SAMSUNG

FREE STANDING RANGE

BASIC: NE59J7850WS
MODEL: NE59*685***
MODEL CODE: NE59*685***/AC

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 a 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 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

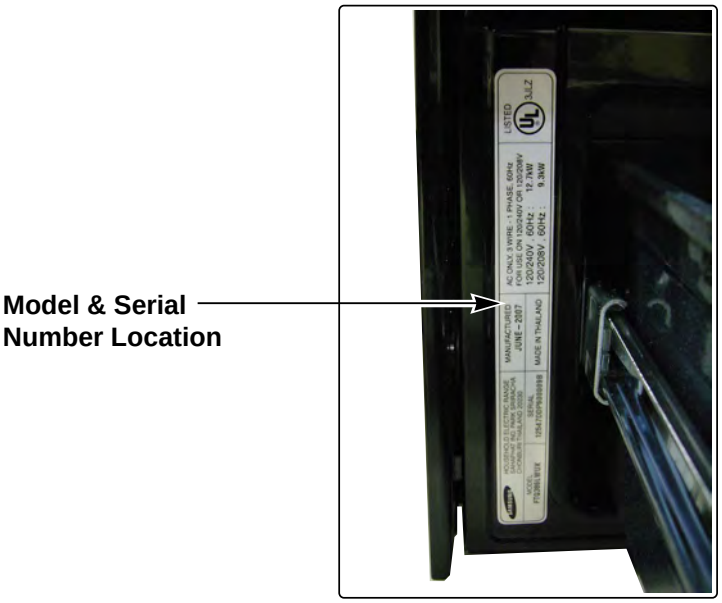
- **Do Not Cook on Broken Cook-Top** – If cook-top should break, cleaning solutions and spillovers may penetrate the broken cooktop and create a risk of electric shock. Contact a qualified technician immediately.
- **Clean Cook-Top With Caution** – If a wet sponge or cloth is used to wipe spills on a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

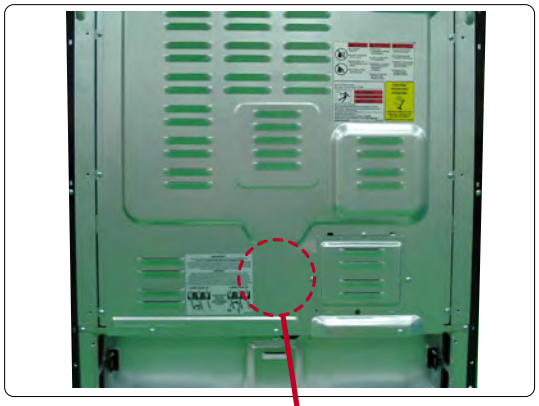
DEEP FAT FRYERS:

- 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) - Push the steam cleaning button - In around 20 minutes, the oven will stop automatically. - 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

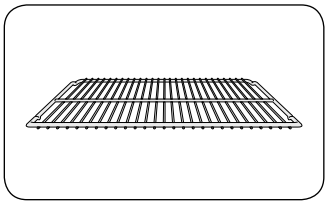
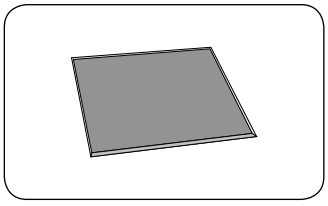
2. Specifications

2-2 Table of Specifications

Items		Model	
		BASIC MODEL	NEW MODEL
Model Name		NE59J7850**	NE59*685***
Category		Convection	Convection
Overall	Width	30"	30"
	Installation type	Freestanding	Freestanding
	Color availability	STS, BLACK CAVIAR	STS, BLACK CAVIAR
Control	Oven	Membrane	Membrane touch
	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	7" - 1,800W	6" - 1,200W
	RR	6" - 1,200W	6" - 1,200W
	CR	Warming Center (100W)	Warming Center (100W)
	LF	7" - Bridge (7"/Bridge-1,800/2,600W)	Dual (6"/9"-1,400/3,000W)
	RF	12" - Triple (6"/9"/12") (1,100/2,200/3,000W)	Dual (9"/12"-1,900/3,000W)
Oven	Capacity(cu.ft)	5.9	5.9
	Broil element	4,200 watts	4,200 watts
	Bake element	3,000 watts	3,000 watts
	Convection System	Yes	Yes
	Convection Element	Yes(1,300W / 240V)	Yes(1,300W / 240V)
	# of Racks	4	4
	Interior oven light	120V, 40 watts	120V, 40 watts
	Cleaning	Pyrolytic & Steam	Pyrolytic & Steam
Drawer	Type	Warming drawer	Storage drawer
	Element	600 watts	NA
	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	29 4/5 (Cook top) : 759mm 29 4/5 (Body) : 759mm	29 4/5 (Cook top) : 759mm 29 4/5 (Body) : 759mm
	Exterior - Height	47 (cook top) : 1196.3mm	47 (cook top) : 1196.3mm
	Exterior - Depth	23 1/2 (Door) : 599.6mm 26 (with handle) : 659.6mm	23 1/2 (Door) : 599.6mm 26 (with handle) : 659.6mm
	Net weight: Lbs (Kg)	194lbs (88kg)	192lbs (87.4kg)
Power	Rating (240V 60Hz)	Range : 5,900W Cooktop : 8,700W	Range : 5,900W Cooktop : 8,700W

2. Specifications

2-3 Accessory

Item	Description	Code No.	Q'ty
	RACK-FLAT	DG75-01001C	3
	ASSY-PARTITION FLEX	DG94-00484A	1

3. Disassembly and Reassembly

3-1 Removing the Assy-Frame Cooktop

Item	How to use	Pictures
Screw driver	Use for assembly and disassembly of all screws	
Tubing Wrench	Use for assembly and disassembly of tubing to the burner cup	
7mm Vox Driver	Use for assembly and disassembly of injector nozzles. (Cooktop/Broil/Bake burner)	
9mm Vox Driver	Use for assembly and disassembly of injector nozzles. (Convection Fan)	

3-2 Removing Cover-Back Main Wire, Cover-Back Guard Wire and sub PCB

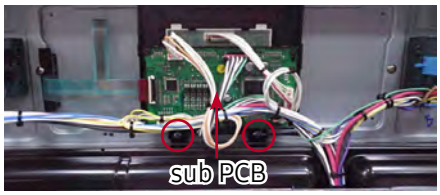
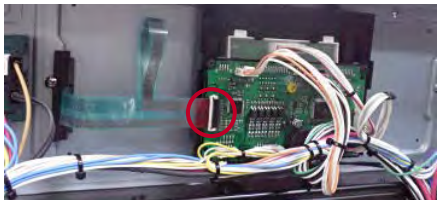
WARNING

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 sub PCB		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 6 screws from the Cover-Back Main Wire and remove the panel. 4. Remove 5 screws from the Cover-Back Guard Wire and remove the cover.
		5. Remove 2 screws from sub PCB and separate sub PCB.
		**REASSEMBLY NOTE:** When removing the membrane tail from the sub PCB, unlock the tab completely.

3-3 Removing 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
PCB Main		**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 cover-back main wire. (See step 3 on page 10) **4.** There is 1 PCB (printed circuit board) on the rear of the range.

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

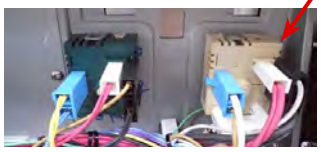
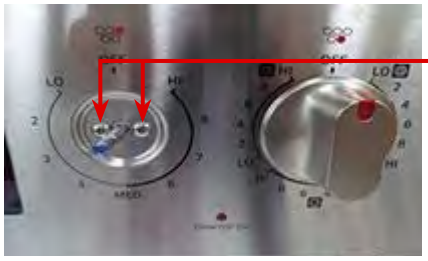
3-4 Removing Regulator-Energy

WARNING

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
 Regulator-Energy	    2 Screws	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 Cover-Back Guard Wire. (See step 4 on page 10) 4. Remove Regulator-Energy connectors. 5. Pull out the Knob-Dial. 6. Remove 2 screws and replace Regulator-Energy.

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

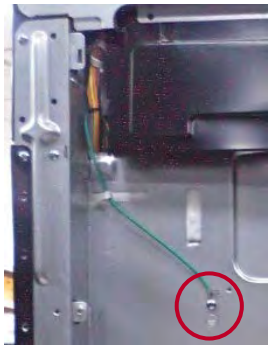
Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

3-5 Removing Surface elements and The Ceramic Glass Cooktop

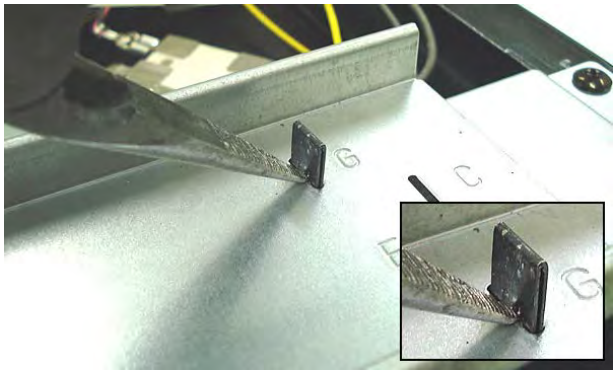
WARNING

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 **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.

3-5 Removing Surface elements and The Ceramic Glass Cooktop

Parts	Explanation Photo	Explanation
Surface elements and Ceramic Glass Cooktop		**5.** To remove the surface elements a) Remove the wires from the element and limiter terminals. b) Remove the element bracket screw (shown above) for the element you are servicing. c) Carefully lift the bottom of the bracket just far enough to remove the element. d) Use sharp tool to remove the heating element. **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.

3-6 Removing The Latch-Door & Switch-Door Plunger

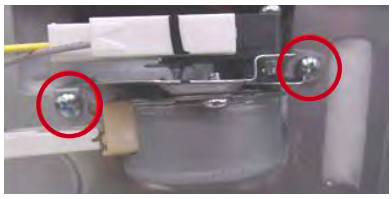
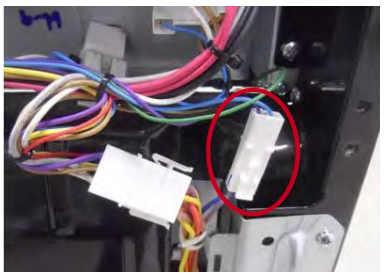
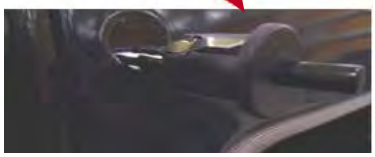
WARNING

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. **2.** Open the oven door. **3.** Raise the cooktop (see page 13 for the procedure). **4.** To remove the Latch-Door: a) Remove the 2 screws from the front of cavity. b) Remove two screw from Cover-Back Main Guard and remove latch-door **5.** To remove the Switch-Door Plunger a) Remove the Cover-Back Guard Wire. (see page 10 for the procedure). b) Release the wire from Cable Clamp. c) Remove the Switch-Door Plunger from the range. Remove the switch carefully with a pair of pliers and using a slight up and down motion while pulling the switch out.

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

3. Disassembly and Reassembly

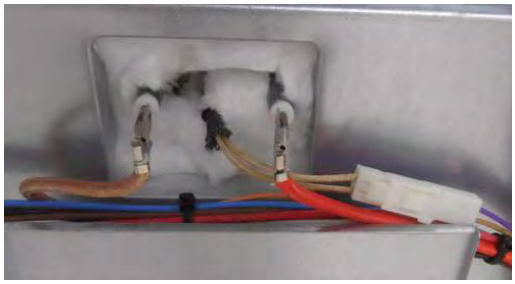
3-7 Removing Heater-Broil

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

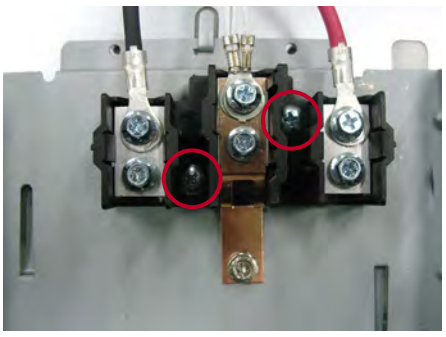
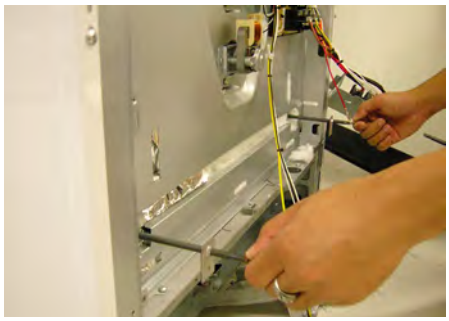
When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

Parts	Explanation Photo	Explanation
 Broil Heater	 	**1.** Turn off the electrical supply going to the range. **2.** Open the oven door and remove the racks from inside the oven. **3.** To remove the broil element. a) Remove the Sensor-Thermistor and 4 screws from the front and rear brackets. 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.

3-8 Removing Heater-Bake

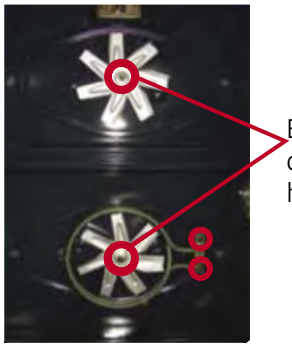
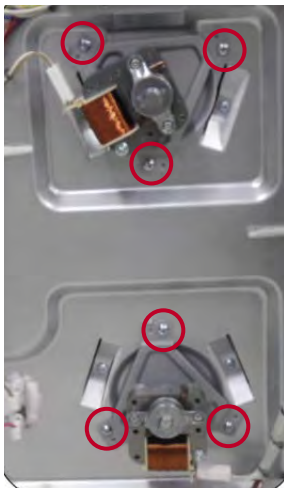
Parts	Explanation Photo	Explanation
 Heater-Bake	   	**1.** Unplug range or disconnect power. **2.** Pull the range out of its mounting location so that you can access the rear of the unit. **3.** Remove Cover-Back Main Wire. (See step 3 on page 10 for procedure) **4.** Remove Terminal-Block and Bracket-Cover 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. Disassembly and Reassembly

3-9 Removing Convection Element, Fan-Convection and Motor-Convection

Parts	Explanation Photo	Explanation
 Convection Element, Fan-Convection , Motor-Convection	  	**1.** Disconnect power and remove oven racks. **2.** Pull the range out of its mounting location so that you can access the rear of the unit. **3.** Remove Cover-Back Main Wire from the unit. (See step 3 on page 10 for procedure) **4.** Remove oven door. (See Page 24 on page for procedure) **5.** Unscrew 2 screws and remove Cover-Casing. **6.** Unscrew 2 screws and remove Bracket-Convection Heater to remove Heater-Convection. **7.** Unscrew nut of Fan-Convection, and 2 Fan-Convection. **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)

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

3-10 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	
 Lamp	  	**1.** Disconnect power. **2.** Remove oven door. **3.** Turn the glass bulb cover in the oven counterclockwise to remove. **4.** Turn bulb counterclockwise to remove from socket. **5.** Replace bulb and cover by turning clockwise. **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 th e socket), and pull the socket out of the liner. Push the socket out from the rear of the unit.

CAUTION

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

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

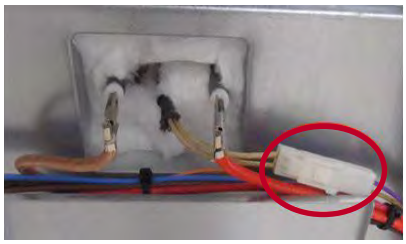
3-11 Removing Sensor-Thermistor

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	  Upper Sensor   Lower Sensor	1. Turn off the electrical supply going to the range and remove the oven from its mounting location. 2. Remove oven door and racks from inside the oven. 3. Unscrew Sensor-Thermistor. 4. Remove Cover-Back Main Wire and disconnect a wire from Sensor-Thermistor. 5. Replace the Sensor-Thermistor.

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

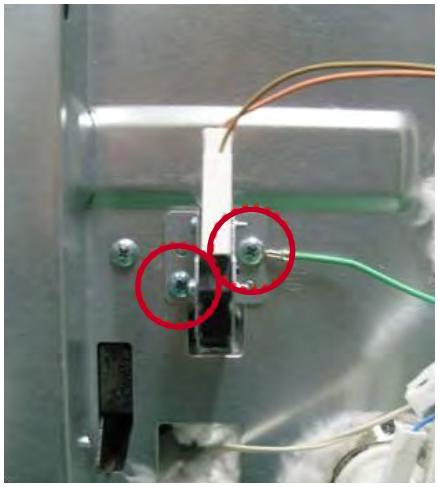
3-12 Removing Assy-Partition Switch

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
 Assy Partition Switch	 	1. Turn off the electrical supply going to the range and pull the range from its mounting location. 2. Remove Cover-Back Main Wire and disconnect the wires from Assy-Partiton Switch. 3. Unscrew the 2 screws securing the Assy-Partition Switch. 4. Replace the Assy-Partition Switch.

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

3-13 Removing Assy-Drawer

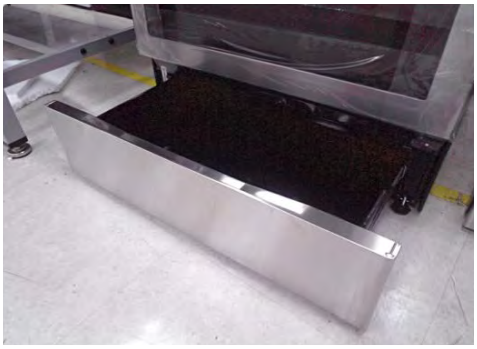
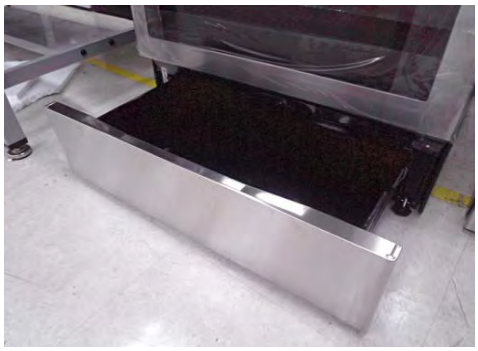
WARNING

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

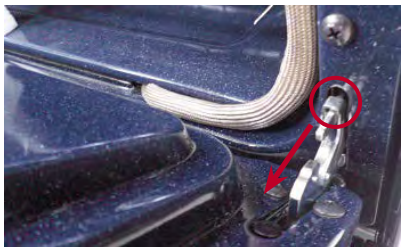
To remove Assy-Drawer:

1. CAUTION -Turn power OFF before removing the storage Drawer.
2. Open the drawer to the fully opened position.
3. Tilt the front of the drawer and pull out it until it stops.
4. Lift and pull the drawer out.

3-14 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:** **1.** Fully open the door **2.** Pull the hinge locks downward(Fig.1) **3.** Firmly grasp both side of the door at the top. **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.
	  	**To replace door:** **1.** Firmly grasp both sides of the door at the top position. **2.** Fully open the door. (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.) **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.

3-15 Removing and Replacing Oven Door-Upper

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 Upper	  	**To remove Oven Upper Door**: 1. Push the Lever Switch. **2.** Fully open the Upper Door.(Fig.1) **3.** Pull the hinge locks downward. (Fig.2) **4.** Firmly graps both sides of the door at the top. **5.** Close door to the door removal position, which is approximately 5 degrees. (refer to the Fig.3) Lift door up and out until the hinge arm are clear of the slot .
	  	**To replace Upper door** : **1.** Firmly grasp both sides of the door at the top position. **2.** Fully open the door. (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.) **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.

3-16 Removing Handle-Door and Glass Inner (Continued)

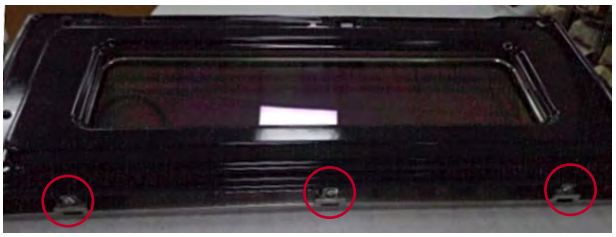
WARNING

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-Upper Door	    	1. Remove the oven door from the range (see page 3-13 for the procedure.) 2. Place the oven door on a padded work surface with the front glass facing down. 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 . 7. Remove screws of Button Push & Assy Front Lock.

3-16 Removing Handle – Door and Glass Inner (Continued)

Parts	Explanation Photo	Explanation
 Door-Lower Door	   	**8.** Remove the Upper Door (see page 25 for procedure.) **9.** Remove 5 screws From DOOR E MAIN. **10.** Lift CHASSIS LOW.

3-16 Removing Handle – Door and Glass Inner (Continued)

Parts	Explanation Photo	Explanation
 Handle Door	     	**To remove Handle-Door.** **1**. Remove 2 screws to remove Handle-Door. **2**. Remove screw from HANDLE.

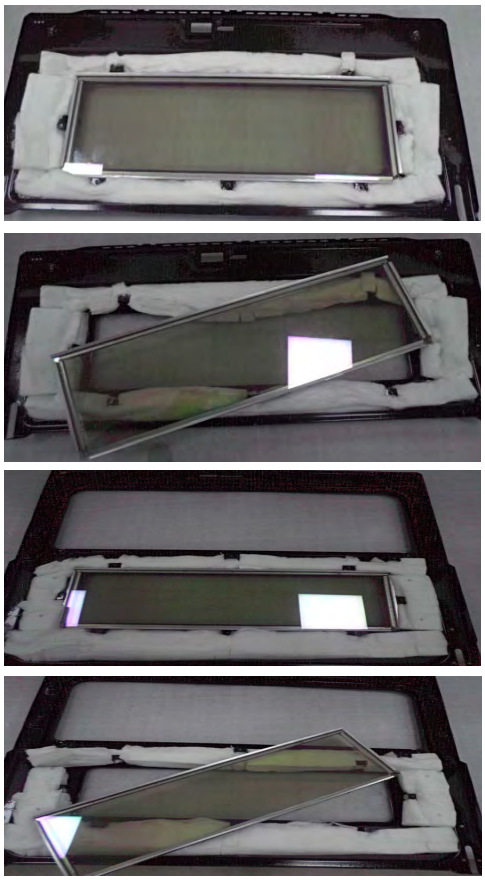
3-16 Removing Handle – Door and Glass Inner (Continued)

Parts	Explanation Photo	Explanation
Upper Glass Inner	   ‹ Upper Door ›  	**To remove Upper Glass Inner** **1.** Remove 6 screws from rear side of Upper door to remove 2 HINGE – Door. **2.** Remove 4 screws to remove Upper Glass Inner Sub Assembly. **3.** Remove 7 screws to remove Upper Baffle Door.

3-16 Removing Handle – Door and Glass Inner (Continued)

Parts	Explanation Photo	Explanation
Lower Glass Inner	   **< Lower Door >**  	**To remove Upper Glass Inner** **1.** Remove 6 screws from rear side of Lower door to remove 2 HINGE – Door. **2.** Remove 4 screws to remove Lower Glass-Inner Sub Assembly. **3.** Remove 7 screws to remove Lower Upper Baffle-Door.

3-16 Removing Handle – Door and Glass Inner

Parts	Explanation Photo	Explanation
Glass-Inner		**4.** Remove Upper and Lower Baffle-Door and take out the Glass-Inner assembly. **5.** Unfold 2 flanges of Cover-Frame Inner Glass to taking out Upper and Lower Glass – Inner.

3-17 Removing Gasket-Door

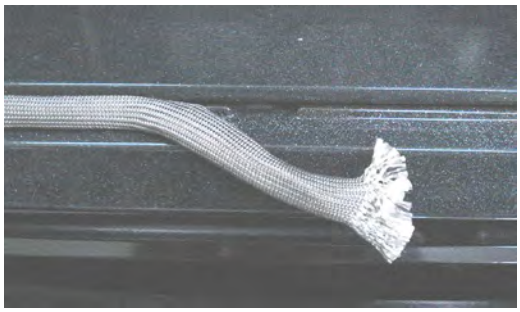
WARNING

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	Explanation
 Gasket door	 	**1.** Open the oven door to its fully down position. **2.** Pull the ends of the gasket out of the liner holes. **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.

3-18 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. **2.** Remove the oven door from the range (see page 23 for the procedure). **3.** Pull the range away from the wall so you can access the back of the unit. **4.** Remove the 8 screws from the rear of Panel-Side and remove Cooktop (see step 3-4 on page 13). **5.** Remove the 3screws from the top of each Panel-Side. **6.** Pull the back of the side panel out from the range approximately 10˚ **7.** Push forward and remove Panel-Side.

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

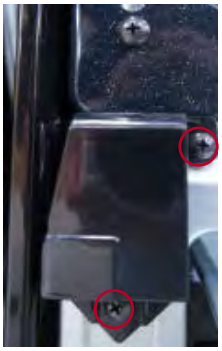
Screw
- Terminal Block Screw : M4 X 18.
- The others : M4 X 12.

3-19 Removing the Wi-Fi module

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
WI-FI MODULE	   	1. Turn off the electrical supply. 2. Remove the drawer from the range (see page 3-12 removing assy-drawer for the procedure). 3. Remove the 2 screws from the drawer pedestal front and take off holder wi-fi. 4. Remove the Cover Wi-Fi (rubber). 5. Tilt the hook on holder and take off Wi-Fi module. 6. Remove connector on Wi-Fi module.

4. Troubleshooting

4-1 Information Displayed 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 5 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 connector from the wire harness Measure sensor resistance :1080Ω at the room temperature → If sensor resistance is abnormal, replace oven sensor. 2. If there is no problem with oven sensor, Please check for damaged terminal or wire on harness. 3. Check resistance of oven sensor connector on Main PCB (Normal:2850Ω)
	Oven sensor shorted. (Under 930Ω)	

4. Troubleshooting

4-1 Information Displayed Codes

Check code

Displayed code	CAUSE	SOLUTION
C-21	Oven heating over	1. Disconnect power. Open the back cover. Disconnect sensor from the wire harness. Measure sensor resistance :1080Ω at the room temperature → If sensor resistance is abnormal, replace oven sensor. 2. Check the broil, bake and convection heater. Check the resistance of the each heater. 3. Check whether DLB of Sub PCB, Broil, Bake and Convection heater relay are working normally. 4. Check the wiring connections on the main PCB. 5. Check the resistance of oven sensor connector on Main PCB. (Normal : 2850Ω)
C-d0	Shorted key	1. Check whether the keypad cable has been inserted correctly into connector on Main PCB. 2. Check for shorts between Main PCB and connector or keypad and cable. 3. If there is no problem with the main PCB connector or keypad cable, 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. 2. Confirm whether resistance value of door lock motor is correct. (Normal resistance : 2500~2700Ω) 3. Activate the door lock, measure the voltage at the wire connection on the door lock motor. (Normal Voltage : AC 120V) 4. Check whether door locking switch is working normally.
C-F0	Main PCB communication	1. Check whether connector(CN470) of Main PCB has been inserted . 2. Check whether connector(CN200) of Sub PCB has been inserted . 3. If there is no problem with connector on Sub PCB and Main PCB, replace the Main PCB .
-dC-	Partition switch	1. Disconnect power . Open the back cover . Check whether harness has been connected with assy-partition switch . 2. Confirm whether resistance value of assypartition-switch is correct. (Normal open)
C-30	PCB temp sensor opened PCB temp sensor shorted	1. Disconnect power. Open the back cover. Remove PCB Main from holder PCB. Measure NTC sensor(Located on backside of PCB) resistance. : 3.8KΩ at the room temperature 2. If there are any problems, replace PCB Main.
C-31	PCB temp over ; under 872Ω during 10 sec.	If this code was displayed, need to replace PCB.

4-1 Information Displayed Codes

C-20

Disconnect power

Measure sensor resistance.
(1080Ω at the room temperature)

No

Replace oven sensor

END

Ok

Check the connecting condition of harness
(Oven sensor and No CN320 of main PCB)

No

*reconnect
*repair or replace
damaged harness

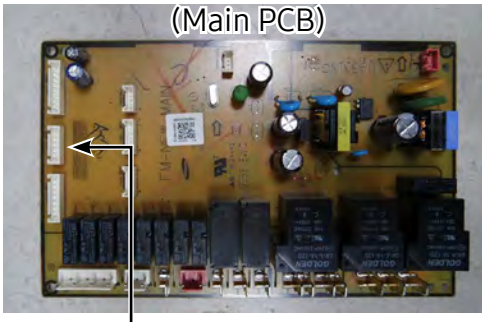
Ok

Measure resistance of connector CN320
of Main PCB (Nomal : 2850Ω)

No

Make sure the pattern, soldering, damaged parts related to oven sensor of main PCB, and repair them or replace main PCB according to case.

END

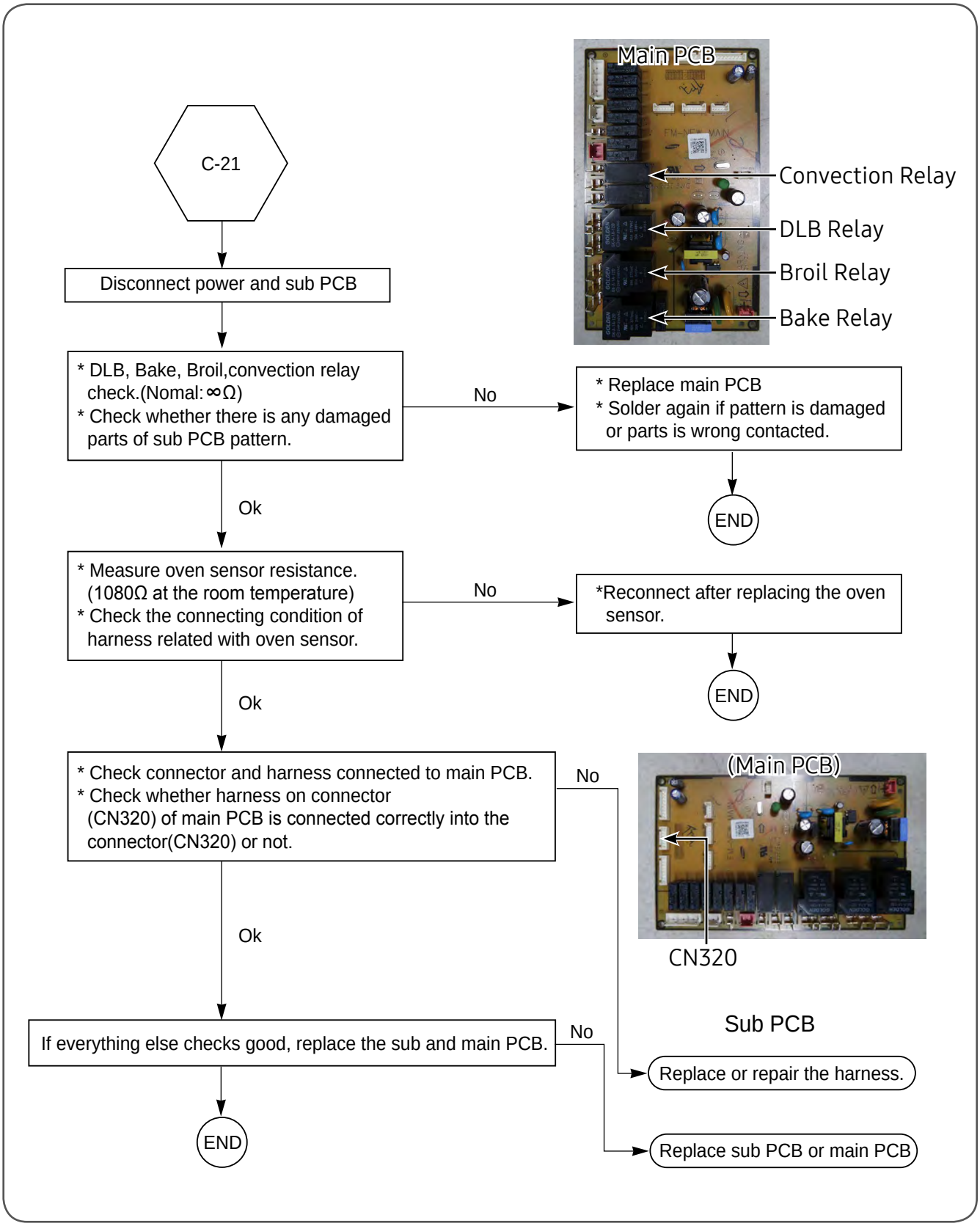


CN320
Pin 1,2 upper sensor
Pin 3,4 upper sensor

4. Troubleshooting

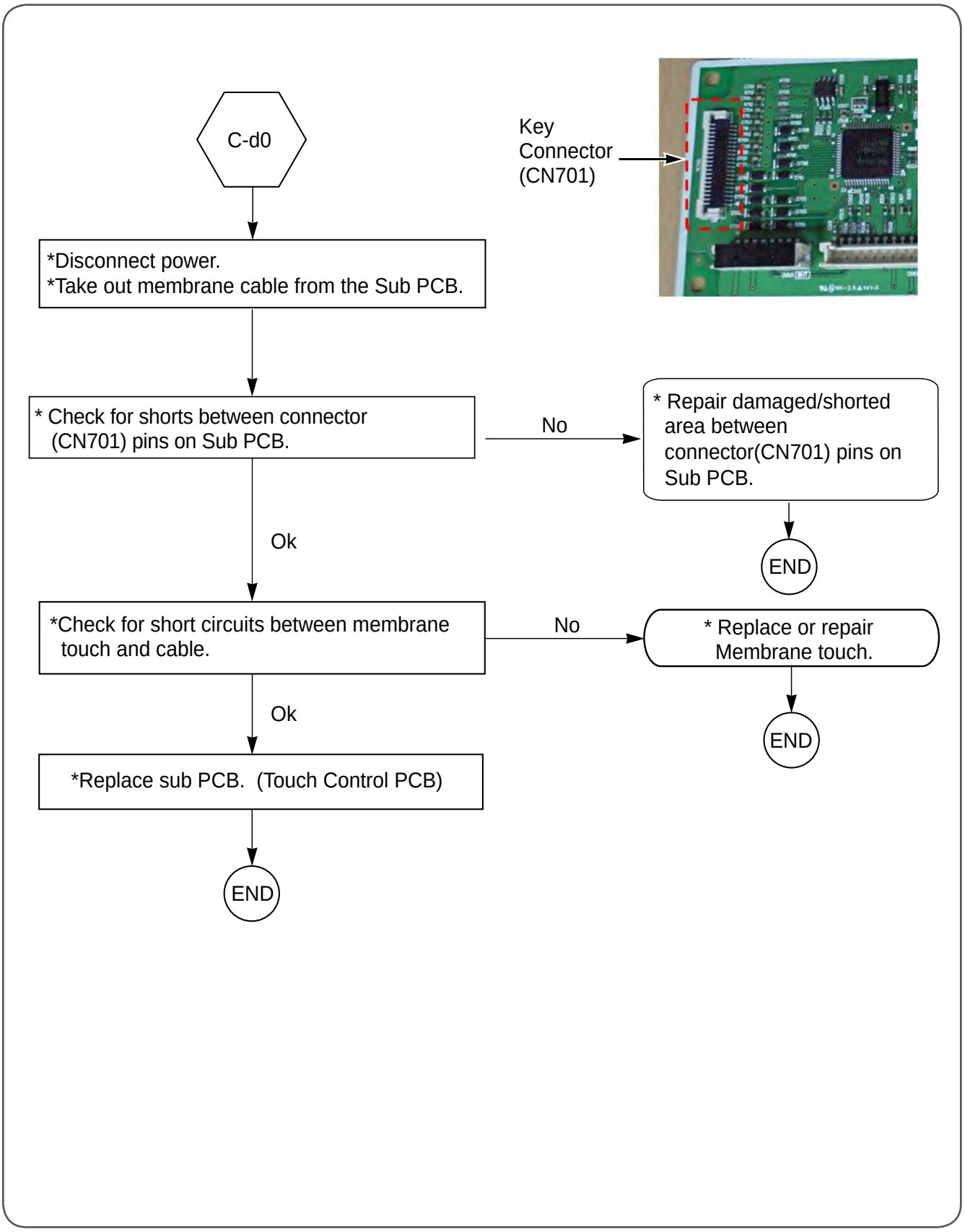
4-1 Information Displayed Codes

Safety error



4. Troubleshooting

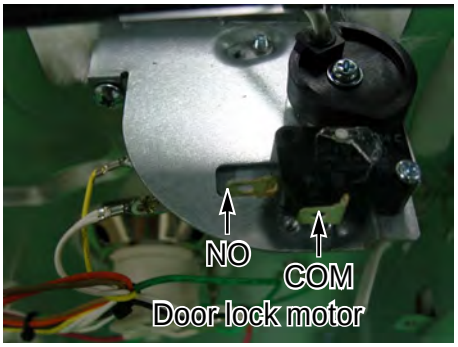
4-1 Information Displayed Codes



4-1 Information Displayed Codes

C-d1

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



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

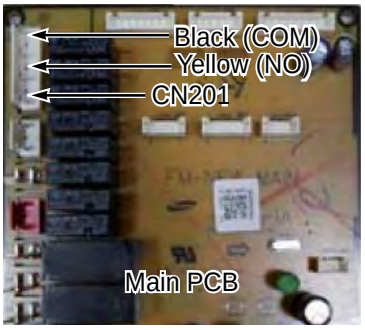
No → * Replace micro switch or Lock motor. → END

* Check oven sensor
(See page 31)

Ok

*Check whether
*Check whether voltage(AC 120V) is presents at the lock motor and it's working.

No →



Ok

*Check whether harness is normally connected into CN201 of main PCB.

No →

* Repair damaged harness or replace

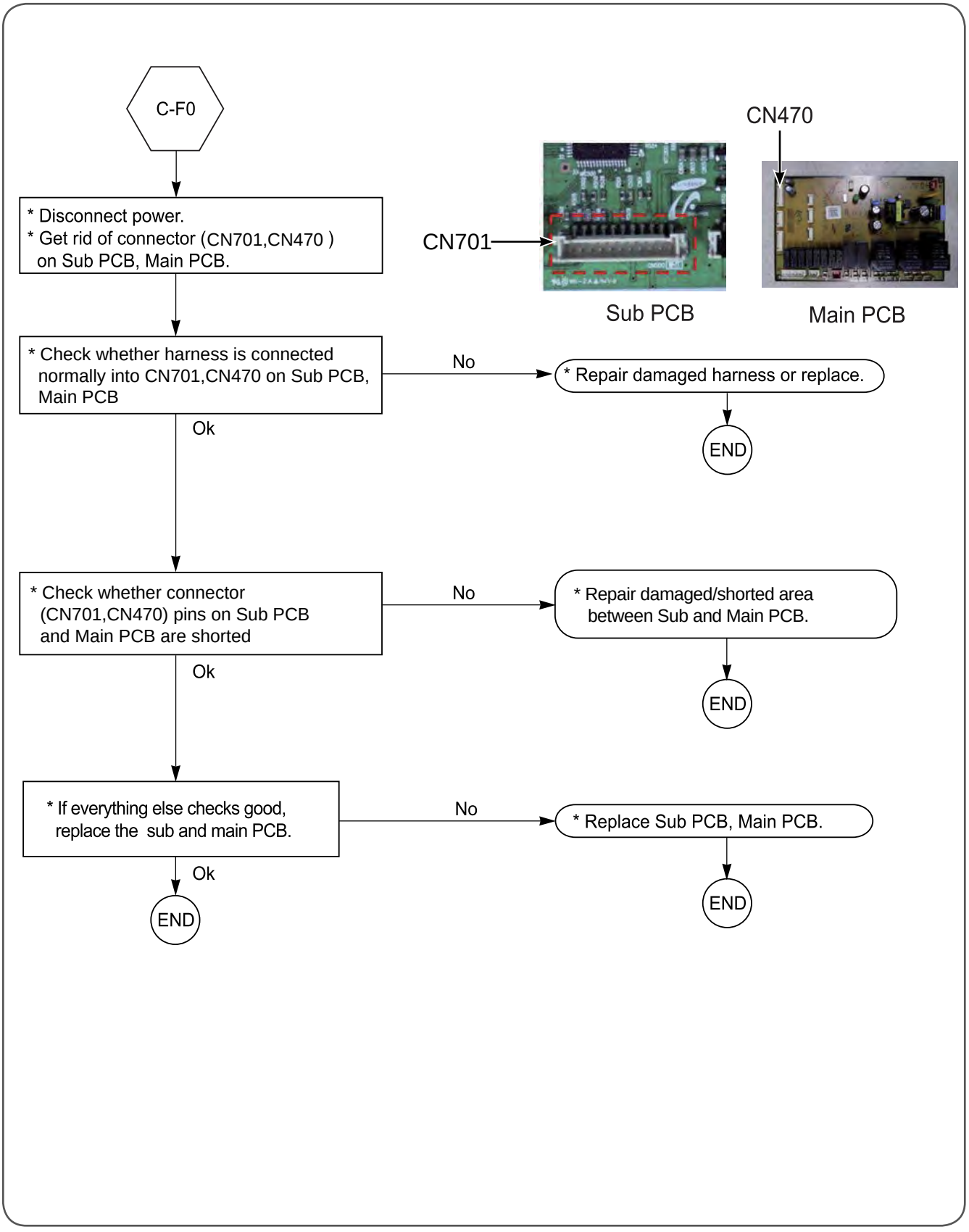
*Measure resistance of CN201 on main pcb.
(COM-NO: ∞ at the room temperature)
*COM : black color
*NO : yellow color

No →

* Replace main PCB.
* Solder again if pattern is damaged or parts are not connected correctly.

END

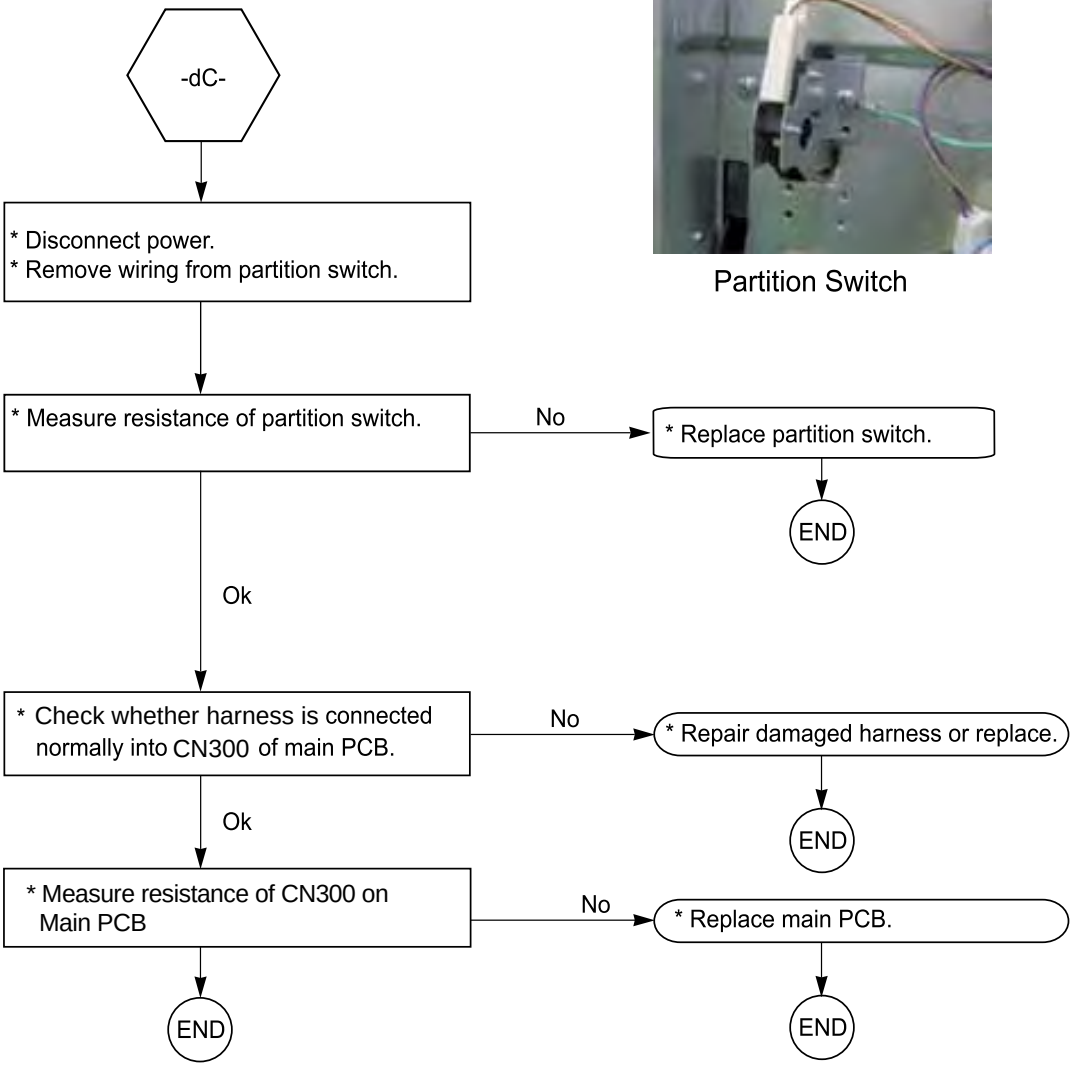
4-1 Information Displayed Codes

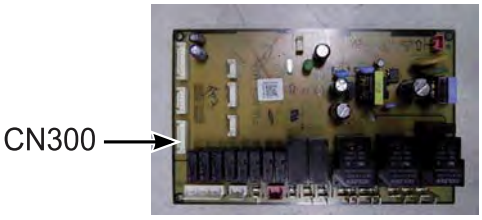


4. Troubleshooting

4-1 Information Displayed Codes

Partition Switch





4. Troubleshooting

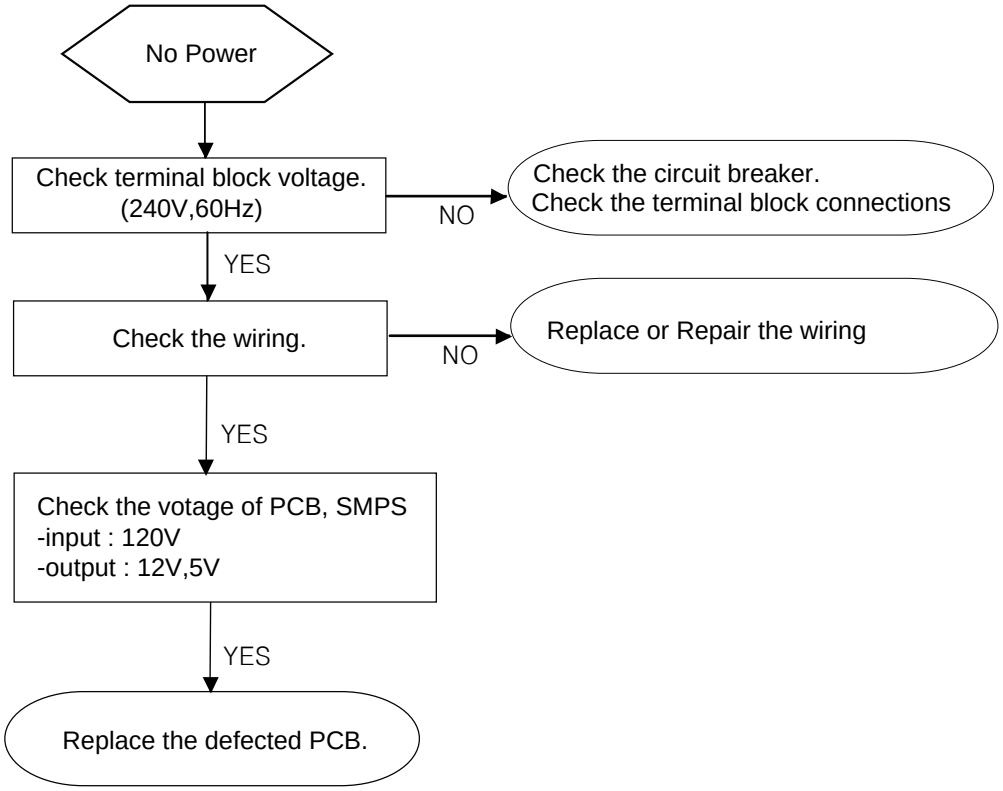
SYMPTOM	DIAGNOSIS	REMEDY
Oven not operating (No power, No display)	* Measure an input voltage. (240/120V or 208/120V) * Measure an input voltage of terminal block.	* Check circuit breaker. * Make sure that the state of wire is connected with Terminal block.
	* Make sure whether harness between connector (CN701) on Sub PCB and connector (CN470) on Main PCB is not loose	* Repair harness connecting Main PCB with Sub PCB.
	* Measure resistance of both terminal of the thermostat (normal : 0 ohoms) * Check whether harness is connected and terminal on thermostat has not been loosen or disconnected. * Measure voltage regulator (IC102) on Main PCB. - IC102 : 7812(DC 12V)	* Replace the thermostat. * Replace or repair harness. * Replace or repair after confirming the state of working of Main PCB.
Oven temperature is rises slowly.	* Make sure whether harness is connected with Broil, Bake and convection heater has not been loosen or disconnected.	* Repair or replace harness.
	* Make sure whether Broil, Bake, and convection heater has not been disconnected.	* After disconnecting each heater, measure resistance replace if resistance is not within normal range.
	* Make sure that heater relay is working correctly and pattern on Main PCB is not defective.	* Replace or repair relay. * Replace or repair Main PCB.
Oven temperature is risen fast.	* Check whether temperature is rises over 400˚F(202˚C) within 10 minutes in a room temperature.	* Replace or repair it if relay on Main have a short circuit.
	* Check whether harness has been disconnected or have a short circuit.	* Replace or repair harness.
	* Measure if resistance values of each heater are within a normal range.	* Replace heater if resistance values are abnormal.
The self-cleaning feature will not operate when warming center or warming drawer is on.	* This is in normal state.	* The self-cleaning feature will not operate when warming center or warming drawer is on.

4. Troubleshooting

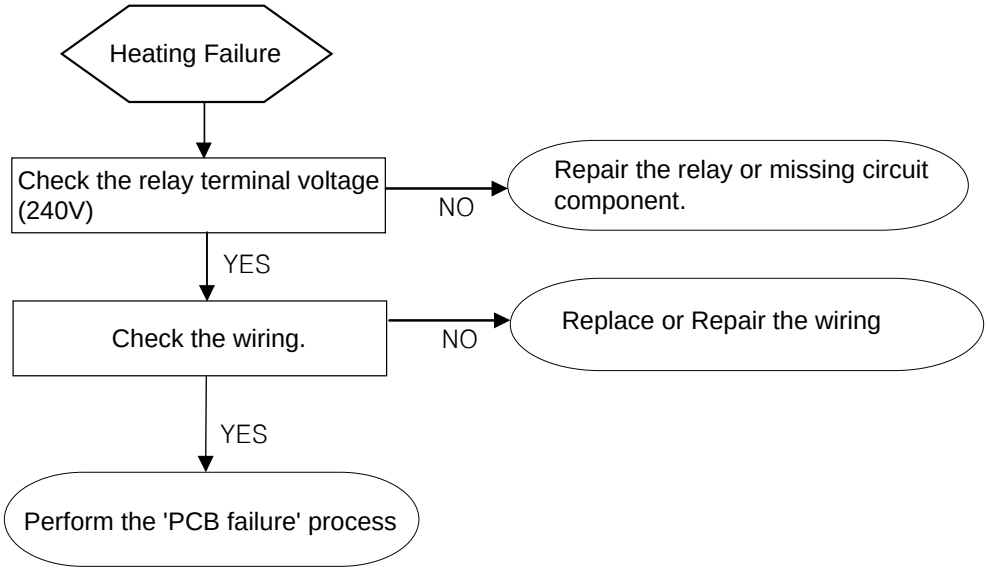
SYMPTOM	DIAGNOSIS	REMEDY
Keypad is not working partially or entirely correctly	* Make sure that keypad cable on sub PCB is connected correctly.	* Replace after confirming it has not been loosen or disconnected.
	* Make sure connector (CN701) on Sub PCB or PCB pattern.	* Replace or repair after confirming whether keypad cable has not been loosen or disconnted.
	* Check whether sub PCB has not been damaged.	* Replace assembly of sub PCB
Oven lamp is not working.	* Check the oven lamp relay (RY209, RY212).	* Replace or repair if harness has not been loosen or disconnected. * Replace oven lamp relay(RY209, RY212) or Ry-source relay.(RY201) * Replace Main PCB.
	* Measure the resistance value of both ends of lamp terminal.	* Replace lamp if it has not been disconnected. (120V / 40W)
Convection fan is not turning.	* Check whether Convection fan relay (RY208, RY211) on Main PCB and connector(CN201, CN202) is connected normally.	* Replace or repair Relay. * Replace or repair connector.
	* Make sure whether harness between connector (CN701) on Sub PCB and connector (CN470) on Main PCB has been connected normally.	* Replace or repair harness. * Replace or repair connector. * Replace Sub PCB.
smell or smoke when oven has been started initially.	* This is in normal state.	* Smell or smoke during initial use comes from burning off oils and soils introduced during production process. Makes sure area is well ventilated during initial use.
LED display is dim or completely blank.	* LED display is defective.	* Replace Sub.
There is no beep sound when keypad buttons are pressed.	* Check the condition of the buzzer on Sub PCB and for shorted or opened areas.	* Replace or repair sub PCB.

4-2 Electrical Malfunction

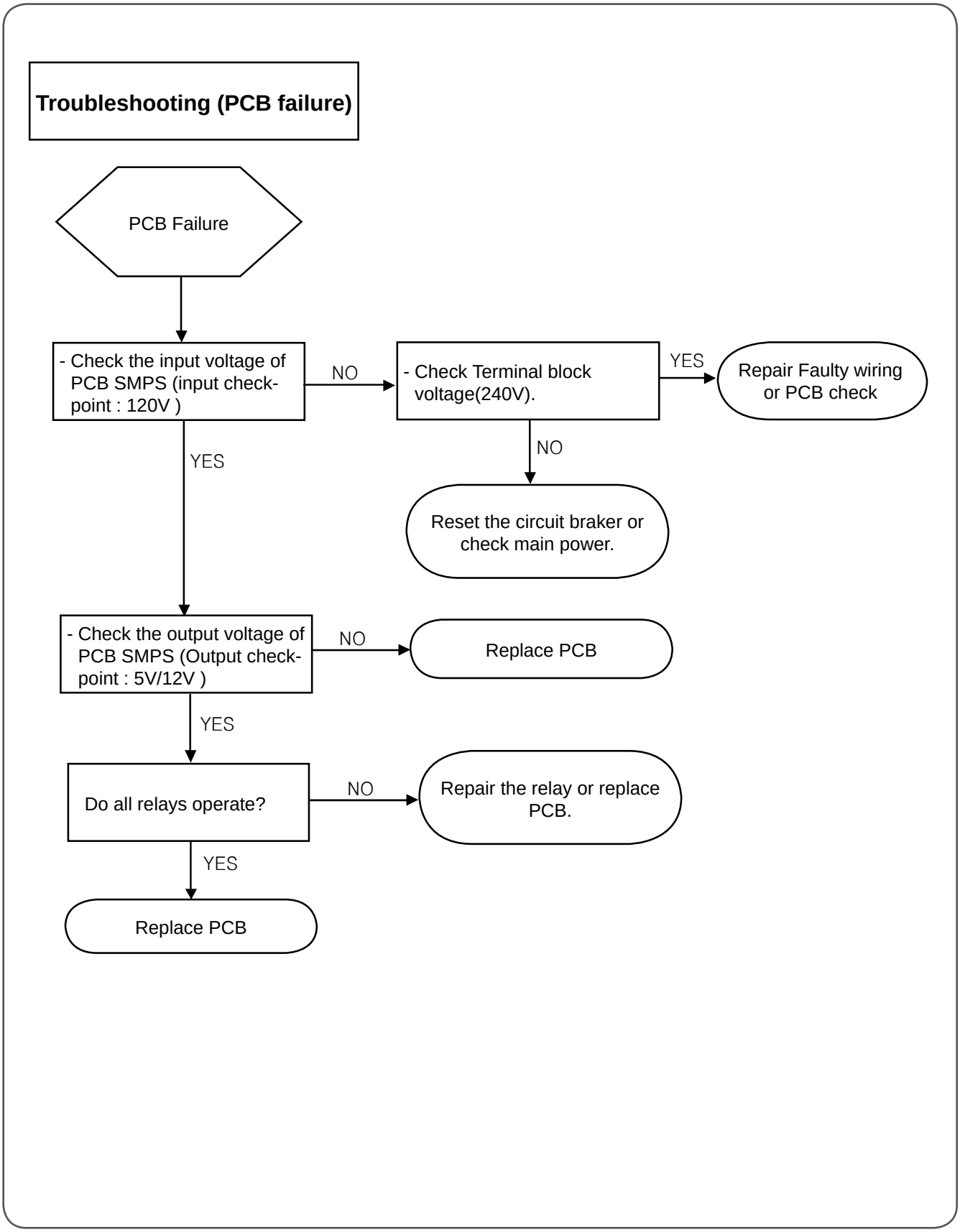
Troubleshooting (Power)



Troubleshooting (Heating)



4-2 Electrical Malfunction



4-2 Electrical Malfunction

Cooktop No heating or Abnormal working

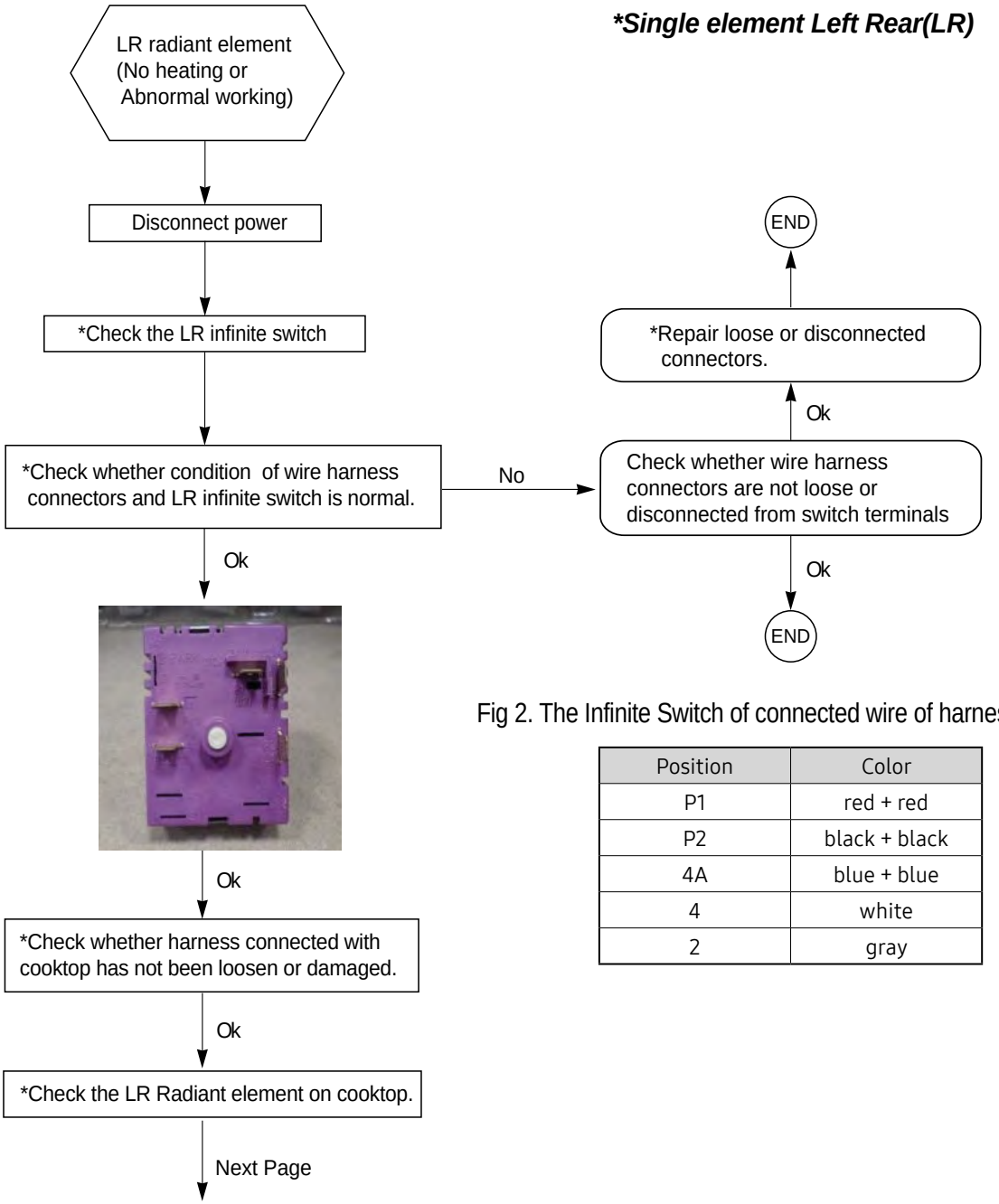


Fig 2. The Infinite Switch of connected wire of harness

Position	Color
P1	red + red
P2	black + black
4A	blue + blue
4	white
2	gray

4-2 Electrical Malfunction

(Continued)

LR radiant element (No heating or Abnormal working)

* Check the element of LR Radiant

*Check whether condition of wire harness connectors and LR infinite switch is normal

No

*Check whether wire harness connectors are not loose or disconnected from switch terminals

Ok

*Repair loose or disconnected connectors

Ok

END

Ok

END

LR radiant element

Ok

*Check whether harness connected with LR infinite switch has not been damaged or disconnected.

END

WARNING

It is very dangerous to disconnect wire harness when heater element is in operation.

Fig3. LR radiant element

Position	Color
1b-2b	∞
2a-"A"	44~50Ω

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 Left Front(LF)

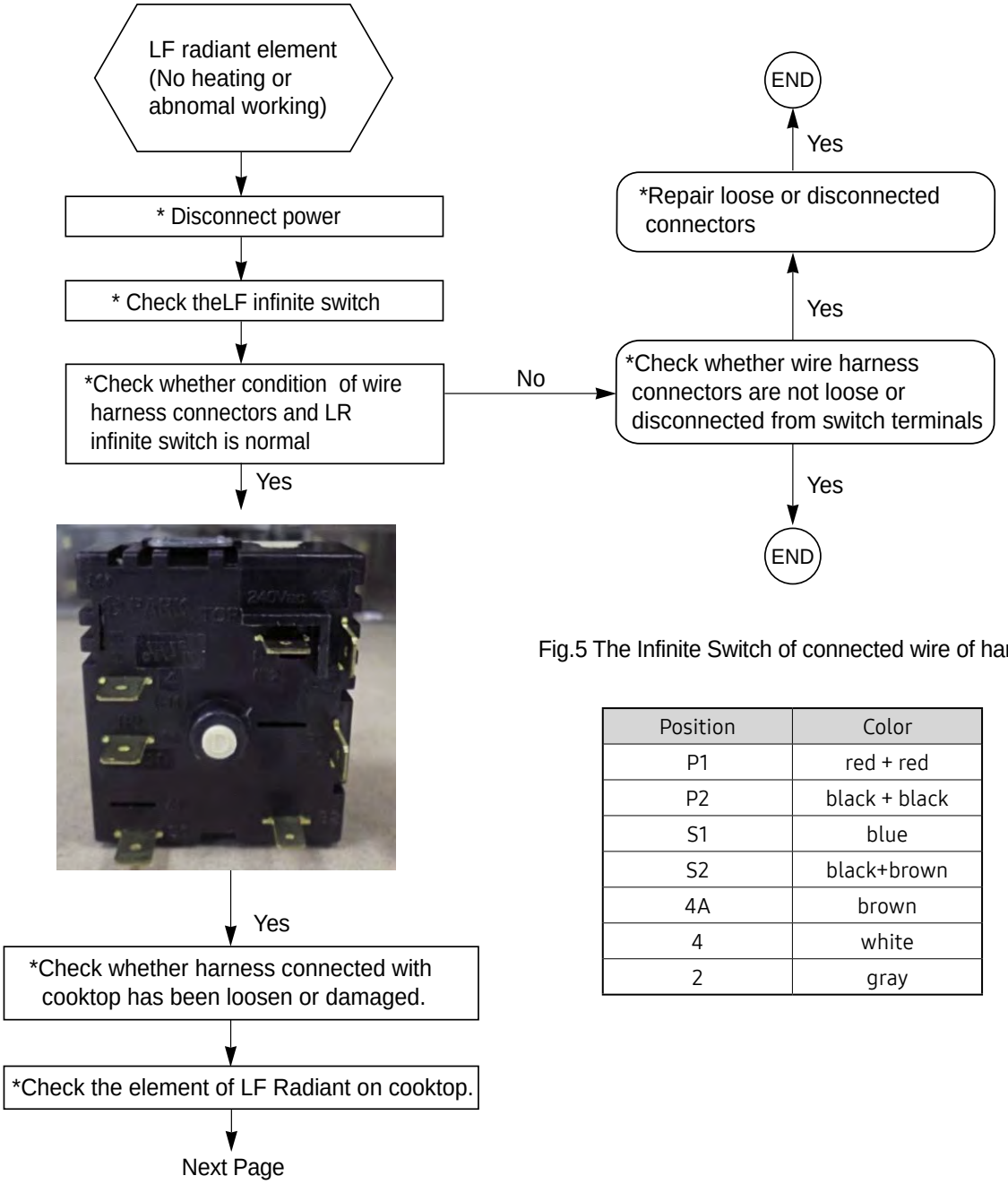


Fig.5 The Infinite Switch of connected wire of harness

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 condition of wire harness connectors and LF infinite switch is normal

No

*Check whether wire harness connectors are not loose or disconnected from switch terminals

Ok

*Repair loose or disconnected connectors

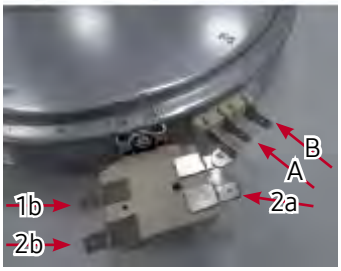
Ok

END

Ok

END

Single element



Ok

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

END

WARNING

It is very dangerous to disconnect wire harness when heater element is in operation.

Fig.6 LF radiant element

Position	ohms
1b-2b	∞
2a-"A"	38~42 Ω
2a-"B"	31~37 Ω

Fig4. The radiant heater of connected wire of harness

● Single element

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

4-2 Electrical Malfunction

RR radiant element
(No heating or
Abnormal working)

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

Disconnect power

*Check the RR infinite switch

*Check whether condition of wire harness connectors and RR infinite switch is normal.

No

Check whether wire harness connectors are not loose or disconnected from switch terminals

Ok

*Repair loose or disconnected connectors.

Ok

END

END

Ok

RR Infinite switch

Ok

*Check whether harness connected with cooktop has not been loosen or damaged.

Ok

*Check the RR Radiant element on cooktop.

Next Page

Fig.8 The Infinite Switch of connected wire of harness

Position	Color
P1	red
P2	Black + Black
4A	blue+blue
4	white
2	gray

4-2 Electrical Malfunction

(Continued)

RR radiant element
(No heating or
Abnormal working)

* Check the element of RR Radiant

*Check whether condition of wire harness connectors and RR infinite switch is normal

No

*Check whether wire harness connectors are not loose or disconnected from switch terminals

Ok

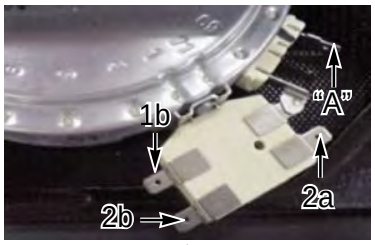
END

*Repair loose or disconnected connectors

Ok

END

Assembly RR Cooktop



Ok

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

WARNING

It is very dangerous to disconnect wire harness when heater element is in operation.

Fig.9 RR radiant element

Position	ohms
1b-2b	∞
2a-"A"	44~50 Ω

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

RF radiant element
(No heating or
Abnormal working)

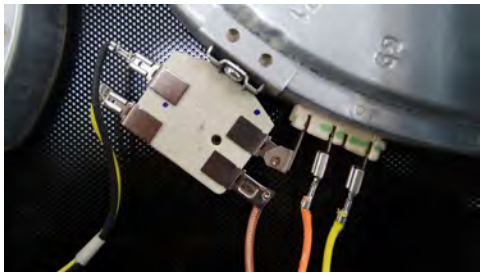
Disconnect power

*Check the RF infinite switch

*Check whether condition of wire harness connectors and RF infinite switch is normal.

No

Ok



RF Infinite switch

Yes

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

*Check the RF Radiant element on the cooktop on cooktop.

Dual element Right Front(RF)

Check whether wire harness connectors are not loose or disconnected from switch terminals

Ok

END

*Repair loose or disconnected connectors.

Ok

END

Fig.5 The radiant heater 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)

RF radiant element
(No heating or
Abnormal working)

* Check the element of RF Radiant

*Check whether condition of wire harness connectors and RF infinite switch is normal

No

*Check whether wire harness connectors are not loose or disconnected from switch terminals

Ok

*Repair loose or disconnected connectors

Ok

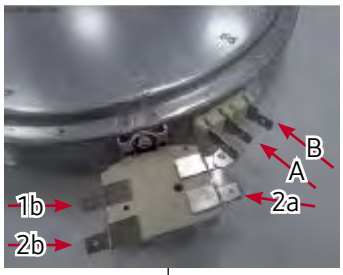
END

Ok

END

Ok

Single element



Yes

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

END

WARNING

It is very dangerous to disconnect wire harness when heater element is in operation.

Fig.6 RF radiant element

Position	ohms
1b-2b	∞
2a-"A"	28~32 Ω
2a-"B"	48~55 Ω

Fig.7 The radiant heater of connected wire of harness

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

4-2 Electrical Malfunction

RC radiant element (No heating or Abnormal working)

Disconnect power

*Check the RC infinite switch

*Check whether condition of wire harness connectors and RC infinite switch is normal.

No

Check whether wire harness connectors are not loose or disconnected from switch terminals

Ok

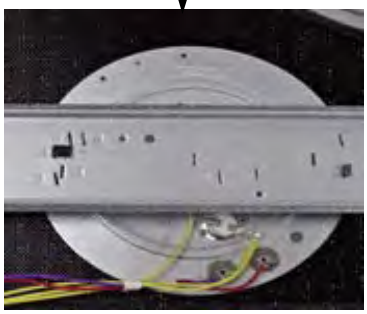
END

*Repair loose or disconnected connectors.

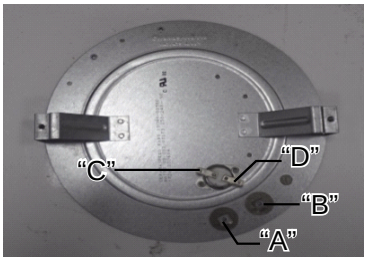
Ok

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"	560~600 Ω
"C"-"D"	∞ Ω

Fig.15 The RC radiant element of connected wire of harness

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

4-2 Electrical Malfunction

RC radiant element (No heating or working abnormally)

* Disconnect power

*Check warming center relay on main PCB.

No

*Check PCB pattern and relay (RY207) for damage.

Ok

*Check whether harness connector at terminal (T209) on Main PCB is loose or disconnected.

Ok

* Fix damaged area or replace Main PCB

Ok

END

Ok

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

No

* Repair loose or disconnected connectors.

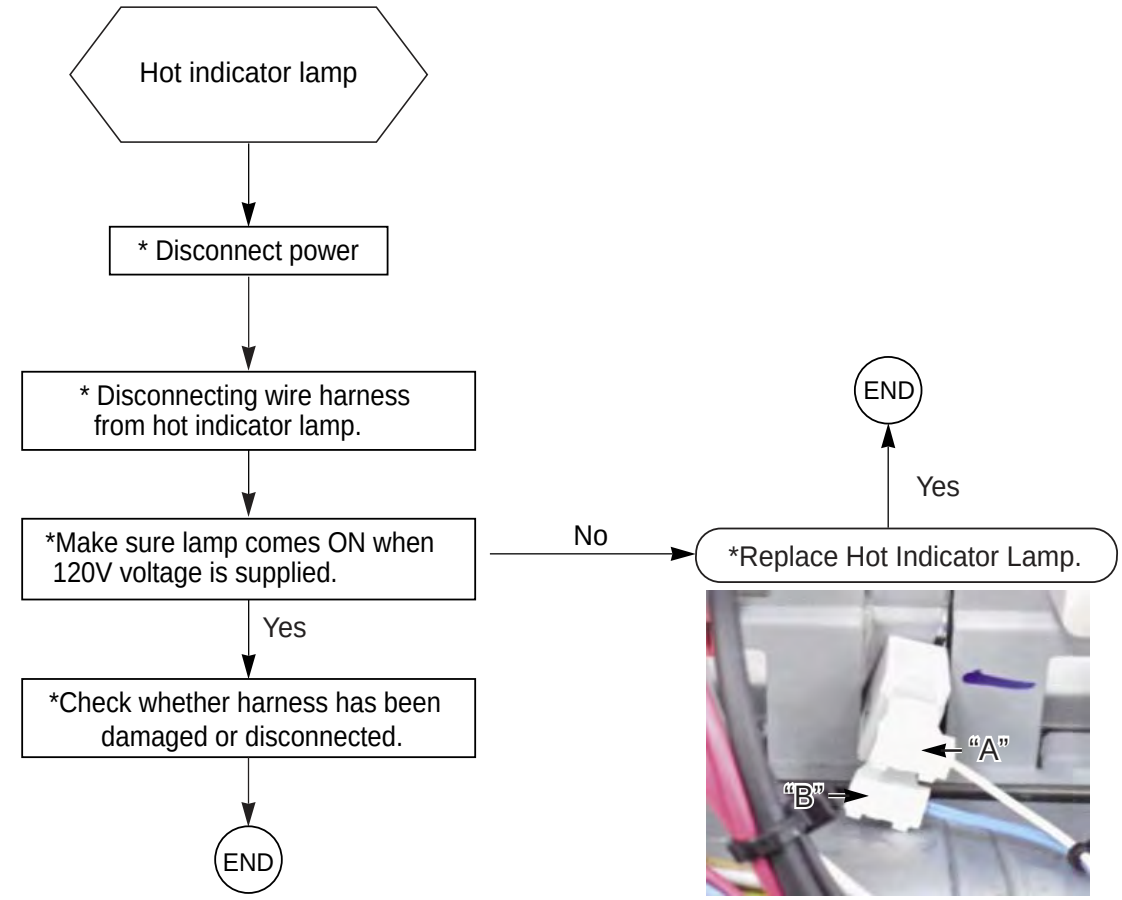
Ok

*Check RC Radiant element of cooktop.

Next page

4-2 Electrical Malfunction

Hot indicator Lamp failure (cooktop)



Hot Indicator Lamp

Fig.6 The drawer of connected wire of harness.

Position	Color
A	blue or white
B	white or blue

WARNING

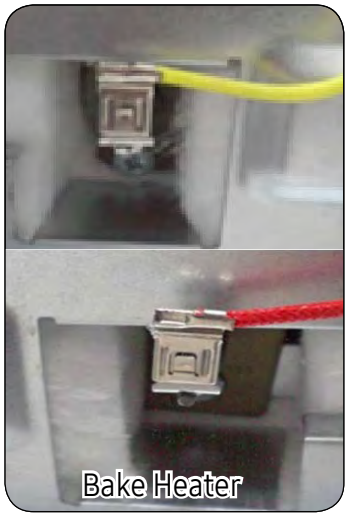
Disconnecting wire harness when cook top is working might lead to shorts and damage of infinite switch

4-2 Electrical Malfunction

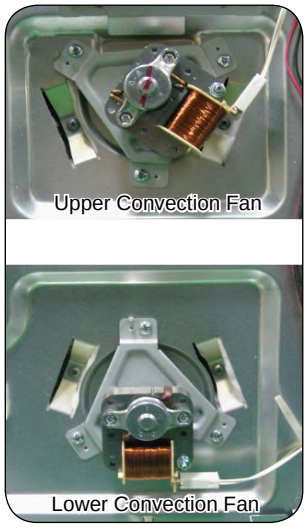
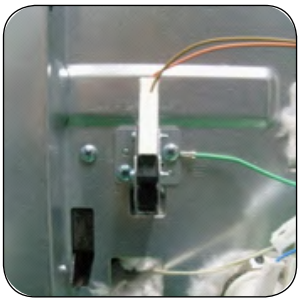
Component testing procedures

WARNING

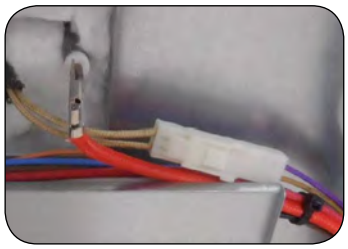
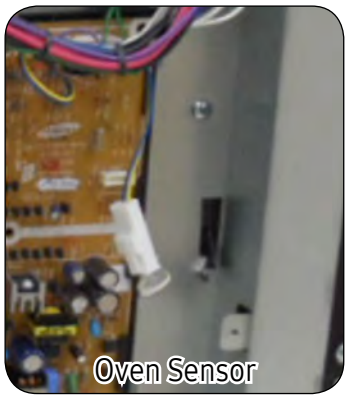
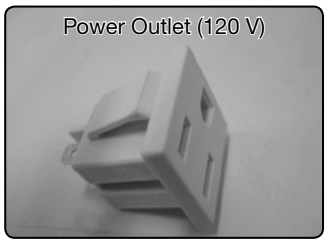
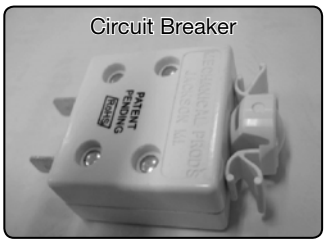
ELECTRICAL SHOCK HAZARD
Disconnect power before servicing the range. Replace all panels before operating range. Failure to do so can result in death or electrical shock.

FIGURE	TESTS MEASURE	RESULTS
	* Measure resistance values of heater's terminal after taking off harness from heater. * Measure voltage of heater's terminal after activating broil element by electing Broil on the key .	* Approx : 13 ~ 16Ω (at the room temperature) * Terminal voltage of Broil heater : AC 240V * Replace or repair harness
	* Measure resistance values of heater's terminal after taking off harness from heater. * Measure voltage of heater's terminal after activating bake element by selecting Bake on the 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) * Terminal voltage of bake heater : AC 240V * Replace or repair harness
	* Measure resistance values of heater's terminal after taking off harness from heater . * Measure voltage of heater's terminal after activating heating element by selecting convection bake on the keypad (Make sure that voltage has to be measured for more than 1 minute because heater works by cycling ON and OFF.	**Approx** * Convection heater : 42 ~ 45Ω (at the room temperature) * Terminal Voltage of Convection heater: 240V * Replace or repair harness. * Replace or repair Main PCB .

4-2 Electrical Malfunction

FIGURE	TESTS MEASURE	RESULTS
	* Measure the state of micro switch and motor after disconnecting wire harness. * Check whether the lock works normally by pressing start/set keypad for 3 seconds.	* Lock motor Resistance : 1750 ~ 1850Ω (at the room temperature) voltage : 120V * Micro switch COM-NO * Replace or repair if harness has been loosen or disconnected.
	* Check if the light bulb looks good or is blown out. * Measure resistance on the harness terminals after disconnecting it from the socket and removing a bulb. * Measure the voltage at the lamp sockets terminal, after turning on the Lamp by pressing the Oven light on the Main keypad.	* Approx : 23~27 Ω * Terminal voltage of lamp socket : 120V * Replace or repair harness. * Replace or repair Sub PCB.
	* Measure resistance value of Motor terminals after removing wire harness. * Measure Voltage of Motor's terminal after activating convention fan by selecting convection bake on the bake keypad. (Make sure voltage is measured for more than 1 minute due to convection fans ON-OFF cycling operation	**Approx** * Convection Fan : 20 ~ 30Ω * Terminal Voltage of Convection Fan : 120V * Replace or repair harness * Replace or repair Main PCB.
 ‹ Partition Switch›	* Mesure the state of partition switch after disconnecting the wire harness.	* Partition Switch Resistance : (Normal open) * Replace or repair if harness has been loose or disconnected.

4-2 Electrical Malfunction

FIGURE	TESTS MEASURE	RESULTS
 Door plunger switch	* Check the operation of the switch. * Make sure whether the wire harness, switch housing or terminals has not been damaged or disconnected.	Nomal open : 0Ω Nomal close : ∞ Ω * Replace or repair if wire or terminal has been damaged.
 Hot Surface & Surface Lamp (Back Guard)	* Measure voltage supplied to the lamp terminal. * Check whether harness has been loosen or disconnected.	**Approx.** * Lamp voltage :120V * Resistance : ∞Ω * Replace or repair if wire or terminal has been damaged.
  Oven Sensor	* Check resistance values of oven sensor and compare it to temperature in the reference chart on pg. 62 * Check whether wire or housing has been loosen or disconnected.	**Approx.** at the room temperature :1080Ω
 Power Outlet (120 V)  Circuit Breaker **NE59M6850**/AC only** * Check whether voltage of power outlet is off by pressing reset botton of circuit breaker. * Check whether harness or terminal has been loosen or disconnected.		**Approx** * Circuit breaker : 120 V 15 A * Voltage will be drop to zero(0) during pressing reset botton. * Power outlet : 120 V 15 A * 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. P1 : red + red P2 : black + black 4A : blue + blue 4 : white 2 : gray * Measure the voltage and resistance between terminals. (Please refer to schematic diagram) * Check whether power level is correct for LR heater element operation.	**Approx** * Resistance between terminals when switch is off : ∞Ω * When switch is on(HI) resistance H1-L1-P : 0Ω L2-H2 : 0Ω * When switch is on(HI) voltage L2=H2 ↔ H1=L1:240V L1=P ↔ LR surface Lamp :120V * Replace or repair harness
 RR Infinite Switch (Single)	* Check whether harness is connected with switch properly. P1 : red P2 : black+black 4A : blue + blue 4 : White 2 : gray * Measure voltage and resistance between terminals. (Please refer to schematic diagram) * correct for RR heater element operation.	
 LF Infinite Switch	* Check whether harness is connected with switch properly. P1 : red + red S1 : blue P2 : black + black S2 : black + brown 4A : brown 4 : white 2 : gray * Measure voltage and resistance between terminals. (Please refer to schematic diagram) * Check whether power level is correct for LF heater element operation.	**Approx** * Resistance between terminals when switch is off : ∞Ω * When switch is on(HI, Max.) P1-2-4A : 0Ω S1-S2 : 0Ω P2-4 : 0Ω * When switch is on(HI, Max.) voltage P1=2=4A ↔ P2=4 : 240V S1=S2 ↔ LF suface lamp : 120V * Replace or repair harness.
 RF Infinite Switch	* Check whether harness is connected with switch properly. P1 : red + red S1 : blue P2 : black + black S2 : black+brown 4A : brown 4 : white 2 : gray * Measure voltage and resistance between terminals. (Please refer to schematic diagram) * Check whether power level iscorrect for RF heater element operation.	**Approx** * Resistance between terminals when switch is off : ∞Ω * When switch is on(HI, Max.) P1-2-4A : 0Ω S1-S2 : 0Ω P2-4 : 0Ω * When switch is on(HI, Max.) voltage S1=S2 ↔ RF surface lamp : 120V P1=2=4A ↔ P2=4 : 240V

4-2 Electrical Malfunction

FIGURE	TESTS MEASURE	RESULTS
 LR Radiant element	* Check whether harness is connected correctly to terminals of the heating element. A : orange 2a **:** brown 1b **:** yellow + black 2b **:** yellow+yellow * Measure voltage and resistance between terminals.	**Approx** * Terminal resistance : 1b-2b= ∞Ω 2a- "A" : 44 ~ 50Ω (at the room temperature) * Replace or repair harness.
 LF Radiant element	* Check whether harness is connected correctly to terminals of the heating element. A : orange B : yellow 1b : black 2a : brown 2b : yellow+yellow * Measure voltage and resistance between terminals.	**Approx** * Terminal resistance : 1b-2b= ∞Ω 2a -"A": 38 ~ 42Ω 2a-"B" : 31 ~ 37Ω (at the room temperature) 2a - "A" : 240V * Replace or repair harness.
 RR Radiant element	* Check whether harness is connected correctly to terminals of the heating element. A : orange 1b : black + black 2a : brown 2b : yellow + yellow * Measure voltage and resistance between terminals.	**Approx** * Terminal resistance : 1b-2b = ∞Ω 2a - "A": 44 ~ 50Ω (at the room temperature) 2a - "A" : 240V * Replace or repair harness.
 RF Radiant element	* Check whether harness is connected correctly to terminals of the heating element. A : orange B : yellow 1b : black 2a : brown 2b : yellow * Measure voltage and resistance between terminals.	**Approx** * Terminal resistance : 1b-2b= ∞Ω 2a- "A" : 28 ~ 32Ω 2a- "B" : 48~55Ω (at the room temperature) * Replace or repair harness.
 RC Radiant element	* Check whether harness is connected correctly to terminals of the heating element. - Element terminals : violet and red reversing violet and red wire connectors will not cause a problem 187 type TCO : yellow, yellow reversing yellow and yellow wire connectors will not cause a problem * Measure voltage and resistance between terminals.	**Approx** * Terminal resistance : 187 type TCO : ∞Ω element terminal : 560 ~ 600Ω (at t he room temperature) * Element terminal : 240V * Replace or repair harness

4-2 Electrical Malfunction

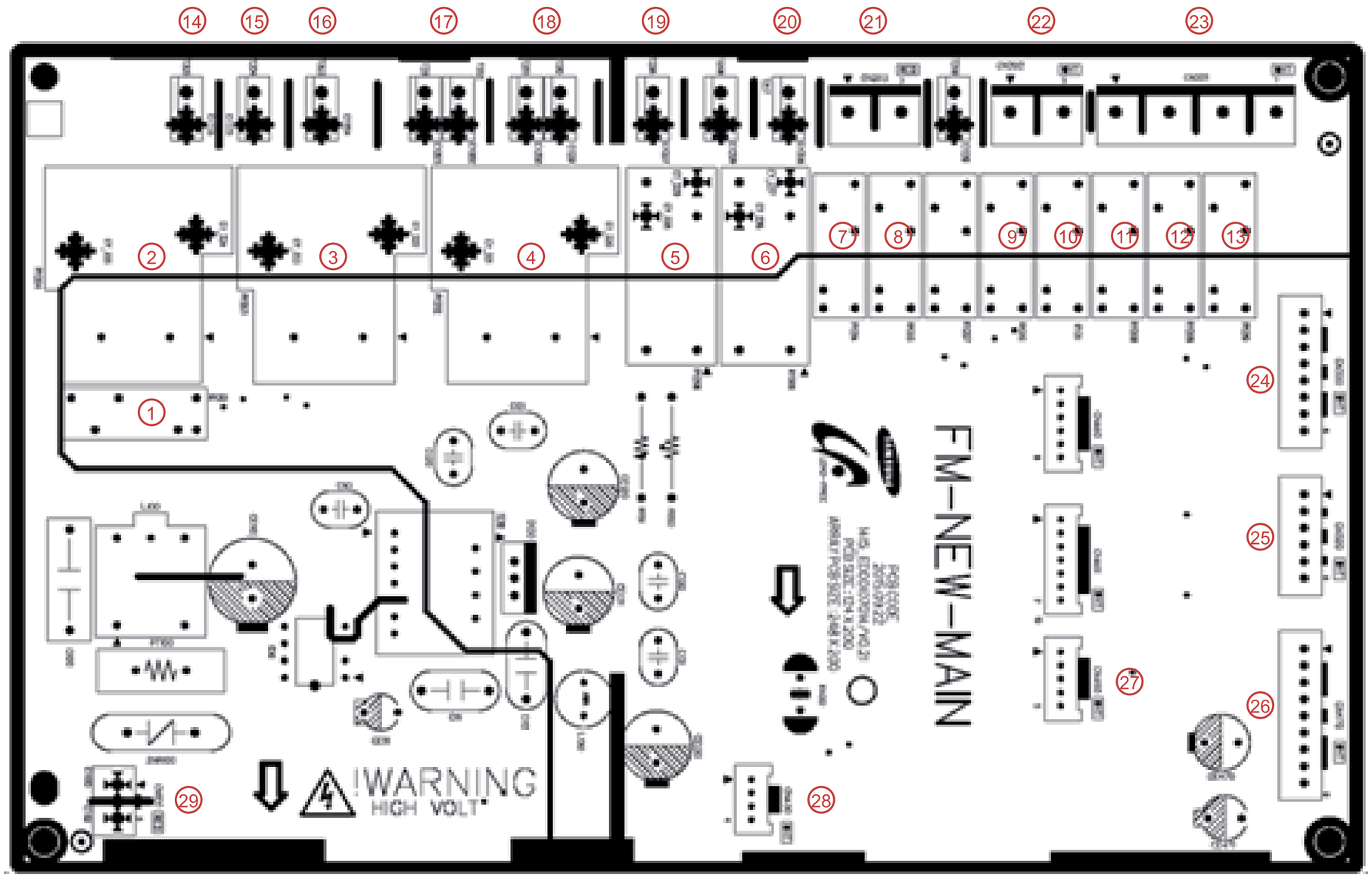
Oven sensor resistance (Temperature vs. Sensor resistance)

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

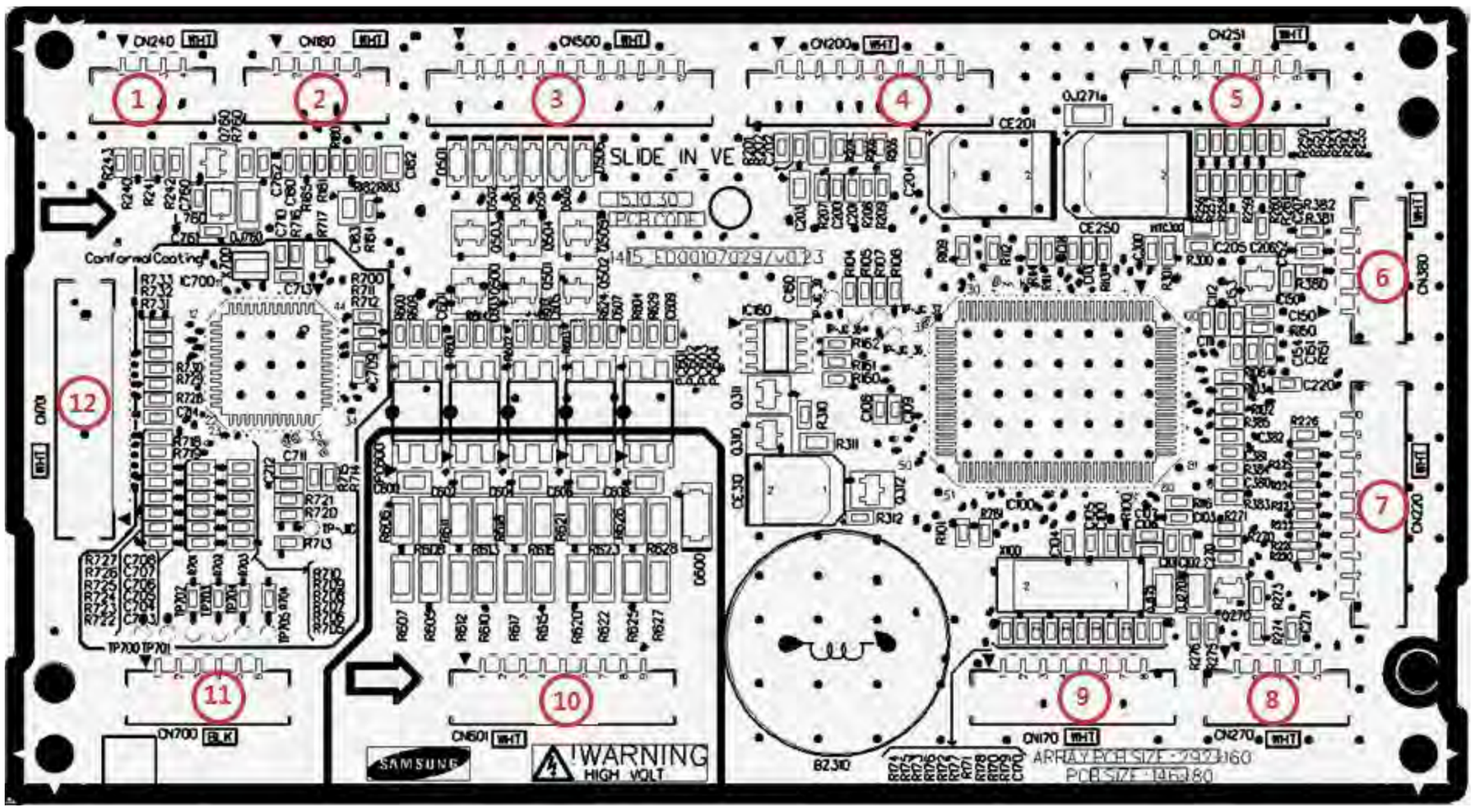
5. PCB Diagrams

5-1 PCB Diagram - Main



No.	Parts Number	Part Name	Function and Rule
1	RY201	RY-Source Relay	This is relay which control source of DLB, BAKE, BROIL, W/Drawer
2	RY204	Bake-Heater Relay	Broil relay(Ry203), Bake relay(Ry204), convection relay(Ry205) is turned ON/OFF by mi-com signal after DLB relay has been engaged. (Broil relay : reversing position of the Brown wire will not cause a problem)(Bake relay : reversing position of the Blue wire will not cause a problem)
3	RY203	Broil-Heater Relay	Broil relay(Ry203), Bake relay(Ry204), convection relay(Ry205) is turned ON/OFF by mi-com signal after DLB relay has been engaged. (Broil relay : reversing position of the Brown wire will not cause a problem)(Bake relay : reversing position of the Blue wire will not cause a problem)
4	RY202	DLB Relay	Circuit is designed to have broil relay or convection relay working after DLB relay is working by Double line break.(reversing position of the Red wire will not cause a problem)
5	RY206	Warming Drawer Heater Relay	This is Relay to control Warming Drawer-Heater.
6	RY205	Convection Relay	Broil relay(Ry203), Bake relay(Ry204), convection relay(Ry205) turned ON/OFF by mi-com signal after DLB relay has been engaged.(Broil relay : reversing position of the Brown wire will not cause a problem)(Bake relay : reversing position of the Blue wire will not cause a problem)
7	RY214	OPTION (Cooling Fan)	This is a spare relay. (This relay is connected with Cooling fan Lo in this model)
8	RY213	OPTION (Cooling Fan)	This is a spare relay. (This relay is connected with Cooling fan Hi in this model)
9	RY212	Oven-Lamp-L Relay	This is relay which is connected with Oven-Lamp-Low.
10	RY211	Conv-Fan-L Relay	This is relay which is connected with Oven-Fan-Low.
11	RY208	Conv-Fan-U Relay	This is relay which is connected with Conv. Fan.
12	RY209	Oven-Lamp-U Relay	This is relay which is connected with Conv-Lamp-Upper
13	RY210	Door Lock Relay	This is relay which is connected with door lock motor.
14	T205	Bake Terminal	This is terminal to connect harness with Bake relay.
15	T204	Broil Terminal	This is terminal to connect harness with Broil relay.
16	T203		
17	T211	DLB Terminal	This is terminal to connect harness with DLB relay.
	T202		
18	T201		
	T210		
19	T206	Convection-Heater Terminal	This is terminal to connect harness with convection-heater relay.
20	T207		
21	CN203	spare connector	his is for spare relays (RY213, RY214). (This connector is connected with Cooling fan in this model.)
22	CN202	Relay Connector	OVEN FAN L, OVEN LAMP L
23	CN201	Relay Connector	CONV FAN U, OVEN LAMP U, DOOR LOCK, AC120V_LINE
24	CN300	Door Lock, Divider Connector	This is connector which is connected with Door plunger switch and Door lock switch, divider switch.
25	CN320	Oven Sensing Connector	This connector which is connected with oven sensor.
26	CN470	Sub Communication Connector	This is connector which is connected with Sub PCB to communicate.
27	CN450	HASS	This is to connect HASS.
28	CN430	On Board Writing Connector	When do micom revision, connect to micom writer. And this connector which is connected with Touch PCB to communicate
29	CN100	Power Connector	This is to supply power to SMPS.

5-2 PCB Diagram - Sub



No.	Parts Number	Part Name	Function and Rule
1	CN240	Option Connector	This is connector to select H/W option.
2	CN180	HASS Connector	This is connector for HASS.
3	CN500	Knob Light 5Volt Power connector	This is connector to provide 5V power to knob light.
4	CN200	Main Communication Connector	This is connector which is connected with Main PCB to communicate.
5	CN251	BLDC-FAN-SUB Control Ceonnector	This is to connect BLDC-FAN-SUB PBA. (For GAS Model)
6	CN380	Rotary Switch Connector	This is connector for Rotary Switch.
7	CN220	LED Module Connector	This is connector for LED Display Module.
8	CN270	WIFI Connector	This is connector to connect WIFI Module.
9	CN170	JTAG Monitoring Connector	This is connector for JTAG equipment.
10	CN601	Knob sensing Connector	This is connector to check knob ON/OFF.
11	CN700	Touch Download Connector	This is connector to download program for touch IC.
12	CN701	Touch Film Connector	This is to connect Touch-Film.

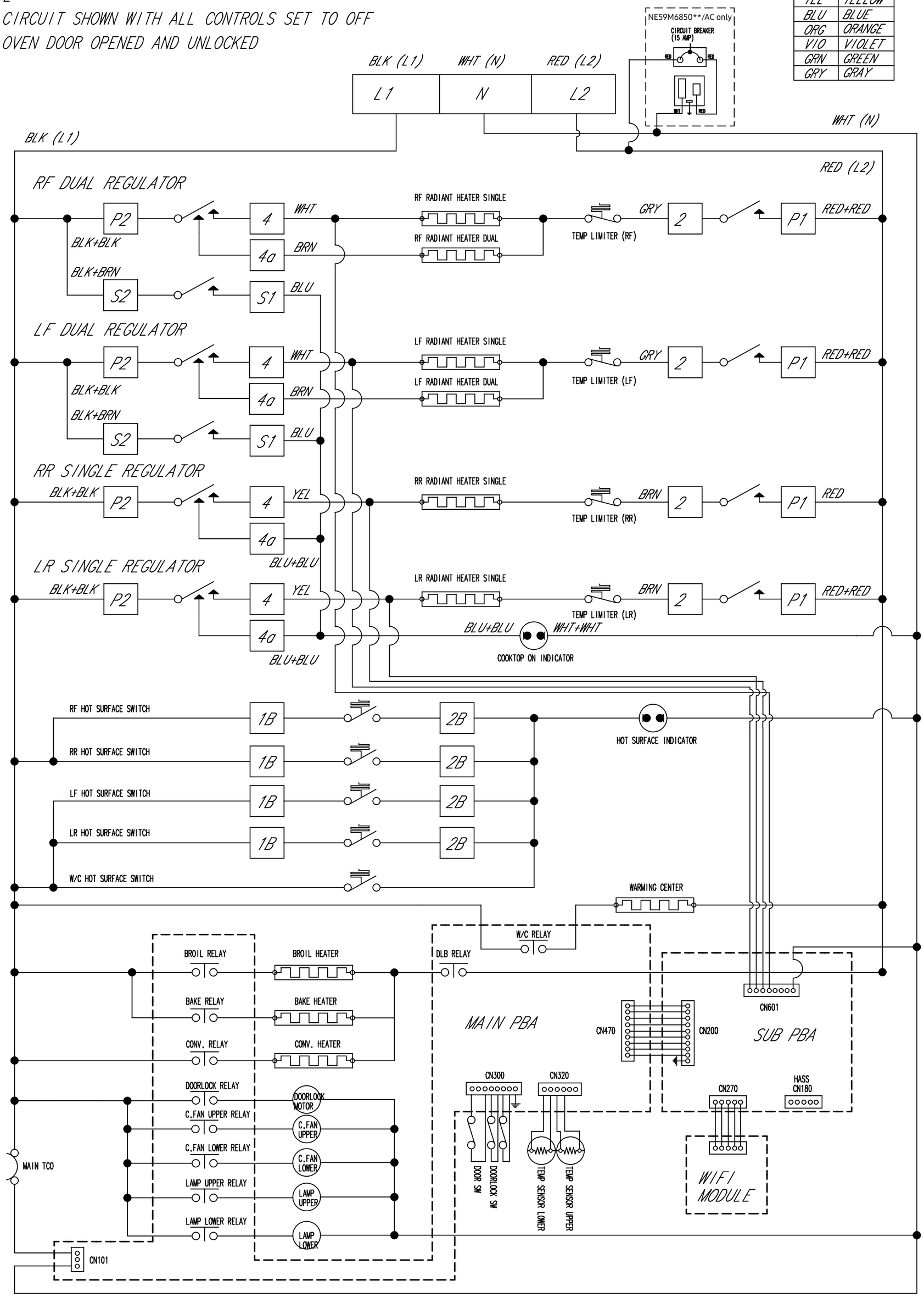
6-1 Wiring Diagrams

SCHEMATIC DIAGRAM

MODEL : NE59*685***

NOTE
1) CIRCUIT SHOWN WITH ALL CONTROLS SET TO OFF
2) OVEN DOOR OPENED AND UNLOCKED

COLOR	
RED	RED
BLK	BLACK
WHT	WHITE
BRN	BROWN
YEL	YELLOW
BLU	BLUE
ORG	ORANGE
VIO	VIOLET
GRN	GREEN
GRY	GRAY



COOKTOP ELEMENT		
COMPONENTS	INPUT	WATTAGE
RF DUAL RADIANT HEATER	240V	1900W / 3000W
LF DUAL RADIANT HEATER	240V	1400W / 3000W
RR SINGLE RADIANT HEATER	240V	1200W
LR SINGLE RADIANT HEATER	240V	1200W
WARMING CENTER	240V	100W

OVEN HEATING ELEMENT		
COMPONENTS	INPUT	WATTAGE
BROIL HEATER	240V	4200W
BAKE HEATER	240V	3000W
CONVECTION HEATER	240V	1300W

SAMSUNG

GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
Europe, CIS, Mideast & Africa	gspn1.samsungcsportal.com
Asia	gspn2.samsungcsportal.com
North & Latin America	gspn3.samsungcsportal.com
China	china.samsungportal.com