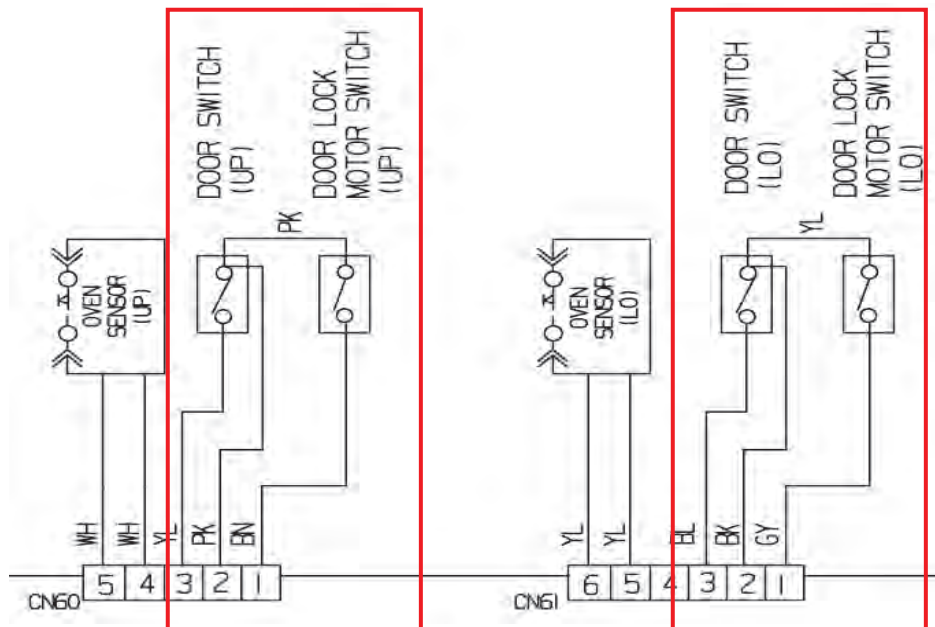
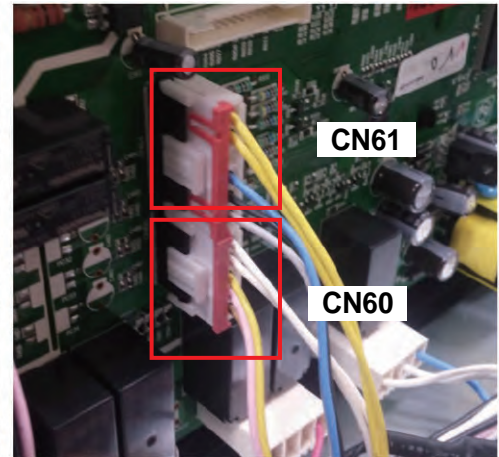
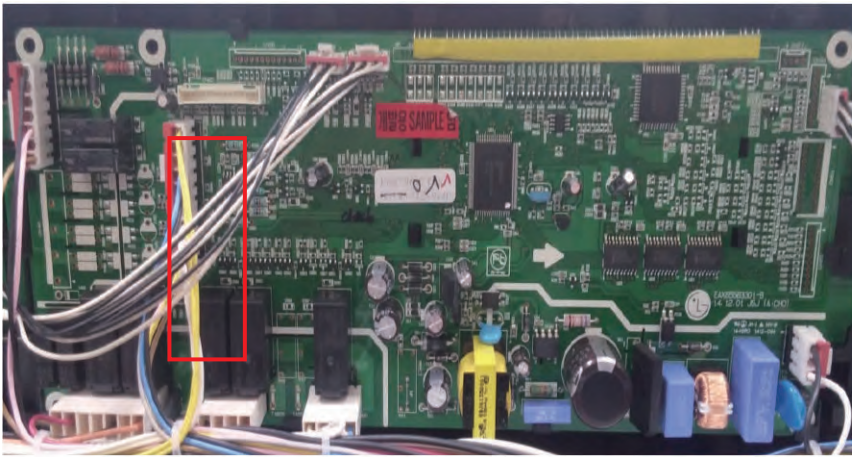
Yes

6

Replace the Main PCB

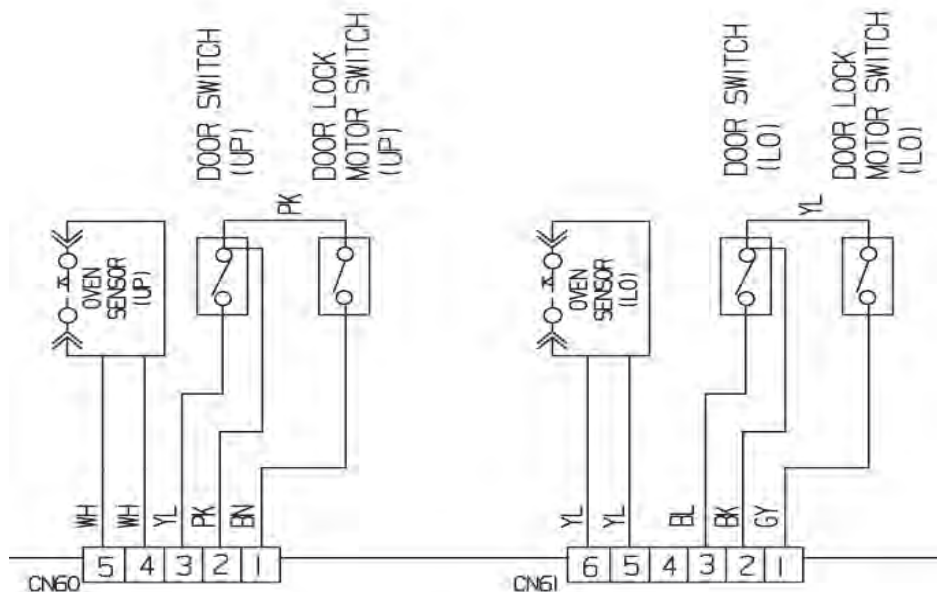
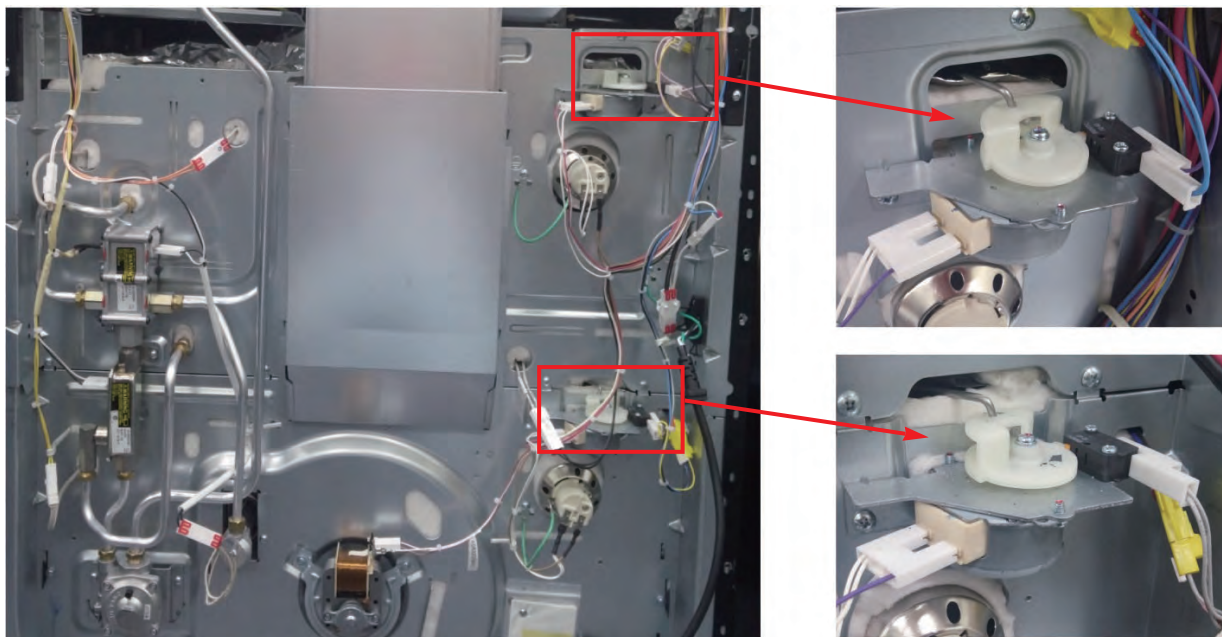
TROUBLESHOOTING

Symptom	Check Point
1. Door Lock System Failure 2. F10, F20	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, F20	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 or F20 ?

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 or F20 error code appears.

1

Check the operation of door lock motor.

Yes

Go to No 2

Press Lower 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

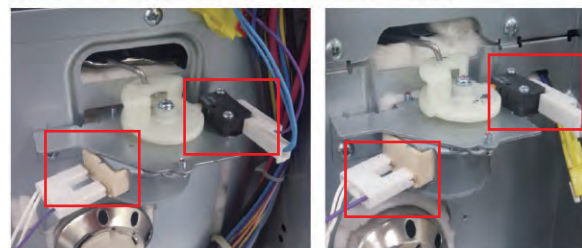
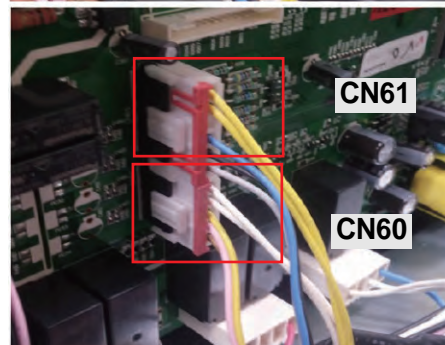
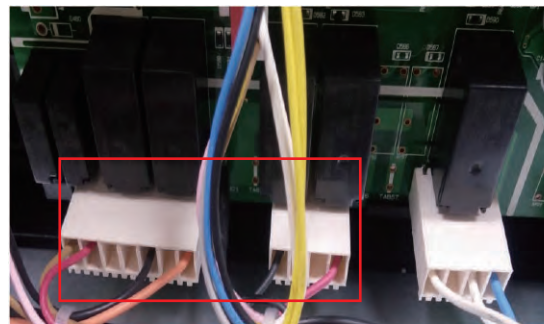
Is the Connector disconnected or loose?

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

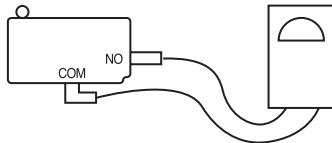
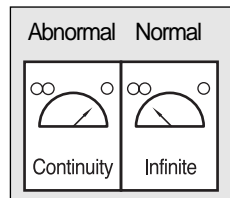
3

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

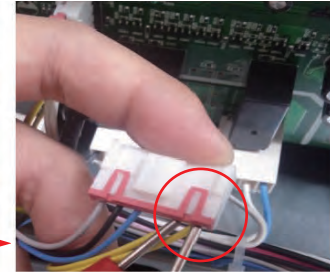
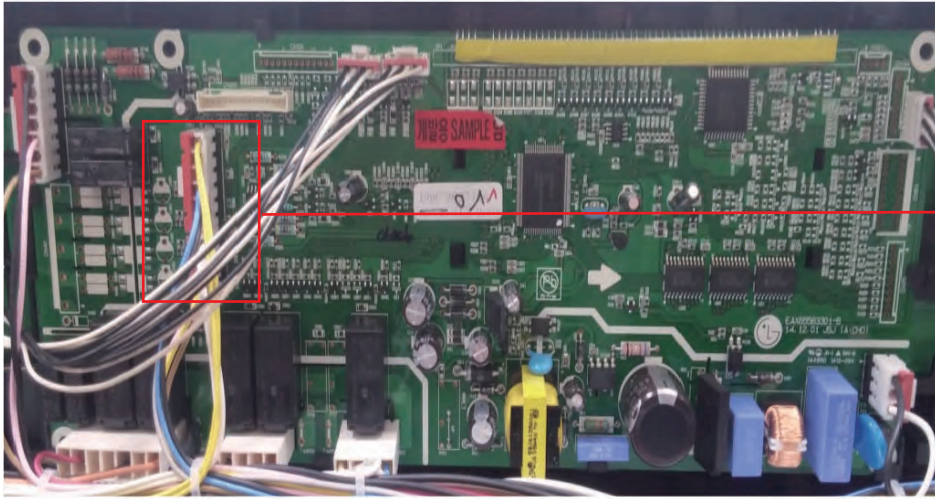


Yes

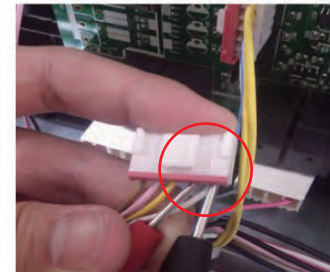
Replace the Main PCB

TROUBLESHOOTING

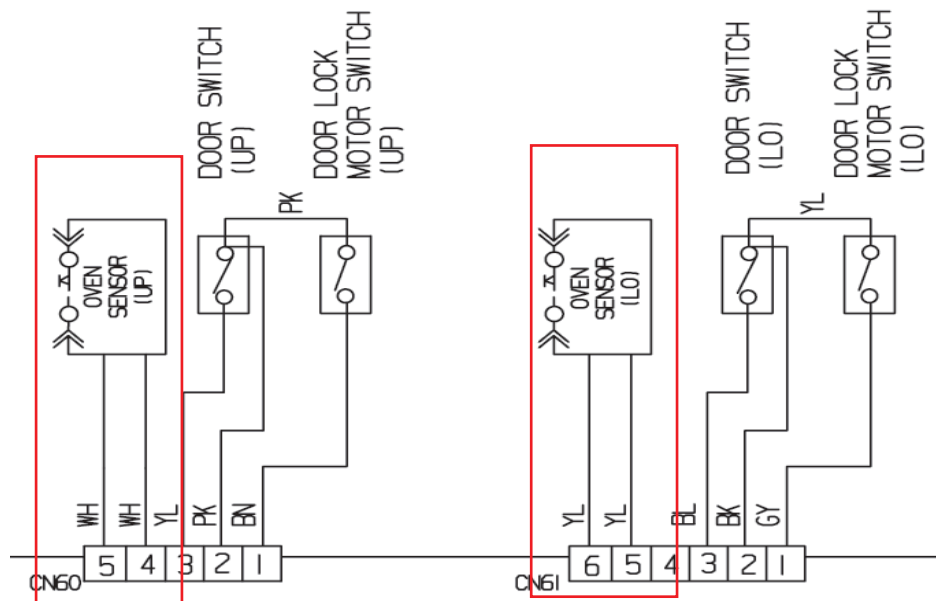
Symptom	Check Point
1. Sensing Fail 2. F1, F4 3. F2, F5	1. Check the Electrical Wiring 2. Check the Test Mode 3. Check the Sensor's Resistance



CN61



CN60



TROUBLESHOOTING

Sensing Fail, F1 (F4), F2 (F5)?

Unplug the unit

1

Is the Connector disconnected or loose?

- (1) Sensor connection
- (2) CN60 and CN61 of Main PCB

Yes

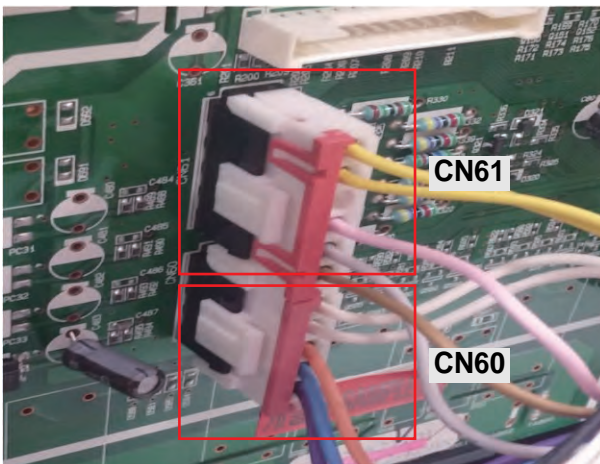
Reconnect or adjust the connection



Upper Sensor connection



Lower Sensor connection



No

2

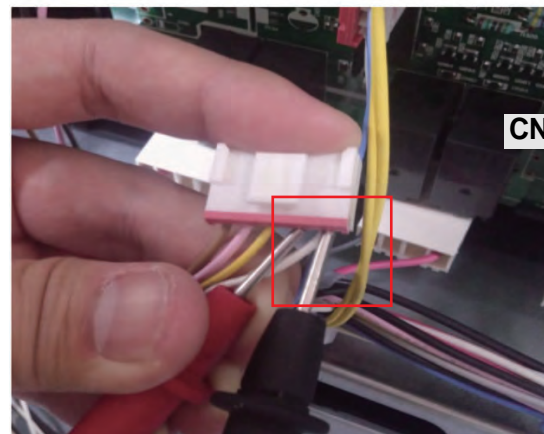
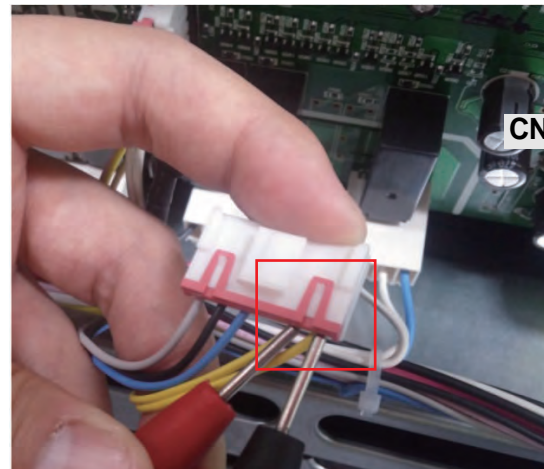
Is the resistance of thermistor normal?

No

Replace the defective Thermistor

Check:

Pins 4 and 5 of CN60 and pins 5 and 6 of CN61 in main PCB
Normal- approximately 1.09kΩ at 77°F(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

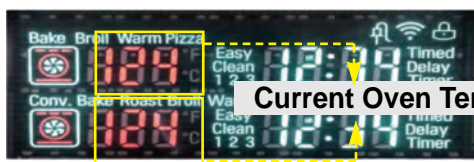
(2) press the upper BAKE and BROIL buttons
at the same time



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



(4) press the NUM 3 button



Current Oven Temp

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

Yes

Go to No 1

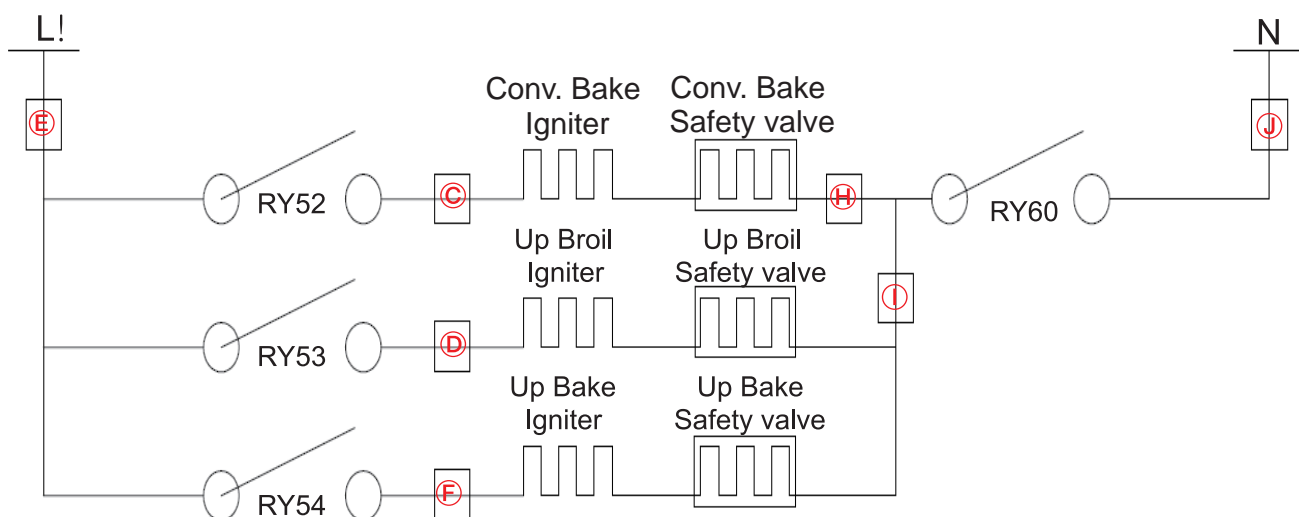
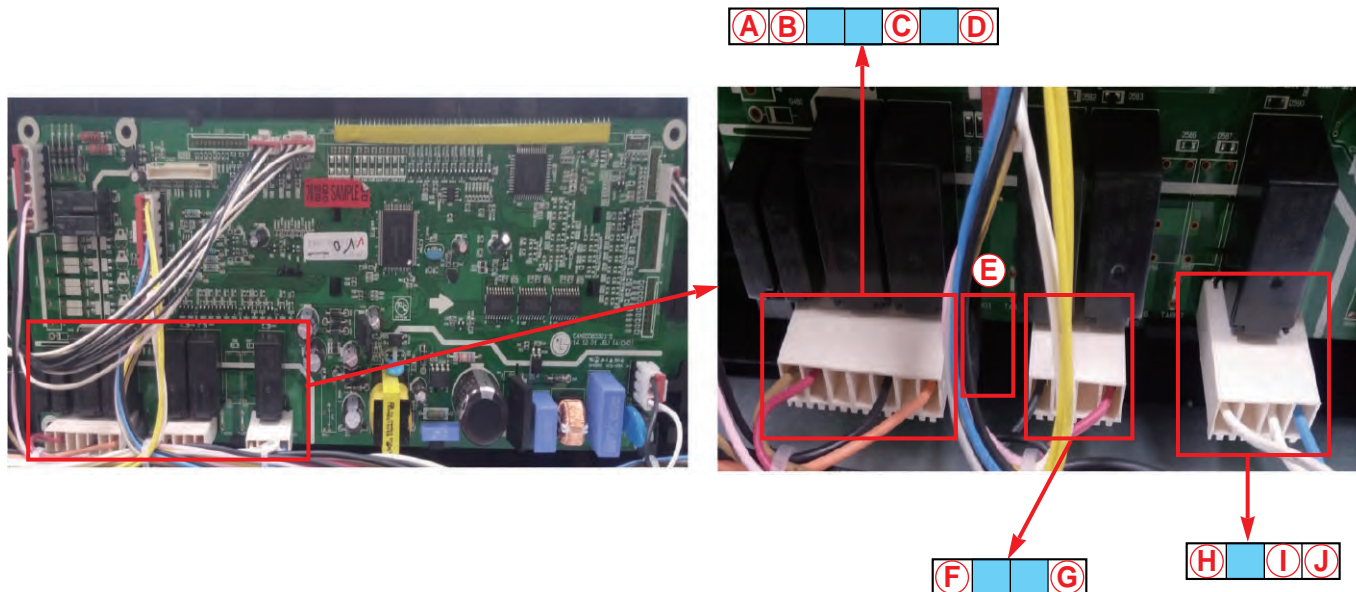
No

4

Replace the Main PCB

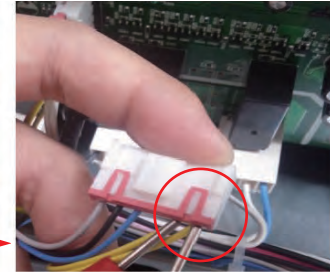
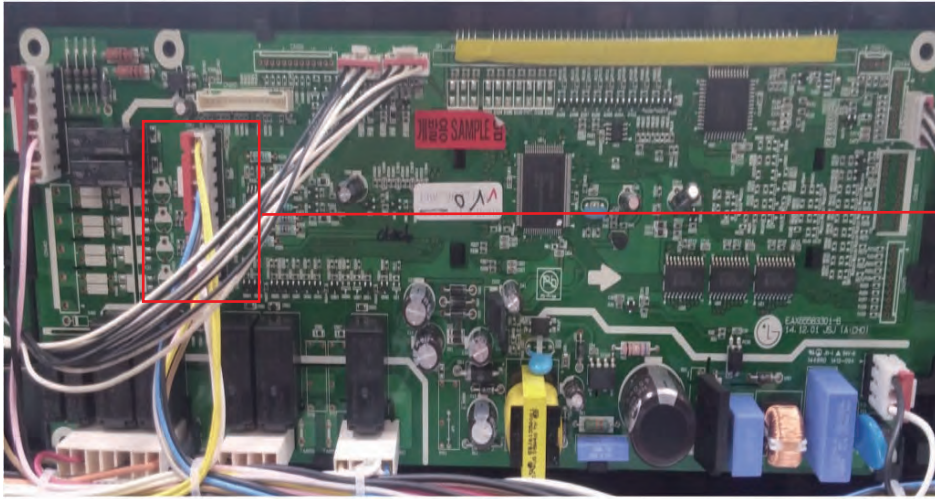
TROUBLESHOOTING

Symptom	Check Point
1. Oven hot 2. F6, F16	1.Check the Resistance of the Relay. 2.Check the Sensor's Resistance

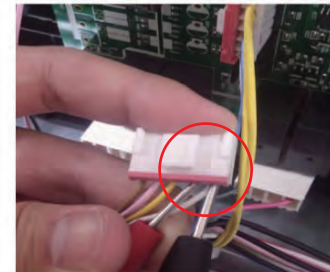


TROUBLESHOOTING

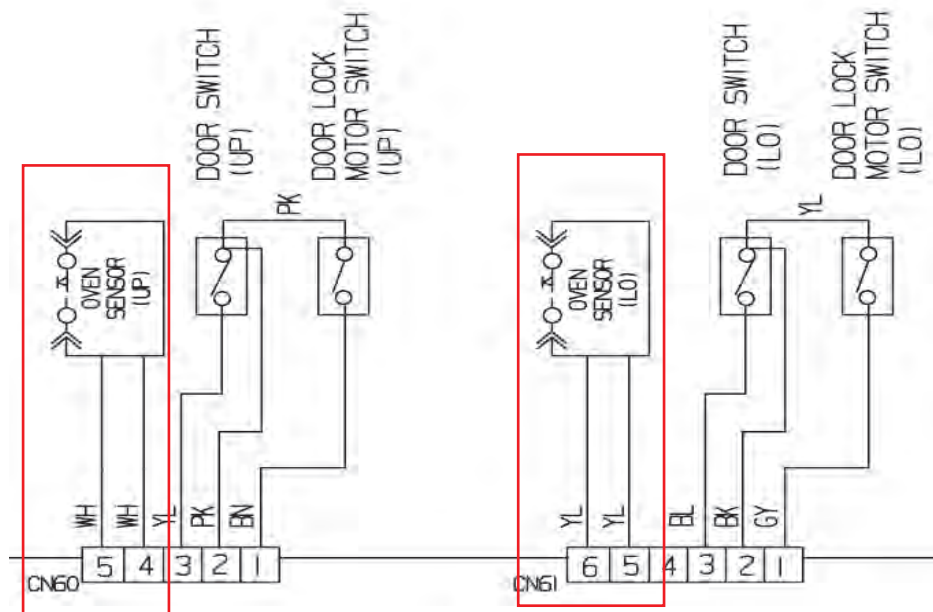
Symptom	Check Point
1. Oven hot 2. F6, F16	1. Check the Resistance of the Relay. 2. Check the Sensor's Resistance



CN61



CN60



TROUBLESHOOTING

Oven hot, F6, F16?

Unplug the unit

1

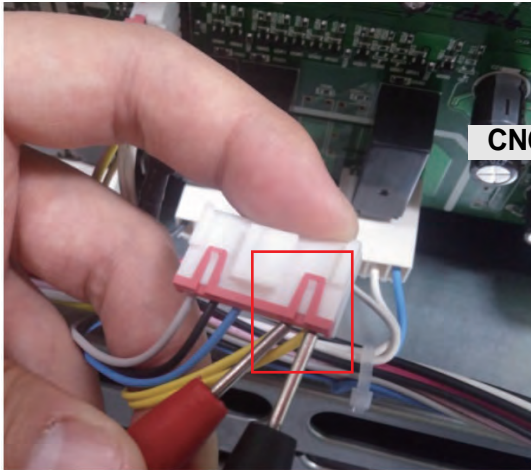
Is the resistance of thermistor normal?

No

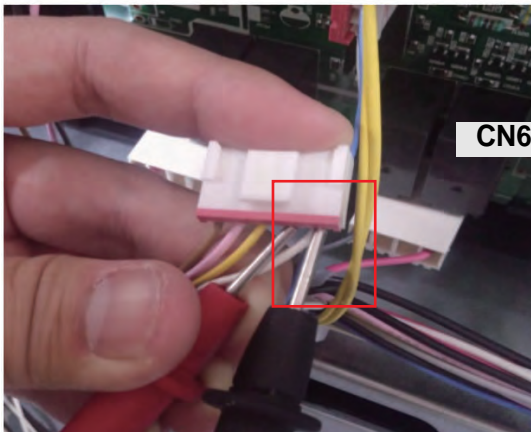
Replace the defective Thermistor

Check:

Pins 4 and 5 of CN60 and pins 5 and 6 of CN61 in main PCB
Normal- approximately 1.09kΩ at 77°F(25°C)



CN61



CN60

yes

2

Is the igniter relay normal?

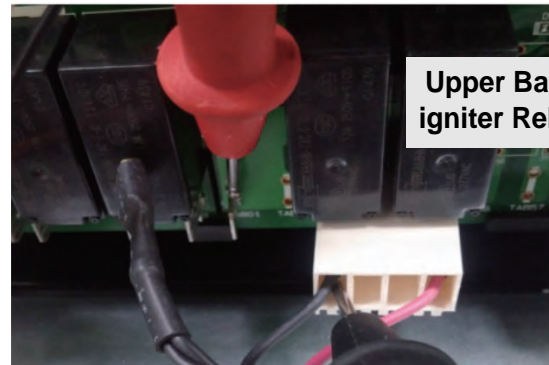
No

Replace the Main PCB

Measure the resistance of igniter relay and Live.

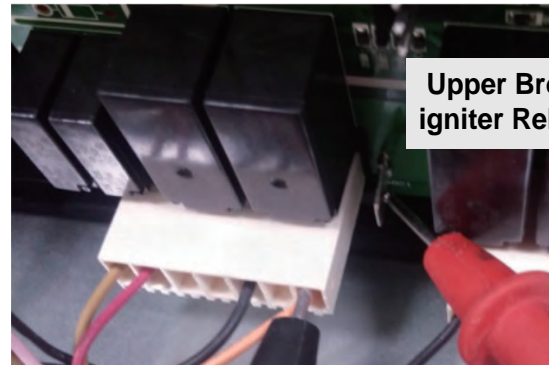
Normal: infinite

Abnormal : shorted



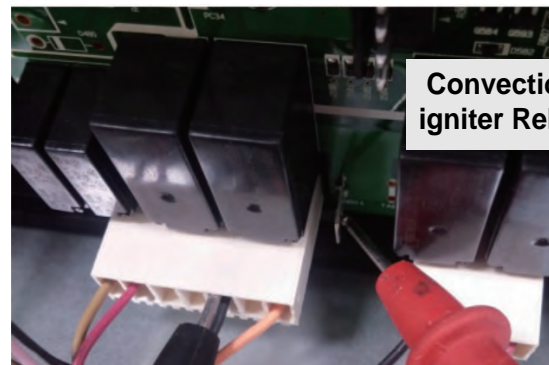
Upper Bake igniter Relay

Tab 01 and Tab 54 : RY54



Upper Broil igniter Relay

Tab 01 and Tab 53 : RY53



Convection igniter Relay

Tab 01 and Tab 52 : RY52

yes

TROUBLESHOOTING

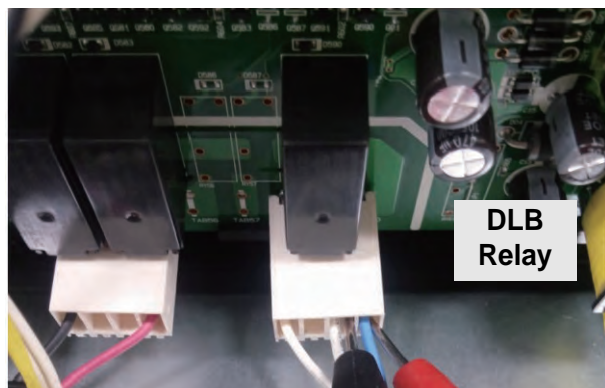
3

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

No

Replace the
Main PCB

To enter the test mode, follow these steps:

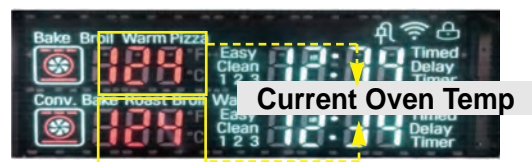
- (1) press the CLEAR button
- (2) press the upper BAKE and BROIL buttons
at the same time



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



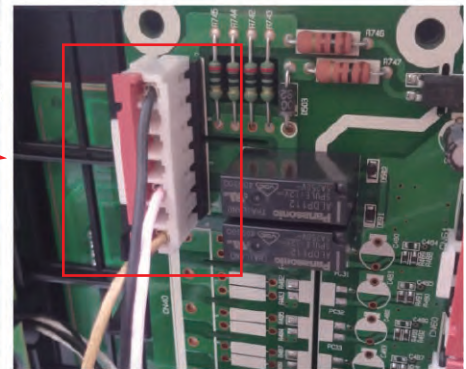
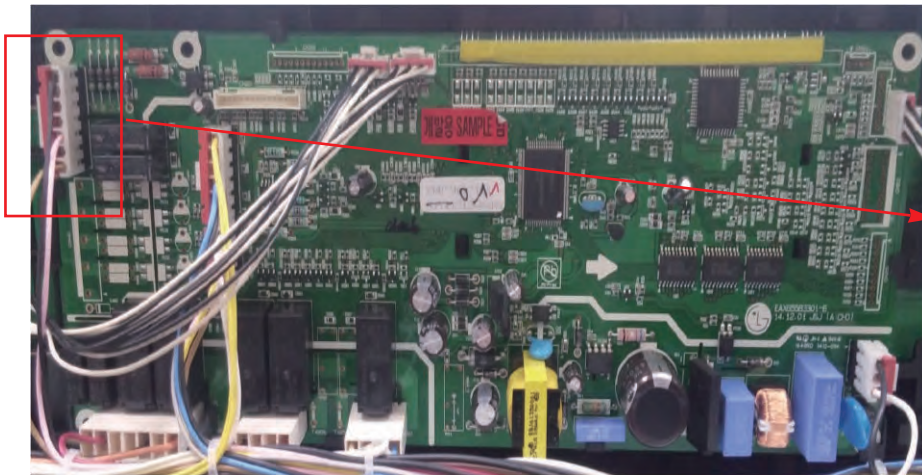
- (4) press the NUM 3 button



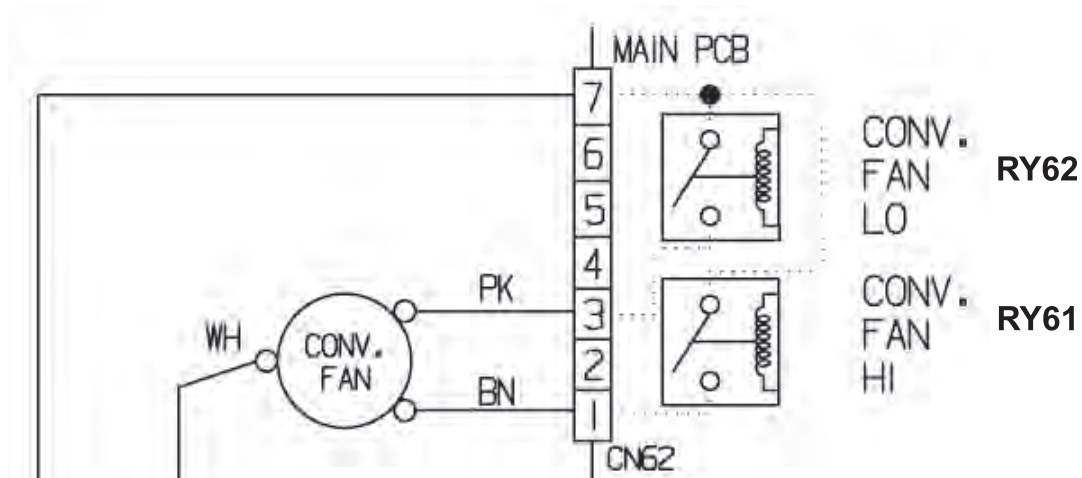
Normal: Thermistor value at room temp is
from 70°F to 90°F

TROUBLESHOOTING

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



CN62



TROUBLESHOOTING

Convection fan not work, F7?

Unplug the unit

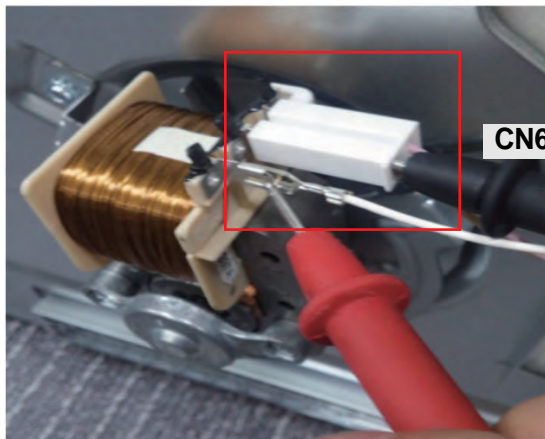
1

Check the resistance of each fan motor. Normal?

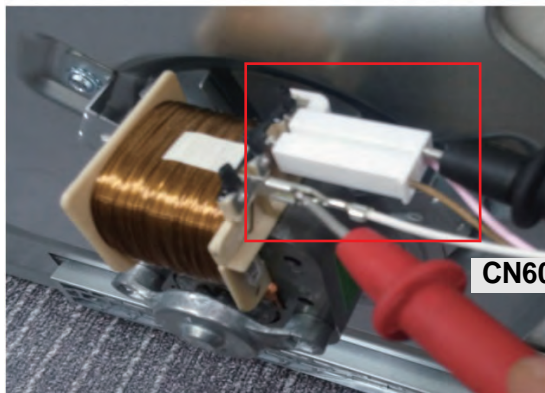
No

Replace the Fan motor

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



CN61



CN60

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

yes

2

Is the fan motor relay normal?

No

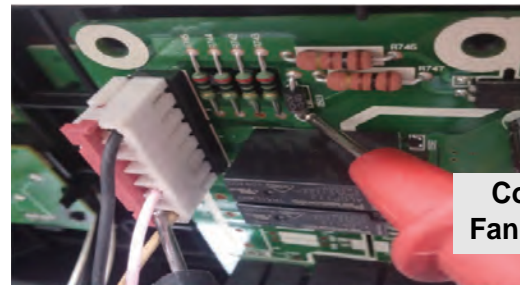
Replace the Main PCB

Measure the resistance of fan motor relay and Live

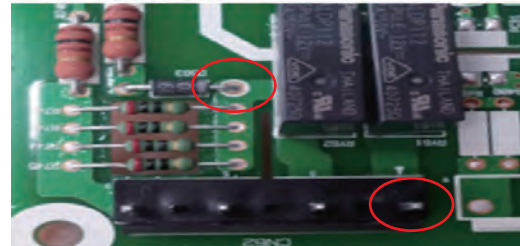
Normal: infinite

Abnormal : shorted

(It is also sure to disconnect the connector.)



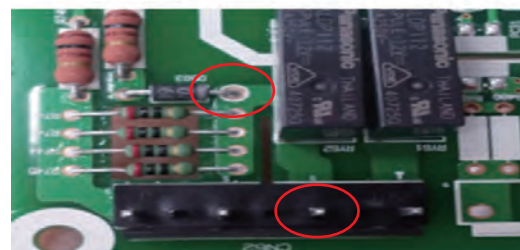
Conv.
Fan High



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



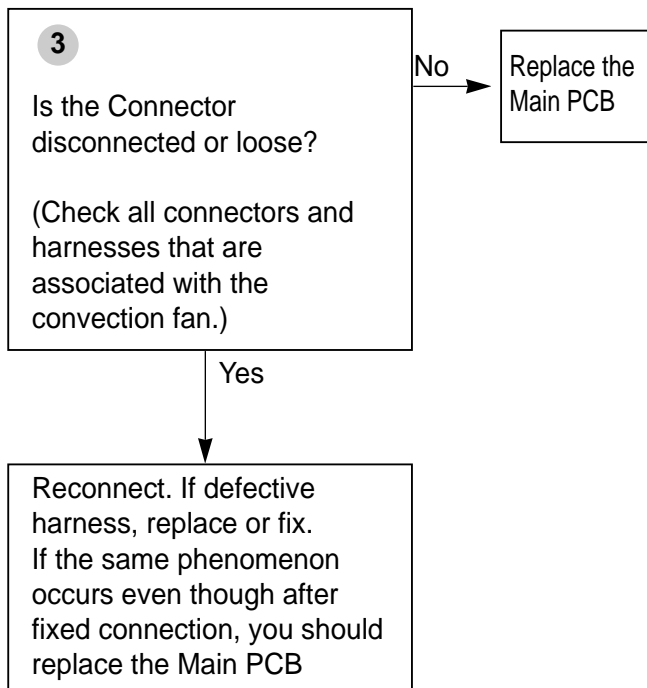
Conv.
Fan Low



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

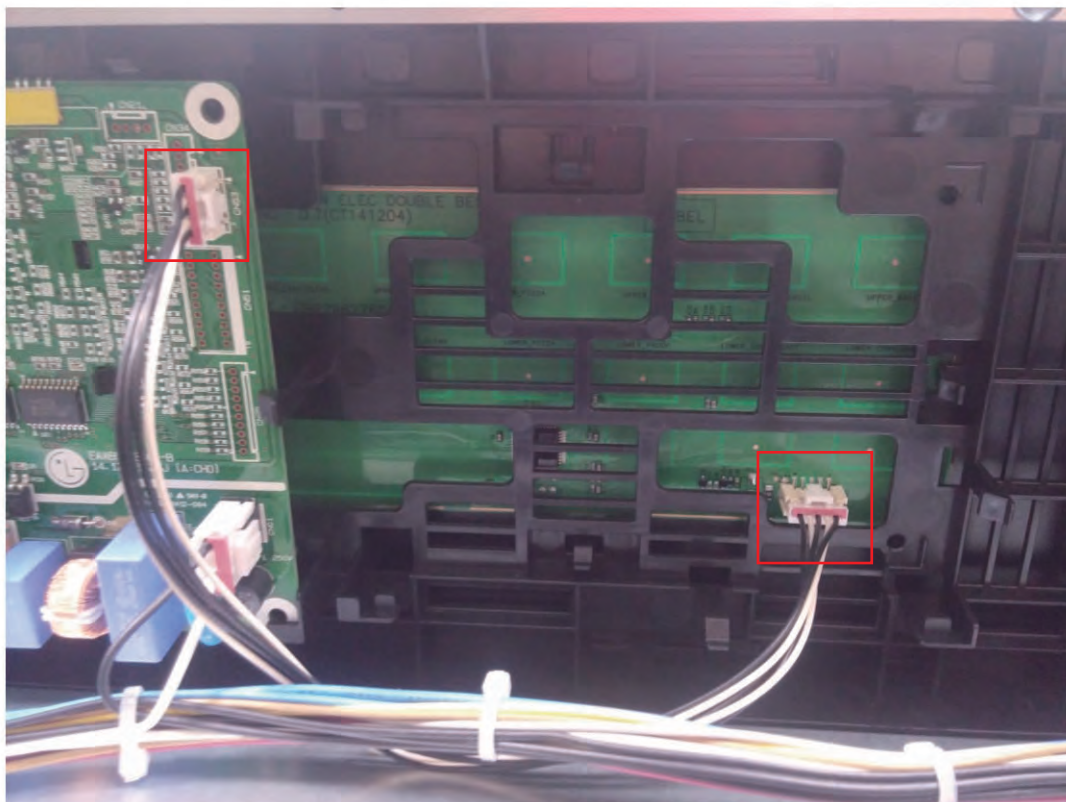
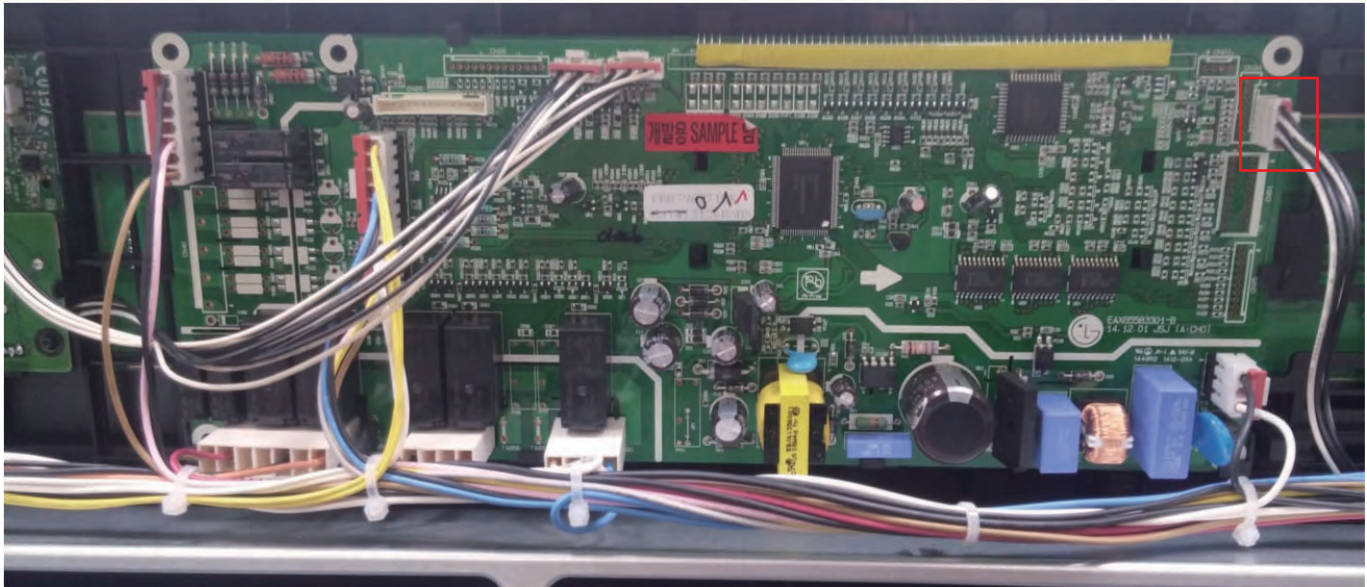
yes

TROUBLESHOOTING



TROUBLESHOOTING

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



TROUBLESHOOTING

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

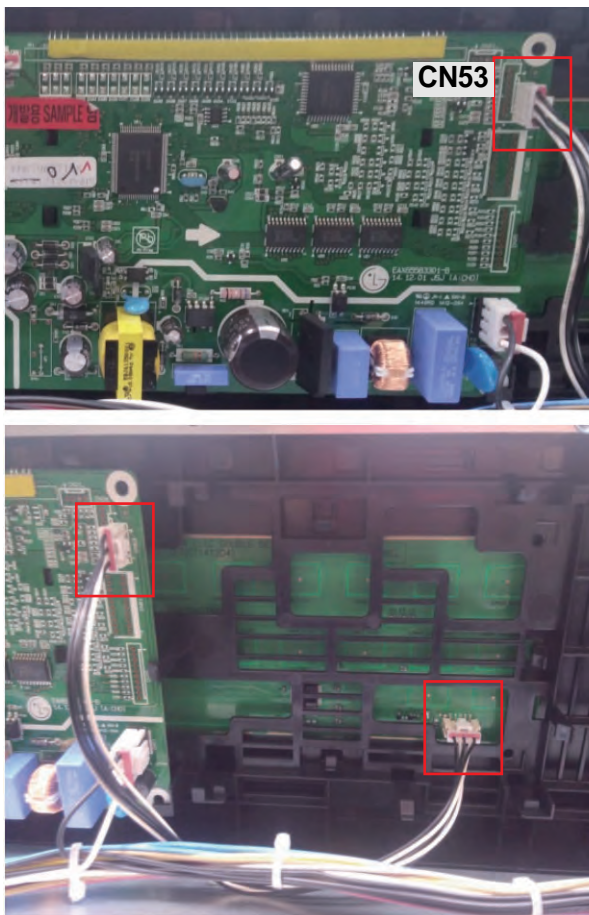
Unplug the unit

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 upper BAKE and BROIL buttons at the same time



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



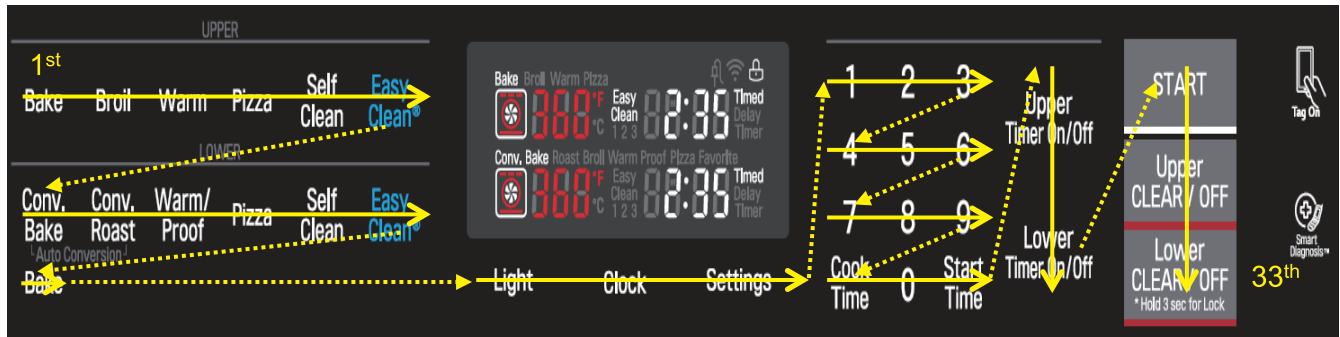
- (4) press the NUM 7 button
- (5) Check the button.
(Refer to the next page, appendix)

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

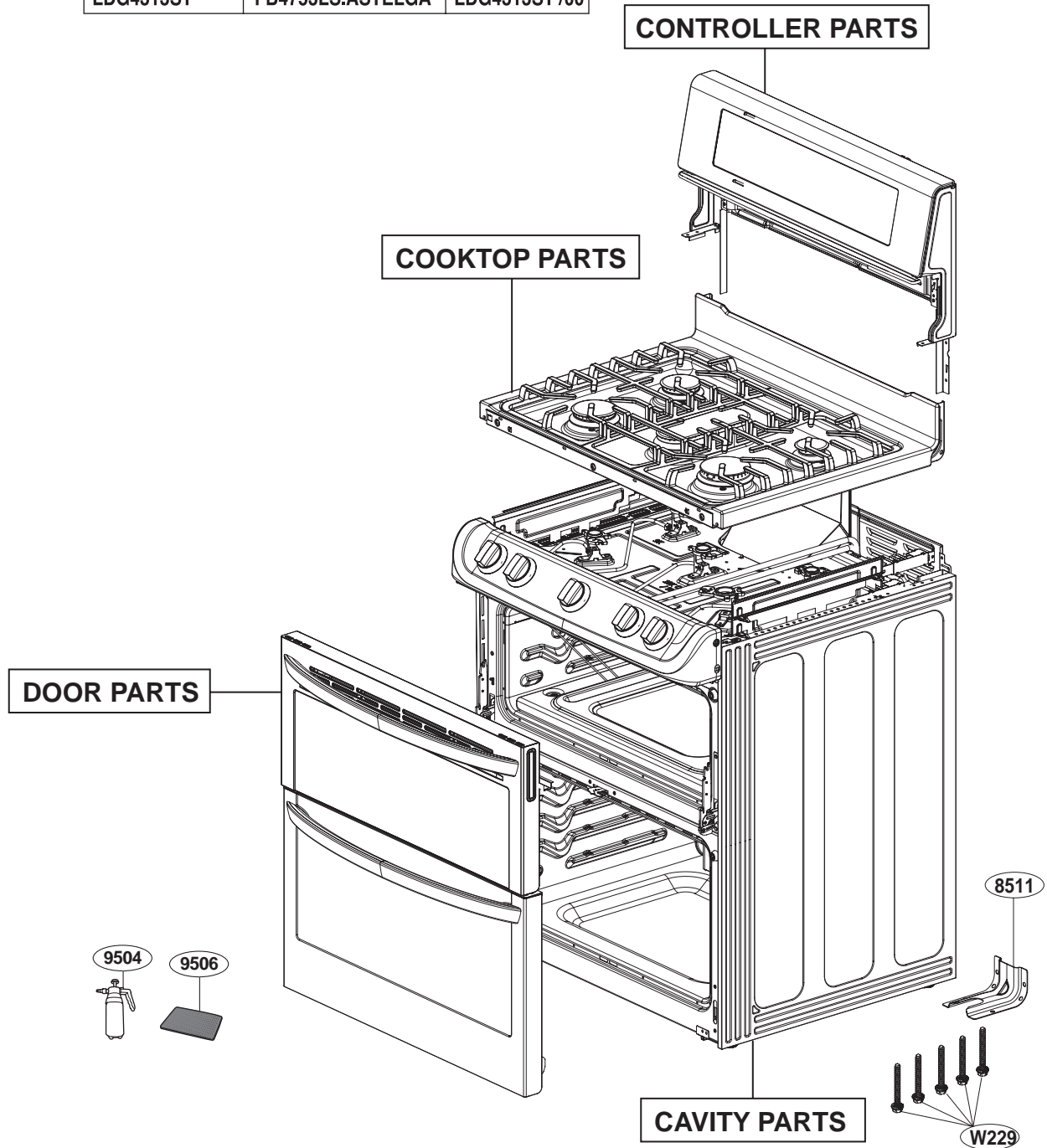
- Press 1st(Bake) → 2nd → ... → 33th (Lower CLEAR/OFF)

EXPLODED VIEW

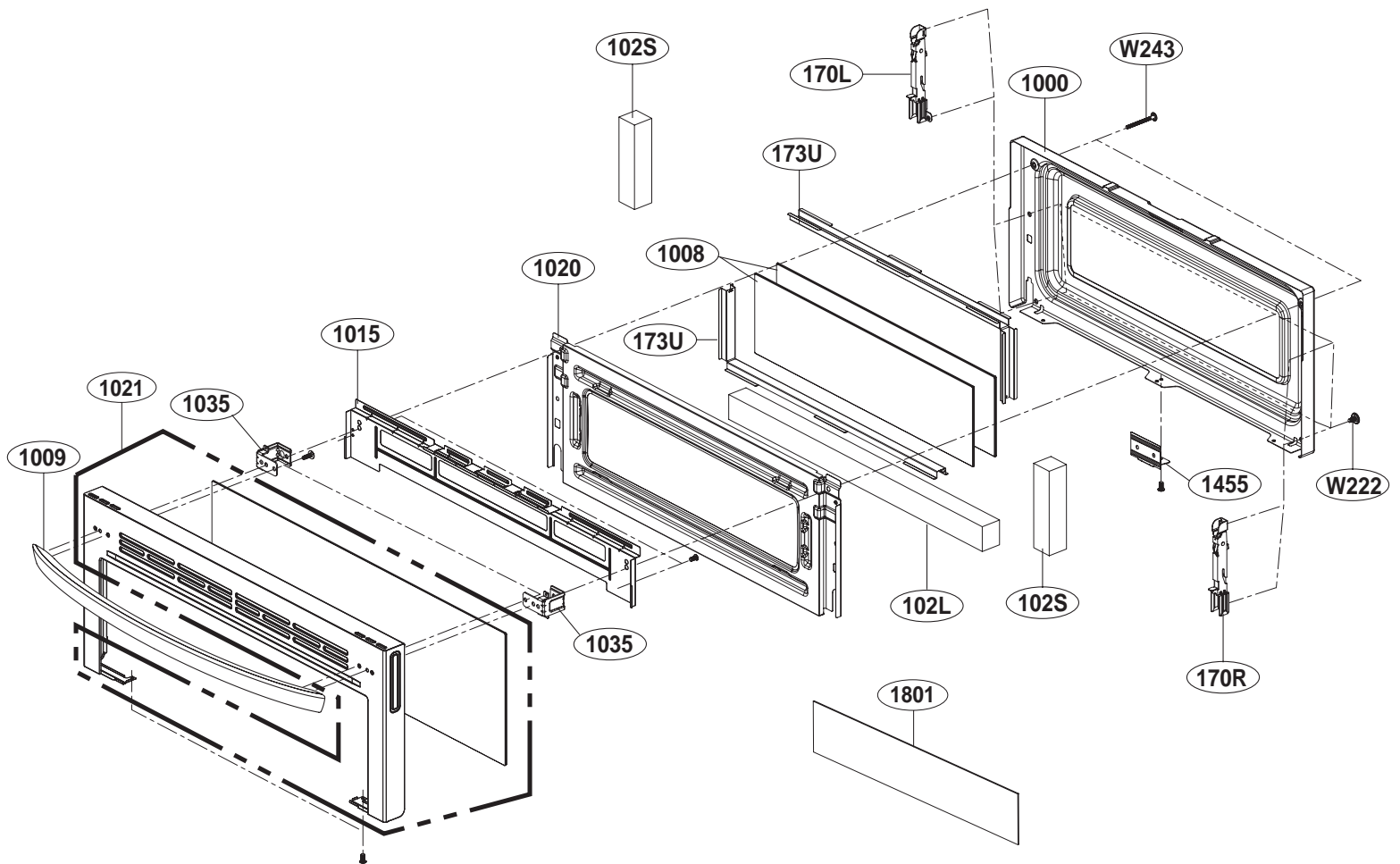
INTRODUCTION

Model:

Customer Model	Product Code	SVC Model
LDG4315ST	FB4763LS.ASTELGA	LDG4315ST /00
LDG4313ST	FB4753LS.ASTELGA	LDG4313ST /00

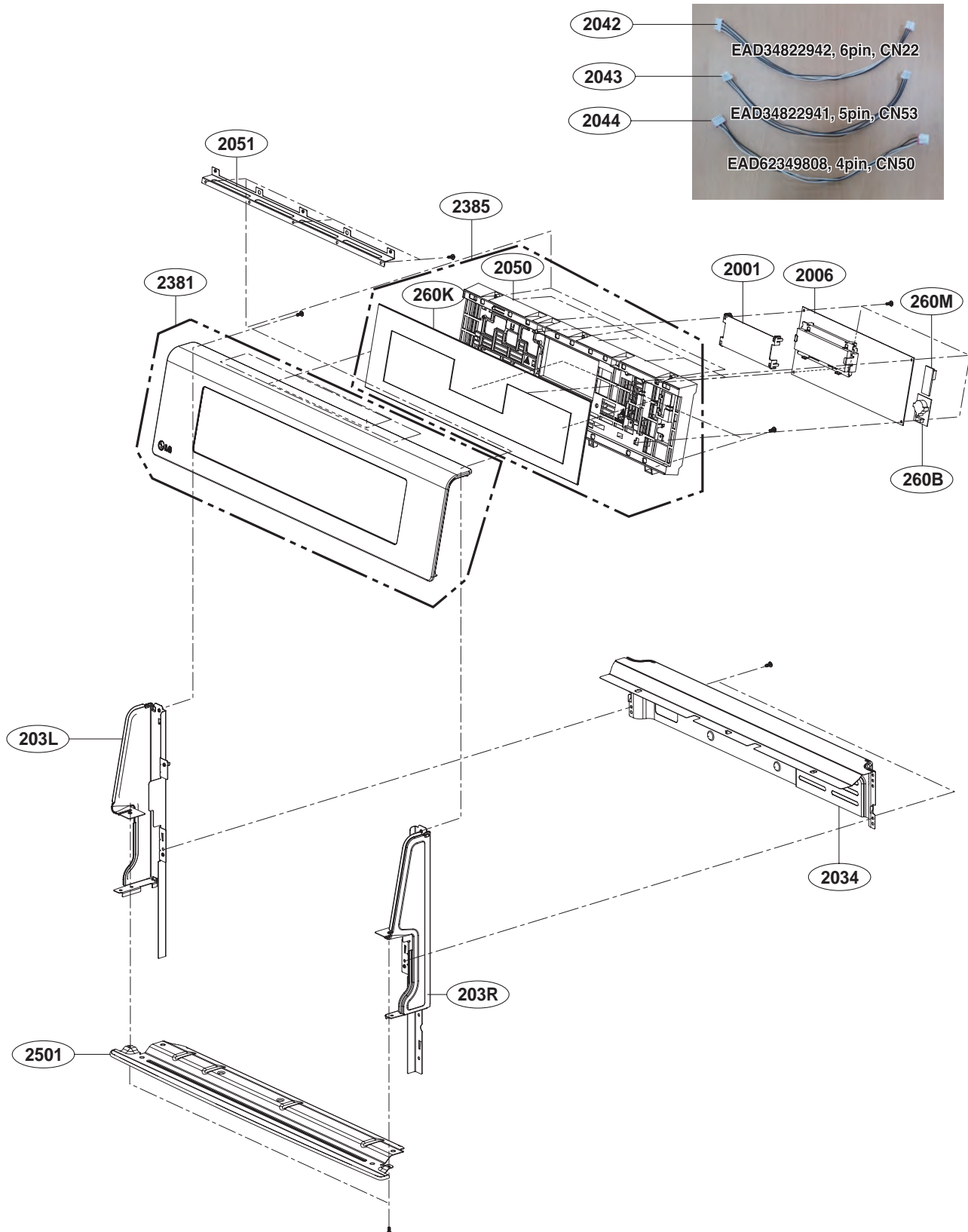


UPPER DOOR PARTS

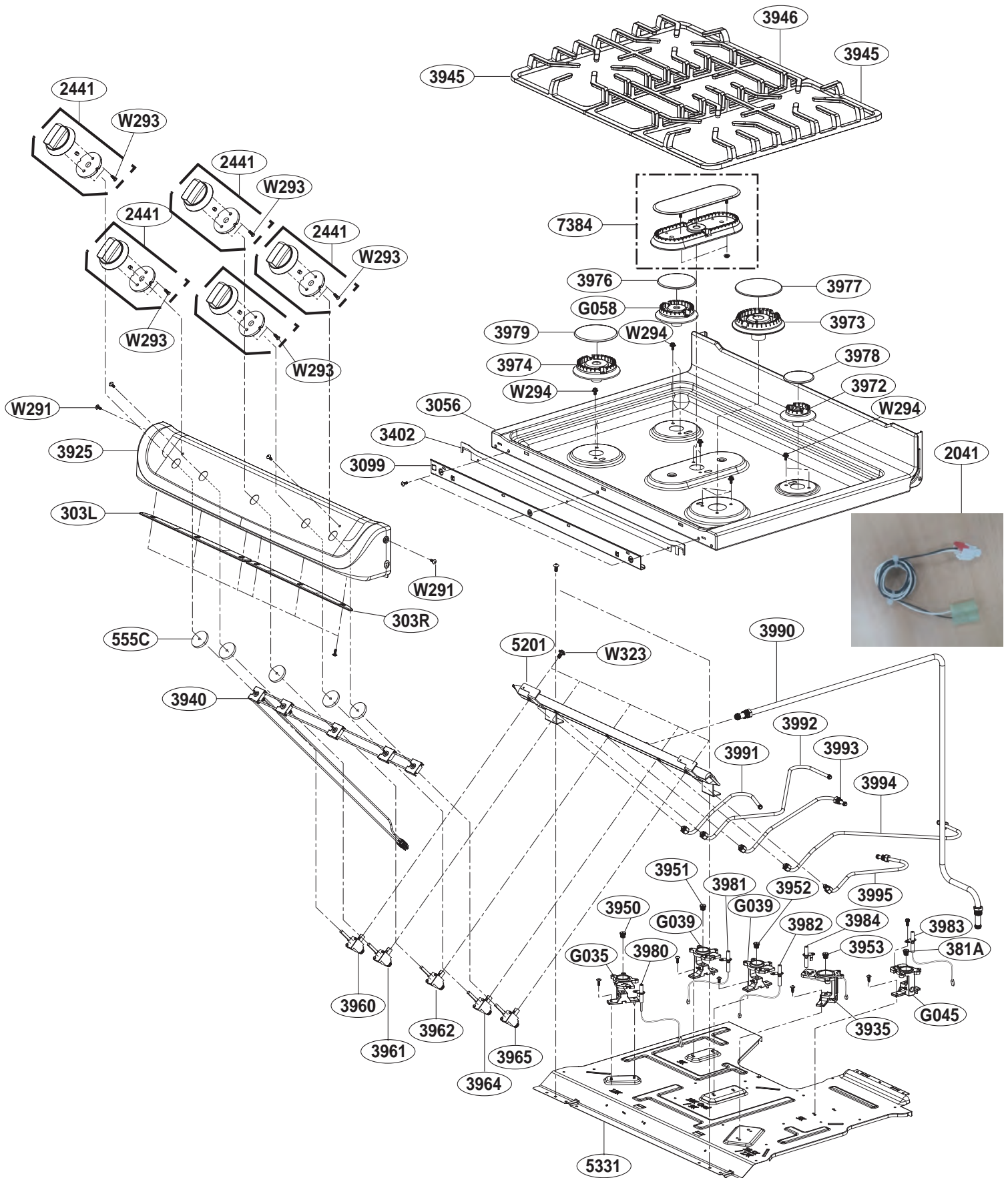




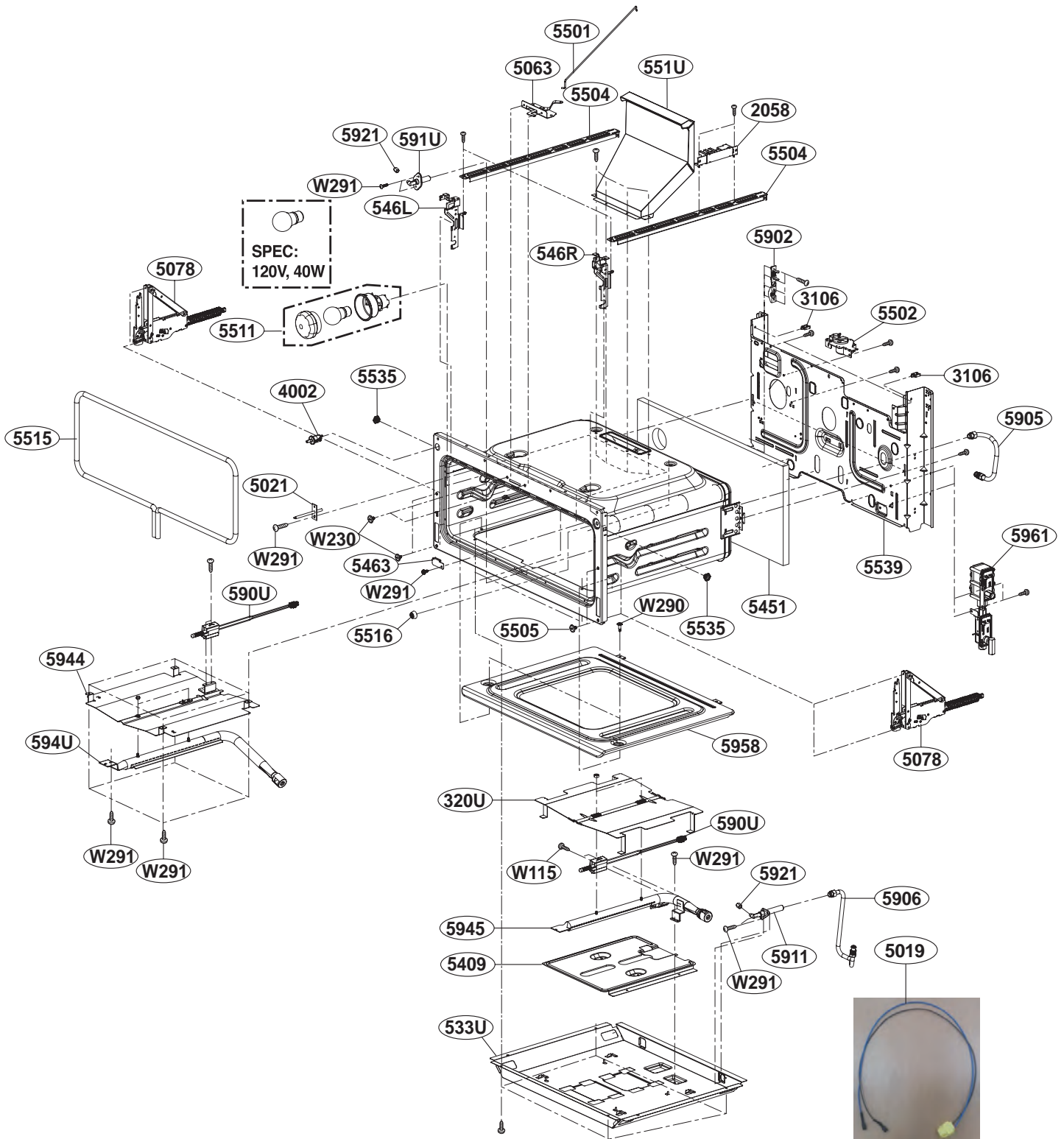
CONTROLLER PARTS



COOKTOP PARTS



UPPER CAVITY PARTS



LOWER CAVITY PARTS II

Model:

Customer Model	Product Code	SVC Model
LDG4313ST	FB4753LS.ASTELGA	LDG4313ST /00

