S/M No. : QG6L3B3S01

Service Manual

Microwave Oven

Model: KQG-6L3B3S

✔ **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

Nov. 2011

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 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.

(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.

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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.
   (a) inform the manufacturer, importer or assembler,
   (b) repair the unit at no cost to the owner,
   (c) attempt to ascertain the cause of the excessive leakage,
   (d) 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 and the dealer immediately.

IMPORTANT

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

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

As the colours of the wires in the manins 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 :

The oven is designed for counter-top use only.

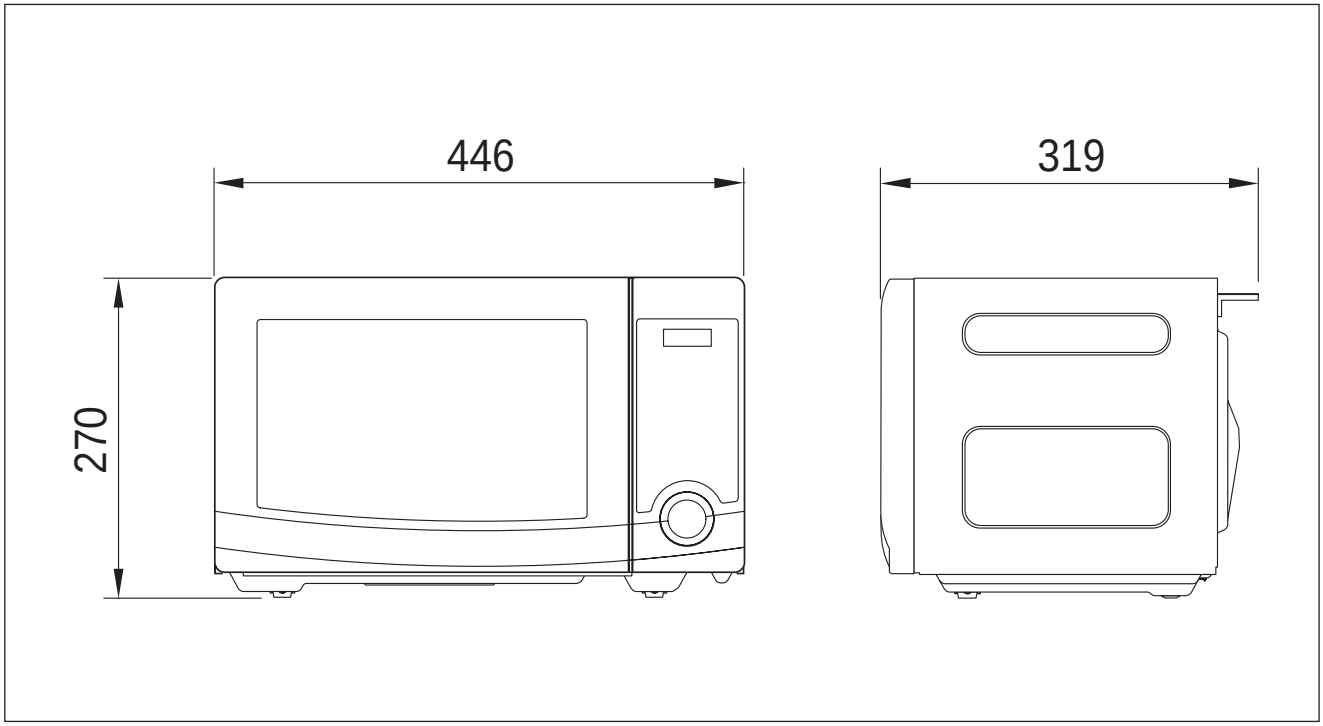
SPECIFICATIONS

POWER SUPPLY		230V AC, 50Hz SINGLE PHASE WITH EARTHING
POWER CONSUMPTION	MICROWAVE	1100 W
	GRILL	1050 W
	COMBINATION	2200 W
MICROWAVE ENERGY OUTPUT		700 W
MICROWAVE FREQUENCY		2,450 MHz
OUTSIDE DIMENSIONS (WXHXD)		446 X 270 X 319 mm
CAVITY DIMENSIONS (WXHXD)		295 X 194 X 303 mm
NET WEIGHT		APPROX. 10.8 Kg
TIMER		59 min. 90 sec.
POWER SELECTIONS		10 Levels

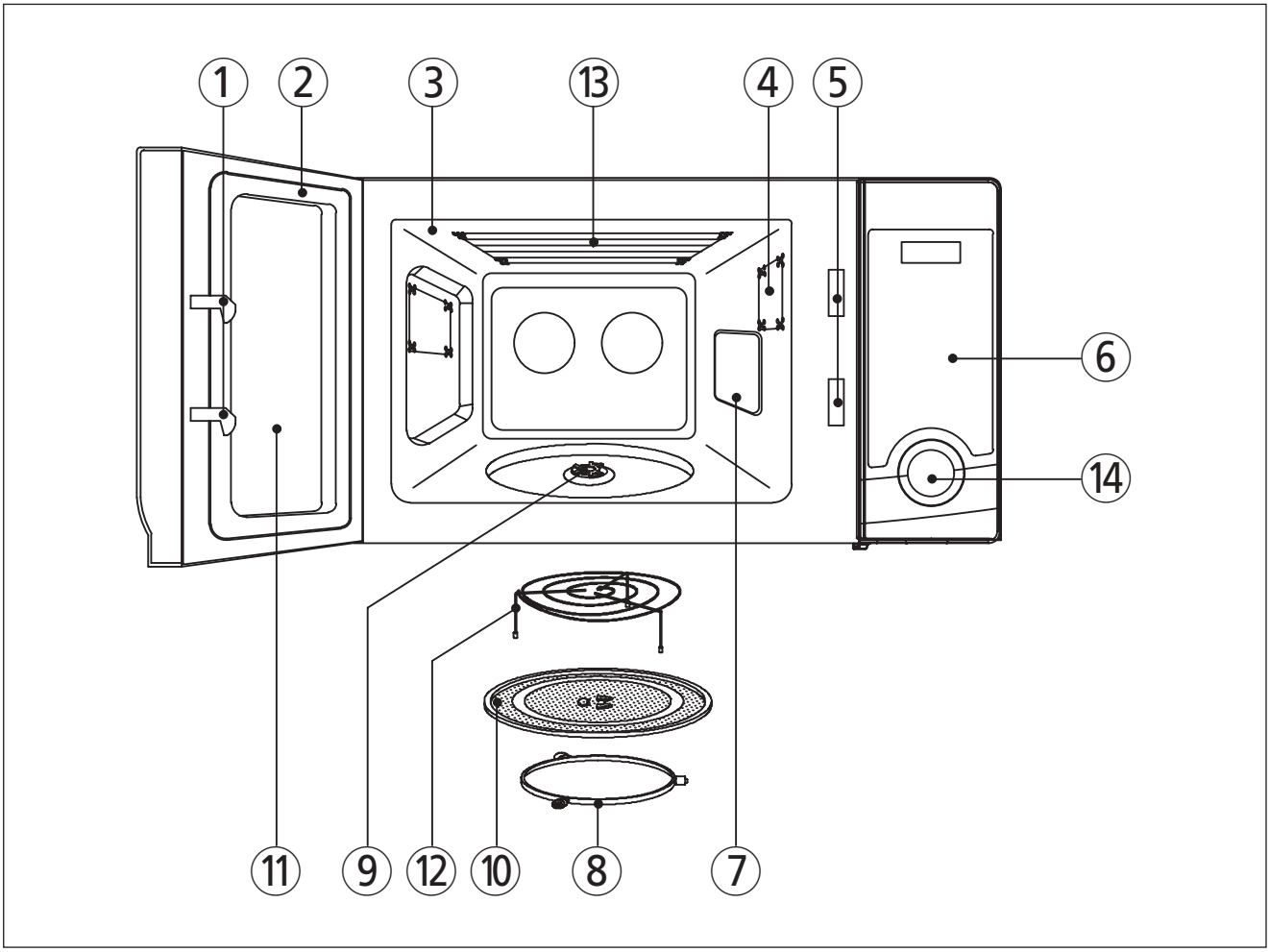
** Specifications are subject to change without notice.*

EXTERNAL VIEW

1. OUTER DIMENSION



2. FEATURES DIAGRAM



① **Door latch -** When the door is closed, it will automatically shut off. If the door is opened while the oven is operating, the magnetron will automatically shut off.

② **Door seal -** The door seal surfaces prevent microwaves escaping from the oven cavity.

③ **Oven cavity**

④ **Oven lamp -** Automatically turns on during oven operating.

⑤ **Safety interlock system**

⑥ **Control panel**

⑦ **Waveguide cover -** Protects the microwave outlet from splashes of cooking foods.

⑧ **Roller guide -** This must always be used for cooking together with the glass cooking tray.

⑨ **Coupler -** This fits over the shaft in the center of the oven cavity floor. This is to remain in the oven for all cooking.

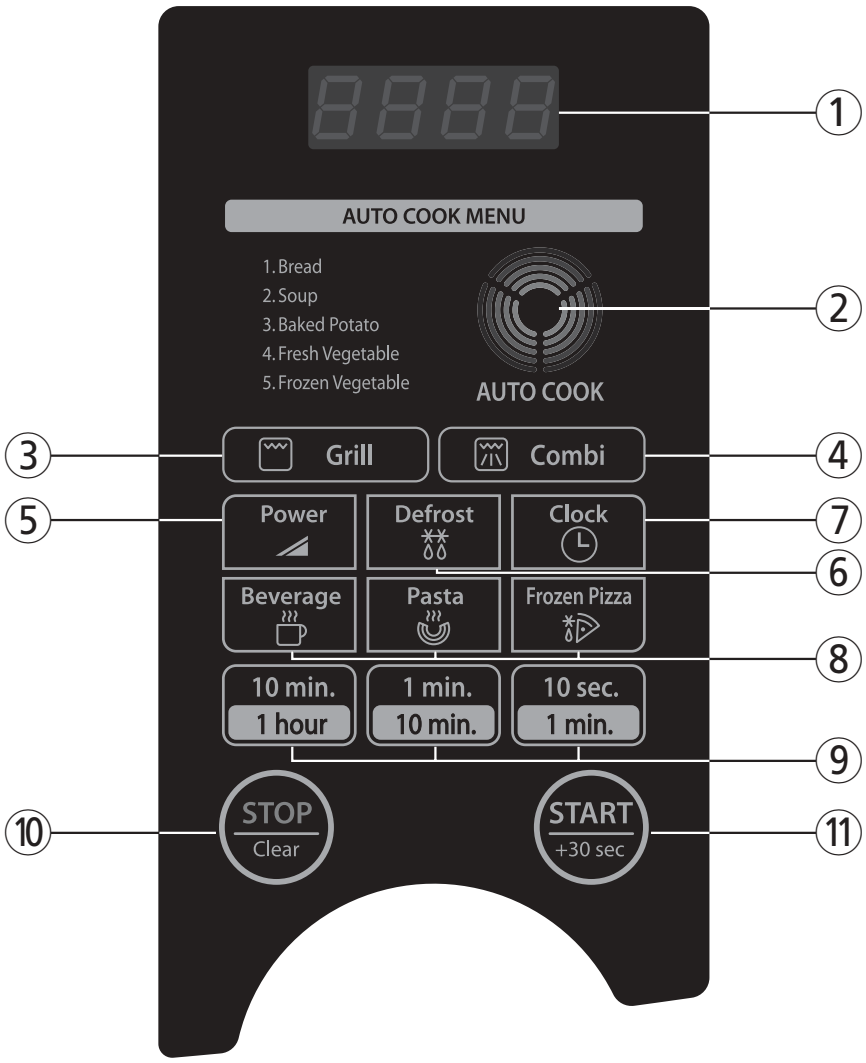
⑩ **Glass cooking tray -** Made of special heat resistant glass. The tray must always be in proper position before operating. Do not cook food directly on the tray.

⑪ **Viewing screen -** Allows viewing of food. The screen is designed so that light can pass through, but not the microwave.

⑫ **Metal Rack eHeater -** Used for Grill or Combi cooking.

⑭ **Door open button -** To open the door push the door open button.

3. CONTROL PANEL



① **Display -** Cooking time, power level, indicators and the current time are displayed.

② **Auto Cook -** Used to cook or reheat many of favorite food.

③ **Grill -** Use to cook Grill.

④ **Combi -** Use to cook Combi.

⑤ **Power -** Used to set power level.

⑥ **Defrost -** Used to defrost foods for time and weight.

⑦ **Clock -** Used to set clock.

⑧ **One Touch Cook -** Used to cook or reheat specific quantities of food.

⑨ **Time Set Pad -** Used to set the cooking time and the current time.

⑩ **Stop/Clear -** Used to stop the oven operation or to delete the cooking data.

⑪ **Start/+30 sec -** Used to start the oven and also used to set a reheat time.

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 oven 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.

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 10 amperes, 230Volts, 50Hz grounded outlet.
- Power supply cord is about 1.0 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 samaged, 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 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 or 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.

OPERATION AND FUNCTIONS

This section includes useful information about oven operation.
a. Plug power supply cord into a 230V 50Hz power outlet.
b. After placing the food in a suitable container, open the oven door and put it on the glass tray.
The glass tray and roller guide must always be in place during cooking.
c. Shut the door. Make sure that it is firmly closed.

1. The oven light is on only when the microwave oven is operating.

2. The oven door can be opened at any time during operation by pulling the door. The oven will automatically shut off. To restart the oven, close the door and then touch the START pad.

3. Each time a pad is touched, a BEEP will sound to acknowledge the touch.

4. The oven automatically cooks on full power unless set to a lower power level.

5. The display will show " : 0" when the oven is plugged in.

6. Time clock returns to the present time when the cooking time ends.

7. When the STOP/CLEAR pad is touched during the oven operation, the oven stops cooking and all information retained. To erase all information(except the present time), touch the STOP/CLEAR pad once more.

8. If the oven door is opened during the oven operation, all information is retained.
If the START pad is touched and the oven does not operate, check the area between the door and door seal for obstructions and make sure the door is closed securely.
The oven will not start cooking until the door is completely closed or the program has been reset.

9. NOTE : When using the GRILL mode;
- Do not open the door so often, the temperature inside the oven decrease and the cooking may not be completed in setting time.
- Never touch the oven window and metal interior of the oven when taking food in and out, because the temperature inside the oven and door is very high.
- When using these modes, be careful as the tray will be hot to touch, use oven gloves or pot holders while handling tray.

Make sure the oven is properly installed and plugged into the electrical outlet.

WATTAGE OUTPUT CHART

- The power-level is set by touch the Power pad. The chart shows the display, the power level and the percentage of power.

Touch the Power pad	Power level (Display)	Approximate Percentage of Power
once	P-HI	100%
twice	P-90	90%
3 times	P-80	80%
4 times	P-70	70%
5 times	P-60	60%
6 times	P-50	50%
7 times	P-40	40%
8 times	P-30	30%
9 times	P-20	20%
10 times	P-10	10%
11 times	P-00	0%

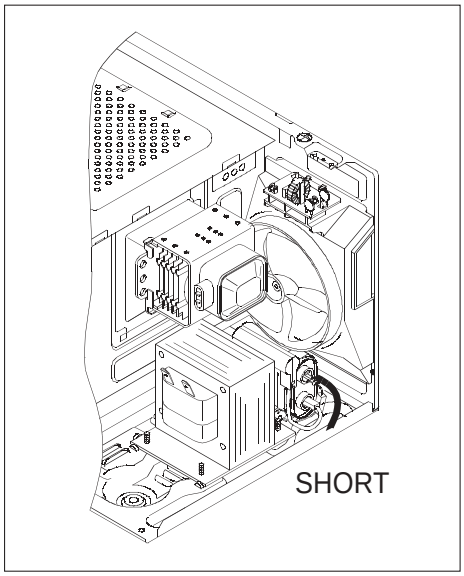
DISASSEMBLY AND ASSEMBLY

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 ware 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 earthed.
   It is imperative, therefore, to make sure it is earthed
   properly before beginning repair work.
   (2) Warning about the electric charge in the high voltage capacitor.
   For about 30 seconds after the operation stopped and 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.



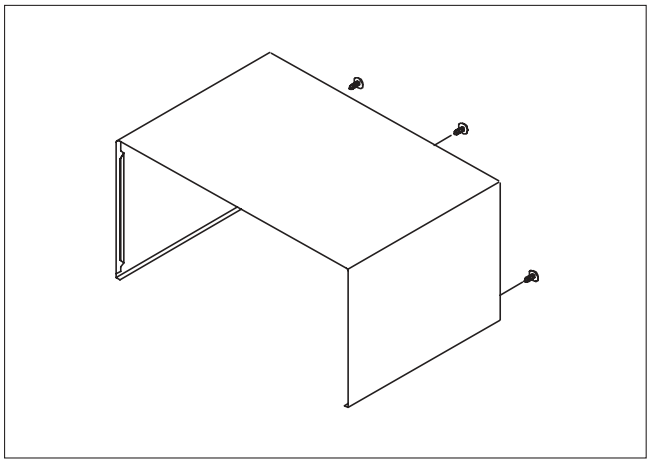
4. When the fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.
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, need a care of 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, HV fuse.

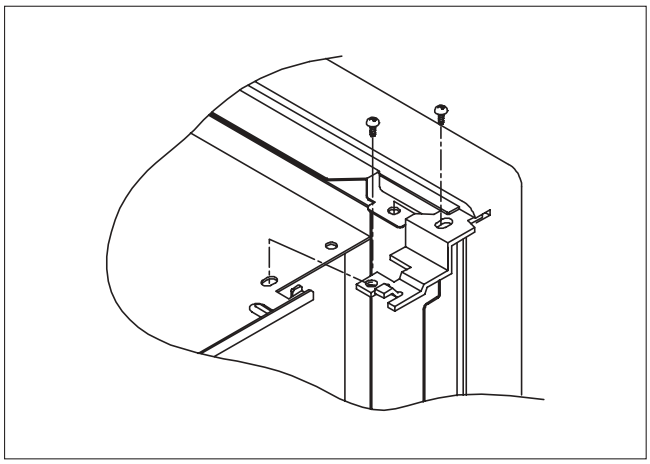
1. To remove cabinet

1) Remove three screws on cabinet back.
2) Pull the cabinet backward.



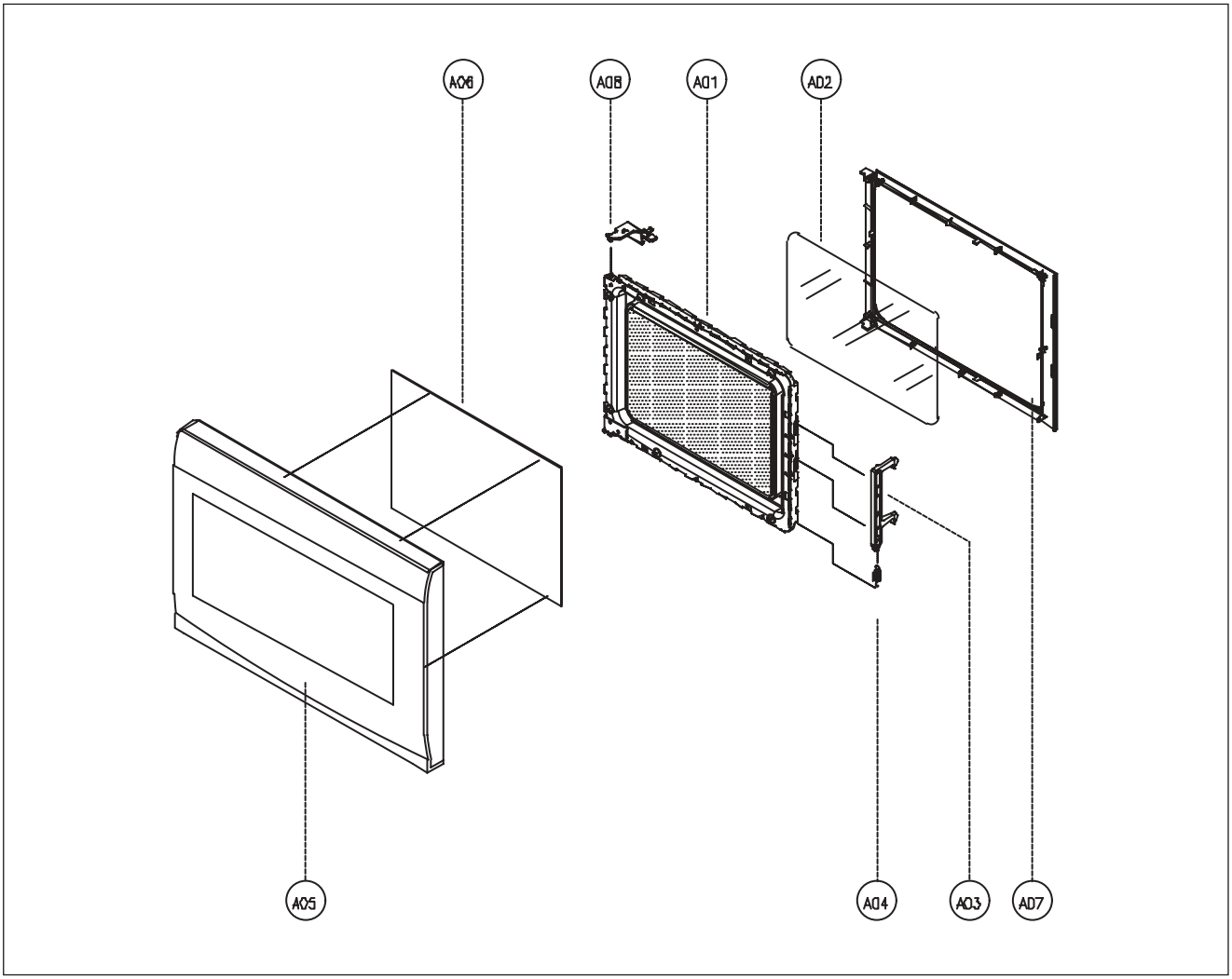
2. To remove door assembly

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 reassembly.



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

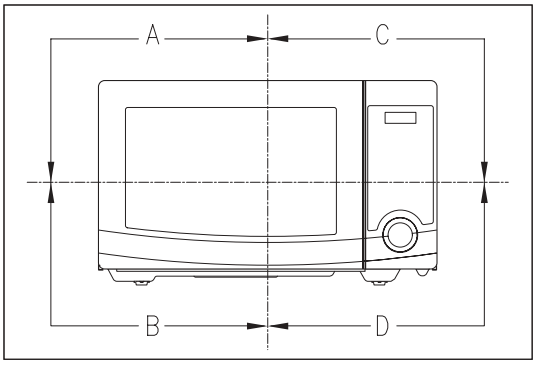
3. To remove door parts.



REF. NO	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A00	3511729900	DOOR AS	KQG-6L353S	1	
A01	3511706130	DOOR PAINTING AS	KOR-6L0B1A	1	
A02	3517003700	BARRIER-SCREEN *I	PE T0.1	1	
A03	3513100700	HOOK	POM	1	
A04	3515101300	SPRING HOOK	PW1	1	
A05	3512211100	FRAME DOOR	ABS SG-0760D, SG-175	1	
A06	3517011010	BARRIER-SCREEN *O	TEMP GLASS T3.2	1	
A07	3512302700	GASKET DOOR	PP	1	
A08	3515204120	STOPPER HINGE *T AS	KOR-6L0B1A	1	

(1) Remove the gasket door from the door painting as.
(2) Remove the barrier screen inner from the door painting as.
(3) Remove the door frame from the door painting as.
(4) Remove the stopper hinge top from the door painting as.
(5) Remove the spring and the hook.
(6) Remove the barrier screen outer from the door frame.
(7) 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 the stopper hinge top, and then push the door to contact the door seal to the oven front surface.
- Tighten two screws.

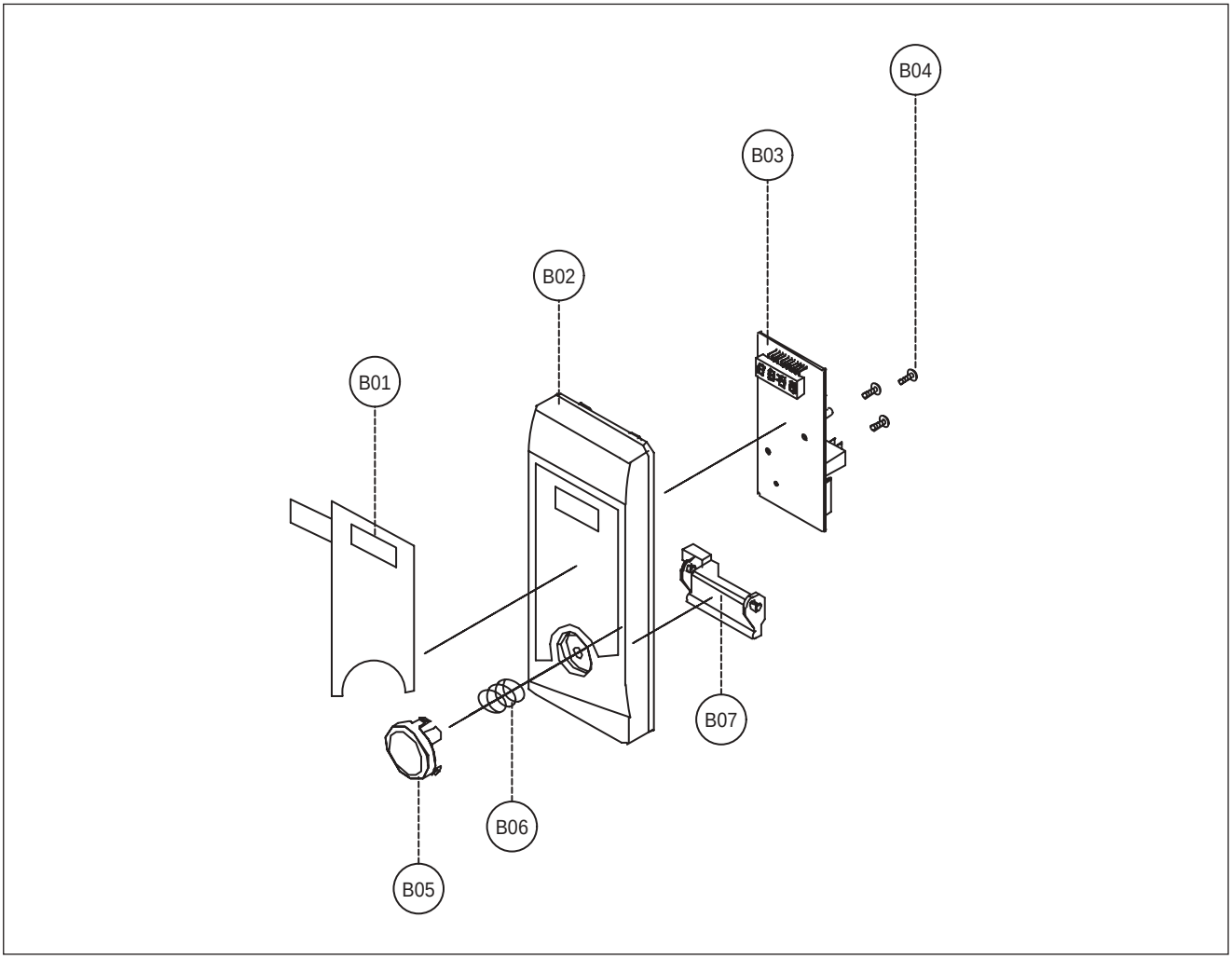
(2) To reduce gap located on part 'B'
- Loosen two screws on the stopper hinge under, and then push the door to contact the door seal to the oven front surface.
- Tighten two screws.

(3) To reduce gap located on part 'C'
- Loosen the screw on the interlock switch assembly located the top of the oven body.
- Draw the interlock switch assembly inward as possible to engage with the hook on the door bottom.
- Tighten a screw.

(4) To reduce gap located on part 'D'
- Loosen the screw on the interlock switch assembly located the bottom of the oven body.

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

5. To remove control panel parts.

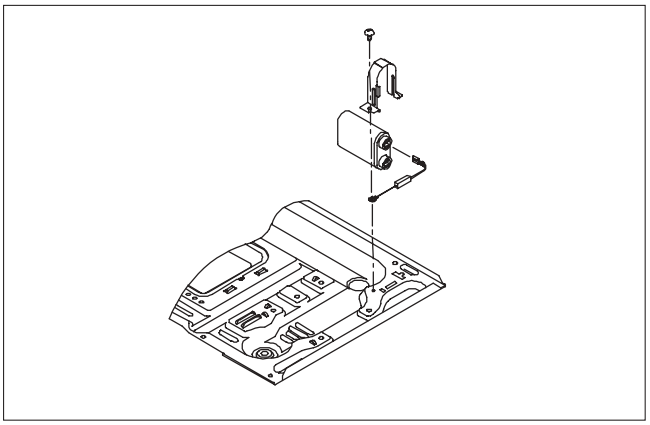


REF. NO	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B00	PKCPSWFLH0	CONTROL-PANEL AS	KQG-6L3B3S	1	
B01	3518572840	SWITCH MEMBRANE	KQG-6L3B3S	1	
B02	3516738920	CONTROL-PANEL	ABS SG-0760D SG-175	1	
B03	PKMPMSFL70	PCB MAIN MANUAL AS	KQG-6L3B3S	1	
B04	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	3	
B05	3516917700	BUTTON DOOR OPEN	ABS SG-0760D SG-175	1	
B06	441G430171	SPRING BUTTON	SWP DIA. 0.7	1	
B07	3513702700	LEVER DOOR OPEN	PP	1	

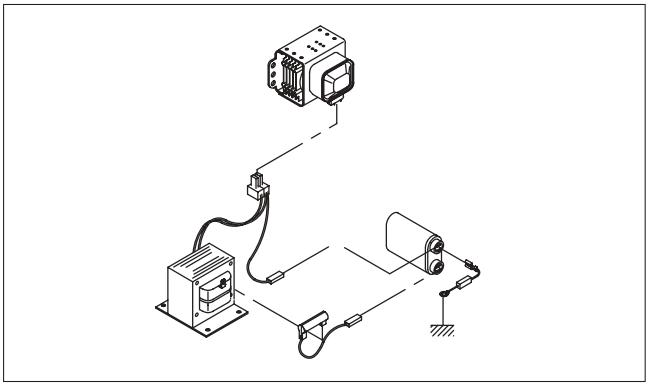
1) Remove the screw which secure the control panel and forward the panel assembly.
2) Remove three screws which secure the PCB assembly.
3) Pull out the PCB assembly from the control panel.
4) Disconnect membrane tail from the connector of the PCB assembly.
5) Remove the PCB from the control panel as.
6) Remove the membrane, lever door open, spring button door open from the control panel.
7) 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.

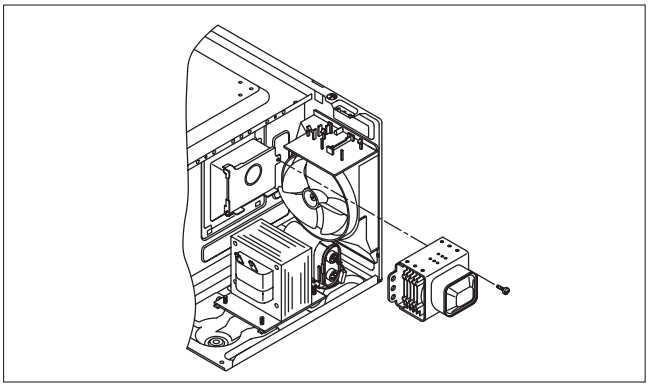


◆ High voltage circuit wiring

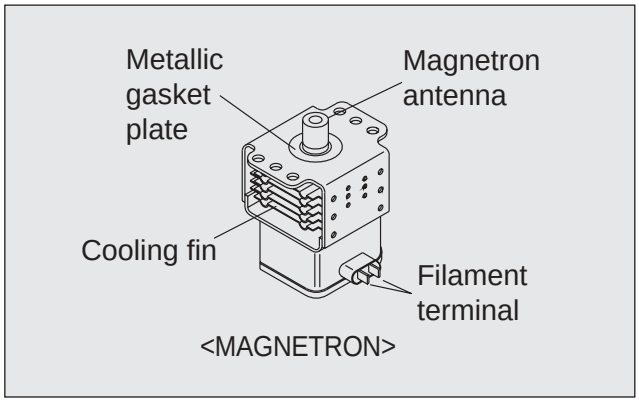


7. To remove magnetron.

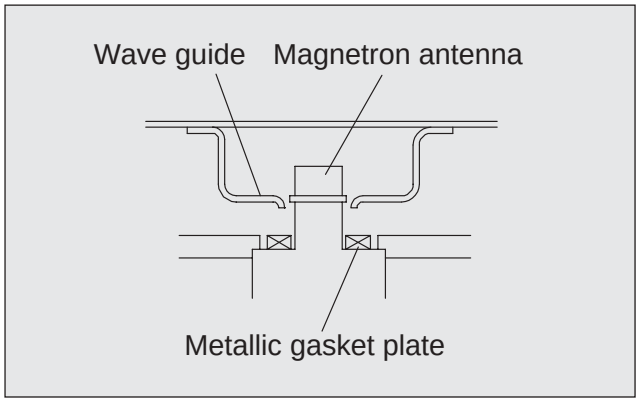
1) Remove a screw which secure the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



NOTE : 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.

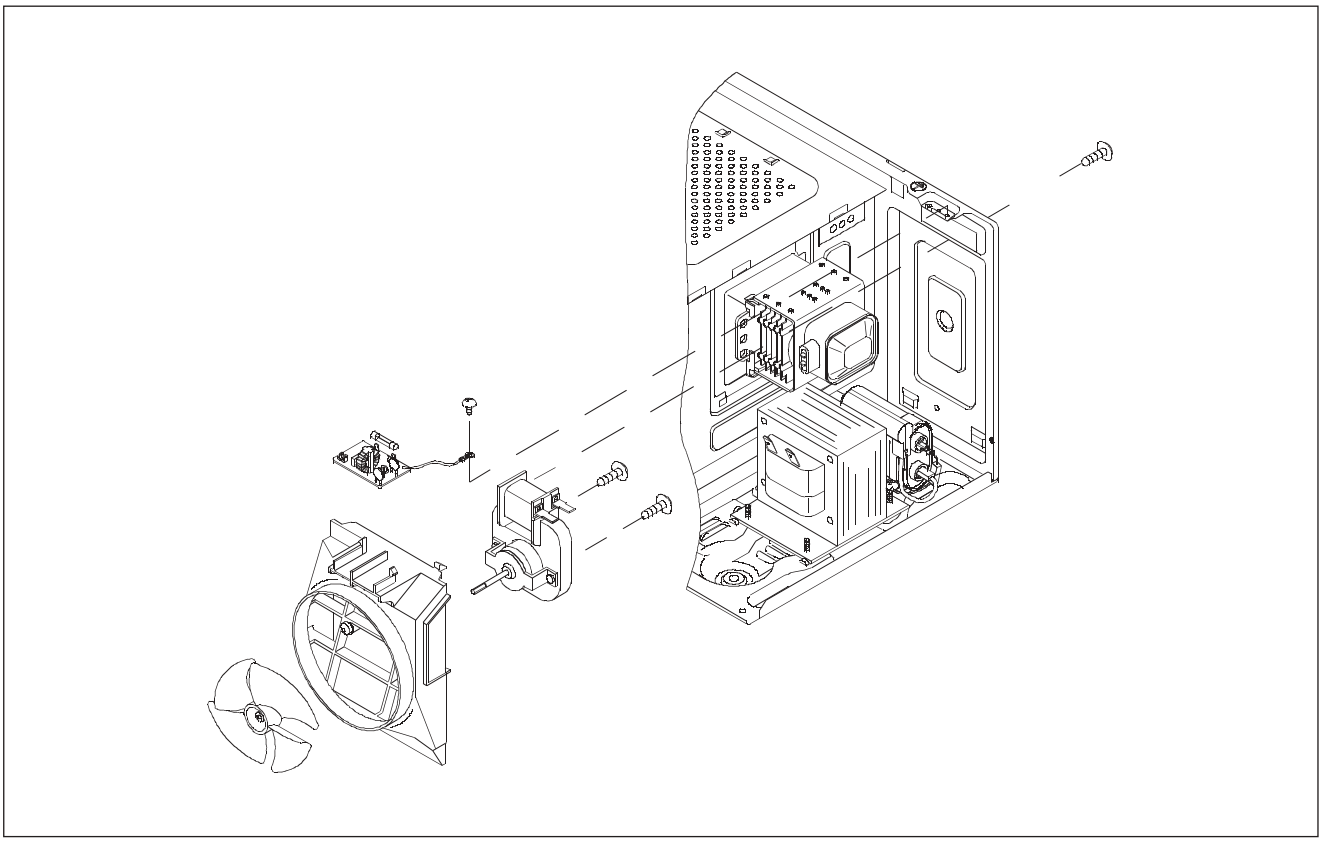


<MAGNETRON>



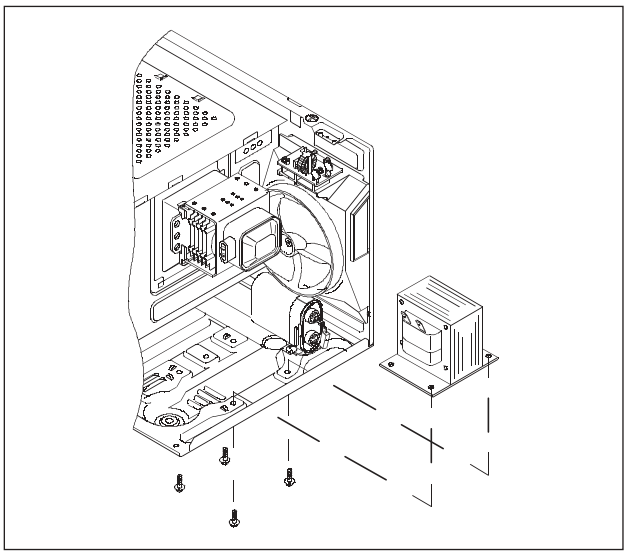
8. To remove wind guide assembly.

1) Remove the screw for earthing.
2) Remove the noise filter from the wind guide.
3) Remove the screw 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 reassembly.



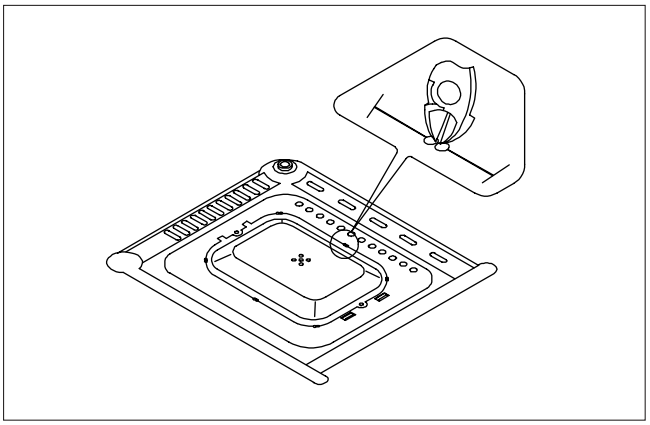
9. To remove H.V.transformer.

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

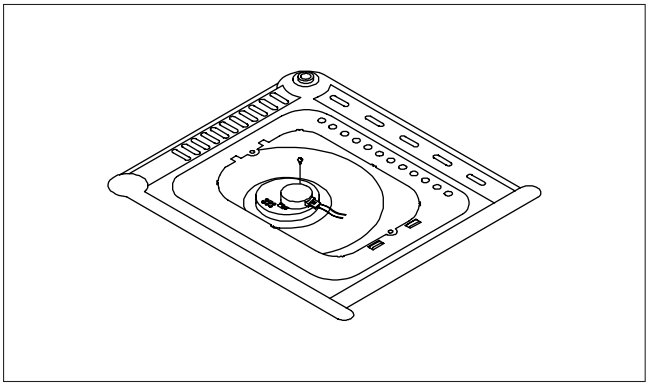


10. To remove tray motor.

1) Remove the coupler in the cavity.
2) Turn the set upside down.
3) Cut the tray motor cover part from the base plate.
4) Remove the tray motor cover.

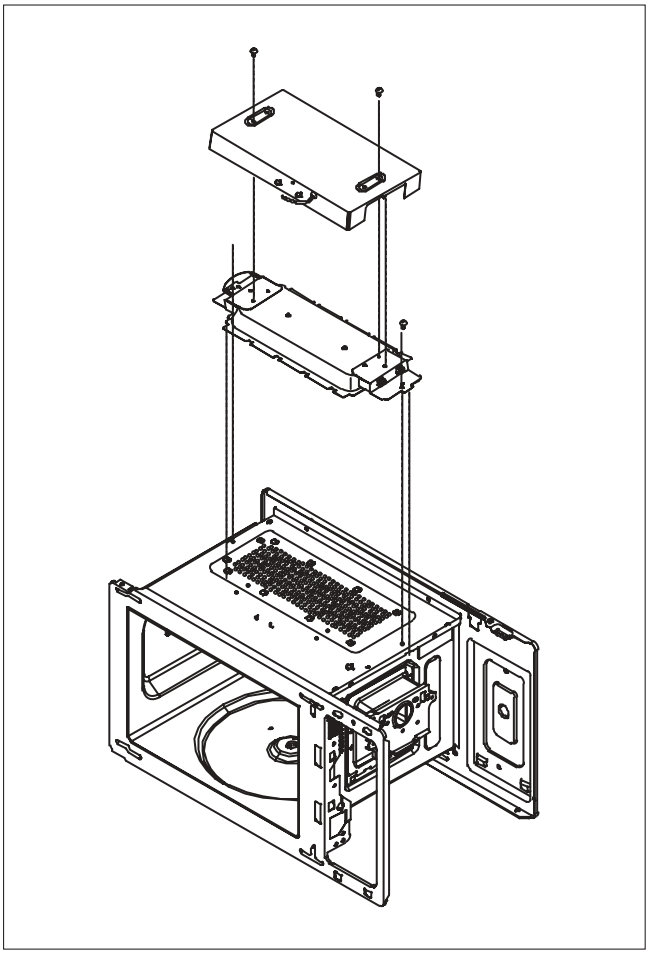


5) Remove a screw which secure the tray motor.
6) Remove the tray motor.
7) Reverse the above steps for reassembly except for securing the tray motor cover with screw.

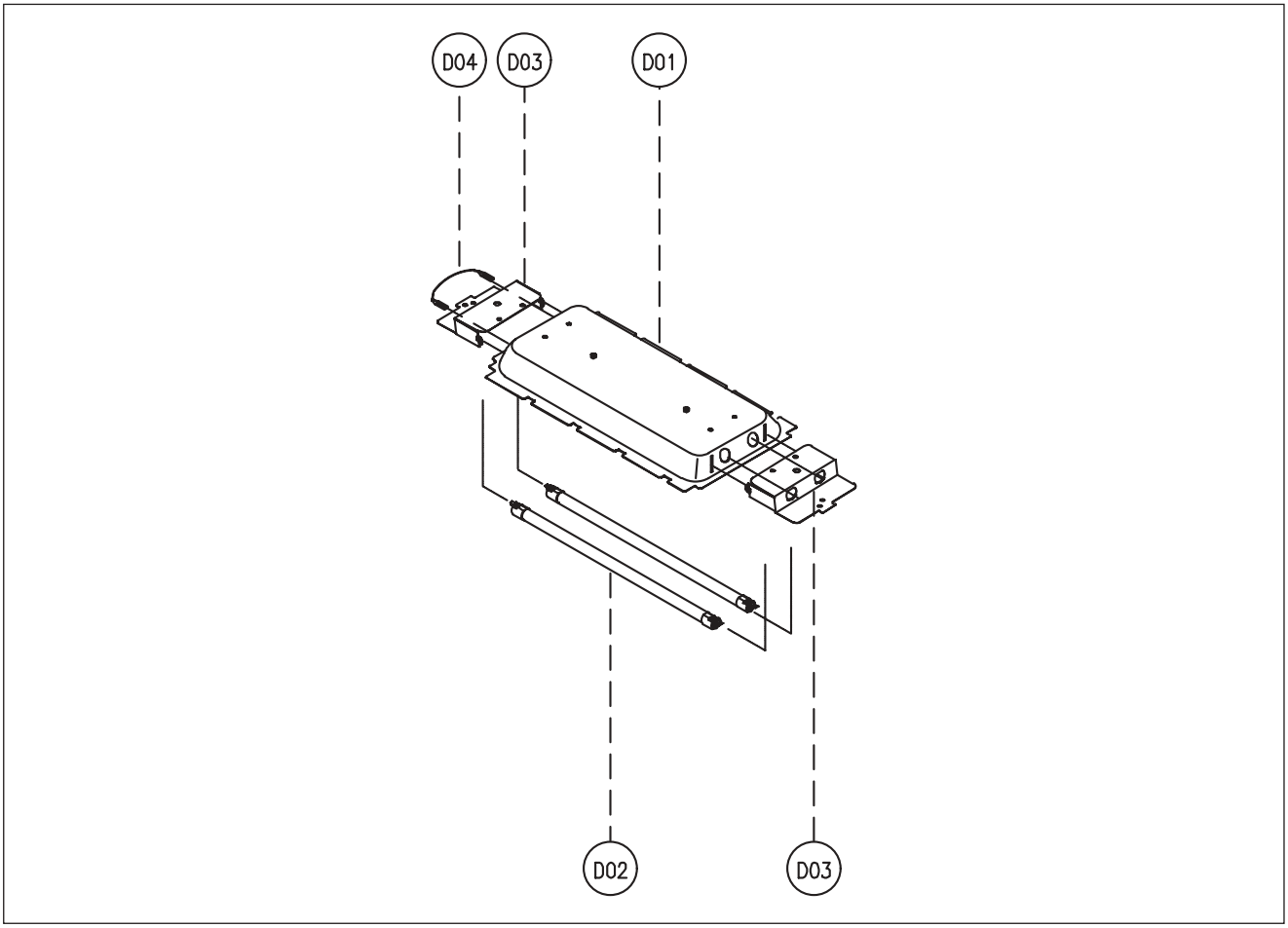


11. To remove heater assembly.

1) Remove one side of the heater harness.
2) Remove a screw which secure the cover insulator top.
3) Remove the cover insulator top.
4) Remove the heater top assembly.
5) Reverse the above steps for reassembly.



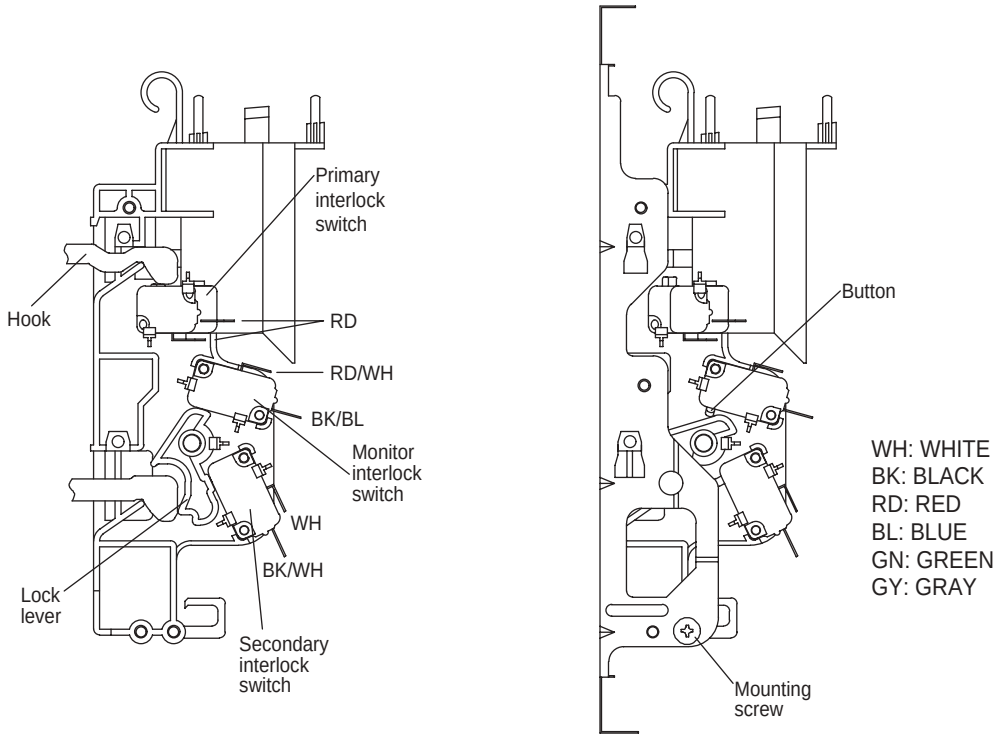
12. To remove heater parts.



REF. NO	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
D00	3512808900	HEATER *T AS	KQG-6L353S	1	
D01	3511415510	COVER HEATER *T	SA1D T0.5	1	
D02	3512807330	HEATER QUARTZ	115V 500W 240MM B WADEN	2	
D03	3510613100	BRACKET HEATER *T	SBHG T0.5	2	
D04	3512765100	HARNESS HEATER	KOC-970T1S TEFLON	1	

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 “OFF” condition before other switches are closed.
When the door is opened, the interlock monitor switch should be “ON” condition after other switches are opened.

(3) Adjustment steps

a) Loosen the mounting screw.
b) Adjust interlock switch assembly position.
Actuation distance of primary and secondary interlock switch shall be adjusted almost 0.7mm.
c) Make sure that lock lever moves smoothly after adjustment is completed.
d) Tighten completely a mounting screw.

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

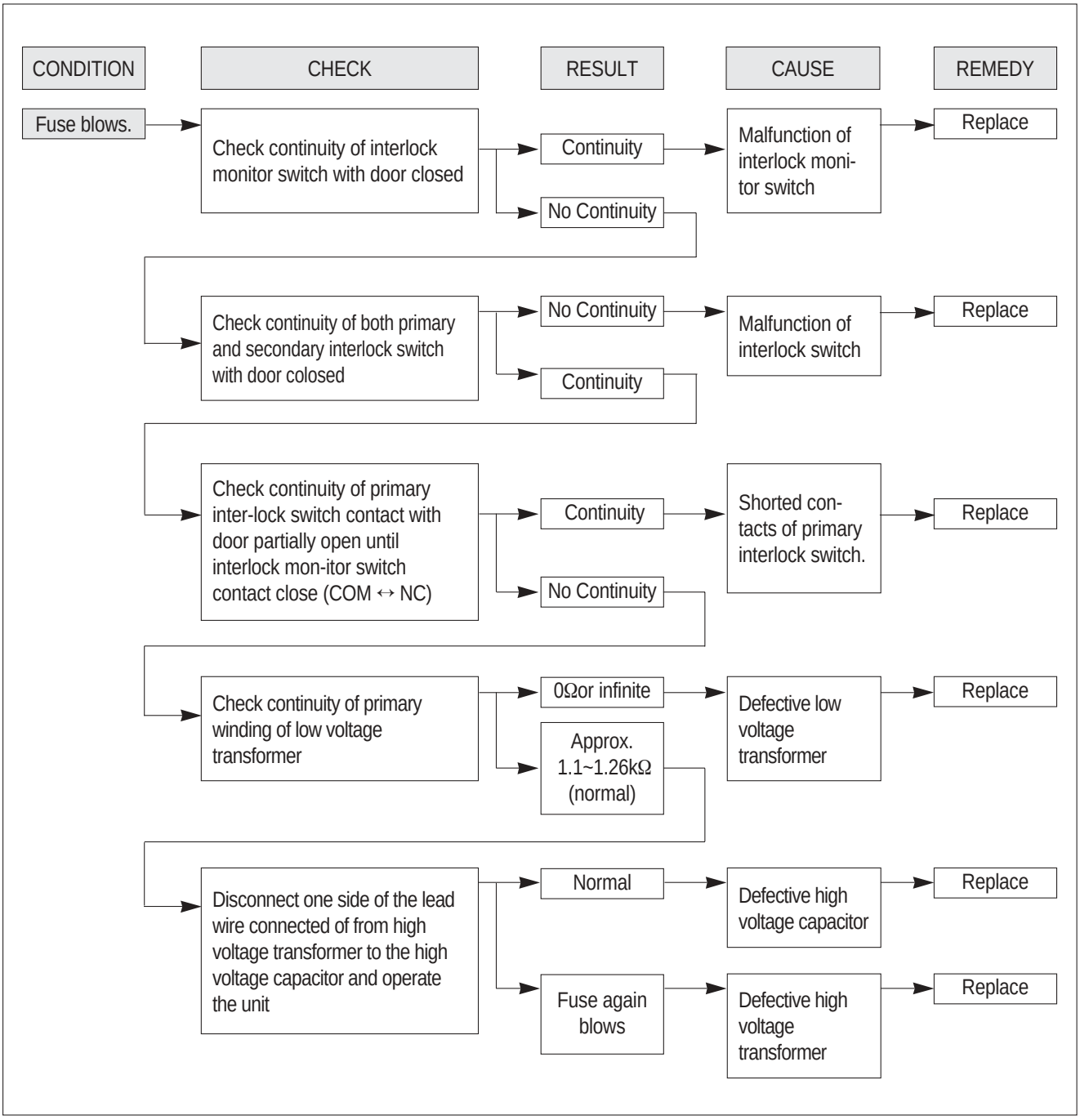
TROUBLESHOOTING GUIDE

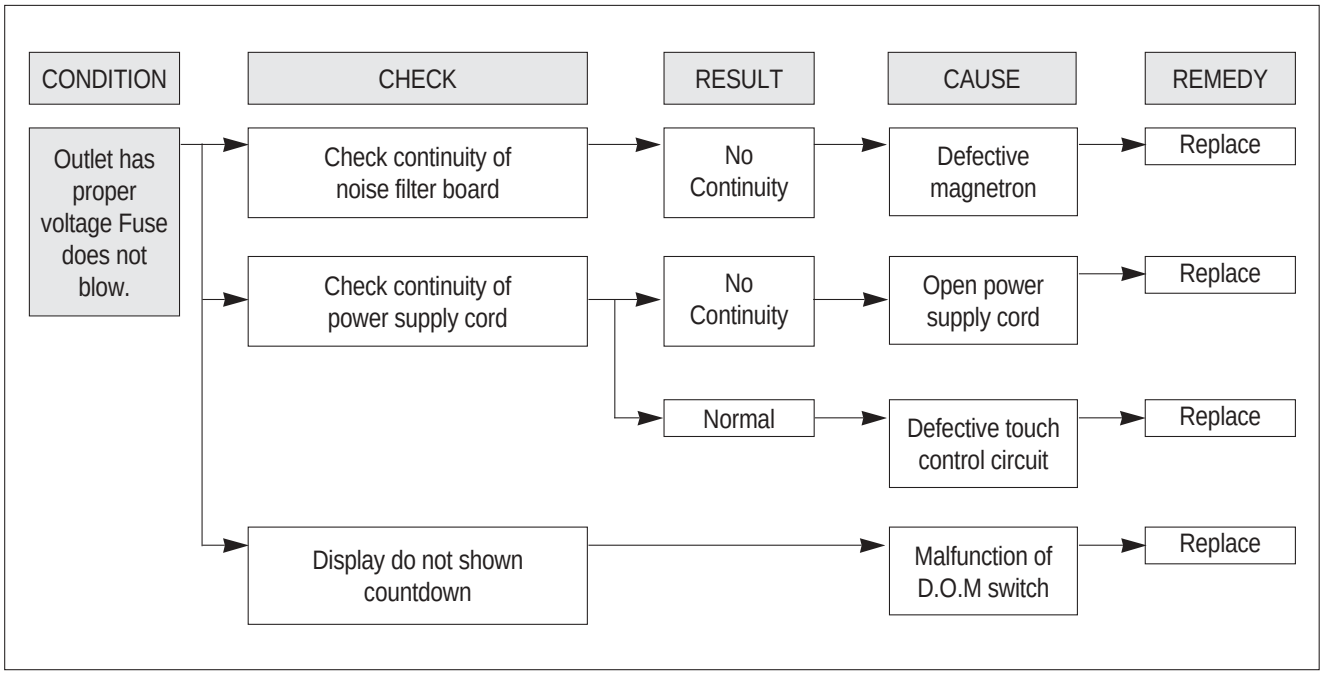
Following the procedure below to check if the oven is defective or not.

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 transformer, disconnect one lead 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 connected of the terminals and power cord before check the parts listed below.

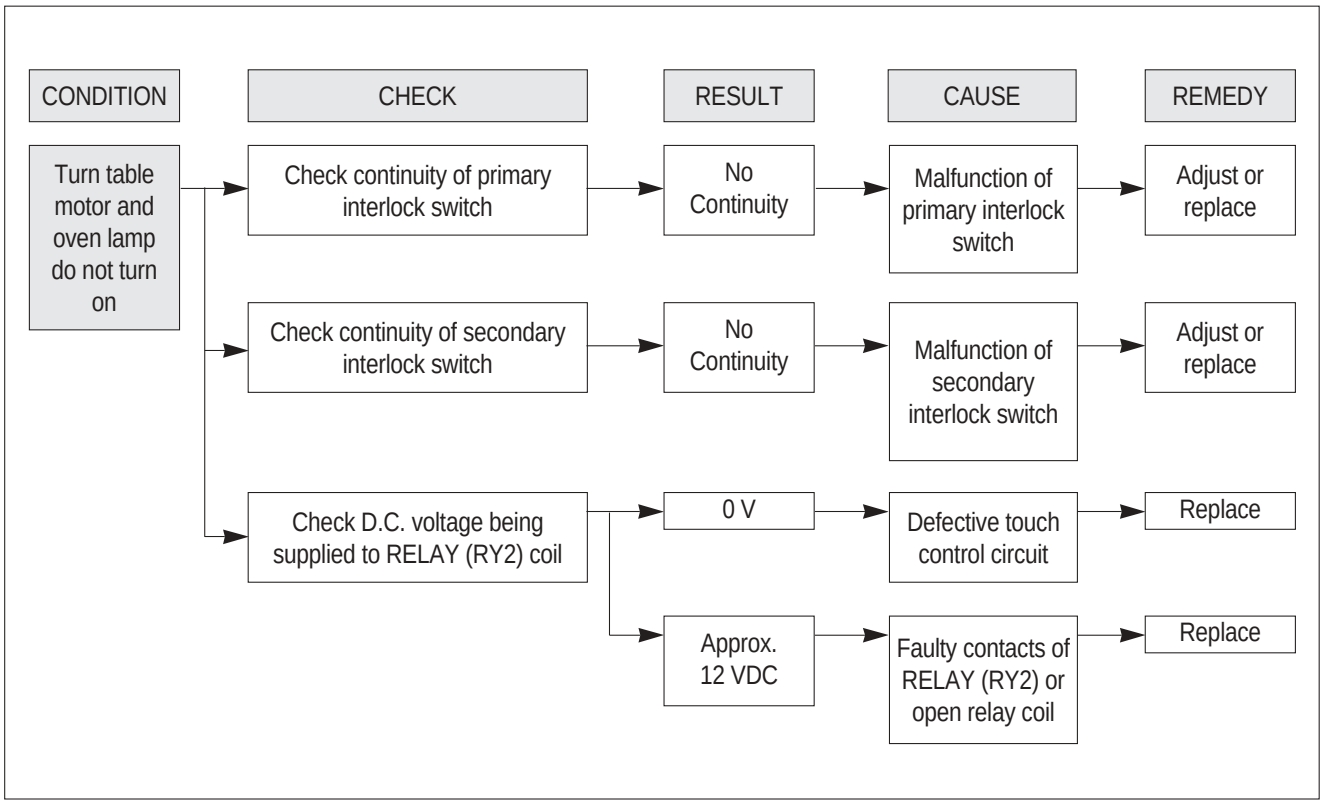
(TROUBLE 1) Oven does not operate at all ; any inputs can not be accepted.



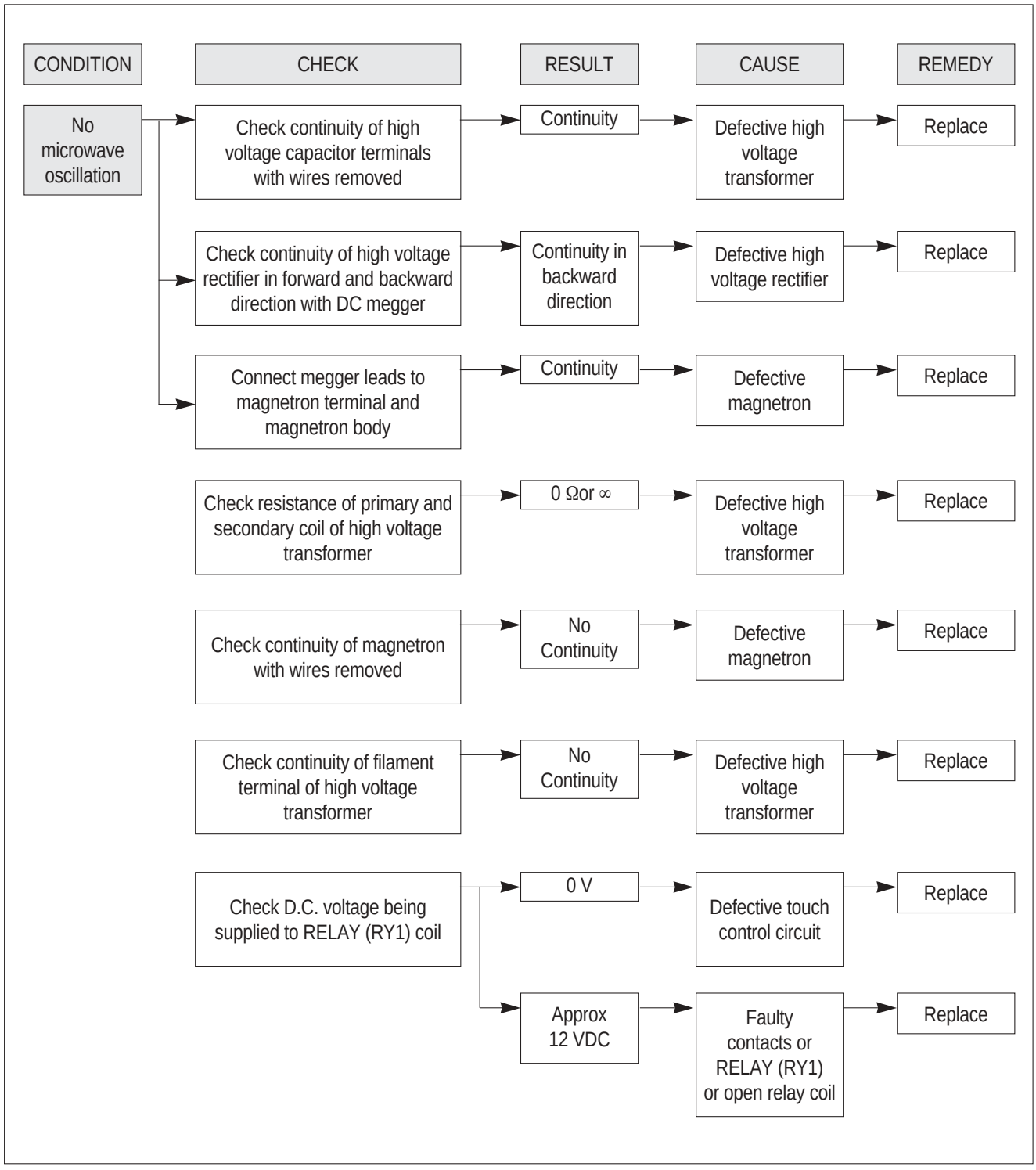


NOTE
All these switches must be replaced at the same time, please refer to “Interlock Mechanism And Adjustment”.

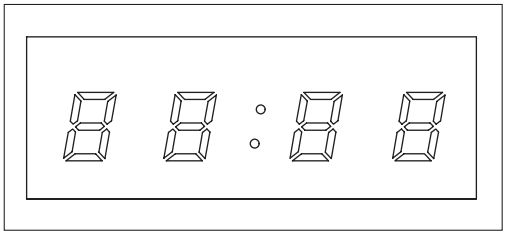
(TROUBLE 2) Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and START button is tapped.



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



(TROUBLE 4) The following visual conditions indicate a probable defective touch control circuit



1. Incomplete segments,
   1) Segments missing.
   2) Partical segments missing.
   3) Digit flickering other than normal display slight flickering.
   4) " :0" does not display when power is on.

2. A distinct change in the display are not on when they numbers is the display.

3. One or more digits in the display are not on when they should be.

4. Display indicates a number different from one touched.

5. Specific numbers (for example 2 or 3) will not display when the panel is touched.

6. Display does not count down or up with time cooking or clock operation.

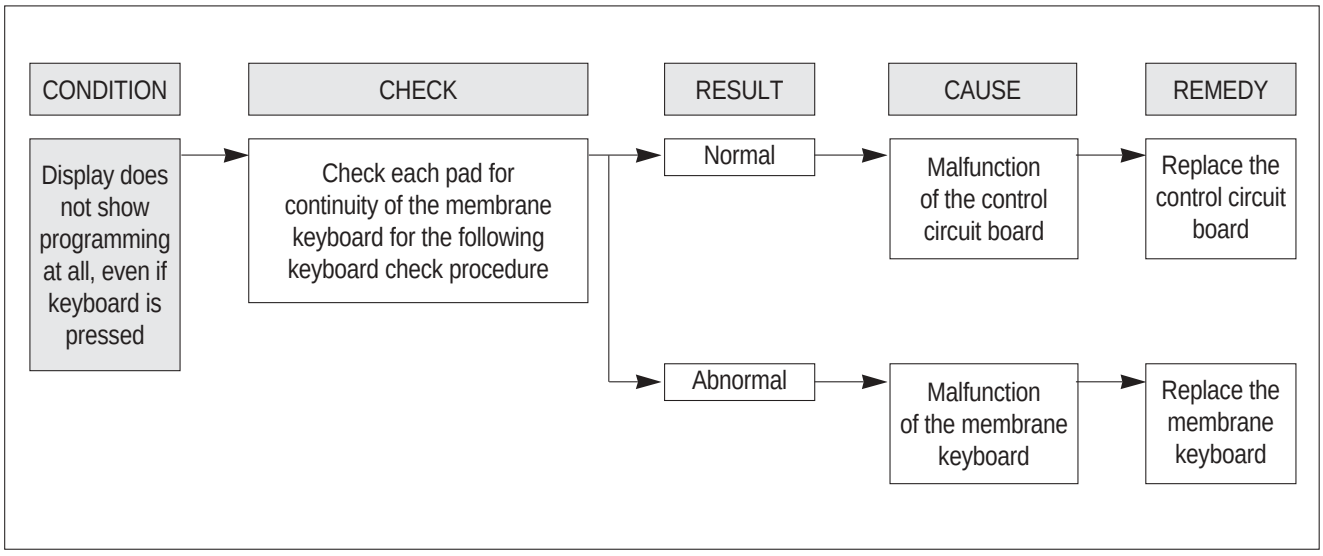
7. Oven is programmable and cooks normally but no display shows.

8. Display obviously jumps in time while counting down.

9. Display counts down noticeably too fast while cooking.

10. Display does not show the time of day when the STOP/CLEAR button is pushed. (in case of setting the present time)

11. Oven lamp and turntable motor do not stop although cooking is finished. Check if the RELAY 2 contacts close. If they close, replace P.C.B assembly.



NOTE
Before following the particular steps listed above in the troubleshooting guide for the failure of membrane keyboard, please check for the continuity of each wire-harness between the membrane keyboard and P.C.B. assembly.

MEASUREMENT AND TEST

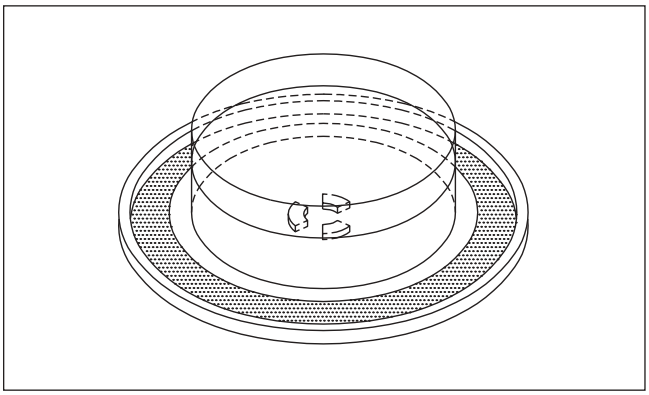
1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

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. A cylindrical container of borosilicate glass is used for the test. It has a maximum thickness of 3mm, an external diameter of approximately 190mm and a height of approximately 90mm.
   The mass of the container is determined.
2. At the start of the test, the oven and the empty container are at ambient temperature. Water having an initial temperature of 10˚C ± 1˚C is used for the test. The water temperature is measured immediately before it is poured into the container.
3. A quantity of 1000g ± 5g of water is added to the container and its actual mass obtained.
   The container is then immediately placed in the centre of the oven shelf, which is in its lowest normal position.
   The oven is operated and the time for the water temperature to attain 20˚C ± 2˚C is measured. The oven is then switched off and the final water temperature is measured within 60s.

   NOTE 1 - The water stirred is before its temperature is measured.
   NOTE 2 - Stirring and measuring devices are to have a low heat capacity.



4. The microwave power output is calculated from the formula

$$P = 4{,}187 \cdot m_w(T_2 - T_1)/t + 0.55 \cdot mc(T_2 - T_0)/t$$

where
P is the microwave power output, in watts ;
m_w is the mass of the water, in grams ;
m_c is the mass of the container, in grams ;
T_0 is ambient temperature, in degrees Celsius ;
T_1 is the initial temperature of the water, in degree Celsius ;
T_2 is the final temperature of the water, in degrees Celsius ;
t is the heating time, in seconds, excluding the magnetron filament heating-up time.

⁎ The microwave power output is stated in watts, rounded off to the nearest 50W

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

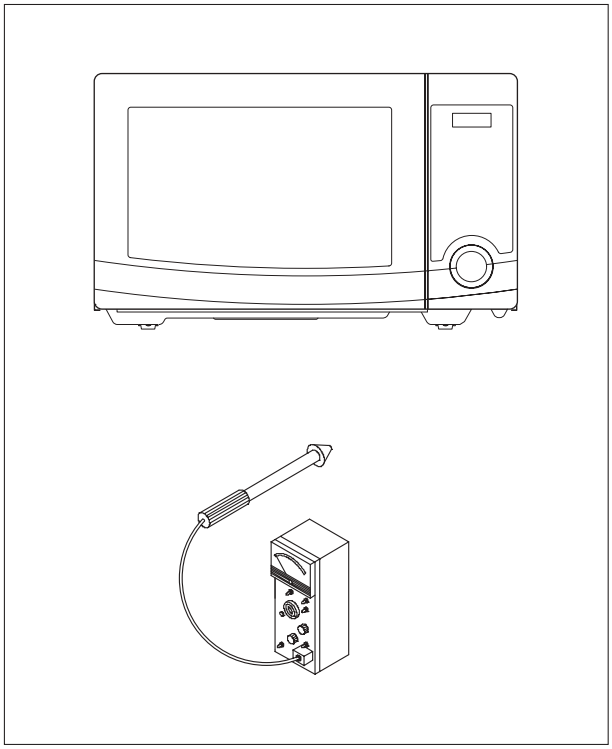
⁎ Heating time for power output: ($T_2 = T_0$)

A (second)	70	64	60	56	52	49	47	44	42	40	38
B (W)	600	650	700	750	800	850	900	950	1000	1050	1100

2. MICROWAVE RADIATION TEST

CAUTION :
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.

PROCEDURES



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 600cc glass beaker with an inside diameter of approx. 95mm(3.5in.).
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 5cm(2in.) 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 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.

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. 191 Ω±10%
Filament winding.....Approx. 0 Ω
Primary winding .....Approx. 2.5 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 10MΩonce the capacitor is 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 KΩin the other direction.

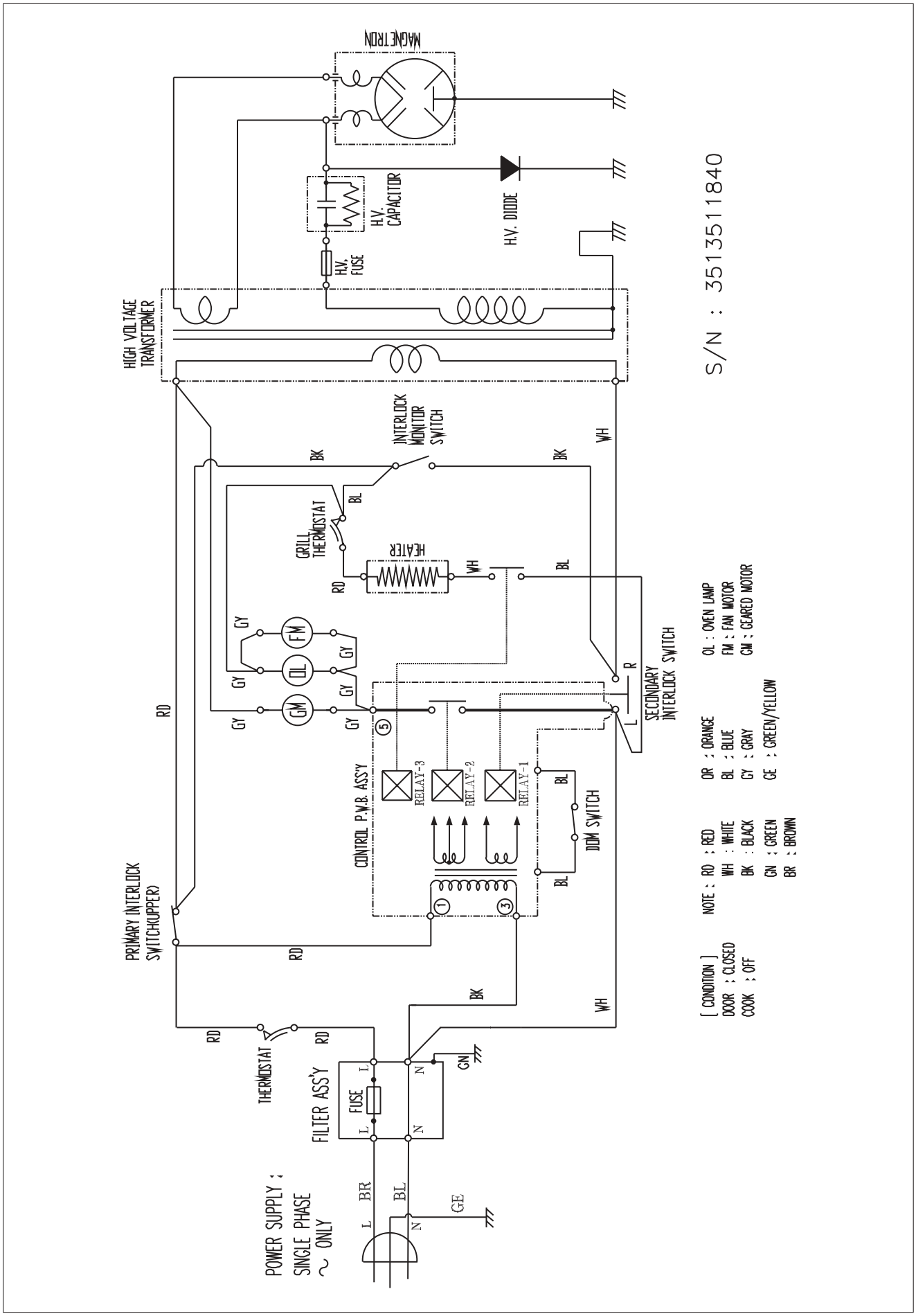
4. Magnetron

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 0.1Ωor 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.

WIRING DIAGRAM



PRINTED CIRCUIT BOARD

1. CIRCUIT CHECK PROCEDURE

1. Low voltage transformer check

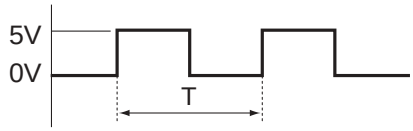
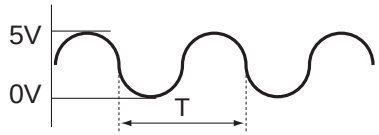
The low voltage transformer is located on the P.C.B.
Measuring condition: Input voltage: 230V / Frequency: 50Hz

Terminal Voltage	LOAD	NO LOAD
4-7	AC 12.6 V	AC 14.7 V

NOTE
1. Refer to Ciruit Diagram (point 4).
2. Secondary side voltage of the low voltage transformer changes in proportion to fluctuation of power source voltage.
3. The allowable tolerance of the secondary voltage is within ± 5% of nominal voltage.

2. Voltage Check

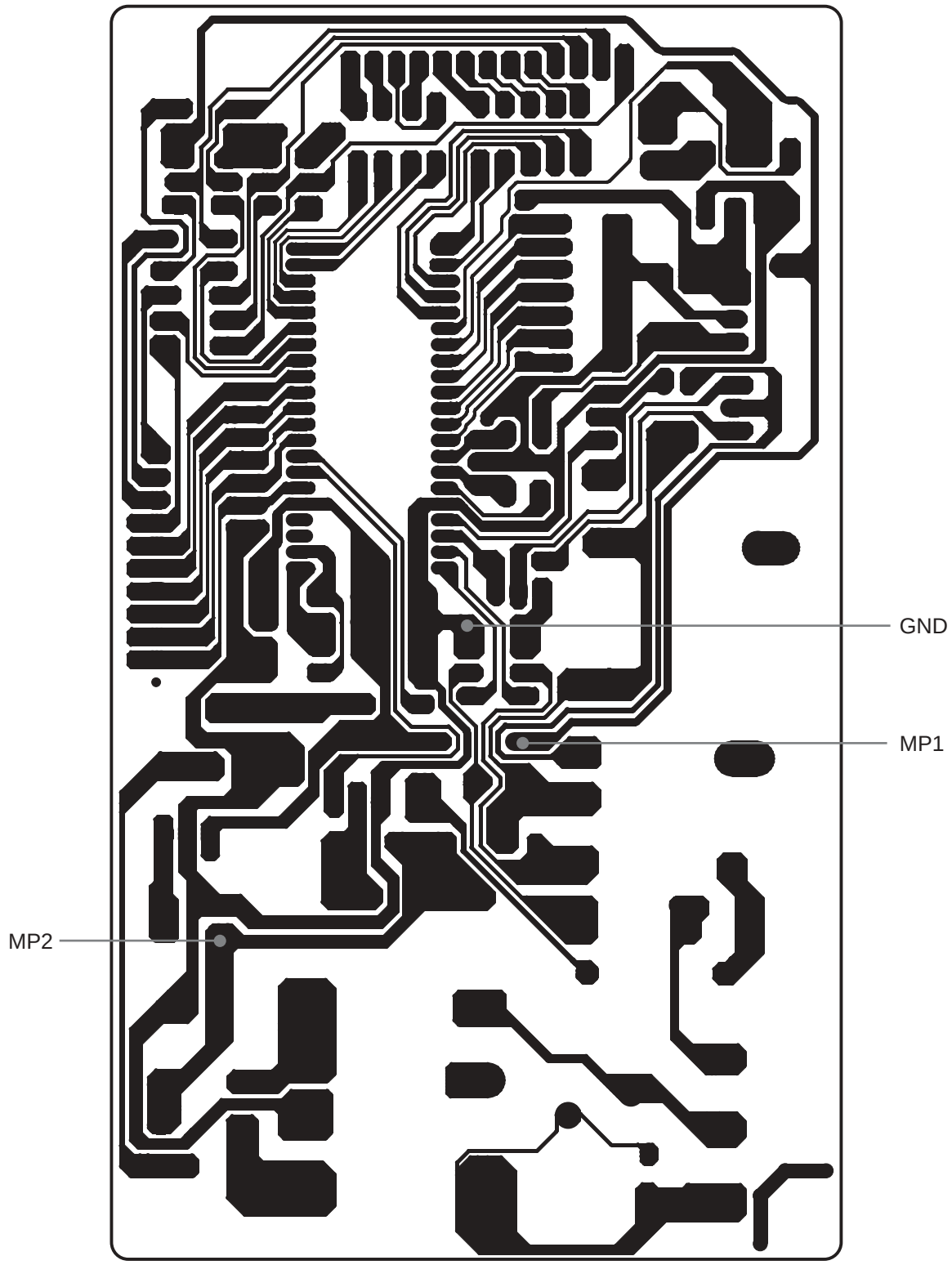
- Key check point

NO	CHECK POINT	REMARK
1	IC1 PIN 5	5VDC
2	IC1 PIN 8	 T:20ms(50Hz)
3	IC1 PIN 35 OR 36	 T:250ns(4MHz)

- Check method

NO	MEASURE POINT	WAVE FORM	REMEDY	REMARK
1	MP1	DC 5V±0.25V	Replace VL1, EC1	NO LOAD
2	MP2	DC 12V±2.0V	Replace EC2, D10,12,13	NO LOAD

NOTE
Each measure point must be measured with GND points.



Measure Point

3. When there is no microwave oscillation

1) When touching **START** pad, oven lamp does not turn on.
Fan motor does not rotate, but cook indicator in display comes on.
✻ Cause : **RELAY 2** does not operate. → refer to Circuit Diagram (point 3)
- Check method

STATE \ POINT	A	B
RELAY 2 ON	5VDC	GND
RELAY 2 OFF	GND	12VDC

2) When touching **START** pad, oven lamp turns on.
Fan motor and turntable rotate and cook indicator in display comes on.
✻ Cause : **RELAY 1** does not operate. → refer to Circuit Diagram (point 2)
- Check method

STATE \ POINT	A	B
RELAY 1 ON	5VDC	GND
RELAY 1 OFF	GND	12VDC

4. When there is no grill oscillation.

✻ Cause : **RELAY 3** does not operate. → refer to Circuit Diagram (point 6)
- Check method

STATE \ POINT	A	B
RELAY 3 ON	5VDC	GND
RELAY 3 OFF	GND	12VDC

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

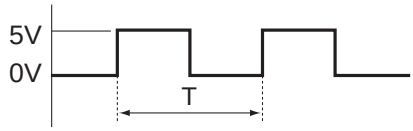
→ refer to Circuit Diagram (point 1)
- Check method

STATE \ POINT	A	B
1) DOOR OPEN	OPEN	5VDC
2) 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 switch.

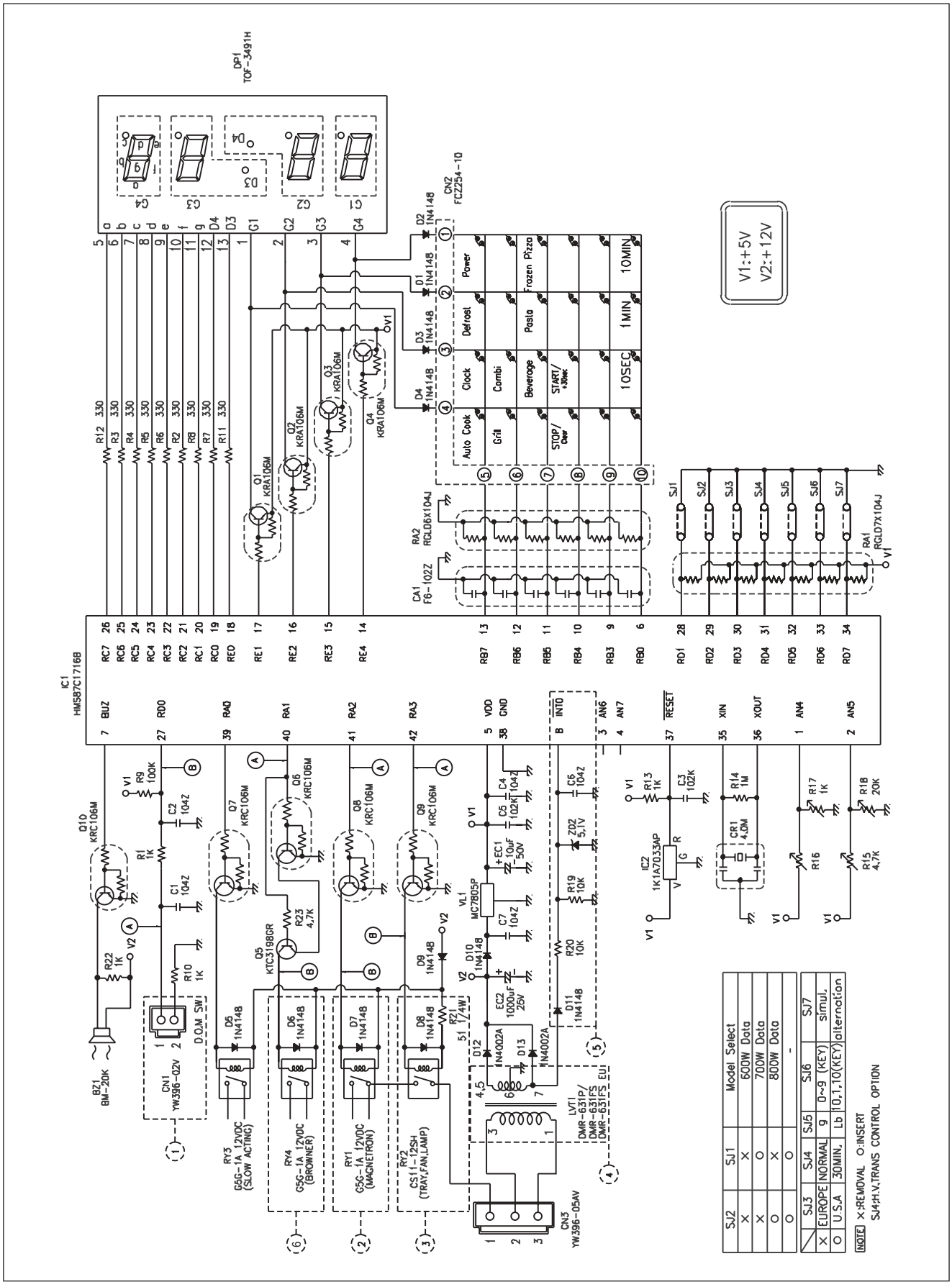
6. When the digital clock does not operate properly.

→ refer to Circuit Diagram (point 5)

POINT	WAVE FORM
A	 T: 20 ms(50Hz)

✺ If clock does not keep exact time, you must check resistor R20 zener diode ZD2.

2. PCB CIRCUIT DIAGRAM



3. PCB LOCATION NO

NO	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
1	BUZZER	BZ1	BM-20K	3515600100	1
2	C ARRAY	CA1	7P(6) 1000PF M 50V	CN6XB-102M	1
3	CAPACITOR ELEC	EC1	50V RS 10uF	CEXE1H100A	1
4	CAPACITOR ELEC	EC2	25V RSS 1000MF	CEXF1E102V	1
5	CONNECTOR WAFER	CN1	YW396-02V	3519150520	1
6	CONNECTOR WAFER	CN2	FCZ 254-10	441M367150	1
7	CONNECTOR WAFER	CN3	YW396-05AV	3519150510	1
8	DIODE SWITCHING	D1~4,D6~D11	1N4148	DZN4148---	10
9	DIODE RECTIFIER	D12,13	KN4004A	DZN4004A--	2
10	DIODE ZENER	ZD2	UZ- 5.1BSB 1/2W	DZUZ5R1BSB	1
11	FOAM	SPG	CR 8Tx35x10	3517307000	1
12	LED DISPLAY	DP1	TOF-3491HG-B	DT0F3491HG	1
13	PCB MAIN	M349	81.5X139.9	3514330770	1
14	R ARRAY	RA1	8P(7) 1/8 100K OHM J	RA-88X104J	1
15	R ARRAY	RA2	7P(6) 1/8 100K OHM J	RA-87X104J	1
16	RESISTOR	R2~8,R11,R12	1/6W 330 5%	RD-AZ331J-	9
17	RESISTOR	R1,10,13,17,22	1/6W 1K 5%	RD-AZ102J-	5
18	RESISTOR	R15,R23	1/6W 4.7K 5%	RD-AZ472J-	2
19	RESISTOR	R9	1/6W 100K 5%	RD-AZ104J-	1
20	RESISTOR	R19,20	1/6W 10K 5%	RD-AZ103J-	2
21	RESISTOR	R18	1/6W 20K 5%	RD-AZ203J-	1
22	RESISTOR	R14	1/6W 1M 5%	RD-AZ105J-	1
23	RESISTOR	R21	1/4W 51 5%	RD-4Z510J-	1
24	RESONATOR CERA	CR1	CRT 4.00MS	5P4R00MTS-	1
25	IC REGULATOR	VL1	MC7805C	1CPMC7805C	1
26	TRANSISTOR	Q1~4	KRA106M	TZRA106M--	4
27	TRANSISTOR	Q6,Q8~10	KRC106M	TZRC106M--	4
28	TRANSISTOR	Q5	KTC3198GR (1815GR)	TZTC3198GR	1
29	IC RESET	IC2	KIA7033AP	1K1A7033AP	1
30	CAPACITOR CERA	C3,C5	102 50V Z AXIAL	CCZB1H102K	2
31	CAPACITOR CERA	C1,2,4,C6~7	104 50V Z AXIAL	CCZF1H104Z	5
32	TRANS POWER	LVT1	DMR-631FS EU	5EPK035303	1
33	WIRE COPPER	J1~J6,J8,J9	1/0.52 TIN COATING	85801052GY	8
34	WIRE COPPER	SJ1,SJ4,SJ6	1/0.52 TIN COATING	85801052GY	3
35	WIRE COPPER	J7	1/0.52 TIN COATING	85801052GY	1
36	SW RELAY	RY1,RY4	G5G-1A DC12V	5SC0101121	2
37	SW RELAY	RY2	OJ-SS-112LM 1C 1P	5SC0101404	1
38	IC MICOM	IC1	HMS81C1716B-HN083	150SG6L3B-	1

EXPLODED VIEW AND PARTS LIST

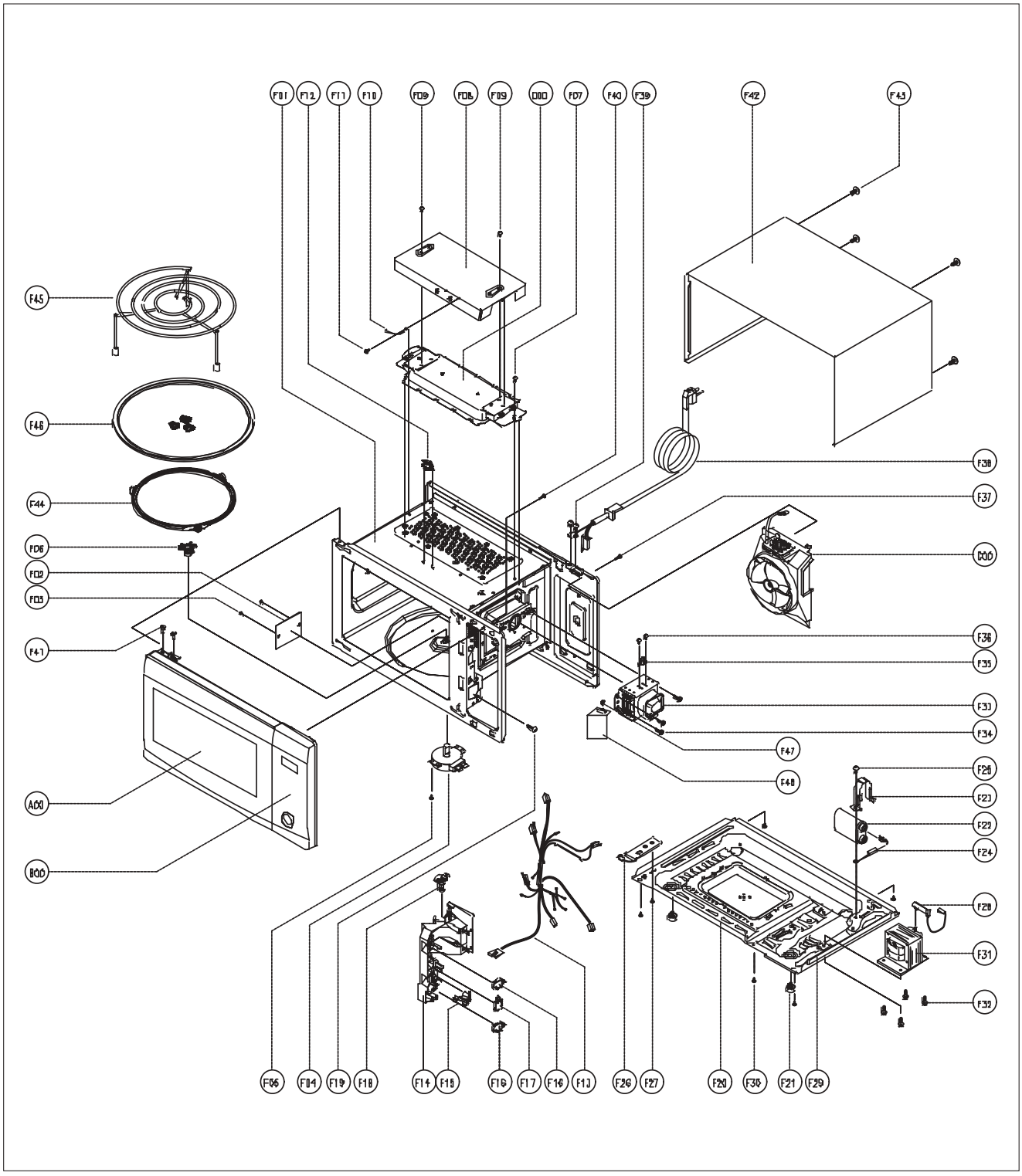
1. DOOR ASSEMBLY

Refer to Disassembly and assembly

2. CONTROL PANEL ASSEMBLY

Refer to Disassembly and assembly

3. TOTAL ASSEMBLY



✔ **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).

REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
F01	3516121200	CAVITY AS	KQG-6L353S	1	
F02	3511405100	COVER WAVE GUIDE	MICA T0.35	1	
F03	4078502031	BUTTON LOCKING	PP HONAM A353	2	
F04	3966031600	MOTOR SYNCRO	220/240V 50/60HZ ST-16 MN73MQAD A	1	
F05	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1	
F06	3517400620	COUPLER	XAREC	1	
D00	3512808900	HEATER *T AS	KQG-6L353S	1	
F07	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	1	
F08	3513304800	INSULATOR HEATER	SECC T 0.4	1	
F09	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	2	
F10	3511200400	CLAMP WIRE	SBHG	1	
F11	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	1	
F12	3518904900	THERMOSTAT	OFF:90 ON:80 H #187	1	
F13	3512784020	HARNESS MAIN	KQG-6L3B3S	1	
F14	3513818900	LOCK	PP GP-3152F FH44D	1	
F15	3513702600	LEVER LOCK	POM	1	
F16	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	2	
F17	4415A66600	SW MICRO	VP-532A-OF SPNC #187 200G	1	
F18	3513601600	LAMP	BL 240V 25W T25 C7A H187	1	
F19	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1	
F20	3510317500	BASE	SBHG T0.5	1	
F21	3512100900	FOOT	PP DASF-130	2	
F22	3518302201	CAPACITOR HV	2100VAC 0.98UF #187 75MM	1	
F23	3513003200	HOLDER HV CAPACITOR	SECC T0.5	1	
F24	3518400800	DIODE HV AS	ESJC13-12BX (CL01-12)	1	
F25	7S432X4081	SPECIAL SCREW	TT3 TRS 4X8 SE MFZN	1	
F26	3515201101	STOPPER HINGE *U	SCP-1 T2.5	1	
F27	7S432X4081	SPECIAL SCREW	TT3 TRS 4X8 SE MFZN	1	
F28	3518701100	FUSE HV	5KV 0.55A HV-41A55-02	1	
F29	3517305800	FOAM	CR 5TX10X155	1	
F30	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	5	
F31	3518123670	TRANS HV	S1S57A LA30	1	
F32	3516003700	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	4	
F33	3518003710	MAGNETRON	2M218HFL 6CF	1	
F34	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	3	
F35	3518903800	THERMOSTAT	OFF:160 ON:115 V #187	1	
F36	7121300611	SCREW TAPPING	T2S PAN 3X6 MFZN	2	
C00	3512524830	GUIDE WIND AS	KOR-6L0B3S	1	
F37	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	1	
F38	35113A5QJ5	CORD POWER AS	3X1.5 80X80 120-RTML 1.4M	1	
F39	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	2	
B00	PKCPSWFLH0	CONTROL-PANEL AS	KQG-6L3B3S	1	
F40	7112401211	SCREW TAPPING	T1 TRS 4*12 MFZN	1	
A00	3511729900	DOOR AS	KQG-6L353S	1	
F41	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	2	
F42	3510808410	CABINET AS	KOR-6L0B1A	1	
F43	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	4	
F44	3512517500	GUIDE ROLLER AS	KOR-63150S	1	
F45	3517204410	TRAY RACK AS	KOG-361Q0S 97MM	1	
F46	3517202400	TRAY GLASS	GLASS 610 (VE-YONGXIN)	1	
F47	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	1	
F48	3512527800	GUIDE AIR	SECC T0.5	1	

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ABOUT THIS MANUAL

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6번지 이룸빌딩 4층

담 당	안태산 님		
MODEL	KQG-6L3B3S (S/M)		
접 수	2011.11.01		
일 정	1차		
	2차		
	3차		
	4차		
	5차		
제 판	한	인 쇄	
규 격			

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