Electric Oven Repair Guide
[FTQ387LWGX]

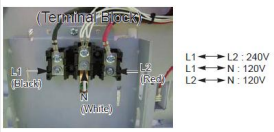
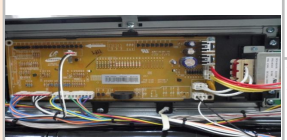
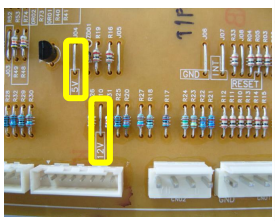
Ver. Aug-2013

No Power	• Terminal Block, Thermostat
Oven Not Heating	• Heater, Wire Harness, PCB
No Display	• PCB, Wire Harness
Cooktop Not Heating	• Cooktop not heating
Hot Surface Lamp	• Radiant heater, Surface lamp
Cooktop On/Off Lamp	• Energy regulator, Cooktop Lamp
Conv Fan Noise	• Fan blade, Motor assembly
Conv Fan not operation	• Wire harness, Motor, PCB
Oven Lamp	• Wire harness, Lamp
Latching Door	• Micro Switch, Motor
Error Code	• E-27, E-28, E-08, E-0A, E-0E, SE

#1. Symptom : No Power Issue

1-1. Repair Schematic

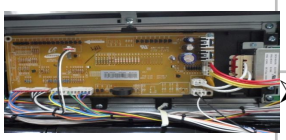
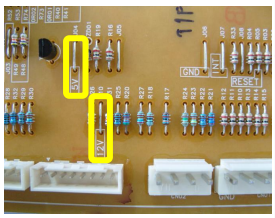
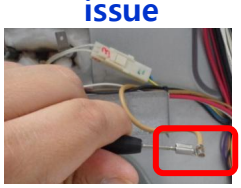
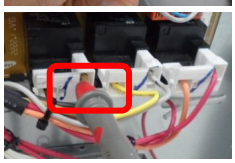
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
No Power	**Power Supply Issue** 	➢ Power Supply Inspection at Terminal block	1-1	Terminal Block		
	Thermostat short 	➢ Thermostat Resistance Value Verification	1-2	Thermostat		
	Main PCB issue 	➢ Voltage check at Main PCB connector	1-3	Main PCB		
		➢ Varistor damage inspection	1-4	Main PCB		
		➢ LVT voltage check	1-5	Main PCB		
		➢ Regulator voltage check	1-6	Main PCB		
	Wire harness issue 	➢ Terminal Connection Check	1-7	Wire harness		

#2. Symptom : Heating Defect

2-1. Repair Schematic

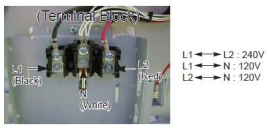
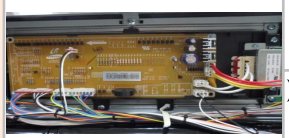
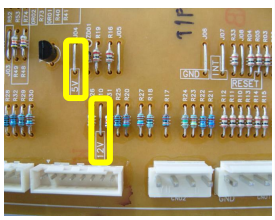
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block # 1	Block # 2	Block # 3
Heating Defect (OVEN)	**Broil heater issue** 	➢ Broil heater resistance value check	2-1			
	Main PCB issue  	➢ Voltage check at Main PCB connector	1-3			
		➢ Varistor damage check	1-4			
		➢ LVT voltage check	1-5			
		➢ Regulator voltage check	1-6			
	Wire harness issue  	➢ Check wiring connection of each part	1-7			
	Sub PCB issue 	➢ Replace Sub PCB if no problems are found with checks above	2-2			

#3. Symptom : No display

3-1. Repair Schematic

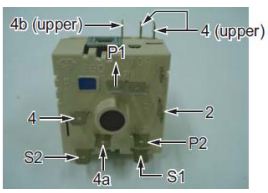
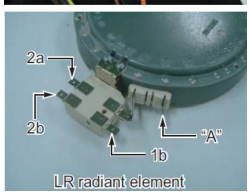
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
NO Display	**Power Supply issue** 	➢ Power Supply Inspection at Terminal block	1-1			
	Thermostat short 	➢ Thermostat Resistance Value Verification	1-2			
	Main PCB issue 	➢ Voltage check at Main PCB connector	1-3			
		➢ Varistor damage inspection	1-4			
		➢ LVT voltage check	1-5			
		➢ Regulator voltage check	1-6			
	Wire harness issue 	➢ Terminal connection check	3-1			

#4. Symptom : Cooktop Heating Defect

4-1. Repair Schematic

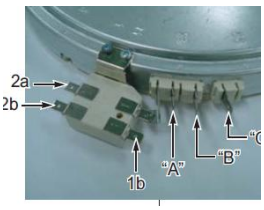
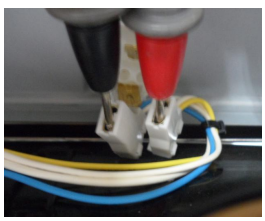
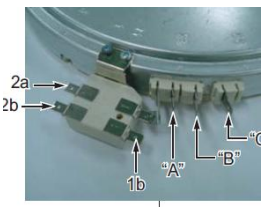
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Cooktop Heating Defect	**Energy regulator issue** 	➢ Check terminal-specific resistance values and input voltage	4-1	Energy regulator		
	Wire harness issue  Position / color / remark P1 red+red 2 gray P2 black+black S1 black+brown 4A orange S2 blue (Indicator lamp) 4 blue + sky 4(upper) white 4b(upper) sky	➢ Terminal connection check	4-2	Wire harness		
	Radiant heater issue  	➢ Check terminal-specific resistance values and input voltage	4-3	Radiant heater		

#5. Symptom : Hot Surface lamp turn Off/On

5-1. Repair Schematic

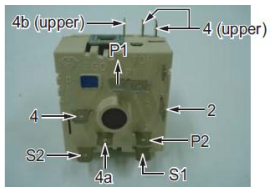
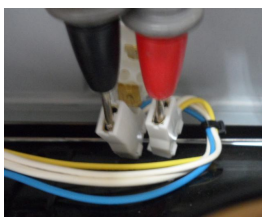
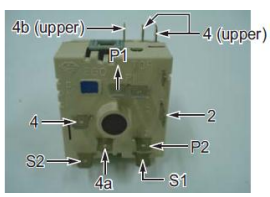
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Hot Surface Lamp Off	**Radiant Heater issue** 	➢ Check Radiant heater Terminal (1b-2b) resistance value Position / ohms 1b-2b / ∞ 2a-"A" / 48~55Ω 2a-"B" / 48~55Ω 2a-"C" / 70~75Ω	5-1			
	Hot Surface lamp issue 	➢ Check Hot surface lamp resistance value	5-2			
	Wire harness issue 	➢ Terminal connection check	5-3			
Hot Surface Lamp On	**Radiant Heater issue** 	➢ Check Radiant heater terminal (1b-2b) resistance value Position / ohms 1b-2b / ∞ 2a-"A" / 48~55Ω 2a-"B" / 48~55Ω 2a-"C" / 70~75Ω	5-1			

#6. Symptom : Cooktop on/off lamp turn Off/On

6-1. Repair Schematic

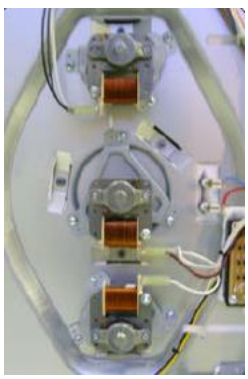
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Cooktop on/off Lamp Off	**Energy regulator issue** 	➢ Energy regulator terminal resistance value check	4-1			
	Cooktop on/off Lamp issue 	➢ Check if Cooktop on/off lamp is broken	6-1			
	Wire harness issue 	➢ Terminal connection check	6-2			
Cooktop on/off Lamp On	**Energy regulator issue** 	➢ Energy regulator terminal resistance value check	4-1			

#7. Symptom : Conv. Fan Noise

7-1. Repair Schematic

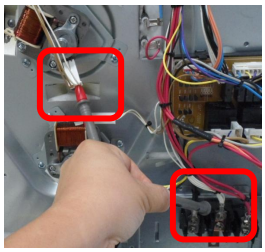
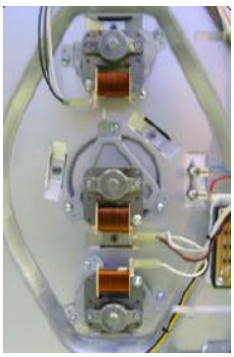
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Noise	**Fan Blade damage** 	➢ Check for Fan blade damage or deformation 	7-1			
	Conv. Heater interference	➢ Fan blade interference with Conv. Heater	7-2			
	Conv. Motor issue 	➢ Check if Conv. Motor is assembled properly	7-3			

#8. Symptom : Conv. Fan Inoperable

8-1. Repair Schematic

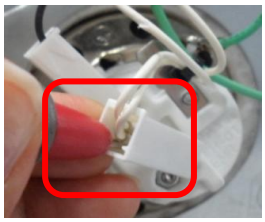
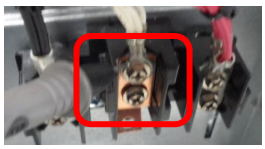
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Conv. Fan Not Operating	**Wire harness issue** 	➢ Terminal Connection Check	8-1			
	Conv. Motor issue 	➢ Conv. motor inspection 	8-2			
	Sub PCB issue 		8-3			

#9. Symptom : Oven lamp won't turn on

9-1. Repair Schematic

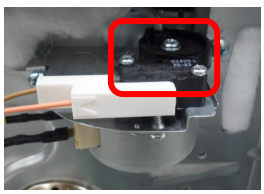
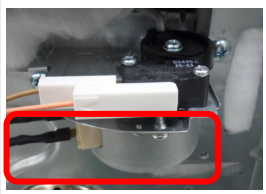
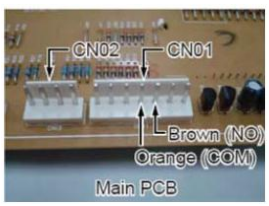
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Oven lamp Won't turn on	**Wire harness issue**  	➢ Terminal connection check	9-1			
	Lamp issue 	➢ Lamp resistance check	9-2			

#10. Symptom : Latching door inoperable

10-1. Repair Schematic

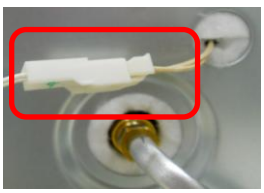
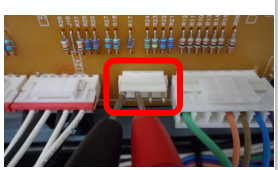
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Door Lock not working, or Door not opening	**Micro S/W issue** 	➢ Micro S/W inspection	13-1			
	Latch motor issue 	➢ Latch motor check	13-2			
	Wire harness issue 	➢ Terminal connection check	13-3			
	Other	➢ Check for deformation in Latch door assy'	10-1			

#11. Symptom : Error code E-27 or E-28

11-1. Repair Schematic

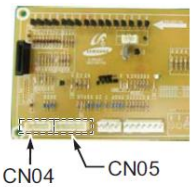
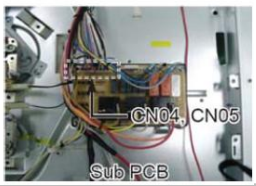
Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Error code E-27 or E-28	**Temp. Sensor issue** 	➢ Temp. sensor resistance value check	11-1			
	Wire harness issue 	➢ Terminal connection check	11-2			
	Main PCB issue 	➢ CN(02) connector resistance value check	11-3			
		➢ Main PCB pattern damage check	11-4			

#12. Symptom : Error code E-08 or E-0A

12-1. Repair Schematic

Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Error code E-08 or E-0A	**Sub PCB issue**	➢ Relay inspection (DLB, Bake, Broil Relay)	12-1			
	Temp. Sensor issue 	➢ Sensor resistance value check 	11-1			
	Wire harness issue  	➢ Wire harness inspection	12-2			

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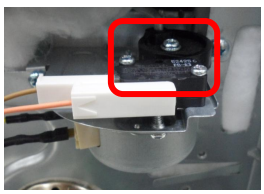
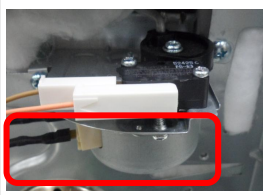
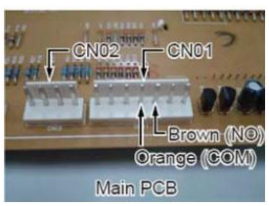
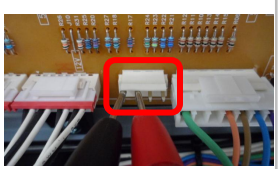
#13. Symptom : Error code E-0E

13-1. Repair Schematic

Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Error code E-0E	**Micro S/W issue** 	➢ Micro S/W inspection	13-1			
	Door latch motor issue 	Door motor inspection	13-2			
	Wire harness issue 	➢ Wire harness connection inspection	13-3			
	Main PCB issue 	➢ CN(02) resistance value check	11-3			

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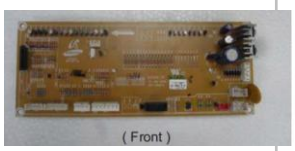
#14. Symptom : Error code SE

14-1. Repair Schematic

Chassis	Project	Basic Model	Type
30 E-Oven	A5	FTQ387LWGX	

Check-1	Cause	Check-2	Tip Code	Block		
				# 1	# 2	# 3
Error code SE	**Main PCB issue**  	➢ Check for Main PCB pattern damage and short	11-4			
	Keypad issue	➢ Key panel surface damage ➢ Ribbon cable inserted abnormally (Tilted) ➢ Ribbon cable pattern corrosion & short	14-1			

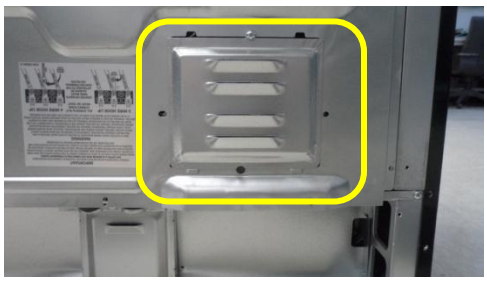
Tip 1-1. Terminal Block – Power Supply Inspection

No Power **Heating** **No Display**

Check Point "Terminal Block" Voltage Check.

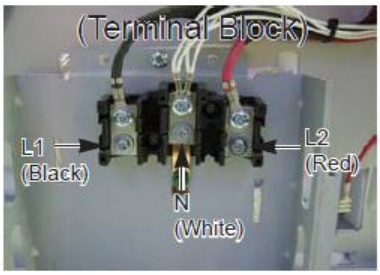
Step 1

① Remove the Bracket cover back main wire.

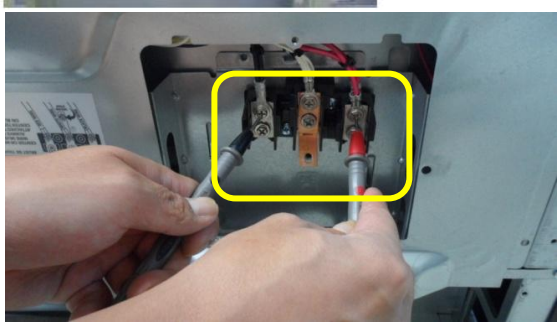


Step 2

① Check the voltage at the Terminal block (240VAC/120VAC)

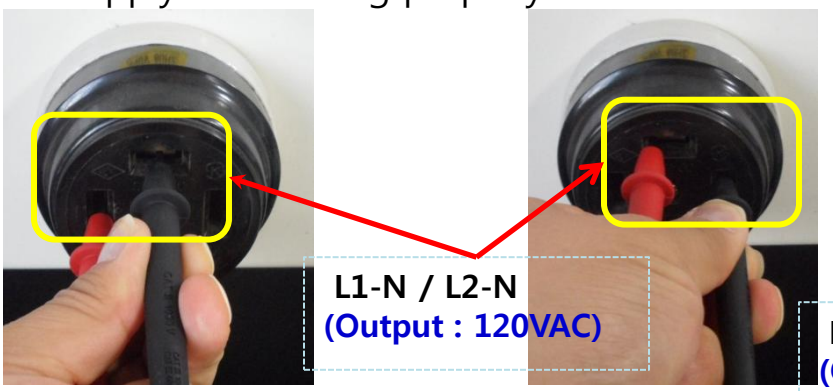


L1 ⟷ L2 : 240V
L1 ⟷ N : 120V
L2 ⟷ N : 120V



Step 3

① Check if the home's Circuit Breaker and power supply are working properly.



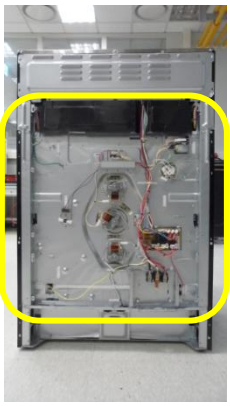
Tip 1-2. Thermostat Inspection (Short)

No Power **Heating** **No Display**

Check Point "Thermostat"

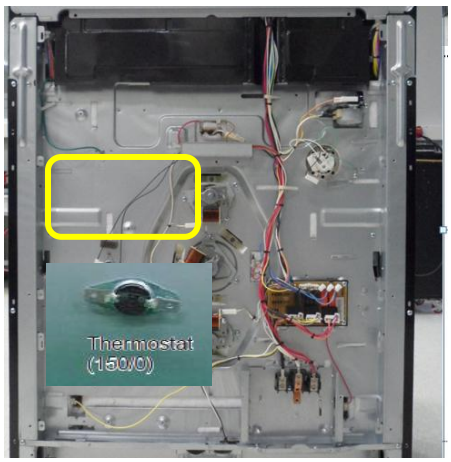
Step 1

① Remove the Cover back main wire.
② Disconnect power from Oven.



Step 2

① Thermostat is located on the center-left side of oven.
② Check the Thermostat for proper operation.
(Good : about 0.1 ~ 0.2Ω, NG : ∞)



Step 3

① If Thermostat contact is Open (∞), replace the Thermostat.

Tip 1-3. Main PCB Connector Voltage Measurement

No Power **Heating** **No Display**

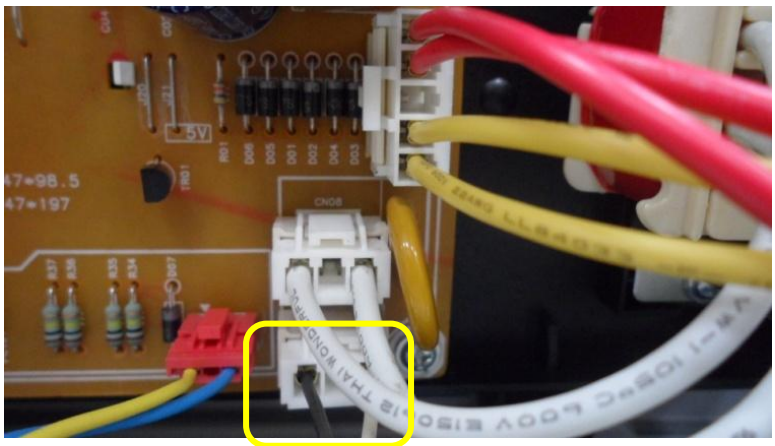
Check Point "Main PCB Main Power" Inspection.

Step 1

① Remove the Cover back main.

Step 2

① Check the Power Supply at Main PCB Connector (CN09) (120VAC)



Step 3

① If 120VAC is not supplied to the Main PCB, Check for proper connection with the Wire Harness.

Tip 1-4. Main PCB Varistor Inspection

No Power **Heating** **No Display**

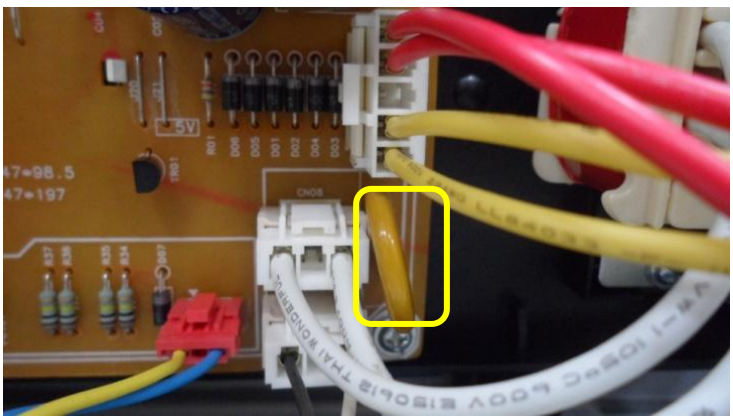
Check Point "Main PCB Main Power" Inspection.

Step 1

① Remove Cover back main.
② Disconnect power from Oven.

Step 2

① Check Main PCB - Varistor (ZNR1) for damage (burnt).



Step 3

① If Varistor (ZNR1) is damaged, replace the Main PCB.

Tip 1-5. Main PCB LVT Voltage Check

No Power **Heating** **No Display**

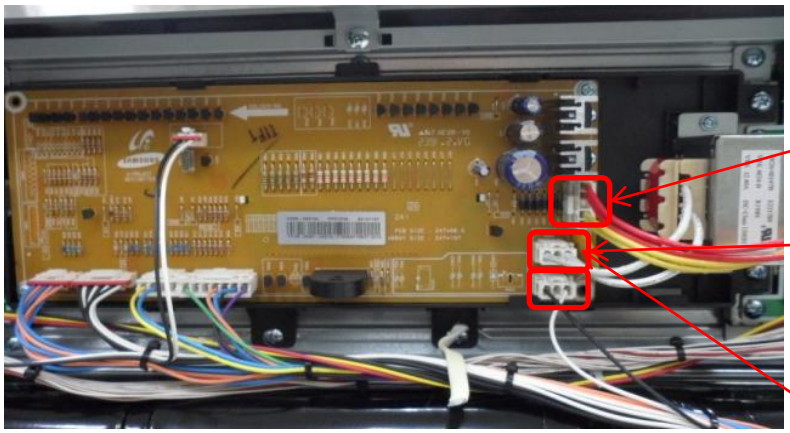
Check Point "Main PCB Main Power" Inspection.

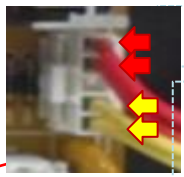
Step 1

① Remove Cover back main.

Step 2

① Check if power is properly supplied to the Main PCB.





Red-Red : 13.5VAC

Yellow-Yellow : 8.0VAC

CN08(LVT Input)
(Input : White-White 120VAC)

CN09(From Terminal Block)
(Input : Black-White 120VAC)

Step 3

① Check the LVT resistance and output voltage.
② If values are over specs, replace the LVT.

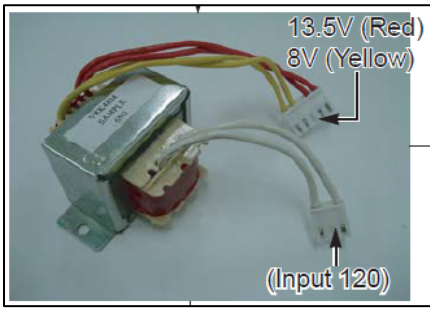


Fig.1 : Low voltage Transformer

No	color	voltage	resistance
Primary	white	120V (input)	75 ~ 80Ω
Secondary 1	red	13.5V	1.5 ~ 2.5Ω
Secondary 2	yellow	8V	0.8V ~ 1.5Ω

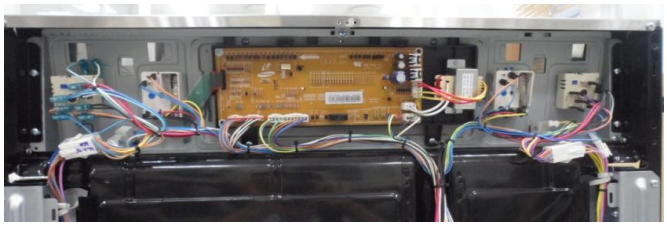
Tip 1-6. Main PCB Regulator Voltage Check

No Power **Heating** **No Display**

Check Point "Main PCB Main Power" Inspection.

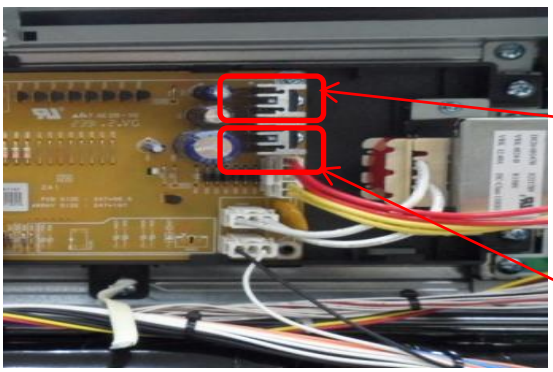
Step 1

① Remove Cover back main.



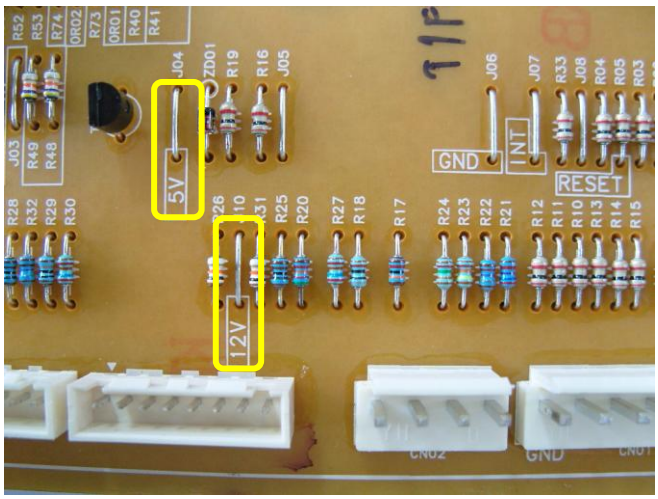
Step 2

① Check the voltage of Main PCB Regulator.
IC02(7812) : DC 12V
IC03(7805) : DC 5V



Step 3

① If the Regulator's output voltage found to be defective, replace the Main PCB.



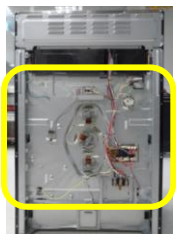
Tip 1-7. Wire Harness Connection Inspection

No Power **Heating** **No Display**

Check Point "Wire harness" connection inspection.

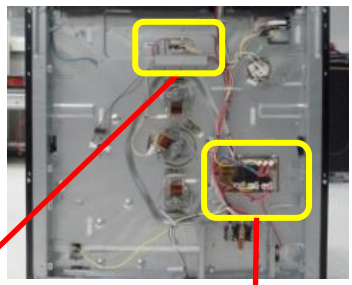
Step 1

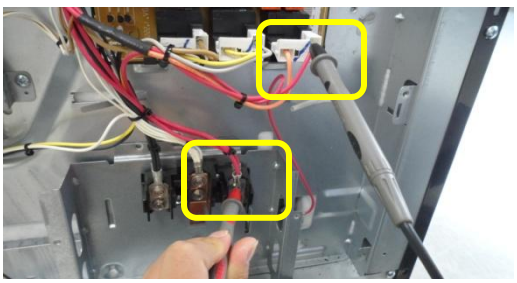
① Remove the Cover back main wire.
② Disconnect power from Oven.

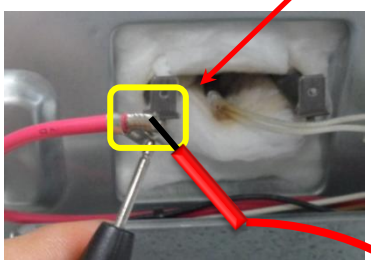


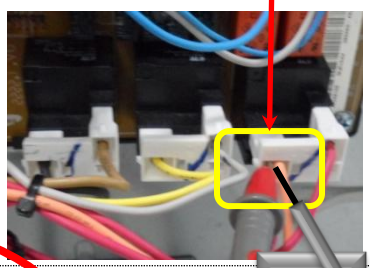
Step 2

① Check the wire harness connection between DLB Relay(RED) & L2(RED)
② Check the wire harness connection between DLB Relay(ORG) & Broil Heater(RED)



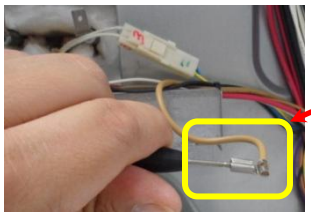


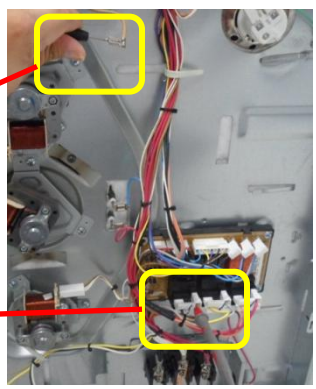


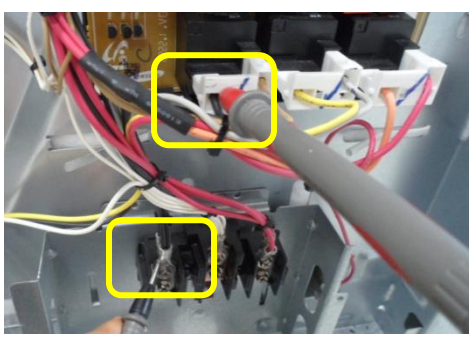


Step 3

① Check the wire harness connection between Broil Relay(BRN) & Heater(BRN).
② Check the wire harness connection between Broil Relay(BLK) & L1(BLK).





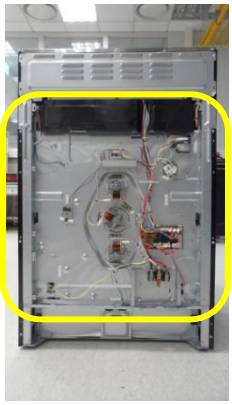


Tip 2-1. Broil Heater Resistance Check

Check Point “broil heater resistance value” measurement.

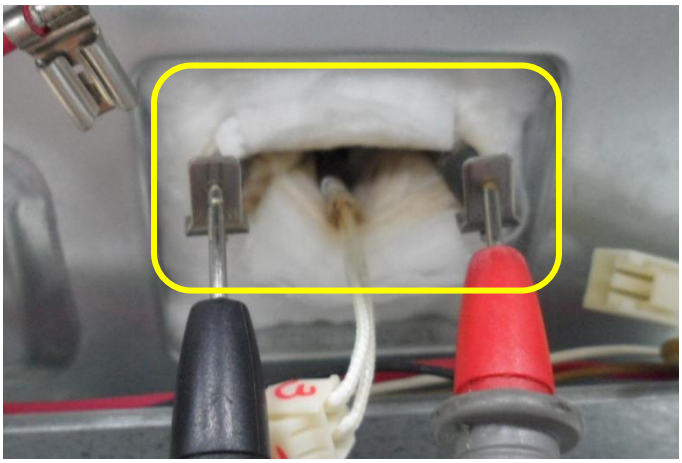
Step 1

① Remove the Cover back main wire.
② Disconnect power from Oven.



Step 2

① Disconnect connector at Broil Heater terminal.
② Check Broil Heater’s Resistance Value.
(Normal Room Temperature Resistance : 13~16Ω)



Step 3

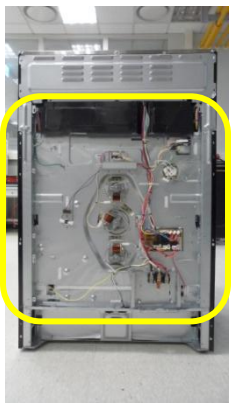
① If Broil Heater resistance value is outside specs (13~16Ω), replace the Broil Heater.

Tip 2-2. Sub PCB Inspection

Check Point "Sub PCB" inspection.

Step 1

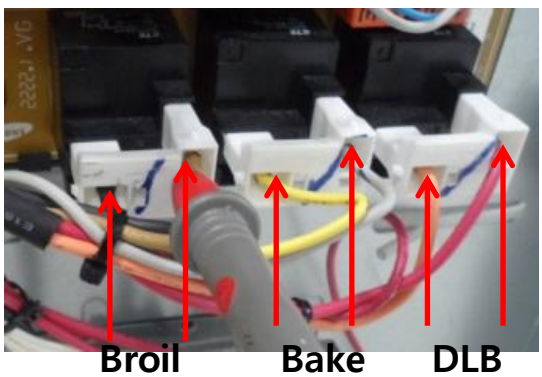
① Remove the Cover back main wire.



Step 2

① Operate the oven in Bake and Broil modes, by pressing the Bake and Broil keys.

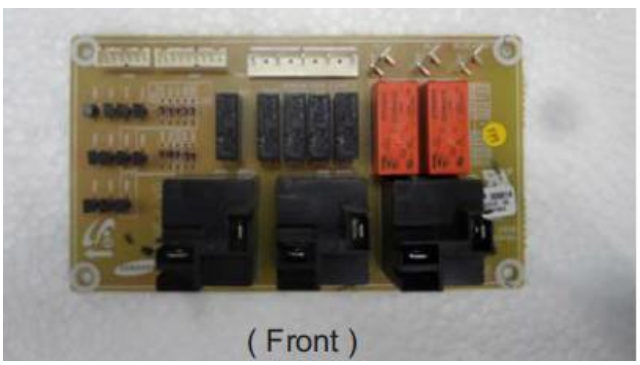
② In each mode, check if appropriate Relays are properly activating on the Sub PCB (resistance during operation : ~0Ω)

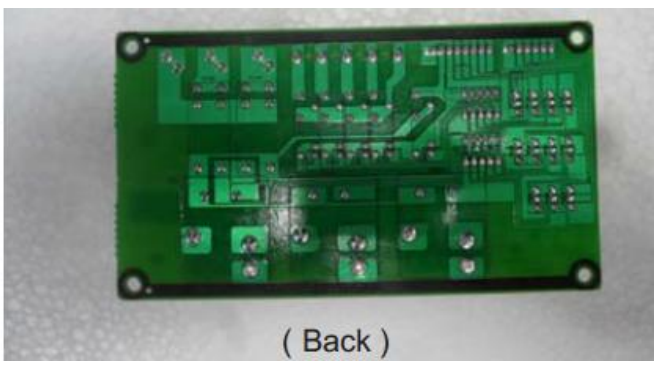


Step 3

① Disassemble the Sub PCB.

② Check the Sub PCB backside for any pattern damage and solder condition.





Tip 3-1. Main PCB Wire Harness Connection Check

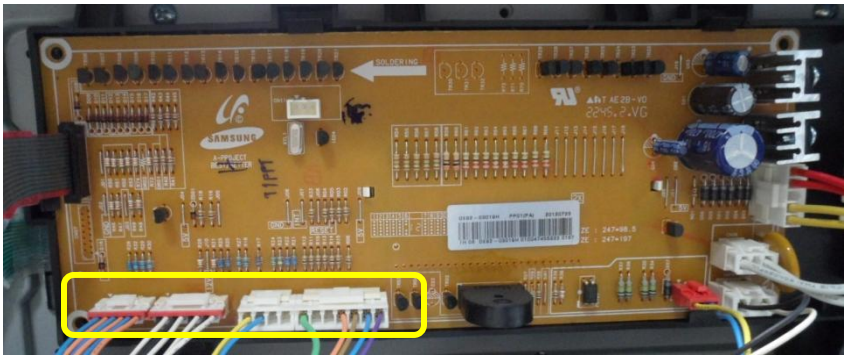
Check Point "Min PCB Wire Harness" Connection Inspection.

Step 1

① Remove the Cover back main wire.
② Disconnect power from Oven.

Step 2

① Check the Main PCB Wire Harness for proper connection. (loose connection, Pin disconnect, etc.)



Tip 4-1. Energy Regulator (Single) Check

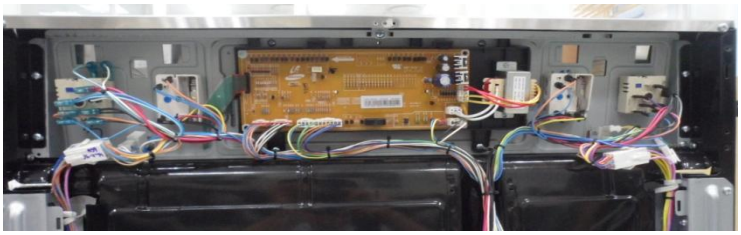
Cook Top Heating

Cook Top Lamp

Check Point "Energy regulator resistance & voltage check.

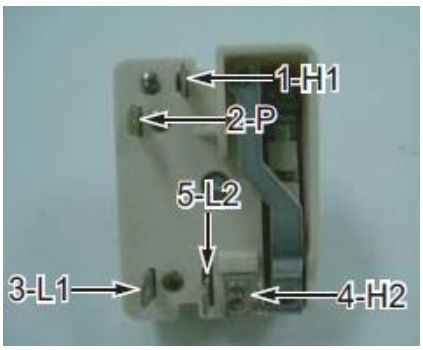
Step 1

① Remove Cover back main.



Step 2

① Turn the Knob to off position.
② Measure the resistance & voltage between terminals.



Resistance
@off : ∞Ω
@on : H1-L1 : 0Ω

Voltage
@on : L2=H2 ↔ H1=L1 : 240V
L1=P ↔ LR surface lamp : 120V

Step 3

① If the measured resistance value is different from specs, replace the Energy Regulator.

Dual Regulator Check

Triple Regulator Check

Tip 4-1. Energy Regulator (Dual) Check

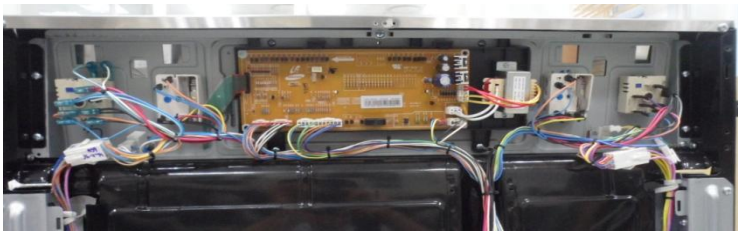
Cook Top Heating

Cook Top Lamp

Check Point "Energy regulator resistance & voltage check.

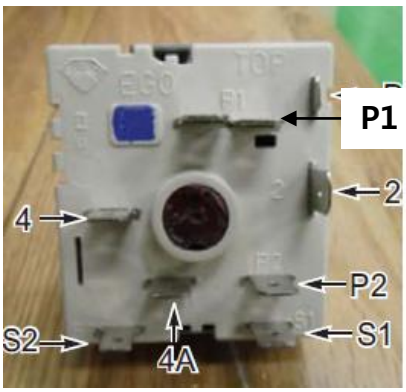
Step 1

① Remove Cover back main.



Step 2

① Turn the Knob to off position.
② Measure the resistance & voltage between terminals.



Resistance
@off : ∞Ω
@on : P1-2-4A : 0Ω
S1-S2 : 0Ω
P2-4 : 0Ω

Voltage
@on : P1=2=4A ↔ P2=4 : 240V
S1=S2 ↔ LF surface lamp : 120V

Step 3

① If the measured resistance value is different from specs, replace the Energy Regulator.

Triple Regulator Check

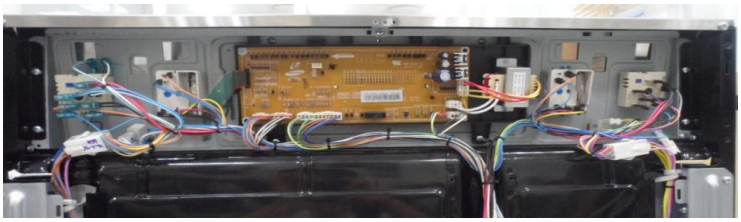
Tip 4-1. Energy Regulator (Triple) Check

Cook Top Heating **Cook Top Lamp**

Check Point "Energy regulator resistance & voltage check.

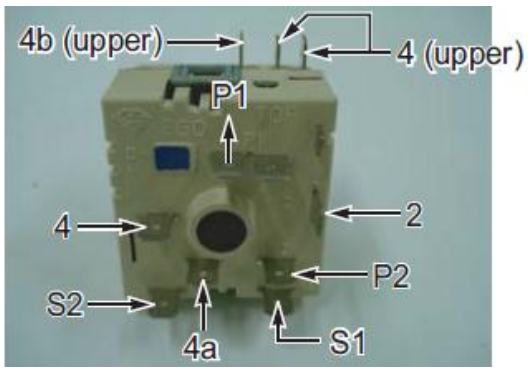
Step 1

① Remove Cover back main.



Step 2

① Turn the Knob to off position.
② Measure the resistance & voltage between terminals.



Resistance
@off : ∞Ω
@on : P2 : 0Ω
S1-S2 : 0Ω
P2-4-4a : 0Ω
4(upper)-4b(upper) : 0Ω

Voltage
@on : P1=2 ↔ P2=4=4A : 240V
S1=S2 ↔ RF surface lamp : 120V

Step 3

① If the measured resistance value is different from specs, replace the Energy Regulator.

Tip 4-2. Wire Harness (Single) Inspection

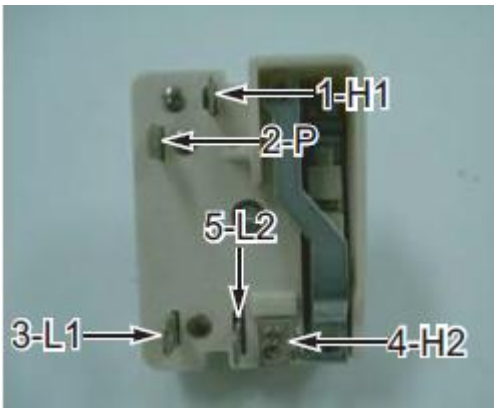
Check Point "Wire harness connection inspection.

Step 1

① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.



Position	color
3-L1	black+black
5-L2	red+red
4-H2	yellow
2-P	blue+blue
1-H1	orange+violet

Step 3

① If there are any wrong connections, reconnect properly.

Tip 4-2. Wire Harness (Dual) Inspection

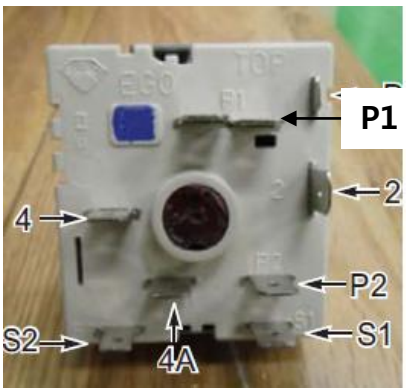
Check Point "Wire harness connection inspection.

Step 1

① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.



Position	Color	Remark
P1	black+black	240V,3600W dual switch Invensys Co.
S1	black+brown	
P2	red+red	
S2	blue(indicator lamp)	
4a	orange	
4	violet	
2	gray	

Step 3

① If there are any wrong connections, reconnect properly.

Tip 4-2. Wire Harness(Triple) Inspection

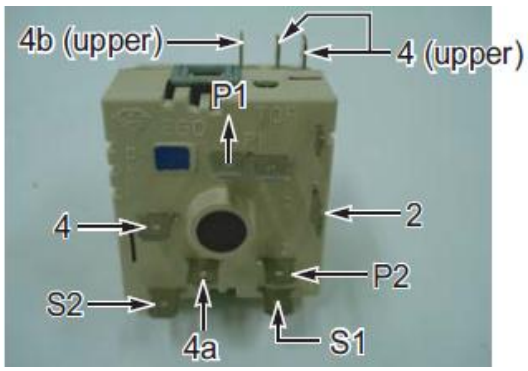
Check Point "Wire harness connection inspection

Step 1

① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.



Position	color	remark
P1	red+red	
2	gray	
P2	black+black	
S1	black+brown	
4A	orange	
S2	blue (Indicator lamp)	
4	blue + sky	
4(upper)	white	
4b(upper)	sky	

Step 3

① If there are any wrong connections, reconnect properly.

Tip 4-3. Radiant Heater (Single) Inspection

Check Point "Radiant heater resistance & voltage check.

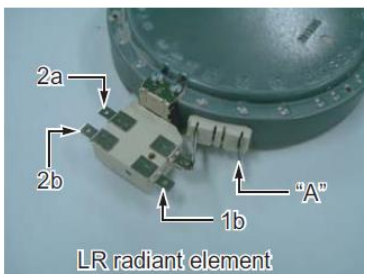
Step 1

① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.
② Measure Radiant heater resistance and voltage values between the terminal positions :

Position	ohms
1b-2b	∞
2a-"A"	45~50Ω



Step 3

① If the measured resistance value is different from specs, replace the Radiant Heater.

Tip 4-3. Radiant Heater (Dual) Inspection

Check Point "Radiant heater resistance & voltage check.

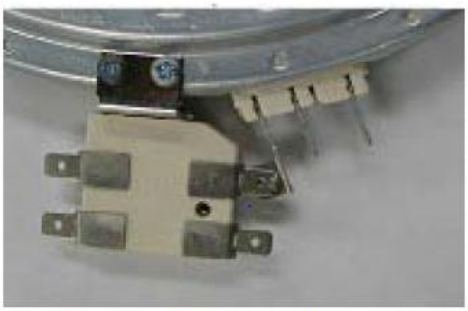
Step 1

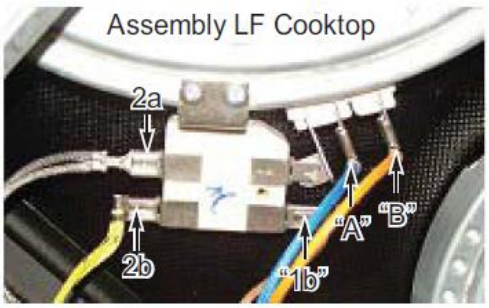
① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.
② Measure Radiant heater resistance and voltage values between the terminal positions :

Position	ohms
1b–2b	∞
2a–"A"	45~55Ω
2a–"B"	42~48Ω





Step 3

① If the measured resistance value is different from specs, replace the Radiant Heater.

Tip 4-3. Radiant Heater (Triple) Inspection

Check Point "Radiant heater resistance & voltage check.

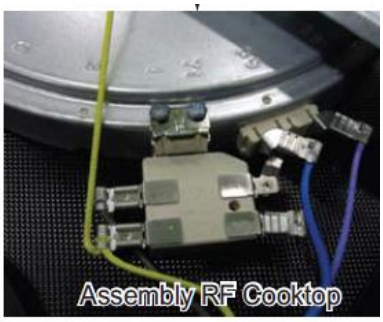
Step 1

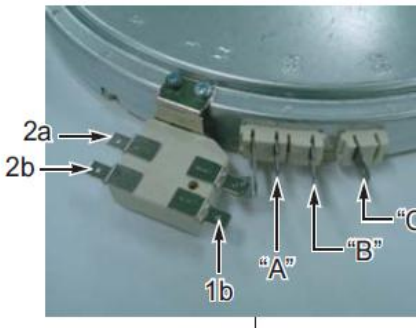
① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.
② Measure Radiant heater resistance and voltage values between the terminal positions :

Position	ohms
1b-2b	∞
2a-"A"	48~55Ω
2a-"B"	48~55Ω
2a-"C"	70~75Ω





Step 3

① If the measured resistance value is different from specs, replace the Radiant Heater.

Tip 5-1. Radiant Heater (1b-2b) Resistance Check (Single)

Check Point "Radiant heater terminal(1b-2b) resistance value check.

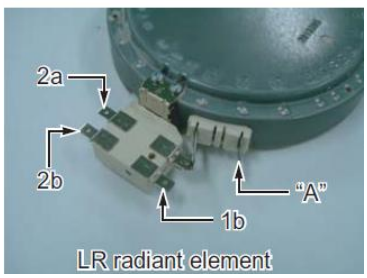
Step 1

① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.
② Measure Radiant heater resistance and voltage values between terminals (1b-2b) :

Position	ohms
1b-2b	∞
2a-"A"	45~50Ω



Step 3

① If the measured resistance value is different from specs, replace the Radiant Heater.

Tip 5-1. Radiant Heater (1b-2b) Resistance Check (Dual)

Check Point "Radiant heater terminal(1b-2b) resistance value check.

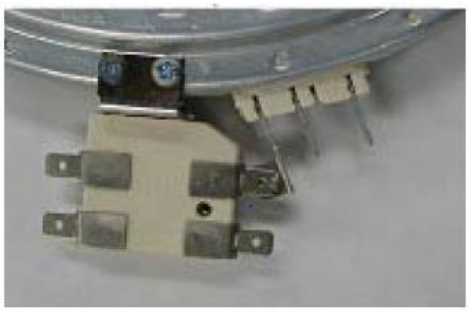
Step 1

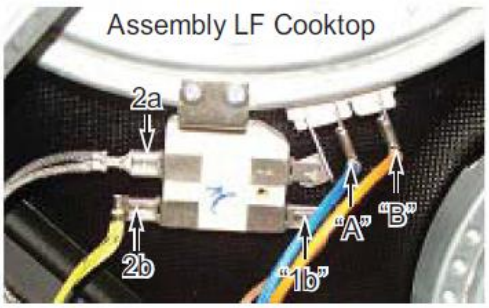
① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.
② Measure Radiant heater resistance and voltage values between terminals (1b-2b) :

Position	ohms
1b–2b	∞
2a–"A"	45~55Ω
2a–"B"	42~48Ω





Step 3

① If the measured resistance value is different from specs, replace the Radiant Heater.

Tip 5-1. Radiant Heater (1b-2b) Resistance Check (Triple)

Check Point "Radiant heater terminal(1b-2b) resistance value check.

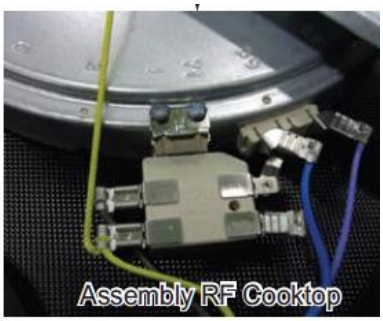
Step 1

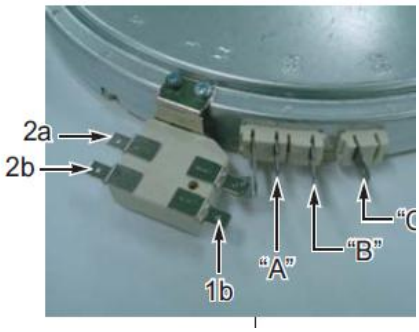
① Remove Cover back main.

Step 2

① Check the Wire Harness for proper connection.
② Measure Radiant heater resistance and voltage values between terminals (1b-2b) :

Position	ohms
1b-2b	∞
2a-"A"	48~55Ω
2a-"B"	48~55Ω
2a-"C"	70~75Ω





Step 3

① If the measured resistance value is different from specs, replace the Radiant Heater.

Tip 5-2. Hot Surface Lamp Inspection

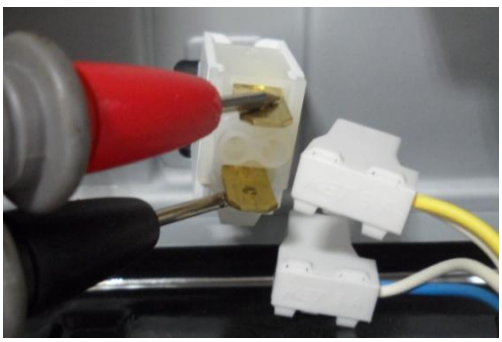
Check Point "Hot surface lamp resistance check.

Step 1

① Remove Cover back main.

Step 2

① Disassemble the Hot Surface Lamp (located at right side of energy regulator).
② Measure hot surface lamp resistance value. (resistance value : ∞Ω)



Step 3

① If the measured resistance value is different from specs, replace the Hot Surface Lamp.

Tip 5-3. Wire Harness Inspection

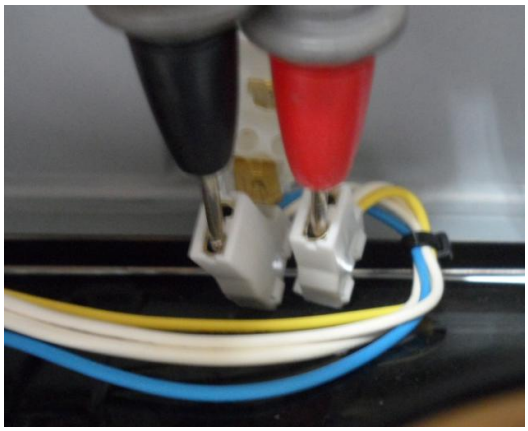
Check Point "Wire harness inspection.

Step 1

① Turn on the Cooktop for at least 30secs~1min.
② Remove Cover back main.

Step 2

① Disassemble the Hot Surface Lamp (located at right side of energy regulator).
② Remove the connector at hot surface lamp terminal.
③ Check if 120V is supplied at the terminal. (Blue White / Yellow White)



Step 3

① If 120V is not supplied, replace the Wire Harness or repair the damaged area.

Tip 6-1. Cooktop On/Off Lamp Check

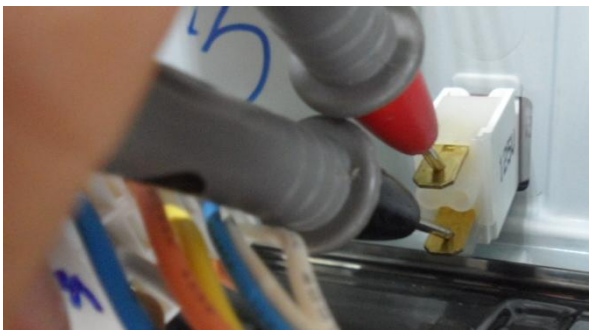
Check Point "Cooktop on/off lamp resistance check.

Step 1

① Remove Cover back main.

Step 2

① Disassemble the Cooktop on/off lamp (located at left side of energy regulator). Measure the lamp's resistance value. (resistance value : ∞Ω)



Step 3

① If the measured resistance value is different from specs, replace the Cooktop on/off lamp.

Tip 6-2. Wire Harness Inspection

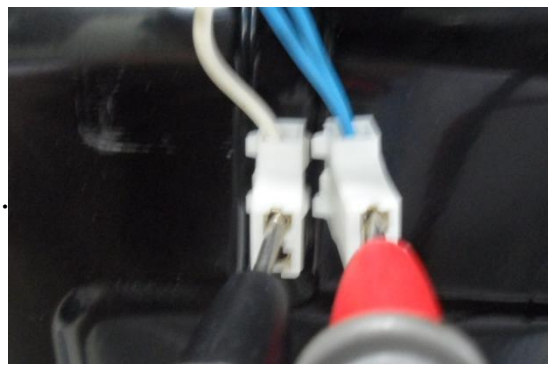
Check Point "Wire harness inspection.

Step 1

① Remove Cover back main.

Step 2

① Turn the Cooktop knob to 'On' position.
② Disassemble the Cooktop on/off lamp (located at right side of energy regulator).
② Remove the Cooktop on/off lamp terminal.
③ Check if 120V is supplied to the terminal. (blue blue / white)



Step 3

① If 120V is not supplied, replace the Wire Harness or repair the damaged area.

Tip 7-1. Fan Blade Damage or Deformation Check

Check Point "Fan blade damage inspection.

Step 1

① Disconnect the power and remove the rack inside Oven.
② Remove the rear cover back main wire and the Oven door.
③ Remove the Cover casing.

Step 2

① Loosen the Fan blade fastening nut.
(main CW / top and bottom CCW)
② Check the Fan blade for damage or deformation.

Step 3

① If the Fan blade is damaged or deformed, replace the Fan blade.

Tip 7-2. Fan Blade Interference Check

Check Point "Fan blade damage inspection.

Step 1

① Disconnect the power and remove the rack inside Oven.
② Remove the rear cover back main wire and the Oven door.
③ Remove the Cover casing.

Step 2

① Turn the Fan blade manually by hand, and check if any areas of the blade touch the Conv. Heater.
② Check the Fan blade for damage or deformation.

Step 3

① If there is interference between the Fan blade and the Conv. Heater, either replace the Fan blade or re-assemble the Conv. Heater properly so that it's centered.

Tip 7-3. Conv. Motor Inspection

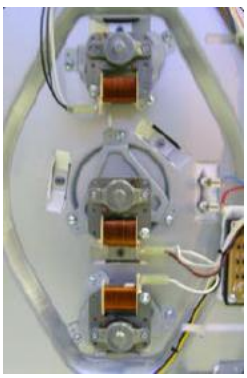
Check Point "Conv motor assembly state inspection.

Step 1

① Disconnect the power and remove the rack inside Oven.
② Remove the rear cover back main wire and the Oven door.
③ Remove the Cover casing.

Step 2

① Turn the Fan blade manually by hand, and check if any areas of the blade touch the Conv. Heater.
② Check the Fan blade for damage or deformation.
① Loosen the Fan blade fastening nut.
(main CW / top and bottom CCW)
② Check if the Motor is assembled and aligned properly to center.



Step 3

① Re-assemble to center the Motor.

Tip 8-1. Wire Harness Inspection

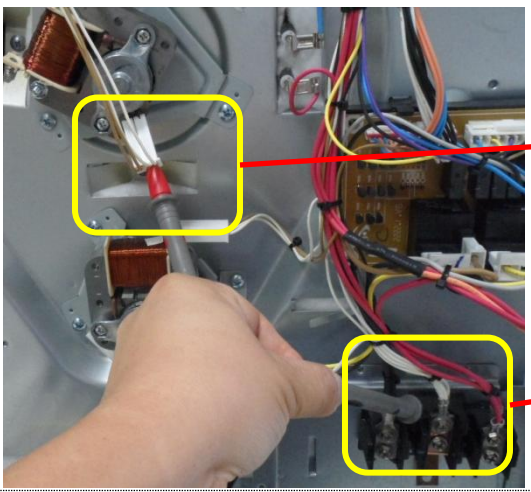
Check Point "Wire harness inspection.

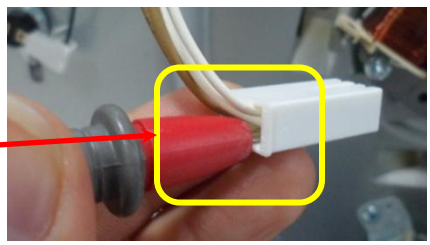
Step 1

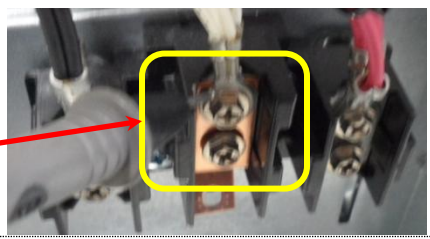
① Remove Cover back main.
② Disconnect power from Oven.

Step 2

① Check the connection between Conv. Motor and wire harness.
② Check the connection between Terminal Block's N-terminal & Conv. Motor.

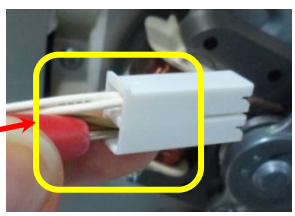


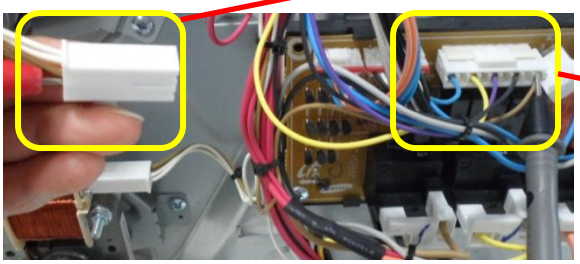


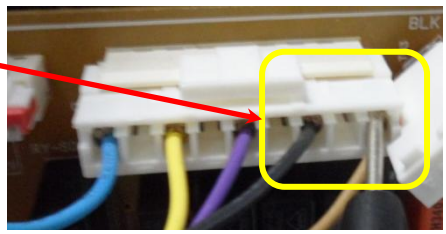


Step 3

① Check the connection between Sub PCB CN01 terminal #9 pin and Conv. Motor's brown wire.
② After checking, repair (or replace) the wire harness.
③ If no issues are found, finally check the Conv. Motor.





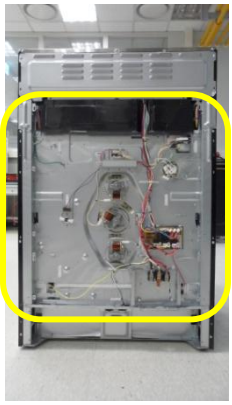


Tip 8-2. Conv. Motor Inspection

Check Point "Conv. Motor" voltage check.

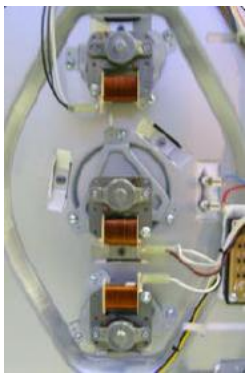
Step 1

① Remove Cover back main wire.
② Remove the terminal from Motor.
③ Measure the Motor resistance value.
Conv. Motor : 20 ~ 30Ω
Sub Motor(Upper,Lower) : 85 ~ 100Ω



Step 2

① If there are no issues with the Motor resistance value, reconnect the terminal to the Motor.
② Press the Conv. Bake key, then measure the Motor voltage.
(The fan may operate after ~1minute due to on-off cycle time)
Conv. and Sub motor : 120V



Tip 8-3. Sub PCB Inspection

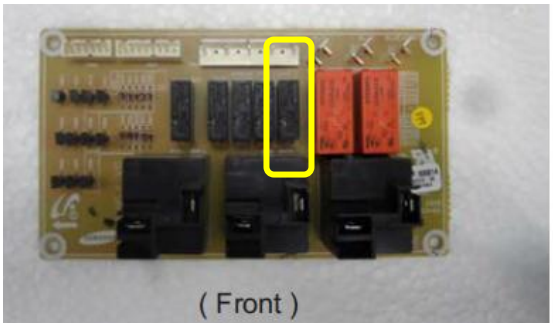
Check Point "Sub PCB" inspection.

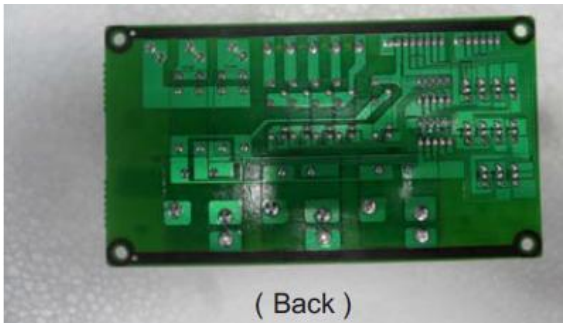
Step 1

① Remove Cover back main wire.
② Disconnect power from Oven.

Step 2

① Remove the Sub PCB from the Oven (like figure below).
② Inspect the Conv. Fan Relay(Ry08).





Step 3

① Check the connection between Main PCB (CN04,CN05) and Sub PCB(CN04,CN05)
② Check the Sub PCB backside for any pattern damage and solder condition.

Tip 9-1. Wire Harness Inspection

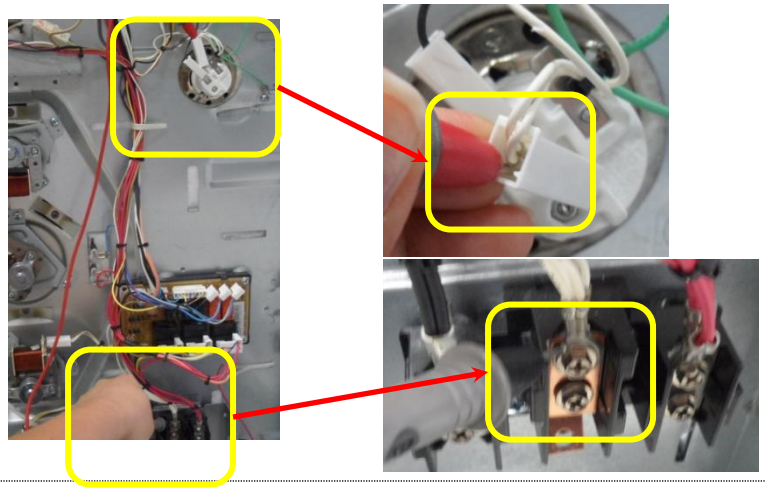
Check Point "Wire Harness" Inspection.

Step 1

① Remove Cover back main wire.

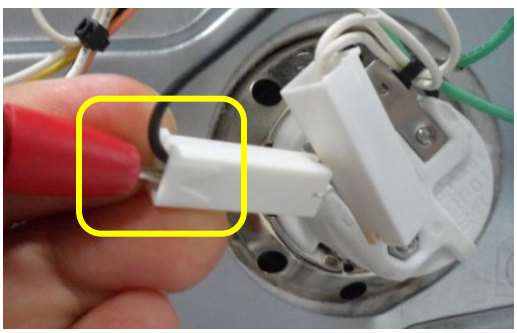
Step 2

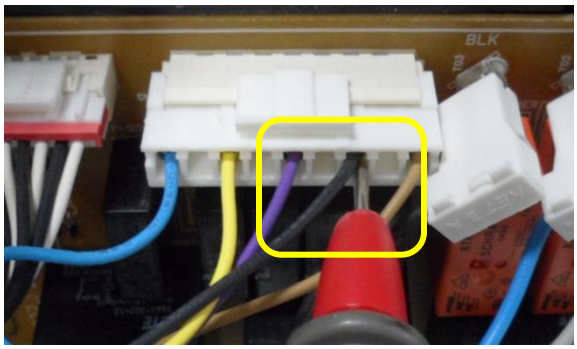
① Check for proper connection between Lamp and wire harness.
② Check the connection between the Terminal Block's N terminal and Lamp's white wire.



Step 3

① Check the connection between Sub PCB CN01 terminal's #7 pin and Oven Lamp's black wire.
② After checking, repair (or replace) the wire harness.





Tip 9-2. Bulb inspection

Check Point "Bulb" inspection.

Step 1

① Disconnect power from Oven.
② Remove the Oven door.

Step 2

① Remove the Glass bulb cover by turning CCW.
② Remove the Bulb from socket by turning CCW.
③ Check if the Bulb's Filament is broken.
④ If the Filament is broken, replace the bulb.

Tip 10-1. Latch door assy' deformation check

Check Point "Latch door assy" inspection.

Step 1

① Disconnect power from Oven.
② Remove Cover back main wire.
③ Remove the Oven door.
④ Lift up the Cooktop.
⑤ Remove the Latch door.
(Remove the 2 screws at the top-center of cavity.)

Step 2

① Remove the latch door from Cover back main guard.
(Remove 2 screws.)
② Check if the Latch door is properly functioning (check for any deformations or warpage).

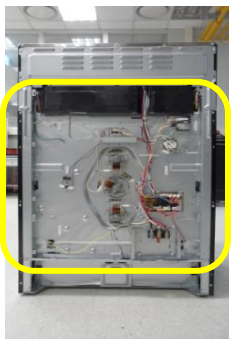
Tip 11-1. Temp. Sensor Resistance Value Check

E-27 or E-28 | **E-OE** | **E-OA or E08** | **SE**

Check Point "Temp. Sensor resistance value check.

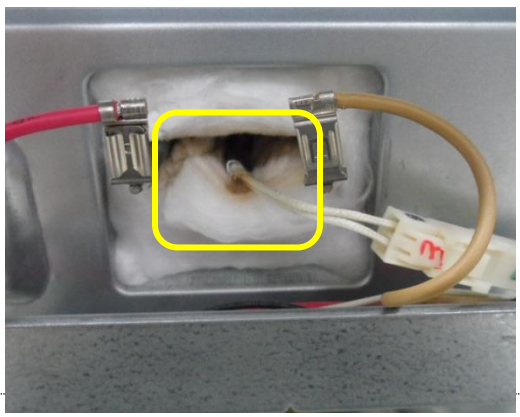
Step 1

① Remove Cover back main wire.
② Disconnect power from Oven.



Step 2

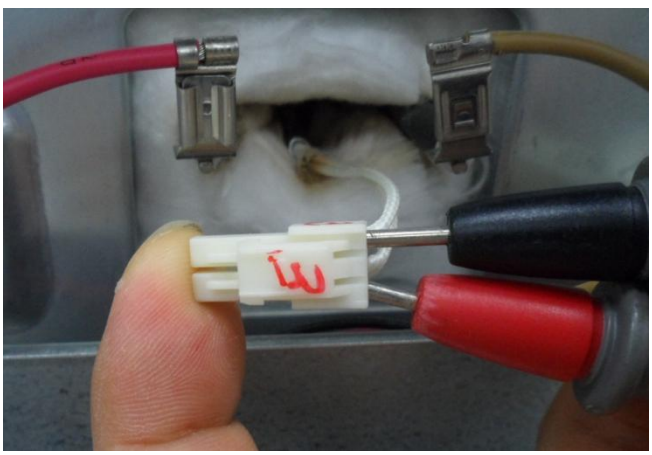
① Disconnect the Terminal from the Temperature Sensor, which is located on top of the Broil Heater.



Step 3

① Measure the resistance value of the Temperature Sensor
(At room temp. : About 1080Ω)

② If the resistance value does not meet the specs, replace the Temp. Sensor.



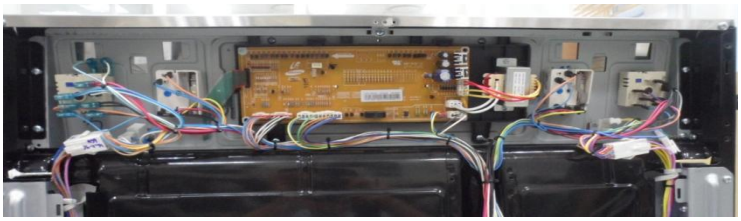
Tip 11-2. Wire Harness Connection Check

E-27 or E-28 | **E-OE** | **E-OA or E08** | **SE**

Check Point "main PCB Wire harness connection check.

Step 1

① Remove Cover back main.



Step 2

① Check the connection of CN03.
② Check the connection of Temp. sensor.

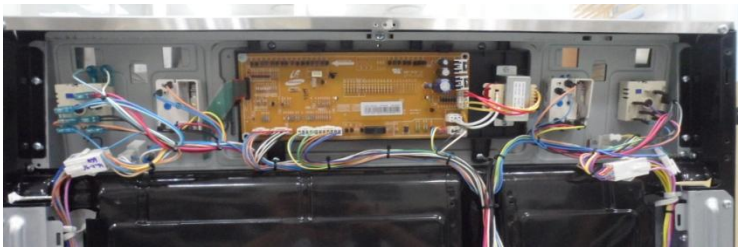
Tip 11-3. Main PCB Connector(CN02) Check

E-27 or E-28 | **E-OE** | **E-OA or E08** | **SE**

Check Point "main PCB Wire harness connection check.

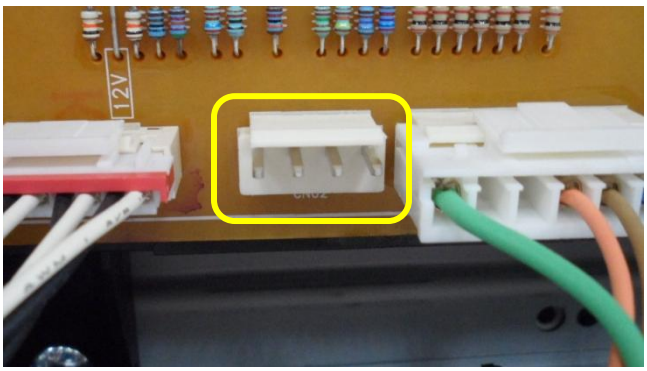
Step 1

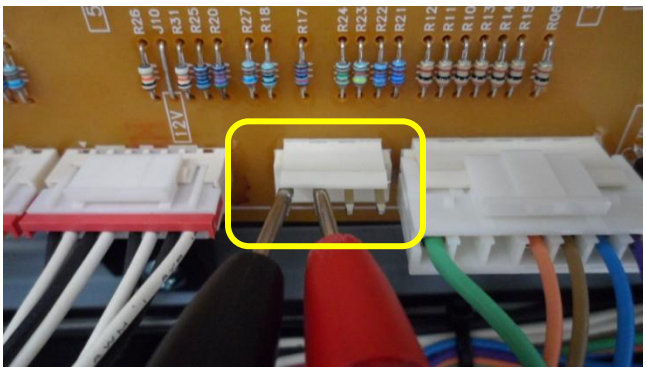
① Remove Cover back main.



Step 2

① Measure the resistance value of Main PCB CN(02) Connector.
(Normal : 2850Ω)





Step 3

① If CN(02) Connector's resistance value does not meet the specs, replace the Main PCB.

Tip 11-4. Main PCB Pattern Damage Check

E-27 or E-28 | E-OE | E-OA or E08 | SE

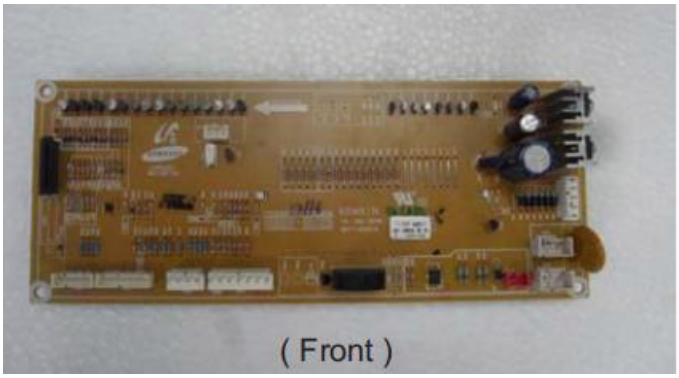
Check Point "main PCB pattern damage" inspection.

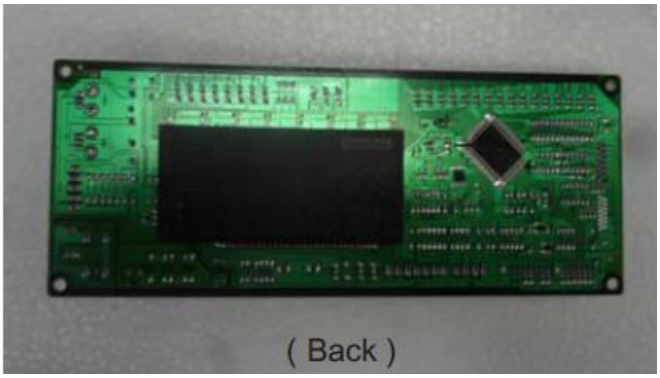
Step 1

① Remove Cover back main.
② Disconnect power from Oven.

Step 2

① Disassemble the Main PCB.
② Check the Main PCB backside for any pattern damage and solder condition.



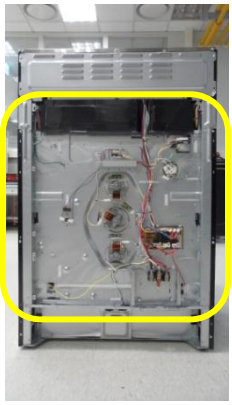


Tip 12-1. Sub PCB Relay Check

Check Point "Sub PCB Relay check.

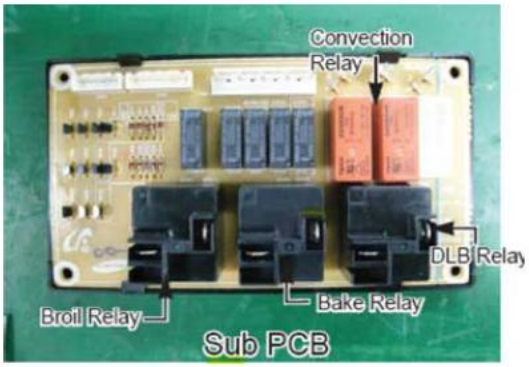
Step 1

① Remove Cover back main.
② Disconnect power from Oven.



Step 2

① Remove the Sub PCB from Oven (see figure below).
② Measure the resistance value of each Relay.
(From the Left in order : Broil, Bake, DLB Relay)
(Normal : ∞Ω)



Step 3

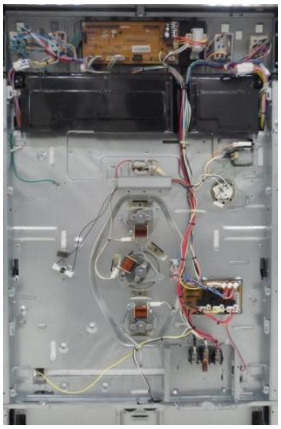
① If any of the Relay resistance values do not meet the specs, replace the Sub PCB.
(Normal : ∞Ω)

Tip 12-2. Wire Harness Connection Check

Check Point “main PCB Wire harness connection check.

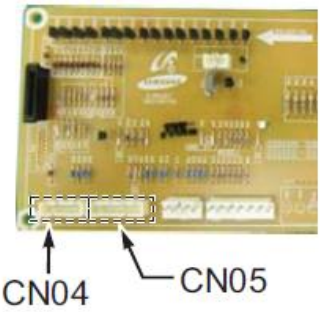
Step 1

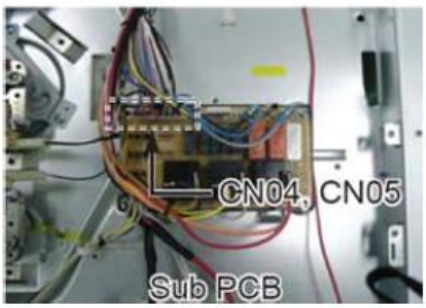
① Remove Cover back main.
② Remove Cover back main wire.



Step 2

① Check the wire harness connection on the Sub PCB.
② Check the wire harness connection on the Main PCB.





Step 3

① If the wire harness isn’t properly connected, or any damage is found, repair or replace the wire harness.

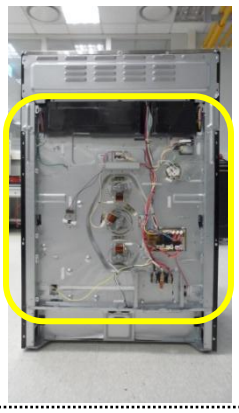
Tip 13-1. Micro S/W Operation Check

E-08 Error **Latching door inoperable**

Check Point "Micro S/W" Inspection

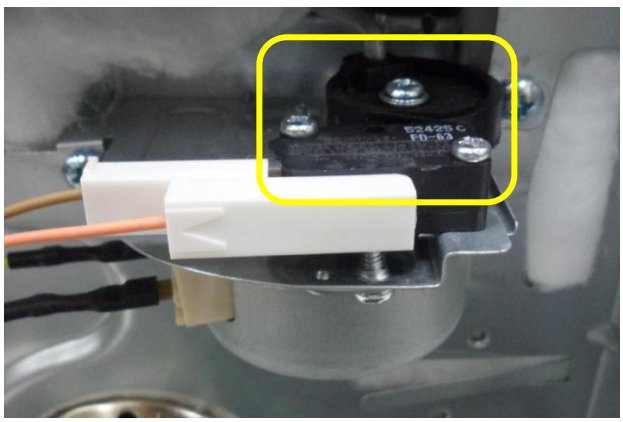
Step 1

① Remove Cover back main wire.



Step 2

① Inspect the Micro S/W(COM-NO) in the Door latch Assy (located top right side).
(com-NO : ∞ at room temperature)
* COM : orange color
* NO : brown color



Step 3

① If issues are found with Micro S/W, replace the Micro S/W.

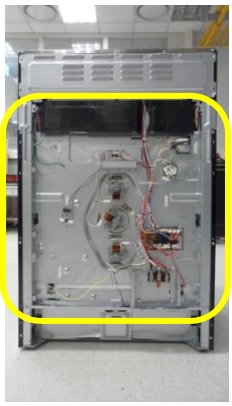
Tip 13-2. Latch Motor Operation Check

E-08 Error **Latching door inoperable**

Check Point "Latch door motor resistance check.

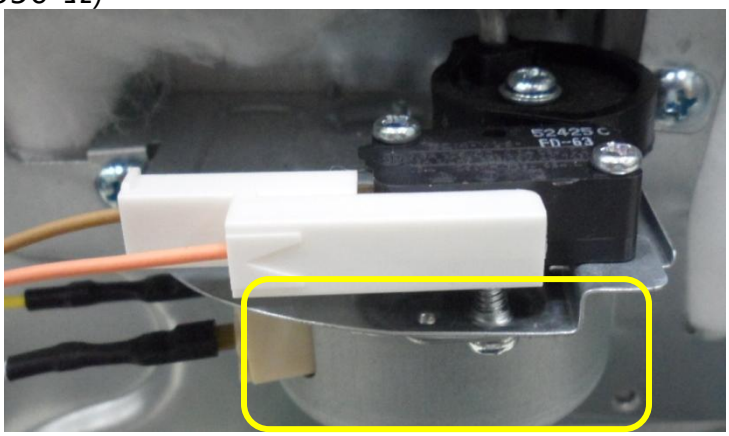
Step 1

① Remove Cover back main wire.



Step 2

① Inspect the Latch Motor in the Door latch Assy (located top right side).
(Motor resistance : 1750 ~ 1850 Ω)



Step 3

① Supply power (AC 120V) to the Latch motor and check for normal motor operation.

② If the Motor is not operating properly, replace the Motor.

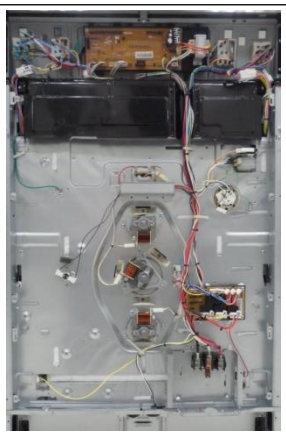
Tip 13-3. Wire Harness Connection Inspection

E-08 Error **Latching door inoperable**

Check Point "Wire harness connection inspection.

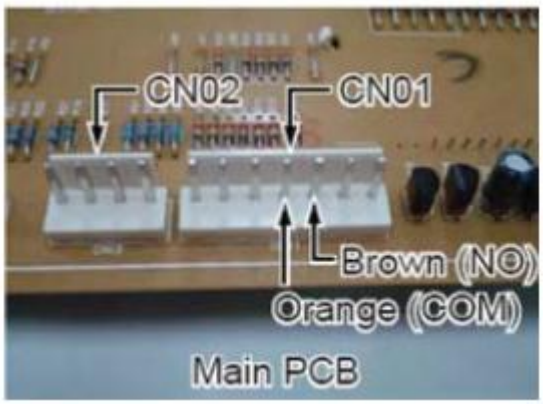
Step 1

① Remove Cover back main.
② Remove Cover back main wire.



Step 2

① Remove Cover back main.
② Check for proper connection between Main PCB CN01 and wire harness.
③ Check the resistance value of Main PCB CN01.
(At room temp. COM-NO : ∞Ω)
COM : Black color
NO : yellow color

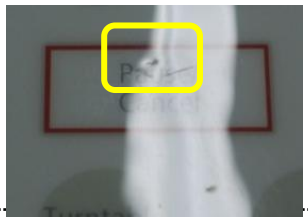


Tip 14-1. Keypad Short Check

Check Point "Keypad short check.

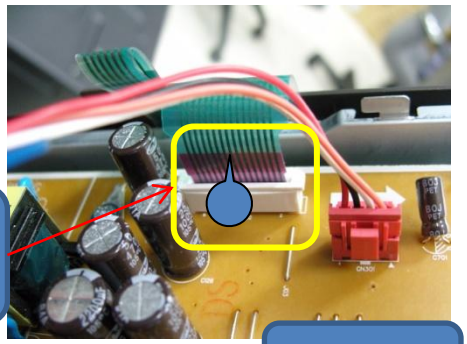
Step 1

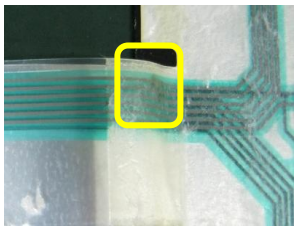
① Remove Cover back main.
② Check for any imprints or dents on the Key Panel.

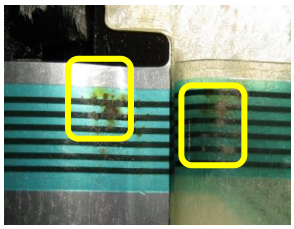


Step 2

① Check if Key Panel ribbon cable connector is inserted properly.
→ over-insert, moisture intrusion
② Check if there's any corrosion or damage to the ribbon cable pattern.







Step 3

① If there's a Shorted area between the Keypad and the cable, replace the Keypad.