S/M No. : R1B5C9S001

Service Manual

Microwave Oven

Model: KOR-1B5C9S

✔ **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 CORP.

http : //svc.dwe.co.kr Aug. 2003

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

CAUTION : This Device is to be Serviced Only by Properly Qualified Service Personnel. Consult the Service Manual for Proper Service Procedures to Assure Continued Safety Operation and for Precautions to be Taken to Avoid Possible Exposure to Excessive Microwave Energy.

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 CDRH 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 wymbol or coloured green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marded with the letter ‘N’ or coloured black.
The wire which is coloured brown must be connected to the terminal which is marded with the letter ‘L’ or coloured red.

NOTE

This oven is designed for counter-top use only.

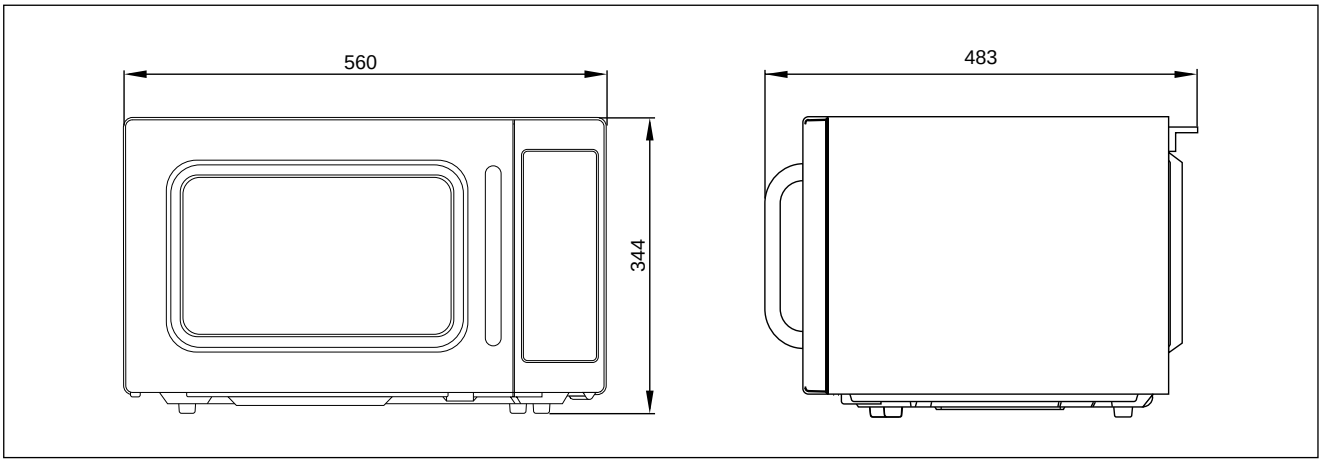
SPECIFICATIONS

MODEL		**KOR-1B5C9S**
POWER SUPPLY		230V~50Hz, SINGLE PHASE WITH EARTHING
POWER CONSUMPTION	MICROWAVE	1,400 W
	GRILL	
	COMBINATION	
MICROWAVE ENERGY OUTPUT		1,000W
MICROWAVE FREQUENCY		2450MHz
OUTSIDE DIMENSIONS (W X H X D)		560 x 344 x 483 mm (22.0 x 13.5 x 19.0 in)
CAVITY DIMENSIONS (W X H X D)		369 x 240 x 390 mm (14.5 x 9.4 x 15.3 in)
NET WEIGHT		Approx. 17.5 kg (38.6 lbs.)
TIMER		20 min. (Full Power)
FUNCTION SELECTIONS		MICROWAVE
POWER SELECTIONS		4 LEVELS
CAVITY VOLUME		1.3 Cu. Ft.

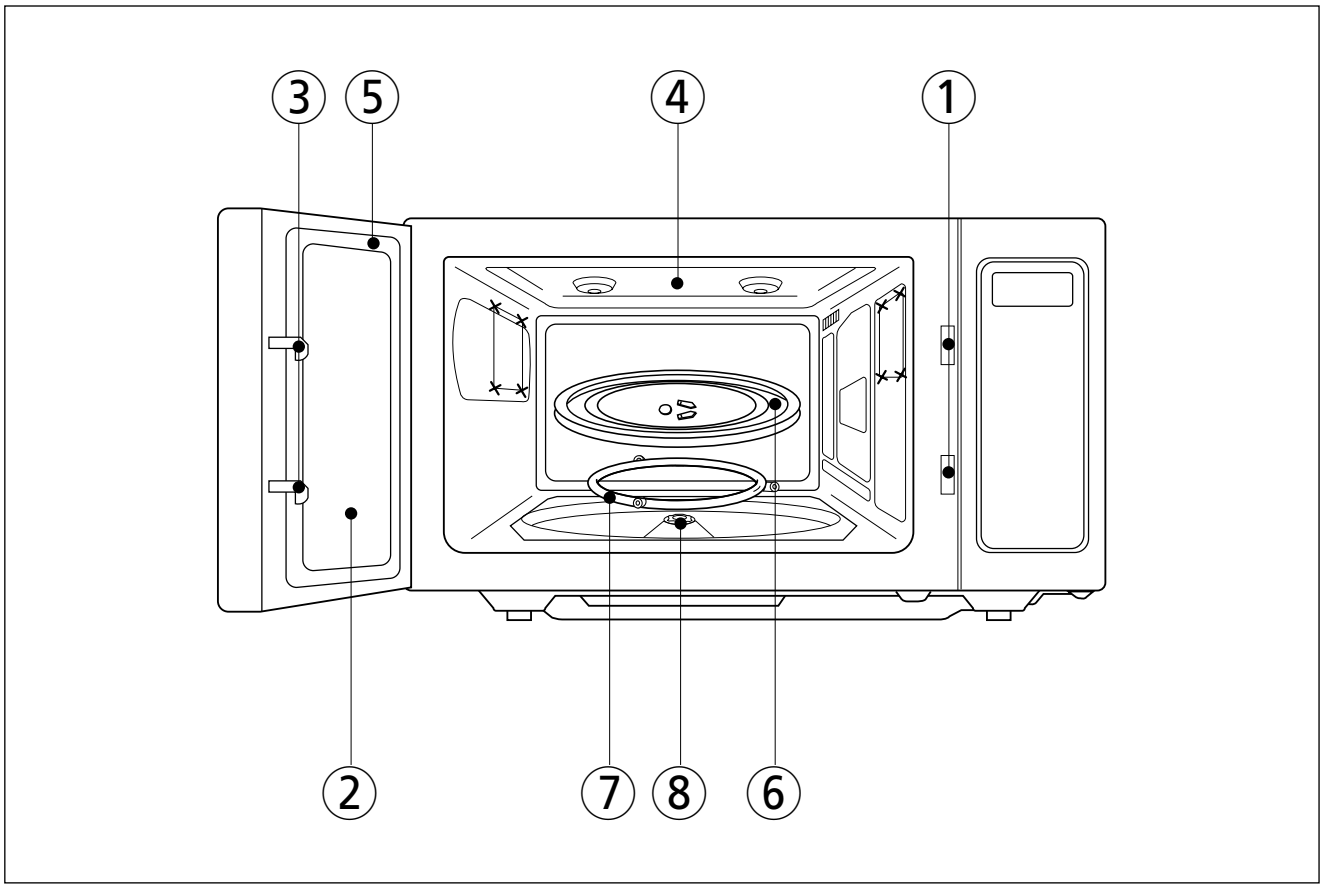
** SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.*

EXTERNAL VIEW

1. OUTER DIMENSION



2. FEATURE DIAGRAM



① **SAFETY INTERLOCK SYSTEM**

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

③ **DOOR HOOK**
When the door is closed, it will automatically shut. If the door is opened while the oven is operating, the magnetron will immediately stop operating.

④ **OVEN CAVITY**

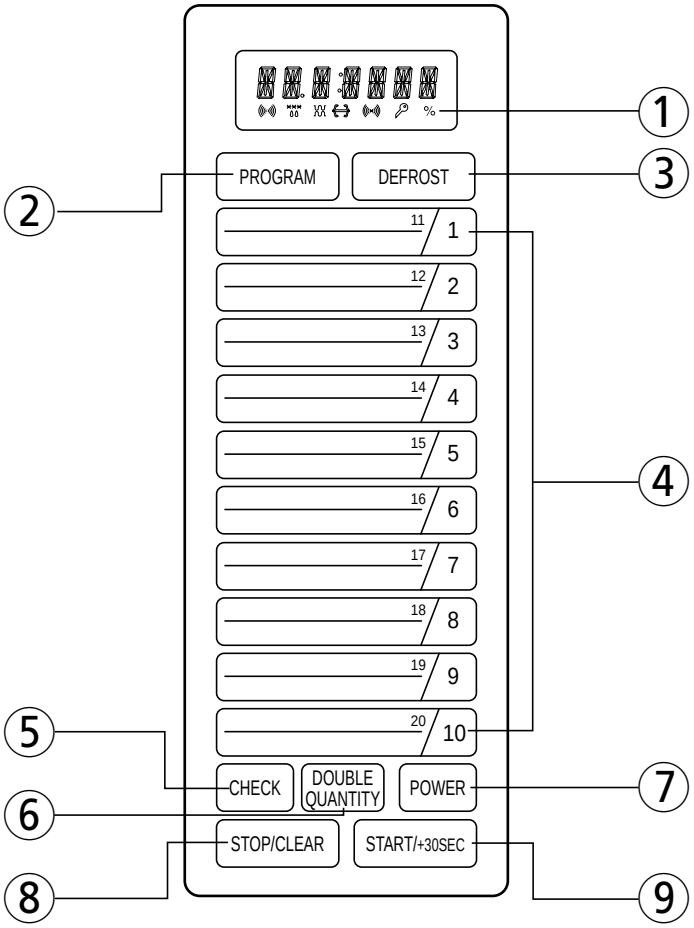
⑤ **DOOR SEAL**
Door seal maintains the microwave energy within the oven cavity and prevents microwave leakage.

⑥ **GLASS COOKING TRAY**
Made of spedial heat resistant glass. Food in a proper receptacle is placed on this tray foor cooking.

⑦ **ROLLER GUIDE**
This must always be used for cooking together with the glass cooking tray.

⑧ **COUPLER**
This fits over the shaft in the center of the ovens cavity floor. This is to remain in the oven for all cooking.

3. CONTROL PANEL



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

② **Program -** Used to save cooking data.

③ **Defrost -** Used to defrost foods for time.

④ **Time Set Pad -** Used to set the cooking time or cook preprogrammed cooks.

⑤ **Check -** Used to check cooking data.

⑥ **Double Quantity -** Used to extend programmed cooking time.

⑦ **Power -** Used to set power level.

⑧ **Stop/Clear -** Used to stop the oven operation or to delete the cooking data.

⑨ **Start/+30sec -** 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 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 8 amperes, 230 Volts, 50 Hz.
  Power supply cord is about 0.6 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 show 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 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 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.

OPERATIONS AND FUNCTIONS

1. Connect the main lead to an electrical outlet.
2. After placing the food in a suitable container, open the oven door and put it on the glass tray. The glass tray must always be in place during cooking.
3. Close the door securely.
4. The oven door can be opened at any time during operation by touching the door release button on the control panel.

   The oven will automatically shut off. To restart the oven, close the door and then touch START.
5. Each time a pad is touched, a BEEP will sound to acknowledge the touch.
6. The oven automatically cook on full power unless set to a lower power level.
7. The display will show : 0 when the oven is plugged in.
8. When the STOP/CLEAR pad is touched during the oven operation, the oven stops cooking and all information retained.

   To erase all information touch, the STOP/CLEAR pad once more. If the oven door is opened during the oven operation, all information is retained.
9. If the START pad is touched and the oven does not operate, check the area between the door and door is closed securely. The oven will not start cooking until the door is completely closed or the program has been reset.

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

Wattage output chart

The power level is set by touching the POWER pad. The chart shows the display, the power level and the percentage of power.

Touch POWER pad.	Power level(Display)	Approximate Percentage of Power
Once	100	100%
Twice	80	80%
3 times	60	60%
4 times	40	40%

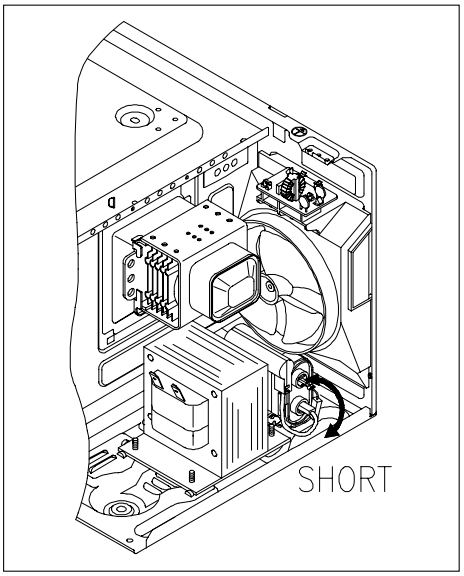
DISASSEMBLY AND ASSEMBLY

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.



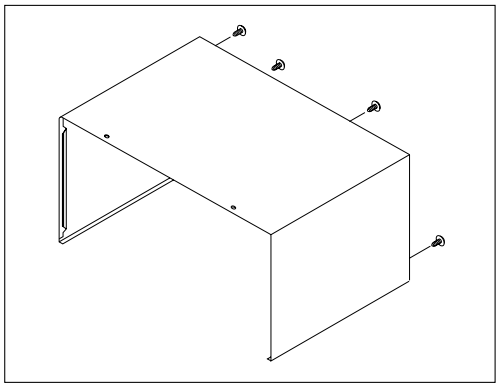
4. When the 12A fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.
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.

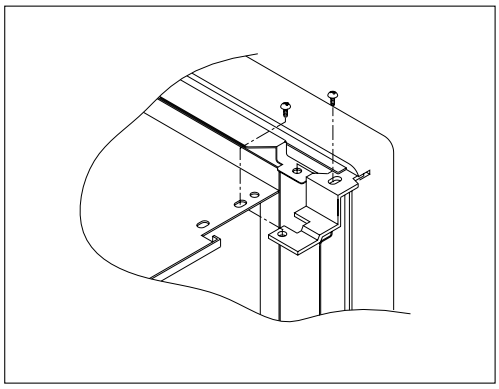
1. To remove cabinet

1) Remove 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 reassembly.



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

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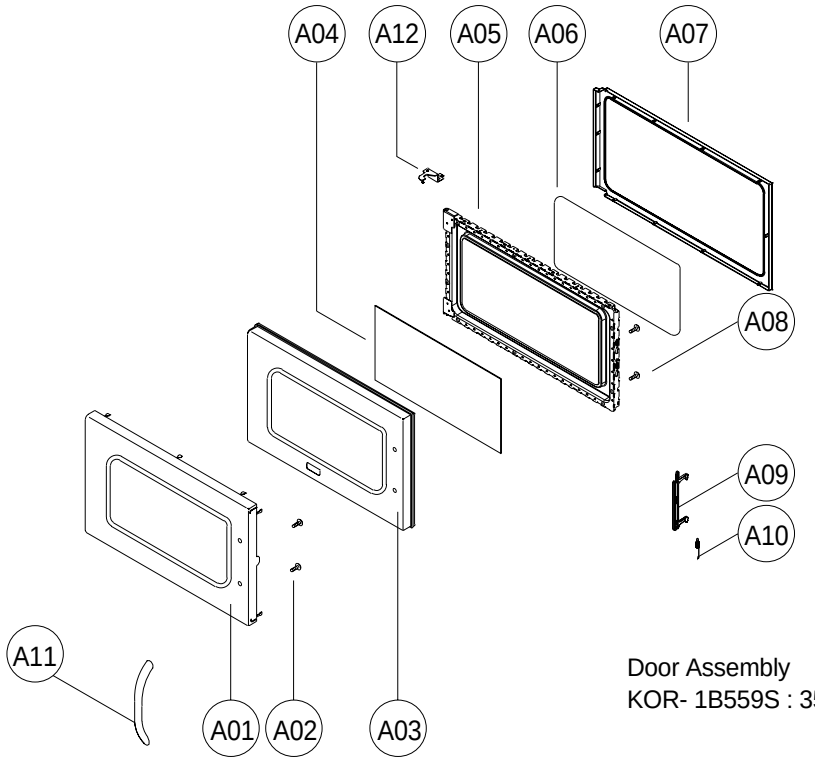
3. To remove door parts.



Door Assembly
KOR- 1B559S : 3511718620

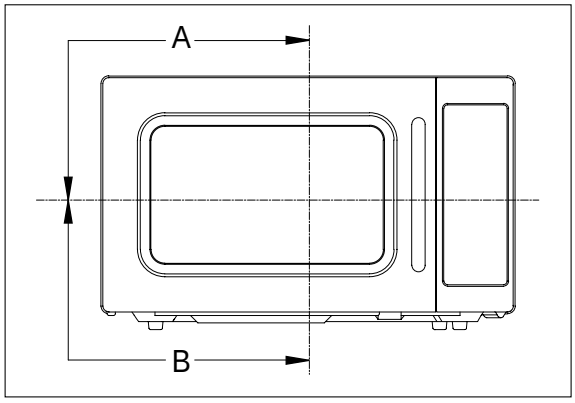
REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A01	3511610620	DECORATOR DOOR	SUS T0.4	1	
A02	7001401211	SCREW MACHINE	PAN 4*12 MFZN	2	
A03	3512206200	FRAME DOOR	ABS	1	
A04	3517008100	BARRIER SCREEN*O	GLASS T3.2	1	
A05	3516602100	DOOR PLATE	SBHG-1A T0.7	1	
A06	3517007600	BARRIER SCREEN*I	PE T0.1	1	
A07	3512302310	GASKET DOOR	LUPOL2300	1	
A08	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	2	
A09	3513101200	HOOK	POM	1	
A10	3515101800	SPRING HOOK	PW1	1	
A11	3512604800	HANDLE DOOR	ABC CR COATING	1	
A12	3515204900	STOPPER HINGE*T AS	KOC-1B0K0S	1	

(1) Remove the gasket door from door weld as.
(2) Remove the barrier screen inner from weld as.
(3) Remove the door frame from door weld as.
(4) Remove the stopper hinge top from door weld as.
(5) Remove the spring and the hook.
(6) Remove the barrier screen outer from 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 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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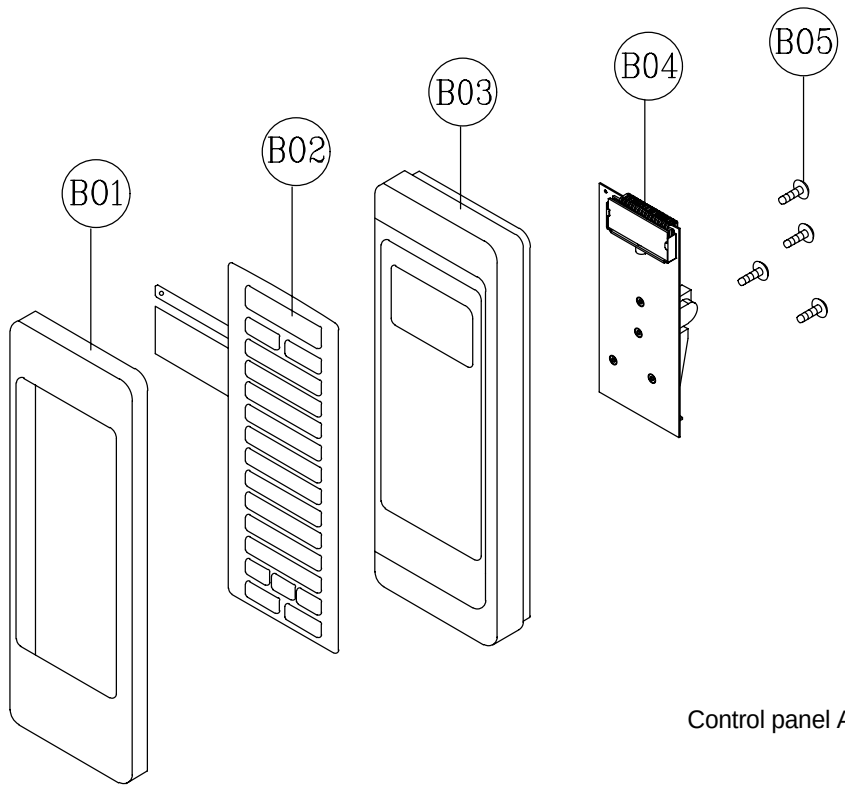
5. To remove control panel parts.



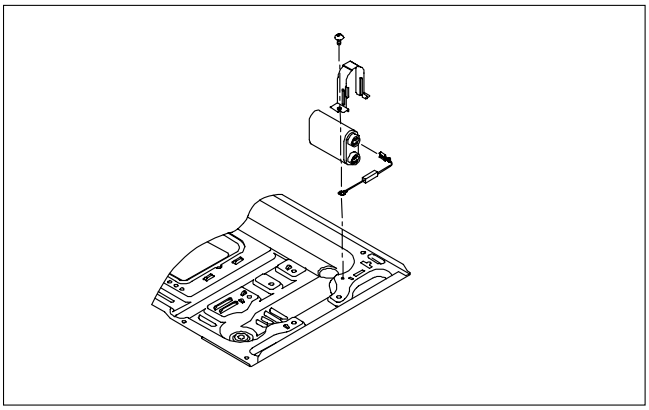
Control panel Assembly

REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3511610410	DECORATOR C-PANEL	SUS T0.4	1	
B02	3518524000	SWITCH MEMBRANE	KOR-1P5CBA	1	
B03	3516728510	CONTROL PANEL	ABS AF-348, VT-0826	1	
B04	PKMPMSAJ10	PCB AS	KOR-1P5K	1	
B05	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	4	

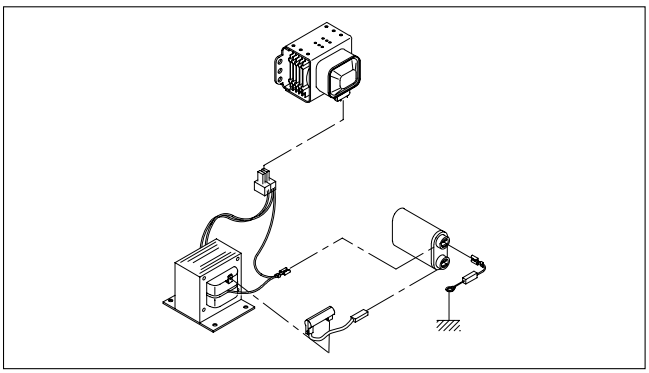
(1) Remove the screw which secure the control panel, push up two snap fits and draw forward the control panel assembly.
(2) Remove four screws which secure the PCB assembly to control panel.
(3) Disconnect membrane tail from the connector of the PCB assembly.
(4) Detach membrane from the control panel.
(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.

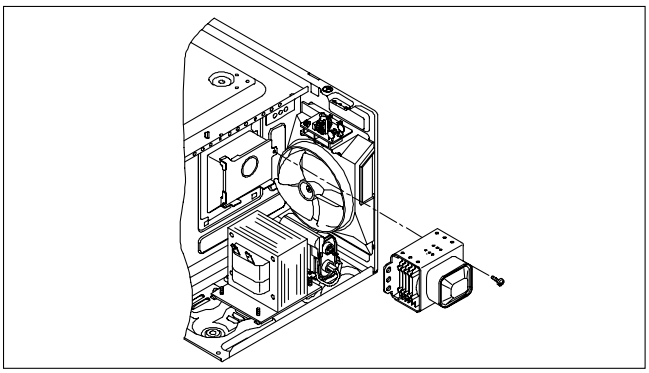


• High voltage circuit wiring



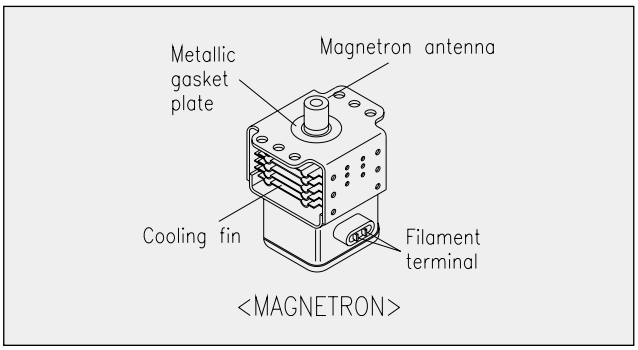
7. To remove magnetron.

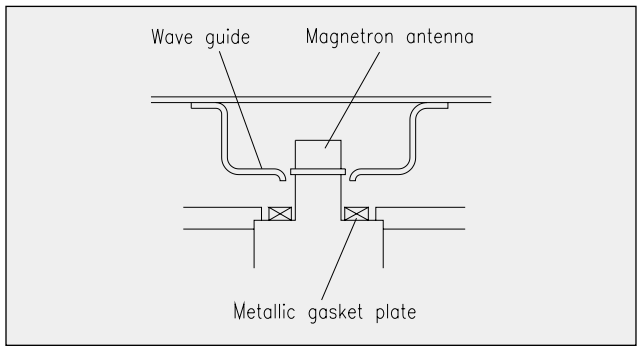
(1) Remove a screw which secure the magnetron.
(2) Remove the magnetron.
(3) Reverse the above steps for reassembly.



NOTE :

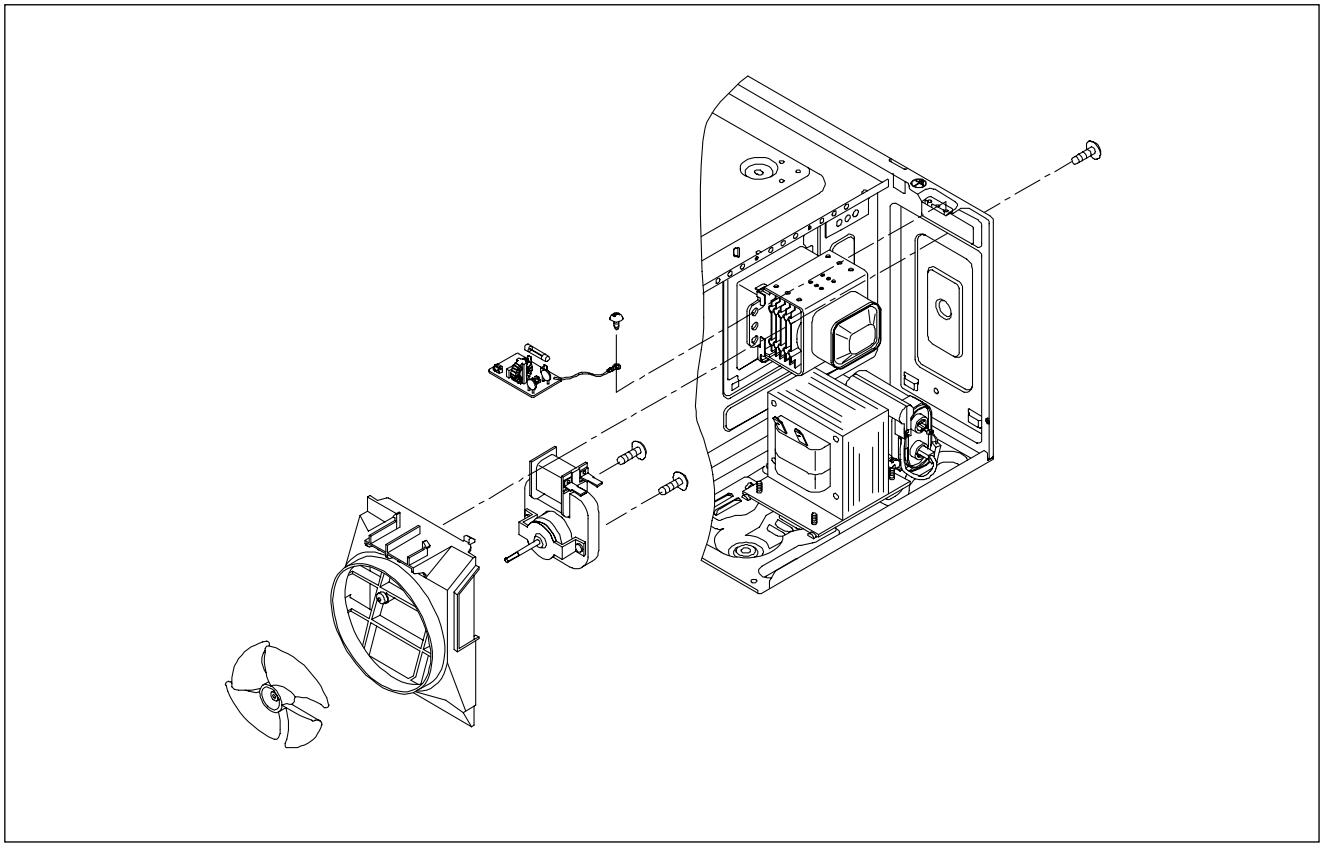
Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage. Whenever repair work is carried out on magnetron, check the microwave leakage. It shall not exceed 4mW/cm^2 for a fully assembled oven with door normally closed.





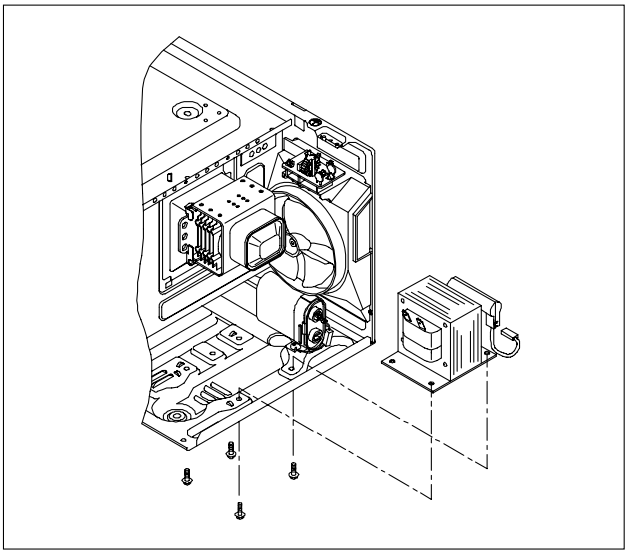
8. To remove wind guide assembly.

1) Remove a screw which secure the wind guide assembly.
2) Remove the noise filter from the wind guide.
3) Remove a 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.



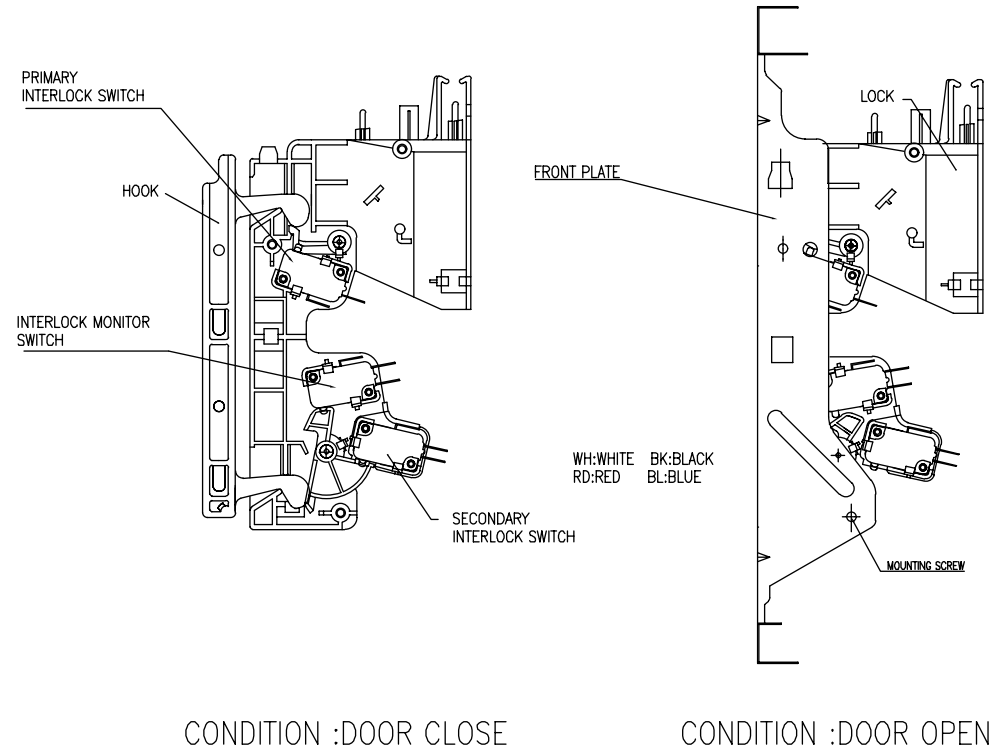
9. To remove H.V.transformer.

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



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 NO 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 changed (NO condition) before other switches are closed.
When the door is opened, the interlock monitor switch should be changed (NC condition) after other switches are opened.

(3) Adjustment steps

a) Loosen the one mounting screw.
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.

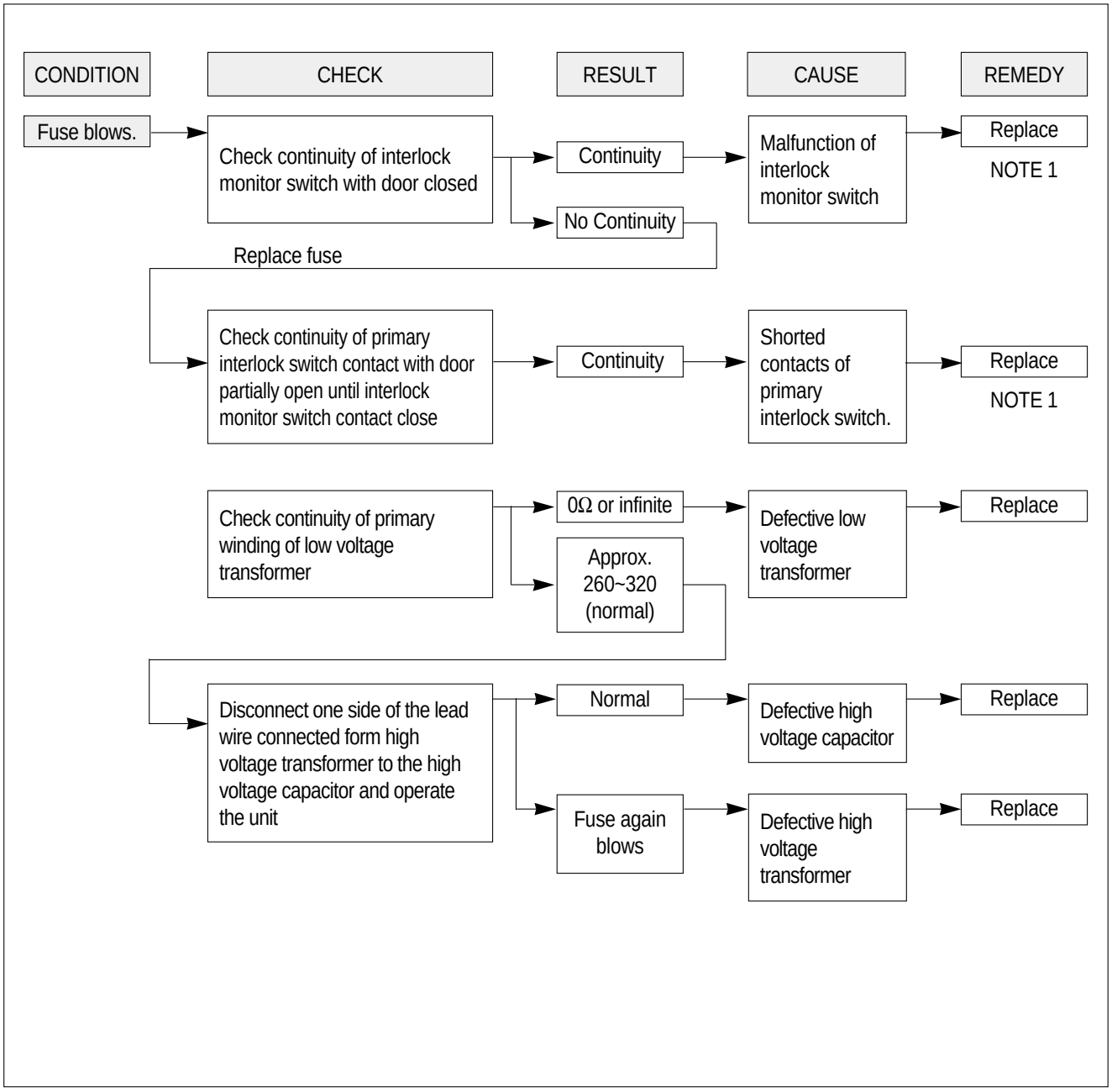
TROUBLE SHOOTING GUIDE

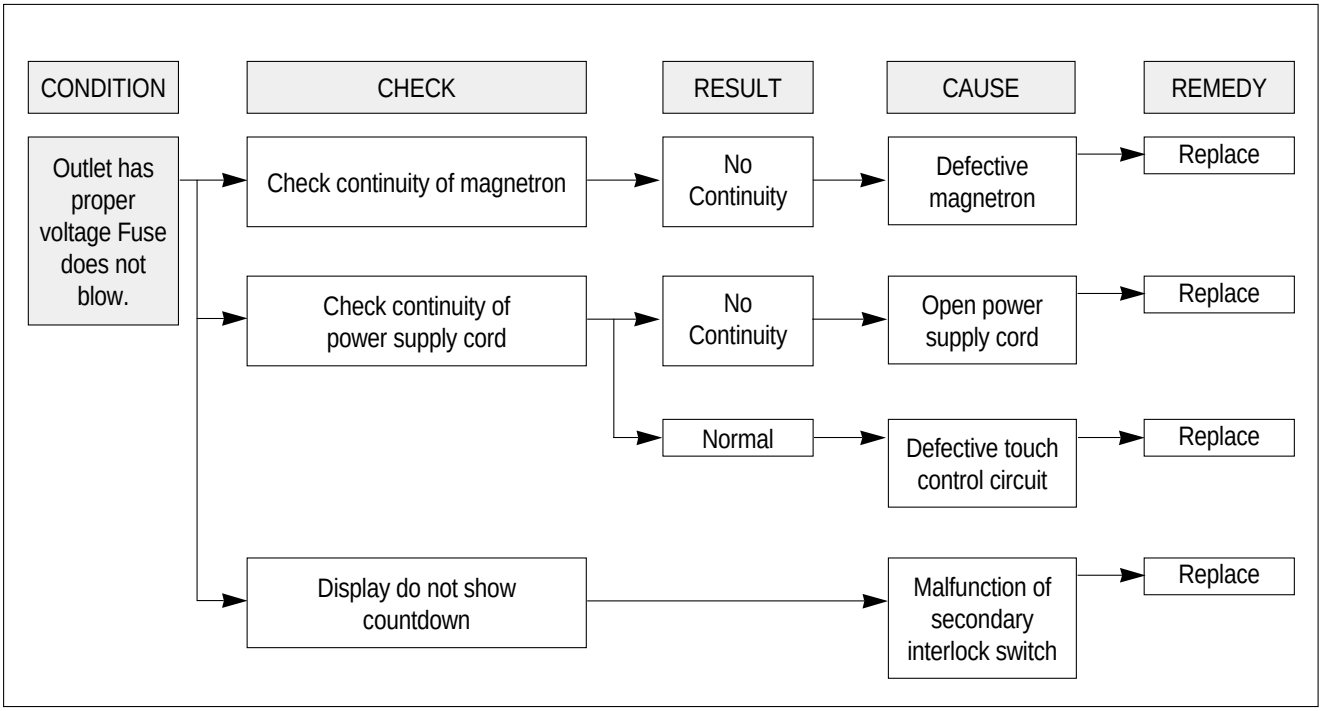
Following the procedure below to check if the oven is defective or not.

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.

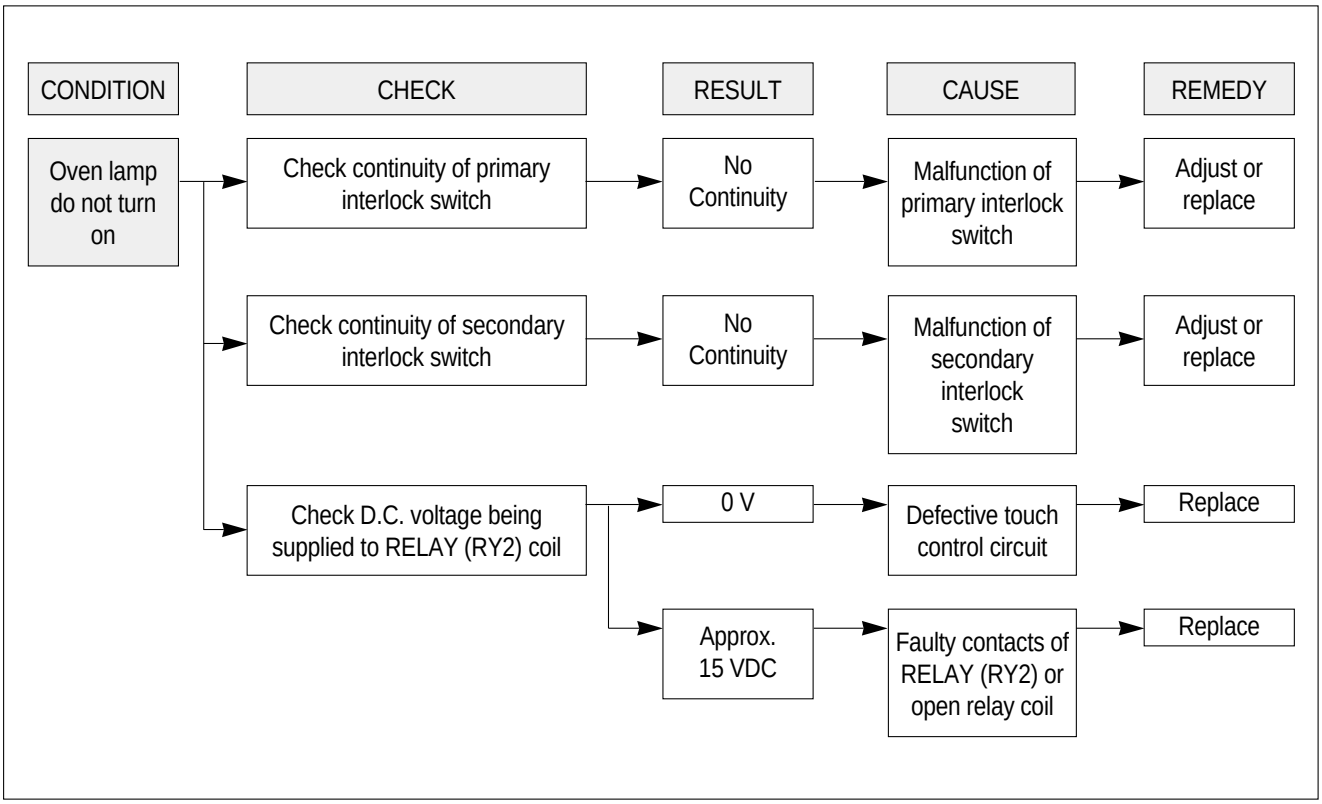
(TROUBLE 1) Oven does not operate at all : any inputs can not be accepted.



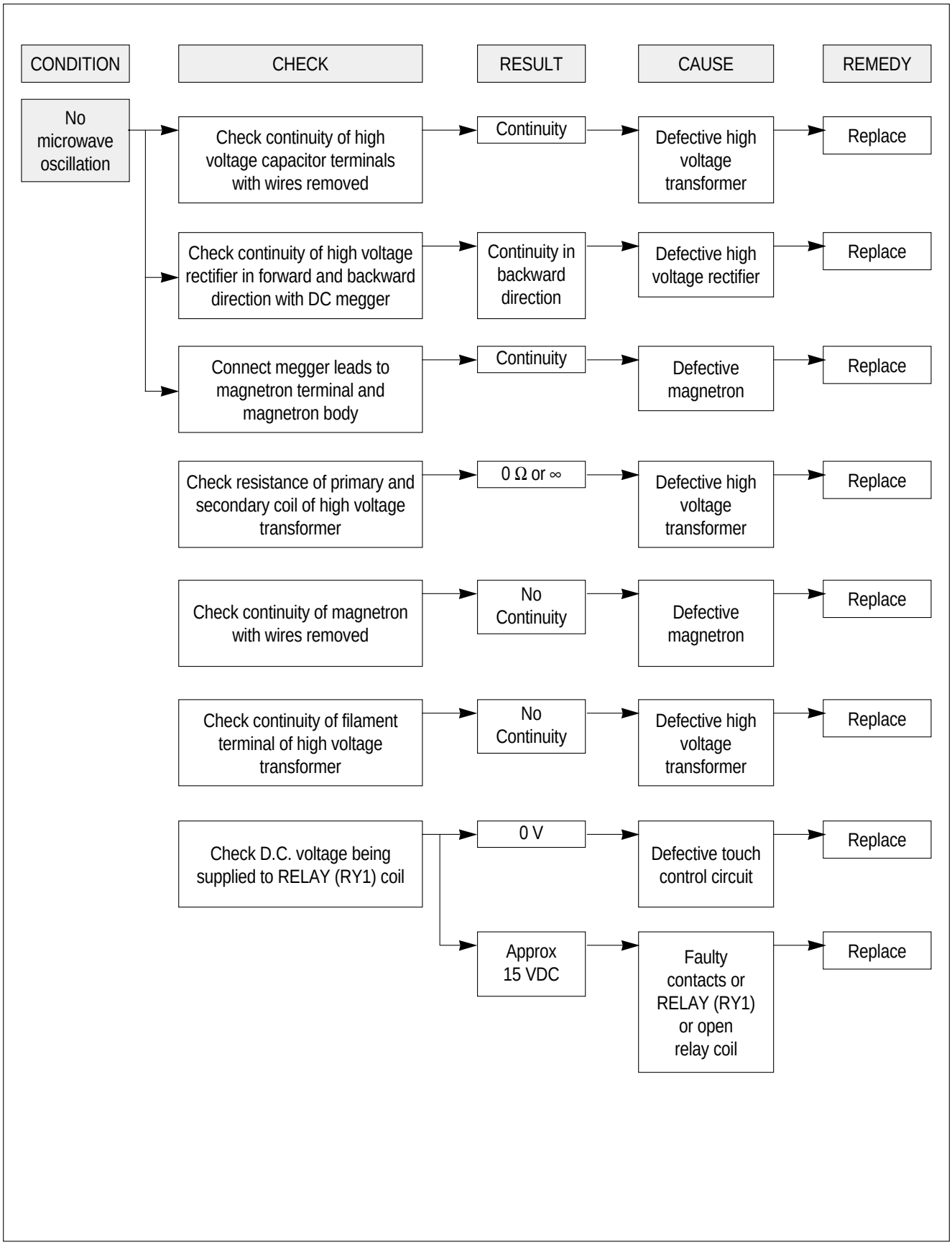


NOTE 1
All these switches must be replaced at the same time, please refer to “Interlock Mechanism And Adjustment”.

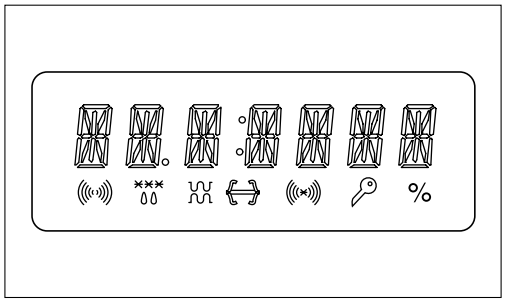
(TROUBLE 2) Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and start pad is tapped.



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



(TROUBLE 4) The following visual conditions indicate a probable defective touch control circuit or membrane switch assembly



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 is not on when they should be.

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 noticeable too fast while cooking.

10. Display does not show the time of day when clear pad is touched.

11. Oven lamp and turntable motor do not stop although cooking is finished. Check if the RELAY 2 contacts close if they are close, replace touch control circuit.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Display does not show programming at all, even if keyboard is touched.	Check each pad for continuity of the membrane keyboard for the following keyboard check procedure	Normal	Malfunction of control circuit board	Replace control circuit board
		Abnormal	Malfunction of the membrane keyboard	Replace the membrane keyboard

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

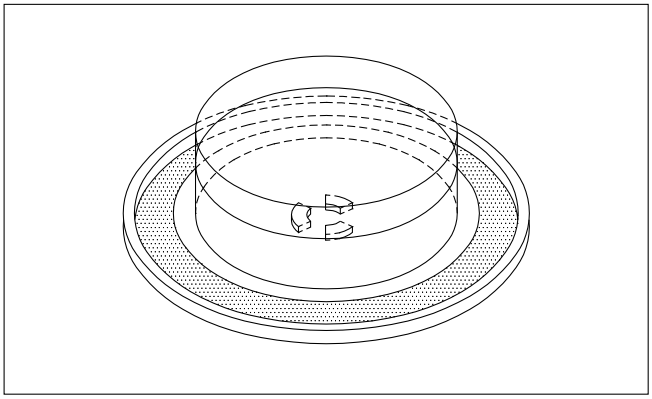
MEASUREMENT AND TEST

1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

Microwave output power can be checked by indirectly mmeasuring 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 final 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)

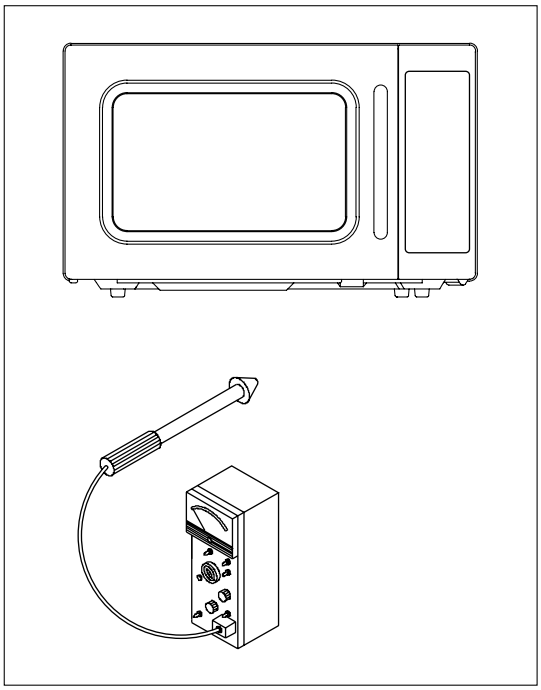
⁎ Heating time for power output:

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.

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.

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. 110 Ω ±10%
   Filament winding ... Approx. 0 Ω
   Primary winding ... Approx. 1 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.

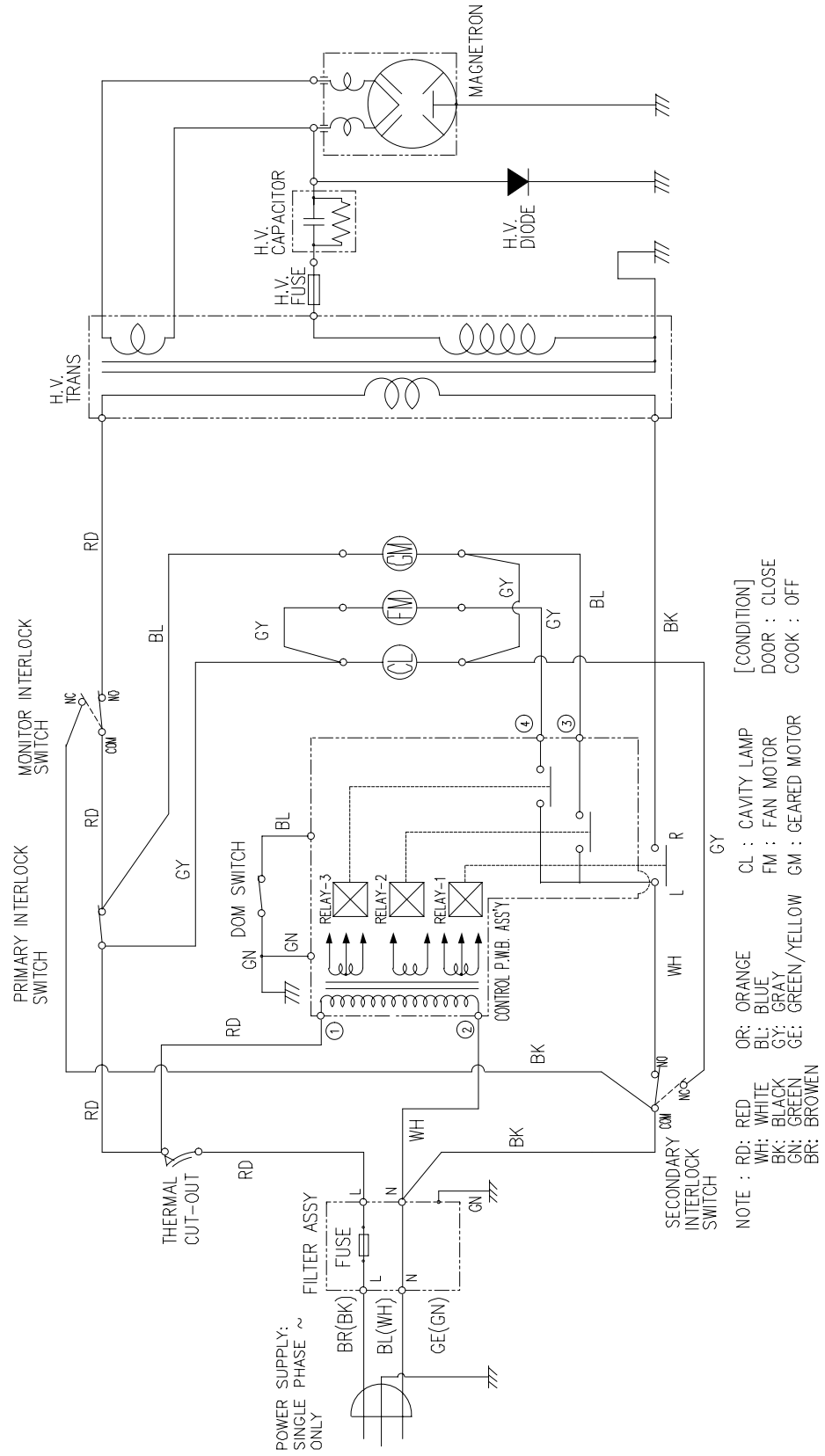
4. Magnetron

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.

WIRING DIAGRAM



PRINTED CIRCUIT BOARD

1. CIRCUIT CHECK PROCEDURE

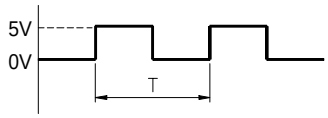
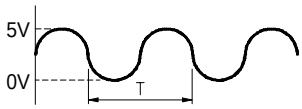
1. Low voltage transformer check

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

Terminal Voltage	LOAD	NO LOAD
6-8	DC 12V	AC 25.8V
9-10	AC 3.4V	AC 4.0V

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

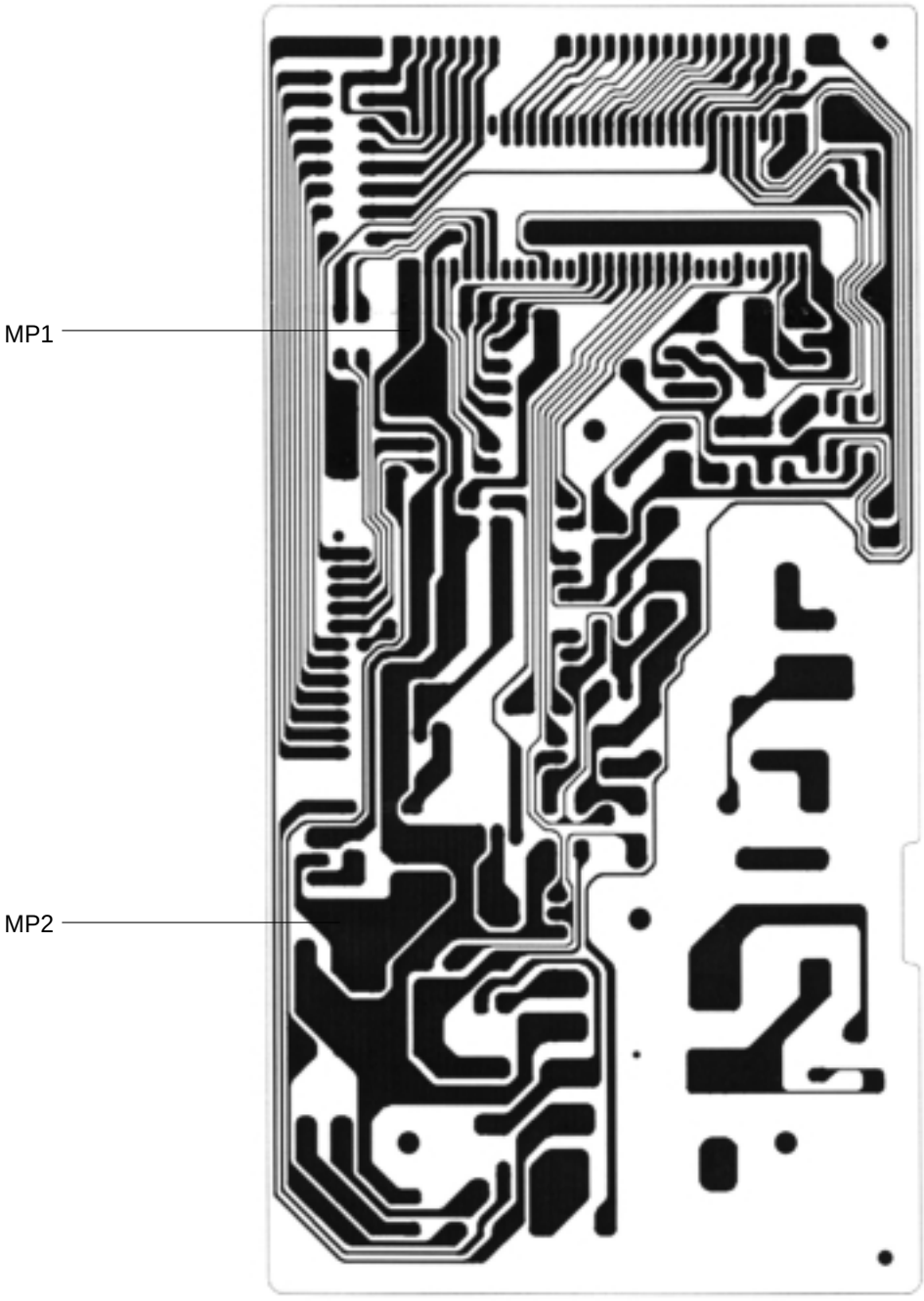
NO	CHECK POINT	REMARK
1	IC1 PIN 63, 64	5VDC
2	IC1 PIN 38	 T : 20ms(50Hz)
3	IC1 PIN 33 OR 34	 T : 250 ns(4MHz)

- Key check point

NO	MEASURE POINT	WAVE FORM	REMEDY	REMARK
1	MP1	DC 5V±0.25V	Replace Q8, ZD3, EC2	NO LOAD
2	MP2	DC 12V±2.0V	Replace D12, 13, R25, EC5, EC4	NO LOAD

- Check method

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 do not rotate, but cook indicator in display comes on.
✲ Cause : **RELAY 2** does not operate. → refer to Circuit Diagram (point 3)
- Check method

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

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

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

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

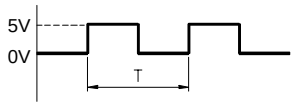
→ refer to Circuit Diagram (point 1)
- Check method

POINT / STATE	A	B
1) DOOR OPEN	OPEN	5VDC
2) DOOR CLOSED	CLOSE	GND

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

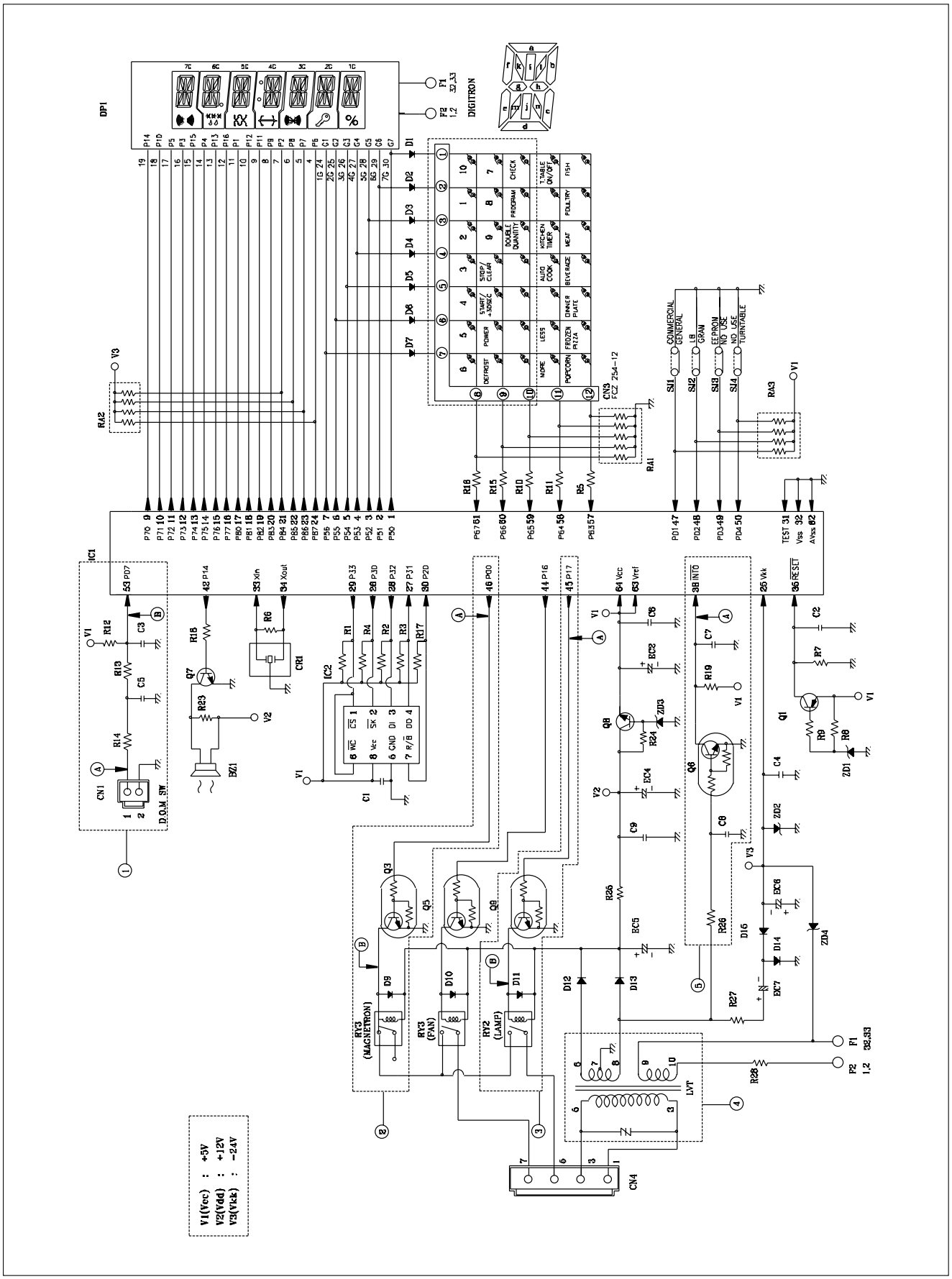
5. When the digital clock does not operate properly.

→ 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 R26,19, transistor Q6.

2. P.C.B. CIRCUIT DIAGRAM



✔ **Caution** : In this Service 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).

3. P.C.B. LOCATION NO.

NO	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
1	BUZZER	BZ1	BM-20K	3515600100	1
2	CAPACITOR CERA	C1~9	HIKF 50V 0.1MF Z AXIAL	CCZF1H104Z	9
3	CAPACITOR ELEC	EC2	50V RS 10MF (5X11) TP	CEXE1H100A	1
4	CAPACITOR ELEC	EC6	50V RSS 100MF (8X11.5) TP	CEXF1H101V	1
5	CAPACITOR ELEC	EC4	35V RS 220MF 10*20	CEXE1V221A	1
6	CAPACITOR ELEC	EC7	50V RSS 220MF (10X16) TP	CEXF1H221V	1
7	CAPACITOR ELEC	EC5	35V RSS 1000MF (13X25) TP	CEXF1V102V	1
8	DIGITRON	DP1	HNM-07MS12	DHNM07MS12	1
9	DIODE RECTIFY	D1~7, 9~11	1N4148	DZN4148---	10
10	DIODE RECTIFY	D12~15	1N4004A	DZN4004A--	4
11	DIODE ZENER	ZD1	UZ- 3.3BSB 1/2W	DZUZ3R3BSB	1
12	DIODE ZENER	ZD3,4	UZ- 5.6BSB 1/2W	DZUZ5R6BSB	2
13	DIODE ZENER	ZD2	UZ- 24BSB	DZUZ24BSB-	1
14	CONNECTOR WAFER	CN3	YW396-07AV	3519150540	1
15	CONNECTOR WAFER	CN1	YW396-02V	3519150520	1
16	CONNECTOR WAFER	CN2	FCZ 254-12	441M367170	1
17	IC MICOM	IC1	TMP87CM14N-4N82	13GS1P5C00	1
18	IC EEPROM	IC2	BR9020-W	137N9020W-	1
19	PCB MAIN	M187	90X90	3514328500	1
20	R ARRAY	RA2,3	RGLD4X104J	RA-85X104J	2
21	R ARRAY	RA1	6P(5) 1/8 100K OHM J	RA-86X104J	1
22	RESISTOR	R8	1/6W 200 5%	RD-AZ201J-	1
23	RESISTOR	R5,9~11,13~16,23,24	1/6W 1K 5%	RD-AZ102J-	10
24	RESISTOR	R18	1/6W 4.7K 5%	RD-AZ472J-	1
25	RESISTOR	R1~4,7,12,17,19	1/6W 10K 5%	RD-AZ103J-	8
26	RESISTOR	R26	1/6W 47K 5%	RD-AZ473J-	1
27	RESISTOR	R6	1/6W 1M 5%	RD-AZ105J-	1
28	RESISTOR	R28	1/4W 6.8 5%	RD-4Z689J-	1
29	RESISTOR	R25,27	1/2W 27 5%	RD-2Z270JS	2
30	RESONATOR CERA	CR1	CRT 4.00MS	5P4R00MTS-	1
31	SW RELAY	RY1	G5G-1A DC12V	5SC0101121	1
32	SW RELAY	RY2	CS11-12SH 1C 1P	5SC0101128	2
33	TRANSISTOR	Q1	KRA-1266Y	TZTA1266Y-	1
34	TRANSISTOR	Q3,5,6,9	KTC-106M	TZRC106M--	4
35	TRANSISTOR	Q7,8	KTC-3198GR	TZTC3198GR	2
36	TRANS POWER	LVT	DMR-1P5FS	5EPV035410	1
37	VFD HOLDER	DPH	NYLON 66	3513001400	1
38	WIRE COPPER	J4~6,8~13	1/0.52 TIN COATING	85801052GY	9
39	WIRE COPPER	J1,7,14	1/0.52 TIN COATING	85801052GY	3
40	WIRE COPPER	J2,3	1/0.52 TIN COATING	85801052GY	2

EXPLODED VIEW AND PARTS LIST

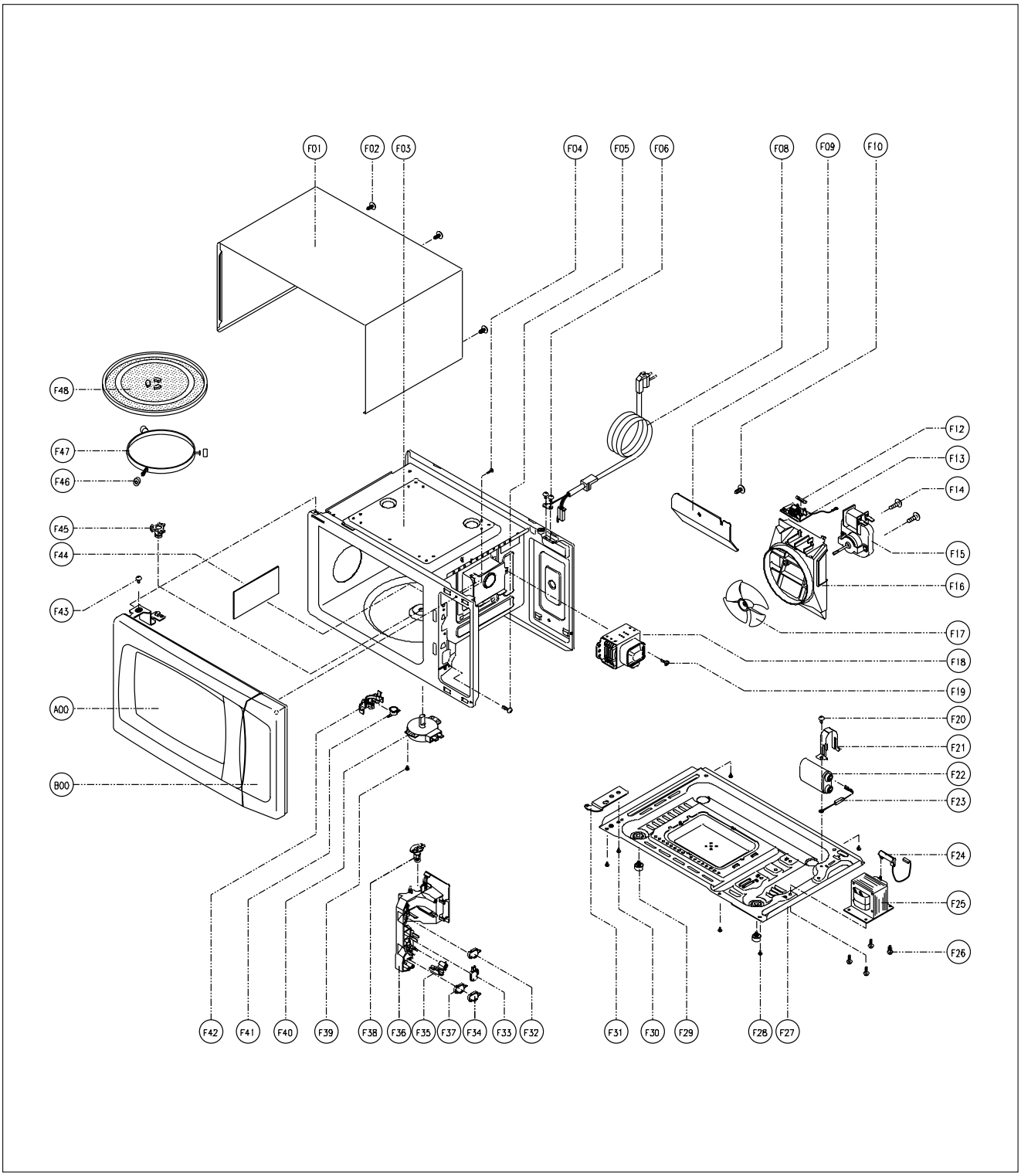
1. DOOR ASSEMBLY

Refer to Disassembly and assembly

2. CONTROL PANEL ASSEMBLY

Refer to Disassembly and assembly

3. TOTAL ASSEMBLY



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NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
A00	3511718620	DOOR AS	KOR-1B5C9S	1
B00	PKCPSWAJ30	CONTROL PANEL AS	KOR-1P5C7S	1
F01	3510806800	CABINET	STS430	1
F02	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	4
F03	3516114330	CAVITY JOINT AS	KOR-1B5C9S	1
F04	7122401211	SCREW TPPING	T2S TRS 4*12 MFZN	1
F05	7122401211	SCREW TPPING	T2S TRS 4*12 MFZN	1
F06	7122401011	SCREW TPPING	T2S TRS 4*10 MFZN	1
F08	35113V5QM5	CORD POWER AS	3*1.0 80*80 120-RTML	1
F09	3511409500	COVER HOLE OUTER	SBHG	1
F10	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F12		FUSE	250V 12A	1
F13	3518605500	NOISE-FILTER	DWLF-M07	1
F14	7121403011	SCREW TAPPING	T2S PAN 4*30 MFZN	2
F15	3963513010	MOTOR SHADED POLE	230V 25W MW15CA-B01	1
F16	3512515300	GUIDE WIND	PP	1
F17	3511800100	FAN	P.P GF20	1
F18	3518003500	MAGNETRON	RM259(JF)	1
F19	3516003800	SPECIAL SCREW	T2 FLANGE 5*8 MFZN	1
F20	7272400811	SCREW TAPTITE	TT3 TRS 4*8 MFZN	1
F21	3513003200	HOLDER HV CAPACITOR	SECC	1
F22	3518303600	CAPACITOR HV	2300VAC 1.05UF #187	1
F23	3518400110	DIODE HV	HVR-1X-70B	1
F24	3518701400	FUSE HV	5KV 0.7A	1
F25	3518121300	TRANS HV	DT-R95S0-1BT	1
F26	3516003700	SPECIAL SCREW	TT3 HEX 4*8 FLG MFZN	4
F27	3510313500	BASE	SBHG	1
F28	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	6
F29	3512101400	FOOT	DASF-310	4
F30	7272400811	SCREW TAPTITE	TT3 TRS 4*8 MFZN	1
F31	3515202800	STOPPER HINGE *U AS	KOR-121M0A	1
F32	4415A17352	SW MICRO	VP-533A-0F SPNO #187	1
F33	4415A66910	SW MICRO	VP-531A-0F/SZM-V16-FA-61	1
F34	3518571000	SW MICRO	MP101C	1
F35	3513700800	LEVER LOCK	POM	1
F36	3513816000	LOCK	PP	1
F37	4415A66910	SW MICRO	VP-531A-0F/SZM-V16-FA-61	1
F38	3513601600	LAMP	BL 240V 25W T25 C7A H187	1
F39	7121400611	SCREW TAPPING	T2S PAN 4*6 MFZN	1
F40	3966310100	MOTOR SYNCRO	220V 2.5W GM-16-24FD12	1
F41	3518906400	THERMOSTAT	OFF:85 ON:75 H #187 NB	1
F42	3513003400	HOLDER THERMOSTAT	PP(NATURAL)	1
F43	7272400811	SCREW TAPTITE	TT3 TRS 4*8 MFZN	1
F44	3512513800	COVER WAVE GUIDE	SECC	1
F45	3517400620	COUPLER	XAREC	1
F46	3514700710	ROLLER	TEFLON	3
F47	3512517200	GUIDE ROLLER	PP	1
F48	3517207600	TRAY	GLASS	1

Remark : E : Electrical M : Mechanical

DAEWOO

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