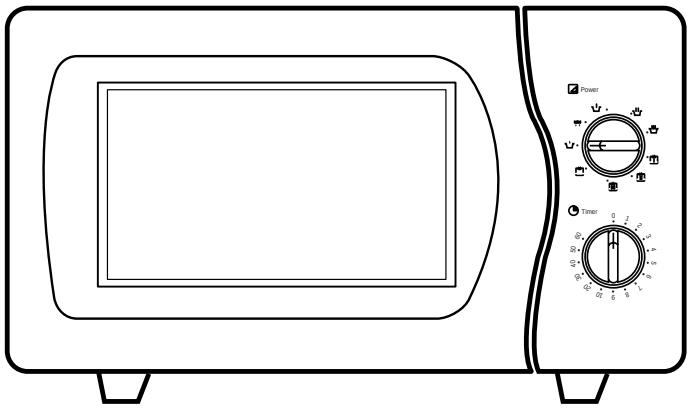
DAEWOO

Service Manual

Microwave Oven

KOG-8465



DAEWOO ELECTRONICS CO., LTD.

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

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

1. For Safe Operation

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

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

(Only a trained service personnel should make repairs.)

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

The door gasket plate and oven cavity surface must 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. Correct Installation

1) This microwave oven weighs 18 kg(40lbs.) 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 1.6m (5.25ft) long. Earthing is required when connecting the power source.
4) Power consumption of this oven is approximately 2.8 kw. It is suggested that the unit is operated on such power line(about 12 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.

CAUTION

MICROWAVE RADIATION

PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USED OR CONNECTED. ALL INPUT AND OUTPUT MICROWAVE CONNECTIONS, WAVEGUIDE, FLANGES AND GASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED

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 to 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.

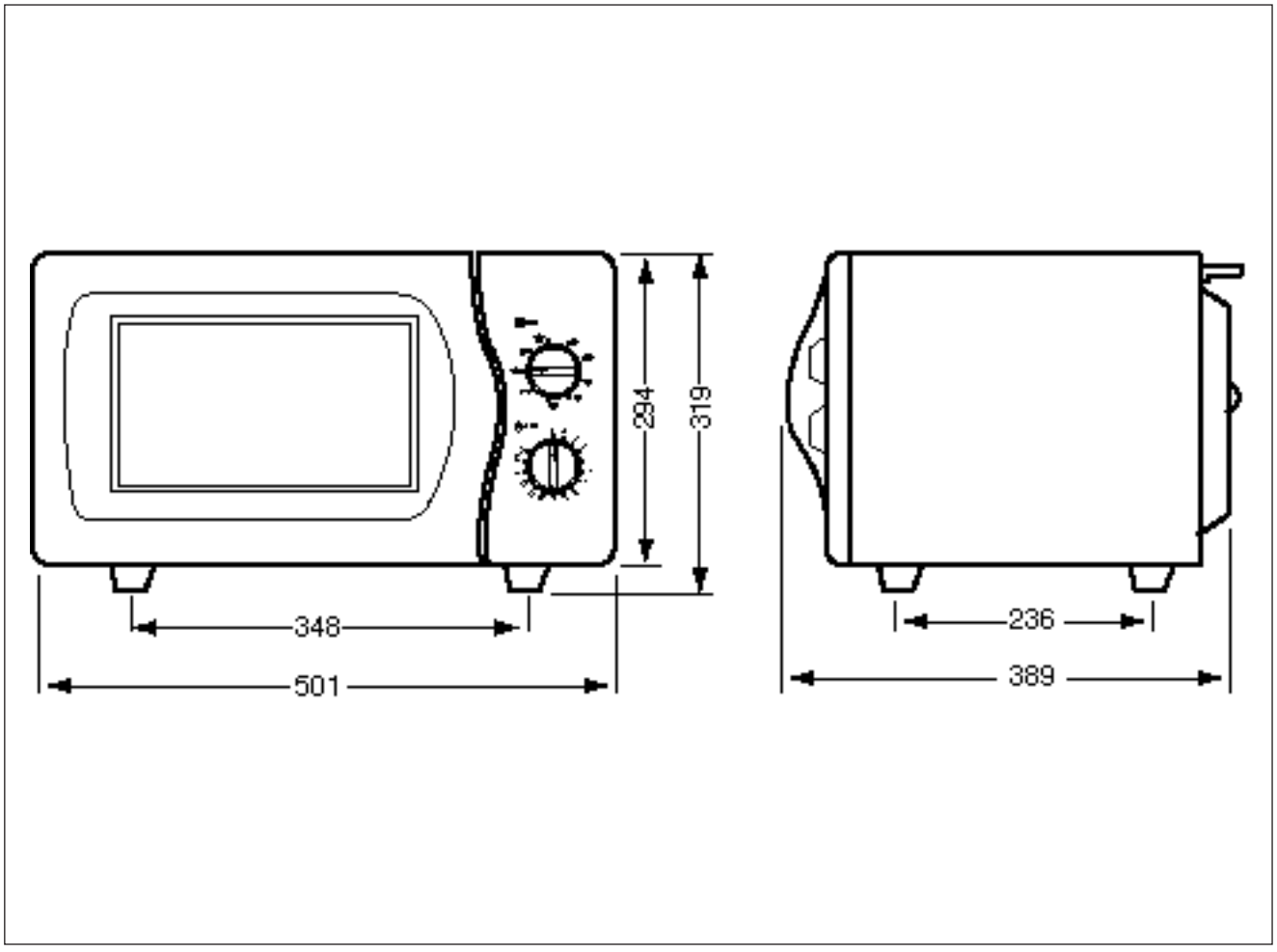
NOTE : This oven is designed for counter-top use only.

SPECIFICATIONS

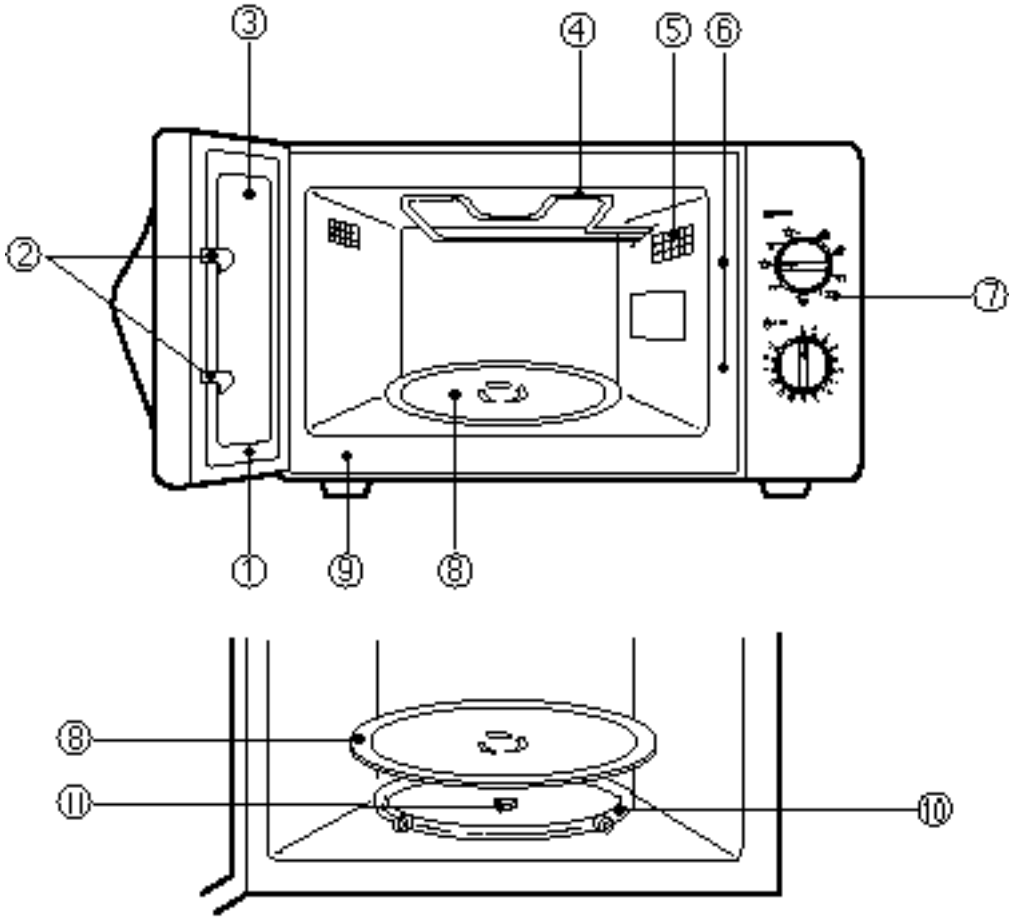
Power Supply		230V~, 50Hz	240V~, 50Hz(U.K)
Microwave	Power Consumption	1,450 W	1,500W
	Output Power	900W (IEC 705)	900W (IEC 705)
	Frequency	2,450 MHz	2,450 MHz
Grill power consumption		1,400 W	1,500W
Simultaneous Heating Power Consumption		2,800 W	2,950 W
Outside Dimensions (W X H X D)		501 X 319 X 389 mm (19.7 X 12.6 X 15.3 in.)	
Cavity Dimensions (W X H X D)		310 X 229 X 330 mm (12.2 X 9.0X 13.0 in.)	
Net Weight		Approx. 18 kg (40 lbs.)	
Timer		60 min. Dual	
Select Function		Microwave/Grill/Simultaneous Heating	
Microwave Power Level		High/Med High/Med/Defrost/Low (900W) (725W) (520W) (310W) (165W)	
Simultaneous heating Level		3-Levles(Grill+M/W 3-Power levels)	

** Specifications subject to change without notice.*

EXTERNAL VIEWS



NAMES AND FUNCTION OF PARTS



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

¤Ł **DOOR HOOK**
When door is closed, it will autoamtically lock shut. If door is opened while oven is operating, magnetron tube will immediately stop operating.

¤Ø **DOOR SCREEN**
Allows viewing of food. Microwave cannot pass through perforations in screen.

¤Œ **GRILL HEATER**
Turns on when grill and simultaneous cooking is selected.

¤º **OVEN LAMP**
Automatically turns on during oven operating.

¤ **SAFETY INTERLOCK SYSTEM**

¤ **CONTROL PANEL**

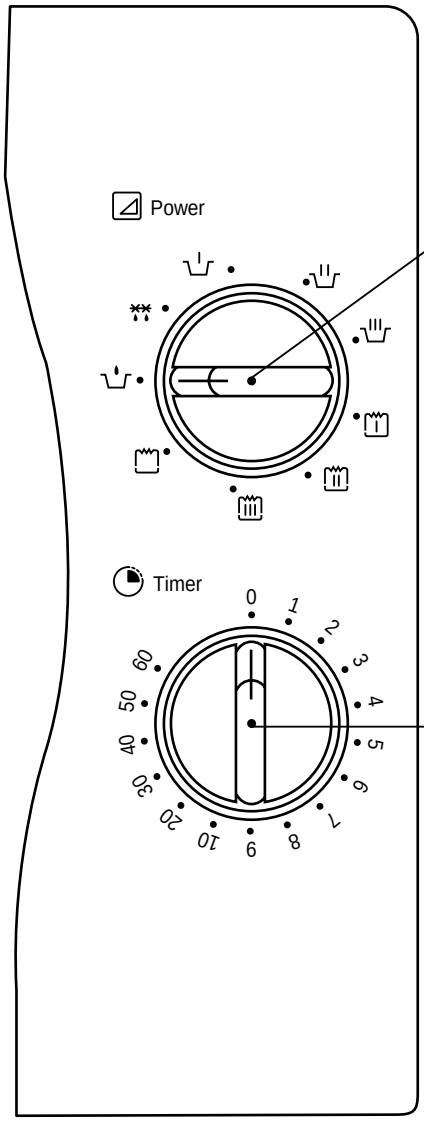
¤ **GLASS TURN -TABLE TRAY**
Rotates during cooking and ensure even distribution of Microwaves. It can also be used as a cooking utensil.

¤ **OVEN FRONT PLATE**

¤ **ROLLER GUIDE**
This must be always used for cooking together with the glass turn-table tray. Use a mild detergent, water and a soft cloth to clean the roller guide.

¤æ **COUPLER**
This fits over the shaft in the center of the oven's cavity floor.
This is to remain in the oven for all cooking.

CONTROL PANEL



POWER OR FUNCTION SELECT KNOB

- Used to select a microwave power level in M/W, GRILL or SIMUL. cooking.

- Used to select a function before the cooking.
  1) M/W oven-used to heat food with microwave.
  2) GRILL-Used to browning food with grill heater.
  3) SIMUL. - used to simultaneous cooking with microwave and grill heater.

TIMER KNOB

- Used in setting cooking time for all functions.

NOTE :
When setting TIMER for less than 1 minute, turn the TIMER past 1 minute and then return to correct timing.

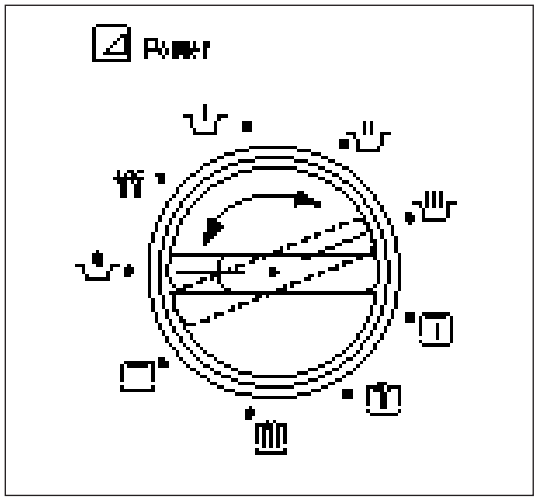
HOW TO SET THE OVEN CONTROLS

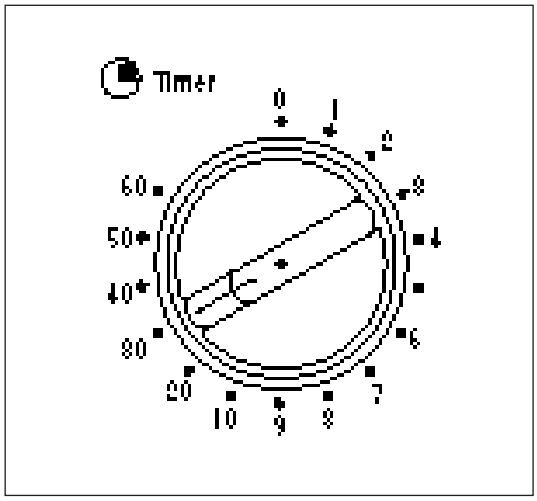
NOTE :
- ¡ Be sure to read the cookbook's introduction before operating the oven.
- ¡ Also remember to read this operating instruction for proper safety information and instruction before using the oven.
- ¡ See the cookbook for specific recipes.
- ¡ Prior to setting the controls, place one cup of water in the oven, in a heat-proof glass measuring cup, for testing purposes.
- ¡ You may open the door while the oven is operating.
- ¡ As soon as the door is opened, the safety mechanisms stop power.
- ¡ To continue cooking, close door, then the oven is operated.
- ¡ If you wish to change the time during cooking, simply adjust the TIMER to desired minutes.
- ¡ When time has elapsed, a bell will ring and the oven will turn off.

1. MICROWAVE DEFROST

• This oven has 5-power levels in microwave cooking.
• You can select these levels by POWER knob.

1. place food inside oven.
2. Set POWER knob to appropriate M/W power level position.
3. Set TIMER knob to the cooking time.





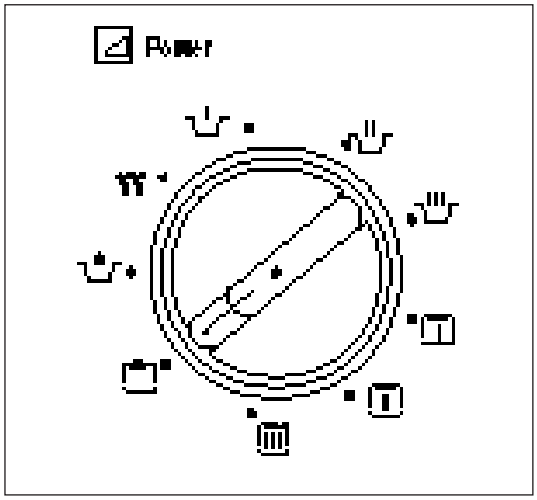
SYMBOL	M/W POWER LEVEL	OUTPUT POWER
	LOW	165W
	DEFROST	310W
	MEDIUM	520W
	MED. HIGH	725W
	HIGH	900W

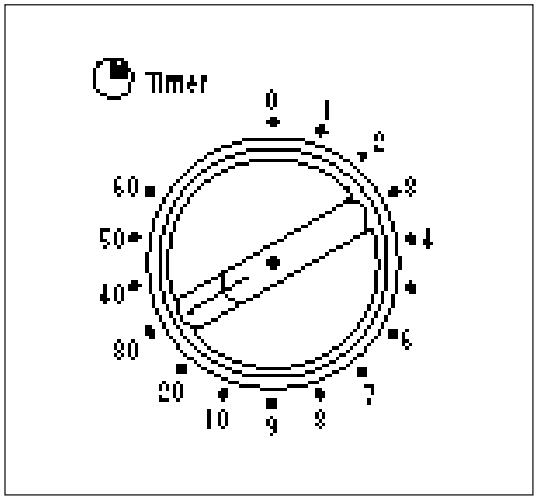
NOTE : Output power refer to a value of reference.

2. GRILL COOKING

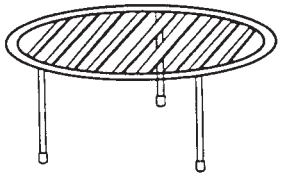
¥ Grilling in this oven is similar to conventional broiling.
¥ There is no need to preheat the oven for griling.

1. Place food on the Metal Rack, and set it on the Tray.
2. Set POWER knob to GRILL position.
3. Set TIMER knob to the cooking time.

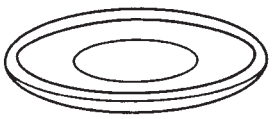




EXAMPLE : To Grill hamburgers, steaks, kabobs, etc. use the trays this way:



METAL RACK



TURNTABLE

To use :

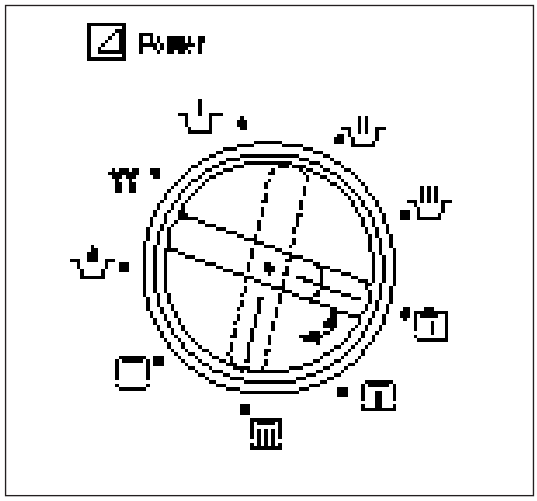
- Place food on Metal Rack.
- Place the Metal Rack directly on the Turntable.

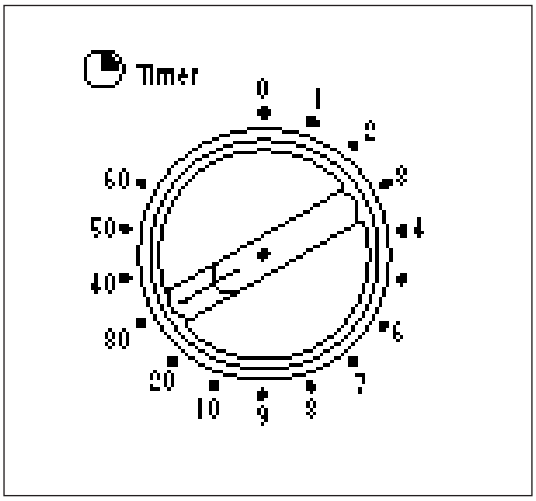
2. COMBINATION COOKING

¥ This oven has 3-cooking levels in SIMUL-COOKING.
¥ You can select these levels by POWER knob.

(COMBI 1)	(COMBI 2)	(COMBI 3)
Grill + M/W Low	Grill + M/W Med Low	Grill + M/W Med

1. Place food on the Metal Rack or Tray.
2. Set POWER knob to SIMUL position.
3. Set TIMER knob to the cooking time.





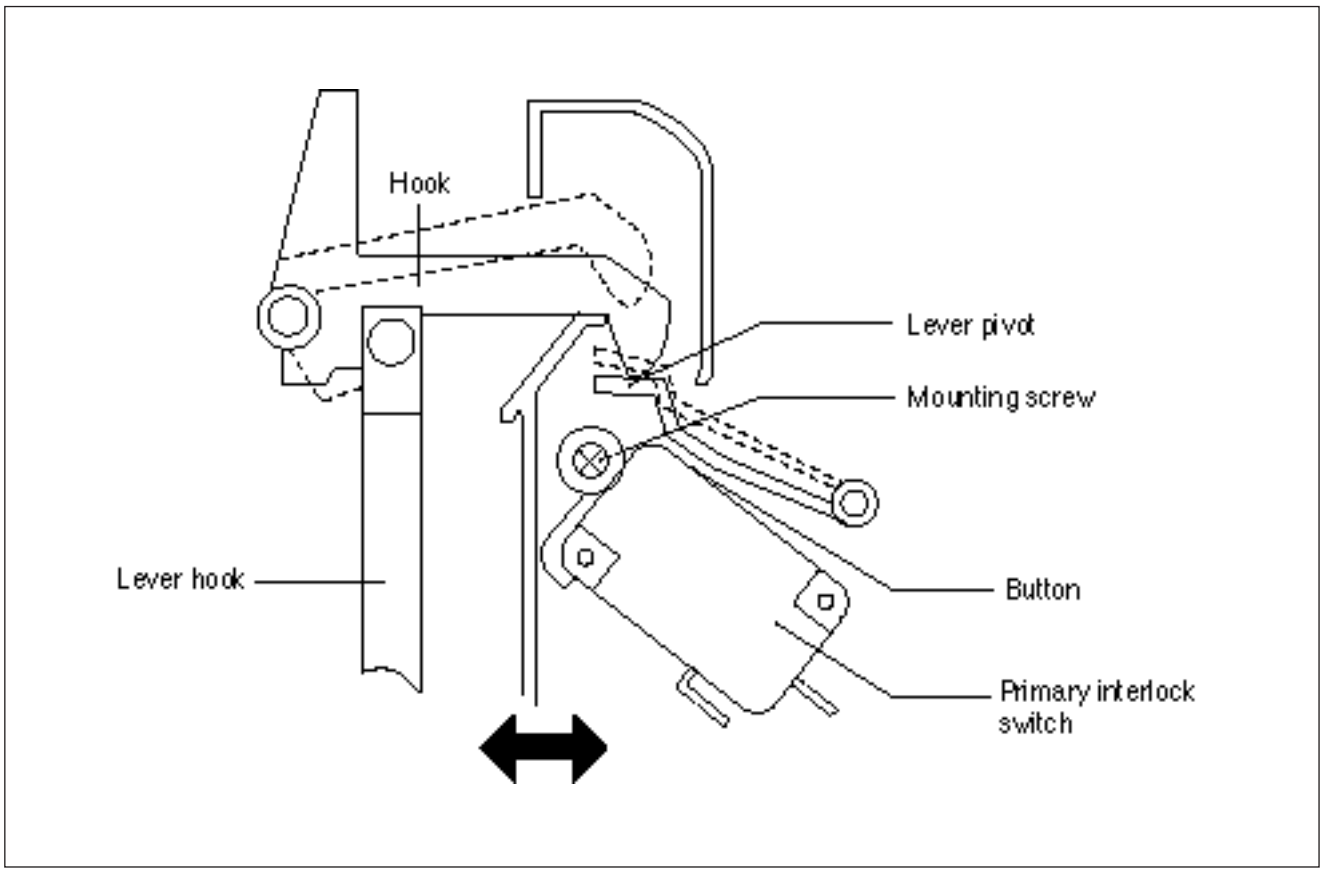
- To prevent the oven operating with the door open, this oven is fitted with safety door interlock switches. If you wish to inspect the food during the cooking time, simply open the door. The oven will automatically stop the cooking.
- To continue cooking, close the door.
- If you wish to stop the cook during the cooking, simply turn the timer knob to the point “OFF”. Cooking time can be reset at any time during cycle by turing the timer knob.
- Do not let the timer continue to oeprate after removing food.

INTERLOCK MECHANISM FUNCTIONS AND ADJUSTMENTS

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

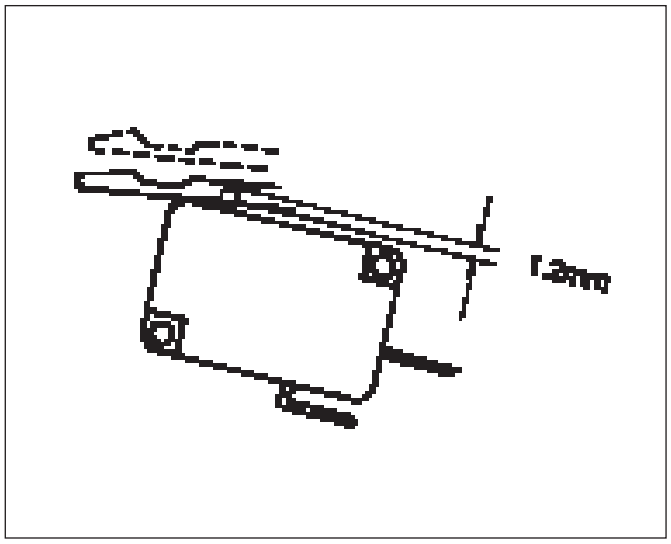
(1) Primary interlock switch

When the door is closed, the hook will lock 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 presses the button of the primary interlock switch to bring it under 'ON' condition.



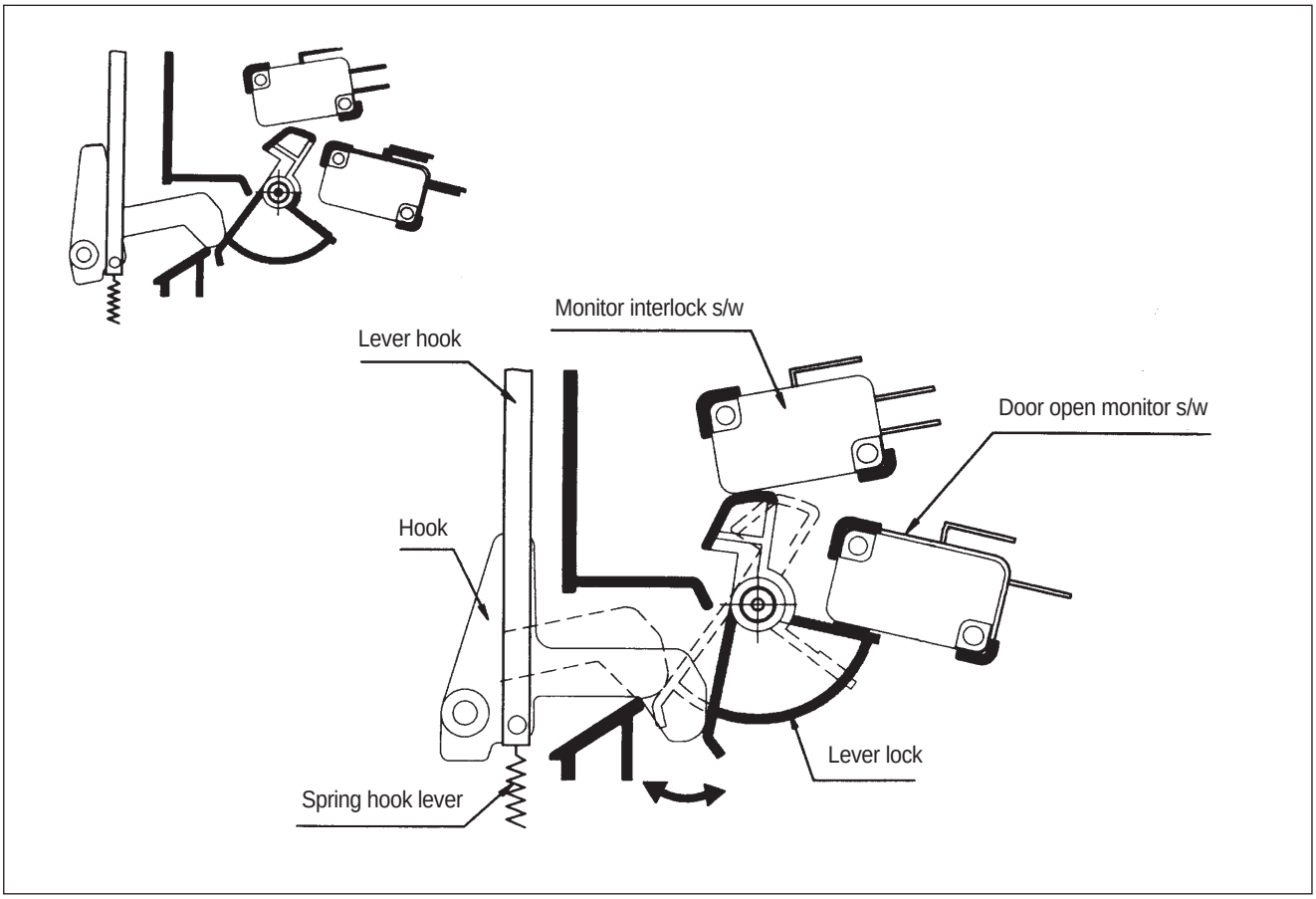
Adjustment 1

When the door is closed, the switch button is pushed by the hook.
The movement of the switch button should exceed 1.2 mm measured at the top of the button.



(2) Secondary interlock switch, monitor interlock switch

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



Adjustment 2

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

Secondary interlock switch
The movement of the switch button should exceed 1.2mm measured at the top of the button.

Adjustment step:

a) Loosen the two mounting screws.
b) Adjust the interlock switch assembly position.
c) Confirm the gap(1.2mm) described above.
d) Make sure that the latch lever moves smoothly after adjustment is completed
e) 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 makes sure it is earthed properly before begining repair work.

2. Warning about the electric charge in the high voltage capacitor. (Refer to Fig. 1)

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.

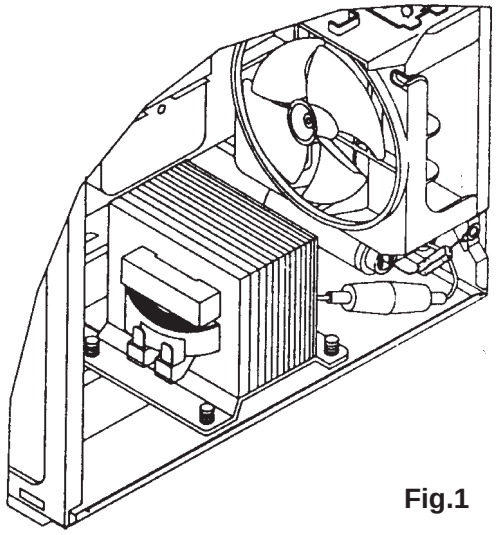


Fig.1

(4) When the fuse(normal blow type) is blown out due to the operation of the monitor switch; replace primary, secondary interlock switch and monitor switch.
Refer 11~12 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, care is required when touching or replacing high potential parts due to electrical shock or exposure of microwave energy. These parts are as follows-H.V. transformer, Magnetron, H.V. Capacitor, H.V. Diode.

DISASSEMBLY AND ASSEMBLY

1. To remove cabinet (Refer to Fig. 2)

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

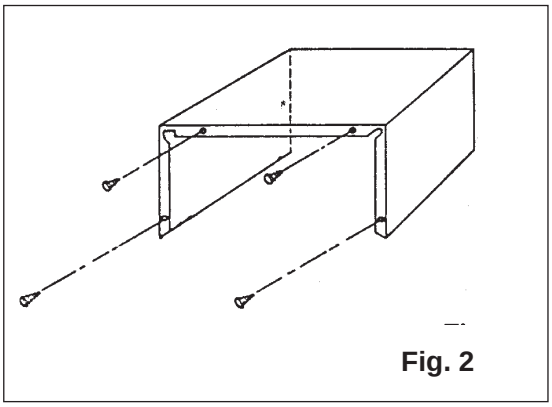


Fig. 2

2. To remove parts of guide wind assembly (Refer to Fig.3)

1) Release the earth screw (F57) .
2) Remove the noise-filter (F52) to the guide wind (F42).
3) Pull the fan (F45) to the motor shaft.
4) Release two screws (F44) which secure the motor shaded pole (F43).
5) Remove the motor shaded pole.
6) Release a screw (F48) which secure the holder capacitor (F47).
7) Remove the holder capacitor and capacitor (F46) to the guide wind.
8) Remove the diode H.V (F49).
9) Reverse the above steps for reassembly.

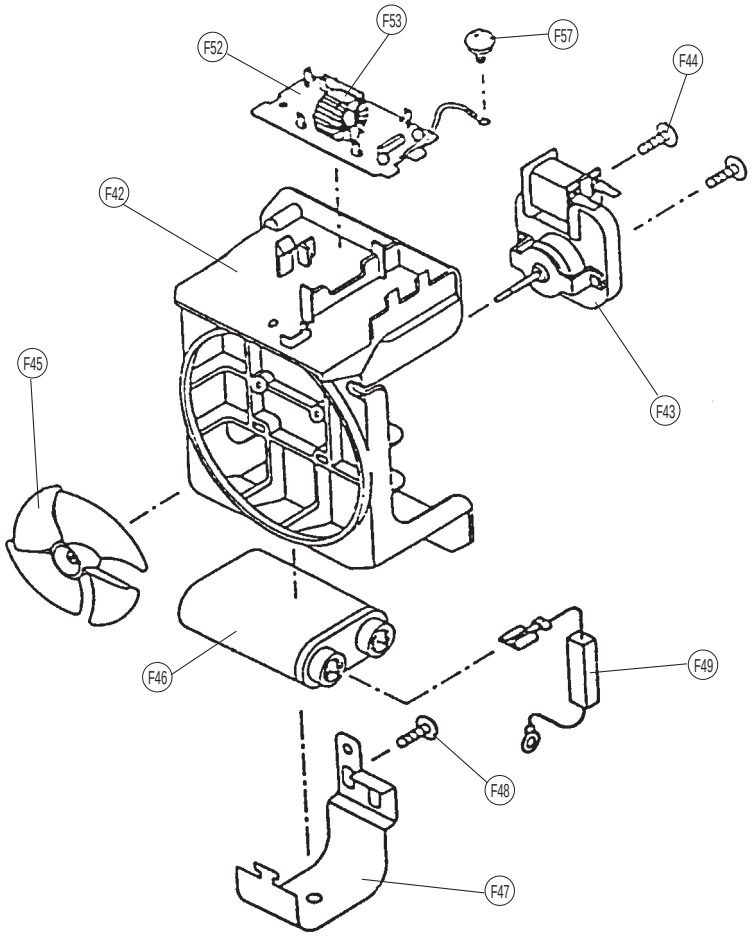


Fig. 3

3. To remove lamp. (Refer to Fig. 4)

1) Remove a screw (F37) holding lamp (F36) to the guide air (F34).
2) Remove the lamp.
3) Reverse the above steps for reassembly.

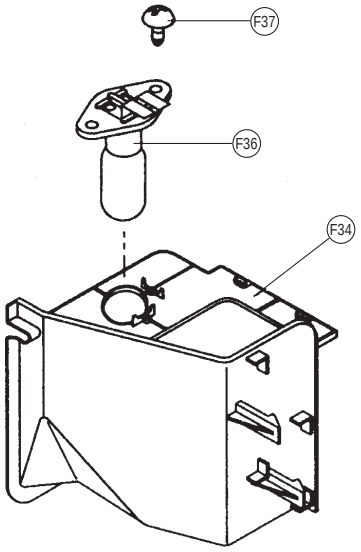


Fig. 4

4. To remove H.V. Transformer (Refer to Fig. 5)

1) Remove four screws (F22) which secure the H.V. Transformer bracket to the base plate.
2) Remove the H.V. Transformer (F21).

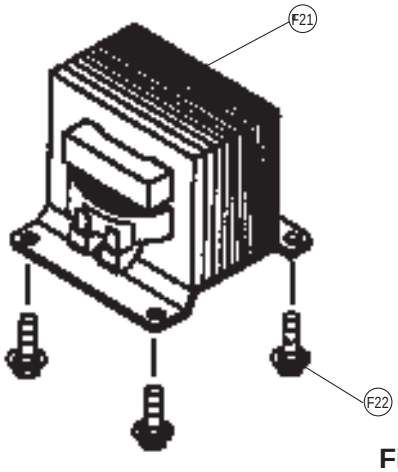
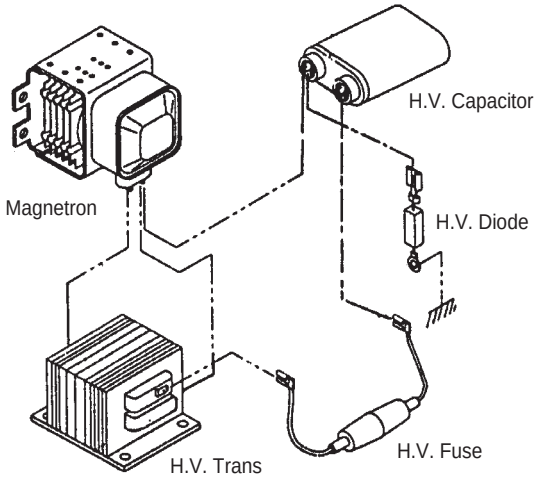


Fig. 5

HIgh voltage circuit wiring



5. To remove magnetron and magnetron thermostat. (Refer to Fig. 6)

1) Remove two screws (F26) which secure the thermostat (F25).
2) Remove the thermostat.
3) Remove three screws (F24) which secure the magnetron (F23).
4) Remove the magnetron.
5) Reverse the above steps for reassembly.

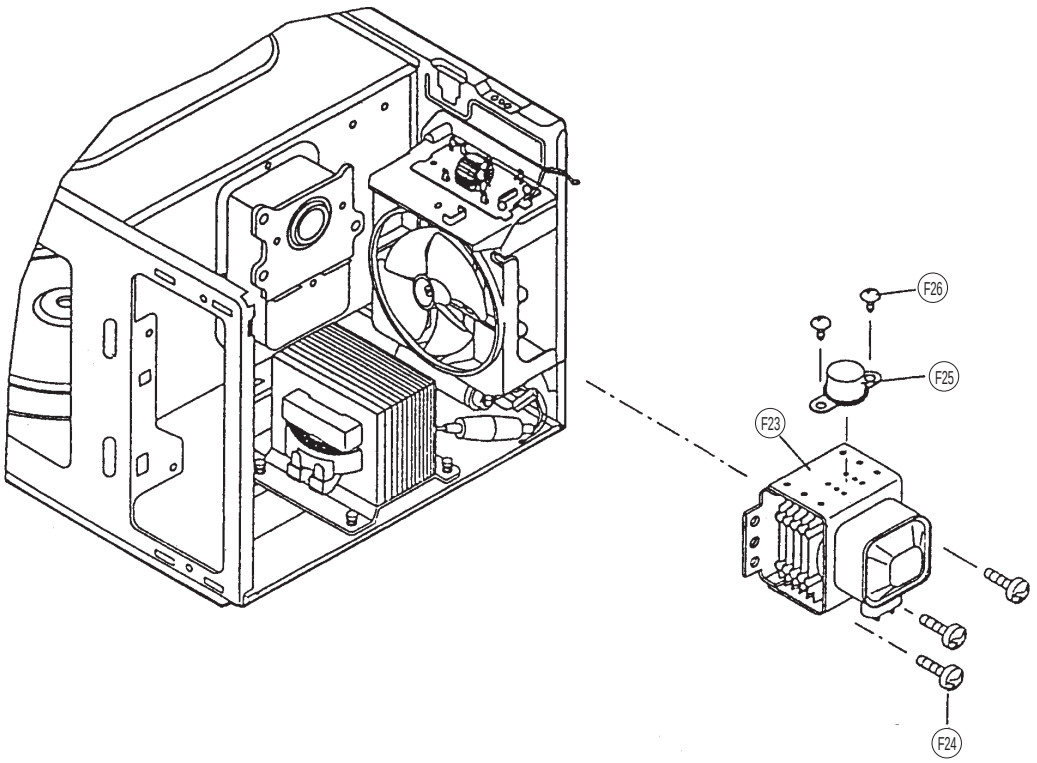
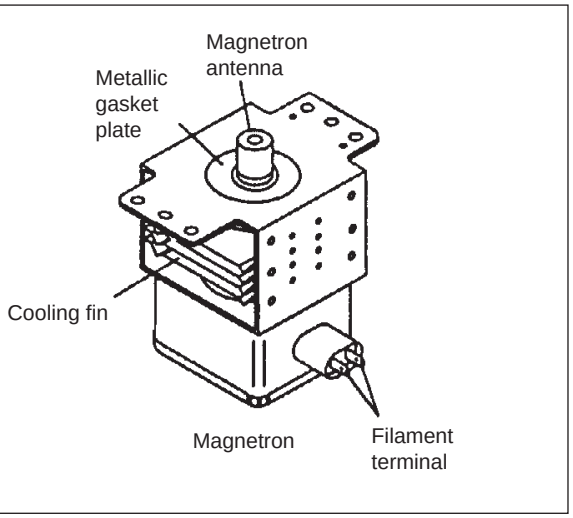
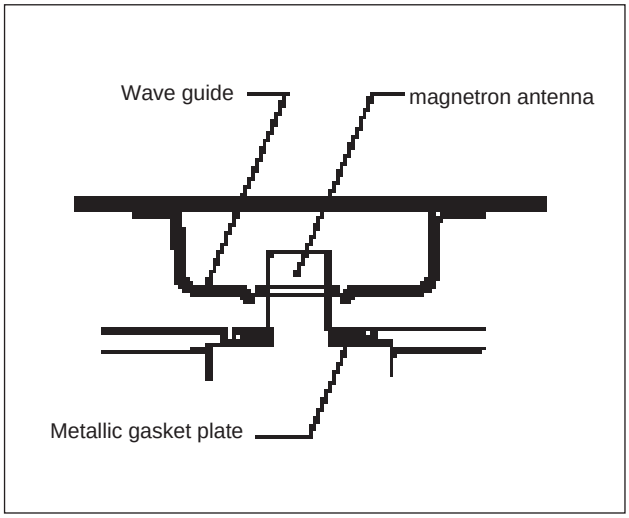


Fig. 6

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.





6. To remove parts of control panel assembly (Refer to Fig. 7.8)

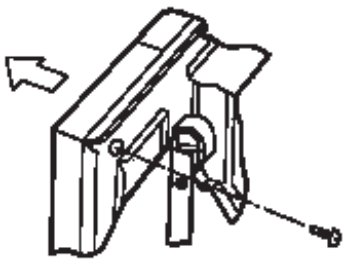
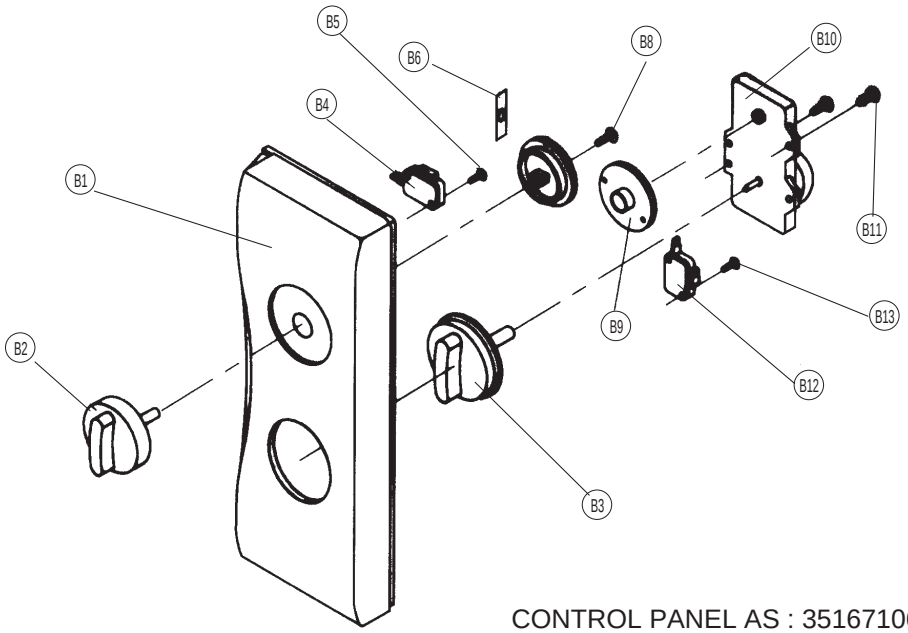


Fig. 7

1) Remove a screw holding control panel assembly to the oven front plate. At the same time, draw forward the control panel assembly from oven front plate.
2) Remove two screws (B11) which secure the timer assembly (B10) .
3) Remove the timer assmebly (B10) .
4) Pull out the knob (B3) from the timer assembly (B10) .
5) Pull out the coupler timer (B9) from the timer assembly (B10) .
6) Remove a screw (B13) which secure the sw MICRO (B12) .
7) Pull out the sw MICRO (B12) from the control panel (B1) .
8) Remove a screw (B8) which secure the coupler VPC knob (B7).
9) Pull out the coupler VPC knob (B7) and knob VPC (B2) from the control panel (B1) .
10) Remove the spring flat (B6) .
11) Remove a screw (B5) which secure the sw MICRO (B4) .
12) Pull out the sw MICRO (B4) from the control panel (B1) .
13) Reverse the above steps for reassembly.



CONTROL PANEL AS : 3516710620 **Fig. 8**

REF.NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B1	3516705830	CONTROL-PANEL	ABS	1	
B2	3513403900	KNOB VPC	ABS	1	
B3	3513401220	KNOB	ABS	1	
B4	4415A66600	SW MICRO	VP-532A-OF SPNC #187	1	
B5	7121301611	SCREW TAPPING	T2S PAN 3X16 MFZN	1	
B6	3515101600	SPRING FLAT	SUS-301 T0.5	1	
B7	3517401200	COUPLER VPC KNOB	POM	1	
B8	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	1	
B9	3517401100	COUPLER TIMER	POM	1	
B10	3518204900	TIMER	KN60MKD11E-P	1	
B11	7S341W40B1	SCREW SPECIAL	T2S PAN 4X12 PW SE MFZN	2	
B12	4415A17352	SW MICRO	VP-533A-OF SPNO #187	1	
B13	7121301611	SCREW TAPPING	T2S PAN 3X16 MFZN	1	

7. To remove door assembly (Refer to Fig. 9)

1) Remove two bolts (F19) and two nuts (F20) which secure to hinge.
2) Remove door assembly (A00) .
3) Remove door above for reassembly taking case to replace fixing glue.

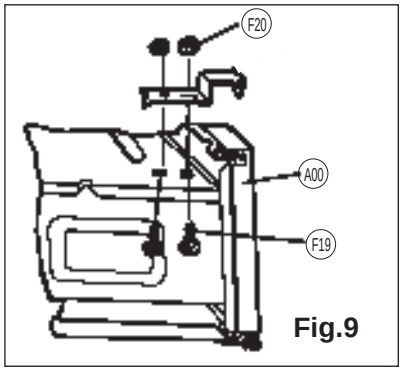
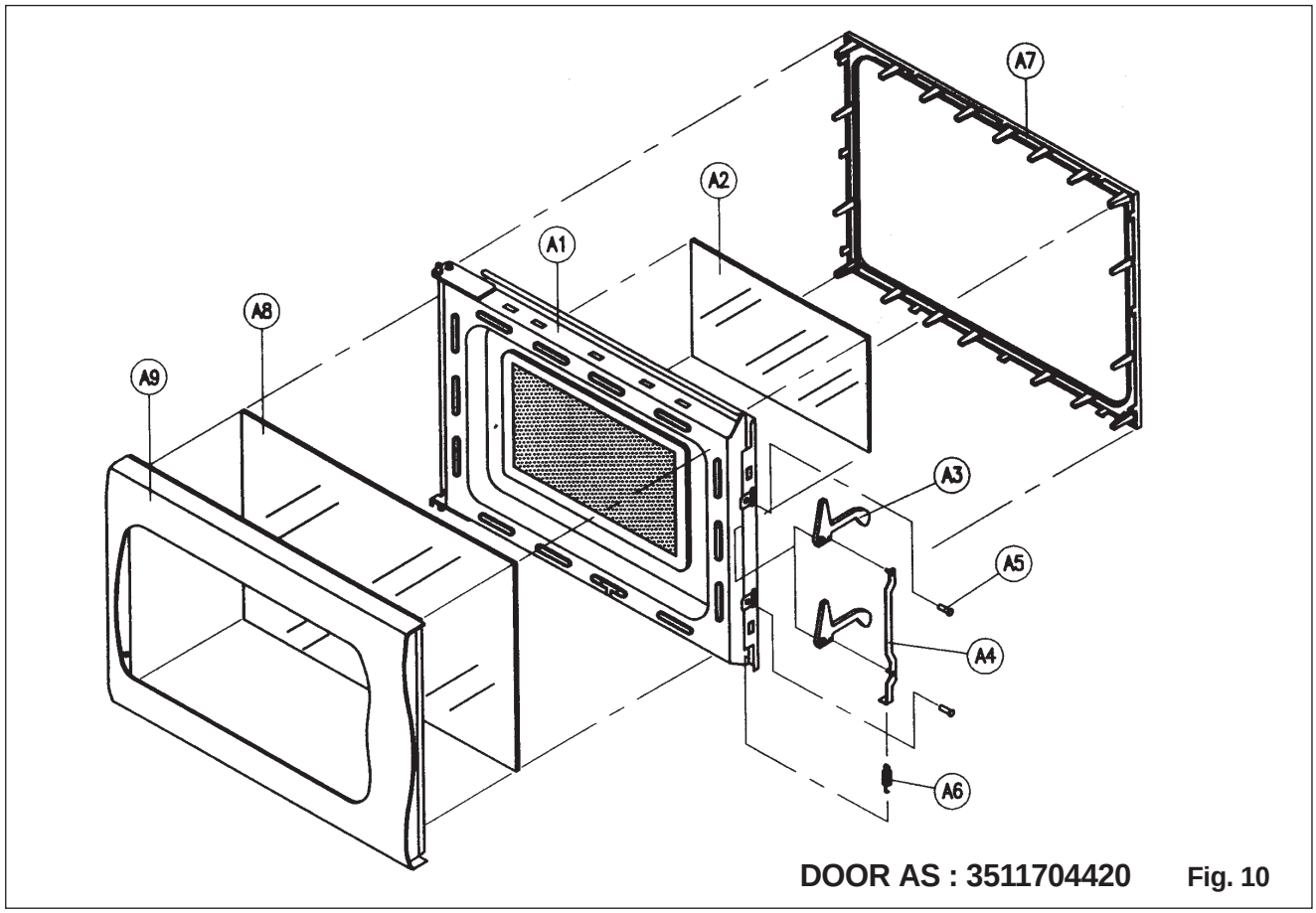


Fig.9

8. To remove door parts. (Refer to Fig. 10)

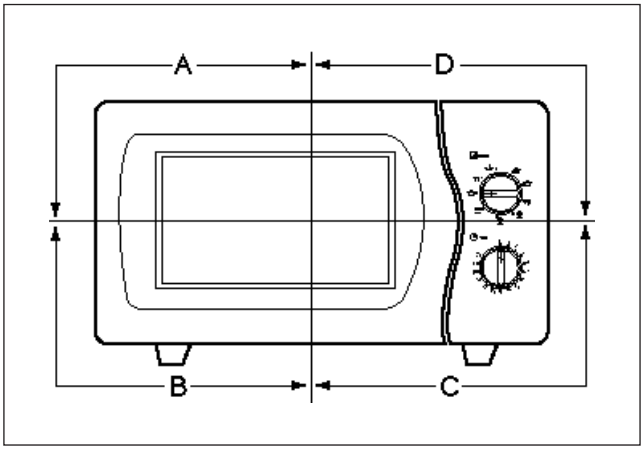
1) Remove the frame door (A9) and barrier-screen (A8) .
2) Remove the absorber microwave (A7) .
3) Pull the two fixture hook (A5).
4) Remove the spring hook (A6) .
5) Remove two hooks (A3), and lever hook (A4).



DOOR AS : 3511704420 Fig. 10

REF.NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A1	3511704600	DOOR PAINTING AS		1	
A2	3517001800	BARRIER-SCREEN *I	TEMPERED GLASS 3.2T	1	
A3	3513100600	HOOK	POM	2	
A4	4413A44001	LEVER HOOK AS	KOR-640	1	
A5	4413A40052	FIXTURE HOOK	SWRM3 Ø5.5XL12.5	2	
A6	441G448071	SPRING HOOK	SWPA80	1	
A7	3510100300	ABSORBER MICROWAVE	PAI+FERRITE	1	
A8	3517003600	BARRIER-SCREEN *O	GLASS 3.0T	1	
A9	3512203000	FRAME DOOR	ABS	1	

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

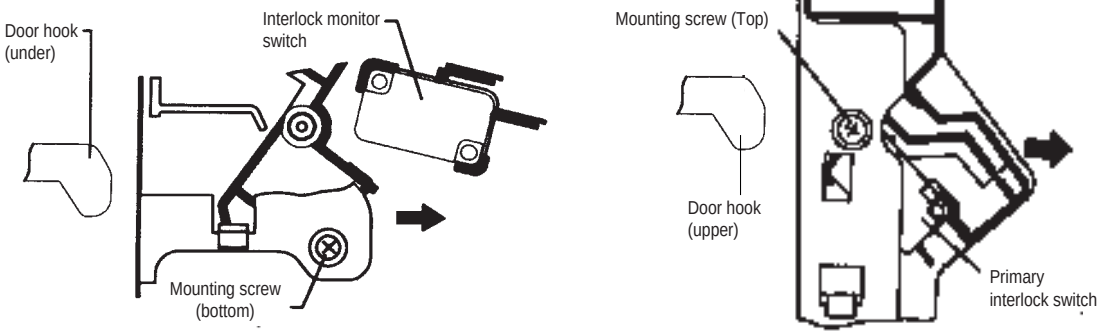


(1) To reduce gap located on part 'A'.
   1) Loosen a Hex Bolt on top door hinge, then push the door to contact the door seal to oven front surface.
   2) Tighten a Hex Bolt.

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

(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.

10. To remove tray motor. (Refer to Fig. 11)

1) Cut the tray motor cover parts from the base plate (Refer to Fig 11, 12).
2) Remove the tray motor cover.
3) Remove two screws (F12) which secure the tray motor (F11) to tray motor bracket.
4) Remove the tray motor.

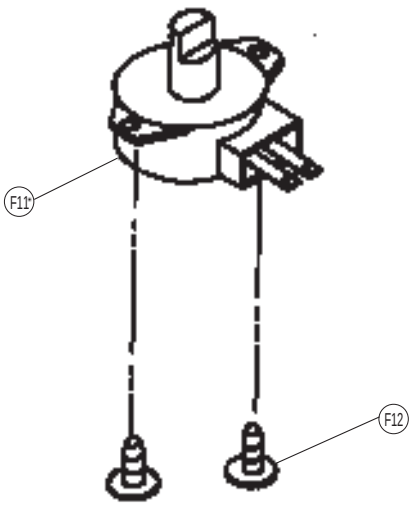


Fig. 11

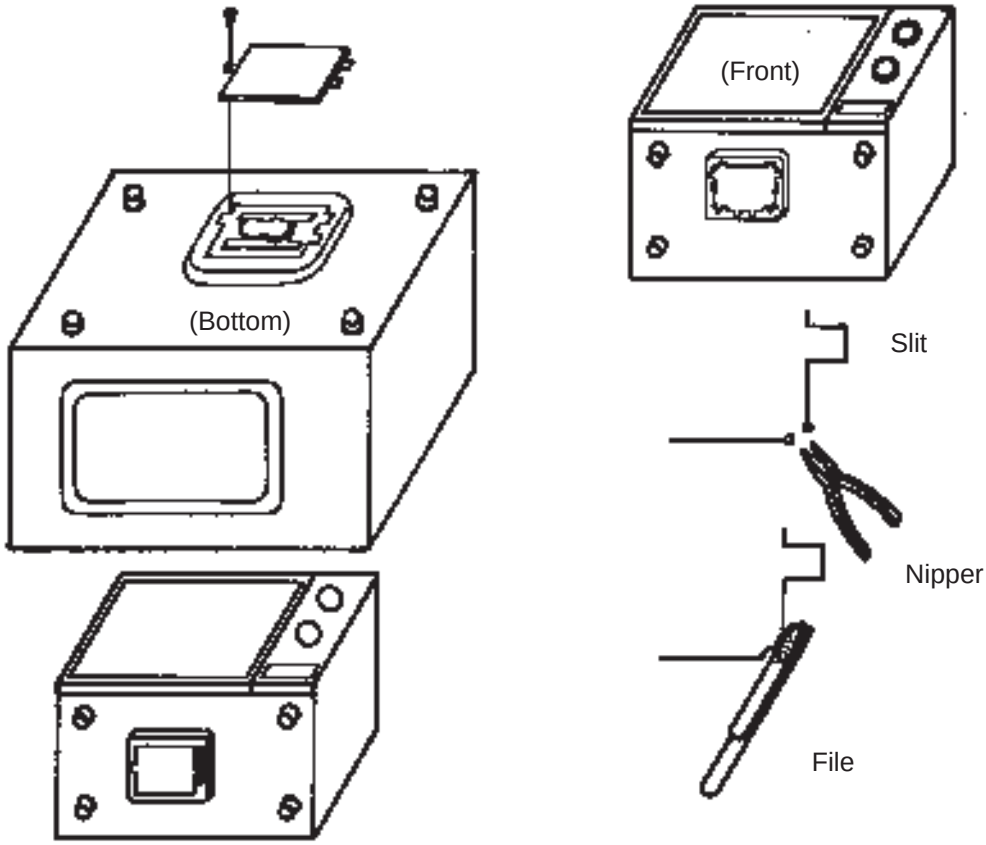


Fig. 12

11. To remove grill heater assembly (Refer to Fig. 13)

1) Release three hex nuts (F10) holding the Grill Heater Assembly (F9) to top and side plate.
2) Remove Grill heater Assembly.

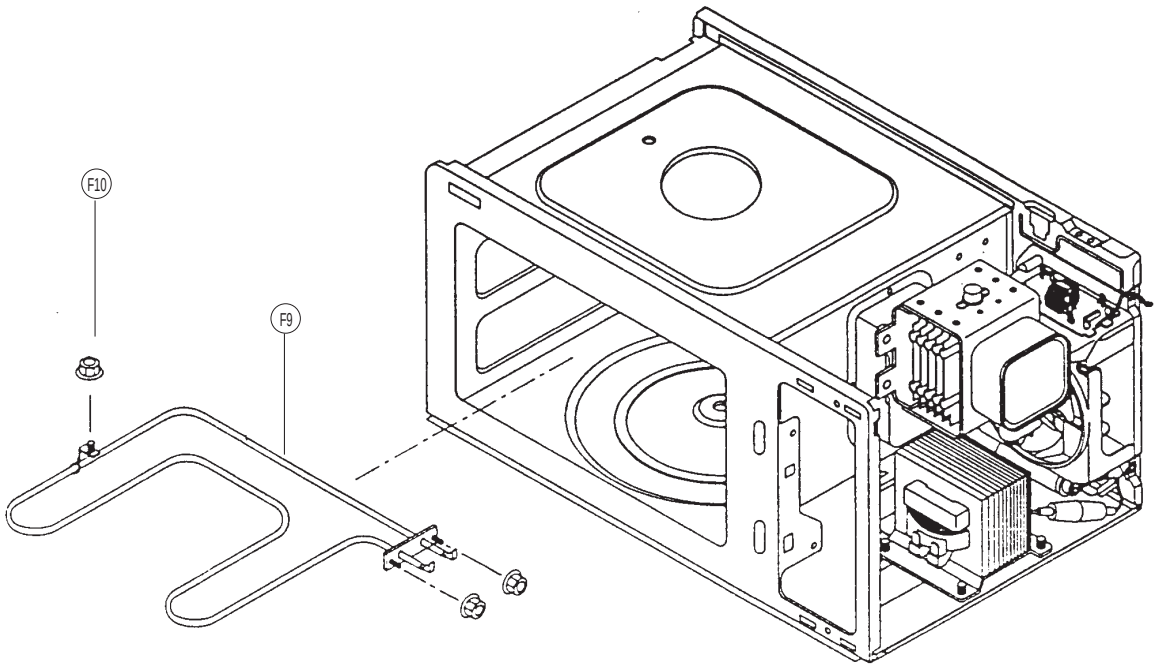


Fig. 13

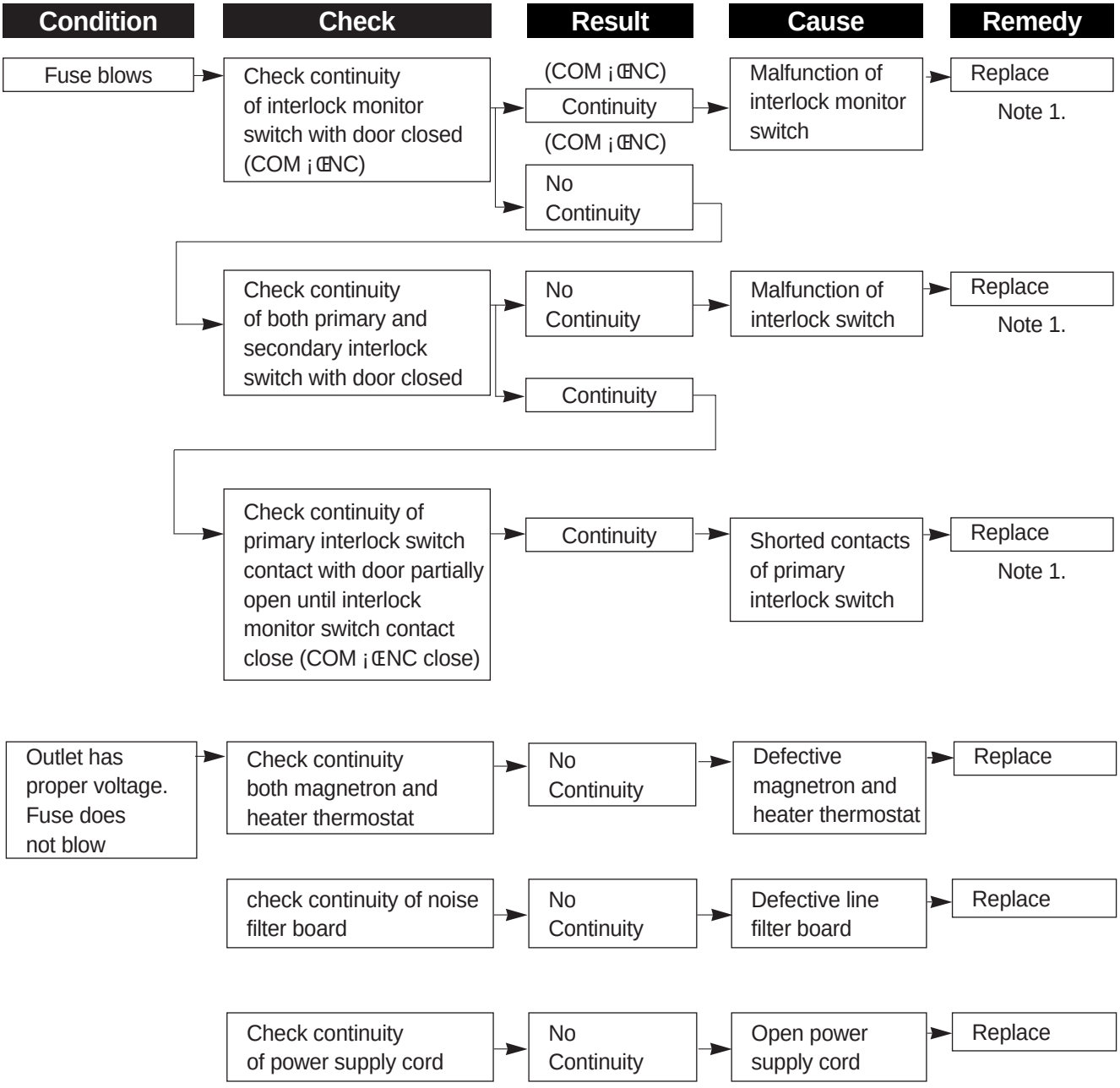
TROUBLE SHOOTING GUIDE

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

1. Check earthing before fault finding.
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.

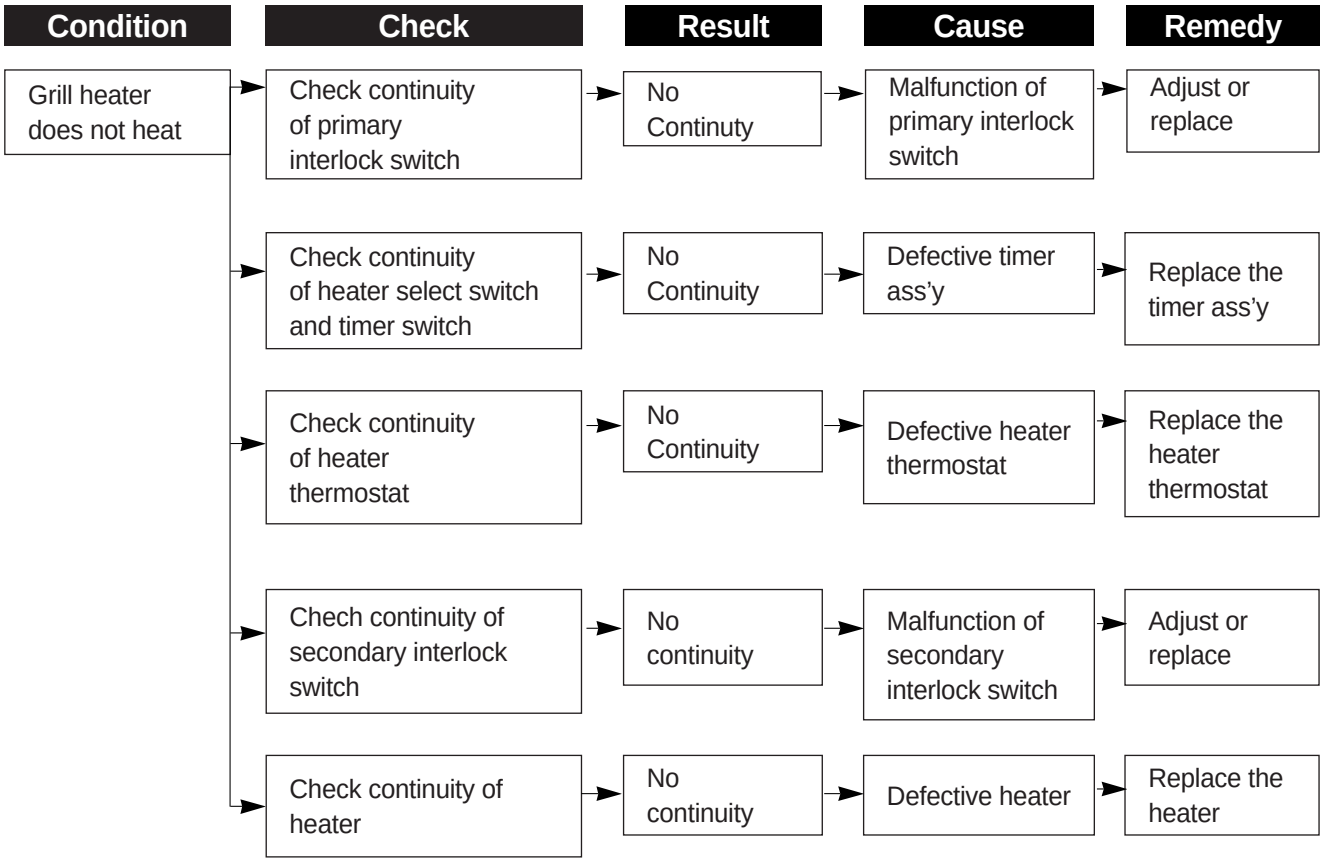
NOTE : When electric parts are checked or replaced, be sure the power cord is not inserted the wall outlet. Check wire harness, wiring, and connection of the terminals, and power cord before check the parts listed below.

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

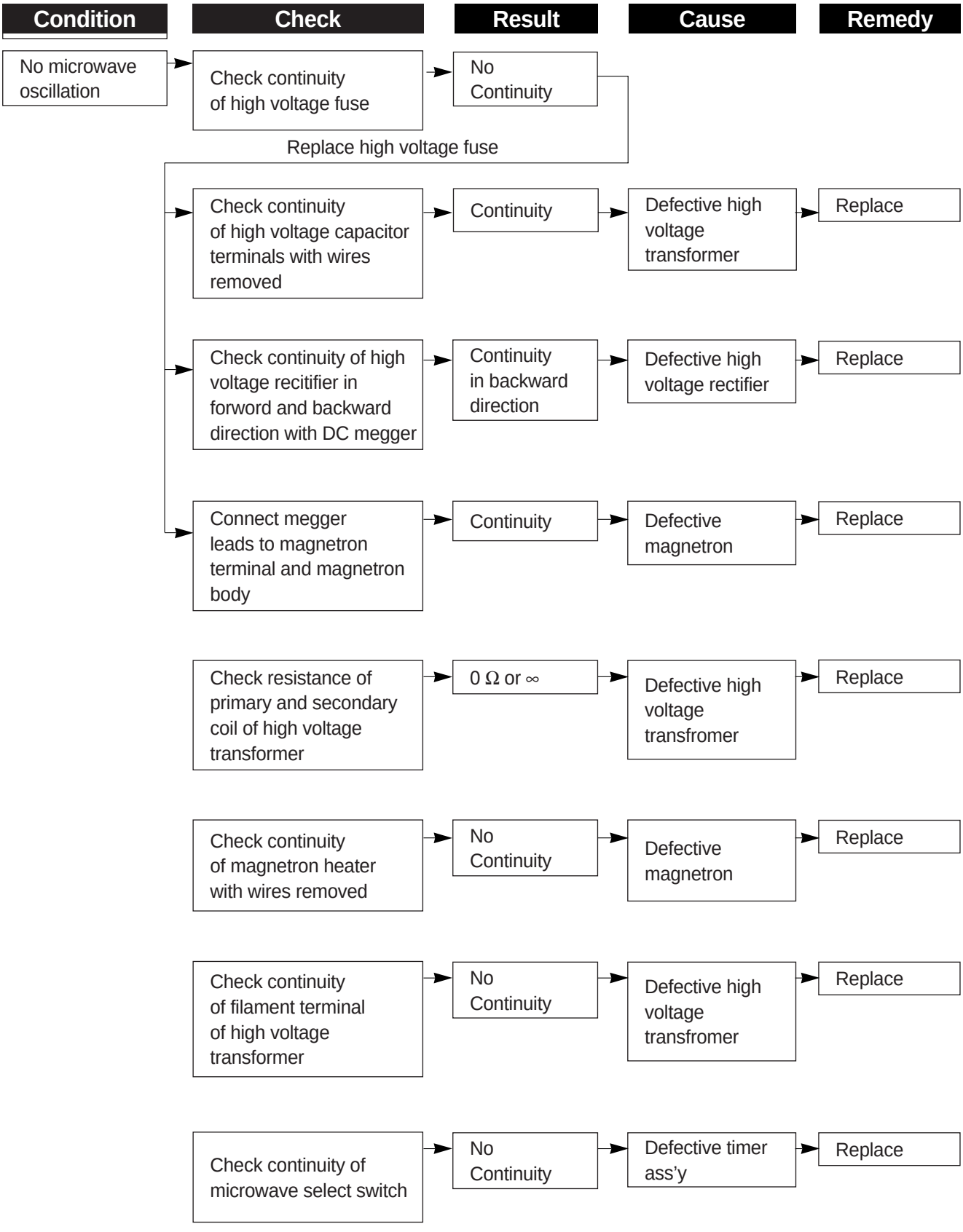


NOTE 1 : All these switches must be replaced at the same time, please refer to page 11 and 12 for adjustment instructions.

(TROUBEL 2) Heater does not heat (Food will not become hot).



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



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 of the water is 10 ¡ 2 ¡ (50 ¡ 3.6 ¡). 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. 14).
4) Microwave power is switched on.
5) Heating time should be exactly 47 seconds. Heating time is measured while the microwave generator is operating at full power. The filament heat-up time magnetrons is not included.
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:

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

• ΔT is actual temeprature rise.
• t is the heating time.

The power measured should be 900W ¡ 10 %.

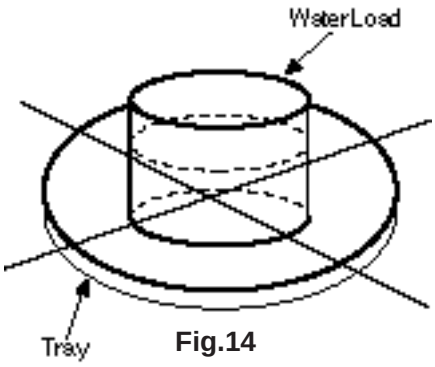


Fig.14

CAUTION :

1. Water load should be measured exactly to 1 litre.
2. Input power voltage should be exactly volts as specified.
3. Ambient temperature should be 20 ¡ 2 ¡

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 connectors from Primary Interlock Switch.
2) Connect the ohmmeter 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 door is closed.

2. Secondary Interlock Switch

1) Disconnect two connectors from secondary interlock switch.
2) Connect the ohmmeter 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 then 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 ohmmeter leads between the lead wire connector disconnected as item '1' and the power supply neutral plug pin.
3) Read the value of resistance between the lead wire connector and the power supply neutral 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 Swtich	∞	0
Secondary Interlock Switch	∞	0
Interlock Monitor Circuit	0	∞

When value obtained is not acceptable, the switch should be replaced or adjusted again.

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 an 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/cm^2 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 thereafter once the oven is in use, 4mW/cm^2 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 mililitres of tap water initially at 68 ¡ 9 ¡ÆF (20 ¡ 5 ¡ÆC) placed within the cavity at the center of the load carrying surface provided by the manufacture. The water container should be a low from 600 milliliters 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 ¡ 5 millilitres of tap water initially at 68 ¡ 9 ¡ÆF(20 ¡ 5 ¡ÆC) in the container.
3) Place it at the centre of the tray.
4) Operate oven.
5) measure the microwave leakage using an approved microwave leakage meter after a few minutes of operation.

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

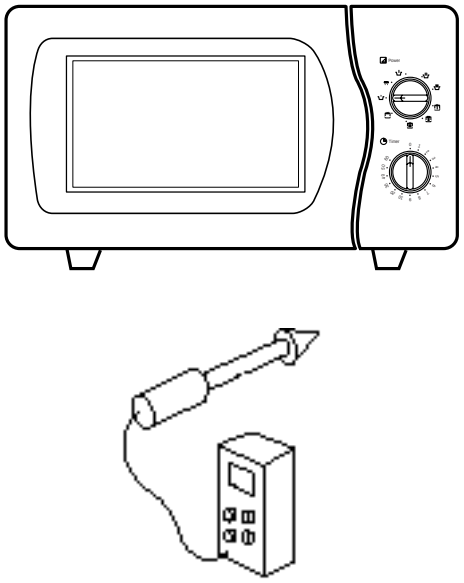


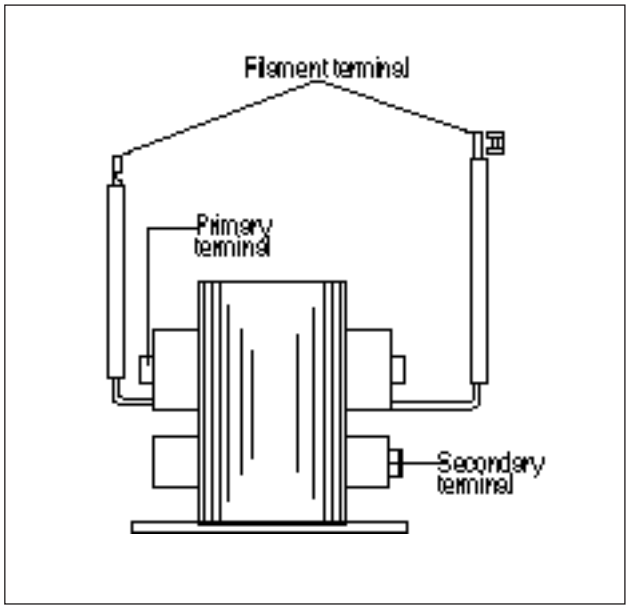
Fig. 15

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 not advisable to attempt measurement of the high voltage.
3. Defore touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor (see page 13).

1. High voltage transformer

(A) Remove connections from the transformer terminals and check continuity.
(B) Normal readings should be as follows:
Secondary winding…… Approx. 100Ω ¡ 10%
Filament winding…… Approx. 0Ω
Primary winding……. Approx. 0Ω



2. High voltage capacitor

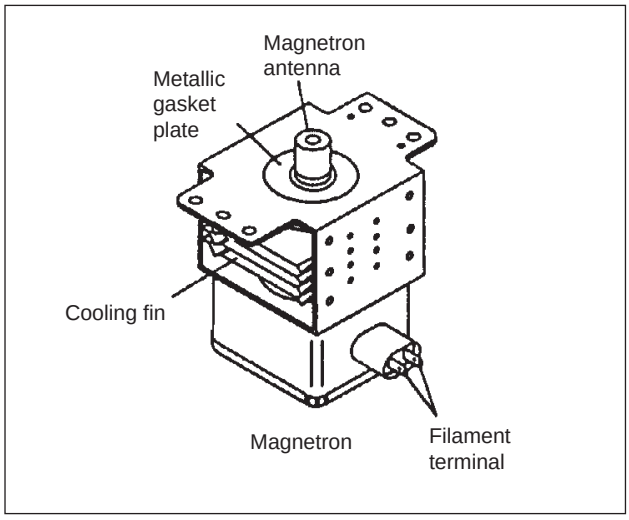
(A) Check continuity of capacitor with meter on the highest OHM scale.
(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.
(C) A shorted capacitor will show continuous continuity.
(D) An open capacitor will show constant 9MΩ.
(E) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

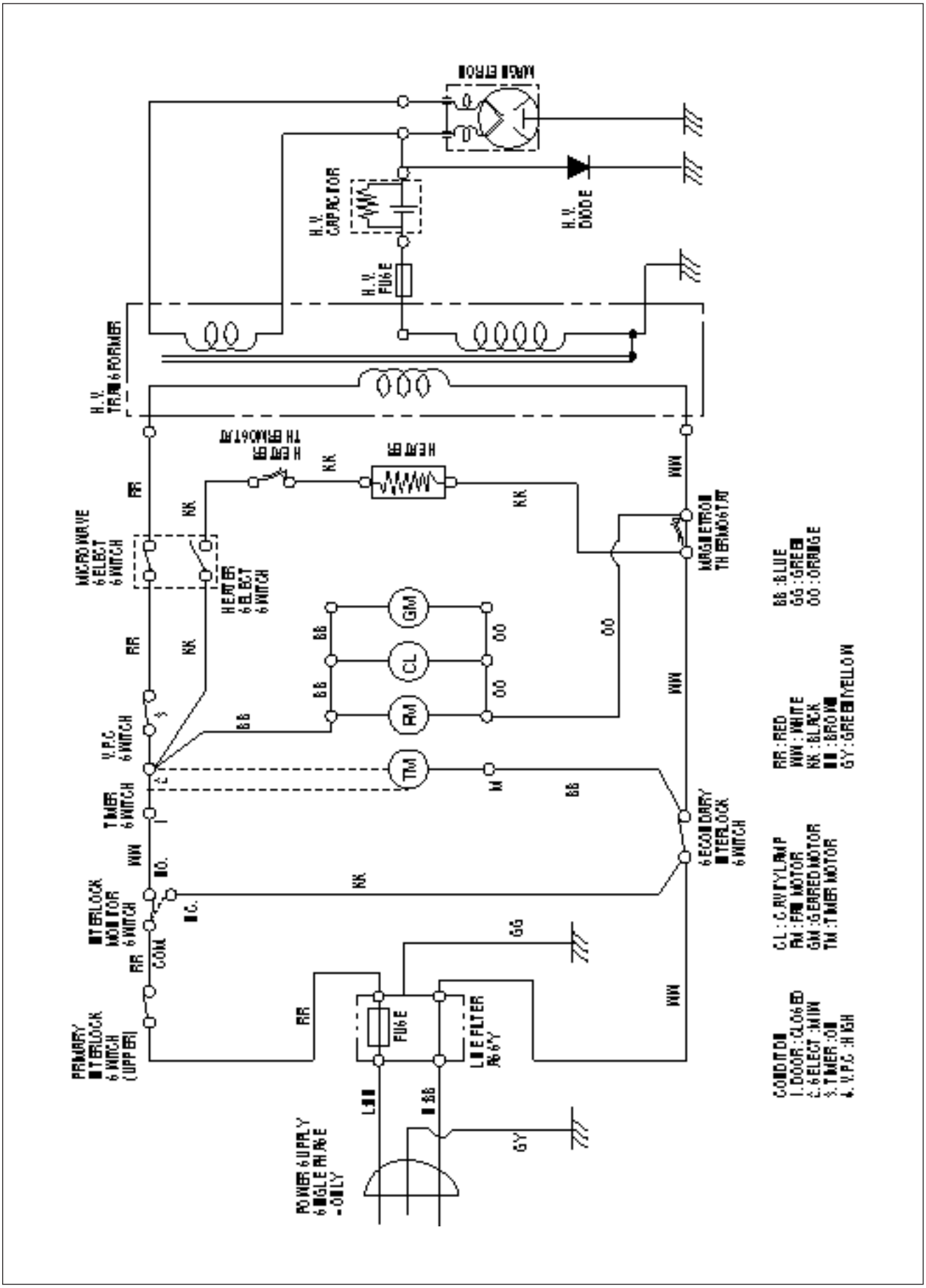
The high voltage diode is located on the base near the transformer.
(A) Isolate the diode from the circuit by disconnecting the leads.
(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the diode terminals.
Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-to-back resistance of the diode, otherwise an infinite 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.

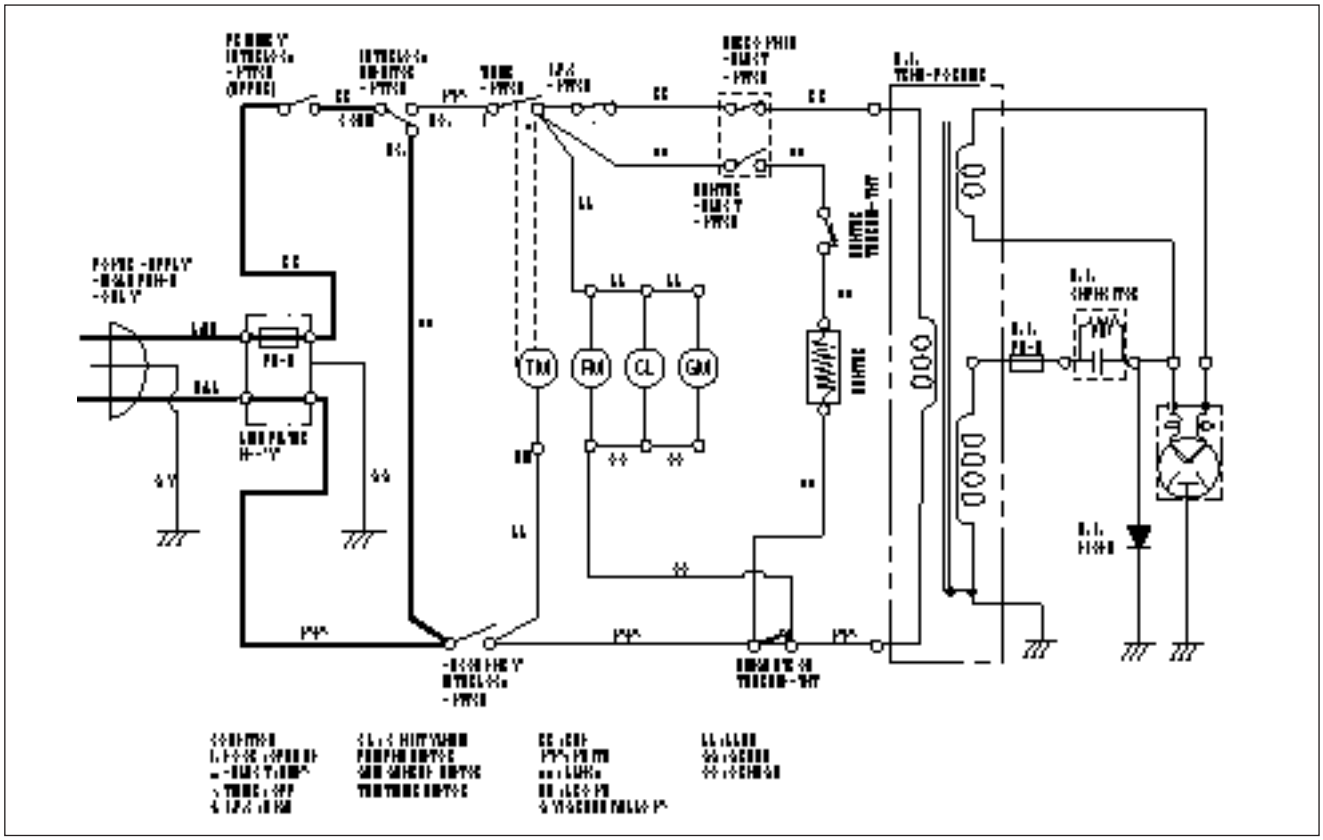


WIRING DIAGRAM

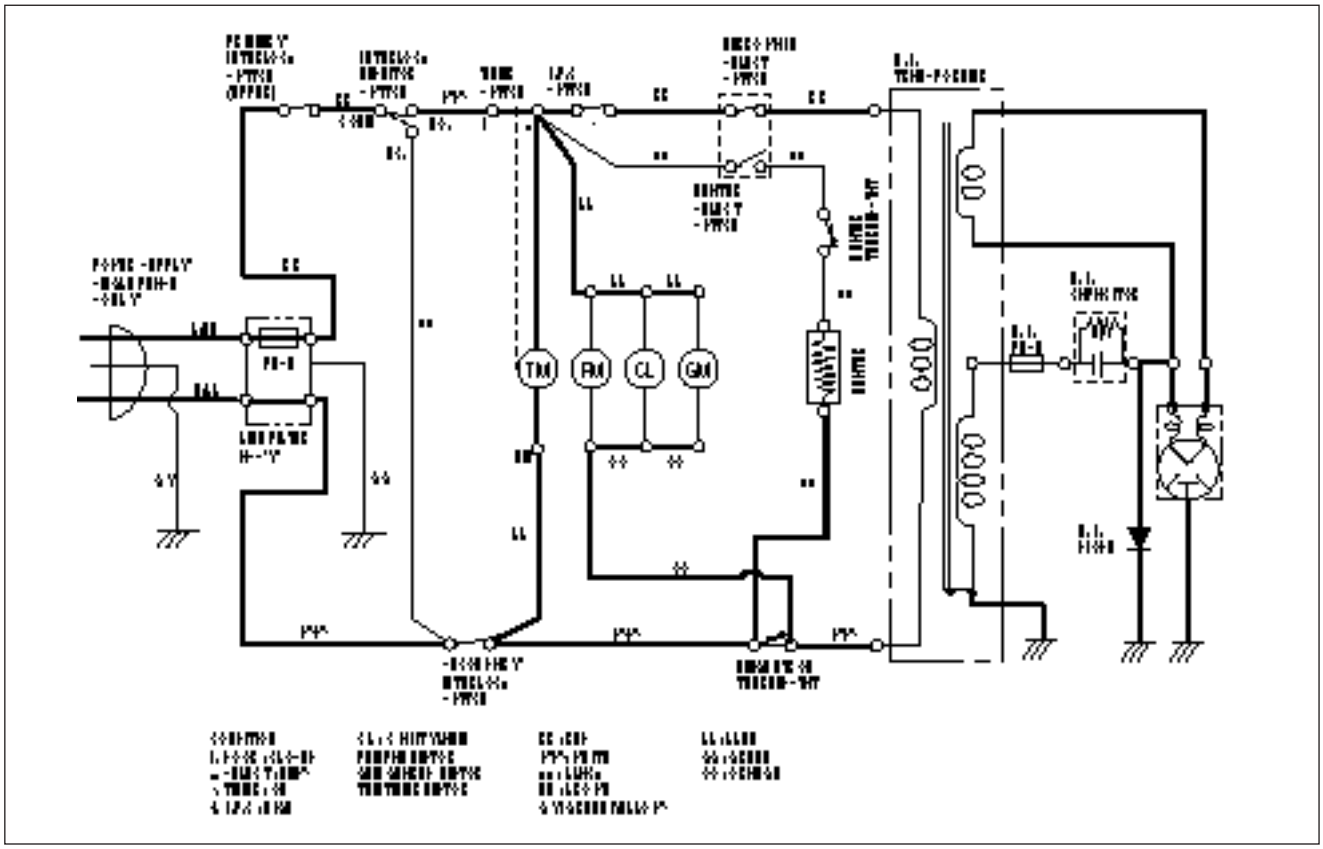


SCHEMATIC DIAGRAMS

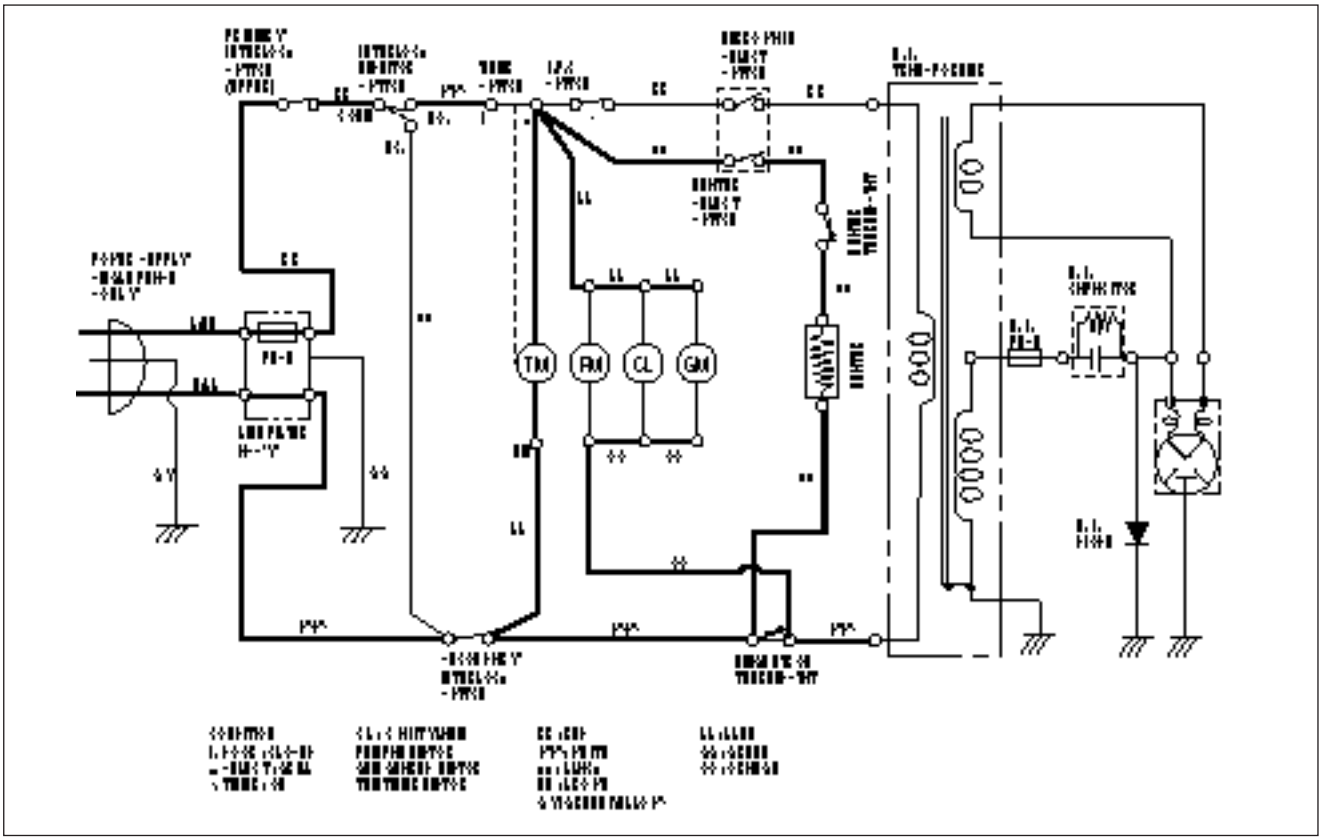
IDLE CONDITION



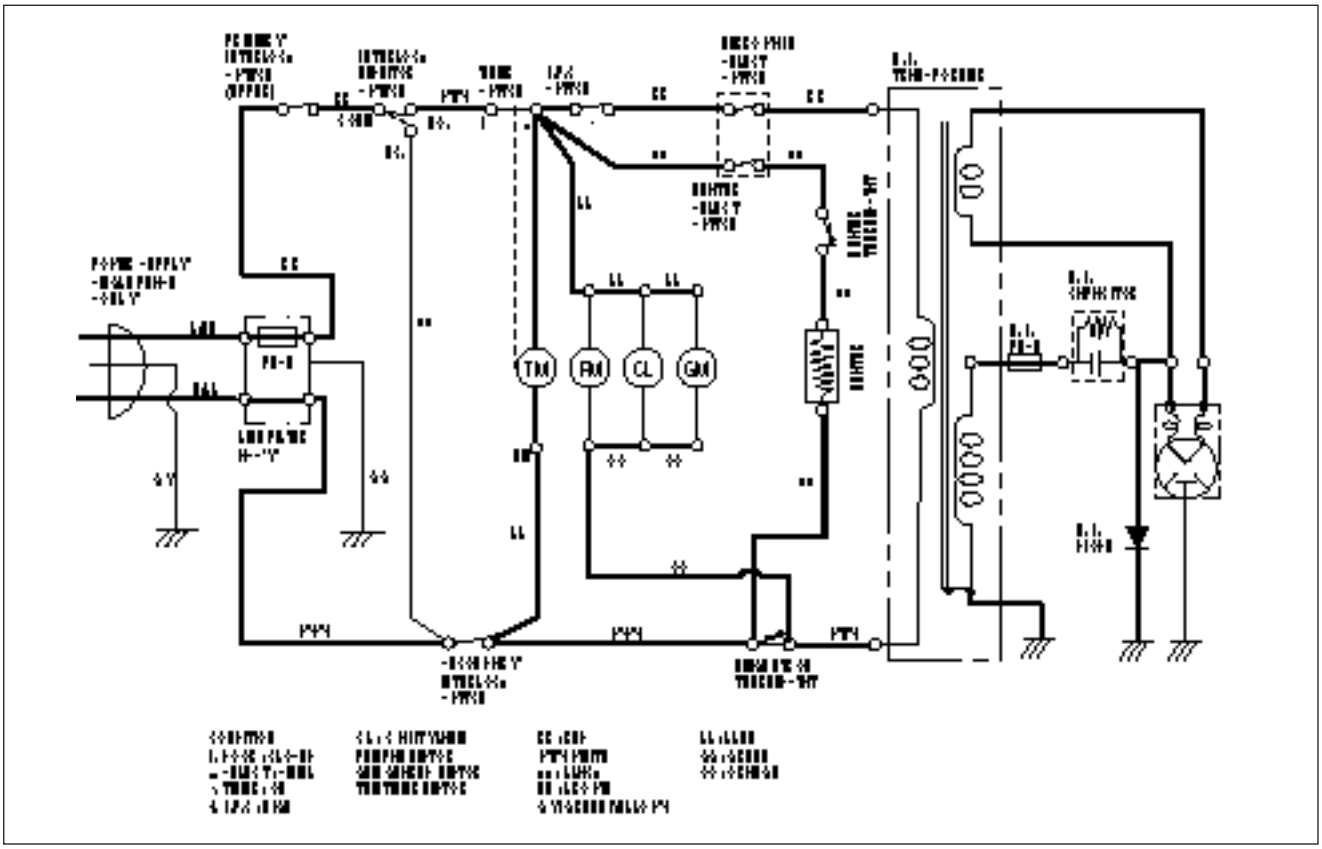
MICROWAVE COOKING CONDITION



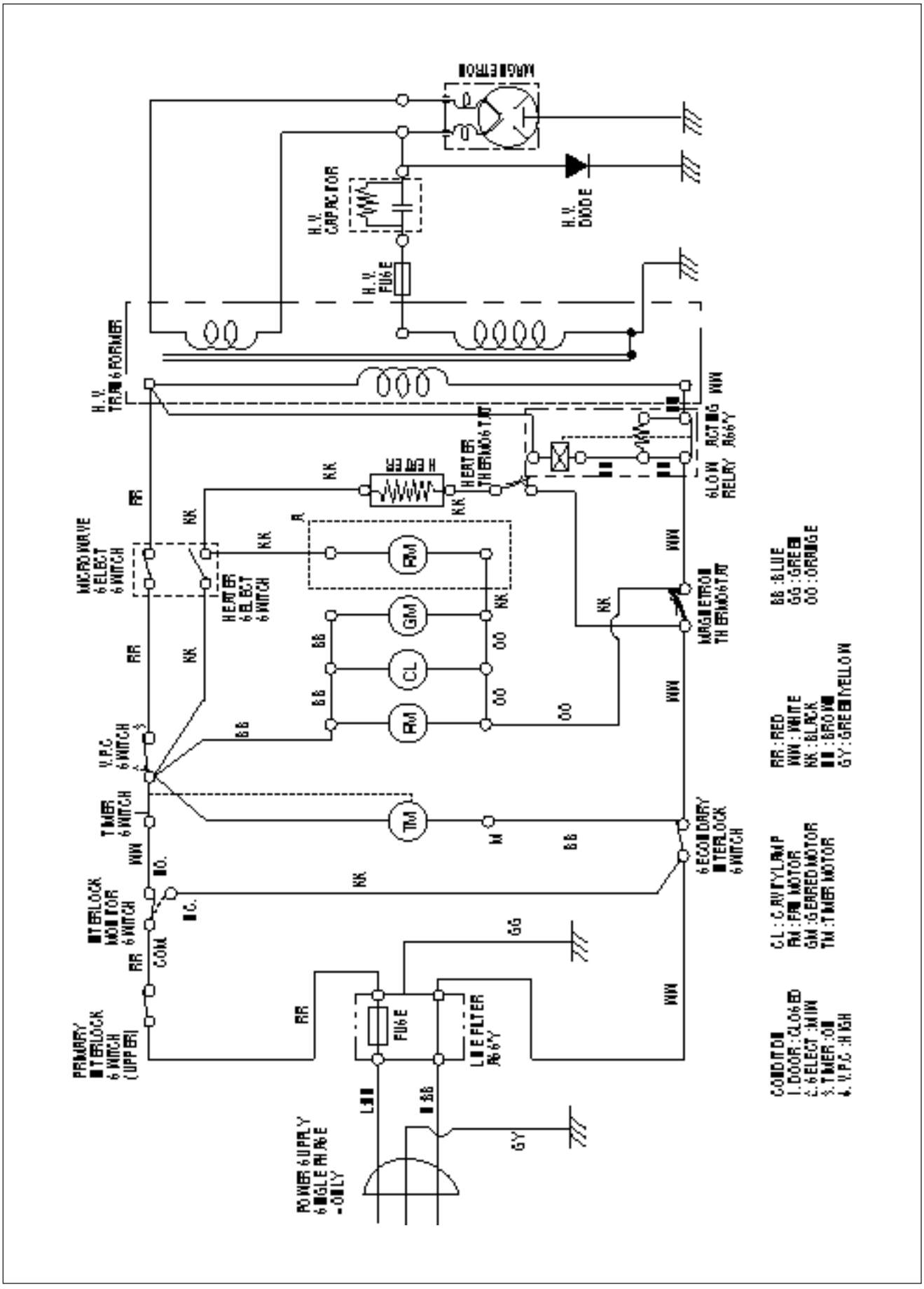
GRILL COOKING CONDITION



SIMULTANEOUS HEATING COOKING CONDITION

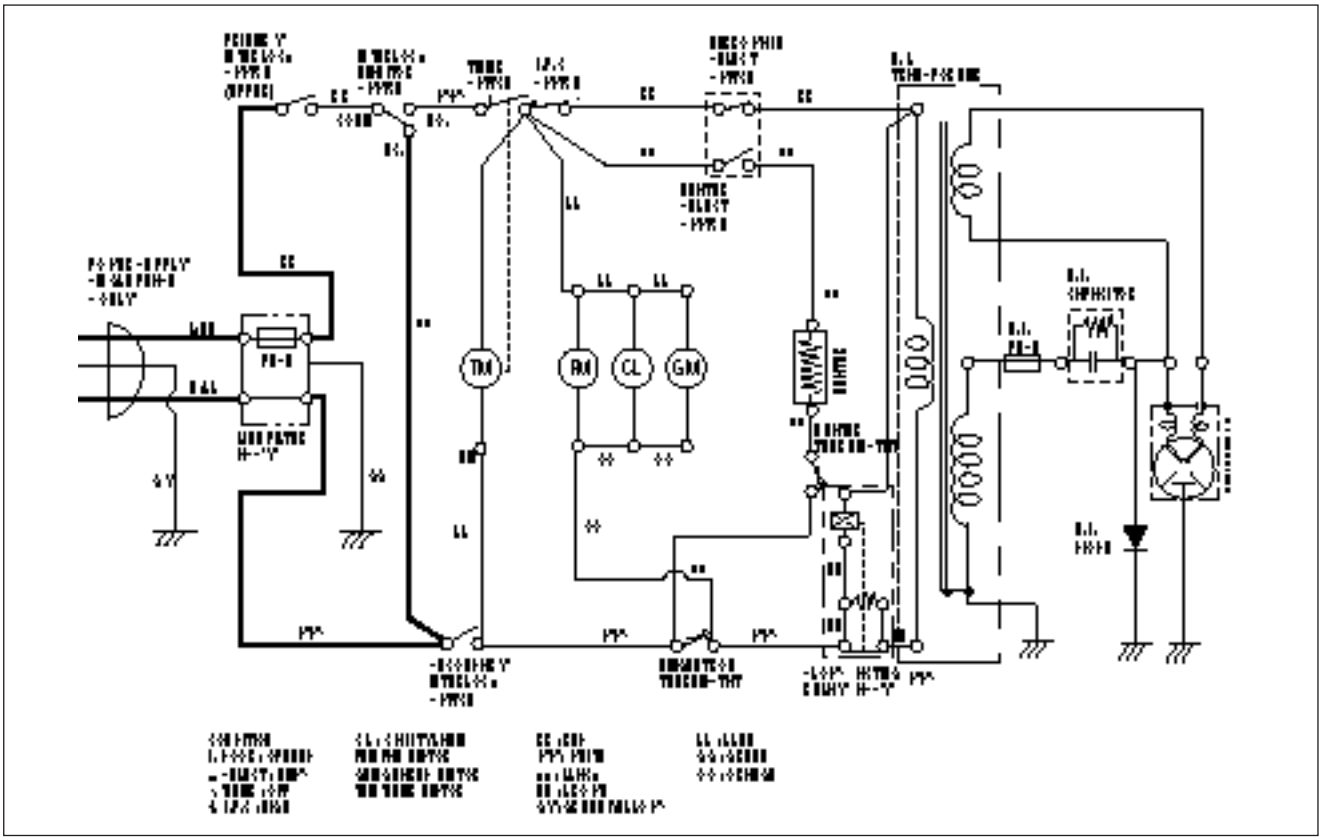


WIRING DIAGRAM (GERMANY)

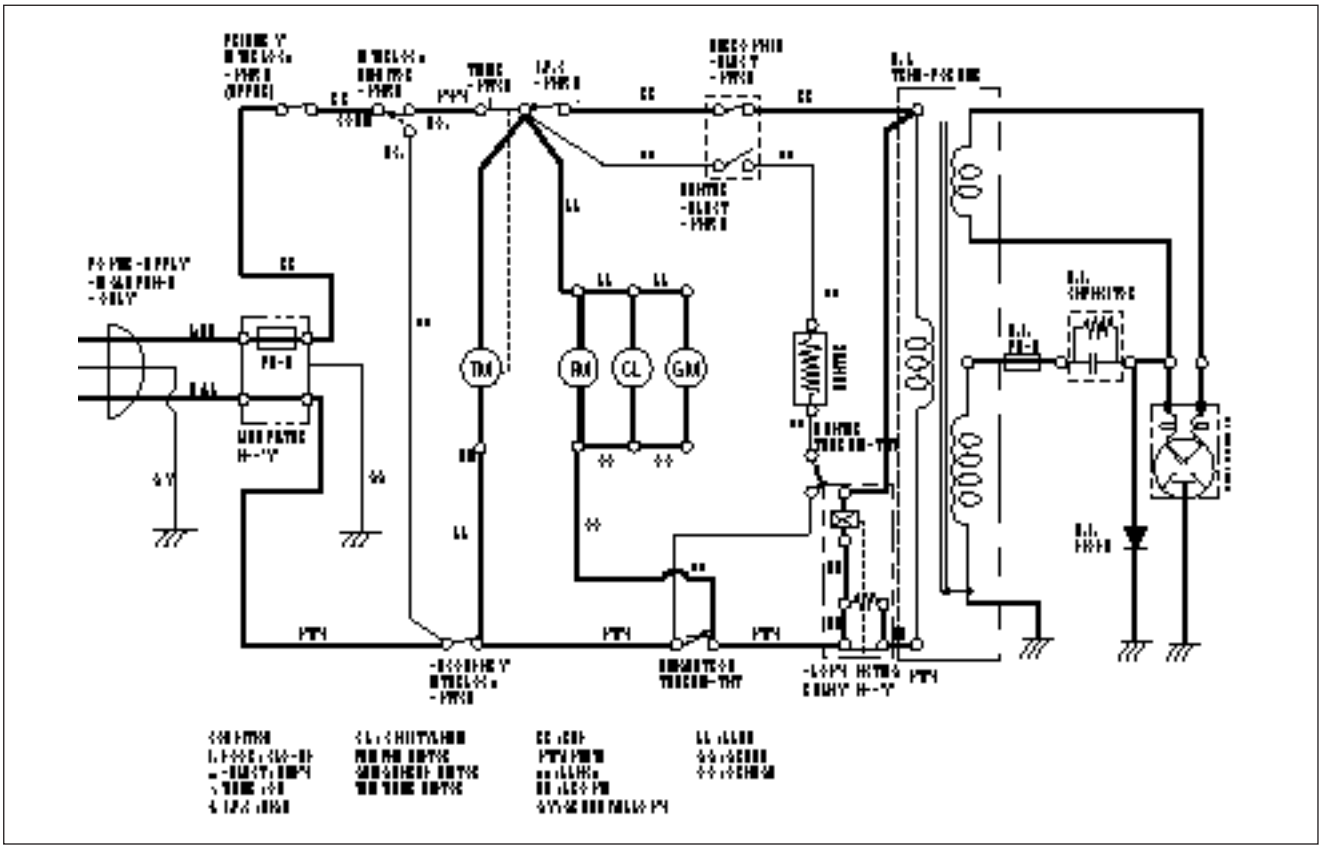


SCHEMATIC DIAGRAMS(GERMANY)

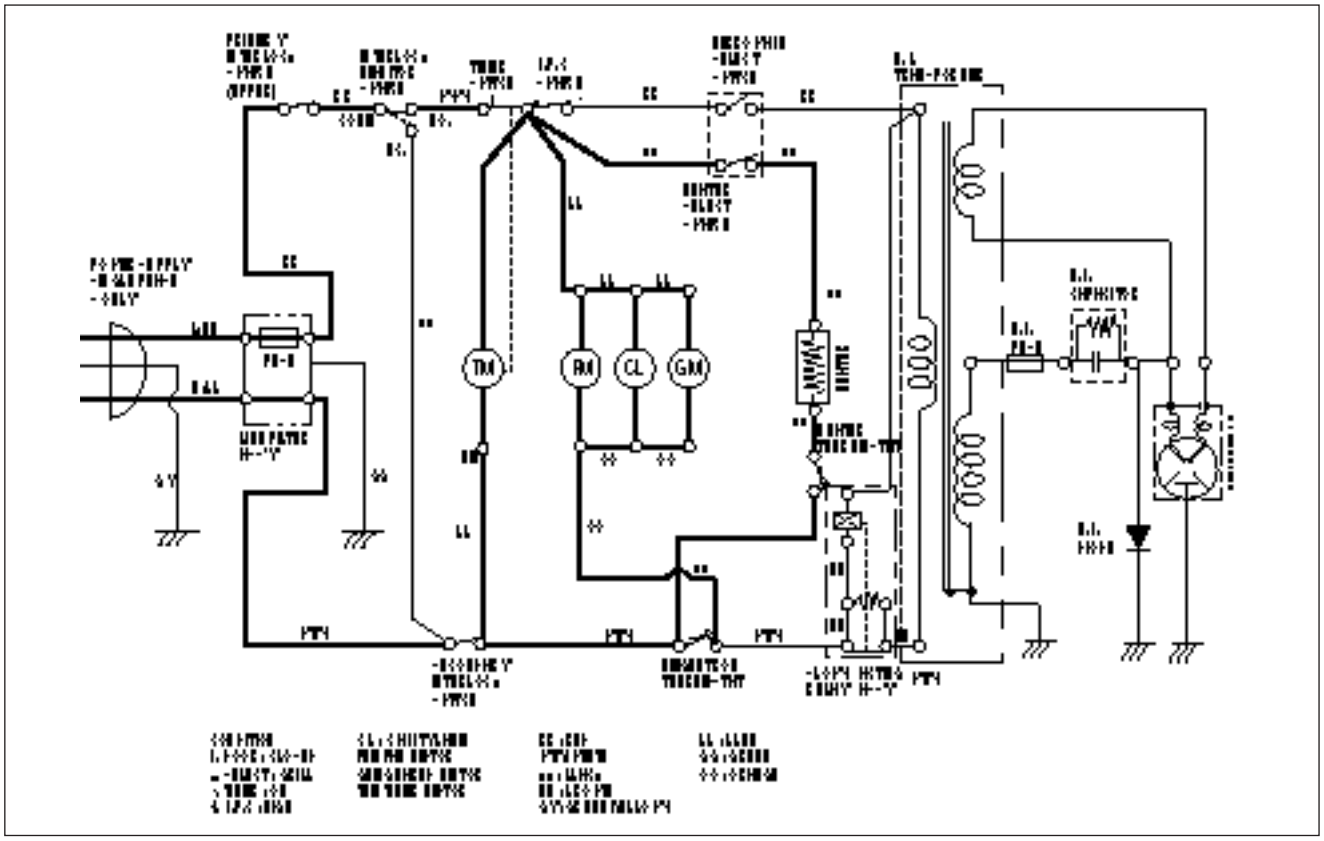
IDLE CONDITION



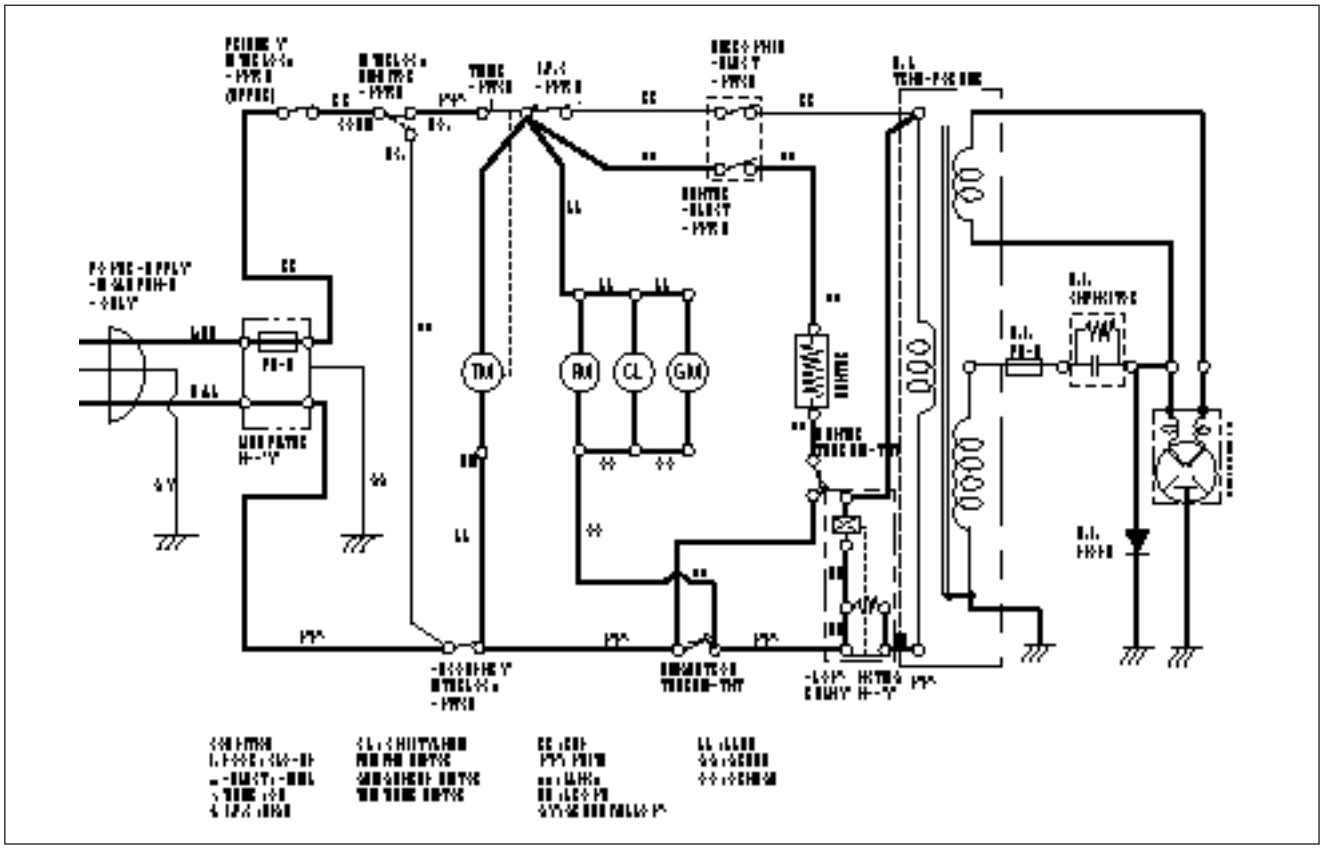
MICROWAVE COOKING CONDITION



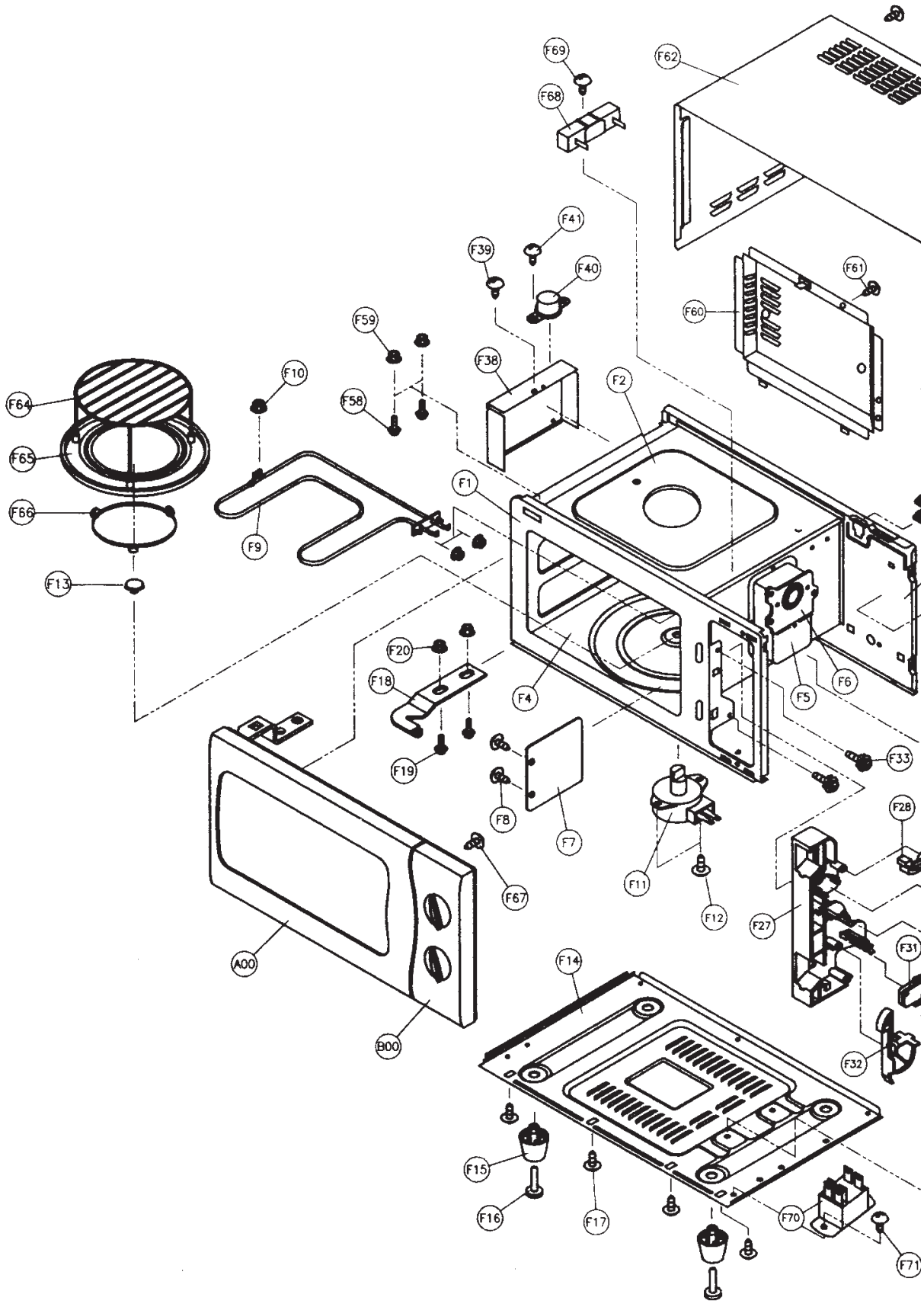
GRILL COOKING CONDITION

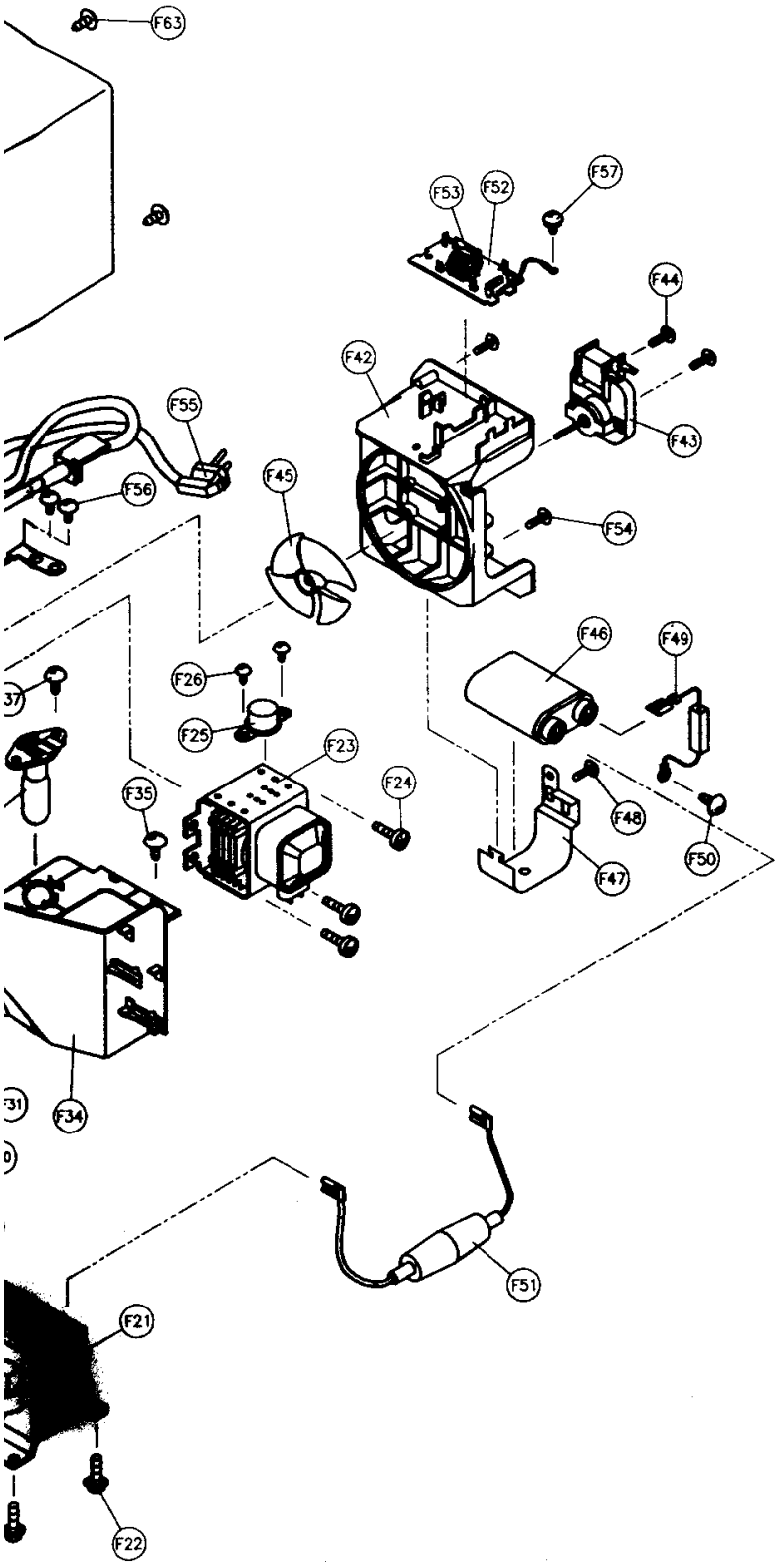


COMBI COOKING CONDITION



EXPLODED VIEW




F63
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F22

ƒNSUB : Substitutive

NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
F2	3516103700	CAVITY WELD AS	KOG-8415 ØS	1	
F5	3512504800	GUIDE WAVE	SA1D-80 0.5T	1	
F6	3510602500	BRACKET MAGNETRON	SECC 1.2T	1	
F7	3511401500	COVER WAVE GUIDE	MICA 0.35T	1	
F8	7113400814	SCREW TAPPING	T1 BIN 4X8 MFNI	2	
F9	3512800800	HEATER	1R07817 230V 1350W	1	
F10	7S627W50X1	NUT HEX	FLANGE M5X0.8P MFZN	3	
F11	3966030500	MOTOR SYNCRO	220/240V 4W GM-16-24FD16	1	
F12	7121400811	SCREW TAPPING	T2S PAN 4X8 MFZN	2	
F13	3517400200	COUPLER	TEFLON	1	
F14	3510306100	BASE	SBHG-1 0.8T	1	
F15	4415B04042	FOOT	P.P	4	
F16	4415B04050	FIXTURE FOOT	P.P	4	
F17	7112400811	SCREW TAPPING	T1 TRS 4X8 MFZN	7	
F18	3515200700	STOPPER HINGE *U	SCP-1 3.2T	1	
F19	7S517W50D1	SCREW SPECIAL	HEX 6B-1 5X16 SE MFZN	2	
F20	7S627W50X1	NUT HEX	FLANGE M5X0.8P MFZN	2	
F21	3518103500	TRANS HV	DW-N90S0-84T	1	
	3518103510		JY-N90S0-84T		SUB
F22	7S327W50B1	SCREW TAPPING	T2 FLANGE 5X12 MFZN	4	
F23	3518002400	MAGNETRON	2M218J (MFI)	1	
F24	7S312X40A1	SCREW TAPPING	T1 TRS 4X10 SE MFAN	3	
F25	3518903000	THERMOSTAT	NT-101 H038 140/125	1	
F26	7279300611	SCREW TAPPTITE	TT3 BRS 3X6 MFZN	2	
F27	3513804700	LOCK	POM	1	
F28	3513702100	LEVER SW MICRO	POM	1	
F29	4415D18020	HOLDER SWITCH	PP	1	
F30	4415A66910	SW MICRO	VP-531A-0F	1	
	5S762310G0		V16-FA-61 2C 3P		SUB
F31	4415A17352	SW MICRO	VP-533A-0F SPNO #187	2	
	5S762S10G0		V16-FA-63 SPNO #187		SUB
F32	3513700800	LEVER LOCK	POM	1	
F33	7S342X40B1	SCREW SPECIAL	T2S TRS 4X12 SE MFZN	2	
F34	3512505100	GUIDE AIR	P.P BLACK	1	
F35	7112400811	SCREW TAPPING	T1 TRS 4X8 MFZN	1	
F36	3513601600	LAMP	BL T-25 240V 25W #187	1	
F37	7121401211	SCREW TAPPING	T2S PAN 4X12 MFZN	1	
F38	3512504900	GUIDE AIR OUTLET	SA1D-80 0.5T	1	
F39	7121400811	SCREW TAPPING	T2S PAN 4X8 MFZN	1	

ƒNSUB : Substitutive

NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
F40	3518902800	THERMOSTAT	130/120 H PW-2N	1	
F41	7121400811	SCREW TAPPING	T2S PAN 4X8 MFZN	1	
F42	3512505000	GUIDE WIND	P.P	1	
F43	3963512910	MOTOR SHADED POLE	230V 25W MW15CA-K01	1	
	3963512900		OEM-15DWC2-A02		SUB
F44	7124402511	SCREW TAPPING	T2S RND 4X25 MFZN	2	
F45	3511800100	FAN	P.P+G/F	1	
F46	4416W67820	CAPACITOR H.V	2100V AC 1.1 µF	1	
F47	3513001000	HOLDER CAPACITOR	SECC 0.6T	1	
F48	7S422X4081	SCREW SPECIAL	TT2 TRS 4X8 SE MFZN	1	
F49	4416V24000	DIODE HV	HVR-1X-32B(D5.3)	1	
F50	7S422X4081	SCREW SPECIAL	TT2 TRS 4X8 SE MFZN	1	
F51	3518700210	FUSE HV	5KV 0.7A THV-060T UK	1	OPTION
F52	3518602700	NOISE-FILTER	DWLF-L1	1	
F53	4414A25100	FUSE	BUSSMANN MDA-15	1	
F54	7621401211	SCREW TAPPING	T2S PAN 4X12 PW MFZN	2	
F55	35113A5L25	CORD POWER AS	3X1.5 80X80 120-RTML	1	
	35113E5L25		3X1.5 80X80 120-RTML		for U.K
F56	7S422X4081	SCREW SPECIAL	TT2 TRS 4X8 SE MFZN	2	
F57	7S422X4081	SCREW SPECIAL	TTS TRS 4X8 SE MFZN	1	
F58	7650501611	BOLT HEX	68-1 5X16 HS MFZN	2	
F59	7S627W50X1	NUT HEX	FLANGE M5X0.8P MFZN	2	
F60	3511401400	COVER *B	SBHG-1 0.6T	1	
F61	7S312X4081	SCREW TAPPING	T1 TRS 4X8 SE MFZN	1	
F62	3510800800	CABINET	PCM 0.6T	1	
F63	7S312X4081	SCREW TAPPING	T1 TRS 4X8 SE MFZN	4	
F64	3517203201	TRAY RACK AS	KOG-8415 104MM	1	
F65	3517203500	TRAY	GLASS	1	
F66	3512512500	GUIDE ROLLER AS	KOG-846T PPS	1	
F67	7S341W40B1	SCREW SPECIAL	T2S PAN 4X12 PW SE MFZN	1	
F68	4419J75030	RESISTOR S/A	20W 20ohm	1	for GERMANY
F69	7S312X4081	SCREW TAPPING	T1 TRS 4X8 SE MFZN	1	for GERMANY
F70	4416W67211	S.A. RELAY	TAIa-TM (MATSUSHITA)	1	for GERMANY
	5SC0202505		CHP 11 (CHUNG WON)		SUB
F71	7S422X4081	SCREW SPECIAL	TT2 TRS 4X8 SE MFZN	2	for GERMANY
A00	3511704420	DOOR AS	KOG-843KS	1	SEE DETAIL P18
B00	3516710620	CONTROL-PANEL AS	KOG-8465	1	SEE DETAIL P17