

dacor[®]

OVEN

COMBI OVEN

BASIC: NQ70M7770D*
MODEL: DOC30P977D*
MODEL CODE: DOC30P977D*

SERVICE *Manual*

OVEN



CONTENTS

1. Precaution
2. Specifications
3. Disassembly and Reassembly
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1. Precaution



PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

- (a) Do not operate or allow the oven to be operated with the door open.
- (b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
 - (1) Interlock operation,
 - (2) Proper door closing
 - (3) Seal and sealing surfaces (arcing, wear, and other damage),
 - (4) Damage to or loosening of hinges and latches,
 - (5) Evidence of dropping or abuse.
- (c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
- (d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
- (e) A Microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

1. Precaution

Follow these special safety precautions. Although the microwave oven is completely safe during ordinary use, repair work can be extremely hazardous due to possible exposure to microwave radiation, as well as potentially lethal high voltages and currents.

1-1 Safety precautions ()

1. All repairs should be done in accordance with the procedures described in this manual. This product complies with Federal Performance Standard 21 CFR
 2. Microwave emission check should be performed to prior to servicing if the oven is operative.
 3. If the oven operates with the door open :Instruct the user not to operate the oven and contact the manufacturer and the center for devices and radiological health immediately.
 4. Notify the Central Service Center if the microwave leakage exceeds 5 mW/cm².
 5. Check all grounds.
 6. Do not power the MWO from a "2-prong" AC cord. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.
 7. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.
 8. Make sure that there are no cabinet openings through which people --particularly children--might insert objects and contact dangerous voltages. Examples: Lamp hole,ventilation slots.
 9. Inform the manufacturer of any oven found to have emission in excess of 5 mW/cm² ,Make repairs to bring the unit into compliance at no cost to owner and try to determine cause. Instruct owner not to use oven until it has been brought into compliance.
- CENTRAL SERVICE CENTER**
10. Service technicians should remove their watches while repairing an MWO.
 11. To avoid any possible radiation hazard,replace parts in accordance with the wiring diagram. Also, use only the exact replacements for the following parts: Primary and secondary interlock switches, interlock monitor switch.
 12. If the fuse is blown by the Interlock Monitor Switch: Replace all of the following at the same time: Primary, door sensing switch and power relay, as well as the Interlock Monitor Switch. The correct adjustment of these switches is described elsewhere in this manual. Make sure that the fuse has the correct rating for the particular model being repaired.
 13. Design Alteration Warning: Use exact replacement parts only, i.e.,only those that are specified in the drawings and parts lists of this manual. This is especially important for the Interlock switches, described above. Never alter or add to the mechanical or electrical design of the MWO. Any design changes or additions will void the manufacturer's warranty. Always unplug the unit's AC power cord from the AC power source before attempting to remove or reinstall any component or assembly.
 14. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
 15. Some semiconductor ("solid state") devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs). Examples include integrated circuits and field-effect transistors. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground.
 16. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.
 17. When checking the continuity of the witches or transformer, always make sure that the power is OFF, and one of the lead wires is disconnected.
 18. Components that are critical for safety are indicated in the circuit diagram by shading,  or .
 19. Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.
- NOTE : Connect the oven to a 40A circuit breaker.

1. Precaution

1-2 Special High Voltage Precautions

1. High Voltage Warning
Do not attempt to measure any of the high voltages -this includes the filament voltage of the magnetron. High voltage is present during any cook cycle. Before touching any components or wiring, always unplug the oven and discharge the high voltage capacitor (See Figure 1-1)
2. The high-voltage capacitor remains charged about 30 seconds after disconnection. Short the negative terminal of the high-voltage capacitor to the oven chassis
3. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

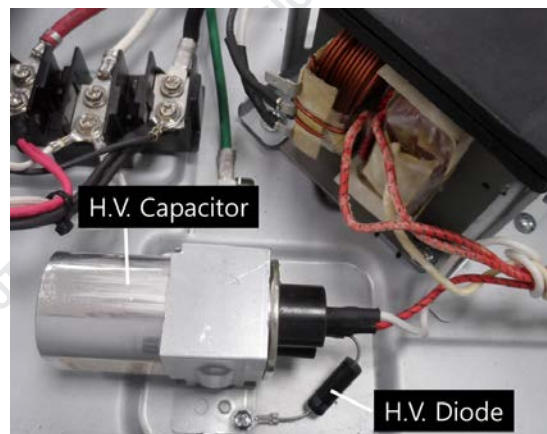


Fig. 1-1 Discharging High Voltage Capacitor



PRECAUTION

There exists HIGH VOLTAGE ELECTRICITY with high current capabilities in the circuits of the HIGH VOLTAGE TRANSFORMER secondary and filament terminals. It is extremely dangerous to work on or near these circuits with the oven energized.

DO NOT measure the voltage in the high voltage circuit including filament voltage of magnetron.



PRECAUTION

Never touch any circuit wiring with your hand nor with uninsulated tool during operation.



PRECAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

1. Precaution

1-3 Forward

This Dacor Service Manual, "Built in electric wall oven" provides the technician with information on the operation and service of the built in electric wall oven.. It is to be used as a training Service Manual. For specific information on the model being serviced, refer to the "Owner's Manual" or "Tech Sheet" provided with electric wall oven.

1-4 Safety Precautions

- Repairs of the appliance should be carried out by a licensed technician only. Incorrect repairs may result in dangerous situations. If you need repairs, contact a Dacor Service Center or your dealer.
- If the power cord is defective, it must be replaced by a qualified service agent with a UL listed range cord.
- Electrical leads and cables should not be allowed to touch the oven.
- Rating plate is located on the left side of trim door.
- The power supply of the appliance should be turned off when it is being repaired.



WARNING

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

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

1. Precaution

1-5 Important Safety Instructions

Read and follow all instructions before using your oven to prevent the risk of fire, electric shock, injury to person, or damage when using the oven. This guide doesn't cover all possible conditions that may occur. For further assistance contact your service agent or manufacturer.



WARNING

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

- Be sure your appliance is properly installed and grounded by a qualified technician.
- Do not repair or replace any part of the appliance unless specifically recommended in the manual. All other servicing should be referred to a qualified technician.
- Always disconnect power to appliance before servicing by removing the fuse or switching off the circuit breaker
- Do Not Leave Children Alone - Children should not be left alone or unattended in area where appliance is in use. They should never be allowed to sit or stand on any part of the appliance.
- Never Use Your Appliance for Warming or Heating the Room.



WARNING

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

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



WARNING

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

1. Precaution

SELF-CLEAN OVENS

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

VENTILATING HOODS:

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

OVEN

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

DEEP FAT FRYERS:

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

2. Specifications

2-1 Table of Specifications

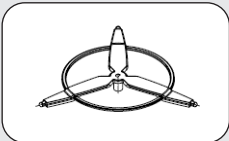
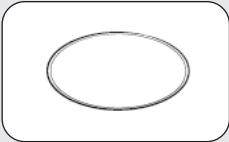
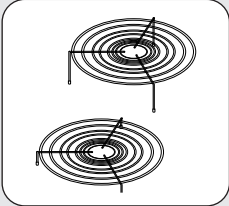
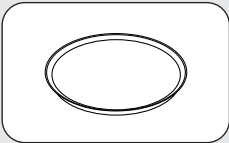
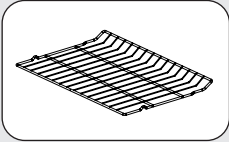

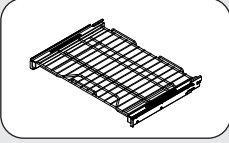
ITEMS		NEW MODEL
Model Name		DOC30P977D*
Category		Dacor Pro Combi
Overall	Width	30"
	Installation type	Built-In
	Color availability	STS
Control	Oven	KNOB+LCD
	Display	LCD
	Electronic clock	Yes
	Control lock capability	Yes
	Audible preheat signal	Yes
Upper Oven	Capacity (cu.ft)	1.9
	MWO output	950 watt
	MWO consumption	1,750 watt
	Power source (Microwave)	120V/60Hz
	Power source (Broil,Conv)	240V/60Hz
	Operating frequency	2450 MHz
	Broil element	1,650 watt
	Bake element	-
	Convection system	Yes
	Convection element	3,250 watt
	Steam element	-
	# of Racks	2
	Interior oven light	2 led
	Cleaning	-
Lower Oven	Capacity (cu.ft)	5.1
	Broil element	4,400 watt
	Bake element	3,000 watt
	Convection system	Yes
	Convection element	1,300 watt
	Steam element	500 watt / 120V
	# of Racks	3
	Interior oven light	2 halogen, 2 door led
	Cleaning	Self-clean & Hybrid-clean

2. Specifications

ITEMS		NEW MODEL
Model Name		DOC30P977D*
Category		Dacor Pro Combi
Dimensions	Net Outside (WxHxD)	756 x 1102 x 671 (mm) 29 ³ / ₄ x 43 ³ / ₈ x 26 ³ / ₈ (inch)
	Cutout - Standard (WxHxD)	730.25 x 1073 x 597 (mm) 28 ³ / ₄ x 42 ¹ / ₄ x 23 ¹ / ₂ (inch)
	Cutout - Flush (WxHxD)	767 x 1111 x 630 (mm) 30 ¹ / ₄ x 43 ³ / ₄ x 24 ⁷ / ₈ (inch)
	Shipping size (WxHxD)	850 x 1224 x 757 (mm) 33 ¹⁵ / ₃₂ x 48 ³ / ₁₆ x 29 ⁵¹ / ₆₄ (inch)
	Net weight	126
	Gross weight	146
	Volume	29761.6 (0.488)
Power	Rating (240V 60Hz)	40Amp

2. Specifications

2-2 Accessory

Item	Description	Code No.	Q'ty
	Assy Guide Roller	DE94-04028A	1
	Tray-cooking	DE63-00878A	1
	Assy Wire Rack	DE97-00456B	1
	Assy Wire Rack	DE94-04037A	1
	Hot Plate	DE63-00809A	1
	Rack Wire	DG67-00149A	1
	Sensor-Probe	DG32-00013A	1
	Assy Wire Rack	DG94-01486A	2





3. Disassembly and Reassembly

WARNING

ELECTRICAL SHOCK HAZARD

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

3-1 Preparing remove the Assy-Frame Wall oven

Item	How to use	Pictures
Screw driver	Use for assembly and disassembly of all screws	
7mm Nut Driver	Use for assembly and disassembly of injector nozzles. (Cooktop/Broil/Bake burner)	
9mm Nut Driver	Use for assembly and disassembly of injector nozzles. (Convection Fan)	
8mm Nut Driver	Use for assembly and disassembly of injector nozzles. (MGT)	

3. Disassembly and Reassembly

3-2 Separate Upper assy wire and Lower assy wire



PRECAUTION

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

Parts	Explanation Photo	Explanation
Upper assy wire Lower assy wire		<ol style="list-style-type: none"> 1. Turn off the electrical supply going to the oven. 2. Pull the oven away from the wall so that you can access the rear panel. 3. Remove 25 (upper back 17, both side 4, top upper 4) screws from the Coverback & Upper case and remove the parts. 4. Unplug 5 connectors (Wire harness) & 3 wires at terminal block (Back side).

3. Disassembly and Reassembly

3-3 Removing PCB-Main



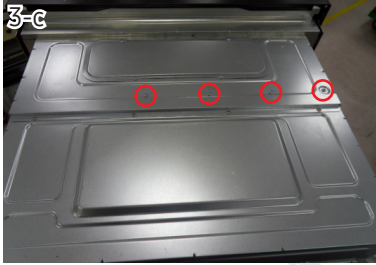
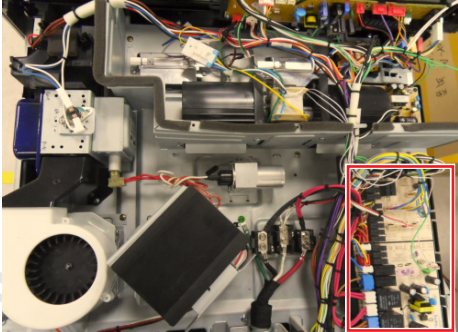
WARNING

ELECTRICAL SHOCK HAZARD

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

PRECAUTION

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

Parts	Explanation Photo	Explanation
PCB Main	   	<ol style="list-style-type: none"> 1. Turn off the electrical supply going to the oven. 2. Pull the oven away from the wall so that you can access the upper panel. 3. To remove upper cover <ol style="list-style-type: none"> a) Remove each 2 screws from Upper cover left & right. b) Remove 4 screws from Cover upper back side. c) Remove 4 screws from Cover upper middle top. 4. There is 1 main PCB (Printed circuit board) on the top of the oven.

3. Disassembly and Reassembly

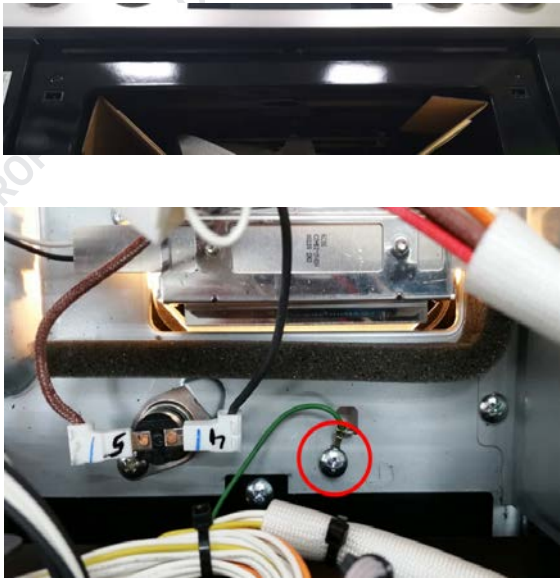
3-4 Removing control box

⚠ WARNING

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

⚠ PRECAUTION

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

Parts	Explanation Photo	Explanation
<p>Removing control box</p>		<ol style="list-style-type: none"> 1. Unplug the cord or disconnect power. 2. Open the oven door. 3. Remove 4 screws under the control panel. 4. Disconnect all of the wire harness connectors. 5. To remove front upper cover 6. Unscrew the ground screw to remove the ground wire.

3. Disassembly and Reassembly

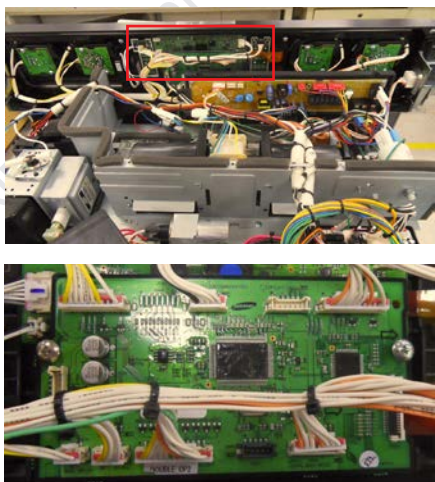


3-5 Removing Sub PCB and Upper Oven PCB

WARNING

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

PRECAUTION

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

Parts	Explanation Photo	Explanation
Display Wire		<ol style="list-style-type: none"> 1. Turn off the electrical supply going to the oven. 2. Remove 4 screws under the control panel. (See step 3 on 3-5) 3. Remove connector on SUB PCB
Upper Oven PCB		<ol style="list-style-type: none"> 1. Turn off the electrical supply going to the oven 2. Open Front upper cover. 3. Remove 3 screws behind of the Holder PCB 4. Remove connector on MW8000J PCB
LCD Wire		<ol style="list-style-type: none"> 1. Turn off the electrical power going to the oven. 2. Remove 4 screws under the control box. (See step 3 on 3-5) 3. Remove connector on Display Wire. 4. Remove 2 screws on Display Wire. 5. Remove connector on LCD Wire.



3. Disassembly and Reassembly

3-6 Removing the Wi-Fi module

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
 <p>Wi-Fi module</p>		<ol style="list-style-type: none"> 1. Turn off the electrical supply. 2. Remove Cover-top-front. (See step 3 on 3-3). 3. Disconnect wire harness.

3. Disassembly and Reassembly

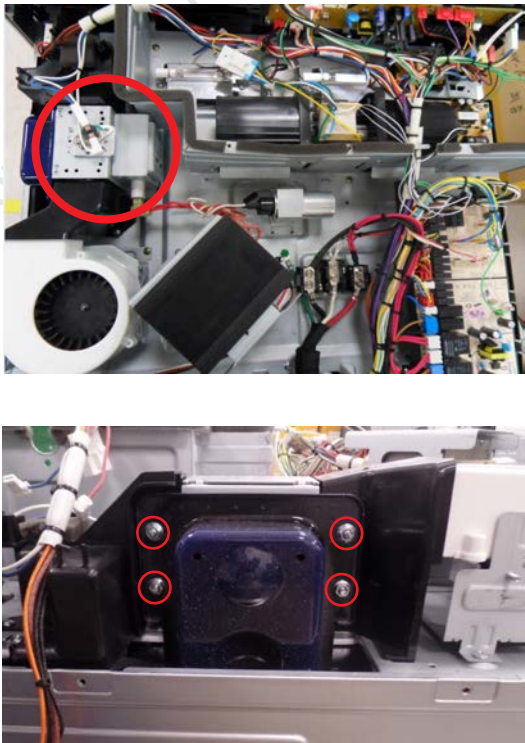
3-7 Removing Magnetron (MGT)

WARNING

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

PRECAUTION

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

Parts	Explanation Photo	Explanation
Removing magnetron(MGT)		<ol style="list-style-type: none"> 1. Remove upper case.(Follow step 3-3) 2. Remove 1 screw at guide air MGT to take out parts. 3. Unplug wire harness housing connected to MGT 4. Remove 4 hexagonal nuts. <p>*Note: When replacing the magnetron, be sure to remount the magnetron gasket in the correct position and make sure the gasket is in good condition.</p>

3. Disassembly and Reassembly

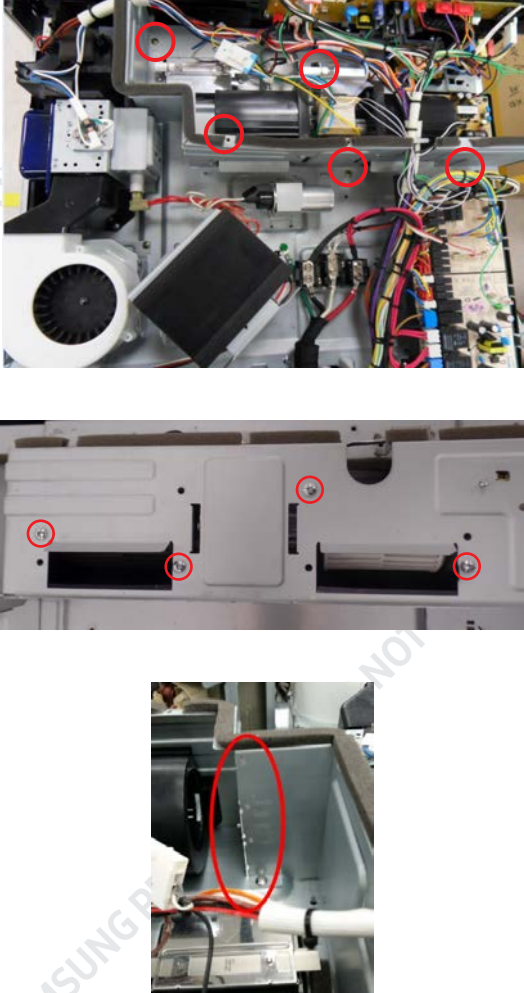
3-8 Removing cooling fan (Upper oven)

⚠ WARNING

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

⚠ PRECAUTION

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

Parts	Explanation Photo	Explanation
<p>Removing cooling fan (Upper oven)</p>		<ol style="list-style-type: none"> 1. Remove upper case.(Follow step 3-3) 2. Unplug wire harness housings. 3. Unscrew 1 earth screw and 4 screws. 4. Take out the bracket. 5. Unscrew 4 screws. <p>*Note: If removal is hard, you can cut the bracket as shown in the pircure and then, bend wire stopper and pull out the bracket to the left.</p>

3. Disassembly and Reassembly

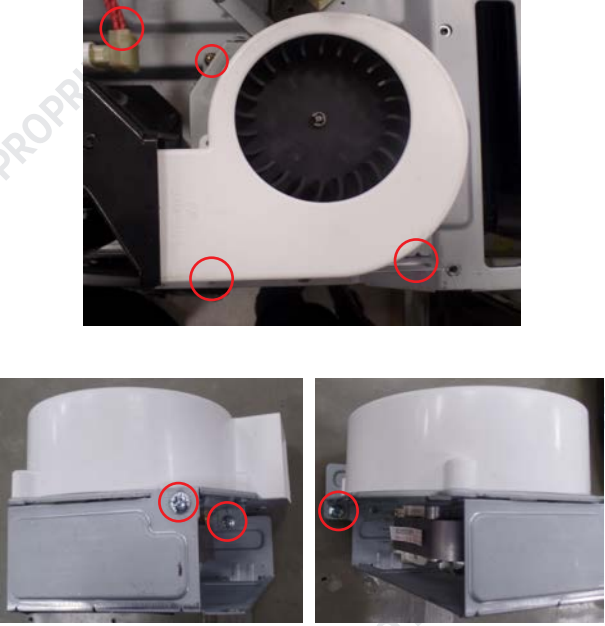
3-9 Removing MGT cooling fan

! WARNING

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

! PRECAUTION

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

Parts	Explanation Photo	Explanation
Removing MGT cooling fan		<ol style="list-style-type: none"> 1. Remove upper case.(Follow step 3-3) 2. Unplug every wire harness housing connected to the cooling fan. 3. Unscrew 3 screws assembled with bracket upper. 4. Unscrew 3 screws assembled with motor.

3. Disassembly and Reassembly

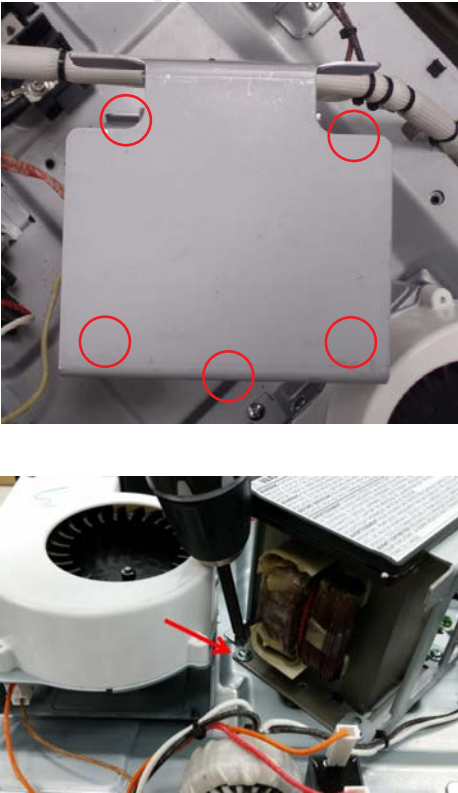
3-10 Removing high voltage transformer

⚠ WARNING

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

⚠ PRECAUTION

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

Parts	Explanation Photo	Explanation
Removing HVT		<ol style="list-style-type: none"> 1. Remove upper case.(Follow step 3-3) 2. Unplug wire harness housing connected to HVT. 3. Remove 5 Screws. <p>*Note: You need a screw driver to remove 1 HVT screw as shown in the picture.</p>

3. Disassembly and Reassembly

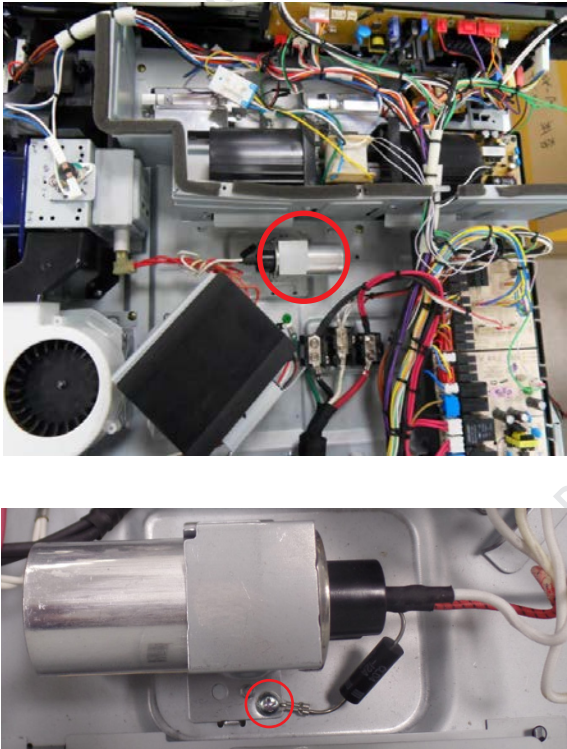
3-11 Removing high voltage capacitor

WARNING

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

PRECAUTION

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

Parts	Explanation Photo	Explanation
Removing HVC		<ol style="list-style-type: none"> 1. Remove upper case.(Follow step 3-3) 2. Unplug wire harness housing connected to HVC. 3. Remove 1 screw.


3. Disassembly and Reassembly

3-12 Removing Grill Heater (Upper Oven)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
Removing Grill Heater		<ol style="list-style-type: none"> 1. Turn off the electrical supply. 2. Pull the oven away from the wall so that you can access the behind of the oven. 3. Remove upper cover. (Follow Step 3-3) Then remove 17 screws from the back of upper oven where it's connected to lower oven. 4. Remove right and left side covers and cover back. (Follow Step 3-2) 5. Unplug 5 connectors (wire harness) & 3 wires at terminal block. (Back side) 6. Remove MGT. (Follow Step 3-29) 7. Remove the brackets near MGT. 8. Disconnect wire harness connected to the grill heater. 9. Remove whole bracket upper and adiabatic. 10. Remove 3 bolts in the back of the upper oven. 11. Remove 2 nuts on the cavity. 12. Remove 2 screws in the cavity.





3. Disassembly and Reassembly

3-13 Removing turn table motor (Upper Oven)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
<p>Removing turn table motor</p>	 <p>3-a stainless steel trim screw location</p>  <p>3-a side cover screw location</p>  <p>3-b back cover</p> 	<ol style="list-style-type: none"> 1. Turn off the electrical supply. 2. Pull the oven away from the wall so that you can access the upper oven. 3. To remove upper oven <ol style="list-style-type: none"> a) On right and left side remove 2 screws from the bottom of the upper oven and 1 screw from stainless trim. b) remove 9 screws of back side of upper oven where are connected to lower oven 4. Disconnect wire harness connection between lower and upper cavity. 5. Move microwave to appropriate place to change drive motor located at the bottom of the cavity. 6. Disconnect wire harness. 7. Remove 1 screw from drive motor.

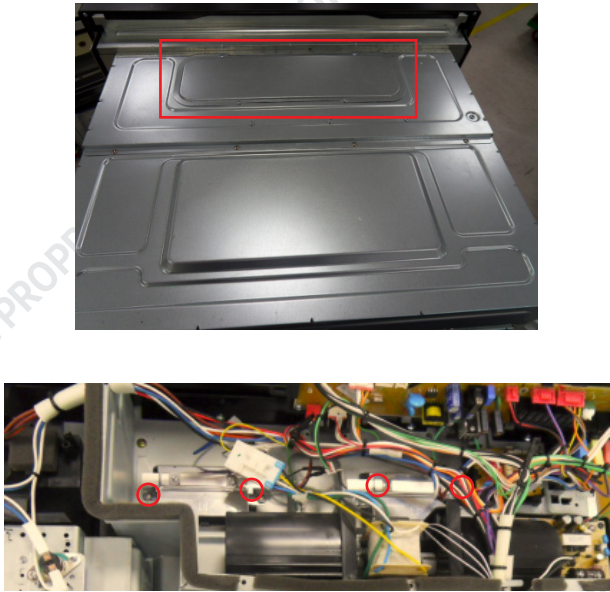
3. Disassembly and Reassembly

3-14 Removing Lamp(Upper Oven)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
Removing Lamp		<ol style="list-style-type: none"> 1. Turn off the electrical supply. 2. Pull the oven away from the wall so that you can access the upper oven. 3. Remove 4 screws and then remove Cover case-TOP. 4. Disconnect wire harness. 5. Remove 4 screws from each Assy cover lamp.

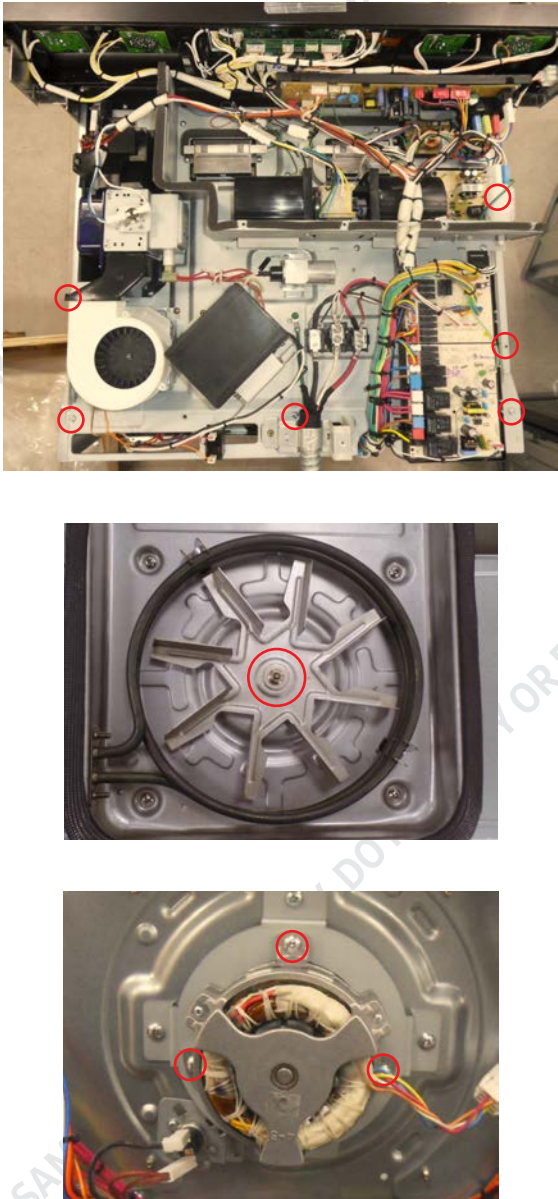
3. Disassembly and Reassembly

3-15 Convection motor (Upper Oven)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
<p>Convection motor</p>		<ol style="list-style-type: none"> 1. Turn off the electrical supply. 2. Pull the oven away from the wall so that you can access the upper oven. 3. To remove upper oven's case back, remove 12 screws of back side of upper oven where are connected to lower oven. 4. Disconnect wire harness connection lower and upper. 5. Disconnect wire for Convection motor. 6. Remove 6 screws from Bracket Upper. 7. Remove MGT. 8. Remove wire harness and 7 screws of panel back where connected to cavity main. 9. Pick Assy panel back out from the set. 10. Unscrew bolt on Motor shaft. 11. Unscrew 3 screws on Bracket motor.

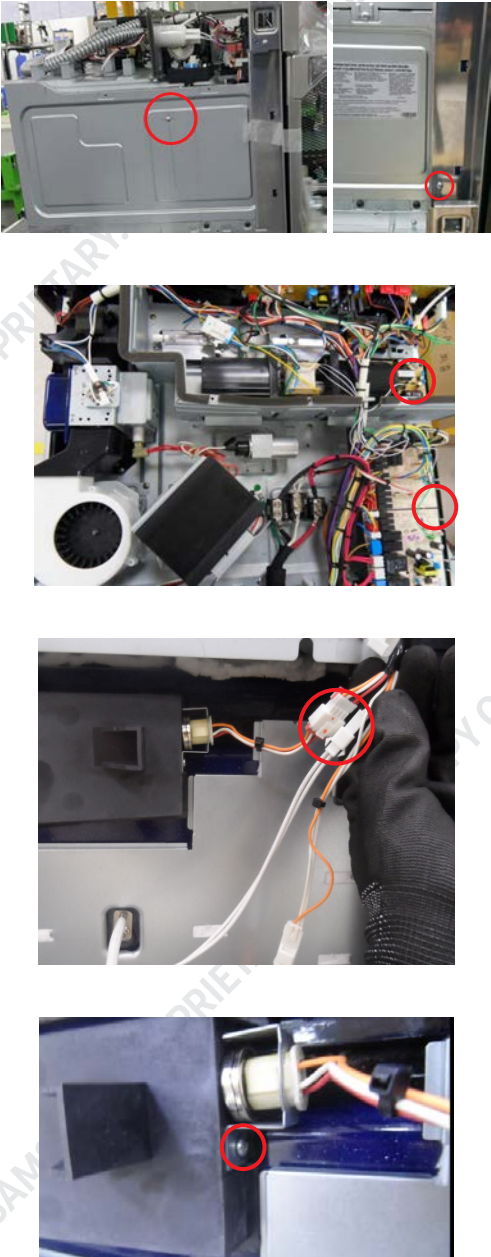
3. Disassembly and Reassembly

3-16 Removing Gas sensor

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
<p>Removing Gas sensor</p>		<ol style="list-style-type: none"> 1. Remove upper cover. (Follow Step 3-3.) 2. Remove screw on center of left side cover. 3. Remove cover back. (Follow Step 3-2) 4. Remove 1 screw from left trim. 5. Remove 2 screws to assemble bracket upper and case left. 6. Disconnect wire harness connected to gas sensor. 7. Remove each 1 screw from gas duct and gas sensor bracket. 8. Remove gas sensor from gas sensor bracket.


3. Disassembly and Reassembly

3-17 Knob

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
<p>Knob</p>		<ol style="list-style-type: none"> 1. Turn off the electrical supply. 2. Remove knob. 3. Remove 2 screws on Cap knob. 4. Open front upper cover. (See step 3-4) 5. remove 2 screws on Knob PBA.

3. Disassembly and Reassembly


3-18 Oven Door (Upper Oven)



WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
Assy Door		<p>To remove Upper oven Door</p> <ol style="list-style-type: none"> 1. Fully Open the door with pressing the level. 2. Pull the hinge locks downward (To pull the locks, Use screwdriver as in the). 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 until the hinge arm are clear of the slot


3. Disassembly and Reassembly

3-19 Handle-Door, Assy Hinge (Upper Oven)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
Handle-Door, Assy Hinge		<p>To remove the Handle door and Assy Hinge (Prepare Step)</p> <ol style="list-style-type: none"> 1. Remove the Upper oven door from the oven. 2. Place the oven door on a padded work surface with the front glass facing down. 3. Remove 7 screws at bottom side of door. 4. Remove Door C 5. Remove 10 screws from the Door E <p>※ Warning: Glass door can easily move or fall out after removing door E.</p> <p>※ Warning : Door C hook can will be broken after opening it</p>

3. Disassembly and Reassembly

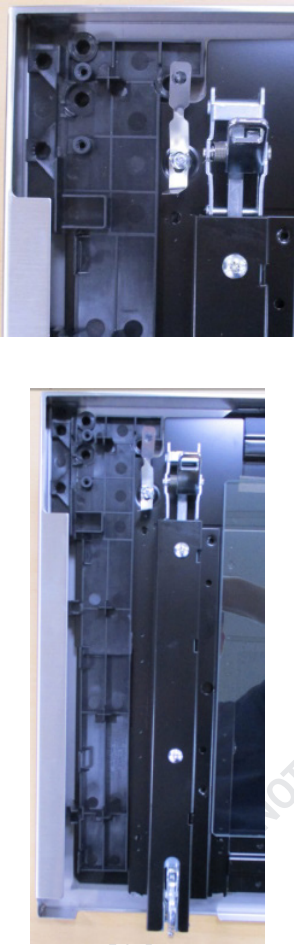
3-19 Handle-Door, Assy Hinge (Upper Oven)



WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
<p>Handle-Door, Assy Hinge</p>		<p>To remove Handle Door</p> <ol style="list-style-type: none"> 6. Remove 3 screws (each side) to remove handle door. <p>To remove Assy Hinge</p> <ol style="list-style-type: none"> 1. Remove pin for pop up key door and remove key door. 2. Remove 2 screws (each side) at bottom of assy hinge. 3. Unscrew 2 screws (each side) at upper side of assy hinge to remove it. Slide to remove.

3. Disassembly and Reassembly

3-20 Removing The Latch-Door & Switch-Door Plunger



WARNING

ELECTRICAL SHOCK HAZARD

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

CAUTION

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

Parts	Explanation Photo	Explanation
 <p>Latch-Door & Switch-Door Plunger</p>		<p>Lower Oven</p> <ol style="list-style-type: none"> 1. Turn off the electrical supply going to the oven. 2. Open the oven door. 3. Remove 2 screws from the front of cavity and remove the latch door & bracket 4. Remove 2 screws from the bracket and remove the latch door. <p>Upper oven</p> <ol style="list-style-type: none"> 1. Turn off the electrical supply going to the oven. 2. To remove front upper cover, see step 3-4 3. Remove connector on upper latches. 4. Open the oven door. 5. Remove 2 screws from the cavity front and remove the latches.

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

3. Disassembly and Reassembly

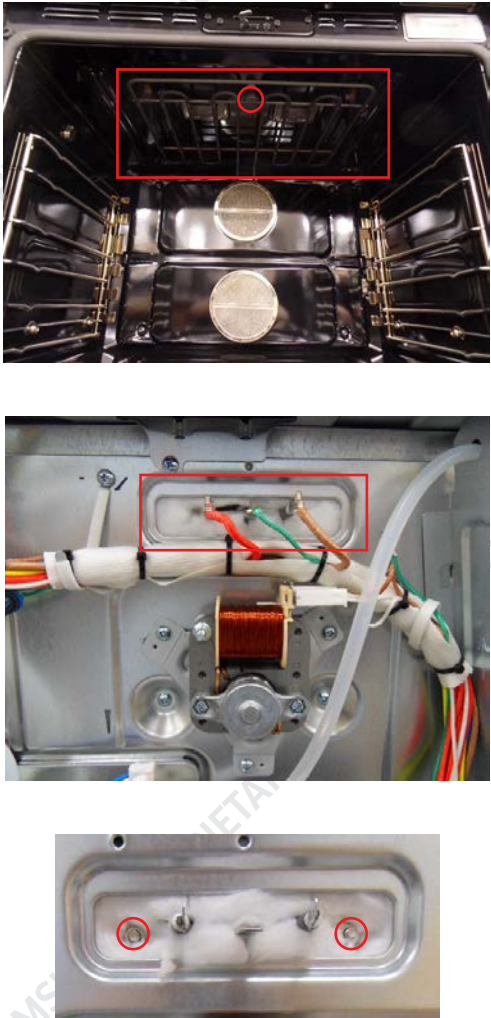
3-21 Removing Heater-Broil (Lower Oven)

⚠ WARNING

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


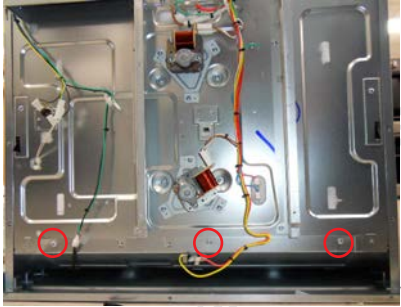
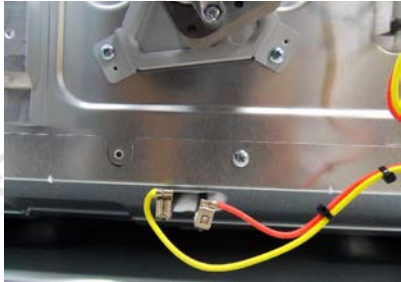
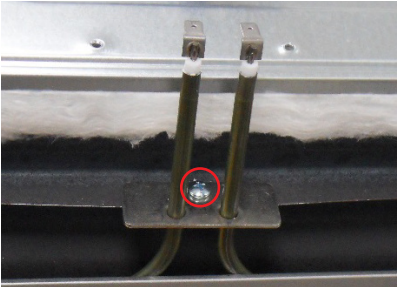
⚠ CAUTION

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

Parts	Explanation Photo	Explanation
Heater-Broil		<ol style="list-style-type: none"> 1. Turn off the electrical supply going to the oven. 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 3 wires from the broil element and 2 nut with cutting insulation. 5. Remove the 1 screw that are securing the broil element to the cavity. 6. Remove the broil element.


3. Disassembly and Reassembly

3-22 Removing Bake Element

Parts	Explanation Photo	Explanation
 <p data-bbox="139 989 289 1016">Heater-Bake</p>	  	<ol style="list-style-type: none"> <li data-bbox="964 663 1390 695">1. Unplug oven or disconnect power. <li data-bbox="964 709 1398 800">2. Pull the oven out of its mounting location so that you can access the rear of the unit. <li data-bbox="964 814 1321 873">3. Remove 3 screws and cover adiabatic lower sub <li data-bbox="964 888 1365 947">4. Disconnect the 2 wires from the heater bake element. <li data-bbox="964 961 1377 1020">5. Remove the 1 screw securing the heater-bake. <li data-bbox="964 1035 1406 1094">6. Cut the insulation on the lower side along entire width of an unit. <li data-bbox="964 1108 1398 1167">7. Carefully pull out Heater-bake and replace it.

3. Disassembly and Reassembly

3-23 Removing Convection Element, Fan-Convection and Motor-Convection (Lower Oven)

Parts	Explanation Photo	Explanation
<p>Convection element</p>		<ol style="list-style-type: none"> 1. Disconnect power and remove oven racks. 2. Pull the oven out of its mounting location so that you can access the rear of the unit. 3. Remove Cover-Back Main Wire from the unit. (See step on Cover-back-main-wire) 4. Remove oven door 5. Unscrew 4 screws and remove Cover-Casing. 6. Unscrew 4 screws and remove Bracket-Convection Heater. 7. Unscrew nut of Fan-Convection, and 2 Fan-Convection. 8. Unscrew 3 screws and disconnect a Motor-Convection wire and Heater-Convection-wire.



CAUTION

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

3. Disassembly and Reassembly



3-24 Removing Lamp (Lower Oven)

⚠ WARNING

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

⚠ CAUTION

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

Parts	Explanation Photo	Explanation
 <p>Lamp</p>		<ol style="list-style-type: none"> 1. Disconnect power. 2. Remove oven door. 3. Remove Heater broil. 4. Pull-out the glass cover in the oven. 5. Unscrew cover lamp. 6. Pull-out the bulb.

⚠ CAUTION

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

3. Disassembly and Reassembly

3-25 Removing Sensor-Thermistor

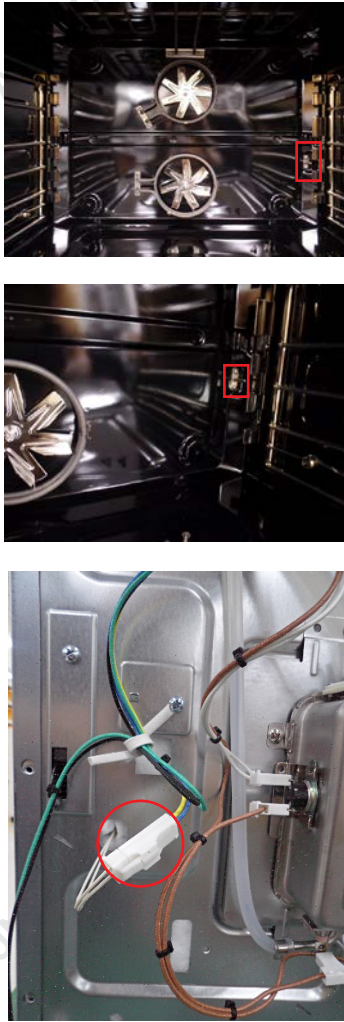
⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

⚠ PRECAUTION

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

Parts	Explanation Photo	Explanation
<p>Sensor-Thermistor</p>		<ol style="list-style-type: none"> 1. Turn off the electrical supply going to the oven 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 harness.

3. Disassembly and Reassembly

3-26 Disassembly Door(LOWER)

⚠ WARNING

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

⚠ WARNING

The door is very heavy. Be careful when removing door. Do not lift door by the door handle.


⚠ CAUTION

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

Parts	Explanation Photo	Explanation
Disassembly Door(LOWER)		<ol style="list-style-type: none"> 1. Fully open the door with pressing the lever. 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 the door up and out until the hinge arm are clear of the slot. 5. Disconnect wire harness and Remove Rubber <p>** Caution : after step 4, progress step 5 with keeping lifting door to prevent to wire harness defeat.</p>



3. Disassembly and Reassembly

3-27 Replace Door(LOWER)

Parts	Explanation Photo	Explanation
<p>Replace Door(LOWER)</p>		<ol style="list-style-type: none"> 1. Assembly rubber and connect wire harness.(after connecting, push connector to inside of the hole) 2. Firmly grasp both sides of the door at the top and match hinge & support hinge. 3. Fully open the door. <p>☑ Note.</p> <p>If the door will not fully open, it means that the indentation is not seated correctly in the bottom edge of the slot.)</p> <ol style="list-style-type: none"> 4. Close the oven door.


3. Disassembly and Reassembly

3-28 HANDLE-DOOR AND GLASS-INNER - 1

Parts	Explanation Photo	Explanation
<p>HANDLE-DOOR AND GLASS-INNER - 1</p>		<p>To remove the HANDLE DOOR and GLASS INNER:</p> <ol style="list-style-type: none"> 1. Remove the oven door from the oven. 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.
		<p>To remove Handle-door</p> <ol style="list-style-type: none"> 6. Remove 4 screws on holder handle

3. Disassembly and Reassembly

3-29 HANDLE-DOOR AND GLASS-INNER - 2

Parts	Explanation Photo	Explanation
<p>HANDLE-DOOR AND GLASS-INNER - 2</p>		<p>To remove Glass-Inner</p> <ol style="list-style-type: none"> 1. Remove 4 screws to remove the Glass inner sub. 2. Remove 4 screws to remove LED assy and 2 sub glasses. 3. Remove 10 screws to remove Baffle-door and take out the Glass inner assembly.

3. Disassembly and Reassembly

3-30 Removing Gasket-Door






WARNING

ELECTRICAL SHOCK HAZARD

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

PRECAUTION

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

Parts	Explanation Photo	Explanation
 <p>Gasket door</p>	  	<ol style="list-style-type: none"> 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. <p> 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.</p>

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

3. Disassembly and Reassembly

3-31 Removing the steam set

! WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
<p>Remove the steam set</p>		<ol style="list-style-type: none"> 1. Turn off the electrical supply. 2. Pull the oven away from the wall so that you can access the upper oven. 3. To remove upper oven <ol style="list-style-type: none"> a) On right and left side remove 2 screws from the bottom of the upper oven and 1 screw from stainless trim. b) remove 10 screws of back side of upper oven where are connected to lower oven 4. Disconnect wire harness connection lower and upper. 5. Remove upper oven 6. Disconnect wire harness. 7. Remove 3 screws and hose connections.

3. Disassembly and Reassembly

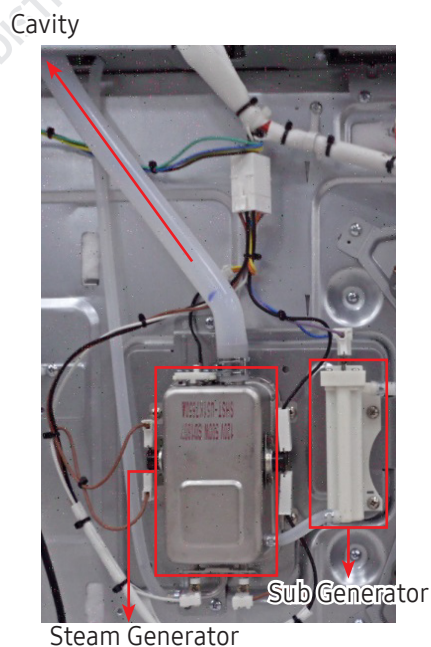
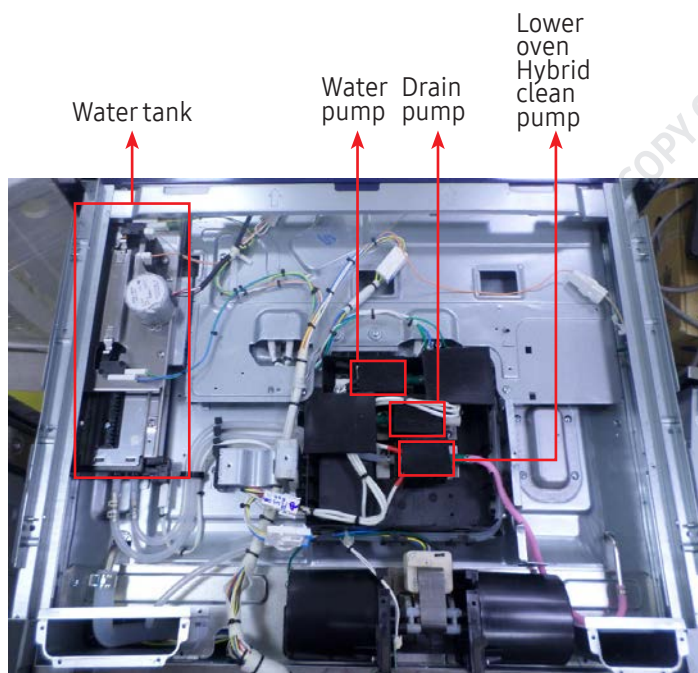
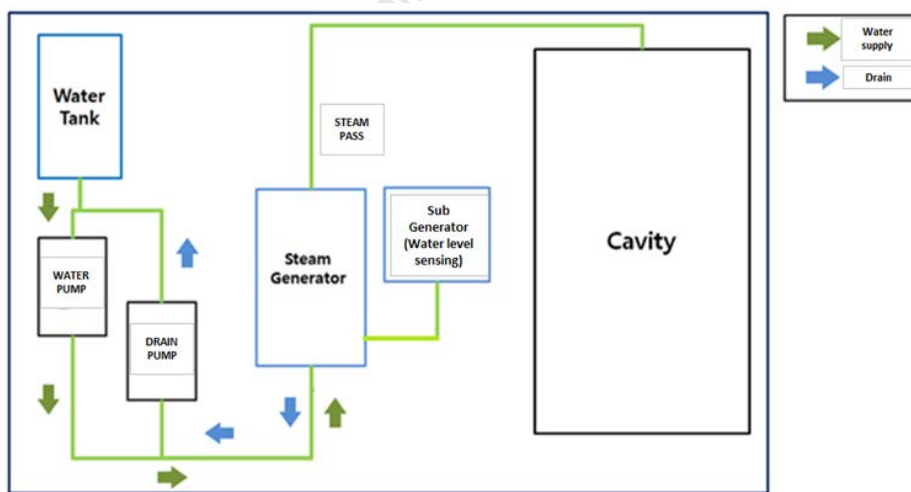
3-32 Assy Steamer

WARNING

ELECTRICAL SHOCK HAZARD

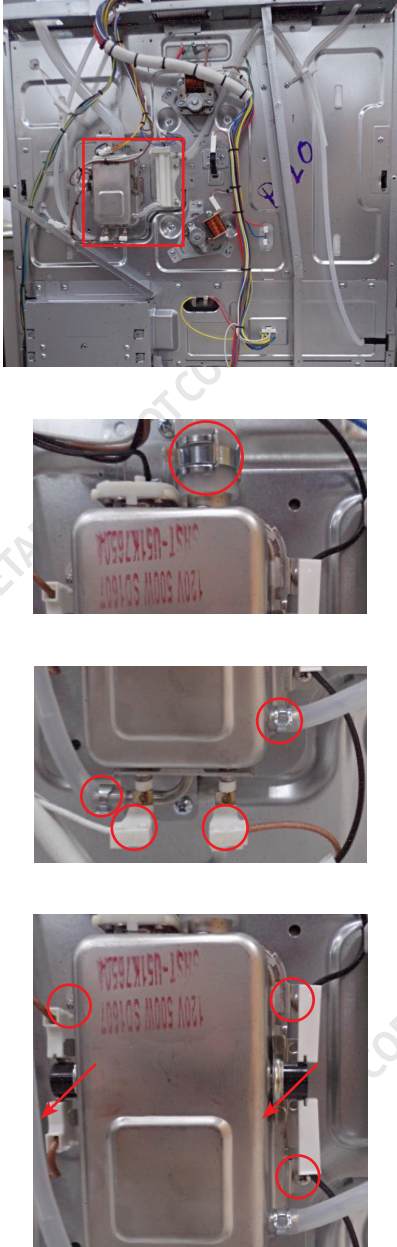
Disconnect power before servicing the oven. Replace all panels before operating oven. Failure to do so can result in death or electrical shock.

Schematic Diagram & Structure



3. Disassembly and Reassembly

Assy Steamer

Parts	Explanation Photo	Explanation
Assy Steamer		<ol style="list-style-type: none"> 1. Remove clamp steam tube. 2. Remove 2 connectors and 2 tube clamps. 3. Remove 3 screws. 4. Pull 2 TCO forward to separate.


3. Disassembly and Reassembly

3-33 Assy Generator Sub

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
Assy Generator Sub		<ol style="list-style-type: none"> 1. Remove Connector. 2. Remove 2 Holder tube and 2 screws.

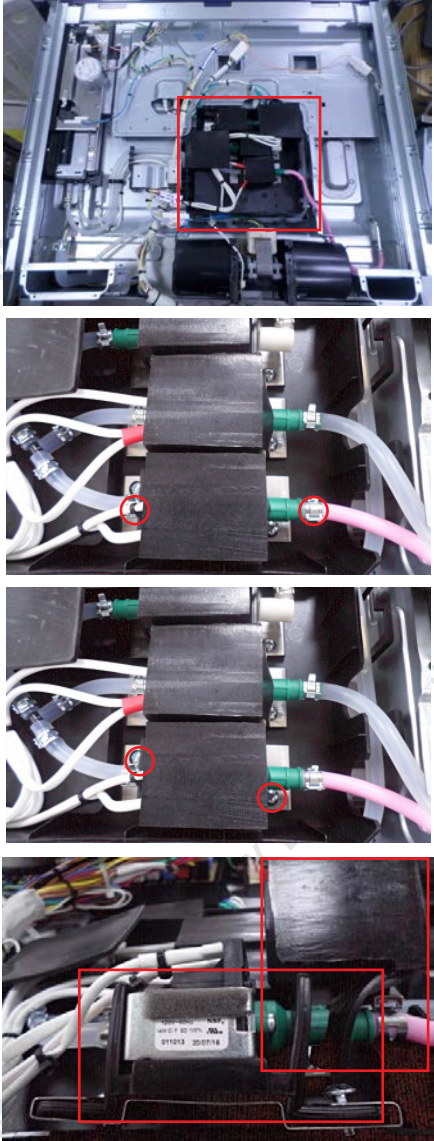
3. Disassembly and Reassembly

3-34 Motor AC Pump

⚠ WARNING

ELECTRICAL SHOCK HAZARD

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

Parts	Explanation Photo	Explanation
<p>Motor AC Pump</p>		<ol style="list-style-type: none"> 1. Remove 2 holder tube. 2. Remove 2 screws. 3. Remove 2 rubber covers. 4. Remove the other side in the same way.

4. Troubleshooting

4-1 Failure Display Codes



* Operation check mode

1. Touch and at the same time immediately after turn on the power.
Turn on the lamp automatically and display the check mode.



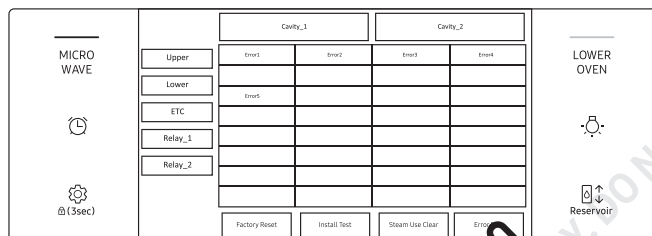
* To return to normal display mode

2. Touch **Reset** > **Cancel** and **Reboot** > **OK**



* Error check mode

3. Touch **MICROWAVE** and **LOWER OVEN** for 5 seconds.
Information is displayed on screen.



4. Touch **Error_Disp**.

The latest 5 check codes can be checked on display.

5. Touch **MICROWAVE** and **LOWER OVEN** for 5 seconds to return to normal display mode.

4. Troubleshooting

4-1 Failure Display Codes

Check code

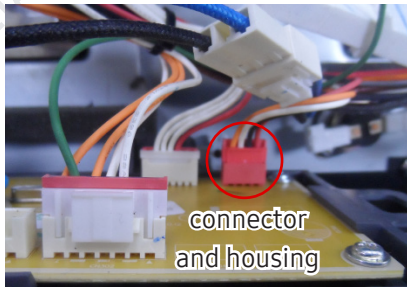
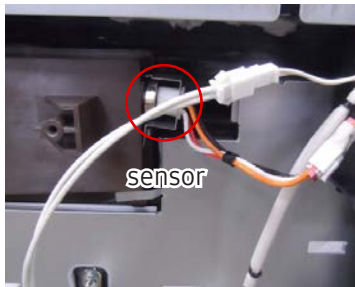
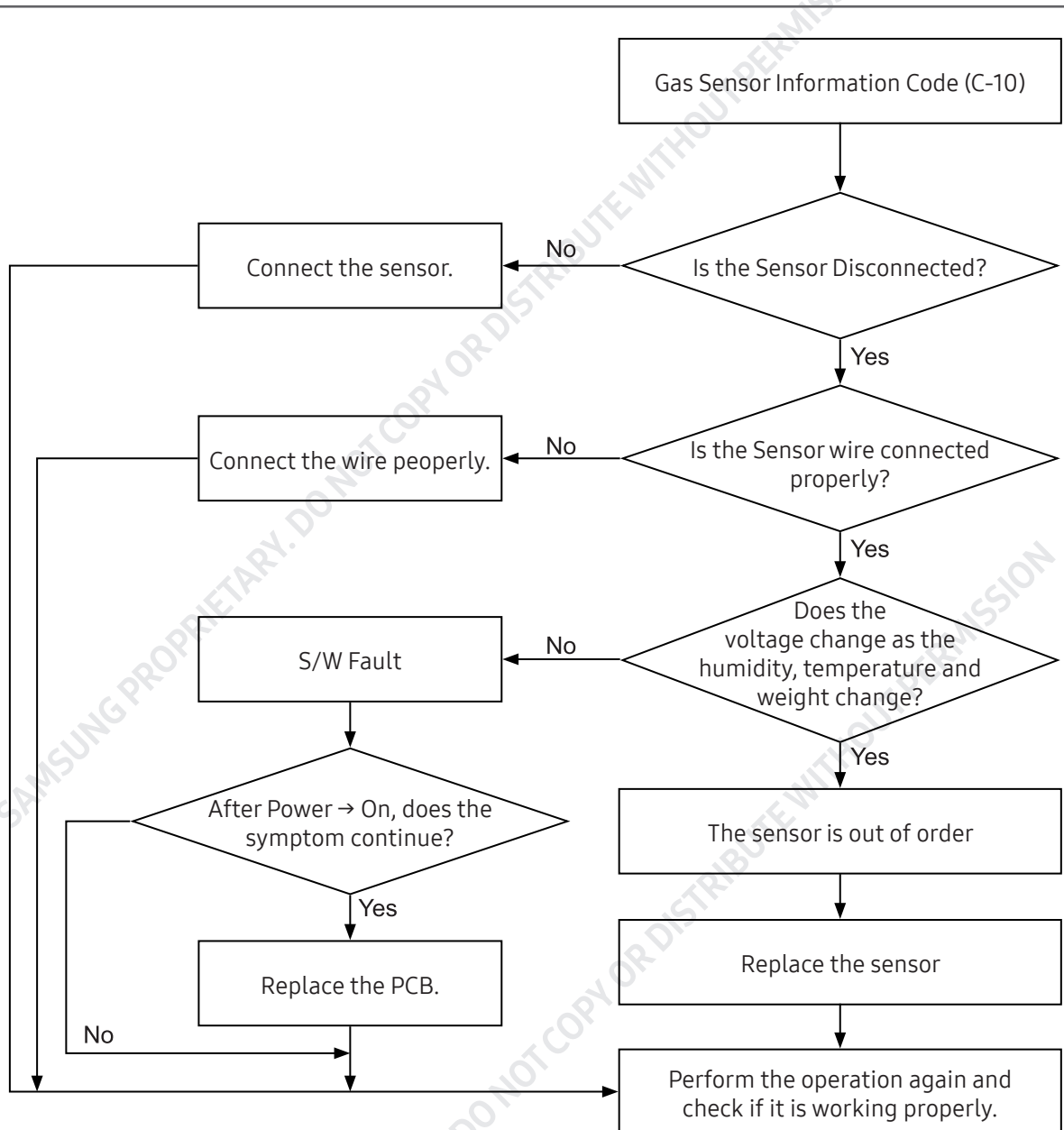
Failure code	CAUSE	SOLUTION
C-d0	This code occurs if the keys are shorted.	<ol style="list-style-type: none"> 1. Check whether keypad cable is inserted into connector on sub pcb. 2. Check for shorts between Sub PCB and the connector, or the keypad and the cable. 3. if no faults are found with Sub PCB connector and the keypad cable replace the Sub PCB.
C-d1	This code occurs if the door lock is mispositioned.	<ol style="list-style-type: none"> 1. Disconnect power. Check whether harness has been connected with door lock switch and motor. 2. Confirm whether resistance value of door lock motor is correct. Normal value should be 1600 ~ 2200 Ω at the room temperature. 3. Operate door lock, measure voltage at the plug supplying power to the door lock motor. (normal voltage : AC 120V) 4. Check whether door locking switch is working normally.
C-F0	This code occurs if communication between the Main and Sub PCB is interrupted.	<ol style="list-style-type: none"> 1. Check whether connector on main pcb has been inserted correctly. 2. Check whether connector on sub pcb has been inserted correctly. 3. If no issue with connector on Main and Sub PCBs has been detected replace Main PCB.
-dC-	This code appears if the partition is inserted or removed while the oven is operating.	Make sure the partition is inserted properly, and restart the oven. If the problem persists, disconnect all power to the range for at least 30 seconds and then reconnect the power. If this does not solve the problem, call for service.
C-F2	This code occurs if communication between the Main and Touch PCB is interrupted.	<ol style="list-style-type: none"> 1. Check whether connector on sub pcb has been inserted. 2. If no issue with connector on Sub PCB has been detected replace Sub PCB 3. If the problem has not been solved after replacing Sub PCB replace control PCB.
C-10	When gas sensor value is below 5 or more than 250, marks C-10 and converts to cancel mode.	<ol style="list-style-type: none"> 1. Check sensor part and connection of sensor housing and PCB's connectors 2. If connectors at the Main PCB and the sensor are inserted correctly, replace the cooking sensor. 3. If the problem is still not solved, replace the Main PCB.
C-20	The oven sensor is open when the oven is operating.	<ol style="list-style-type: none"> 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.
	The oven sensor is short when the oven is operating.	

4. Troubleshooting

Failure code	CAUSE	SOLUTION
C-21	This code occurs if the internal temperature rises abnormally high.	<ol style="list-style-type: none"> 1. Disconnect power. Disconnect sensor harness from sensor. Measure sensor resistance : 1080Ω at the room temperature. -> If there are any problems, replace oven sensor. 2. Check the resistance of broil, bake and convection heater. 3. Check whether DLB, broil, bake and convection relays on the Main PCB are working normally. 4. Check whether any part of a wire harness on Main PCB is disconnected. 5. Check the resistance of oven sensor connector on main pcb. (Normal : 2850Ω) 6. Unit will display "C-21" after beeping 10 times if temperature is higher then the specified during operation. 7. Please follow diagnostics steps 4-1 on page 30.
C-23	The temp probe sensor is shorted when oven is operating.	<ol style="list-style-type: none"> 1. Disconnect power. Disconnect Probe harness from control board. Measure probe resistance : 50kΩ at the room temperature -> If there are any problems, replace meat probe. 2. If there are problems found with the meat probe, please check wire harness and connector terminals for damage. 3. Check resistance of meat probe connector on main PCB (Normal:10kΩ ~ 11kΩ)
C-30	The PCB temp sensor is open when the oven is operating.	<ol style="list-style-type: none"> 1. Disconnect power. Open back cover. 2. Replace the main pcb.
C-30	The PCB temp sensor is shorted when the oven is operating.	
C-31	This code occurs if the PCB temperature rises abnormally high.	
C-70	The steam sensor is open when the steam mode is on.	<ol style="list-style-type: none"> 1. Check whether connector at the main pcb has been inserted. 2. Check whether connector at the sensor has been inserted. 3. If connector 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
	The steam sensor is shorted when the steam mode is on.	
C-72	The drain system-related problem. Occurs when water level sensor senses water remaining after maximum draining time.	<ol style="list-style-type: none"> 1. Check the ground wire on the steam generator. 2. Check the pump motor operation and wire connection. 3. If the problem is still not solved, replace the Main PCB.
C-A2	Cooling motor is operating abnormally.	<ol style="list-style-type: none"> 1. check whether conenctor at the main pcb has been inserted. 2. Check whether connector at the motor has been inserted. 3. If the problem is still not solved, replace the cooling motor.

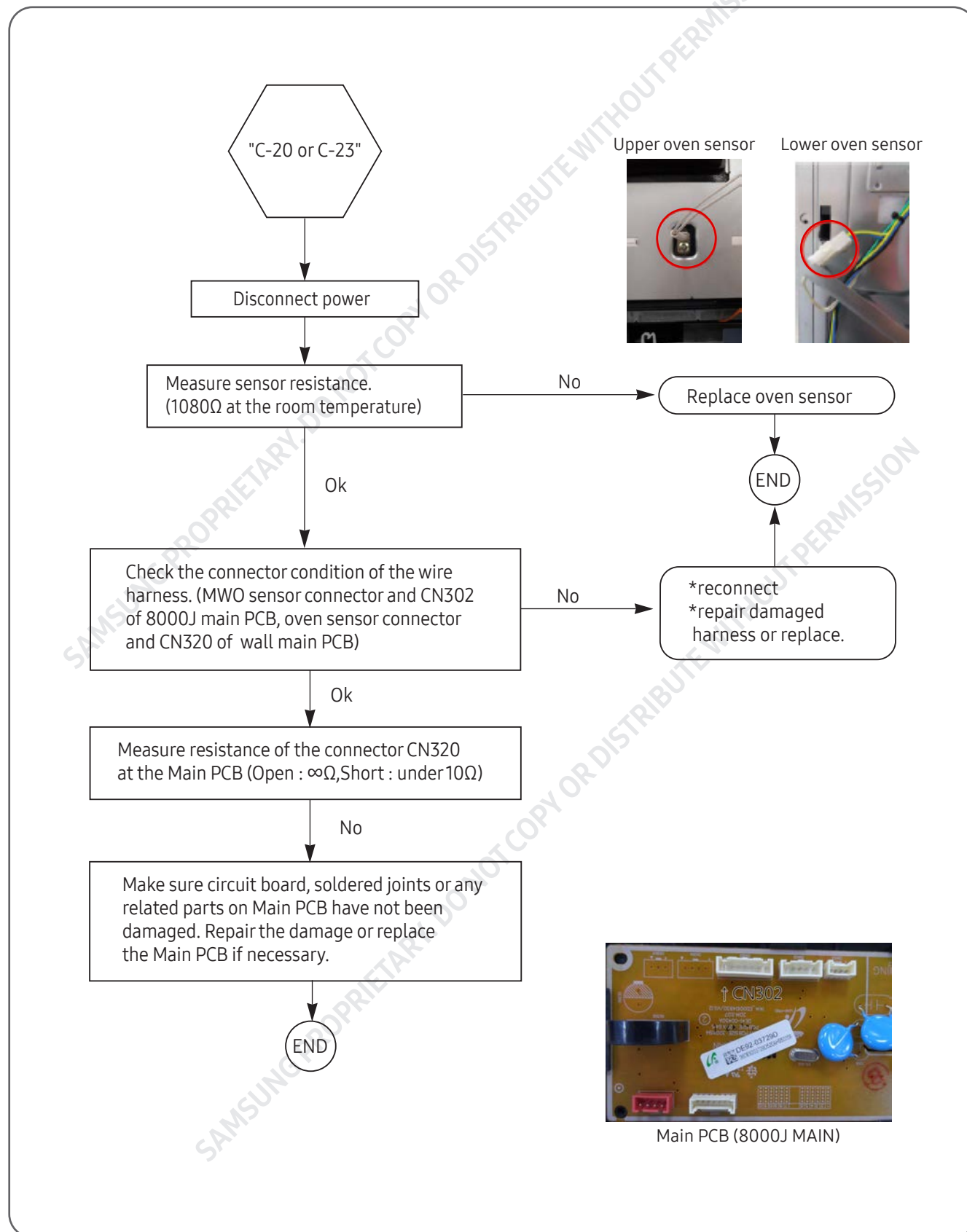
4. Troubleshooting

4-1 Failure Display Codes



4. Troubleshooting

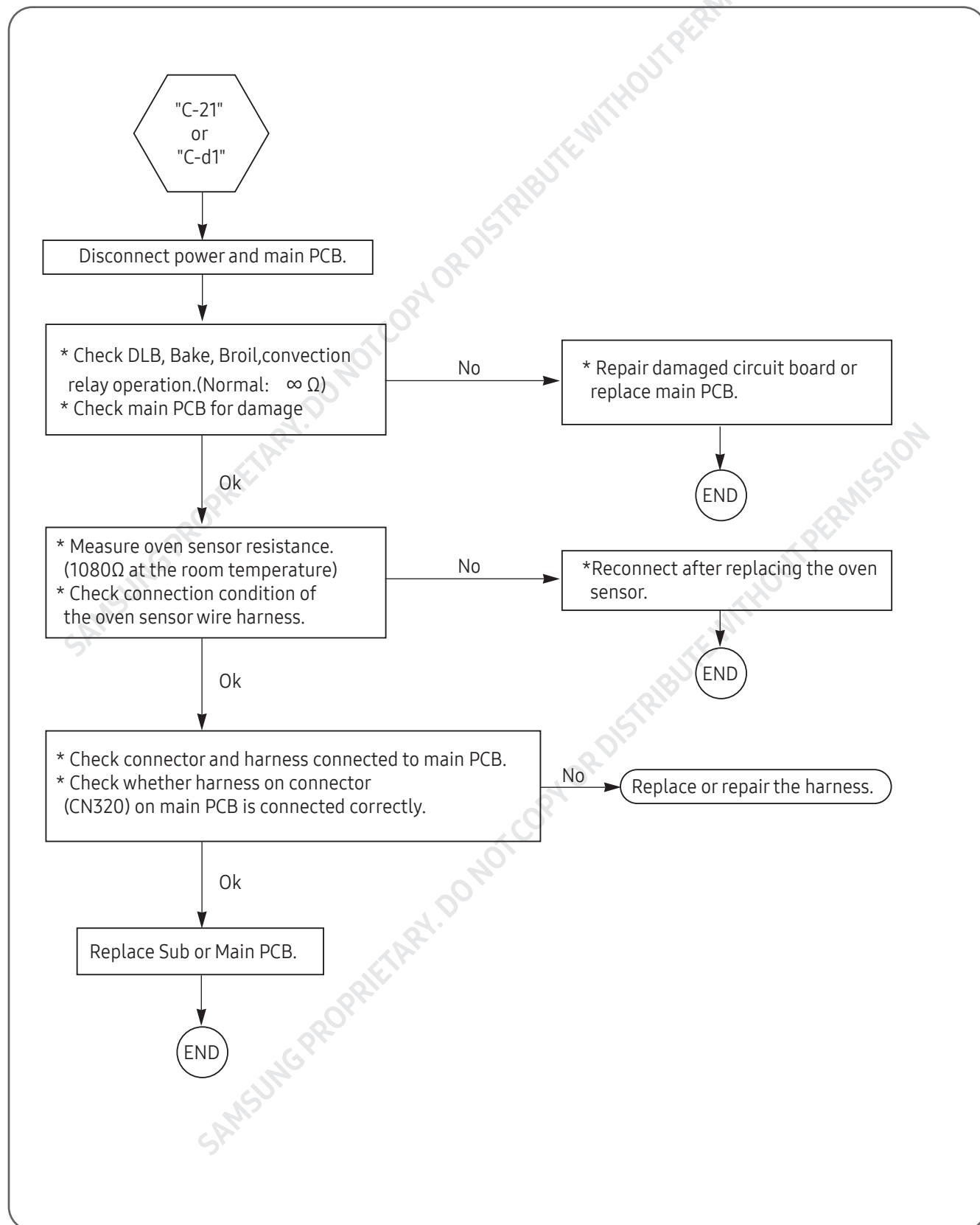
4-1 Failure Display Codes



4. Troubleshooting

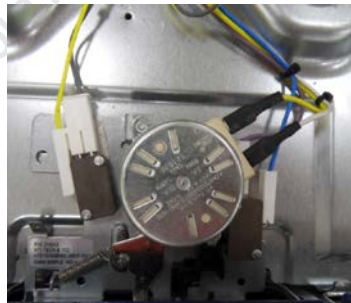
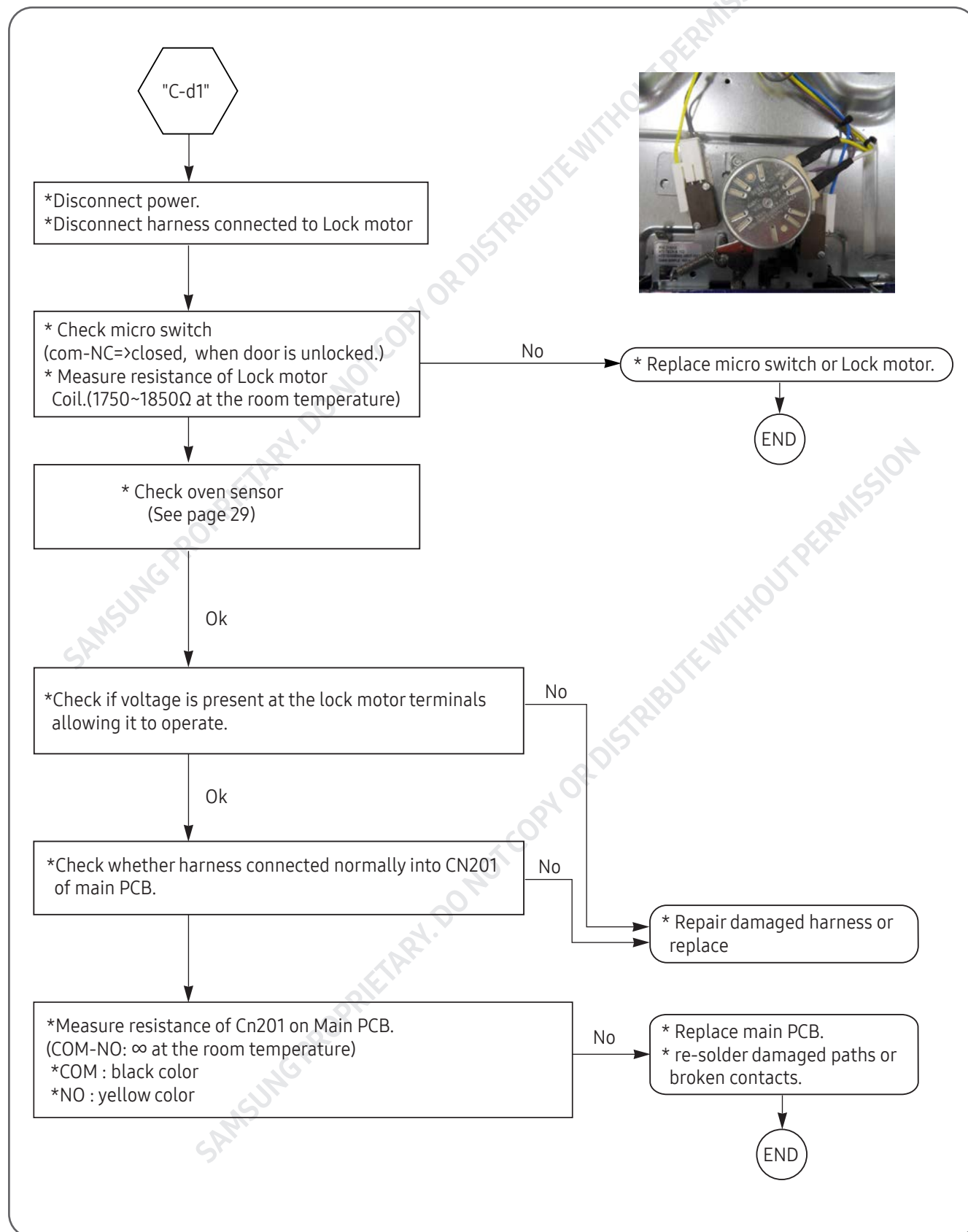
4-1 Failure Display Codes

Safety error



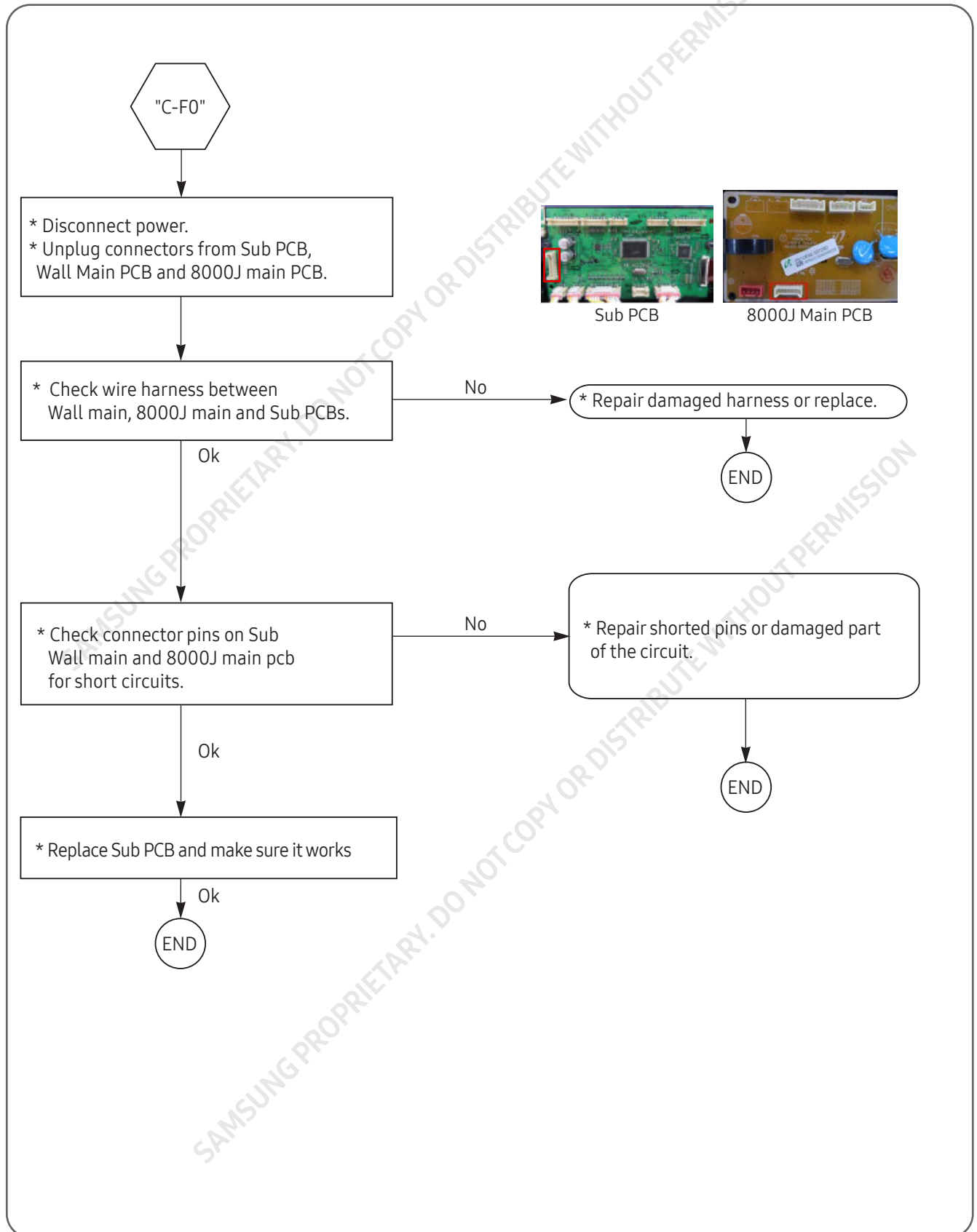
4. Troubleshooting

4-1 Failure Display Codes



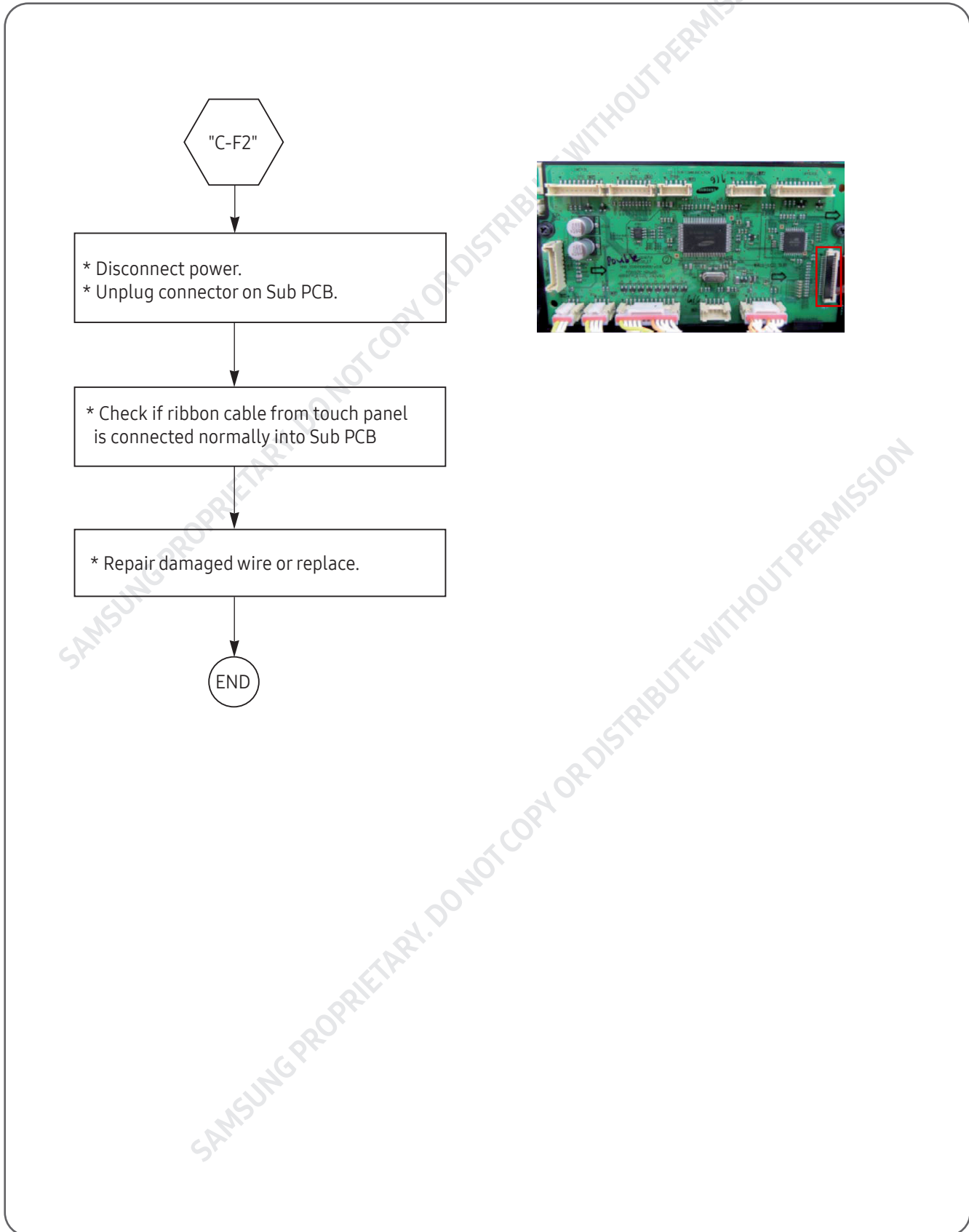
4. Troubleshooting

4-1 Failure Display Codes



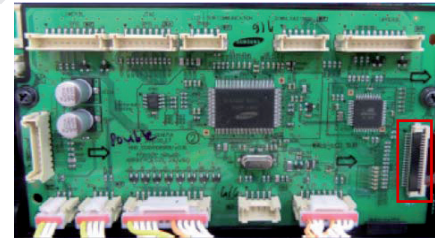
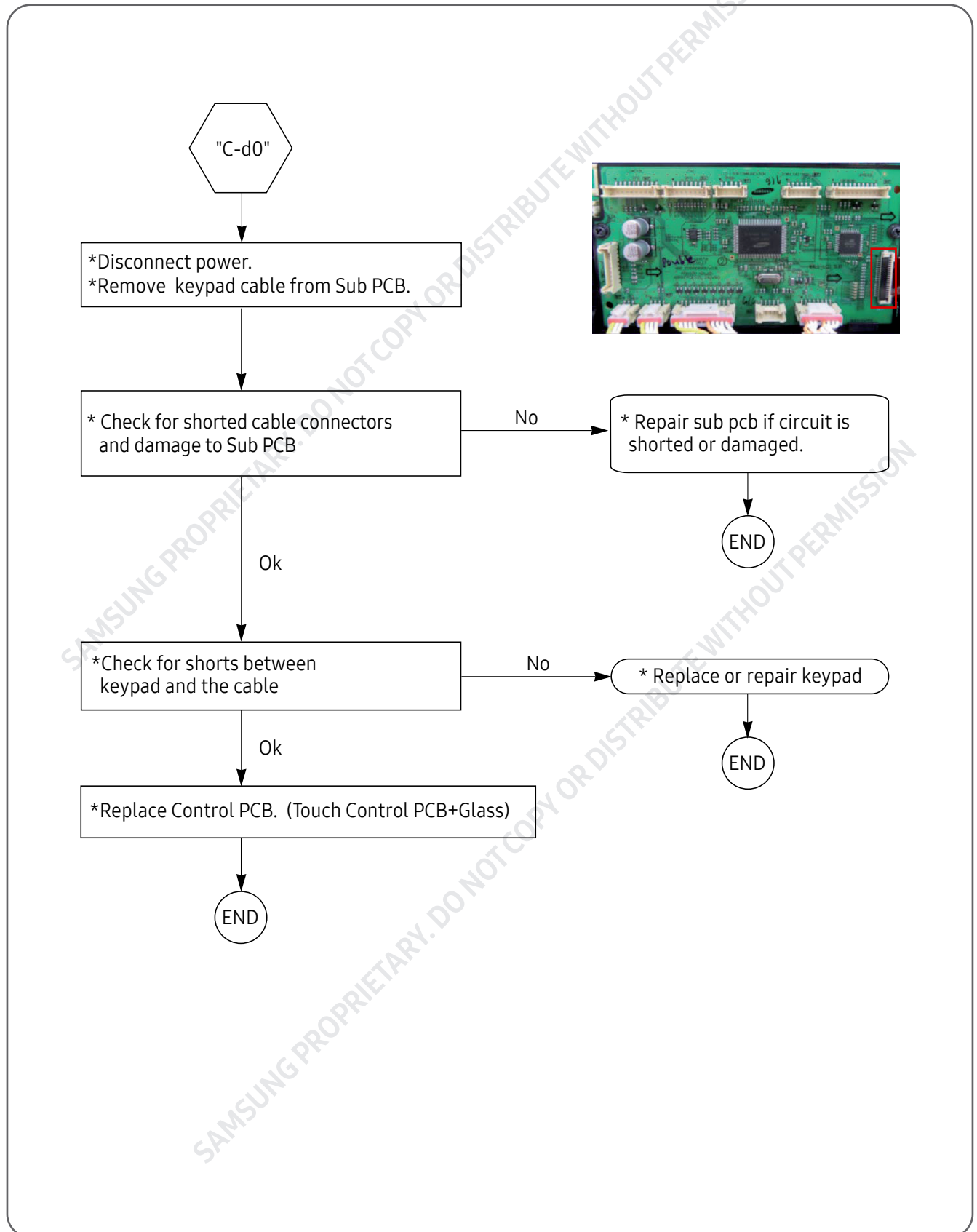
4. Troubleshooting

4-1 Failure Display Codes



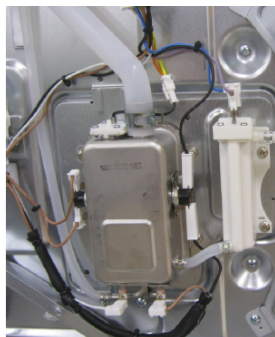
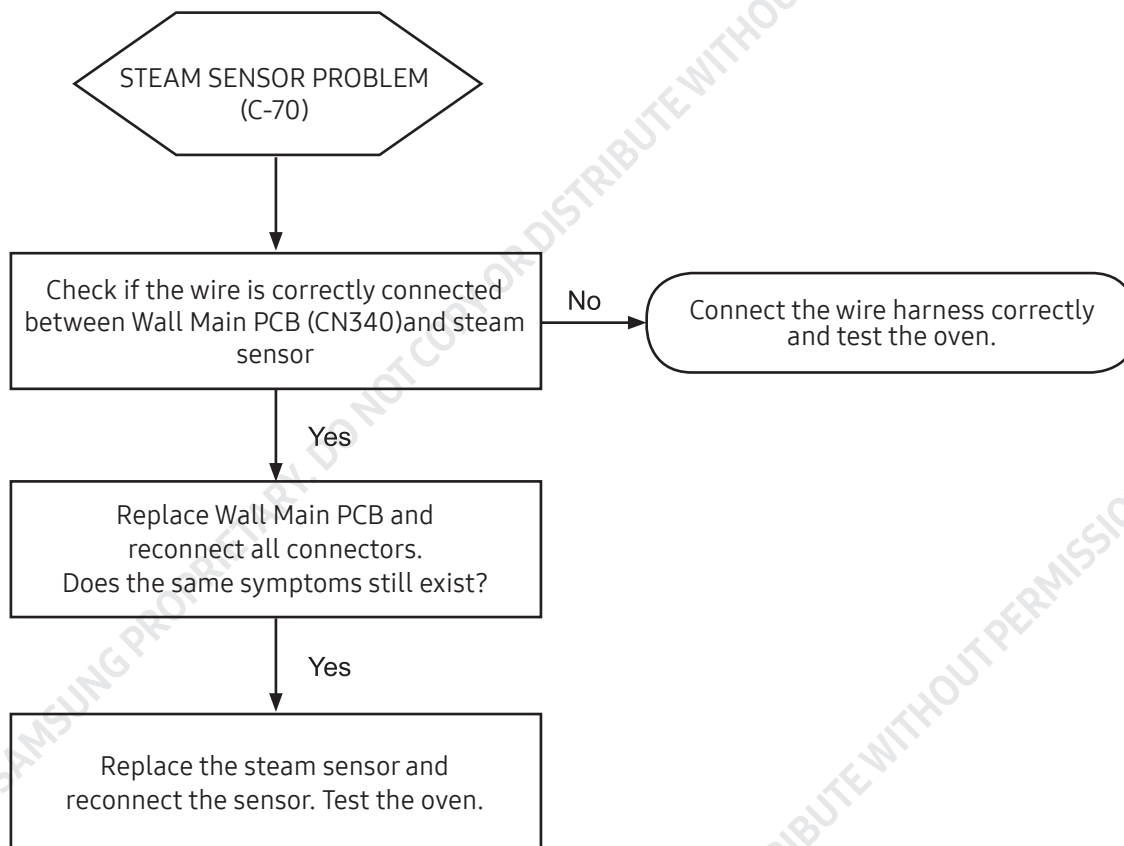
4. Troubleshooting

4-1 Failure Display Codes



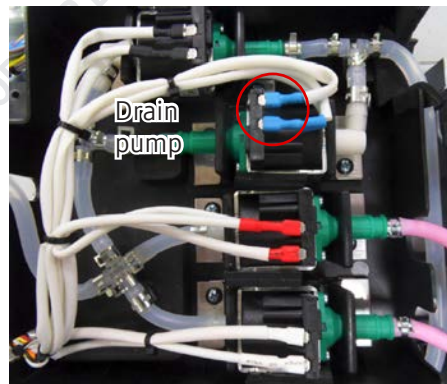
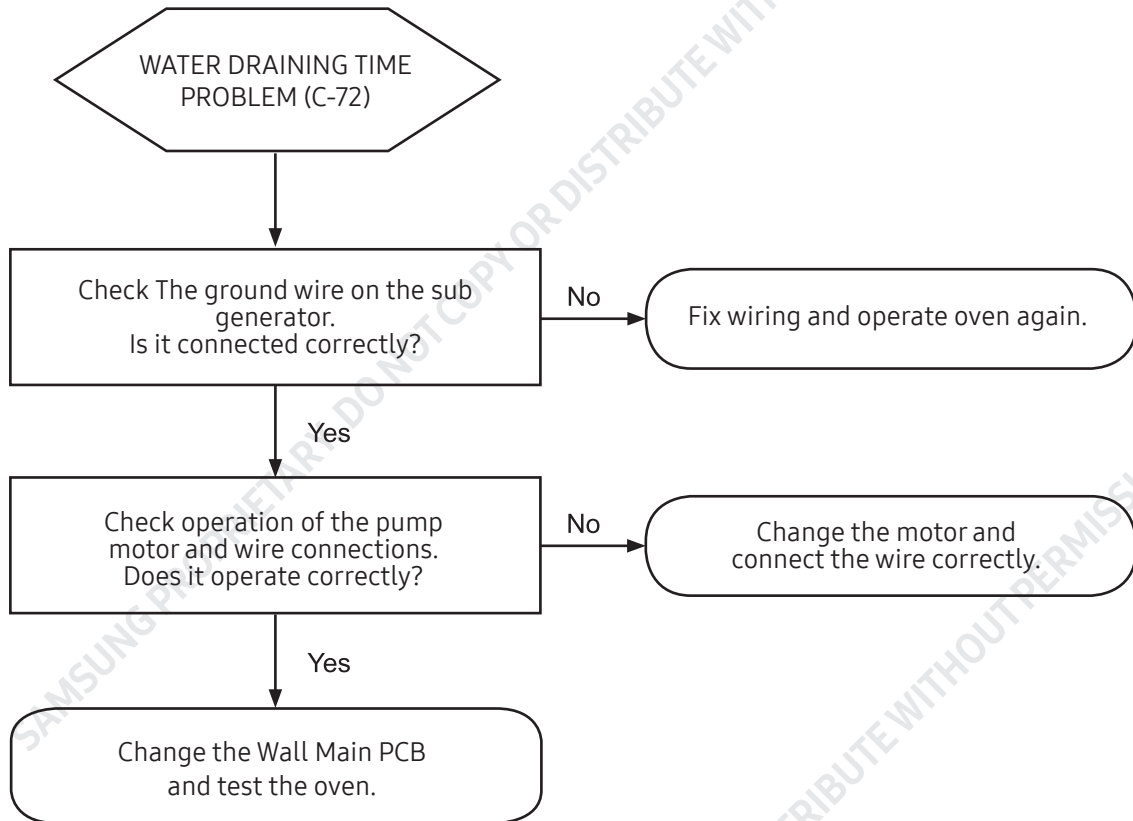
4. Troubleshooting

4-1 Failure Display Codes



4. Troubleshooting

4-1 Failure Display Codes



4. Troubleshooting

4-2 Adjustment of Primary interlock switch, Door sensing switch (Secondary interlock switch), and Monitor interlock switch



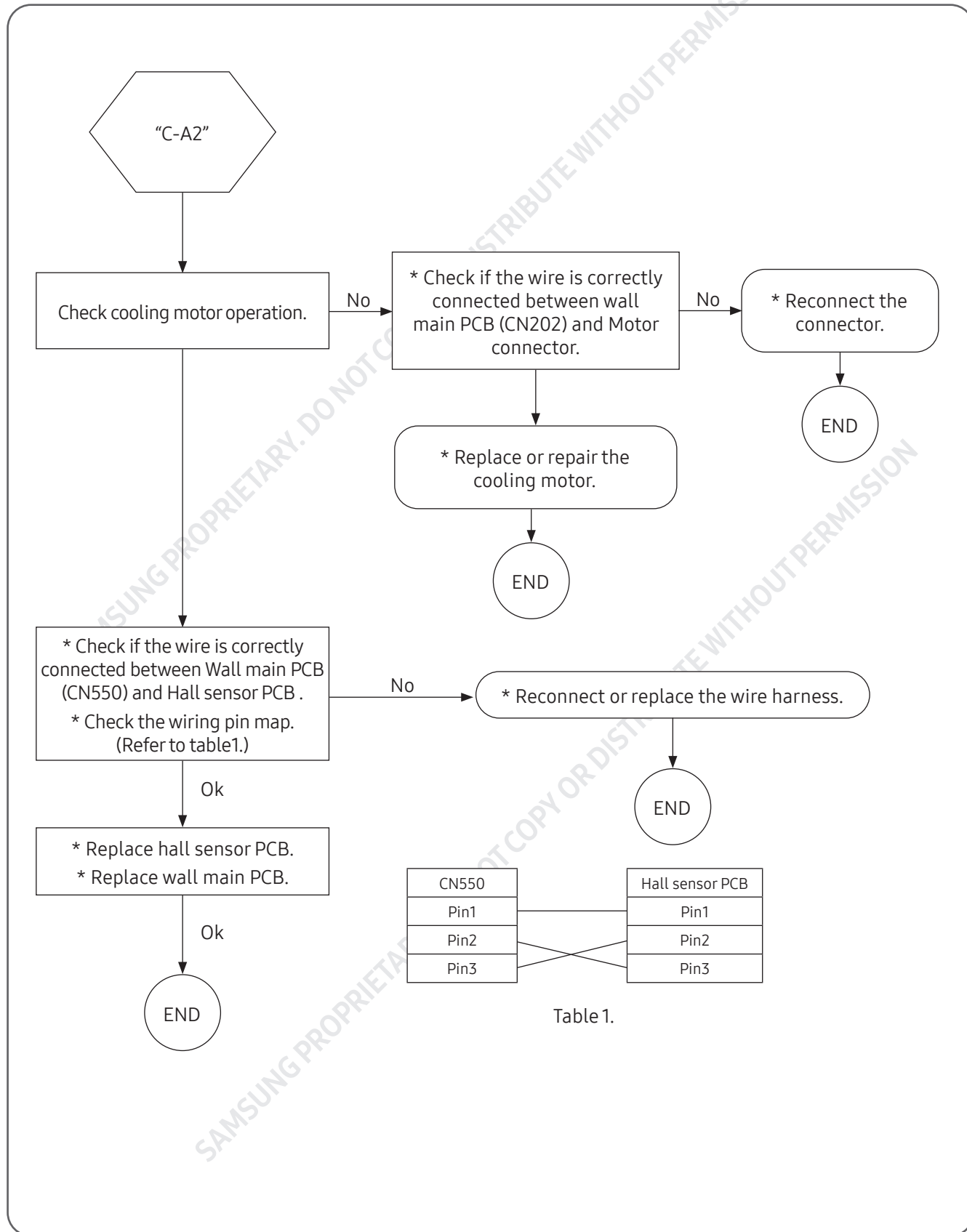
PRECAUTION

For continued protection against radiation hazard, replace parts in accordance with the wiring diagram and be sure to use the correct part number for the following switches: Primary and secondary interlock switches, and the monitor interlock switch (replace all together). Then follow the adjustment procedures below. After repair and adjustment, be sure to check the continuity of all interlock switches and the monitor interlock switch.

1. When mounting Primary interlock switch and Monitor interlock switch to Latch Body, consult the figure.
2. No specific adjustment during installation of Primary interlock switch and Monitor interlock switch to the latch body is necessary.
3. When mounting the Latch Body to the oven assembly, adjust the Latch Body by moving it so that the oven door will not have any play in it. Check for play in the door by pulling the door assembly. Make sure that the latch keys move smoothly after adjustment is completed. Completely tighten the screws holding the Latch Body to the oven assembly.
4. Reconnect to Monitor switch and check the continuity of the monitor circuit and all latch switches again by following the components test procedures.
5. Confirm that the gap between the switch housing and the switch actuator is no more than 0.5mm when door is closed.
6. Interlock Switch Replacement - When replacing faulty switches, be sure switch mounting tabs are not bent, broken or otherwise deficient in their ability to secure the switches in place.

	Door Open	Door Closed
Primary Interlock switch	∞	0
Monitor interlock switch(COM-NC)	0	∞
Monitor interlock switch(COM-NO)	∞	0
Door Sensing switch (Secondary Interlock switch)	∞	0

4. Troubleshooting



4. Troubleshooting

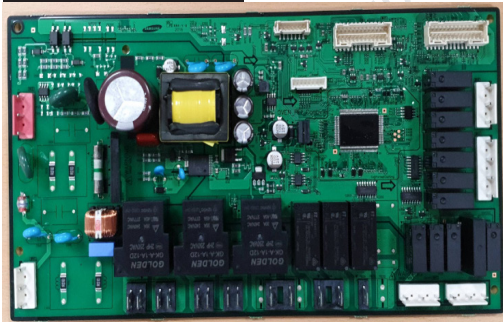
Control PCB Operation

List of Control PCB

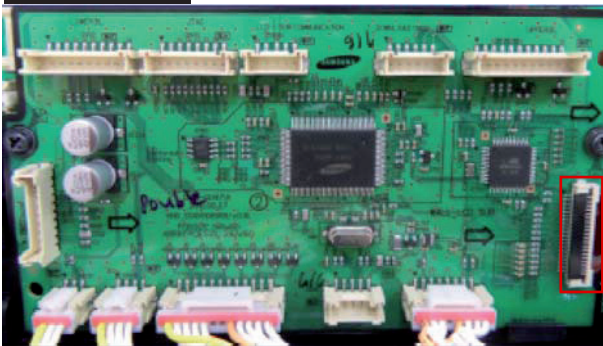
8000J Main PCB



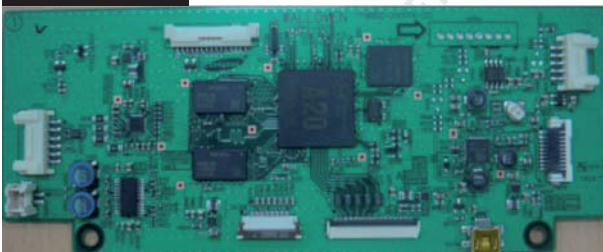
Wall Main PCB



Sub PCB



LCD PCB



4. Troubleshooting

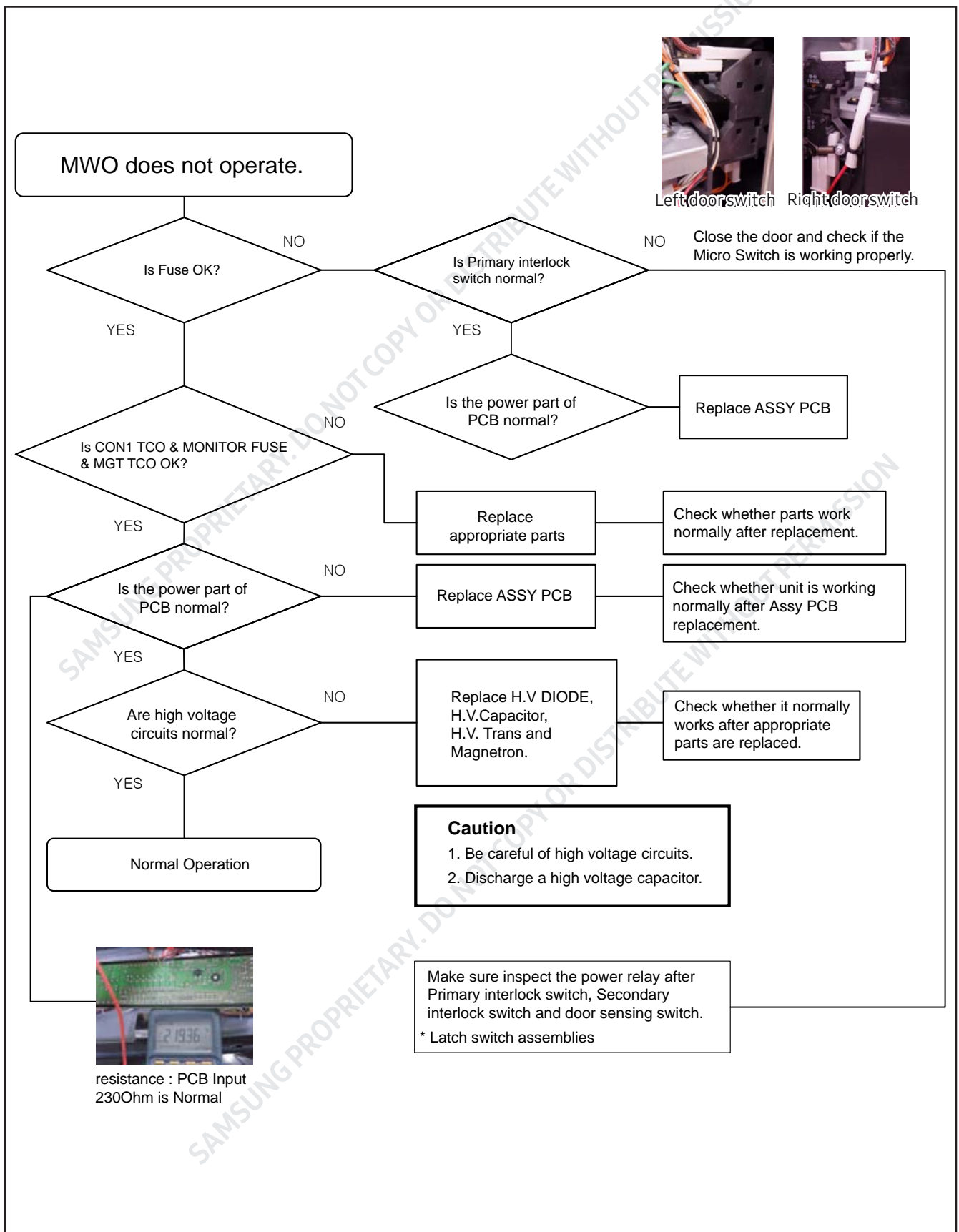
SYMPTOM	DIAGNOSIS	REMEDY
Oven not working (No power, No display)	<ul style="list-style-type: none"> * Measure an input voltage. (240V or 208V) * Measure an input voltage of terminal block. 	<ul style="list-style-type: none"> * Check circuit breaker. * Check state of a wire connected to Terminal Block
	<ul style="list-style-type: none"> * Measure supplied voltage at the connector on 8000J Main PCB L1~N: 120V and Wall Main PCB L1-N 120V 	<ul style="list-style-type: none"> * Replace or repair harness if loose or disconnected.
	<ul style="list-style-type: none"> * Make sure that the relay on Sub PCB is working normally * Check whether connector between sub, Wall Main PCB and 8000J Main PCB is not loose or disconnected. 	<ul style="list-style-type: none"> * Replace sub PCB if relay has been damaged or Sub PCB has been cracked. * Repair harness connecting to Wall Main, 8000J Main and Sub PCBs * Make sure the wire harness is connected to the relay on Sub PCB
	<ul style="list-style-type: none"> * Measure resistance of thermostat terminals: (normal : 0 ohms) * Check whether harness connected to terminal of a thermostat is not loose or disconnected. * Measure voltage regulator on main PCB. - IC02 : 7812(DC 12V) - IC03 : 7805(DC 5V) 	<ul style="list-style-type: none"> * Replace the thermostat. * Replace or repair harness. * Replace or repair after check PCB.
Oven temperature rises slowly.	<ul style="list-style-type: none"> * Make sure wire harness connected to broil, bake and convection heaters is not loose or disconnected. 	<ul style="list-style-type: none"> * Repair and replace harness. * Disconnect terminals for each heater and measure resistance, replace any heaters with abnormal resistance. .
	<ul style="list-style-type: none"> * Make sure relays are operating normally and PCB is not shorted. 	<ul style="list-style-type: none"> * Replace or repair Wall Main PCB and 8000J Main PCB.
Oven temperature rises too fast	<ul style="list-style-type: none"> * Check if oven temperature rises over 400°F within 10 minutes in room temperature. 	<ul style="list-style-type: none"> * Repair or replace shorted relays on Wall Main, 8000J Main or SUBs PCBs
	<ul style="list-style-type: none"> * Check whether harness has been connected incorrectly or is shorted 	<ul style="list-style-type: none"> * Replace or repair harness.
	<ul style="list-style-type: none"> * Make sure resistance of each heater is within normal range. 	<ul style="list-style-type: none"> * Replace heater with abnormal resistance range.

4. Troubleshooting

SYMPTOM	DIAGNOSIS	REMEDY
Keypad is not working correctly.	Make sure the keypad cable is connected correctly.	* Replace pcb if keypad cable is connected correctly.
	Check whether connector on pcb is shorted or damaged.	* Replace or repair after confirming that keypad cable has not been loose or disconnected.
	Check whether touch control PCB has been damaged.	* Replace touch control assembly. (PCB + Glass touch)
Oven lamp is not working.	* Check the oven lamp relay on Wall Main PCB, 8000J Main PCB and connector.	* Replace or repair if harness has been loose or disconnected. * Replace oven lamp relay or Ry-source relay. * Replace Wall Main PCB and 8000J Main PCB.
	Measure the resistance value of both ends of lamp terminal.	* Replace lamp.
Convection fan is not spinning	Check whether convection fan relay on Wall Main PCB, 8000J Main PCB and connector is working normally.	* Replace or repair Relay. * Replace or repair connector.
	Make sure harness between Sub PCB, Wall Main PCB and 8000J Main PCB has been connected correctly	* Replace or repair harness. * Replace or repair connector. * Replace Wall Main PCB and 8000J Main PCB.
Smell or smoke during initial use	This is in normal state.	* Smell or smoke from the oven during initial cycle is coming from dirt and grime from manufacturing process and is normal * Make sure the room is well ventilated during self-clean cycle
LED Display is partially or fully dim	* LED display is defective.	* Replace sub PCB
Touch tone not active when keypad buttons are selected	Check the state of buzzer on sub PCB and whether PCB pattern have a short circuit or has been open.	* Replace or repair main PCB.
Oven door is locked	Circuit breaker tripped or power failure during the door lock operating.	* Check the power source to the oven.

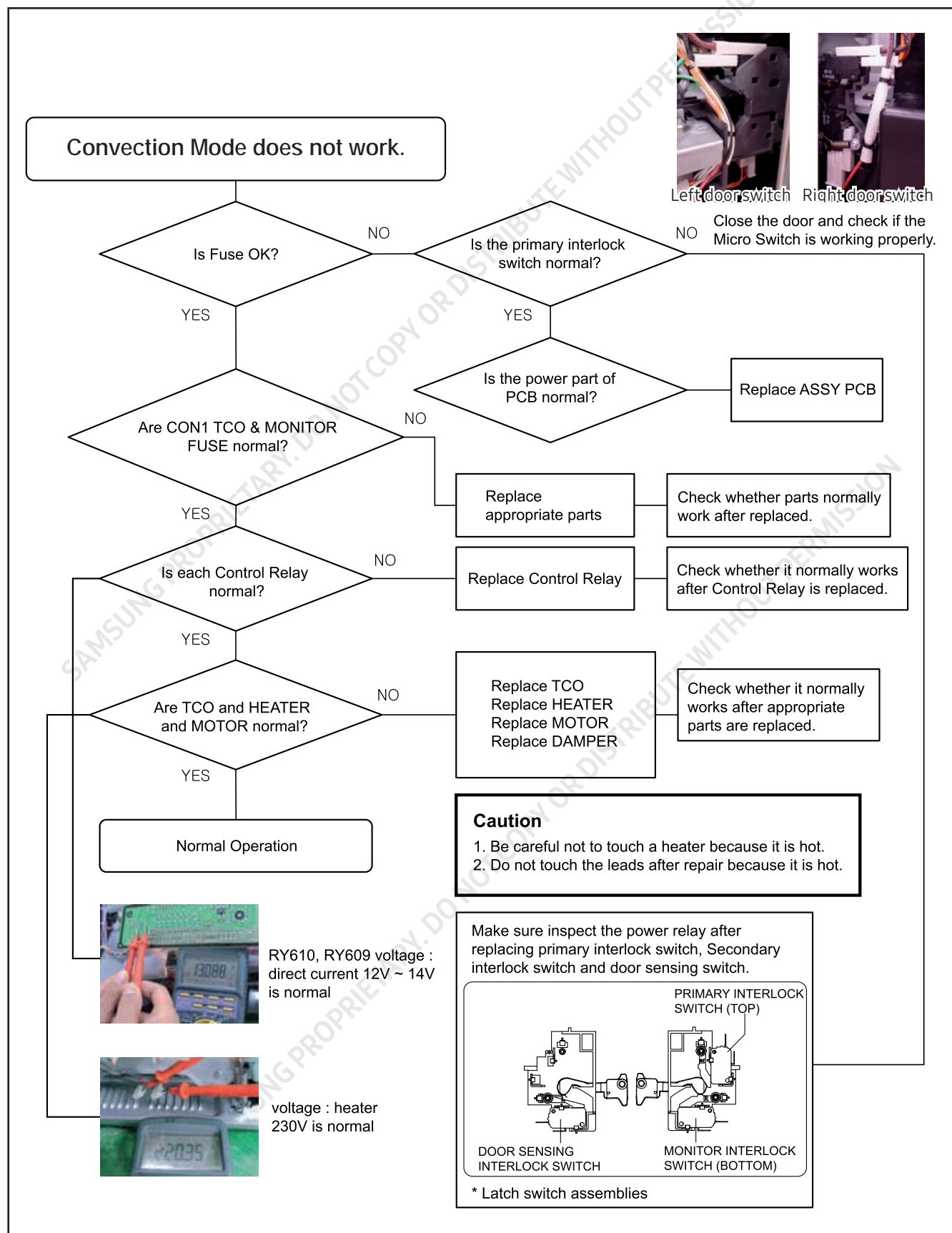
4. Troubleshooting

4-3 Electrical Malfunction



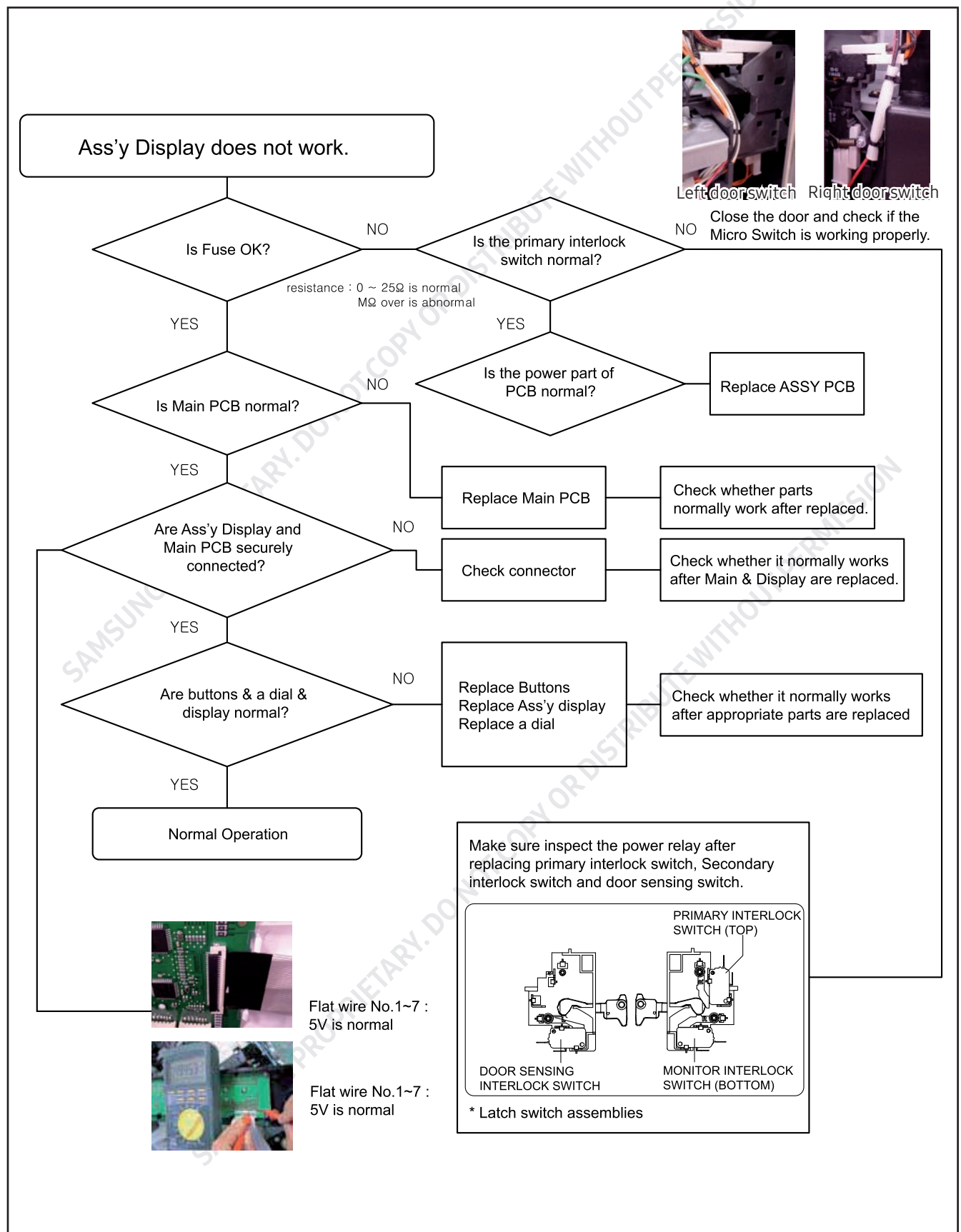
4. Troubleshooting

4-3 Electrical Malfunction



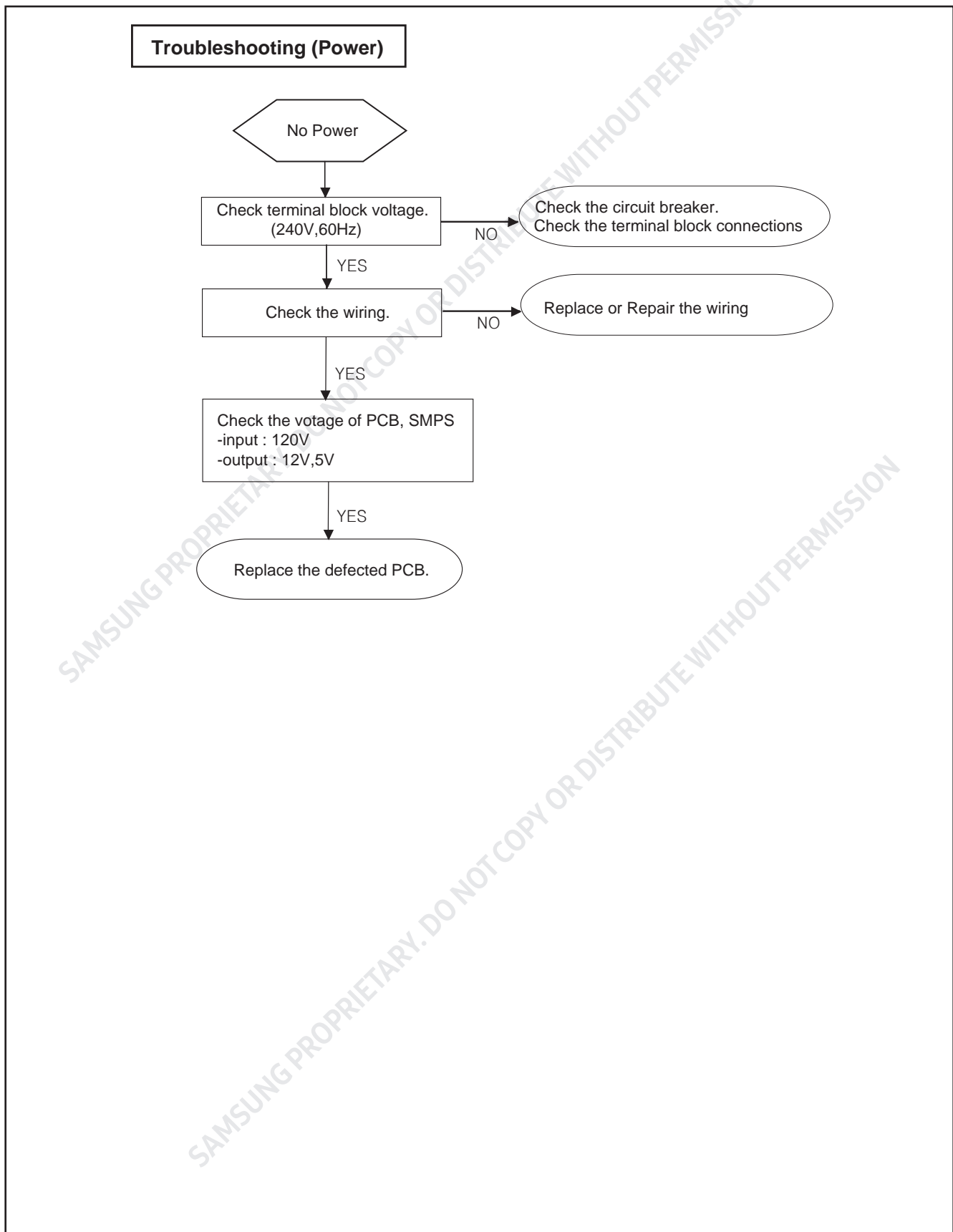
4. Troubleshooting

4-3 Electrical Malfunction



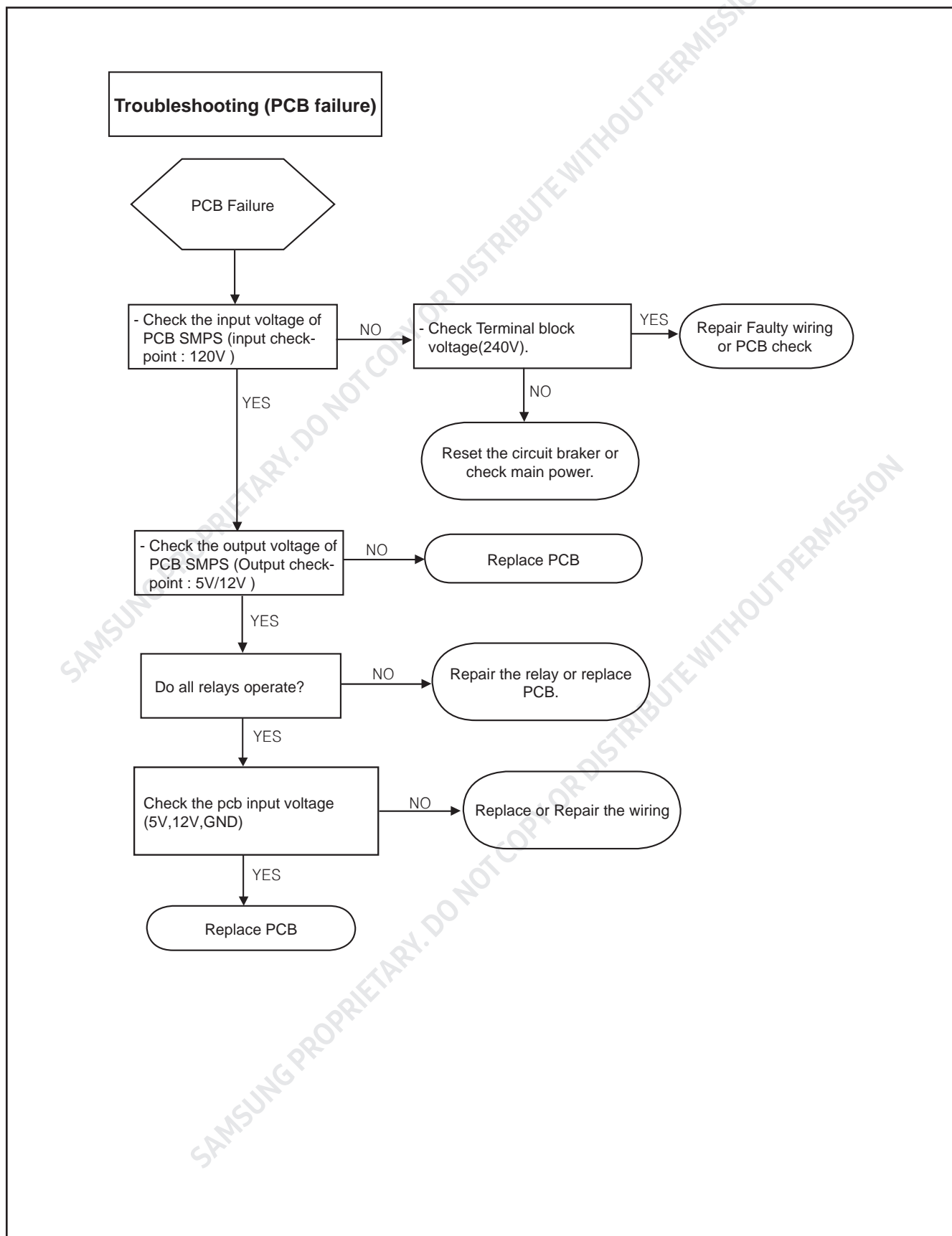
4. Troubleshooting

4-3 Electrical Malfunction



4. Troubleshooting

4-3 Electrical Malfunction




4. Troubleshooting

4-3 Electrical Malfunction

Troubleshooting (Wi-Fi connection)

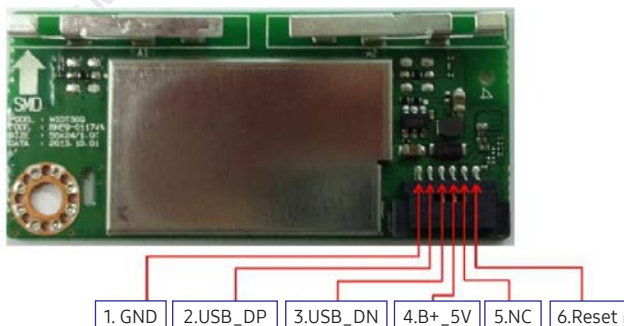
Step 1.

- Check whether display is showing 
 - If display is showing WiFi icon, check to 'Samsung Connect' app. Delete and re-install the app. And then, try again (Follow manual instruction for samsung connect app).
 - If display does not show icon, check home network.
 - If home network is ok, follow step 2.
 - If home network has a problem, contact home network service center.



Step 2.

- Check communication between wi-fi module and sub pcb
 - a) Turn power to the unit OFF.
 - Press Setting and Lamp at the same time for 5 sec. after turning power ON. The oven light and fan will start running. Few seconds later software check menu will appear.
 - if wifi test pass, try to use smart control feature again.
 - If wifi test fail, check the wi-fi module. (2-b)
 - b) Remove the wi-fi module (see page 3-17 removing the wi-fi module for the procedure).
 - Check input voltage on wi-fi module. (5V)
 - If input voltage is ok, replace wi-fi module.
 - If input voltage is not present, check the the wire harness, the connector and Sub PCB. (2-c)



c) Remove the top cover.

(see page 3-3 removing PCB MAIN for the procedure).

- If connection of wire is ok, check to next step (2-d)
 - If wire connection is a problem, re-connect and try smart control feature again.
- d) Remove the sub pcb (see page 3-4 removing sub pcb for the procedure).

Check if wire harness connector is fully and correctly inserted. (CN703)

Then, check input voltage on sub pcb. (5V)

- If input voltage is ok, replace wi-fi module.
- If input voltage is not present, replace sub pcb.

Pin 1 : GND
Pin 4 : 5VDC




4. Troubleshooting

4-3 Electrical Malfunction

Parts	Photo	Good	No Good
Main Fuse		13.5 ~ 17 Ω	100 MΩ exceed
T.C.O		0.1 ~ 1 Ω	100 MΩ exceed
Damper Motor		13.5 ~ 15.5 kΩ	100 MΩ exceed
H.V Trans		Primary : 1 ~ 5 Ω Secondary : 110 ~ 200 Ω	100 MΩ exceed
Convection Motor		120 ~ 150 Ω	100 MΩ exceed
Convection Heater		120 ~ 150 Ω	100 MΩ exceed

4. Troubleshooting

4-3 Electrical Malfunction

Parts	Photo	Good	No Good
Turn Table Motor		13.5 ~ 17 kΩ	100 MΩ exceed
Fan Motor		50 ~ 60 Ω	100 MΩ exceed
Grill Heater		60 ~ 80 Ω	100 MΩ exceed

4. Troubleshooting

4-3 Electrical Malfunction





Component testing procedures



WARNING

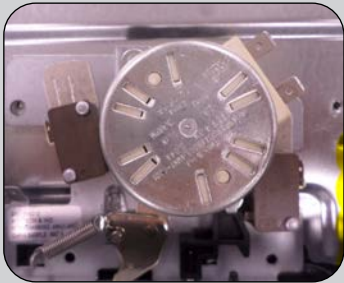
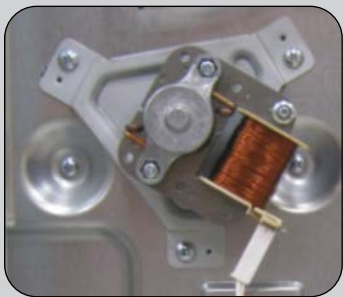
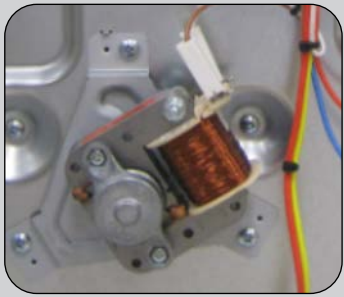
ELECTRICAL SHOCK HAZARD

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

FIGURE	TESTS MEASURE	RESULTS
 <p>Broil Heater</p>	<ul style="list-style-type: none"> * Measure resistance value of the heater terminals after removing connectors from the heater. * Measure voltage of heater terminals after selecting broil 	<ul style="list-style-type: none"> * Approx : 11~15Ω (at the room temperature) * Terminal voltage of Broil heater : AC 240V * Replace or repair harness * Replace or repair main PCB of each oven. (Upper oven : Wall main PCB, Lower oven : 8000J Main PCB.)
 <p>Bake Heater</p>	<ul style="list-style-type: none"> * Measure resistance value of the heater terminals after removing connectors from the heater. * Measure voltage of heater terminals after selecting bake. (Make sure that voltage is measured for more than 1 minute because heater element will cycle On and Off.) 	<ul style="list-style-type: none"> * Approx : 18~21Ω (at the room temperature) * Terminal voltage of bake heater : AC 240V * Replace or repair harness * Replace or repair main PCB of each oven. (Upper oven : Wall main PCB, Lower oven : 8000J Main PCB.)
 <p>Convection Heater</p>	<ul style="list-style-type: none"> * Measure resistance value of the heater terminals after removing connectors from the heater. * Measure voltage of heater terminals after selecting convection bake. (Make sure that voltage is measured for more than 1 minute because heater element will cycle On and Off.) 	<ul style="list-style-type: none"> * Approx : 40~46Ω(at the room temperature) * Terminal voltage of convection heater : AC 240V * Replace or repair harness * Replace or repair main PCB of each oven. (Upper oven : Wall main PCB, Lower oven : 8000J Main PCB.)
 <p>Steam Heater</p>	<ul style="list-style-type: none"> * Measure resistance value of the heater terminals after removing connectors from the heater. * Measure voltage of heater terminals after selecting steam bake. (Make sure that voltage is measured for more than 1 minute because heater element will cycle On and Off.) 	<ul style="list-style-type: none"> * Approx : 26~30Ω (at the room temperature) * Terminal voltage of steam heater : AC 120V * Replace or repair harness * Replace or repair Wall Main PCB

4. Troubleshooting

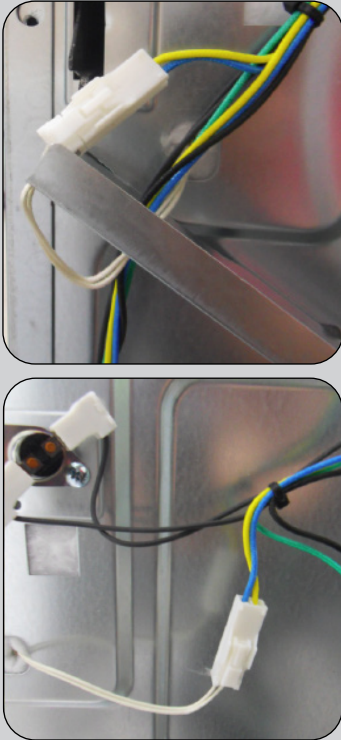
4-3 Electrical Malfunction

FIGURE	TESTS MEASURE	RESULTS
	<ul style="list-style-type: none"> * Measure operation of the micro switch and the motor after removing wire harness from terminals. * Check if lock works normally by pressing Control lock for 3 seconds. 	<ul style="list-style-type: none"> * Lock motor Resistance : 1600~2200Ω (at the room temperature) voltage : 120V * Micro switch com-NC=>closed, when door is unlocked * Replace or repair if harness is loose or disconnected.
 <p style="text-align: center;">Lower Convection Fan</p> 	<ul style="list-style-type: none"> * Measure resistance value of a motor after removing wire harness off the terminals. * Measure Input voltage to the motor after selecting convection bake on the key pad. (Make sure to measure voltage for more then one minute as fan will normally cycle on and off) 	<p>Approx</p> <ul style="list-style-type: none"> * Convection Fan : 20 ~ 30Ω * Terminal Voltage of Convection Fan : 120V * Replace or repair harness * Replace or repair main PCB of each oven. (Upper oven : Wall main PCB, Lower oven : 8000J Main PCB.)

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4. Troubleshooting

4-3 Electrical Malfunction

FIGURE	TESTS MEASURE	RESULTS
	<ul style="list-style-type: none"> * Measure resistance value of the oven temperature sensor. * Check if wire harness is loose or disconnected. 	<p>Approx. at the room temperature :1080Ω</p>

4. Troubleshooting

4-3 Electrical Malfunction

Oven sensor resistance (Temperature vs. Sensor resistance)

$R_0 = 1000 \text{ Ohms (0}^\circ\text{C)}$, $R_P = 2757 \text{ Ohms}$, $U_p = 5V$, $a = 0.00375$


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

4. Troubleshooting

4-4 Self-diagnosis

Temp sensor & Heater check

1. After connecting the power, check if the display works properly.
2. Remove all accessories (Gliding Rack, Flat-Rack...etc.) from inside of the oven cavity.
3. You cannot proceed with self-diagnosis if the oven cavity is hot or the door is open.
4. -In this case, "Hot or door" message appears on the display.
 -To start self-diagnosis, press both Hidden Keys simultaneously for 5 seconds.
 -Refer to the table below for the hidden keys for each model.
 -Self-diagnosis takes approximately 4~5 minutes.

Model	NQ70M9770D*
Control panel	
Hidden Key	MICROWAVE + LOWER OVEN

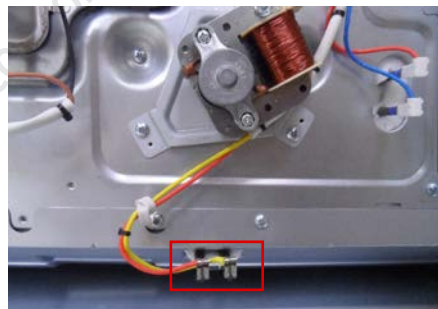
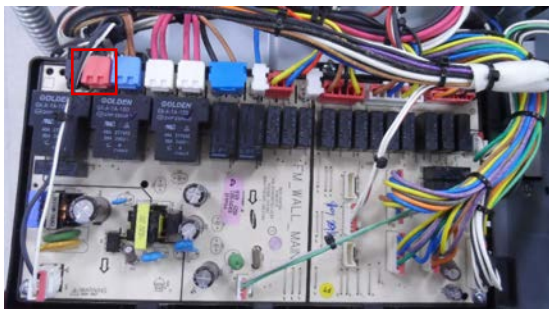
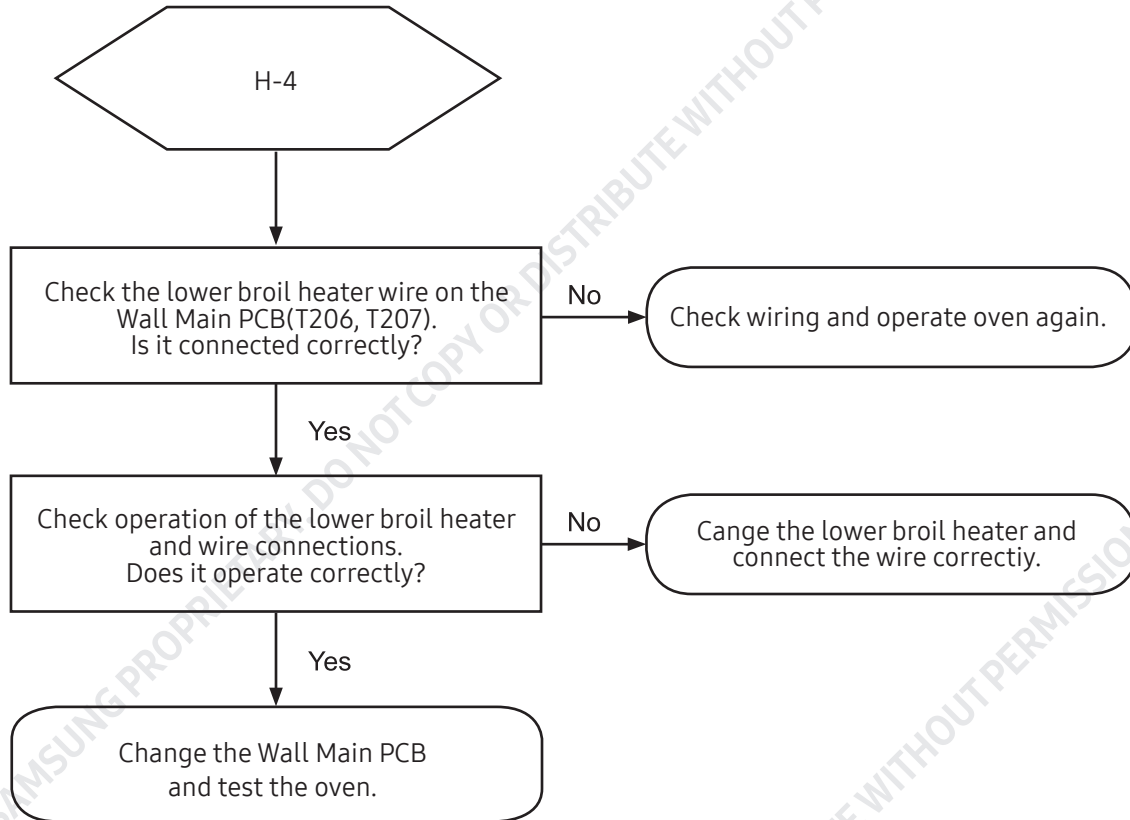
5. If there is no error, 'PASS' appears on the display with an alert sound.
6. If there is an error, following message appears on the display with an alert sound.

Model		NQ70M9770D*	
		Error code	Remark
Feature	Lower Broil	H-4	Lower Oven Only
	Lower Bake	H-3	

7. If an error occurs, follow the following flow charts.

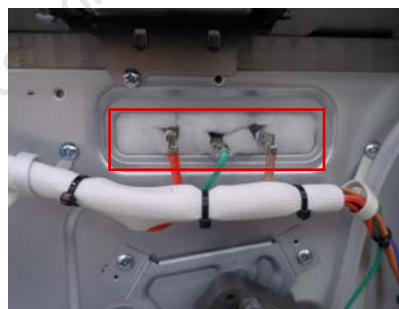
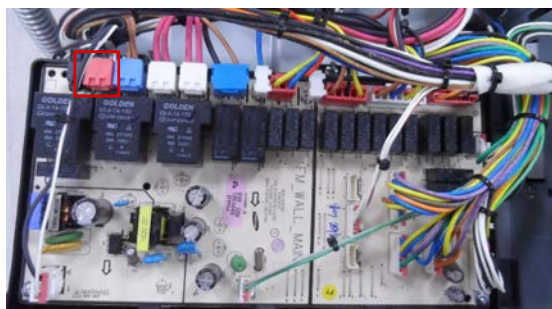
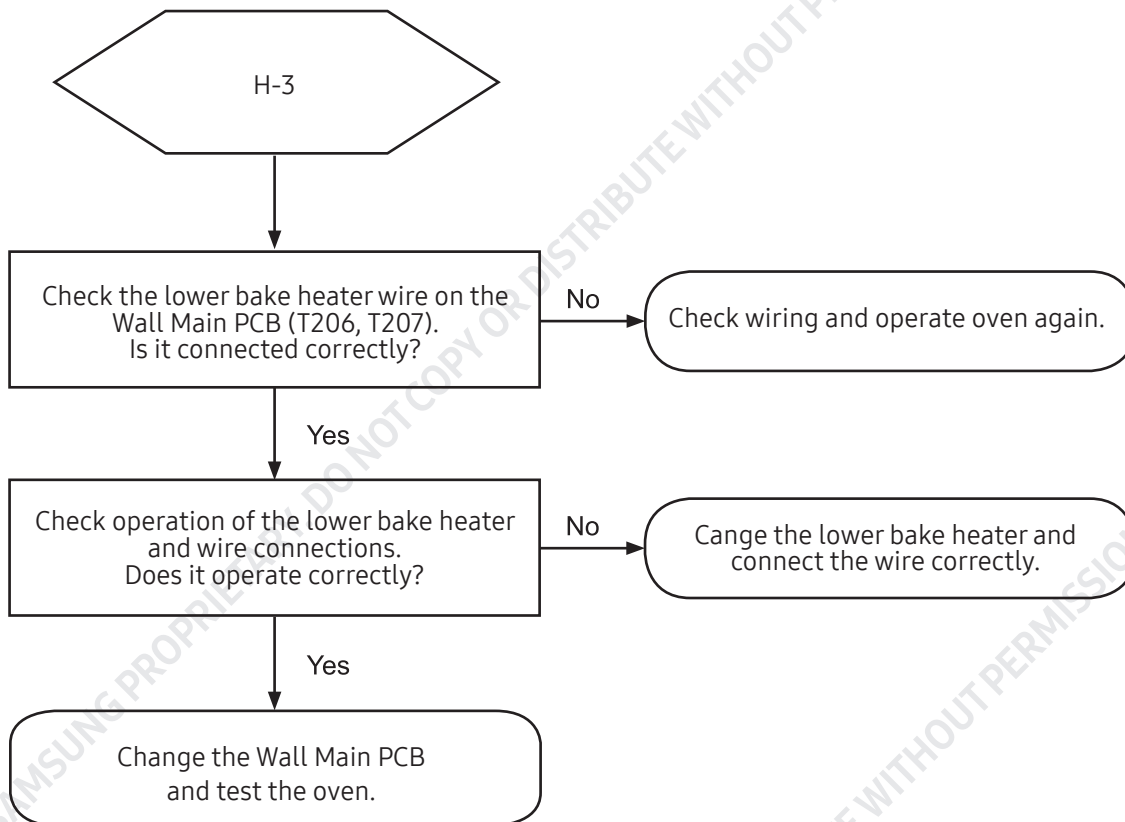
4. Troubleshooting

4-4 Self-diagnosis



4. Troubleshooting

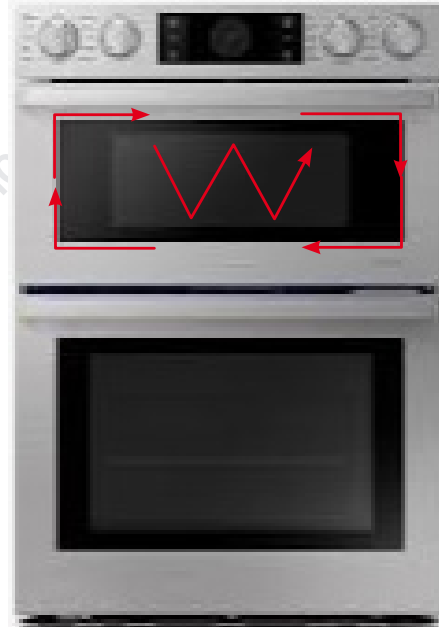
4-4 Self-diagnosis



4. Troubleshooting

4-5 Procedure for Measurement of Microwave Energy Leakage

1. Pour 275 ± 15 cc of $20 \pm 5^\circ\text{C}$ ($68 \pm 9^\circ\text{F}$) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
2. Start to operate the oven and measure the leakage by using a microwave energy survey meter.
3. Set survey meter with dual ranges to 2,450MHz.
4. When measuring the leakage, always use the 2 inch spacer cone with the probe. Hold the probe perpendicular to the cabinet door. Place the spacer cone of the probe on the door and/or cabinet door seam and move along the seam, the door viewing window and the exhaust openings moving the probe in a clockwise direction at a rate of 1 inch/sec. If the leakage testing of the cabinet door seam is taken near a corner of the door, keep the probe perpendicular to the areas making sure that the probe end at the base of the cone does not get closer than 5cm to any metal. If it gets closer than 5cm, erroneous readings may result.
5. Measured leakage must be less than $4\text{mW}/\text{cm}^2$, after repair or adjustment.

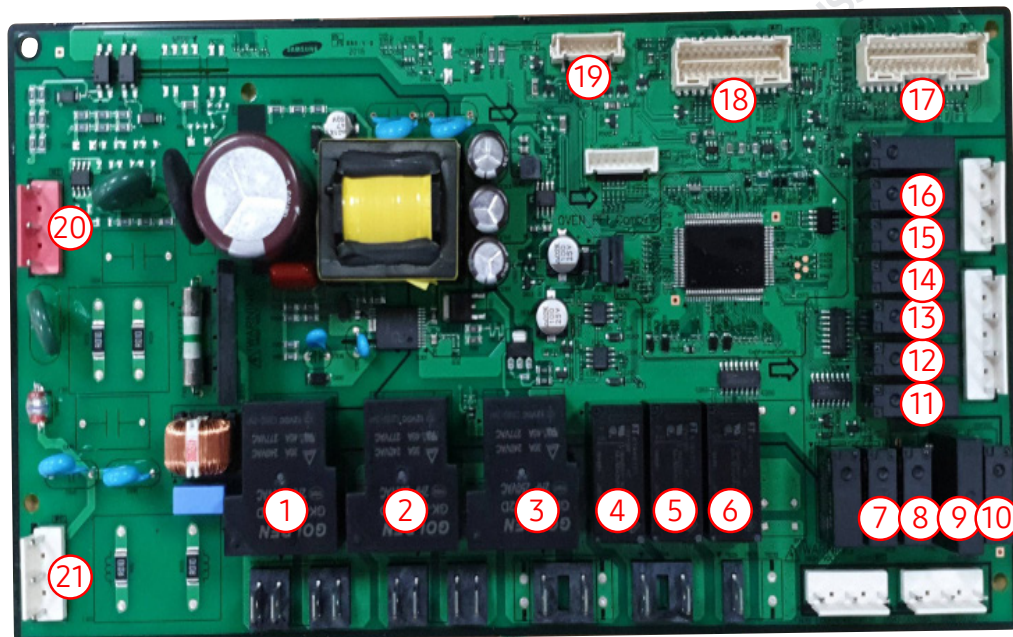


Maximum allowable leakage is $5\text{mW}/\text{cm}^2$.

$4\text{mW}/\text{cm}^2$ is used to allow for measurement and meter accuracy

5. PCB Diagrams

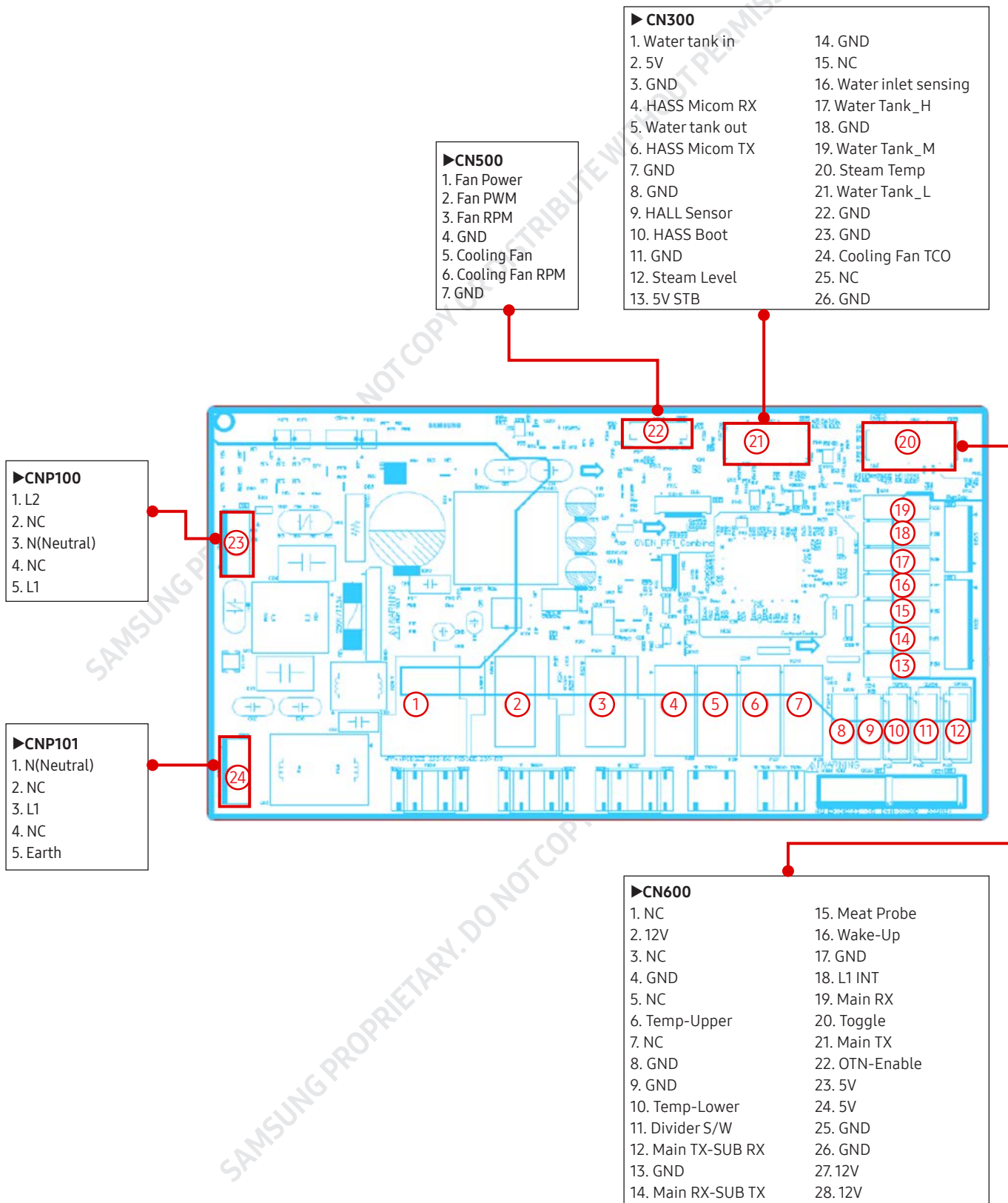
5-1 PCB Diagrams (Lower oven)



No.	Parts No.	Function	Prorange_Gas	Prorange_D/Fuel	Wall Oven	Combi Oven
1	RY200	DLB Relay	0	0	0	0
2	RY202	Broil Heater Relay	0	0	0	0
3	RY203	Bake Heater Relay	0	0	0	0
4	RY205	Convection Heater Relay	X	0	0	0
5	RY206	Steam Heater Relay	X	0	0	0
6	RY207	4 Part Convection Heater Relay	X	0	0	0
7	RY210	Cooling Fan(High) Relay	0	0	0	0
8	RY211	Convection Fan(Upper) Relay	0	0	0	0
9	RY212	Oven Lamp Relay	X	X	0	0
	SSR201		0	0	X	X
10	RY213	Convection Fan(Lower) Relay	0	0	0	0
	SSR202		X	X	X	X
11	RY214	Drain Pump Relay	X	0	0	0
12	RY215	Water Pump Relay	X	0	0	0
13	RY216	Cooling Fan(Low) Relay	0	0	0	0
14	RY217	Door Lock Motor Relay	0	0	0	0
15	RY218	Water Tank(CW) Motor Relay	X	0	0	0
16	RY219	Water Tank(CCW) Motor Relay	X	0	0	0
17	CN600	Connector for Communication, Temperature Sensor, Door Switch, Door Lock Switch				
18	CN300	Connector for steam function(Steam temperature, water tank switch, steam level)				
19	CN500	Connector for Door LED Lamp				
20	CNP100	Connector for AC Power Input				
21	CNP101	Connector for AC load(Motor, Lamp, Pump) power supply, Surge protection wire connected				

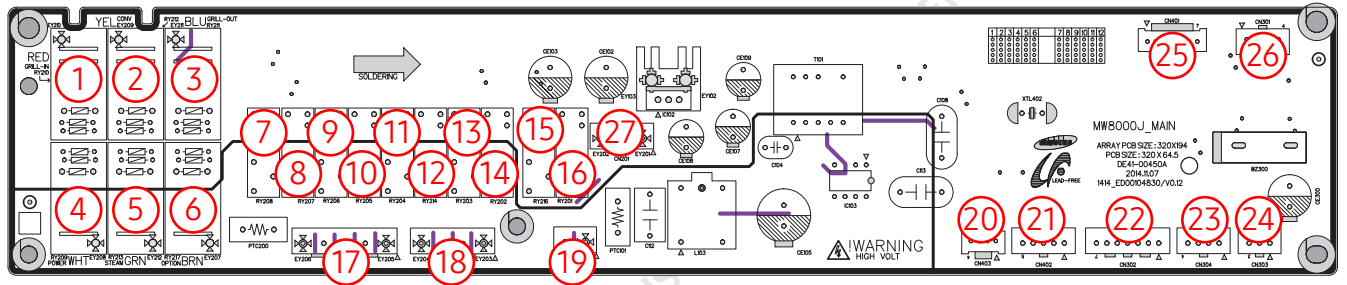
5. PCB Diagrams

PCB Diagrams (Lower oven)



5. PCB Diagrams

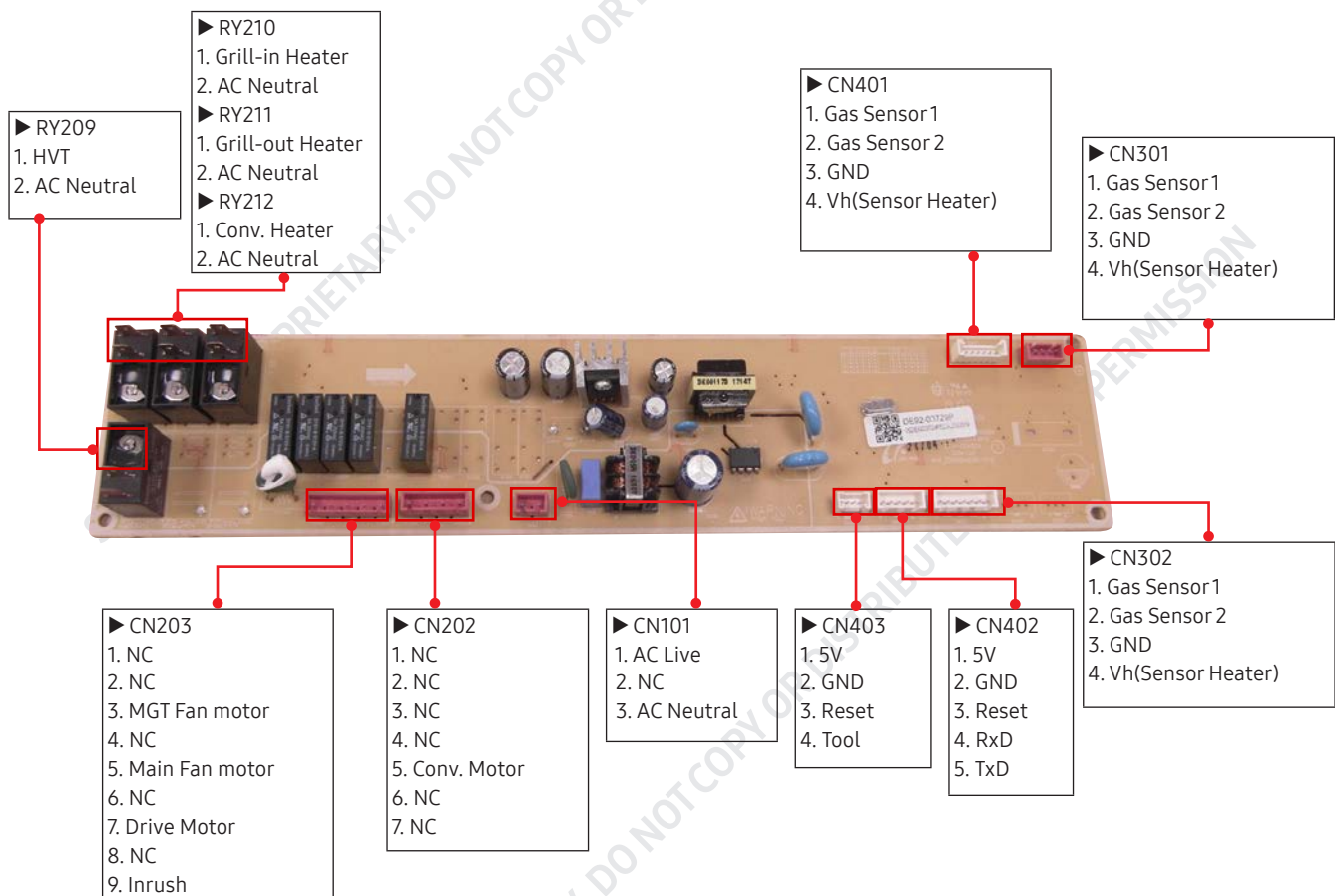
5-2 PCB Diagrams (Upper oven)



No	Part Name	Function and Role
1	RY210	GRILL-IN HEATER RELAY
2	RY212	CONVECTION HEATER RELAY
3	RY211	GRILL-OUT HEATER RELAY
4	RY209	POWER RELAY
5	RY213	STEAM HEATER RELAY
6	RY217	OPTION RELAY
7	RY208	INRUSH RELAY
8	RY207	MAIN(LAMP) RELAY
9	RY206	FAN MOTOR RELAY
10	RY205	STIRRER(TURN TABLE) MOTOR RELAY
11	RY204	DAMPER MOTOR RELAY
12	RY214	CONVECTION MOTOR LOW RELAY
13	RY203	CONVECTION MOTOR HIGH RELAY
14	RY202	LAMP RELAY
15	RY216	WATER PUMP 2 RELAY
16	RY201	WATER PUMP1 RELAY
17	CN203	MAIN(LAMP), FAN MOTOR, STIRRER(TURN TABLE) MOTOR, DAMPER MOTOR CONNECTOR
18	CN202	CONVECTION MOTOR LOW/HIGH, LAMP CONNECTOR
19	CN101	SMPS(PBA POWER) CONNECTOR
20	CN403	MICOM WRITING CONNECTOR
21	CN402	SMART DEBUG CONNECTOR
22	CN302	DOOR, TEMP, DAMPER SENSING CONNECTOR
23	CN304	WATER LEVEL SENSING CONNECTOR
24	CN303	STEAM HEATER SENSING CONNECTOR
25	CN401	DISPLAY MODULE CONNECTOR
26	CN301	GAS SENSOR CONNECTOR
27	CN201	WATER PUMP1,2 CONNECTOR

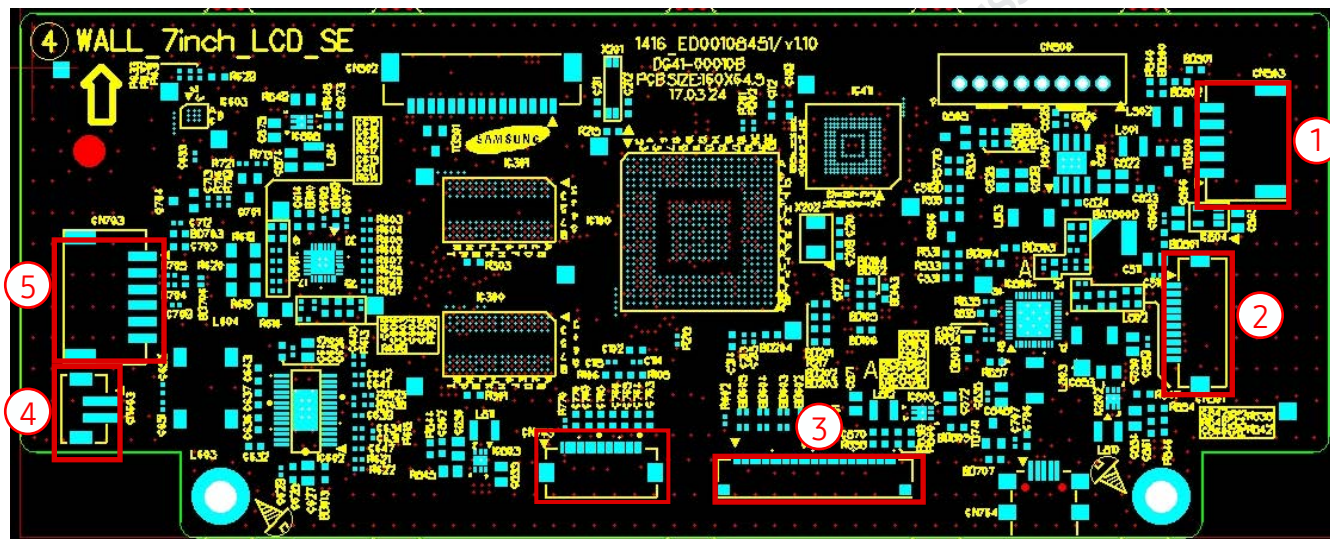
5. PCB Diagrams

PCB Diagrams (Upper oven)



5. PCB Diagrams

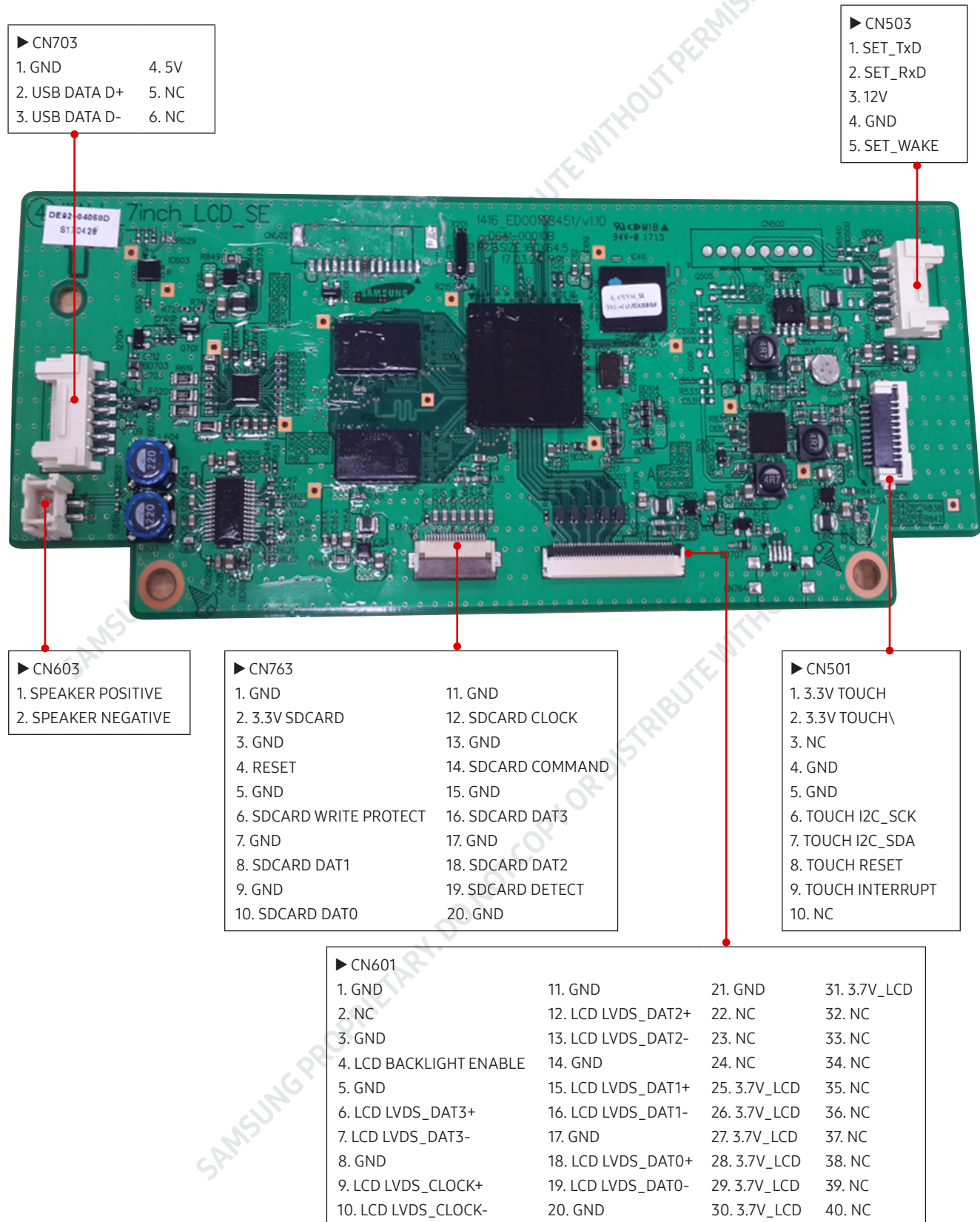
5-3 PCB Diagrams (LCD PBA)



No.	Parts Number	Part Name	Function and Rule
1	CN503	Sub Board Connector	This is connected with sub board.
2	CN501	Touch Connector	This is connected with touch panel.
3	CN601	LCD Connector	This is connected with 7.0" LCD.
4	CN603	Speaker Connector	This is connected with speaker.
5	CN703	Wi-Fi Connector	This is connected with Wi-Fi module.

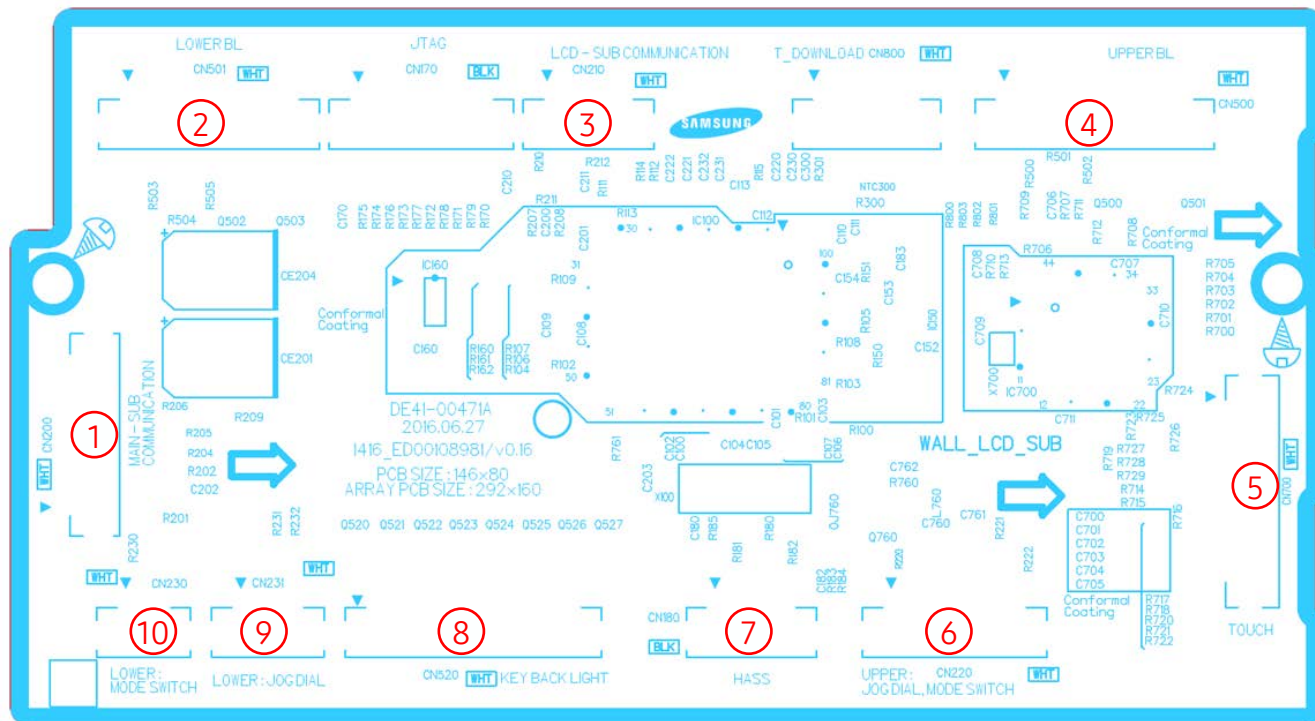
5. PCB Diagrams

PCB Diagrams (LCD PBA)



5. PCB Diagrams

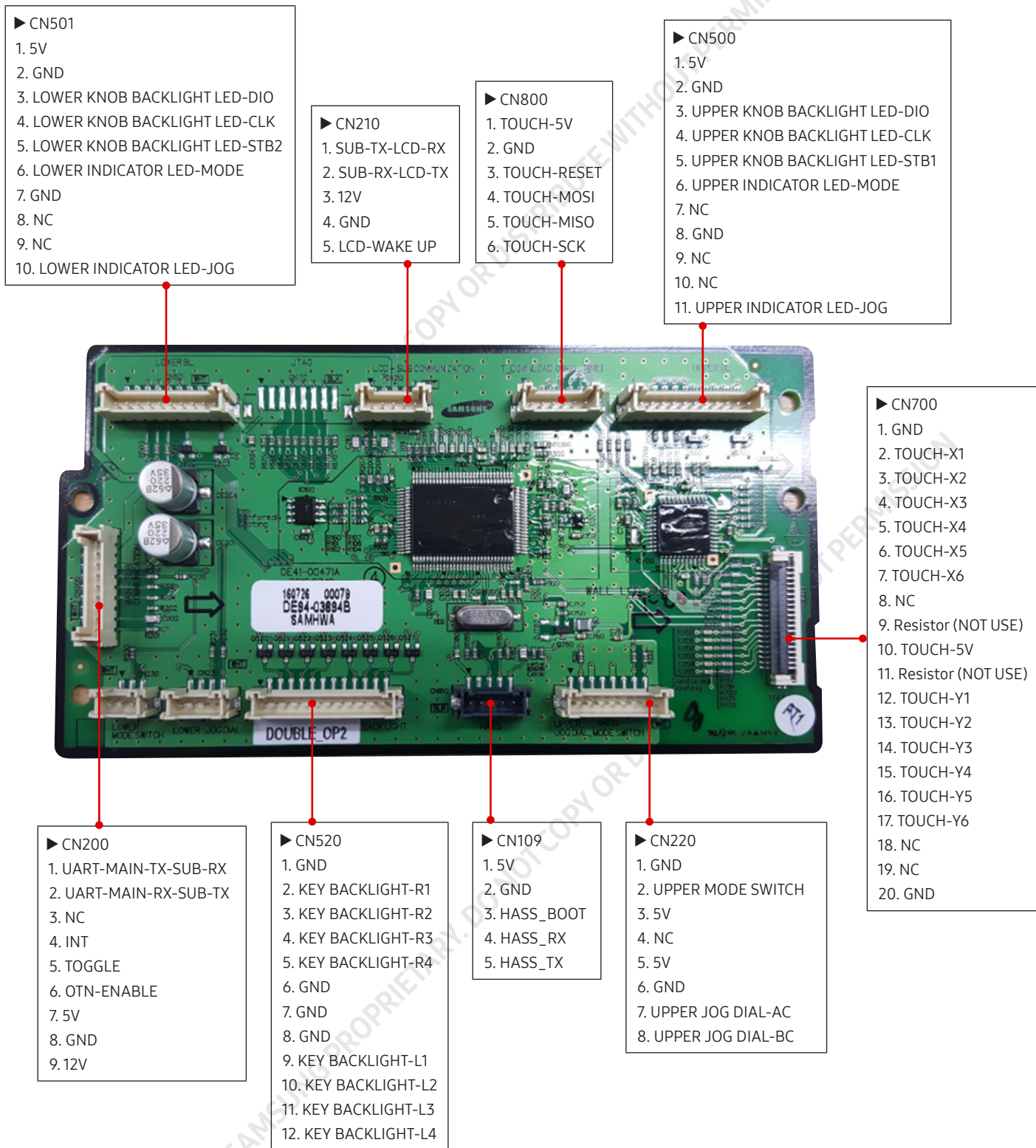
5-4 PCB Diagrams (SUB PBA)



No.	Parts No.	Part Name	Function and Rule
1	CN200	Main Communication Connector	This is connector which is connected with Main PCB to communicate.
2	CN501	Lower Oven Knob Backlight Connector	This is connector which is connected with lower oven knob backlight circuit. (N/A for Single model)
3	CN210	LCD Communication Connector	This is connector which is connected with LCD PBA to communicate.
4	CN500	Upper Oven Knob Backlight Connector	This is connector which is connected with lower oven knob backlight circuit.
5	CN700	Touch Film Connector	This is connector which is connected touch film.
6	CN220	Upper Oven Dial Connector	This is connector which is connected upper oven dial(Jog Dial, Mode Dial).
7	CN180	HASS Connector	This is connector which is HASS.
8	CN520	Key Backlight Connector	This is connector which is connected with lower oven knob backlight circuit.
9	CN231	Lower Jog Dial Connector	This is connector which is connected lower oven jog dial
10	CN230	Lower Mode Dial Connector	This is connector which is connected lower oven mode dial

5. PCB Diagrams

PCB Diagrams (SUB PBA)



6. Wiring Diagram

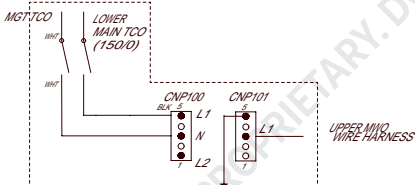
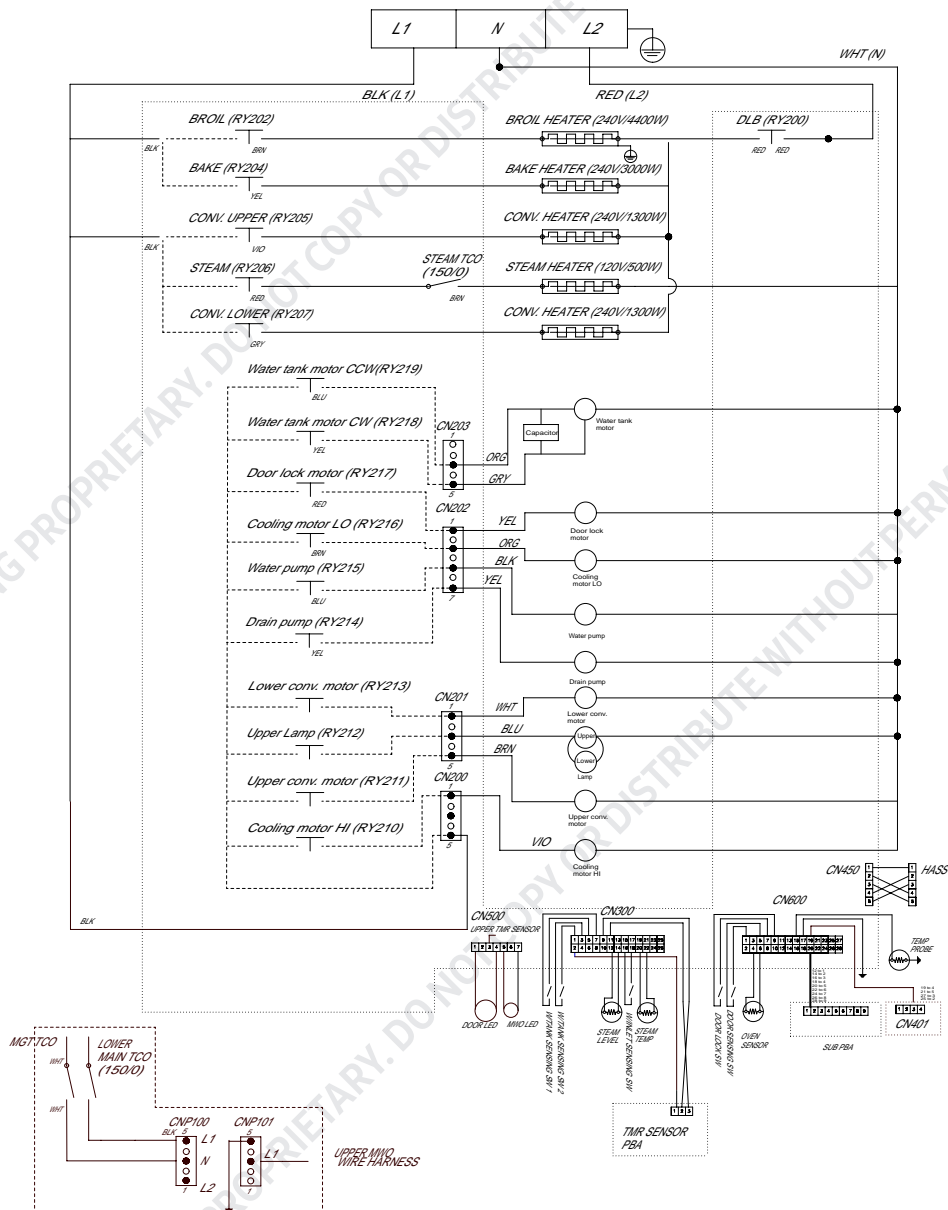
6-2 Schematic diagram (Lower oven)

- NOTE**
 1) CIRCUIT SHOWN WITH ALL CONTROLS SET TO OFF
 2) OVEN DOOR OPENED AND UNLOCKED
 3) WATER RESERVOIR INPUTTED AND LOCATED INSIDE

SCHEMATIC DIAGRAM

MODEL: NQ70M9770*
 (DACOR COMBI OVEN)

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



HEATING ELEMENTS		
COMPONENTS	INPUT	WATTAGE
BROIL HEATER	240V	4400
BAKE HEATER	240V	3000
CONVECTION HEATER	240V	1300+1300
STEAM HEATER	120V	500

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