S/M No. : OC9U0T7S01

# Service Manual

## Microwave Oven

**Model: KOC-9U0T7S**

? **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

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# 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.

## *TABLE OF CONTENTS*

# 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.

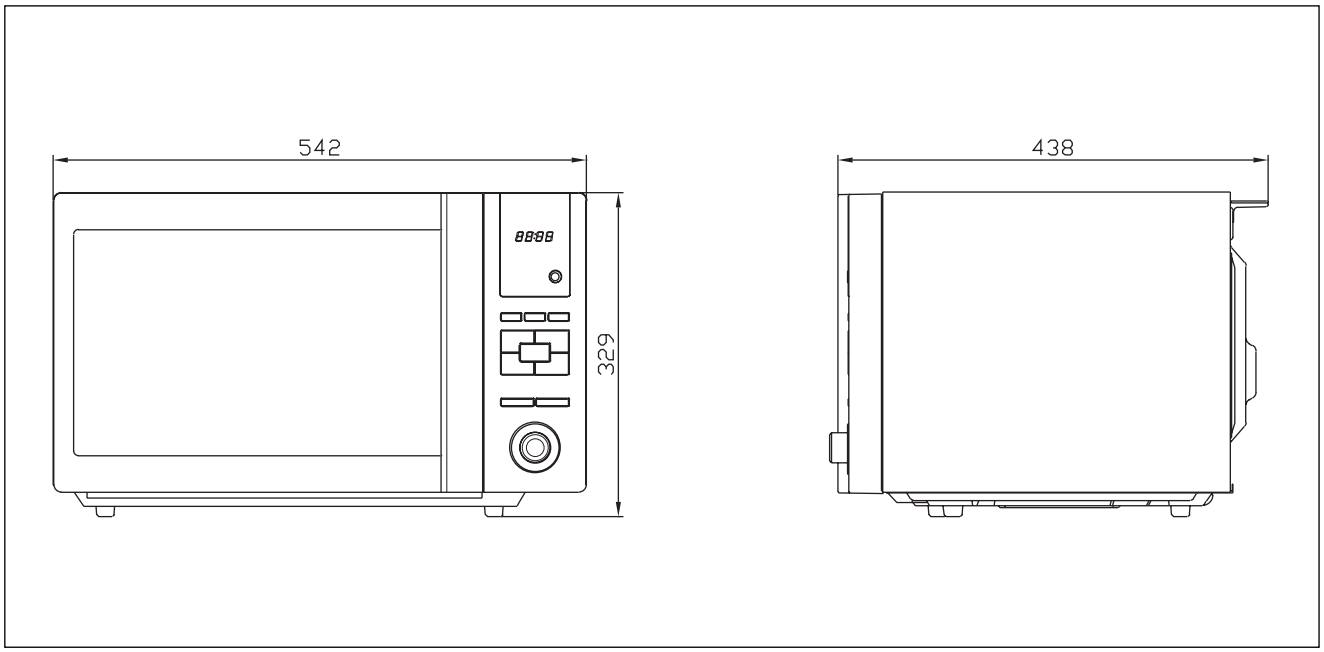
# 2. SPECIFICATIONS

| | | |
|---|---|---|
| MODEL | | KOC-9U0T7S |
| POWER SUPPLY | | 230V~50Hz, SINGLE PHASE WITH EARTHING |
| POWER CONSUMPTION | MICROWAVE | 1500W |
| | GRILL | 1950W |
| | CONVECTION | 1950W |
| | COMBINATION | 1950W |
| MICROWAVE ENERGY OUTPUT | | 900W (IEC 705) |
| MICROWAVE FREQUENCY | | 2450MHz |
| OUTSIDE DIMENSIONS (W X D X H) | | 542X438X329mm(21.5X17.2X13 in.) |
| CAVITY DIMENSIONS (W X D X H) | | 350X367X240mm(13.8X14.4X9.4 in.) |
| NET WEIGHT | | Approx. 18.2Kg (40.1 lbs.) |
| TIMER | | 60 minutes |
| FUNCTION SELECTIONS | | Microwave / Grill / Convection / Combination |
| POWER SELECTIONS | | 10 LEVELS |
| CAVITY VOLUME | | 1.1 Cu. Ft |

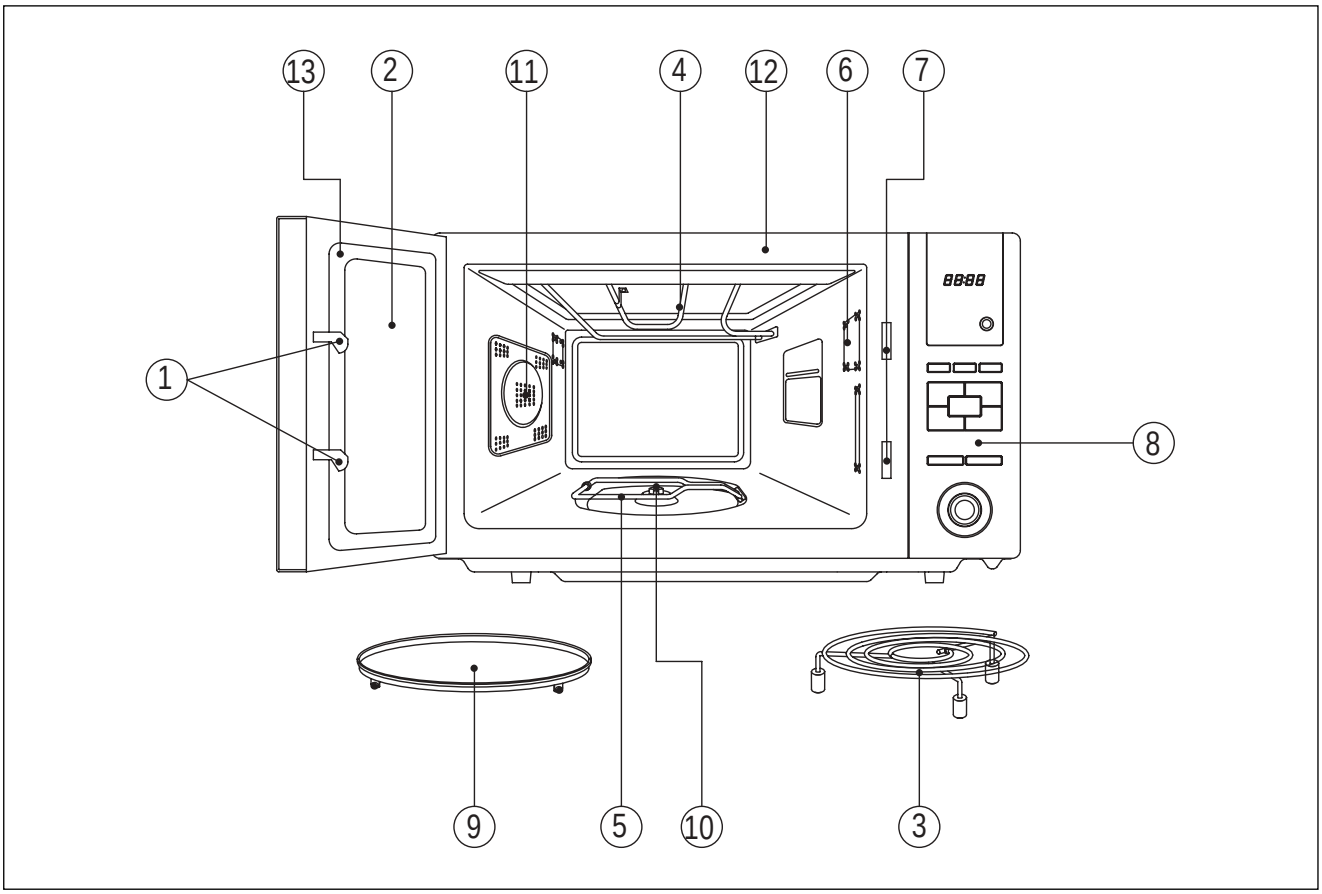
** SPECIFICATION ARE SUBJECT TO CHANGE WITHOUT NOTICE.*

# 3. EXTERNAL VIEW

**1. OUTER DIMENSION**



## 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. METAL RACK**

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

**5. BOTTON HEATER**
Turns on when convection, grill and combi cooking is selected.

**6. OVEN LAMP**
Automatically turns on during oven operating.

**7. SAFETY INTERLOCK SYSTEM**

**8. CONTROL PANEL**

**9. Metal Tray**
Put food or appropriate cookware directly on the metal tray and place on the glass turntable and then place on the roller guide when using convection cooking, combination cooking, auto cooking or grill cooking.

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

**11. CONVECTION OUTLET & FAN**

**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 8.5 amperes, 230V, 50Hz.
- 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 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.**

# 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**

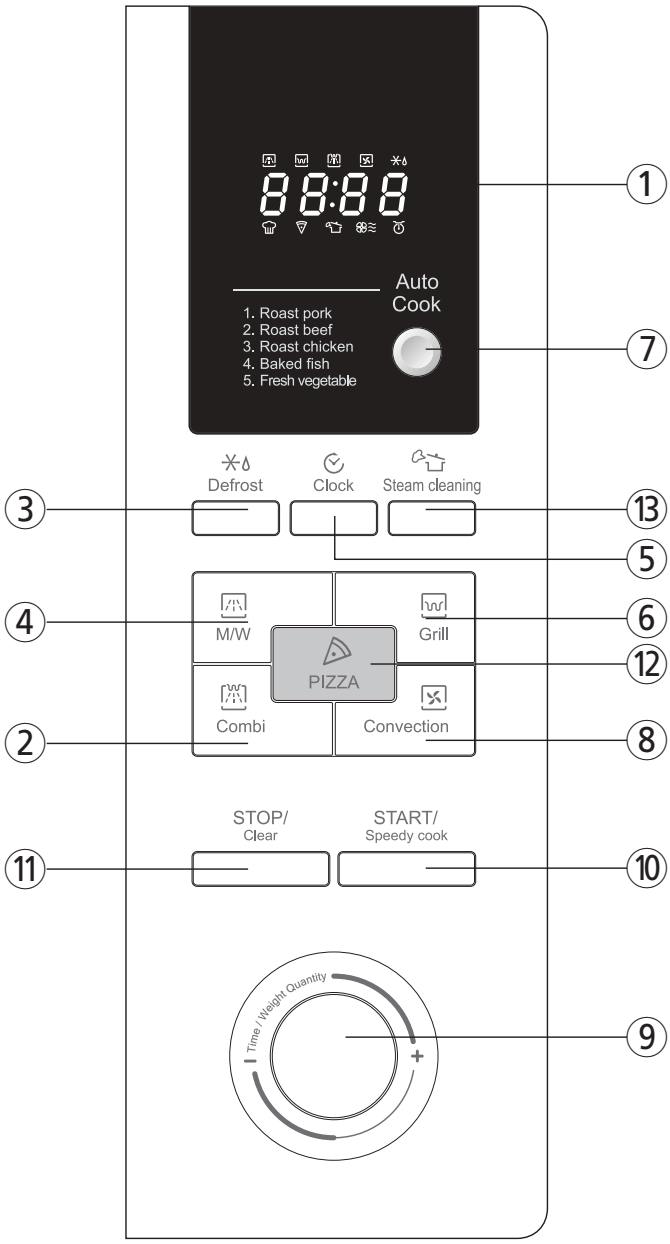
Improper use of the earthing plug can result in a risk of electric shock.

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




① **Display :** Cooking time, power level, program indicators and present time are displayed.
MW ( ): When blinking, the oven is operating in MICROWAVE COOK mode.
Grill ( ): When blinking, the oven is operating in GRILL mode.
Combi ( ): When blinking, the oven is operating in COMBI mode.
Defrost ( ): When blinking, the oven is operating in DEFROST mode.
Auto-cook ( ): When blinking, the oven is operating in AUTO COOK mode.
Convection ( ): When blinking, the oven is operating in CONVECTION mode.
gram ( ): When blinking, the oven is operating in weight input mode.

② **Combi :** Used to select combi mode.

③ **Defrost :** Used to defrost foods.

④ **MW :** Used to set power level of the microwave.

⑤ **Clock :** Used to set clock.

⑥ **Grill :** Used to select grill mode.

⑦ **Auto cook :** Used to cook or reheat.

⑧ **Convection :** Used to select convection mode and selected temp.

⑨ **Dial knob :** Used to set time, weight and quantity.

⑩ **START/SPEEDY COOK :** Used to start a program or a speedy start(each press adds 30 seconds of microwave cooking time).

⑪ **STOP/CLEAR :** Used to stop the oven operation or to delete the cooking data.

⑫ **PIZZA :** Used to cook pizza.

⑬ **STEAM CLEANING :** Used to clean the inside of the oven

# 6. DISASSEMBLY AND ASSEMBLY

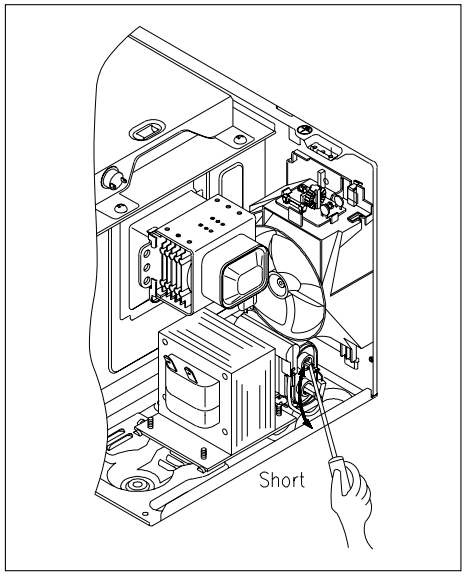
**- Cautions to be observed when trouble shooting.**

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.



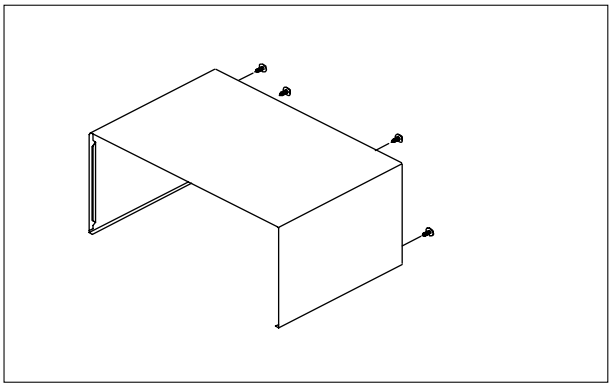

4. When the fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.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

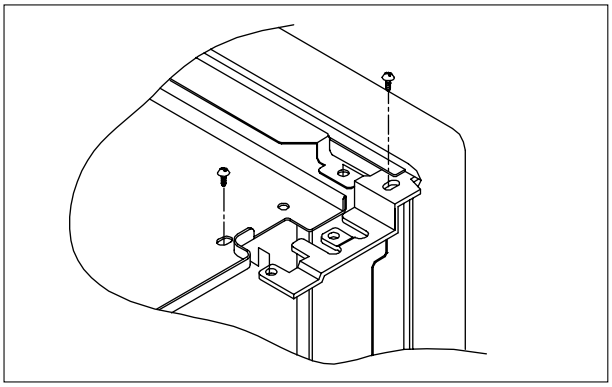
## 1. To remove cabinet

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

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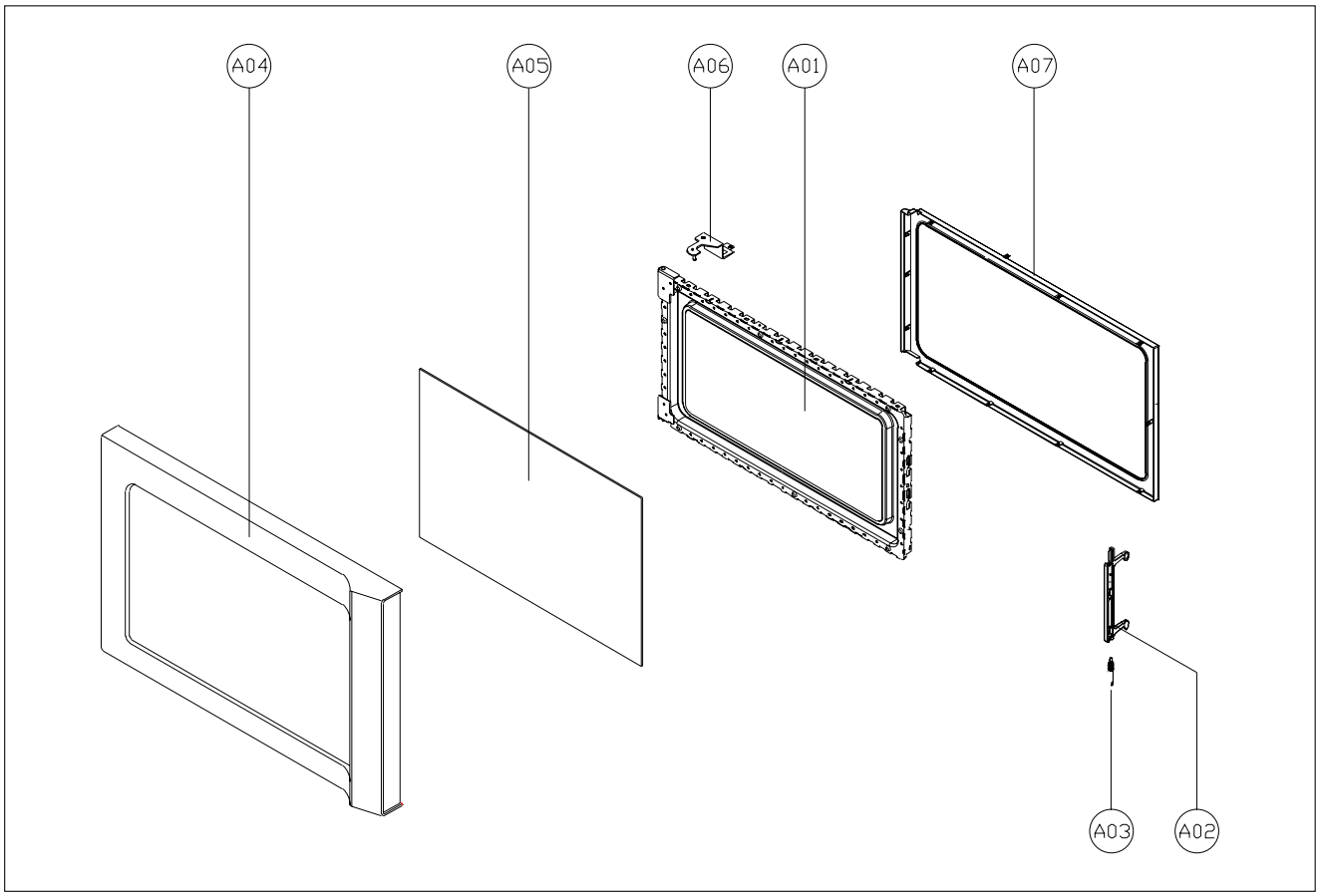
### 3. To remove door parts.



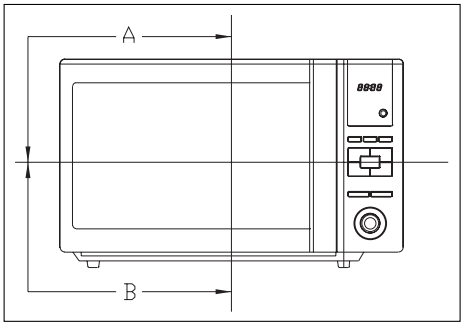

| REF NO. | PART CODE | PART NAME | DESCRIPTION | Q'TY | REMARK |
|---|---|---|---|---|---|
| A00 | 3511727210 | DOOR AS | KOC-9U0T7S | 1 | |
| A01 | 3511714700 | DOOR SEAL AS | KOC-910K0S | 1 | |
| A02 | 3513101200 | HOOK | POM | 1 | |
| A03 | 3515102300 | SPRING HOOK | PW1 | 1 | |
| A04 | 3512209240 | FRAME DOOR | ABS XR-401 SR-0320 | 1 | |
| A05 | 3517010100 | BARRIER-SCREEN *O | TEMP GCASS T3.2 | 1 | |
| A06 | 3515204900 | STOPPER HINGE *T AS | KOC-1B0K0S | 1 | |
| A07 | 3512302410 | GASKET DOOR | LUPOL 2300 | 1 | |

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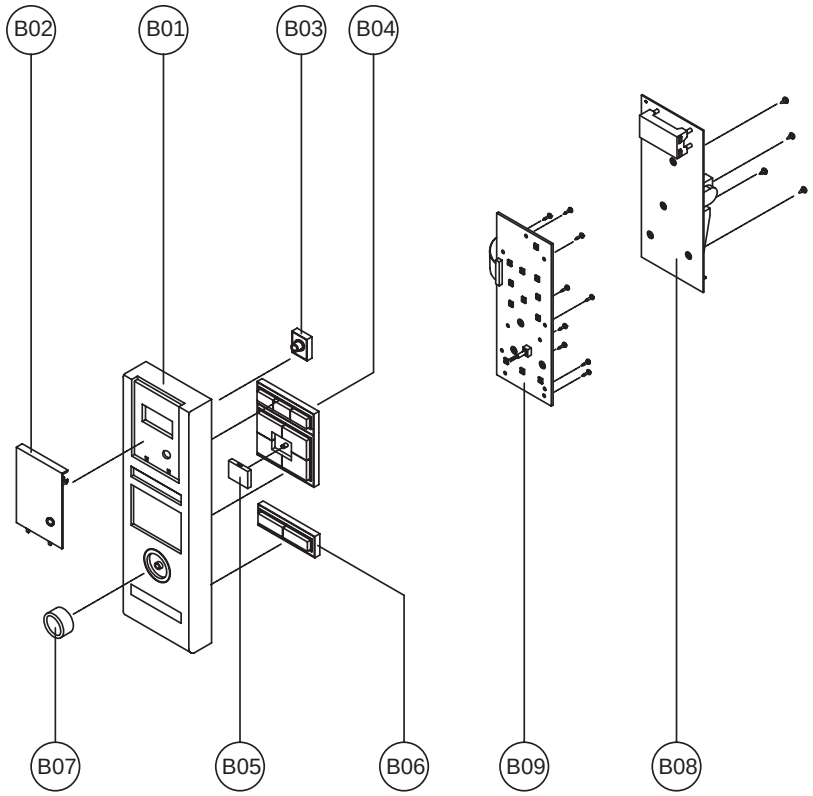
### 5. To remove control panel parts.

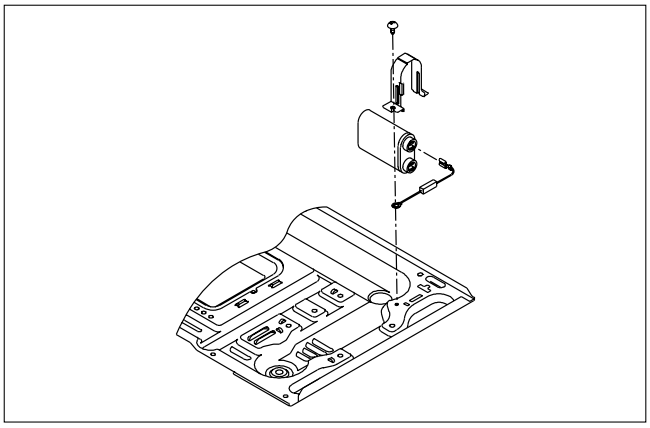



| REF NO. | PART CODE | PART NAME | DESCRIPTION | Q'TY | REMARK |
|---|---|---|---|---|---|
| B00 | PKCPSWYR00 | CONTROL PANEL AS | KOC-9U0T7S | 1 | |
| B01 | 3516736500 | CONTROL-PANEL | ABS SG-0760D SG-175 | 1 | |
| B02 | 3515503000 | WINDOW DISPLAY | SAN | 1 | |
| B03 | 3516916800 | BUTTON FUNCTI0N-A | ABS SG-0760D SG-175 | 1 | |
| B04 | 3516916900 | BUTTON FUNCTI0N-B | ABS SG-0760D SG-175 | 1 | |
| B05 | 3516917000 | BUTTON FUNCTI0N-C | ABS SG-0760D SG-175 | 1 | |
| B06 | 3516917100 | BUTTON FUNCTI0N-D | ABS SG-0760D SG-175 | 1 | |
| B07 | 3513409310 | KNOB VOLUME | ABS SG-076OD SG-175 | 1 | |
| B08 | PKMPMSYR00 | PCB MAIN MANUAL AS | KOC-9U0T7S | 1 | |
| B09 | PKBPMSYR00 | PCB BUTTON MANUAL AS | KOC-9U0T7S | 1 | |

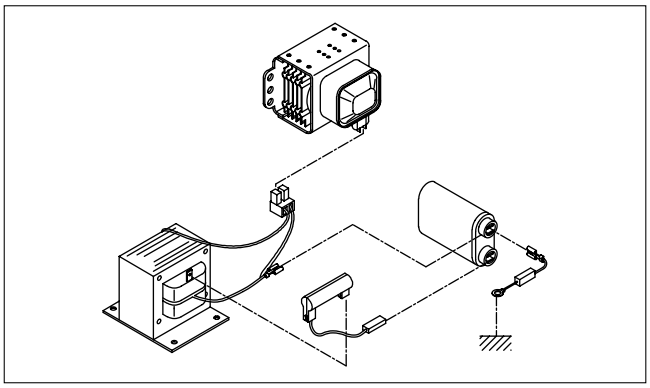
(1) Remove the screw which secure the control panel, push up two snap fits and draw forward the control panel assembly.
(2) Remove screws which secure the PCB Main manual ASS'Y(B08).
(3) Pull out the Main PCB assembly(B11).
(4) Remove screws which secure the PCB Button Manual ASS'Y(B09).
(5) Pull out the Knob volume(B07) from the Sub PCB assembly.
(6) Pull out the PCB button manual ASS'Y (B08).
(7) Pull out ten button from the control panel.
(8) Pull out Window display(B02) from the control panel.
(9) 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.

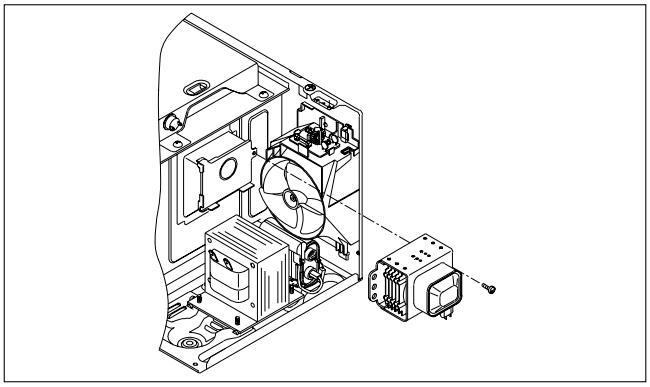


### ◆ High voltage circuit wiring

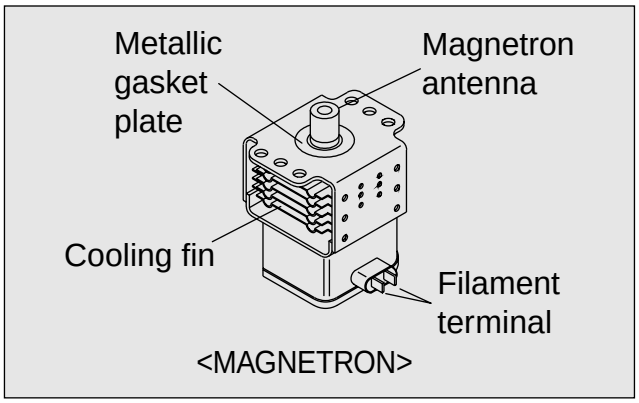


### 7. To remove magnetron.

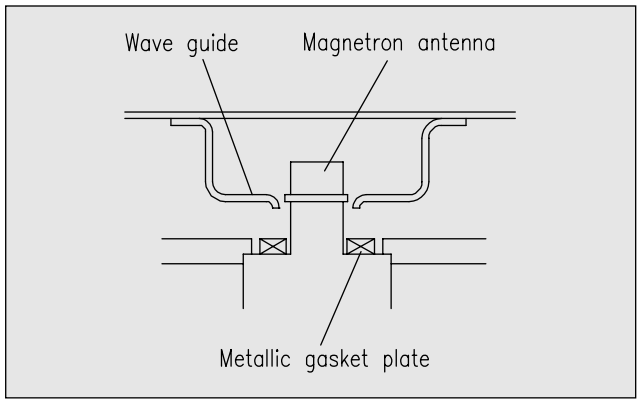
1) Remove a screw which secure the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



**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.

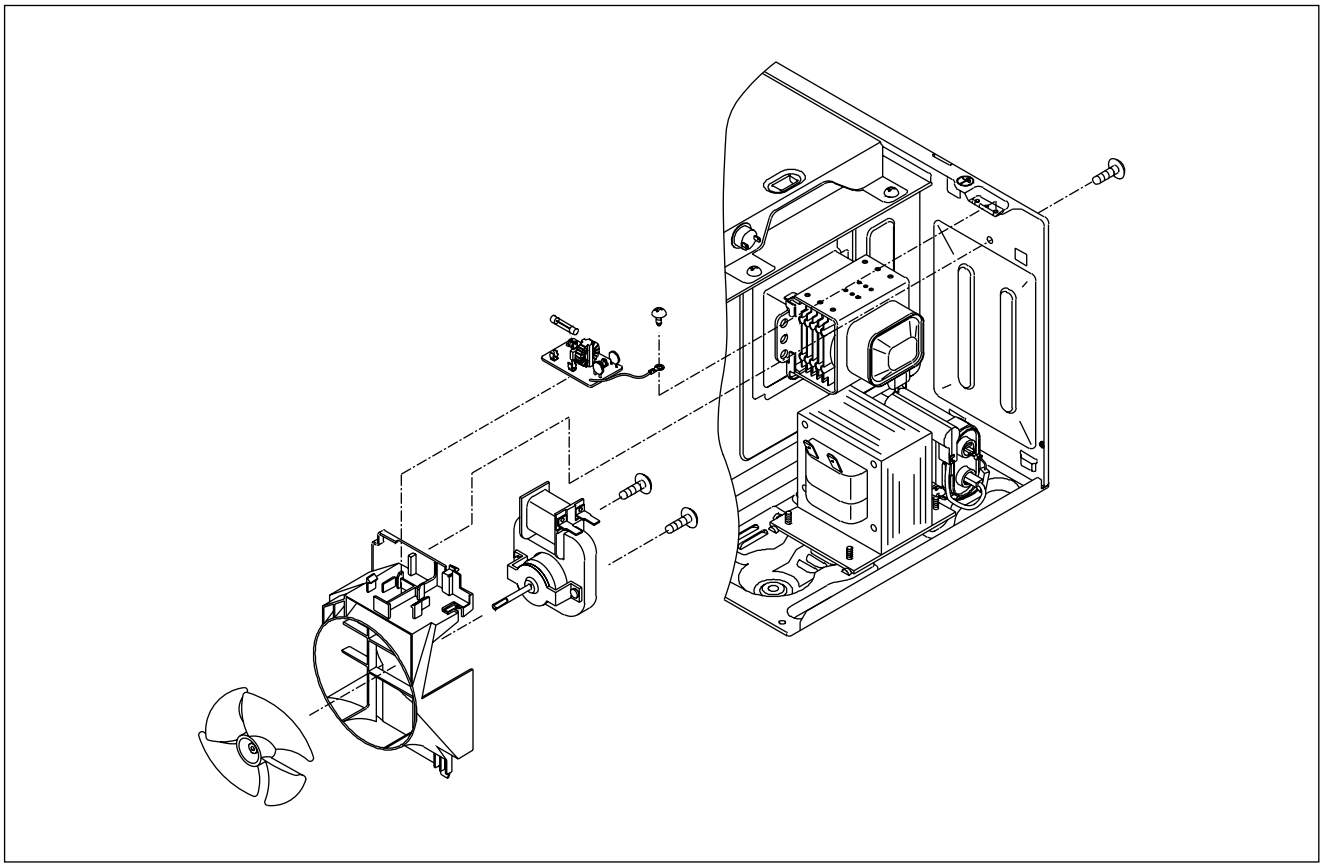


<MAGNETRON>



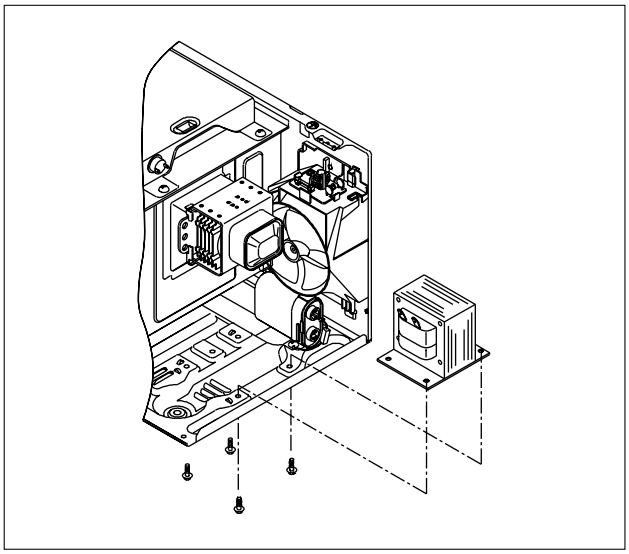
## 8. To remove wind guide assembly.

1) Remove a screw for earthing.
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 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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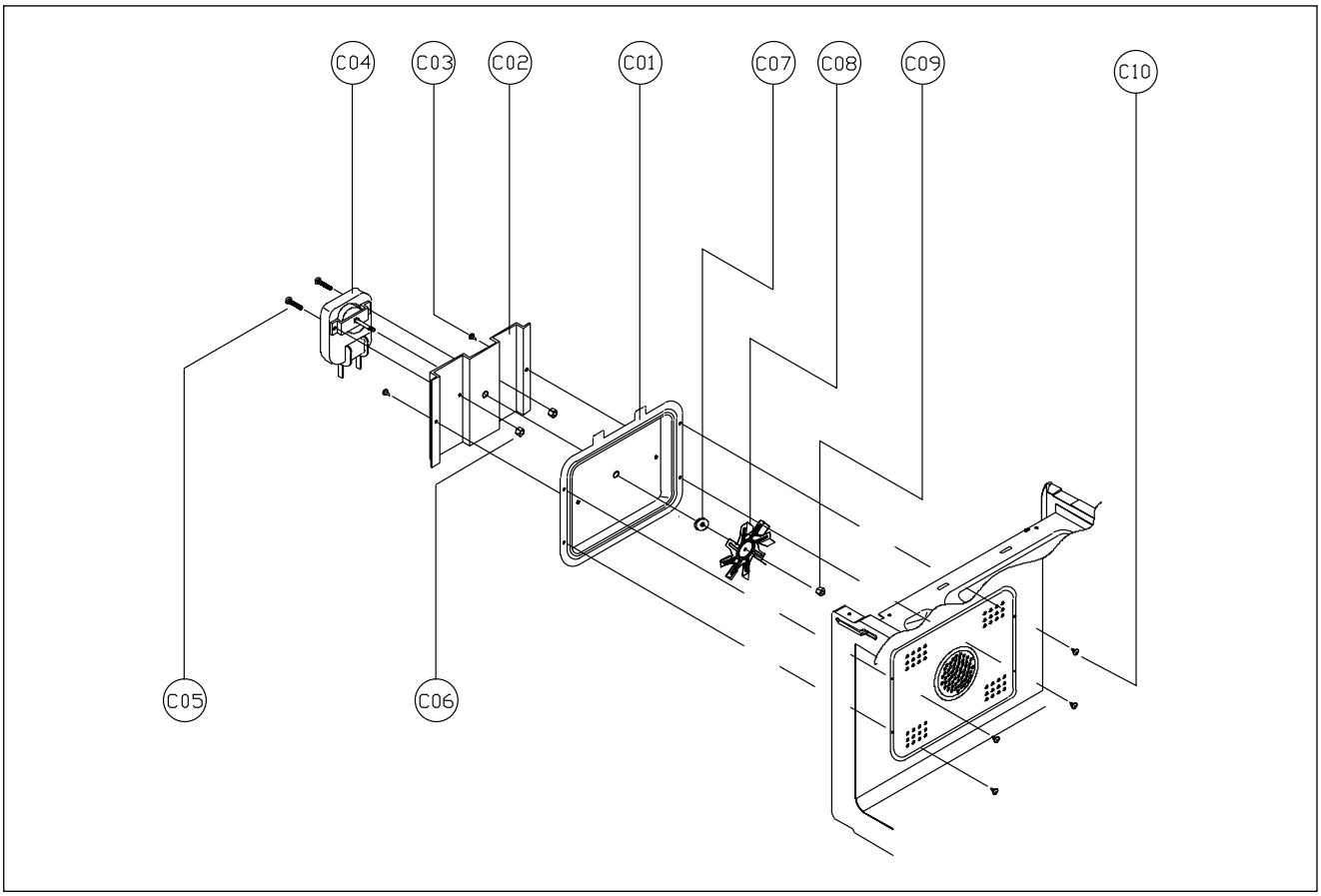
### 10. To remove Rear heater assembly parts.

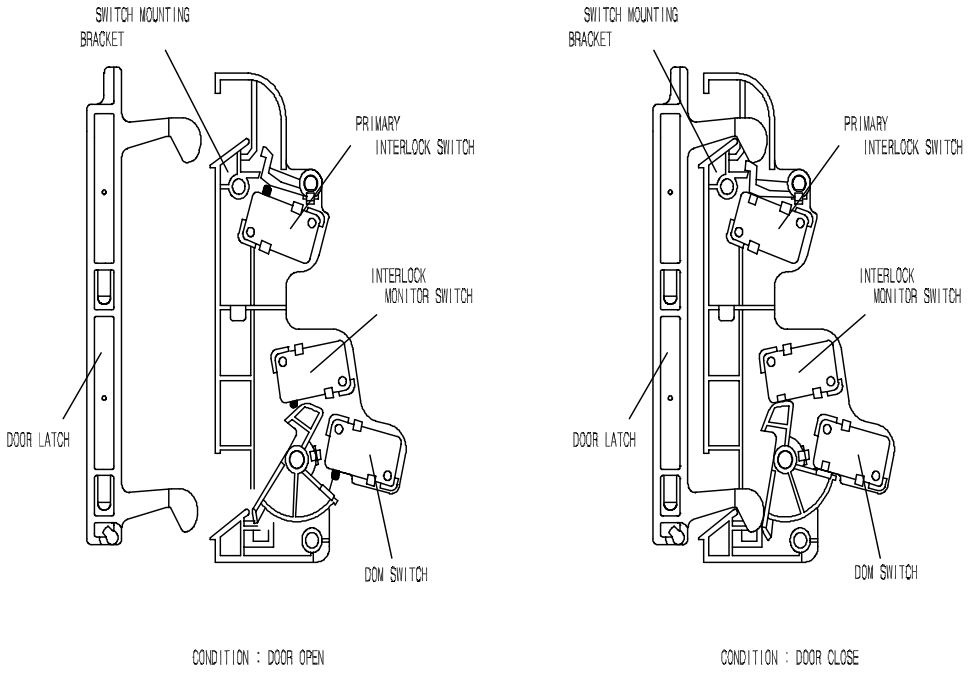



| REF NO. | PART CODE | PART NAME | DESCRIPTION | Q'TY | REMARK |
|---|---|---|---|---|---|
| C00 | 3511801300 | FAN CONVECTION AS | KOC-9U0T7S | 1 | |
| C01 | 3511414200 | COVER FAN CONVECTION | SA1D80 T0.5 | 1 | |
| C02 | 3515309600 | SUPPORTER FAN MOTOR | SBHG T0.6 | 1 | |
| C03 | 7113400814 | SCREW TAPPING | T1 BIN 4X8 MFNI | 2 | |
| C04 | 3966222200 | MOTOR SHADED POLE | MW08CA-T01 | 1 | |
| C05 | 7001401211 | SCREW MACHINE | PAN M4XL12 MFZN | 2 | |
| C06 | 3519900890 | NUT HEX | M4 | 2 | |
| C07 | 74001A3011 | WASHER PLAIN | PW-1-3 MFZN | 1 | |
| C08 | 3511800410 | FAN CONVECTION | SA1D T0.5 | 1 | |
| C09 | 7846300410 | NUT HEX | NUT FLANGE M3X0.7P MFZN | 1 | |
| C10 | 7112400808 | SCREW TAPPING | T1 TRS 4X8 SUS | 4 | |

1) Remove four-screws (C10) from the cavity and pull out the Fan Convection Ass'y.
2) Remove a nut (C9) and pull out the fan (C08) and the washer (C07).
3) Remove two-screw machines (C05) along with two nuts (C06), and pull out the motor shaded pole (C04).
4) Remove two-screws (C03), and detach the supporter fan motor (C02) from the cover fan convection (C01).
5) 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. (No position)

**(2) DOM 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 (No position) and presses the button of the DOM switch to bring it under ON condition. (No position)

**ADJUSTMENT :**

Interlock monitor switch

When the door is closed, the interlock monitor switch should be opened (No position) before other switches are closed.
When the door is opened, the interlock monitor switch should be closed (No position) 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.

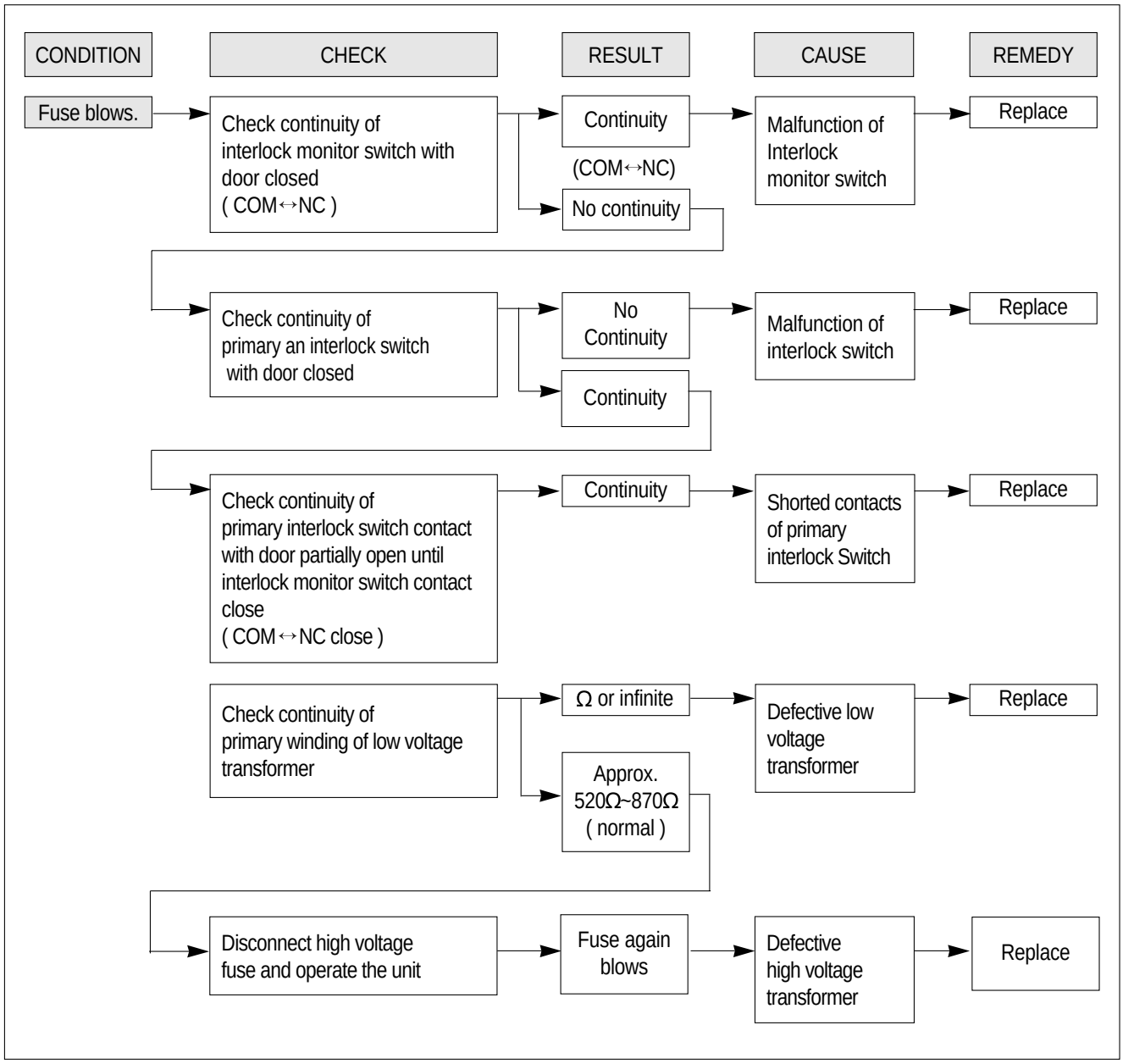
# 8. TROUBLE SHOOTING GUIDE

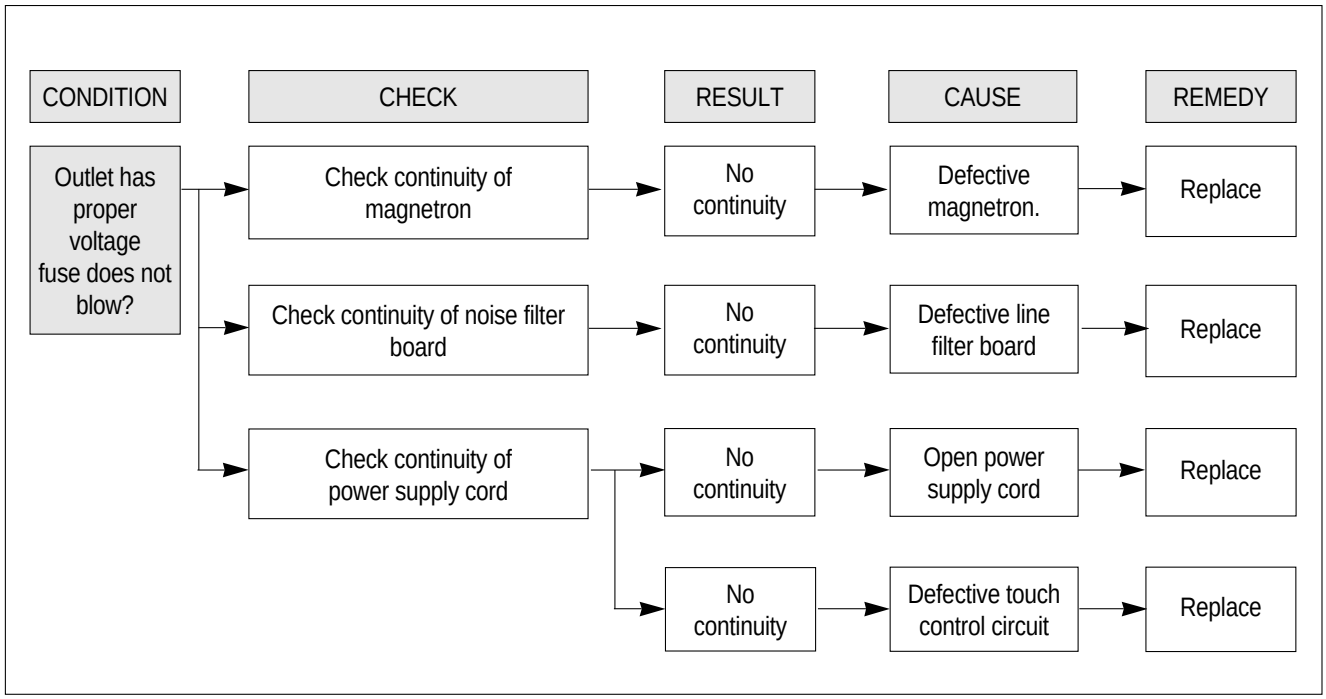
**Following the procedure below to check if the oven is defective or not.**

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.

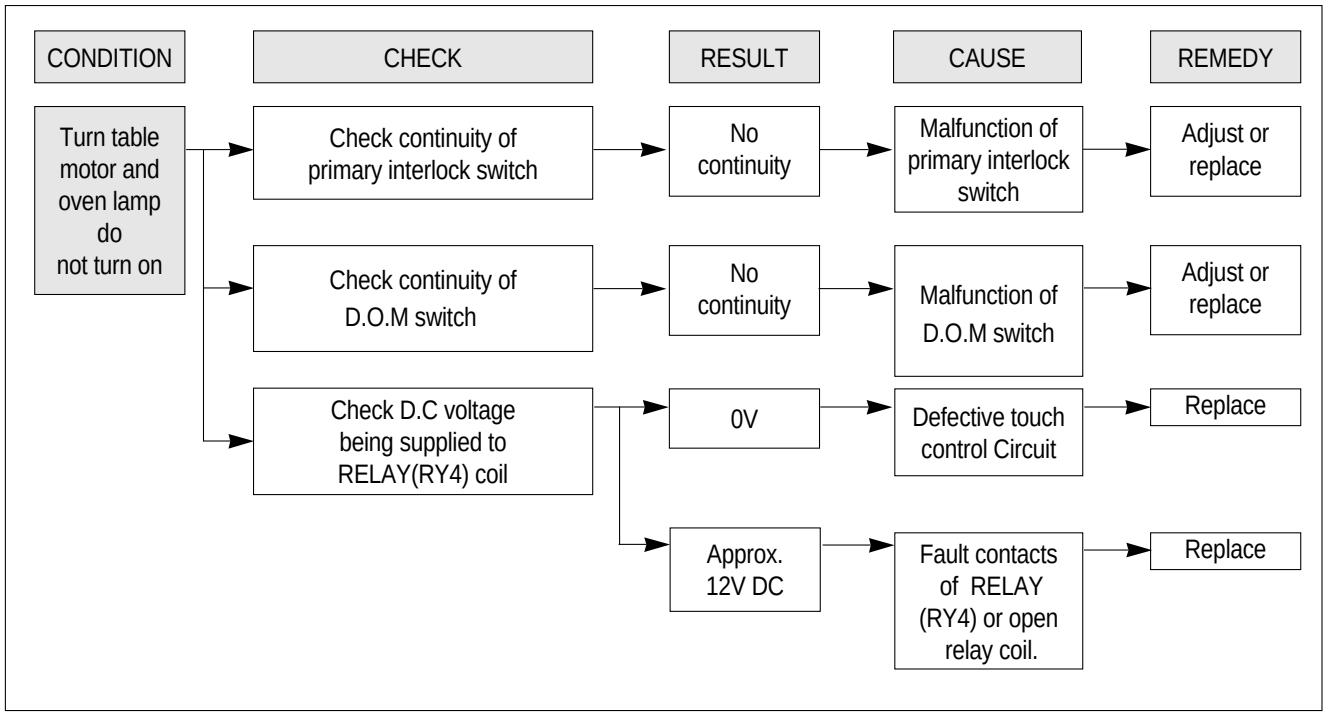




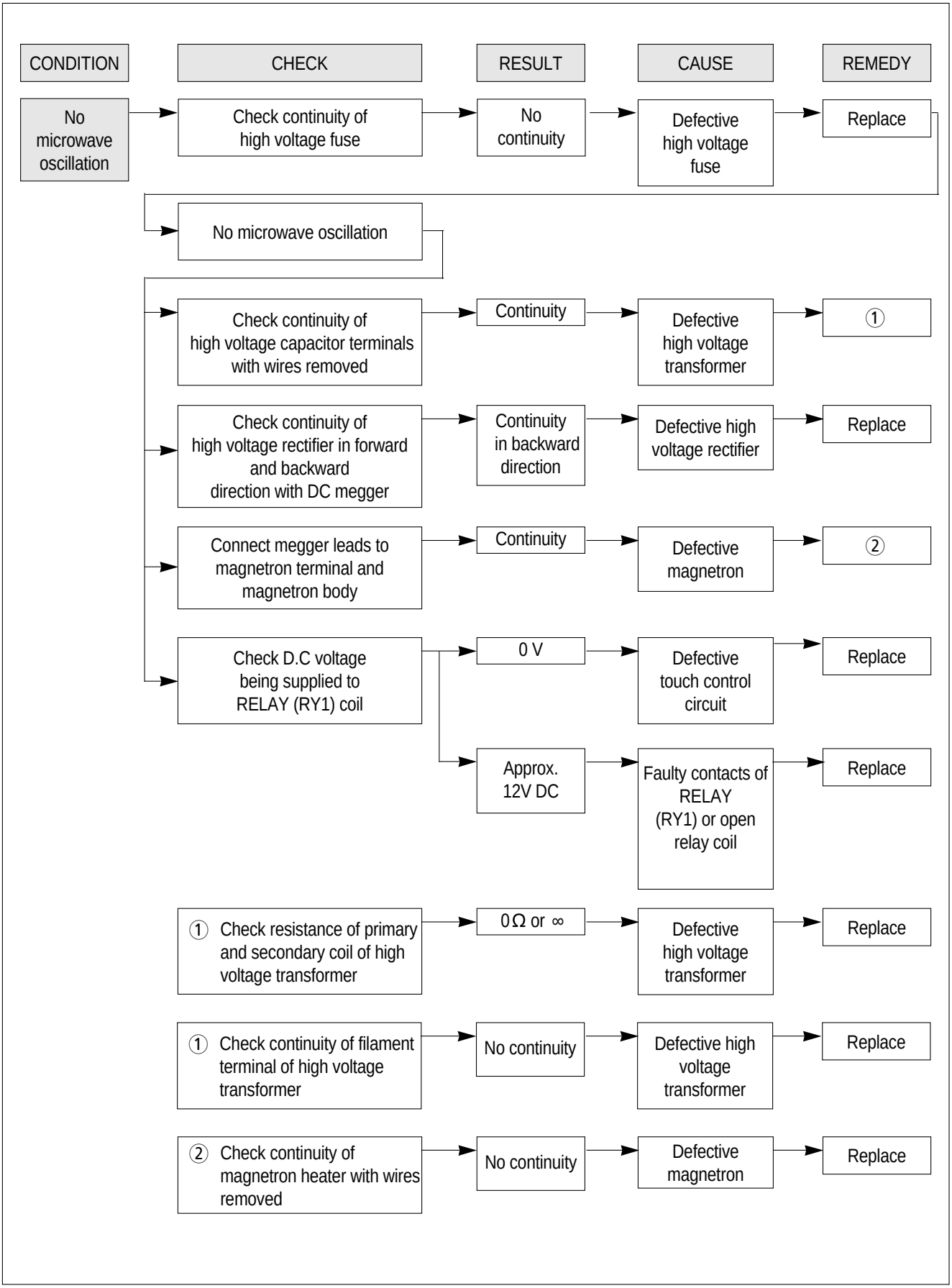

**NOTE : All these switches must be replaced at the same time, please refer to (7.Interlock mechanism and adjust) for adjustment instructions**

**(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.**

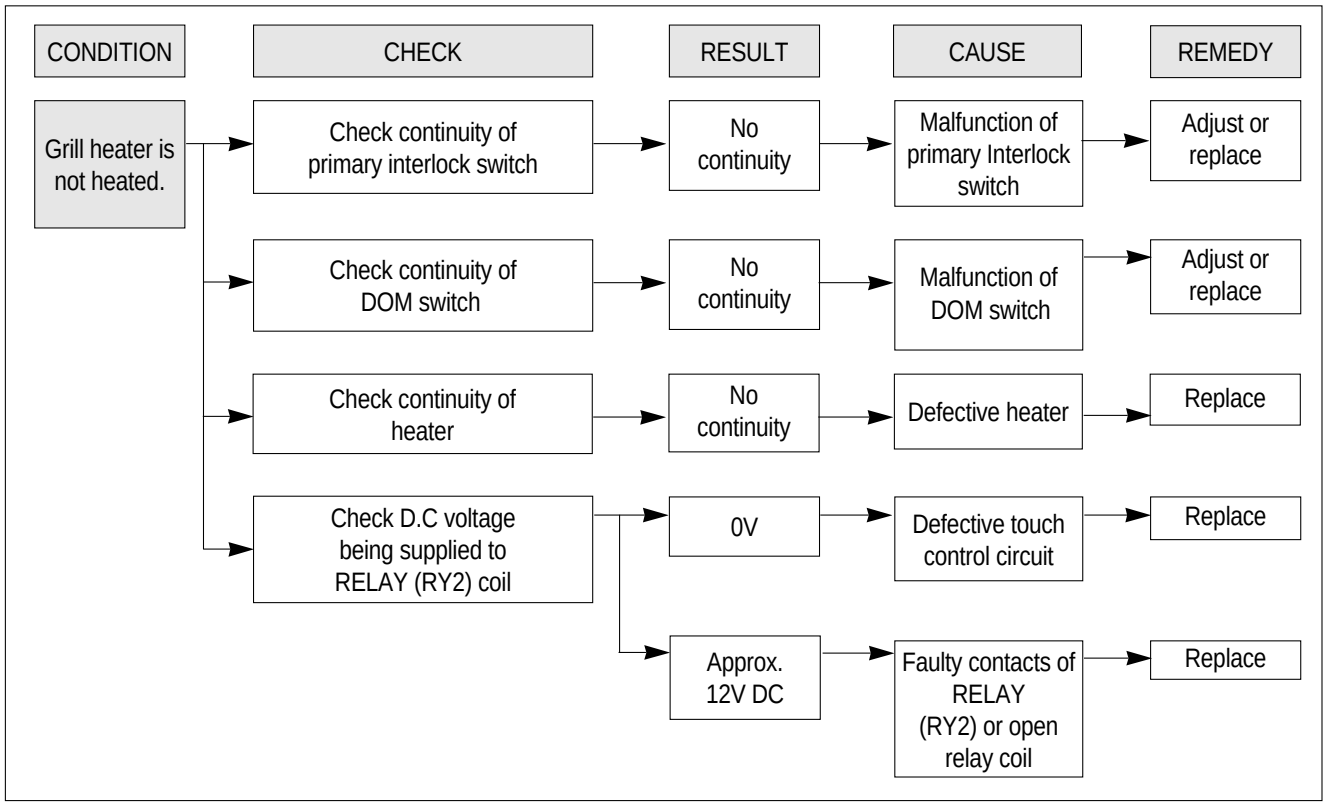


**TROUBLE 3) No microwave oscillation even though fan motor rotates.**



**(TROUBLE 4)**

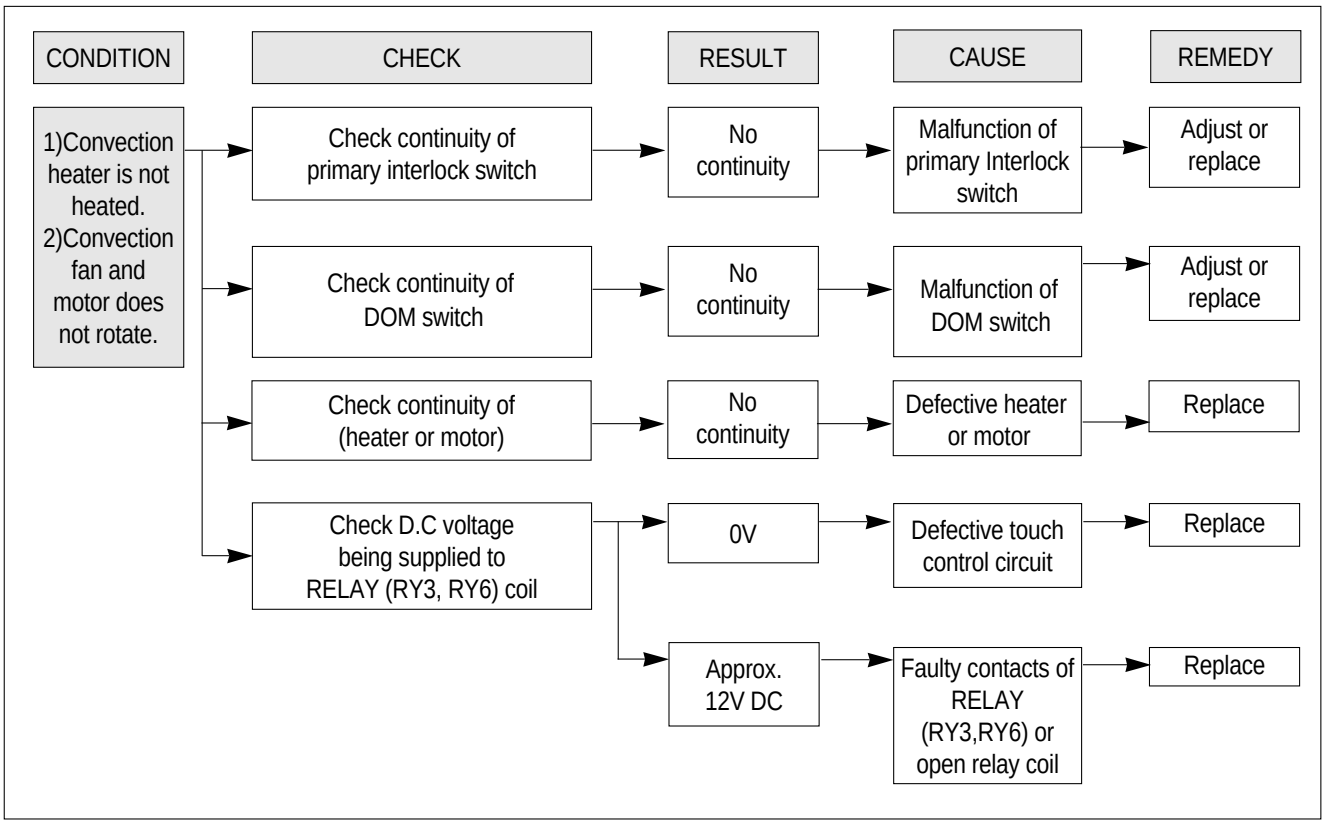
**Grill heater (upper heater) is not heated; food will not become hot.**




**(TROUBLE 5)**

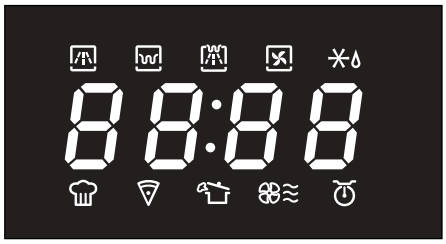
**1) Convection heater is not heated; food will not become hot.**

**2) Convection fan motor does no rotate.**



**(TROUBLE 6)**

**The following visual conditions inditions indicate a probable defective touch control Circuit or button P.C.B. assembly**



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.
8. Display does not show the time of day when clear button is touched.
9. Oven lamp and turn table motor do not stop although cooking is finished.
   Check if the RELAY(RY4) contacts close and 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 button for continuity of the button | Normal | Malfunction of sub pcb assembly | Replace control box sub-assembly |

**(TROUBLE 7)**

**When "ERROR 2 ERROR 3" come on display.**

| CONDITION | CHECK | RESULT | CAUSE | REMEDY |
|---|---|---|---|---|
| "ERROR 2 & ERROR 3" come on display | Check continuity of thermistor (resistance of thermistor) | 0Ω or infinite | Replace | Replace |
| | | Approx 200~300kΩ (room temperature) | | |
| | Check continuity of heater (convection, upper) | No continuty | Defective heater | Replace |
| | | continuity | Defective touch control circuit | Replace |

# 9. MEASUREMENT AND TEST

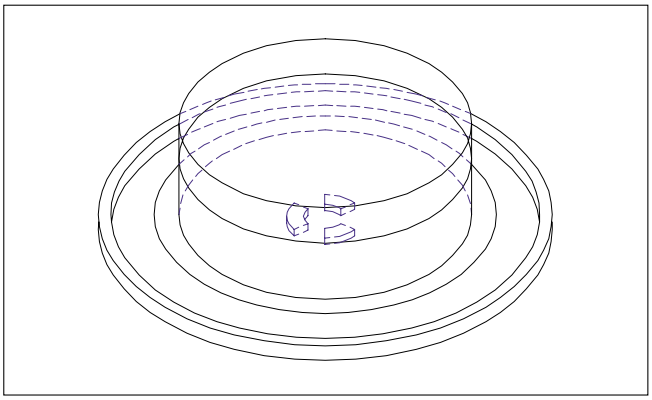
## 1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

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

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

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 SPECIFICATIONS).
3. Ambient temperature should be 20 ± 2°C (68 ± 3.6°F)

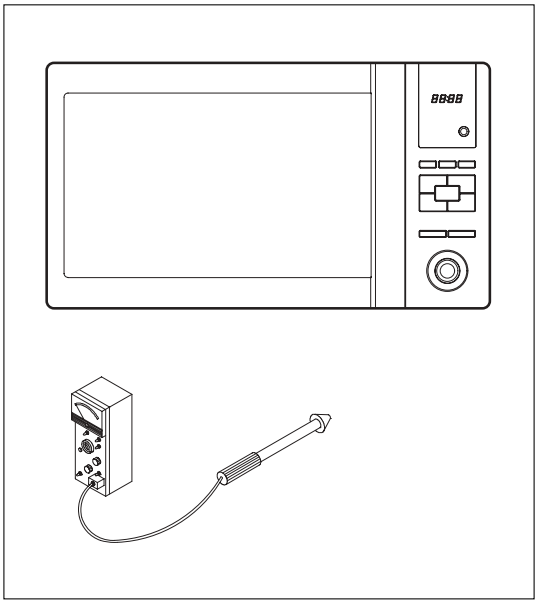
✻ **Heating time for power output: ($T_2 = T_0$)**

| 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

**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.

## 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. 171Ω±10%
   Filament winding ... Approx. 0Ω
   Primary winding ... Approx. 1.7Ω

**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 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 0.1Ω or less.
3) A continuity check between each filament terminal and magnetron case should read open.

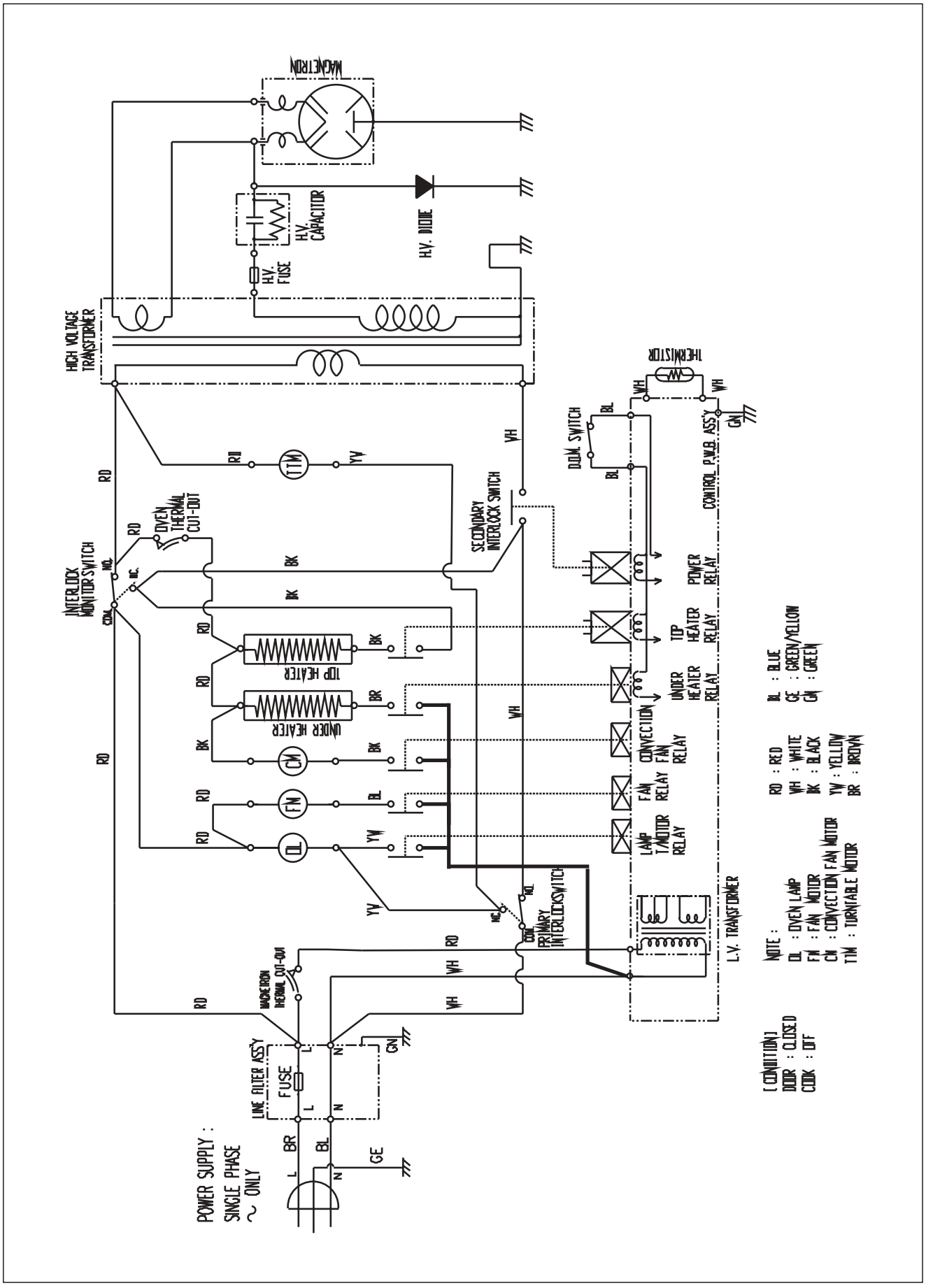
**5. Fuse**

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.

## 4. COMPONENT ACTION

| COOKING MODE | | MAGNE-TRON | UPPER ELEMENT | LOWER ELEMENT | CONVEC-TION FAN |
|---|---|---|---|---|---|
| MANUAL MODE | M/W | ● | | | |
| | GRILL | | ● | ● | |
| | COMBI | ● | ● | ● | ● |
| | CONVECTION | | ● | ● | ● |
| AUTO MODE | ROAST PORK | ● | ● | ● | ● |
| | ROAST BEEF | ● | ● | ● | ● |
| | ROAST CHICKEN | ● | ● | ● | ● |
| | BAKED FISH | ● | ● | | ● |
| | FRESH VEGETABLES | ● | | | |
| PIZZA | CHILLY PIZZA | ● | ● | ● | ● |
| | FROZEN PIZZA | ● | ● | ● | ● |
| | FRESH PIZZA | ● | ● | ● | ● |
| STEAM CLEANING | | ● | | ● | |

# 10. WIRING DIAGRAM



# 11. EXPLODED VIEW AND PARTS LIST

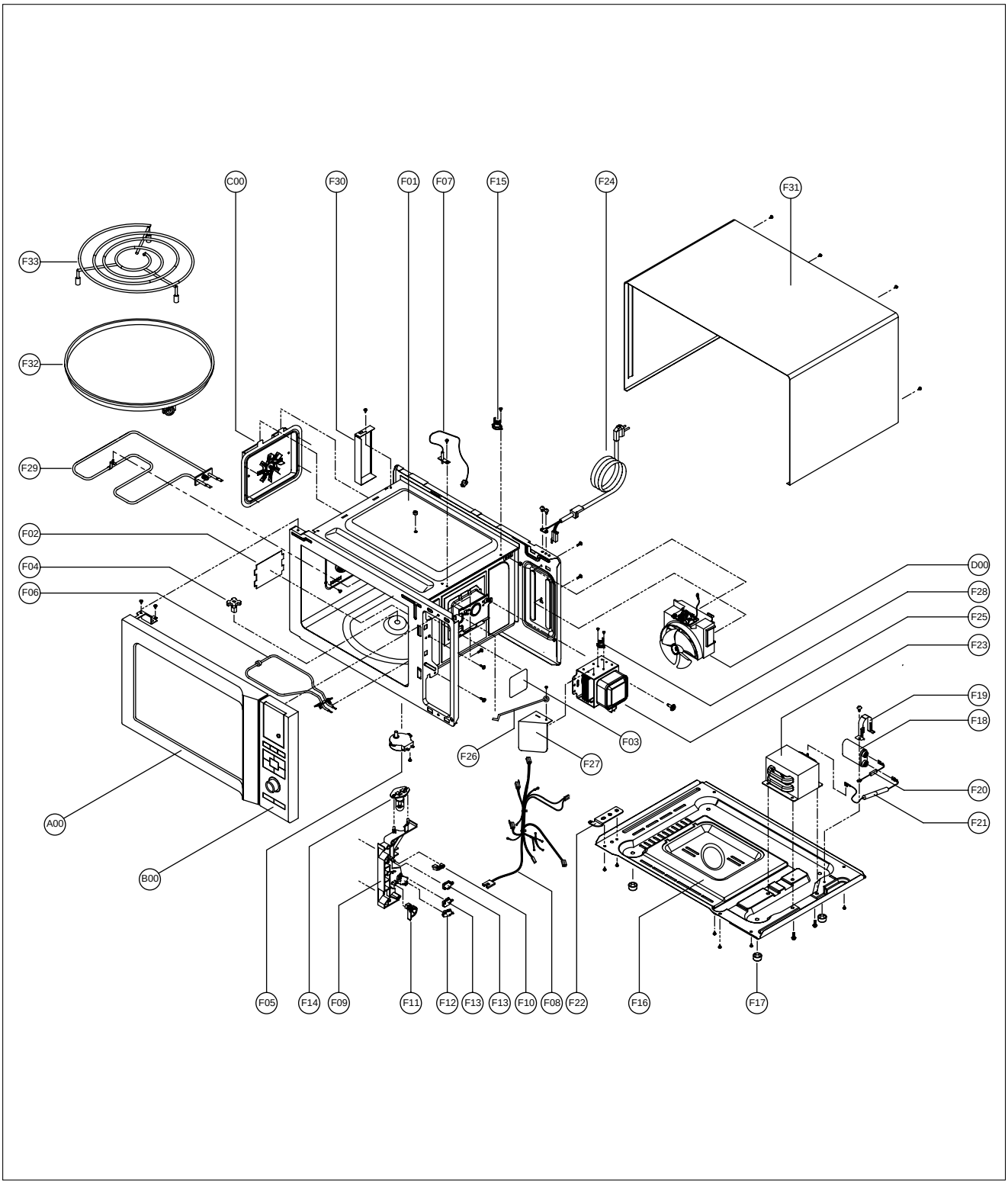
## 1. DOOR ASSEMBLY

Refer to 6. Disassembly and assembly.

## 2. CONTROL PANEL ASSEMBLY

Refer to 6. Disassembly and assembly.

## 3. TOTAL ASSEMBLY



✔ **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).

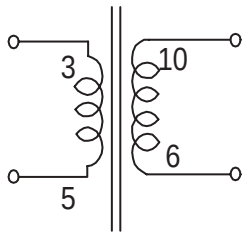
| NO | PARTS_CODE | PARTS_NAME | PARTS_DESCR | PQTY |
|---|---|---|---|---|
| A00 | 3511727210 | DOOR AS | KOC-9U0T7S | 1 |
| B00 | PKCPSWYR00 | CONTROL PANEL AS | KOC-9U0T7S | 1 |
| C00 | 3511801300 | FAN CONVECTION AS | KOC-9U0T7S | 1 |
| D00 | 3512529000 | GUIDE WIND AS | KOC-9U0T7S | 1 |
| F01 | 3516207410 | CAVITY AS | KOC-9U0T7S | 1 |
| F02 | 3511408300 | COVER WAVE GUIDE | MICA T0.35 | 1 |
| F03 | 3517501100 | COVER LAMP | PET 0.1 | 1 |
| F04 | 3517413600 | COUPLER | CERAMIC | 1 |
| F05 | 3966831010 | MOTOR SYNCRO | SSM-16H 230V 50HZ 3RPM STEEL | 1 |
| F06 | 3512808110 | HEATER | 230V 550W TIANCHENG | 1 |
| F07 | 3514801400 | SENSOR TEMPERATURE | PTM-K312-D7 | 1 |
| F08 | 3512783310 | HARNESS MAIN | KOC-9U0T7S | 1 |
| F09 | 3513820500 | LOCK | PP | 1 |
| F10 | 3513700800 | LEVER LOCK | POM | 1 |
| F11 | 3513702100 | LEVER SW MICRO | POM,KOG-846T0S | 1 |
| F12 | 4415A17352 | SW MICRO | VP-533A-OF SPNO #187 200G | 1 |
| F13 | 4415A66910 | SW MICRO | VP-531A-OF/SZM-V16-FA-61 | 2 |
| F14 | 3513601600 | LAMP | BL 240V 25W T25 C7A H187 | 1 |
| F15 | 3518903400 | THERMOSTAT | OFF:150 ON:60 V #187 | 1 |
| F16 | 3510313620 | BASE | SBHG T0.65 | 1 |
| F17 | 3512101400 | FOOT | DASF-310 | 4 |
| F18 | 3518303401 | CAPACITOR HV | 2100VAC 1.05UF #187 | 1 |
| F19 | 3513003200 | HOLDER HV CAPACITOR | SECC T0.5 | 1 |
| F20 | 3518400400 | DIODE HV | HVR-1X-3AB 12KV #187 | 1 |
| F21 | 3518701900 | FUSE HV | 5KV 0.8A T.H.V.060T | 1 |
| F22 | 3515202800 | STOPPER HINGE *U AS | KOR-121M0A | 1 |
| F23 | 3518123800 | TRANS HV | R1S59D LS00 | 1 |
| F24 | 35113A5QM5 | CORD POWER AS | 3X1.0 80X80 120-RTML 1.4M | 1 |
| F25 | 3518003700 | MAGNETRON | 2M218JFL 6CF | 1 |
| F26 | 3515308400 | SUPPORTER WIRE | SWRH D=2.0 | 1 |
| F27 | 3512527800 | GUIDE AIR | SECC T0.5 | 1 |
| F28 | 3518903800 | THERMOSTAT | OFF:160 ON:115 V #187 | 1 |
| F29 | 3512808100 | HEATER | 230V 1350W TIANCHENG | 1 |
| F30 | 3512528600 | GUIDE AIR OUTLET | SA1D-80 T0.5 | 1 |
| F31 | 3510810600 | CABINET AS | KOC-9U0T7S | 1 |
| F32 | 3517211600 | TRAY METAL AS | KOC-9U0T7S | 1 |
| F33 | 3517207310 | TRAY RACK AS | KOC-1B0K0S 30MM | 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

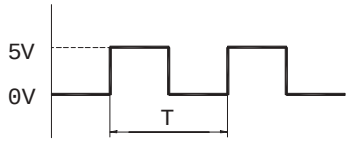
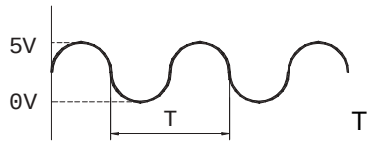



| Terminal | Voltage(load) | Voltage(no load) |
|---|---|---|
| 6-10 | AC 12.4 V | AC 13.3 V |

**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

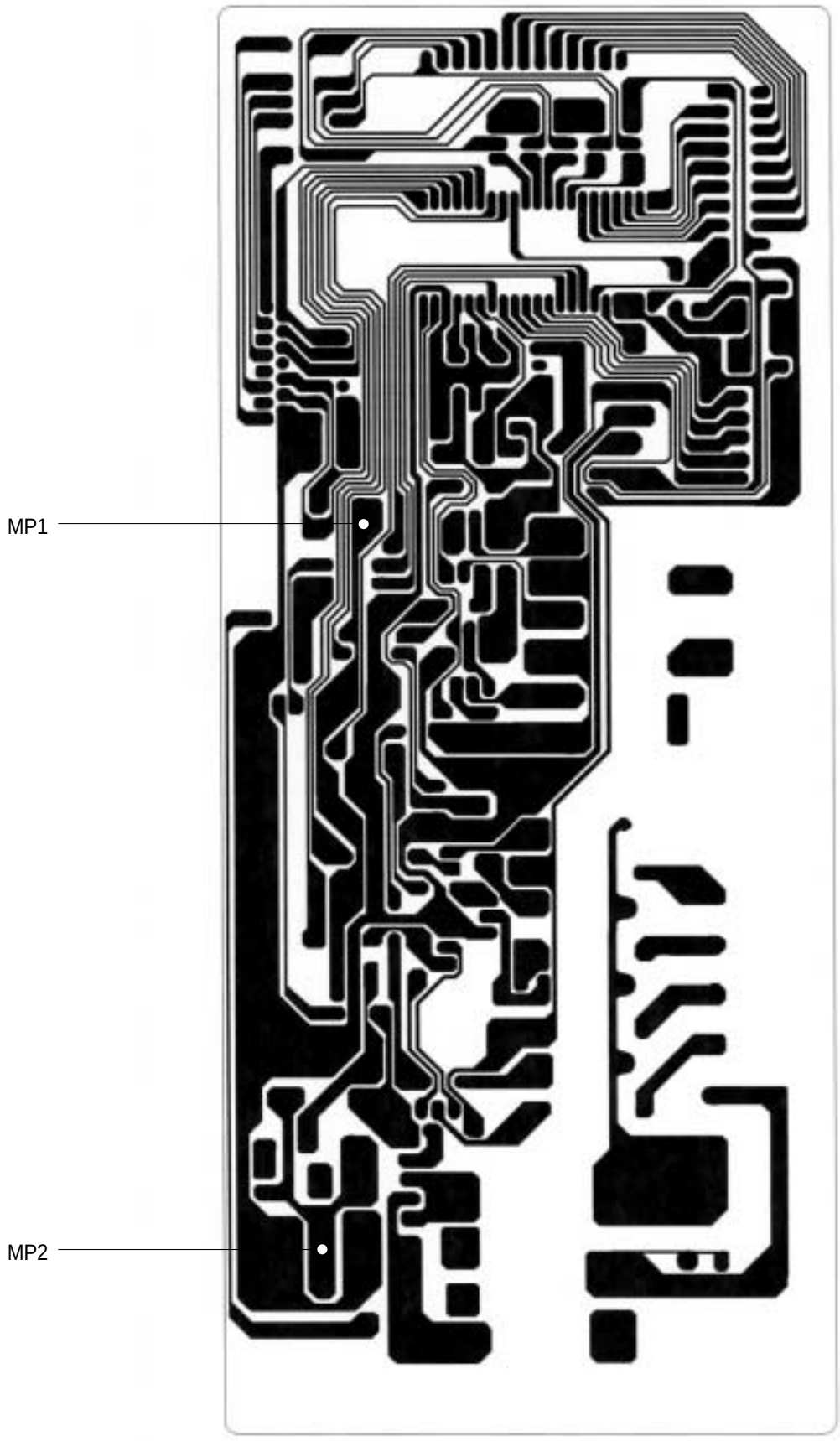
| NO | CHECK POINT | REMARK |
|---|---|---|
| 1 | IC1 PIN 2, 3, 4 | 5VDC± 5% |
| 2 | IC1 PIN 15 |  T : 20 ms(50Hz) |
| 3 | IC1 PIN 17 OR 18 |  T : 250 ns(4MHz) |



- Check method

| NO | MEASURE POINT | WAVE FORM | REMEDY | REMARK |
|---|---|---|---|---|
| 1 | MP1 | DC 5V± 5% | Replace VL1, EC1, C4, C5 | NO LOAD |
| 2 | MP2 | DC 12V± 20% | Replace D17-20, EC2, R28, R29, D15, D7 | NO LOAD |

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

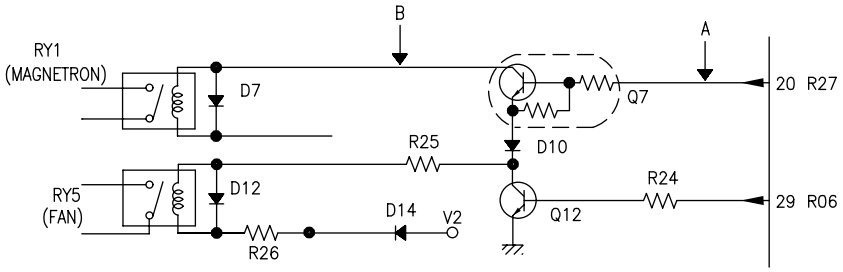



**MEASUREPOINT**

**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.

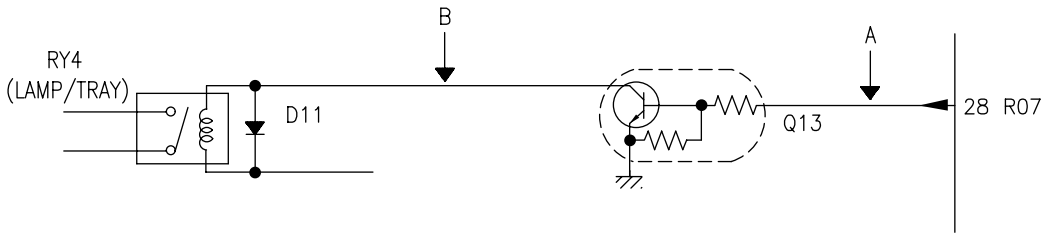
*Cause: **RELAY 1** does not operate.




| STATE | POINT A | POINT B |
|---|---|---|
| **RELAY 1** ON | +5V DC | GND |
| **RELAY 1** OFF | GND | 12V 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.

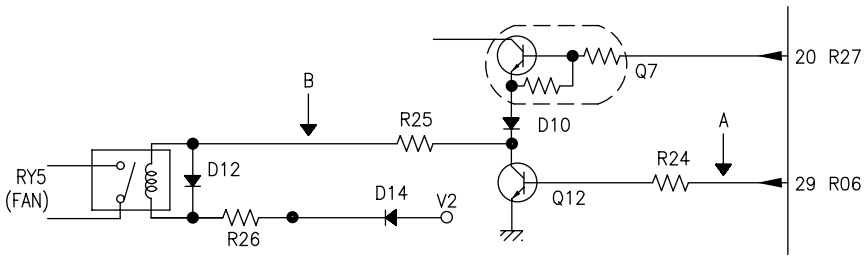
*Cause: **RELAY 4** does not operate.




| STATE | POINT A | POINT B |
|---|---|---|
| **RELAY 4** ON | +5V DC | GND |
| **RELAY 4** OFF | GND | 12V DC |

3) When touching M/W button, oven lamp turns on and fan motor does not rotate but cook indicator in display comes on.

*Cause: **RELAY 5** does not operate.

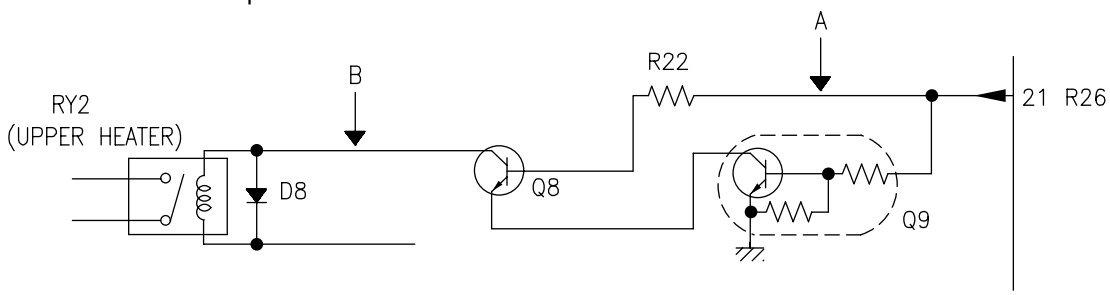



| STATE | POINT A | POINT B |
|---|---|---|
| **RELAY 5** ON | +5V DC | GND |
| **RELAY 5** OFF | GND | 12V DC |

**4. Case of no heating of top 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 2** does not operate.

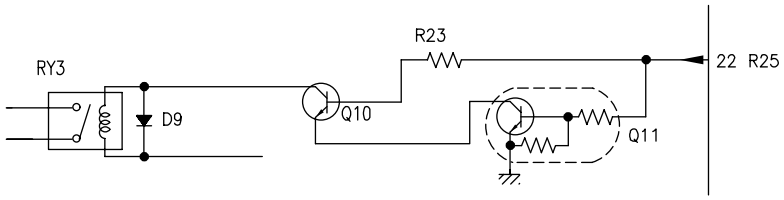



| STATE | POINT A | POINT B |
|---|---|---|
| **RELAY 2** ON | +5V DC | GND |
| **RELAY 2** OFF | GND | 12V DC |

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

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

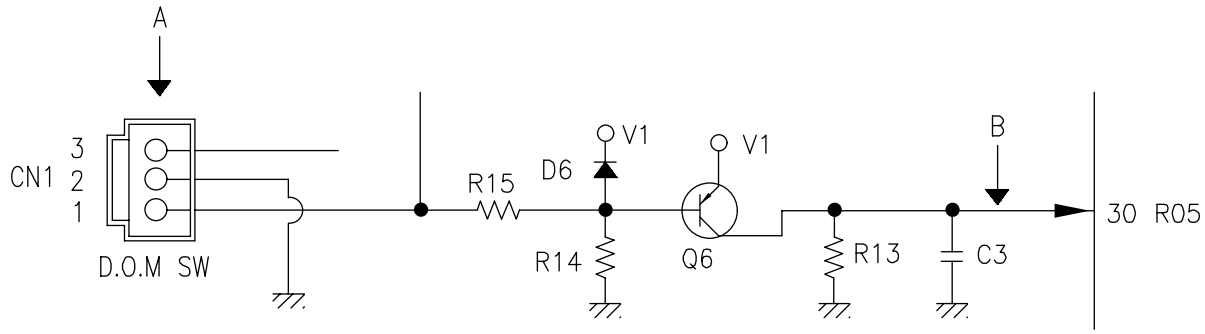
*Cause: **RELAY 3** does not operate.




| STATE | POINT A | POINT B |
|---|---|---|
| **RELAY 3** ON | +5V DC | GND |
| **RELAY 3** OFF | GND | 12V DC |

**6. Case of no stopping of the count down timer**

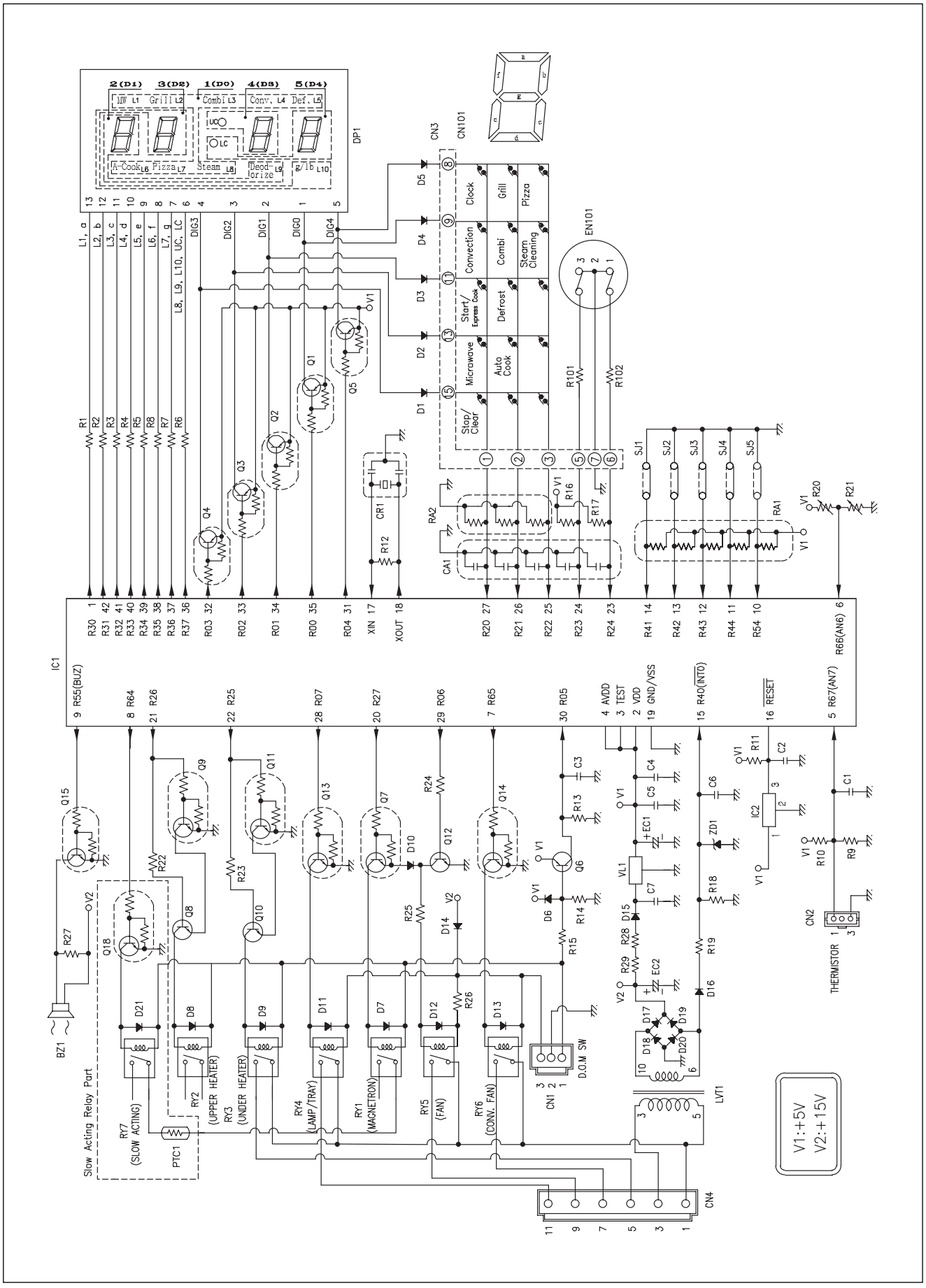
When the door is opened during operation, the count down timer does not stop.




| 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



**PCB ASS'Y PART LIST**

| NO | LOCATION | PART CODE | NAME | SPECIFICATION | Q'TY |
|---|---|---|---|---|---|
| 1 | BZ1 | 3515600100 | BUZZER | BM-20K | 1 |
| 2 | CA1 | CN5XB-102M | C ARRAY | 6P(5) 1000PF M 50V | 1 |
| 3 | EC1 | CEXE1H100A | C ELECTRO | 50V RS 10uF | 1 |
| 4 | EC2 | CEXF1E102V | C ELECTRO | 25V RSS 1000MF | 1 |
| 5 | CN1 | 3519150530 | CONNECTOR WAFER | YW396-03V | 1 |
| 6 | CN2 | 30166M5030 | CONNECTOR WAFER | MOLEX 35312-0310 | 1 |
| 7 | CN3 | 4CW215SBD0 | CONNECTOR WAFER | HLEM15S-1 | 1 |
| 8 | CN4 | 4CW3061MX0 | CONNECTOR WAFER | MOLEX 35328-0610 | 1 |
| 9 | D1~16 | DZN4148--- | DIODE RECTIFY | 1N4148 | 16 |
| 10 | D17~20 | DZN4004A-- | DIODE RECTIFY | KN4004A | 4 |
| 11 | ZD1 | DZUZ5R1BSB | DIODE ZENER | UZ- 5.1BSB 1/2W | 1 |
| 12 | DP1 | DTOF4422BM | LED DISPLAY | TOF-4422BMA-B14-F | 1 |
| 13 | M287 | 3514331240 | PCB MAIN | 95.3X225 | 1 |
| 14 | RA1 | RA-86X104J | R ARRAY | 6P(5) 1/8 100K OHM J | 1 |
| 15 | RA2 | RA-85X104J | R ARRAY | 5P(4) 1/8 100K OHM J | 1 |
| 16 | R1~8 | RD-AZ331J- | R CARBON FILM | 1/6W 330 5% | 8 |
| 17 | R11,19,21,27 | RD-AZ102J- | R CARBON FILM | 1/6W 1K 5% | 4 |
| 18 | R15,18,22,23,24 | RD-AZ472J- | R CARBON FILM | 1/6W 4.7K 5% | 5 |
| 19 | R14 | RD-AZ473J- | R CARBON FILM | 1/6W 47K 5% | 1 |
| 20 | R13 | RD-AZ103J- | R CARBON FILM | 1/6W 10K 5% | 1 |
| 21 | R16,17 | RD-AZ104J- | R CARBON FILM | 1/6W 100K 5% | 2 |
| 22 | R12 | RD-AZ105J- | R CARBON FILM | 1/6W 1M 5% | 1 |
| 23 | R10 | RN-AZ1002F | R METAL FILM | 1/6W 10K 1% | 1 |
| 24 | R9 | RN-AZ1203F | R METAL FILM | 1/6W 120K 1% | 1 |
| 25 | R26 | RD-4Z510J- | R CARBON FILM | 1/4W 51 5% | 1 |
| 26 | R25 | RD-4Z101J- | R CARBON FILM | 1/4W 100 5% | 1 |
| 27 | R28,29 | RD-2Z270JS | R CARBON FILM | 1/2W 27 5% SMALL | 2 |
| 28 | CR1 | 5P4R00MTS- | RESONATOR CERA | CRT 4.00MS | 1 |
| 29 | VL1 | 1CPMC7805C | IC REGULATOR | MC7805C | 1 |
| 30 | Q1~5 | TZRA106M-- | TRANSISTOR | KRA106M | 5 |
| 31 | Q7,9,11,13,14,15 | TZRC106M-- | TRANSISTOR | KRC106M | 6 |
| 32 | Q6 | TZTA1266Y- | TRANSISTOR | KTA-1266Y | 1 |
| 33 | Q8,10,12 | TZTC3198GR | TRANSISTOR | KTC3198GR | 3 |
| 34 | C2,5 | CCZB1H102K | CAPACITOR CERA | 102 50V Z AXIAL | 2 |
| 35 | C1,3,4,7 | CCZF1H104Z | CAPACITOR CERA | 104 50V Z AXIAL | 4 |
| 36 | C6 | CCZF1H473Z | CAPACITOR CERA | 473 50V Z AXIAL | 1 |
| 37 | LVT1 | 5EPV041412 | TRANS POWER | DMR-621FS | 1 |
| 38 | J1~3,5,7,11,14,15,18,19,21~23 | 85801052GY | WIRE COPPER 7.5mm | 1/0.52 TIN COATING | 13 |
| 39 | J4,6,8~10,12,13,16,20 | 85801052GY | WIRE COPPER 10mm | 1/0.52 TIN COATING | 9 |
| 40 | J17 | 85801052GY | WIRE COPPER 12.5mm | 1/0.52 TIN COATING | 1 |
| 41 | RY1 | 5SC0101121 | SW RELAY | G5G-1A DC12V | 1 |
| 42 | RY2 | 5SC0101123 | SW RELAY | G5G-1A-DT DC12V | 1 |
| 43 | RY3~RY6 | 5SC0101128 | SW RELAY | CS11-12SH 1C 1P | 4 |

| NO | LOCATION | PART CODE | NAME | SPECIFICATION | Q'TY |
|---|---|---|---|---|---|
| 44 | IC1 | GMS8252402 | IC MICOM | GMS82524(OTP) | 1 |
| 45 | IC2 | 1K1A7033AP | IC RESET | KIA7033AP | 1 |
| 46 | CN101 | 4CW215RBD0 | CONN WAFER | HLEM15R-1 | 1 |
| 47 | M288 | 3514331340 | PCB SUB | 95.3X215 | 1 |
| 48 | R101,R102 | RD-AZ102J- | RESISTOR | 1/6W 1K 5% | 2 |
| 49 | EN101 | 5S10302005 | SW ROTARY | EC12E24204A8 | 1 |
| 50 | SW101~SW111 | 5S50101Z93 | SW TACT | KPT-1115AM | 11 |
| 51 | J105 | 85801052GY | WIRE COPPER 7.5mm | 1/0.52 TIN COATING | 1 |
| 52 | J101,102,104,106 | 85801052GY | WIRE COPPER 10mm | 1/0.52 TIN COATING | 4 |
| 53 | J103 | 85801052GY | WIRE COPPER 12.5mm | 1/0.52 TIN COATING | 1 |
| 54 | WF1 | WSJ-159007 | WIRE FLAT | 1.25X15X90XC | 1 |


**DAEWOO ELECTRONICS CORP.**
686, AHYEON-DONG MAPO-GU SEOUL, KOREA
C.P.O. BOX 8003 SEOUL, KOREA
TELEX: DWELEC K28177-8
CABLE: “DAEWOOELEC”

S/M NO. :

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# ABOUT THIS MANUAL

**VISION CREATIVE, INC.**
서울 종로구 통의동 6번지
이룸빌딩 4층

| 담 당 | 이동관 님 TEL | | | |
|---|---|---|---|---|
| MODEL | KOC-9U0T7S(S/M)-총 40p | | | |
| 접 수 | 2008.03.21 | | | |
| 일 정 | 1차 | | 6차 | |
| | 2차 | | 7차 | |
| | 3차 | | 8차 | |
| | 4차 | | 9차 | |
| | 5차 | | 10차 | |
| 제 판 | 한 | | 인쇄 | |
| 규 격 | | | | |

M E M O

08.03.21-전체신규 40p
08.03.24-5p, 27p 수정_신규2p
08.03.26-17p, 18p, 19p, 20p, 29p, 30p, 31p, 32p, 33p, 34p, 35p 수정 (2p 삭제)_신규 11p
08.04.02-5p, 12p, 21p, 25p, 29p, 30p 수정_ 신규 6p
08.04.04-12p 수정_ 신규 1p
08.04.07-7p, 29p 수정_ 신규 2p

**연락처**
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-매뉴얼의 첫장에 이 서식을 작성해주세요-