# FREE STANDING RANGE

**BASIC:** NE595R0ABSR
**MODEL:** NE59J7630SS
**MODEL CODE:** NE59J7630SS/AA

# SERVICE Manual

## ELECTRIC RANGE

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# 1. Precaution

## 1-1 Forward

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

## 1-2 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 SAMSUNG 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**

- To avoid risk of severe personal injury or death, disconnect power before working/servicing on appliance to avoid electrical shock.
- When the oven operates, the interior parts will be very hot.

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

## 1-3 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 doesn't cover all possible conditions that may occur. For further assistance contact your service agent or manufacturer.

**WARNING**

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

- 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**


- INJURIES CAN OCCUR IF THE RANGE TIPS
- INSTALL ANTI-TIP DEVICE PACKED WITH RANGE


- FOLLOW ALL INSTALLATION INSTRUCTIONS

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.

- Do not step, lean or sit on the doors of the range -this can cause the range to tip, resulting in burns or serious injuries.

**WARNING**

- **DO NOT TOUCH HEATING ELEMENTS OR INTERIOR SURFACES OF OVEN** – Heating elements may be hot even though they are dark in color. Interior surfaces of an oven become hot enough to cause burns. During and after use, do not touch, or let clothing or other flammable materials contact heating elements or interior surfaces of oven until they have had sufficient time to cool. Other surfaces of the appliance may become hot enough to cause burns – among these surfaces are oven vent openings and surfaces near these openings, oven doors, and windows of oven doors.

**CAUTION**

**Do not store items of interest to children in cabinets above a range or on the back guard of a range** – children climbing on the range to reach items could be seriously injured.

- Do Not Leave Children Alone - Children should not be left alone or unattended in area where appliance is in use. They should never be allowed to sit or stand on any part of the appliance.
- Never Use Your Appliance for Warming or Heating the Room.
- Storage in or on Appliance – Flammable materials should not be stored in an oven or near surface units. Be sure all packing materials are removed from the appliance before operating it. Keep plastics, clothes and paper away from parts of the appliance that may become hot
- Wear Proper Apparel – Loose-fitting or hanging garments should never be worn while using the appliance.
- Do Not Use Water on Grease Fires – Turn off oven to avoid spreading the flame. Smother the fire or flame by closing the door or use dry chemical, baking soda or foam- type extinguisher.
- Use Only Dry Potholders – Moist or damp potholders on hot surfaces may result in burns from steam. Do not let potholder touch hot heating elements. Do not use a towel or other bulky cloth.

**WARNING**

***SURFACES***

- **DO NOT TOUCH SURFACE UNITS OR AREAS NEAR UNITS** – Surface units may be hot even though they are dark in color. Areas near surface units may become hot enough to cause burns. During and after use, do not touch, or let clothing or other flammable materials contact surface units or areas near units until they have had sufficient time to cool. Among these areas are the cook-top and surfaces close to the cook-top.

**WARNING**

To avoid risk of electrical shock, personal injury, or death, make sure your range has been properly grounded and always disconnect it from main power supply before any servicing.

# 1. Precaution

## SURFACE COOKING UNITS

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

## SELF-CLEAN OVENS

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

## VENTILATING HOODS:

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

## OVEN

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

## GLASS/CERAMIC COOKING SURFACES

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

## DEEP FAT FRYERS:

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

## 1-4 Model & Serial Number Label and Tech Sheet Locations

This Model / Serial Number label and Tech Sheet locations are shown below.
The rating plate is located above the drawer on the oven frame.


# 2. Specifications

## 2-1 Features

**Features**


| Item | Steam Clean |
|---|---|
| How to Use | - Pour the water 10oz (+detergent)<br>- Push the steam cleaning button<br>- In around 20 minutes, the oven will stop automatically.<br>- Wipe it out with a damp cloth. |
| Operating (Temperature) | About 158°F |
| Operating Time | 20 Minutes |
| Used Heater | Bottom Baked Heater |
| Smell | No smell |
| Tool to clean | Wet cloths |

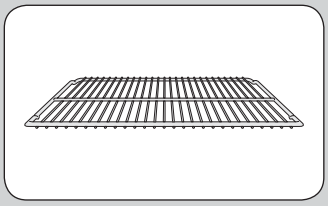
Biggest Capacity

- The biggest capacity in current US market !!!
- It benefits consumers to cook for large family food in Thanksgiving & Christmas seasons
  ( i.e Turkey 25 lbs = 4.4 cu ft, 20 lbs = 3.5 cu ft)

## 2-2 Table of Specifications

| Items | | Model | |
|---|---|---|---|
| | | BASIC MODEL | NEW MODEL |
| Model Name | | NE595R0ABSR | NE59J7630SS |
| Category | | Convection | Convection |
| Overall | Width | 30″ | 30″ |
| | Installation type | Freestanding | Freestanding |
| | Color availability | STS | STS |
| Control | Oven | Membrane | Membrane |
| | Cooktop | Knob | Knob |
| | Display | LED | LED |
| | Electronic clock | Yes | Yes |
| | Control lock capability | Yes | Yes |
| | Audible preheat signal | Yes | Yes |
| Cooktop | Material | Ceramic glass | Ceramic glass |
| | # of element | 5 | 5 |
| Power | LR | 6" - 1,200W | 6” - 1,200W |
| | RR | 6" - 1,200W | 6" - 1,200W |
| | CR | Warming Center(100W) | Warming Center(100W) |
| | LF | 9” - Dual(6”/9”)<br>(1,400/3,000W) | 9” - Dual(6”/9”)<br>(1,400/3,300W) |
| | RF | 12” - Dual(9”/12”)<br>(1,900/3,000W) | 12” - Triple(6”/9”/12”)<br>(1,100/2,200/3,000W) |
| Oven | Capacity(cu.ft) | 5.9 | 5.9 |
| | Broil element | 3,800 watts | 4,200 watts |
| | Bake element | 2,400 watts | 3,300 watts |
| | Convection System | Yes | Yes |
| | Convection Element | Yes(800W / 240V) | Yes(800W / 240V) |
| | # of Racks | 2 | 2 |
| | Interior oven light | 120V, 40 watts | 120V, 40 watts |
| | Cleaning | Pyrolytic & Steam | Pyrolytic & Steam |
| Drawer | Type | - | - |
| | Element | - | - |
| | Warming rack | No | No |
| Dimensions (inch) | Oven Interior(W x H x D) | 25 x 21 1/8 x 19 | 25 x 21 1/8 x 19 |
| | Exterior - Width | 31 (Cook top) : 787mm | 29 4/5 (Cook top) : 759mm |
| | | 29 4/5 (Body) : 757mm | 29 4/5 (Body) : 759mm |
| | Exterior - Height | 36 (cook top) : 913mm | 47 (cook top) : 1196.3mm |
| | Exterior - Depth | 26 3/10 (Door) : 667.7mm | 23 1/2 (Door), : 599.6mm |
| | | 28 3/5 (with handle) : 727.7mm | 26 (with handle) : 659.6mm |
| | Net weight: Lbs (Kg) | 181 lbs (82kg) | 170 lbs (77kg) |
| Power | Rating(240V 60Hz) | Range : 4,600W<br>Cooktop : 8,500W | Range : 4,400W<br>Cooktop : 8,800W |

## 2-3 Accessory

| Item | Description | Code No. | Q'ty |
|---|---|---|---|
|  | Rack Flat | DG75-01001C | 2 |

## 3-1 Removing Cover-Back Main Wire, Cover-Back Guard Wire and PCB-Main

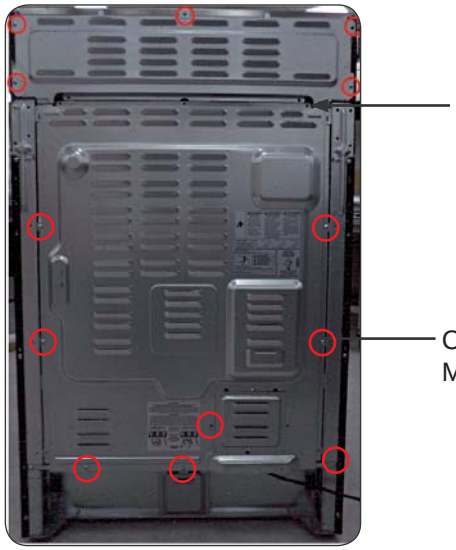
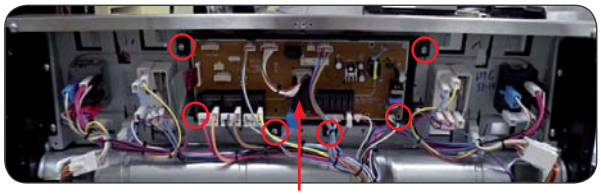
**WARNING**

**ELECTRICAL SHOCK HAZARD**

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

**PRECAUTION**

When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo | Explanation |
|---|---|---|
| Cover-Back Main Wire, Cover-Back Guard Wire and PCB-Main |  | **1.** Turn off the electrical supply going to the range.<br>**2.** Pull the range away from the wall so that you can access the rear panel.<br>**3.** Remove the 8 screws from the Cover-Back Main Wire and remove the panel.<br>**4.** Remove 5 screws from the Cover-Back Guard Wire and remove the cover. |
| |  | **5.** Remove 6 screws of PCB Main and separate PCB Main. |
| |  | **REASSEMBLY NOTE:**<br>When removing the membrane tail from the main PCB, unlock the tab completely. |

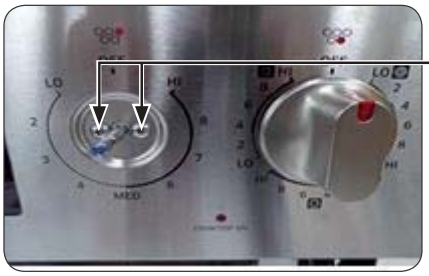
## 3-2 Removing Regulator-Energy

**WARNING**

Disconnect power before servicing the range Replace all panels before operating range. Failure to do so can result in dearh or electrical shock.

**PRECAUTION**

When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Regulator-Energy |  | **1.** Turn off the electrical supply going to the range.<br>**2.** Pull the range away from the wall so that you can access the rear panel.<br>**3.** Remove Cover-Back Guard Wire. (See step 4 on page 10) |
| |  | **4.** Remove Regulator-Energy connectors. |
| |  | **5.** Pull out the Knob-Dial. |
| |  2 Screws | **6.** Remove 2 screws and replace Regulator-Energy. |

* Reassembly of All part is the reverse order of disassembly.

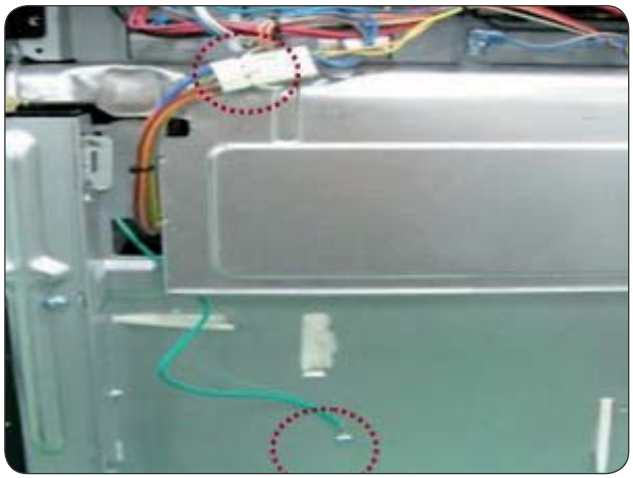
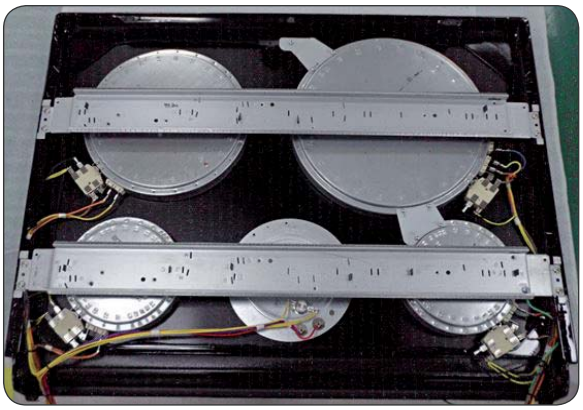
Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

## 3-3 Removing Surface elements and The Ceramic Glass Cooktop

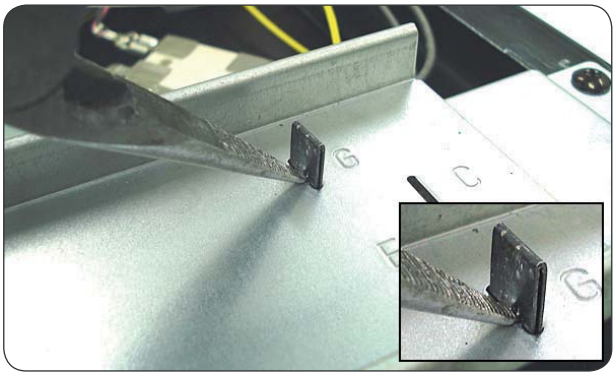
**WARNING**

**ELECTRICAL SHOCK HAZARD**

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock..

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Surface elements and Ceramic Glass Cooktop |  | **1.** Unplug the cord or disconnect power<br>**2.** Open oven door and remove the 3 screws located at the front of the cook-top, then close the door. |
| |   | **3.** Slightly lift up and pull up the cook-top and then unplug the 2 connectors wire at the back by squeezing side tabs and unscrew ground wire. |
| |  | **4.** Protect the cooktop surface and turn the assembly over. |

## 3-3 Removing Surface elements and The Ceramic Glass Cooktop

| Parts | Explanation Photo | Explanation |
|---|---|---|
| Surface elements and Ceramic Glass Cooktop |  | **5.** To remove the surface elements<br>**a)** Remove the wires from the element and limiter terminals.<br>**b)** Remove the element bracket screw (shown above) for the element you are servicing.<br>**c)** Carefully lift the bottom of the bracket just far enough to remove the element.<br>**d)** Use sharp tool to remove the heating element.<br><br>**REASSEMBLY NOTE**: When you reinstall the element make sure that the wires are inserted onto the correct terminal then reinstall the bracket screw to secure it to the cooktop. |

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

## 3-4 Removing The Latch-Door & Switch-Door Plunger(Continued)

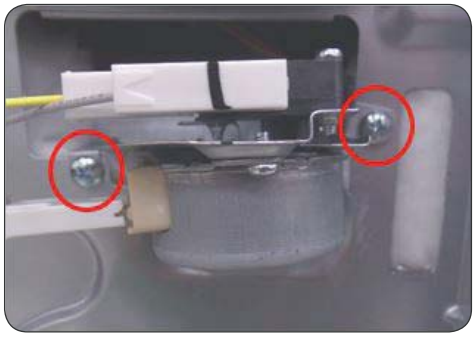
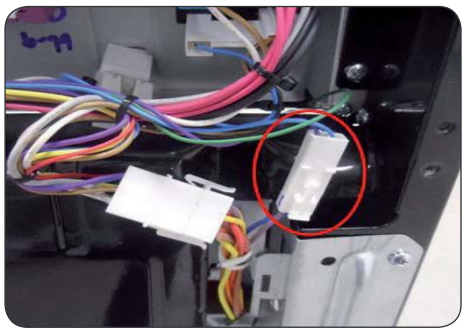
**WARNING**

ELECTRICAL SHOCK HAZARD

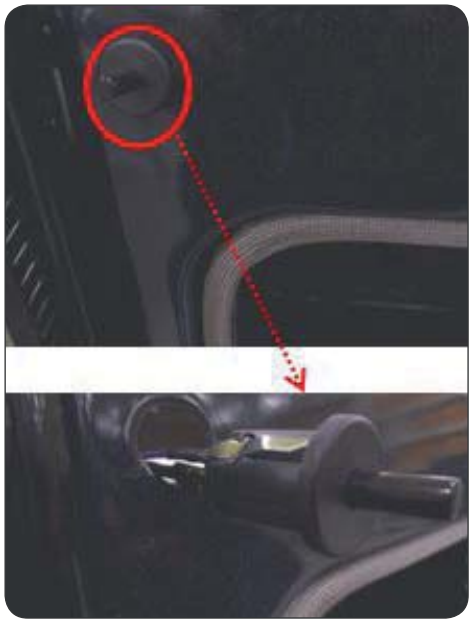
Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

**CAUTION**

When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Latch-Door & Switch-Door Plunger |  | **1.** Turn off the electrical supply going to the range.<br>**2.** Open the oven door.<br>**3.** Raise the cooktop (see page 12 for the procedure).<br>**4.** To remove the Latch-Door:<br>a) Remove the 2 screws from the front of cavity. |
| |  | b) Remove two screw from Cover-Back Main and remove latch-door |
| |  | **5.** To remove the Switch-Door Plunger<br>**a)** Remove the Cover-Back Guard Wire (see page 10 for the procedure).<br>**b)** Release the wire from Cable Clamp. |

## 3-4 Removing The Latch-Door & Switch-Door Plunger

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Latch-Door & Switch-Door Plunger |  | **c)** Remove the Switch-Door Plunger from the range. take out carefully by shaking up and down by using tool. |

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

Removing The Latch-Door & Switch-Door Plunger

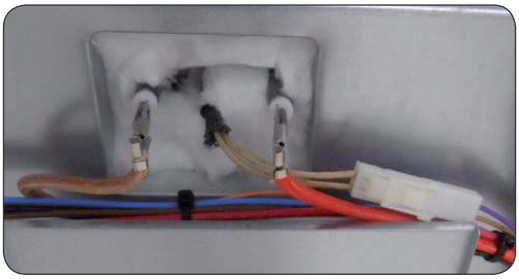
## 3-5 Removing Heater-Broil

**WARNING**

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

**CAUTION**

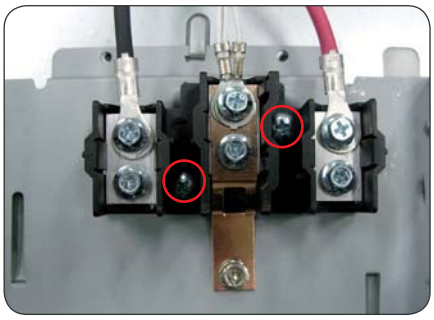
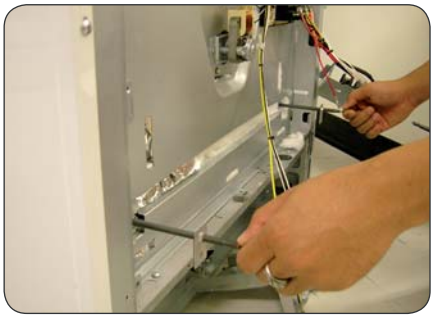
When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Broil Heater |   | 1. Turn off the electrical supply going to the range.<br>2. Open the oven door and remove the racks from inside the oven.<br>3. To remove the broil element.<br>a) Remove the Sensor-Thermistor and 4 screws from the front and rear brackets.<br>b) Remove Cover-Back Main Wire and disconnect 2 wires from Heater-Broil and a wire from Sensor-Thermistor. |

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

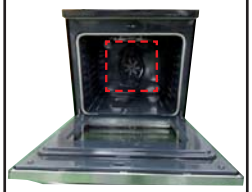
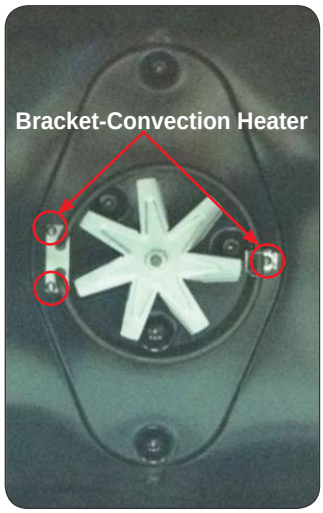
## 3-6 Removing Heater-Bake

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Heater-Bake |  | **1.** Unplug range or disconnect power.<br>**2.** Pull the range out of its mounting location so that you can access the rear of the unit.<br>**3.** Remove Cover-Back Main Wire. (See step 3 on page 10 for procedure)<br>**4.** Remove Terminal-Block and Bracket-Cover Access(with Adiabatic-Terminal) by unscrew 2 points. |
| |  | **5.** Unscrew 2 points of Heater-Bake. |
| |  | **6.** Cut the Adiabatic-Rear based on the lower side. |
| |  | **7.** Carefully pull out Heater-Bake and replace it. |

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

## 3-7 Removing Convection Element, Fan-Covnection and Motor-Convection

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Convection Element, Fan-Convection , Motor-Convection |     | **1.** Disconnect power and remove oven racks.<br>**2.** Pull the range out of its mounting location so that you can access the rear of the unit.<br>**3.** Remove Cover-Back Main Wire from the unit. (See step 3 on page 10 for procedure)<br>**4.** Remove oven door. (See Page 22 on page for procedure)<br>**5.** Remove Cover-casing<br>**6.** Unscrew 2 screws and remove Bracket-Convection Heater to remove Heater-Convection.<br>**7.** Unscrew nut of Fan-Convection Main.<br>**8.** Unscrew 3 points and disconnect a Motor-Convection wire and disconnect Heater-Convection wire. |

**CAUTION**

Be careful not to bend the Fan-Convection(Blade)

## 3-8 Removing Lamp

**WARNING**

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

**CAUTION**

When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo |
|---|---|

| Explanation |
|---|
| **1.** Disconnect power.<br>**2.** Remove oven door.<br>**3.** Turn the glass bulb cover in the oven counterclockwise to remove.<br>**4.** Turn bulb counterclockwise to remove from socket.<br>**5.** Replace bulb and cover by turning clockwise. |

Lamp

**CAUTION**

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

| Explanation Photo | Explanation |
|---|---|

**To replace socket assembly:**

**6.** Disconnect the wires from the socket terminals.

**7.** Use a screwdriver and bend the clips on the socket away from the edges of the liner hole(there are 6 clips on the socket), and pull the socket out of the liner. Push the socket out from the rear of the unit.

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

## 3-9 Removing Sensor-Thermistor

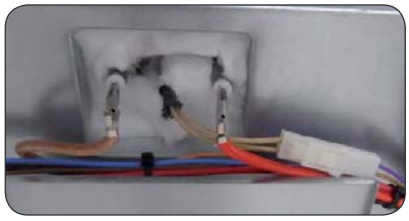
### WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

### PRECAUTION

When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Sensor-Thermistor |   | **1.** Turn off the electrical supply going to the range.<br>**2.** Remove oven door and racks from inside the oven.<br>**3.** Unscrew Sensor-Thermistor.<br>**4.** Remove Cover-Back Main Wire and disconnect a wire from Sensor-Thermistor.<br>**5.** Replace the Sensor-Thermistor. |

## 3-10 Removing Assy-Drawer

**WARNING**

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

**PRECAUTION**

When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo |
|---|---|
|  Assy-Drawer |     |

**Explanation**

**To remove Assy-Drawer:**

1. CAUTION -Turn power OFF before removing the Warming Drawer.
2. Open the drawer to the fully opened position.
3. Locate glide lever on each side of drawer, push down on the left glide lever and pull up on the right glide lever.
4. Pull out the warming drawer.

## 3-11 Removing and Replacing Oven Door

**WARNING**

The door is very heavy. Be careful when removing door Do not lift door up by the Handle-Door.

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Oven door |  | **To remove Oven Door:**<br>**1.** Fully open the door<br>**2.** Pull the hinge locks downward(Fig.1) |
| |  | **3.** Firmly grasp both side of the door at the top.<br>**4.** Close door to the door removal position, which is approximately 5 degrees. (refer to the Fig.2) Lift door up and out until the hinge arm are clear of the slot. |
| |  <br>  | **To replace door:**<br>**1.** Firmly grasp both sides of the door at the top position. |
| |  | **2.** Fully open the door.<br>(If the door will not fully open, it means that the indentation is not seated correctly in the bottom edge of the slot. Push the hinge locks up to the locked position.)<br>**3.** Close the oven door. |

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

## 3-12 Removing Handle-Door and Glass-Inner (Continued)

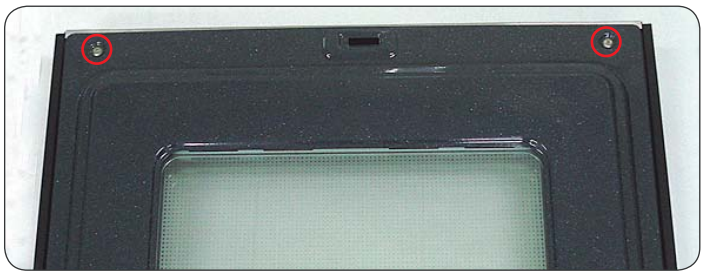
**WARNING**

ELECTRICAL SHOCK HAZARD

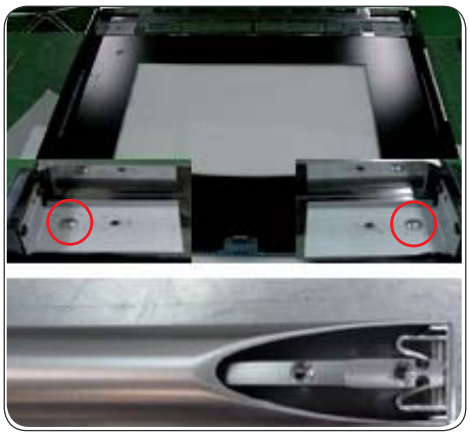
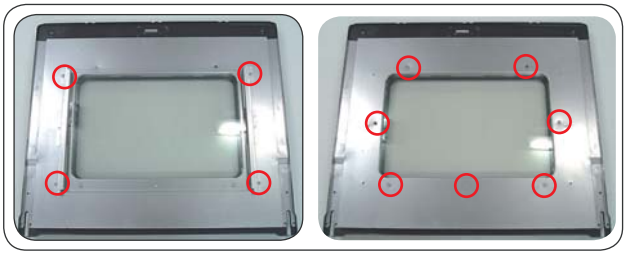
Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

**PRECAUTION**

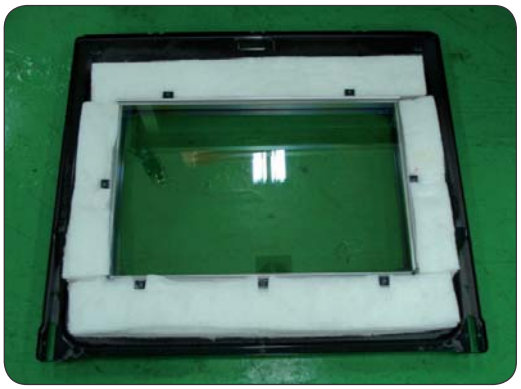
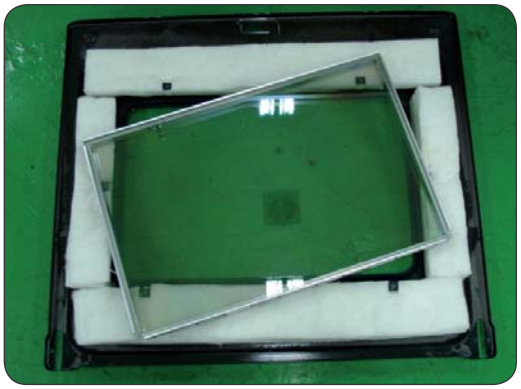
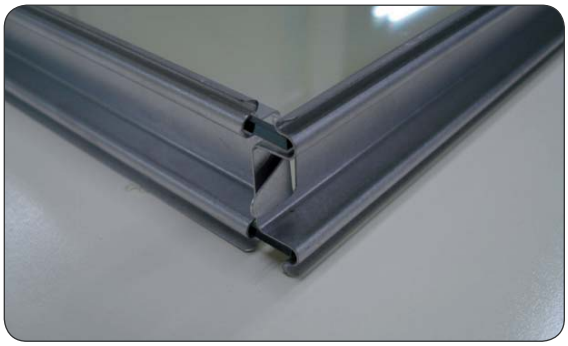
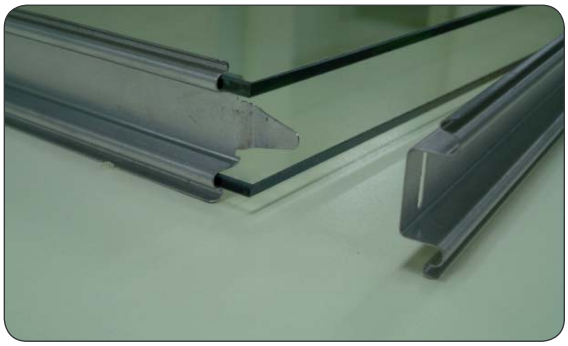
When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo | Explanation |
|---|---|---|
|  Door |  | **1.** Remove the oven door from the range (see page 22 for the procedure.)<br>**2.** Place the oven door on a padded work surface with the front glass facing down.<br>**3.** Remove 3 bottom screws from the door. |
| |  | **4.** Remove 2 Handle-screws from the door. |
| |  | **5.** Lift the door rear assembly off the front assembly. |
| |   | **6.** Remove 2 spacers and 2 screws. |

## 3-13 Removing Handle-Door and Glass-Inner (Continued)

| Parts | Explanation Photo | Explanation |
|---|---|---|
| Handle Door |  | **To remove Handle-Door**<br>**1.** Remove 2 screws to remove Handle-Door |
| Glass-Inner |  <br>  | **To remove Glass-Inner**<br>**1.** Remove 6screws from rear side of door to remove 2 Hinge-Door. |
| |  | **2.** Remove 4screws to remove Glass-Inner Sub Assembly.<br>**3.** Remove 7screws to remove Baffle-Door. |

## Removing Handle-Door and Glass-Inner

<table>
<tr><th>Parts</th><th>Explanation Photo</th></tr>
<tr><td rowspan="5">Handle<br>Door</td><td>   </td></tr>
<tr><td>Explanation</td></tr>
<tr><td>4. Remove Baffle-Door and take out the Glass-Inner assembly.</td></tr>
<tr><td>Explanation Photo</td></tr>
<tr><td>   </td></tr>
<tr><td>Explanation</td></tr>
<tr><td>5. Unfold 2 flanges of Cover-Frame Inner Glass to taking out Glass-Inner</td></tr>
</table>

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

## 3-13 Removing Gasket-Door

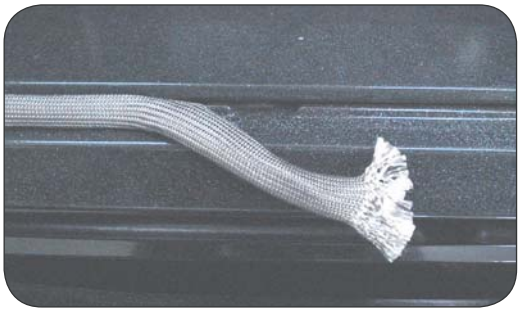
### WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range.
Failure to do so can result in death or electrical shock.

### PRECAUTION

When you work on the electric range, be careful when handling the sheet metal parts.
Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo |
|---|---|
|  Gasket door |   |
| | Explanation |
| | **1.** Open the oven door to its fully down position.<br>**2.** Pull the ends of the gasket out of the liner holes.<br>**3.** Pull the oven door gasket clips out of the holes until all of the clips are removed. |
| | REASSEMBLY NOTE: When you install the new gasket, make sure that all of the clips are seated in their liner holes, and that the ends of the gasket are pushed fully into their holes. Use the pointed end of a pencil to push the gasket ends into the holes. |

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

## 3-14 Removing The Panel-Side

**WARNING**

ELECTRICAL SHOCK HAZARD

Disconnect power before servicing the range. Replace all panels before operating range.
Failure to do so can result in death or electrical shock.

**PRECAUTION**

When you work on the electric range, be careful when handling the sheet metal parts.
Sharp edges may be present, and you can cut yourself if you are not careful.

| Parts | Explanation Photo | Explanation |
|---|---|---|
| Panel Side |  | **1.** Turn off the electrical supply.<br>**2.** Remove the oven door from the range (see page 22 for the procedure).<br>**3.** Pull the range away from the wall so you can access the back of the unit.<br>**4.** Remove the 6 screws from the rear of Panel-Side and remove Cooktop (see step 3~4 on page 3-3).<br>**5.** Remove the 3screws from the top of each Panel-Side.<br>**6.** Pull the back of the side panel out from the range approximately 10˚.<br>**7.** Push forward and remove Panel-Side. |

* Reassembly of All part is the reverse order of disassembly.

Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

## 4-1 Information Display Codes

**Possible check codes during use can be checked before service.**

1. Press **'Clock'** pad.


2. Press a number **'1,2,3,4'** pad.


3. Press the **'START/SET'** pad.


4. Press **'Clock'** and number **'1'** pads at the same time for 3 seconds. Check codes are displayed.


5. Press number **'0'** pad, the latest 4 check codes can be checked. But, if the oven turns off, the stored check codes are deleted.

6. Press **'OFF/CLEAR'** pad to return to normal display mode.


Check code

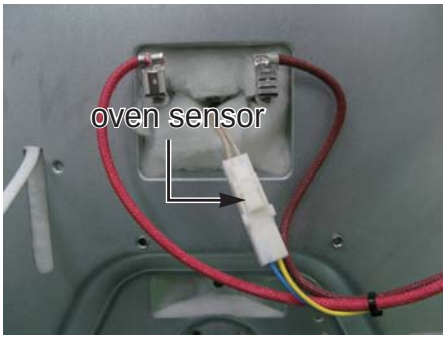
| Displayed code | CAUSE | SOLUTION |
|---|---|---|
| C-20 | oven sensor opened (over 2950Ω) | **1.** Disconnect power. Open the back cover. Disconnect sensor harness from control Measure sensor resistance :1080Ω at the room temperature → If there are any problems, replace oven sensor.<br>**2.** If there is not any problem with oven sensor, Please check whether there is a damaged terminal or wire on harness.<br>**3.** Check resistance of oven sensor connector on main PCB (Normal:2850Ω) |
| | Oven sensor shorted. (Under 930Ω) | |

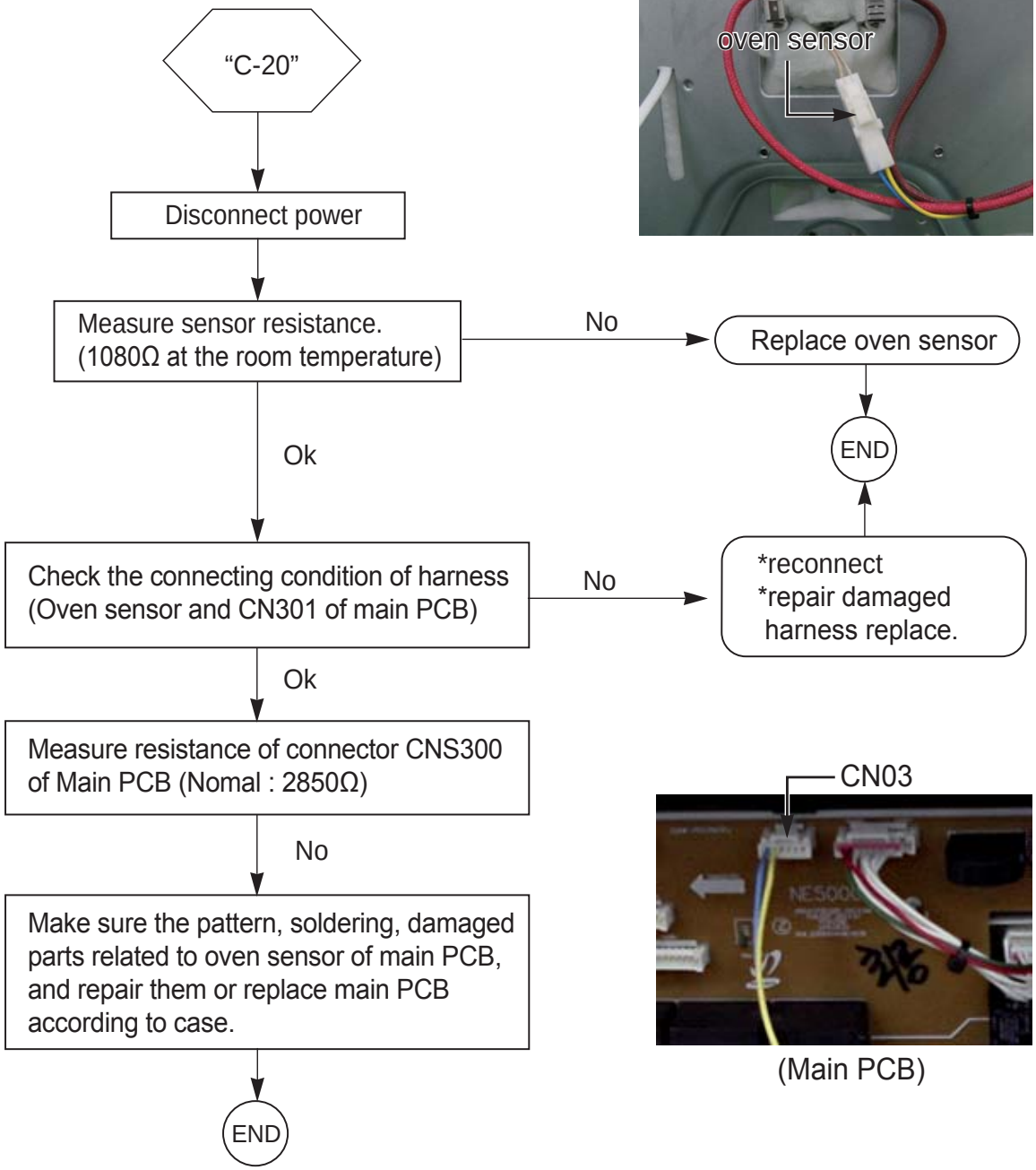
## 4-1 Information Display Codes

Check code

| Displayed code | CAUSE | SOLUTION |
|---|---|---|
| C-21 | Oven heating over | 1. Disconnect power. Open the back cover. Disconnect sensor harness from control. Measure sensor resistance :1080Ω at the room temperature → If there are any problems, replace oven sensor.<br>2. Check the broil, bake and convection heater. Check the resistance of the each heater.<br>3. Check whether DLB of sub PCB, Broil, Bake and Convection heater relay are being worked normally.<br>4. Check whether there is any disconnection of harness which is linked with main PCB on main PCB.<br>5. Check the resistance of oven sensor connector on main PCB. (Normal : 2850Ω) |
| C-d0 | Shorted key | 1. Check whether cable of keypad has been inserted into connector of main PCB.<br>2. Check whether between main PCB and connector or keypad and cable have a short circuit.<br>3. If there is not a problem occurred with connector on main PCB and cable of keypad, replace the main PCB. |
| C-d1 | Door locking | 1. Disconnect power. Open the back cover. Check whether harness has been connected with door lock switch and motor.<br>2. Confirm whether resistance value of door lock motor is to be normal one or not.<br>3. With operating door lockout, measure a voltage of connector on harness which is linked with door lock motor. (Normal Voltage : AC 120V)<br>4. Check whether door locking switch is being worked normally. |

## 4-1 Information Display Codes



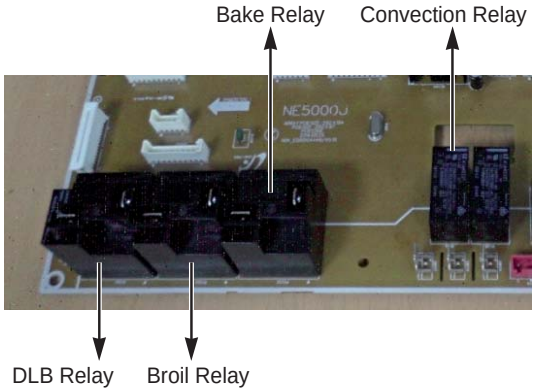




(Main PCB)

## 4-1 Information Display Codes

Check code




"C-21"

Disconnect power and main PCB

* Check the DLB, Bake and Broil relay. (Nomal:∞Ω)
* Check whether there is any damaged parts of PCB pattern.

No → Main PCB
* Replace main PCB
* Solder again if pattern is damaged or parts is wrong contacted.

→ END

Ok

* Measure oven sensor resistance. (1080Ω at the room temperature)
* Check the connecting condition of harness related with oven sensor.

No → *Reconnect after replacing the oven sensor.

→ END

Ok

* Check connector and harness connected to PCB.
* Check whether harness on connector (CNS302,CNS303) of Main PCB is connected normally into the connector(CNS302,CNS303) or not.

No → Replace or repair the harness.

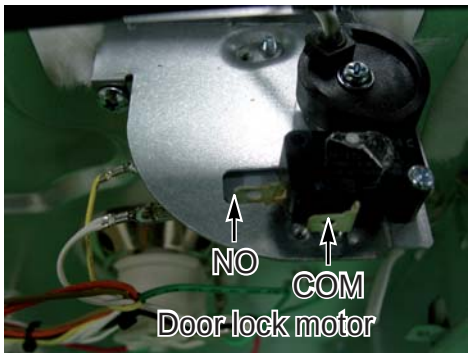
Ok

With replacing main PCB, and make set work.

No → Replace main PCB

END

## 4-1 Information Display Codes




"C-d1"

*Disconnect power.
*Get rid of harness connected with Lock motor

* Micom switch check (com-NO)
* Measure resistance of Lock motor Coil.(1750~1850Ω at the room temperature)

No

* Replace micro switch or Lock motor.

END

Ok

*Check whether
*Check whether voltage(AC 120V) is offered to lock motor with letting lock work or not.

No

Ok

*Check whether harness connected normally into CNS300 of main PCB.

No

* Repair damaged harness or replace

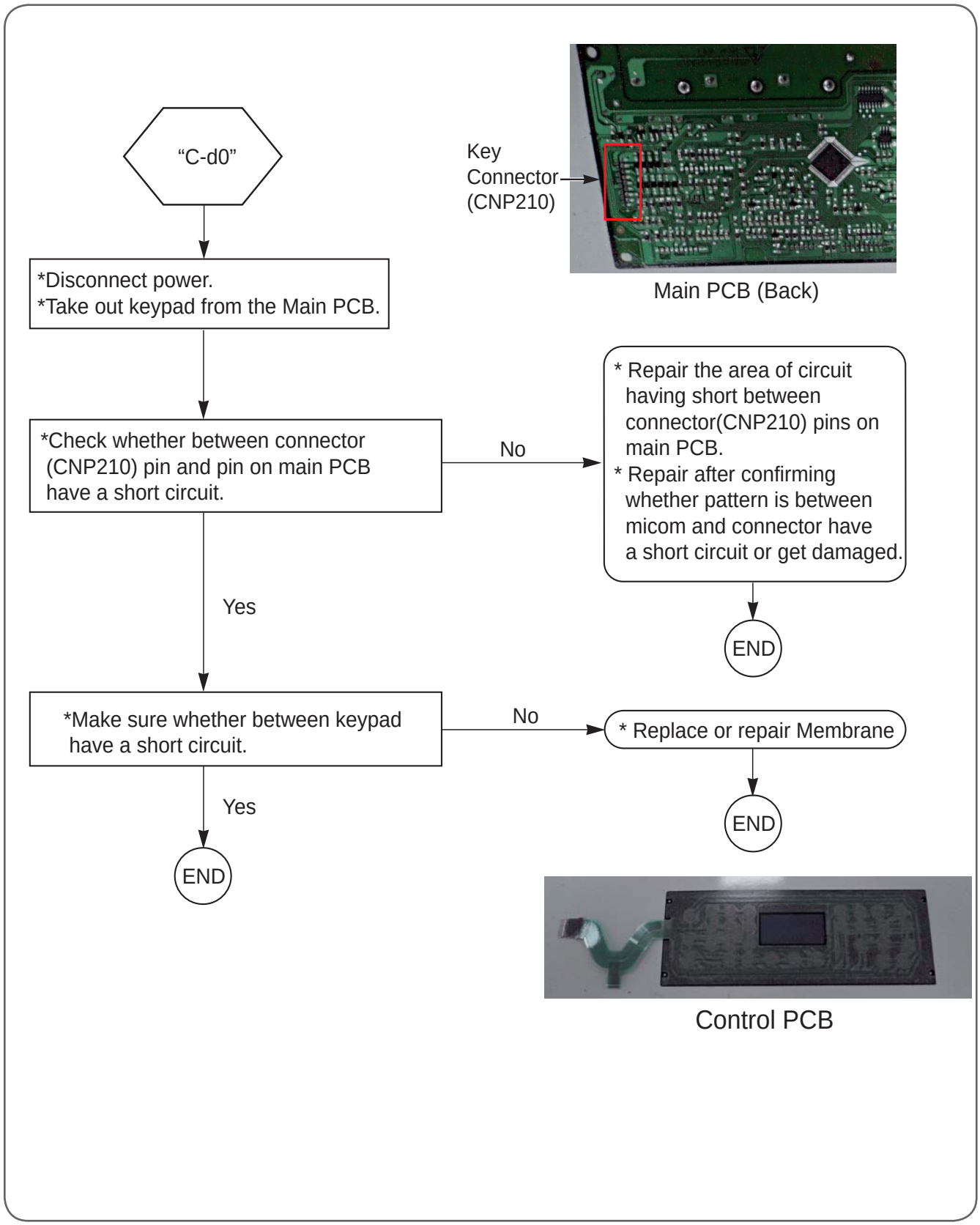
*Measure resistance CNS300 of Main pcb.
(COM-NO: ∞ at the room temperature)
*COM : orange color
*NO : brown color

No

* Replace main PCB.
* Solder again if pattern is damaged or parts is wrong contacted.

END

## 4-1 Information Display Codes

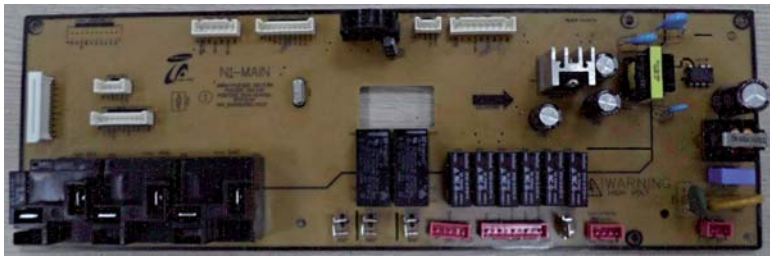


## 4-1 Information Display Codes

Control PCB Operation

Sort of Control PCB

Main PCB



(Front )

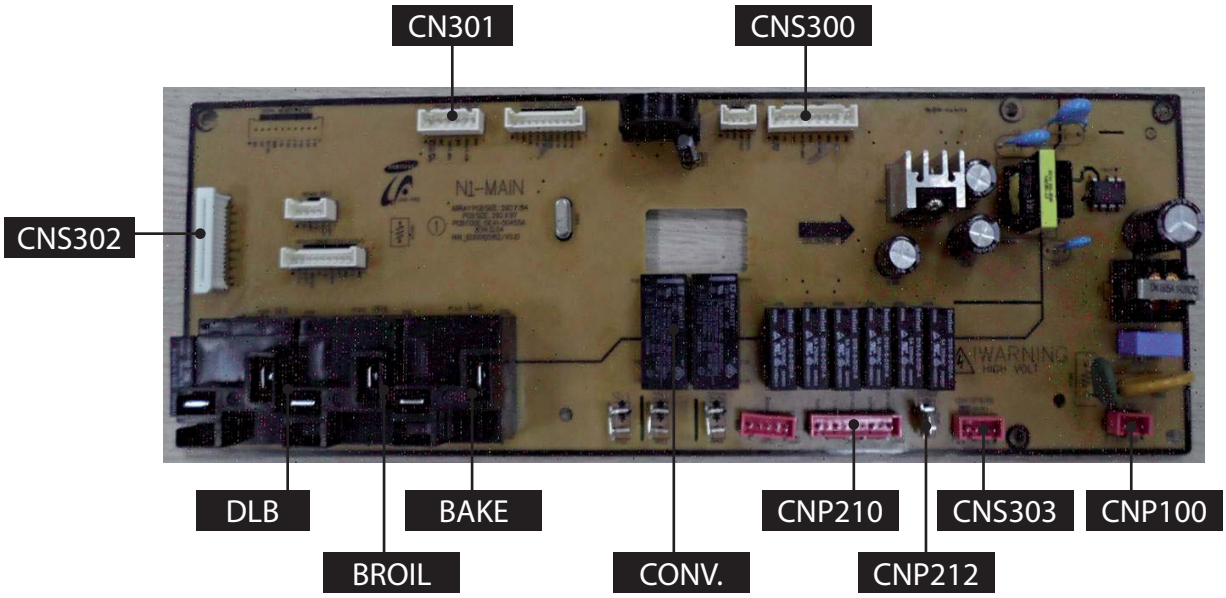
( Back )

Membrane

LED

## 4-1 Information Display Codes

* Explain of primary parts of Main PCB




Explatin of the function of primary parts.

| | |
|---|---|
| **CNP100** | This is to supply power with SMPS, and AC120 with MAIN PCB through harness. |
| **CNS300** | This is connector which is connected with Door plunger switch and Door lock switch.<br>(COM-NO,COM-NC) |
| **CNS301** | This is connector which is connected with oven sensor. |
| **CNS303** | This is to stop operating self-cleaning and steam mode if hot indicator lamp on cooktop is lighted with being supplied with AC120V(L1, N). |
| **CNS302** | This is consisted of 20 pin and take a role of getting a cable on keypad to connect with membrane. |
| **CNP210** | This is connector which have door lock motor, oven lamp and relay of convection fan connected. |
| **RY200** | Circuit is designed to all relay worked after Ry-source ralay is being worked. (For safety) |
| **RY201** | Circuit is designed to have broil relay or worked after DLB relay is being worked by Double line break. |
| **RY202**<br>**RY203**<br>**RY204** | Broil relay(RY202), Bake relay(RY203), convection relay(RY204) will be on-off working by micom signal after DLB relay is worked. |
| **CNP212** | This is terminal which is connected with cooktop warming center. |

# 4. Troubleshooting

| SYMPTOM | DIAGNOSIS | REMEDY |
|---|---|---|
| Oven not operating<br>(No power,<br>No display) | * Measure an input voltage. (240/120V or 208/120V)<br>* Measure an input voltage of terminal block. | * Check circuit breaker.<br>* Make sure that the state of wire is connected with Terminal block. |
| | * Make sure that the relay on Main PCB is being worked normally.<br>* Make sure whether harness between connector (CNS302,CNS303) on main PCB has been loosen or disconnected. | * Replace Main PCB if relay has been damaged or there is any cracking on the Main PCB.<br>* Repair harness is connected main PCB.<br>* After confirming whether harness has been inserted into relay on Main PCB or not, take action follow as;<br>- Replace or repair harness.<br>- Replace or repair main PCB. |
| | * Measure resistance both ends of terminal on thermostat. (normal : 0 ohms)<br>* Check whether harness is connected terminal on thermostat has been loosen or disconnected.<br>* Measure voltage regulator (IC02,IC03) on main PCB.<br>- IC02 : 7812(DC 12V)<br>- IC03 : 7805(DC 5V) | * Replace the thermostat.<br>* Replace or repair harness.<br>* Replace or repair after confirming the state of working of main PCB. |
| Oven temperature is risen slowly. | * Make sure whether harness is connected with Broil, Bake and convection heater has been loosen or disconnected. | * Repair and replace harness. |
| | * Make sure whether Broil, Bake, and convection heater has been disconnected. | * After taking out terminal from each heater, measure resistance of heater and then replace that if it is not a normal resistance value. |
| | * Make sure that heater relay and pattern on Main PCB. | * Replace or repair relay.<br>* Replace or repair Main PCB. |

# 4. Troubleshooting

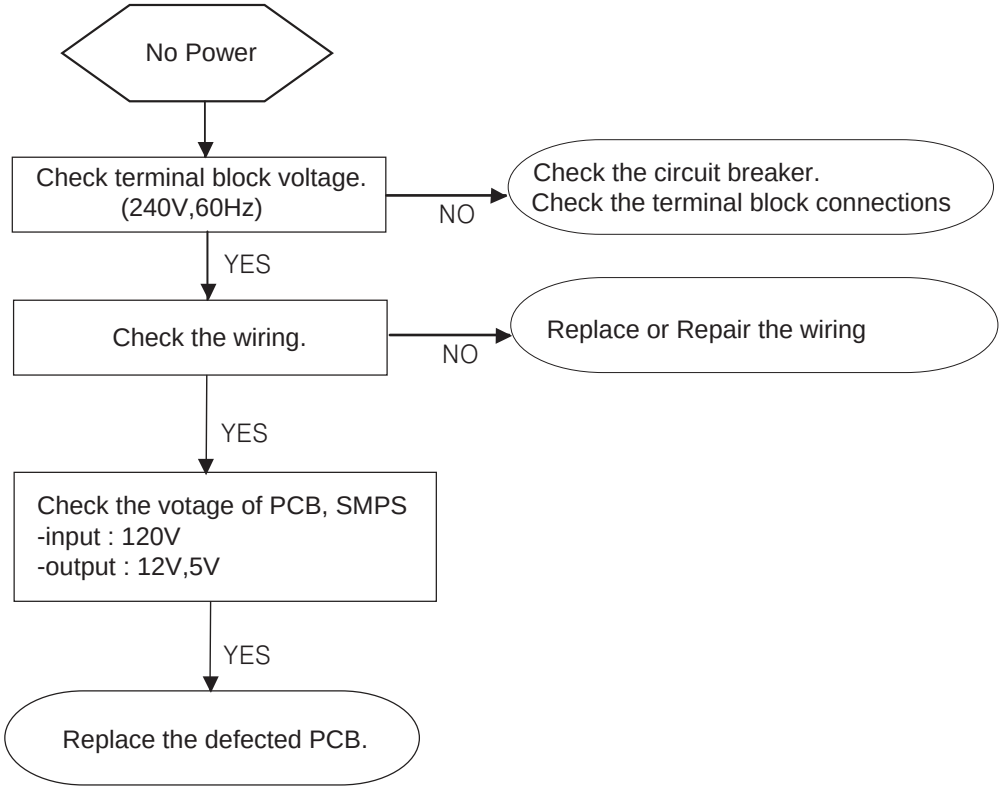
| SYMPTOM | DIAGNOSIS | REMEDY |
|---|---|---|
| Oven temperature is risen fast. | * Check whtether temperature is risen over 400˚F(202˚C) within 10 minutes in a state of room temperature. | * Replace or repair it if relay on Main PCB or main have a short circuit. |
| | * Check whether harness has been misconnected or have a short circuit. | * Replace or repair harness. |
| | * Measure resistance values of each heater are within a normal extent or not. | * Replace heater is in a abnormal state. |
| The self-cleaning feature will not operate when warming center is on. | * This is in normal state. | * The self-cleaning feature will not operate when warming center is on. |
| Keypad is not worked normally in partially or entirely. | * Make sure that keypad cable on main PCB is in normal state. | * Replace after confirming whether it has been loosen or disconnected. |
| | * Make sure connector (CNP210) on main PCB or PCB pattern. | * Replace or repair after confirming whether keypad cable has been loosen or disconnted. |
| Oven lamp is not working. | * Check the oven lamp relay (RY208) on Main PCB and connector (CNP210). | * Replace or repair if harness has been loosen or disconnected.<br>* Replace oven lamp relay(RY208) or Ry-source relay.(RY200)<br>* Replace main PCB. |
| | * Measure the resistance value of both ends of lamp terminal. | * Replace lamp if it has been disconnected.(120V / 40W) |

# 4. Troubleshooting

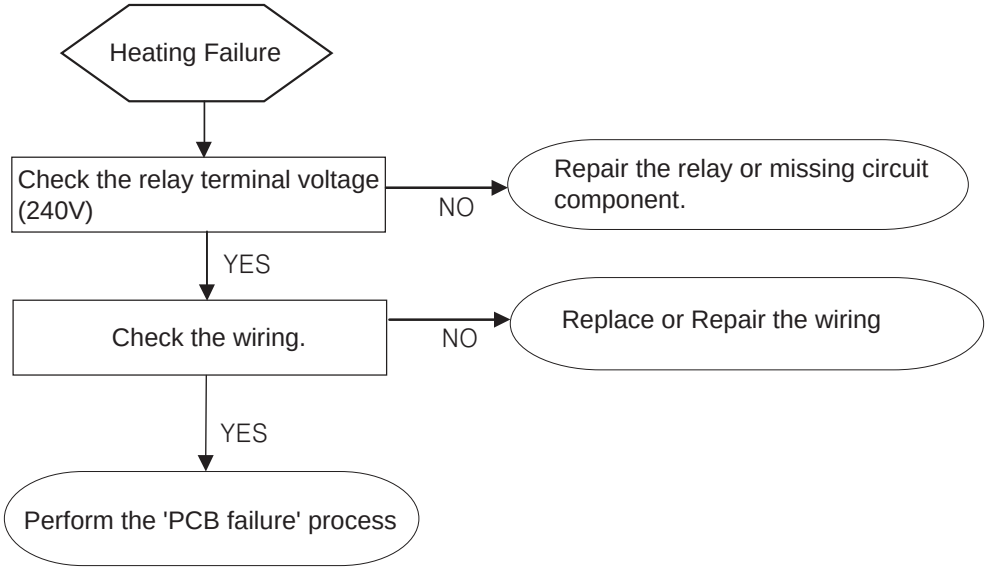
| SYMPTOM | DIAGNOSIS | REMEDY |
|---|---|---|
| Cooktop is not working or working abnormally. | * Make sure that Radiant element or Infinite switch corresponded RR(Right Rear), RF(Right Front), LR(Left Rear), LF(Left Front). | * Replace Infinite switch or Radiant element. |
| | * Check whether harness is connected with radiant element or Infinite switch has been loosen or disconnected. | * Replace or repair harness |
| | * Check whether there is any crack or the area of being disconnected of harness. | |
| | * Measure whether RC(Rear Center) Heater has been connected with warming center relay(RY206) on Main PCB normally or not. | * Replace or repair Warming Center. relay(RY206)<br>* Replace or repair Warming Ry-source relay.<br>* Replace Main PCB.<br>* Replace or repair if harness has been loosen or disconnected. |
| Convection fan is not rotated. | * Check whether Convection fan relay (RY207) on Main PCB and connector(CNP210) is in normal. | * Replace or repair Relay.<br>* Replace or repair connector. |
| | * Make sure whether harness between connector (CNS302, CNS303) on Main PCB and connector (CNS302, CNS303) on Main PCB has been connected normally. | * Replace or repair harness.<br>* Replace or repair connector.<br>* Replace main PCB. |
| It has smell or smoke when oven has been started initially. | * This is in normal state. | * It has smell or smoke with burning dirt in oven or a foreign substance when oven has been working initially.<br>* Ventilate after getting self cleaning mode to work. |
| LED display is a little bit dim partially or invisible entirely. | * LED display is defective. | * Replace main PCB. |
| There is no buzzer beep sound when keypad is being worked. | * Check the state of buzzer on main PCB and whether PCB pattern have a short circuit or has been open. | * Replace or repair main PCB. |

## 4-2 Electrical Malfunction

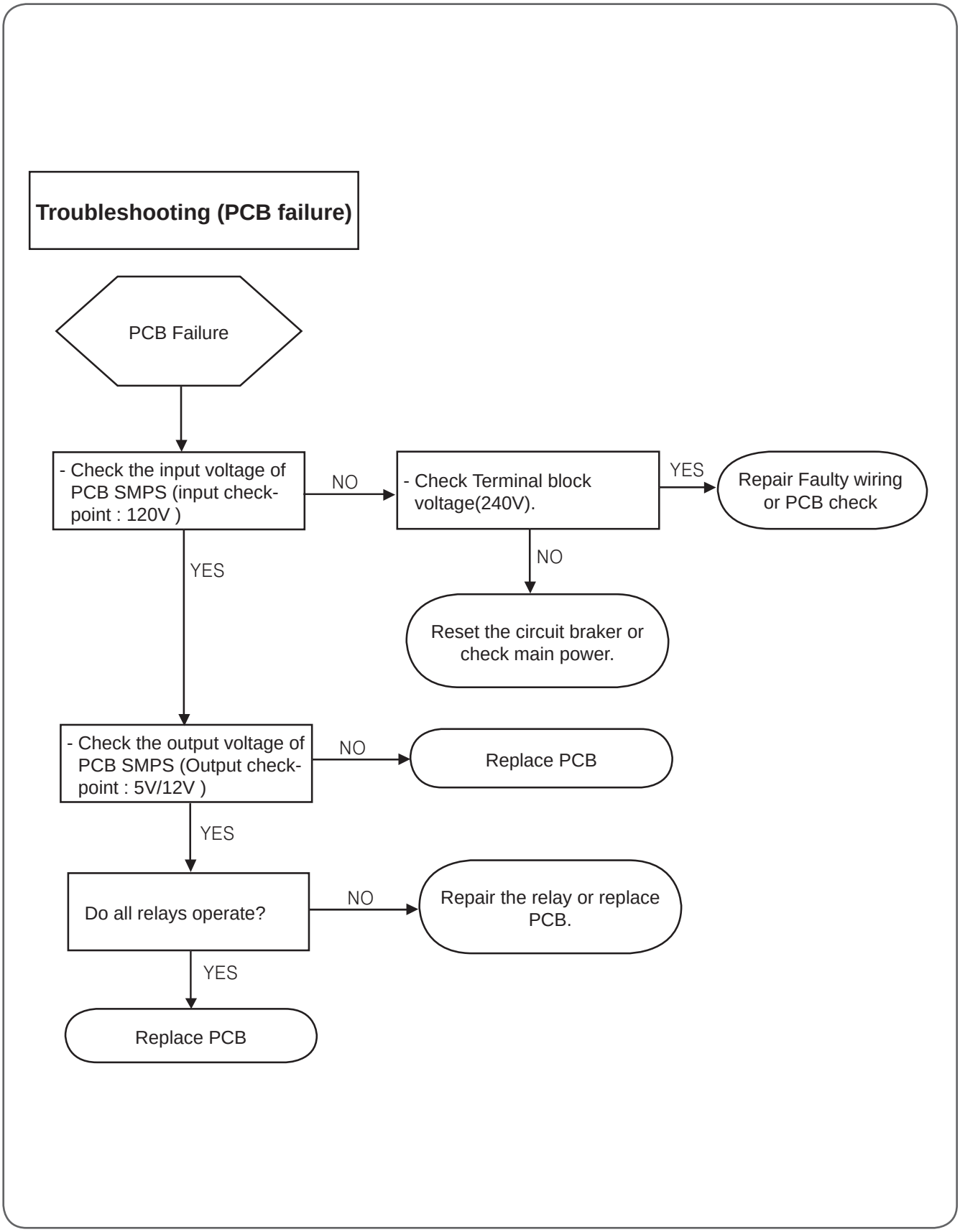
### Troubleshooting (Power)




### Troubleshooting (Heating)



## 4-2 Electrical Malfunction



## 4-2 Electrical Malfunction

Cooktop No heating or Abnormal working

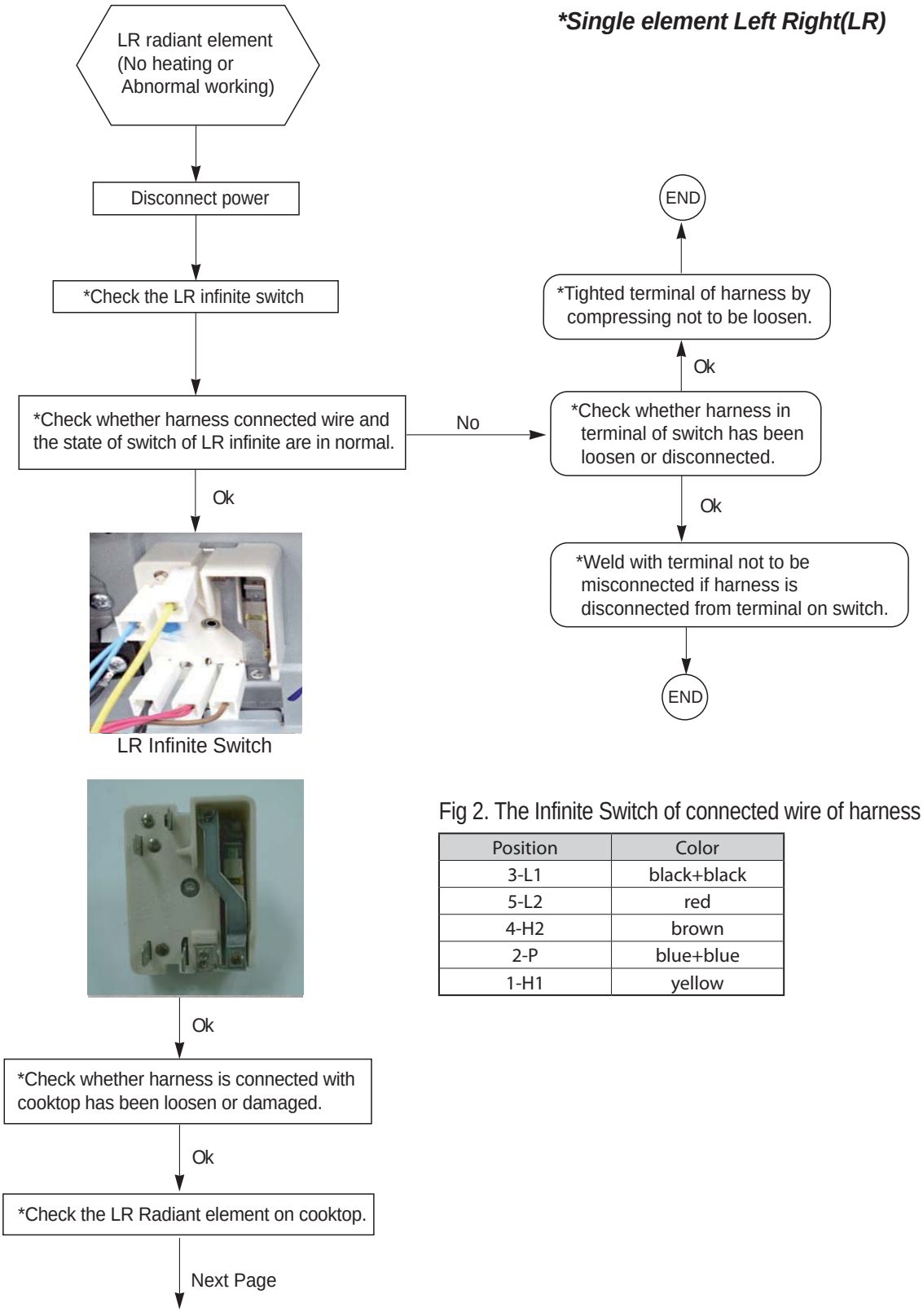



Fig 2. The Infinite Switch of connected wire of harness

| Position | Color |
|---|---|
| 3-L1 | black+black |
| 5-L2 | red |
| 4-H2 | brown |
| 2-P | blue+blue |
| 1-H1 | yellow |

## 4-2 Electrical Malfunction

(Continued)

LR radiant element
(No heating or
Abnormal working)

* Check the element of LR Radiant

*Check whether harness connected wire and the state of element of LR radiant are in normal.

No

*Check whether harness in terminal of radiant has been loosen or disconnected.

Ok

*Tighted terminal of harness by compressing not to be loosen.

Ok

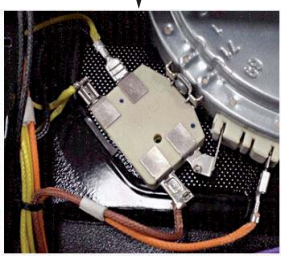
END

Ok

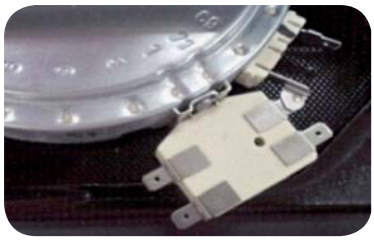
*Weld with terminal not to be misconnected if harness is disconnected from terminal on radiant.

END

Ok



Assembly LR Cooktop



LR radiant element

Ok

*Check whether harness is connected with LR infinite switch has been damaged or disconnected.

END

**WARNING**

It is very dangerous when radiant heater is working in case that harness has misconnected

Fig3. LR radiant element

| Position | ohms |
|---|---|
| 1b-2b | ∞ |
| 2a-"A" | 29~35Ω |

Fig4. The radiant heater of connected wire of harness

| Position | Color |
|---|---|
| "A" | orange |
| 2a | brown |
| 1b | yellow+black |
| 2b | yellow+yellow |

## 4-2 Electrical Malfunction

(Continued)

***Dual element Right Front(LF)***

LF radiant element (No heating or abnomal working)

* Disconnect power

* Check theLF infinite switch

*Check whether harness connected wire and the state of LF infinite switch are in normal

No

*Check whether harness in terminal of switch has been loosen or disconnected.

Yes

*Tighted terminal of harness by compressing not to be loosen.

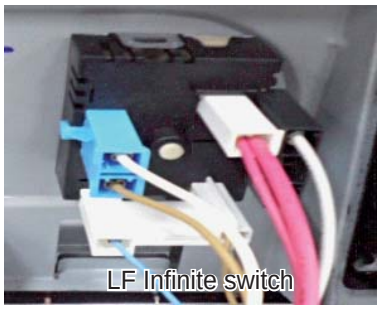
Yes

END

Yes

*Weld with terminal not to be misconnected if harness is disconnected from terminal on switch.

END



LF Infinite switch

Yes

*Check whether harness is connected with cooktop has been loosen or damaged.

*Check the element of LF Radiant on cooktop.

Next Page

Fig.5 The Infinite Switch of connected wire of harness

| Position | Color |
|---|---|
| P1 | red + red |
| P2 | black + black |
| S1 | blue |
| S2 | black+brown |
| 4A | brown |
| 4 | white |
| 2 | gray |

## 4-2 Electrical Malfunction

(Continued)

LF radiant element
(No heating or
Abnormal working)

*check the element of LF Radiant

*Check whether harness connected wire and the state of LF infinite switch are in normal.

No

*Check whether harness in terminal of Radiant has been loosen or disconnected.

Yes

*Tighted terminal of harness by compressing not to be loosen.

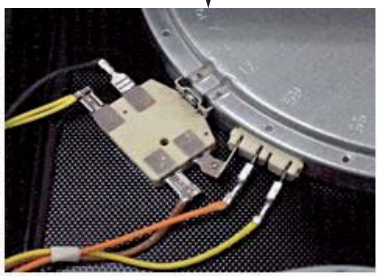
END

Yes

*Weld with terminal not to be misconnected if harness is disconnected from terminal on Radiant.

END

Ok



Ok

*Check whether harness is connected with LF infinite switch has been damaged or disconnected.

END

**WARNING**

It is very dangerous when radiant heater is working in case that harness has misconnected.

Fig.6 LF radiant element

| Position | ohms |
|---|---|
| 1b-2b | ∞ |
| 2a-"A" | 38~42 Ω |
| 2a-"B" | 28~32 Ω |

Fig.7 The radiant heater of connected wire of harness

| Position | Color |
|---|---|
| "A" | orange |
| "B" | yellow |
| 2a | brown |
| 1b | black |
| 2b | yellow+ yellow |

## 4-2 Electrical Malfunction

RR radiant element (No heating or abnomal working)

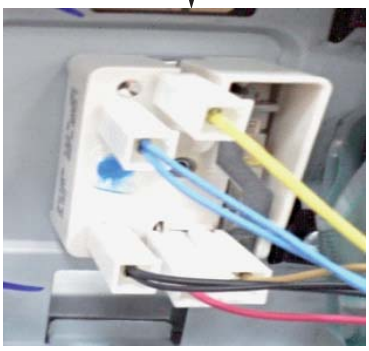
* Disconnect power

* Check the RR infinite switch

*Check whether harness connected wire and the state of switch of RR Radiant are in normal.

No

Ok



RR Infinite switch

Ok

*Check whether harness is connected with cooktop has been damaged or disconnected.

*Check the element of RR Radiant on Cooktop.

Next Page

***Single element Right Rear(RR)**

END

Ok

*Tighted terminal of harness by compressing not to be loosen.

Ok

*Check whether harness in terminal on switch has been loosen or disconnected.

Ok

*Weld with terminal not to be misconnected if harness is disconnected from terminal on switch.

END

Fig.8 The Infinite Switch of connected wire of harness

| Position | Color |
|---|---|
| 3-L1 | black+black |
| 5-L2 | red |
| 4-H2 | brown |
| 2-P | blue+blue |
| 1-H1 | yellow |

## 4-2 Electrical Malfunction

(Continued)

RR radiant element
(No heating or
Abnormal working)

*Check the element of RR Radiant

*Check whether harness connected wire and the state of element of RR Radiant are in normal.

No

*Check whether harness in terminal of Radiant has been loosen or disconnected.

Ok

*Tighted terminal of harness by compressing not to be loosen.

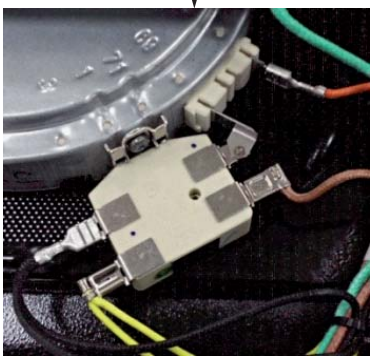
Ok

END

Ok

*Weld with terminal not to be misconnected if harness is disconnected from terminal on Radiant.

END



Assembly RR Cooktop

Ok

*Check whether harness is connected with RR infinite switch has been damaged or disconnected.

**WARNING**

It is very dangerous when radiant heater is working in case that harness has misconnected.

Fig.9 RR radiant element

| Position | ohms |
|---|---|
| 1b-2b | ∞ |
| 2a-"A" | 44~50Ω |

Fig.10 The radiant heater of connected wire of harness

| Position | Color |
|---|---|
| "A" | orange |
| 2a | brown |
| 1b | black + black |
| 2b | yellow + yellow |

## 4-2 Electrical Malfunction

(Continued)

***Triple element Right Front(RF)***

RF radiant element (No heating or abnomal working)

* Disconnect power

* Check theRF infinite switch

*Check whether harness connected wire and the state of RF infinite switch are in normal

No

*Check whether harness in terminal of switch has been loosen or disconnected.

Yes

*Tighted terminal of harness by compressing not to be loosen.

Yes

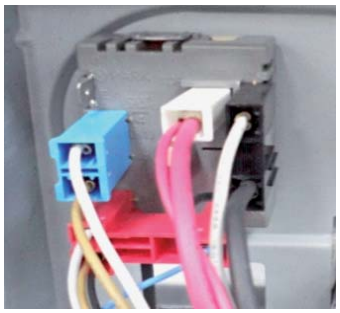
END

Yes

*Weld with terminal not to be misconnected if harness is disconnected from terminal on switch.

END

Yes



RF Infinite switch

Yes

*Check whether harness is connected with cooktop has been loosen or damaged.

*Check the element of RF Radiant on cooktop.

Next Page

Fig.5 The radiant heater of connected wire of harness

| Position | Color |
|---|---|
| P1 | red+red |
| P2 | black+black |
| S1 | black+brown |
| S2 | blue |
| 4A | brown |
| 4B | gray |
| 4 | white |
| 2 | gray |

## 4-2 Electrical Malfunction

(Continued)

RF radiant element
(No heating or
Abnormal working)

*check the element of RF Radiant

*Check whether harness connected wire and the state of RF infinite switch are in normal.

No

*Check whether harness in terminal of Radiant has been loosen or disconnected.

Yes

*Tighted terminal of harness by compressing not to be loosen.

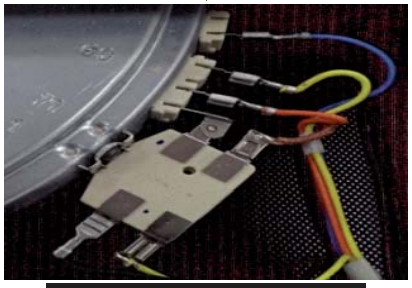
END

Yes

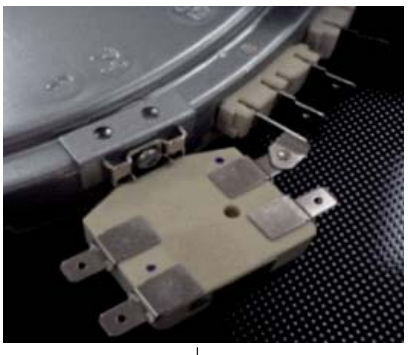
*Weld with terminal not to be misconnected if harness is disconnected from terminal on Radiant.

END

Yes



Assembly RF Cooktop



Yes

*Check whether harness is connected with RF infinite switch has been damaged or disconnected.

END

**WARNING**

It is very dangerous when radiant heater is working in case that harness has misconnected.

Fig.6 RF radiant element

| Position | ohms |
|---|---|
| 1b-2b | ∞ |
| 2a-"A" | 48~55 Ω |
| 2a-"B" | 48~55 Ω |
| 2a-"C" | 66~73 Ω |

Fig.7 The radiant heater of connected wire of harness

| Position | Color |
|---|---|
| "A" | orange |
| "B" | yellow |
| "C" | blue |
| 2a | brown |
| 1b | black |
| 2b | yellow |

## 4-2 Electrical Malfunction

(Continued)

RC radiant element
(No heating or
Abnormal working)

*Check element of RC radiant.

*Check whether harness connected wire and the state of element of RC radiant are in normal.

No

*Check whether harness in terminal of radiant has been loosen or disconnected.

Ok

*Tighten terminal of harness by compressing not to be loosen.

Ok

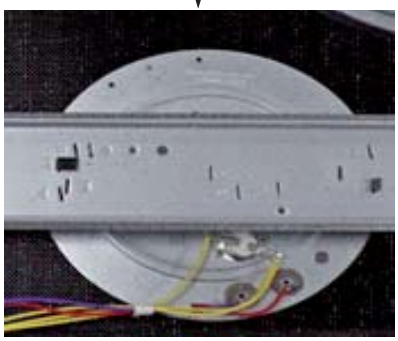
END

Ok

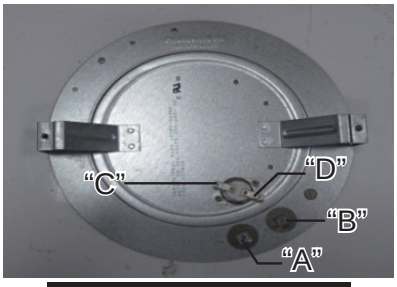
*Weld with terminal not to be misconnected if harness is disconnected from terminal on switch.

END

Ok



Assembly RC cooktop




RC radiant element

Ok

*Check whether harness is connected with warming zone relay on Main PCB has been damaged or disconnected.

Ok

END

**WARNING**

It is very dangerous when radiant heater is working in case that harness has misconnected.

Fig.14 RC radiant element

| Position | ohms |
|---|---|
| "A"-"B" | 560~600Ω |
| "C"-"D" | ∞Ω |

(at the room temperature)

Fig.15 The drawer of connected wire of harness

| Position | Color |
|---|---|
| "A" | violet (red) |
| "B" | red (violet) |
| "C" | yellow |
| "D" | yellow |

## 4-2 Electrical Malfunction

RC radiant element
(No heating or
Abnormal working)

* Disconnect power

*Check warming center relay on main PCB.

No

*Check whether PCB pattern have a short circuit or Relay (RY206) has been damaged.

Ok

*Replace relay or repair PCB pattern.

Ok

END

Ok

*Check whether harness in terminal(CNP212) of main PCB has been loosen or disconnected.

Ok

*Check whether harness is connected with cooktop has been damaged or disconnected.

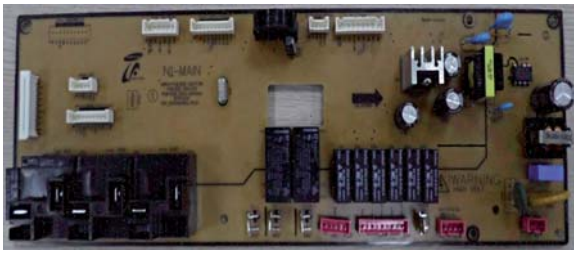
No

*Tighten terminal of harness by compressing not to be loosen.

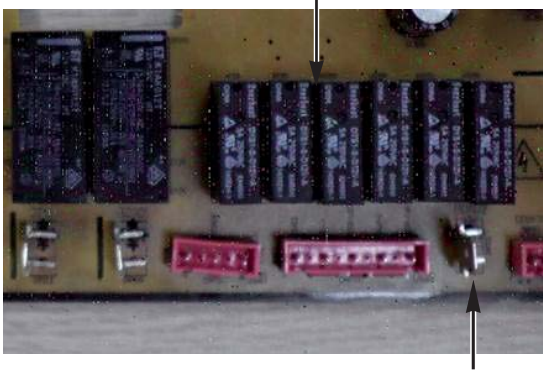
Ok

*Check RC Radiant element of cooktop.

Next page



Warming center relay(RY206)



CNP212

## 4-2 Electrical Malfunction

Hot indicator Lamp failure (cooktop)

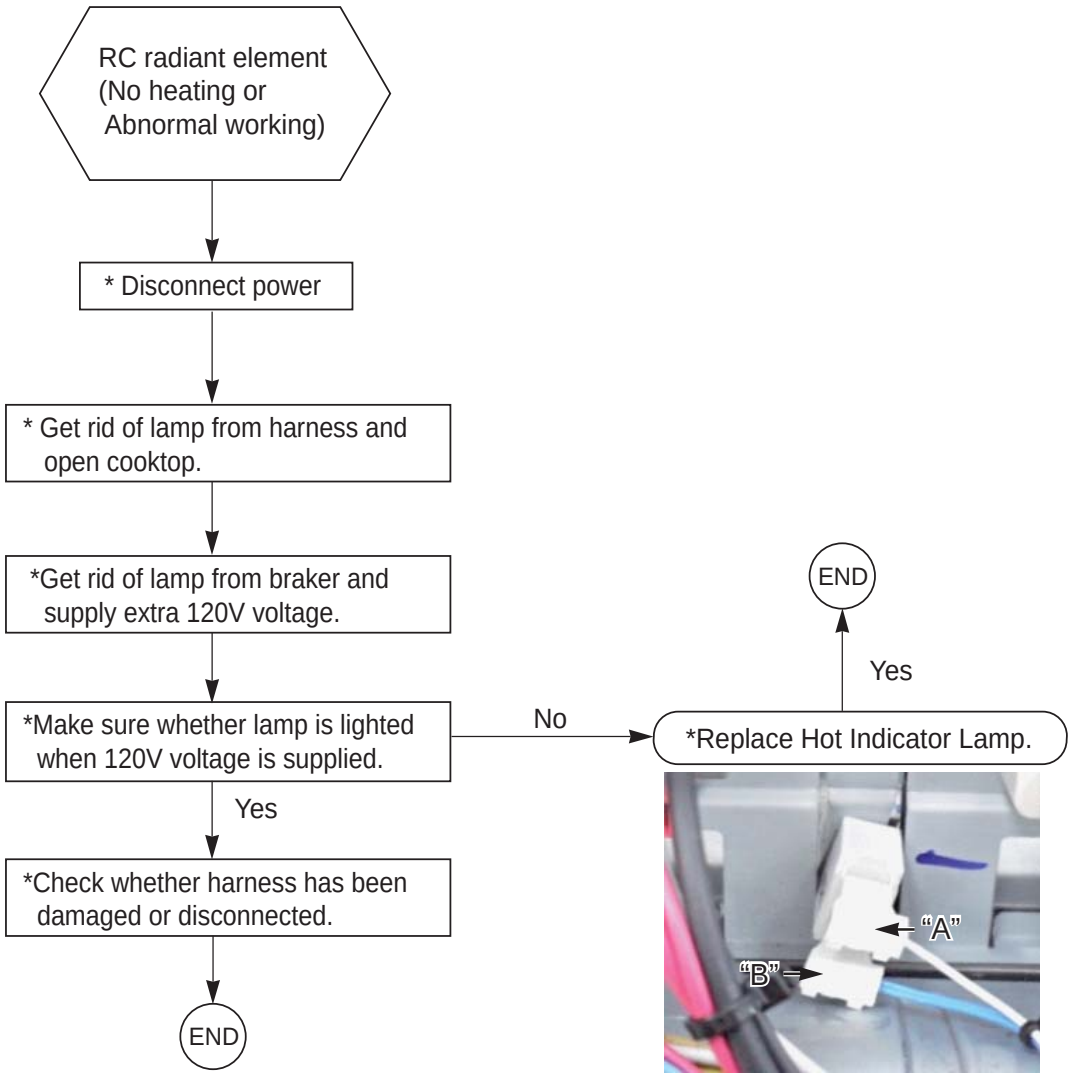



Fig.6 The drawer of connected wire of harness.

| Position | Color |
|---|---|
| A | blue or white |
| B | white or blue |

**WARNING**

Having a short circuit might cause fire or damage of infinite switch if harness is misconnected during cooktop is being worked.

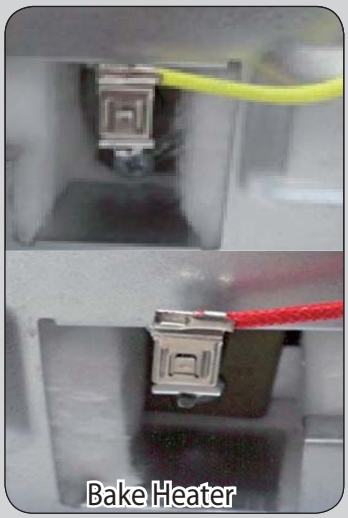
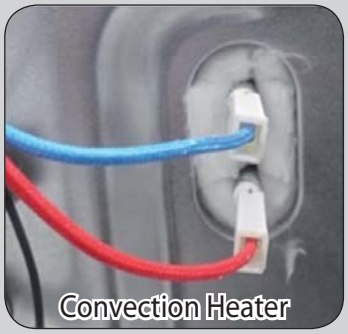
(*Warning : Having a short circuit of harness Color to be turned “Yellow+White” might cause fire or damage of infinite switch.)

## 4-2 Electrical Malfunction

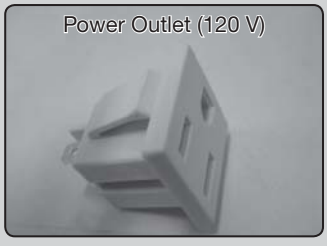
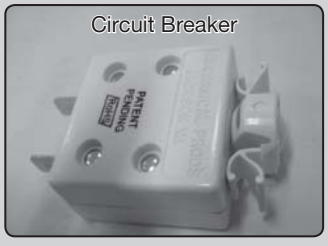
Component testing procedures

**WARNING**

**ELECTRICAL SHOCK HAZARD**
Disconnect power before servicing the range. Replace all panels before operating range.
Failure to do so can result in death or electrical shock.

| FIGURE | TESTS MEASURE | RESULTS |
|---|---|---|
|  Broil Heater | * Measure resistance values of heater's terminal after taking off harness from heater.<br>* Measure voltage of heater's terminal after making oven work by pressing broil keypad. | * Approx : 13 ~ 16Ω (at the room temperature)<br>* Terminal voltage of Broil heater : AC 240V<br>* Replace or repair harness |
|  Bake Heater | * Measure resistance values of heater's terminal after taking off harness from heater.<br>* Measure voltage of heater's terminal after making oven work by pressing bake keypad. (Make sure that voltage has to be measured for more than 1 minute because heater is supposed to on-off cycling work.) | * Approx : 26 ~ 30Ω (at the room temperature)<br>* Terminal voltage of bake heater : AC 240V<br>* Replace or repair harness |
|  Convection Heater | * Measure resistance values of heater's terminal after taking off harness from heater .<br>* Measure voltage of heater's terminal after having oven worked, by pressing convection bake keypad. (Make sure that voltage has to be measured for more than 1 minute because heater is supposed to on-off Cycling work .) | **Approx**<br>* Convection Fan : 70 ~ 73Ω (at the room temperature)<br>* Terminal Voltage of Convection Fan : 240V<br>* Replace or repair harness.<br>* Replace or repair main PCB . |
|  Convection Fan | * Measure resistance value of Motor terminal after taking off harness from Motor.<br>* Measure Voltage of Motor's terminal after making oven work by pressing bake keypad. (Make sure that voltage has to be measured for more than 1 minute because Fan is supposed to on-off Cycling work.) | **Approx**<br>* Convection Fan : 20 ~ 30Ω<br>* Sub Fan : 85 ~ 100Ω* (Upper, Lower)<br>* Terminal Voltage of Convection Fan and Sub Fan : 120V<br>* Replace or repair harness |

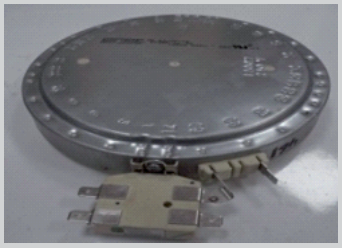
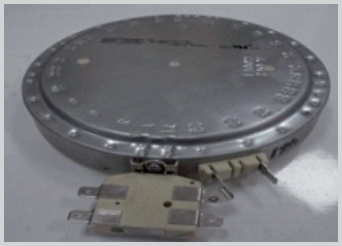
## 4-2 Electrical Malfunction

| FIGURE | TESTS MEASURE | RESULTS |
|---|---|---|
|  Oven Lamp Socket | * First of all, make sure that lamp filament is disconnected or not.<br>* Measure resistance socket's terminal after separating harness from heater and removing lamp.<br>* Measure the voltage of socket's terminal after having lamp worked by pressing oven light keypad. | * Approx : ∞Ω<br>* Terminal voltage of lamp socket : 120V<br>* Replace or repair harness. |
|  Door Lock | * Measure the state of micro switch and motor after taking off harness from the heater.<br>* Check whether lock work normally by pressing cooking time button and delay start keypad at the same time for 3 seconds. | * Lock motor Resistance : 2500 ~ 2700Ω (at the room temperature) voltage : 120V<br>* Micro switch COM-NO<br>* Replace or repair if harness has been loosen or disconnected. |
|  Door plunger switch | * Check the state of working of switch.<br>* Make sure whether wire, housing and terminal is connected with switch has been damaged or not. | Nomal open : 0Ω<br>Nomal close : ∞Ω<br>* Replace or repair if wire or terminal has been damaged. |
|   Hot Surface & Surface Lamp (Back Guard) | * Measure voltage which is supplied with lamp terminal.<br>* Check whether harness has been loosen or disconnected. | **Approx.**<br>* Lamp voltage :120V<br>* resistance : ∞Ω<br>* Replace or repair if wire or terminal has been damaged. |
|  Oven Sensor | * Check whether the resistance values of oven sensor is same with a chart's one.<br>* Check whether wire or housing has been loosen or disconnected. | **Approx**<br>* at the room temperature :1080Ω. |
|  Power Outlet (120 V)<br>  Circuit Breaker CANADA ONLY<br>* Check whether voltage of power outlet is off by pressing reset botton of circuit breaker.<br>* Check whether harness or terminal has been loosen or disconnected. | | **Approx**<br>* Circuit breaker : 120 V 15 A<br>* Voltage will be drop to zero(0) during pressing reset botton.<br>* Power outlet : 120 V 15 A<br>* Replace or repair if harness or terminal has been damaged. |

## 4-2 Electrical Malfunction

| FIGURE | TESTS MEASURE | RESULTS |
|---|---|---|
|  LR Infinite Switch (Single) | * Check whether harness is connected with switch properly.<br>L1 : black + black<br>L2 : red + red<br>P : blue + blue<br>H1 : yellow<br>H2 : brown<br>* Measure the voltage and resistance between terminals.<br>(Please refer to schematic diagram)<br>* Check whether power level is right with making LR cooktop work. | **Approx**<br>* Resistance between terminals when switch is off : ∞Ω<br>* When switch is on(HI) resistance<br>H1-L1-P : 0Ω<br>L2-H2 : 0Ω<br>* When switch is on(HI) voltage<br>L2=H2 ↔ H1=L1:240V<br>L1=P ↔ LR surface Lamp :120V<br>* Replace or repair harness |
|  RR Infinite Switch (Single) | * Check whether harness is connected with switch properly.<br>L1 : black + black<br>L2 : red<br>P : blue + blue<br>H1 : yellow<br>H2 : brown<br>* Measure voltage and resistance between terminals.<br>(Please refer to schematic diagram)<br>* Check whether power level is right with making RR cooktop work. | |
|  LF Infinite Switch | * Check whether harness is connected with switch properly.<br>P1 : red + red<br>S1 : blue<br>P2 : black + black<br>S2 : black + brown<br>4A : brown<br>4 : white<br>2 : gray<br>* Measure voltage and resistance between terminals.<br>(Please refer to schematic diagram)<br>* Check whether power level is right with making LF cooktop work. | **Approx**<br>* Resistance between terminals when switch is off : ∞Ω<br>* When switch is on(HI, Max.)<br>P1-2-4A : 0Ω<br>S1-S2 : 0Ω<br>P2-4 : 0Ω<br>* When switch is on(HI, Max.) voltage<br>P1=2=4A ↔ P2=4 : 240V<br>S1=S2 ↔ LF suface lamp : 120V<br>* Replace or repair harness. |
|  RF Infinite Switch | * Check whether harness is connected with switch properly.<br>P1 : red + red<br>S1 : black + brown<br>P2 : black + black<br>S2 : blue<br>4A : brown<br>4B : gray<br>4 : white<br>2 : gray<br>* Measure voltage and resistance between terminals.<br>(Please refer to schematic diagram)<br>* Check whether power level is right with making RF cooktop work. | **Approx**<br>* Resistance between terminals when switch is off : ∞Ω<br>* When switch is on(HI, Max.)<br>P1-2-4A : 0Ω<br>S1-S2 : 0Ω<br>P2-4 : 0Ω<br>* When switch is on(HI, Max.) voltage<br>S1=S2 ↔ RF surface lamp : 120V<br>P1=2=4A ↔ P2=4 : 240V |

## 4-2 Electrical Malfunction

| FIGURE | TESTS MEASURE | RESULTS |
|---|---|---|
|  LR Radient element | * Check whether harness is connected with terminal of element properly.<br>A : orange<br>2a : brown<br>1b : yellow + black<br>2b : yellow+yellow<br>* Measure voltage and resistance between terminals. | **Approx**<br>* Terminal resistance :<br>1b-2b= ∞Ω<br>2a- "A" : 29 ~ 35Ω<br>(at the room temperature)<br>* 2a - "A" : 240V<br>* Replace or repair harness. |
|  LF Radiant element | * Check whether harness is connected with terminal of element properly.<br>A : orange<br>B : yellow<br>1b : black<br>2a : brown<br>2b : yellow+yellow<br>* Measure voltage and resistance between terminals. | **Approx**<br>* Terminal resistance : 1b-2b= ∞Ω<br>2a -"A": 38 ~ 42Ω<br>2a - "B" : 38 ~ 42Ω<br>(at the room temperature)<br>2a - "A" : 240V<br>* Replace or repair harness. |
|  RR Radient element | * Check whether harness is connected with termial of element properly.<br>A : orange<br>1b : black + black<br>2a : brown<br>2b : yellow + yellow<br>* Measure voltage and resistance between terminals. | **Approx**<br>* Terminal resistance :<br>1b-2b = ∞Ω<br>2a - "A": 44 ~ 50Ω<br>(at the room temperature)<br>2a - "A" : 240V<br>* Replace or repair harness. |
|  RF Radiant element | * Check whether harness is connected with terminal of element properly.<br>A : orange<br>B : yellow<br>C : blue<br>1b : black<br>2a : brown<br>2b : yellow<br>* Measure voltage and resistance between terminals. | **Approx**<br>* Terminal resistance : 1b-2b= ∞Ω<br>2a- "A" : 48 ~ 55Ω<br>2a- "B" : 48 ~ 55Ω<br>2a- "C" : 66 ~ 73Ω<br>(at the room temperature)<br>* Replace or repair harness. |
|  RC Radiant element | * Check whether harness is connected with terminal of element properly.<br>- element terminal : violet(red)<br>(It will not be problem with reversing the order in insering yellow and red.)<br>187 type TCO : yellow, yellow<br>( It will not be problem with reversing the order in insering black and violet)<br>* Measure voltage and resistance between terminals. | **Approx**<br>* Terminal resistance :<br>187 type TCO : ∞Ω<br>element terminal : 560 ~ 600Ω<br>(at t he room temperature)<br>* Element terminal : 240V<br>* Replace or repair harness |

## 4-2 Electrical Malfunction

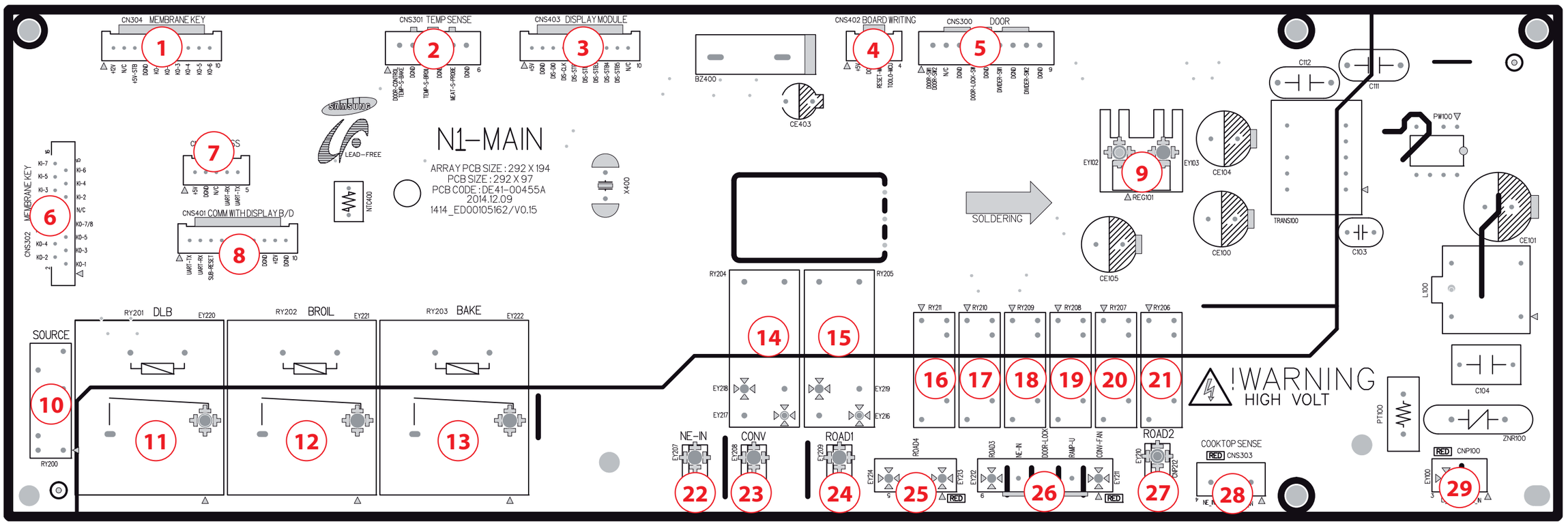
Oven sensor resistance (Temperature vs. Sensor resistance)

Ro = 1000 Ohms (0˚C), RP = 2757 Ohms, Up = 5V, a = 0.00375

| degree F | degree C | ohms | degree F | degree C | ohms |
|---|---|---|---|---|---|
| 0 | -17.8 | 932.12 | 113 | 45 | 1170.17 |
| 14 | -10 | 961.86 | 122 | 50 | 1188.93 |
| 23 | -5 | 980.95 | 212 | 100 | 1374.93 |
| 32 | 0 | 1000.00 | 302 | 150 | 1558.01 |
| 41 | 5 | 1019.02 | 392 | 200 | 1738.06 |
| 50 | 10 | 1038.02 | 482 | 250 | 1915.39 |
| 59 | 15 | 1056.99 | 572 | 300 | 2089.69 |
| 68 | 20 | 1075.92 | 662 | 350 | 2261.07 |
| 77 | 25 | 1094.83 | 752 | 400 | 2429.52 |
| 86 | 30 | 1113.71 | 842 | 450 | 2595.05 |
| 95 | 35 | 1132.56 | 932 | 500 | 2757.65 |
| 104 | 40 | 1151.38 | 1000 | 538 | 2878.57 |

## 5-1 PCB Diagrams (Main)

**(This Document can not be used without Samsung's authorization)**




| No. | Parts Number | Part Name | Function and Rule |
|---|---|---|---|
| 1 | CN304 | Membrane key Connector | delete |
| 2 | CNS301 | Temperature Sensor Connector | This is connector which is connected with temperature sensor.. |
| 3 | CNS403 | LED Display Connector | This is connector which is connected with LED display ass'y. |
| 4 | CNS402 | On Board Writing Connector | When do microcontroller revision, connect to microcontroller writer eqipment. (No connection at normal times) |
| 5 | CNS300 | Door s/w , Door Lock s/w Connector | This is connector which is connected door switch and door lock switch. |
| 6 | CNS302 | Membrane key Pad Connector | This is connector which is connected with membrane key pad. |
| 7 | CNS400 | HASS connector | This is connector for the program smart checking. |
| 8 | CNS401 | Communication Display Board | This is connector which is connected with display board. |
| 9 | REG101 | DC 5V Regulator IC | This is to supply DC5V with main PCB by voltage regulator. |
| 10 | RY200 | RY-Source Control Relay | This is relay which control source of DLB, BAKE Heater, BROIL Heater, Convection Heater relay. |
| 11 | RY201 | DLB Relay | Circuit is designed to have broil relay or convection relay worked after DLB relay is being worked by Double line break. |
| 12 | RY202 | Broil Heater Relay | Broil relay(RY202), Bake relay(RY203) will be on-off working by micom signal after DLB relay is worked. |
| 13 | RY203 | Bake Heater Relay | (Broil relay : It will not be problem with reversing the order in insering Black and Brown)(Bake relay : It will not be problem with reversing the order in insering Yellow and Gray) |
| 14 | RY204 | Convection Heater Relay | This is connector which is connected with convection heater. |
| 15 | RY205 | Option Relay | Unused Parts |
| 16 | RY211 | Option Relay | Unused Parts |
| 17 | RY210 | Option Relay | Unused Parts |
| 18 | RY209 | Convection Motor Relay | Convection Motor |
| 19 | RY208 | Oven Lamp Relay | Oven Lamp |
| 20 | RY207 | Door Lock Motor | Door Lock Motor |
| 21 | RY206 | Warming Center | Warming Center of Cooktop |
| 22 | CNP207 | Power Connector(Neutral) | Neutral of Convection and warming draw Heater |
| 23 | CNP208 | Convection Heater Connector | Convection Heater |
| 24 | CNP209 | Option Connector | Unused Parts |
| 25 | CNP211 | Option Connector | Unused Parts |
| 26 | CNP210 | Relay Connector | This is connector whitch is connected with door lock motor, oven lamp, convection motor. |
| 27 | CNP212 | Power Connector(Live) | Warming Center of Cooktop |
| 28 | CNS303 | Cooktop sensor | This is connector which is connected with cooktop sensor. |
| 29 | CNP100 | Power Connector | This is connector which supply AC 120V(L1-N). |

## 5-2 PCB Diagrams



**CN301**
**TEMP**
SMW200-06
⑥ GND(Pb) (Non)
⑤ Probe (Non)
④ GND (Non)
③ Lower Sensor (Non)
② GND(YL)
① U-Sensor(BL)

**CNS403**
**Display Module**
SMW200-10

**CNS300**
**Door**
SMW200-09
⑨ GND(GN)
⑧ Divider SW2(Non)
⑦ GND(Non)
⑥ Divider SW1(Non)
⑤ GND(OR)
④ D/Lock SW(BR)
③ GND(VI)
②
① Door-SW1(BL)

**CNS302**
Membrane Key

**CN304**
**Extend Board**
SMW200-10

**CNS400**
**HASS**
SMW200-05

**CNS402**
**Writing**
SMW200-04

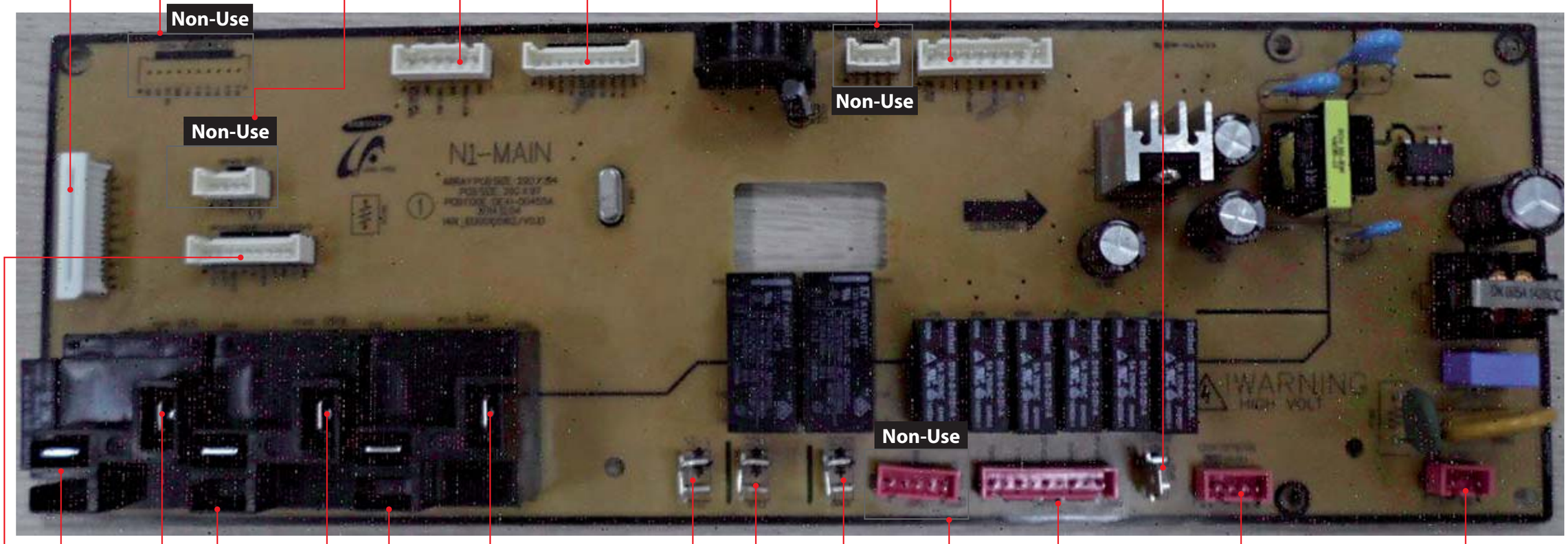
**CNP212**
**W/C**

Non-Use

Non-Use

Non-Use

Non-Use




**L2(RD)**

**L1(BK)**

**L1(GY)**

**DLB (L2)**

**BROIL(BR)**

**BAKE(YL)**

**L1 (WH/BL)**
SMW200-10
CNP207

**W/D.**
SMW200-10
CNP208

**CONV.(BL)**
SMW200-10
CNP209

**CNP100**
**PBA Power**
SMW250-03
③ L1(BK)
②
① N(WH)

**CNS401**
**Comm, Display**
SMW200-10
⑩ GND
⑨ +12V
⑧ GND
⑦ +5V
⑥ Wake-Up
⑤
④ INT
③ RESET
② UART-RX
① UART-TX

**CNP211**
SMW250-05
⑤
④
③ Option 2(Non)
②
①

**CNP210**
**Small Load**
SMW250-09
⑨ option 1(Non)
⑧
⑦ L1(BL)
⑥
⑤ D/L Motor(YL)
④
③ O/Lamp U(BL)
②
① C/Fan(BR)

**CNS303**
**Cooktop HS**
SMW250-04
⑤ N(WH)
④
③
②
① C-Top HS(RD)

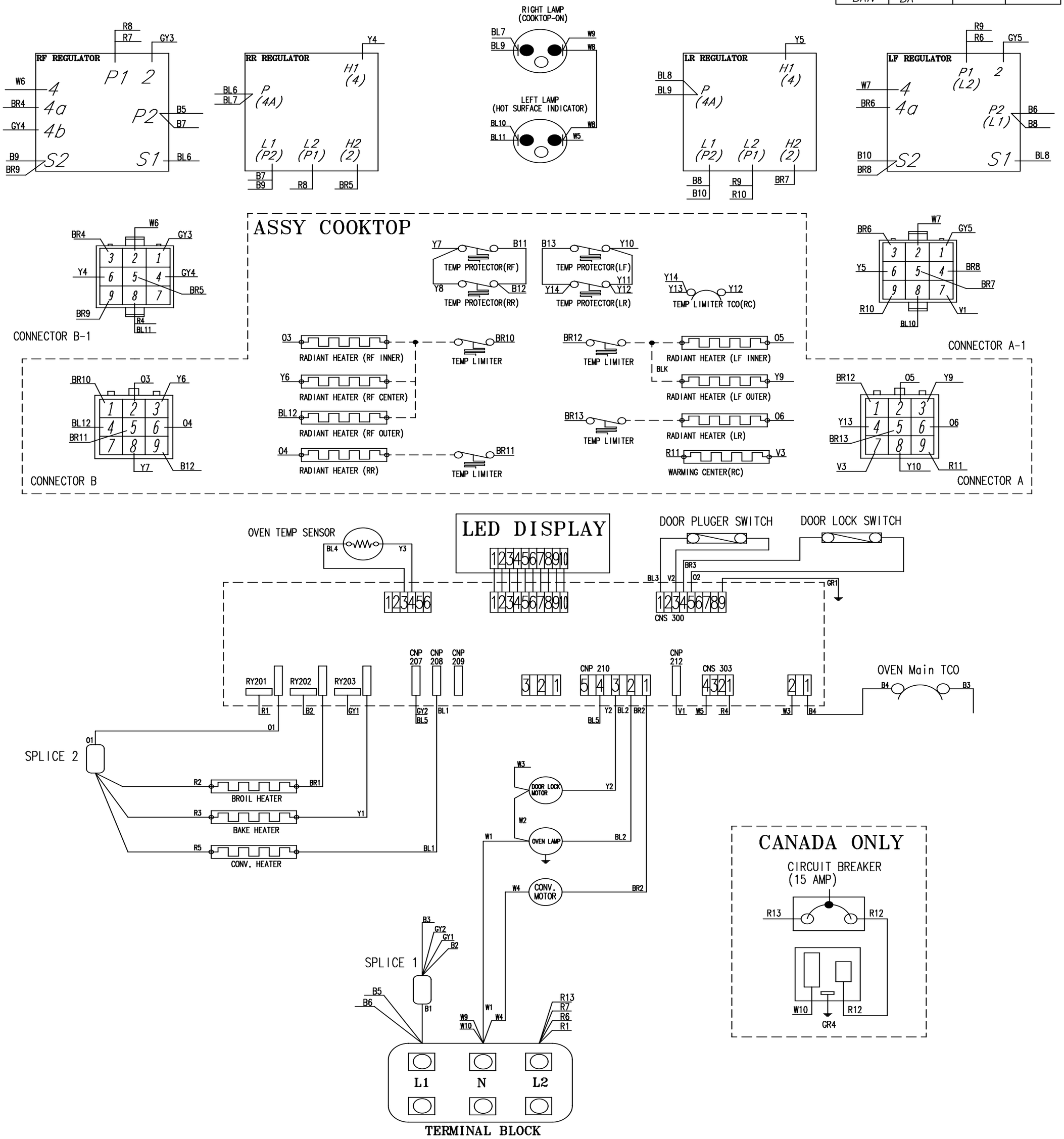
## 6-1 Wiring Diagrams

**(This Document can not be used without Samsung's authorization)**

NOTE
1) INPUT POWER : AC240V 60Hz, 13200W
   1-1) OVEN HEATER : MAX - 4400W
   1-2) COOKTOP : MAX - 8800W
2) OVEN DOOR OPENED AND UNLOCKED

# WIRING DIAGRAM
MODEL : NE59J7630**

| COLOR | | COLOR | |
|---|---|---|---|
| RED | R | ORANGE | O |
| WHITE | W | VIOLET | V |
| BLUE | BL | BLACK | B |
| YELLOW | Y | GRAY | GY |
| SKY | SK | GREEN | GR |
| BRN | BR | | |




| COOKTOP ELEMENTS | | |
|---|---|---|
| COMPONENTS | INPUT | WATTAGE |
| RF RADIANT ELEMENT | 240V | 3000 |
| RR RADIANT ELEMENT | 240V | 1200 |
| LF RADIANT ELEMENT | 240V | 3300 |
| LR RADIANT ELEMENT | 240V | 1200 |
| RC WARMER ELEMENT | 240V | 100 |

| OVEN HEATING ELECMENTS | | |
|---|---|---|
| COMPONENTS | INPUT | WATTAGE |
| BAKE | 240V | 3000W |
| BROIL | 240V | 4200W |
| CONVECTION | 240V | 800W |
| | | |
| | | |

SAMSUNG ELECTRONICS

## GSPN (GLOBAL SERVICE PARTNER NETWORK)

| Area | Web Site |
|---|---|
| Europe, CIS, Mideast & Africa | gspn1.samsungcsportal.com |
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