NE58K9560 series training

K&C RND GROUP

Agenda

General Specification

New Appearance Design

- VIRTUAL FLAME
- DUAL TRUE CONVECTION
- WI-FI
- VFD DISPLAY
- INDUCTION RANGE

Specification

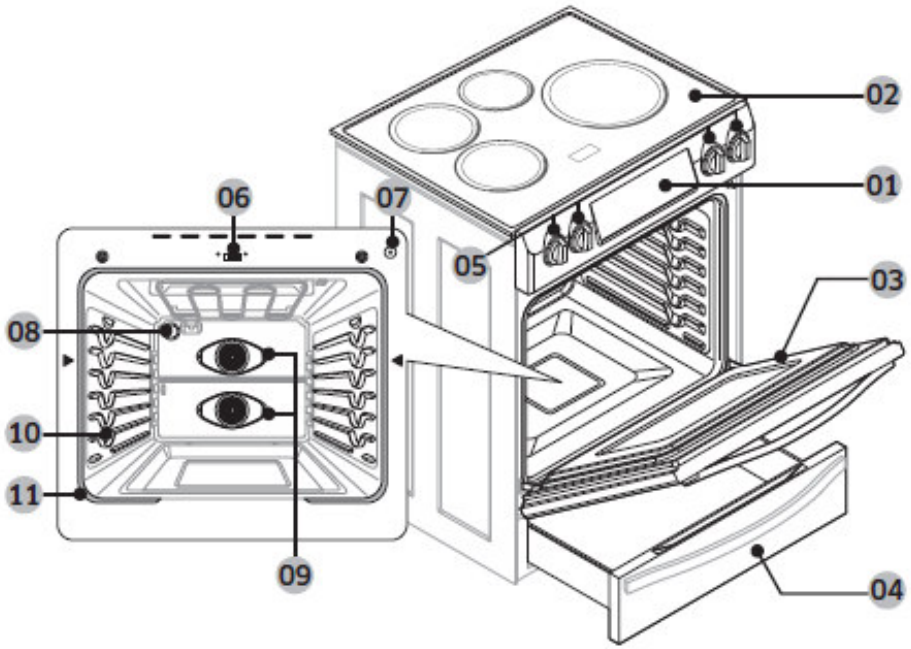
Model		Basic(NE58H9970WS)	New(NE58K9560WS)
Category		Convection	Convection
Overall	Width	30”	30”
	Installation type	Slide in	Slide in
	Color availability	STS	STS
Control	Oven	Touch	Touch
	Cook top	Knob	Knob
	Display	VFD	LED
	Electronic clock	Yes	Yes
	Control lock capability	Yes	Yes
	Audible preheat signal	Yes	Yes
Cook top	Material	Ceramic glass	Ceramic glass
	# of element	4	4
Power	LR	7"-1,800/2,300W	7"-1,800/2,300W
	RR	6" - 1,200/2,000W	6" - 1,200/2,000W
	CR	-	-
	LF	7"-1,800/2,300W	7"-1,800/2,300W
	RF	11"-2,400/3,300W	11"-2,400/3,300W

Specification

Model		Basic(NE58H9970WS)	New(NE58K9560WS)
Oven	Capacity(cu.ft)	5.8	5.8
	Broil element	4,200 watts	4,200 watts
	Bake element	3,000 watts	3,000 watts
	Convection system	Yes	Yes
	Convection element	Yes(1,250W/240V)	Yes(1,250W/240V)
	# of Racks	3	3
	Interior oven light	120V,40 watts	120V,40 watts
	Cleaning	Pyrolytic & Steam	Pyrolytic & Steam
Drawer	Type	Warming drawer	Warming drawer
	Element	600 watts	600 watts
	Warming rack	No	No
Dimensions (inch)	Oven interior (W x H x D)	25 x 21 8/1 x 19	25 x 21 8/1 x 19
	Exterior - Width	31 (Cook top) : 787mm 29 4/5 (Body) : 757mm	31 (Cook top) : 787mm 29 4/5 (Body) : 757mm
	Exterior - Height	36 (cook top) : 913mm	36 (cook top) : 913mm
	Exterior - Depth	26 3/10 (Door), : 667.7mm 28 3/5 (with handle) : 727.7mm	26 3/10 (Door), : 667.7mm 28 3/5 (with handle) : 727.7mm
	Net weight : Kg	105Kg	100Kg
Power	Rating(240V 60Hz)	Range : 6,300W Cook top : 7,100W	Range : 5,200W Cook top : 7,100W

Features & Accessories

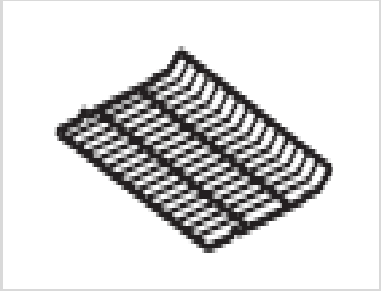
Oven Features



01	Oven control panel (See page 29 for more information)	**02**	Glass surface	**03**	Oven door
04	Warming drawer	**05**	Surface control knobs* (See page 21 for more information)	**06**	Self/Steam clean latch
07	Automatic oven light switch	**08**	Oven light*	**09**	Convection fan
10	Shelf position	**11**	Gasket		

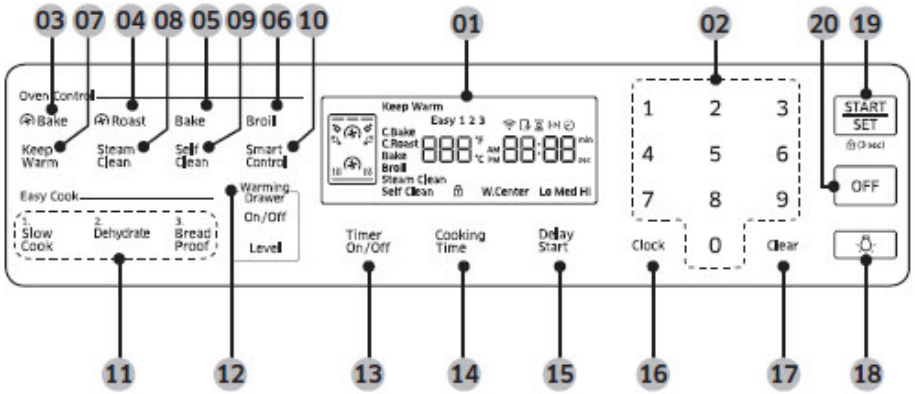
Features & Accessories

★ Accessories

Item	Description	Code No.	Q'ty
	Rack Flat	DG67-00108A	2
	Rack Wire-Bottom	DG75-01056A	1

Functions

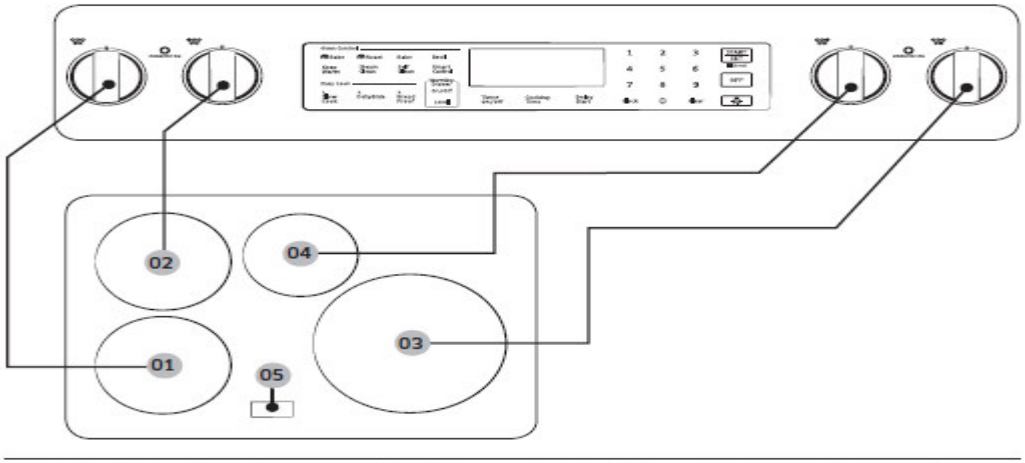
Control Panel - Oven



Common functions

1. **DISPLAY**: Shows the time of day, oven temperature, whether the oven is in the bake, broil or self-cleaning mode, and the time set for the timer or automatic oven operations.
   - : When you use the self-cleaning feature, this icon appears in the display.
   - : When you use the steam cleaning feature, this icon appears in the display.
   - : When the oven is pre-heating, this icon appears in the display.
2. **NUMBER PAD:** Use to set any function requiring numbers such as the time of day on the clock, the timer, the oven temperature, the start time, and length of operation for timed baking.
3. **CONVECTION BAKE:** Use to select the Convection bake function of the oven.
4. **CONVECTION ROAST:** Use to select the Convection roast function of the oven.
5. **BAKE:** Use to select the bake function of the oven.
6. **BROIL:** Use to select the broil function of the oven.
7. **KEEP WARM:** Use to select the keep warm function of the oven to keep cooked foods warm.
8. **STEAM CLEAN:** Use to select the steam cleaning function of the oven.
9. **SELF CLEAN:** Use to select the Self-cleaning function of the oven.
10. **SMART CONTROL**: Use to select the smart control feature.
11. **EASY COOK:** Use to recall the easy cook recipe setting of the oven.
12. **WARMING DRAWER**: Use to set warming drawer function of the oven.
13. **TIMER ON/OFF:** Use to set or cancel the minute timer. The minute timer does not start or stop cooking.
14. **COOKING TIME:** Press, and then use the number pad to set the amount of time you want your food to cook. The oven will shut off when the cooking time has run out.
15. **DELAY START:** Press to set the oven to start and stop automatically at a time you set. (Bake, Conv.bake/Roast, Cooking Time, and self clean only.)
16. **CLOCK:** Use to set the time of day.
17. **CLEAR**: Use to cancel previously entered temperature or times.
18. **LAMP:** Press to turn the oven light on or off.
19. **START/SET:** Press to start any cooking or cleaning function in the oven.
20. **OFF:** Press to cancel all oven operations except the clock and timer.

Control Panel - Surface cooking



01 Left Front: 7", 1,800 / 2,300 W
02 Left Rear: 7", 1,800 / 2,300 W
03 Right Front: 11", 2,300 / 3,300 W
04 Right Rear: 6", 1,200 W
05 Digital display

Digital Display

P Power Boost : Use this setting to heat up the contents of a pot or pan faster than the maximum power level '9' (Hi).

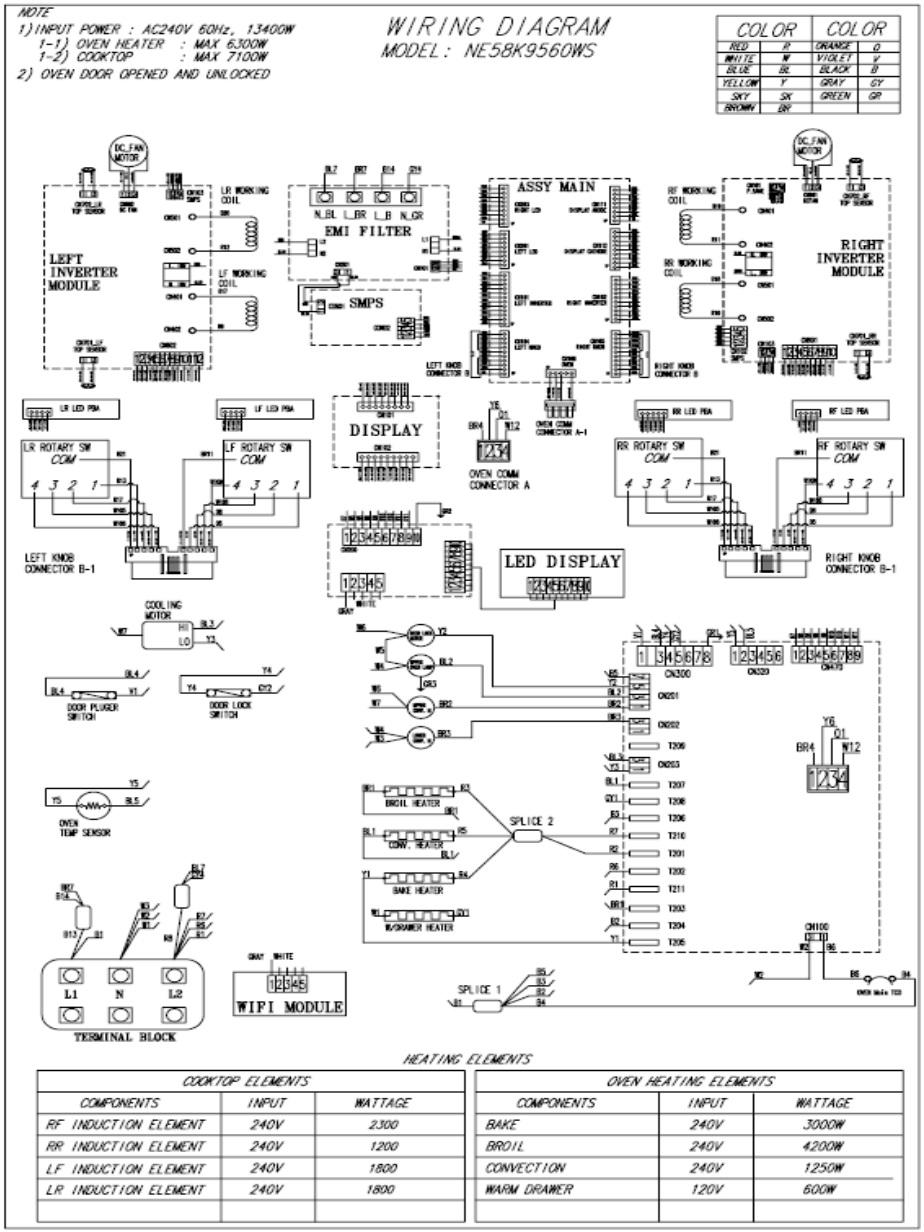
-- Displayed if an element knob was accidently set to an On position when the range was in Sabbath or Self-clean mode, and the Sabbath or Self-clean mode has ended or been cancelled. To return the display to normal and use the cooktop, turn the knob to the Off position.

C1 Error message. Displayed if the induction cooktop has overheated because of abnormal operation.
Example : Operating with empty cookware

U Error message. Displayed if the cookware on an element is unsuitable or too small or no cookware has been placed on the cooking zoon.

Sb, SC Displayed when the Sabbath or Self clean mode is operation.

Wiring Diagram



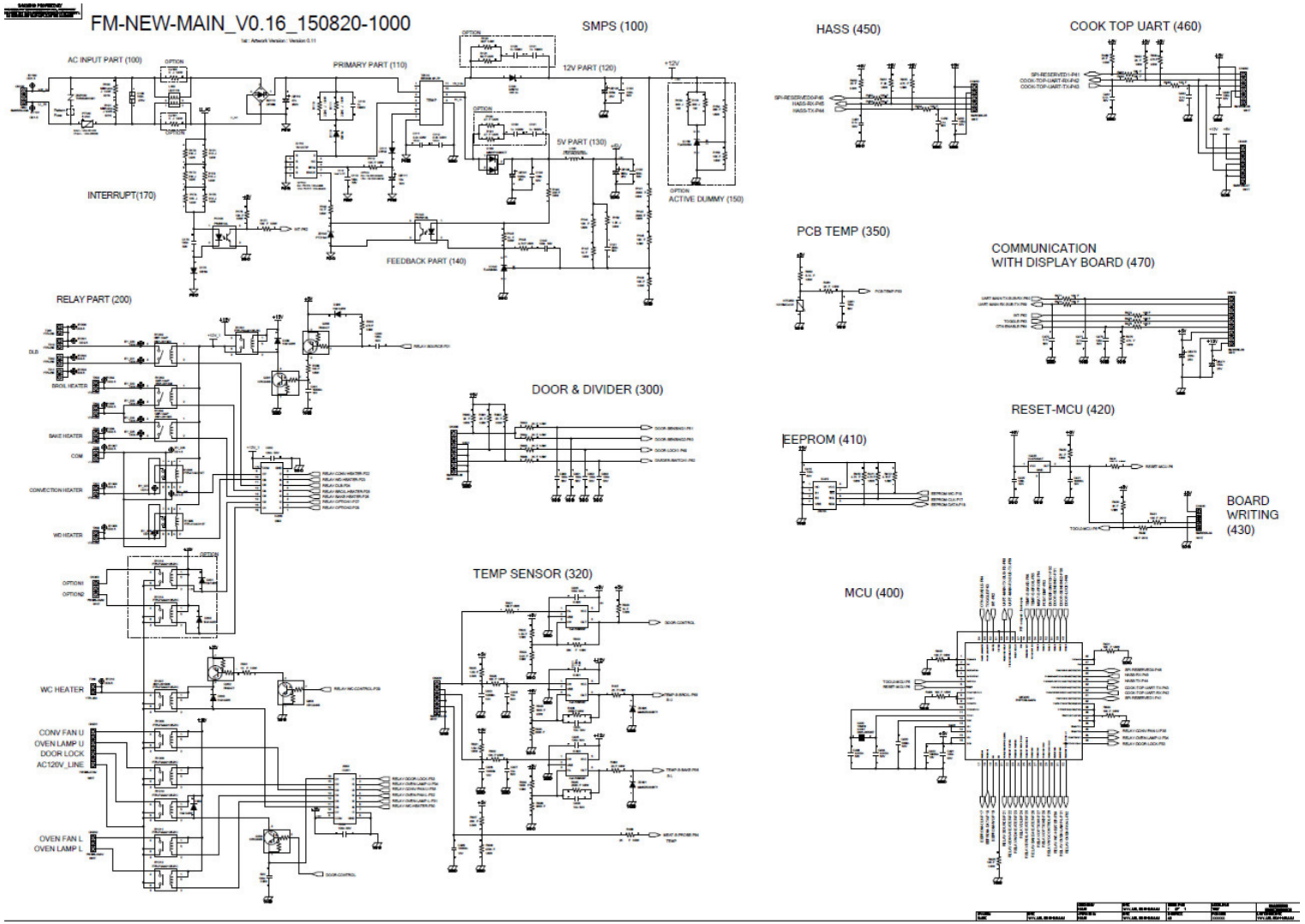
HEATING ELEMENTS

COOKTOP ELEMENTS		
COMPONENTS	INPUT	WATTAGE
RF INDUCTION ELEMENT	240V	2300
RR INDUCTION ELEMENT	240V	1200
LF INDUCTION ELEMENT	240V	1800
LR INDUCTION ELEMENT	240V	1800

OVEN HEATING ELEMENTS		
COMPONENTS	INPUT	WATTAGE
BAKE	240V	3000W
BROIL	240V	4200W
CONVECTION	240V	1250W
WARM DRAWER	120V	600W

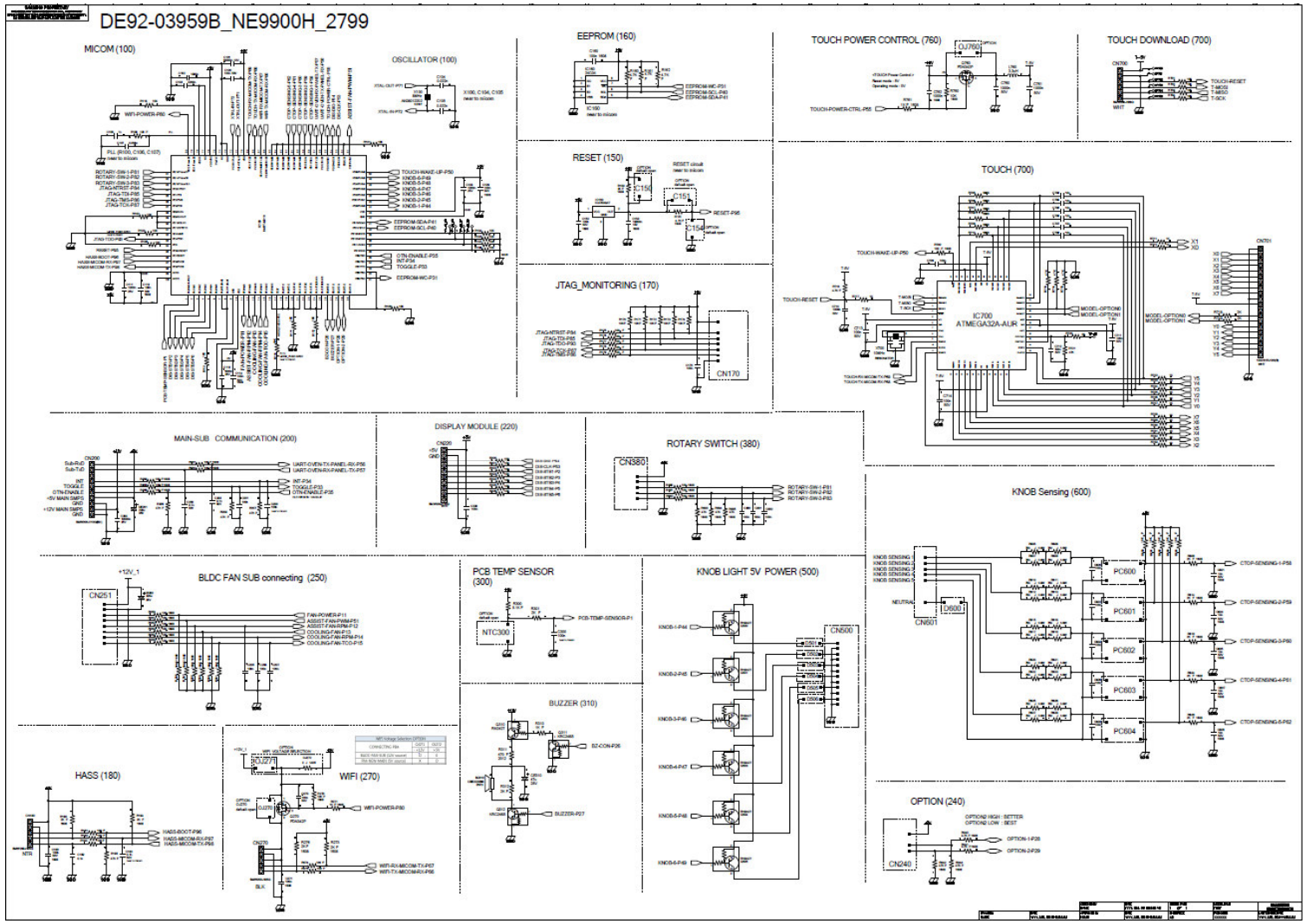
2799

Schematic



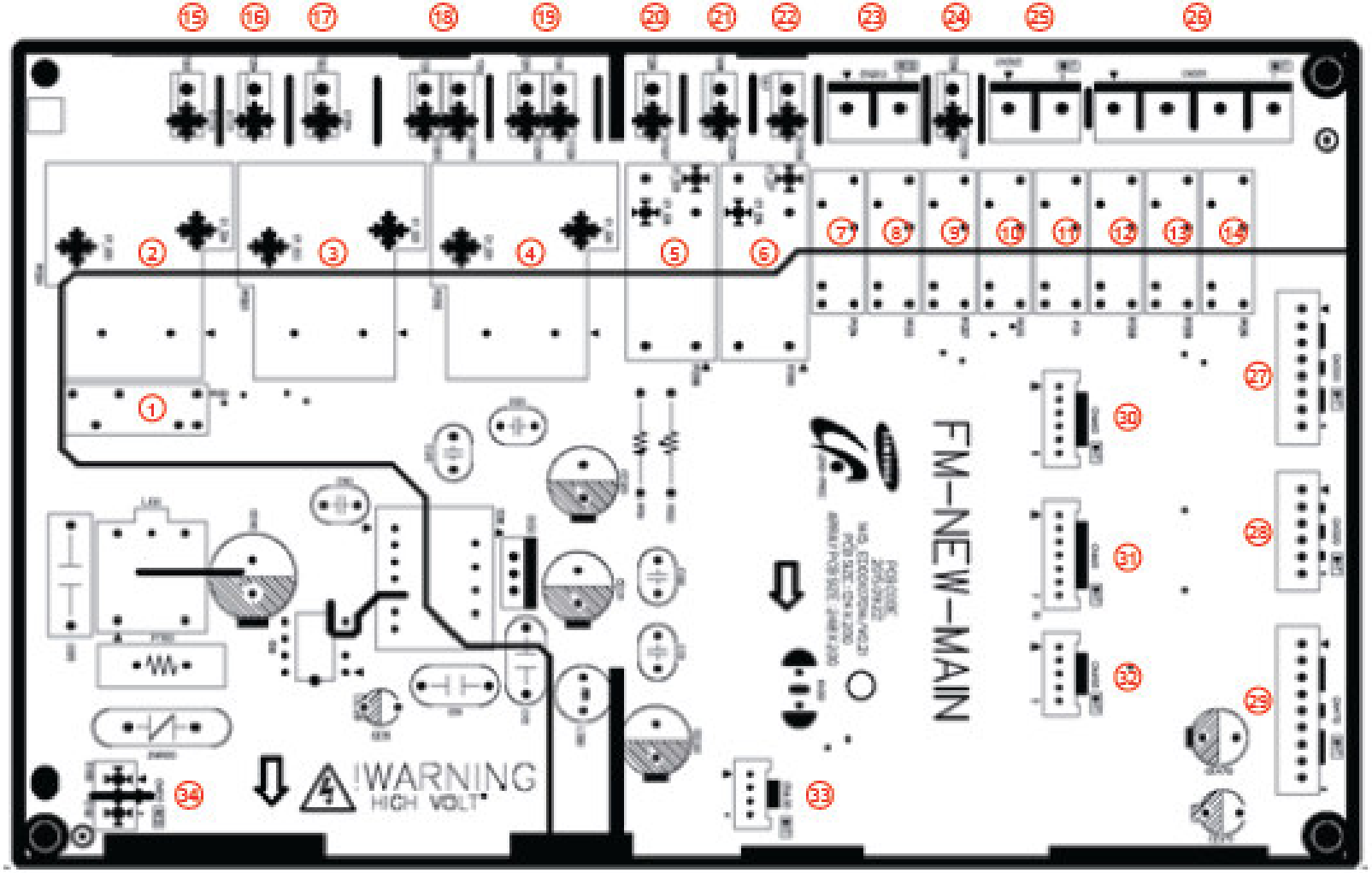
circuit

Schematic



SLIDE IN SUB

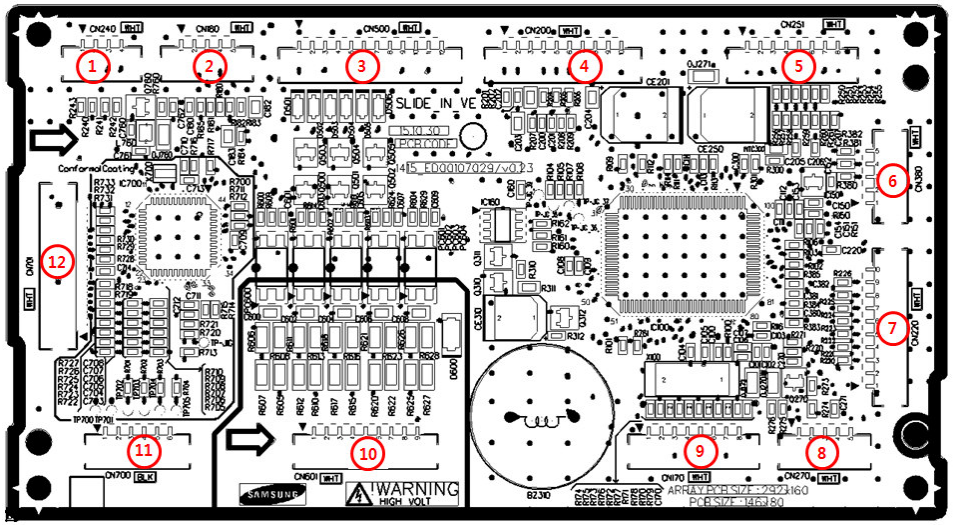
Schematic



Schematic

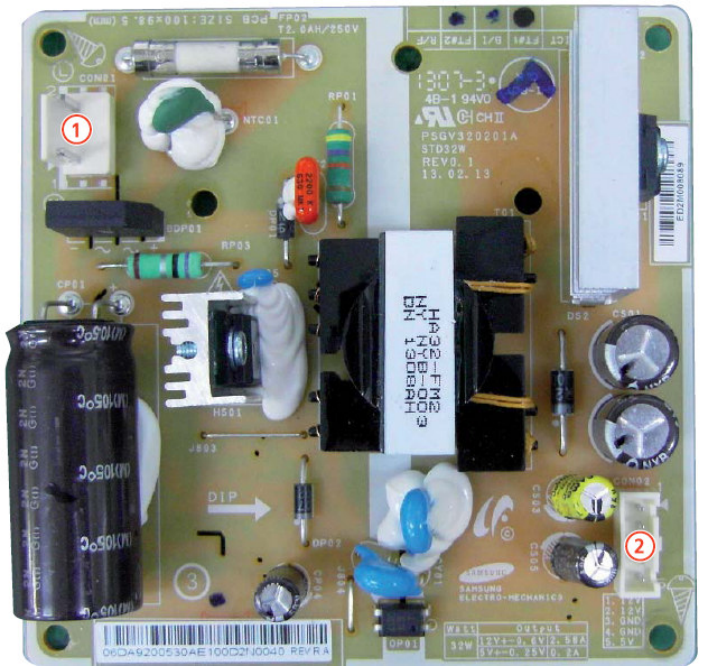
1	RY201	RY-Source Relay	This is relay which control source of DLB, BAKE, BROIL, W/Drawer relay
2	RY204	Bake-Heater Relay	"Broil relay(Ry203), Bake relay(Ry204), convection relay(Ry205) will be on-off working by mi-com signal after DLB relay is worked. (Broil relay : It will not be problem with reversing the order in inserting Brown) (Bake relay : It will not be problem with reversing the order in inserting Blue)
3	RY203	Broil-Heater Relay	"Broil relay(Ry203), Bake relay(Ry204), convection relay(Ry205) will be on-off working by mi-com signal after DLB relay is worked. (Broil relay : It will not be problem with reversing the order in inserting Brown) (Bake relay : It will not be problem with reversing the order in inserting Blue)
4	RY202	DLB Relay	Circuit is designed to have broil relay or convection relay worked after DLB relay is being worked by Double line break. (It will not be problem with reversing the order in inserting Red)
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) will be on-off working by mi-com signal after DLB relay is worked. (Broil relay : It will not be problem with reversing the order in inserting Brown) (Bake relay : It will not be problem with reversing the order in inserting Blue)
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	RY207	WC-Heater Relay	This is Relay to control Warming Centor-Heater.
10	RY212	Oven-Lamp-L Relay	This is relay which is connected with Oven-Lamp-Low.
11	RY211	Oven-Fan-L Relay	This is relay which is connected with Oven-Fan-Low.
12	RY208	Conv-Fan-U Relay	This is relay which is connected with Conv. Fan.
13	RY209	Conv-Lamp-U Relay	This is relay which is connected with Conv-Lamp-Upper
14	RY210	Door Lock Relay	This is relay which is connected with door lock motor.
15	T205	Bake Terminal	This is terminal to connect harness with Bake relay.
16	T204	Broil Terminal	This is terminal to connect harness with Broil relay.
17	T203		
18	T211	DLB Terminal	This is terminal to connect harness with DLB relay.
	T202		
19	T201		
	T210		
20	T206	Convection-Heater Terminal	This is terminal to connect harness with convection-heater relay.
22	T207		
21	T208	WD-Heater Terminal	This is terminal to connect harness with relay to get heater on warming drawer work.
23	CN203	spare connector	This is for spare relays (RY213, RY214). (This connector is connected with Cooling fan in this model.)
24	T209	WC-Heater Terminal	This is terminal to connect harness with relay to get heater on warming centor work.
25	CN202	Relay Connector	OVEN FAN L, OVEN LAMP L
26	CN201	Relay Connector	CONV FAN U, OVEN LAMP U, DOOR LOCK, AC120V_LINE
27	CN300	Door Lock, Divider Connector	This is connector which is connected with Door plunge switch and Door lock switch, divider switch.
28	CN320	Oven Sensing Connector	This connector which is connected with oven sensor.
29	CN470	Sub Communication Connector	This is connector which is connected with Sub PCB to communicate.
30	CN460	COOK TOP UART	(For ELEC OVEN) This is to connect Cook-Top to FM-NEW-MAIN PBA.
31	CN461	COOK TOP UART	(For GAS OVEN) This is to connect BLDC-FAN-SUB PBA to FM-NEW-MAIN PBA.
32	CN450	HASS	This is to connect HASS.
33	CN430	On Board Writing Connector	When do micom revision, connect to micom writer. And this connector which is connected with Touch PCB to communicate.
34	CN100	Power Connector	This is to supply power with SMPS.

Schematic



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 Connector	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.

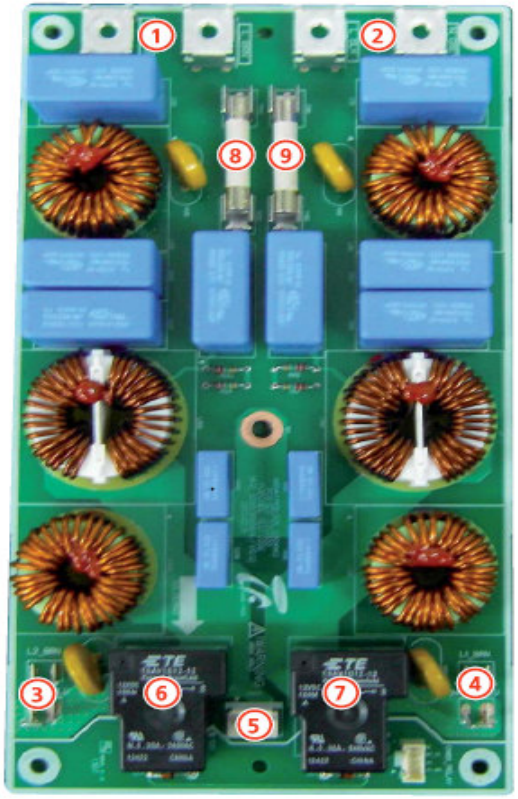
PCB Diagrams (SMPS PCB)



Explanation of the function of primary parts.

NO.	Parts Number	Part Name	Function and Role
1	CON01	AC Input connector	AC Voltage input of SMPS PCB
2	CON02	DC Output connector	DC 12V, 5V supply to other PCB

PCB Diagrams (Filter PCB)



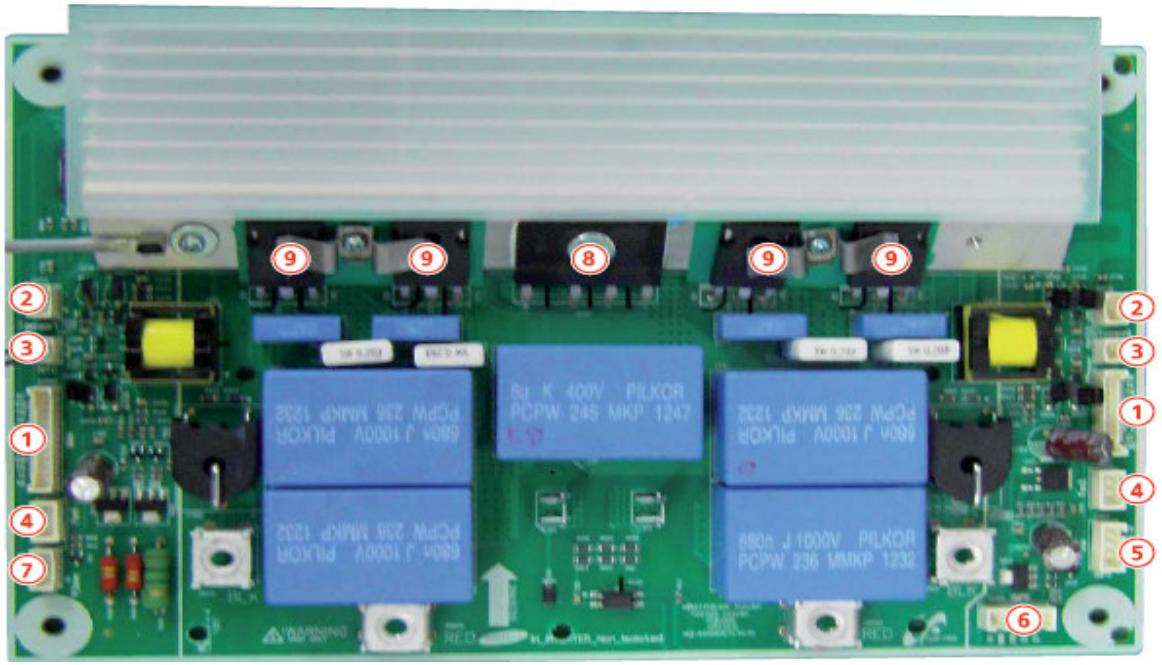
Explanation of the function of primary parts.

NO.	Parts Number	Part Name	Function and Role
1	L_BRN, N_SKYBLU	AC Input connector	AC Input connector for Left line of Filter PCB
2	L_BLK, N_GREY	AC Input connector	AC Input connector for Right line of Filter PCB
3	L2_BRN, N2_SKYBLU	AC Input connector	AC Output connector for Left side Inverter PCB

Schematic

NO.	Parts Number	Part Name	Function and Role
4	L1_BRN, N1_SKYBLU	AC Input connector	AC Output connector for Right side Inverter PCB
5	CN201	AC Input connector	AC Output connector for SMPS PCB
6	RY 201	Main Relay	Relay for Left side Inverter PCB power source
7	RY101	Main Relay	Relay for Right side Inverter PCB power source
8	-	Main Fuse	Fuse for Left side Inverter PCB power source
9	-	Main Fuse	Fuse for Right side Inverter PCB power source

PCB Diagrams (Inverter PCB)



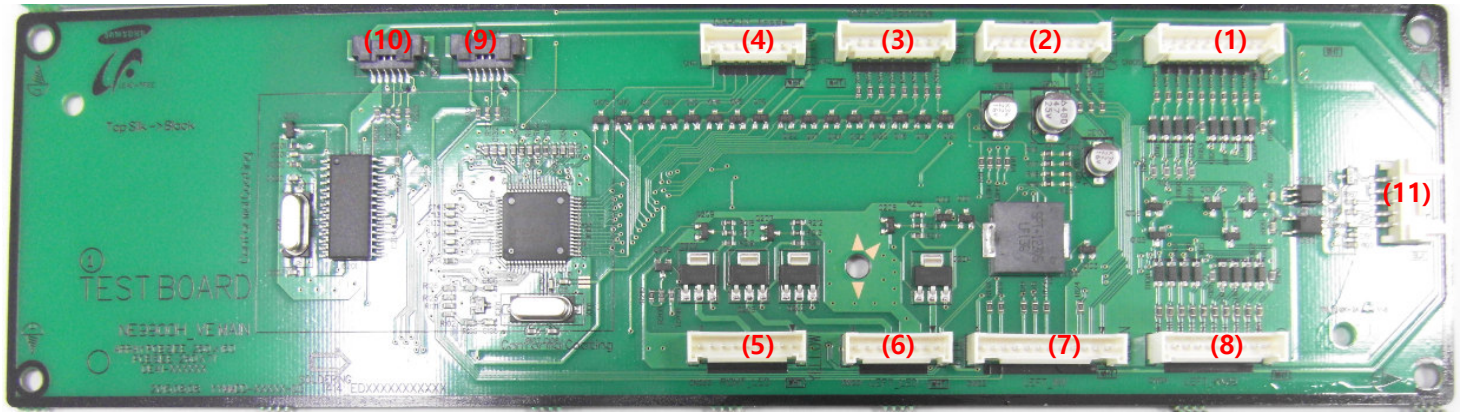
Explanation of the function of primary parts.

NO.	Parts Number	Part Name	Function and Role
1	CN601, CN602	Control PCB wire connector	communication with Control PCB
2	CN701, CN702	Top-Sensor wire connector	Connector Top-Sensor wire
3	CN703,N704	IGBT-Sensor wire connector	Connector IGBT-Sensor wire

PCB Diagrams (Inverter PCB)

NO.	Parts Number	Part Name	Function and Role
4	CN901, CN902	DC Motor wire connector	Connector DC Motor wire
5	CN103	Inverter wire connector	Connector Left Inverter PBA and Right Inverter PBA
6	CN102	SMPS PBA wire connector	Connector SMPS PBA's DC supply voltage
7	CN101	Filter PBA wire connector	Connector Right Inverter PBA and Filter PBA for Main Relay operation
8	BD101	Bridge Diode IC	Full-Bridge rectifier IC
9	Q401, Q402 Q501, Q502	IGBT IC	High frequency switching IC

PCB Diagrams (Main Control)



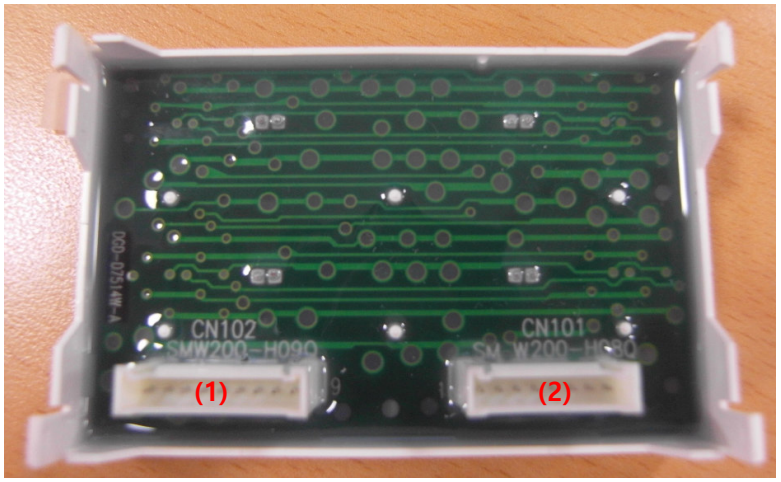
Explanation of the function of primary parts.

NO.	Parts Number	Part Name	Function and Role
1	CN105	Right Knob wire connector	Connect RF, RR burner control knob wire
2	CN101	Right Inverter wire connector	Communication with right inverter PBA
3	CN112	7-segment Cathode wire connector	7-segment(88) display assy led cathode control wire
4	CN111	7-segment Cathode wire connector	7-segment(88) display assy led anode control wire
5	CN203	Right LED wire connector	Connect RF,RR burner control knob wire

Schematic

NO.	Parts Number	Part Name	Function and Role
6	CN201	Left LED wire connector	Connect LF,LR burner control knob wire
7	CN102	Left Inverter wire connector	Connect RF,RR burner control knob wire
8	CN104	Left Knob wire connector	Connect LF,LR burner control knob wire
9	CN103	MCU writing connector	Main MCU writing
10	CN202	LED IC writing connector	LED driver IC writing
11	CN106	Oven wire connector	UART communication with oven

PCB Diagrams (88Segment)



Explanation of the function of primary parts.

NO.	Parts Number	Part Name	Function and Role
1	CN102	7-segment Cathode wire connector	7-segment(88) display assy led cathode control wire
2	CN101	7-segment Anode wire connector	7-segment(88) display assy led anode control wire
3	-	Flim	Scratch proof film (remove before assemble)

Disassembly

Tool for assembly and disassembly

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 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]	

COVER-BACK MAIN WIRE

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.

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 9 screws from the Cover-back main wire.**

PCB MAIN

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
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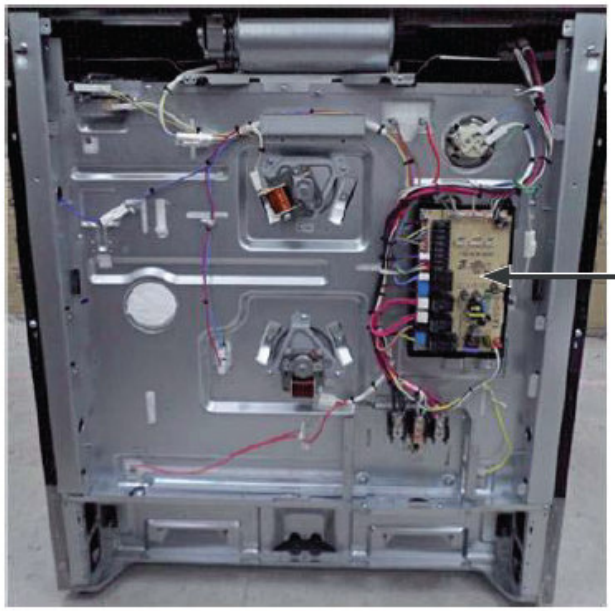

1. Turn off the electrical supply going to the range.
2. Pull the range away from the wall so that you can access the rear panel.
3. Remove cover back main wire.
4. There is 1 PCB on the rear of the range.

SUB PCB

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

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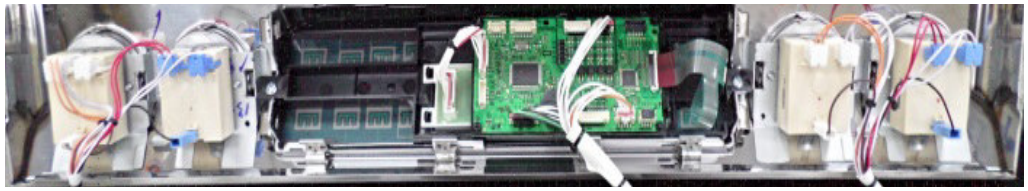
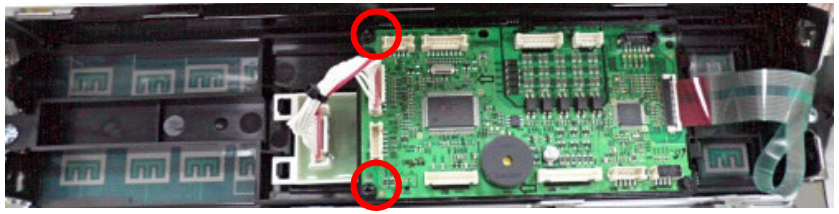
When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.



1. Turn off the electrical supply going to the range.
2. Remove 4 screws under the control box.
3. Remove connector on SUB PCB.



4. Remove 2 screws.

Assy-Cook top

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

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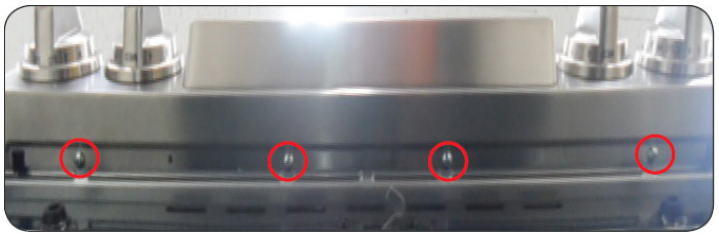
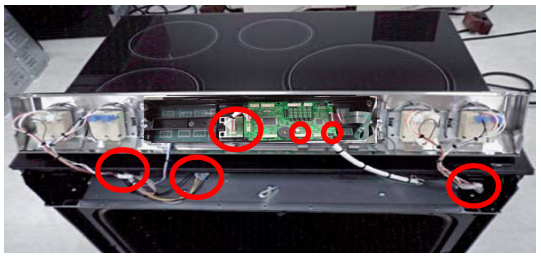
CERAMIC GLASS COOKTOP REMOVAL

1. Unplug the cord or disconnect power
2. Open oven door and remove the 4 screws located at the under control box, then close the door.



3. Disconnect 6 wire harness connectors. Then remove the 2 screws.
4. Be careful to locking, please lift in the direction of the arrow control box.
5. Remove 2 screws at the rear (Right, Left)



6. Remove cover back main wire.

Removing-Cook top

WARNING
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CAUTION
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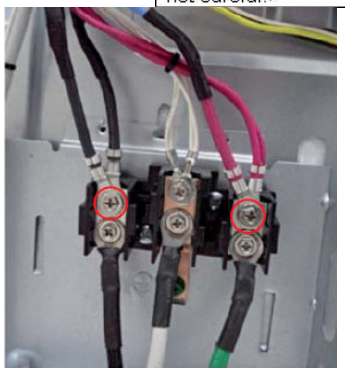
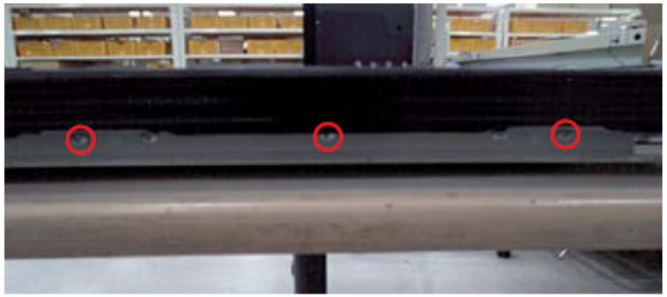
SURFACE ELEMENTS AND CERAMIC GLASS COOKTOP



6. Remove the cover main and cover back guard wire.

7.Slightly lift up.

8.Remove 3 screw both side of Bracket mountain.



Attention

The Ceramic Glass may break if you use force especially on the edge.

REASSEMBLY NOTE

When you reinstall the element make sure that the wires are inserted into the correct tap then reinstall the bracket screw to secure in to the cooktop

Replacement of the Assy Module, Assy- Working Coil

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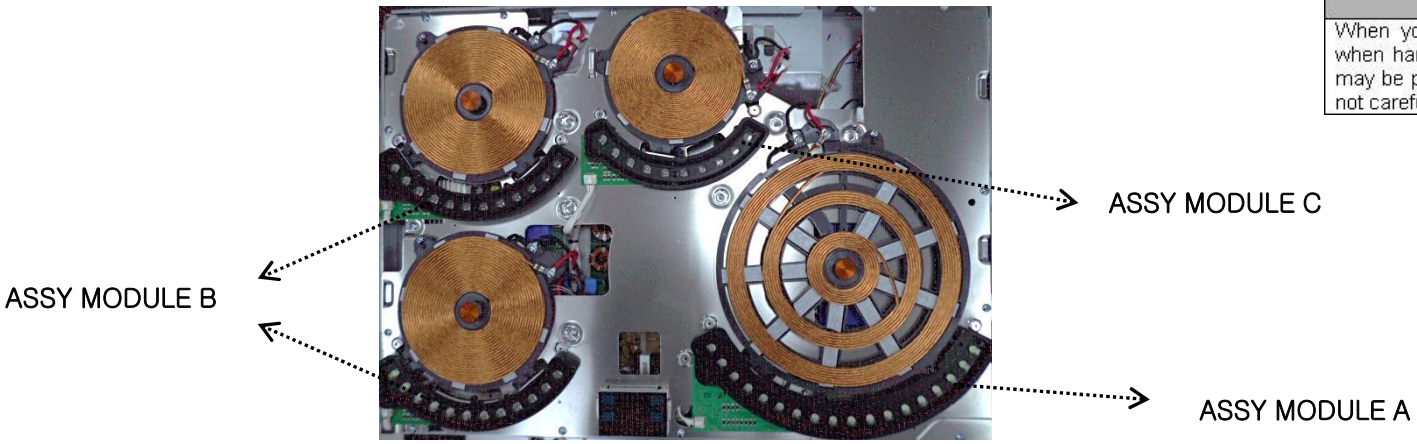
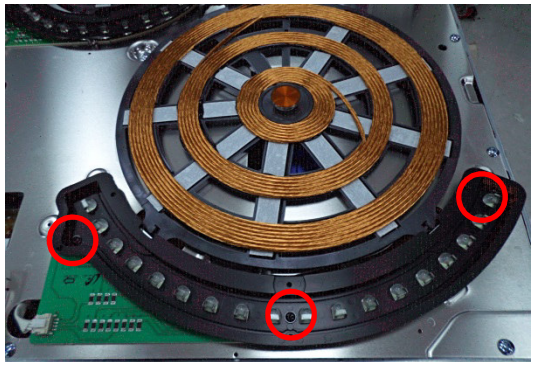
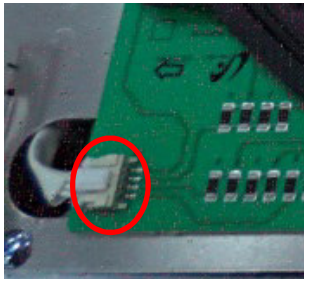
CAUTION
When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.



Assy Module





1. Remove the 3 screws and then disconnect wire located on the LED light PCB.

Replacement of the Assy Module, Assy- Working Coil

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
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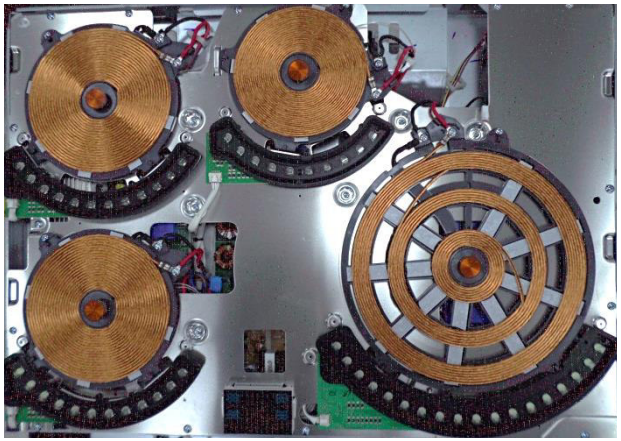
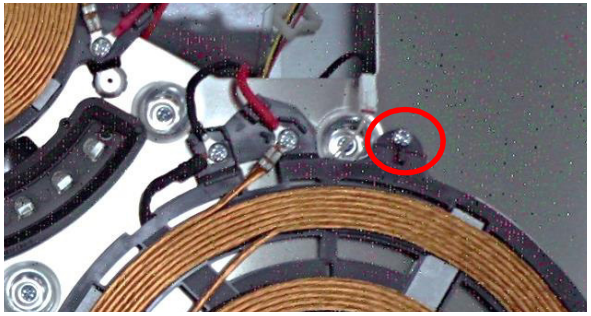


Assy Working Coil



1. Remove the 1 screw to replace Assy-Working Coil.

Replacement of the Assy Module, Assy- Working Coil

WARNING
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CAUTION
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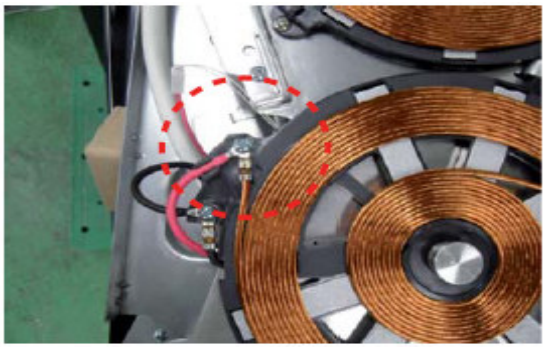
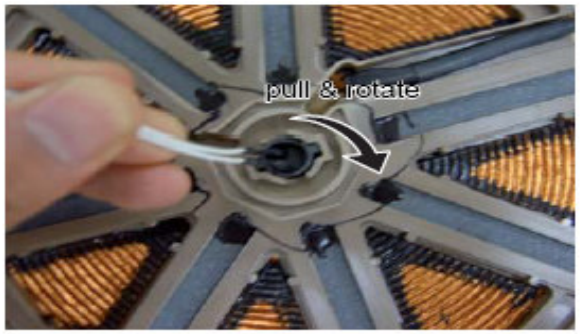
Assy Working Coil



2. Disconnect all lead wires from the Assy-Working Coil.



3. For the replacement of Sensor-Top, pull the Sensor-Top toward bottom side.

4. Rotate the Sensor-Wire by 90degree until the Sensor-Top can be remove from the Coil-Working.

5. After replacement, connect the Sensor-Top and all lead wires.

Warning

Wire connecting position is very improtant.
Please pay attention to the routing of the wires.

Replacement of the Assy-Induction Module

WARNING
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CAUTION
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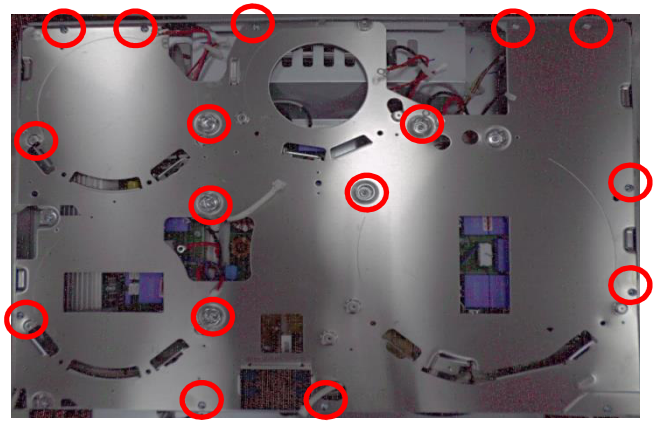
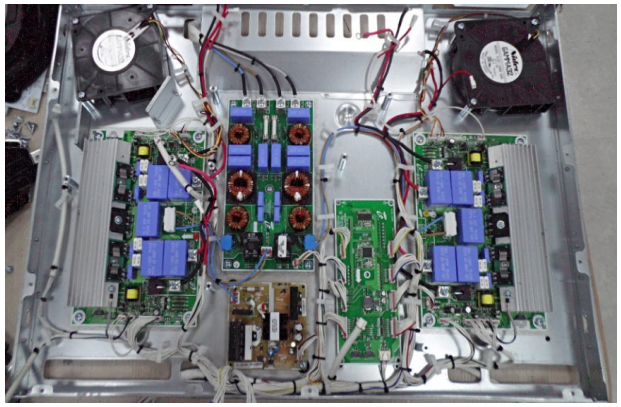
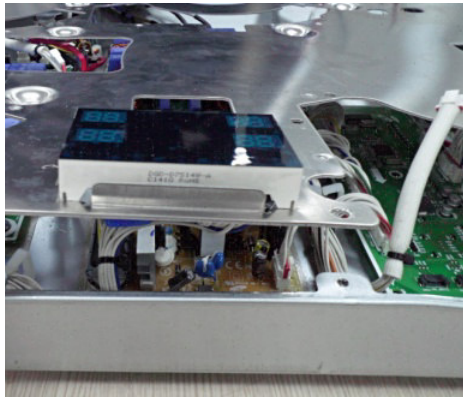
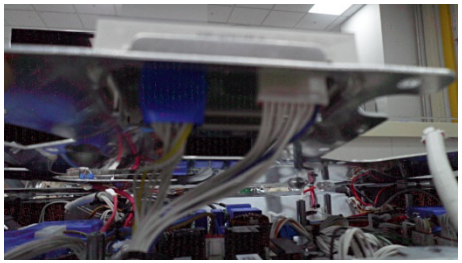
Assy-Induction Module





1. Remove 16 screws on Case-Induction.





2. Lift up the case induction, and disconnect 2 wires On the 88 segment.

Warning

Wire connecting position is very improtant.

Please pay attention to the routing of the wires.

Replacement of the Assy-Induction Module

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
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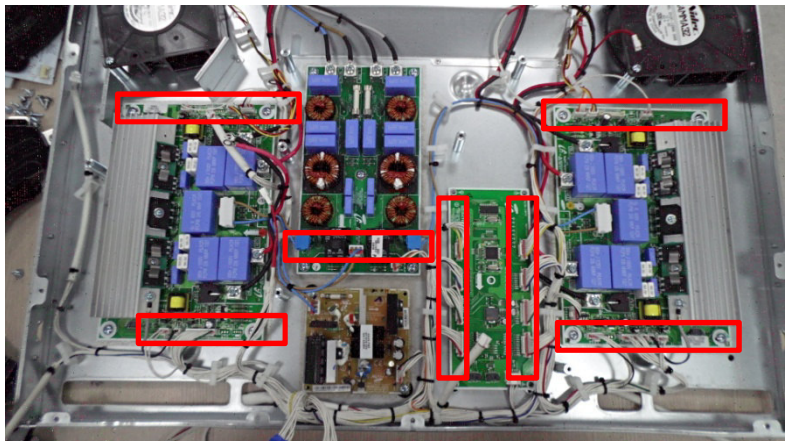
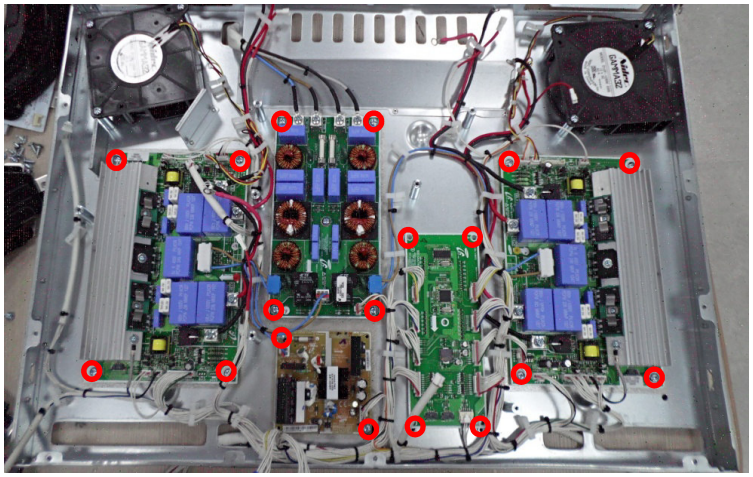
Assy-Induction Module



3. Remove the sub wire of Communication and Inverter.



4. Remove the 18 screws.

5. Lift up PCB

Warning

Wire connecting position is very improtant.

Please pay attention to the routing of the wires.

Replacement of the Assy-Induction Module

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
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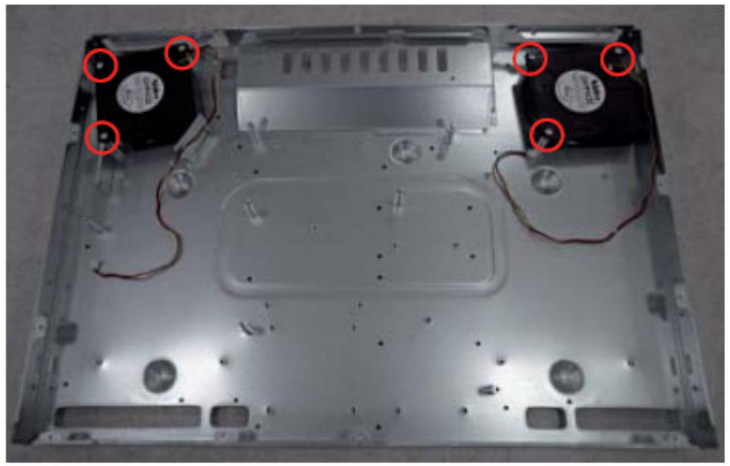
Assy-Induction Module



6. Remove the 6 screws.

7. Lift up Fan motor.

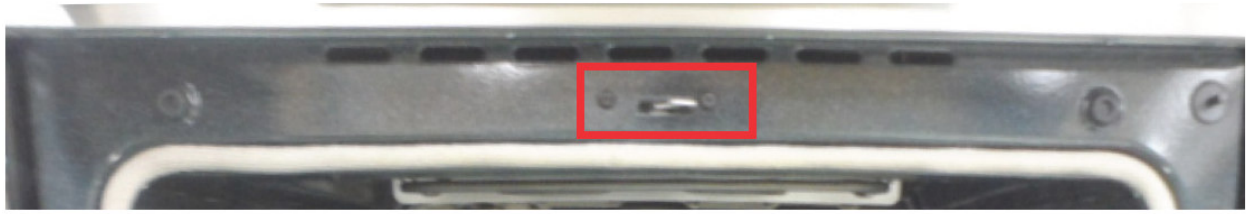
LATCH-DOOR AND SWICH-DOOR PLUNGER

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

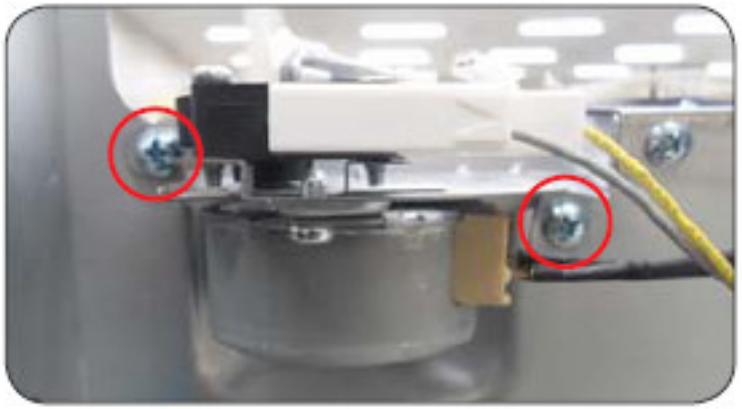
CAUTION
When you work on the electric range, be careful when handling the sheet metal parts. Sharp edges may be present, and you can cut yourself if you are not careful.

1> Turn off the electrical supply going to the range.
2> Open the oven door.
3> Raise the cooktop
4> To remove the door latch:

a) Remove two screws from the front of cavity.



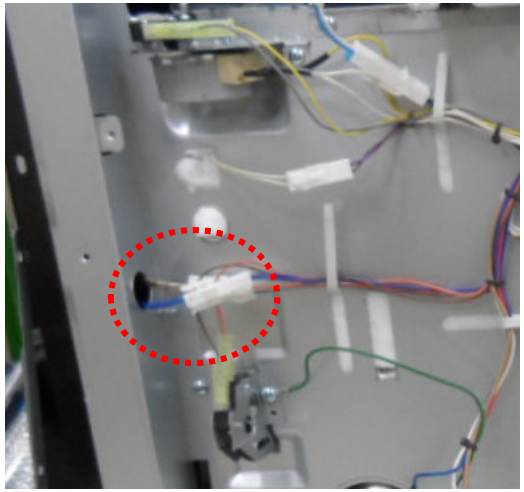
b) Remove two screw from Cover-Back Guard and remove latch-door.

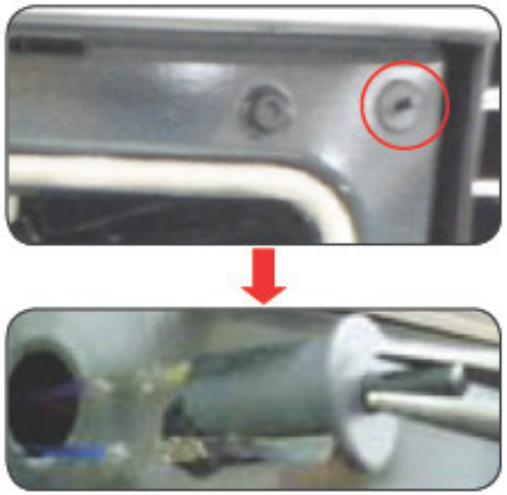


LATCH-DOOR AND SWICH-DOOR PLUNGER

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.





To Remove the Switch-Door Plunger

1> Remove The Cover-Back Guard wire.

2> Release the connector.

3> Remove the Switch –Door Plunger from the range. Take out carefully with shaking up and down by using tool

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
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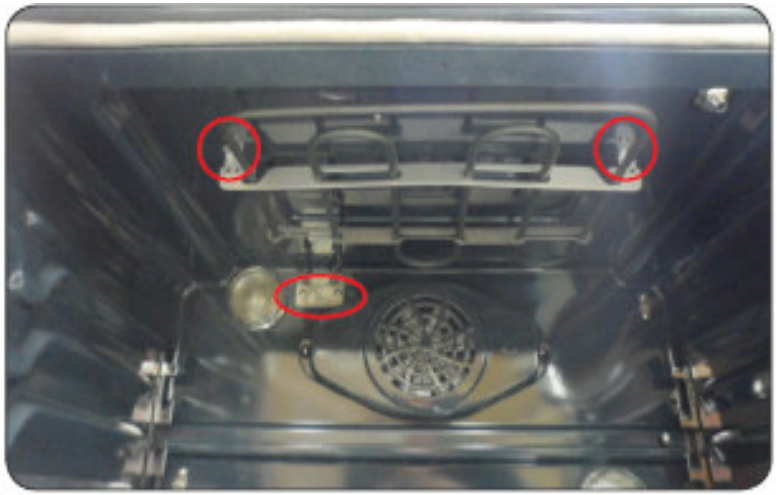
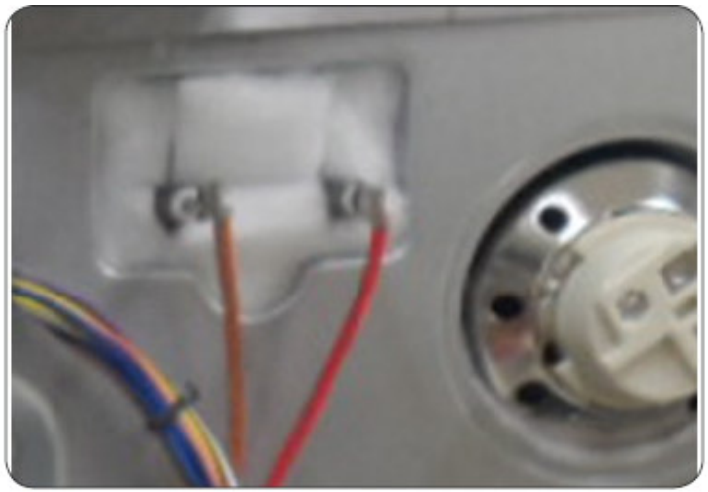




1> Turn off the electrical supply going to the range.

2> Open the oven door and remove the racks from inside the oven.

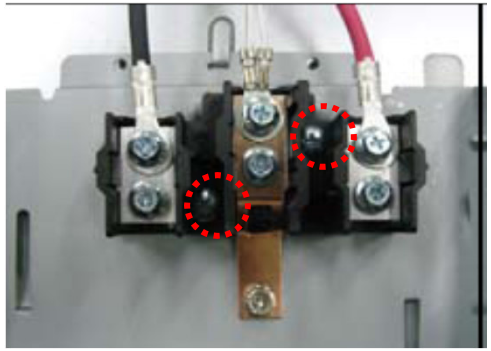
3> Remove oven from its mounting location and remove the rear cover.

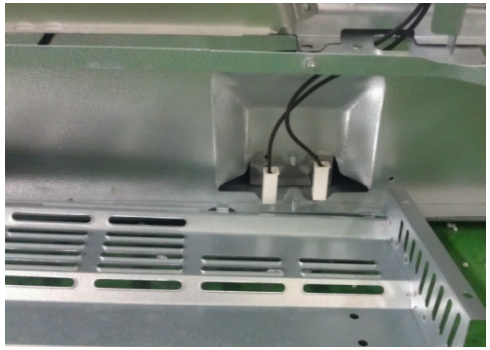
4> Remove the two wires from the broil element.

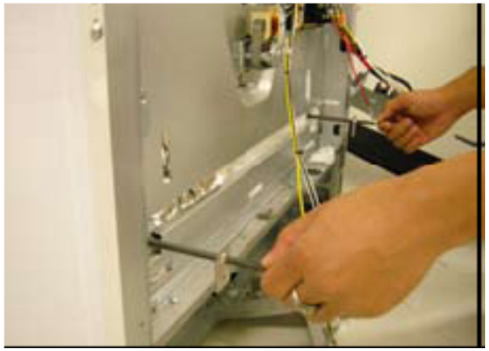
5> Remove the four screws that are securing the broil element to the cavity. Remove the broil element.

Disassembly

HEATER-BAKE





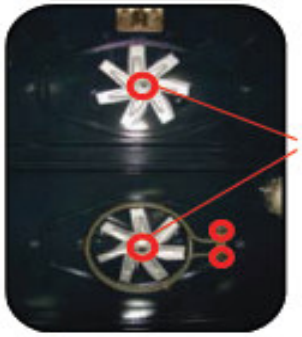


1> Unplug range or disconnect power.
2> Pull the range out of its mounting location so that you can access the rear of the unit.
3> Remove Cover-Back Main Wire.
4> Remove Terminal-Block and Bracket-Cover Access (with Adiabatic-Terminal) by unscrewing the 3 screws.
5> Disconnect the 2 wires form warming drawer heating element.
6> Remove the duct by unscrewing 4 screws.

7> Remove the 2 screws securing the Heater-Bake.
8> Cut the insulation on the lower side.
9> Carefully pull out Heater-Bake and replace it.

Disassembly

CONVECTION ELEMENT



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.

4> Remove oven door.

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.

Lamp

WARNING
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CAUTION
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To replace bulb and bulb cover

1> Disconnect power.

2> Remove oven door.

3> Turn the glass bulb cover in the back of 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 the e socket),
and pull the socket out of the liner. Push the socket out from the back of the unit.

TEMPERATURE SENSOR

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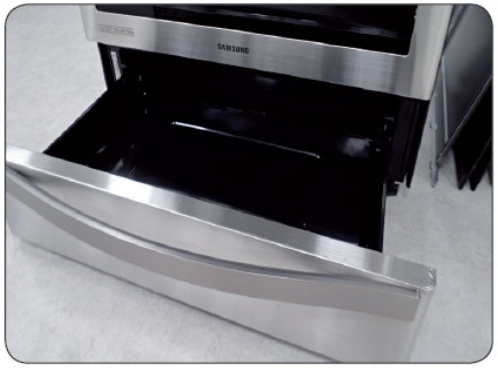
1> Turn off the electrical supply going to the range and remove the oven from its mounting location.
2> Remove oven door and racks from inside the oven.
3> Unscrew Sensor-Thermistor.
4> Remove Cover-Back Main Wire and disconnect a wire from Sensor-Thermistor.
5> Replace the Sensor-Thermistor.

WARMING DRAWER




To remove Assy-Drawer:

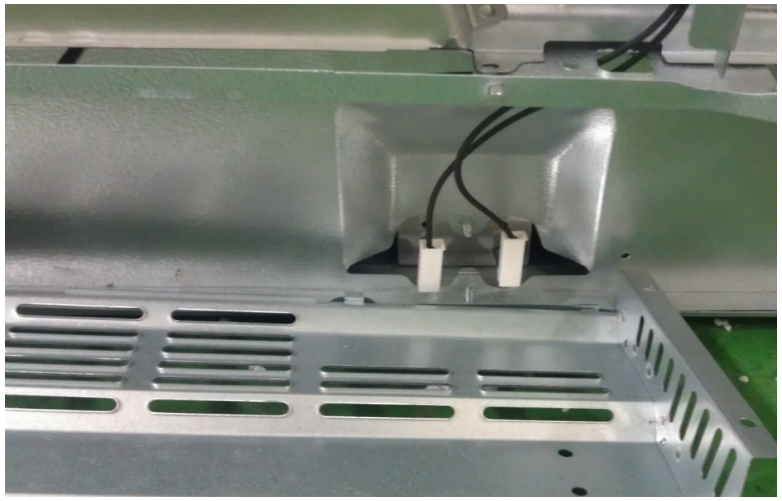
1> CAUTION -Turn power OFF before removing the Warming Drawer.

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 warning drawer.

HEATER - WARMING DRAWER



To remove Heater-Warning Drawer:
1> Remove two screws from Bracket - Warming Heater.
2> Remove Cover-Warming Heater and disconnect 2 wires.
3> Pull out the Heater-Warming Drawer.

OVEN DOOR

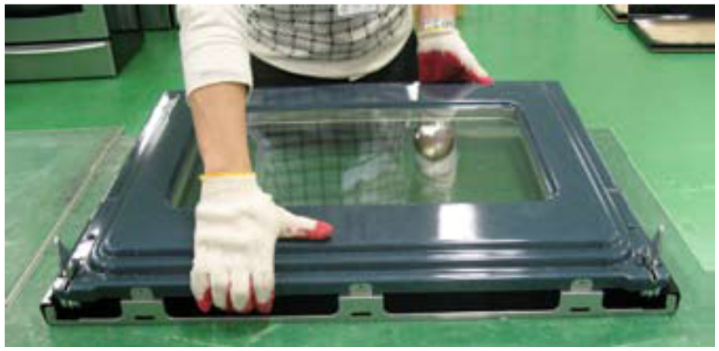

To remove Oven Door:
1> Fully open the door
2> Pull the hinge locks downward
3> Firmly grasp both side of the door at the top.
4> Close door to the door removal position, which is approximately 5 degrees. Lift door up and out until the hinge arm are clear of the slot.



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.

HANDLE-DOOR AND GLASS-INNER

1> Remove the oven door from the range
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.

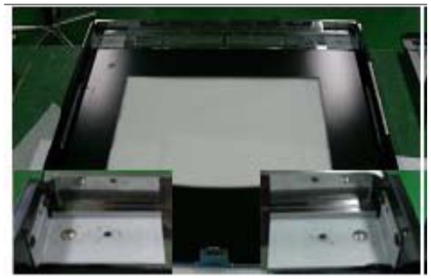


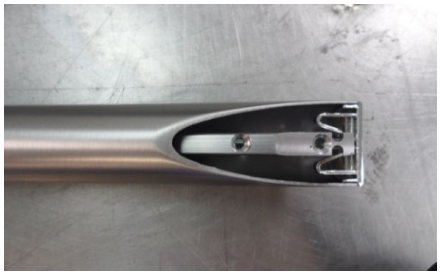
5> Lift the door rear assembly off the front assembly and set it aside

6> Remove 2 spacers and 2 screws.

Disassembly

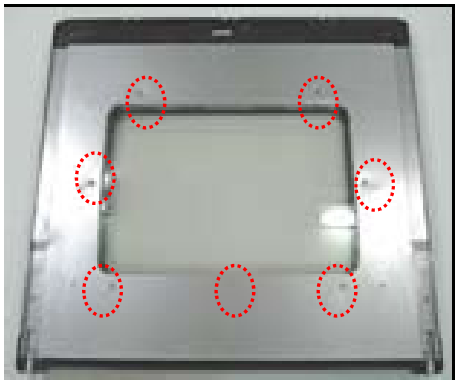
HANDLE-DOOR AND GLASS-INNER





To remove Handle-Door

1> Remove 2 screws to remove Handle- Door



To remove Glass-Inner

1> Remove 6screws from rear side of door to remove 2 Hinge-Door.

2> Remove 4screws next remove Glass-Inner Sub Assembly

3> Remove 7screws next remove Baffle- Door

HANDLE-DOOR AND GLASS-INNER

WARNING
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CAUTION
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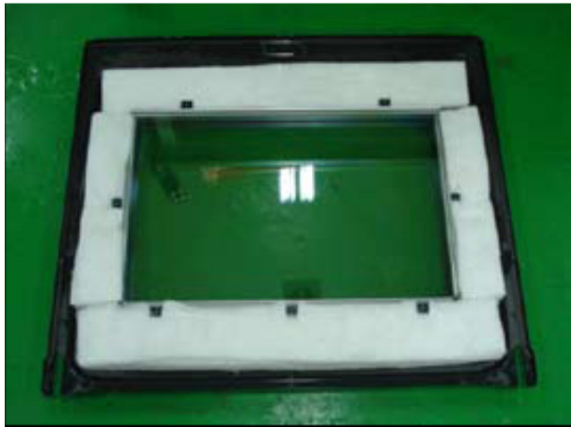
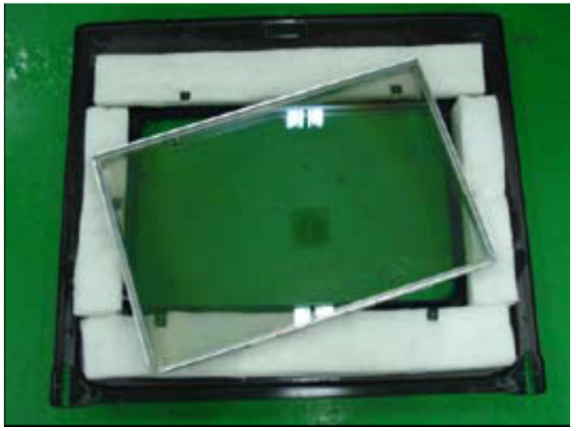
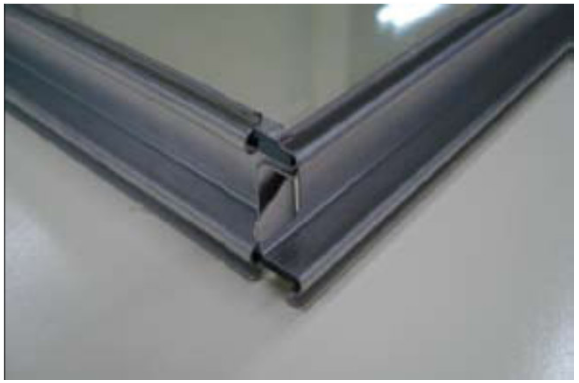
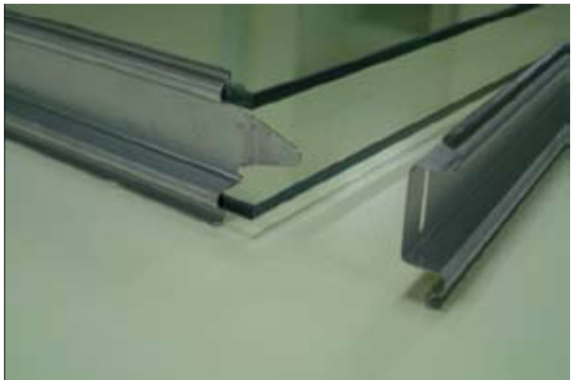




4> Remove Baffle-Door and take out the Glass-Inner assembly.





5> Unfold 2 flanges of Cover-Frame Inner Glass to taking out Glass-Inner

GASKET-DOOR

WARNING
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CAUTION
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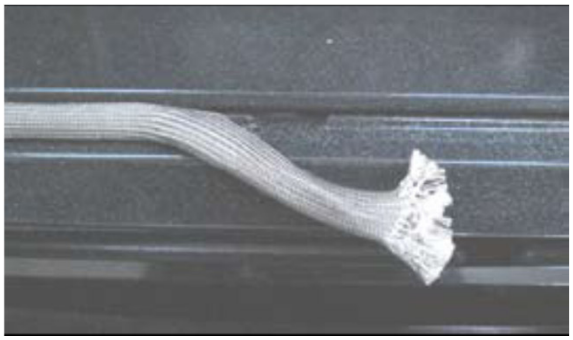

1> Open the oven door to its fully down position.
2> Pull the ends of the gasket out of the liner holes.
3> Pull the oven door gasket clips out of the holes until all of the clips are removed.

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.

PANEL-SIDE

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.

1> Turn off the electrical supply.
2> Remove the oven door from the range
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.
5> Remove the (each) 3screws from the top the Panel-Side.
6> Pull the back of the side panel out from the range approximately 10˚
7> Push forward and remove Panel-Side.

Wi-Fi module

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
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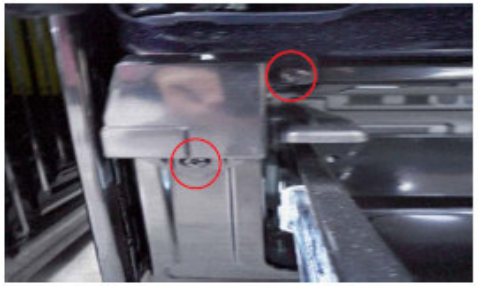
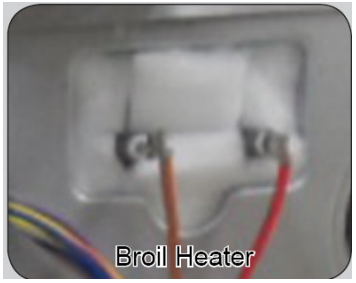


1> Turn off the electrical supply.
2> Remove the drawer from the range.
3> Remove the 2 screws from the drawer pedestal front and take off holder Wi-Fi.

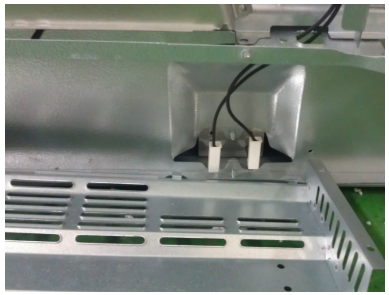
4> Remove the cover Wi-Fi (rubber).
5> Tilt the hook on the holder and take off Wi-Fi module.

6> Remove connector on Wi-Fi module.

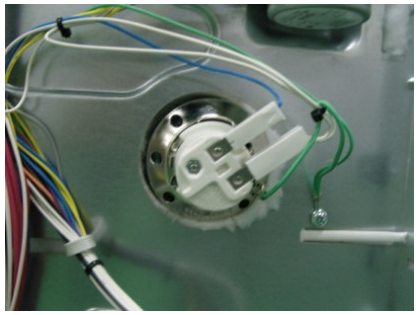
Parts Checking Method

FIGURE	TESTS MEASURE	RESULTS
 < Broil Heater >	* Measure resistance values of heater's terminal after taking off harness from heater. * Measure voltage of heater's terminal after making oven work by pressing broil keypad.	* Approx : 12 ~ 14Ω (at the room temperature) * Terminal voltage of Broil heater : AC 240V * Replace or repair harness
  < Bake Heater >	* Measure resistance values of heater's terminal after taking off harness from heater. * 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 : 17 ~ 19Ω (at the room temperature) * Terminal voltage of bake heater : AC 240V * Replace or repair harness

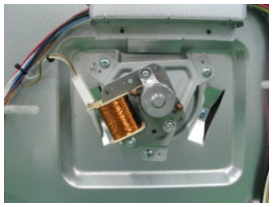
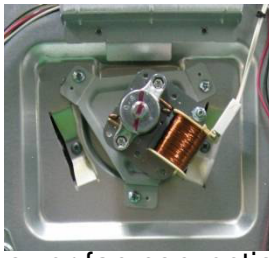
Parts Checking Method

FIGURE	TESTS MEASURE	RESULTS
 < Convection Heater >	* Measure the resistance values of heater's terminal after taking off harness from heater. * Measure the 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 : 70 ~ 73Ω(at the room temperature) * Terminal voltage of convection heater : AC 240V * Replace or repair harness * Replace or repair Assy Display
 < Drawer Heater >	* Measure the resistance of values of heater, after taking off harness from heater. * Measure the terminal voltage of heater after making oven work by pressing warming drawer keypad.	* Approx : 22 ~ 25Ω (at the room temperature) * Terminal voltage of Drawer heater : AC 120V * Replace or repair harness * Replace or repair Assy Display

Parts Checking Method

FIGURE	TESTS MEASURE	RESULTS
 < Oven lamp >	* First of all, make sure that lamp filament is disconnected or not. * Measure resistance socket's terminal after separating harness from heater and removing lamp. * Measure the voltage of socket's terminal after having lamp worked by pressing oven light keypad.	* Approx : Ω * Terminal voltage of lamp socket : 120V * Replace or repair harness. * Replace or repair main PCB
 < Door Lock >	* Measure the state of micro switch and motor after taking off harness from the heater. * 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 * Micro switch COM-NO * Replace or repair if harness has been loosen or disconnected.

Parts Checking Method

FIGURE	TESTS MEASURE	RESULTS
 < Upper fan-convection >  < Lower fan-convection >	* Measure resistance value of Motor terminal after taking off harness from Motor. * 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 * Convection Fan : 20 ~ 30Ω * Terminal Voltage of Convection Fan : 120V * Replace or repair harness * Replace or repair main PCB.

Parts Checking Method

FIGURE	TESTS MEASURE	RESULTS
 < Oven sensor>	*Check whether the resistance values of oven sensor is same with a chart's one . * Check whether wire or housing has been loosen or disconnected .	Approx * at the room temperature :1080Ω .
 <Door Plunger Switch>	*Check the state of working of switch . *Make sure whether wire, housing and terminal is connected with switch has been damaged or not .	Normal open : 0Ω Normal close : ∞Ω * Replace or repair if wire or terminal has been damaged .

Parts Checking Method

FIGURE	TESTS MEASURE	RESULTS
 < Sensor-Top>	* Check whether the resistance values of sensor are correct. * Check whether wire or housing has been loosen or disconnected.	Approx at the room temperature : 7.65KΩ ~ 9.34KΩ
 < Coil -Working>	* Check whether the resistance values are correct.	Approx at the room temperature : 0.01Ω ~ 1Ω

Failure Display Codes

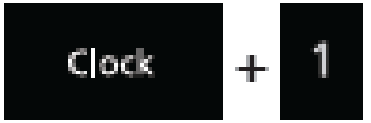
There is a check code. Possible check codes during use can be checked before service.

1. Touch ‘Clock’ key.

2. Touch a number ‘1,2,3,4’ keys.

3. Touch ‘START/SET’ key.

4. Touch ‘ Clock’ and ‘Num 1’ keys at the same time for 3 seconds. Check codes are displayed.



5. Touch number ‘0’ key, the last 5 check codes can be checked.

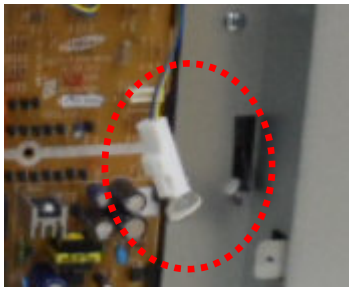
   But, if the oven turns off, the stored check codes are deleted.

6. Touch ‘OFF’ key to return to normal display mode.

Sensor

Failure code	CAUSE	SOLUTION
C-20	Oven sensor opened	1. Check whether connector at the main PCB has been inserted. 2. Check whether connector at the sensor has been inserted. 3. If connectors at the main PCB and the sensor are inserted correctly, replace the temperature sensor. 4. If the problem is still not solved, replace the main PCB.
	Oven sensor shorted.	

Trouble Shooting



Lower sensor

"C-20"

Disconnect power

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

Replace oven sensor

END

Check the connecting condition of harness
(Oven sensor and CN320 of main PCB)

Measure resistance of connector CN301
of Main PCB (Open : ∞Ω, Short : under 10Ω)

* reconnect
* repair damaged
harness replace.

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

Failure 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 . 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 being worked normally . 4 . Check whether there is any disconnection of harness which is linked with main PCB on main PCB . 5 . Check the resistance of oven sensor connector on main PCB . (Normal : 2850Ω)

Trouble Shooting

"C-21"
Or
"C-d1"

Disconnect power and assy display

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

No → * 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 main PCB.
* Check whether harness on connector (CN320) of Main PCB is connected normally into the connector(CN320) or not.

No → Replace or repair the harness.

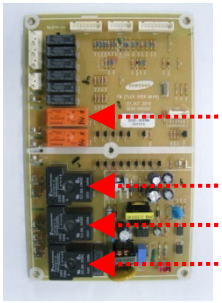
Ok

With replacing main PCB, and make set work.

No → Replace sub and main PCB

END

Main PCB



Failure code	CAUSE	SOLUTION
C-d1	Door locking error	1. Disconnect power. Open the cover back. Check whether harness has been connected with door lock switch and motor. 2. Confirm whether resistance value of door lock motor is to be normal one or not. 3. With operating door lockout, measure a voltage of connector on harness which is linked with door lock motor. (Normal voltage : AC 120V) 4. Check whether door locking switch is being worked normally.

Trouble Shooting

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

•Check oven sensor

Ok

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

No → * Repair damaged harness or Replace.

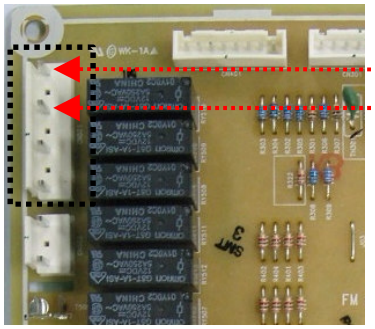
Ok

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

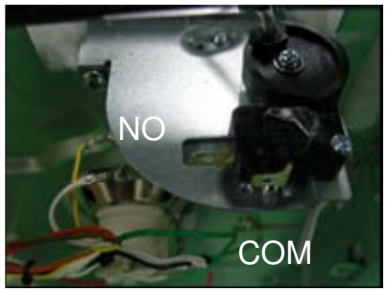
No → * Repair damaged harness or Replace.

*Measure resistance CN501 of 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 is Wrong Contacted. → END



Main PCB



Trouble Shooting

C-d0

*Disconnect power.
*Take out keypad cable from the sub pcb.

•Check whether between connector pin and pin on sub PCB have a short circuit.

No

•Repair the area of circuit having short between connector pins on sub pcb.
•.Repair after confirming whether pattern is between micom and connector have a short circuit or get damaged.

END

Ok

•Make sure whether between keypad and cable Have a short circuit.

No

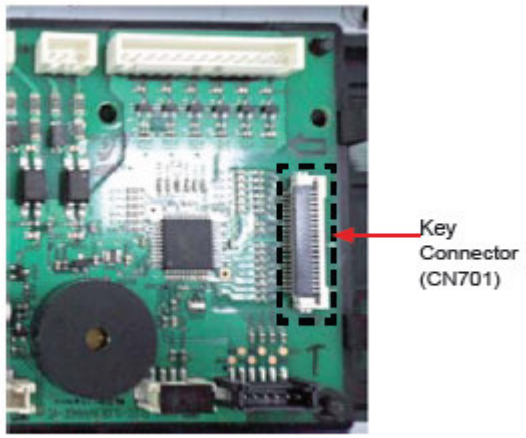
* Replace or repair keypad

END

Ok

•Replace control PCB (Touch control pcb + glass)

END

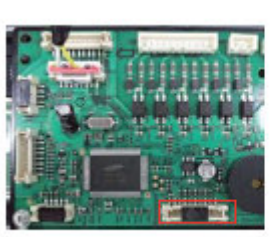


Sub PCB

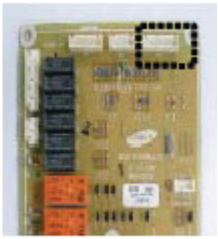
Failure code	CAUSE	SOLUTION
C-30	The PCB temp sensor is open when the oven is operating.	1. Disconnect power. Open back cover. 2. Replace the main PCB.
	The PCB temp sensor is short when the oven is operating.	
C-31	This code occurs if the PCB temperature rises abnormally high.	

Failure code	CAUSE	SOLUTION
C-F0	This code occurs if communication between the Main and Sub PBA is interrupted.	1. Check whether connector of main pcb has been inserted. 2. Check whether connector of sub pcb has been inserted. 3. If there is not a problem occurred with connector on sub pcb and main pcb, replace the main pcb.

Trouble Shooting



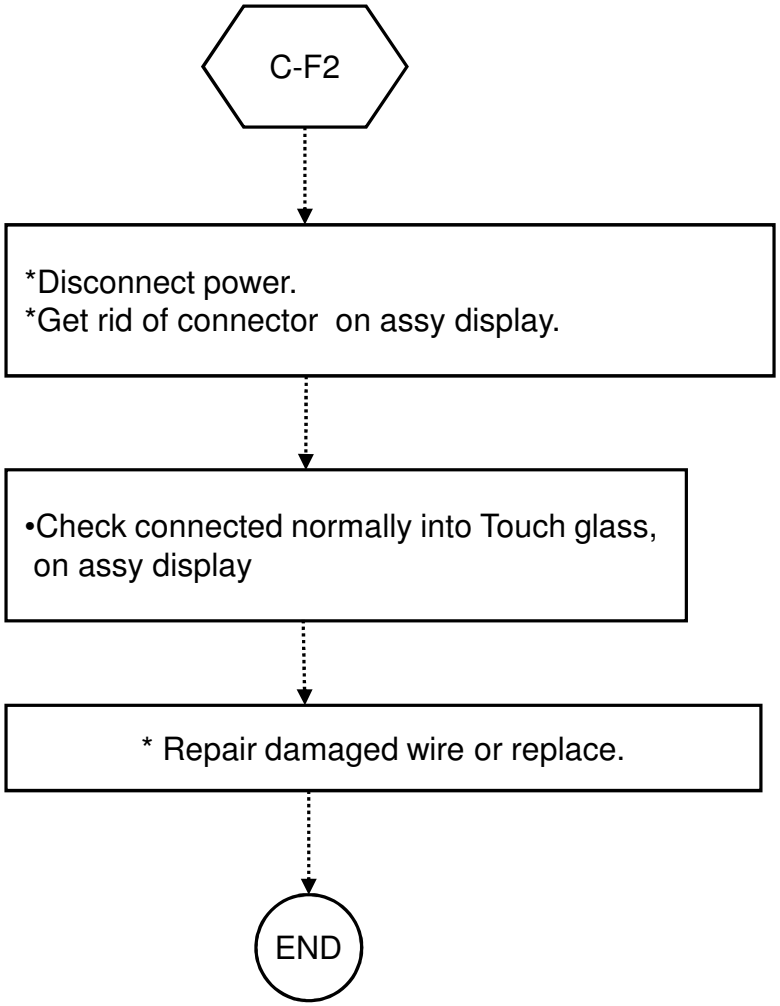
Sub PCB

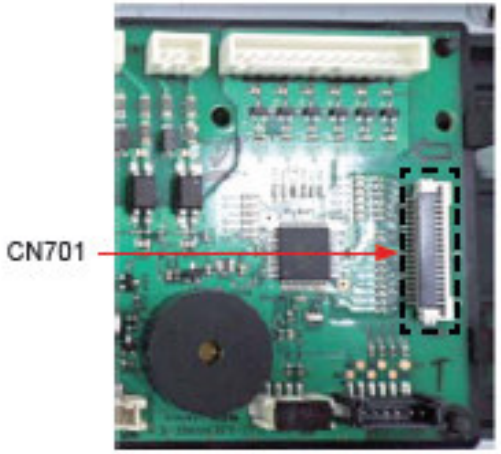


Main PCB

Failure code	CAUSE	SOLUTION
C-F2	This code occurs if communication between the main and touch is interrupted.	1. Check whether connector of sub pcb has been inserted. 2. If there is not a problem occurred with connector on sub pcb, replace the sub pcb. 3. If can't solve the problem after replace the sub pcb, replace the control box.

Trouble Shooting





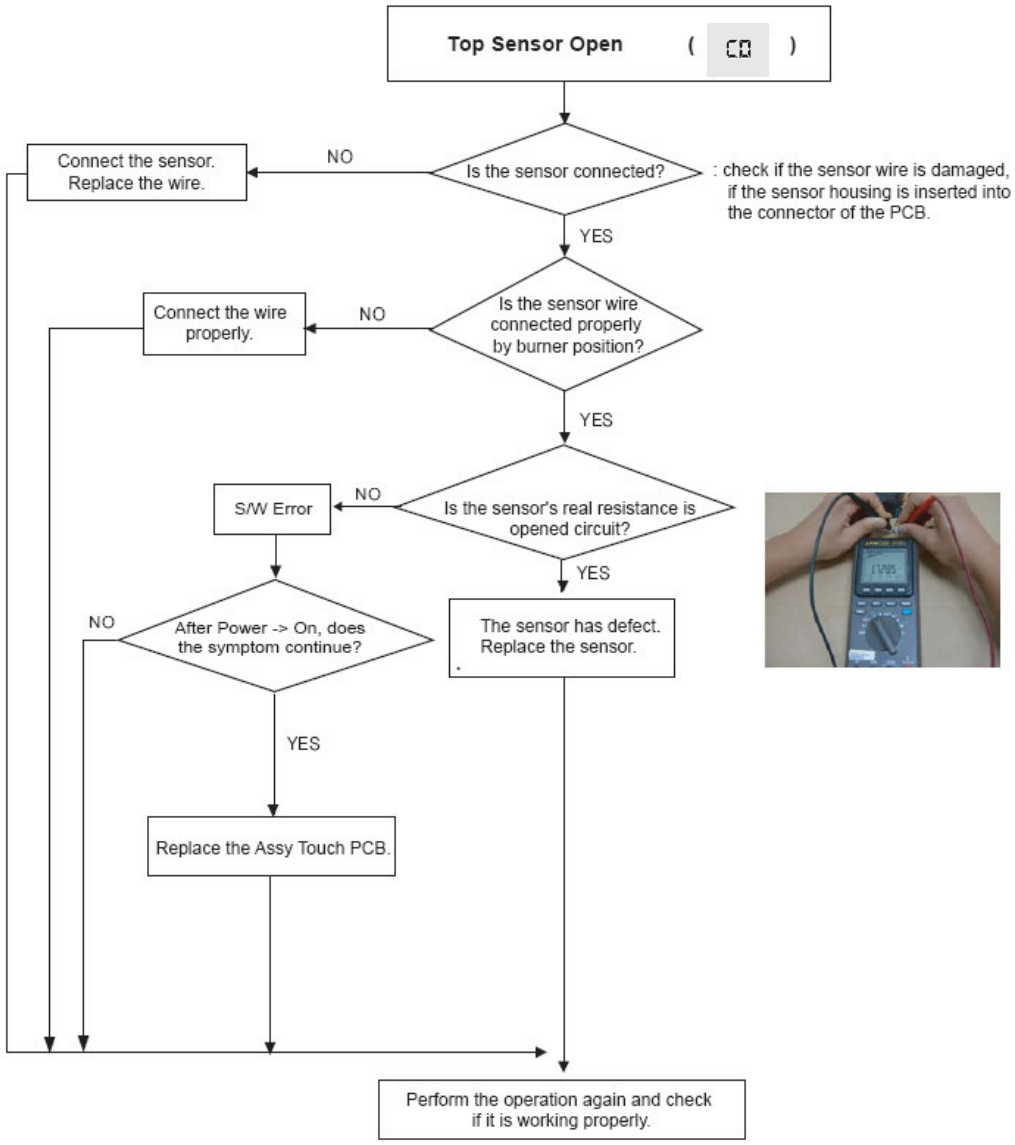
Sub PCB

Failure Display Codes (Cooktop)

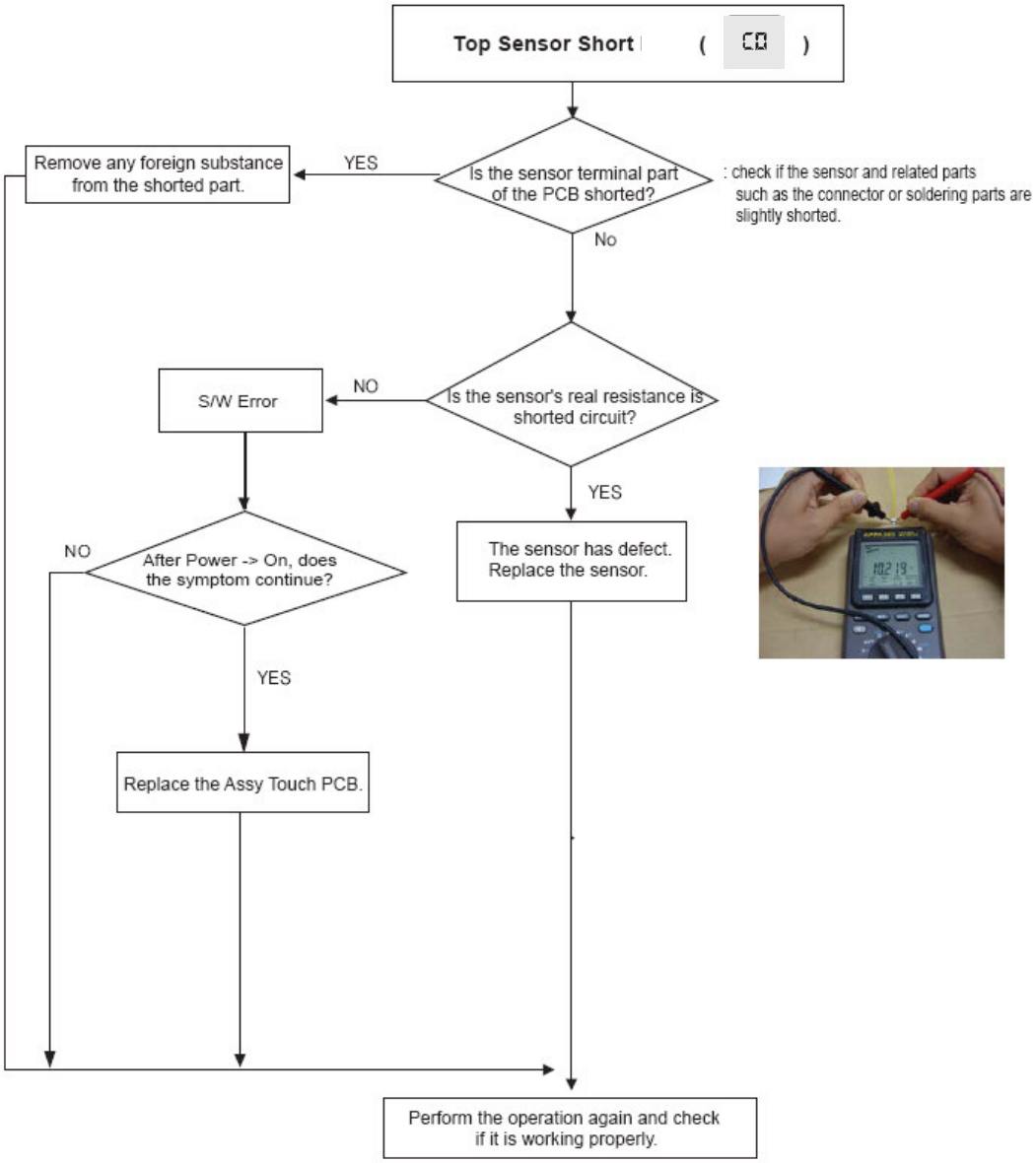
Displayed code	Solution
C0	**Top Sensor Open Error (Sensor-Top)** It occurs due to a defective sensor, misplaced wires, a defective PCB and when A/D value that MICOM senses rises over 252. Also, it may occur when the ambient temperature falls under -10°C.
	Top Sensor Short Error (Sensor-Top) It occurs due to a defective sensor, misplaced wires, a defective PCB and when A/D value that MICOM senses falls under 10.
C2	**IGBT Sensor Open Error (Assy-Inverter Module)** It occurs due to a defective sensor, misplaced wires, a defective PCB and when A/D value that MICOM senses rises over 239. Also, it may occur when the ambient temperature falls under -10°C.
	IGBT Sensor Short Error (Assy-Inverter Module) It occurs due to a defective sensor, misplaced wires, a defective PCB and when A/D value that MICOM senses falls under 10.

Displayed code	Gerneral Function	Solution
C1	Over Temperature Error	It occurs when the temperature of the Top Sensor rises very highly. (Estimated temperature of ceramic glass's surface is more than 250°C.) ex: Place a empty cookware on the burner and operate the induction cooktop.
U	Pan Detection Error	It occurs when the cookware is unsuitable or too small or no cook-ware has been placed on the cooking zone. If the suitable cookware is placed again, the induction cooktop will operate normally.
A2	DC Motor Locking Error	It occurs when the DC Motor cannot operate due to defects of PCB, wiring or some disturbance on motor blade.
F0	Communication Error	It occurs when the communication between Display PCB and Inverter Module PCB is interrupted, due to defects of PCB, wiring mistake.

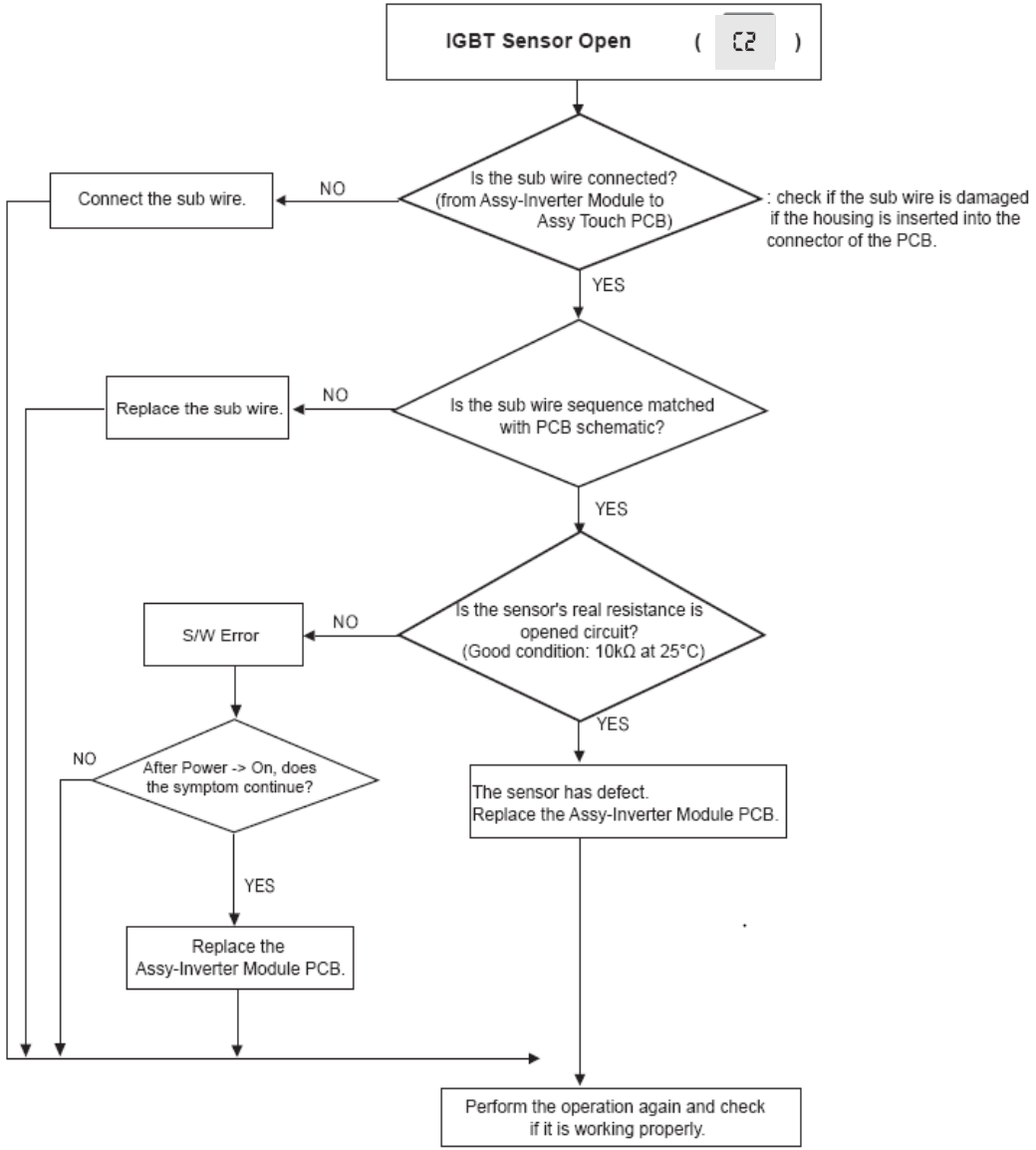
Trouble Shooting



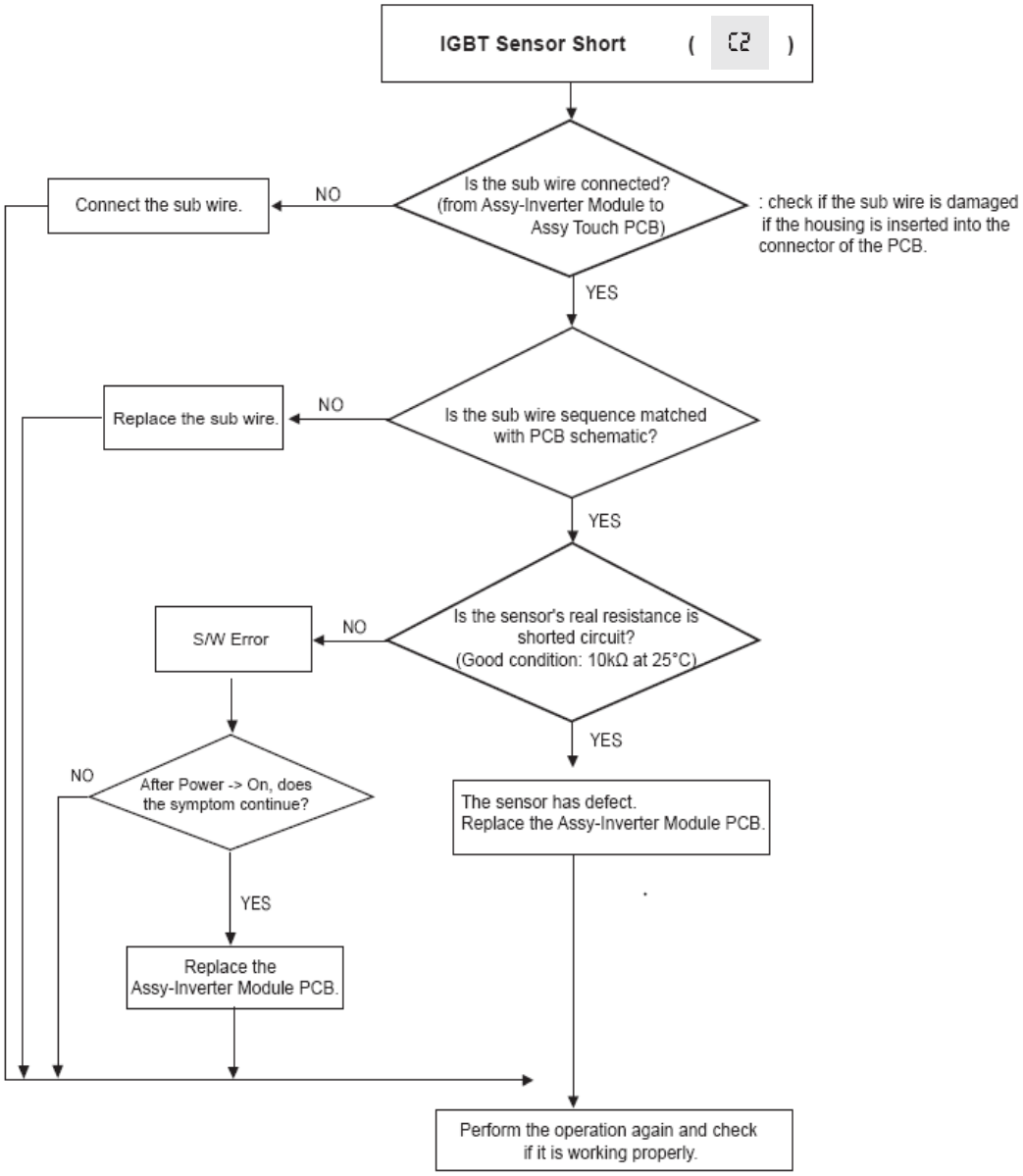
Trouble Shooting



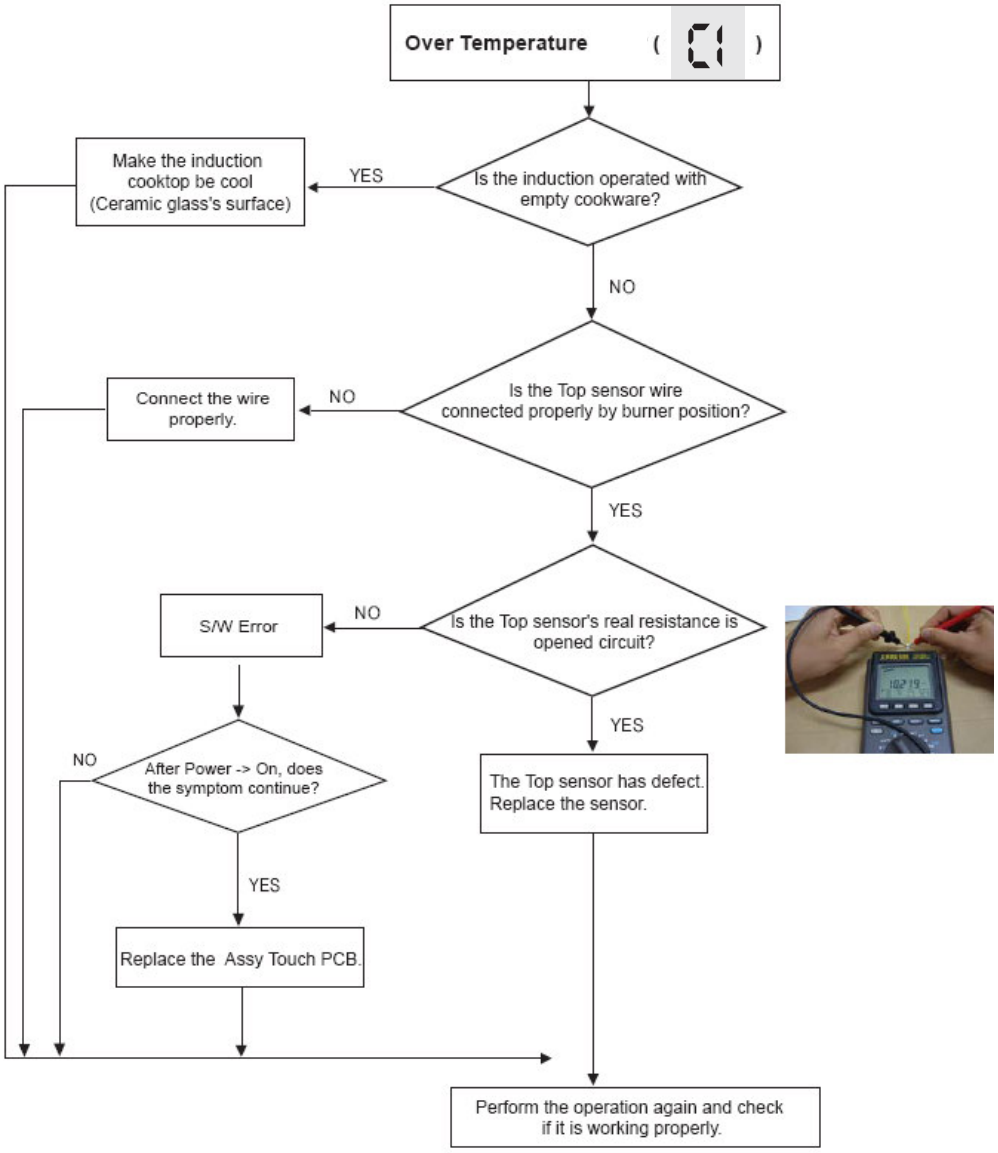
Trouble Shooting



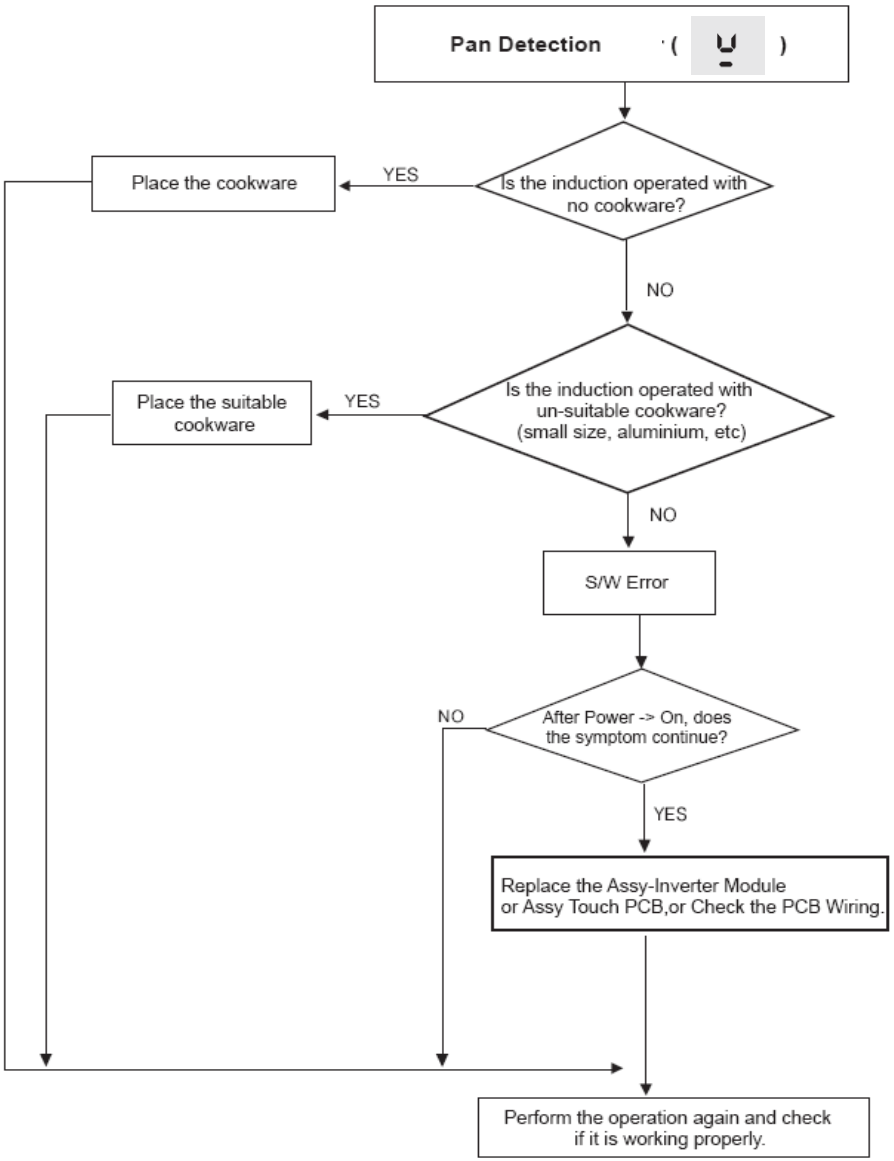
Trouble Shooting



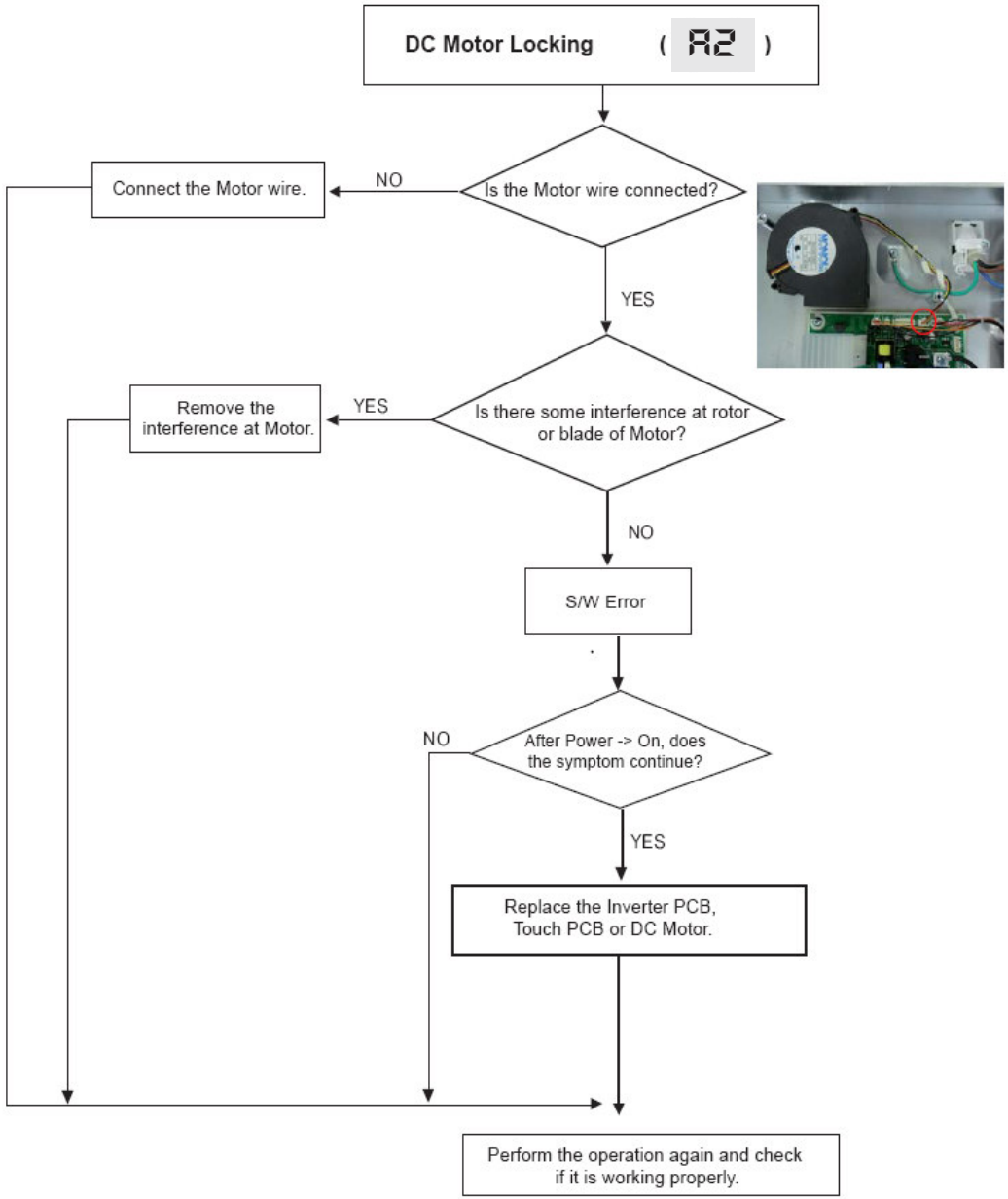
Trouble Shooting



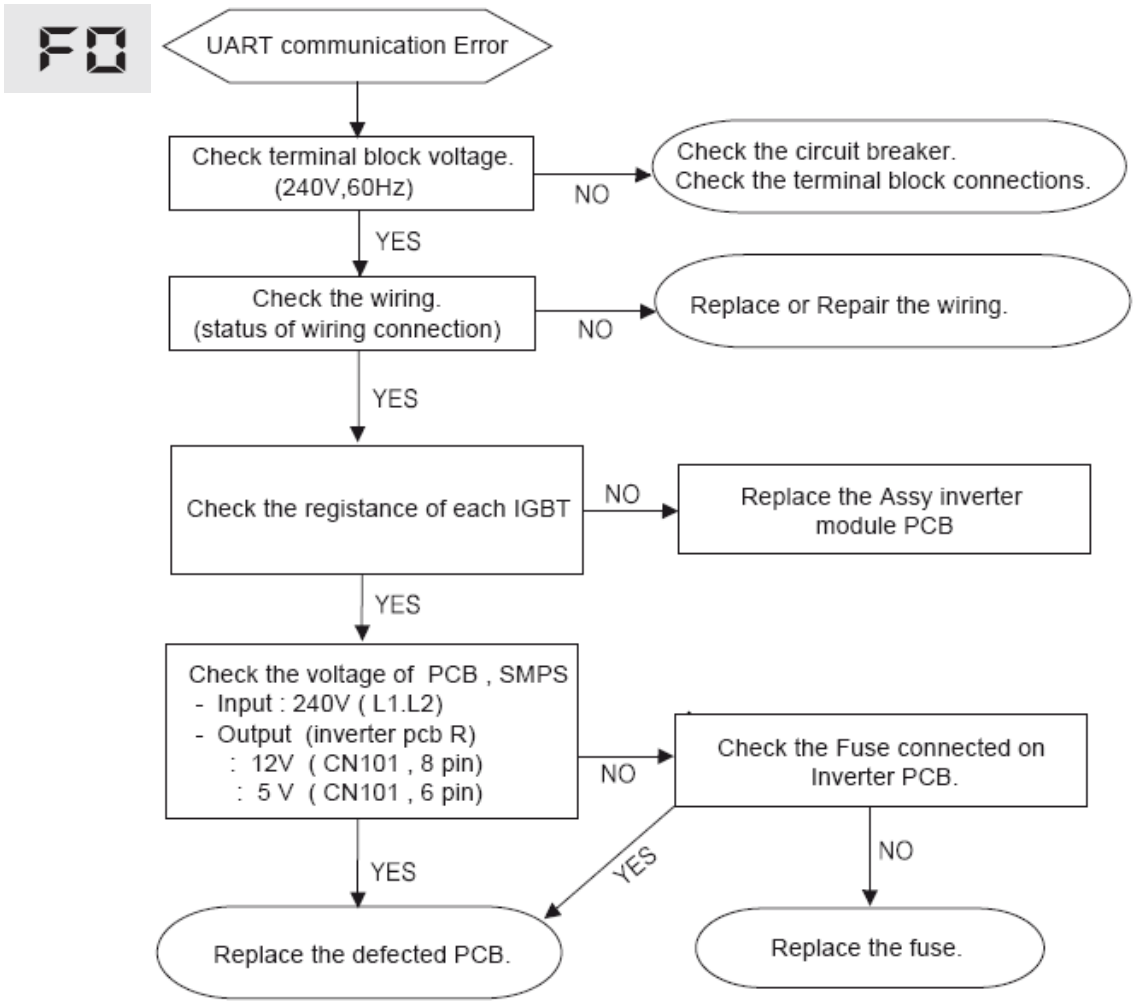
Trouble Shooting



Trouble Shooting

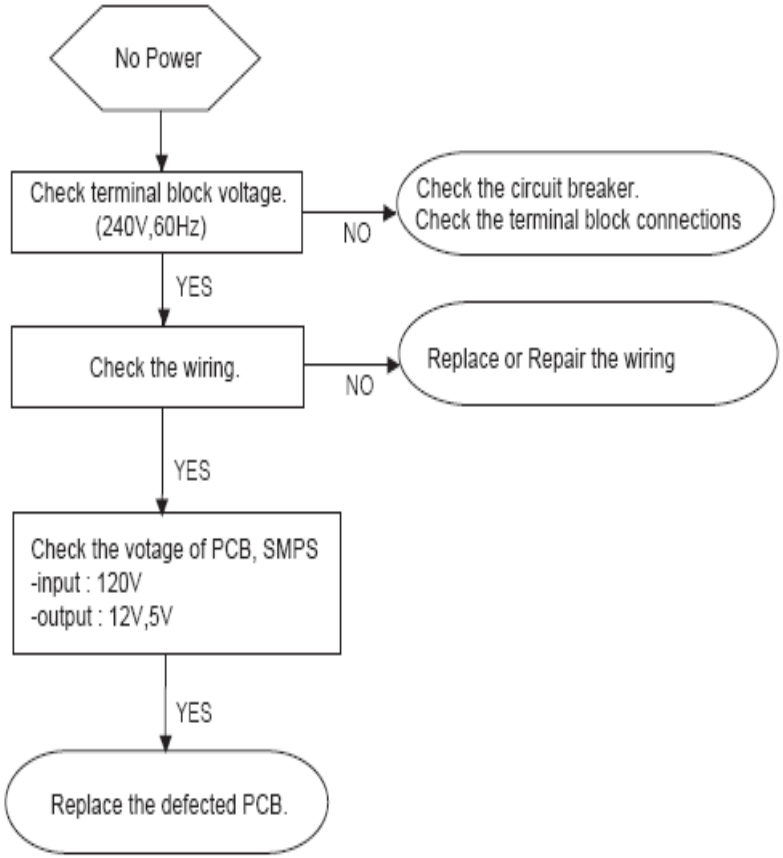


Troubleshooting (Communication)

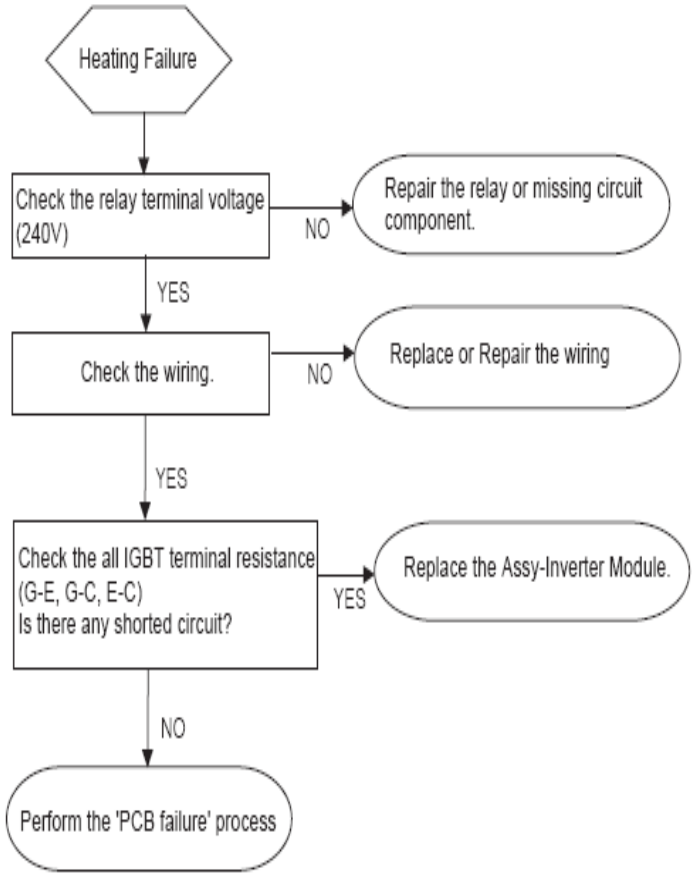


Electrical Malfunction

Troubleshooting (Power)

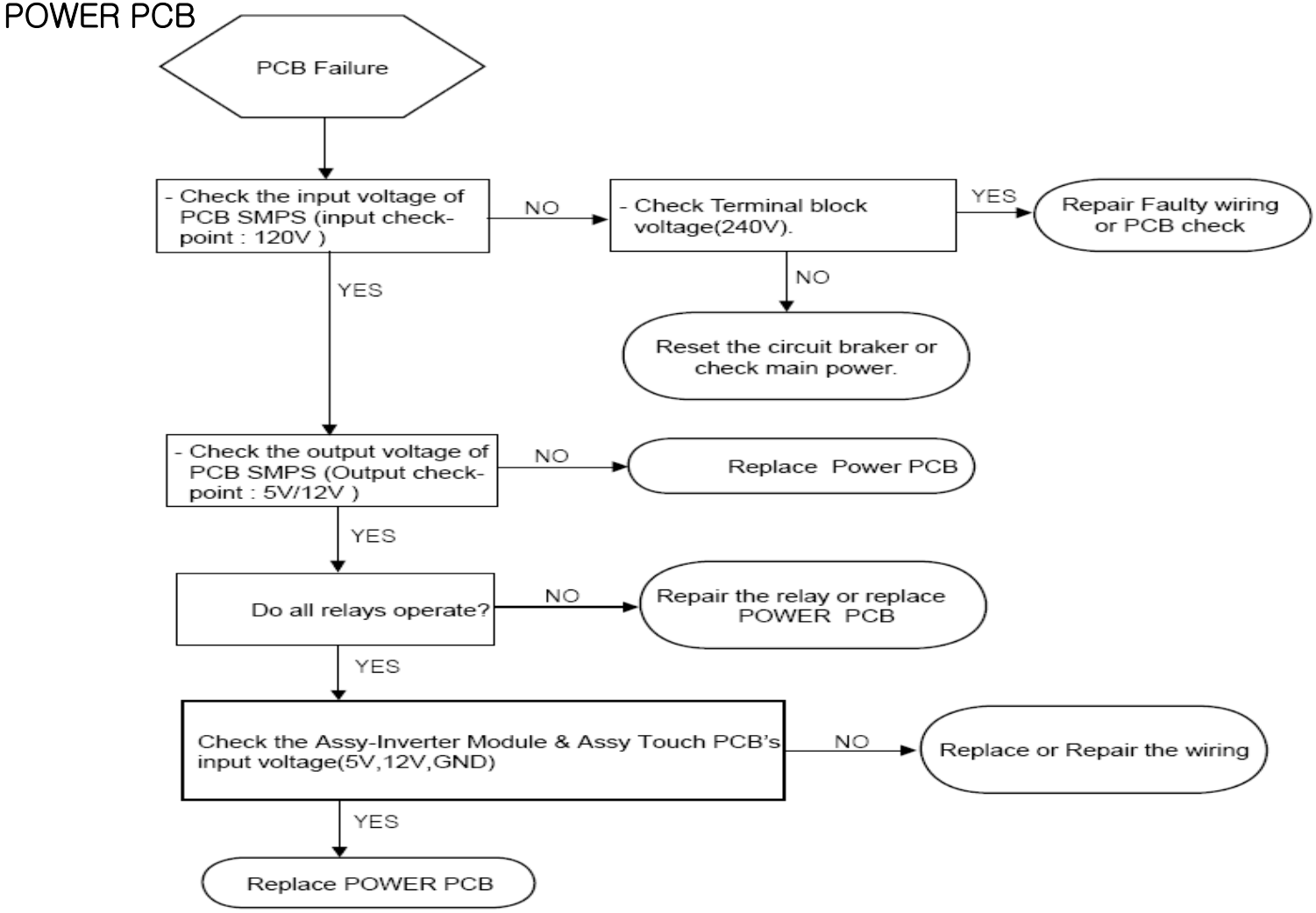


Troubleshooting (Heating)



Electrical Malfunction

POWER PCB



Electrical Malfunction

Wi-Fi connection

Step 1.

- Check whether display showed 
  - · If display showed icon, check to 'Samsung Smart Home' app.
    Delete and re-install the app. And then, try again. (Follow manual instruction for Samsung smart home app).
  - · If display is not showed icon, check to home network.
  - · If home network is ok, follow to step 2.
  - · If home network have problem, contact home network service center.

Step 2.

- Check communication between Wi-Fi module and sub PCB.
  - a) Press keep warm and Num 3 at the same time.
    Display will show project name, main PCB version, sub PCB version and network version.
  - · If network version is ordinarily showed, try to use smart control feature again.
  - · If network version is showed as like below, check to Wi-Fi module (2-b)

VFD DISPLAY

LED DISPLAY

Electrical Malfunction

Wi-Fi connection

b) Remove the Wi-Fi module.
Check input voltage on Wi-Fi module (5V).
· If input voltage is ok, replace Wi-Fi module.
· If input voltage have problem, check to connector of wire and sub PCB (2-c).

Pin 4 : GND
Pin 5 : 5VDC

c) Remove the cover back main wire.
· If connection of wire is ok, check to next step (2-d).
· If connection of wire have problem, re-connect and try smart control feature again.

d) Remove the sub PCB.
Check whether connector of wire is fully and correctly inserted. (CN270)
And then, check input voltage on sub PCB (5V).
· If input voltage is ok, replace Wi-Fi module.
· If input voltage have problem, replace sub PCB.

Pin 4 : GND
Pin 5 : 5VDC

Checkpoints before service request

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.
	* Measure voltage of connector on main PCB L1~N : 120V	* Replace of repair if harness has been loosen or disconnected.
	* Make sure that the relay on sub PCB is being worked normally. * Make sure whether harness between connector on sub PCB and connector on main PCB has been loosen or disconnected.	•Replace sub PCB if relay has been damaged or there is any cracking on the sub PCB. •Repair harness is connected main PCB with sub PCB •After confirming whether harness has been inserted into relay on sub PCB or not, take action follow as; - Replace or repair harness. - Replace or repair sub PCB.
	* Measure resistance both ends of terminal on thermostat. (normal : 0 ohms) * Check whether harness is connected terminal on thermostat has been loosen or disconnected. * Measure voltage regulator on main PCB. - IC02 : 7812(DC 12V) - IC03 : 7805(DC 5V)	* Replace the thermostat. * Replace or repair harness. * Replace or repair after confirming the state of working of main PCB

Checkpoints before service request

SYMPTOM	DIAGNOSIS	REMEDY
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. * Replace or repair main PCB.
Oven temperature is risen fast.	* Check whether temperature is risen over 400˚F(202˚C) within 10 minutes in a state of room temperature.	* Replace or repair it if relay on sub or main PCB 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.

Checkpoints before service request

SYMPTOM	DIAGNOSIS	REMEDY
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
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 on main PCB or PCB pattern.	* Replace or repair after confirming whether keypad cable has been loosen or Disconnected.
Oven lamp is not working.	* Check the oven lamp relay and connector .	* Replace or repair if harness has been loosen or disconnected. * Replace oven lamp relay or Resource relay. * Replace main PCB
	* Measure the resistance value of both ends of lamp terminal.	* Replace lamp if it has been disconnected.(120V / 40W)

Checkpoints before service request

SYMPTOM	DIAGNOSIS	REMEDY
Cooktop is not working or being occurred a abnormal working.	* 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 on main PCB normally or not.	* Replace or repair Warming Center. * Replace or repair Warming Ry-source relay. * Replace main PCB. * Replace or repair if harness has been loosen or disconnected.
Convection fan is not rotated.	* Check whether Convection fan relay on main PCB and connector is in normal.	* Replace or repair Relay. * Replace or repair connector.
	* Make sure whether harness between Connector on main PCB and connector on main PCB has been connected normally.	* Replace or repair harness. * Replace or repair connector. * Replace main PCB.

Checkpoints before service request

SYMPTOM	DIAGNOSIS	REMEDY
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. * Ventilate after getting self cleaning mode to work.
LED display is a little bit dim partially or invisible entirely.	* LED display is inferior.	* Replace LED or sub PCB.
Virtual Flame is not show when turn on the knob.	* Check whether Virtual flame has set off in option menu or wire harness has been disconnected.	* Set on the Virtual Flame in option menu. * Replace or repair if harness has been loosen or disconnected. * Replace Led module.
There is not 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.

SAMSUNG

Thanks