SAMSUNG

INDUCTION HOB

BASIC	:	NZ63K7777BK
MODEL	:	NZ64K5747BK
MODEL CODE	:	NZ64K5747BK/EF
		NZ64K5747BK/EU
		NZ64K5747BK/EO
		NZ64K5747BK/EE
		NZ64K5747BK/WT
		NZ64K5747BK/ET

SERVICE Manual

INDUCTION HOB

NZ64K5747BK

CONTENTS

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1. General Safety Precautions

1. Information contained in this manual is intended for use by a qualified service technician. The technician is required to be familiar with proper and safe procedures to be followed when repairing appliance.
   All tests and repairs are to be performed using proper tools and measuring devices. All component replacements should be made **using only factory approved replacement parts**.

2. Electrical shock and injury can result if service or repairs are attempted by an unqualified individual. **Improper disassembly, assembly or adjustments can create hazardous conditions**.

3. Even for a skilled technician, a risk of injury or electrical shock exists while performing service or repairs. Electrical injury can be serious or fatal. **Extreme caution must taken when performing voltage checks on individual components of an appliance**.

> **NOTE**
>
> Except as necessary to perform a particular step in servicing a product, the electrical ***power supply should always be disconnected when servicing a product.***

4. To avoid possible injury, the appliance must be properly grounded. Never plug in or direct wire an appliance unless it is **properly grounded. See the installation instructions that originally accompanied the product for proper grounding procedures**.

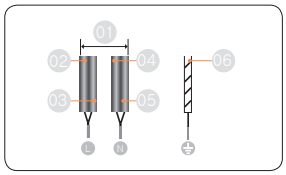
5. The ventilation gap between the worktop and front of the unit underneath it must not be covered.

6. Before connecting, check that the nominal voltage of the appliance, that is, the voltage stated on the rating plate, corresponds to the available supply voltage. The rating plate is located on the lower casing of the hob.

7. The heating element voltage is AC230V~. The appliance also works perfectly on networks with AC220V~ or AC240V~.

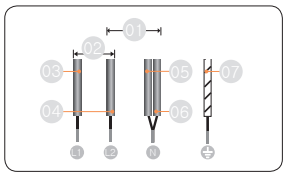
8. The hob is to be connected to the mains using a device that allows the appliance to be disconnected from the mains at all poles with a contact opening width of at least 3 mm, eg. automatic line protecting cut - out, earth leakage trips or fuse.

9. Pay attention (conformity) to phase and neutral allocation of house connection and appliance (connection schemes); otherwise, components can be damaged.
   Warranty does not cover damage resulting from improper installation.
   If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.



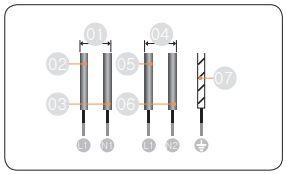
1N~ (32A)

01	220-240 V ~	04	Blue
02	Brown	05	Gray
03	Black	06	Green/Yellow



2N~ (16A): Separate the 2-phase wires (L1 and L2) before connection.

01	220-240 V ~	05	Blue
02	380-415 V ~	06	Gray
03	Brown	07	Green/Yellow
04	Black		



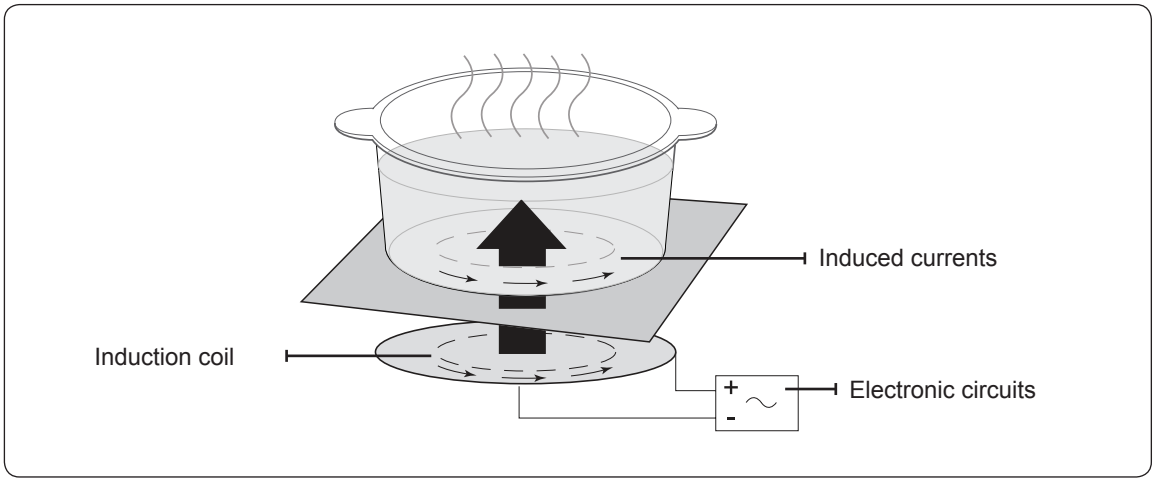
2 x 1N~ (16A): Separate the wires before connection.

01	220-240 V ~	05	Black
02	Brown	06	Gray
03	Blue	07	Green/Yellow
04	220-240 V ~		

2. Specifications

2-1 Induction Heating

- The Principle of Induction Heating: When you place your cookware on a cooking zone and you turn it on, the electronic circuits in your induction hob produce "induced currents" in the bottom of the cookware which instantly raise cookware's temperature.



2-2 Features

Model Name	Basic Model	New Model
	NZ63J9770EK	NZ64K5747BK
Product Type	Induction Hob	Induction Hob
Glass	Ceramic Glass	Ceramic Glass
Control Method	Touch Sensor	Touch Sensor
Residual Heat Indicator	Yes	Yes
Safety Shutoff	Yes	Yes
Pan Detection	Yes	Yes
Install Type	Built-In	Built-In
Design	1Bevel	1Bevel
Electric Features		
Burner Power		
Front Left	1,800W/Boost 2,600W	
Rear Left	1,800W/Boost 2,600W	
Flex Front		1,800W/Boost 2,600W
Flex Rear		1,800W/Boost 2,600W
Rear Right	-	1,400W/Boost 2,000W
Front Right	2,200W/Boost 3,200W	2,200W/Boost 3,200W
Flex zone	3,300W/Boost 3,600W	3,300W/Boost 3,600W
Burner Size		
Rear Right	-	145mm
Front Right	200mm	210mm

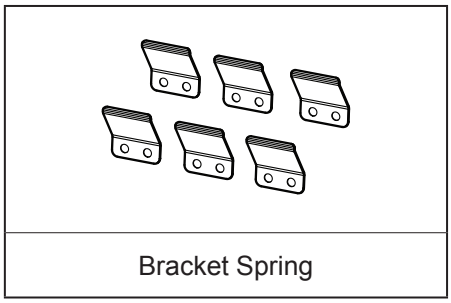
2. Specifications

Model Name		Basic Model	New Model
		NZ63J9770EK	NZ64K5747BK
Control Features			
Sound on/off Headen Lock		Yes	Yes
Power Level		1~15 level	1~15 level
Timer	Kichen Timer	Yes	Yes
	Alarm	Yes	Yes
Power Control		15+Booster	15+Booster
Direct Access	+/-1	Yes	Yes
Power On/Off		Yes	Yes
Ready Pan	Flex Zone	Yes	No
Keep Warm	+/-1	Yes	Yes
Pause		Yes	Yes
Quick Start		Yes	Yes
Quick Stop		Yes	Yes
Demo Mode		Yes	Yes

2-3 Table of Specification

Model Name	Basic Model	New Model
	NZ63J9770EK	NZ64K5747BK
Electrical Connection	220~240V, 50/60Hz	220~240V, 50/60Hz
Rated voltage	2N : 380~415V, 50/60Hz	2N : 380~415V, 50/60Hz
Mains-connection	1N : 220~240V, 50/60Hz	1N : 220~240V, 50/60Hz
Output Power	Max 6,800W	Max 7,200W
"Outside Dimensions (WxLxH)"	600 x 520x 56 mm	600 x 520x 56 mm
Net Weight	13.5kg	12.7kg
Gross Weight	16.5kg	15.5kg
Export Zone	EU	EU

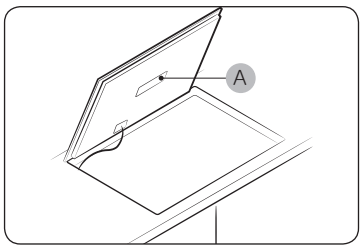
2-4 Accessory



Bracket Spring

2-5 Installing the hob

2-5-1 Installing into the countertop



A. Serial number

NOTE

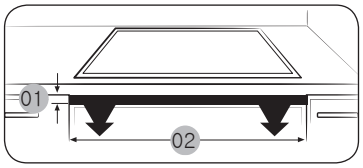
Make a note of the serial number on the appliance rating label prior to installation. This number will be required in the case of requests for service and is no longer accessible after installation, as it is on the original rating plate on the underside of the appliance.

NOTE

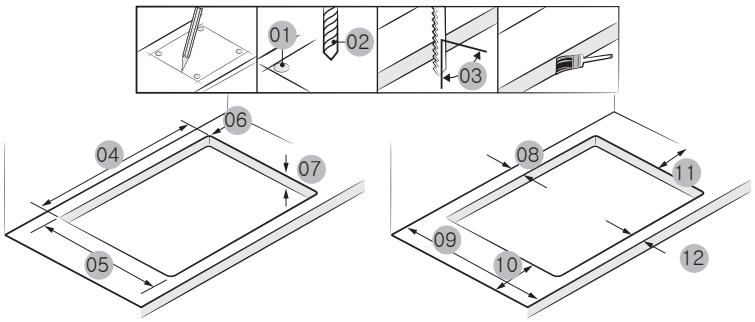
Pay special attention to the minimum space and clearance requirements.

NOTE

The bottom of the hob is equipped with a fan. If there is a drawer under the hob it should not be used to store small objects or paper, since they could damage the fan or interfere with the cooling if they are sucked into it.

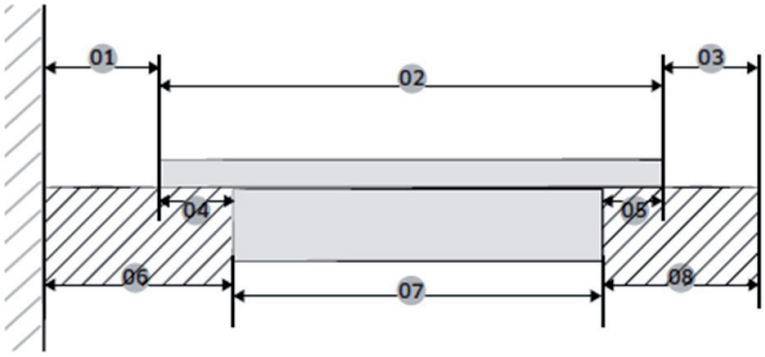


No.	Explanation	Size
01	Height of ventilation hole	Min 2 mm
02	Width of ventilation hole	560 mm

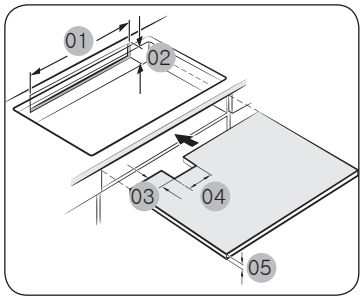


No.	Explanation	Size
01	Check 4 Point	
02	Drill diameter	Ø 6
03	Right angle of cutting point	90 °
04	Width Size	560±1 mm
05	Height Size	490±1 mm
06	Curve Size	R3
07	Size of table thickness	Max 50 mm, Min 20 mm
08	Distance between end of table and cutting point (Top-side)	Min 60 mm
09	Height of table	Min 600 mm
10	Distance between end of table and cutting point (Left-side)	Min 60 mm
11	Distance between end of table and cutting point (Right-side)	Min 60 mm
12	Distance between end of table and cutting point (Bottom-side)	Min 50 mm

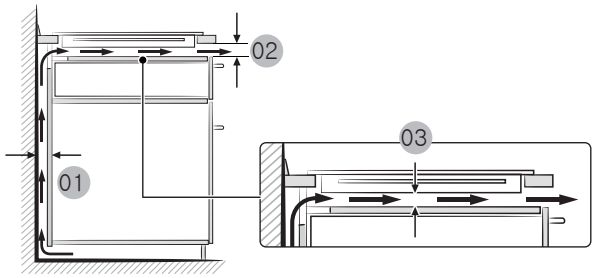
2-5 Installing the hob



No.	Explanation	Size
01	Distance between wall and Induction	Min 40 mm
02	Size of depth of Induction	520 mm
03	Distance between Induction and end of table	Min 40 mm
04	Distance between glass and case burner	25 mm
05	Distance between glass and case burner	15 mm
06	Distance between wall and case burner.	Min 60 mm
07	Size of depth of case burner	480 mm
08	Distance between case burner and end of table	Min 50 mm

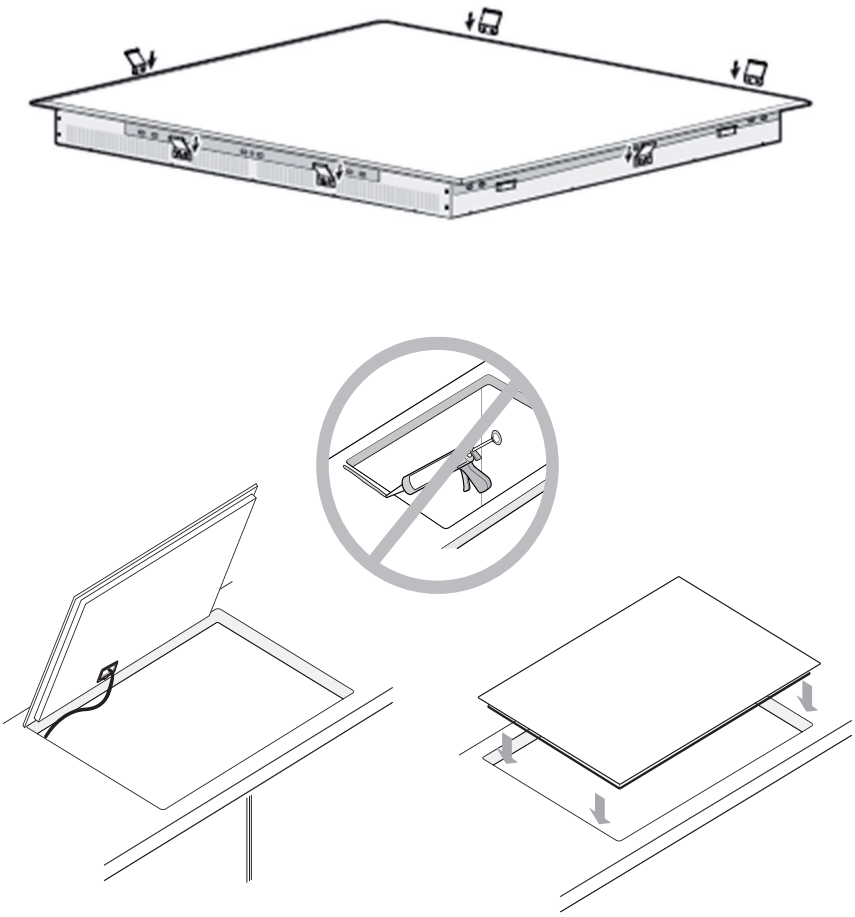


No.	Explanation	Size
01	Width of rear ventailation	Min 550 mm
02	Height of rear ventaliation	Min 35 mm
03	Depth of power cord path	Min 65 mm
04	Width of power cord path	Min 100 mm
05	Height of block board	Min 5 mm



No.	Explanation	Size
01	Size of Ventaliation	Min 20 mm
02		Min 2 mm
03		Min 20 mm

2-5 Installing the hob



3. Disassembly and Reassembly

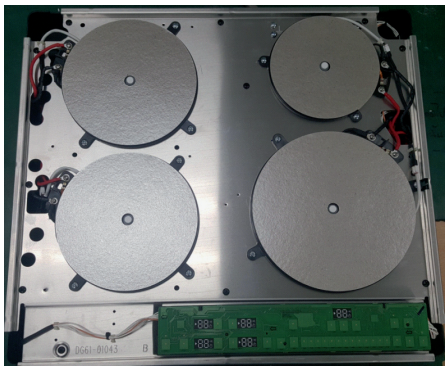
3-1 Tools for Removal and Reassembly

Tool	
	1. Tool : Longnose 2. Remarks : PBA hook
	1. Tool : Driver 2. Type : (+) 3. Remarks : SCREW

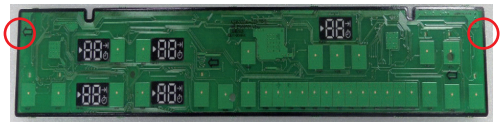
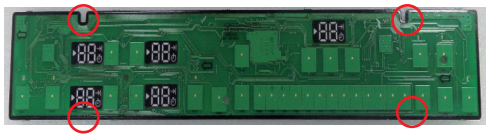
3-2 Replacement of the Assy Top Plate

Attention

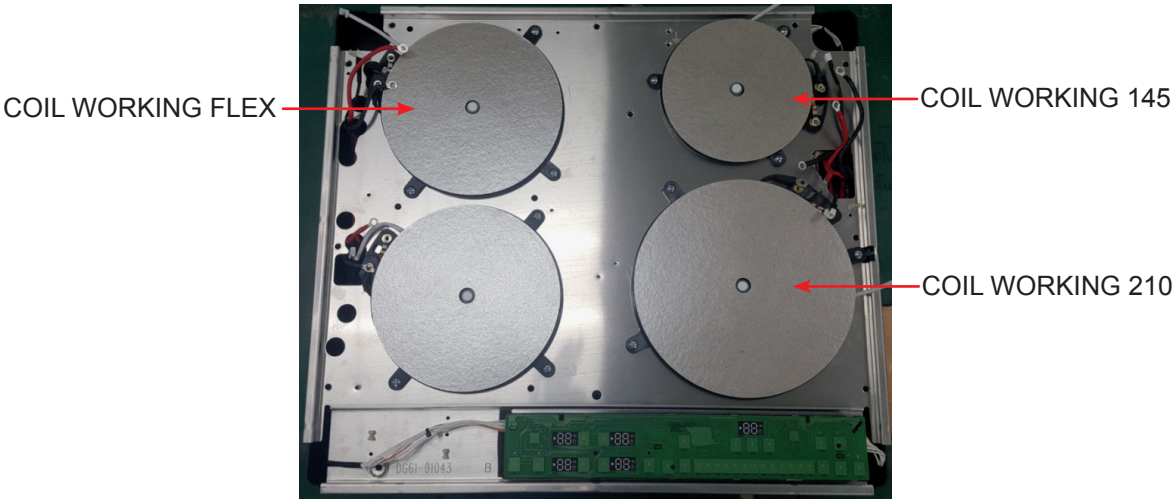
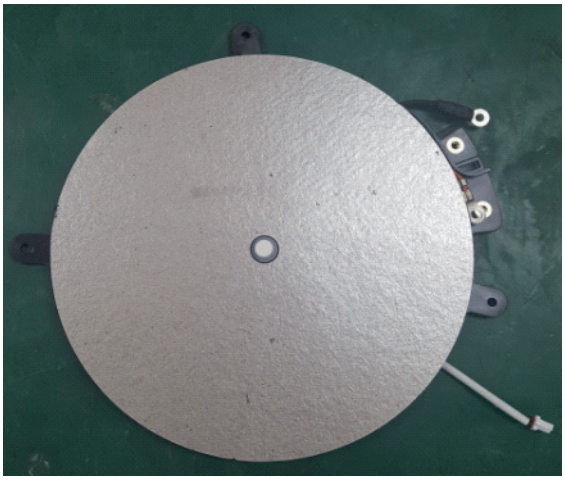
The Ceramic Glass may break if you use force especially on the edge.

Parts	Explanation Photo	Explanation
Assy Top Plate (Ceramic Glass)		1. Disconnect power. 2. Remove 4 - side direction 16 Screws securing the Assy Top Plate to the Assy Case Burner. 3. Raise the Assy Top Plate. 4. After replacement of the Assy Top Plate, Screw the Assy Top Plate to the Assy Case Burner.

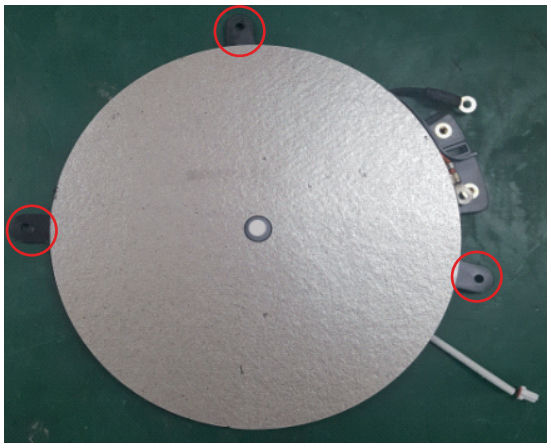
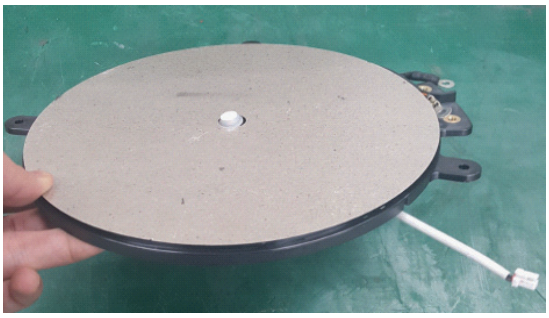
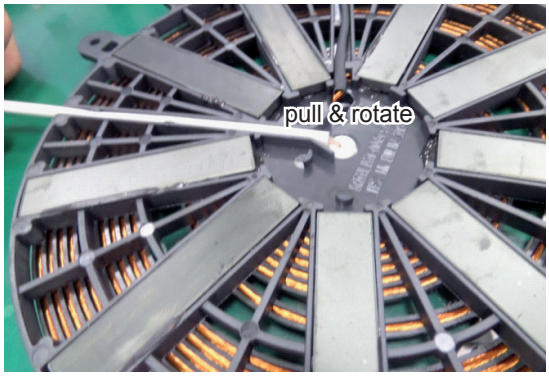
3-3 Replacement of the Assy Control Panel

Parts	Explanation Photo	Explanation
Assy Control Panel		1. Lift up the Control Panel Assy. 2. Disconnect all connectors.
		3. Control PBA is fixed by double-faced tape. Separate Control PBA from Support PCB.

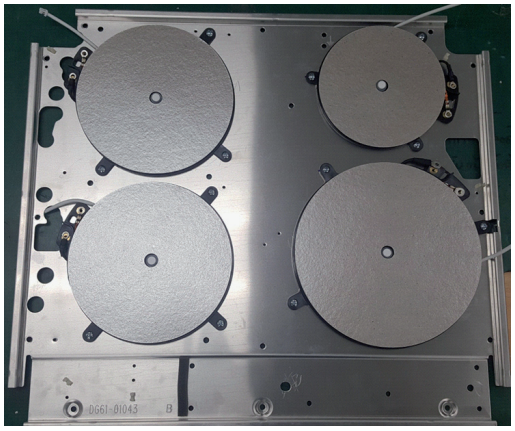
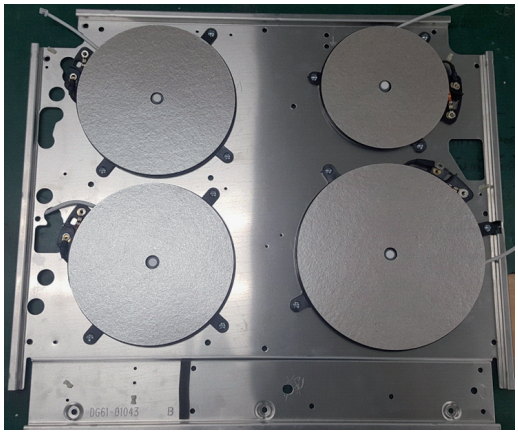
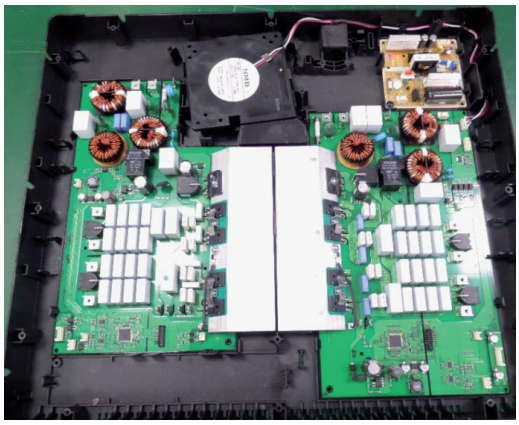
3-4 Replacement of the Working Coil

<table>
<tr><th colspan="3">Explanation Photo</th></tr>
<tr><td colspan="3"> 
</td></tr>
<tr><th>Parts</th><th>Explanation Photo</th><th>Explanation</th></tr>
<tr><td>Working Coil</td><td>  </td><td>1. Bend the Cover-Coil a little.</td></tr>
</table>

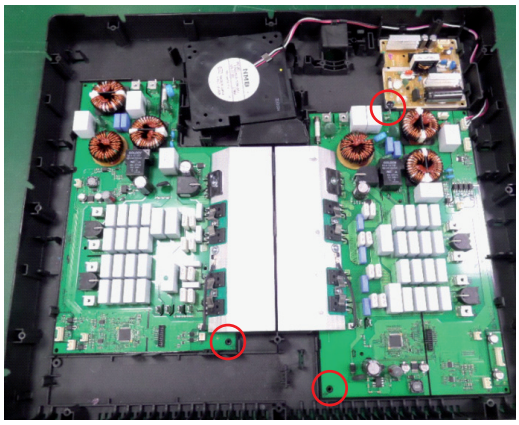
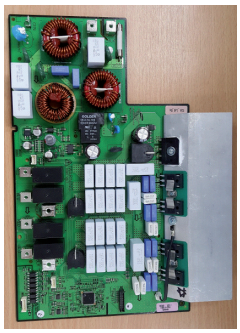
3-4 Replacement of the Working Coil

Parts	Explanation Photo	Explanation
Working Coil	 	2. Remove Screws securing the Working-Coil 3. Disconnect all lead wires from the Assy-Working Coil.
		4. For the replacement of Sensor-Top, pull the Sensor-Top toward bottom side. 5. Rotate the Sensor-Wire by 90degree until the Sensor-Top can be remove from the Coil-Working.

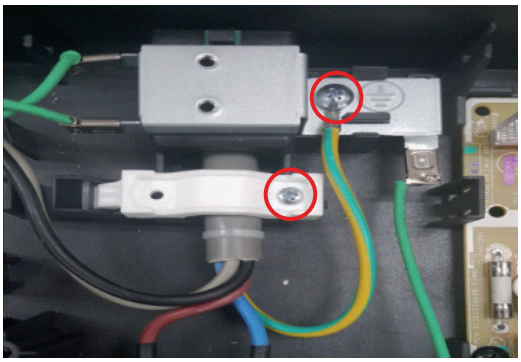
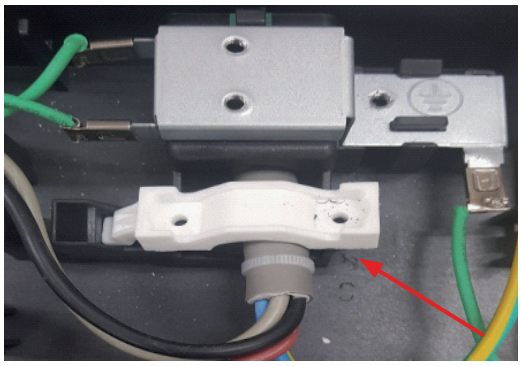
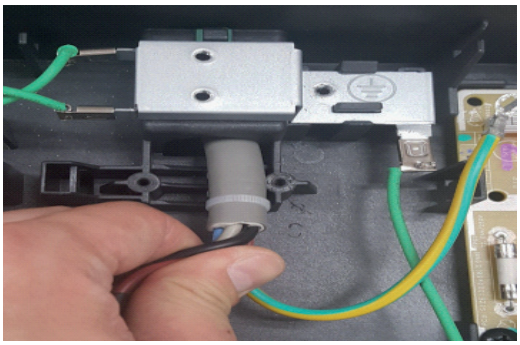
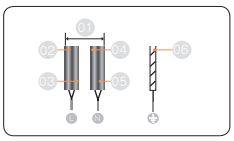
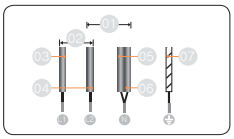
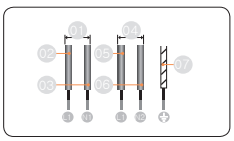
3-5 Replacement of the PBA

Parts	Explanation Photo	Explanation
PBA		1. Remove all screws securing the CASE-INDUCTION. 2. Disconnect all wires from the WORKING-COIL.
		3. Remove the CASE-INDUCTION.
		4. Disconnect all wires from the PBA.

3-5 Replacement of the PBA

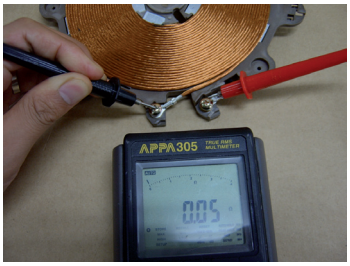
Parts	Explanation Photo	Explanation
PBA		5. Remove all screws securing the PBA.
	 	6. The PBA is fixed in place by a series of hooks. Remove these using a tool Then remove the PBA.

3-6 Replacement of the POWER CABLE

<table>
<tr><th>Parts</th><th>Explanation Photo</th><th>Explanation</th></tr>
<tr><td rowspan="4">Power Cable</td><td>  </td><td>1. Remove screws securing the GND WIRE and HOLDER-CABLE.</td></tr>
<tr><td>  </td><td>2. Remove locking holder.</td></tr>
<tr><td>  </td><td>3. Pull the POWER CABLE outwards to remove it from the socket.</td></tr>
<tr><td> 
1N~ (32A)
01 220-240 V ~ 04 Blue
02 Brown 05 Gray
03 Black 06 Green/Yellow
 
2N~ (16A): Separate the 2-phase wires (L1 and L2) before connection.
01 220-240 V ~ 05 Blue
02 380-415 V ~ 06 Gray
03 Brown 07 Green/Yellow
04 Black
 
2 x 1N~ (16A): Separate the wires before connection.
01 220-240 V ~ 05 Black
02 Brown 06 Gray
03 Blue 07 Green/Yellow
04 220-240 V ~</td><td>4. After finishing service, connect the power cable properly to main power supply.</td></tr>
</table>

4. Troubleshooting

4-1 Part Checking method

Parts	Photo	Good	No Good
SENSOR TEMP (DG32-00015A)		20˚C : 292.9kΩ 40˚C : 118.7kΩ 60˚C : 52.76kΩ 80˚C : 25.38kΩ	The others
IGBT Sensor (DE95-00001A)		20˚C : 57.9KΩ ~ 65.5KΩ 25˚C : 46.4KΩ ~ 52.2KΩ 30˚C : 37.5KΩ ~ 41.9KΩ	The others
Coil-Working		0.01~1Ω	100MΩ exceed

4-2 DEMO mode

This mode is for Shop display.
At this mode, user can only operate touch key button without burner power on.

1. Touch Lock key for 3 seconds. 
2. Touch Timer key for 3 seconds. An acoustic signal will sound. 
3. Touch Pause key for 3 seconds within 10 seconds. An acoustic signal will sound. 
4. Demo mode will be activated.
5. To exit the Demo mode, repeat No.1 ~ 3 procedure.

4-3 Failure Codes

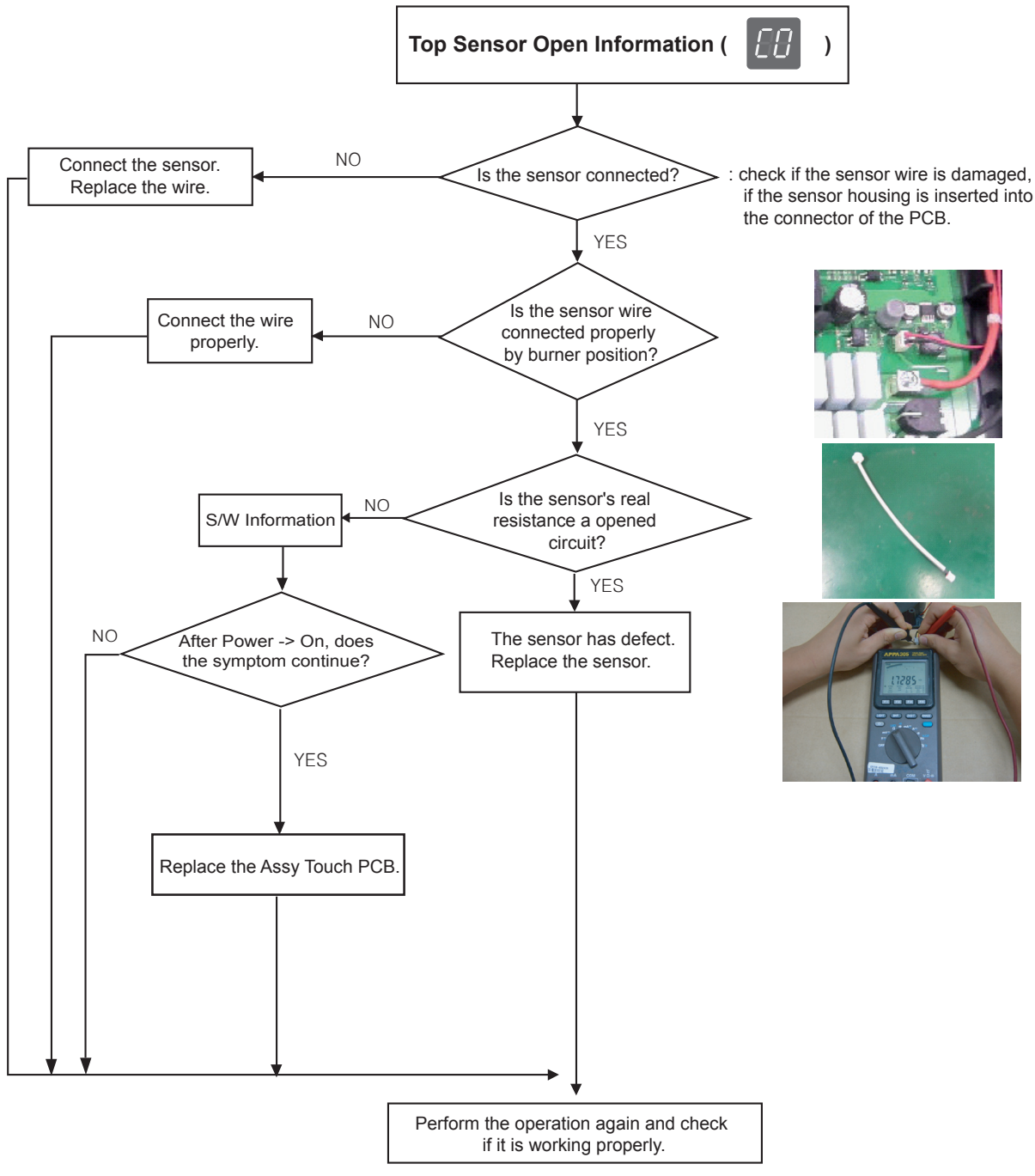
4-3-1 Temp Sensor Information

Information Code	Solution	Page
	**Top Sensor Open Information (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.	18 Page
	**Top Sensor Short Information (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.	19 Page
	**IGBT Sensor Open Information (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.	20 Page
	**IGBT Sensor Short Information (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.	21 Page

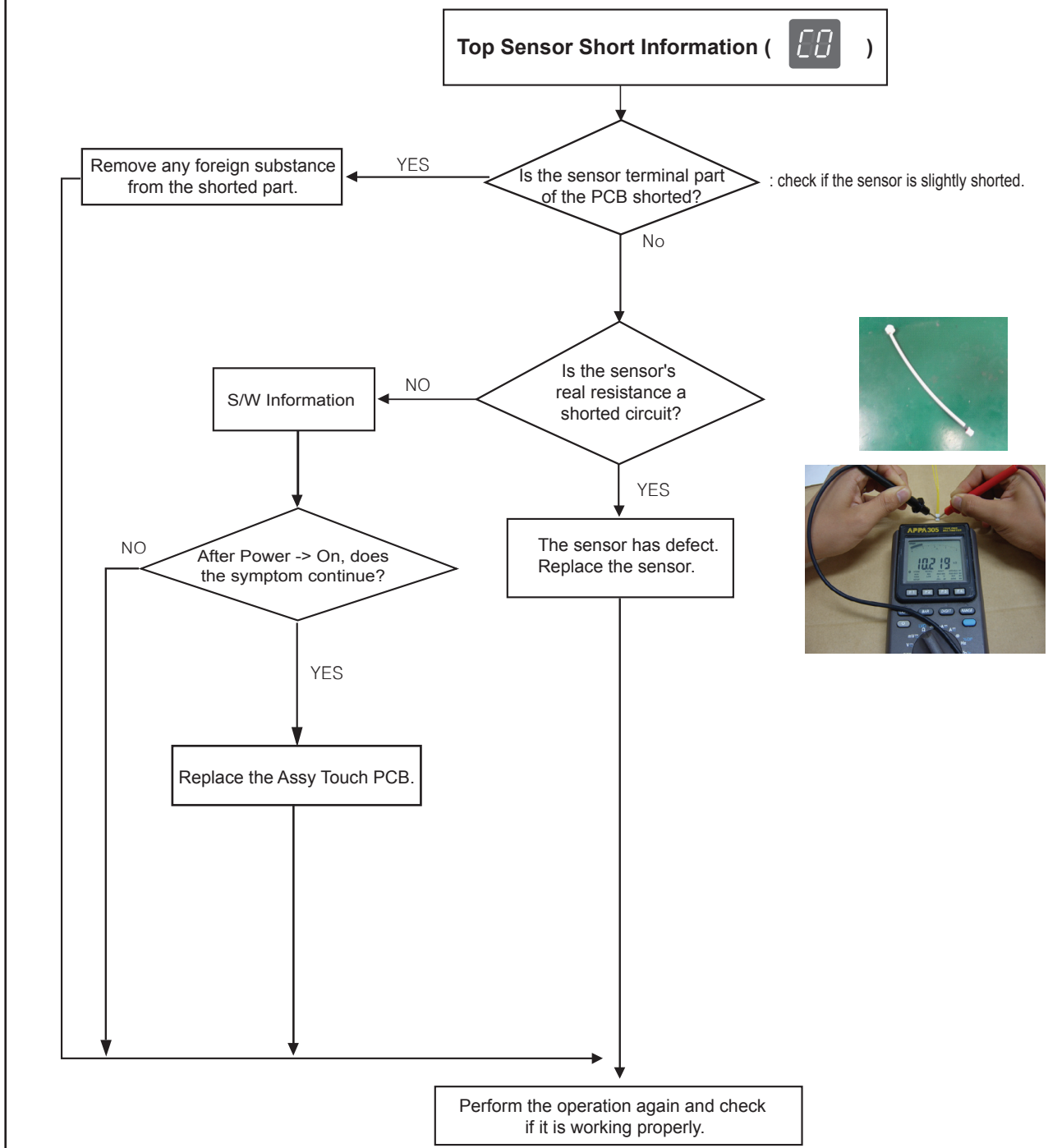
4-3-2 Safety Information

Information Code	Gerneral Function	Solution	Page
	Touch Button Short Information	It occurs when the control panel's sensor field is shorted for more than 8 seconds. ex: No.1 Place a damp cloth on the control panel. No.2 Liquid boils over and lands on the control panel. No.3 More than one key is pressed for more than 8 seconds. No.4 Defective Assy-Touch PCB	22 Page
	Touch key data Information	It occurs when the Touch key data at Display PCB is interrupted, due to some noise, defects of Display PCB.	23 Page
	Over Temperature Information	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 hob.	24 Page
	Pan Detection Information	It occurs when the cookware is unsuitable or too small or no cookware has been placed on the cooking zone. If the suitable cookware is placed again, the hob will operate normally.	25 Page
	DC Motor Locking Information	It occurs when the DC Motor cannot operate due to defects of PCB, wiring or some disturbance on motor blade.	26 Page
	Communications between main	It occurs when the Main PCB and sub PCB not communication.	27 Page

4-3-3 C0

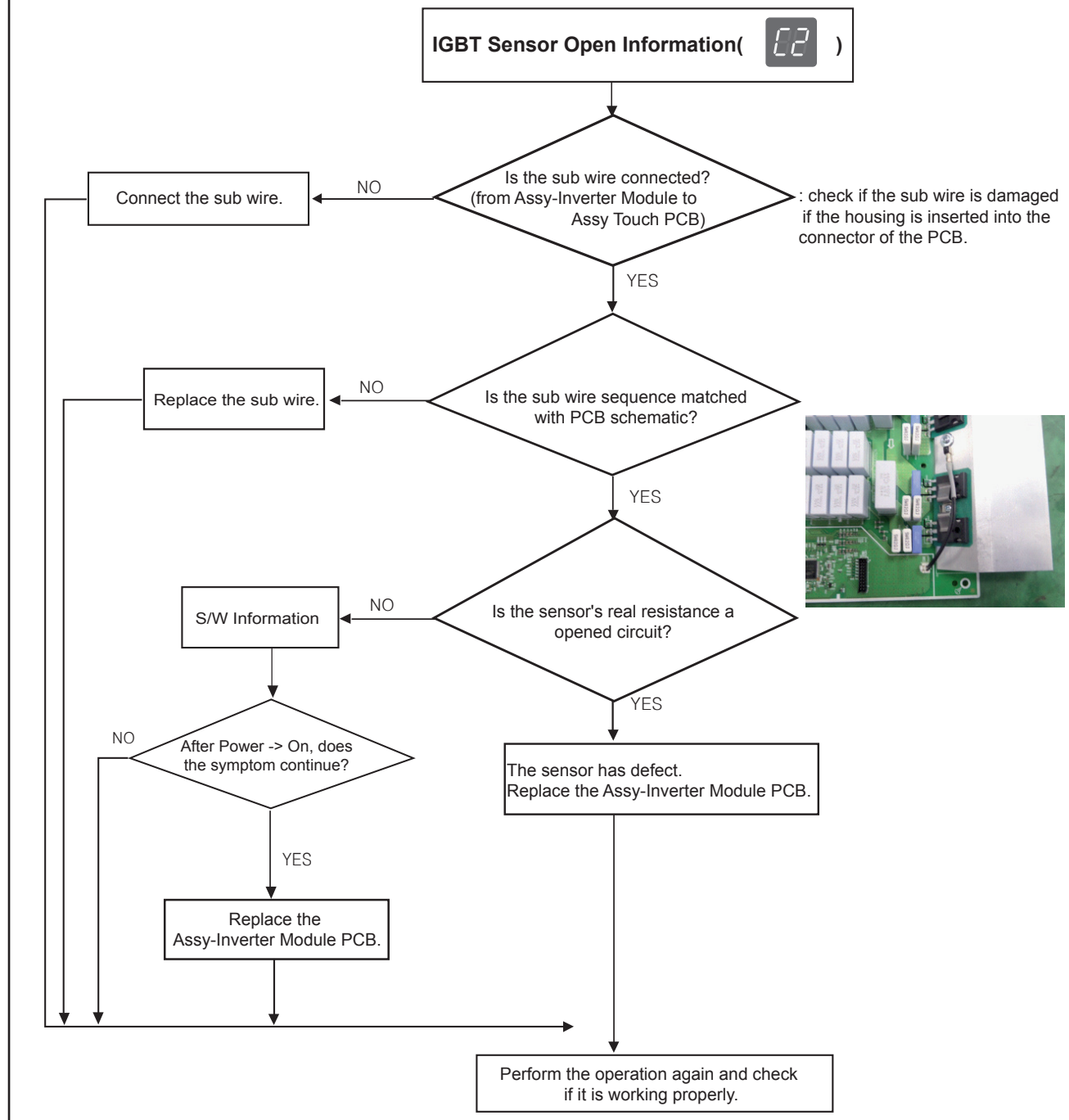

Top Sensor Open Information (C0)
Is the sensor connected?
NO
Connect the sensor.
Replace the wire.
: check if the sensor wire is damaged,
if the sensor housing is inserted into
the connector of the PCB.
YES
Is the sensor wire
connected properly
by burner position?
NO
Connect the wire
properly.
YES
Is the sensor's real
resistance a opened
circuit?
NO
S/W Information
YES
The sensor has defect.
Replace the sensor.
NO
After Power -> On, does
the symptom continue?
YES
Replace the Assy Touch PCB.
Perform the operation again and check
if it is working properly.

4-3-4 C0

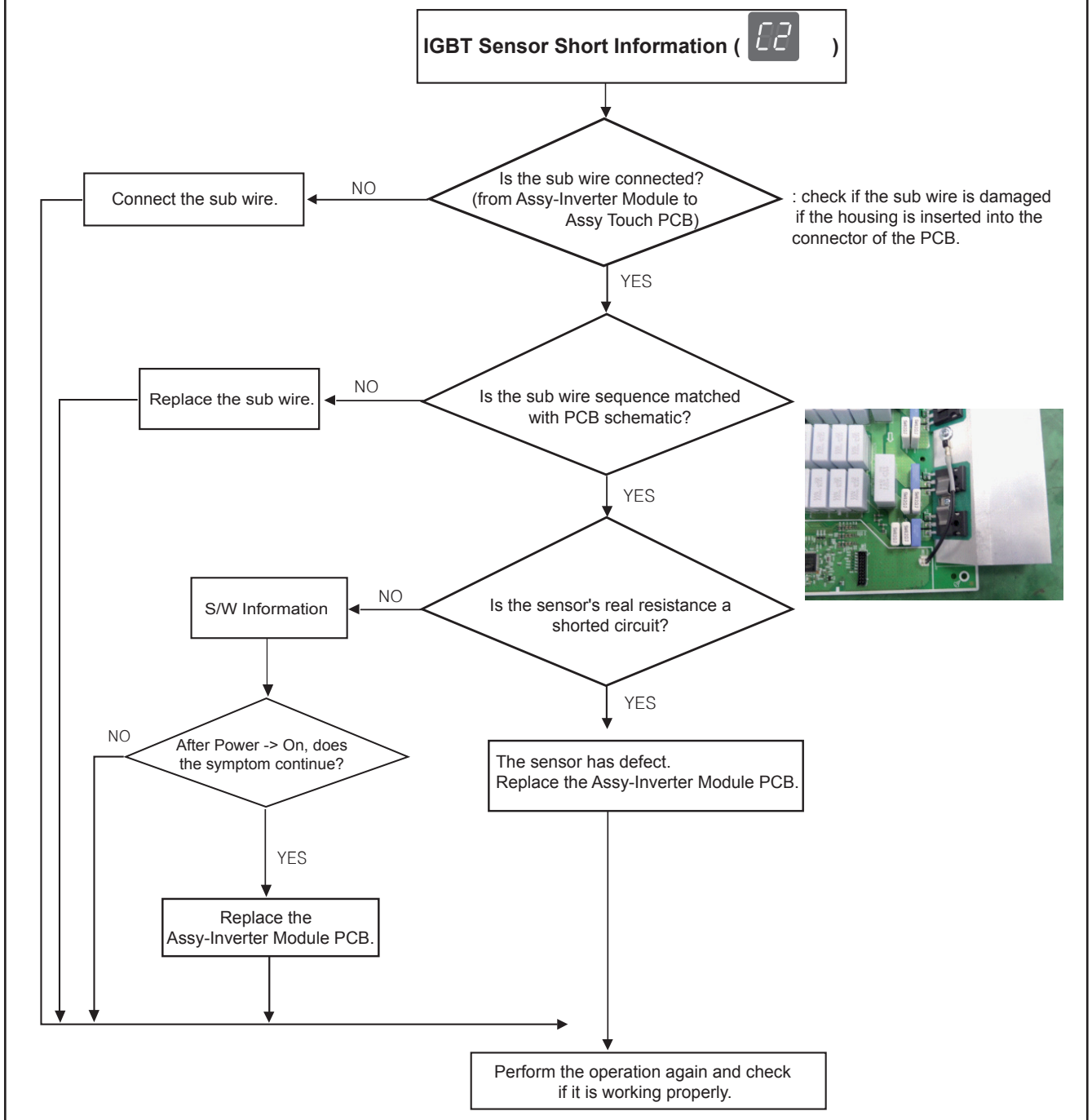

Top Sensor Short Information (C0)
Is the sensor terminal part of the PCB shorted?
YES
Remove any foreign substance from the shorted part.
: check if the sensor is slightly shorted.
No
Is the sensor's real resistance a shorted circuit?
NO
S/W Information
YES
The sensor has defect. Replace the sensor.
NO
After Power -> On, does the symptom continue?
YES
Replace the Assy Touch PCB.
Perform the operation again and check if it is working properly.

APPA 305

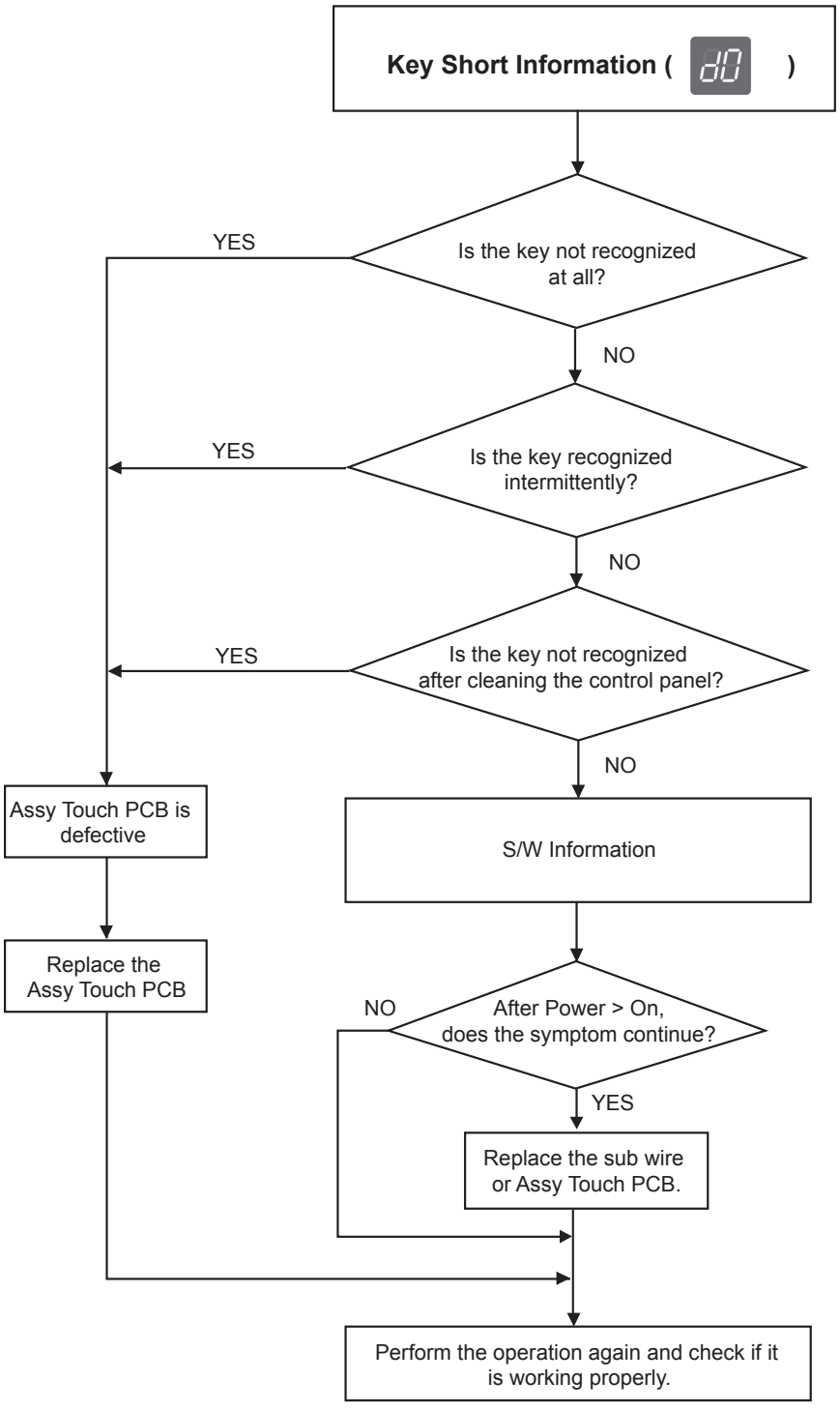
4-3-5 C2



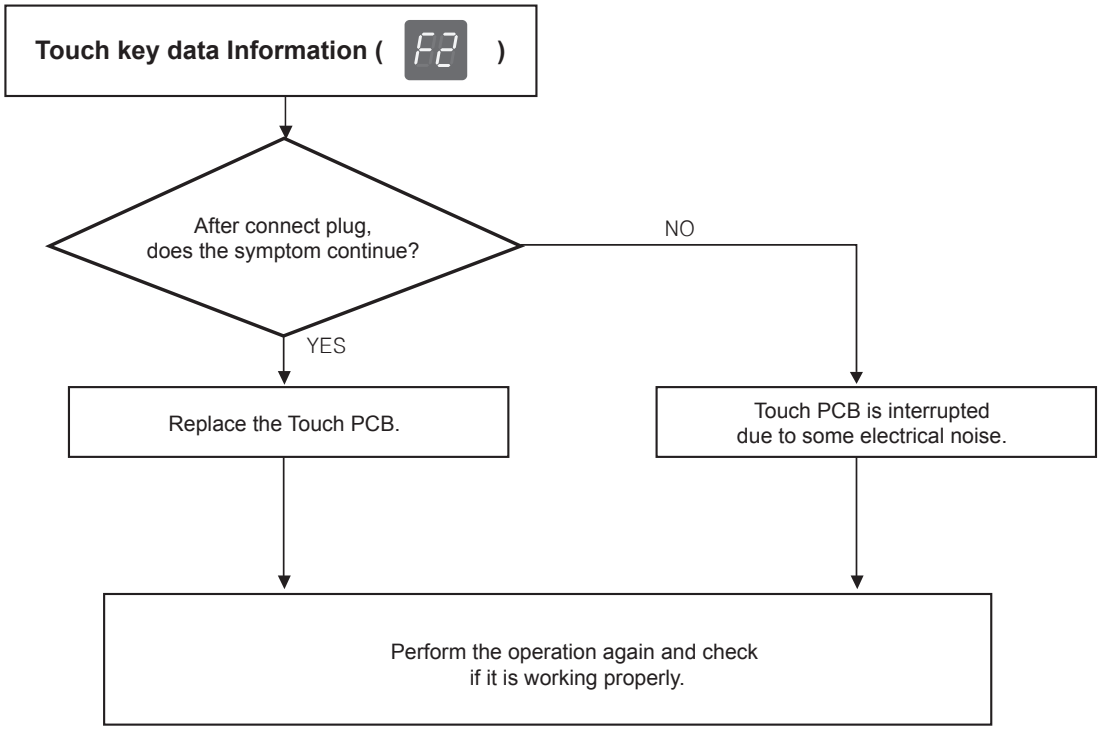
4-3-6 C2



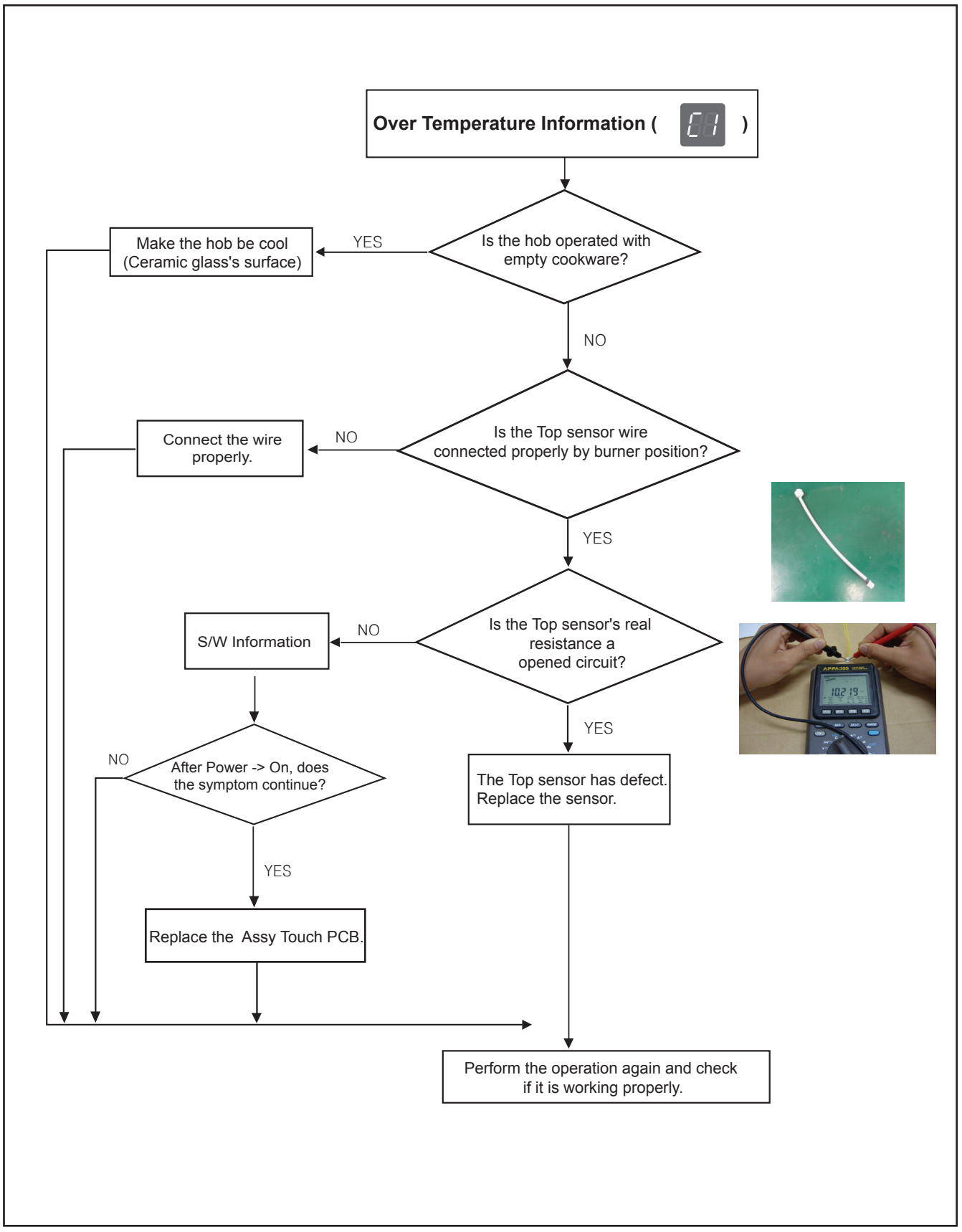
4-3-7 d0


Key Short Information (d0)
Is the key not recognized at all?
YES
NO
Is the key recognized intermittently?
YES
NO
Is the key not recognized after cleaning the control panel?
YES
NO
Assy Touch PCB is defective
Replace the Assy Touch PCB
S/W Information
After Power > On, does the symptom continue?
NO
YES
Replace the sub wire or Assy Touch PCB.
Perform the operation again and check if it is working properly.

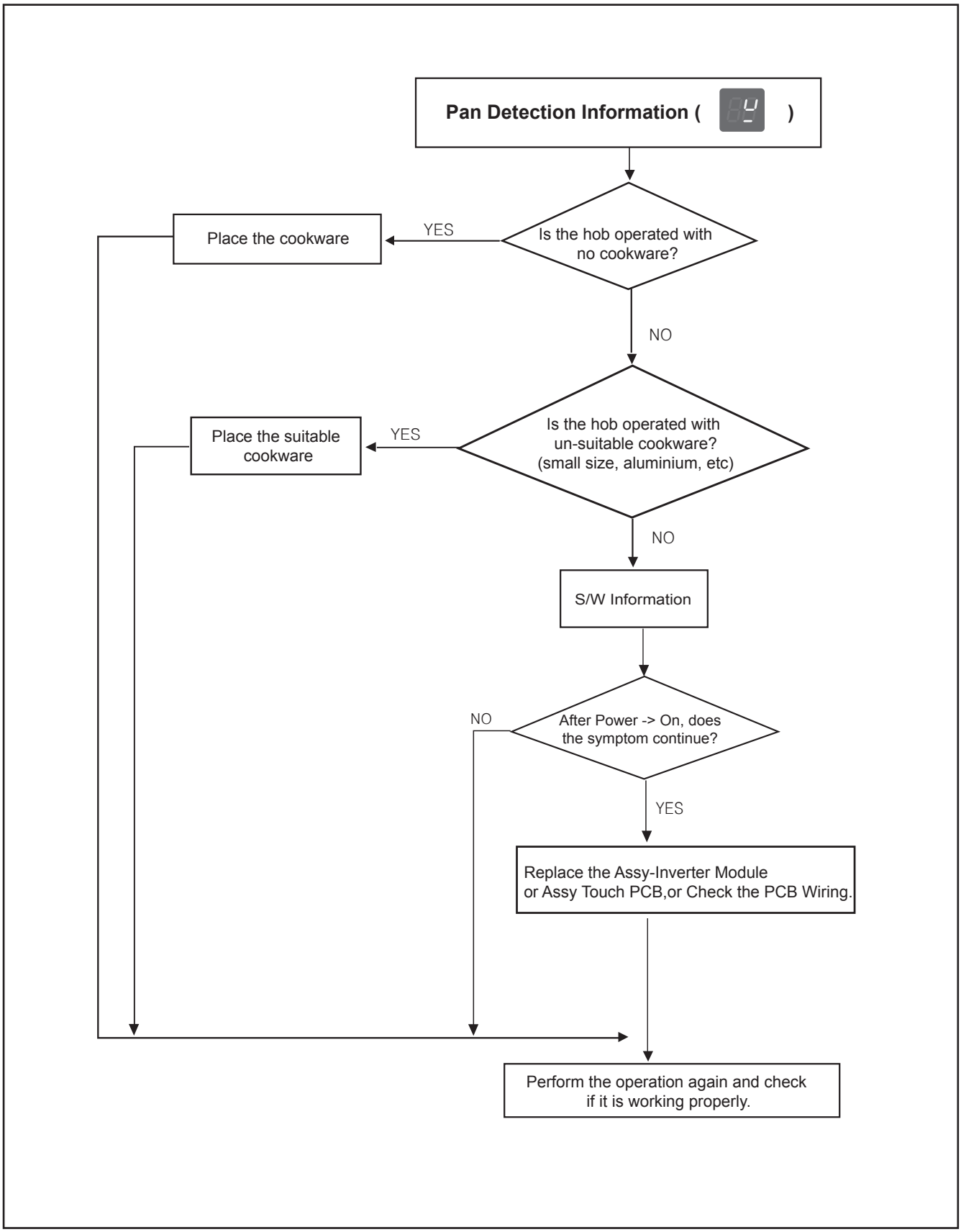
4-3-8 F2


Touch key data Information (F2)
After connect plug,
does the symptom continue?
NO
YES
Replace the Touch PCB.
Touch PCB is interrupted
due to some electrical noise.
Perform the operation again and check
if it is working properly.

4-3-9 C1


Over Temperature Information (C1)
Is the hob operated with empty cookware?
YES
Make the hob be cool (Ceramic glass's surface)
NO
Is the Top sensor wire connected properly by burner position?
NO
Connect the wire properly.
YES
Is the Top sensor's real resistance a opened circuit?
NO
S/W Information
YES
The Top sensor has defect. Replace the sensor.
NO
After Power -> On, does the symptom continue?
YES
Replace the Assy Touch PCB.
Perform the operation again and check if it is working properly.

4-3-10 

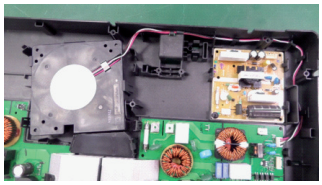


4-3-11 A2

DC Motor Locking Information (A2)

Is the Motor wire connected?

NO → Connect the Motor wire.



YES

Is there some interference at rotor or blade of Motor?

YES → Remove the interference at Motor.

NO

S/W Information

After Power -> On, does the symptom continue?

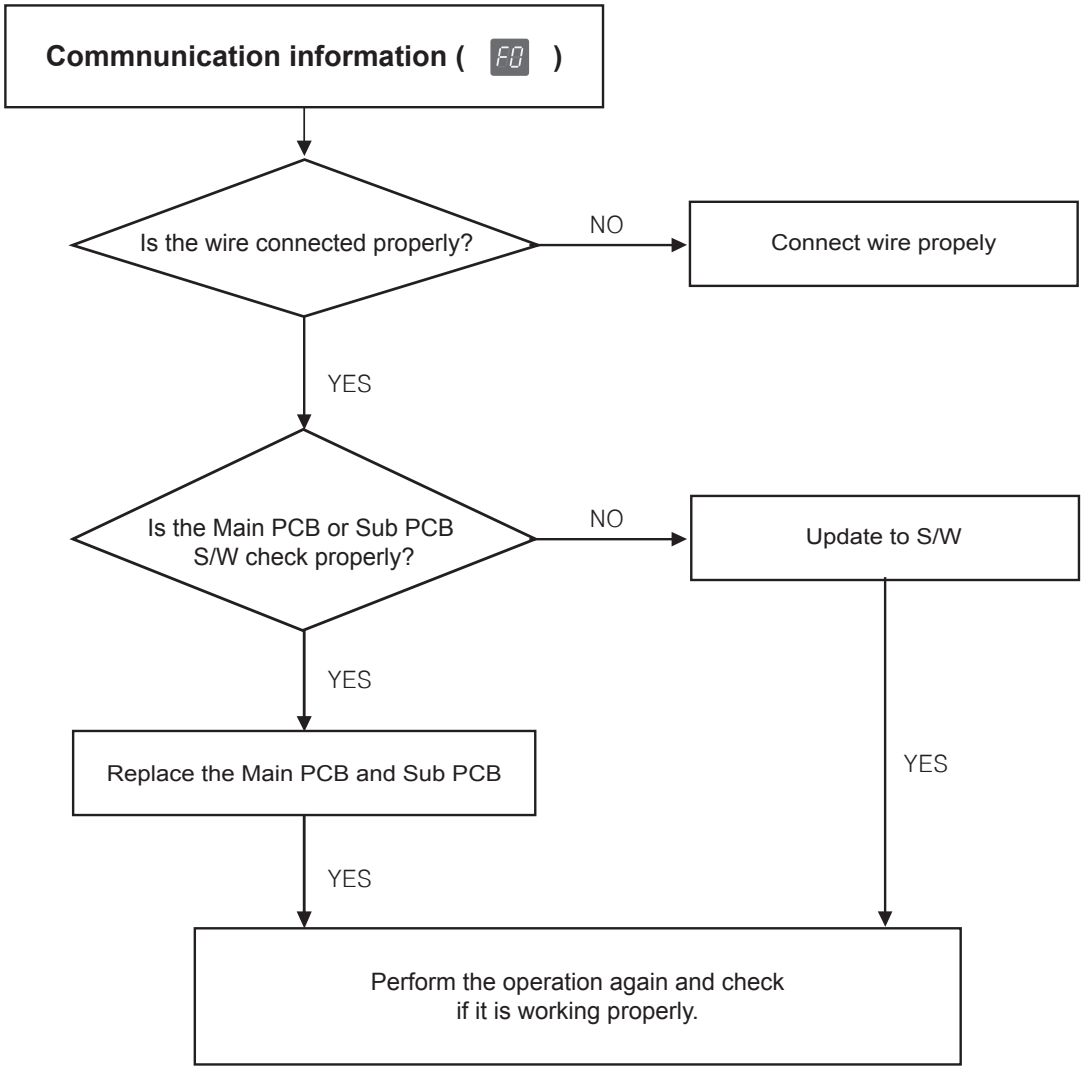
NO

YES

Replace the Inverter PCB, Touch PCB or DC Motor.

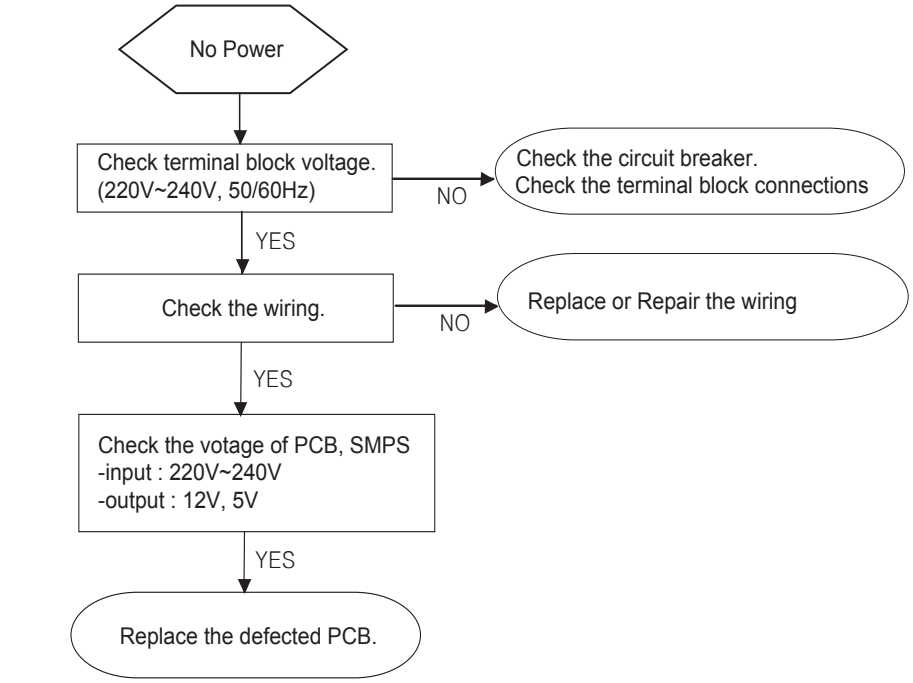
Perform the operation again and check if it is working properly.

4-3-12 F0

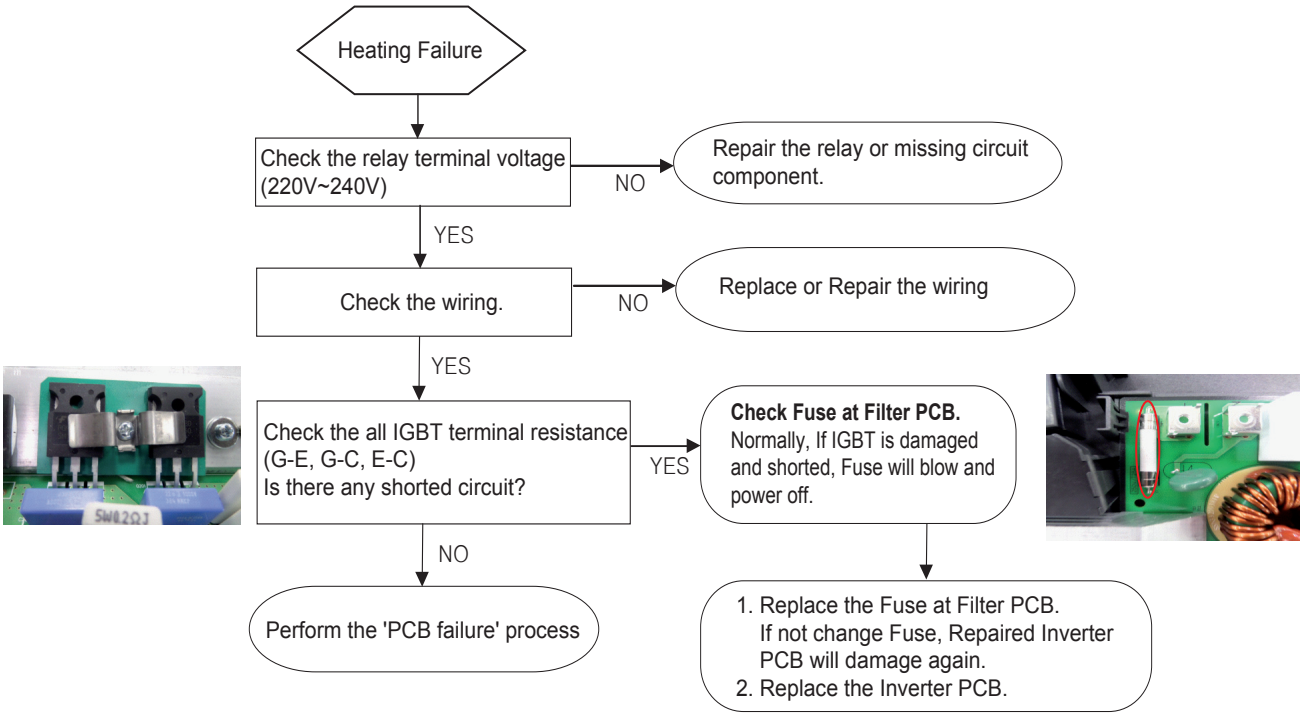

Commnunication information (F0)
Is the wire connected properly?
NO
Connect wire propely
YES
Is the Main PCB or Sub PCB S/W check properly?
NO
Update to S/W
YES
Replace the Main PCB and Sub PCB
YES
YES
Perform the operation again and check if it is working properly.

4-4 Electrical Malfunction

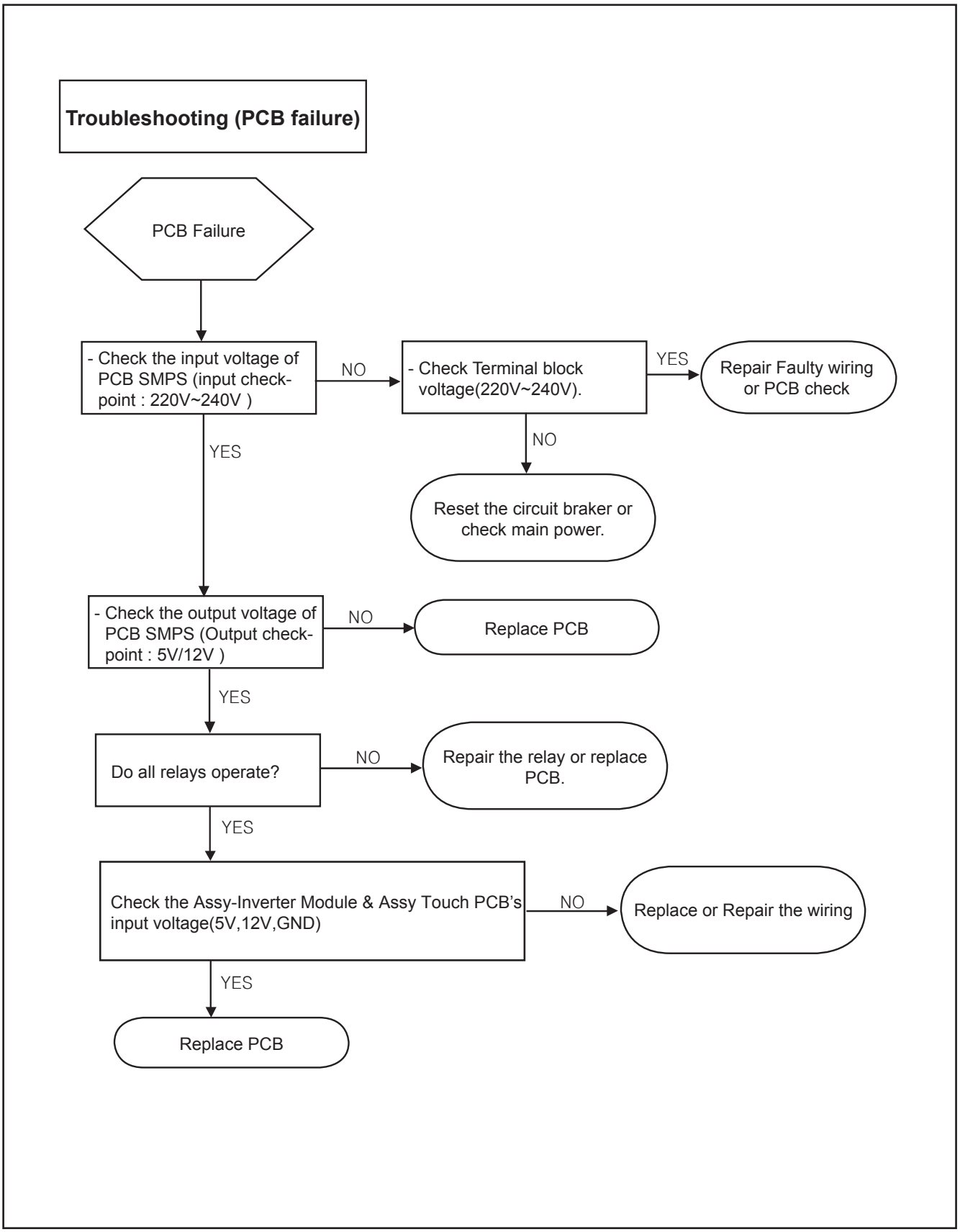
Troubleshooting (Power)



Troubleshooting (Heating)

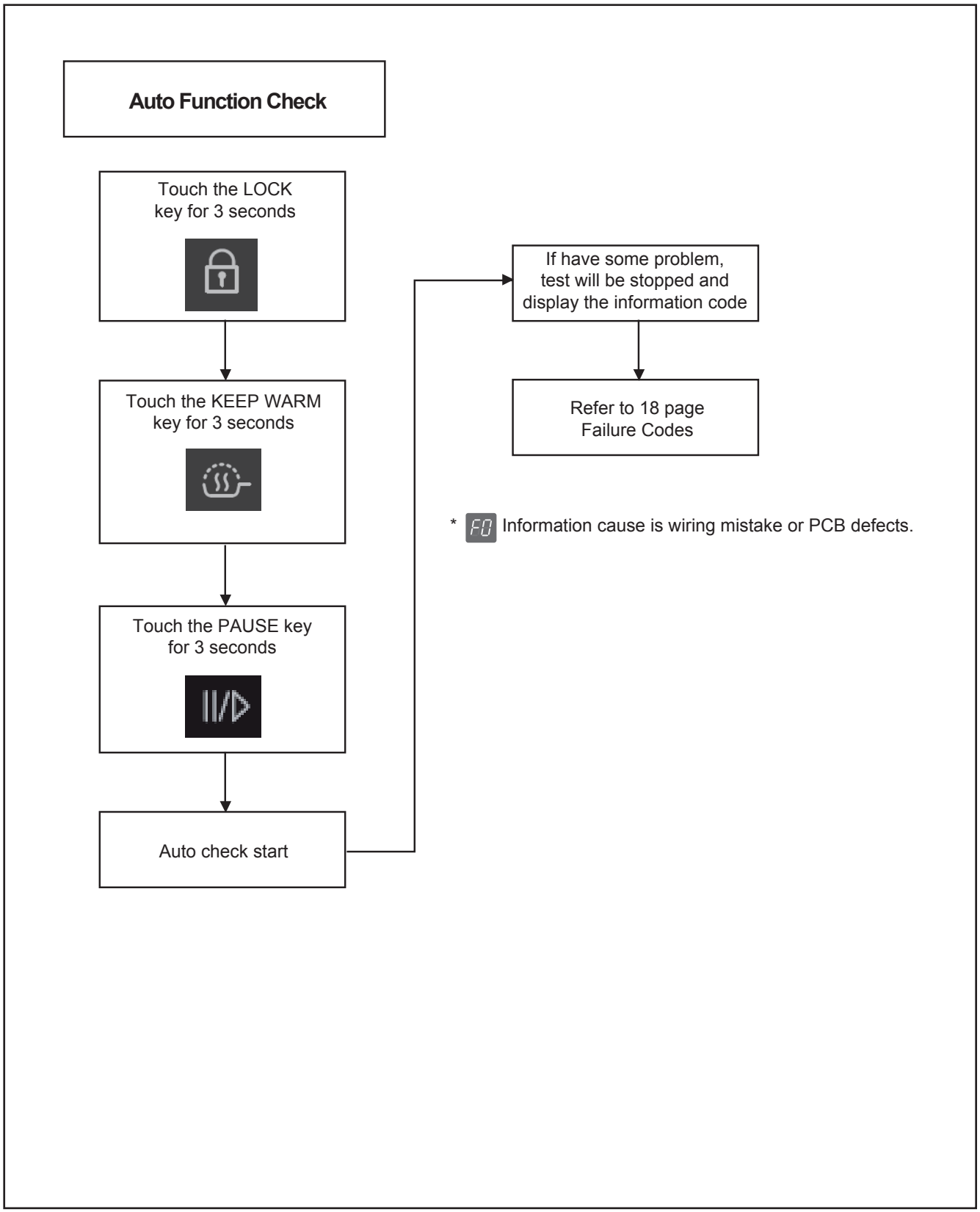


4-4 Electrical Malfunction



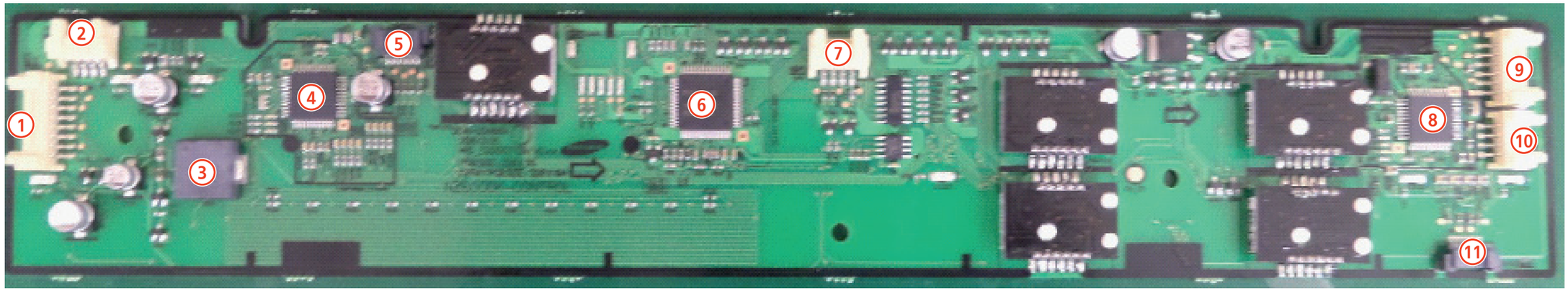
4-5 Auto Function Check Test

Induction Hob can do self check test.
If product have some problem, test program will be stopped and display the corresponding information code.



5. P.C.B Diagrams

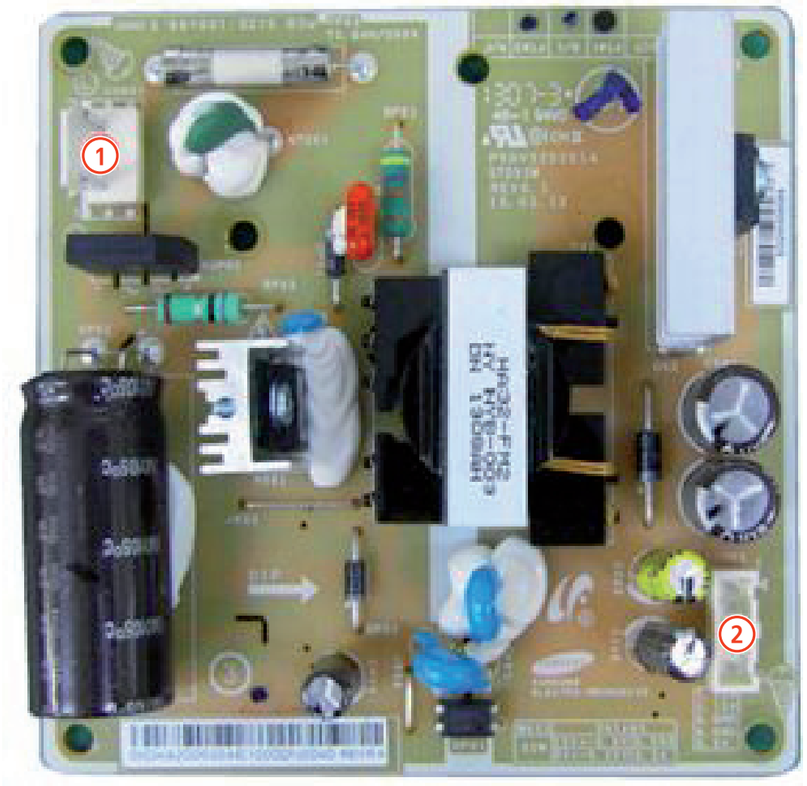
5-1 P.C.B Diagrams : Touch (Control) PCB (This Document can not be used without Samsung's authorization)



No	Parts Number	Part Name	Function and Role
1	CN1	Inverter PBA wire connector	Communication with Inverter PBA
2	CN2	VF PBA wire connector	Communication with VF PBA
3	BZ	Buzzer	Beep sound
4	IC1	Touch MICOM	MICOM for Touch Key operation
5	CN3	Touch MICOM burning connector	Touch MICOM burning port. Not conntected
6	IC2	Main MICOM	Main MICOM
7	CN4	Main MICOM burning connector	Main MICOM burning port. Not conntected
8	IC3	Touch MICOM	MICOM for Touch Key operation
9	CN5	Inverter PBA wire connector	Communication with Inverter PBA
10	CN6	Relay PBA wire connector	Communication with Relay PBA
11	CN7	Touch MICOM burning connector	Touch MICOM burning port. Not conntected

5. P.C.B Diagrams

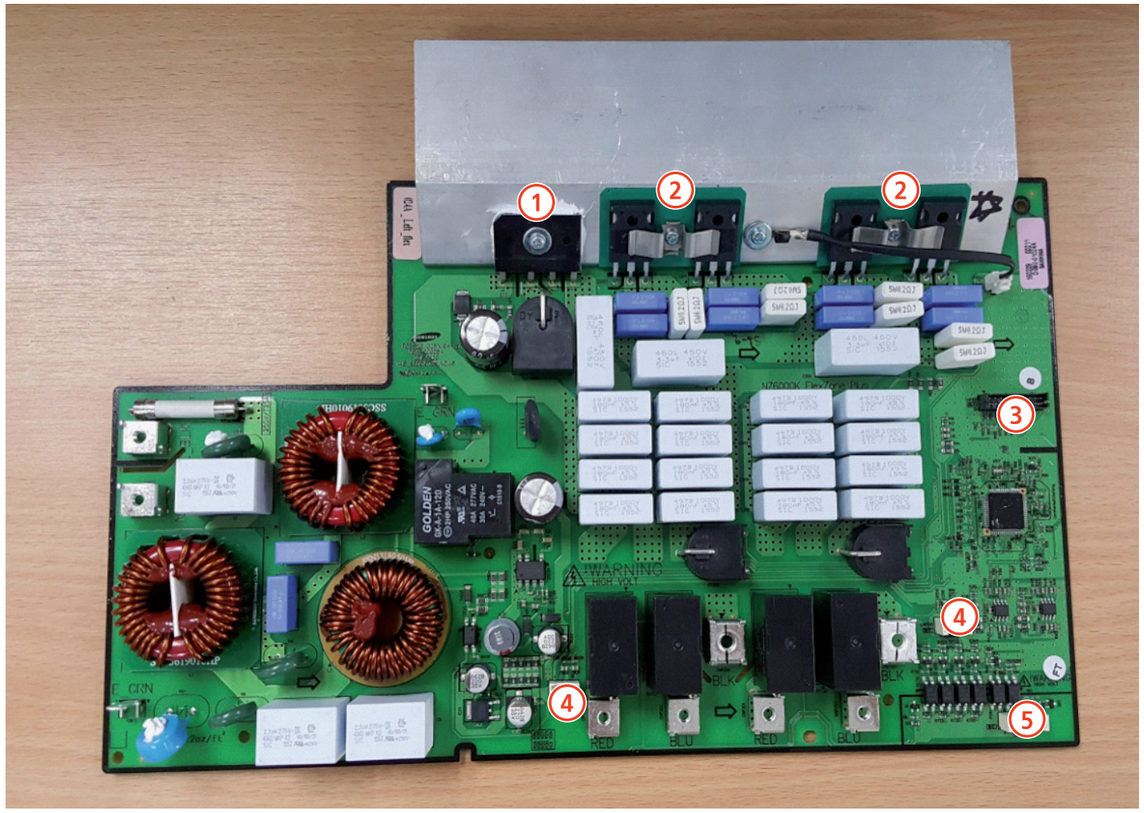
5-2 P.C.B Diagrams : SMPS PCB (This Document can not be used without Samsung's authorization)



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

5. P.C.B Diagrams

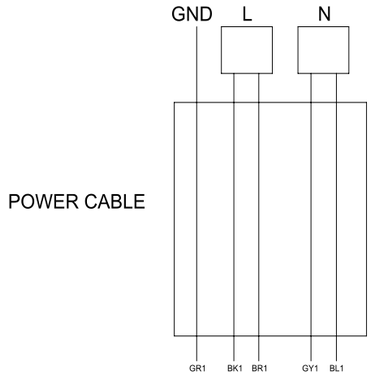
5-3 P.C.B Diagrams : Inverter PCB (This Document can not be used without Samsung's authorization)

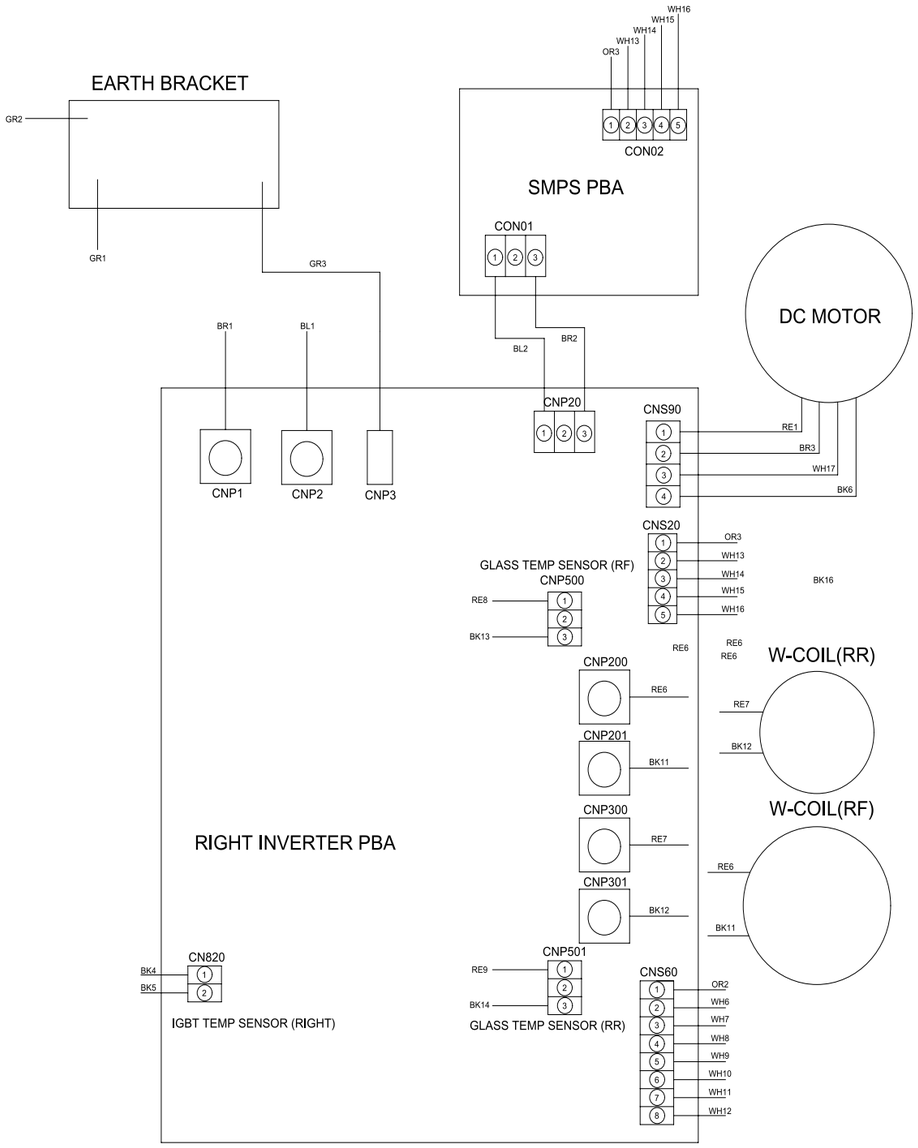


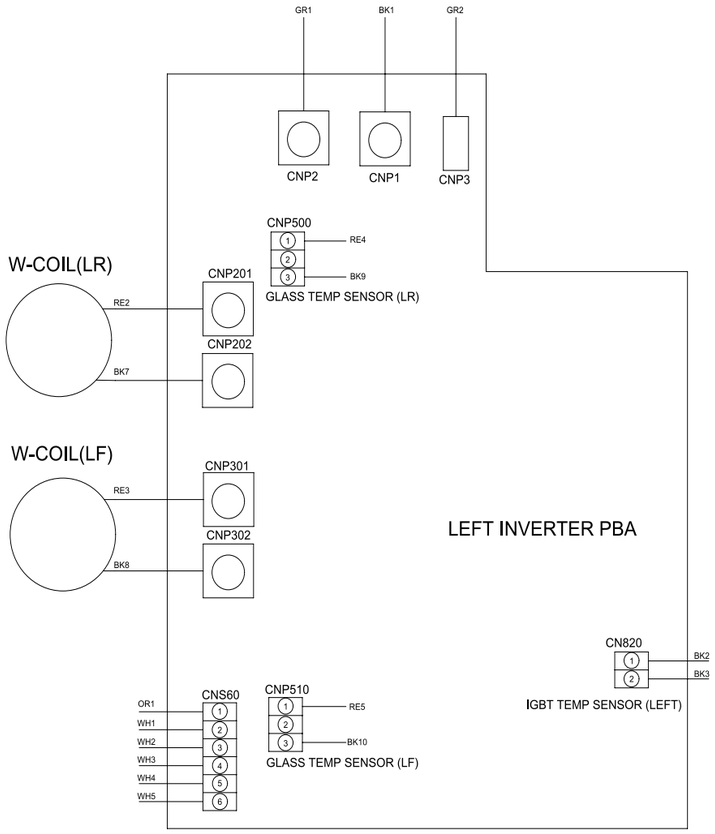
No	Parts Number	Part Name	Function and Role
1	BD1	Bridge Diode IC	Bridge Diode IC
2	Q1	IGBT IC	High freguency switching IC
3	CN1	Inverter MICOM burning connector	Inverter MICOM burning port. Not conntected
4	CN2	Top-sensor wire connector	Connect Top-sensor wire
5	CN3	Control PBA wire connector	Communication with Control PBA

6. Wiring Diagrams (This Document can not be used without Samsung's authorization)

WH	WHITE
RE	RED
BK	BLACK
BL	BLUE
BR	BROWN
OR	ORANGE
GR	GREEN
GY	GRAY







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