



Internal Use Only



30" Slide-in Gas Range

SERVICE MANUAL

**MODEL: LSG4513ST
LSG4513BD**

CAUTION

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

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FORWARD

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

SAFETY PRECAUTIONS

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

WARNING

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

- **Do not try to light any appliance.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Immediately call your gas supplier from a neighbor’s phone. Follow the gas supplier’s instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

WARNING

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

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

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GENERAL

IMPORTANT SAFETY INSTRUCTIONS

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



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



WARNING

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



CAUTION

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



WARNING

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



CAUTION

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

GENERAL

IMPORTANT SAFETY INSTRUCTIONS

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

WARNING



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

- **DO NOT step or sit on the door and install the Anti-Tip Bracket packed with range.**

- The range could be tipped and injury might result from spilled hot liquid, food, or the range itself.
- If the range is pulled away from the wall for cleaning, service, or any other reason, ensure that the Anti-Tip Device is properly reengaged when the range is pushed back against the wall.

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

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

Refer to the installation manual for proper anti-tip bracket installation.

WARNING

- **DO NOT touch burners, grates or interior surfaces of oven.**

- Burners, grates may be hot even though they are off.
- Interior surfaces of an oven become hot enough to cause burns.

- **During and after use, do not touch, or let clothing or other flammable materials contact burners, grates or interior surfaces of oven until they have had sufficient time to cool.**

- Other surfaces of the appliance may become hot enough to cause burns among these surfaces are oven vent openings and surfaces near these openings, oven doors, and windows of oven doors.

WARNING

- **DO NOT store items of interest to children in cabinets above a range or on the back guard of a range.**

- Children climbing on the range to reach items could be seriously injured.

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

WARNING

- **DISCONNECT power supply cord from the outlet before servicing.**

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

GENERAL

IMPORTANT SAFETY INSTRUCTIONS

SURFACE COOKING UNITS

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

SELF-CLEAN OVENS

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

VENTILATING HOODS:

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

OVEN

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

DEEP FAT FRYERS:

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

GENERAL

MODEL & SERIAL NUMBER LABEL AND TECH SHEET LOCATIONS

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

**Model & Serial
Number Location**



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



GENERAL

SPECIFICATIONS

Model Number		LSG4513ST / LSG4513BD
Category		Single Convection
Overall	Width	30"
	Installation type	Slide-in
	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. Setting the Hour mode 2. Convection Auto Conversion On/Off 3. Oven Temp Adjust 4. Preheat alarm light On/Off 5. Beeper volume High/Low/Mute 6. Select Fahrenheit or Celsius temperature
Cooktop	Material	STS
	# of element	5
Input Rate NAT / LP [BTU/hr]	LR	9.1k / 9.1k
	RR	5k / 5k
	CR	10k /10k
	LF	12k /10k
	RF	18.5k /12.5k
Oven	Capacity(cu.fe)	6.3
	Broil (NAT/ LP)[BTU/hr]	15K/12.5K
	Bake (BTU/hr)	19K/18K
	Convection system	Yes
	# of Racks	2(Heavy)
	Interior oven light	Auto / manual
	Proof	Yes
	Cook & warm	Yes
	Door lock out	Yes
	Broiler pan	NO
Drawer	Type	Storage Drawer
	Element	500W
	Warming rack	No
Dimensions (inch)	Oven Interior(W x H x D)	24 7/8 x 21 8/3 x 20
	Exterior - Width	29 7/8
	Exterior - Height	35 15/16(cooktop), 47 5/6 (Backguard)
	Exterior - Depth	26 9/16 (Door), 28 7/8 (Handle)
	Net weight: lbs (kg)	187.8 lbs (85.2kg)
Power	Rating	120V / 4.2A

USING YOUR RANGE

GENERAL INFORMATION

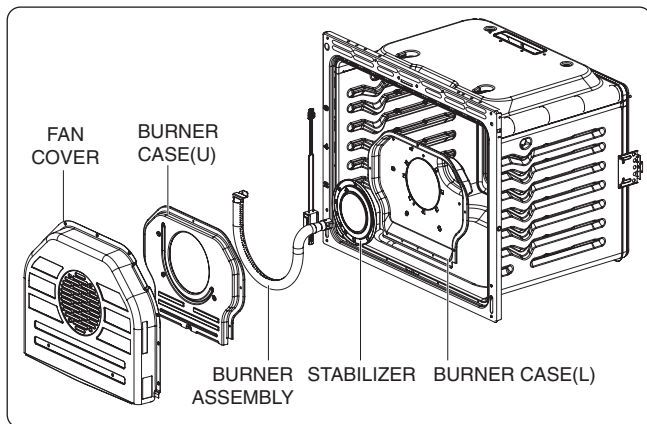
Rating Label

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

Functional Operation

Bake Mode

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



Convection Bake / Roast Mode

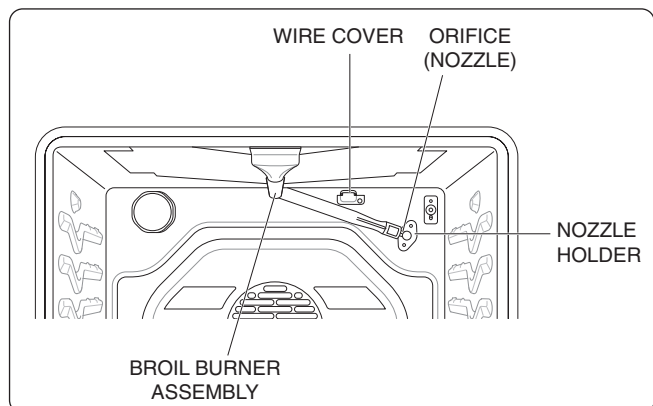
Convection bake should be used for cooking casseroles and roasting meats. Oven should be preheated for best results when using convection bake. The convection cooking modes automatically reduce the oven temperature by 25 °F (14 °C). The display shows the changed temperature.

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

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

Broil Mode

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

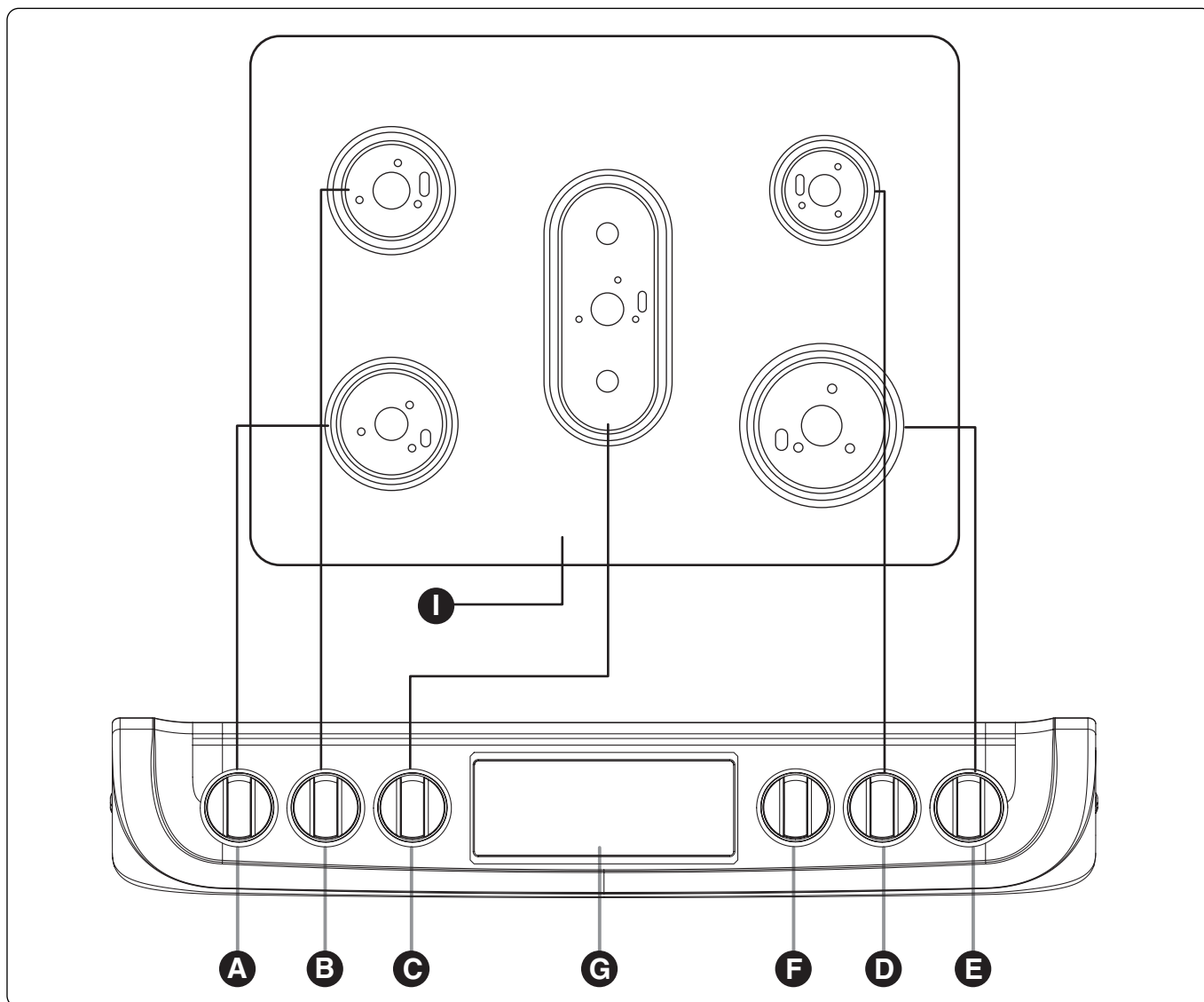


Cooking Guide

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

USING YOUR RANGE

CONTROL PANEL FEATURES



A. LEFT FRONT CONTROL KNOB: Use to control Left Front Burner

B. LEFT REAR CONTROL KNOB : Use to control Left Rear Burner

C. OVAL CONTROL KNOB: Use to control Oval Burner

D. RIGHT REAR CONTROL KNOB: Use to control Right Rear Burner

E. RIGHT FRONT CONTROL KNOB: Use to control Right Front Burner

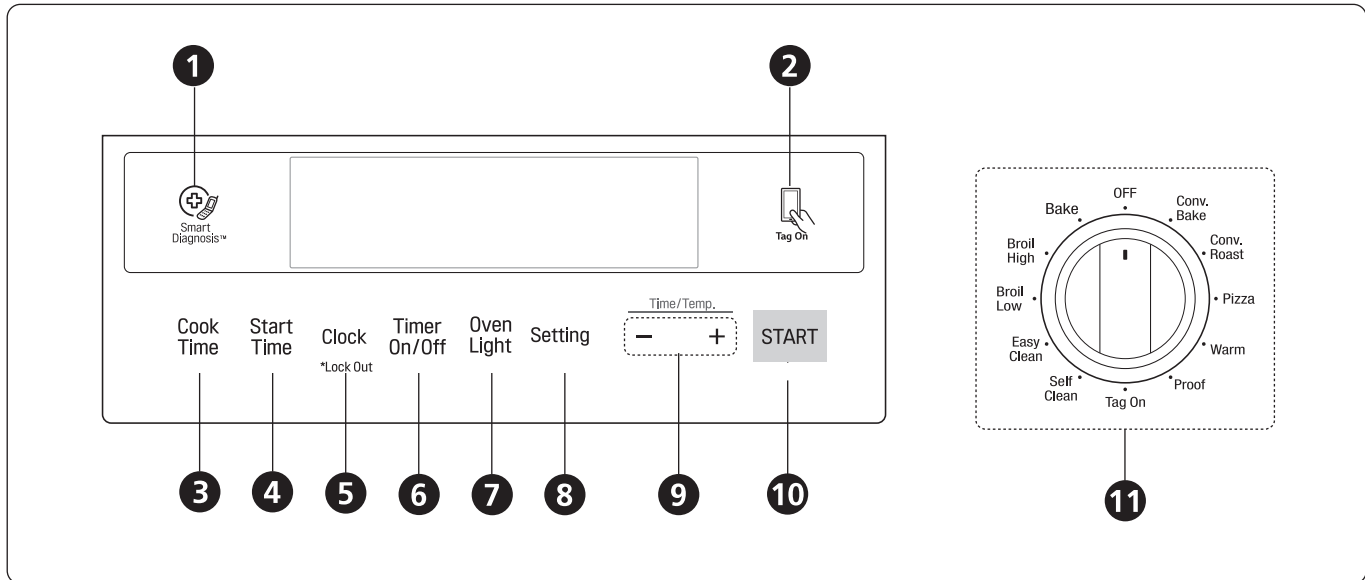
F. OVEN MODE KNOB: Turn the knob to select oven operating mode.

G. GAS OVEN CONTROL : Use to control Gas Oven.

USING YOUR RANGE

CONTROL PANEL FEATURES

Model: LSG4513ST / LSG4513BD



1. Smart Diagnosis™ – Use during the Smart Diagnosis feature.

2. Smart Features – The Tag On icon, for use with Smart Features.

3. Cook Time

Press the button to set the desired amount of time for food to cook. The oven shuts off when the set cooking time runs out.

4. START TIME

Press the button to set the delayed timed cook. The oven starts at the set time.

5. Clock / Lockout

- Press button to set the time of day.
- Press and hold button for three seconds to lock the door and control panel.

6. Timer On/Off – Press the button to set or cancel timer on oven.

7. Oven Light – Press the button to turn oven light on or off.

8. Setting – Press the button to select the warming drawer function.

9. - /+ – Press the plus button to increase cooking time or oven temperature. Press the minus button to decrease cooking time or oven temperature.

10. Start – Press the button to start all oven features.

11. Oven Mode Knob – Turn the knob to select oven operating mode

USING YOUR RANGE

Changing Oven Settings

Clock

The clock must be set to the correct time of day in order for the automatic oven timing functions to work properly.

1. Set the oven mode knob to the Off position.
2. Press and hold Cook Time for three seconds or press Clock. CLO shows in the display.
3. Press plus(+) or minus(-) to select the desired time. Plus(+) to increase the time and minus(-) to decrease the time.
4. Press Start to enter the time and start the clock.

NOTE:

- The time of day cannot be changed during a timed baking or self-clean cycle.
- If no other keys are pressed within 25 seconds of pressing Clock, the display reverts to the original setting.
- If the display colon in the clock is blinking, you may have experienced a power failure. Reset the time.

Oven Light

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

NOTE:

The oven light cannot be turned on if the Self Clean function is active.

Minimum & Maximum Default Settings

All of the features listed have a minimum and a maximum time or temperature setting that can be entered into the control. A beep sounds each time a control key is pressed.

Two short tones sound if the entry of the temperature or time is below the minimum or above the maximum setting for the feature.

Feature		min. Temp. / Time	max. Temp. / Time	Default
Clock	12 Hr.	1:00 Hr. / min.	12:59 Hr. / min.	
	24 Hr.	0:00 Hr. / min.	23:59 Hr. / min.	
Timer	12 Hr.	0:10 min. / sec.	11:59 Hr. / min.	
	24 Hr.	0:10 min. / sec.	11:59 Hr. / min.	
Cook Time	12 Hr.	0:01 Hr. / min.	11:59 Hr. / min.	
	24 Hr.	0:01 Hr. / min.	11:59 Hr. / min.	
Conv. Bake		300 °F / 150 °C	550 °F / 285 °C	350 °F (*325 °F)/ 12 Hr.
Conv. Roast		300 °F / 150 °C	550 °F / 285 °C	350 °F (*325 °F)/ 12 Hr.
Broil		Lo 400 °F	Hi 500 °F	Hi / 3 Hr.
Bake		170 °F / 80 °C	550 °F / 285 °C	350 °F / 12 Hr.
Proof				12 Hr.
Pizza				12 Hr.
Warm		2 Hr.	5 Hr.	3 Hr.
Self Clean				3 Hr.
EasyClean®				10 min.

* Using Auto Conversion

- Default cook mode times are without setting cook time.

USING YOUR RANGE

Timer On/Off

The Timer On/Off serves as an extra timer in the kitchen that beeps when the set time has run out. It does not start or stop cooking.

The Timer On/Off feature can be used during any of the oven control functions.

For example to set 5 minutes

1. Set the oven mode knob to the Off position.
2. Press the Timer On/Off. 0:00 with HR inside it appears and Timer flashes in the display.
3. Press plus(+) or minus(-) to set the desired time. Plus(+) to increase the time and minus(-) to decrease the time.
4. Press Timer On/Off or Start to start the Timer. The remaining time countdown appears in the display.

NOTE:

- If Timer On/Off is pressed, the timer returns to the time of day.

5. When the set time runs out, End shows in the display. The indicator tones sound every 15 seconds until Timer On/Off is pressed.

NOTE:

- If the remaining time is not in the display, recall the remaining time by pressing Timer On/Off.
- Press Timer On/Off twice to set the time in minutes and seconds.
- Press Timer On/Off once to set the time in hours and minutes.

Cancelling the Timer

1. Press Timer On/Off once.
The display returns to the time of day.

Settings

Set the oven mode knob to the Off position. Press and hold Start Time for three seconds or press Setting. Then press the Start Time or Setting key repeatedly to toggle through and change oven settings.

The Settings key allows you to:

- set the hour mode on the clock (12 or 24 hours)
- enable/disable convection auto conversion
- adjust the oven temperature
- activate/deactivate the preheating alarm light

- set the beeper volume
- switch the temperature scale between Fahrenheit and Celsius

Setting the Hour Mode

The control is set to use a 12-hour clock. To reset the clock to 24-hour mode, follow the steps below.

1. Set the oven mode knob to the Off position.
2. Press and hold Start Time for three seconds or press Setting.
3. Press plus(+) or minus(-) to set the desired hour mode on the clock.
4. Press Start to accept the desired change.

Setting Convection Auto Conversion

When Conv. Bake and Conv. Roast are selected, Convection Auto Conversion automatically converts the standard recipe temperature entered to a convection temperature by subtracting 25 °F / 14 °C. This auto-converted temperature shows on the display. For example, select Conv. Bake, enter 350 °F, and 325 °F shows on the display after preheat.

Convection Auto Conversion is enabled by default. To change the setting, follow these instructions

1. Set the oven mode knob to the Off position.
2. Press and hold Start Time for 3 seconds or press Setting. Then press Start Time or Setting repeatedly until Auto appears in the display.
3. Press plus(+) or minus(-) to enable or disable the feature.
4. Press Start to accept the change.

Adjusting the Oven Thermostat

Your new oven may cook differently from the one it replaced. Use your new oven for a few weeks to become more familiar with it before changing the temperature settings. If after familiarizing yourself with the new oven, you still think that it is too hot or too cold, you can adjust the oven thermostat yourself.

NOTE:

To begin, either raise or lower the thermostat 15 °F (8 °C). Try the oven with the new setting. If the oven still needs adjustment, raise or lower the thermostat again, using the first adjustment as a gauge. For example, if the adjustment was too much, raise or lower the thermostat 10 °F (5 °C). If the adjustment

USING YOUR RANGE

was not enough, raise or lower the thermostat 20 °F (12 °C). Proceed in this way until the oven is adjusted to your satisfaction.

1. Set the oven mode knob to the Off position.
2. Press and hold Start Time for three seconds or press Setting. Then press Start Time or Setting repeatedly until AdJU appears in the display.
3. To increase the temperature, press plus (+) until the desired amount appears in the display. To decrease the temperature, press minus (-) until the desired amount appears in the display.
4. Press Start to accept the change.

NOTE:

- This adjustment does not affect the broiling or Self Clean temperatures. The adjustment is retained in memory after a power failure. The oven thermostat can be increased (+) or decreased (-) as much as 35 °F or 19 °C.
- Once the thermostat is increased or decreased, the display shows the adjusted temperature until it readjusts.

Turning the Preheat Alarm Light On/Off

When the oven reaches its set-temperature, the preheating alarm light flashes until the oven door is opened.

You can activate or deactivate the preheating alarm light.

1. Set the oven mode knob to the Off position.
2. Press and hold Start Time for three seconds or press Setting. Then press Start Time or Setting repeatedly until PrE appears in the display.
3. Press plus(+) or minus(-) to turn the function on/off.
4. Press Start to accept the change.

Adjusting the Beeper Volume

1. Set the oven mode knob to the Off position.
2. Press and hold Start Time for three seconds or press Setting. Then press Start Time or Setting repeatedly until Beep appears in the display.
3. Press plus(+) or minus(-) to select the desired volume.
4. Press Start to accept the change.

Selecting Fahrenheit or Celsius

Set the oven temperature display to show either Fahrenheit (°F) or Celsius (°C) units. The oven defaults to Fahrenheit unless changed by the user.

1. Set the oven mode knob to the Off position.
2. Press and hold Start Time for three seconds or press Setting. Then press Start Time or Setting repeatedly until Unit appears in the display.
3. Press plus(+) or minus(-) to select F(Fahrenheit) or C(Centigrade).
4. Press Start to accept the change.

Lockout

The Lockout feature automatically locks the oven door and prevents most oven from being turned on. It does not disable the timer and the interior oven light.

1. Set the oven mode knob to the Off position.
2. Press and hold Probe or Clock for three seconds.
3. The lock melody sounds, Loc appears in the display and the lock icon blinks in the display.
4. Once the oven door is locked, the lock indicator stops blinking and remains on.
5. To deactivate the Lockout feature, press and hold Probe or Clock for three seconds. The unlock melody sounds and the door and the controls unlock.

Start Time (Delayed Timed Cook)

The automatic timer of the Delayed Timed Cook function turns the oven on and off at the time you select. This feature can be used with the Bake, Conv. Bake and Conv. Roast modes.

Setting a Delayed Timed Cook

For example, to bake at 300 °F and delay the start of baking until 4:30, first set the clock for the correct time of day.

1. Turn the oven mode knob to select the Bake mode. 350 °F appears in the display.
2. Set the temperature: press minus(-) until 300 °F appears in the display.
3. Press Cook Time and set the baking time.
4. Press Start Time.
5. Set the start time: press plus(+) until 4:30 appears in the display.

USING YOUR RANGE

6. Press Start. A short beep sounds and Timed Delay and the start time appear in the display. The oven begins baking at the set start time.

NOTE:

- To cancel the Delayed Timed Cook function, turn the oven mode knob to the Off position.
- To change the cooking time, repeat step 3 and press Start.
- If the oven clock is set as a 12-hour clock, you can delay the cook time for 12 hours. If the oven clock is set as a 24-hour clock, you can delay the cook time for 24 hours.

The oven will continue to cook for the set amount of time and then turn off automatically. When the cooking time has elapsed:

- End and the time of day show in the display.
- The cook end indicator tone sounds every 60 seconds until the oven mode knob is turned to the Off position.

CAUTION

- **Use the automatic timer when cooking cured or frozen meats and most fruits and vegetables. Foods that can easily spoil, such as milk, eggs, fish, meat or poultry, should be chilled in the refrigerator. Even when chilled, they should not stand in the oven for more than 1 hour before cooking begins, and should be removed promptly when cooking is completed.**
- **Eating spoiled food can result in sickness from food poisoning.**

Cook Time (Timed Cook)

Set the oven to cook for a specific length of time using the Timed Cook feature. This feature can only be used with the Bake, Conv. Bake and Conv. Roast modes.

Setting a Timed Cook

For example, to bake at 300 °F for 30 minutes, first

set the clock to the correct time of day.

1. Turn the oven mode knob to select the Bake mode. 350 °F appears in the display.
2. Set the oven temperature. For this example, press minus(-) until 300 °F appears in the display.
3. Press Cook Time. Timed flashes in the display. Bake, 0:00 and 300 °F appear in the display.
4. Set the baking time: press plus(+) until 30:00 appears in the display. The baking time can be set for any amount of time between 1 minute and 11 hours and 59 minutes.
5. Press Start.

The oven will continue to cook for the set amount of time and then turn off automatically. When the cooking time has elapsed:

- End and the time of day show in the display.
- The cook end indicator tone sounds every 60 seconds until the oven mode knob is turned to the Off position.

Changing the Cook Time during Cooking

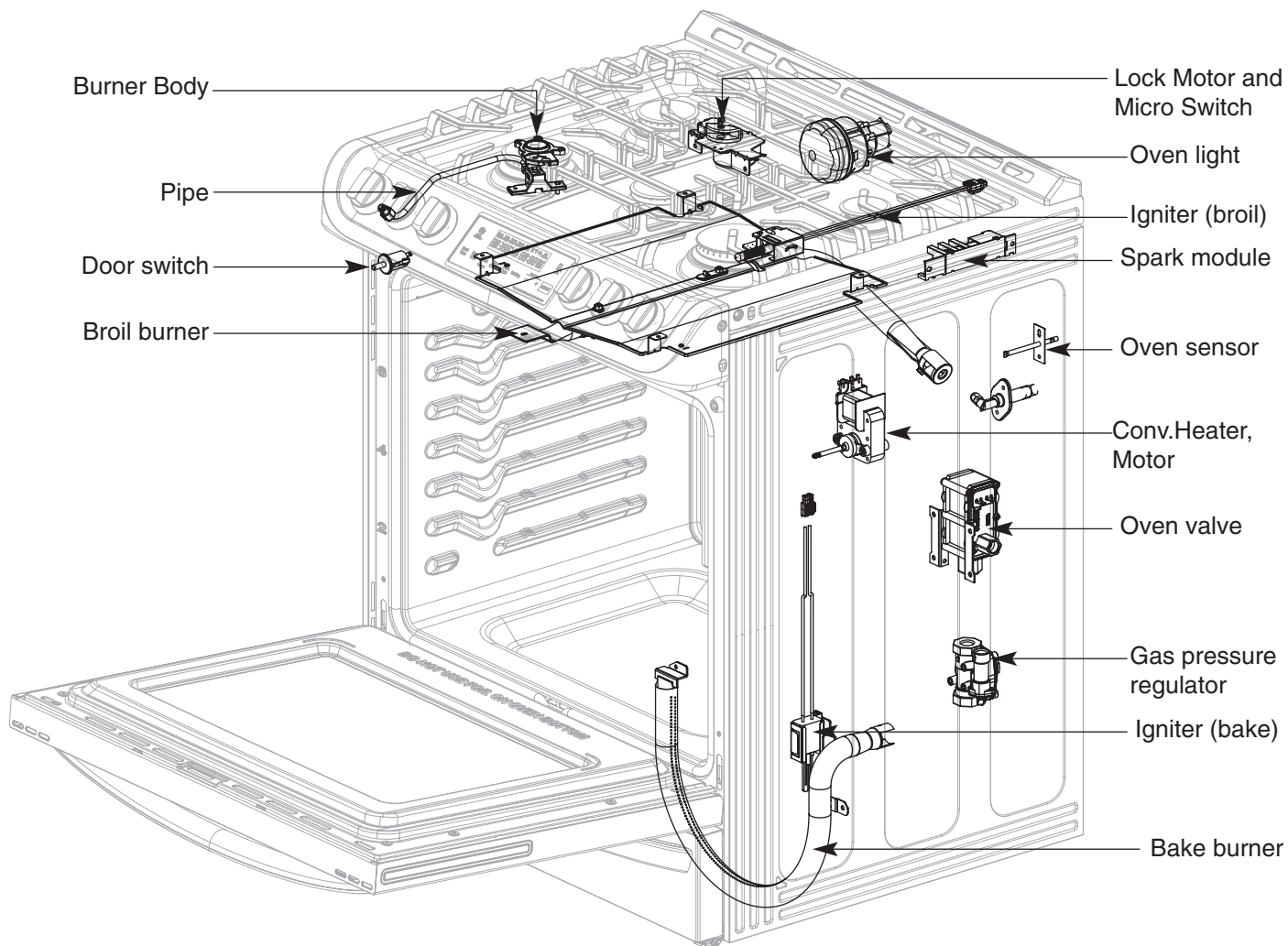
For example, to change the cook time from 30 minutes to 1 hour and 30 minutes, do the following.

1. Press Cook Time.
2. Change the baking time: press plus(+) until 1 hour and 30 minutes appears in the display.
3. Press Start to accept the change.

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 COVER

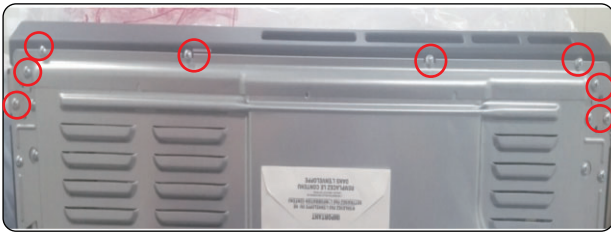
WARNING

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

CAUTION

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

1. Turn off the electrical supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. To remove the back cover, remove 8 screws from top cover



4. Remove the remaining 12 screws



COMPONENT ACCESS

REMOVING THE OVEN RELAY PCB, POWER PCB, POWER RELAY

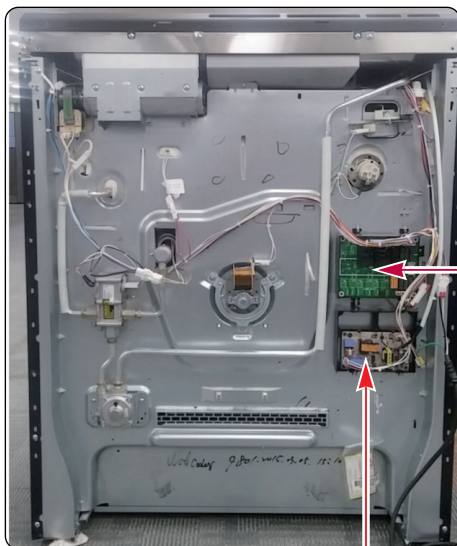
⚠ WARNING

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

⚠ CAUTION

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

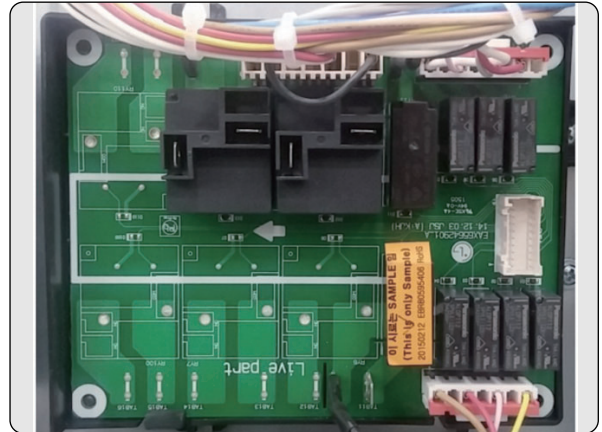
1. Turn off the electrical supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove back cover (See step 3 on page 3-2)



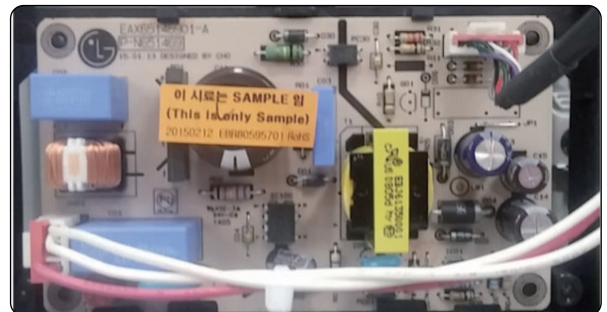
Power Relay

Oven Relay PCB

4. To remove the Oven Relay PCB, Disconnect 4ea connectors.



5. To remove the Power Relay, Disconnect 2ea connectors.



COMPONENT ACCESS

REMOVING THE CONTROLLER

⚠ WARNING

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

⚠ CAUTION

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

1. Turn off the electrical supply going to the range.
2. Open the oven door.
3. Remove the 4 screws located at the front side of the cooktop.



4. Remove the 4 screws located under the controller.



5. To remove the knob, Pull out the knob of range.



6. Pull the controller from the range



You can remove the controller after unplug the 8ea connectors of Main PCB and Cooktop.

COMPONENT ACCESS

REMOVING THE MAIN PCB AND KEY PCB ASSEMBLY

⚠ WARNING

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

⚠ CAUTION

- **Be careful when you work on the electric range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.
 - After complete separation of the Controller from the product, please removed the PCB Assembly.

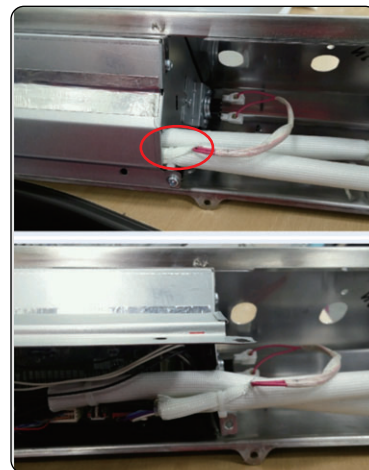
1. Turn off the electrical supply going to the range.
2. Pull the controller from the range. (See page 3-4)
3. To remove the Main PCB, remove the bracket and remove the 3 screws of Main PCB and separate Main PCB after unplugging the connectors.



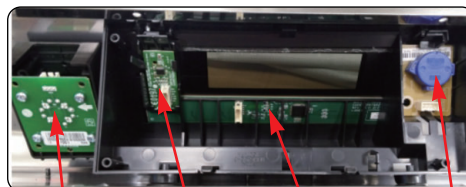
Bracket

4. Controller wire should be held by the wire holding structure of controller assembly.

REASSEMBLY NOTE : When reassembled after disassembly, Put the Harness exactly the duct hole.



5. To remove the Key PCB assembly Remove the 2 screws of the Main PCB supporter.



Encoder PCB Key PCB Buzzer PCB
NFC PCB



REASSEMBLY NOTE : When you reinstall the Key PCB Assembly make sure that the upper brackets of it are inserted into the correct guide then reinstall the lower bracket screw.

COMPONENT ACCESS

REMOVING THE COOKTOP PLATE

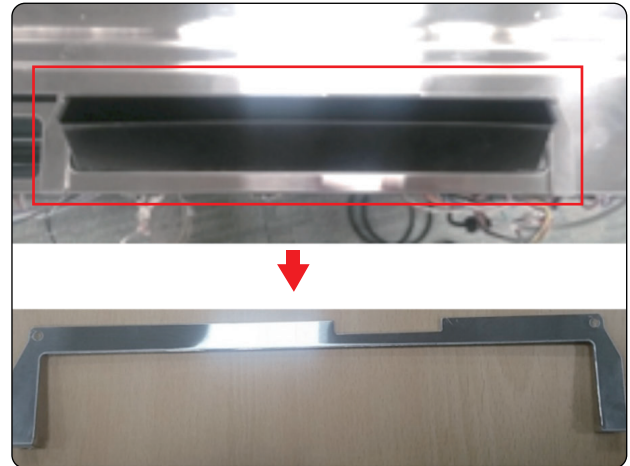
WARNING

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

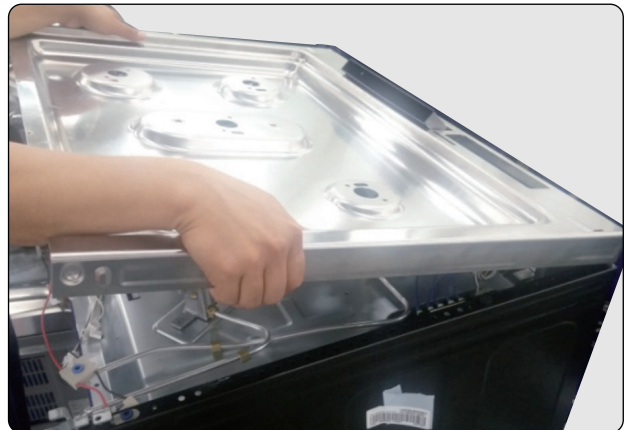
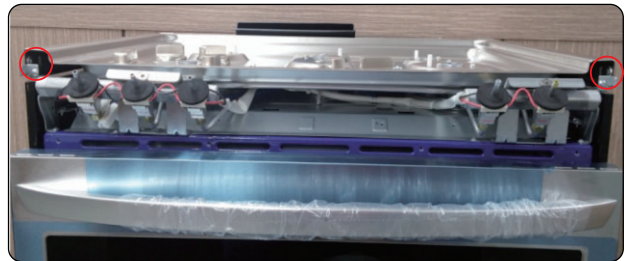
1. Turn off the electrical supply and gas supply going to the range.
2. Remove the griddle, grates, burner caps and burner heads.
3. Remove all 11 screws from cooktop burner housings.
4. Remove 4 screws on the back cover from the cooktop.



5. Remove the vent bracket



6. Remove the 2 screws and lift top up at front.



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

COMPONENT ACCESS

ASSMBLY THE COOLING FAN

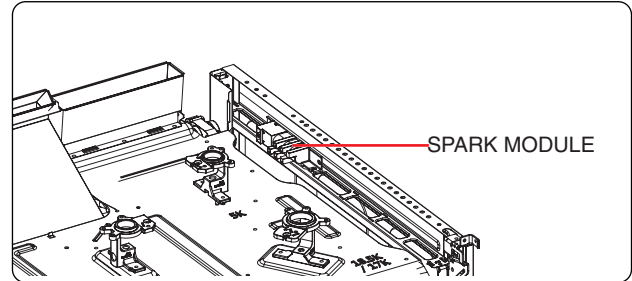
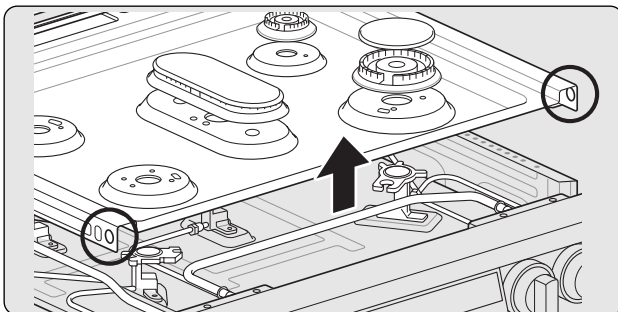
⚠ WARNING

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

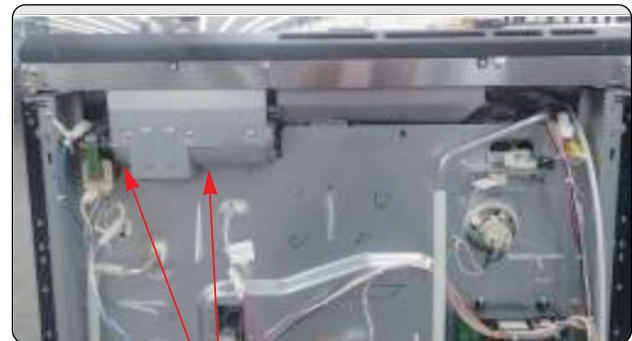
⚠ CAUTION

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

1. Turn off the electrical supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove the back cover, remove 15 screws from the back cover.
4. Remove vent trim rear cover, rear cover, vent trim and vent cover.
- 5 Using a phillips head screwdriver remove the 2 side and 4 front and the 2 under screws of the manifold.
- 6 Remove (11EA) hex-Phillips head screws on the cook top. And lift it.



7. You can find cooling fan. Please be assembled with a screws 2(EA) the cooling fan.



screw

COMPONENT ACCESS

REMOVING THE COOKTOP PARTS

⚠ WARNING

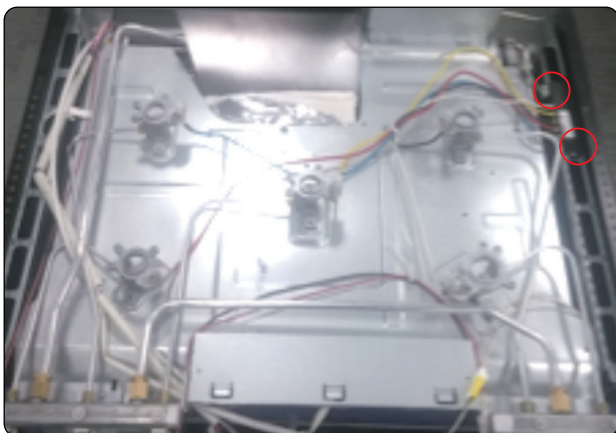
- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

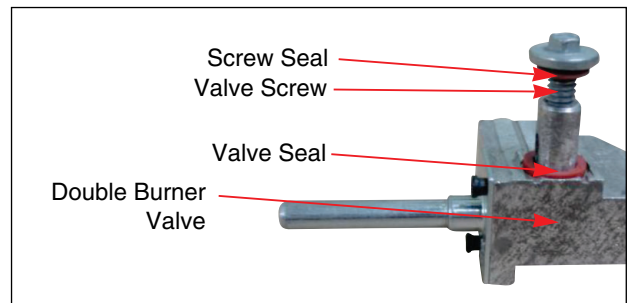
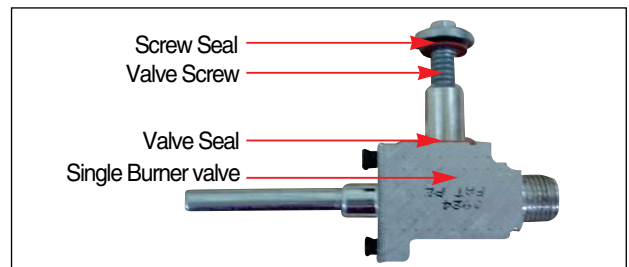
- The 2 lock tabs on each igniter switch are fragile. Tab breakage can occur if excessive release pressure is applied.
- Check that the gas seal gasket on the screw and the gas valve remain in place before installing the new gas valve.

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

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

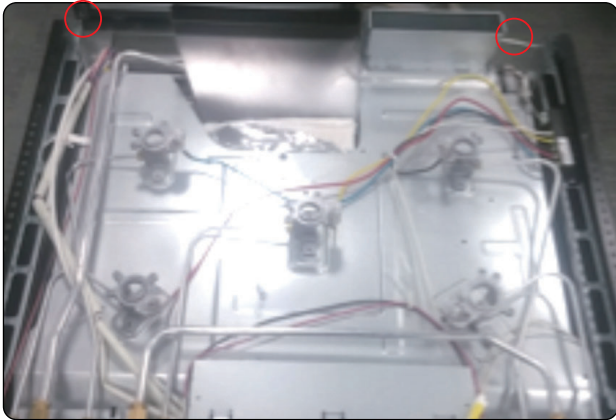


3. To remove the valve:
 - a) Remove the manifold panel (See the step 3 on page 3-5).
 - b) Remove the fitting that you need to remove.
 - c) Remove the ignition switch by prying on the 2 release tabs and slide the switch off the valve stem.
 - d) Remove the valve screw and remove the valve.

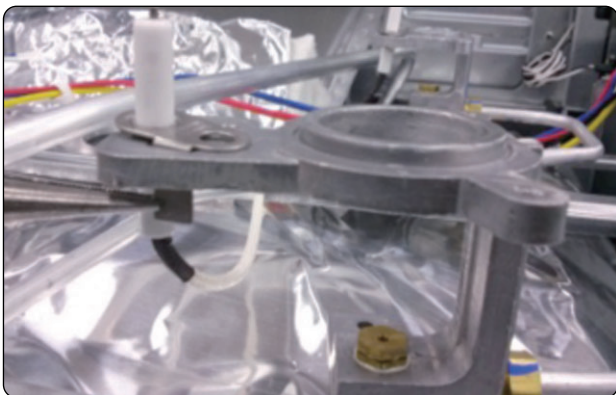


COMPONENT ACCESS

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



5. To remove the electrode (spark plug):
 - a) Remove the connector from the spark module.
 - b) Stretch the electrode bracket.
 - c) Remove the electrode from the burner housing.



COMPONENT ACCESS

REMOVING THE DOOR LATCH & DOOR SWITCH

WARNING

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

CAUTION

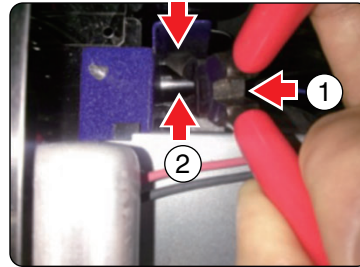
- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.

1. Turn off the electrical supply and gas supply going to the range.
2. Open the oven door.
3. Remove the cooktop plate, manifold and the case assembly (see page from 3-4 ~ 3-7 for the procedure).
4. To remove the door latch:
 - a) Remove the two screws from the door latch and remove the latch.

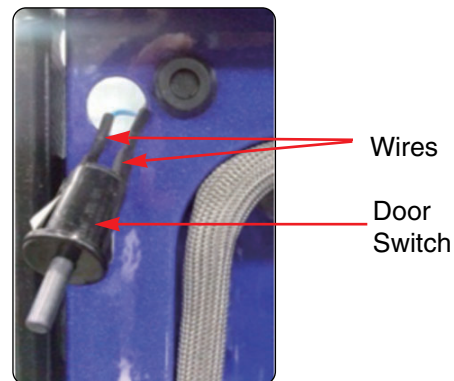


2 Screws

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



- b) Disconnect the wires from the terminals.



COMPONENT ACCESS

REMOVING THE BROIL BURNER ASSEMBLY

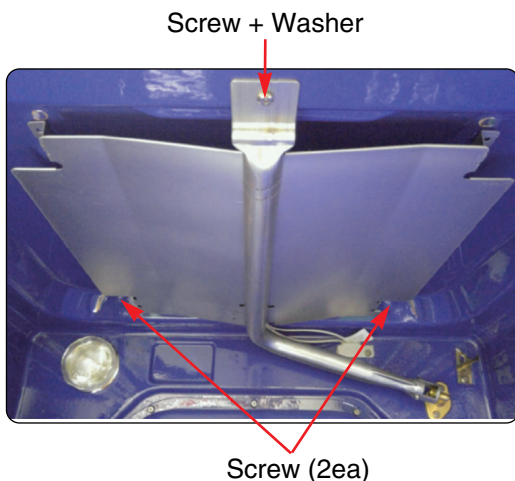
⚠ WARNING

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

⚠ CAUTION

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

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



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

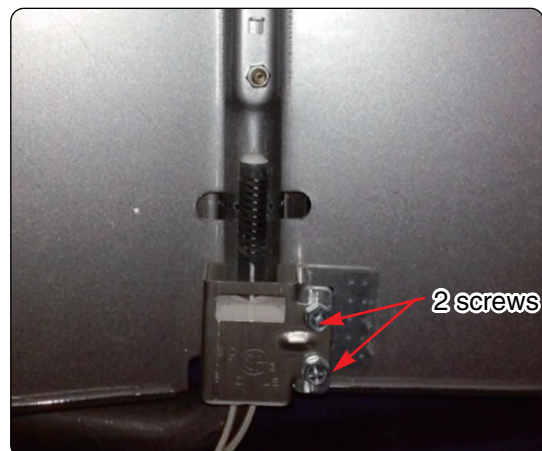


- d) Remove the broil burner assembly.

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



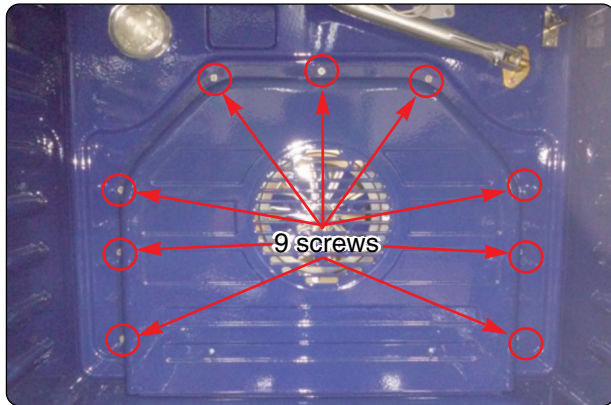
4. To remove the igniter:
 - a) Perform step 1-3 on this page.
 - b) Remove the 2 screws and then remove the igniter.



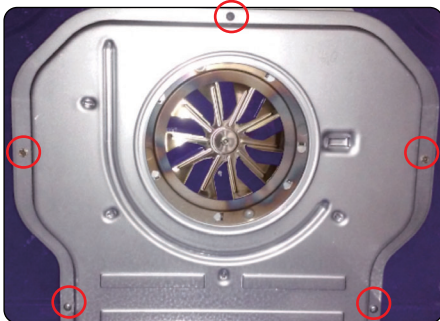
COMPONENT ACCESS

REMOVING THE CONVECTION FAN BLADE AND FAN MOTOR

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

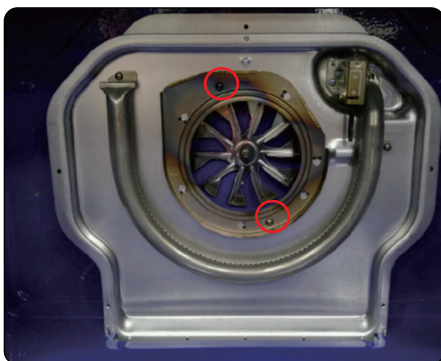


3. Remove 5 screws from the burner assembly and then remove the burner cover U.



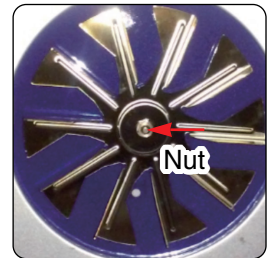
< burner cover U >

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



< Stabilizer >

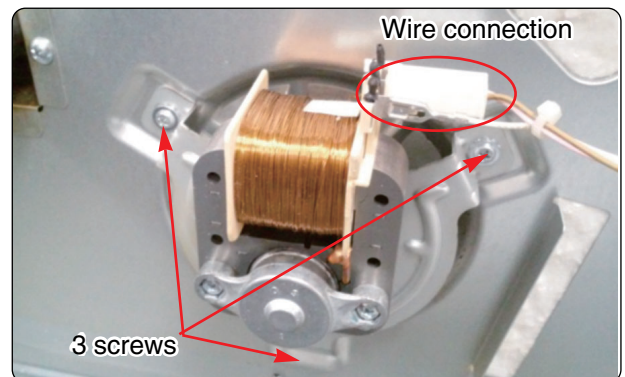
5. To remove the fan blade :
 - Remove the nut by screwing clockwise. The fan blade can be replaced from inside oven.



CAUTION

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

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



COMPONENT ACCESS

REMOVING THE OVEN LIGHT & SOCKET ASSEMBLY

⚠ WARNING

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

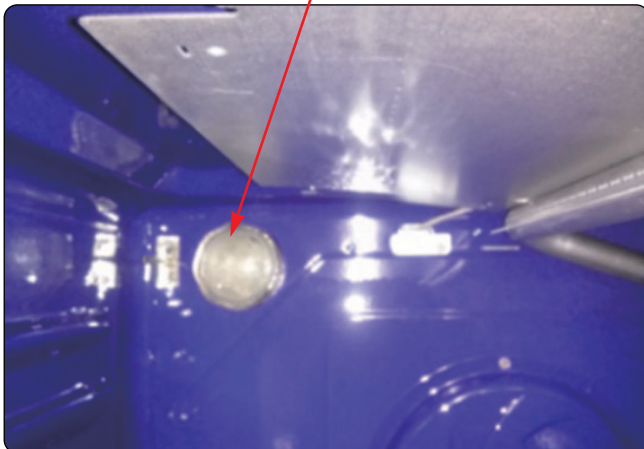
⚠ CAUTION

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

To replace:

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.

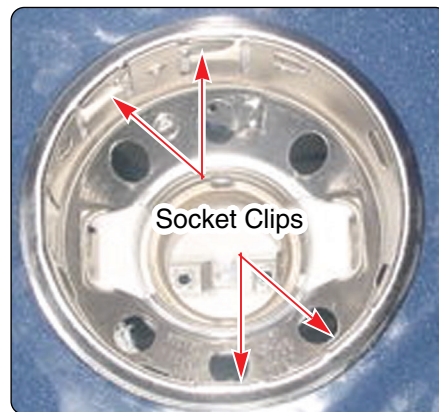
Glass cover & Bulb



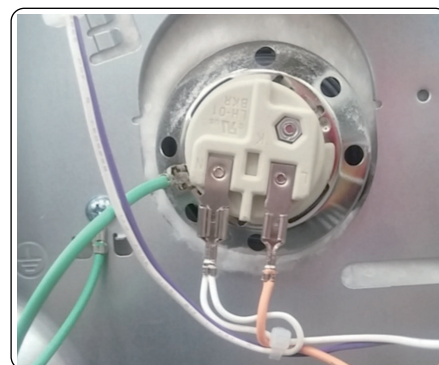
⚠ CAUTION

- **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 LATCH DRIVE ASSEMBLY

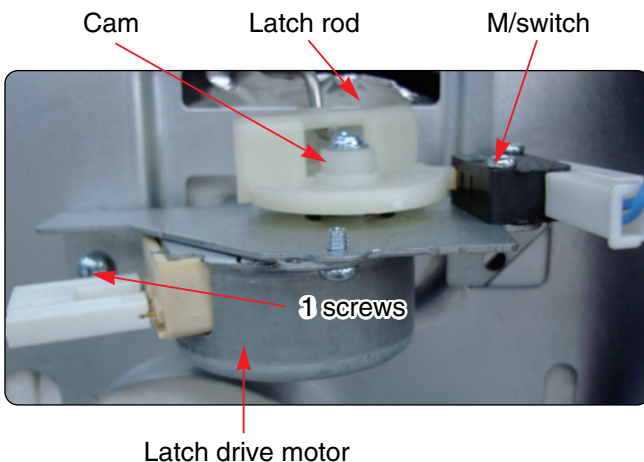
⚠ WARNING

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

⚠ CAUTION

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

1. Turn off the electrical supply and gas supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove the back cover
(See step 5~6 on page 3-2 for procedure)
4. Disconnect the wires from the latch drive motor and switch.
5. Remove the 1 mounting screws from the latch drive.



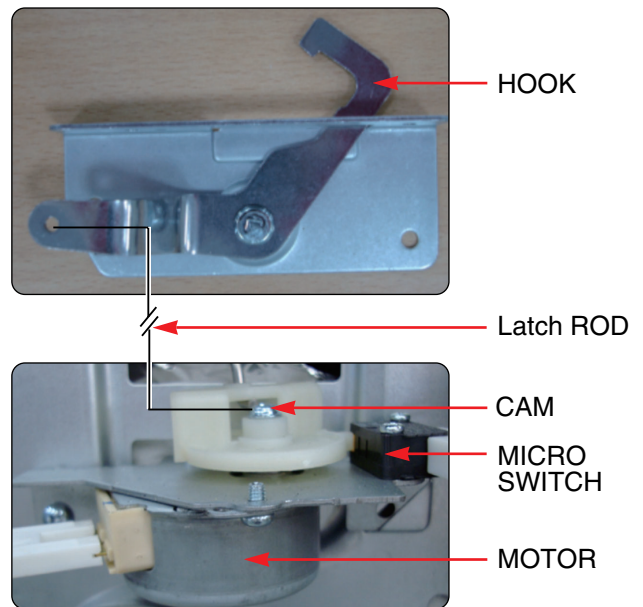
6. Unhook the Latch rod from the cam.

DOOR LOCKING MECHANISM

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

The structural elements are as below.

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



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

COMPONENT ACCESS

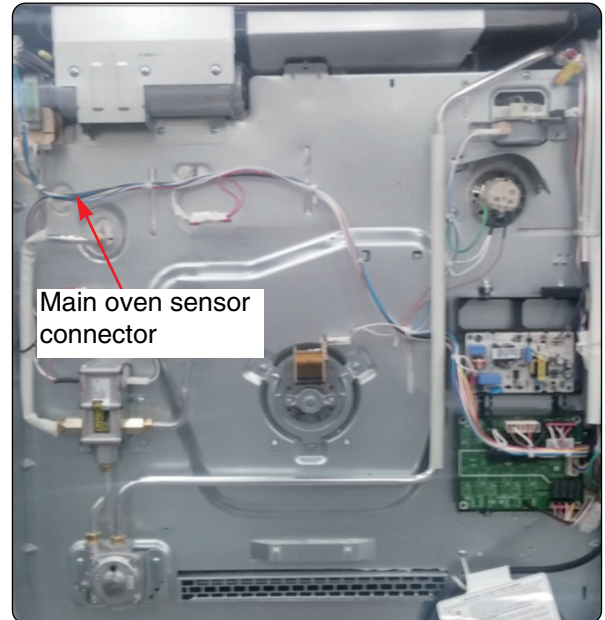
REMOVING THE OVEN TEMPERATURE SENSORS

⚠ WARNING

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

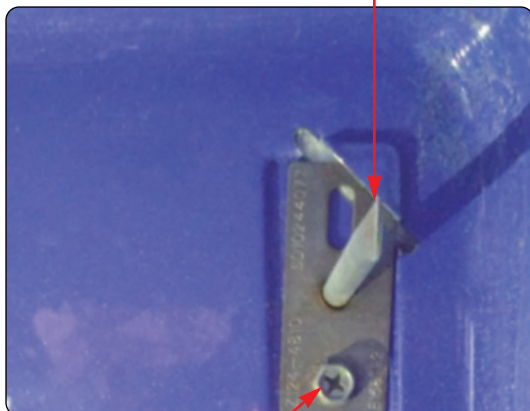
⚠ CAUTION

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



1. Turn off the electrical supply and gas supply going to the range.
2. Open the oven door and remove the racks from the oven.
3. To remove an oven temperature sensor, disconnect the connector from the main harness and remove the mounting screw in oven cavity.

Main Oven Sensor



screws

COMPONENT ACCESS

REMOVING & REPLACING THE LIT-OFF OVEN DOOR AND DRAWER

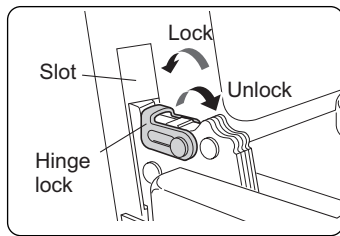
CAUTION

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

Removing the Door

1. Fully open the door.

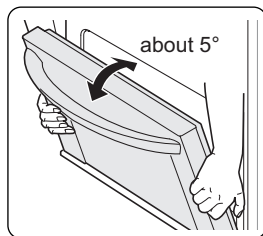
2. Unlock the hinge locks, rotating them as far toward the open door frame as they will go.



<Fig.1>

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

4. Close the door to the removal position (approximately five degrees) which is halfway between the broil stop position and fully closed. If the position is correct, the hinge arms will move freely.



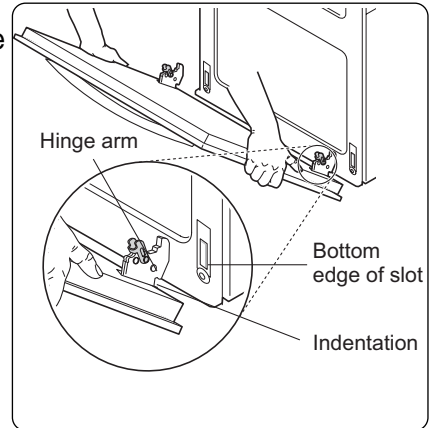
<Fig.2>

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

Replacing the Door

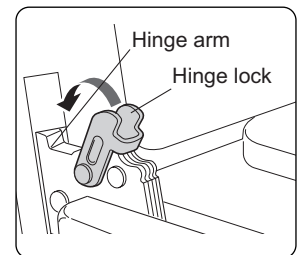
1. Firmly grasp both sides of the door at the top.

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



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

4. Lock the hinge locks, rotating them back toward the slots in the oven frame until they lock.



5. Close the oven door.

COMPONENT ACCESS

REMOVING & REPLACING THE LIT-OFF OVEN DOOR AND DRAWER

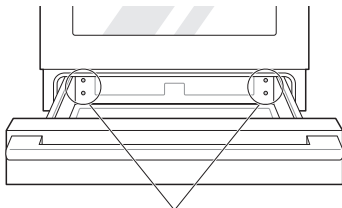
CAUTION

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

Removing the Drawer

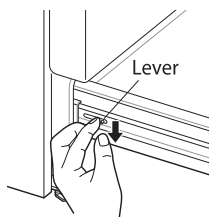
Most cleaning can be done with the drawer in place; however, the drawer may be removed if further cleaning is needed. Use warm water to thoroughly clean.

1. Fully open the drawer.
2. Remove the two screws.

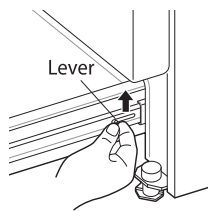


Remove screws

3. Locate the glide lever on each side of the drawer.
Push down on the left glide lever and pull up on the right glide lever.



Push down with finger



Pull up with finger

4. Pull the drawer away from the range.

Replacing the Drawer

1. Pull the bearing glides to the front of the chassis glide.
2. Align the glide on each side of the drawer with the glide slots on the range.
3. Push the drawer into the range until levers “click” (approximately 2 inch).
4. Pull the drawer open again to seat bearing glides into position.
5. Replace the two screws.

COMPONENT ACCESS

REMOVING THE OVEN DOOR HANDLE & GLASS

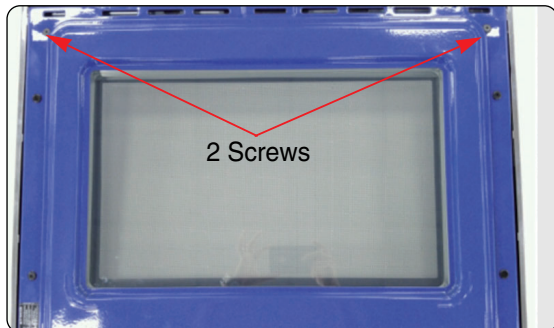
⚠ WARNING

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

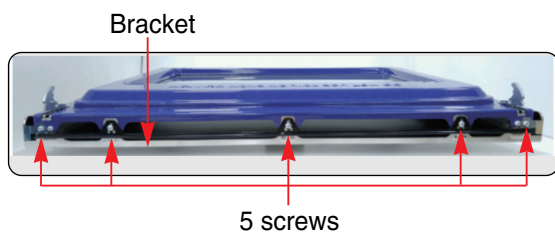
⚠ CAUTION

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

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



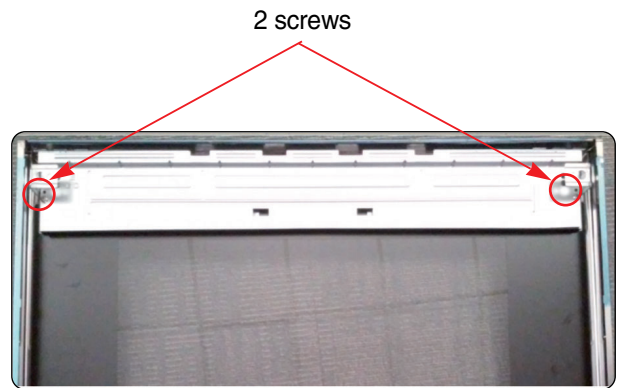
4. Remove 5 screws from door bottom and remove the bracket.



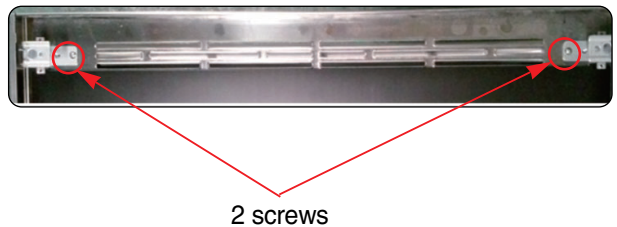
5. After disassembling the frame assembly set it aside.

6. To remove the door handle & air guide

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



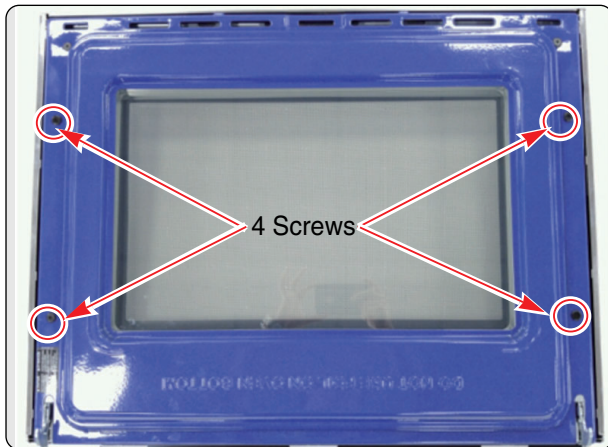
- b) Remove 2 screws from handle and then remove the door bracket and door handle.



COMPONENT ACCESS

7. To remove a hinge hanger assembly:

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

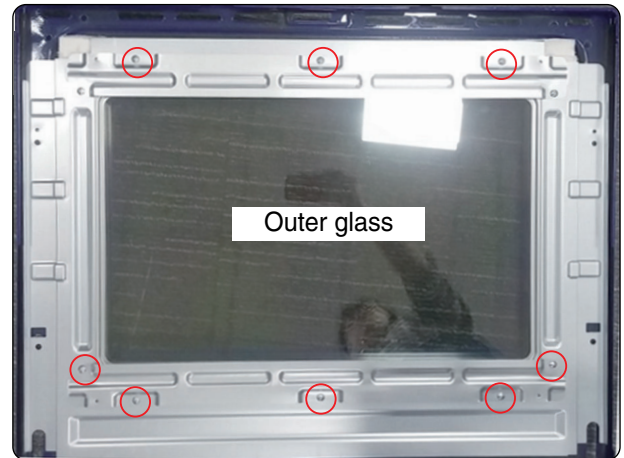


- Remove the 2 screws from the hinge bottom.



- Remove the hinge hanger after removing the door frame.

8. To remove the oven door glass assembly:



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



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

COMPONENT ACCESS

REMOVING THE OVEN DOOR GASKET

⚠ WARNING

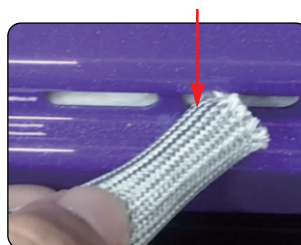
- **DISCONNECT** power supply cord from the outlet before servicing.
- **Replace** all panels and parts before operating.
- **RECONNECT** all grounding devices.
 - Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

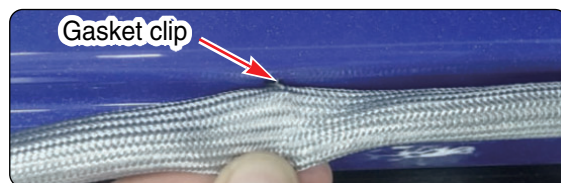
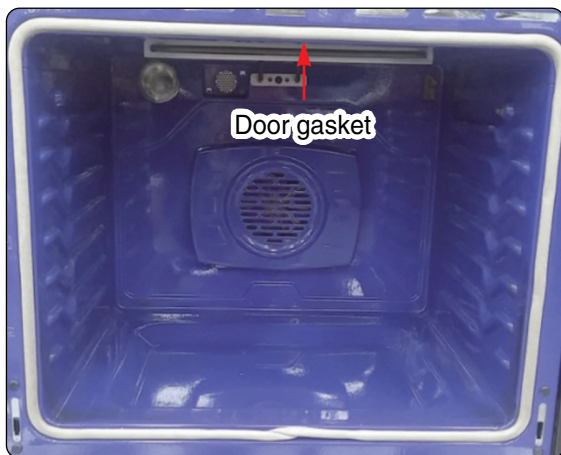
- **Be careful** when you work on the gas range handling the sheet metal part.
 - Sharp edge may be present and you can cut yourself.

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

Liner Hole



1. To remove the door gasket:
 - a) Open the oven door to its fully down position.
 - b) Pull the oven door gasket clips out of the liner holes until all of the clips are removed.



COMPONENT ACCESS

REMOVING A SIDE PANEL

⚠ WARNING

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

⚠ CAUTION

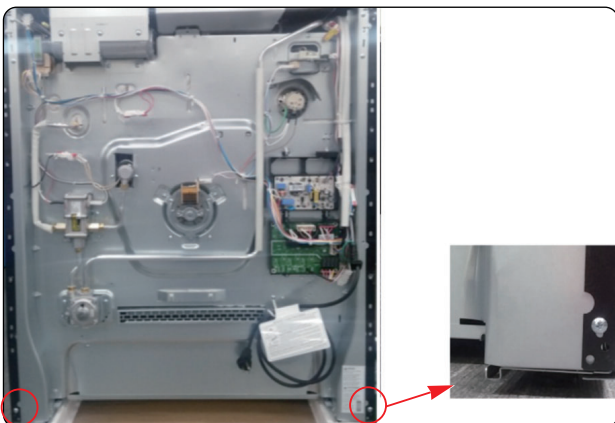
- **Be careful when you work on the gas range handling the sheet metal part.**
 - Sharp edge may be present and you can cut yourself.

1. Turn off the electrical supply and gas supply going to the range.
2. Remove the oven door from the range (see page 3-16 for the procedure).
3. Pull the range away from the wall so you can access the back of the unit.
4. Remove the rear panel (see page 3-2).
5. Raise the cooktop plate (see the page 3-4 for the procedure).
6. Remove the screws from the left or right side panel.

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



8. Push forward and remove the side panel.



COMPONENT ACCESS

REMOVE THE OVEN VALVE (SAFETY VALVE) & GAS PRESSURE REGULATOR

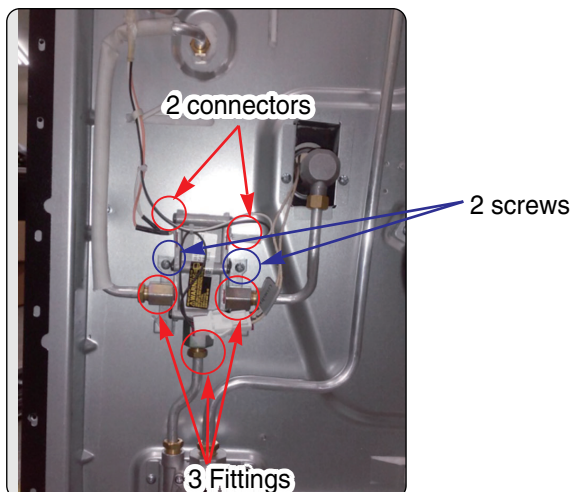
⚠ WARNING

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

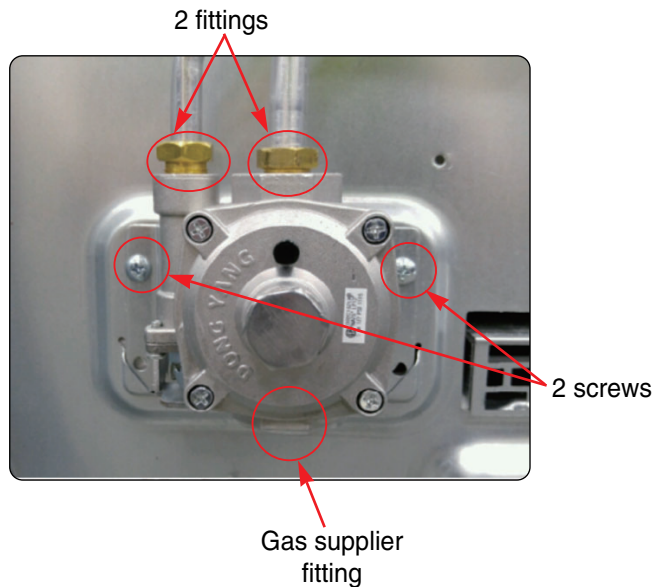
⚠ CAUTION

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

1. Turn off the electrical supply and gas supply going to the range.
2. Pull the range away from the wall so you can access the pipe of the unit.
3. Remove the back cover (see step 4 on page 3-2 for procedure).
4. To remove the oven valve:
 - a) Remove the 3 fittings.
 - b) Remove the 2 connectors.
 - c) Remove the 2 screws and then lift the oven valve.



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



COMPONENT TEST

Before testing any of components, perform the following checks:

NOTE:

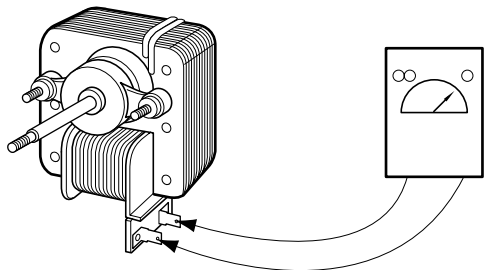
1. The most common cause for control failure is corrosion on connectors.
Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures
2. ALL units in the first few days of use should be checked for mis-wiring or loose connections

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

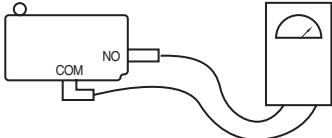

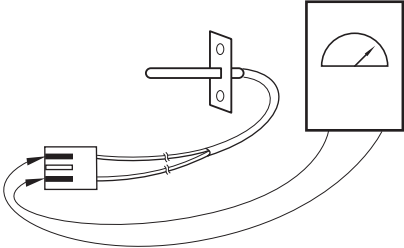
⚠ WARNING

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

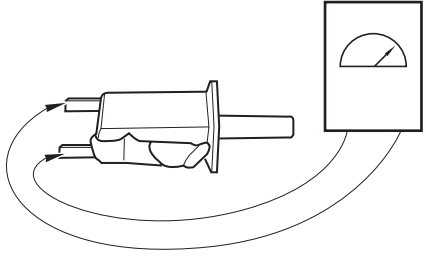


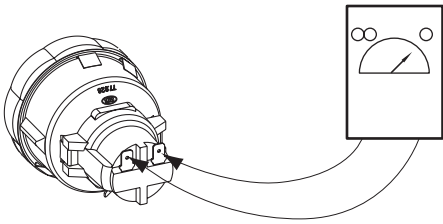
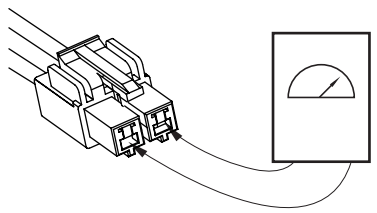
NOTE: Below Ω value were tested at room temperature (77F/25°C)

Components	Test procedures	Results
<p>Convection Motor</p>	<ol style="list-style-type: none"> 1. Refer to page 3-11 for the servicing procedure 2. Measure the resistance (Multiple meter scale: R x 1) 	<p>Normal: Approximately 1+2 = $25.2 \Omega \pm 10\%$ 1+3 = $30.5 \Omega \pm 10\%$ If not replace</p> <p>Abnormal: Infinite (open) below 5Ω (shorted)</p>

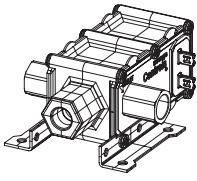
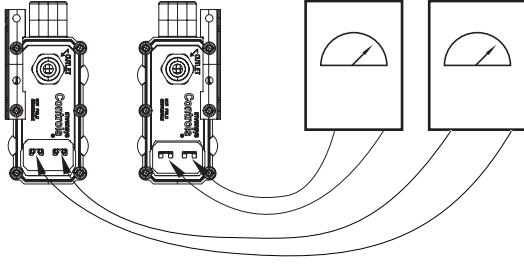
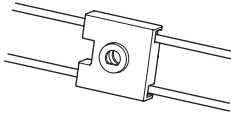
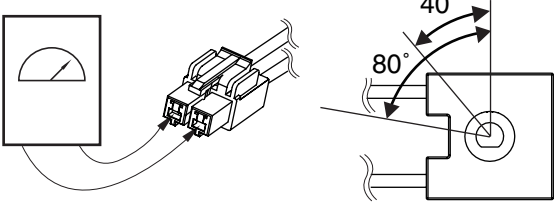


COMPONENT TEST

Components	Test procedures	Results	
Door locking Motor	1. Refer to page 3-13 for the servicing procedure 2. Measure the resistance (Multiple meter scale: R x 1000)	Normal: Approximately $2.6\text{ k}\Omega \pm 10\%$ If not replace Abnormal: Infinite(open) below 5Ω (shorted)	
Micro Switch (normally open type)	1. Refer to page 3-13 for the servicing procedure 2. Measure the resistance (Multiple meter scale: R x 1000)	Door latch open	Door latch Locked
			
		Continuity	Infinite
NOTE: After checking for the continuity of switch, make sure that they are connected correctly			
Oven Sensor	1. Refer to page 3-14 for the servicing procedure 2. Measure the resistance after cooling down (Multiple meter scale: R x 1000)	Normal: Approximately $1.09\text{ k}\Omega \pm 10\%$ If not replace	
		<div style="border: 1px solid gray; padding: 5px; background-color: #f0f0f0;"> 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			

COMPONENT TEST

Components	Test procedures	Results	
Door switch	1. Refer to page 3-8 for the servicing procedure 2. Measure the resistance after cooling down (Multiple meter scale: R x 1) <div style="text-align: center; margin-top: 20px;">  </div>	Door open	Door closed
		<div style="text-align: center;">  </div> Continuity	<div style="text-align: center;">  </div> Infinite
Oven lamp	1. Measure the resistance after cooling down (Multiple meter scale: R x 1) <div style="text-align: center; margin-top: 20px;">  </div>	Normal: Approximately $5 \Omega \pm 10\%$ If not replace	
Broil or bake igniter	1. Refer to page 3-9~3-10 for servicing procedure. 2. Measure the resistance after cooling down. (Multiple meter scale : R x 1) <div style="text-align: center; margin-top: 20px;">  </div>	Normal: $45 \Omega \sim 400 \Omega$ (Room Temperature Resistance) If not replace	

COMPONENT TEST

Components	Test procedures	Results	
<p>Oven (safety) valve</p> 	<p>1. Refer to page 3-21 for servicing procedure. 2. Measure the resistance after cooling down. (Multiple meter scale : R x 1)</p> <p>Upside Downside</p> 	<p>Normal: Approximately 1 ~ 3 Ω If not replace</p>	
<p>Ignition switch</p> 	<p>1. Refer to page 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)</p> 	<p>approximately 40° ~ 80°</p>	<p>other</p>
		 Continuity	 Infinite

CONVERSION TO LP GAS

CONVERSION KITS LP(PROPANE) GAS CONVERSION INSTRUCTIONS

CONVERTING THE SEALED BURNER MODEL GAS RANGE FOR USE ON LP (PROPANE) GAS.

This range leaves the factory set for use with natural gas. When converting to LP gas, keep these instructions in case you need to convert back to natural gas. And save the orifices removed from the appliance for future use.

! WARNING

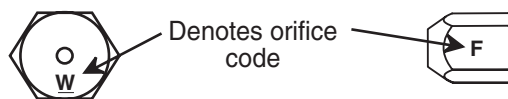
This conversion must be done by a qualified technician or gas supplier in accordance with the manufacturer's instructions and all codes and requirements of the authority having jurisdiction. Failure to follow instructions could result in serious injury or property damage. The qualified agency doing this work assumes responsibility for the conversion.

TOOLS REQUIRED:

- Adjustable wrench
- 13/32" or 10mm open-end wrench
- 5/16" or 8mm open-end wrench
- 16/32" or 16mm 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

• LP (Propane) Gas Orifice Specifications

BURNER OUTPUT RATINGS; BTU/HR		
LP(Propane) Gas, 10"W.C.P		
MODEL	BTU RATE	ORIFICE CODE
	UPSG3014 / LSSG3016 / LSG4513 / LSG5513	
BURNER		
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	17,000	Y

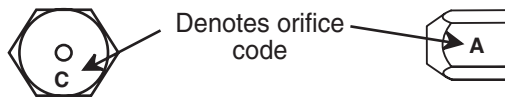


Top burner and
Bake burner orifices (W=W)

Broil burner
orifices

• Natural Gas Orifice Specifications

BURNER OUTPUT RATINGS; BTU/HR		
Natural Gas, 5"W.C.P		
MODEL	BTU RATE	ORIFICE CODE
	UPSG3014 / LSSG3016 / LSG4513 / LSG5513	
BURNER		
LF	12,000	C
LR	9,100	V
RR	5,000	AA
RF	18,500	U
CTR	10,000	T
BROIL	15,000	A
BAKE	19,000	H

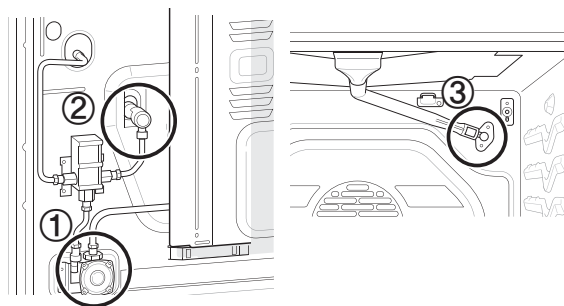


Top burner and
Bake burner orifices

Broil burner
orifices

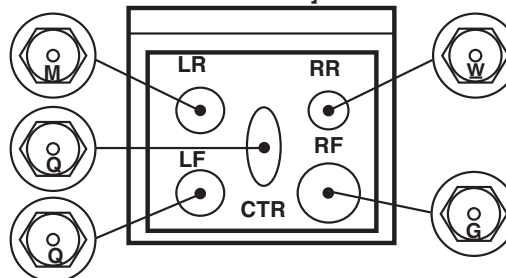
※ CONVERSION POINT ※

1. Regulator
2. Bake burners
3. Broil Burner
4. Surface burners



④ Orifice Locations for LP Gas

[UPSG3014ST / LSSG3016ST / LSG4513ST / LSG5513ST / LSG5513BD]



CONVERSION TO LP GAS

SEALED BURNER 30" GAS RANGE

GETTING STARTED

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. LOCATE CONVERSION KIT

(Inside or on back of oven)

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

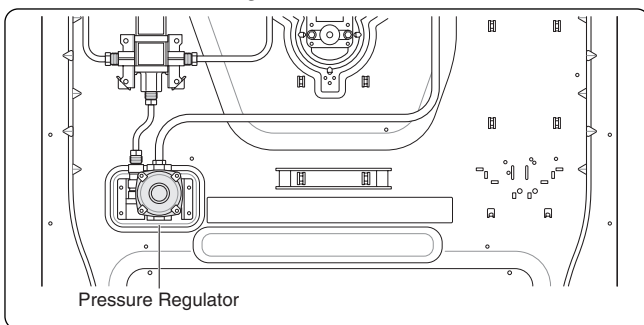
CONVERTING FOR LP

1. CONVERT REGULATOR

WARNING

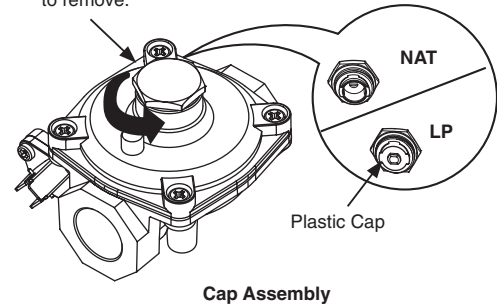
Do not remove the pressure regulator from the range.

- 1) Check the pressure regulator is located at the rear of the range.



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

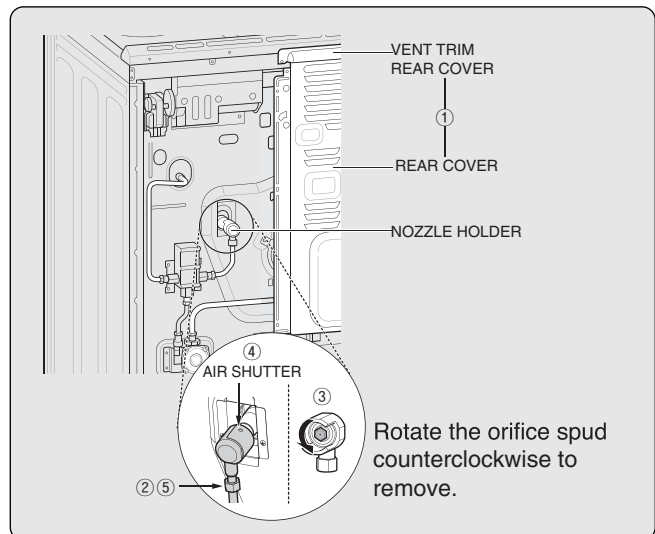
Rotate cap counterclockwise to remove.



2. CONVERT BAKE BURNER ORIFICES

BAKE BURNER

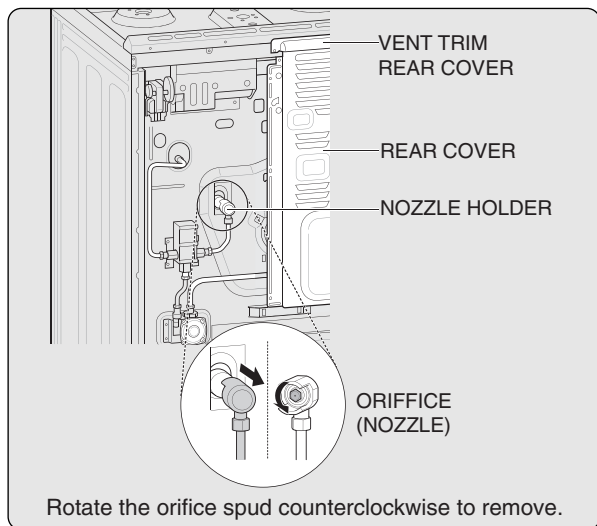
I. Unit has Air shuttle Bracket



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

CONVERSION TO LP GAS

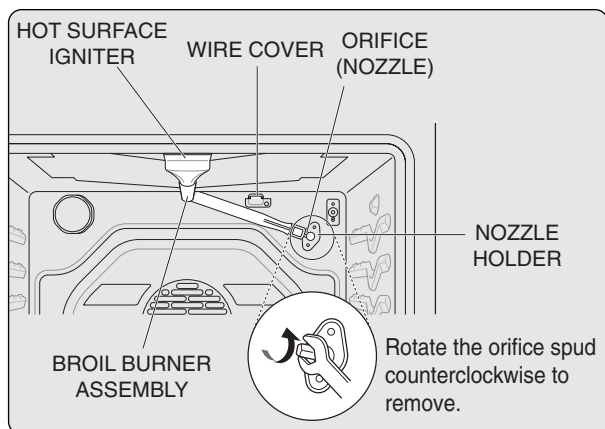
II. Unit doesn't have Air shuttle Bracket



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

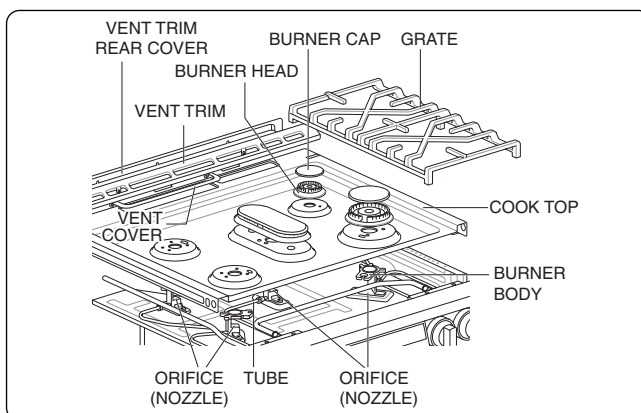
3. CONVERT BROIL BURNER ORIFICES

BROIL BURNER

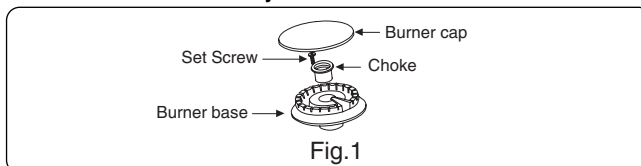


- 1) Remove oven door and broil burner assembly. Then remove the wire cover using a Phillips head screwdriver.
- 2) Release the connector of the igniter.
- 3) Remove the orifice spud from nozzle holder using a 13/32" or 10mm wrench.
- 4) Install the LP orifice spud(F) to the nozzle holder. To prevent leakage, make sure the orifice spud is securely screwed into the nozzle holder.

4. CONVERT SURFACE BURNERS



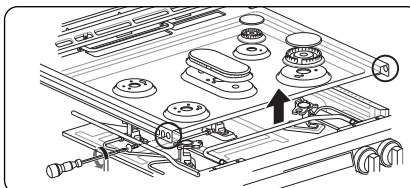
- 1) Remove grates, burner caps and burner heads.
- 2) Remove the brass orifice spud in the chimney of each burner using a 13/32" or 10 mm nut driver.
- 3) Install the LP orifice spuds into their correct positions as described previously.
- 4) To prevent leakage, make sure the orifice spuds are securely screwed into the gas supply tubes.
- 5) For the right front burner, the choke and self threading screw will be needed as shown in Fig.1. 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.



- 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 can be raised as follows:

- 1) Remove vent trim rear cover, rear cover, vent trim and vent cover.
- 2) Using a Phillips head screwdriver remove the 2 side and 2 front screws of the cooktop. (On some models : Remove only the 2 front screws of the cooktop)
- 3) Remove (11EA) hex-Phillips head screws on the cooktop and lift it.



When reinstalling the cooktop be sure to align the electrodes with the openings in the cooktop.

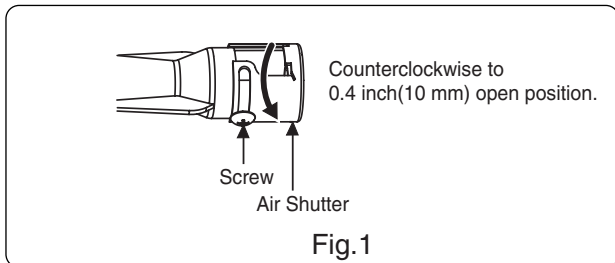
CONVERSION TO LP GAS

5. Turn on the electricity and gas supply to continue with flame adjustment.

6. ADJUST AIR SHUTTER

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

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



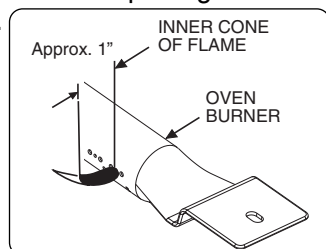
approximately 1-inch blue cones.

After operating the burner for 30 seconds, check for flame stability.

If the flame is lifting off of the burner ports, gradually reduce the air shutter opening until flames have stabilized.

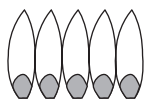
Some yellow tipping may be normal when used on LP.

See Step 8.

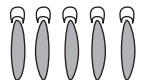


7. CHECK FLAME QUALITY

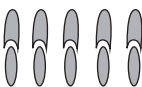
The combustion quality of the burner flames needs to be determined visually.



A. Yellow Flames:
Further Adjustment Required



B. Yellow tips on outer cones:
Normal for LP Gas



C. Soft Blue flames:
Normal for Natural Gas.

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

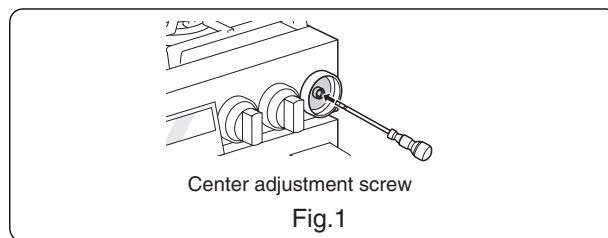
8. ADJUST SURFACE BURNER LOW FLAME (SIMMER) SETTING

- 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.

Note: Hold the valve shaft with one hand while turning the screw for adjustment with the other.



- 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 orifices that were removed for natural gas back into the plastic bag along with the instructions.

Place the kit back into its original location. If converting back to natural gas from LP remove the LP sticker from the back of the range.

CONVERSION IS FINISHED

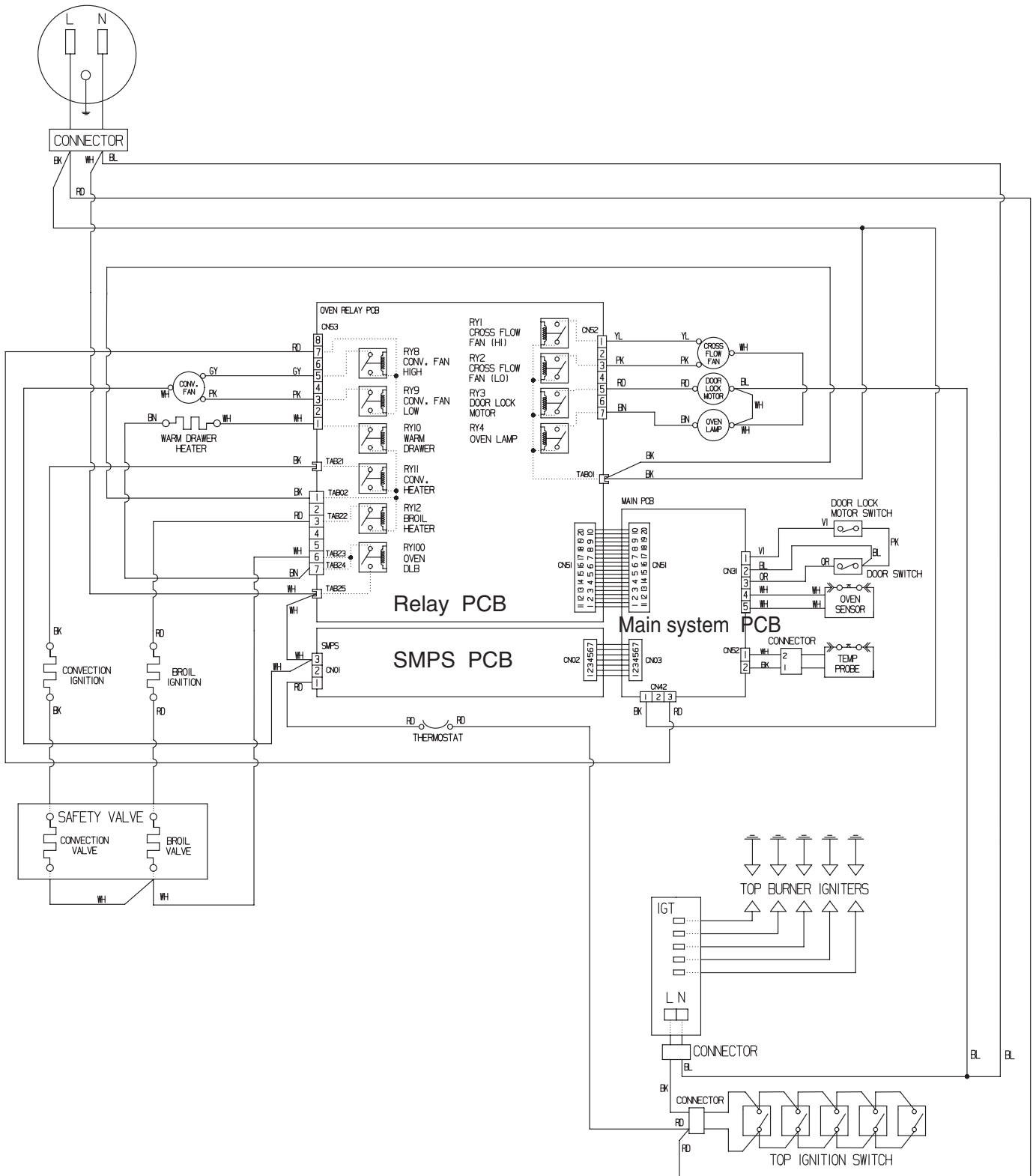
To convert to the original gas.

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

6-1. Wiring Diagram



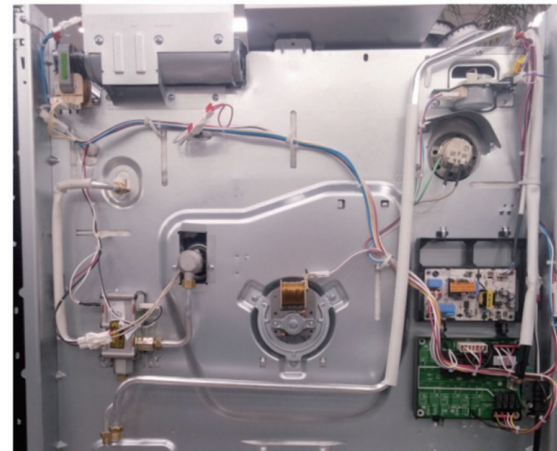
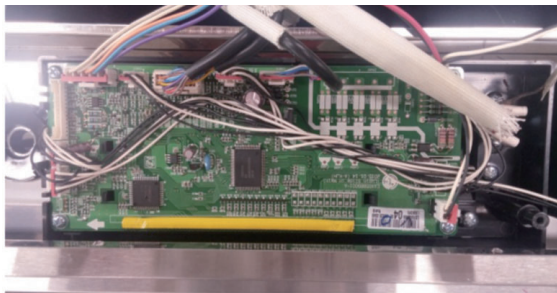
COMPOSITION OF CONTROL

6-2. Composition of control

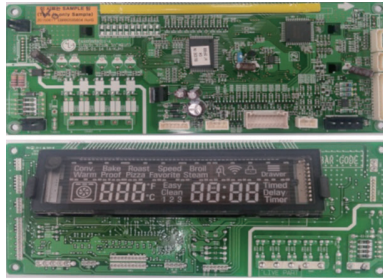
Front



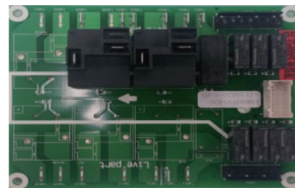
Back



Main PCB (P/N : EBR80595607)



Relay PCB (P/N : EBR80595408)



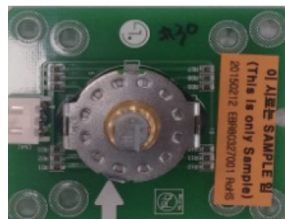
SMPS PCB (P/N : EBR80595701)



Touch PCB (P/N : EBR79627801)



Encoder PCB (P/N : EBR80327001)



NFC PCB (P/N : EBR78789101)



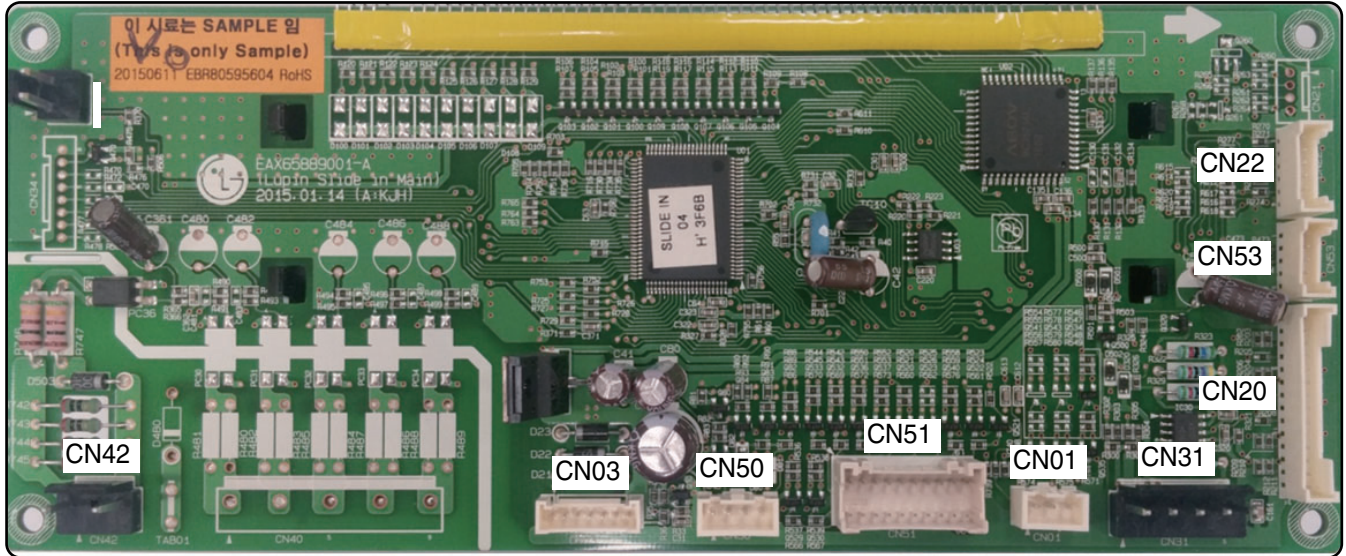
Buzzer PCB (P/N : EBR76332902)



COMPOSITION OF CONTROL

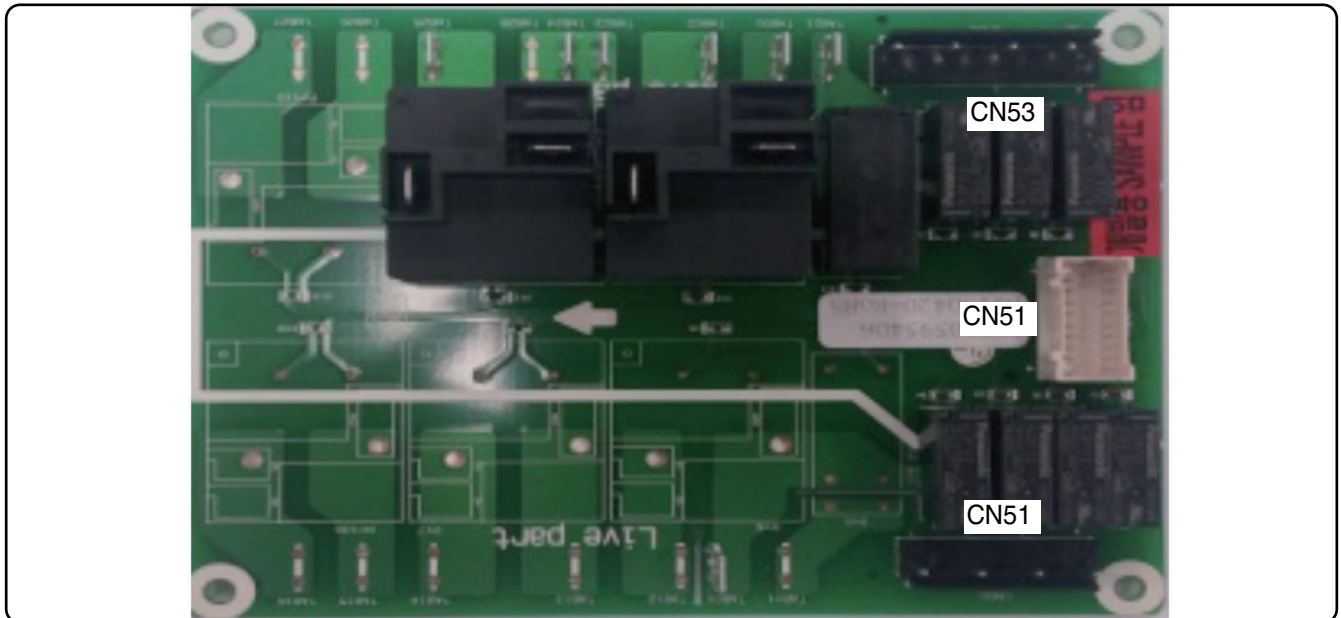
Main PCB

(P/N : EBR80595607)



Relay PCB

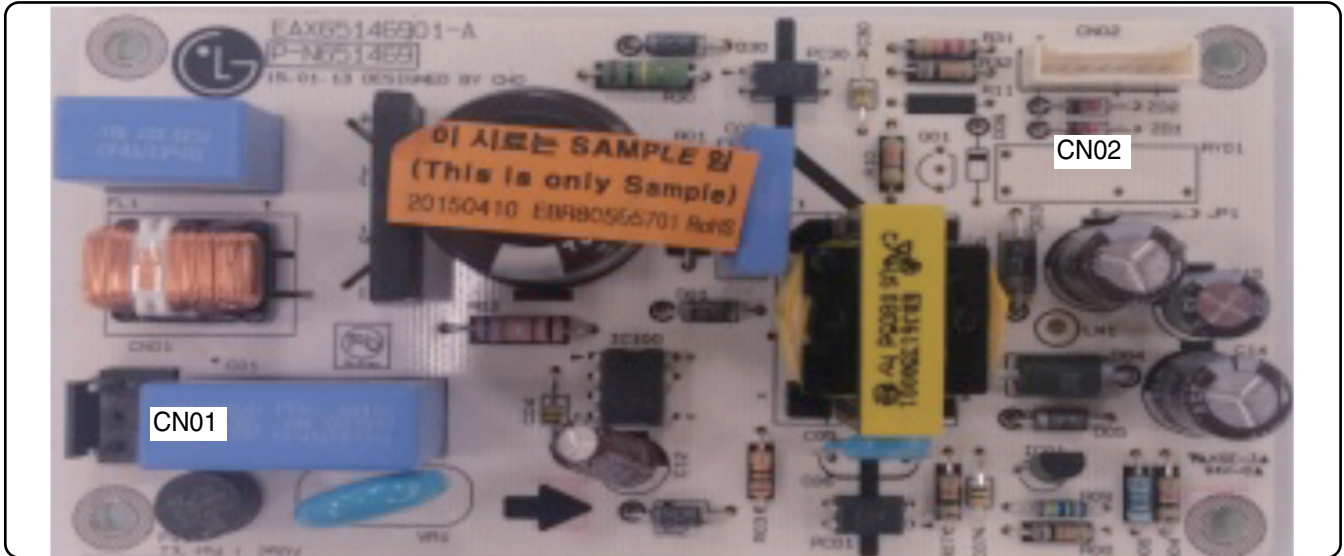
(P/N : EBR80595408)



COMPOSITION OF CONTROL

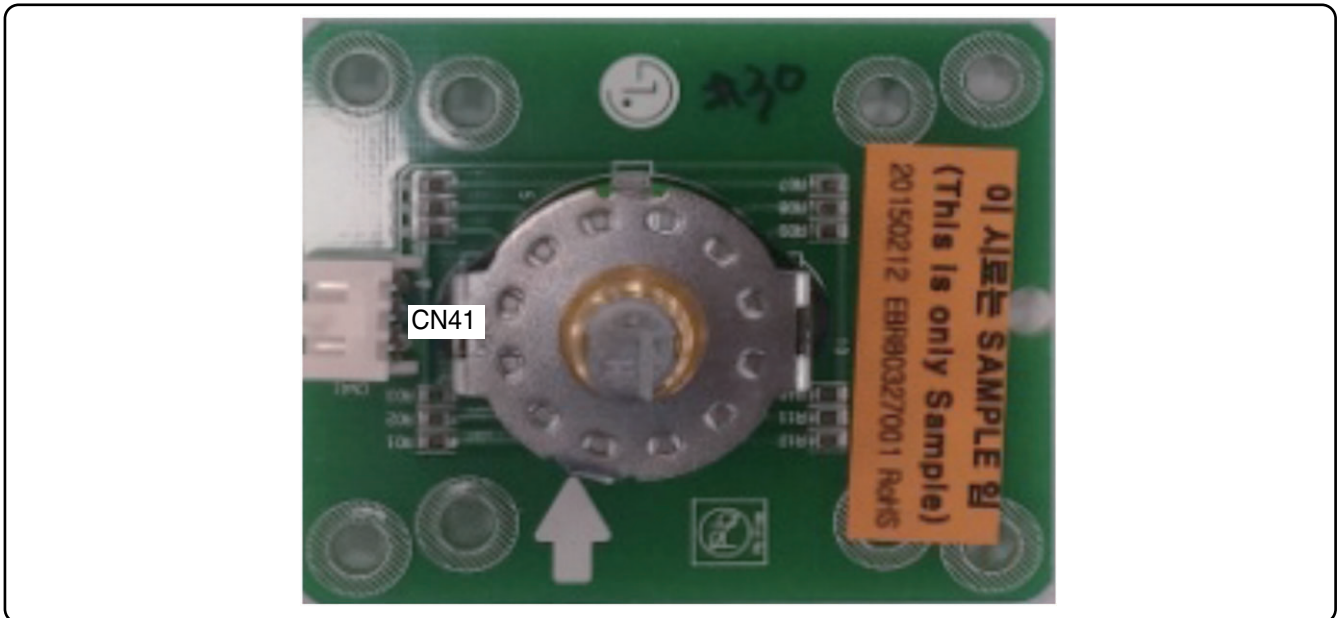
SMPS PCB

(P/N : EBR80595701)



Encoder PCB

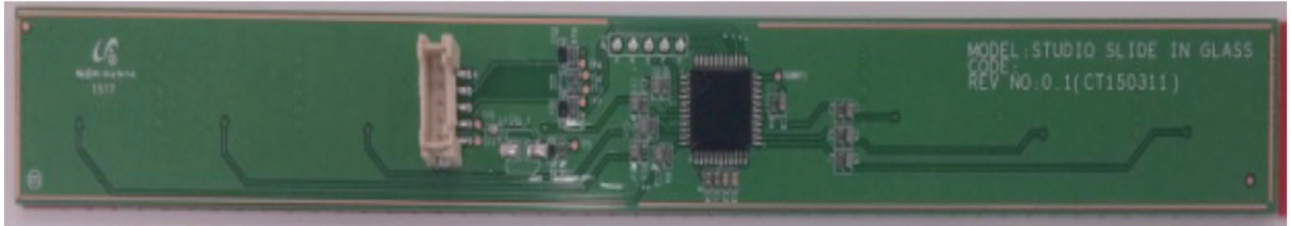
(P/N : EBR80327001)



COMPOSITION OF CONTROL

Touch PCB

(P/N : EBR79627801)



NFC and Buzzer PCB

(P/N : EBR78789101)

(P/N : EBR76332902)



SVC TEST MODE

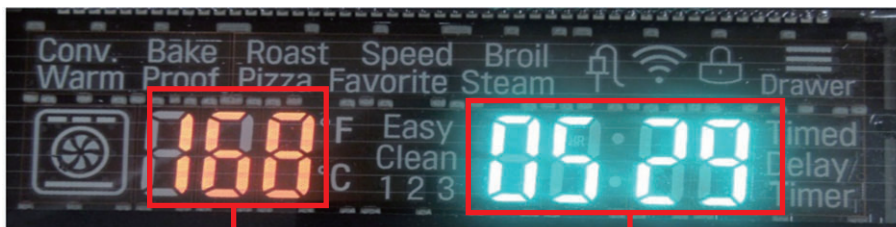
7-1 Sequence of SVC Test Mode

■ To enter the test mode, follow these steps:

- (1) Press the any button, and encoder is placed in the Off
- (2) Press the button in the following order
: + →_→ Oven light (Oven Light hold for 3 seconds)



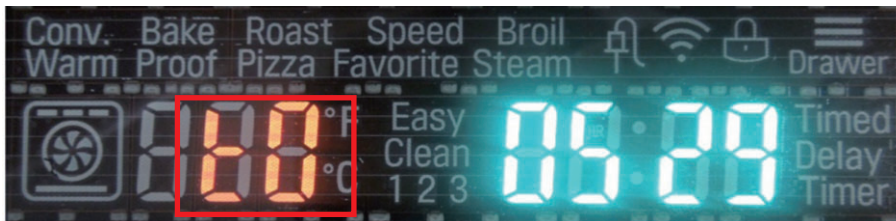
- (3) Press the OVEN LIGHT button again. (hold for 3seconds)



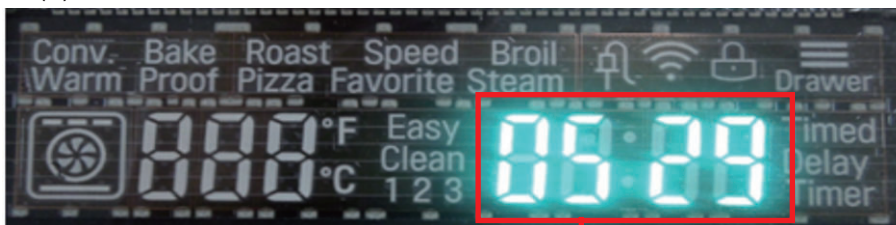
Model Option

Software version

- (4) Select the "t0" by press the + button.



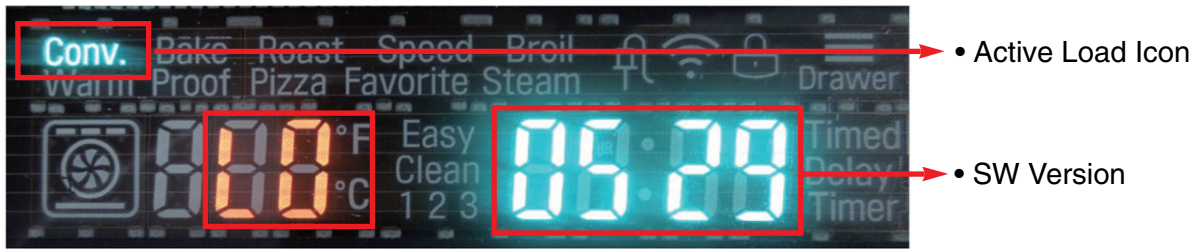
- (5) Press the START button.



Only software version is displayed at the right digits.

- (6) Start the test by press the START button again.

SVC TEST MODE



Current inspecting Relay's information is displayed

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

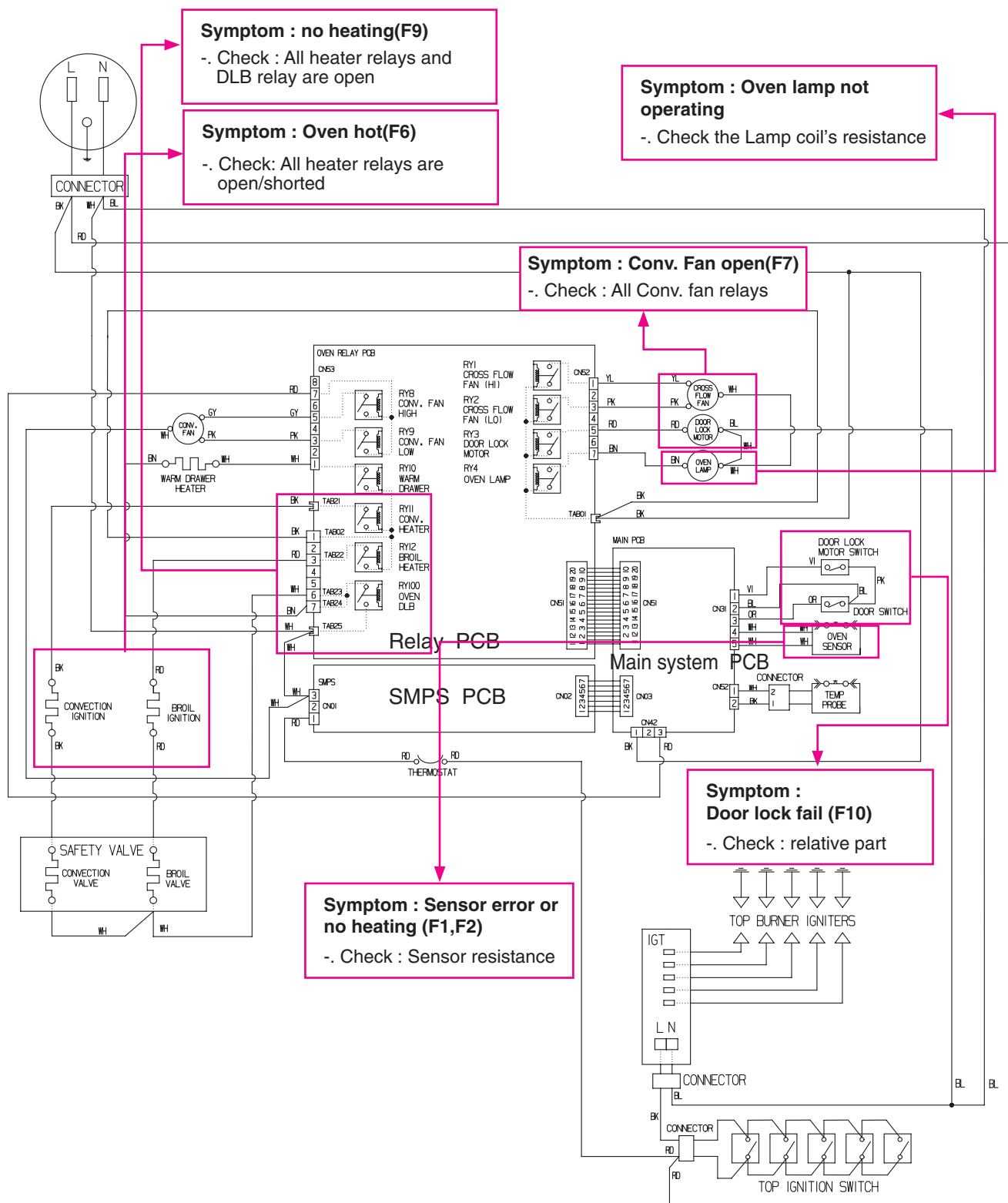
※ Relay Operation Sequence

STEP	RY11	RY12	RY13	RY9	RY8	RY1	RY2
	Conv. Heater	Broil	DLB	C/Fan Low	C/Fan High	B/Fan High	B/Fan Low
1	○	●	●	○	○	○	○
2	●	○	●	●	○	○	●
3	●	○	●	○	●	●	○
4	○	○	○	○	○	○	○
5	○	●	●	○	○	○	○
6	●	○	●	●	○	○	●
7	●	○	●	○	●	●	○
8	○	○	○	○	○	○	○
9	○	●	●	○	○	○	○
10	●	○	●	●	○	○	●
11	●	○	●	○	●	●	○
12	○	○	○	○	○	○	○
13	○	●	●	○	○	○	○
14	●	○	●	●	○	○	●
15	●	○	●	○	●	●	○
16	○	○	○	○	○	○	○

※ If want to quit this sequence, turn the mode select encoder.

SVC TEST MODE

7-2 Basic Check Summary



TROUBLESHOOTING

8-1 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.

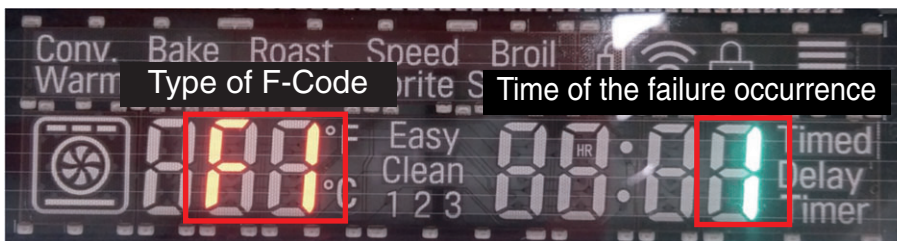
■ Check the failure code following these steps.

1. Press the any button, and encoder is placed in the Off

2. Press the button in the following order

: + → _ → Oven light (Oven Light hold for 3 seconds)

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, move the Encoder to remove all codes.

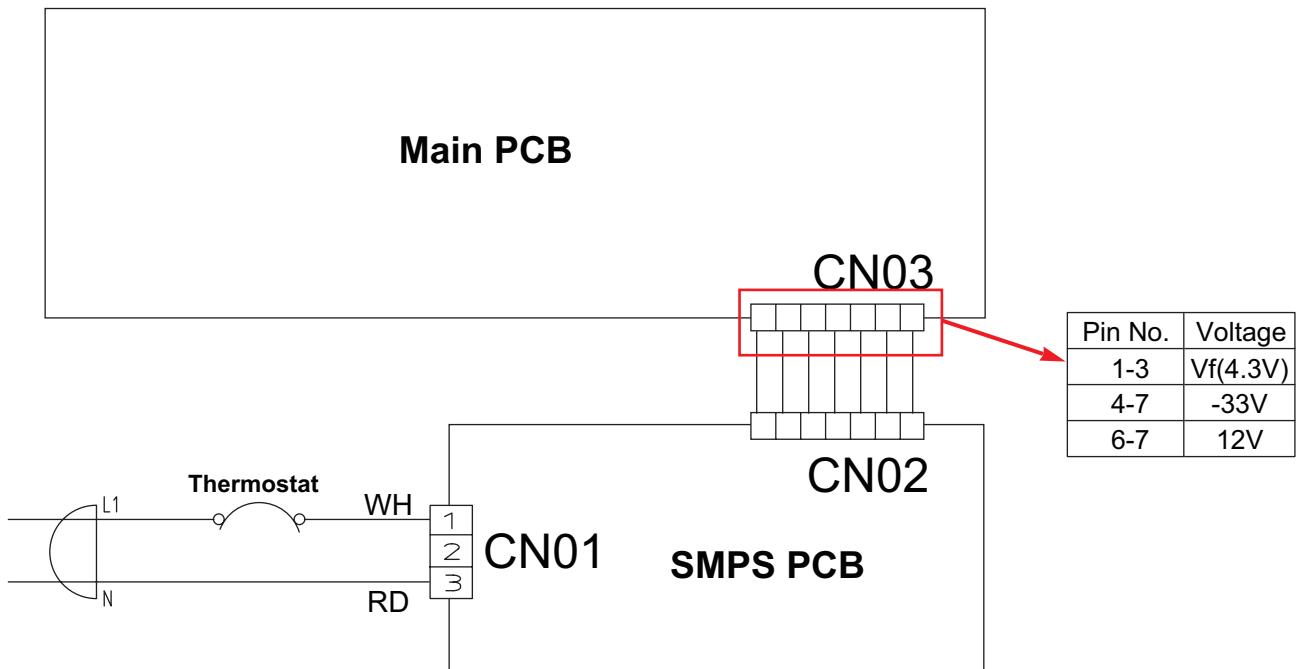
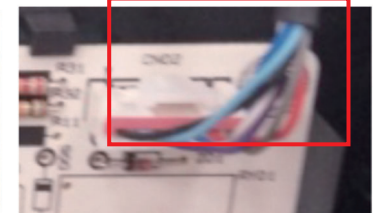
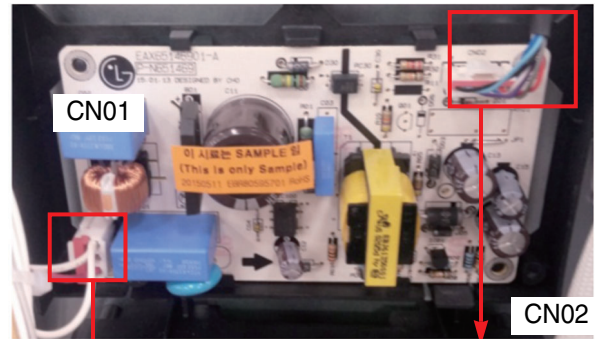
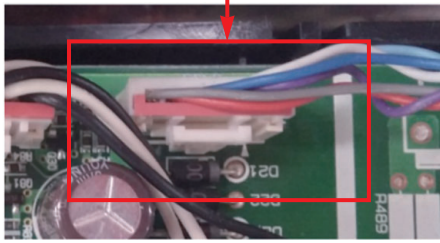
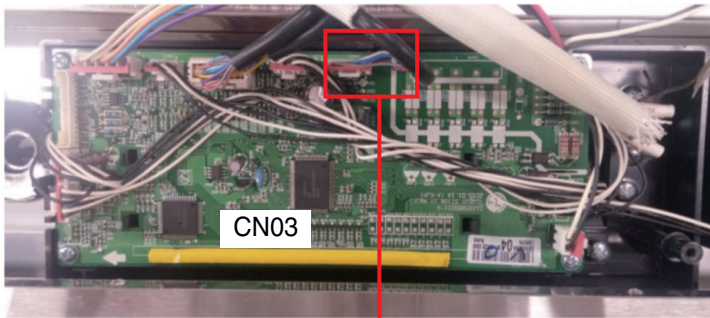
TROUBLESHOOTING

8-2 Failure Code Summary

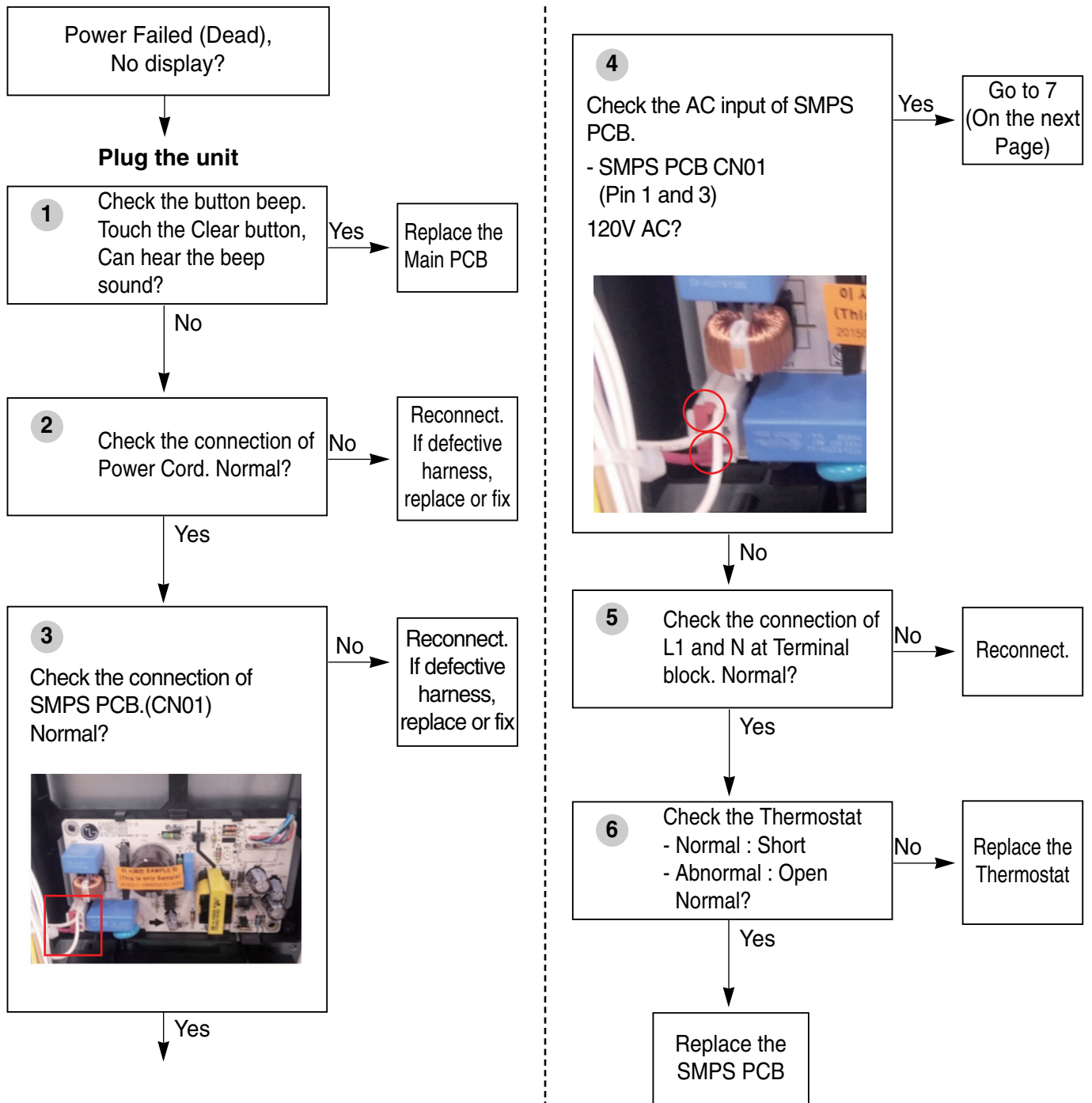
Code	Description	explanation	Check point
F1	Sensor open	Oven Thermistor is open	1. Wiring 2. Oven Sensor
F2	Sensor short	Oven Thermistor is shorted.	1. Wiring 2. Oven Sensor
F3	Key short	1. If '25 key short' occurred 3 times in 90 seconds. 2. If communication is impossible with Touch IC more than 60 seconds	1. .Wiring 2.Touch PCB
F6	Oven hot	The oven temperature is over 650°F continuously for 2 minutes during cooking except self cleaning	Oven Sensor
F7	Conv. Fan Motor Open	During cook, if convection fan does not operate while 1 minute (cumulative time) in the period of convection fan operation.	1. .Wiring 2. Motor's Resistance
F9	Oven No heating	EXCEPT PROOF, WARM and EASY CLEAN Starting temperature of 130°F or less, and the oven door is closed, the oven inside temperature does not go up more than 10°F compared with the starting temperature for 5minutes after the start of cooking.	1. Electric Wiring 2. Oven Sensor
F10	Door Lock Fail	If Door Lock fails while operating the Lock motor.	1. Electric Wiring 2. Motor's Resistance 3. Micro Switch

CHECKING FLOW CHART BY FAILURE

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



CHECKING FLOW CHART BY FAILURE

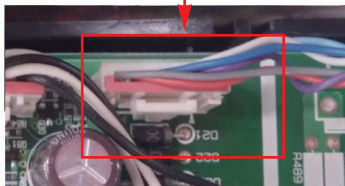
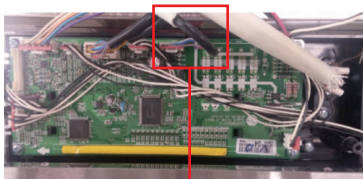
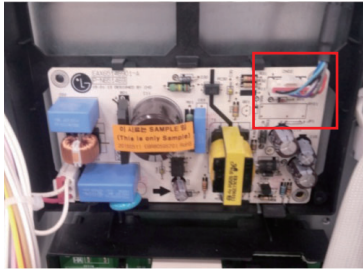


CHECKING FLOW CHART BY FAILURE

7

Check the connecting states between CN02 of SMPS PCB and CN03 of Main PCB.

Is it OK?



Yes

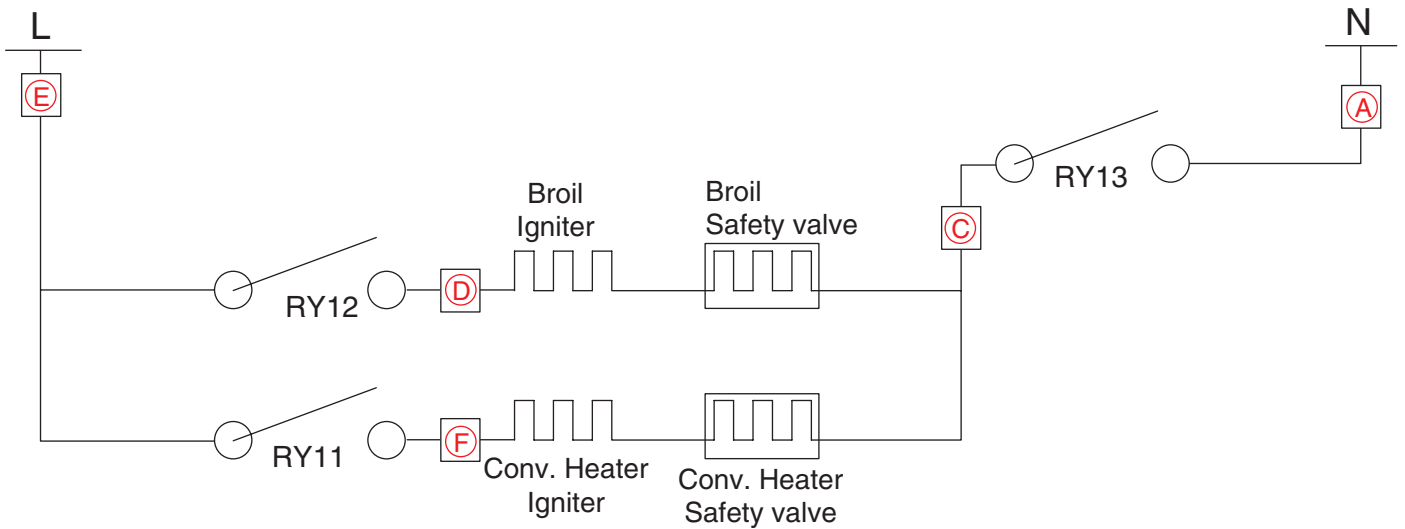
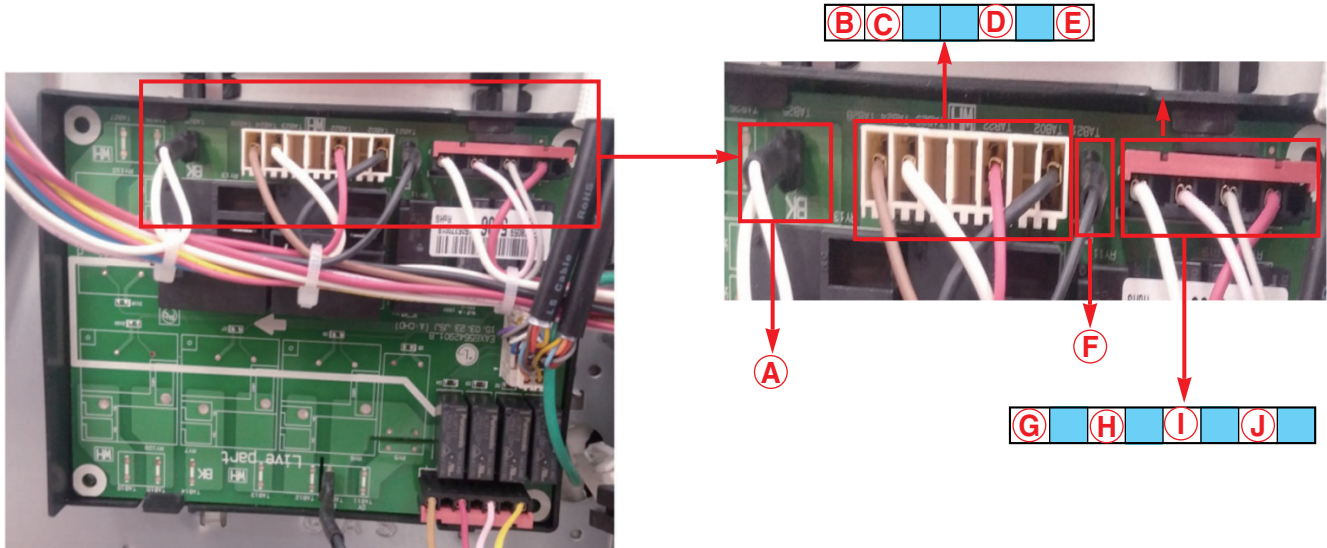
Replace the Main PCB

No

Reconnect. If defective harness, replace or fix.
If the same phenomenon occurs even though after fixed connection, you should replace the Main PCB

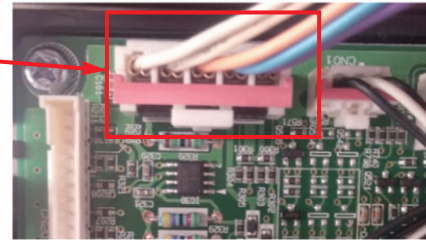
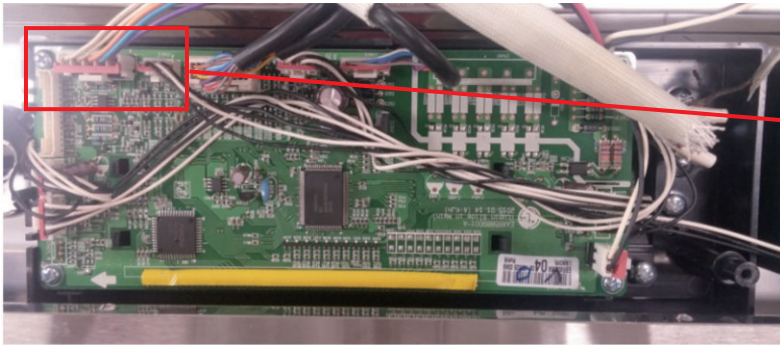
CHECKING FLOW CHART BY FAILURE

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

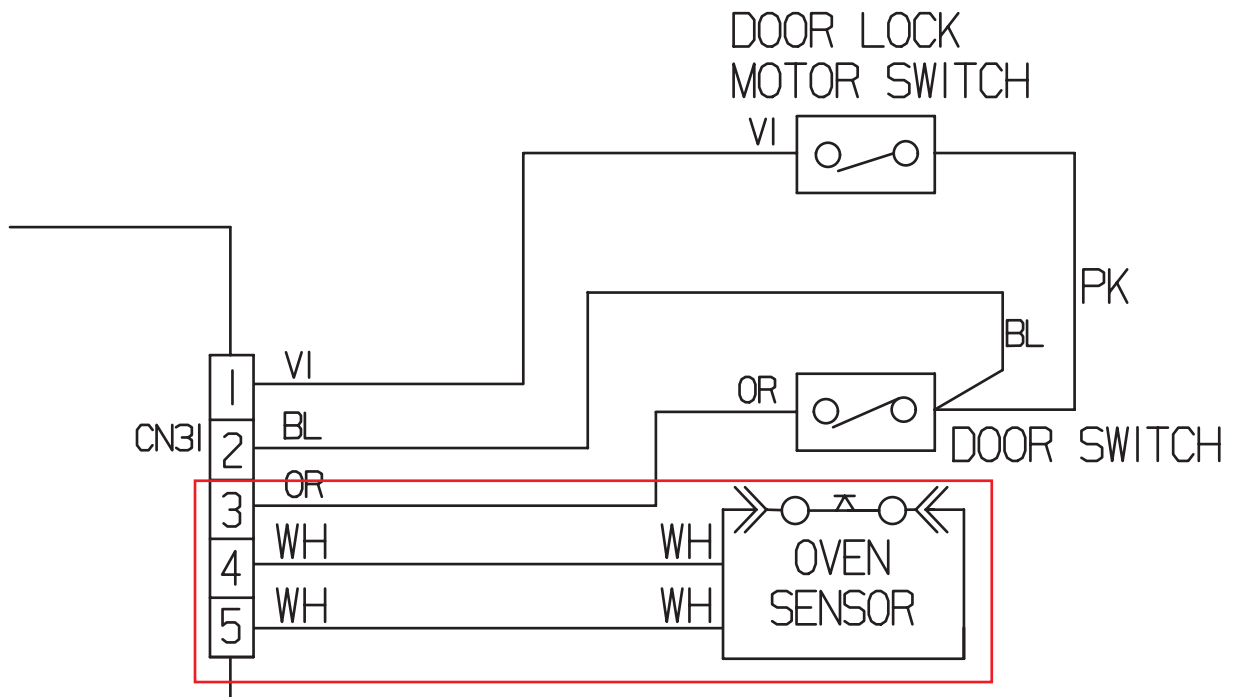


CHECKING FLOW CHART BY FAILURE

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



CN31



CHECKING FLOW CHART BY FAILURE

Oven does NOT heat, F9?

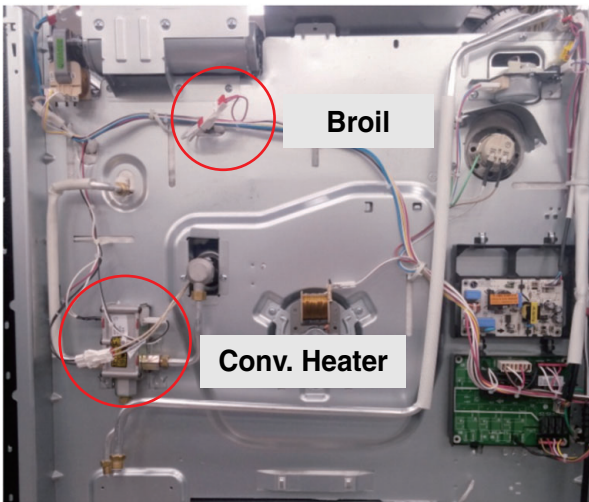
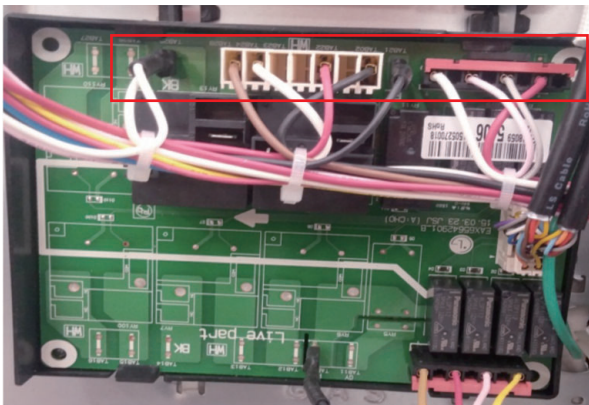
Unplug the unit

1

Is the Connector disconnected or loose?
 (1) Electric wiring of Relay PCB All taps.
 (2) Electric wiring of electric element

Yes

Reconnect.
 If defective harness,
 Replace or fix



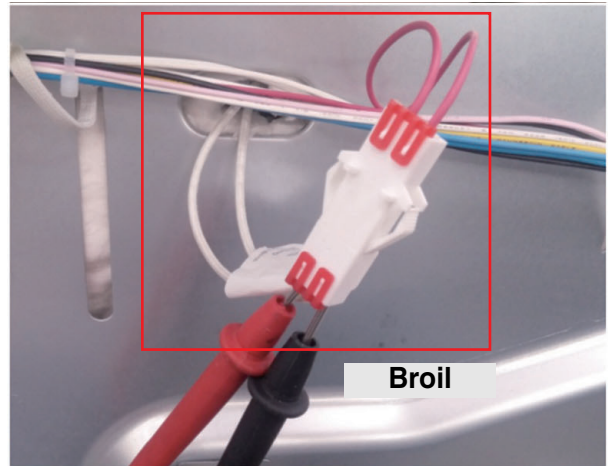
No

2

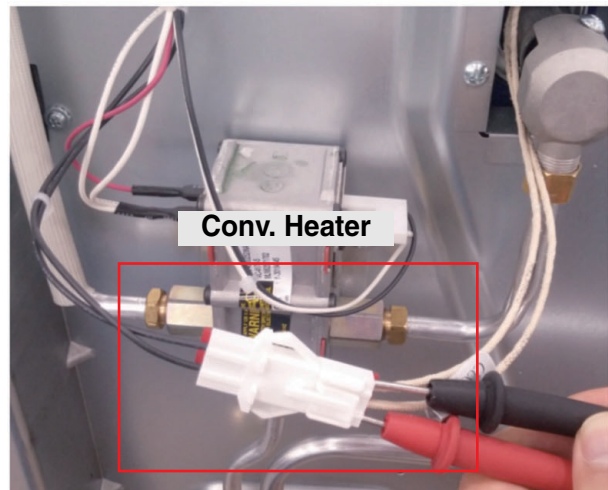
Check the resistance of each igniter. Normal?
 (Measure the resistance after cooling down. The resistance is shown below)

No

Replace the failed heater



Broil



Conv. Heater

yes

CHECKING FLOW CHART BY FAILURE

3

Range Of resistance

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

Yes

Plug in the unit

4

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

Yes

Go to No 6

To enter the test mode, follow these steps:

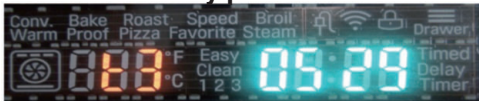
1. Press the any button, and encoder is placed in the Off
2. Press the button in the following order : + → _ → Oven light (Oven Light hold for 3 seconds).



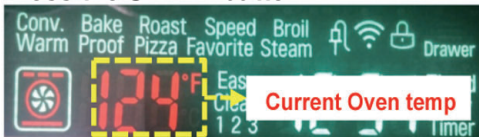
3. Press the OVEN LIGHT button again. (hold for 3seconds)



4. Select the "t3" by press the + button



5. Press the START button



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

No

Unplug the unit

5

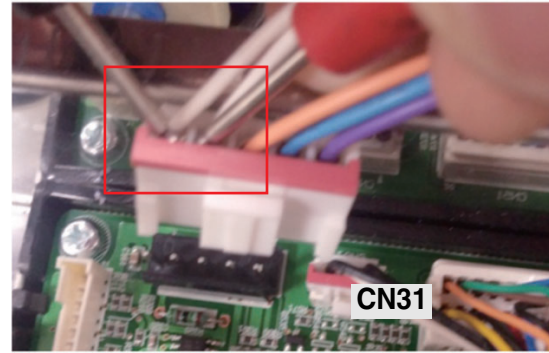
Is the resistance of thermistor normal?

No

Replace the defective Thermistor

Check:

Pins 4 and 5 of CN31 in main PCB
Normal- approximately 1.09kΩ at 25°C



Yes

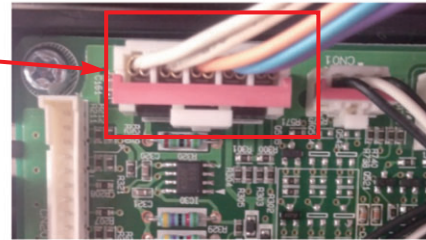
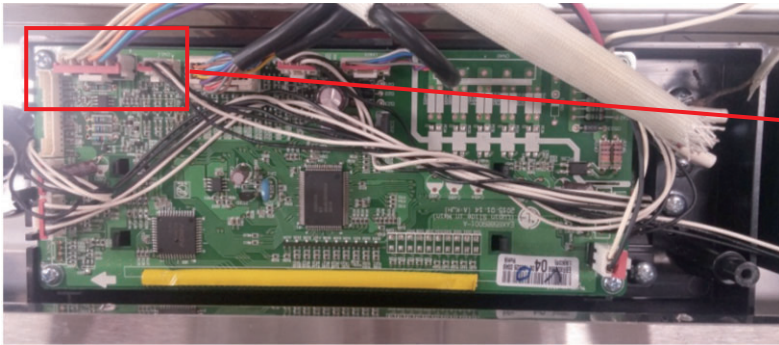
6

Replace the Relay PCB.

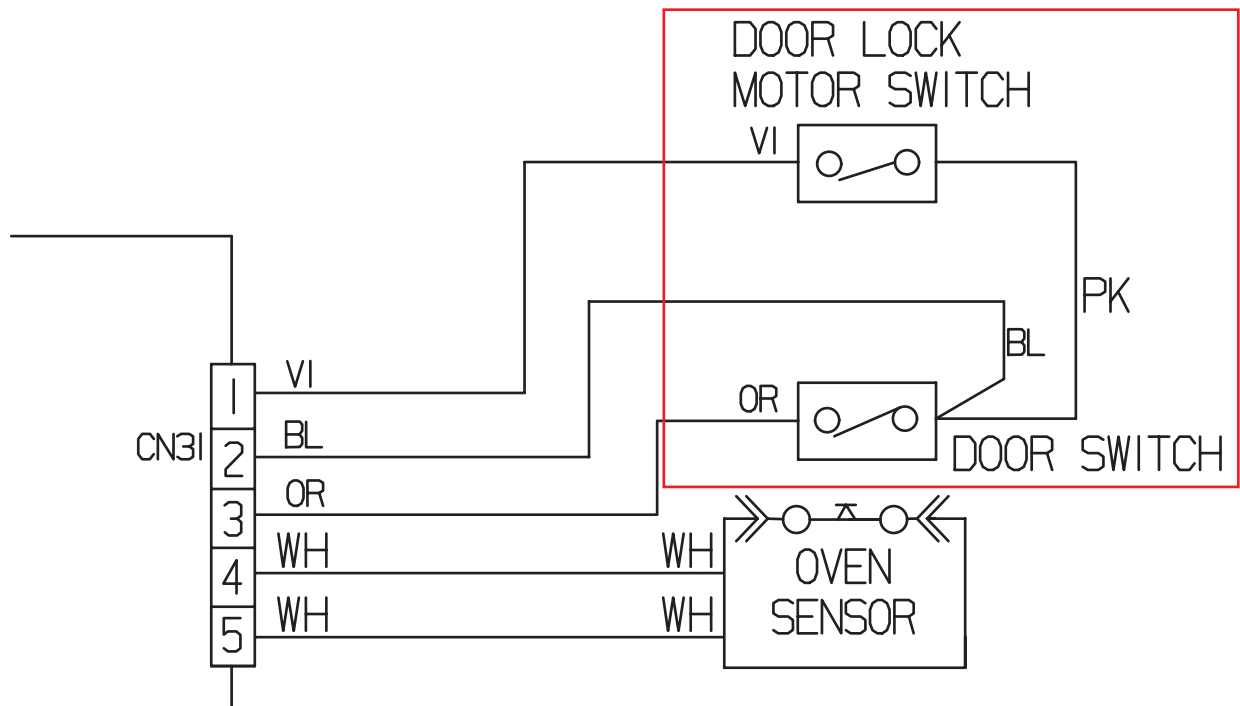
If the same phenomenon occurs even though after replace Relay PCB, you should replace the Main PCB

CHECKING FLOW CHART BY FAILURE

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

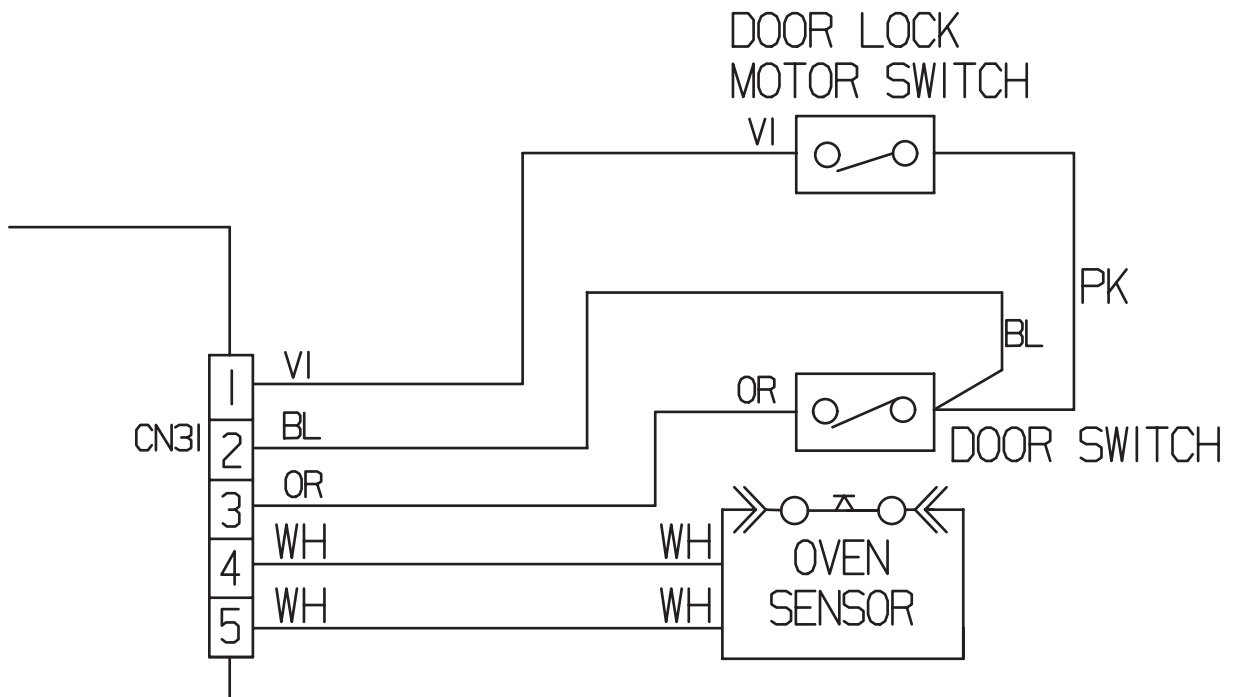
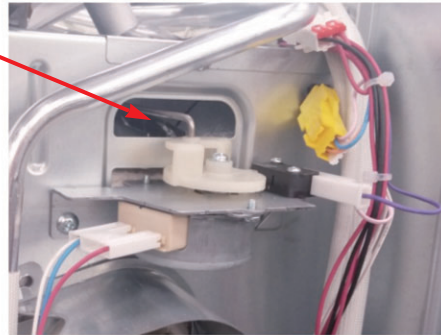
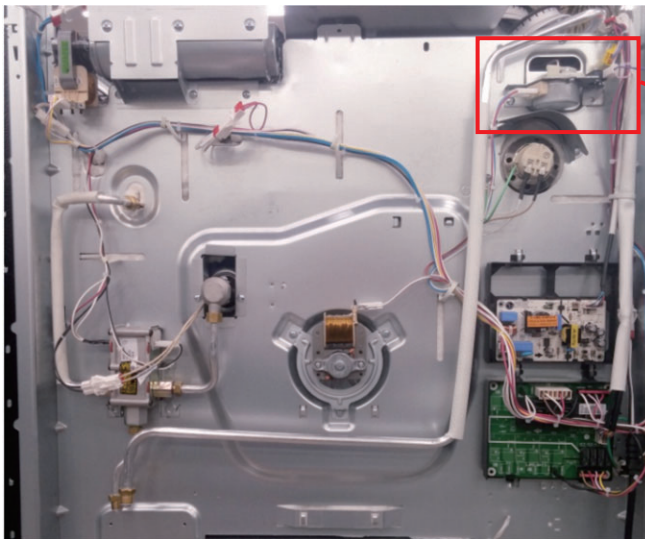


CN31



CHECKING FLOW CHART BY FAILURE

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



CHECKING FLOW CHART BY FAILURE

Door Lock System Failure, F10?

Plug in the unit

Note :

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

1

Check the operation of door lock motor.

Press Clock button for 3 seconds and try to open the door.
Does the door open?

Yes

Go to No 2



No

It is normal.
Check the wiring

Unplug the unit

2

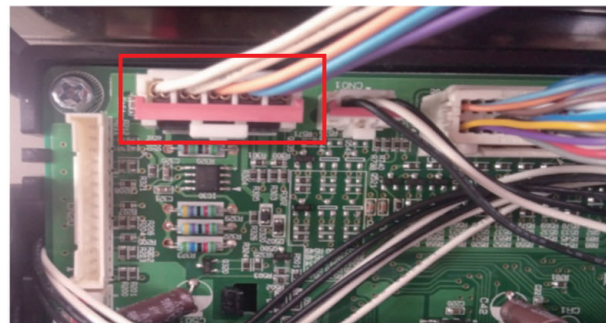
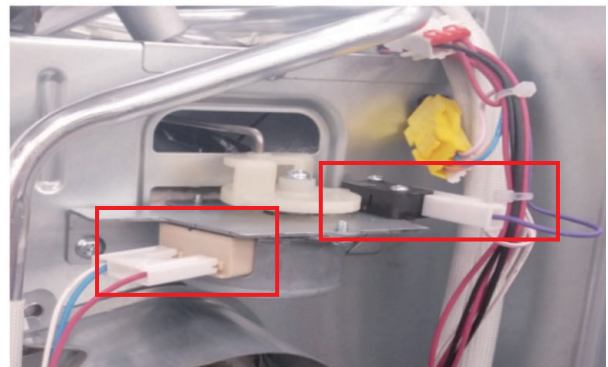
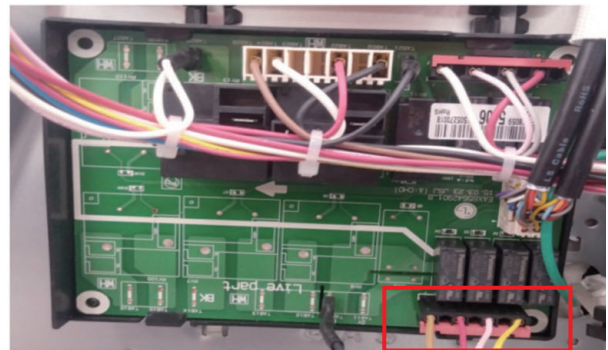
Is the Connector disconnected or loose?

Yes

Reconnect. If defective harness, replace or fix

Check the following :

- (1) Electric wiring of relay in Relay PCB
- (2) Electric wiring of Locking Motor and Micro Switch
- (3) Electric wiring of CN31 of Main PCB



No

CHECKING FLOW CHART BY FAILURE

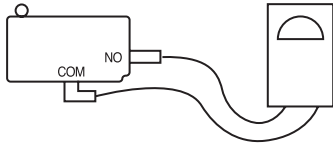
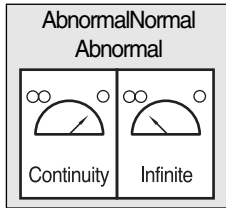
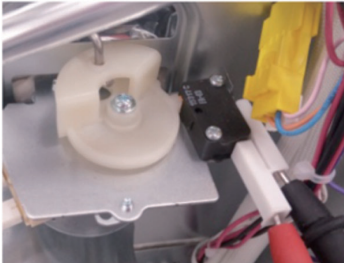
3

Is the door lock switch (micro switch) normal?

No

Replace the micro switch

measure the resistance of door lock switch → normally open type



Yes

Replace the Relay PCB.
If the same phenomenon occurs even though after replace Relay PCB, you should replace the Main PCB.

4

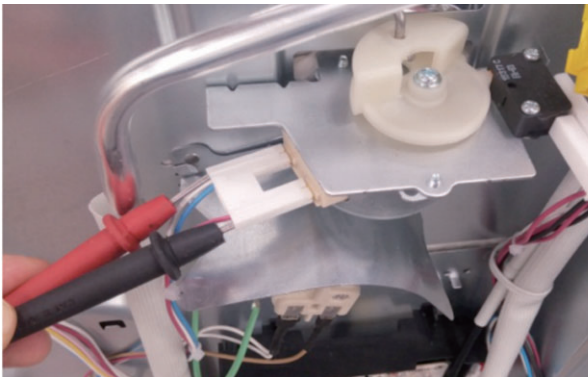
Is the resistance of the lock motor normal ?

No

Replace the lock motor

measure the resistance of lock motor

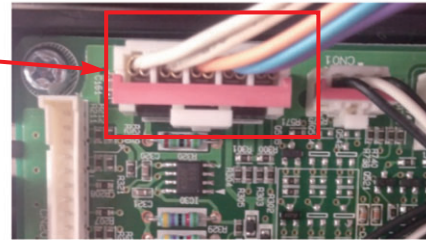
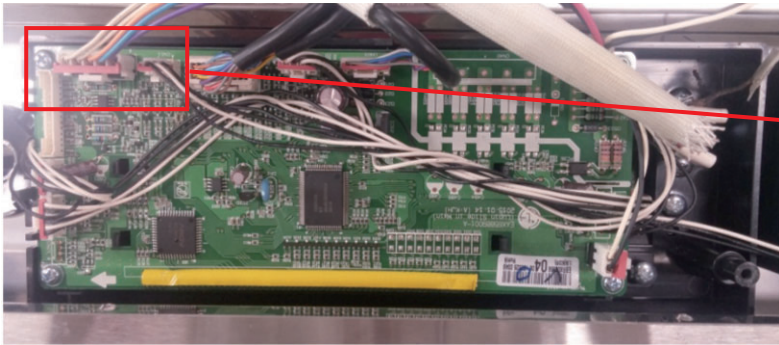
Normal : approximately 2.6kΩ
Abnormal : infinite or below 5 Ω



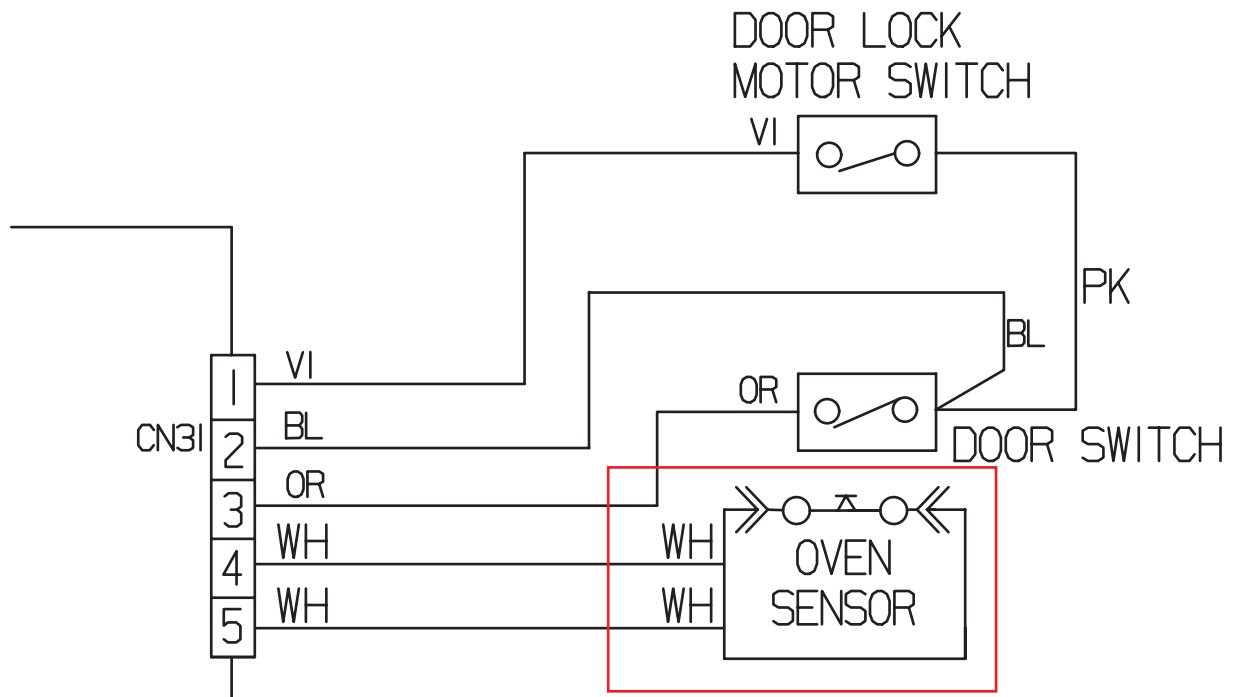
Yes

CHECKING FLOW CHART BY FAILURE

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



CN31



CHECKING FLOW CHART BY FAILURE

Sensing Fail, F1, F2?

Unplug the unit

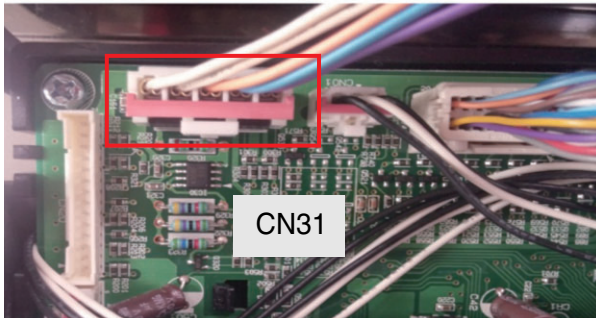
1

Is the Connector disconnected or loose?

1. Sensor connection
2. CN31 of Main PCB

Yes

Reconnect or adjust the connection



No

2

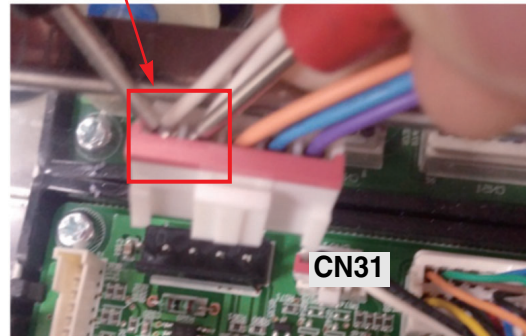
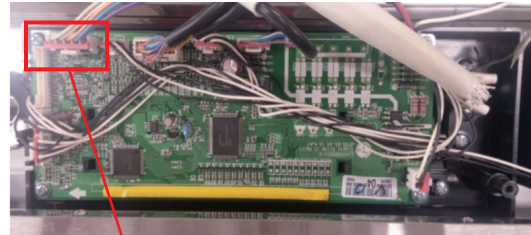
Is the resistance of thermistor normal?

No

Replace the defective Thermistor

Check:

Pins 4 and 5 of CN31 wiring in main PCB
Normal- approximately 1.09kΩ at 25°C



Yes

CHECKING FLOW CHART BY FAILURE

Plug in the unit

3

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

Yes

Replace the
Relay PCB

To enter the test mode, follow these steps:

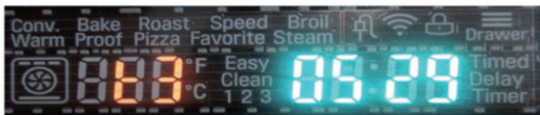
1. Press the any button, and encoder is placed in the Off
2. Press the button in the following order : + → _ → Oven light (Oven Light hold for 3 seconds).



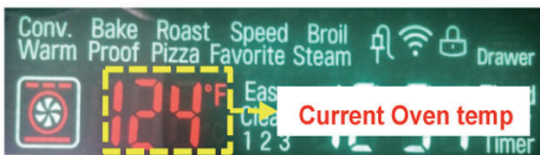
3. Press the OVEN LIGHT button again. (hold for 3seconds)



4. Select the "t3" by press the + button



5. Press the START button



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

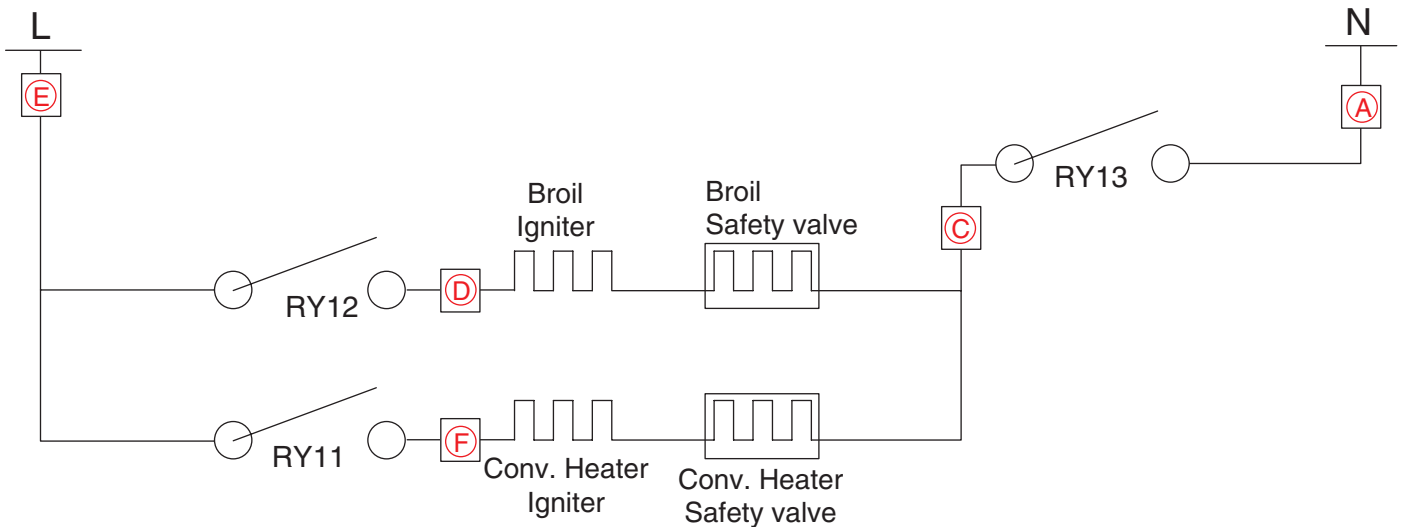
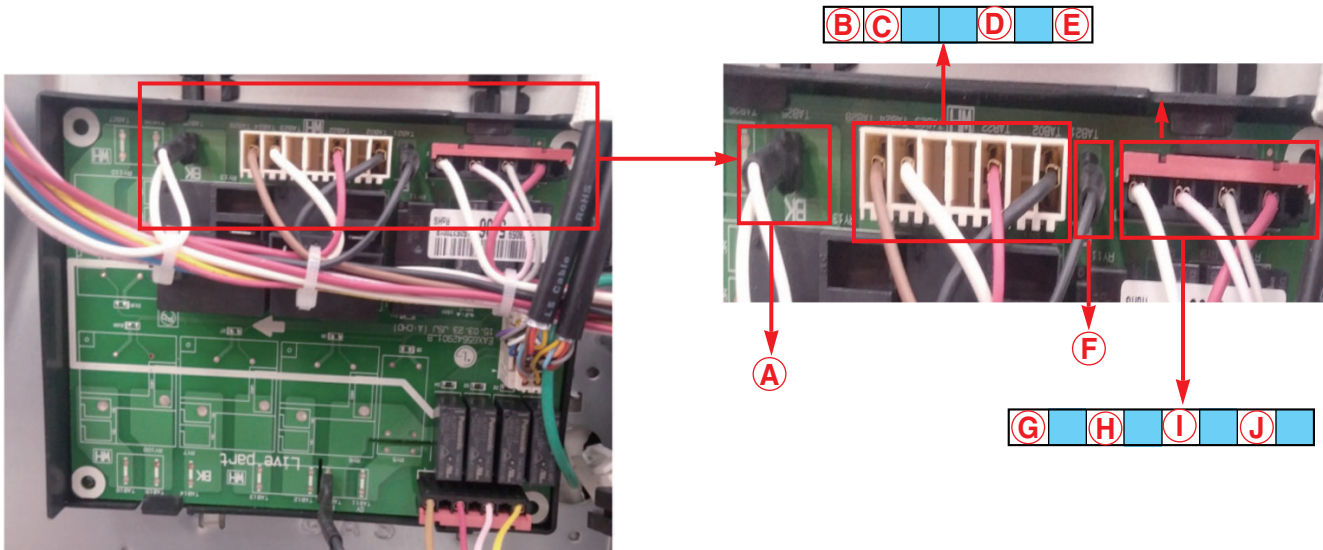
No

4

Replace the Main PCB.

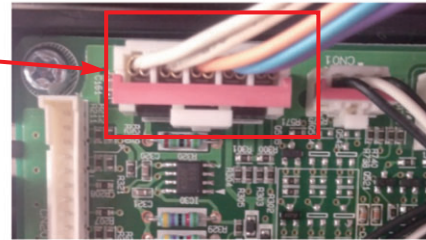
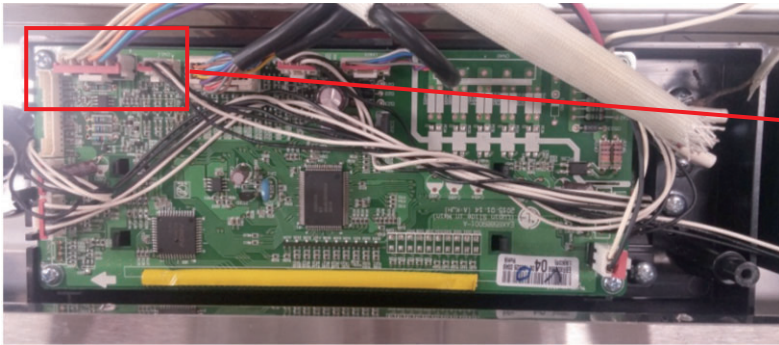
CHECKING FLOW CHART BY FAILURE

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

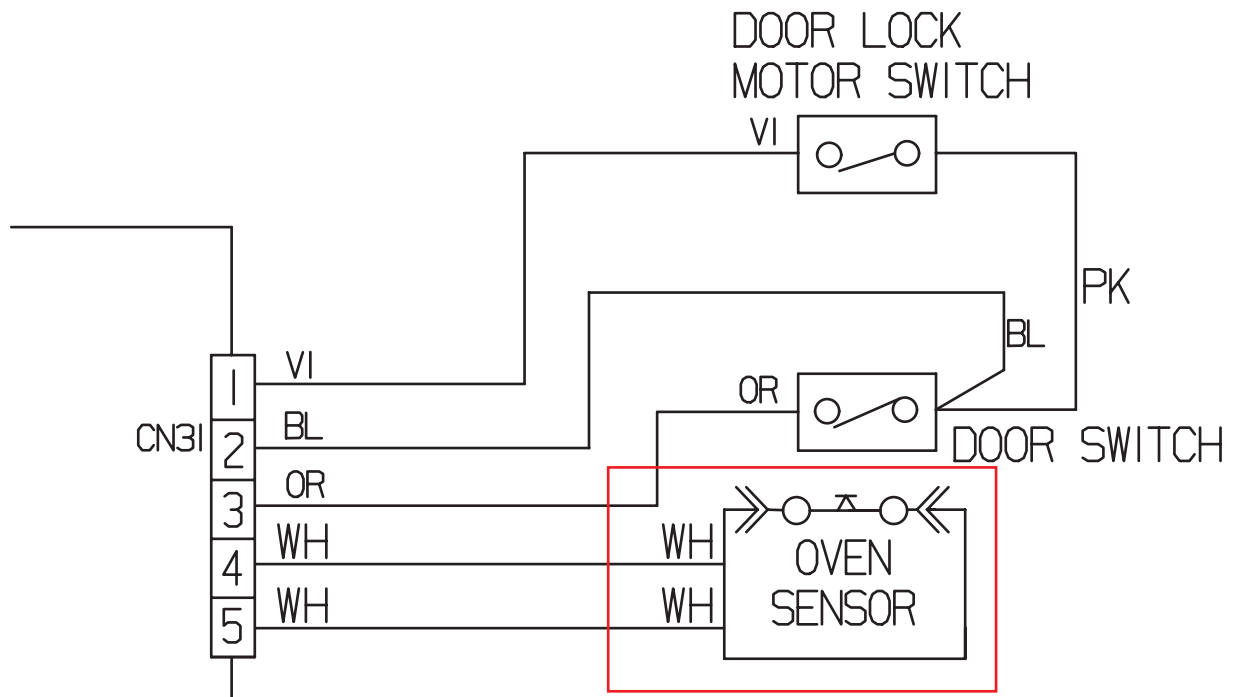


CHECKING FLOW CHART BY FAILURE

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



CN31



CHECKING FLOW CHART BY FAILURE

Oven hot, F6?

Yes

Unplug the unit

1

Is the resistance of thermistor normal?

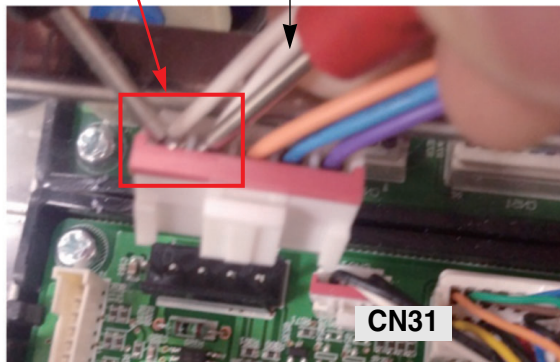
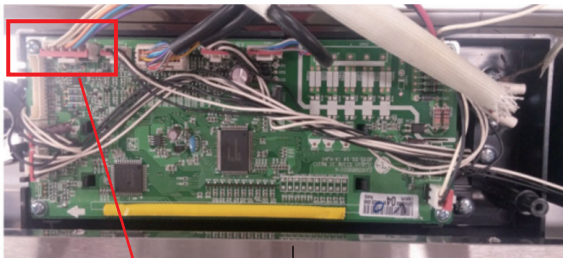
Check:

Pins 4 and 5 of CN31 in main PCB

Normal- approximately 1.09kΩ at 25°C

No

Replace the defective Thermistor



CN31

Yes

2

Is the heater relay normal?

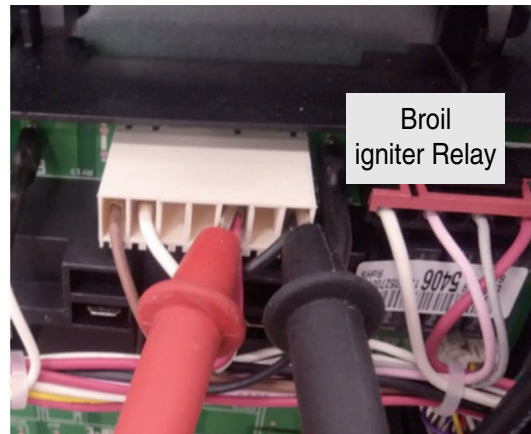
No

Replace the Relay PCB

Measure the resistance of Heater relay and Live.

Normal : infinite

Abnormal : shorted



Broil igniter Relay

Tab 02 and Tab 22 : RY12



Convection igniter Relay

Tab 02 and Tab 21 : RY11

Yes

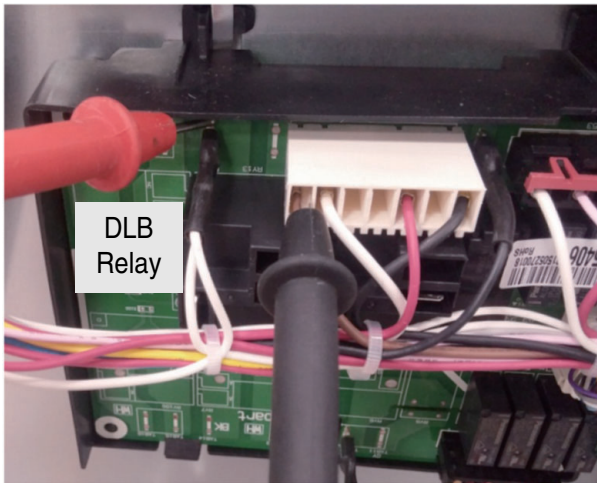
CHECKING FLOW CHART BY FAILURE

3

Is the DLB relay normal?
Measure the resistance

Normal : infinite
Abnormal : shorted

No → Replace the relay PCB



Tab 23(or Tab 24)
and Tab 25 : RY13

Yes ↓

Plug in the unit

4

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

Yes → Replace the Main PCB

To enter the test mode, follow these steps:

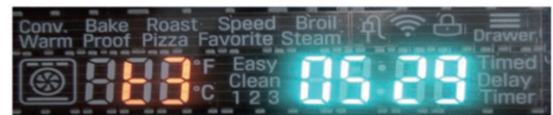
1. Press the any button, and encoder is placed in the Off
2. Press the button in the following order : + → _ → Oven light (Oven Light hold for 3 seconds).



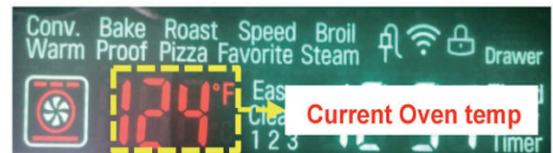
3. Press the OVEN LIGHT button again. (hold for 3seconds)



4. Select the "t3" by press the + button



5. Press the START button

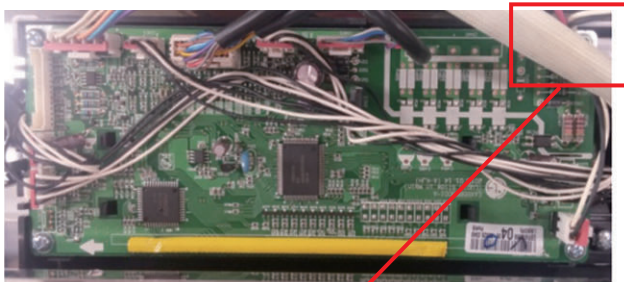


Normal : Thermistor value at room temp is from 70°F to 90°F

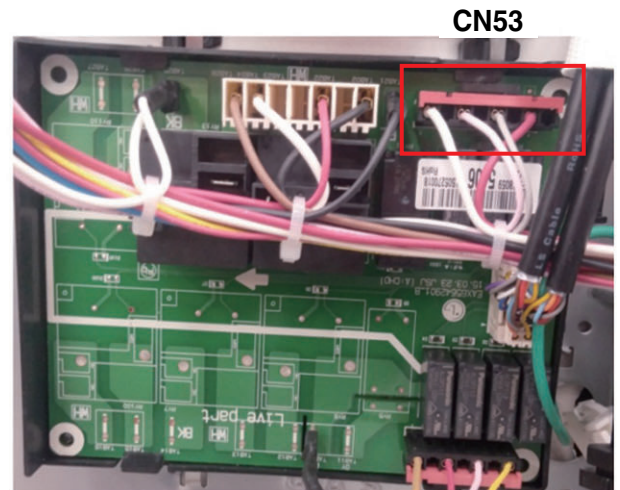
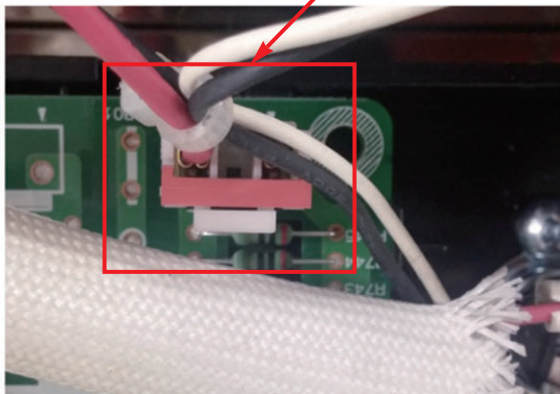
No ↓

CHECKING FLOW CHART BY FAILURE

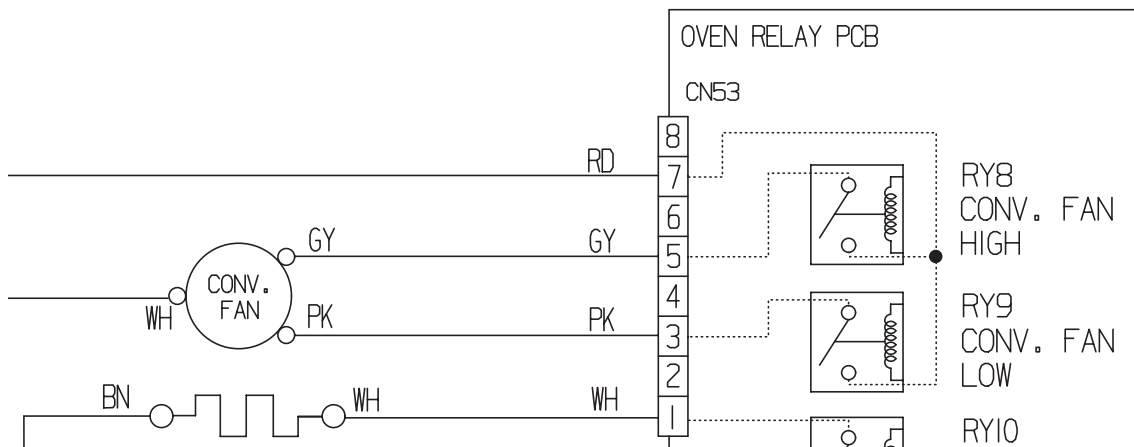
Symptom	Check Point
1. Convection Fan not working 2. F7	1. Check the Resistance of the Relay. 2. Check the Motor's Resistance



CN42



CN53



CHECKING FLOW CHART BY FAILURE

Convection fan not work, F7?

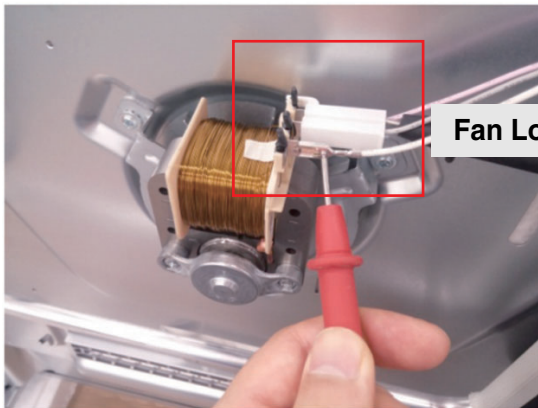
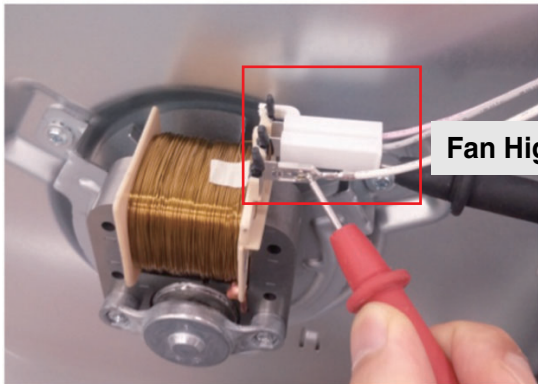
Unplug the unit

1

Check the resistance of each fan motor. Normal?

No → Replace the Fan motor

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



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

Yes ↓

2

Is the fan motor relay normal?

No → Replace the failed heater

Measure the resistance of fan motor relay and Live
Normal: infinite
Abnormal: shorted



5th and 7th pin of CN53 : RY 8



3th pin and 7th pin of CN53 : RY 9

yes ↓

CHECKING FLOW CHART BY FAILURE

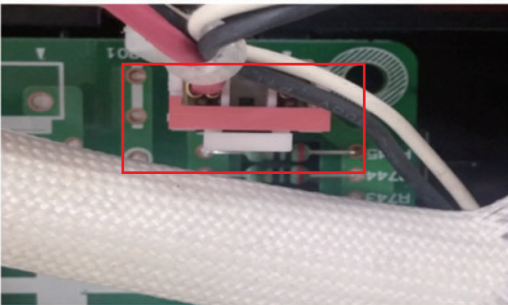
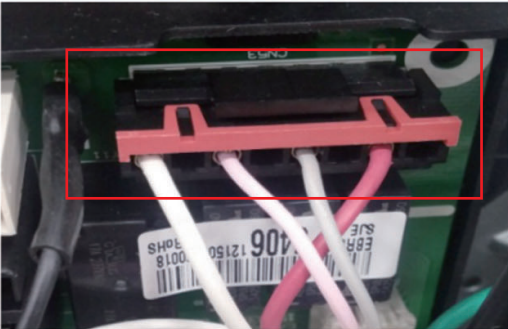
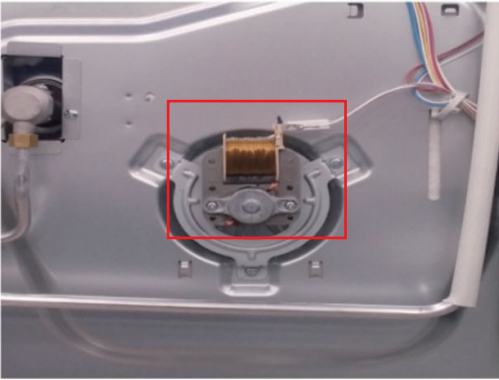
3

Is the Connector disconnected or loose?

No

Replace the Main PCB

(Check all connectors and harnesses that are associated with the convection fan.)

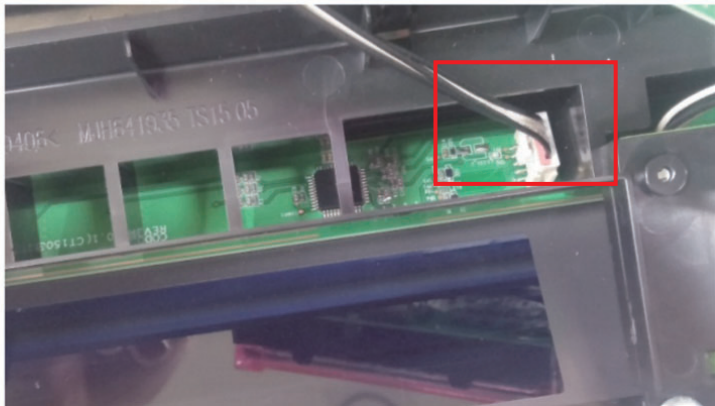
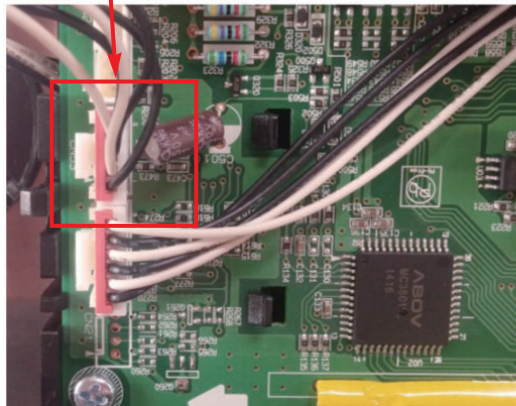
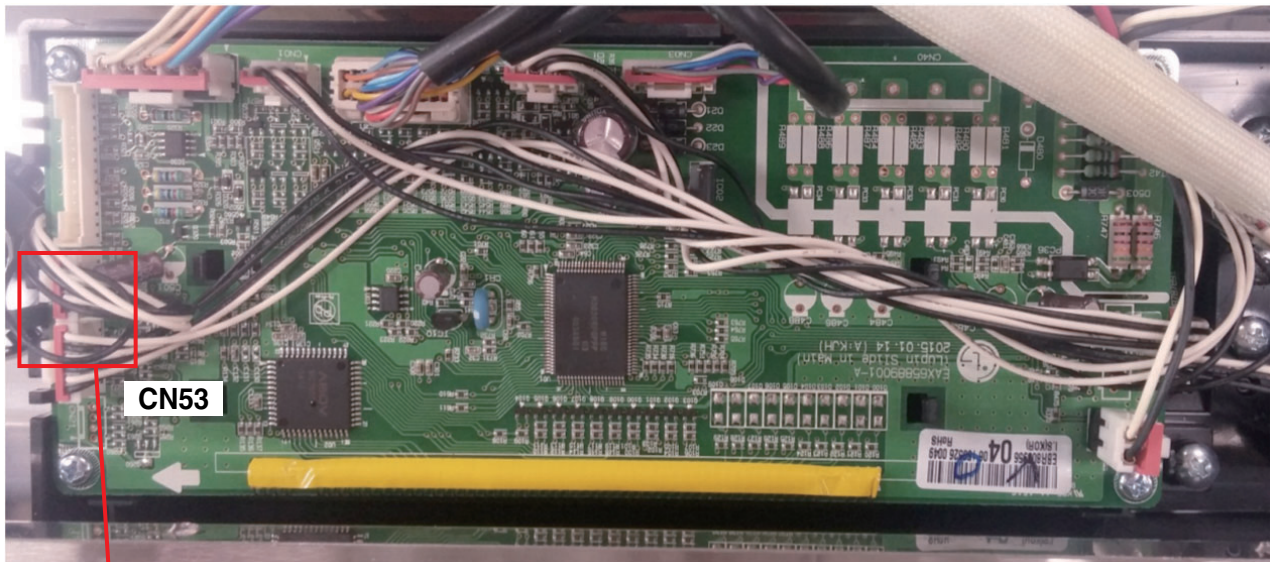


Yes

Reconnect. If defective harness, replace or fix.
If the same phenomenon occurs even though after fixed connection, you should replace the Main PCB

CHECKING FLOW CHART BY FAILURE

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



CHECKING FLOW CHART BY FAILURE

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

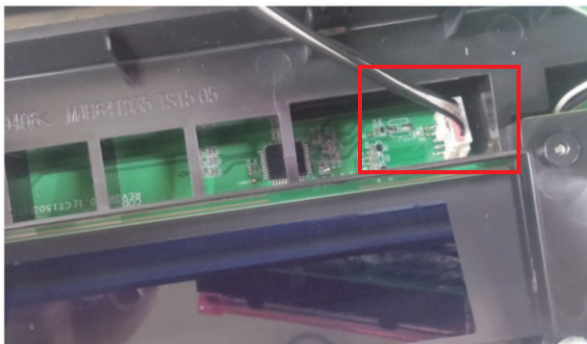
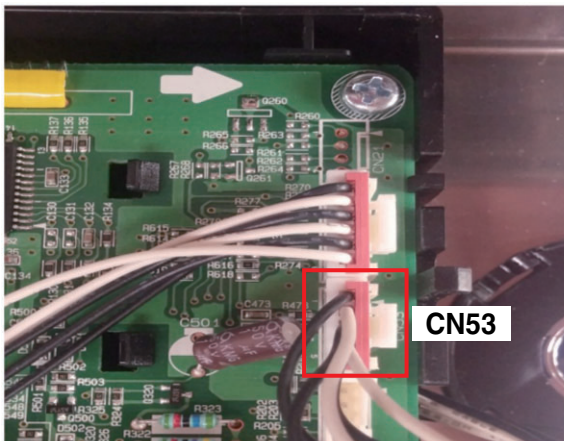
Unplug the unit

1

Check the connecting states between Key pad and CN03 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

o enter the test mode, follow these steps:

1. Press the any button, and encoder is placed in the Off
2. Press the button in the following order
: + → _ → Oven light
(Oven Light hold for 3 seconds).



3. Press the OVEN LIGHT button again.
(hold for 3seconds)



4. Select the "t7" by press the + button
5. Press the START and Check the button.
(Refer to the next page, appendix)

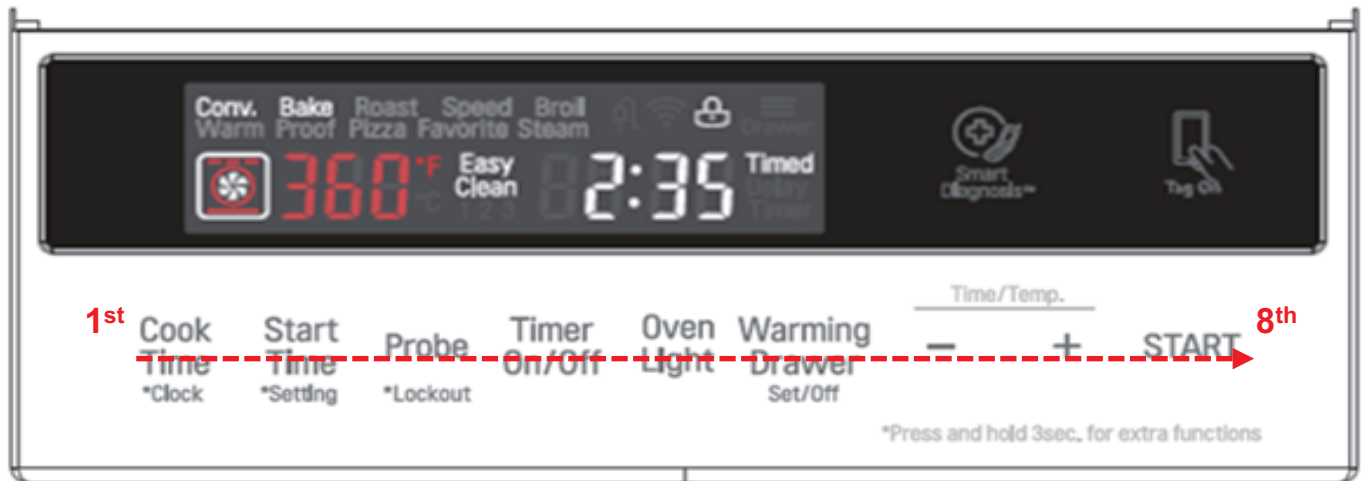
Yes

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 in normal operation, the number that corresponds to the key displayed on the VFD.
2. If the key access order was changed, the buzzer will make a double beep sound.
3. The buzzer does NOT beep when a key was accessed, it would be defective.

※ How to stop - Key Test mode

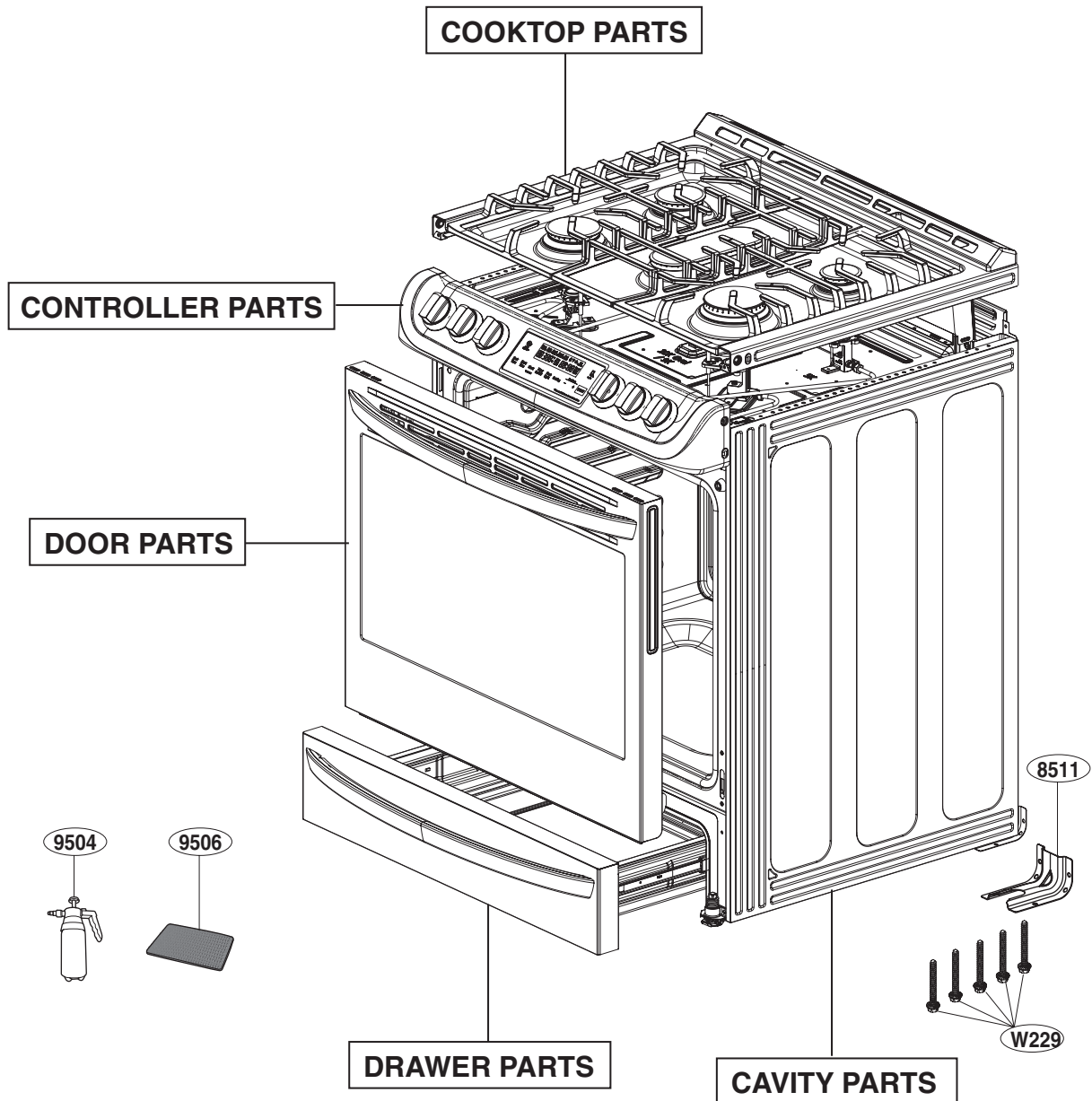
- Press 1st(Cook time) → 2nd → ... → 8th (START)

EXPLODED VIEW

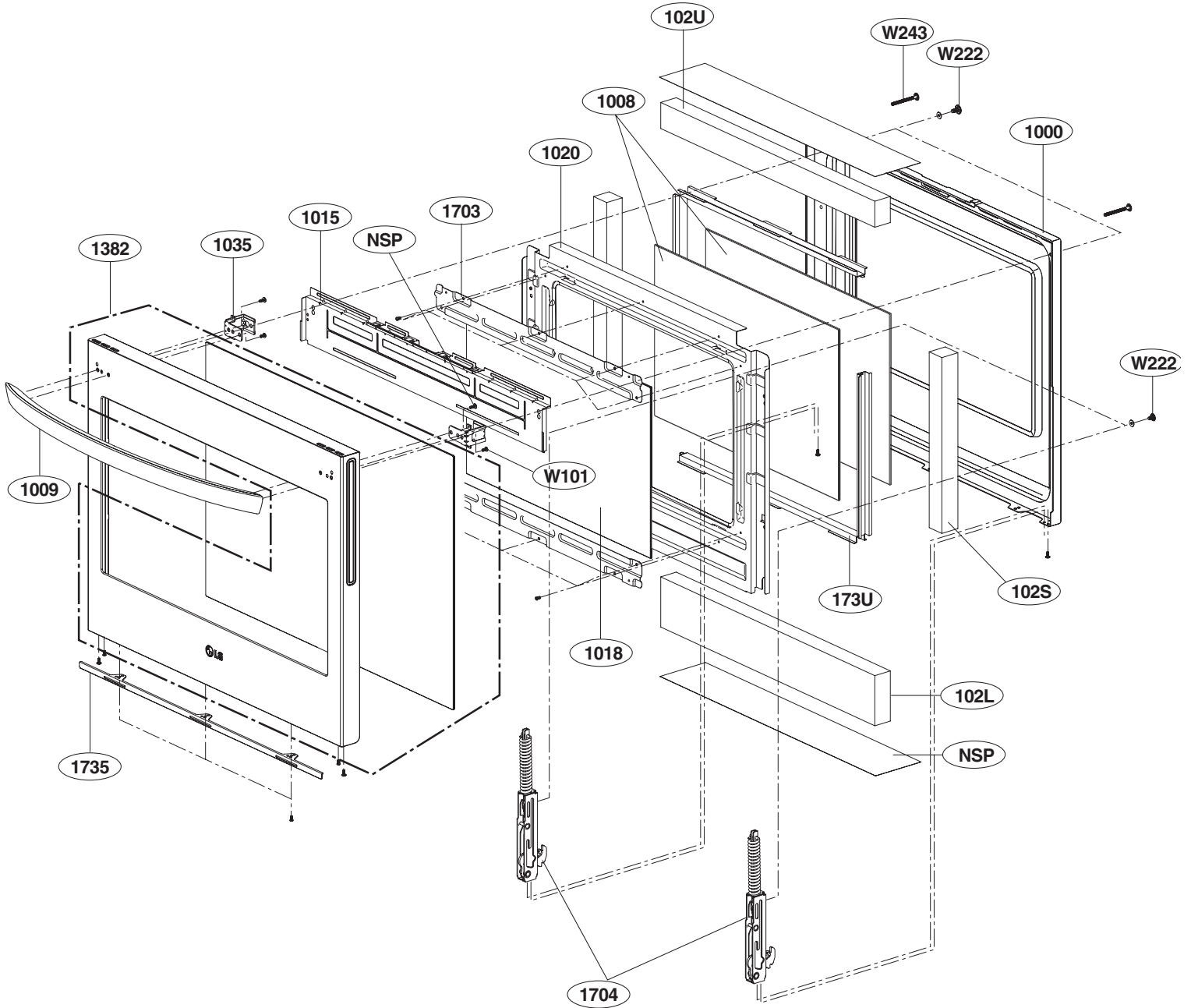
INTRODUCTION

MODEL:

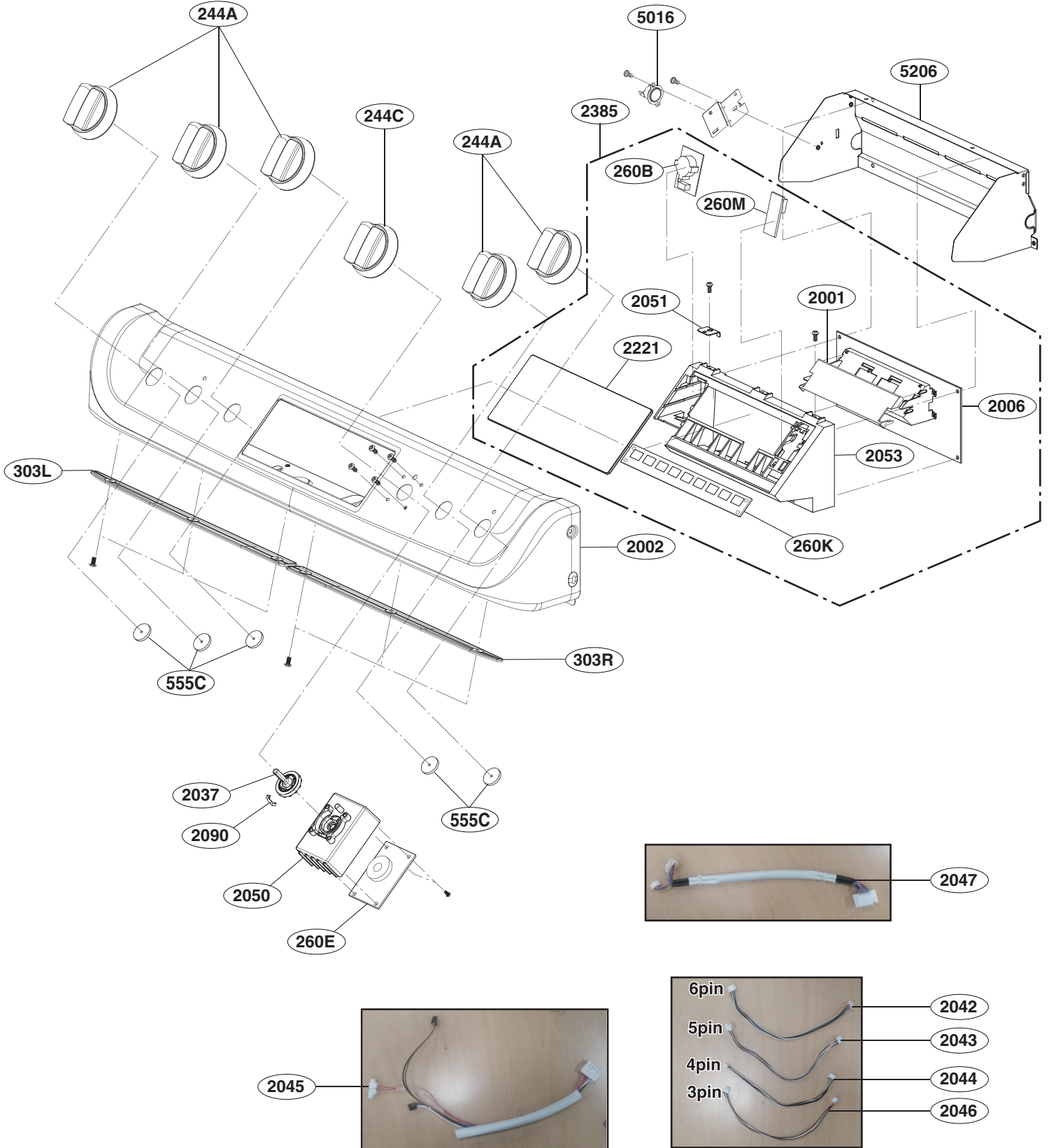
Customer Model	Product Code	SVC Model
LSG4513ST	FH4755LS.ASTELGA	LSG4513ST /00
LSG4513BD	FH4755LS.ABDELGA	LSG4513BD /00



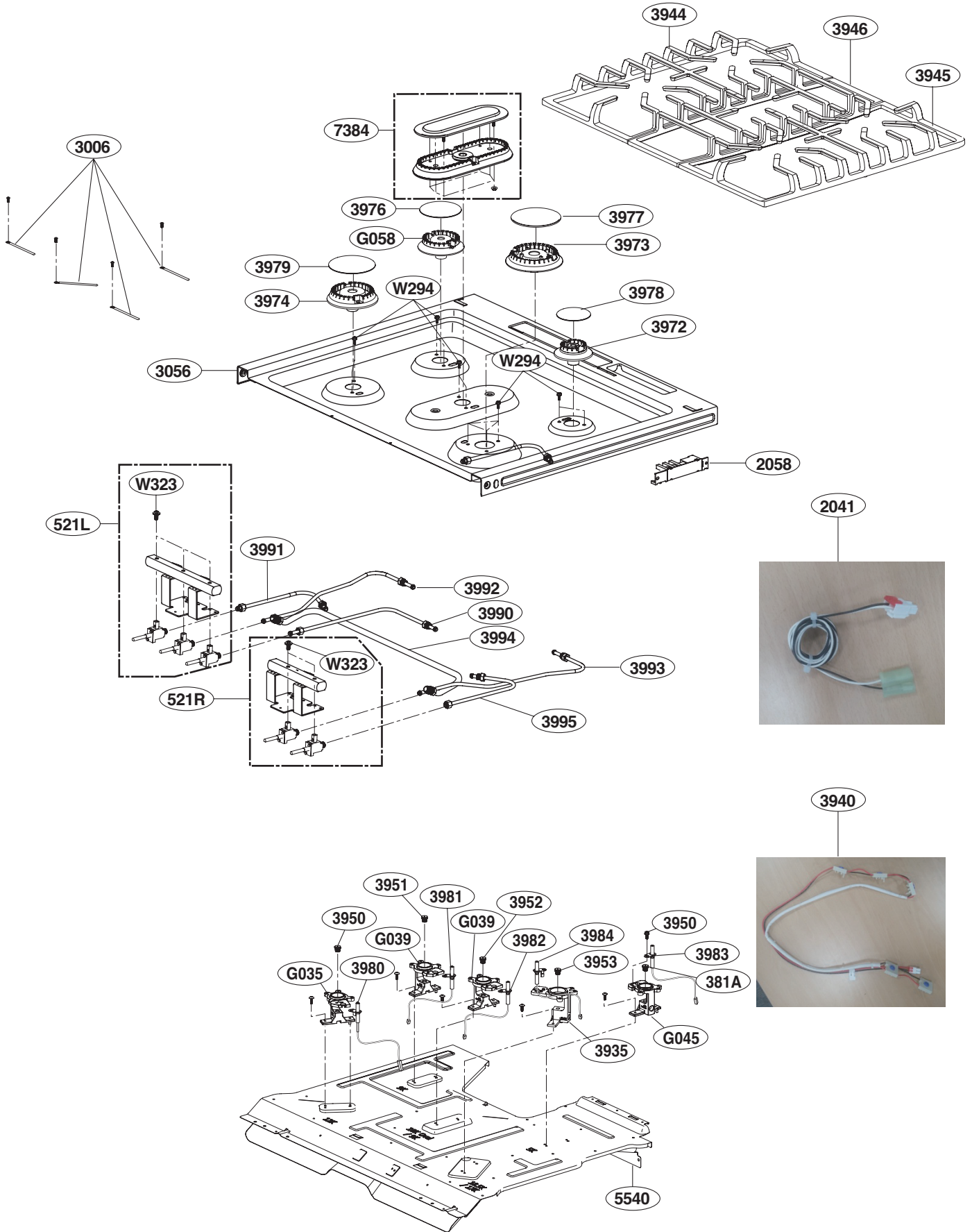
DOOR PARTS



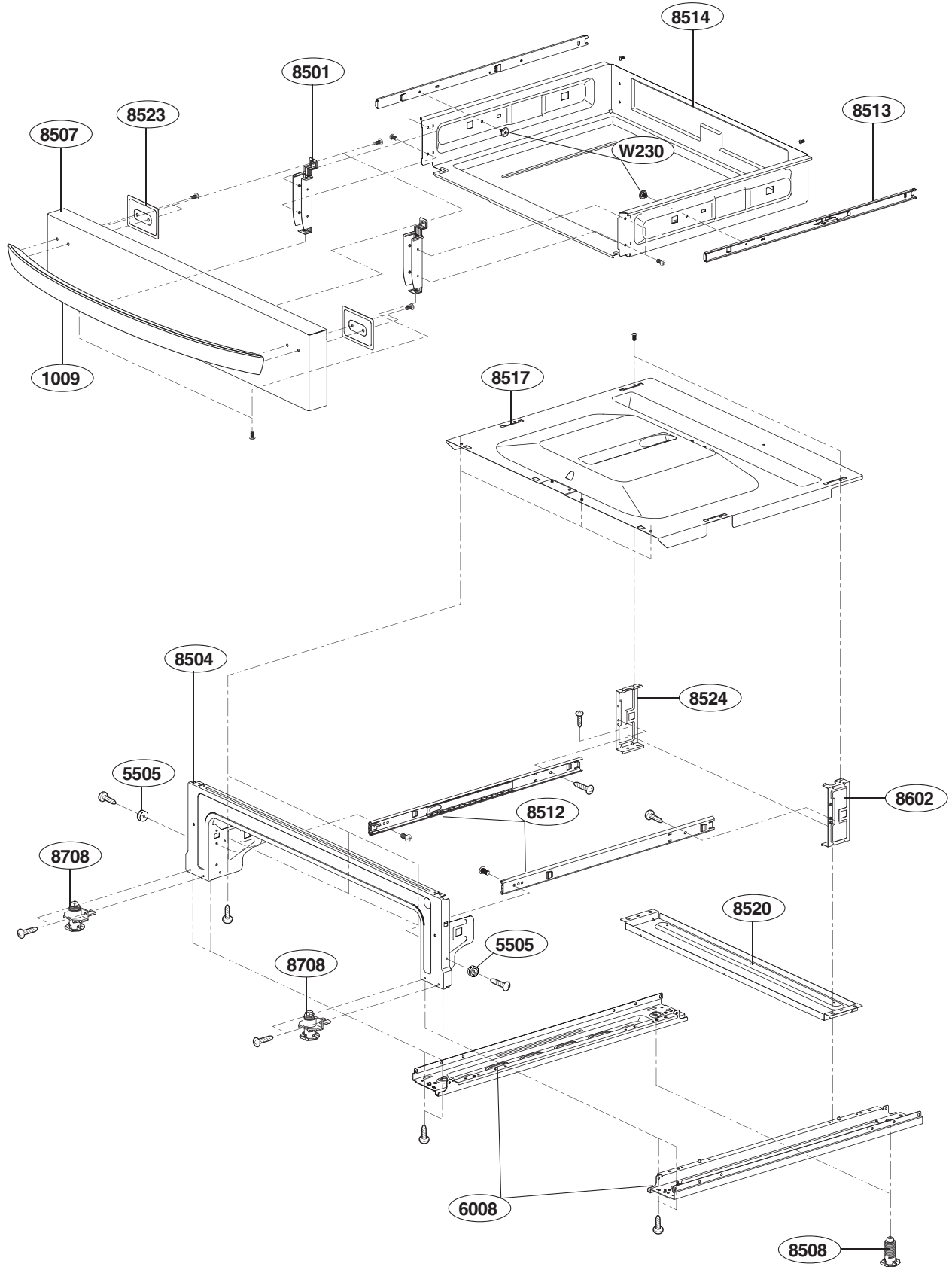
CONTROL PARTS



COOKTOP PARTS



DRAWER PARTS



CAVITY PARTS

