S/M No. : C621Q0S002

Service Manual

Microwave Oven

Model: KOC-624Q

✔ **Caution**

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information,please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

DAEWOO ELECTRONICS CO., LTD.

http : //svc.dwe.co.kr Feb. 2002

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 if 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 power to the microwave oven 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.

A microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

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1. SAFETY AND PRECAUTIONS

1. FOR SAFE OPERATION

Damage that allows the microwave energy (that cooks or heats the food) to escape will result in poor cooking and may cause serious bodily injury to the operator.

IF ANY OF THE FOLLOWING CONDITIONS EXIST, OPERATOR MUST NOT USE THE APPLIANCE.

(Only a trained service personnel should make repairs.)

(1) A broken door hinge.
(2) A broken door viewing screen.
(3) A broken front panel, oven cavity.
(4) A loosened door lock.
(5) A broken door lock.

The door gasket plate and oven cavity surface should be kept clean.

No grease, soil or spatter should be allowed to build up on these surfaces or inside the oven.

DO NOT ATTEMPT TO OPERATE THIS APPLIANCE WITH THE DOOR OPEN.

The microwave oven has concealed switches to make sure the power is turned off when the door is opened.

Do not attempt to defeat them.

DO NOT ATTEMPT TO SERVICE THIS APPLIANCE UNTIL YOU HAVE READ THIS SERVICE MANUAL.

2. FOR SAFE SERVICE PROCEDURES.

1. If the oven is operative prior to servicing, a microwave emission check should be performed prior to servicing the oven.
2. If any certified oven unit is found to servicing, a microwave emission check should be performed prior to servicing the oven.
   (1) inform the manufacturer, importer or assembler,
   (2) repair the unit at no cost to the owner,
   (3) attempt to ascertain the cause of the excessive leakage,
   (4) tell the owner of the unit not to use the unit until the oven has been brought into compliance.
3. If the oven operates with the door open, the service person should tell the user not to operate the oven and contact the manufacturer immediately.

IMPORTANT

The wire in this mains lead coloured in accordance with the following code.

Green-and-yellow	: Earth
Blue	: Neutral
Brown	: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter ‘E’, earth symbol or coloured green-and-yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter ‘N’ or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter ‘L’ or coloured red.

NOTE : This oven is designed for counter-top use only.

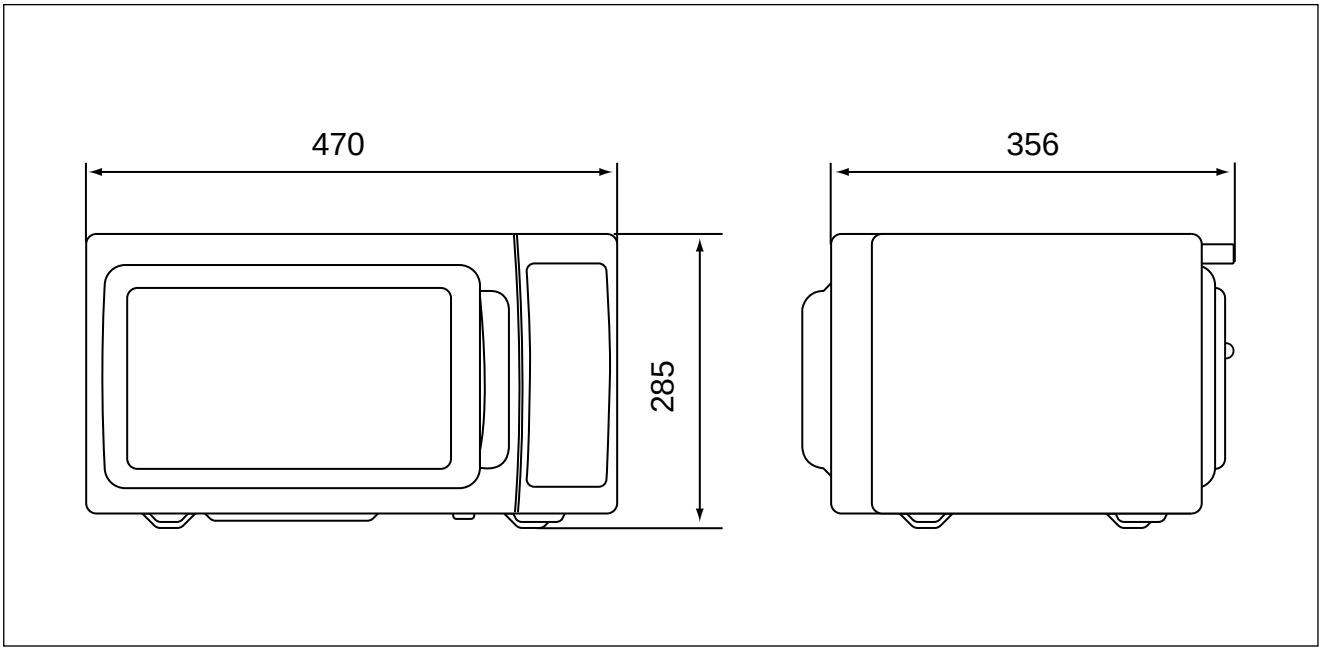
2. SPECIFICATIONS

MODEL		KOC-624Q
POWER SUPPLY		230V~50HZ, SINGLE PHASE WITH EARTHING
POWER CONSUMPTION	MICROWAVE	1250W
	GRILL	1250W
	OVEN	1650W
	COMBINATION	2500W
MICROWAVE ENERGY OUTPUT		800W(IEC705)
MICROWAVE FREQUENCY		2450MHz
OUTSIDE DIMENSIONS (W X H X D)		470X285X356mm (18.5X11.2X14.0 in.)
CAVITY DIMENSIONS (W X H X D)		295X167X300mm (11.6X6.6X11.8 in.)
NET WEIGHT		APPROX. 15kg (33.1 lbs.)
TIMER		Oven: 99 minutes, M/W: 60 minutes, Grill: 30 minutes
FUNCTION SELECTIONS		MICROWAVE/ GRILL/ OVEN/ COMBINATION
POWER SELECTIONS		10 LEVELS
CAVITY VOLUME		0.6 Cu. Ft

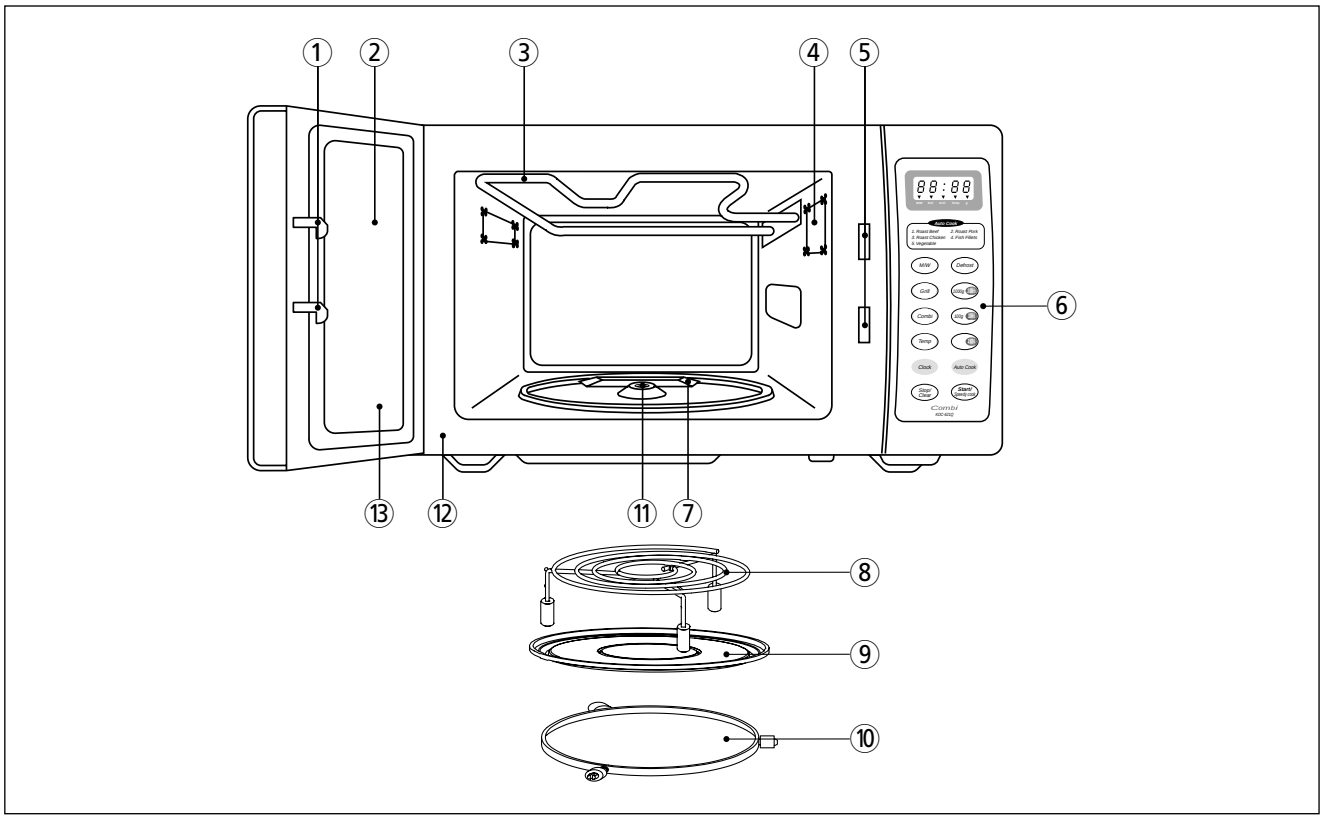
** Specifications are subject to change without notice.*

3. EXTERNAL VIEW

3-1. OUTER DIMENSION



3-2. FEATURE DIAGRAM



1. DOOR HOOK
When the door is closed, it will automatically lock shut. If door is opened while oven is operating, the magnetron will immediately stop operating.

2. DOOR VIEWING SCREEN
Allows viewing of food. The screen is designed so that light can pass through, but not the microwave.

3. TOP HEATER
Turns on when convection, grill and combi cooking is selected.

4. OVEN LAMP
Automatically turns on during oven operating.

5. SAFETY INTERLOCK SYSTEM

6. CONTROL PANEL

7. UNDER HEATER

8. METAL RACK

9. TURNTABLE TRAY
Rotates during cooking and ensure even distribution of Microwaves.
It can also be used as a cooking utensil.

10. TRAY GUIDE
This must always be used for cooking together with the turntable tray.

11. COUPLER
This fits over the shaft in the center of the ovens cavity floor. This is to remain in the oven for all cooking.

12. OVEN FRONT PLATE

13. DOOR SEAL
Door seal maintains the microwave energy within the oven cavity and prevents microwave leakage.

4. INSTALLATION

1. Steady, flat location

This microwave oven should be set on a steady, flat surface.

This microwave oven is designed for counter top use only.

2. Leave space behind and side

All air vents should be kept a clearance. If all vents are covered during operation, the oven may overheat and, eventually, cause failure.

3. Away from Radio and TV sets

Poor television reception and radio interference may result if the oven is located close to a TV, Radio, antenna or feeder and so on.

Position the oven as far from them as possible.

4. Away from heating appliances and water taps

Keep the oven away from hot air, steam or splash when choosing a place to position it, or the insulation might be adversely affected and breakdowns occur.

5. Power supply

- Check your local power source. This microwave oven requires a current of approximately 12 amperes, 230V, 50Hz.
- Power supply cord is about 1.2 meters long.
- The voltage used must be the same as specified on this oven. Using a higher voltage may result in a fire or other accident causing oven damage. Using low voltage will cause slow cooking. We are not responsible for damage resulting from use of this oven with a voltage of ampere fuse other than those specified.
- This appliance is supplied with cable of special type, which, if damaged, must be repaired with cable of same type.
- Such a cable can be purchased from DAEWOO and must be installed by a Qualified Person.

6. Examine the oven after unpacking for any damage such as:

A misaligned door, broken door or a dent in cavity.

If any of the above are visible, DO NOT INSTALL, and notify dealer immediately.

7. Do not operate the oven if it is colder than room temperature.

(This may occur during delivery in cold weather.) Allow the oven to become room temperature before operating.

EARTHING INSTRUCTIONS

This appliance must be earthed. In the event of an electrical short circuit, earthing reduces the risk of the electric shock by providing an escape wire for the electric current. This appliance is equipped with a cord having a earthing wire with a earthing plug. The plug must be plugged into an outlet that is properly installed and earthed.

WARNING

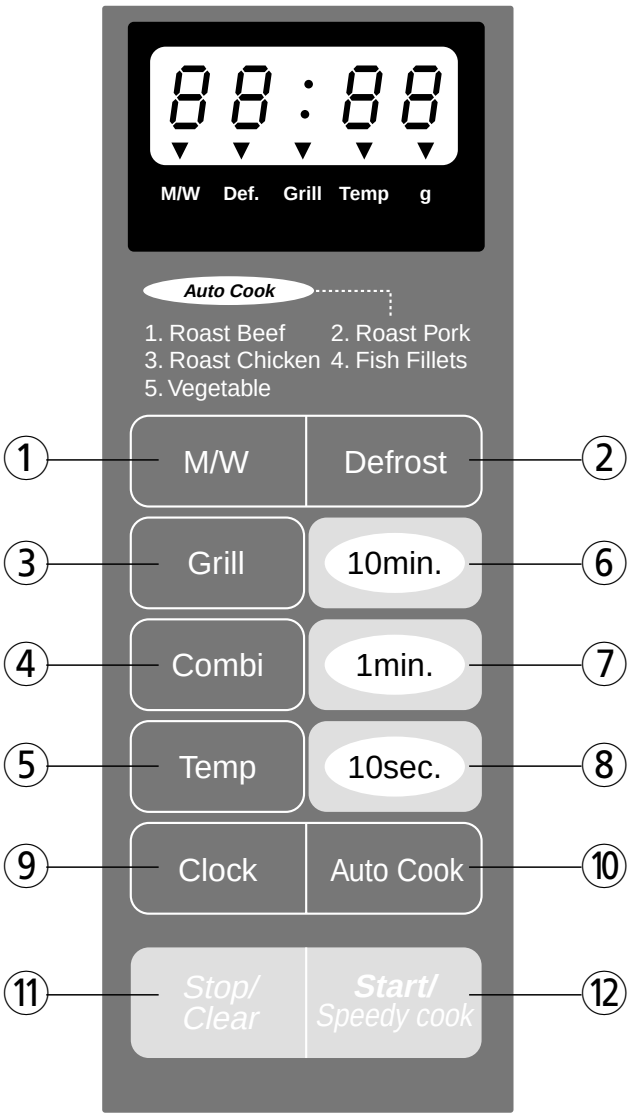
Improper use of the earthing plug can result in a risk of electric shock.

Consult a qualified electrician of serviceman if the earthing instructions are not completely understood, or if doubt exists as to whether the appliance is properly earthed, and either:

If it is necessary to use an extension cord, use only a 3-wire extension cord that has a 3-blade earthing plug, and a 3-slot receptacle that will accept the plug on the appliance.

The marked rating of the extension cord should be equal to or greater than the electrical rating of the appliance, or Do not use an extension cord.

5. CONTROL PANEL



BUTTONS

1. m/w - Press to select microwave power level.

2. defrost - Press to select weight/time defrost mode.

3. grill - Press to select grill.

4. combi - Press to select combi cooking mode.

5. temp - Press to select temperature.

6. 10m. - Press to set time and weight.

7. 1m. - Press to set time and weight.

8. 10s. - Press to set time.

9. clock - Use to set clock.

10. auto cook - Press to select auto cook menu.

11. stop/clear - Press once to stop a programme, and twice to cancel a programme.

12. start/speedy cook - Press to start a programme, also for speedy start (each press adds 30 seconds microwave cooking time).

6. DISASSEMBLY AND ASSEMBLY

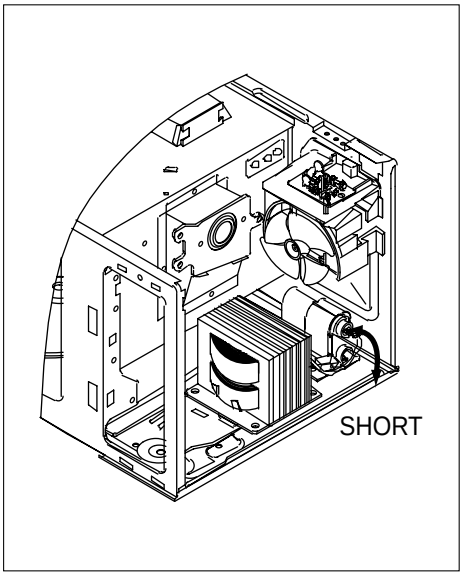
- Cautions to be observed when trouble shooting.

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment. It is completely safe during normal operation. However, carelessness in servicing the oven can result in an electric shock or possible danger from a short circuit. You are asked to observe the following precautions carefully.

1. Always remove the power plug from the outlet before servicing.
2. Use an insulated screwdriver and wear rubber gloves when servicing the high voltage side.
3. Discharge the high voltage capacitor before touching any oven components or wiring.

(1) Check the grounding.
Do not operate on a two-wire extension cord.
The microwave oven is designed to be used while grounded.
It is imperative, therefore, to make sure it is grounded properly before beginning repair work.

(2) Warning about the electric charge in the high voltage capacitor.
For about 30 seconds after the operation has stopped, electric charge remains in the high voltage capacitor.
When replacing or checking parts, short between oven chassis and the negative high terminal of the high voltage capacitor by using a properly insulated screwdriver to discharge.



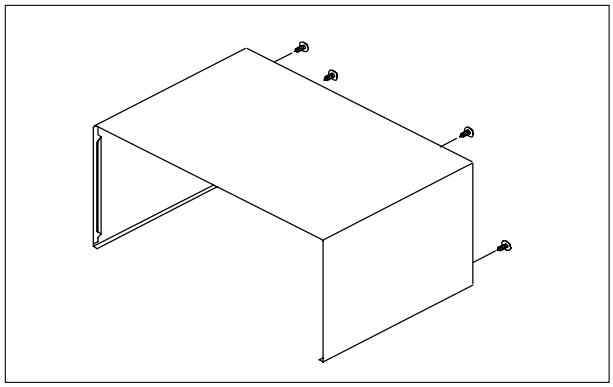
4. When the 15A fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.
6. Do not operate without cabinet.

CAUTION : Service personnel should remove their watches whenever working close to or replacing the magnetron.

WARNING : When servicing the appliance, take care when touching or replacing high potential parts because of electrical shock or exposing microwave. These parts are as follows - HV Transformer, Magnetron, HV Capacitor, HV Diode.

1. To remove cabinet

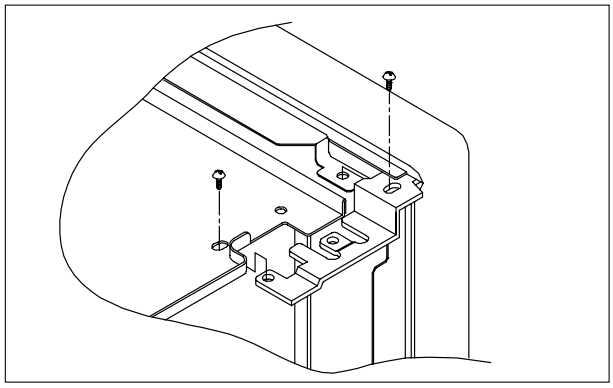
1) Remove four screws on cabinet back.
2) Push the cabinet backward.



2. To remove door assembly

1) Remove two screws which secure the stopper hinge top.
2) Remove the door assembly from top plate of cavity.
3) Reverse the above for assemby.

NOTE: After replacting the door assembly, perform a check of correct alignment with the hinge and cavity front plate.



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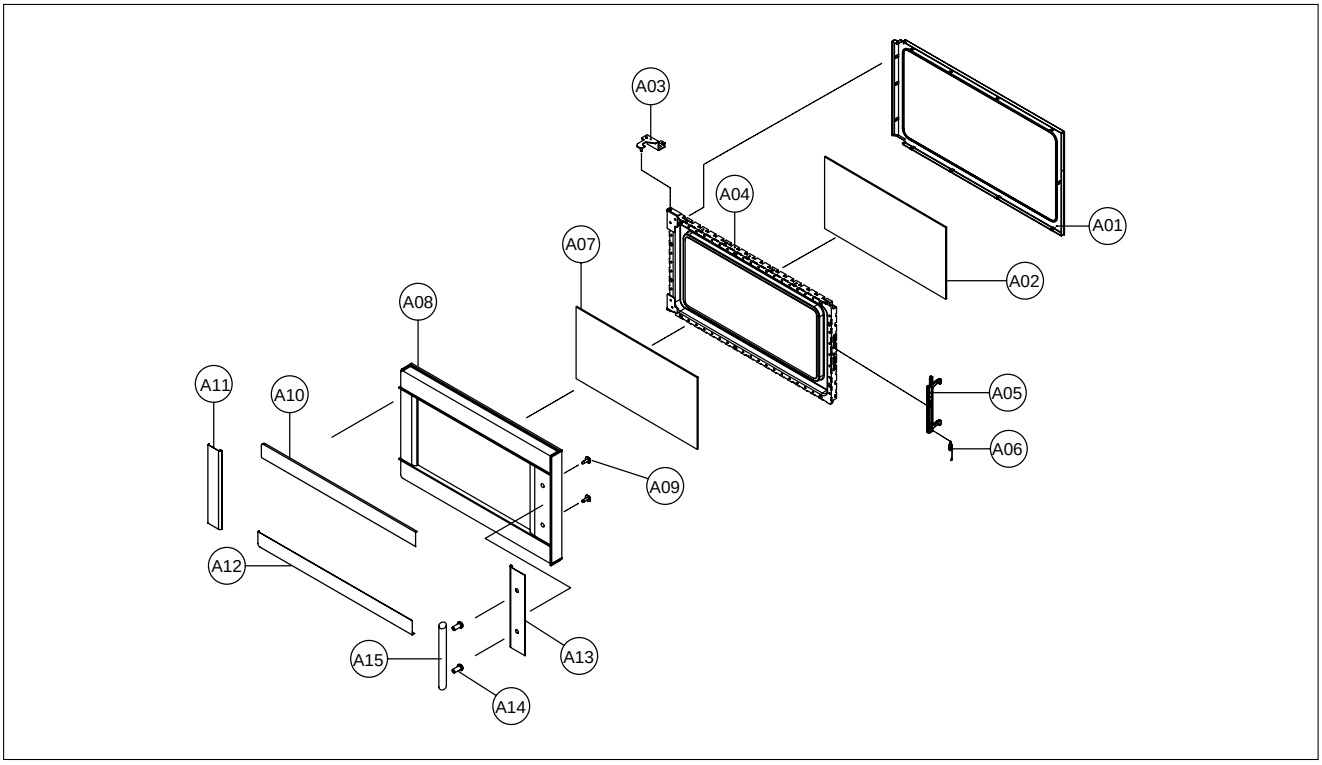
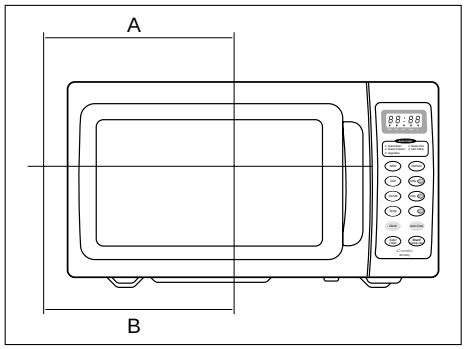
• KOC-624Q



REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A01	3512301100	GASKET DOOR	PBT	1	
A02	3517004700	BARRIER-SCREEN *I	TEMP GLASS T3.0	1	
A03	3515203000	STOPPER HINGE *T AS	KOC-621S5J	1	
A04	3511709400	DOOR PAINTING AS	KOC-621S5J	1	
A05	3513101000	HOOK	POM	1	
A06	3515101700	SPRING HOOK	PW1	1	
A07	3517004800	BARRIER SCREEN *O	TEMP GLASS T3.2	1	
A08	3512203420	FRAME DOOR	ABS	1	
A09	7001503511	SCREW MACHINE	PAN 5*35 MFZN	2	
A10	3511606500	DECORATOR DOOR *T	SUS430	1	
A11	3511606800	DECORATOR DOOR *L	SUS430	1	
A12	3511606600	DECORATOR DOOR *U	SUS430	1	
A13	3511606700	DECORATOR DOOR *R	SUS430	1	
A14	3515307800	SUPPORTER HANDLE	KOR-164H0A	2	
A15	3512603210	HANDEL DOOR	KOC-624'X	1	

(1) Remove the gasket door(A01) from door plate.
(2) Remove the door frame (A08) from door plate.
(3) Remove two screws (A09) from door plate.
(4) Remove the door handle (A15) and handle supporter (A14) from door plate.
(5) Remove the four door decorators (A10~A13) from door frame.
(6) Remove the stopper hinge top(A03) from door plate.
(7) Remove the spring(A06) and the hook(A05).
(8) Remove the barrier screen outer(A07) from door frame.
(9) Reverse the above steps for reassembly.

4. Method to reduce the gap between the door seal and the oven front surface.



(1) To reduce gap located on part 'A'.
- Loosen two screws on stopper hinge top, and then push the door to contact the door seal to oven front surface.
- Tighten two screws.

(2) To reduce gap located on part 'B'.
- Loosen two screws on stopper hinge under, and then push the door to contact the door seal to oven front surface.
- Tighten two screws.

NOTE : A small gap may be acceptable if the microwave leakage does not exceed 4mW/cm^2.

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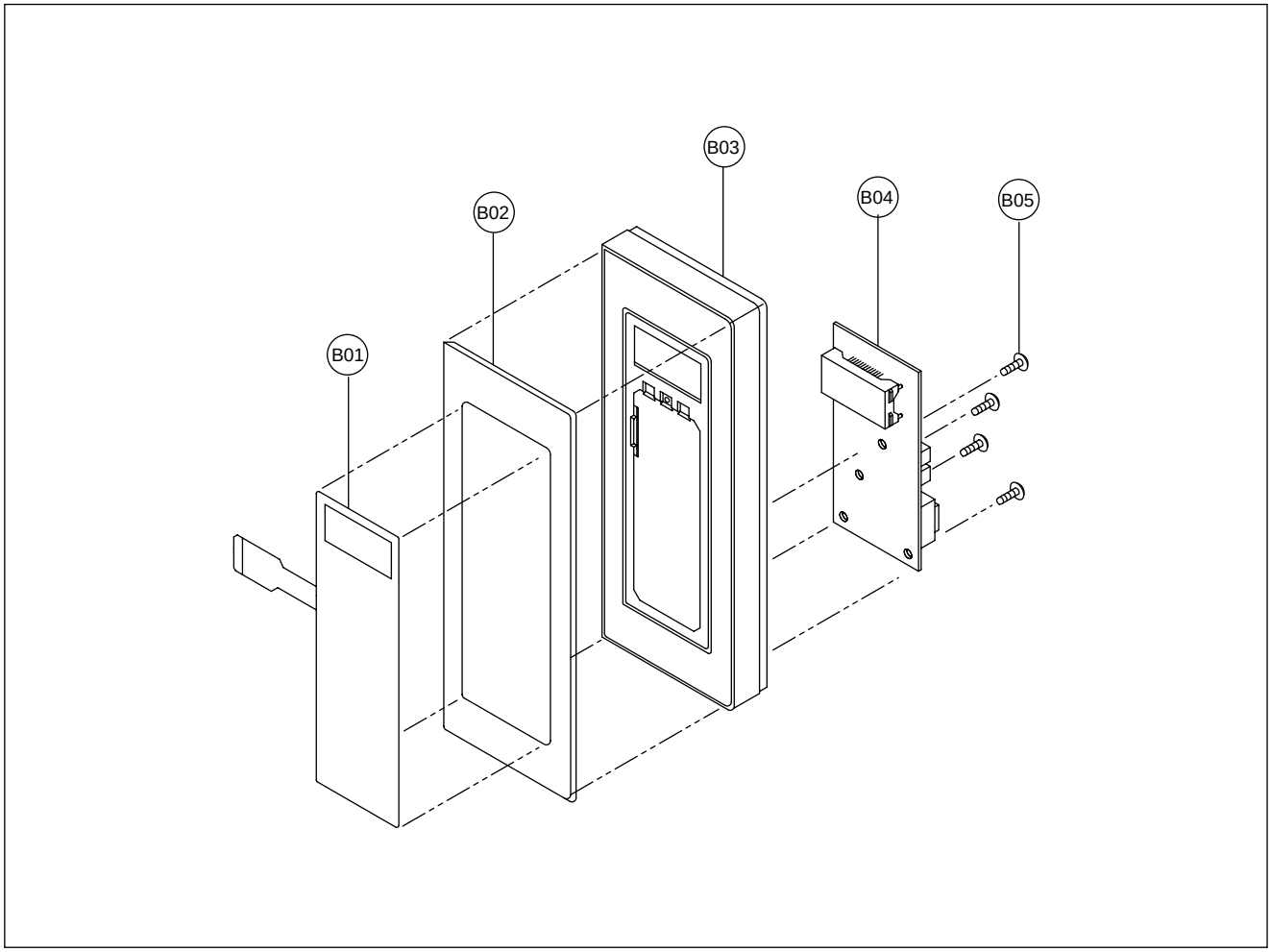
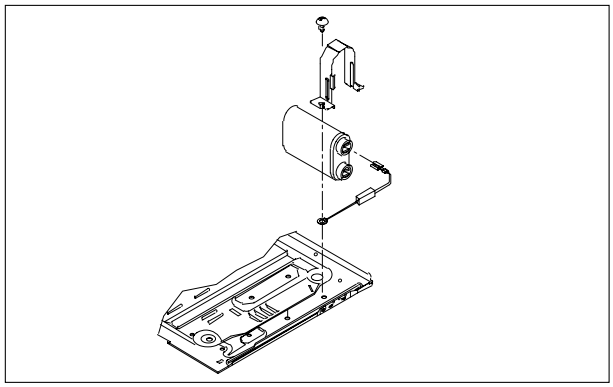


REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3518523510	SWITCH MEMBRANE	KOC-624Q0S	1	
B02	3511606900	DECORATOR C-PANEL	SUS430	1	
B03	3516715830	CONTROL PANEL	ABS	1	
B04	PKMPMSEQ30	PCB MAIN MANUAL AS	KOC-624Q0S	1	
B05	7112401211	SCREW TAPPING	T2S TRS 4*12 MFZN	4	

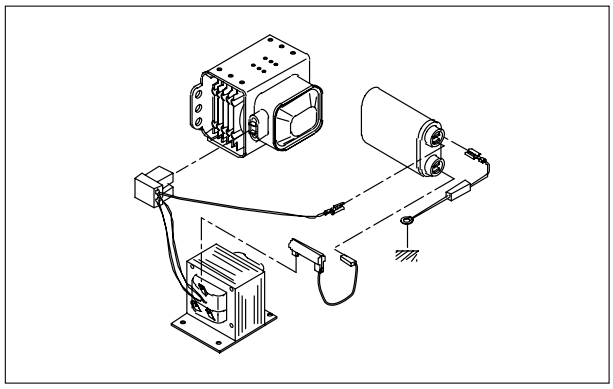
(1) Remove the screw which secure the control panel, push up two snap fits and draw forward the control panel assembly.
(2) Remove four screws which secure the PCB assembly to control panel.
(3) Disconnect membrane tail from the connector of the PCB assembly.
(4) Detach membrane from the control panel.
(5) Pull out the decorator c-panel from the control panel.
(6) Reverse the above steps for reassembly.

6. To remove high voltage capacitor.

1) Remove a screw which secure the grounding ring terminal of the H.V. diode and the capacitor holder.
2) Remove the H.V. diode from the capacitor holder.
3) Reverse the above steps for reassembly.

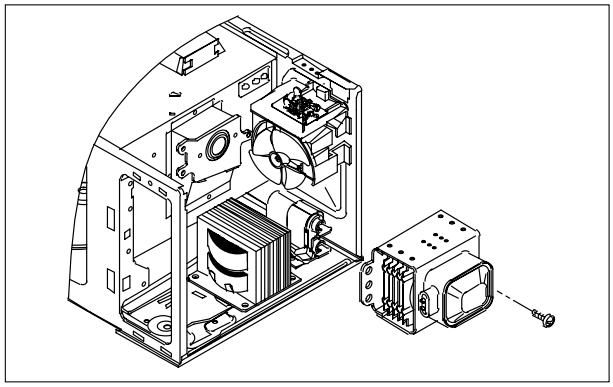


◆ High voltage circuit wiring

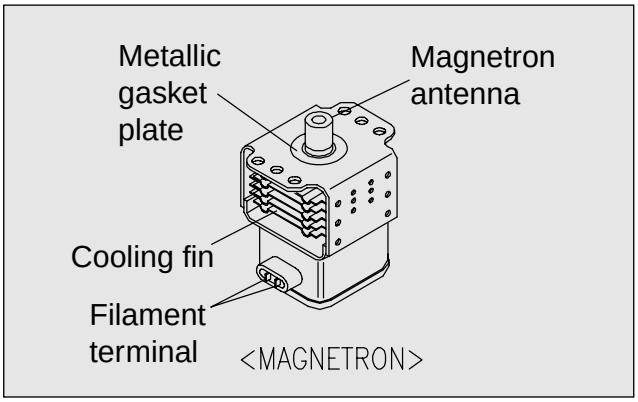


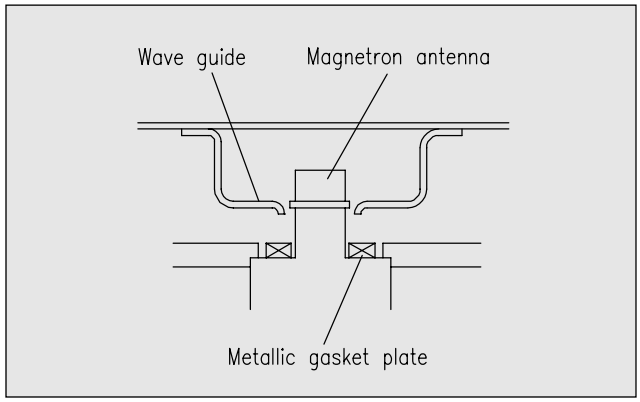
7. To remove magnetron.

1) Remove a screw which secure the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



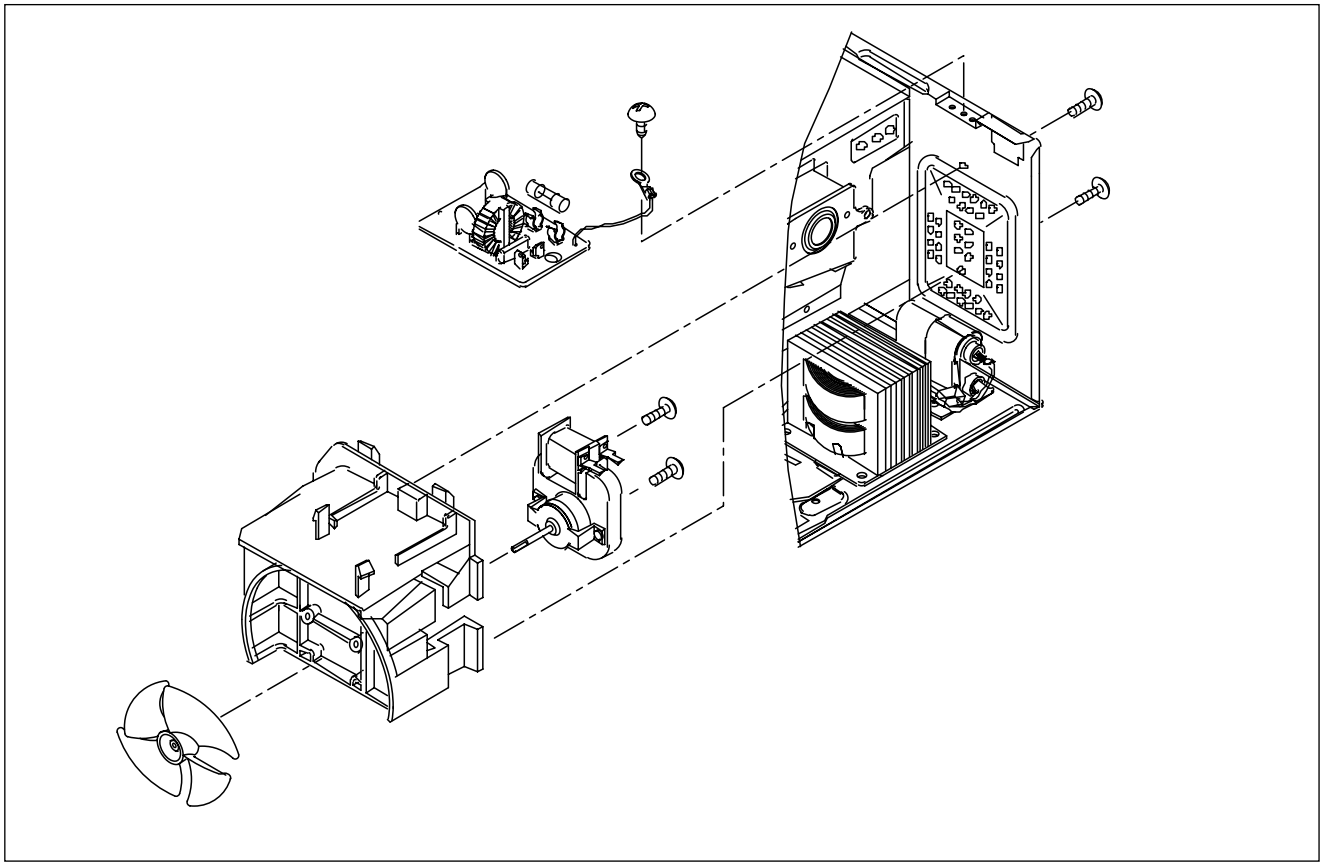
CAUTION : Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage. Whenever repair work is carried out on magnetron, check the microwave leakage. It shall not exceed 4mW/cm^2 for a fully assembled oven with door normally closed.





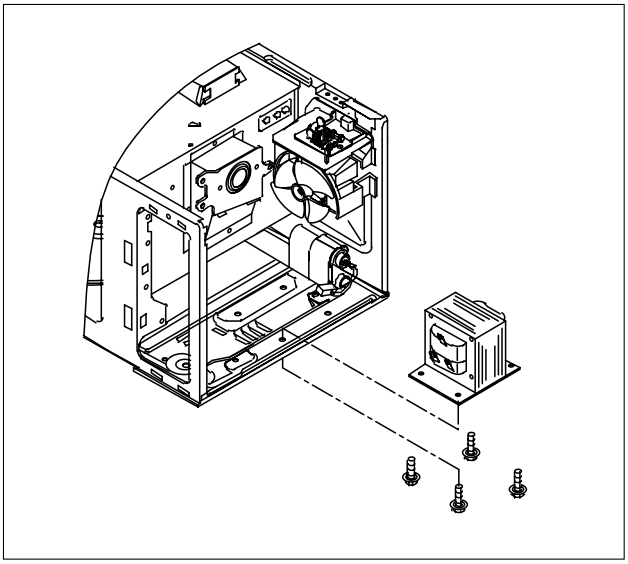
8. To remove wind guide assembly.

1) Remove a screw for earthing.
2) Remove the noise filter from the wind guide.
3) Remove two screws which secure the wind guide assembly.
4) Draw forward the wind guide assembly.
5) Pull the fan from the motor shaft.
6) Remove two screws which secure the motor shaded pole.
7) Remove the motor shaded pole.
8) Reverse the above steps for reasembly.



9. To remove H.V.transformer.

1) Remove four screws holding the H.V.transformer.
2) Remove the H.V.transformer.
3) Reverse the above steps for reassembly.



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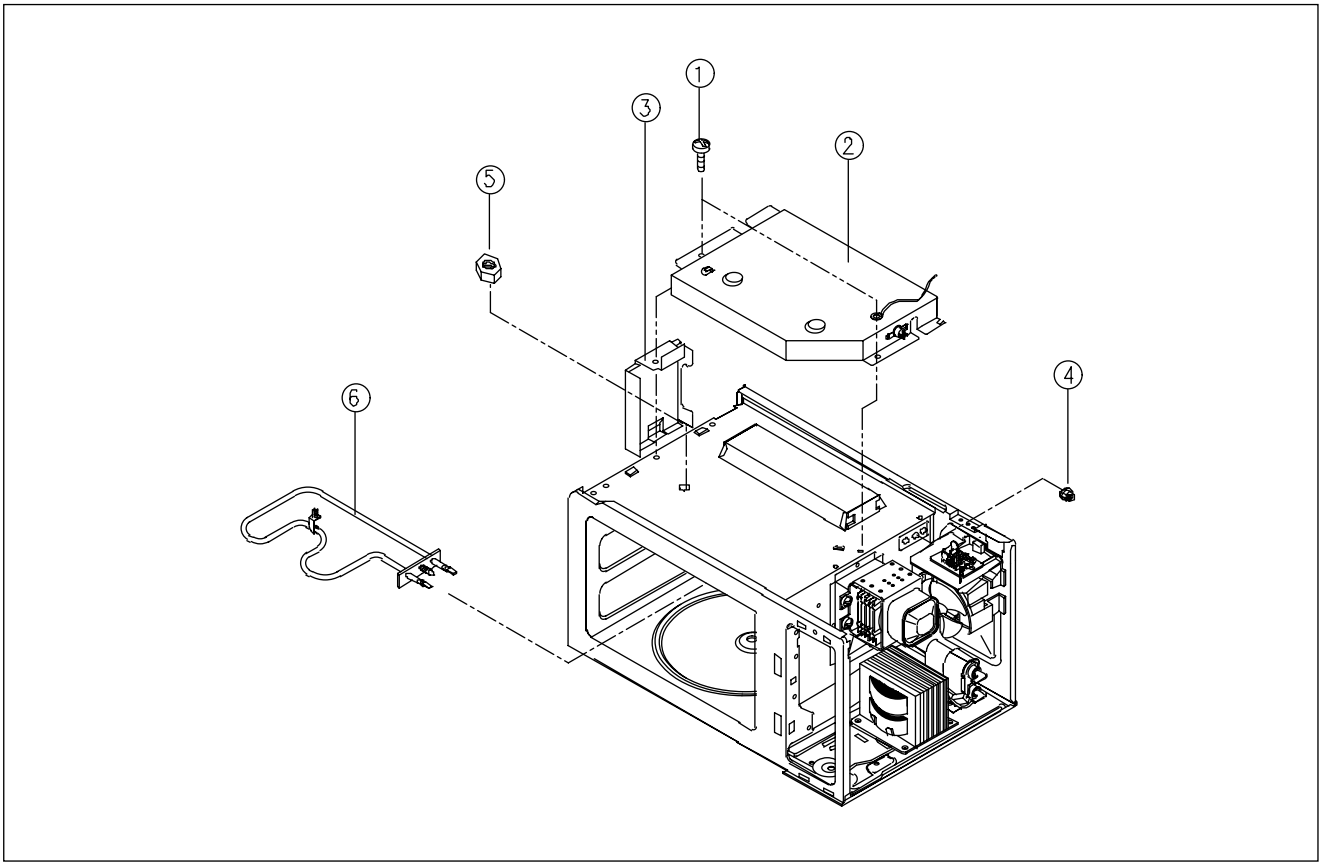
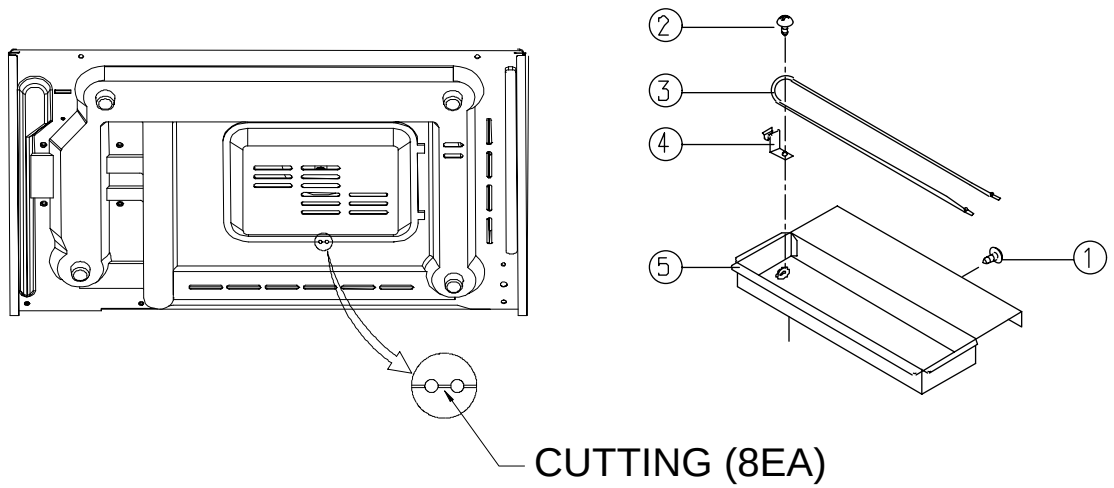
10. To remove Top heater assembly parts.



REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
1	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	2	
2	3511409700	COVER INSU *T AS	KOC-621Q0S	1	
3	3512513110	GUIDE AIR OUTLET	SA1D-80 T0.5	1	
4	7392500011	NUT HEX	6N-2-5 MFZN	1	
5	7392500011	NUT HEX	6N-2-5 MFZN	1	
6	3512803300	HEATER	230V 1150W 1B08965	1	

1) Remove two screws ① then pull out cover insulator *t as ② and guide air outlet ③.
2) Remove a hex nut ④ and hex nut ⑤.
3) Pull out heater.
4) Reverse the above steps for reassembly.

11. To remove Motor synchro. And Under heater assembly parts.

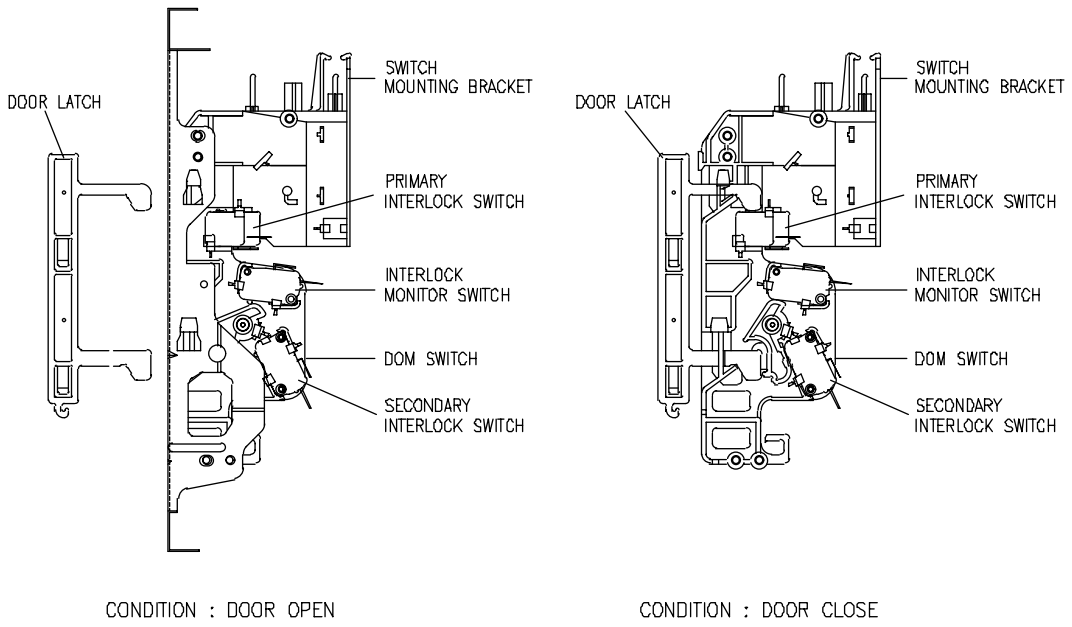


REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
1	7122400811	SCREW TAPPING	T2S TRS 4*8 MFZN	1	
2	7113400814	SCREW TAPPING	T1 BIN 4*8 MFNI	1	
3	3512802000	HEATER *U	230V 400W R1837400	1	
4	3515304000	SUPPORTER HEATER	STS430 T0.5	1	
5	3511404410	COVER HEATER *U	STS430-2B/HL T0.6	1	

1) Cut the cover parts from the base plate.
2) Remove a screw and then pull out Motor syncro.
3) Remove a screw① and then pull out the Under heater *U. assembly.
4) Remove a screw② .
5) Pull out the Heater *U ③ from the Cover heater *U ⑤ .
6) Reverse the above steps for reassembly.

7. INTERLOCK MECHANISM AND ADJUSTMENT

The door lock mechanism is a device which has been specially designed to completely eliminate microwave radiation when the door is opened during operation, and thus to perfectly prevent the danger resulting from the leakage of microwave.



(1) Primary interlock switch

When the door is closed, the hook locks the oven door. If the door is not closed properly, the oven will not operate.
When the door is closed, the hook pushes the button of the microswitch. Then the button of the primary interlock switch bring it under ON condition.

(2) Secondary interlock switch and interlock monitor switch

When the door is closed, the hook pushes the lock lever downward. The lock lever presses the button of the interlock monitor switch to bring it under OFF condition and presses the button of the secondary interlock switch to bring it under ON condition.

ADJUSTMENT :

Interlock monitor switch

When the door is closed, the interlock monitor switch should be opened before other switches are closed.
When the door is opened, the interlock monitor switch should be closed after other switches are opened.

(3) Adjustment steps

a) Loosen the two mounting screws.
b) Adjust interlock switch assembly position.
c) Make sure that lock lever moves smoothly after adjustment is completed.
d) Tighten completely two mounting screws.

NOTE :

Microwave emission test should be performed after adjusting interlock mechanism.
If the microwave emission exceed 4mW/cm^2, readjust interlock mechanism.

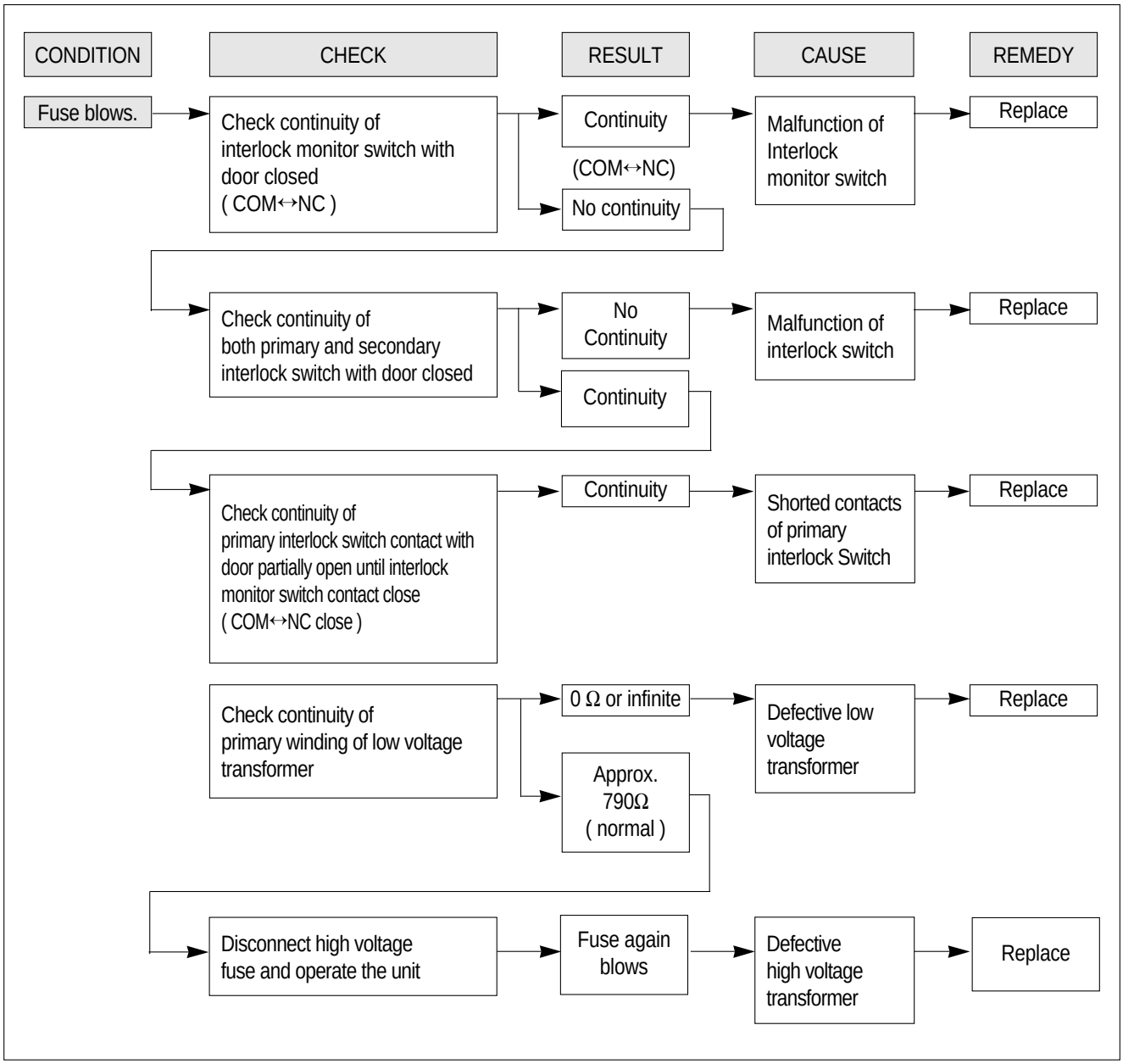
8. TROUBLE SHOOTING GUIDE

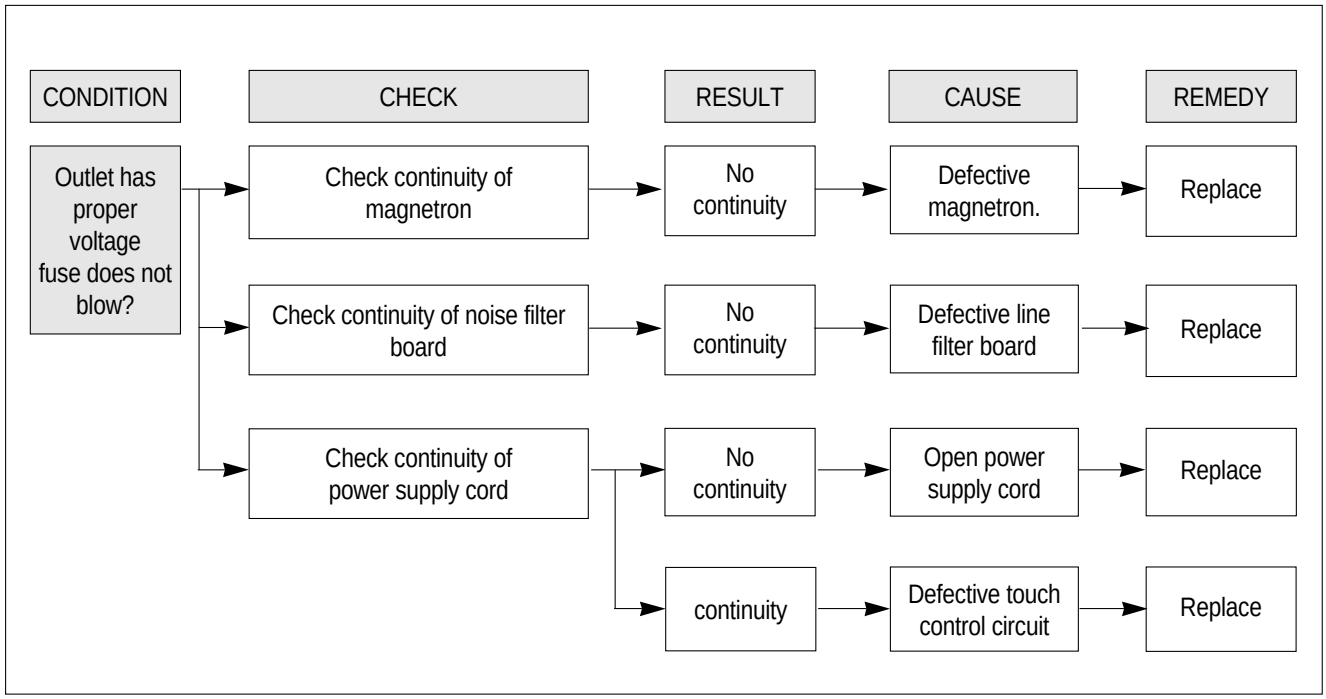
Following the procedure below to check if the oven is defective or not.

1) Check grounding before trouble checking.
2) Be careful of the high voltage circuit.
3) Discharge the high voltage capacitor.
4) When checking the continuity of the switches, fuse or high voltage tranformer, disconnect one load wire from these parts and check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.

NOTE : When electric parts are checked, be sure the power cord is not inserted the wall outlet.
Check wire harness, wiring and connection of the terminals and power cord before check the parts listed below.

(TROUBLE 1) Oven does not operate at all : any inputs can not be accepted.

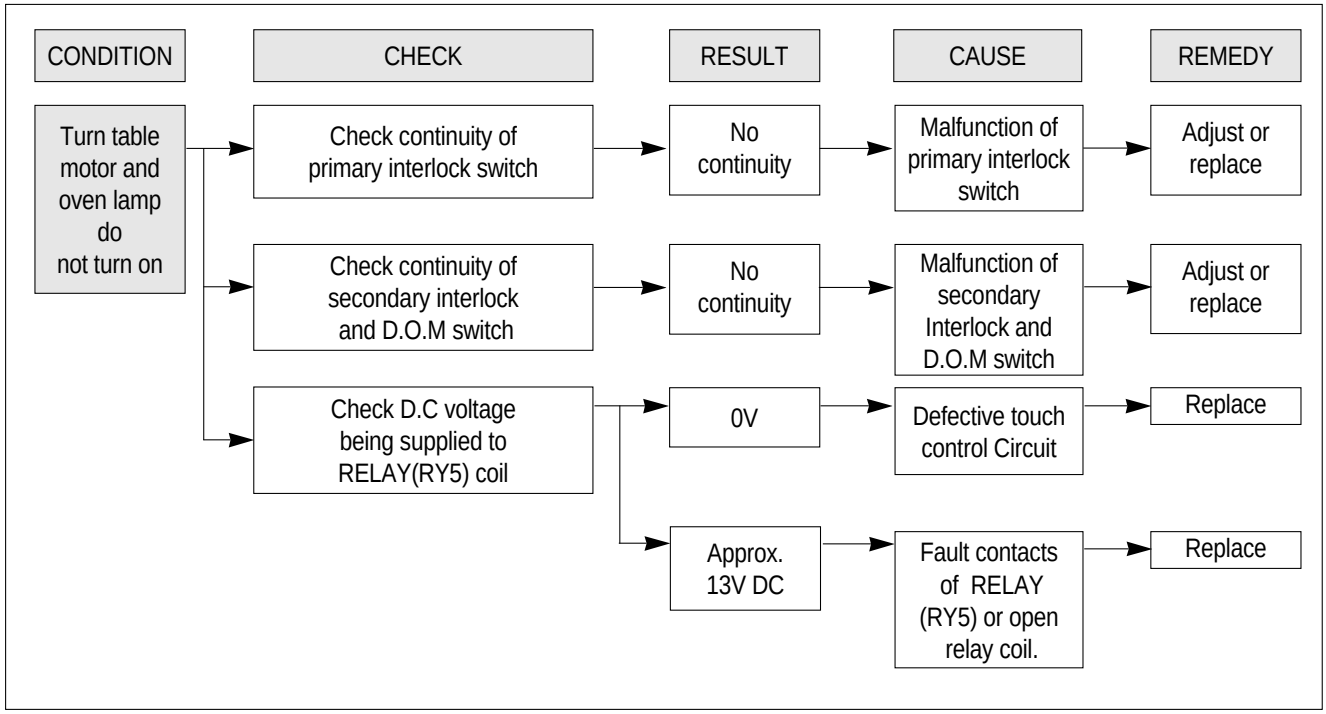




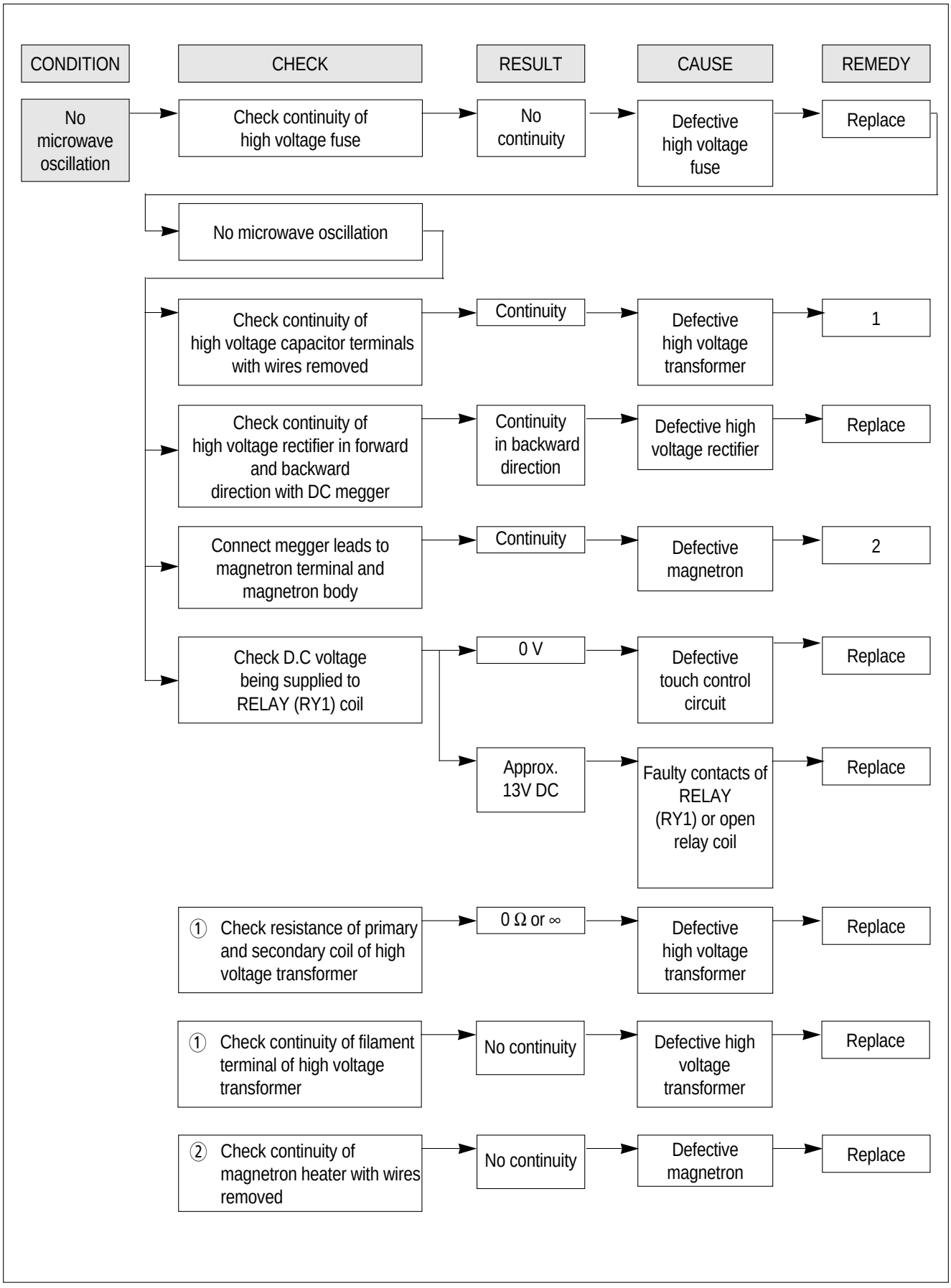
NOTE : All these switches must be replaced at the same time, please refer to (7.Interlock mechanism and adjustment) for adjustment instructions

(TROUBLE 2)

Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and start button is tapped.

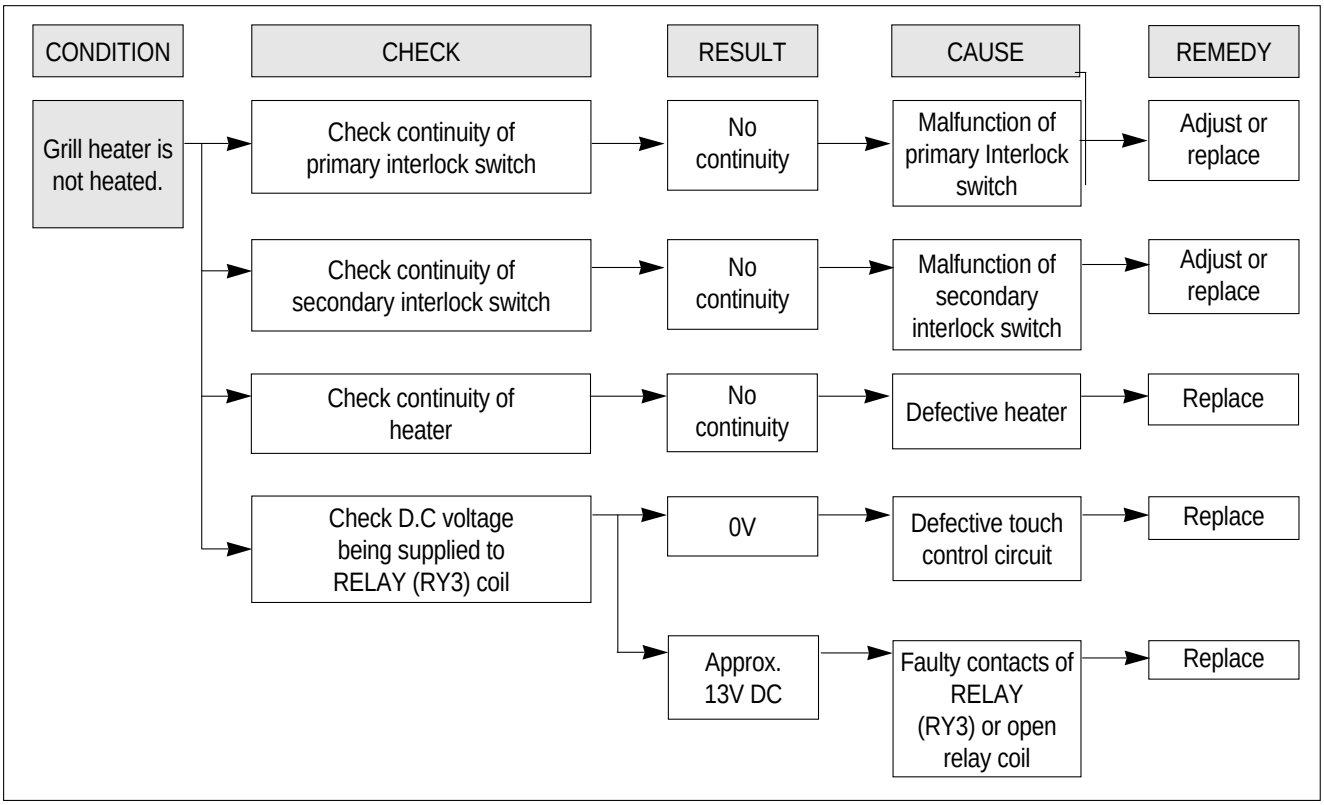


TROUBLE 3) No microwave oscillation even though fan motor rotates.



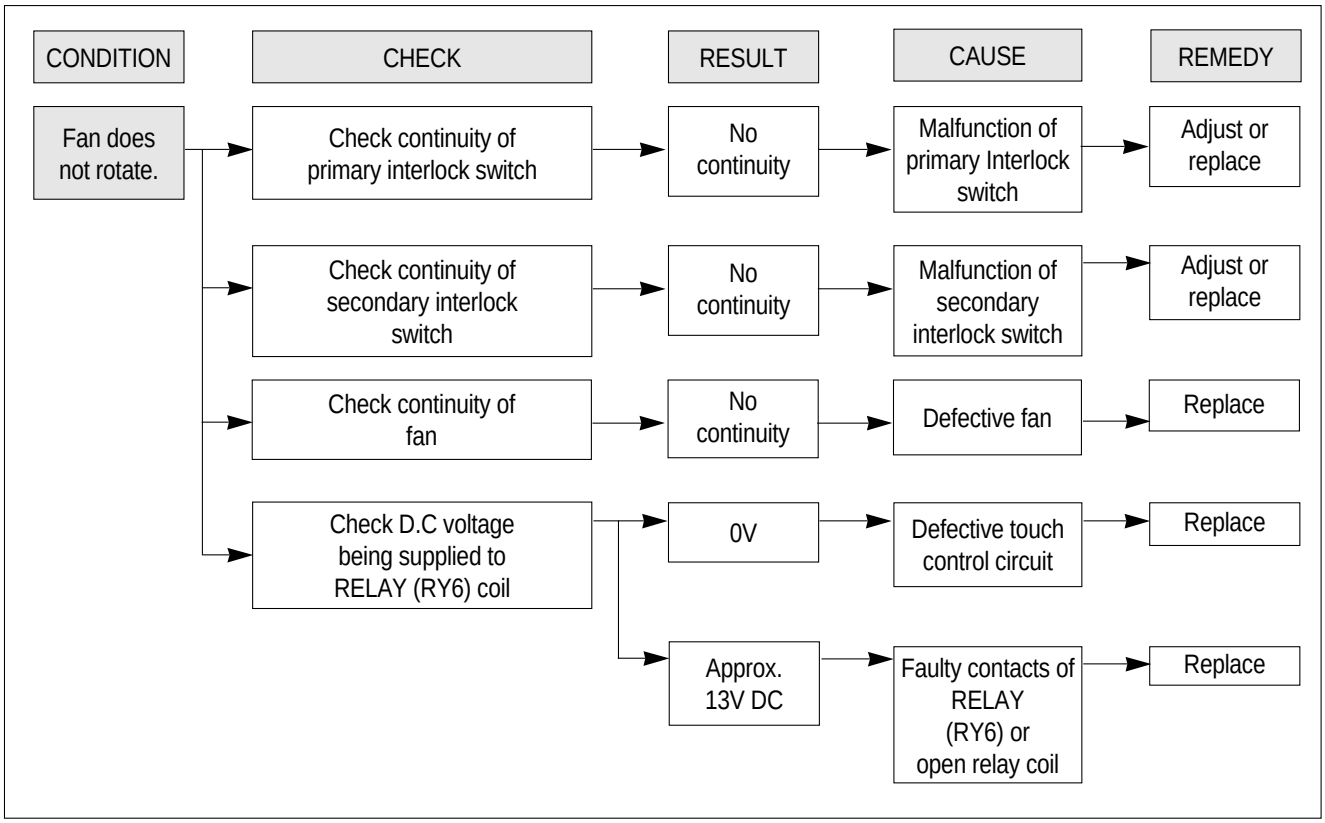
(TROUBLE 4)

Grill heater (upper heater) is not heated; food will not become hot.



(TROUBLE 5)

Fan motor does no rotate.



(TROUBLE 6)

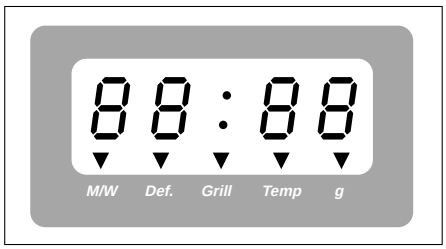
Lower heater is not heated; food will not become hot.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Lower heater Is not heated	Check continuity of Primary interlock switch	No continuity	Malfunction of primary Interlock switch	Adjust or Replace
	Check continuity of secondary interlock switch	No continuity	Malfunction of secondary interlock switch	Adjust or replace
	Check continuity of heater	No continuity	Defective heater	Replace
	Check D.C voltage Being supplied to RELAY (RY4) coil	0V	Defective Touch control circuit	Replace
		Approx. 13V DC	Faulty contacts of RELAY (RY4) or open relay coil	Replace

(TROUBLE 7)

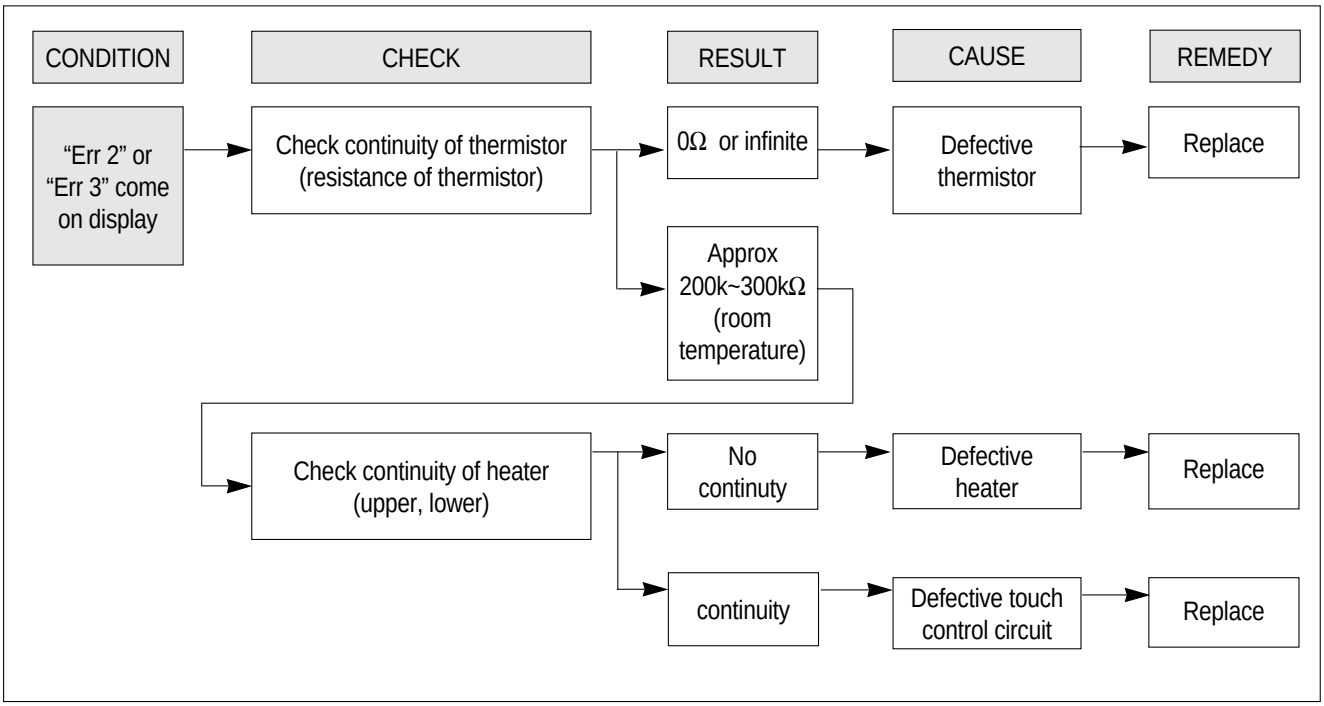
The following visual conditions indicate a probable defective touch control Circuit or Membrane.

1. Incomplete segments.
   1) segment missing
   2) partial segments missing
   3) digit flickering other than normal fluorescent slight flickering
2. A distinct change in the brightness of one or more numbers exists in the display
3. One or more digits in the display are not on when they should be.
4. Display does not count down or up with time cooking or clock operation.
5. Oven is programmable and cooks normally but no display shows.
6. Display obviously jumps in time while counting down.
7. Display counts down noticeably too fast while cooking.



CONDITION	CHECK	RESULT	CAUSE	REMEDY
Display does not show programming at all, even if keyboard is touched.	Check each pad for continuity of the pad	Normal	Malfunction of Membrane.	Replace C/PANEL assembly.

(TROUBLE 8)
When “Err 2” or “Err 3” come on display.



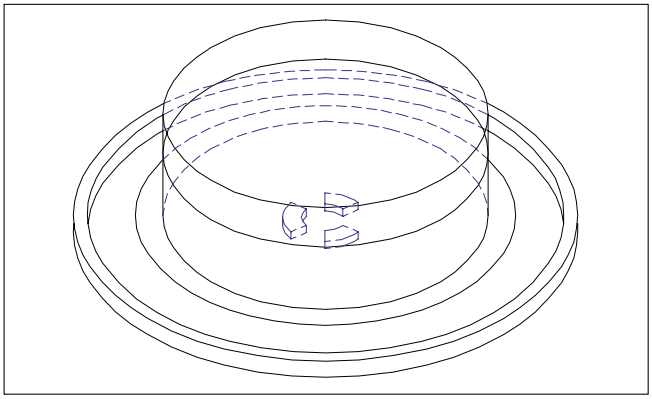
9. MEASUREMENT AND TEST

9-1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

Microwave output power can be checked by indirectly measuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

PROCEDURE

1. Microwave power output measurement is made with the microwave oven supplied at rated voltage and operated at its maximum microwave power setting with a load of 1000 ± 5cc of potable water.
2. The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3. The oven and the empty vessel are at ambient temperature prior to the start of the test. The initial temperature of the water is 10 ± 2°C (50 ± 3.6°F). If is measured immediately before the water is added to the vessel. After addition of the water to the vessel, the load is immediately placed on the center of the shelf, which is in the lowest normal position.
4. Microwave power is switched on.
5. Heating time should be exactly A seconds.
   (Refer to table as following)
   Heating time is measured while the microwave generator is operating at full power. The filament heat-up time for magnetron is not included.
6. The initial and final temperature of water is selected so that the maximum difference between the ambient and final water temperature is 5K.
7. The microwave power output P in watts is calculated from the following formula:



$$P = 4187 \times \Delta T/t$$

- ΔT is difference between initial and ending temperature.
- t is the heating time.

The power measured be B (Refer to SPECIFICATIONS) W ± 10.0 %.

CAUTION
1. Water load should be measured exactly to 1 liter.
2. Input power voltage should be exactly specified voltage (Refer to SPECIFICATIONS).
3. Ambient temperature should be 20 ± 2°C (68 ± 3.6°F)

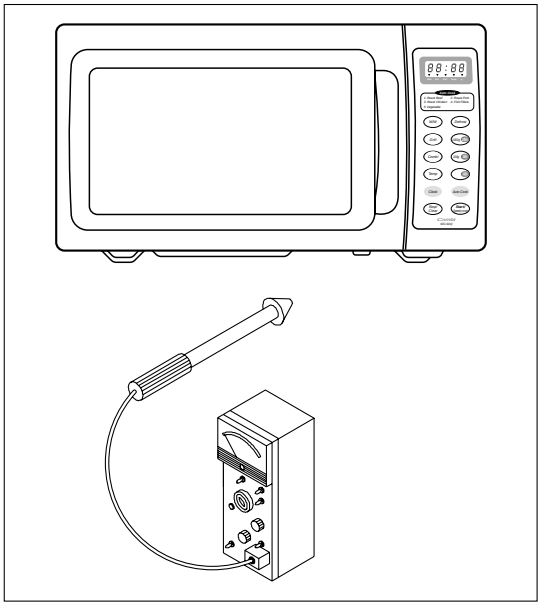
⁎ Power level table

Power level	percentage	Output	Power level	percentage	Output
High	100% (P-Hi)	800W	Medium	50% (P-50)	390W
Sauté	90% (P-90)	720W	Medium low	40% (P-40)	300W
Reheat	80% (P-80)	630W	Low	30% (P-30)	220W
Medium high	70% (P-70)	550W	Defrost	20% (P-10)	140W
Simmer	60% (P-60)	470W	Warm	10% (P-10)	90W

9-2. MICROWAVE RADIATION TEST

WARNING
1. Make sure to check the microwave leakage before and after repair of adjustment.
2. Always start measuring of an unknown field to assure safety for operating personnel from microwave energy.
3. Do not place your hands into any suspected microwave radiation field unless the safe density level is known.
4. Care should be taken not to place the eyes in direct line with the source of microwave energy.
5. Slowly approach the unit under test until the radiometer reads an appreciable microwave leakage from the unit under the test.

PROCEDURE



1. Prepare Microwave Energy Survey Meter, 600cc glass beaker, and glass thermometer 100°C (212°F).

2. Pour 275cc ± 15cc of tap water initially at 20 ± 5°C (68 ± 9°F) in the 600 cc glass beaker with an inside diameter of approx. 95 mm(3.5 in.).

3. Place it at the center of the tray and set it in a cavity.

4. Close the door and operate the oven.

5. Measure the leakage by using Microwave Energy Survey Meter with dual ranges, set to 2450MHz.
   1) Measured radiation leakage must not exceed the value prescribed below. Leakage for a fully assembled oven with door normally closed must be less than 4mW/Cm^2.
   2) When measuring the leakage, always use the 5 cm (2 in.) space cone with probe. Hold the probe perpendicular to the cabinet and door. Place the space cone of the probe on the door, cabinet, door seem, door viewing screen, the exhaust air vents and the suction air vents.
   3) Measuring should be in a counter-clockwise direction at a rate of 1 in./sec. If the leakage of the cabinet door seem is unknown, move the probe more slowly.
   4) When measuring near a corner of the door, keep the probe perpendicular to the areas making sure the probe end at the base of the cone does not get closer than 2 in. from any metal. If it does not, erroneous reading may result.

9-3. COMPONENT TEST PROCEDURE

- High voltage is present at the high voltage terminal of the high voltage transformer during any cooking cycle.
- It is neither necessary nor advisable to attempt measurement of the high voltage.
- Before touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor.

1. High voltage transformer

1) Remove connections from the transformer terminals and check continuity.
2) Normal readings should be as follows :
   Secondary winding ... Approx. 100 Ω±10%
   Filament winding ... Approx. 0 Ω
   Primary winding ... Approx. 1.2 Ω

2. High voltage capacitor

1) Check continuity of capacitor with meter on the highest OHM scale.
2) A normal capacitor will show continuity for a short time, and then indicate 10MΩ once the capacitor charged.
3) A shorted capacitor will show continuous continuity.
4) An open capacitor will show constant 10MΩ.
5) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

1) Isolate the diode from the circuit by disconnecting the leads.
2) With the ohmmeter set on the highest resistance scale measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-back resistance of the diode, otherwise an infinite resistance may be read in both directions. A normal diode's resistance will be infinite in one direction and several hundred k Ω in the other direction.

4. Magnetron

For complete magnetron diagnosis, refer to "Measurement of the Microwave Power Output." Continuity checks can only indicate and open filament or a shorted magnetron. To diagnose for an open filament or a shorted magnetron,
1) Isolate magnetron from the circuit by disconnecting the leads.
2) A continuity check across magnetron filament terminals should indicate 0.1 Ω or less.
3) A continuity check between each filament terminal and magnetron case should read open.

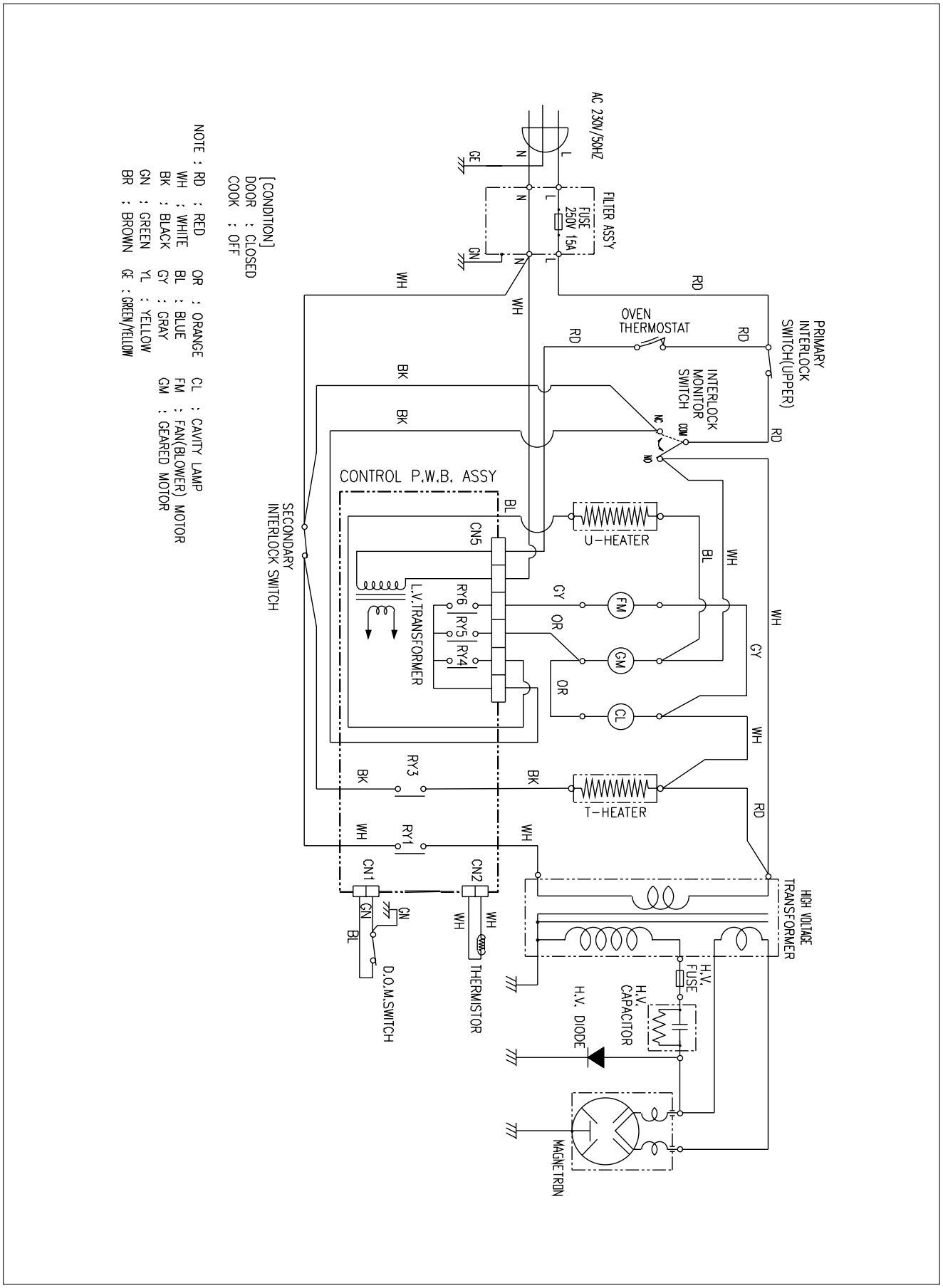
5. Fuse

If the fuse in the primary and monitor switch circuit is blown when the door is opened, check the primary and monitor switch before replacing the blown fuse. In case the fuse is blown by an improper switch operation, replace the defective switch and fuse at the same time. Replace just the fuse if the switches operate normally.

9-4. COMPONENT ACTION

COOKING MODE		MAGNETRON	UPPER ELEMENT	LOWER ELEMENT
MANUAL MODE	M/W	●		
	GRILL		●	
	COMBI	●	●	
	TEMP		●	●
	DEFROST	●		
AUTO COOK	ROAST BEEF	●	●	
	ROAST PORK	●	●	
	ROAST CHICKEN	●	●	
	FISH FILLETS	●		
	VEGETABLE	●		

10. WIRING DIAGRAM



11. EXPLODED VIEW AND PARTS LIST

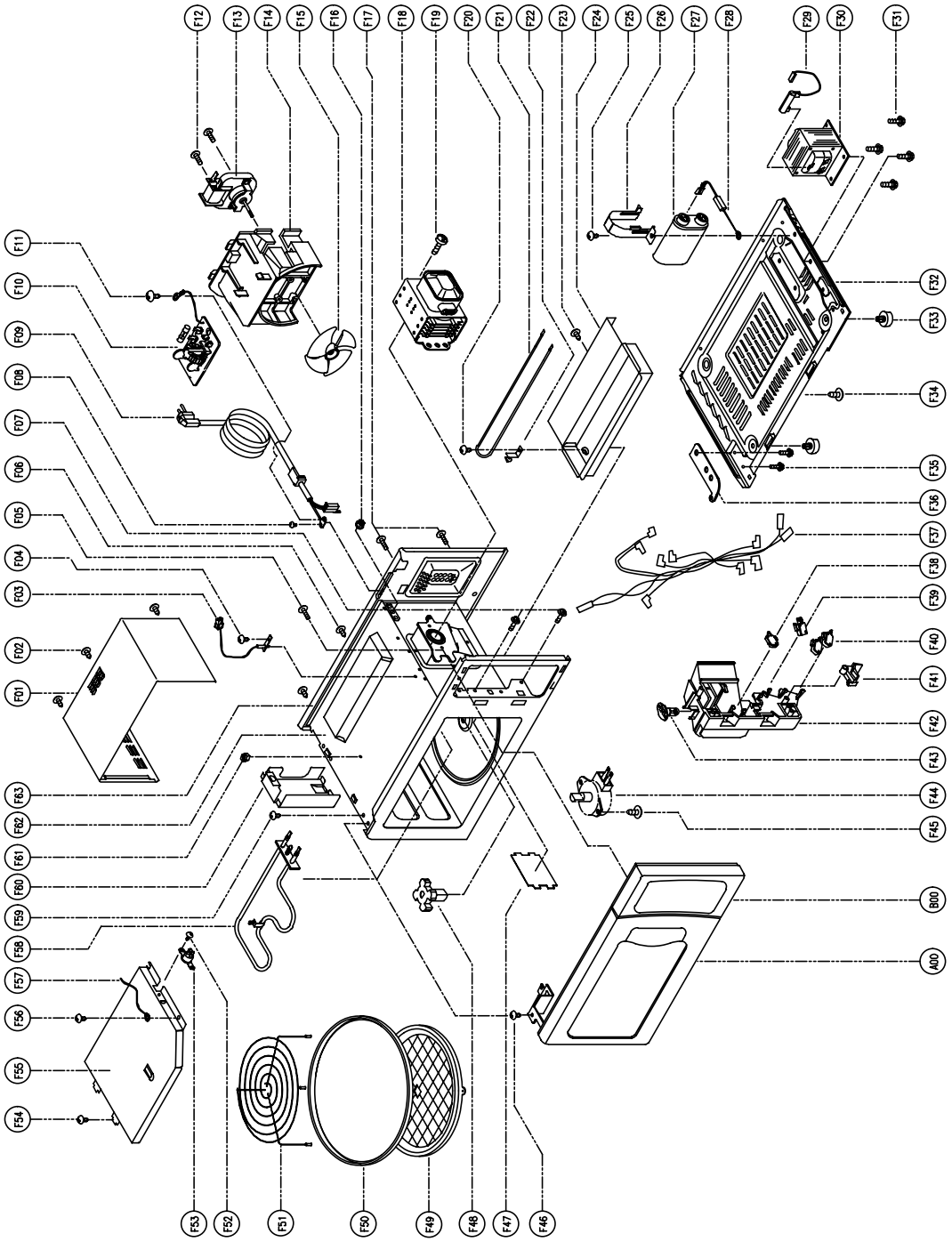
1. DOOR ASSEMBLY

Refer to 6. Disassembly and assembly.

2. CONTROL PANEL ASSEMBLY

Refer to 6. Disassembly and assembly.

3. TOTAL ASSEMBLY



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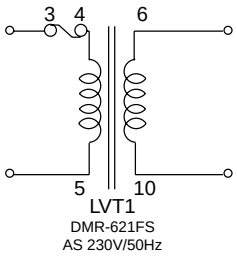
NO	PART NAME	DESCRIPTION	PART CORD	Q'TY
A00	DOOR AS			
		KOG-624Q0S	3511709230	1
B00	CONTROL-PANEL AS			
		KOG-624Q0S	PKCPSWEQ30	1
F01	CABINET AS	KOC-621Q0S	3510806710	1
F02	SCREW TAPPING	T1 TRS 4*10 MFZN	7112401011	3
F03	SENSOR TEMPERATURE	PTM-K312-D7	3514801400	1
F04	SCREW TAPPING	T1 TRS 4*10 MFZN	7112401011	1
F05	SCREW TAPPING	T2S TRS 4*12 MFZN	7122401211	1
F06	SCREW TAPPING	T1 TRS 4*10 MFZN	7112401011	4
F07	SCREW TAPPING	T2S TRS 4*12 MFZN	7122401211	2
F08	SCREW TAPPING	T1 TRS 4*10 MFZN	7112401011	1
F09	CORD POWER AS	3X1.5 80X80 120-RTML 1.4M	35113A5QJ5	1
F10	NOISE-FILTER	DWLF-M02	3518603710	1
F11	SCREW TAPPING	T1 TRS 4*10 MFZN	7112401011	1
F12	SCREW TAPPING	T2S PAN 4X30 MFZN	7121403011	2
F13	MOTOR SHADED POLE	230V 25W MW15CA-K01	3963512910	1
F14	GUIDE WIND	PP 5113MF6 A353B	3512513700	1
F15	FAN	P.P GF20	3511800100	1
F16	NUT HEX	6N-2-5 MFZN	7392500011	1
F17	SCREW TAPPING	T2S TRS 4*12 MFZN	7122401211	2
F18	MAGNETRON	2M218H(F)	3518002200	1
F19	SPECIAL SCREW	T2 FLANGE 4X13 PW SE M	3516002700	1
F20	SCREW TAPPING	T1 BIN 4*8 MFNI	7113400814	1
F21	HEATER *U	230V 400W R18374001	3512802000	1
F22	SUPPORTER HEATER *U	STS430 T0.5	3515304000	1
F23	SCREW TAPPING	T2S TRS 4*8 MFZN	7122400811	1
F24	COVER HEATER *U	STS430-2B/HL T0.6	3511404410	1
F25	SCREW TAPTITE	TT3 TRS 4X8 MFZN	7272400811	1
F26	HOLDER HV CAPACITOR	SECC T0.6	3513003200	1
F27	CAPACITOR HV	2100VAC 0.98UF #187	3518302200	1
F28	DIODE HV	"HVR-1X-3AB 12KV #187"	3518400400	1
F29	FUSE HV	5KV 0.7A HV-41A70-1 #187	3518700230	1
F30	TRANS HV	DW-R80S0-62T	3518118710	1
F31	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	3516003700	4
F32	BASE	SBHG T0.8	3510310800	1
F33	FOOT	DASF-310	3512101400	4
F34	SCREW TAPPING	T1 TRS 4*10 MFZN	7112401011	5
F35	SCREW TAPTITE	TT3 TRS 4X8 MFZN	7272400811	2
F36	STOPPER HINGE *U AS	KOR-121M0A	3515202800	1
F37	HARNESS MAIN	KOC-621Q0S	3512718900	1
F38	SW MICRO	VP-533A-OF SPNO #187 200G	4415A17352	1
F39	SW MICRO	VP-531A-OF/SZM-V16-FA-61	4415A66910	1
F40	SW MICRO	VP-533A-OF SPNO #187 200G	4415A17352	2
F41	LEVER LOCK	POM	3513701300	1
F42	LOCK	POM	3513807900	1
F43	LAMP	BL 240V 25W T25 C7A H187	3513601600	1
F44	MOTOR SYNCRO	100/240V 4W GM-16-24FD16	3966030500	1
F45	SCREW TAPPING	T2S PAN 4X10 MFZN	7121401011	1
F46	SCREW TAPTITE	TT3 TRS 4X8 MFZN	7272400811	2
F47	COVER WAVE GUIDE	MICA T0.35	3511404710	1
F48	COUPLER	PTFE	3517401900	1
F49	GUIDE TRAY	SPP T1.0	3512512810	1
F50	TRAY METAL	SPP T0.6	3517205500	1
F51	TRAY RACK AS	KOC-621Q0S	3517208400	1
F52	SCREW TAPPING	T2S PAN 3X6 MFZN	7121300611	1
F53	THERMOSTAT	OFF:145 ON:135 V #187	3518903200	1
F54	SCREW TAPPING	T1 TRS 4*10 MFZN	7112401011	1
F55	COVER INSULATOR *T	SECC T0.5	3511404500	1
F56	SCREW TAPPING	T1 TRS 4*10 MFZN	7112401011	1
F57	CLAMP WIRE	SBHG	3511200400	1
F58	HEATER	230V 1150W 1B08965001	3512803300	1
F59	SCREW TAPTITE	TT3 TRS 4X8 MFZN	7272400811	2
F60	GUIDE AIR OUTLET	SA1D-80 T0.5	3512513110	1
F61	NUT HEX	6N-2-5 MFZN	7392500011	1
F62	CAVITY JOINT AS	KOC-621Q0S	3516107530	1
F63	REAR-PLATE *O	SBHG T0.6	3516503700	1

12. PRINTED CIRCUIT BOARD

CIRCUIT CHECK PROCEDURE

1. Low voltage transformer check

The low voltage transformer is located on the P.C.B.
Measuring condition: Input voltage: 230V / Frequency: 50Hz

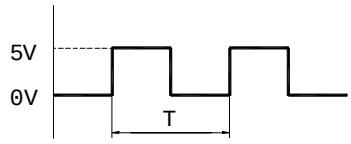
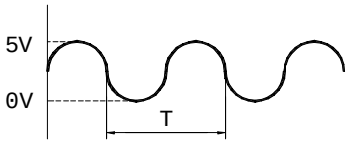


Terminal	Voltage(olad)	Voltage(no load)
6-10	DC 13V	DC 14V

NOTE
1. Secondary side voltage of the low voltage transformer changes in proportion to fluctuation of power source voltage.
2. The allowable tolerance of the secondary voltage is within ± 5% of nominal voltage.

2. Voltage Check

- Key check point

NO	CHECK POINT	REMARK
1	IC1 PIN 55, 64	5VDC±5%
2	IC1 PIN 17	 T : 20 ms(50Hz)
3	IC1 PIN 30 OR 31	 T : 250 ns(4MHz)

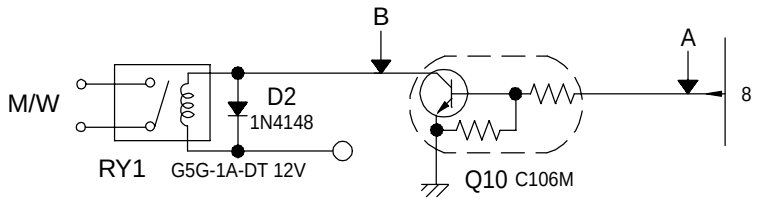
- Check method

NO	MEASURE POINT	WAVE FORM	REMEDY	REMARK
1	A	DC 5V±5%	Replace C13, C3	NO LOAD
2	B	DC 17V±20%	Replace D10~D13, EC4	NO LOAD

NOTE: Each measure point must be measured with GND points.

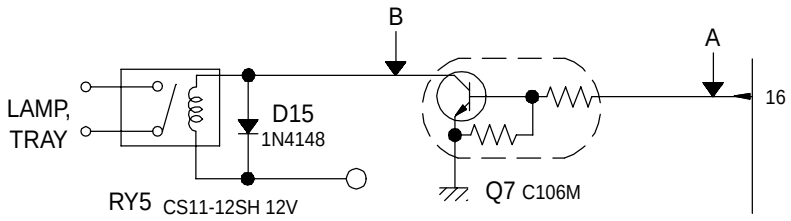
3. Case of no microwave oscillation

1) When touching M/W button, oven lamp turns on and Fan motor and turntable rotate, and cook indicator in display comes on.
*Cause: **RELAY 1** does not operate.



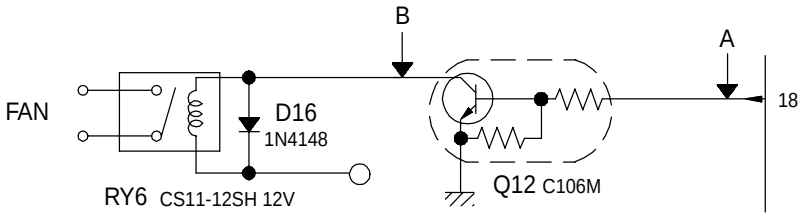
STATE	POINT A	POINT B
RELAY 1 ON	+5V DC	GND
RELAY 1 OFF	GND	+13V DC

2) When touching M/W button, oven lamp does not turn on and turntable motor does not rotate but cook indicator in display comes on.
*Cause: **RELAY 5** does not operate.



STATE	POINT A	POINT B
RELAY 5 ON	+5V DC	GND
RELAY 5 OFF	GND	+13V DC

3) When touching M/W button, oven lamp turn on and turns on and fan motor does not rotate but cook indicator in display comes on.
*Cause: **RELAY 6** does not operate.

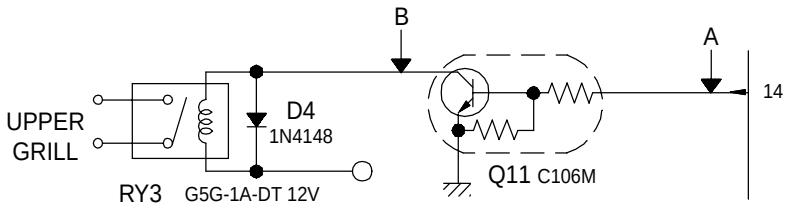


STATE	POINT A	POINT B
RELAY 6 ON	+5V DC	GND
RELAY 6 OFF	GND	+13V DC

4. Case of no heating of upper grill

When touching GRILL or COMBI button, oven lamp turns on and Fan motor and turntable rotate, and cook indicator in display comes on.

*Cause: **RELAY 3** does not operate.

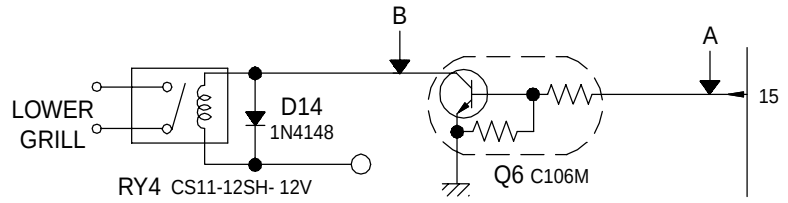


STATE	POINT A	POINT B
RELAY 3 ON	+5V DC	GND
RELAY 3 OFF	GND	+13V DC

5**. Case of no heating of lower grill**

When touching TEMP button, oven lamp turns on and Fan motor and turntable rotate and cook indicator in display comes on.

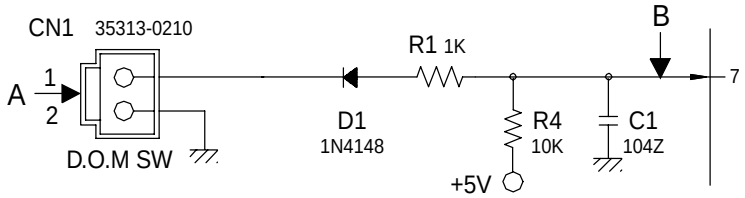
*Cause: **RELAY 4** does not operate.



STATE	POINT A	POINT B
RELAY 4 ON	+5V DC	GND
RELAY 4 OFF	GND	+13V DC

6. Case of no stopping of the count down timer

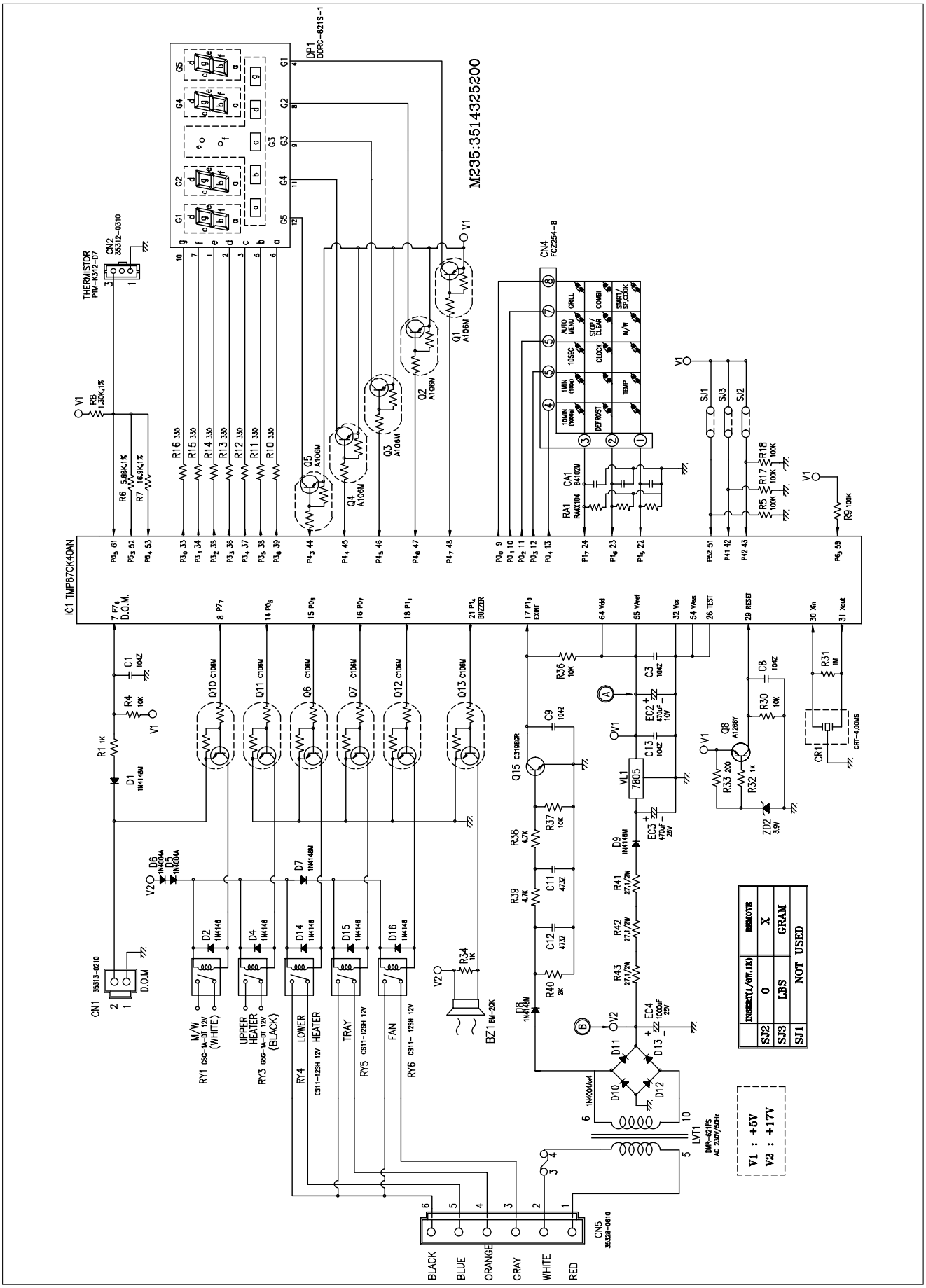
When the door is opened during operation, the count down timer does not stop.



POINT / STATE	A	B
DOOR OPEN	OPEN	+5V DC
DOOR CLOSED	CLOSE	GND

CHECK NO	METHOD	REMEDY
1	Check the stage(ON,OFF) of the door open monitor switch by resistance measurement.	Replace door open monitor swith.

13. P.C.B. CIRCUIT DIAGRAM



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PCB ASS'Y PART LIST

NO	NAME	SYMBOL	SPECIFCATION	PART CODE	Q'TY
1	BUZZER	BZ1	BM-20K	3515600100	1
2	CAPACITOR CERAMIC	C1,C3,C8,C9,C13	104 50V Z AXIAL	CCZF1H104Z	5
3	CAPACITOR CERAMIC	C11,C12	473 50V Z AXIAL	CCZF1H473Z	2
4	C ARRAY	CA1	1000pF, 2.54MM	CN4XB-102M	1
5	CAPACITOR ELECTRO	EC2	10V RSS 470uF	CEXF1A471V	1
6	CAPACITOR ELECTRO	EC3	25V RSS 470uF	CEXF1E471V	1
7	CAPACITOR ELECTRO	EC4	25V RSS 1000uF	CEXF1E102V	1
8	CONNECTOR WAFER	CN1	35313-0210	30166M7020	1
9	CONNECTOR WAFER	CN2	35312-0310	30166M5030	1
10	CONNECTOR WAFER	CN4	FCZ254-8	441M367130	1
11	CONNECTOR WAFER	CN5	35328-0610	4CW3061MX0	1
12	DIODE SWITCHING	D2,D4,D14~D16	1N4148 AUTO 52mm	DZN4148---	5
13	DIODE SWITCHING	D1,D7,D8,D9	1N4148M 5MM	DZN4148M--	4
14	DIODE RECTIFYING	D5,D6,D10~D13	1N4004A AUTO 52mm	DZN4004A--	6
15	DIODE ZENER	ZD2	UZ -3.9BSB	DZUZ3R9BSB	1
16	LED DISPLAY	DP1	DDRG-621S-1	DDDRG621S1	1
17	IC MICOM	IC1	TMP87CK40AN-	13GS621Q00	1
18	REGULATOR	VL1	MC7805C	1CPMC7805C	1
19	PCB MAIN	M235	81.5 X 214	3514325200	1
20	RESISTOR	R4,R30,R36,R37	1/6W 10K Ohm 5%	RD-AZ103J-	4
21	RESISTOR	R1,R32,R34	1/6W 1K Ohm 5%	RD-AZ102J-	3
22	RESISTOR	R40	1/6W 2K Ohm 5%	RD-AZ202J-	1
23	RESISTOR	R38,R39	1/6W 4.7K Ohm 5%	RD-AZ472J-	2
24	RESISTOR	R5,R9,R17,R18	1/6W 100K Ohm 5%	RD-AZ104J-	4
25	RESISTOR	R31	1/6W 1M Ohm 5%	RD-AZ105J-	1
26	RESISTOR	R33	1/6W 200 Ohm 5%	RD-AZ201J-	1
27	RESISTOR	R10~R16	1/6W 330 Ohm 5%	RD-AZ331J-	7
28	RESISTOR	R41~R43	1/2W 27 Ohm 5%	RD-2Z270JS	3
29	RESISTOR	R6	1/6W 5.88K Ohm 1%	RN-AZ5881F	1
30	RESISTOR	R7	1/6W 16.9K Ohm 1%	RN-AZ1692F	1
31	RESISTOR	R8	1/6W 1.30K Ohm 1%	RN-AZ1301F	1
32	RESISTOR ARRAY	RA1	5P(4) 1/8 100K 5%	RA-85X104J	1
33	RESONATOR CERAMIC	CR1	CRT-4.00MS	5P4R00MTS-	1
34	SW RELAY	RY1,RY3	G5G-1A-DT 12V	5SC0101123	2
35	SW RELAY	RY4~RY6	CS11-12SH	5SC0101128	3
36	TRANSISTOR	Q8	KTA1266Y AUTO	TZTA1266Y-	1
37	TRANSISTOR	Q15	KTC3198GR AUTO	TZTC3198GR	1
38	TRANSISTOR	Q1~Q5	KRA106M AUTO	TZRA106M--	5
39	TRANSISTOR	Q6,Q7,Q10~Q13	KRC106M AUTO	TZRC106M--	6
40	TRANS POWER	LVT1	DMR-621FS	5EPV041412	1
41	WIRE COPPER 5mm	J1,J2,J6,J8,J9	1/0.52 TIN COATING	85801052GY	10
		J11~J13,J15.J19			
42	WIRE COPPER 10mm	J7,J14,J16~J18	1/0.52 TIN COATING	85801052GY	5
43	WIRE COPPER12.5mm	J3,J4	1/0.52 TIN COATING	85801052GY	2
44	RESISTOR	SJ2	1/6W 1K Ohm 5%	RD-AZ102J-	1