DAEWOO

Service Manual
Microwave Oven

Model : KOG-875T0S

DAEWOO ELECTRONICS CO., LTD.
OVERSEAS SERVICE DEPT.

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

(a) Do not operate or allow the oven to be operated with the door open.

(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary: (1) Interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.

(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.

(d) Any defective or misadjusted components in the interlock, monitor, door seal and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

(e) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

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PROPER USE AND SERVICE 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) This microwave oven weight 17.6kg (38.9 lbs.) and must be placed on a horizontal base strong enough to support this weight.
2) The oven should be placed as far from high temperature source and vapour as possible.
3) The power supply cord is about 1.1m (3.6ft) long. Earthing is required when connecting the power source.
4) Maximum power consumption of this oven is approximately 2.7Kw(230V). It is suggested that the unit is operated on such power line (about 13.0 amperes) that can provide more power than this rating.
5) Object must not be placed on the top enclosure so as not to obstruct air flow for ventilation.

WARNING : This appliance must be earthed.

IMPORTANT

The wires 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 the the terminal in the plug which is marked with the letter ‘E’ or by earth symbol or 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.

SPECIFICATIONS

POWER SUPPLY		230V ~ , 50Hz, single phase with earthing
MICROWAVE	POWER CONSUMPTION	1,400 W
	OUTPUT POWER	900 W (IEC 705)
	FREQUENCY	2,450 MHZ
GRILL POWER CONSUMPTION		1,400 W
COMBINATION HEATING POWER CONSUMPTION		2,750 W
OUTSIDE DIMENSIONS (W X D X H)		501 X 320 X 413 mm (19.7 X 12.6 X 16.2 in.)
CAVITY DIMENSIONS (W X D X H)		310 X 229 X 320 mm (12.2 X 9.0 X 12.6 in.)
NET WEIGHT		Approx. 17.6 kg (38.9 lbs.)
TIMER		60 min.
SELECT FUNCTION		Microwave/ Grill / Combination Heating
MICROWAVE POWER LEVEL		10 stages
COMBINATION HEATING LEVEL		3-Levles (Grill + M/W 3-Power levels)

** Specifications subject to change without notice.*

EXTERNAL VIEWS

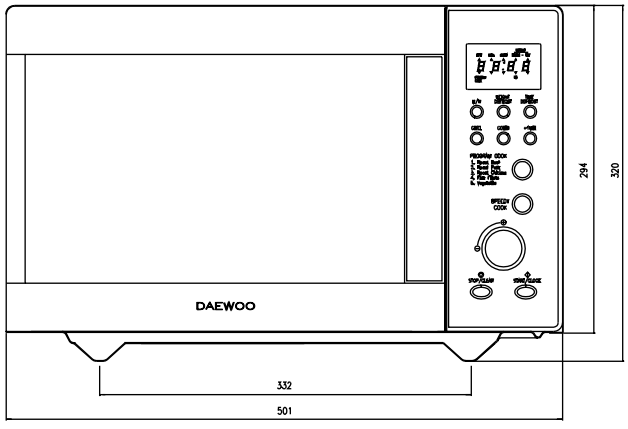


Fig. 1 Front View

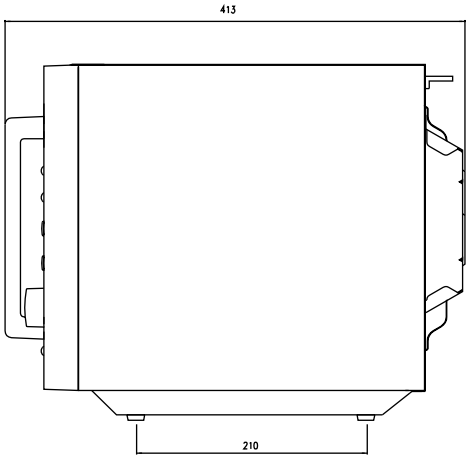
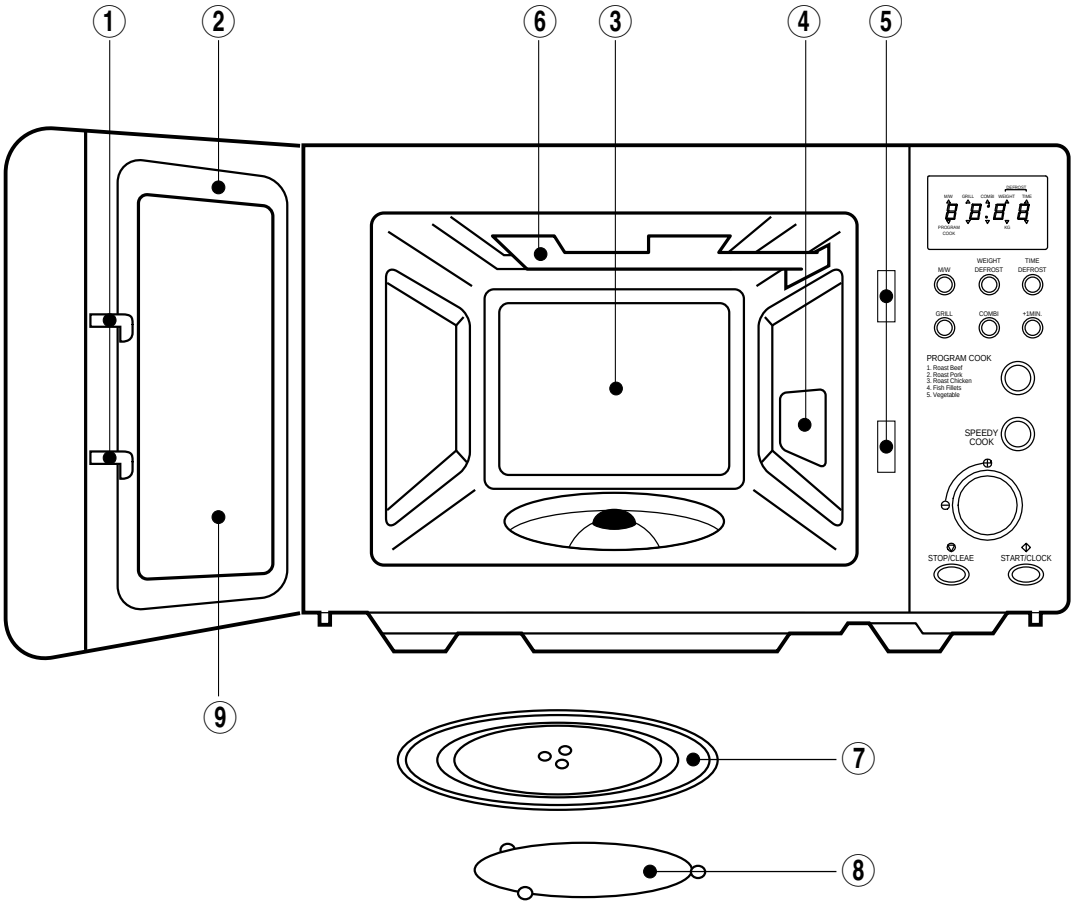


Fig. 2 Side View

NAMES AND FUNCTION OF PARTS



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

② **Door seal—**The door seal maintains the microwave within the oven cavity and prevents microwave lekage.

③ **Oven cavity**

④ **Spatter shield—**Protects the microwave outlet from splashes of cooking foods.

⑤ **Safety interlock system—**Prevents the oven from operating while the door is opened.

⑥ **Heater—**Grill or Combi-Mode has need for the heater.

⑦ **Class 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.

⑧ **Roller guide—**Supports the glass cooking tray.

⑨ **Door screen—**Allows viewing of food. The screen is designed so that light can pass through, but not the microwaves.

CONTROL PANEL

When blinking, the oven is operating in COMBI cooking.

When blinking, the oven is operating in GRILL

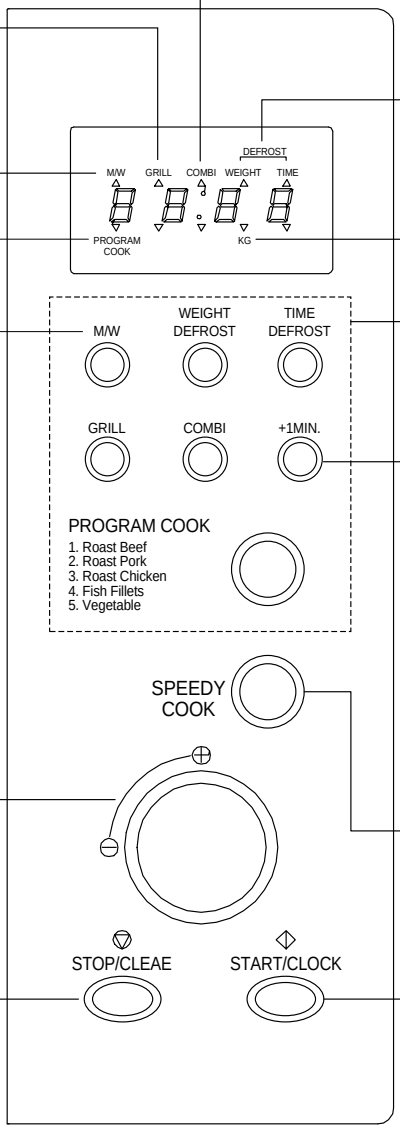
When blinking, the oven is operating in MICROWAVE COOK

When blinking, the oven is operating in PROGRAM

Microwave Power Level-
Used to select the variable microwave power level.
If this button is pressed for more than 1.3 seconds, number is scrolled up automatically.

DIAL KNOB-
Used to enter the cooking time and weight input.

Stop/Clear Button-
Used to pause or clear all information manually put into the oven.



When blinking, the oven is operating in WEIGHT DEFROST

When blinking, the oven is operating in weight input mode.

Function Button-Used to select desired oven operation.

- MICROWAVE
- GRILL
- WEIGHT DEFROST
- COMBINATION
- TIME DEFROST
- +1 MIN
- PROGRAM COOK

When you touch this button. Cooking time is increased by the stop of 1 minute.

Speedy Cook Button-
Used to quickly program cooking time in 30 seconds increments.

Start/Clock Button-
Used to start operation and to set the clock.

OPERATION

TO STOP THE OVEN WHILE THE OVEN IS OPERATING

1. Press ▽ (STOP / CLEAR) button.

- The ▽ (STOP) indicator starts blinking.
- You can restart the oven by touching ◇ (START) button.
- Touch ▽ once more to erase all instruction except clock.

2. Open the door

- You can restart the oven by closing the door and touching ◇ button.

NOTE : Oven stops operating when door open.

ERASING INSTRUCTIONS

• Touch ▽ (STOP/CLEAR) button to erase all instructions you set previously.
• Opening the oven door during cooking dose not erase cooking instruction.
• If you touch ▽ button during operation, the cooking instructions is all erased.

HOW TO SET THE OVEN CONTROLS

TIPS :
- Be sure to read the cookbook's introduction before operating the oven.
- Also remember to read this operating instruction for proper safety information and instruction before using the oven.
- See the cookbook for specific recipes.
- Prior to setting the controls, place one cup of water in the oven, in a heat-proof glass measuring cup, for testing purposes.
- When setting the controls, every time a button is pressed, a beep can be heard.

NOTE :
- The time setting has an interval of 10 seconds from 10 seconds to 5 minutes, 30 seconds from 5 minutes to 10 minutes, 1 minute from 10 minutes to 60 minutes.
- At the end of each cooking, the cooling fan will run for time five minutes to cool the oven.(The display will show "cool" then the STOP/CLEAR button is pressed after cooking.) However, you can proceed with further cooking immediately even in this stage.

■ MICROWAVE COOKING M/W

NOTE :
- To insure the best microwave and defrost results, be sure to start with a cool oven. This is important if grill, or combination was used prior to microwave cooking. The cooling fan will run for five minutes after the end of cooking.
- The variable power Level settings equal the following wattage.

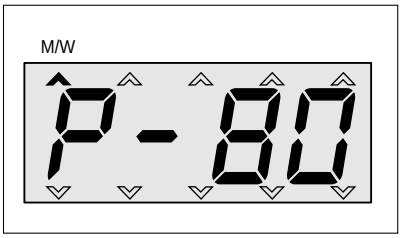
DISPLAY	POWER LEVEL	DISPLAY	POWER LEVEL
P-HI	100%	P-90	90%
P-80	80%	P-70	70%
P-60	60%	P-50	50%
P-40	40%	P-30	30%
P-20	20%	P-10	10%

HOW TO SET THE OVEN CONTROLS

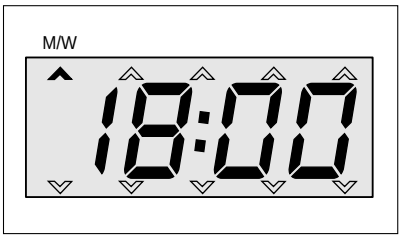
SETTING THE CONTROLS

1. Press M/W button. The display will show “P-HI”.
   This oven has 10 power levels from P-HI to P-10.

2. Press the M/W button to select the desired microwave power level.
   For example: power level 80
   Press M/W button two times more.



3. Turn the DIAL KNOB for the desired cooking time.
   For example: 18 minutes Turn right or left the DIAL KNOB. Then, 18:00 will show in the disply.



Time can be set up from 10 seconds to 60 munutes.

NOTE : If step 2 is omitted, the oven will cook at full power.

4. Press START/CLOCK button.

   The oven will now start microwave cook for 18 minutes at power level P-80.

5. Four beeps will sound at the end of the cooking time. The indicator light will go off. The display panel will return to the "0". The oven light will turn off and the turntable will stop turning.

NOTE : After the end of microwave cooking, the cooling fan will run for five minutes.

■ TIME DEFROST

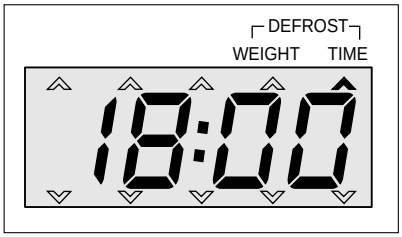
NOTE : After the defrosting operation, turn the food over after you hear 4 times of 4 beeps for complete defrost.

SETTING THE CONTROLS

1. Press TIME DEFROST button.

2. Turn the DIAL KNOB for the desired defrosting time.

   For example: 18 minutes



Time can be set up from 10 seconds to 60 minutes.

3. Press START/CLOCK button.

4. Four beeps will sound at the end of the cooking time.
   The indicator light will go off. The display panel will return to the "0". The oven light will turn off and the tunatable will stop turning.

■ WEIGHT DEFROST (WEIGHT DEFROST)

NOTE : • This mode allows you to set weight from 0.1Kg 0.1Kg to 2.9Kg.
• During the defrosting operation turn over the food after 4 beeps ound 4 times for cpmplete defrosting.

SETTING THE CONTROLS

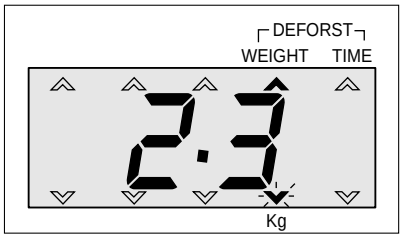
1. Press (WEIGHT DEFROST) button.

2. Turn the DIAL KNOB for the desired defrosting weight.

   For example : (2.3kg)

3. Press (START/CLOCK) button.

4. The display will show the defrosting time.



5. Four beeps will sound at the end of the cooking time. The indicator lights will go off. The display panel will return to the "0". The oven light will turn off and the turntable will stop turning.

■ GRILLING COOKING (Grill)

NOTE : • The grilling effect in this oven is similar to that of conventional oven.
• The heating element is located in the top of the oven.

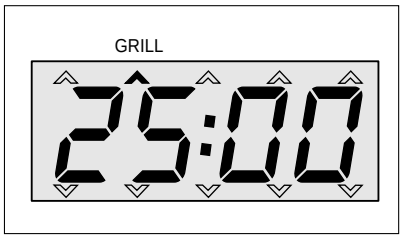
SETTING THE CONTROLS

1. Press (Grill) button.

2. Turn the dial knob for the desired cooking time

   For example : (25 minutes)
   Time can be set up from 10 seconds to 60 minutes.

3. Press (START/CLOCK) button.



4. Four beeps will sound at the end of the cooking time. The indicator light will go off. The display panel will return to the "0". The oven light will turn off and the turnatable will stop turning.

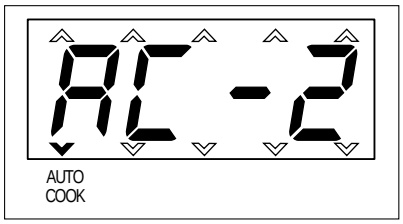
NOTE : When the selected operation is over, a cooling fan will run for five minutes.

■ PROGRAM PROGRAM COOK

NOTE : • There is Pre-Programmed cooking of five menu (1-5)
• Don't need to set cooking times, power or function.

SETTING THE CONTROLS

1. Press PROGRAM COOK button Then, "AC-1" will show in the display.



2. Select the desired cooking menu

For example : Roast pork.
Press PROGRAM COOK button roast pork.
Press PROGRAM COOK button once again then "AC-2" will show in the display.

3. If you want to select other cooking, touch the button again, until display shows your desired menu.

4. Press START/CLOCK button.
The oven will now start programmed cook for menu 2.
The cookingtime of the menu 2, roast pork, is 37 minutes.

5. The display will show the cooking time.

6. Four beeps will sound at the end of the cooking time. The indicator light wil go off. The display panel will return to the "0". The oven light will turn off and the turntable will stop turning.

NOTE : The menu of pre-programmed cooks equal to the following.

AC-1	ROAST BEEF (1.3Kg)
AC-2	ROAST PORK (1.3Kg)
AC-3	ROAST CHICKEN (1.3Kg)
AC-4	FISH FILLETS (450g)
AC-5	VEGETABLE (450g)

See the cooking guide for specific recipes.

■ TO INTERRUPT THE COOKING CYCLE DURING OPERATION-open the door or press stop/clear button.

1. The oven will immediately stop.
2. The cooling fan will run for five minutes.
3. If not further cooking required, touch STOP/CLEAR button.
4. The "0" is displayed. If you press stop/clear button during cooling time, the "cool" is displayed.
5. To continue cooking, close the oven door and press START/CLOCK button.
The oven will restart.

■ GENERAL COOKING HINTS

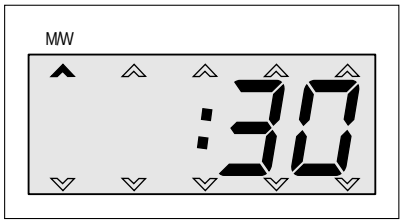
1. When cooking a roast with an excess amount of drippings, it is helpful to remove the dripping at turnover time to prevent spattering.
2. Prick the meats, fish or poultry with a fork to prevent bursting. Steam builds up pressure in meals, fish or poultry which is tightly covered by a skin or membrane.
3. Reduce suggested cooking times. It is always better to undercook foods rather than to overcook them. If a range of times is stated in a recipe, cook the food at the minimum suggested time, check for doneness, and then cook slightely longer if necessary.

■ SPEEDY COOK SPEEDY COOK

NOTE : The cooking time increases by 30 seconds from 30 seconds to 5 minutes.

SETTING THE CONTROLS

1. Press START/CLOCK button.
2. “30” will appear in the display window.
3. Whenever this button is pressed, cooking time is increased by 30 seconds.



4. Four beeps will sound at the end of the cooking time. The indicator light will go off. The display panel will return to the "0". The oven light will turn off and the turntable will stop turning.

■ TIME PLUS

NOTE : • The cooking time can be increased during the oven operation by pressing buttons.
• This function is not valid in speedy cook mode.

1. Press +1 min button.

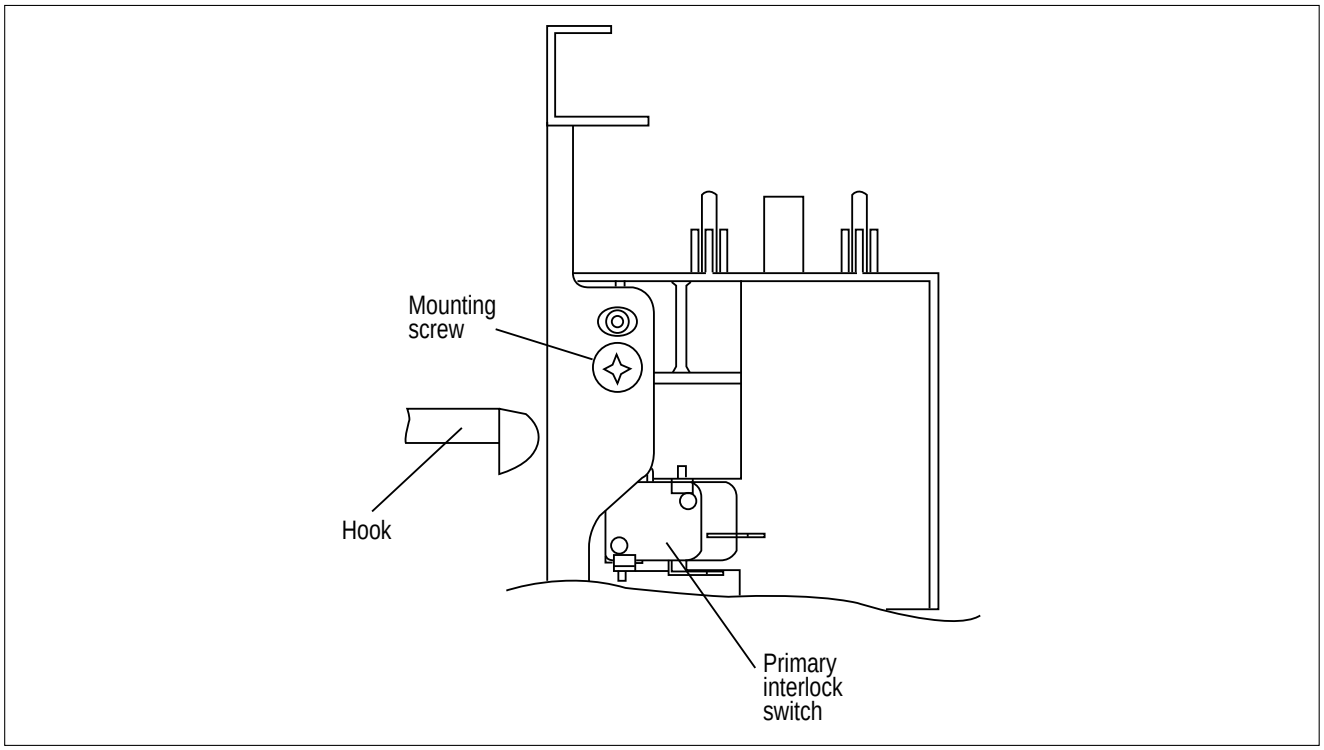
   Cooking time is increased by 1 minutes.

INTERLOCK MECHANISM FUNCTIONS AND ADJUSTMENTS

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.

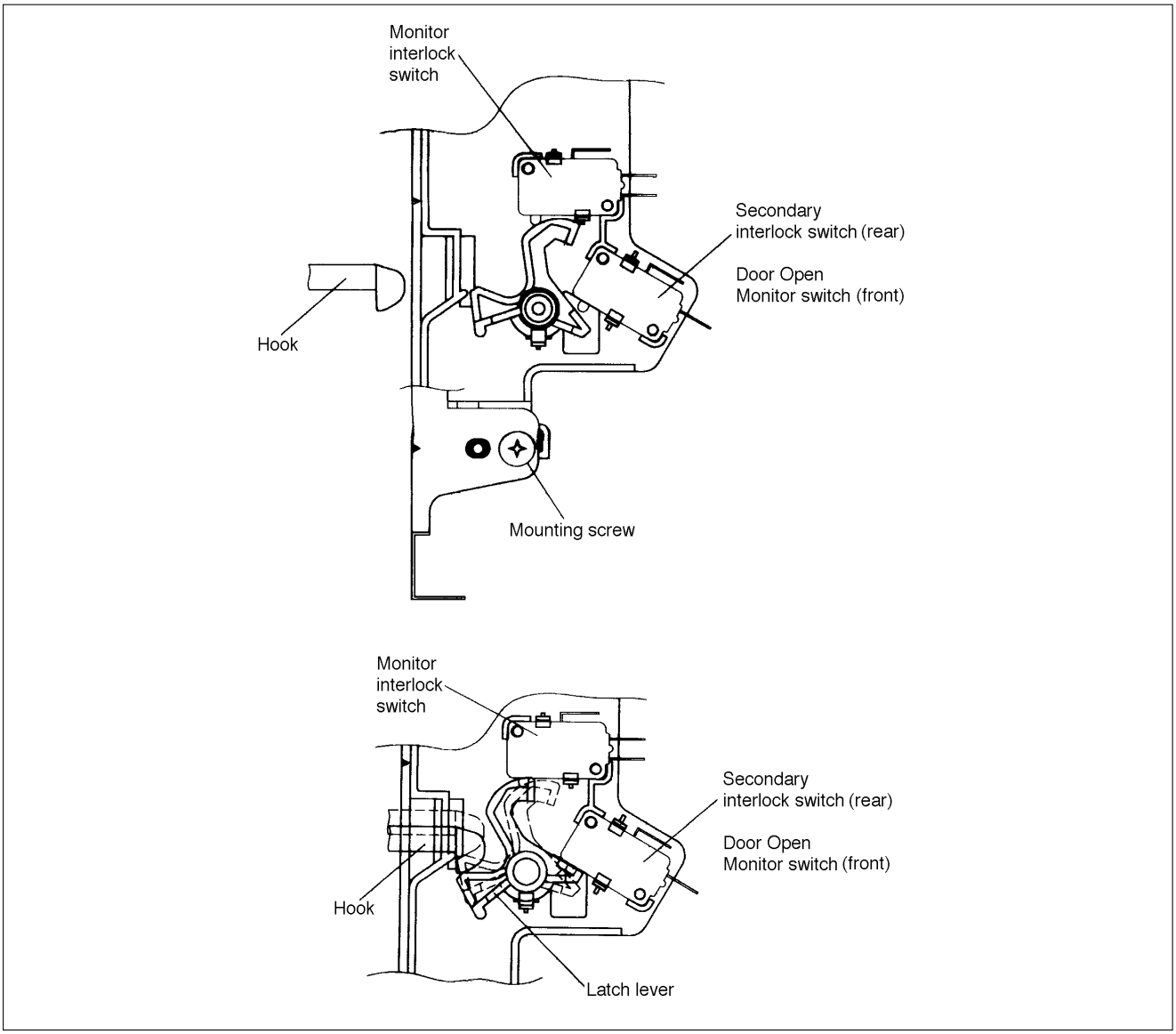
(1) Primary interlock switch

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 lever downward.
The lever press the button of the primary interlock switch to bring it under 'ON' condition.



(2) Monitor interlock switch

When the door is closed, the hook pushes the lever forward, and pushes the Latch Lever downward the lever press the button of the interlock monitor switch to bring it under 'OFF' condition. The latch Lever press the button on the secondary interlock switch to bring it under 'ON' condition.



- Adjustment

Interlock monitor switch

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

Adjustment steps :

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

PRECAUTIONS FOR DISASSEMBLY AND REPAIR

– 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.

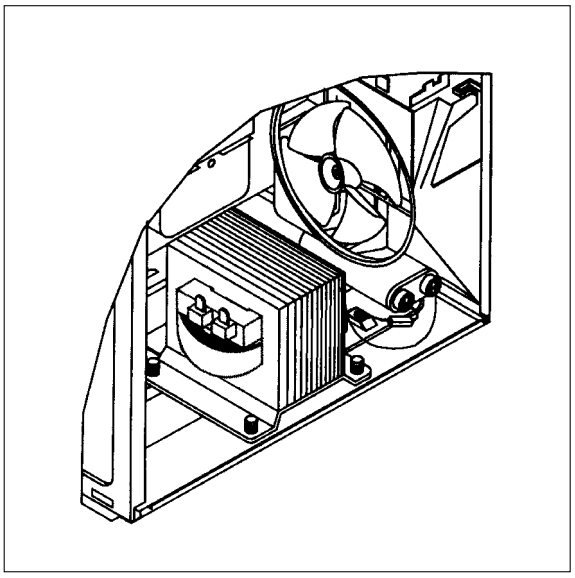
(3) Warning about the electric charge in the high voltage capacitor. When inspecting and repairing the high voltage side, always short the capacitor terminals and make sure of discharge.

1. Check the earthing.

Do not operate on a 2-wire extension cord.
The microwave oven is designed to be used when 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 stops, 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 screw driver to discharge.



(4) When the 15 Amp fuse (normal blow type) is blown due to the operation of the monitor switch; replace primary, secondary interlock switch and monitor switch. Refer to 13 page for the necessary adjustment.

(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 repairing the magnetron.

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

DISASSEMBLY AND ASSEMBLY

1. To remove cabinet. (Refer to Fig. 1)

1) Remove four screws on cabinet back.

2) Push the cabinet backward.

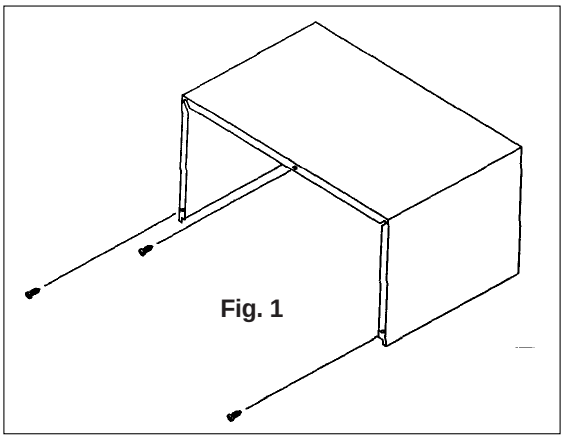


Fig. 1

2. To remove guide wind assembly. (Refer to Fig. 2)

1) Release two screws ②.

2) Remove back-cover ③.

3) Pull the fan ⑤ to the motor shaft.

4) Release two screws ① which secure the motor shaded pole ④.

5) Reverse the above steps for reassembly.

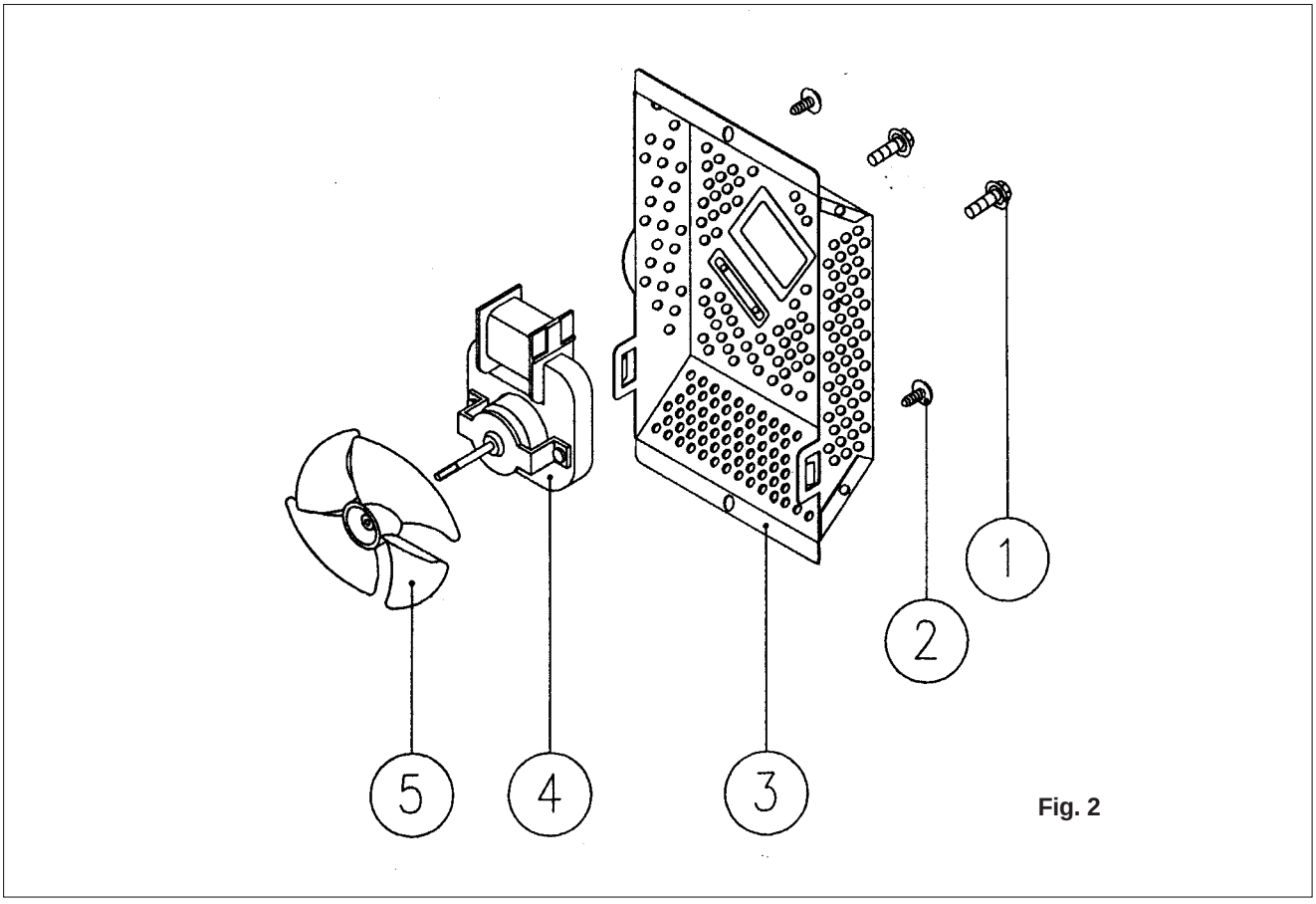


Fig. 2

3. To remove H.V. transformer. (Refer to Fig. 3)

1) Remove four screws ① which secure the H.V. Transformer bracket to the base plate.

2) Remove the H.V. Transformer ②.

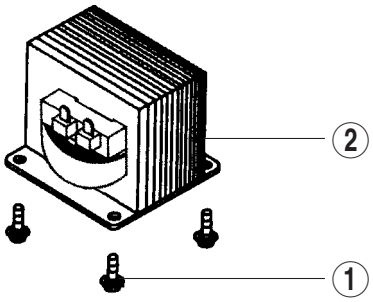
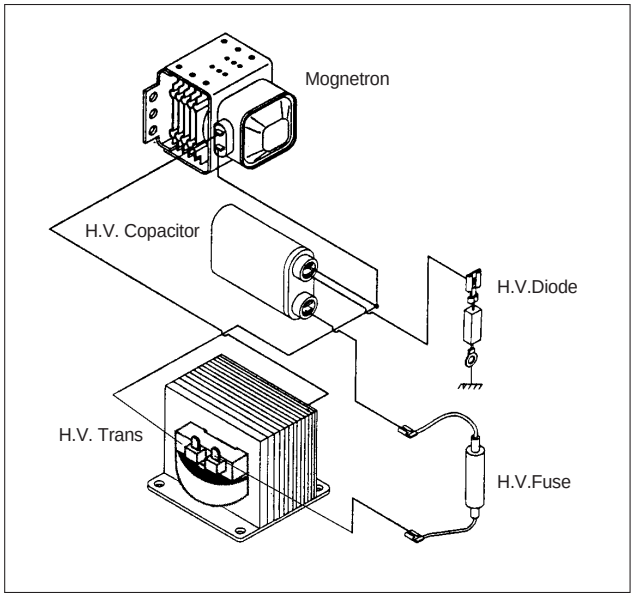


Fig. 3

High voltage circuit wiring



4. To remove magnetron. (Refer to Fig. 4)

1) Remove three screws ② which secure the magnetron ①.

2) Remove the magnetron.

3) Reverse the above steps for reassembly.

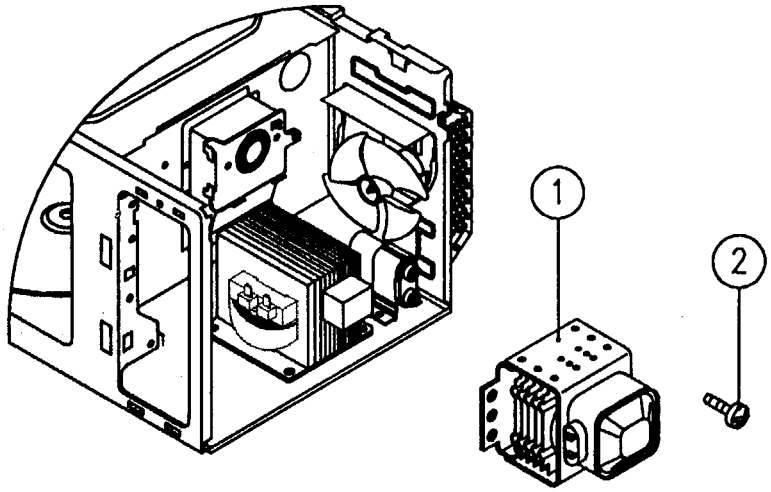
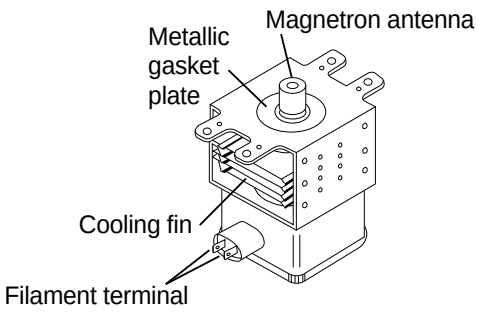
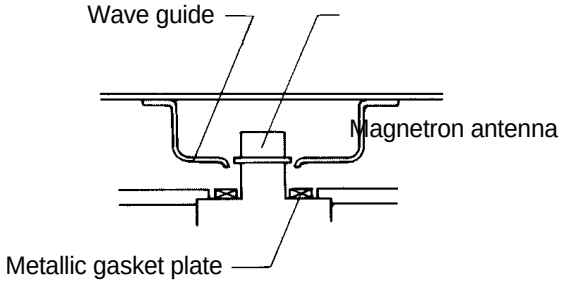


Fig. 4

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>



5. To remove control panel assembly. (Refer to Fig. 5, 6)

(1) Remove a screw which secure the control panel assembly to the oven front plate.
At the same time, draw forward the control panel assembly from the oven front plate.

(2) Remove the dial knob.

(3) Remove ten screws which secure the main and sub PCB assembly to control panel.

(4) Remove buttons.

(5) Remove the window display.

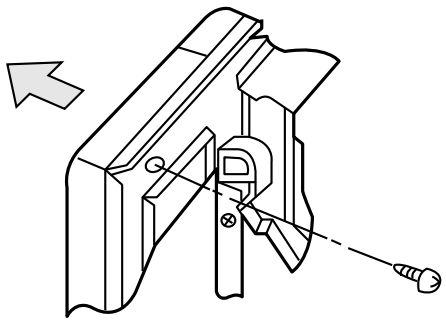


Fig. 5

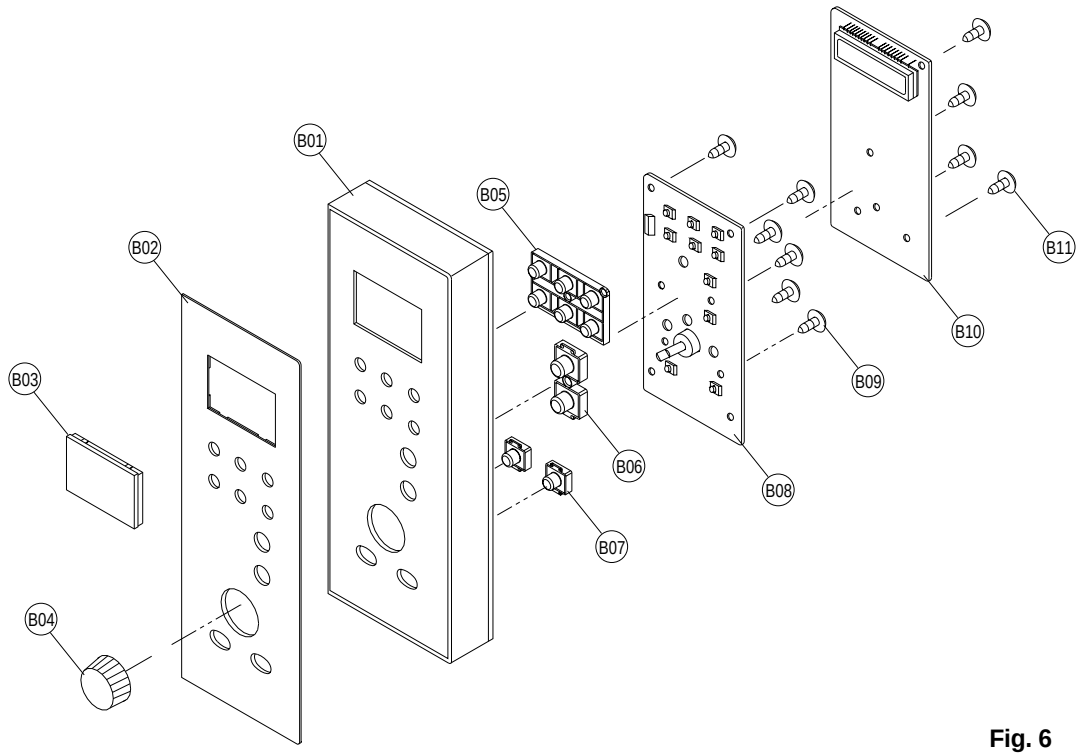


Fig. 6

REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3516716350	CONTROL-PANEL	ABS XR-401	1	
B02	3511602520	DECORATOR C-PANEL	STS304 T0.6 H/L	1	
B03	3515501310	WINDOW DISPLAY	PMMA	1	
B04	3513404620	KNOB VOLUME	ABS XR-401	1	COATING
B05	3516905120	BUTTON FUNCTION	ABS XR-401	1	COATING
B06	3516907200	BUTTON FUNCTION	ABS XR-401	1	COATING
B07	3516906320	BUTTON FUNCTION	ABS XR-401	2	COATING
B08	3514320400	PCB SUB AS	KOC-984T1S	1	
B09	7621301011	SCREW TAPPING	T2S PAN 3X10 PW MFZN	6	
B10	3514322000	PCB MAIN AS	KOG-875T0S	1	
B11	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	4	

6. To remove door assembly. (Refer to Fig. 7)

1) Remove two screws (1) which secure to hinge.

2) Remove door assembly (2).

3) Remove door above for reassembly taking case to replace fixing glue.

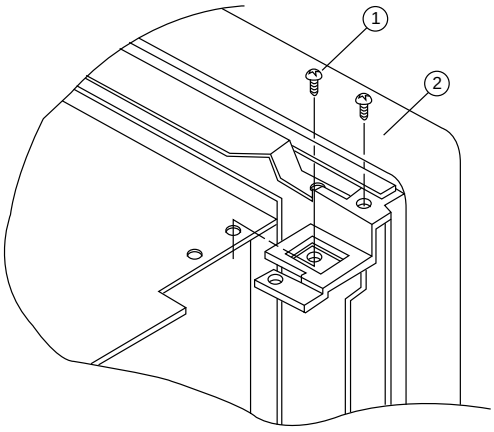


Fig. 7

7. To remove door part. (Refer to Fig. 8)

(1) Remove the Gasket door.
(2) Remove the Door seal Ass'y.
(3) Remove the Hook and Spring.
(4) Remove the Barrier Screen.
(5) Remove a screw holding the handle.
(6) Remove the Handle form the Frame door.

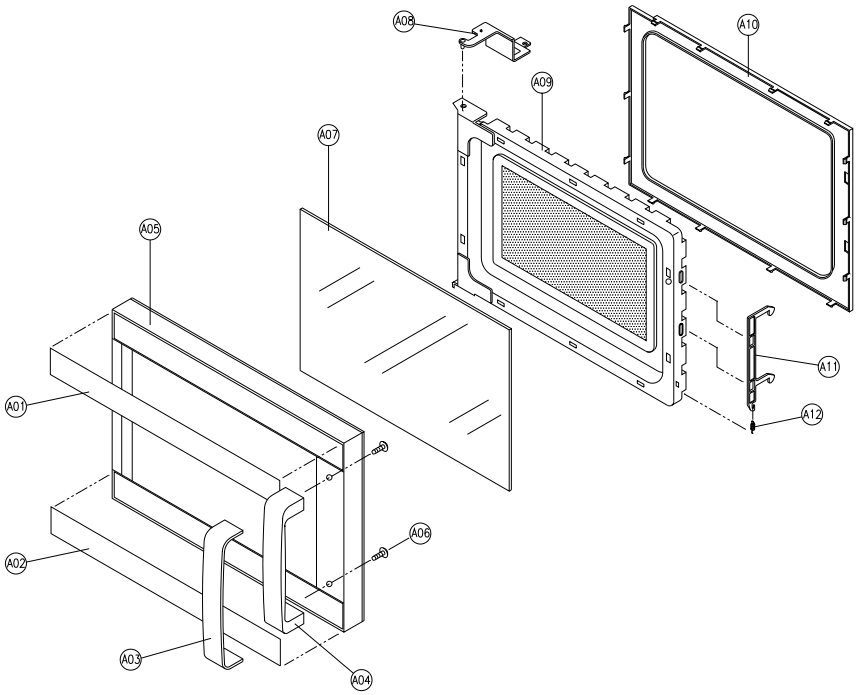
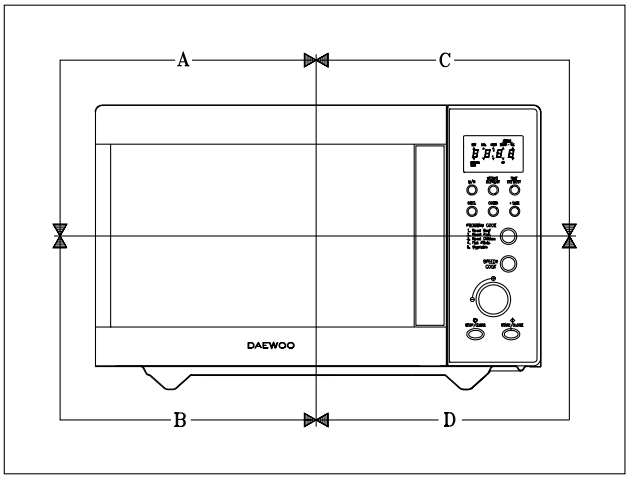


Fig. 8

REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A01	3511604200	DECORATOR DOOR *T	STS304 T0.6 H/L	1	
A02	3511604300	DECORATOR DOOR *U	STS304 T0.6 H/L	1	
A03	3512602600	HANDLE DOOR *T	STS304 T0.6 H/L	1	
A04	3512602700	HANDLE DOOR *U	ABS XR-401	1	
A05	3512203590	FRAME DOOR	ABS XR-401	1	
A06	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	2	
A07	3517004580	BARRIER-SCREEN *O	TEMPERED GLASS T3.2	1	
A08	3515203600	STOPPER HING *T AS	KOC-970T1S	1	
A09	3511709000	DOOR SEAL AS	KOC-871C0S	1	
A10	3512301310	GASKET DOOR	PP	1	
A11	3513101300	HOOK	POM	1	
A12	3515101300	SPRING HOOK	PW1	1	

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

(1) To reduce gap located on part 'A'.
   1) Remove the cabinet.
   2) Loosen a screw on top door hinge, then push the door to contact the door seal to oven front surface.
   3) Tighten a screw.



(2) To reduce gap located on part 'B'.
   1) Loosen a screw on bottom hinge, then push the door to contact the door seal to oven front surface.
   2) Tighten a screw.

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

(4) To reduce gap located on part 'D'.
   1) Remove the cabinet.
   2) Loosen a screw on interlock switch assembly located top of oven body.
   3) and 4) are same as step (3).

NOTE : Small gap may be acceptable if the microwave leakage does not exceed 1mW/cm^2.

NOTE : The door on a microwave oven is designed to act as an electronic seal preventing the leakage of microwave energy from the oven cavity during the cook cycle. This function does not require that the door be air-tight, moisture (condensation) - Tight or light-tight. Therefore, the occasional appearance of moisture, light or the sensing of gentle warm air movement around the oven door is not abnormal and do not of themselves, indicate a leakage of microwave energy from the oven cavity. If such were the case, your oven could not be equipped with a vent, the very purpose of which is to exhaust the vapor-laden air from the oven cavity.

9. To remove tray motor and under Heater. (Refer to Fig. 9)

1) Cut the tray motor cover parts from the base plate (Refer to Fig. 9).

2) Remove two screws ② which secure the tray motor ①.

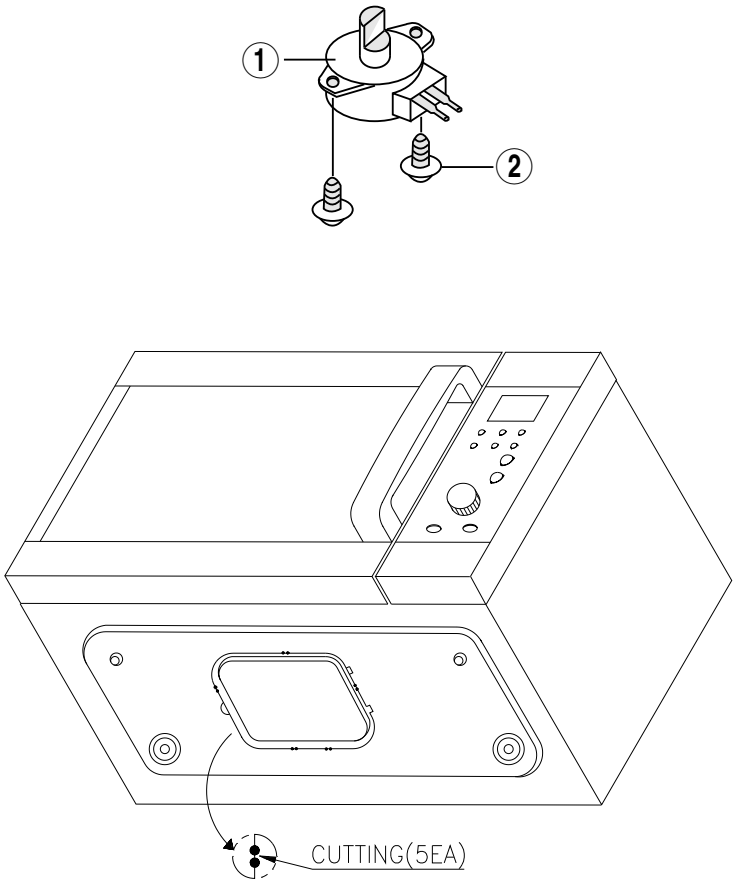


Fig. 9

10. To remove grill heater assembly. (Refer to Fig. 10)

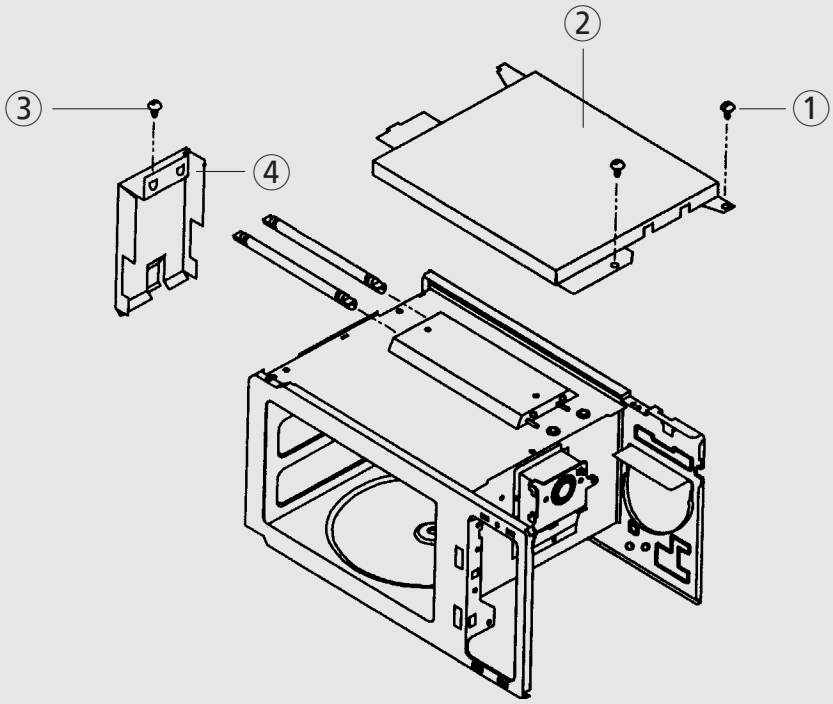


Fig. 10

1) Remove the cabinet.

2) Release two screws ① , and remove the Top cover ②.

3) Release a screws ③ , and remove Air Guide outlet ④.

4) Release grill Heaters Bracket ⑤.

5) Release the above steps for reassembly.

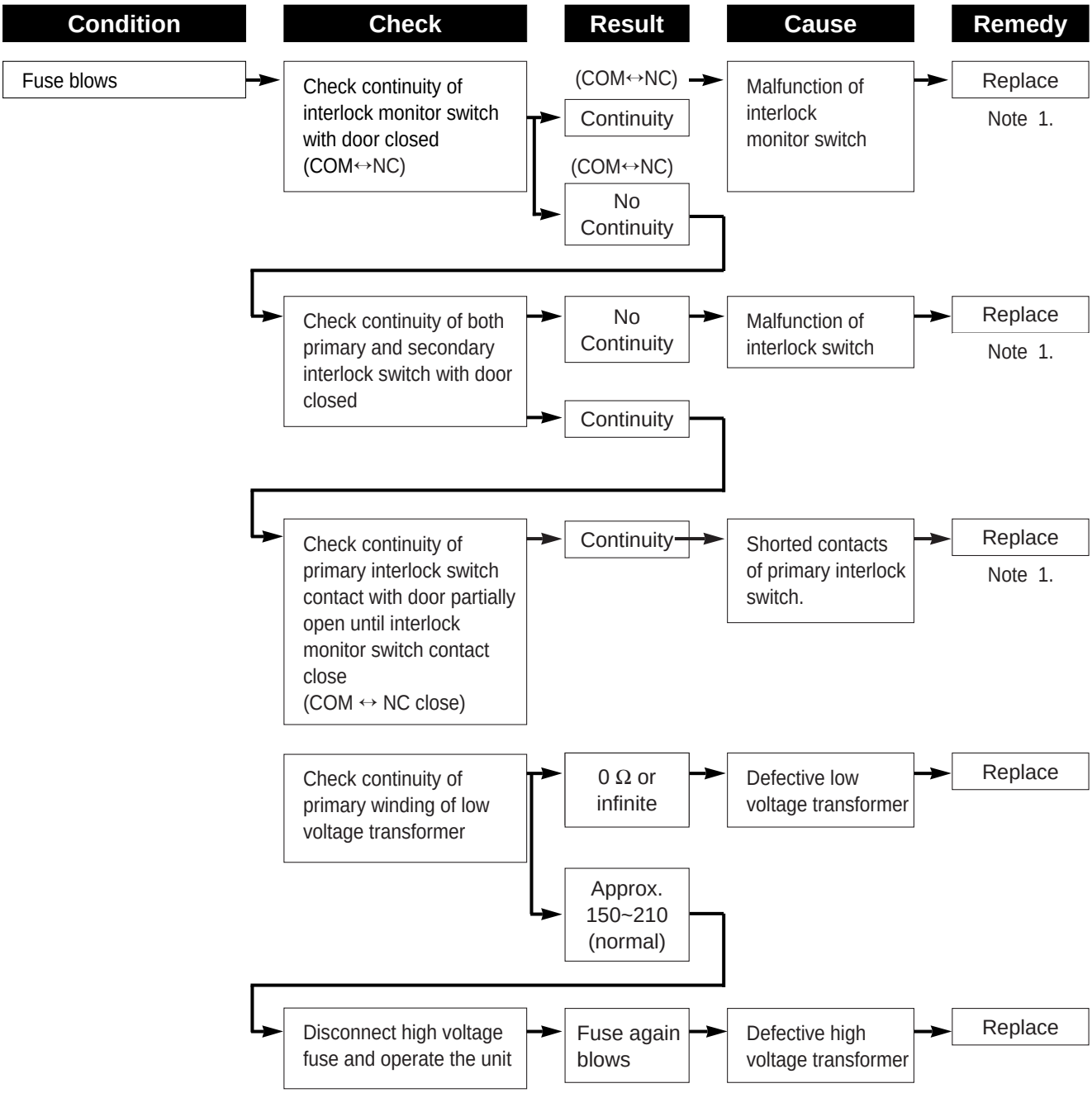
TROUBLE SHOOTING GUIDE

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

1. Check earthing 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 in 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.



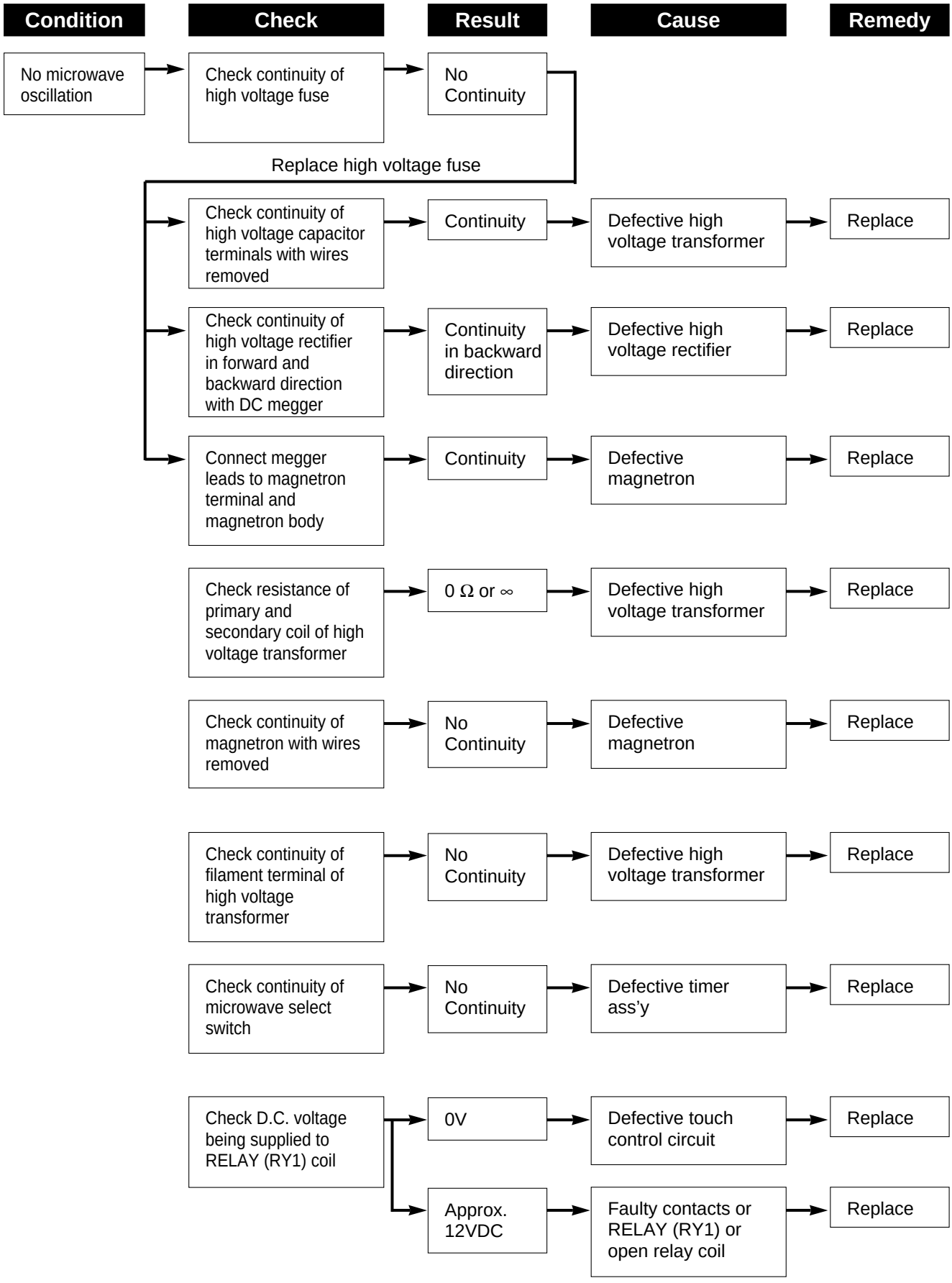
Condition	Check	Result	Cause	Remedy
Outlet has proper voltage. Fuse does not blow.	Check continuitymagnetron	No Continuity	Defective magnetron	Replace
	Check continuity of noise filter board	No Continuity	Defective line filter board	Replace
	Check continuity of power supply cord	No Continuity	Open power supply cord	Adjust.
		Normal	Defective touch control circuit	Adjust.

NOTE1 : All these switches must be replaced at the same time, please refer to page 17 for adjustment instructions

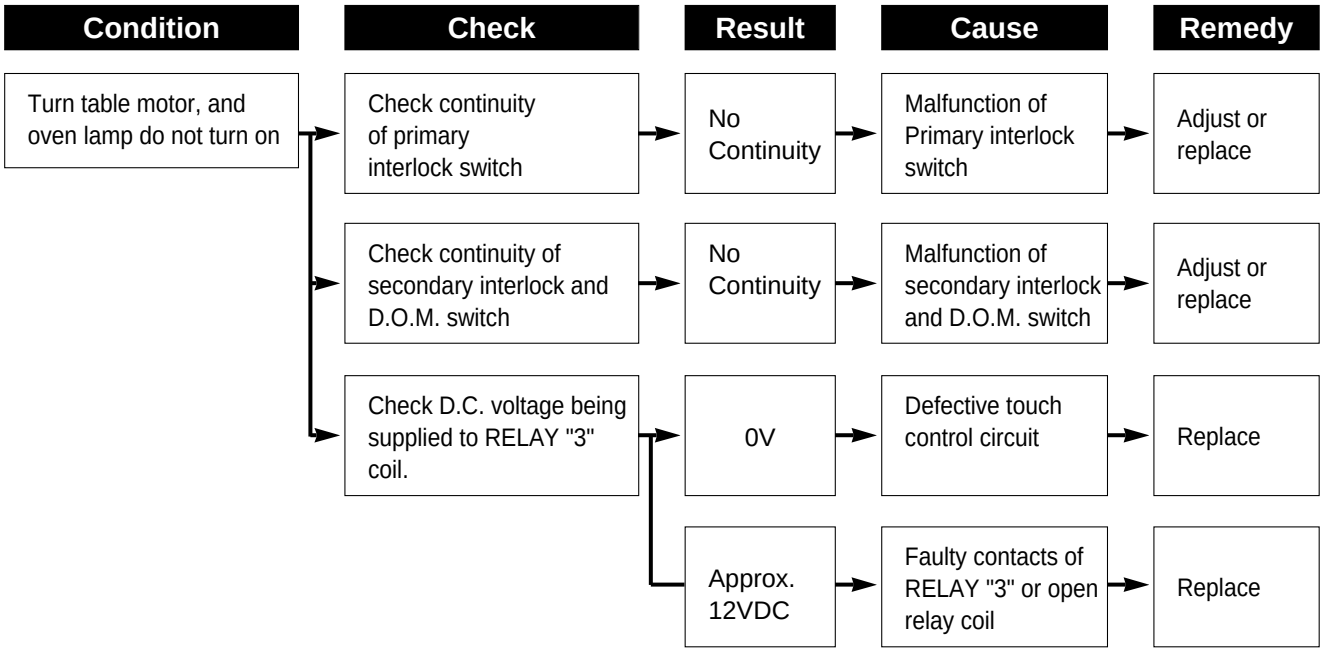
(TROUBLE 2) Grill Heater (Top heater) does not heat (Food will not become hot).

Condition	Check	Result	Cause	Remedy
Grill heater is not heated	Check continuity of primary interlock switch	No Continuity	Malfunction of Primary Interlock Switch	Adjust or replace
	Check continuity of secondary interlock switch	No Continuity	Malfunction of secondary interlock switch	Adjust or replace
	Check continuity of heater	No Continuity	Defective heater	Replace
	Check D.C. voltage being supplied to RELAY (RY2) coil	0V	Defective touch control circuit	Replace
		Approx. 12VDC	Faulty contacts of RELAY (RY2) or open relay coil	Replace

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

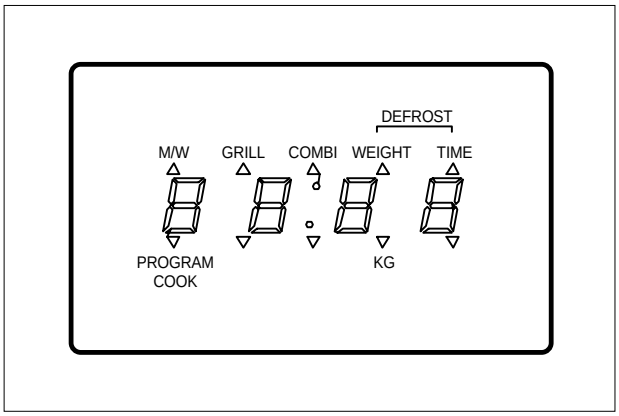


(TROUBLE 4) Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and start pad is tapped.



(TROUBLE 5) The following visual conditions indicate a probable defective touch control circuit or membrance switch assembly

1. Incomplete segments,
   (A) Segments missing.
   (B) Partical segments missing.
   (C) Digit flickering other than normal fluorescent slight flickering.
   (D) ”0” does not display when power is on.
2. A distinct change in the brightness of one or more 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 programable 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 clear pad is touched.
11. Oven lamp and turntable motor do not stop although cooking is finished. Check if the RELAY "4" 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 button for continuity of the button keyboard for the following keyboard check procedure	Normal	Malfunction of touch control circuitry of control box sub-assembly	Replace control box sub-assembly
		Abnormal	Malfunction of the button keyboard	Replace the button keyboard

NOTE1 : Before following the particular steps listed above in the trouble shooting guide for the button keyboard's, failure, please check for the continuity of each wire-harness between the button keyboard and P.C.B. assembly.

BUTTON KEYBOARD CHECK PROCEDURE

1. Type of encoding and button names.

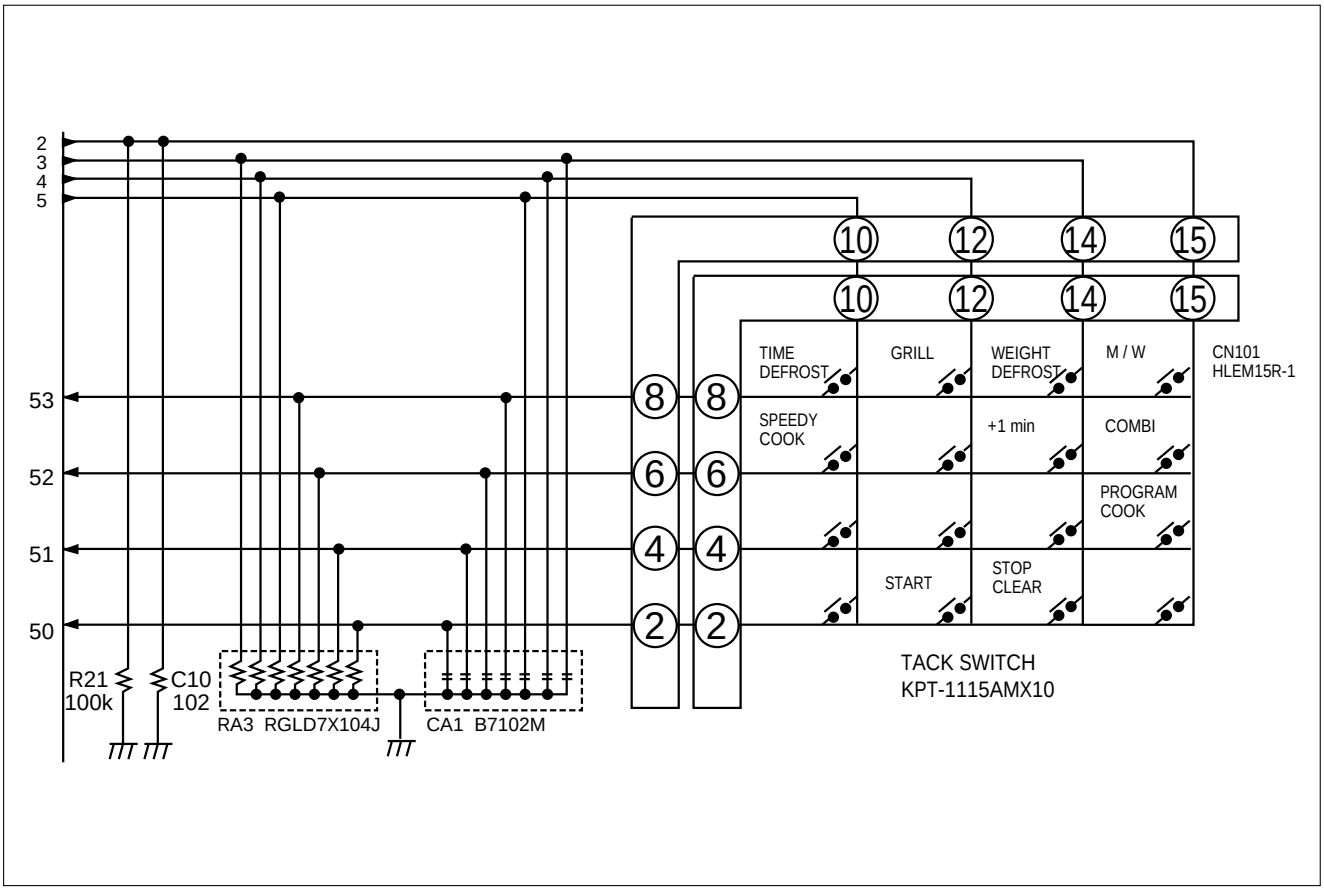


Fig. 11 Key Matrix and circuit diagram

The button keyboard consists of 12 keys whose configurations are described above and provides 8 pad terminations to be connected to the touch control circuit as in Fig. 11.

2. Key check procedure.
To determine if the button keyboard is defective or not, check the continuity of each button (Key) contacts with a multimeter.

1) PROGRAM COOK button : Between 4 and 15
2) WEIGHT DEFROST button : Between 8 and 14
3) MICROWAVE button : Between 8 and 15
4) COMBI button : Between 6 and 15
5) GRILL button : Between 8 and 12
6) +1MIN button : Between 6 and 14
7) TIME DEFROST button : Between 8 and 10
8) STOP/CLEAR button : Between 2 and 14
9) START/CLOCK button : Between 2 and 12
10) SPEED COOK button : Between 6 and 10

MEASUREMENT

1. Microwave Output Power

1-1. Standard Method

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.

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 1,000±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 prior to the start of the test.
   The initial temperature of the water is 10±2˚C (50±3.6˚F)
   It 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. (fig. 11).
4) Microwave power is switched on.
5) Heating time should be exactly 46 seconds.
   Heating time is measured while the microwave generator is operating at full power.
6) The initial and final water temperatures are selected so that the maximum difference between the ambient and final water temperatures is 5K.
7) The microwave power output P in watts is calculated from the following formula :

   $P=4188X\triangle T/t$

   • $\triangle T$ is actual temperature rise.
   • t is the heating time.

The power measured should be 900W±10%

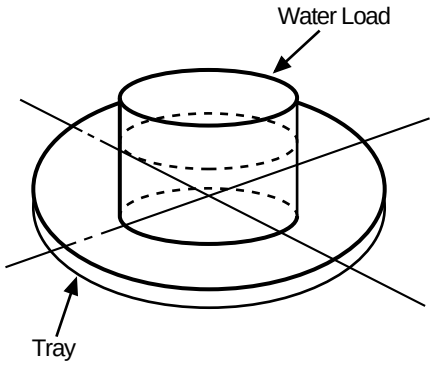


Fig. 11

CAUTION :
1. Water load should be measured exactly to 1 liter.
2. Input power voltage should be exactly volts as specified.
3. Ambient temperature should be 20±2˚C(68±3.6˚F)

2. Electrical Continuity Check of Interlock Switch

2-1. Procedure

NOTE : Remove the power plug from the wall receptacle before testing.

1) Primary Interlock Switch

1) Disconnect two connector from Primary Interlock Switch.
2) Connect the ohm-meter leads between the terminals of the primary interlock switch.
3) Read the value of resistance between the terminals of the switch, when the door is opened, and when the switch, when the door is opened, and when the door is closed.

2) Secondary Interlock Switch

1) Disconnect two connector from secondary interlock switch.
2) Connect the ohm-meter leads between the terminals of the secondary interlock switch.
3) Read the value of resistance between the terminals of the switch, when the door is opened, and when the oven door is closed.

3) Interlock Monitor Switch

1) Disconnect the lead wire connecting the primary interlock switch and interlock monitor switch from primary interlock switch terminal.
2) Connect the ohm-metor leads between the lead wire connector disconnected as item '1' and the power supply natural plug pin.
3) Read the value of resistance between the lead wire connector and the power supply natural plug pin, when the oven door is opened, and when the oven door is closed.

2-2. Judgement

The value of resistance should be applied to the value specified below.

Door	Open	Closed
Primary Interlock Switch	∞	0
Secondary Interlock Switch	∞	0
Interlock Monitor Circuit	0	∞

3. Microwave Leakage Test

3-1. Warning

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

3-2. Method

The power density of the microwave leakage emitted by the microwave oven should not exceed 1mW/cm2 at any point 50mm (2 in). or more away from the external surface of the oven as measured prior to acquisition by a purchaser and there after once the oven is in use, 4mW/cm2 at any point 50mm (2 in) or more away from the external surface of the oven, checks to be made around the whole of the door seal and on each of the main unit surface.

Measurements should be made with the oven operating at its maximum output and containing a load of 275±15 milliliters of tap water initially at 68±9˚F (20±5˚C) placed within the cavity at he center of the load carrying surface provided by the manufacture. The water container should be a low from 600 milli-liters beaker having an inside diameter of approximately 85mm (3-11/32 in.) and made of an electrically nonconductive material such as glass or plastic.

3-3. Procedures

1) Prepare 600cc glass or plastic container.
2) Pour 275±15 milliliters of tap water initially at 68±9˚F (20±5˚C) in the container.
3) Place it at the center of the tray and set it is a cavity.
4) Operate oven.
5) Measure the microwave leakage using a Narda 8100 or similarly approved microwave leakage meter after a few minutes operation.

NOTE : The scan rate should not exceed 1 inch/sec.

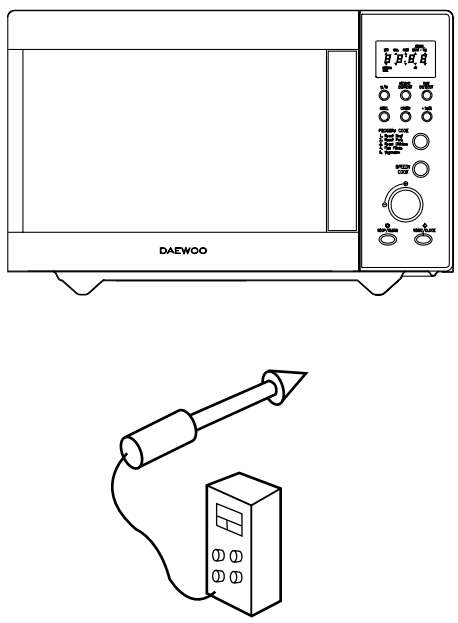


Fig. 12

COMPONENT TEST PROCEDURE

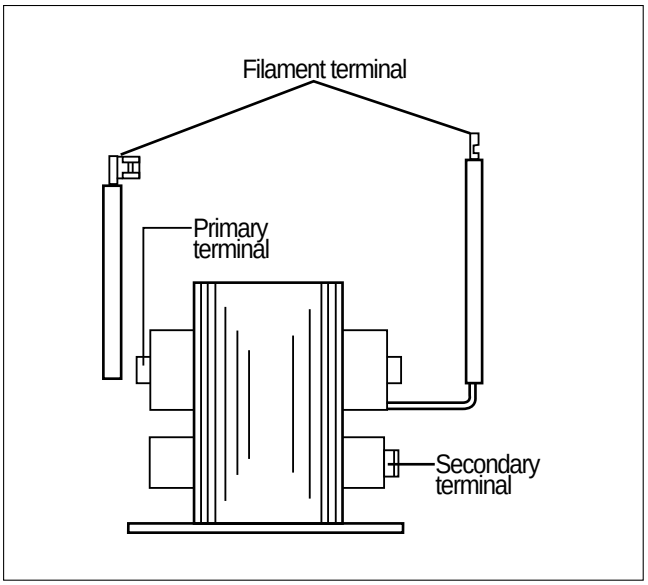
1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor (see page 20).

1. High voltage transformer

(A) Remove connections from the transformer terminals and check continuity.

(B) Normal readings should be as follows:

Secondary winding .....Approx. 90Ω±10%
Filament winding .....Approx. 0Ω
Primary winding .....Approx. 0Ω



2. High voltage capacitor

A) Check continuity of capacitor with meter on the highest ohm scale.

(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.

(C) A shorted capacitor will show continuous continuity.

(D) An open capacitor will show constant 9MΩ.

(E) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

The high voltage diode is located on the base near the transformer.

(A) Isolate the diode from the circuit by disconnecting the leads.

(B) 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-to-back resistance may be read in both directions. A normal diodes resistance will be infinite in one direction and several hundred KΩ in the other direction.

4. Magnetron

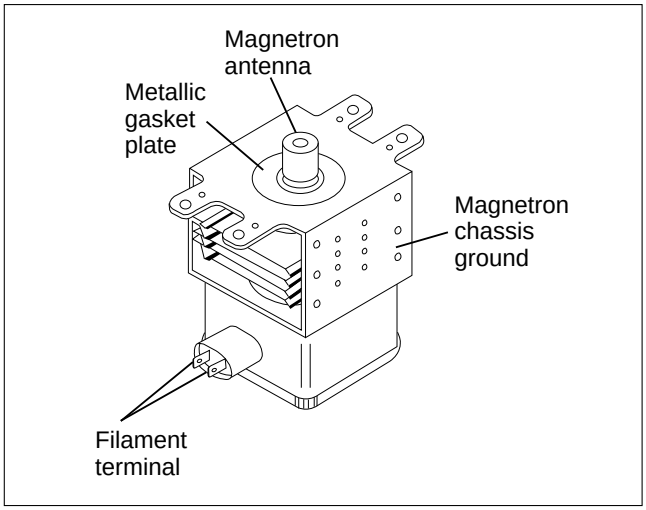
For complete magnetron diagnosis, refer to "Measurement of the Microwave Output Power".

Continuity checks can only indicate and open filament or a shorted magnetron. To diagnose for an open filament or shorted magnetron.

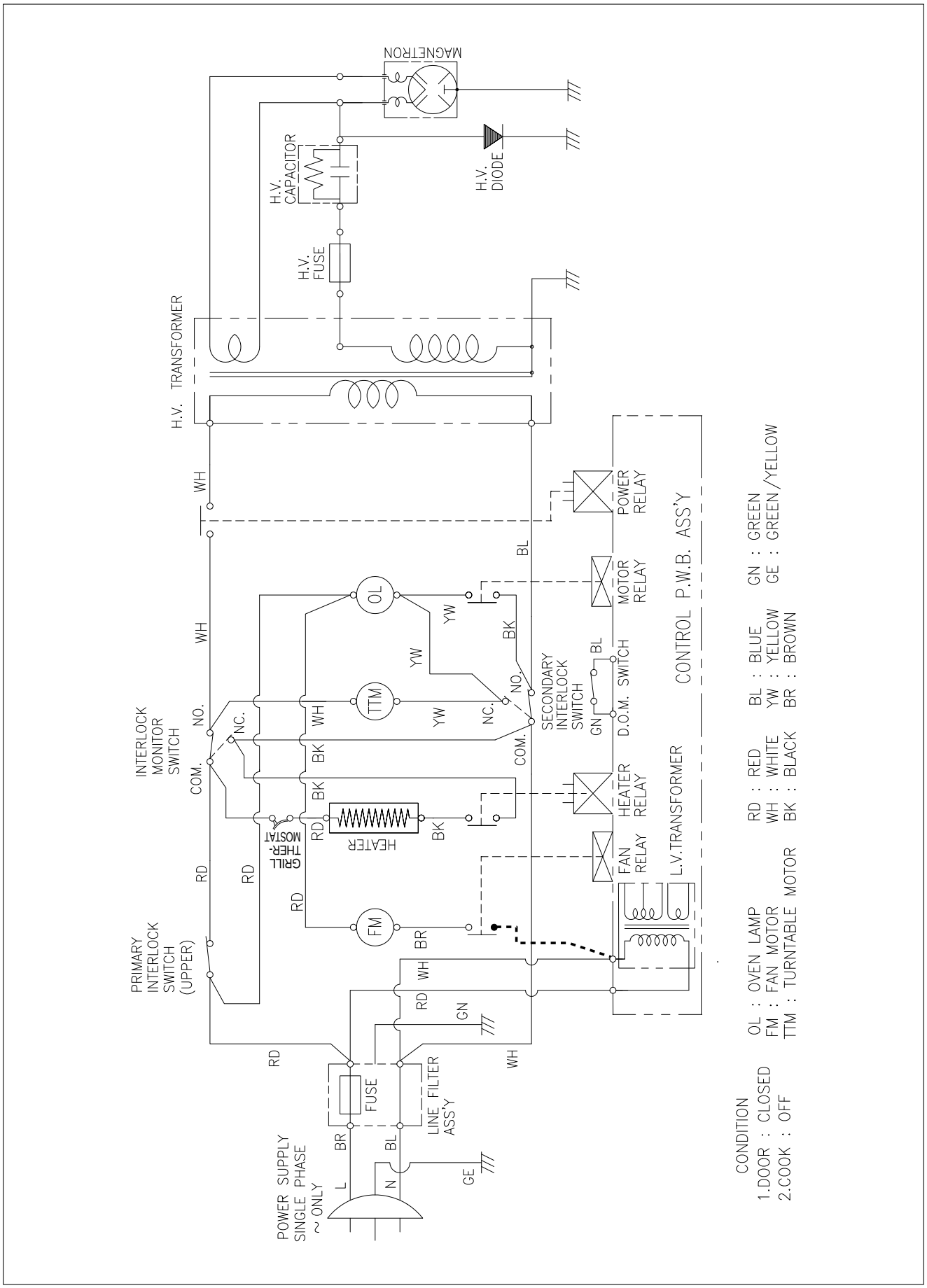
(A) Isolate magnetron from the circuit by disconnecting the leads.

(B) A continuity check across magnetron filament terminals should indicate one ohm or less.

(C) A continuity check between each filament terminal and magnetron case should read open.

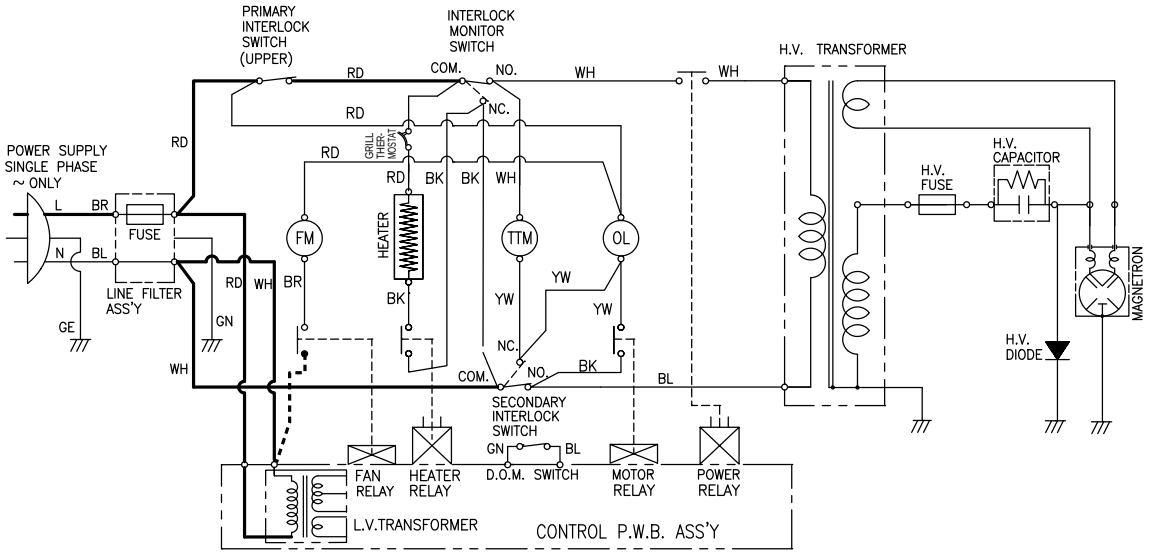


WIRING DIAGRAM



SCHEMATIC DIAGRAM

IDLE CONDITION



CONDITION
1.DOOR : CLOSED
2.COOK : OFF

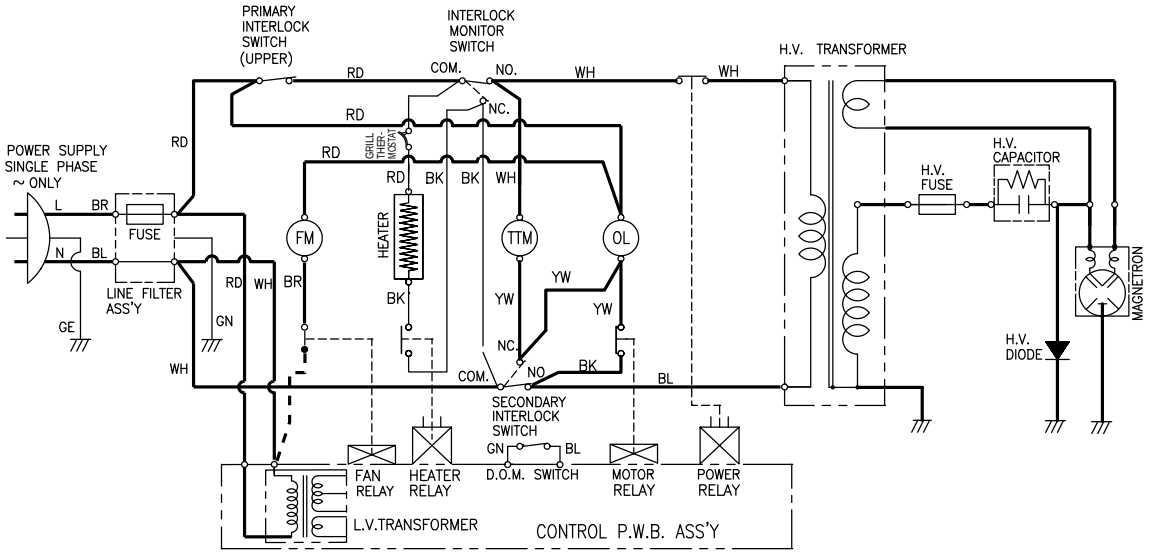
OL : OVEN LAMP
FM : FAN MOTOR
TTM : TURNTABLE MOTOR

RD : RED
WH : WHITE
BK : BLACK

BL : BLUE
YW : YELLOW
BR : BROWN

GN : GREEN
GE : GREEN/YELLOW

MICROWAVE COOKING CONDITION



CONDITION
1.DOOR : CLOSED
2.COOK : OFF

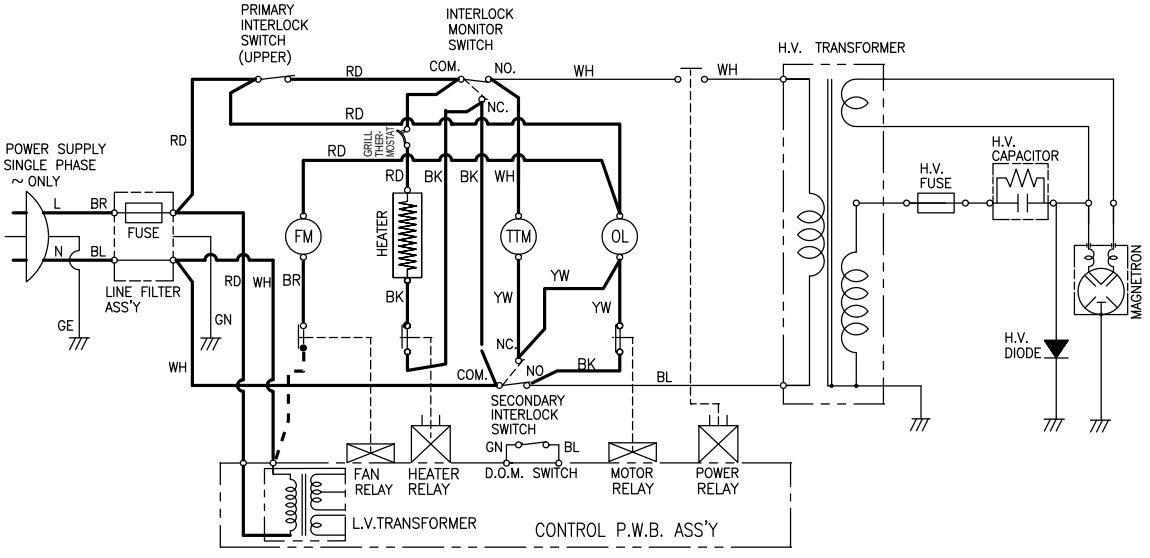
OL : OVEN LAMP
FM : FAN MOTOR
TTM : TURNTABLE MOTOR

RD : RED
WH : WHITE
BK : BLACK

BL : BLUE
YW : YELLOW
BR : BROWN

GN : GREEN
GE : GREEN/YELLOW

GRILL COOKING CONDITION



CONDITION
1.DOOR : CLOSED
2.COOK : OFF

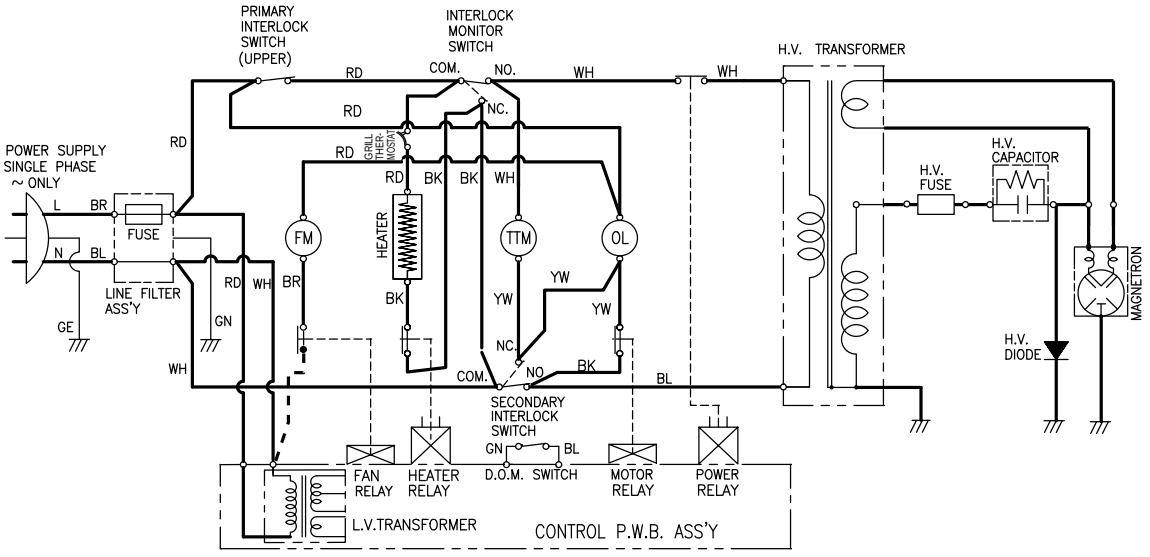
OL : OVEN LAMP
FM : FAN MOTOR
TTM : TURNTABLE MOTOR

RD : RED
WH : WHITE
BK : BLACK

BL : BLUE
YW : YELLOW
BR : BROWN

GN : GREEN
GE : GREEN/YELLOW

COMBI COOKING CONDITION



CONDITION
1.DOOR : CLOSED
2.COOK : OFF

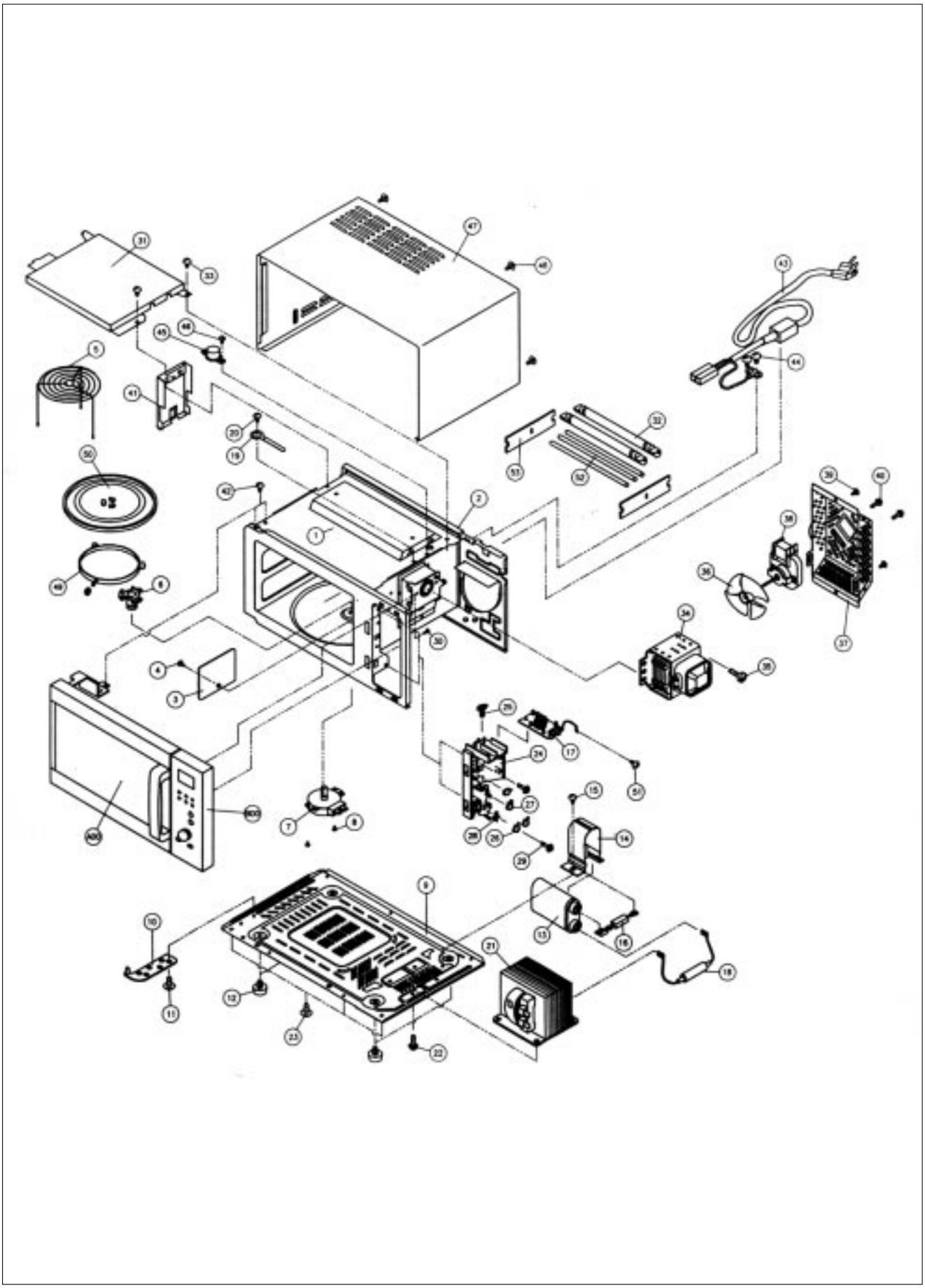
OL : OVEN LAMP
FM : FAN MOTOR
TTM : TURNTABLE MOTOR

RD : RED
WH : WHITE
BK : BLACK

BL : BLUE
YW : YELLOW
BR : BROWN

GN : GREEN
GE : GREEN/YELLOW

EXPLODED VIEWS AND PARTS LIST



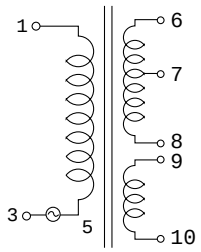
NO.	PART NAME	SPEC	PART CODE	Q'TY
A00	DOOR AS	KOG-875T0S	3511710030	1
B00	CONTROL-PANEL AS	KOG-875T0S	PKCPSWVG00	1
1	CAVITY AS	KOG-87050S	3516108660	1
2	REAR PLATE *0	SBHG-1 T0.6	3516503900	1
3	COVER WAVE GUIDE	MICA T0.35	3511403800	1
4	SCREW TAPPING	T1 BIN 4X8 MFNI	7113400814	1
5	TRAY RACK AS	KOG-84150S 104MM	3517203201	1
6	COUPLER	TEFLON	3517400610	1
7	MOTOR SYNCRO	220/240V 4W GM-16-24FD16	3966030500	1
8	SCREW TAPPING	T2S PAN 4*6 MFZN	7121400611	2
9	BASE	SBHG-1 T0.8	3510311000	1
10	STOPPER HINGE *U AS	KOR-121M0A	3515202800	1
11	SCREW TAPTITE	TT3 TRS 4*8 MFZN	7272400811	1
12	FOOT	DASF-310	3512101400	4
13	CAPACITOR HV	2100VAC 1.1μF	4416W67820	1
14	HOLDER HV CAPACITOR	SECC T0.8	3513001900	1
15	SCREW TAPTITE	TT3 TRS 4*8 MFZN	7272400811	1
16	DIODE HV	SANKEN HVR-1X-32B(D5.3)	4416V24000	1
17	NOISE-FILTER	DWLF-M05	3518605001	1
18	FUSE HV	5KV 0.7A	3518700211	1
19	CLAMP WIRE	SBHG	3511200400	1
20	SCREW TAPPING	T1 TRS 4X10 MFZN	7112401011	1
21	TRANS HV	JY-N90S1-87T	3518112400	1
22	SCREW SPECIAL	T2 FLANGE 5X8 MFZN	3516003800	4
23	SCREW SPECIAL	T1 TRS 4X10 MFZN	7112401011	5
24	LOCK	POM	3513805710	1
25	LAMP	BL 240V 25W T25 C7A H187	3513601600	1
26	SW MICRO	VP-531A-0F / SZM-V16-FA-61	4415A66910	2
27	SW MICRO	VP-533A-0F SPNO #187 200G	4415A17352	2
28	LEVER LOCK	POM	3513701300	1
29	SCREW TAPPING	T2S TRS 4*12 MFZN	7122401211	2
30	SCREW TAPPING	T2S TRS 4*12 MFZN	7122401211	1
31	COVER INSUATOR *T	SECC T0.5	3511405000	1
32	HEATER MIRACLON	115V 550W	3512803000	1
33	SCREW TAPPING	T1 TRS 4X10 MFZN	7112401011	2
34	MAGNETRON	2M218H(MF) I	3518002200	1
35	SPECIAL SCREW	T2 BOLT FLANGE 4*10 MFZN	3516004000	1
36	FAN	P.P GF20	3511800100	1
37	COVER *B	SBHG T0.8	3511402500	1
38	MOTOR SHADED POLE	230V 17W MW15CA-K02	3963513900	1
39	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	7S312X40A1	2
40	SCREW MACHINE	PAN FLANGE 4X8 MFZN	7S101W4081	2
41	GUIDE AIR OUTLET	SA1D T0.5	3512515500	1
42	SCREW SPECIAL	TT2 HEX FG 4X10 SE MFZN	7S427W40A1	2
43	CORD POWER AS	3X1.5 40X40 120-RTML	35113ACSJ5	1
44	SCREW TAPPING	T2S TRS 4*10 MFZN	7122401011	2
45	THERMOSTAT	OFF:100 ON:90 V #187	3518905000	1
46	SCREW TAPPING	T2S PAN 3X6 MFZN	7121300611	1
47	CABINET	PCM 0.6T	3510800800	1
48	SCREW TAPPING	T1 TRS 4X10 MFZN	7112401011	3
49	GUIDE ROLLER AS	KOR-121Q3A	3512512910	1
50	TRAY	BORO-SI 810G	3517200401	1
51	SCREW TAPPING	T1 TRS 4X10 MFZN	7112401011	1
52	PROTECTOR WIRE	STS430 DIA:4	3517503000	3
53	PROTECTOR HEATER	MICA MT56 T1.0	3517503100	2

PRINTED WIRING BOARD

1.CIRCUIT CHECK PROCEDURE

1) Low voltage transformer (DMR-984FS) check.

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



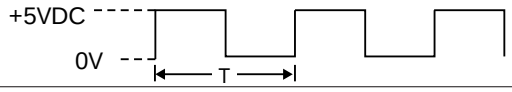
Terminal	Voltage
1 - 3	230VAC /50Hz
6 - 7	10.5 VAC
7 - 8	10.5 VAC
9 - 10	2.6 VAC

NOTE 1 : Secondary side voltage of the low voltage transformer changes in proportion to fluctuation of power source voltage.

NOTE 2 : The allowable tolerance of the secondary voltage is within ±5% of nominal voltage.

2) Voltage Check

• Key check point (1~5: Micom Pin, 6: Display Pin)

NO.	CHECK POINT	REMARK
1	PIN 63, 64	+5VDC±5%
2	PIN 29, 32, 62	0V
3	PIN 28	+5 VDC
4	PIN 45	 T: 20 ms (50 Hz)
5	PIN 30, 31	 T=0.25us (4.0MHz)
6	PIN 1, 25	2.6 VAC (Display filament voltage)

• CHECK METHOD

NO.	VOLTAGE	REMARK	
		KOC982T	KOC984T/985T
1	+5 VDC	Replace Q3, ZD2, R25, C12	Replace Q3, ZD3, R26, C10
2	+12 VDC	Replace D2~D5, EC3, C11	Replace D7, D8, EC2, EC3, C14, C11
3	–24 VDC	Replace D6, EC4, R28, R29, ZD4	Replace D9, D10, EC4, EC5, C15

NOTE : The marks of the above corresponding voltages (+5, +12, –24VDC) are written on the PCB. Each measuring points must be measured with GND points.

3) Display problems

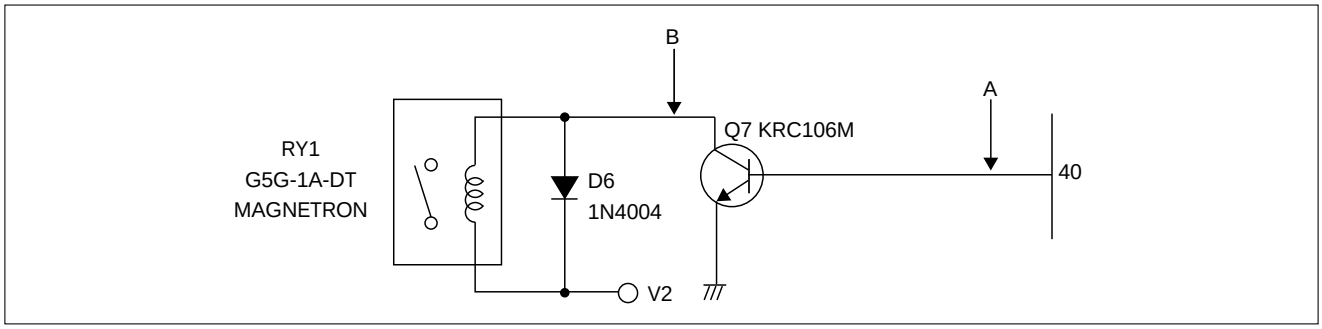
NO	CAUSE	MEASUREMENT	RESULT	REMEDY
1	Poor contact between P.C.B. and display filament.	Check the voltage of display pin 1 & 25	2.6VAC	Fix the pin 1 & 25 on the P.C.B.
2	The display has some trouble in its segment or gril.	Refer to “The display trouble shooting data” below		Replace P.C.B. assembly.
3	Loss vacumm in the display.	Find white spot.		Replace P.C.B. assembly.

The display trouble shooting data.

TROUBLE	DISPLAY NAME & PIN NO.	MICOM OUTPUT IN PIN NO.
Grid 1 doesn't come on.	Grid 1 (G1), 4, 7	13
Grid 2 doesn't come on.	Grid 2 (G2), 10	16
Grid 3 doesn't come on.	Grid 3 (G3), 14	18
Grid 4 doesn't come on.	Grid 4 (G4), 17	17
Grid 5 doesn't come on.	Grid 5 (G5), 21	24
Segment “a” doesn’t come on from G1 to G5.	Segment a, 23	26
Segment “b” doesn’t come on from G1 to G5.	Segment b, 22	25
Segment “c” doesn’t come on from G1 to G5.	Segment c, 20	23
Segment “d” doesn’t come on from G1 to G5.	Segment d, 19	22
Segment “e” doesn’t come on from G1 to G5.	Segment e, 18	21
Segment “f” doesn’t come on from G1 to G5.	Segment f, 16	20
Segment “g” doesn’t come on from G1 to G5.	Segment g, 15	19
Segment “h” doesn’t come on from G1 to G5.	Lower bar h, 5	14
Segment “i” doesn’t come on from G1 to G5.	Upper bar i 6, 8, 9 ,11	15

4) When there is no microwave oscillation.

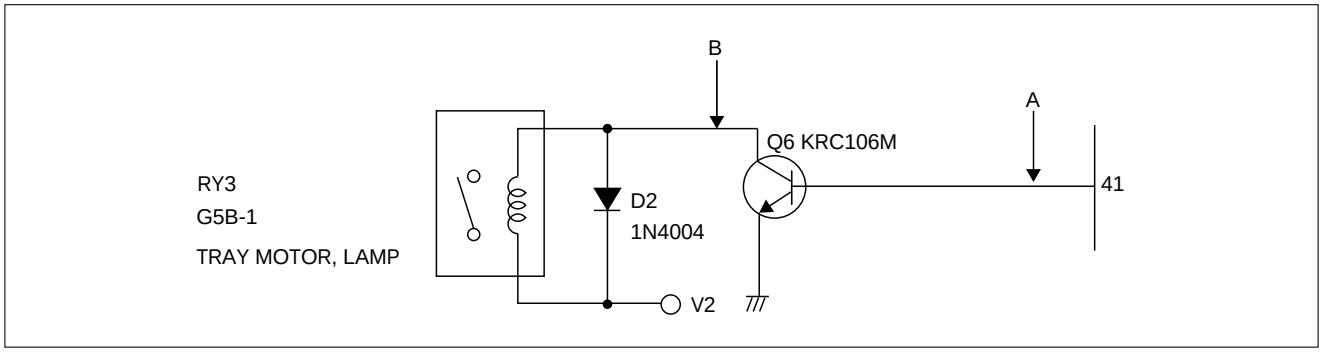
(1) When touching “M/W” button, oven lamp turns on.
Fan motor and turntable motor rotate and cook indicator in display comes on.
* Cause : Relay 1 (RY1) dose not operate.



CHECK METHOD

POINT / STAGE	A	B
RY1 “ON”	+5VDC	GND
RY1 “OFF”	GND	12VDC

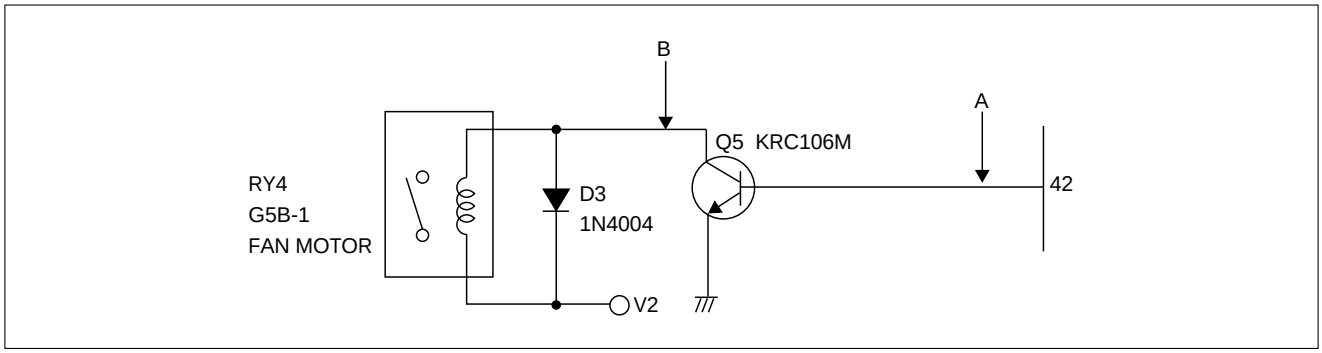
(2) When touching “M/W” button, oven lamp dose not turn on.
Turntable motor dose not rotate, but cook indicator in display comes on.
* Cause : Relay 3 (RY3) dose not operate.



CHECK METHOD

POINT / STAGE	A	B
RY4 “ON”	+5VDC	GND
RY4 “OFF”	GND	+12VDC

(3) When touching “M/W” button, oven lamp turns on.
Fan motor dose not rotate, but cook indicator in display comes on.
* Cause : Relay 4 (RY4) dose not operate.

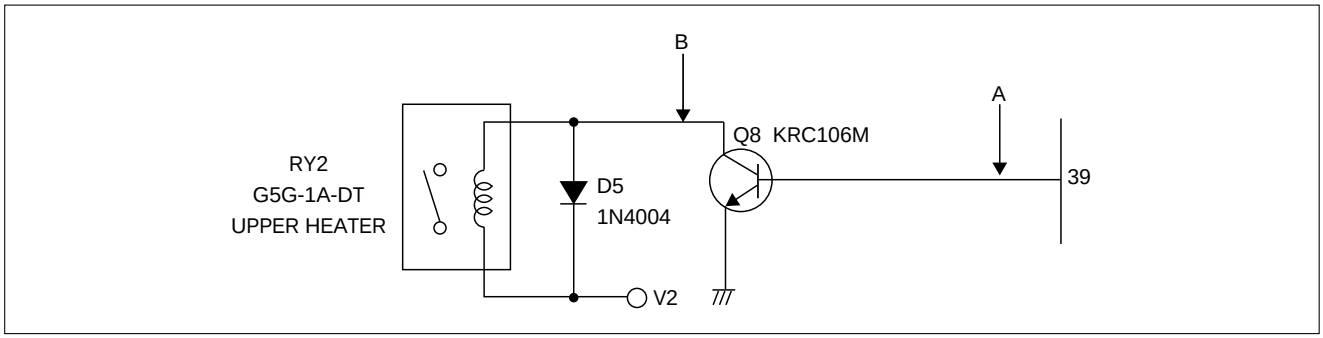


CHECK METHOD

POINT / STAGE	A	B
RY5 “ON”	+5VDC	GND
RY5 “OFF”	GND	+12VDC

5) When there is not upper heater.

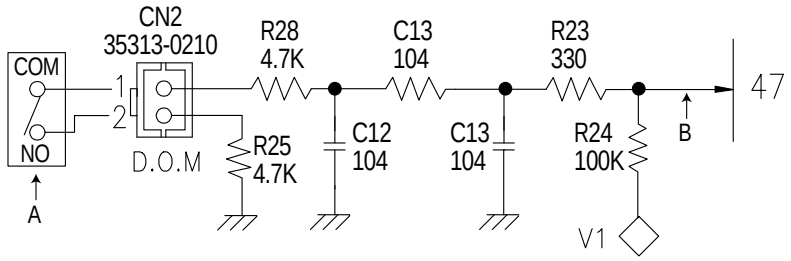
When touching “GRILL & COMBI” button, oven lamp turns on.
Fan motor and turntable motor rotate and cook indicator in display comes on.
* Cause : Relay 2 (RY2) dose not operate.



CHECK METHOD

POINT / STAGE	A	B
RY2 “ON”	+5VDC	GND
RY2 “OFF”	GND	+12VDC

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

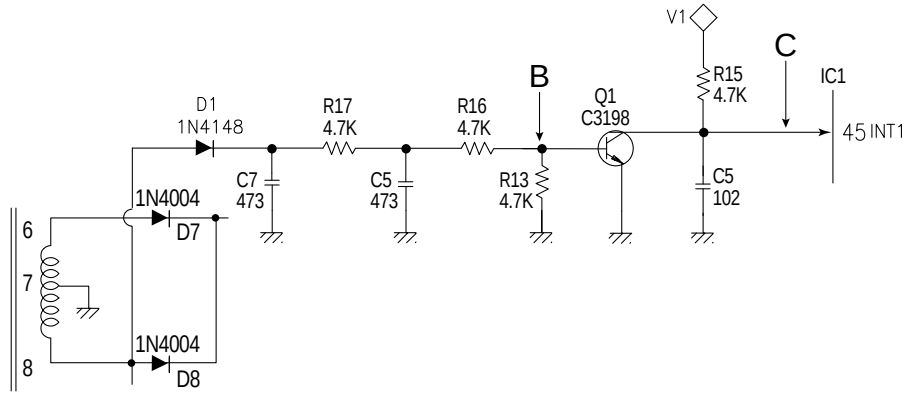


CHECK METHOD

STAGE \ POINT	A	B
Door opened	Open	+5VDC
Doop closed	Closed	GND

NOTE : Check the state of the secondary interlock switch.

7) When " Er-6 " comes on display.

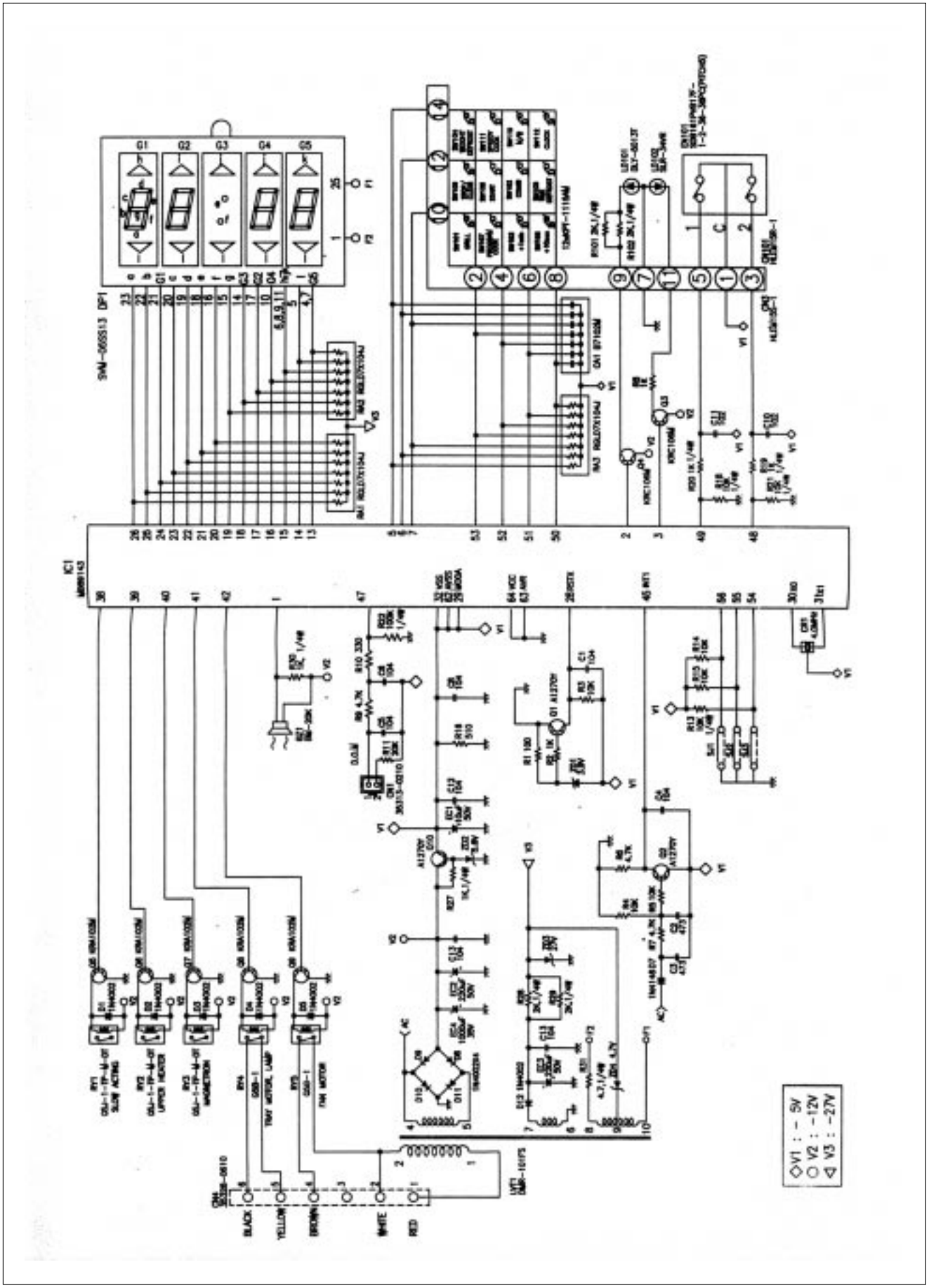


CHECK METHOD

POINT	WAVEFORM
A	
B	
C	+5V 0V T — T=20ms (50Hz)

if clock does not keep exact time, you must check. Diode 1, transistor Q2.

P.C.B CURCUIT DIAGRAM



MAIN PCB ASS'Y PART LIST

NO	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
1	PCB	M218	93X213	3514314980	1
		M219	91.5X163	3514314990	1
2	BUZZER	BZ1	BM-20K	3515600100	1
3	CONNECTOR WAFER	CN2	35313-0210	30166M7020	1
4	CONNECTOR WAFER	CN3	515 80-15	Q4CW215SBD0	1
5	CONNECTOR WAFER	CN4	35328-0610	4CW3061MX0	1
6	CONNECTOR WAFER	CN101	515 81-15	4CW215RBD0	1
7	DIGITRON	DP1	SVM-5SS13	DSVM5SS13-	1
8	HOLDER VFD	DPH	PP DIR-9930	3513002000	1
9	IC MICOM	IC1	MB89144AP-252	141SC985T0	1
10	TRANS POWER	LVT1	DMR-984FS	5EPV41305	1
11	SW RELAY	RY1, RY2	G5G-1A-DT DC 12V	5SC0101123	2
12	SW RELAY	RY3, RY4	G5B-1 DC 12V	5SC0101110	2
13	RESONATOR CERA	CR1	KBR-4.0MKSTF	5PKBR40MKS	1
14	C ELECTRO	EC1	RS 50V 10uF	CEXE1H100A	1
15	C ELECTRO	EC2, EC3	RSS 35V 1000uF	CEXF1V102V	2
16	C ELECTRO	EC4, EC5	RSS50V 220uF	CEXF1H221V	2
17	TRANSISTOR	Q1, Q3	KTC3198GR	TZTC3198GR-	2
18	TRANSISTOR	Q2	KTA1270Y	TZTA1270Y-	1
19	TRANSISTOR	Q5---Q9	KRC106M	TZRC106M--	6
20	C CERA AXIAL	C1, C8-C15	H1KF 50V 0.1uF Z	CCZF1H104Z	9
21	C CERA AXIAL	C6, C7	H1KF 50V 0.047uF Z	CCZF1H473Z	2
22	C CERA AXIAL	C2-C5	H1KF 50V 1000pF K	CCZF1H102Z	4
23	C ARRAY	CA1	8P(7) 50V 1000pF	CN7XB-102M	1
24	DIODE SWITCHING	D1	1N4148M	DZN4148M--	1
25	DIODE SWITCHING	D2-D10	1N4004A	DZN4004A--	9
26	R CARBON FILM	R1-R4,R12,R14,R24,R6	1/6W, 100K OHM J	RD-AZ104J-	8
27	R CARBON FILM	R5,R9,R11,R20,R27	1/6W, 1K OHM J	RD-AZ102J-	5
28	R CARBON FILM	R8,R10,R21,R7	1/6W, 10K OHM J	RD-AZ103J-	4
29	R CORBON FILM	R13,R15-R17,R22,R28	1/6W, 4.7K OHM J	RD-AZ472J-	6
30	R CORBON FILM	R18	1/6W, 510 OHM J	RD-AZ511J-	1
31	R CORBON FILM	R19	1/6W, 200 OHM J	RD-AZ201J-	1
32	R CORBON FILM	R23	1/6W, 330 OHM J	RD-AZ331J-	1
32	R CORBON FILM	R26	1/4W, 1.2K OHM J	RD-4Z122J-	1
33	RARRY	RA1,RA2,RA3	8P(7) 1/8 100K J	RA88X104J	3
34	DIODE ZENER	ZD1	MTZ J 4.7B	DZUZ4R7BSB	1
35	DIODE ZENER	ZD2	MTZ J 3.9B	DZUZ3R9BSB	1
36	DIODE ZENER	ZD3	MTZ J 5.6B	DZUZ5R6BSB	1
37	SW ROTARY	SW109	SDB161PVB17F-1-2 -36-36PC(PITCH 5)	5S10109002	1
38	WIRE FLAT	WF1	1.25X15.X90XC	WSJ-159007	1
39	SW TACT	SW101-SW108, SW110,SW111	SKHV10910A	5S50101Z90	10

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