REFRIGERATOR MANUFACTURER
Turbo air

Turbo Air Inc.
1250 VICTORIA ST.
CARSON, CA 90746, USA

PRINTED DATE: May. 2003

S/M No. :

S/M No. :

Turbo air

REFRIGERATOR MANUFACTURER

Service Manual

Microwave Oven

Model: TMW-1100E

TMW-1100EC

TMW-1100M

TMW-1100MC

TMW-800T

TMW-800TC

REFRIGERATOR MANUFACTURER
Turbo air

http://www.turboairinc.com May. 2003

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

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

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

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

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

(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.

TABLE OF CONTENTS

TMW-1100E / TMW-1100EC / TMW-1100M / TMW-1100MC

TMW-800T / TMW-800TC

SAFETY AND PRECAUTIONS

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

1. FOR SAFE OPERATION

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

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

(Only a trained service personnel should make repairs.)

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

The door gasket plate and oven cavity surface should be kept clean.

No grease, soil or spatter should be allowed to build up on these surfaces or inside the oven.

DO NOT ATTEMPT TO OPERATE THIS APPLIANCE WITH THE DOOR OPEN. The microwave oven has concealed switches to make sure the power is turned off when the door is opened. Do not attempt to by-pass.

DO NOT ATTEMPT TO SERVICE THIS APPLIANCE UNTIL YOU HAVE READ THIS SERVICE MANUAL.

2. FOR SAFE SERVICE PROCEDURES

1) If the oven is operative prior to servicing, a microwave emission check should be performed prior to servicing the oven.
2) If any certified oven unit is found to servicing, a microwave emission check should be performed prior to servicing the oven.
   (a) inform the manufacturer, importer or assembler,
   (b) repair the unit at no cost to the owner,
   (c) attempt to ascertain the cause of the excessive leakage,
   (d) tell the owner of the unit not to use the unit until the oven has been brought into compliance.
3) If the oven operates with the door open, the service person should tell the user not to operate the oven and contact the manufacturer and CDRH immediately.

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. WAVEGUIDES FLANGES AND GASKETS MUST BE SECURED. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.

SPECIFICATIONS

MODEL		TMW-1100E / TMW-1100EC
POWER SUPPLY		120V~60HZ, SINGLE PHASE WITH GROUND
POWER CONSUMPTION	MICROWAVE	1500 W / 1600 W
	GRILL	
	COMBINATION	
MICROWAVE ENERGY OUTPUT		1100 W
MICROWAVE FREQUENCY		2450MHz
OUTSIDE DIMENSIONS (W X H X D)		560X344X483mm (22.0X13.5X19 in.)
CAVITY DIMENSIONS (W X H X D)		369X221X400mm (14.5X8.7X15.7 in.)
NET WEIGHT		APPROX. 16.5kg (36.4lbs)
TIMER		59min. 99sec.
FUNCTION SELECTIONS		MICROWAVE
POWER SELECTIONS		4 LEVELS
CAVITY VOLUME		1.2 Cu. Ft

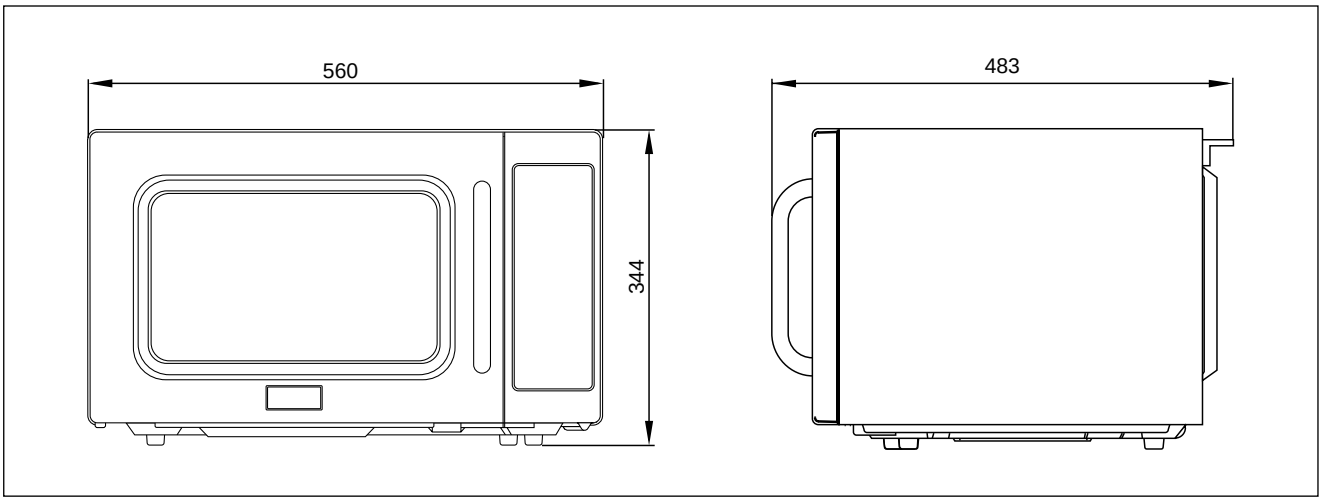
** Specifications are subject to change without notice.*

MODEL		TMW-1100M / TMW-1100MC
POWER SUPPLY		120V~60HZ, SINGLE PHASE WITH GROUND
POWER CONSUMPTION	MICROWAVE	1500 W / 1600 W
	GRILL	
	COMBINATION	
MICROWAVE ENERGY OUTPUT		1100 W
MICROWAVE FREQUENCY		2450MHz
OUTSIDE DIMENSIONS (W X H X D)		560X344X483mm (22.0X13.5X19 in.)
CAVITY DIMENSIONS (W X H X D)		369X221X400mm (14.5X8.7X15.7 in.)
NET WEIGHT		APPROX. 16.5kg (36.4lbs)
TIMER		10min. Single Speed
FUNCTION SELECTIONS		MICROWAVE
POWER SELECTIONS		5 LEVELS
CAVITY VOLUME		1.2 Cu. Ft

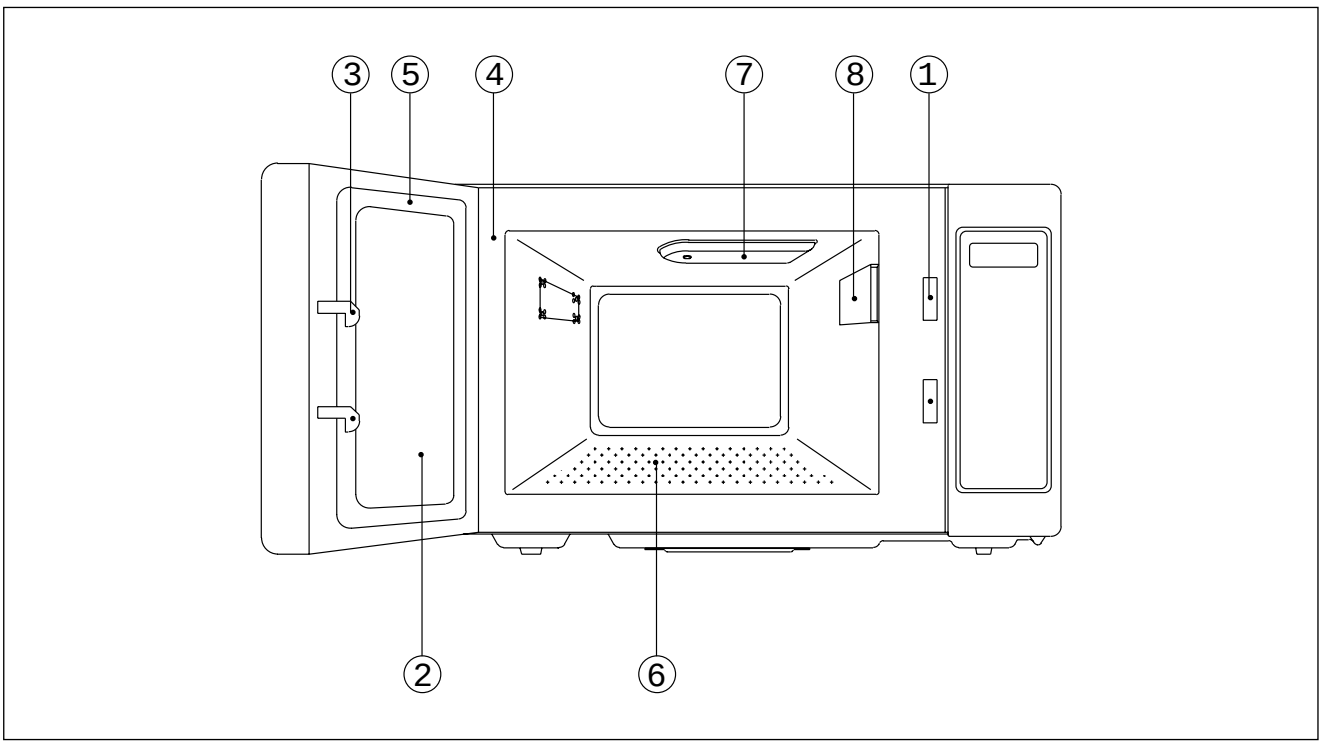
** Specifications are subject to change without notice.*

EXTERNAL VIEW (ELECTRICAL)

1. OUTER DIMENSION



2. FEATURE DIAGRAM



① **Safety interlock system**

② **Door viewing screen -** Allows viewing of food. The screen is designed so that light can pass through, but not the radiation.

③ **Door hook -** If the door is opened while the oven is operating, it will automatically shoot off.

④ **Oven cavity**

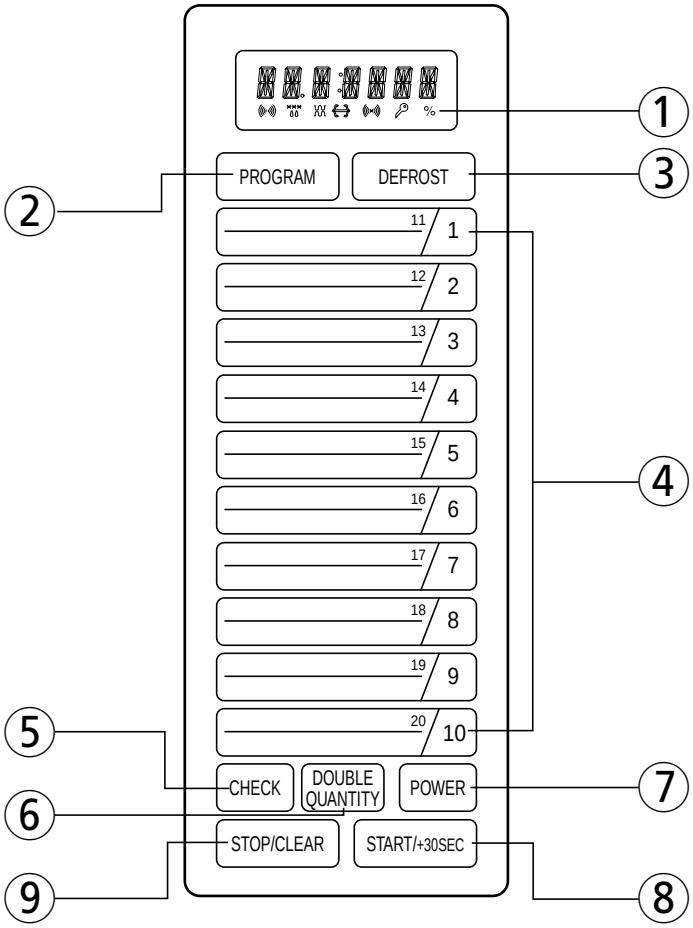
⑤ **Door seal -** Door seal maintains the microwave energy within the oven cavity.

⑥ **Glass tray -** Made of special heat resistant glass. Food in a proper receptacle is placed on this tray for cooking.

⑦ **Stirrer cover -** This is located on the ceiling with the stirrer fan.

⑧ **Inlet cover -** Protect the air inlet from splattering of foods being cooked.

3. CONTROL PANEL



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

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

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

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

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

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

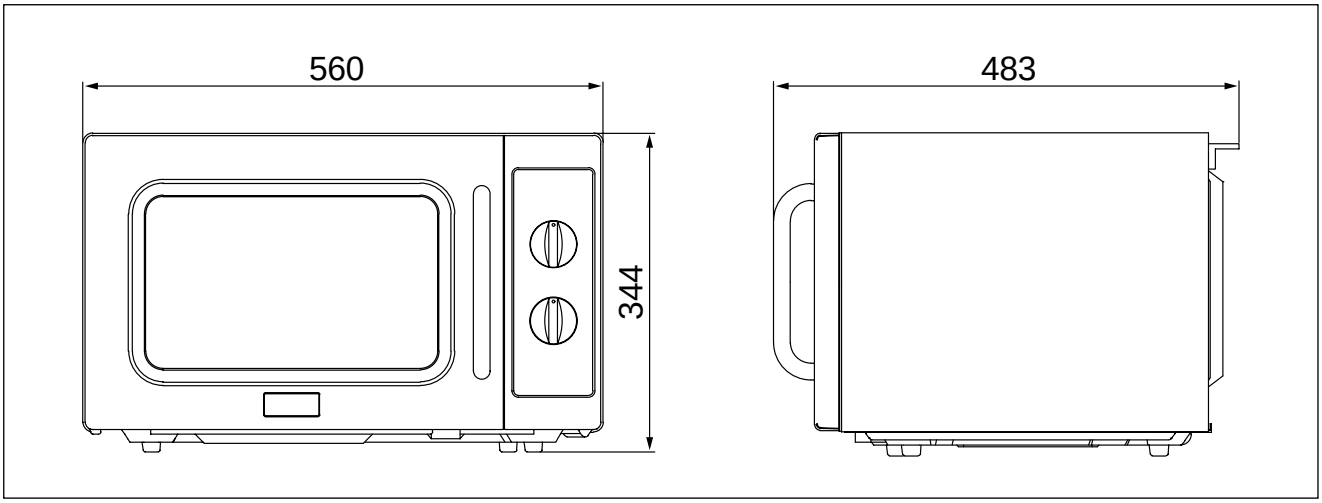
⑦ **Power -** Used to set power level.

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

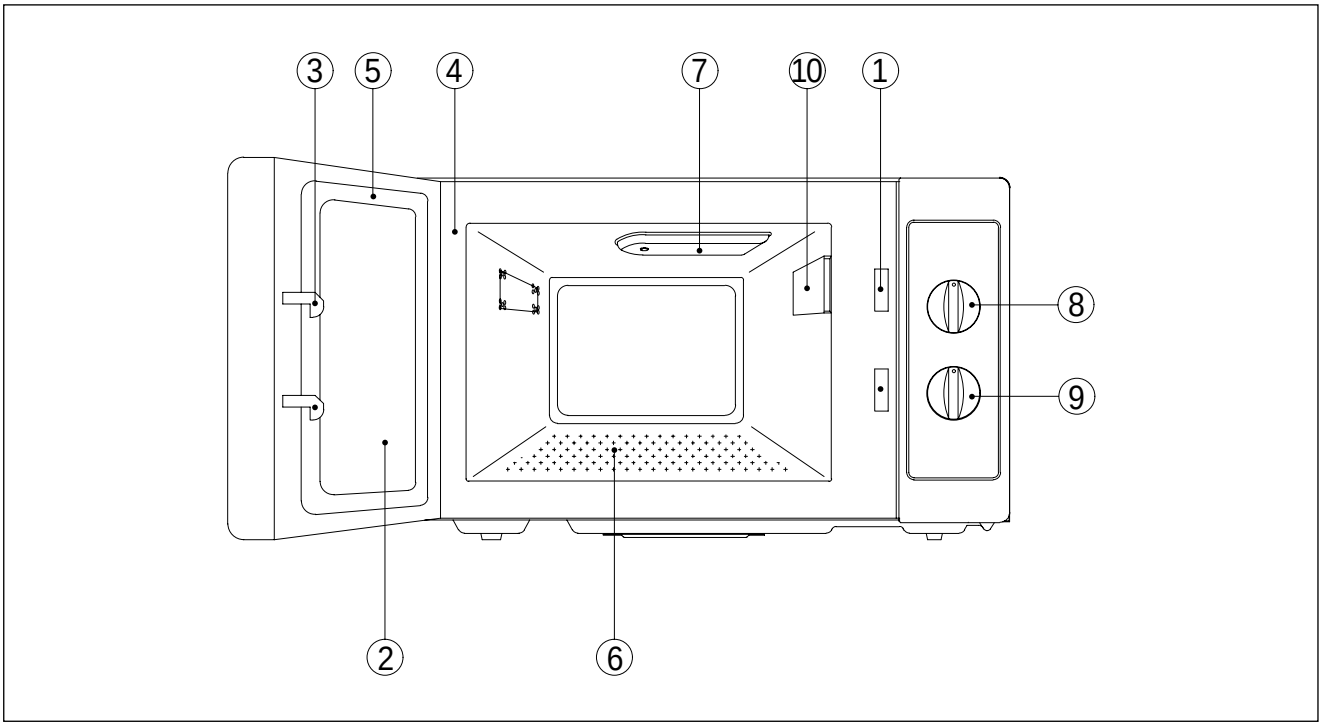
⑨ **Start/+30sec -** Used to start the oven and also used to set a reheat time.

EXTERNAL VIEW (MECHANICAL)

1-1. OUTER DIMENSION



2-1. FEATURE DIAGRAM



1. **Safety interlock system**
2. **Door viewing screen -** Allows viewing of food. The screen is designed so that light can pass through, but not the radiation.
3. **Door hook -** If the door is opened while the oven is operating, it will automatically shoout off.
4. **Oven cavity**
5. **Door seal -** Door seal maintains the microwave energy within the oven cavity .
6. **Glass cooking tray -** Made of special heat resistant glass. Food in a proper receptacle is placed on this tray for cooking.
7. **Cover Stirrer -** Protects the microwave outlet from splattering of foods being cooked.
8. **Knob V.P.C -** Used to select a microwave power level.
9. **Knob timer -** Used in setting cooking time for all function.
10. **Inlet cover -** Protects the air inlet from splattering of foods being cooked.

INSTALLATION

1. Steady, flat location.

This microwave oven should be set on a steady, flat surface.

2. Leave space behind and side.

All air vents should be kept clear. If all vents are covered during operation, the oven may be overheated and, eventually, cause oven failure.

3. Away from radio, and TV sets

Poor television reception and radio interference may result if the oven is located close to a TV, radio, antenna, or feeder and so on. Position the oven as far from them as possible.

4. Away from heating appliances and water taps

Keep the oven away from hot air, steam or splash when choosing a place to position it, or the insulation might be adversely affected and breakdowns occur.

5. Power supply

- Check your local power source.
  This microwave oven requires a current of approximately 14.5 amperes, 120Volts, 60Hz grounded outlet.

1. A short power-supply cord is provided to reduce the risks resulting from becoming entangled in or trippping over a longer cord.

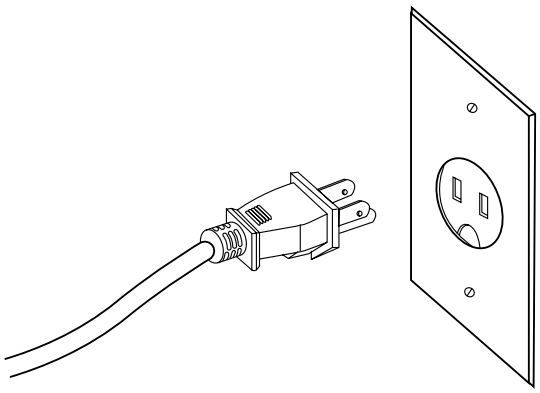
2. Longer cord sets or extension cords are available and may be used if care is exercised in their use.

3. If a long cord or extension cord is used:

   1) The marked electrical rating of the cord set or extension cord should be at least as great as the electrical rating of the appliance.

   2) The extension cord must be a grounding type 3-wire cord.

   3) The longer cord should be arranged so that it will not drape over the counter top or tabletop where it can be pulled on by children or tripped over unintentionally.



6. Examine the oven after unpacking for any damage such as:

A misaligned door, broken door or a dent in cavity.
If any of the above are visible, DO NOT INSTALL, and notify dealer immediately.

OPERATIONS AND FUNCTIONS (ELECTRICAL)

1. Connect the main lead to an electrical outlet.
2. After placing the food in a suitable container, open the oven door and put it on the glass tray. The glass tray must always be in place during cooking.
3. Close the door securely.
4. The oven door can be opened at any time during operation by touching the door release button on the control panel.
   The oven will automatically shut off. To restart the oven, close the door and then touch START.
5. Each time the pad is touched, a BEEP will sound to acknowledge the touch.
6. The oven automatically cooks on full power unless set to a lower power level.
7. The display will show : 0 when the oven is plugged in.
8. When the STOP/CLEAR pad is touched during the oven operation, the oven stops cooking and all information retained.
   To erase all information touch, the STOP/CLEAR pad once more. If the oven door is opened during the oven operation, all information is retained.
9. If the START pad is touched and the oven does not operate, check the area between the door and door is closed securely. The oven will not start cooking until the door is completely closed or the program has been reset.

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

Wattage output chart

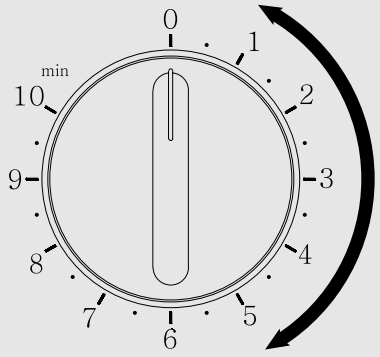
The power level is set by touching the POWER pad. The chart shows the display, the power level and the percentage of power.

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

OPERATIONS AND FUNCTIONS (MECHANICAL)

1. Connect the main lead to an electrical outlet.
2. After placing the food in a suitable container, open the oven door and put it on the glass tray. The glass tray must always be in place during cooking.
3. Close the door securely.
4. Choose cooking power level by setting V.P.C knob to the desired position. Refer to cookbook for recommended power levels.
5. Determine cooking time. Consult cookbook for recipe timing. Oven light turns on and cooling fan starts to operate. Microwave cooking starts.
6. You may open the door while the oven is operating. As soon as the door is opened, the safety mechanisms stop the generation of microwave power and the operation of cooking timer.

   If you wish to change the time during cooking, simply adjust the timer to the desired time.
7. When the timer reaches zero, a bell will ring and the unit will turn off. Oven light turns off. If additional cooking time is needed and the door is closed, the oven will automatically start when the timer is reset.



• Various clicking noises may be heard when turning V.P.C knob. This is normal and does not affect the operation of your microwave oven.

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

Variable power cooking

ON and OFF cycle time of mechanical V.P.C switch is 30 seconds.
When the V.P.C knob is set to the desired position and timer knob to the desired position, the V.P.C switch has a cycle (ON/OFF time(sec.)) listed below.

Variable power setting Power level	Approximate Percentage of Power
HIGH	100%
MED HIGH	77%
MEDIUM	55%
LOW STAGE	33%
DEFROST	17%

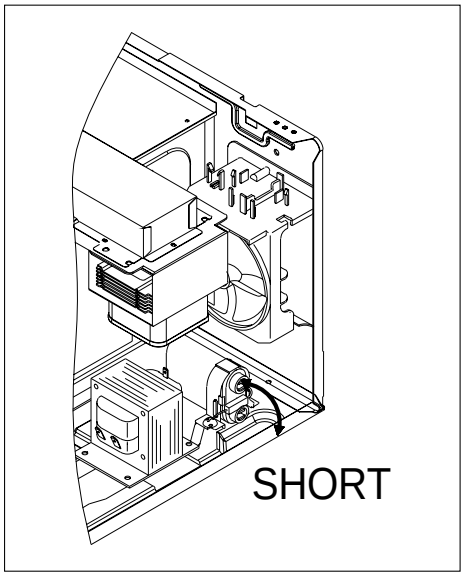
DISASSEMBLY AND ASSEMBLY

Cautions to be observed when trouble shooting.

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment.
It is completely safety during normal operation.
However, carelessness in servicing the oven can result in an electric shock or possible danger from a short circuit.
You are asked to observe the following precautions carefully.

1. Always remove the power plug from the outlet before servicing.
2. Use an insulated screwdriver and wear rubber gloves when servicing the high voltage side.
3. Discharge the high voltage capacitor before touching any oven components or wiring.

   (1) Check the grounding.
   Do not operate on a 2-wire extension cord.
   The microwave oven is designed to be used with grounded.
   It is imperative, therefore, to make sure it is grounded properly before beginning repair work.
   (2) Warning about the electric charge in the high voltage capacitor.
   For about 30 seconds after the operation stopped and electric charge remains in the high voltage capacitor.
   When replacing or checking parts, short between oven chassis and the negative high terminal of the high voltage capacitor, by using a properly insulated screwdriver to discharge.



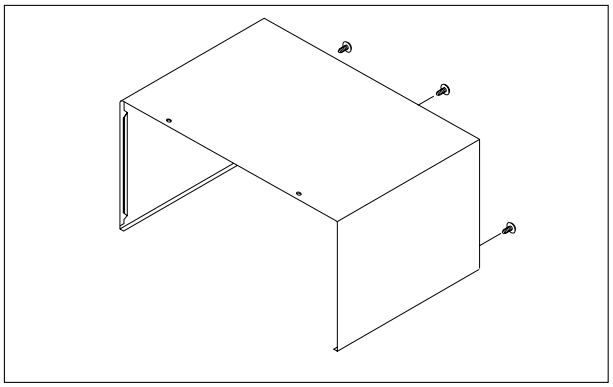
4. When the 15A fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.
6. Do not operate without cabinet.

CAUTION : Service personnel should remove their watches whenever working close to or replacing the magnetron.

WARNING : When servicing the appliance, need a care of touching or replacing high potential parts because of electrical shock or exposing microwave. These parts are as follows - HV Transformer, Magnetron, HV Capacitor, HV Diode.

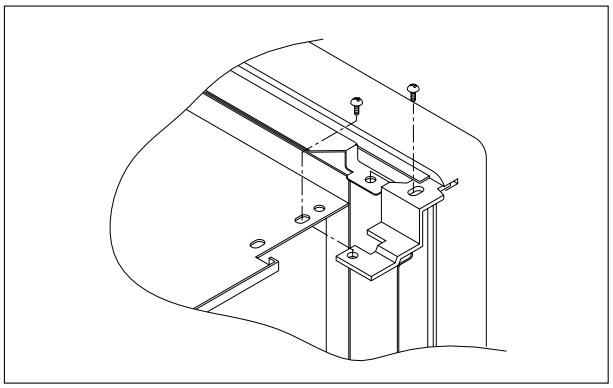
1. To remove cabinet

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



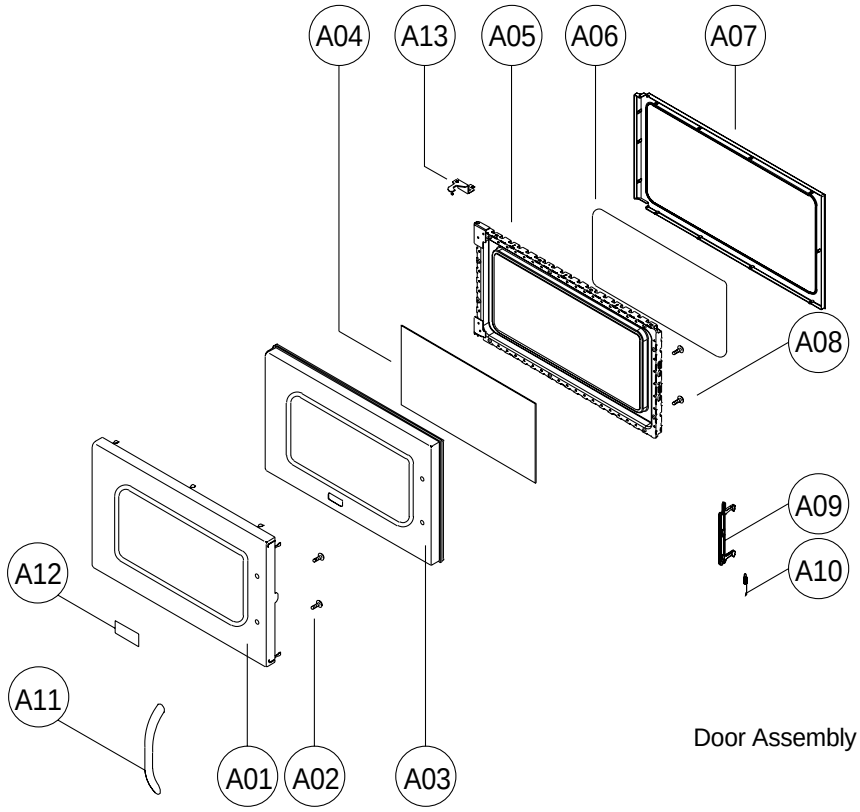
2. To remove door assembly

1) Remove two screws which secure the stopper hinge top.
2) Remove the door assembly from top plate of cavity.
3) Reverse the above for reassembly.



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

3. To remove door parts.



Door Assembly : 3511718600

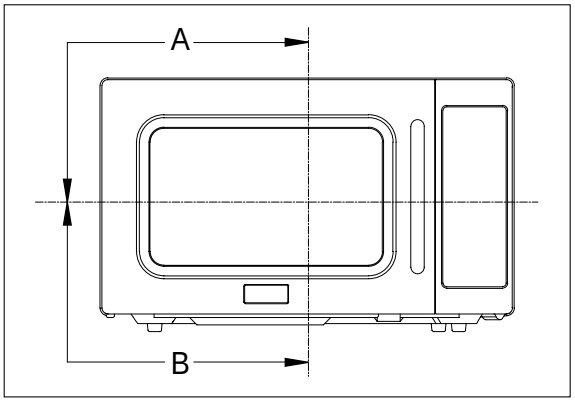
REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A01	3511610610	DOOR DECORATOR	SUS T0.4	1	
A02	7001401011	SCREW	PAN 4*10 MFZN	2	
A03	3512206200	DOOR FRAME	ABS	1	
A04	3517008100	BARRIER SCREEN*O	GLASS T3.2	1	
A05	3516602100	DOOR PLATE	SBHG-1A T0.7	1	
A06	3517007600	BARRIER SCREEN*I	PE T0.1	1	
A07	3512302310	DOOR GASKET	LUPOL2300	1	
A08	3516004100	SPECIAL SCREW	T1 TRS LR4 POLE 4*10 MFZN	2	
A09	3513101200	HOOK	POM	1	
A10	3515101800	SPRING HOOK	PW1	1	
A11	3512604800	DOOR HANDLE	ABS CR COATING	1	
A12	3513586900	LABEL	AL1020 T0.5	1	
A13	3515204900	HINGE STOPPER*T AS	KOC-1B0K0S	1	

(1) Remove the door gasket from door plate.
(2) Remove the barrier screen inner from door plate.
(3) Remove the door frame from door plate.
(4) Remove the hinge stopper top from door plate.
(5) Remove the spring and the hook.
(6) Remove the barrier screen outer from door frame.
(7) Reverse the above steps for reassembly.

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

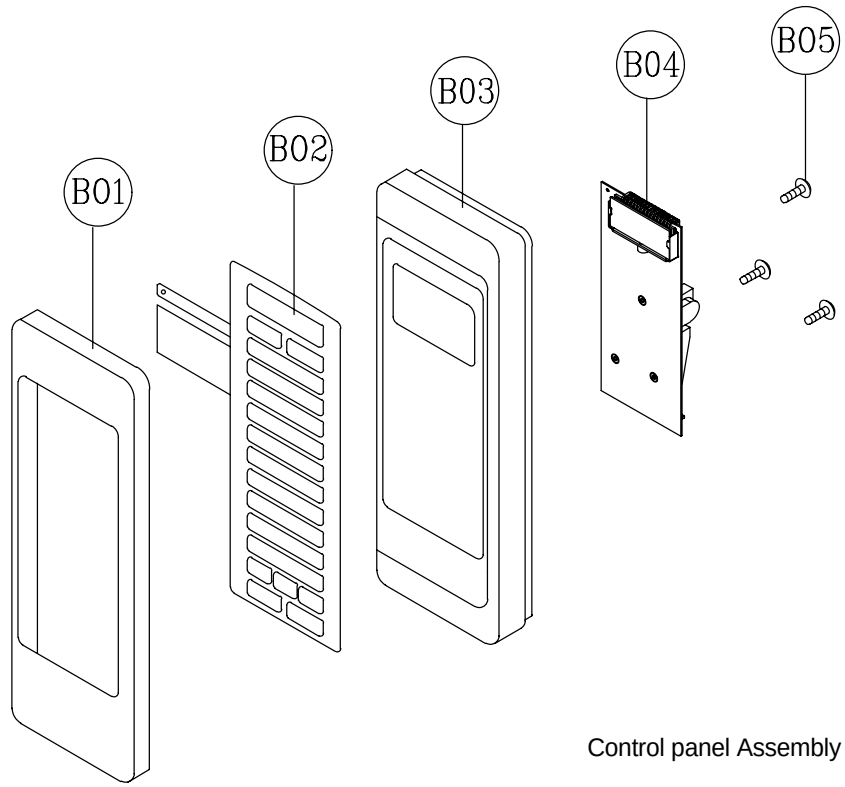
(1) To reduce gap located on part 'A'.
- Loosen two screws on stopper hinge top, and then push the door to contact the door seal to oven front surface.
- Tighten two screws.

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



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

5. To remove control panel parts.

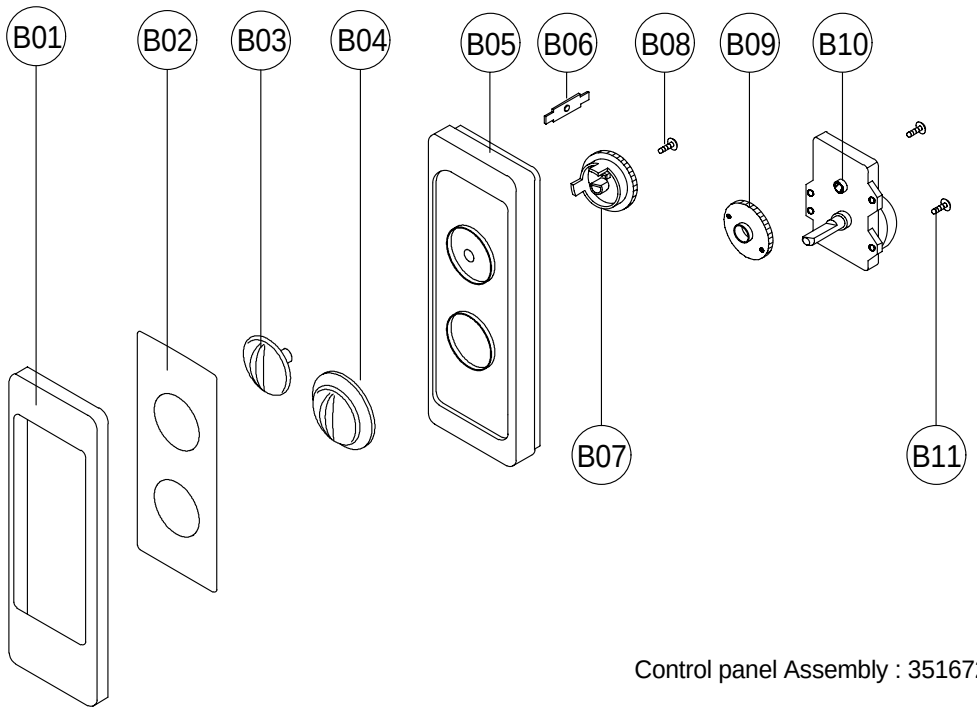


Control panel Assembly : PKCPSWAJ00

REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3511610410	DECORATOR C-PANEL	SUS T0.4	1	
B02	351852400	TOUCH PAD	KOR-1P5CBA		
B03	3516728510	CONTROL PANEL	ABS AF-348, VT-0826	1	
B04	PKMPMSAJ00	PCB AS	KOR-1P5CBA	1	
B05	7122401211	TAP SCREW	T2S TRS 4X12 MFZN	4	

(1) Remove the screw which secure the control panel, push up two snap fits and draw forward the control panel assembly.
(2) Remove four screws which secure the PCB assembly to control panel.
(3) Disconnect touch pad tail from the connector of the PCB assembly.
(4) Detach touch pad from the control panel.
(5) Pull out the decorator c-panel from the control panel.
(6) Reverse the above steps for reassembly.

5-1. To remove control panel parts.



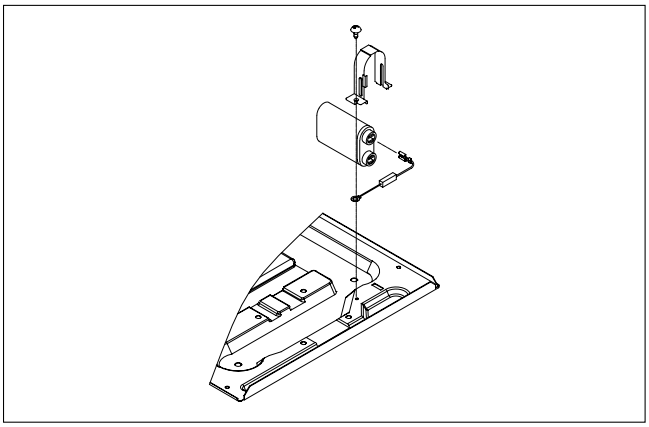
Control panel Assembly : 3516728700

REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3511610410	DECORATOR C-PANEL	SUS T0.4	1	
B02	3511611400	DECORATOR FILM	PC T0.5	1	
B03	3513407400	VPC KNOB	ABS SG-0760D COATING	1	
B04	3513407500	TIMER KNOB	ABS SG-0760D COATING	1	
B05	3516728500	CONTROL PANEL	ABS VT-0825	1	
B06	3515101600	SPRING FLAT	SUS 301 T0.5	1	
B07	3517400500	VPC KNOB COUPLER	POM	1	
B08	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1	
B09	3517400400	TIMER COUPLER	POM	1	
B10	3518206300	TIMER	NT10MKD01U-P	1	
B11	7122401211	TAP SCREW	T2S TRS 4*12 MFZN	2	

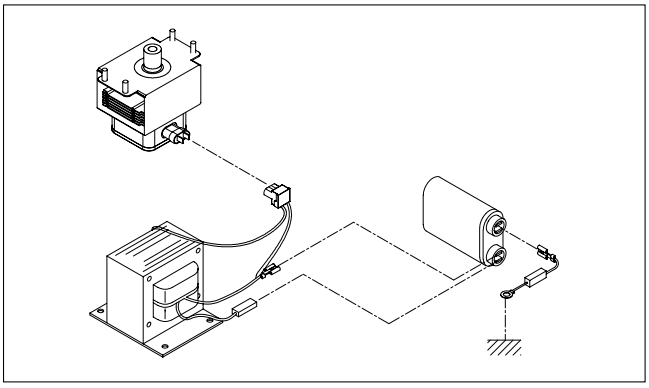
1) Remove the screw which secure the control panel, push up two snap fits and draw forward the control panel assembly.
2) Remove two screws which secure the timer assembly.
3) Remove the timer assembly.
4) Pull out the timer knob from the timer.
5) Pull out the timer coupler from the timer.
6) Remove the screw which secure the V.P.C coupler.
7) Pull out the V.P.C coupler, V.P.C knob and flat spring from the control panel.
8) Reverse the above steps for reassembly.

6. To remove high voltage capacitor.

1) Remove a screw which secures the grounding ring terminal of the H.V. diode and the capacitor holder.
2) Remove the H.V. diode from the capacitor holder.
3) Reverse the above steps for reassembly.

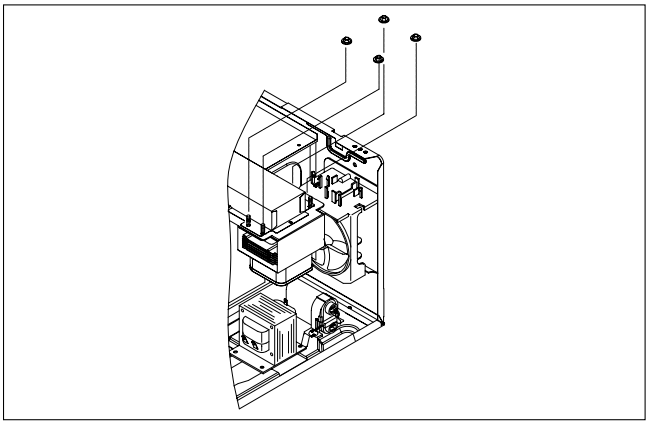


◆ High voltage circuit wiring

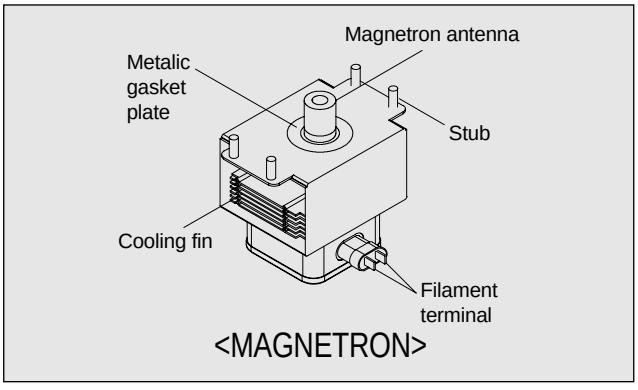


7. To remove magnetron.

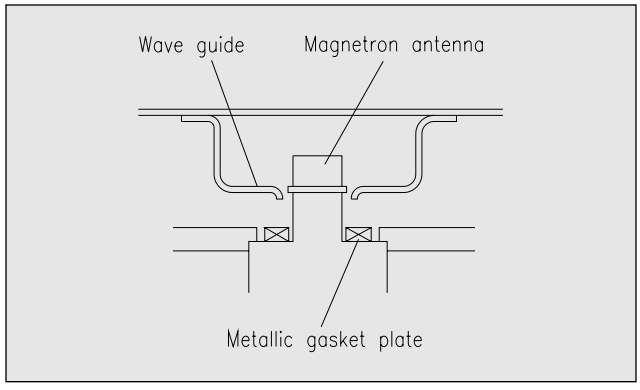
1) Remove a screw which secures the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



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

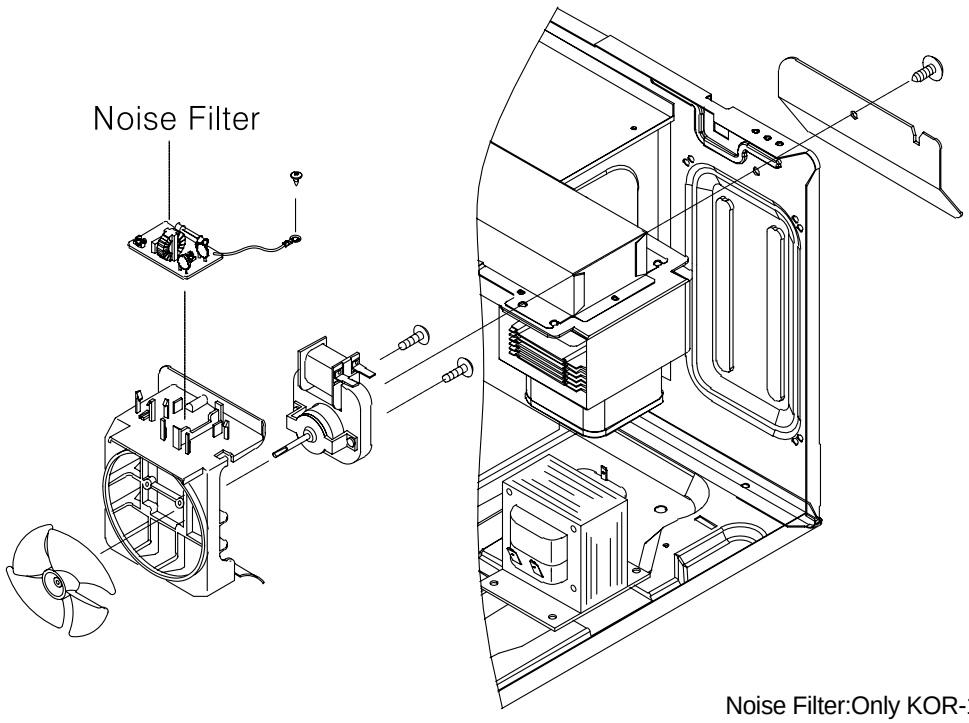


<MAGNETRON>



8. To remove wind guide assembly.

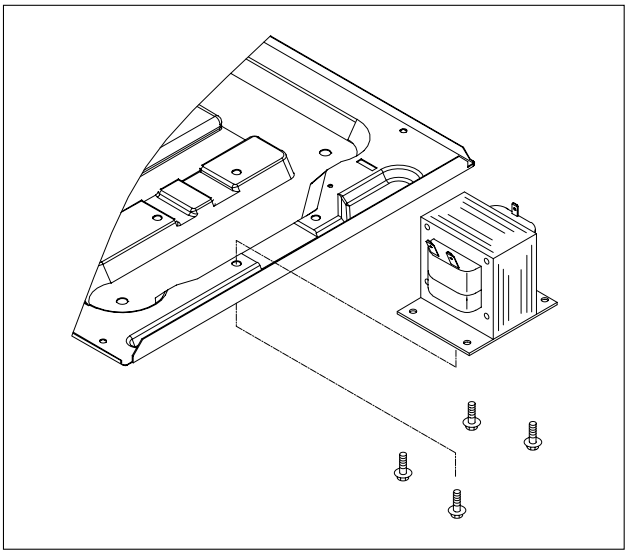
1) Remove two screws which secures the wind guide assembly and cover hole *0 and noise filter.
2) Draw forward the wind guide assembly.
3) Pull the noise filter from the wind guide assembly.
4) Pull the fan from the motor shaft.
5) Remove two screws which secure the motor shaded pole.
6) Remove the motor shaded pole.
7) Reverse the above steps for reasembly.



Noise Filter:Only KOR-1P5CBB
KOR-1P55BB

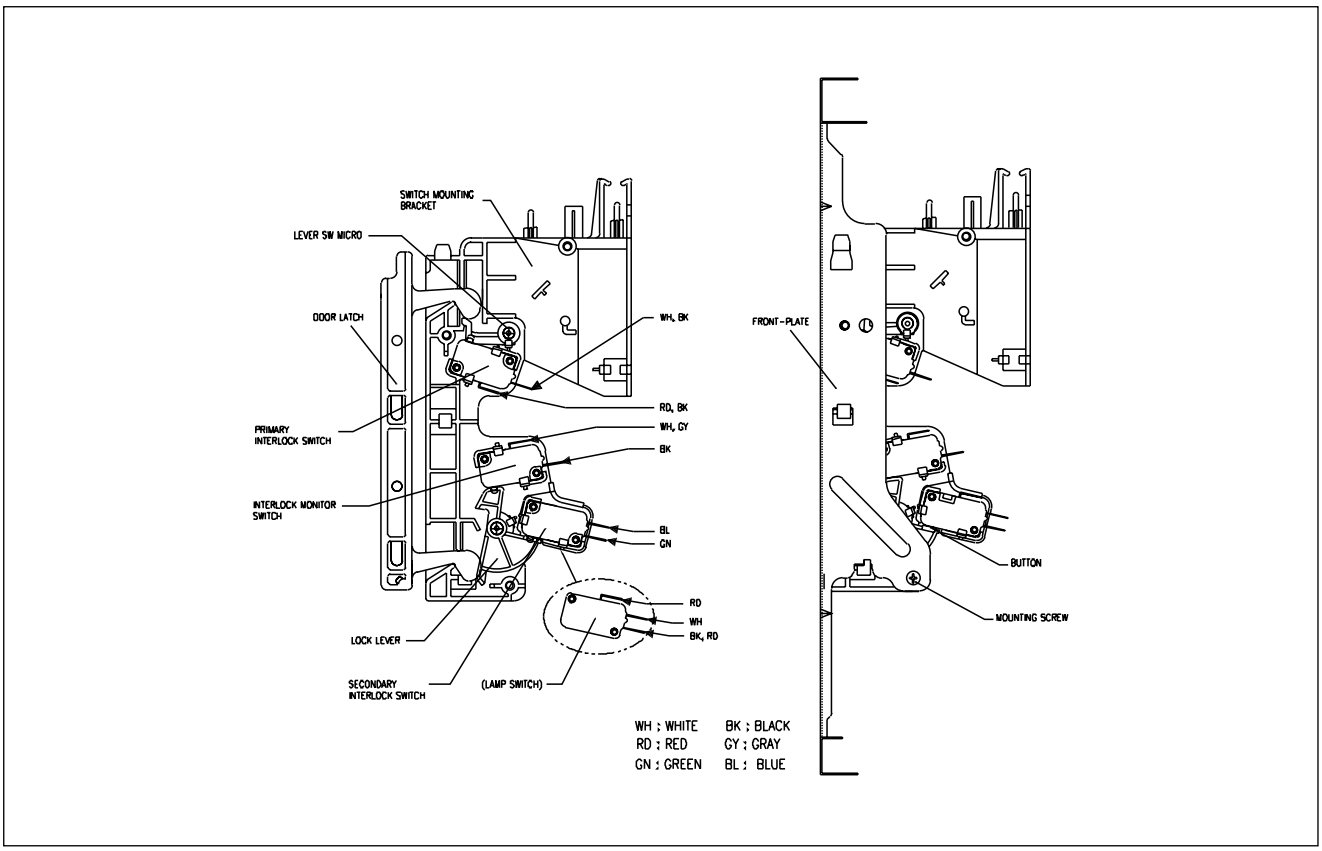
9. To remove H.V.transformer.

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



INTERLOCK MECHANISM AND ADJUSTMENT(ELECTRICAL)

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



(1) Primary interlock switch

When the door is closed, the hook locks the oven door. If the door is not closed properly, the oven will not operate.
When the door is closed, the hook pushes the button of the microswitch. Then the button of the primary interlock switch bring it under ON condition.

(2) Secondary interlock switch and interlock monitor switch

When the door is closed, the hook pushes the lock lever downward. The lock lever presses the button of the interlock monitor switch to bring it under NO condition. The lock lever presses the button of the secondary interlock switch to bring it under ON condition.

ADJUSTMENT :

Interlock monitor switch

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

(3) Adjustment steps

a) Loosen the one mounting screw.
b) Adjust interlock switch assembly position.
c) Make sure that lock lever moves smoothly after adjustment is completed.
d) Tighten completely two mounting screws.

NOTE :

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

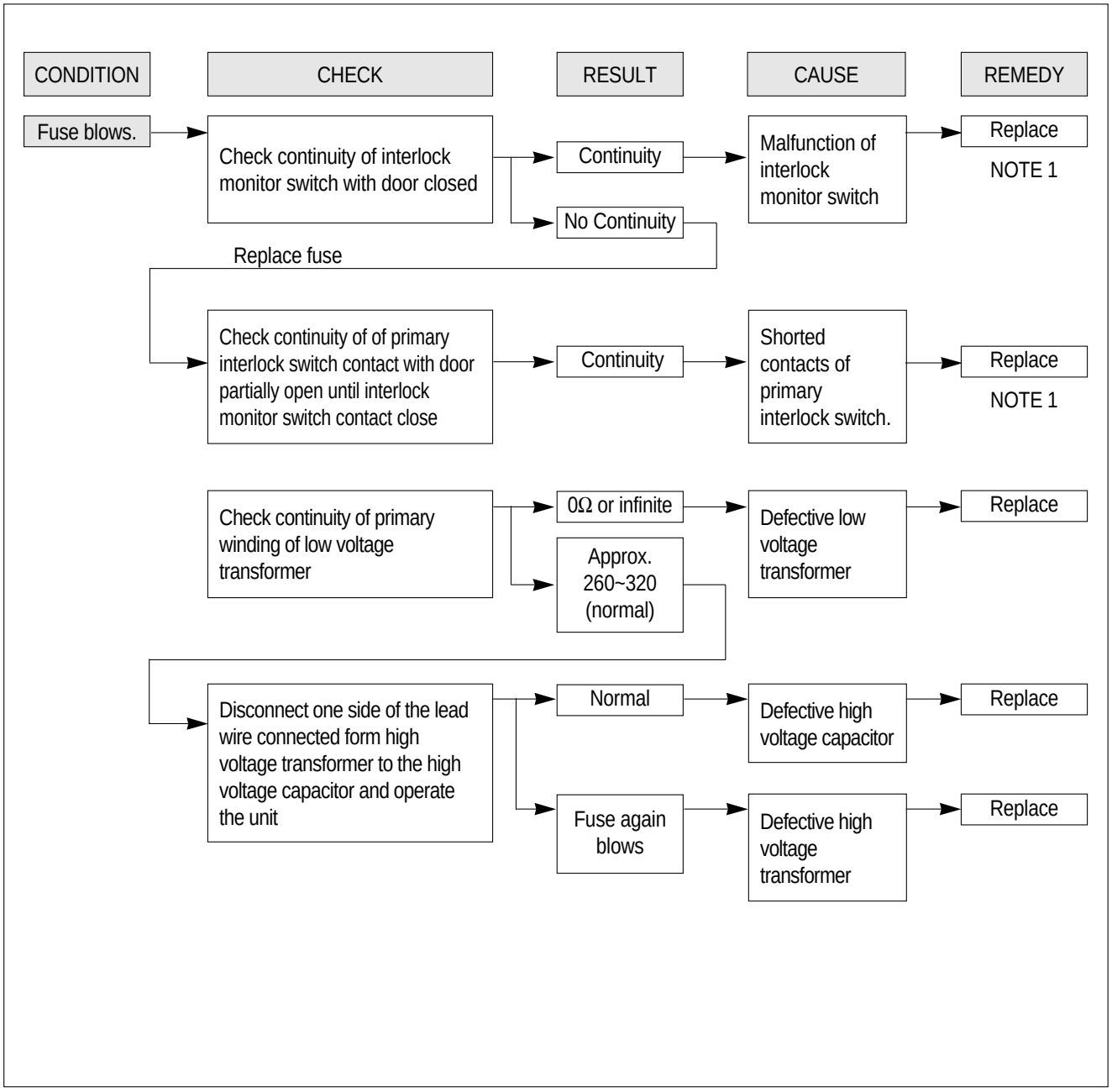
TROUBLE SHOOTING GUIDE

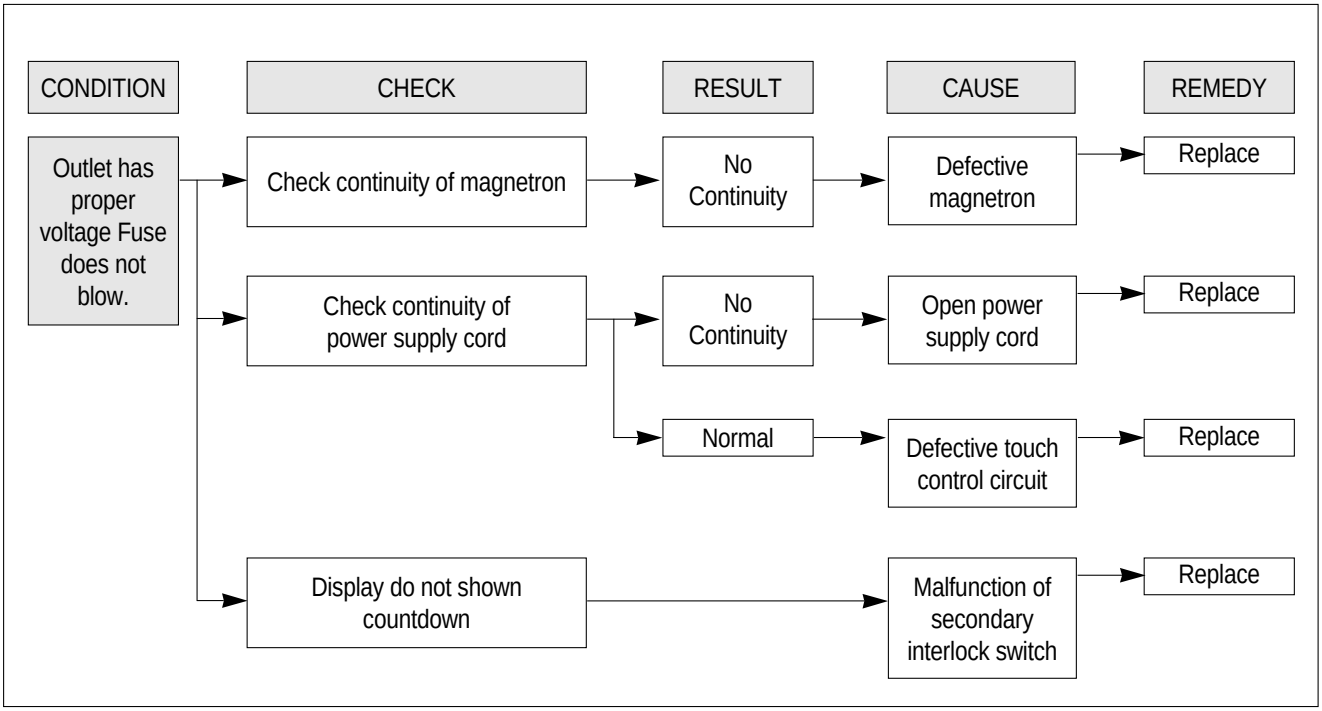
Following the procedure below to check if the oven is defective or not.

1) Check grounding before trouble shooting.
2) Be careful of the high voltage circuit.
3) Discharge the high voltage capacitor.
4) When checking the continuity of the switches, fuse or high voltage tranformer, disconnect one load wire from these parts and check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.

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

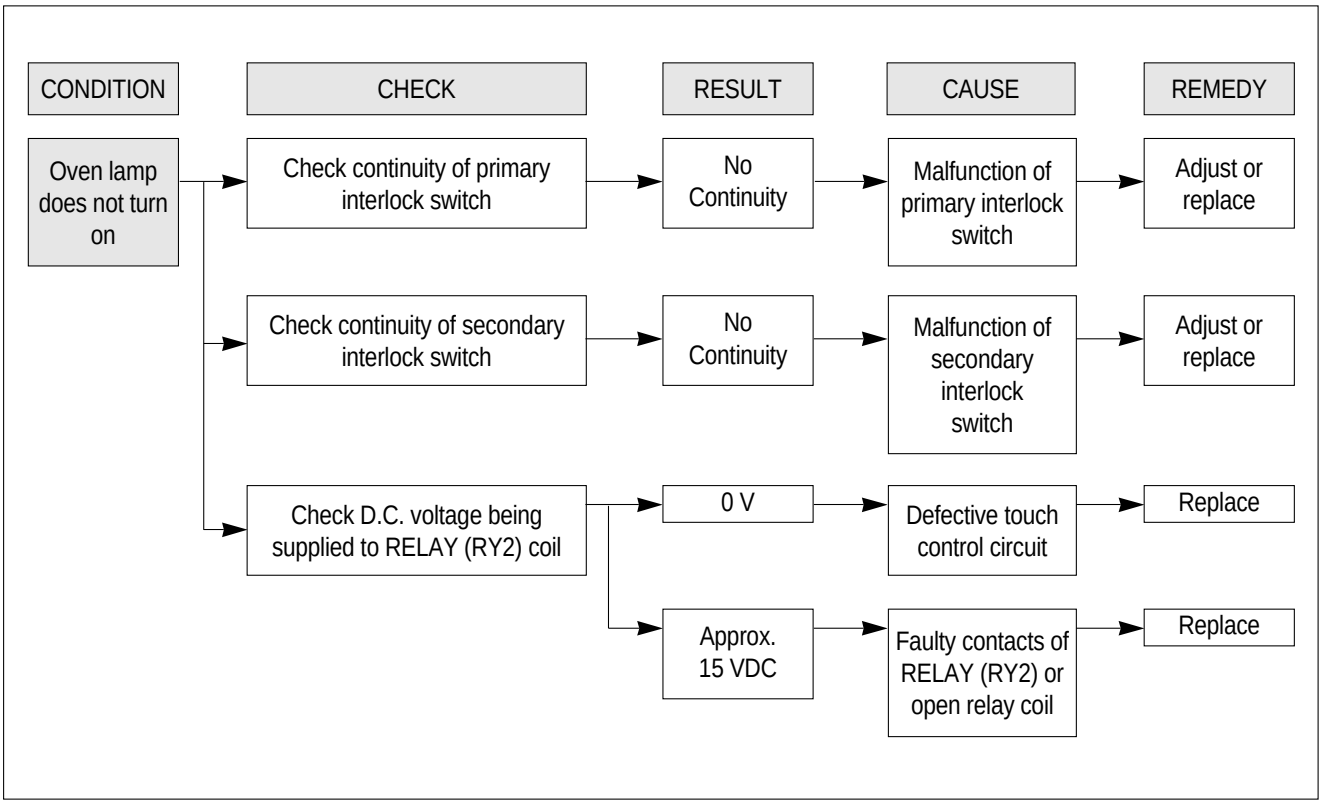
(TROUBLE 1) Oven does not operate at all : any inputs can not be accepted.



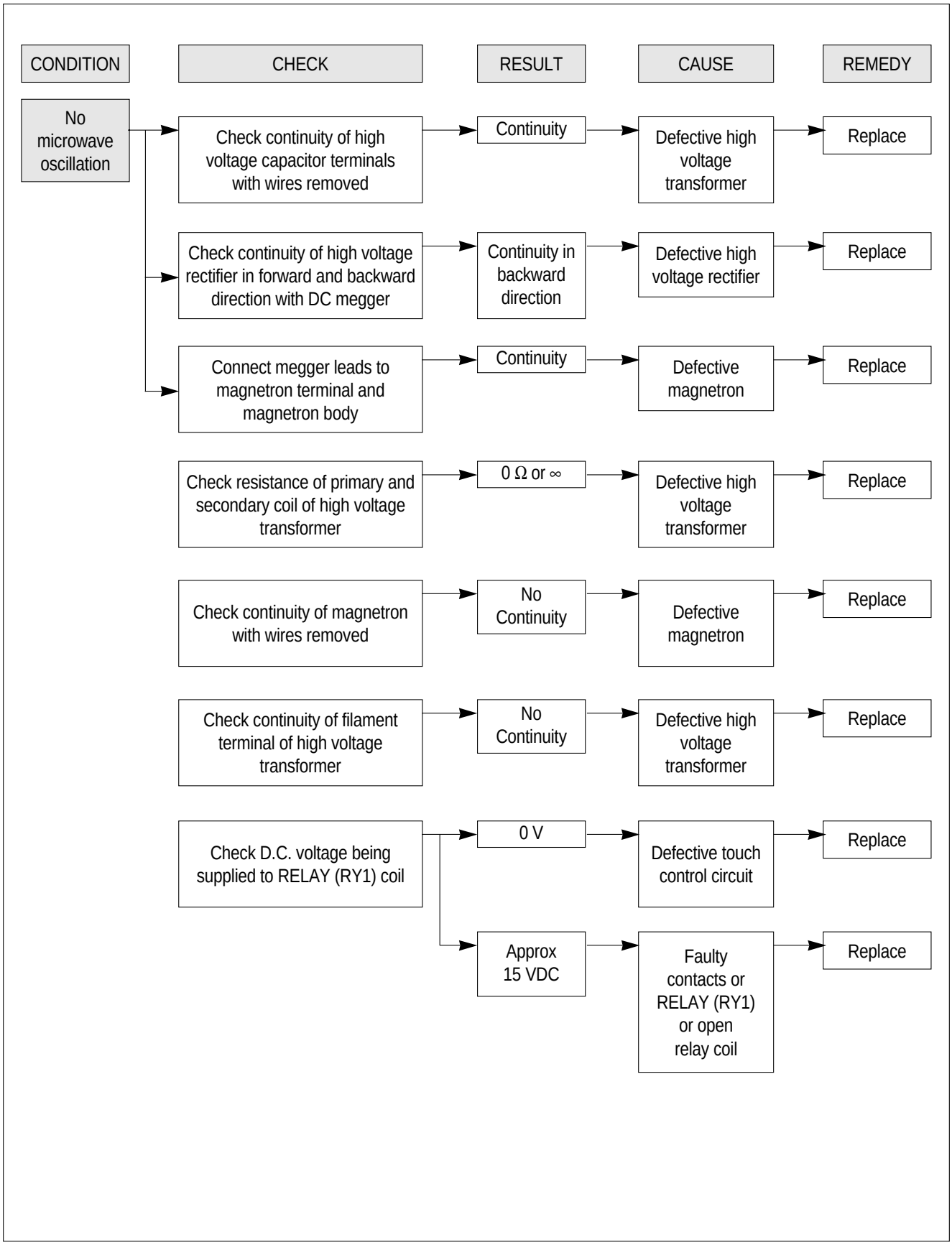


NOTE 1
All these switches must be replaced at the same time, please refer to “Interlock Mechanism And Adjustment”.

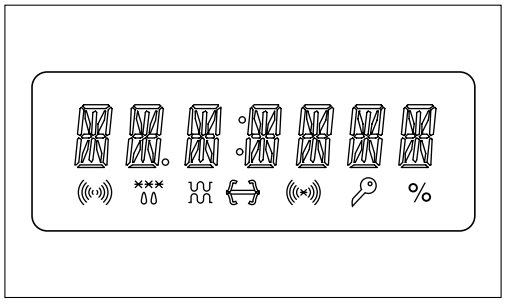
(TROUBLE 2) Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and start pad is tapped.



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



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



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

2. A distinct change in the display is not on when they should be.

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

4. Display indicates a number different from one touched.

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

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

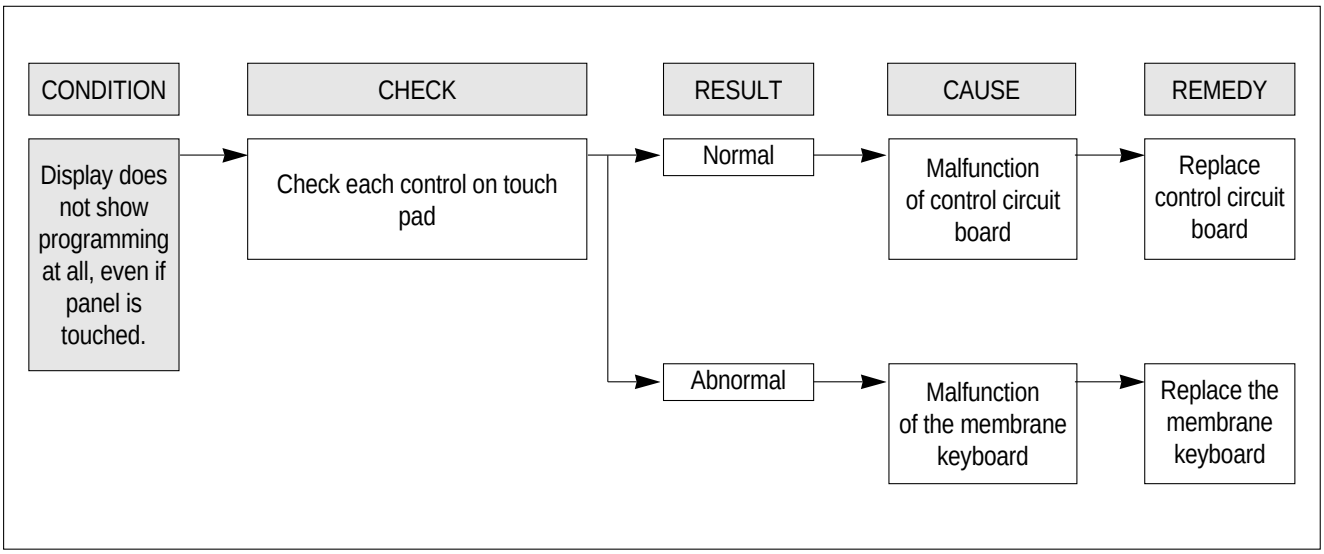
7. Oven is programmable and cooks normally but no display shows.

8. Display obviously jumps in time while counting down.

9. Display counts down noticeable too fast while cooking.

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

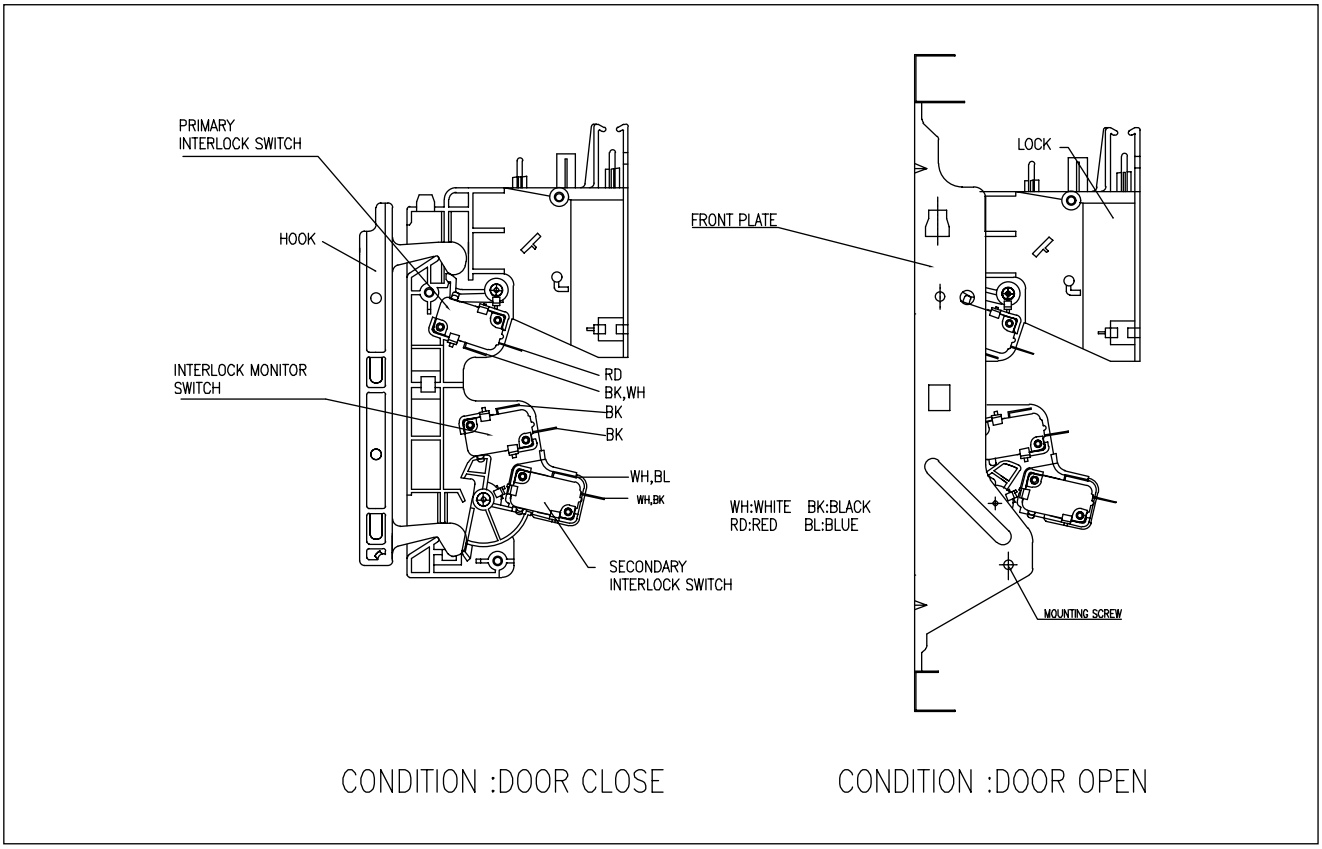
11. Oven lamp and turntable motor do not stop although cooking is finished. Check if the RELAY 2 contacts close if they are close, replace touch control circuit.



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

INTERLOCK MECHANISM AND ADJUSTMENT(MECHANICAL)

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



(1) Primary interlock switch

When the door is closed, the hook locks the oven door. If the door is not closed properly, the oven will not operate.
When the door is closed, the hook pushes the button of the microswitch. Then the button of the primary interlock switch bring it under ON condition.

(2) Secondary interlock switch and interlock monitor switch

When the door is closed, the hook pushes the lock lever downward. The lock lever presses the button of the interlock monitor switch to bring it under NO condition and presses the button of the secondary interlock switch to bring it under ON condition.

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

(3) Adjustment steps

a) Loosen the one mounting screw.
b) Adjust interlock switch assembly position.
c) Make sure that lock lever moves smoothly after adjustment is completed.
d) Tighten completely two mounting screws.

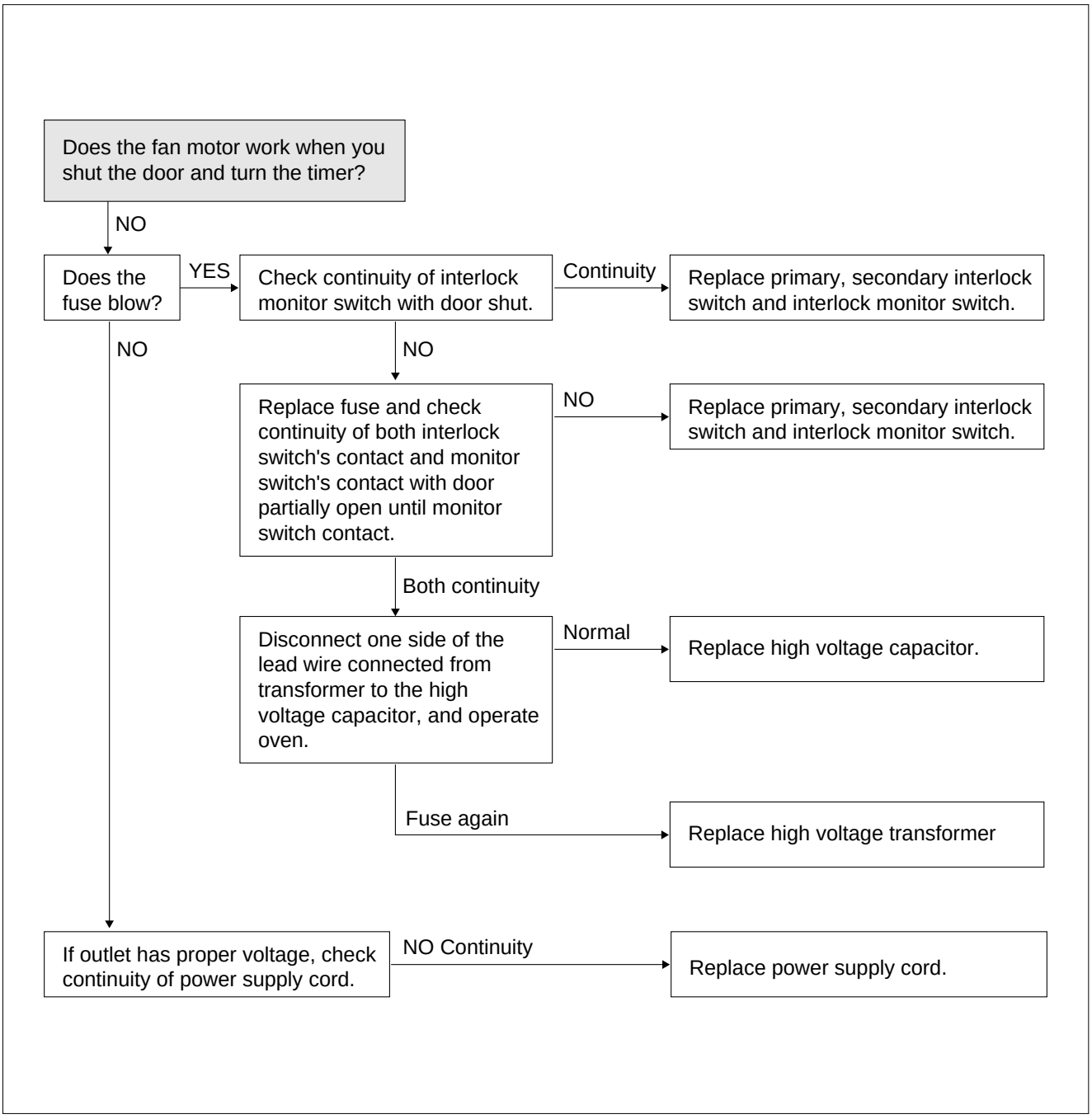
NOTE :
Microwave emission test should be performed after adjusting interlock mechanism.
If the microwave emission exceed 4mW/cm^2, readjust interlock mechanism.

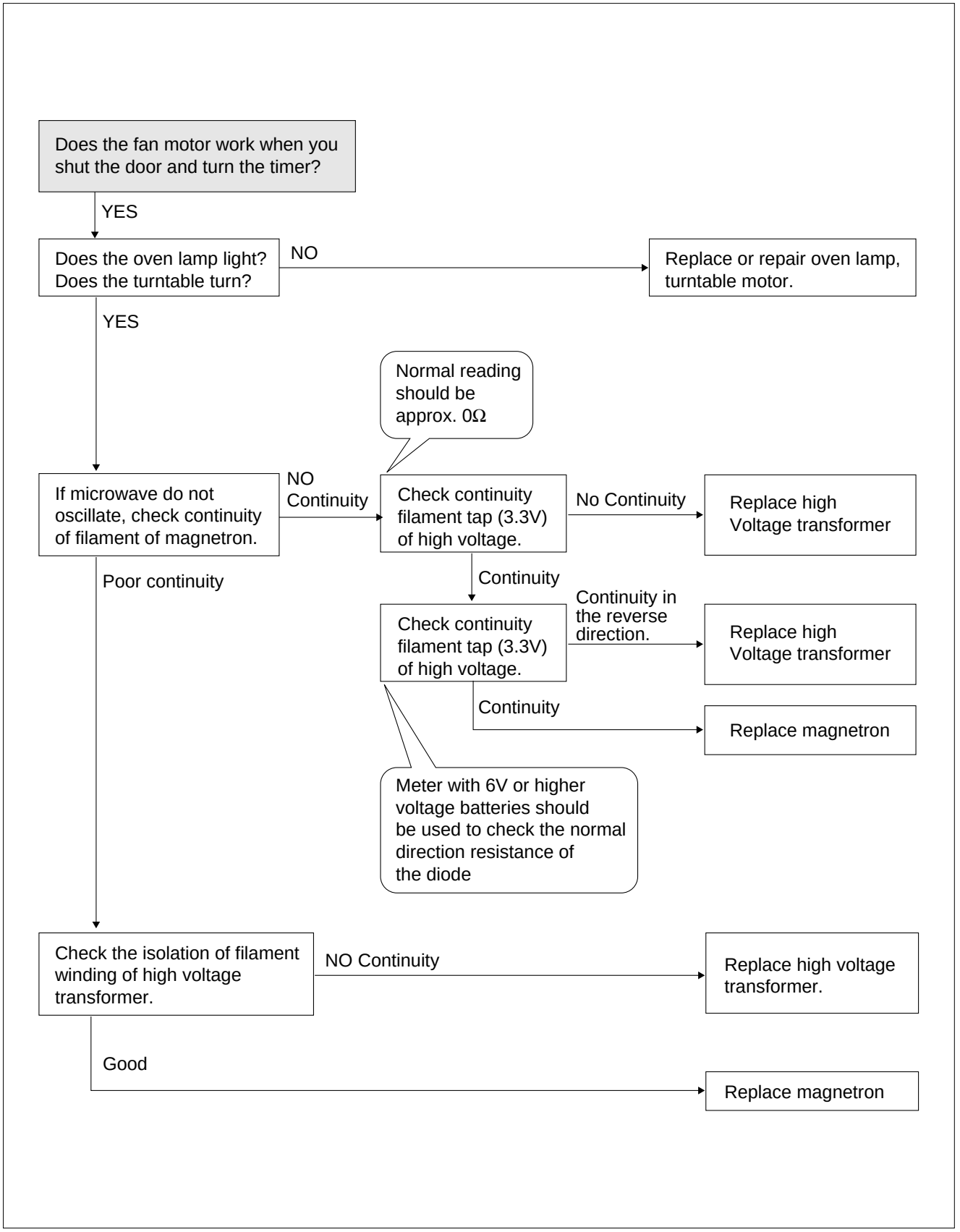
TROUBLE SHOOTING GUIDE

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

1. Check grounding before trouble shooting.
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.

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




Does the fan motor work when you shut the door and turn the timer?
YES
Does the oven lamp light? Does the turntable turn?
NO
Replace or repair oven lamp, turntable motor.
YES
Normal reading should be approx. 0Ω
If microwave do not oscillate, check continuity of filament of magnetron.
NO Continuity
Check continuity filament tap (3.3V) of high voltage.
No Continuity
Replace high Voltage transformer
Poor continuity
Continuity
Check continuity filament tap (3.3V) of high voltage.
Continuity in the reverse direction.
Replace high Voltage transformer
Continuity
Replace magnetron
Meter with 6V or higher voltage batteries should be used to check the normal direction resistance of the diode
Check the isolation of filament winding of high voltage transformer.
NO Continuity
Replace high voltage transformer.
Good
Replace magnetron

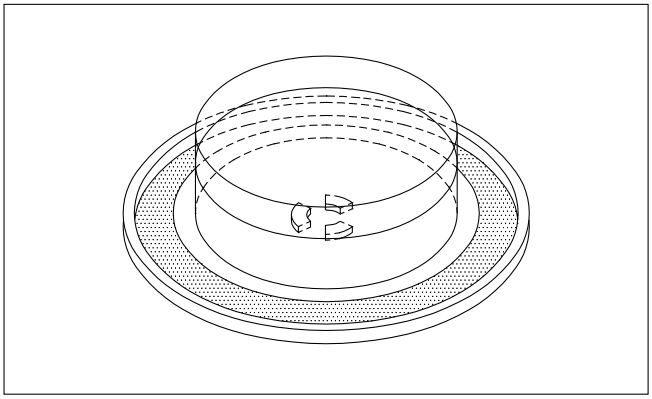
MEASUREMENT AND TEST

1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

Microwave output power can be checked by indirectly mmeasuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

PROCEDURE

1. Microwave power output measurement is made with the microwave oven supplied at rated voltage and operated at its maximum microwave power setting with a load of 100 ± 5cc of potable water.
2. The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3. The oven and the empty vessel are at ambient temperature prior to the start of the test. The initial temperature of the water is 10 ± 2°C (50 ± 3.6°F). If is measured immediately before the water is added to the vessel. After addition of the water to the vessel, the load is immediately placed on the center of the shelf, which is in the lowest normal position.
4. Microwave power is switched on.
5. Heating time should be exactly A seconds.
   (Refer to table as following)
   Heating time is measured while the microwave generator is operating at full power. The filament heat-up time for magnetron is not included.
6. The initial and final temperature of water is selected so that the maximum difference between the ambient and final water temperature is 5K.
7. The microwave power output P in watts is calculated from the following formula:



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

- Δ T is difference between initial and final temperature.
- t is the heating time.

The power measured be B (Refer to SPECIFICATIONS) W ± 10.0 %.

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

✻ Heating time for power output:

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

2. MICROWAVE RADIATION TEST

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

PROCEDURE

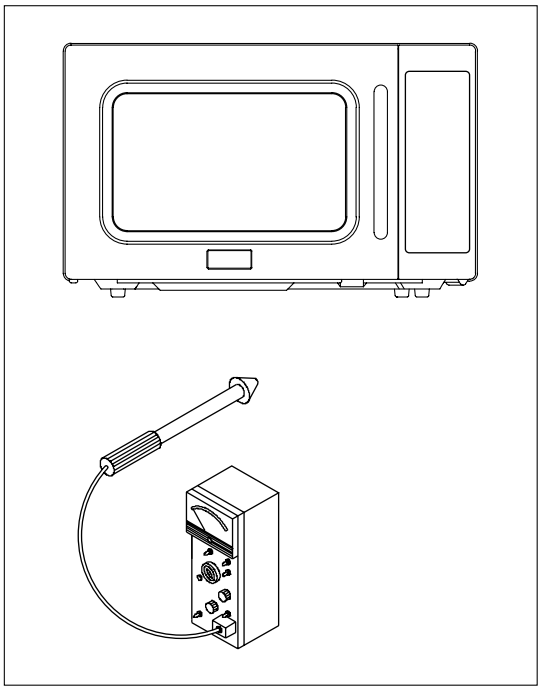
1. Prepare Microwave Energy Survey Meter, 600cc glass beaker, and glass thermometer 100°C (212°F).

2. Pour 275cc ± 15cc of tap water initially at 20 ± 5°C (68 ± 9°F) in the 600 cc glass beaker with an inside diameter of approx. 95 mm(3.5 in.).

3. Place it at the center of the tray and set it in a cavity.

4. Close the door and operate the oven.

5. Measure the leakage by using Microwave Energy Survey Meter with dual ranges, set to 2450MHz.
   1) Measured radiation leakage must not exceed the value prescribed below. Leakage for a fully assembled oven with door normally closed must be less than 4mW/cm^2.
   2) When measuring the leakage, always use the 5 cm (2 in.) space cone with probe. Hold the probe perpendicular to the cabinet and door. Place the space cone of the probe on the door, cabinet, door seem, door viewing screen, the exhaust air vents and the suction air vents.
   3) Measuring should be in a counter-clockwise direction at a rate of 1 in./sec. If the leakage of the cabinet door seem is unknown, move the probe more slowly.
   4) When measuring near a corner of the door, keep the probe perpendicular to the areas making sure the probe end at the base of the cone does not get closer than 2 in. from any metal. If it does not, erroneous reading may result.



3. COMPONENT TEST PROCEDURE

- High voltage is present at the high voltage terminal of the high voltage transformer during any cooking cycle.
- It is neither necessary nor advisable to attempt measurement of the high voltage.
- Before touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor.

1. High voltage transformer

1) Remove connections from the transformer terminals and check continuity.
2) Normal readings should be as follows :
   Secondary winding ... Approx. 110 Ω ±10% (100 Ω ±10% ÷ KOR-1B4H9A04)
   Filament winding ... Approx. 0 Ω
   Primary winding ... Approx. 1 Ω

2. High voltage capacitor

1) Check continuity of capacitor with meter on the highest OHM scale.
2) A normal capacitor will show continuity for a short time, and then indicate 10MΩ once the capacitor charged.
3) A shorted capacitor will show continuous continuity.
4) An open capacitor will show constant 10MΩ.
5) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

1) Isolate the diode from the circuit by disconnecting the leads.
2) With the ohmmeter set on the highest resistance scale measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-back resistance of the diode, otherwise an infinite resistance may be read in both directions. A normal diode's resistance will be infinite in one direction and several hundred k Ω in the other direction.

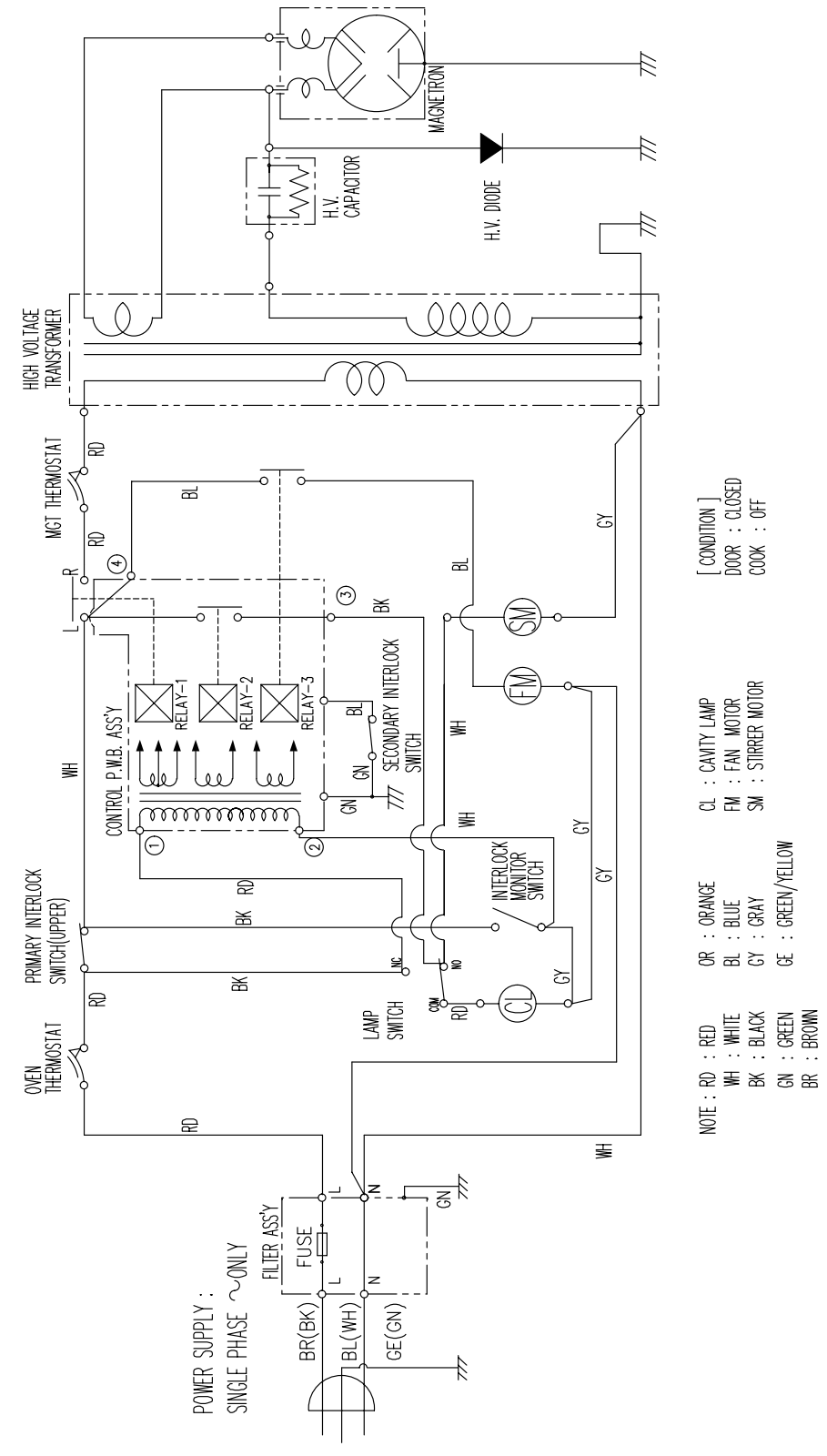
4. Magnetron

For complete magnetron diagnosis, refer to "Measurement of the Microwave Power Output." Continuity checks can only indicate and open filament or a shorted magnetron. To diagnose for an open filament or a shorted magnetron,
1) Isolate magnetron from the circuit by disconnecting the leads.
2) A continuity check across magnetron filament terminals should indicate 0.1 Ω or less.
3) A continuity check between each filament terminal and magnetron case should read open.

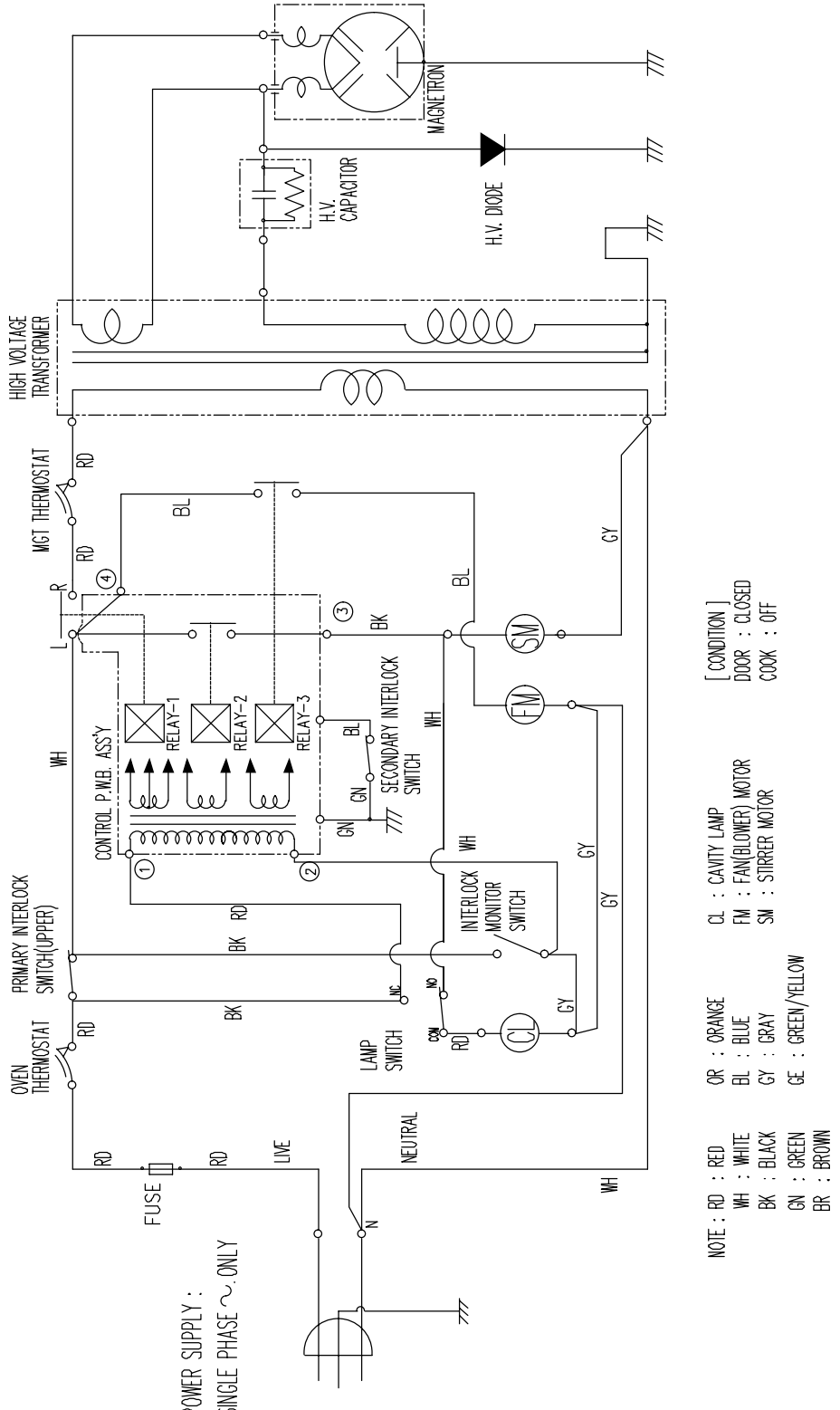
5. Fuse

If the fuse in the primary and monitor switch circuit is blown when the door is opened, check the primary and monitor switch before replacing the blown fuse. In case the fuse is blown by an improper switch operation, replace the defective switch and fuse at the same time. Replace just the fuse if the switches operate normally.

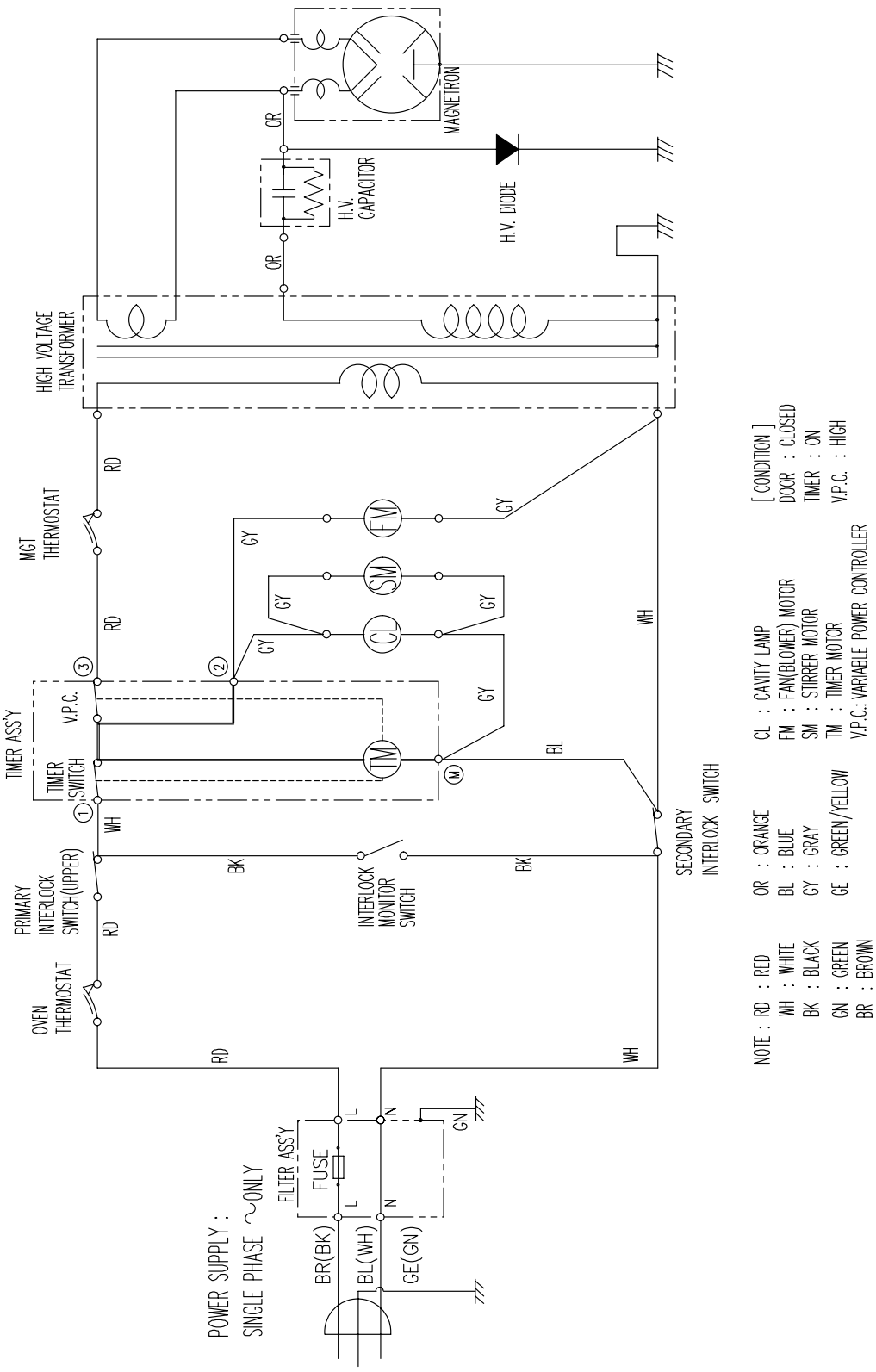
WIRING DIAGRAM (TMW-1100EC)



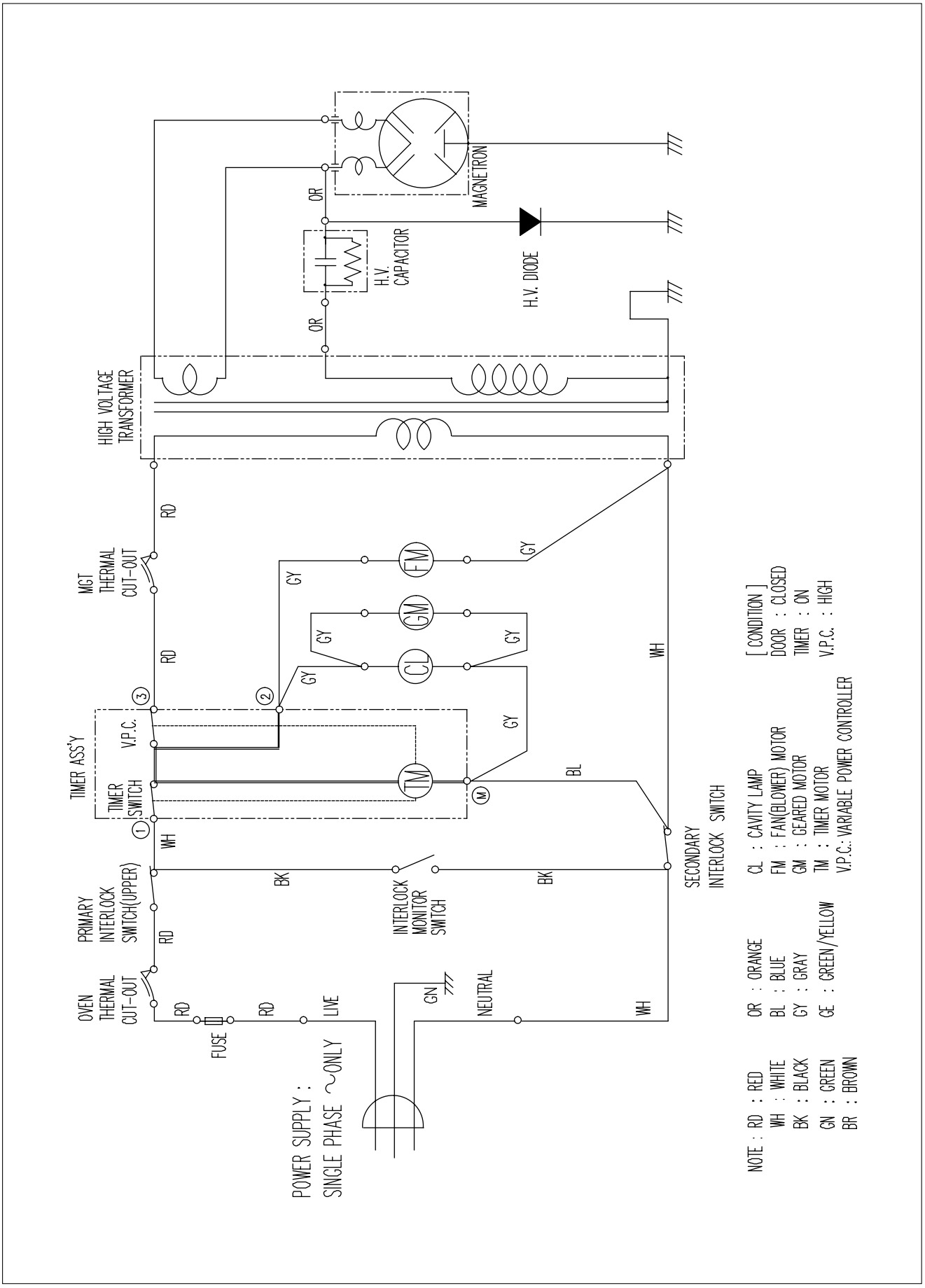
WIRING DIAGRAM (TMW-1100E)



WIRING DIAGRAM (TMW-1100MC)



WIRING DIAGRAM (TMW-1100M)



PRINTED CIRCUIT BOARD

1. CIRCUIT CHECK PROCEDURE

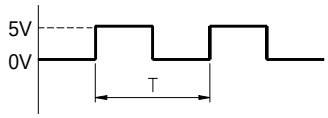
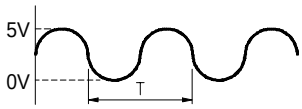
1. Low voltage transformer check

The low voltage transformer is located on the P.C.B.
Measuring condition: Input voltage: 120V / Frequency: 60Hz

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

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

2. Voltage Check

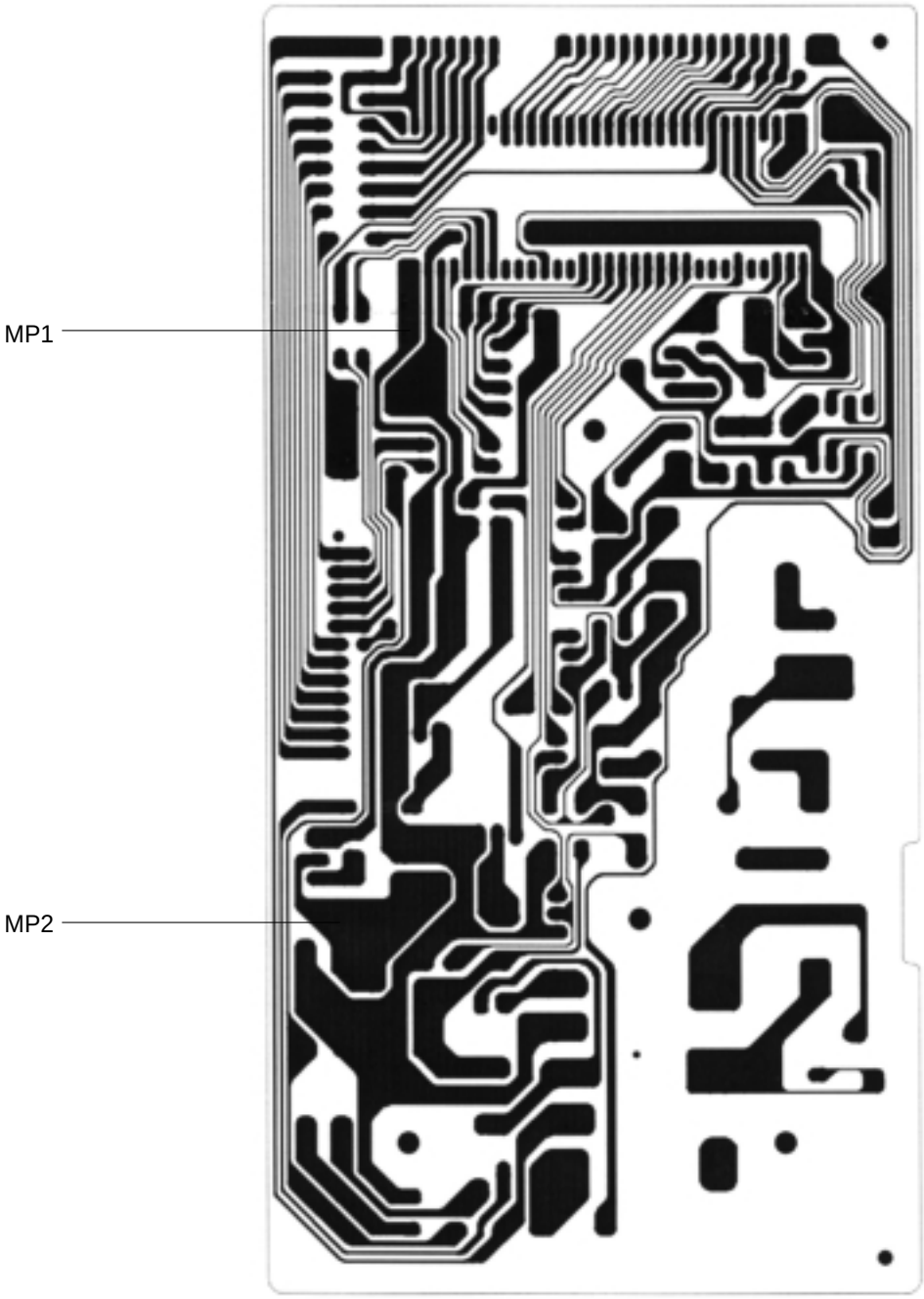
NO	CHECK POINT	REMARK
1	IC1 PIN 63, 64	5VDC
2	IC1 PIN 38	 T : 16.67ms(60Hz)
3	IC1 PIN 33 OR 34	 T : 250 ns(4MHz)

- Key check point

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

- Check method

NOTE
Each measure point must be measured with GND points.



Measure point

3. When there is no microwave oscillation

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

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

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

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

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

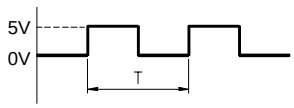
→ refer to Circuit Diagram (point 1)
- Check method

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

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

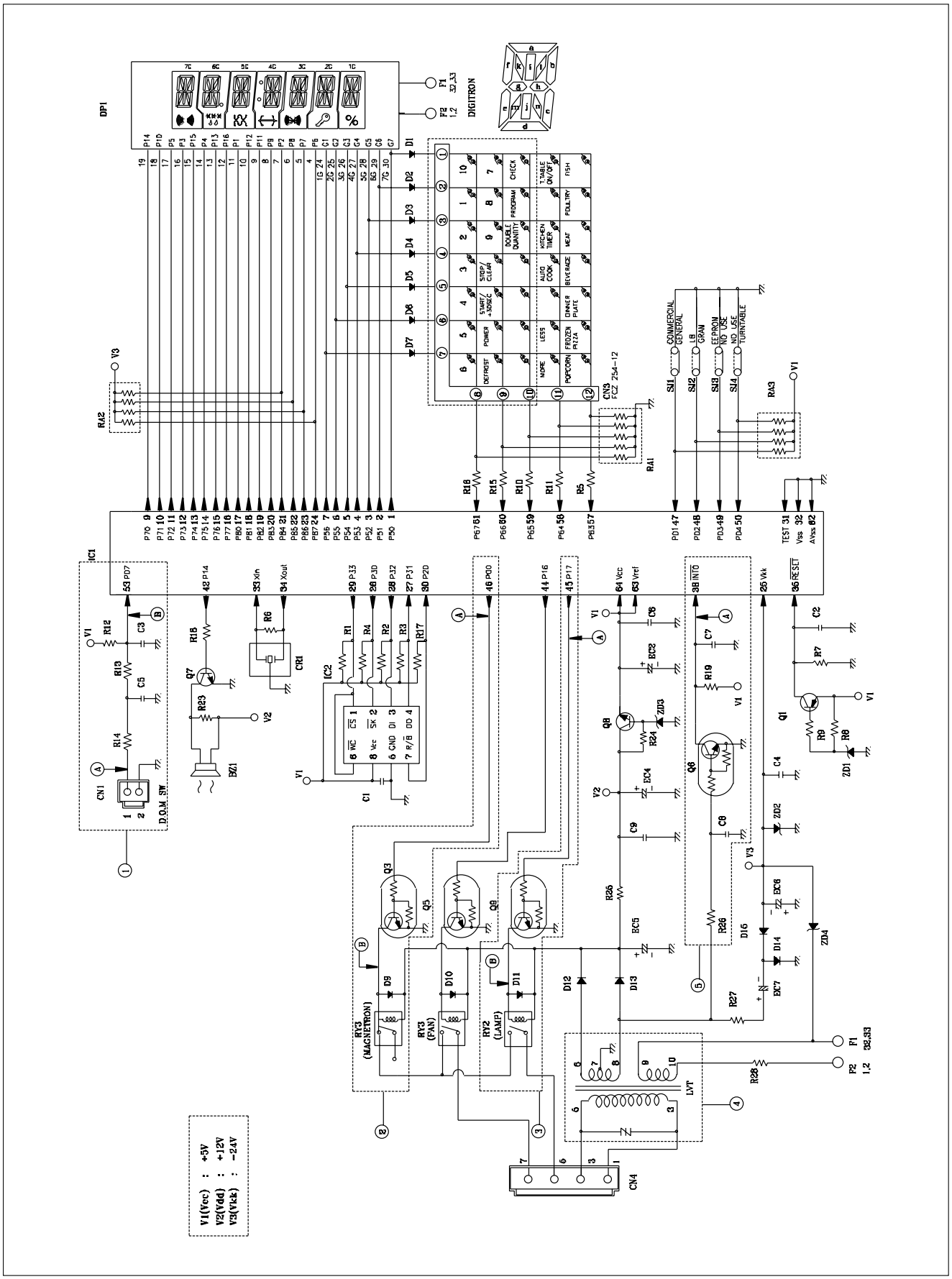
5. When the digital clock does not operate properly.

→ refer to Circuit Diagram (point 5)

POINT	WAVE FORM
A	 T: 16.67 ms(60Hz)

❋ If clock does not keep exact time, you must check resistor R26,19, transistor Q6.

2. P.C.B. CIRCUIT DIAGRAM



3. P.C.B. LOCATION NO.

NO	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
1	BUZZER	BZ1	BM-20K	3515600100	1
2	CAPACITOR CERA	C1~9	HIKF 50V 0.1MF Z AXIAL	CCZF1H104Z	9
3	CAPACITOR ELEC	EC2	50V RS 10MF (5X11) TP	CEXE1H100A	1
4	CAPACITOR ELEC	EC6	50V RSS 100MF (8X11.5) TP	CEXF1H101V	1
5	CAPACITOR ELEC	EC4	35V RS 220MF 10*20	CEXE1V221A	1
6	CAPACITOR ELEC	EC7	50V RSS 220MF (10X16) TP	CEXF1H221V	1
7	CAPACITOR ELEC	EC5	35V RSS 1000MF (13X25) TP	CEXF1V102V	1
8	DIGITRON	DP1	HNM-07MS12	DHNM07MS12	1
9	DIODE RECTIFY	D1~7, 9~11	1N4148	DZN4148---	10
10	DIODE RECTIFY	D12~15	1N4004A	DZN4004A--	4
11	DIODE ZENER	ZD1	UZ- 3.3BSB 1/2W	DZUZ3R3BSB	1
12	DIODE ZENER	ZD3,4	UZ- 5.6BSB 1/2W	DZUZ5R6BSB	2
13	DIODE ZENER	ZD2	UZ- 24BSB	DZUZ24BSB-	1
14	CONNECTOR WAFER	CN1	YW396-07AV	3519150540	1
15	CONNECTOR WAFER	CN2	TMP87CM14N	13GS1P5C00	1
16	CONNECTOR WAFER	CN3	FCZ 254-12	441M367170	1
17	IC MICOM	IC1	YW396-07AV	3519150540	1
18	IC EEPROM	IC2	BR9020-W	137N9020W-	1
19	PCB MAIN	M187	90X90	3514328500	1
20	R ARRAY	RA2,3	RGLD4X104J	RA-85X104J	2
21	R ARRAY	RA1	6P(5) 1/8 100K OHM J	RA-86X104J	1
22	RESISTOR	R8	1/6W 200 5%	RD-AZ201J-	1
23	RESISTOR	R5,9~11,13~16,23,24	1/6W 1K 5%	RD-AZ102J-	10
24	RESISTOR	R18	1/6W 4.7K 5%	RD-AZ472J-	1
25	RESISTOR	R1~4,7,12,17,19	1/6W 10K 5%	RD-AZ103J-	8
26	RESISTOR	R26	1/6W 47K 5%	RD-AZ473J-	1
27	RESISTOR	R6	1/6W 1M 5%	RD-AZ105J-	1
28	RESISTOR	R28	1/4W 6.8 5%	RD-4Z689J-	1
29	RESISTOR	R25,27	1/2W 27 5%	RD-2Z270JS	2
30	RESONATOR CERA	CR1	CRT 4.00MS	5P4R00MTS-	1
31	SW RELAY	RY1	G5G-1A DC12V	5SC0101121	1
32	SW RELAY	RY2	CS11-12SH 1C 1P	5SC0101128	2
33	TRANSISTOR	Q1	KRA-1266Y	TZTA1266Y-	1
34	TRANSISTOR	Q3,5,6,9	KTC-106M	TZRC106M--	4
35	TRANSISTOR	Q7,8	KTC-3198GR	TZTC3198GR	2
36	TRANS POWER	LVT	DMR-1P5P	5EPU035307	1
37	VFD HOLDER	DPH	NYLON 66	3513001400	1
38	WIRE COPPER	J4~6,8~13	1/0.52 TIN COATING	85801052GY	9
39	WIRE COPPER	J1,7,14	1/0.52 TIN COATING	85801052GY	3
40	WIRE COPPER	J2,3	1/0.52 TIN COATING	85801052GY	2

EXPLODED VIEW AND PARTS LIST (ELECTRICAL)

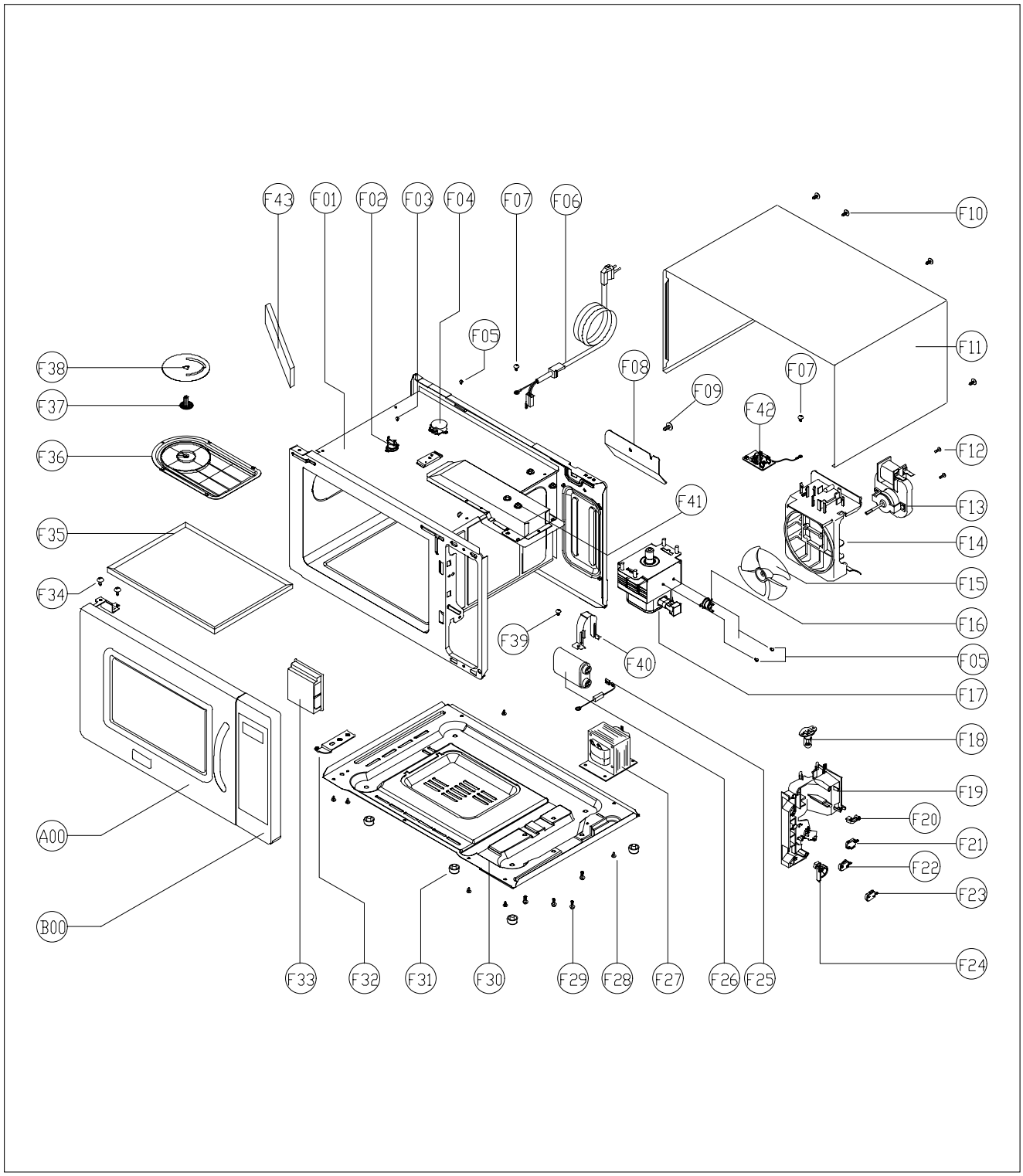
1. DOOR ASSEMBLY

Refer to Disassembly and assembly

2. CONTROL PANEL ASSEMBLY

Refer to Disassembly and assembly

3. TOTAL ASSEMBLY



✔ **Caution** : In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

NO	PART CODE	PART NAME	DESCRIPTION	Q'TY	NOTE	PUBLIC USE
A00	3511718600	DOOR AS	KOR-1P55BA	1		✔
B00	PKCPSWAJ00	CONTROL-PANEL AS	KOR-1P5CBA	1		
F01	3516115700	CAVITY AS	KOR-1P55BA	1		✔
F02	3518901700	THERMOSTAT	OFF:80 ON:50 H #187	1		✔
F03	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1		✔
F04	3966820710	MOTOR SYNCRO	120V 2.4W ST-16 KX63MRAA	1		✔
F05	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	3		✔
F06	35113UHWT5	CORD POWER AS	3X14AWG 90X60 120-RTML	1		✔
F07	7122401011	SCREW TAPPING	T2S TRS 4*10 MFZN	2		✔
F08	3511409500	COVER HOLE *O	SBHG T0.8	1		✔
F09	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	1		✔
F10	3516004100	SPECIAL SCREW	T1 TRS LR4 POLE 4X10 MFZN	4		✔
F11	3510806800	CABINET	STS430 T0.5 HL	1		✔
F12	7121403011	SCREW TAPPING	T2S PAN 4X30 MFZN	2		✔
F13	3963822710	MOTOR SHADED POLE	120V 60HZ MW15XA-K03	1		✔
F14	3512515300	GUIDE WIND	PP	1		✔
F15	3511800100	FAN	P.P GF20	1		✔
F16	3518903900	THERMOSTAT	OFF:160 ON:115 H #187	1		✔
F17	3518003800	MAGNETRON	RM259H(STUD)	1		✔
F18	3513601500	LAMP	BL 125V 25W T25 C5A H187	1		✔
F19	3513816000	LOCK	PP	1		✔
F20	3513702100	LEVER SW MICRO	POM,KOG-846T0S	1		✔
F21	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	2		✔
F22	4415A66910	SW MICRO	VP-531A-OF/SZM-V16-FA-61	1		
F23	4415A66600	SW MICRO	VP-532A-OF SPNC #187 200G	1		
F24	3513700800	LEVER LOCK	POM	1		✔
F25	3518400110	DIODE HV	HVR-1X-70B	1		✔
F26	3518302300	CAPACITOR HV	2100VAC 1.10UF #187	1	KOR-1P55BA	
	3518303401		2100VAC 1.050UF #187	1	KOR-1P55BB	
F27	3518121000	TRANS HV	DT-R11A0-1PT	1		✔
F28	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	6		✔
F29	3516003700	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	4		✔
F30	3510313500	BASE	SBHG T0.8	1		✔
F31	3512101400	FOOT	DASF-310	4		✔
F32	3515202800	STOPPER HINGE *U AS	KOR-121M0A	1		✔
F33	3511410000	COVER HOLE *I	PP	1		✔
F34	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	2		✔
F35	3517208910	TRAY AS	KOR-1P55BA CERAMIC TRAY SEALING	1		✔
F36	3511410100	COVER STIRRER	PP	1		✔
F37	3517402400	COUPLER STIRRER	PPS	1		✔
F38	3517100900	STIRRER BLADE	AL050-H18 T0.7	1		✔
F39	7S422X4081	SCREW SPECIAL	TT3 TRS 4X8 SE MFZN	1		✔
F40	3513003200	HOLDER HV CAPACITOR	SECC T0.6	1		✔
F41	7S627W50X1	NUT HEX	NUT FLANGE M5X0.8P MFZN	4		✔
F42	3518606600	NOISE FILTER	DWLF-M17	1		✔
F43	3517304700	FOAM	CR 15TX220X20	1		✔

EXPLODED VIEW AND PARTS LIST (MECHANICAL)

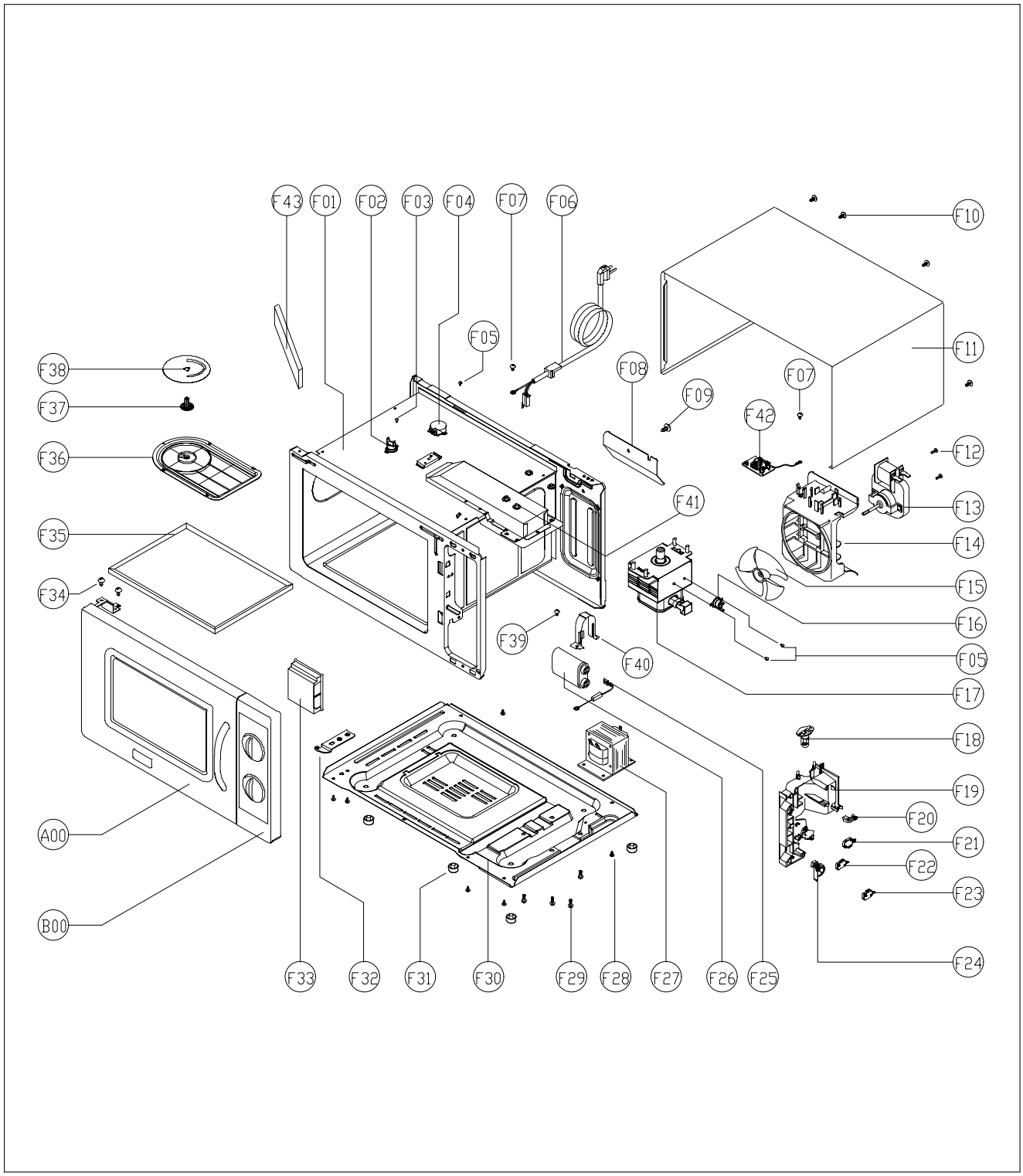
1. DOOR ASSEMBLY

Refer to Disassembly and assembly

2. CONTROL PANEL ASSEMBLY

Refer to Disassembly and assembly

3. TOTAL ASSEMBLY



✔ **Caution** : In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

NO	PART CODE	PART NAME	DESCRIPTION	Q'TY	NOTE	PUBLIC USE
A00	3511718600	DOOR AS	KOR-1P55BA	1		✔
B00	3516728700	CONTROL-PANEL AS	KOR-1P55BA	1		
F01	3516115700	CAVITY AS	KOR-1P55BA	1		✔
F02	3518901700	THERMOSTAT	OFF:80 ON:50 H #187	1		✔
F03	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1		✔
F04	3966820710	MOTOR SYNCRO	120V 2.4W ST-16 KX63MRAA	1		✔
F05	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	3		✔
F06	35113UHWT5	CORD POWER AS	3X14AWG 90X60 120-RTML	1		✔
F07	7122401011	SCREW TAPPING	T2S TRS 4*10 MFZN	2		✔
F08	3511409500	COVER HOLE *O	SBHG T0.8	1		✔
F09	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	1		✔
F10	3516004100	SPECIAL SCREW	T1 TRS LR4 POLE 4X10 MFZN	4		✔
F11	3510806800	CABINET	STS430 T0.5 HL	1		✔
F12	7121403011	SCREW TAPPING	T2S PAN 4X30 MFZN	2		✔
F13	3963822710	MOTOR SHADED POLE	120V 60HZ MW15XA-K03	1		✔
F14	3512515300	GUIDE WIND	PP	1		✔
F15	3511800100	FAN	P.P GF20	1		✔
F16	3518903900	THERMOSTAT	OFF:160 ON:115 H #187	1		✔
F17	3518003800	MAGNETRON	RM259H(STUD)	1		✔
F18	3513601500	LAMP	BL 125V 25W T25 C5A H187	1		✔
F19	3513816000	LOCK	PP	1		✔
F20	3513702100	LEVER SW MICRO	POM,KOG-846T0S	1		✔
F21	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	1		✔
F22	4415A66600	SW MICRO	VP-532A-OF SPNC #187 200G	1		
F23	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	1		
F24	3513700800	LEVER LOCK	POM	1		✔
F25	3518400110	DIODE HV	HVR-1X-70B	1		✔
F26	3518302300	CAPACITOR HV	2100VAC 1.10UF #187	1	KOR-1P55BA	
	3518303401		2100VAC 1.050UF #187	1	KOR-1P55BB	
F27	3518121000	TRANS HV	DT-R11A0-1PT	1		✔
F28	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	6		✔
F29	3516003700	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	4		✔
F30	3510313500	BASE	SBHG T0.8	1		✔
F31	3512101400	FOOT	DASF-310	4		✔
F32	3515202800	STOPPER HINGE *U AS	KOR-121M0A	1		✔
F33	3511410000	COVER HOLE *I	PP	1		✔
F34	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	2		✔
F35	3517208910	TRAY AS	KOR-1P55BA CERAMIC TRAY SEALING	1		✔
F36	3511410100	COVER STIRRER	PP	1		✔
F37	3517402400	COUPLER STIRRER	PPS	1		✔
F38	3517100900	STIRRER BLADE	AL050-H18 T0.7	1		✔
F39	7S422X4081	SCREW SPECIAL	TT3 TRS 4X8 SE MFZN	1		✔
F40	3513003200	HOLDER HV CAPACITOR	SECC T0.6	1		✔
F41	7S627W50X1	NUT HEX	NUT FLANGE M5X0.8P MFZN	4		✔
F42	3518606600	NOISE FILTER	DWLF-M17	1		✔
F43	3517304700	FOAM	CR 15TX220X20	1		✔

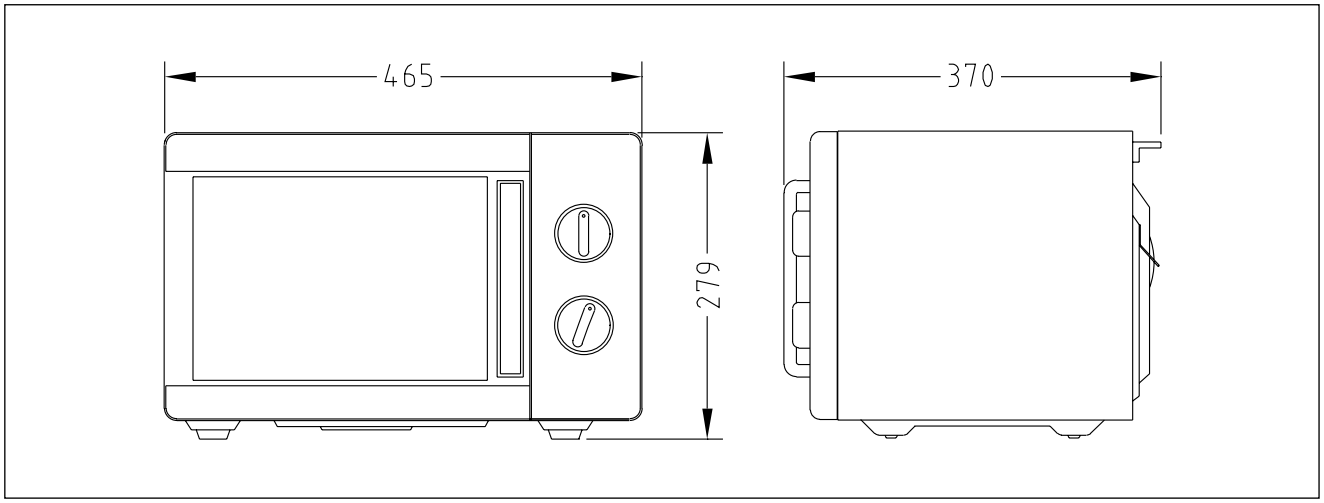
SPECIFICATIONS

MODEL		**TMW-800T / TMW-800TC**
POWER SUPPLY		120V~60Hz, SINGLE PHASE WITH EARTHING
POWER CONSUMPTION	MICROWAVE	1,200 W
	GRILL	
	COMBINATION	
MICROWAVE ENERGY OUTPUT		800W
MICROWAVE FREQUENCY		2450MHz
OUTSIDE DIMENSIONS (W X H X D)		465 x 279 x 370 mm (18.3 x 11.0 x 14.5 in)
CAVITY DIMENSIONS (W X H X D)		290 x 211 x 306 mm (11.4 x 8.3 x 12.0 in.)
NET WEIGHT		Approx. 12 kg (26.5 lbs.)
TIMER		10 min. Dual Speed
FUNCTION SELECTIONS		MICROWAVE
POWER SELECTIONS		5 LEVELS
CAVITY VOLUME		0.7 Cu. Ft.

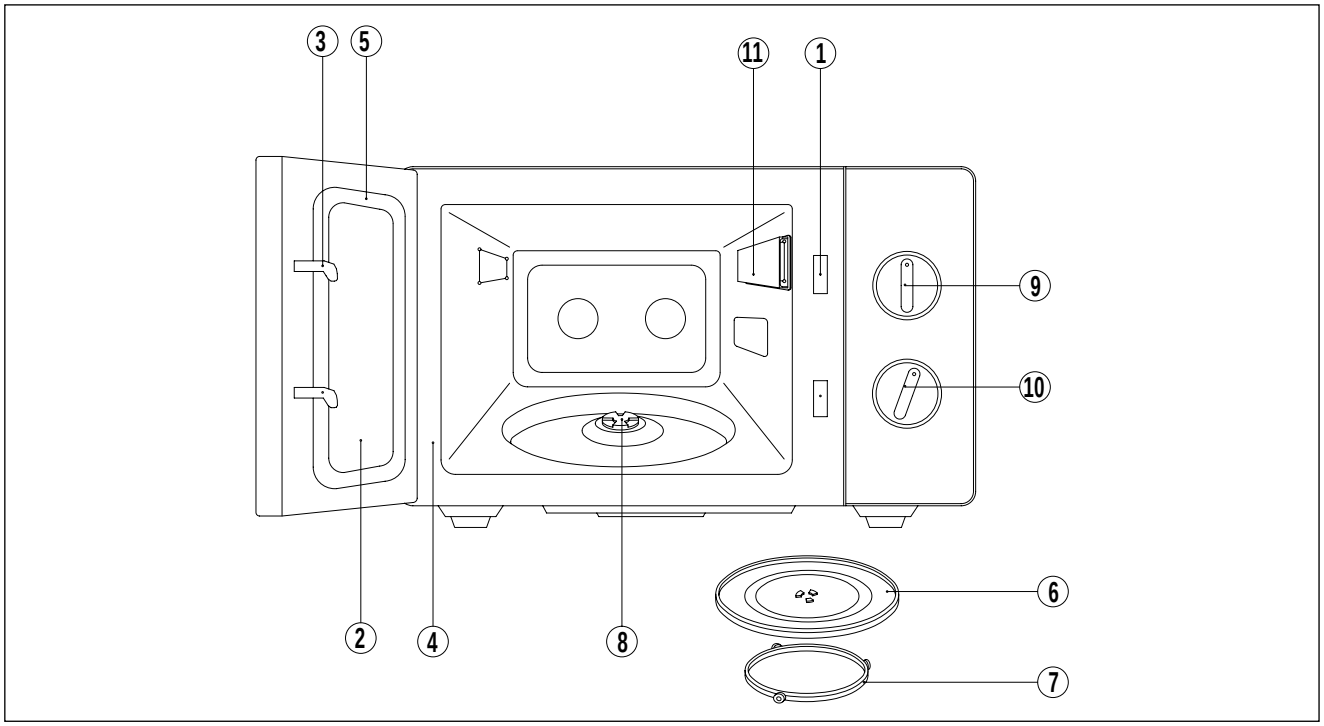
** SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.*

EXTERNAL VIEW

1. OUTER DIMENSION



2. FEATURE DIAGRAM



1. **Safety interlock system**
2. **Door viewing screen -** Allows viewing of food. The screen is designed so that light can pass through, but not the microwave.
3. **Door hook -** When the door is closed, it will automatically shut off. If the door is opened while the oven is operating, the automatically shut off.
4. **Oven cavity**
5. **Door seal -** Door seal maintains the microwave energy within the oven cavity and prevents microwave leakage.
6. **Glass cooking tray -** Made of special heat resistant glass. Food in a proper receptacle is placed on this tray for cooking.
7. **Roller guide -** This must always be used for cooking together with the glass cooking tray.
8. **Coupler -** This fits over the shaft in the center of the ovens cavity floor. This is to remain in the oven for all cooking.
9. **Knob V.P.C -** Used to select a microwave power level.
10. **Knob timer -** Used in setting cooking time for all function.
11. **Inlet cover -** Protect the airhole from splashes of cooking foods.

INSTALLATION

1. Steady, flat location.

This microwave oven should be set on a steady, flat surface.

2. Leave space behind and side.

All air vents should be kept a clearance. If all vents are covered during operation, the oven may be overheated and, eventually, cause oven failure.

3. Away from radio, and TV sets

Poor television reception and radio interference may result if the oven is located close to a TV, radio, antenna, or feeder and so on. Position the oven as far from them as possible.

4. Away from heating appliances and water taps

Keep the oven away from hot air, steam or splash when choosing a place to position it, or the insulation might be adversely affected and breakdowns occur.

5. Power supply

- Check your local power source.
  This microwave oven requires a current of approximately 15 amperes, 120Volts, 60Hz grounded outlet.

1. A short power-supply cord is provided to reduce the risks resulting from becoming entangled in or trippping over a longer cord.

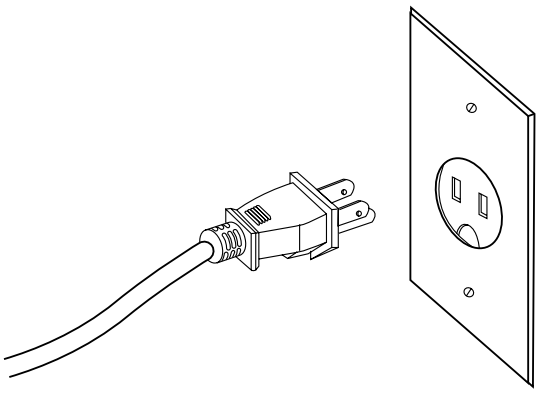
2. Longer cord sets or extension cords are available and may be used if care is exercised in their use.

3. If a long cord or extension cord is used:

   1) The marked electrical rating of the cord set or extension cord should be at least as great as the electrical rating of the appliance.

   2) The extension cord must be a grounding type 3-wire cord.

   3) The longer cord should be arranged so that it will not drape over the counter top or tabletop where it can be pulled on by children or tripped over unintentionally.



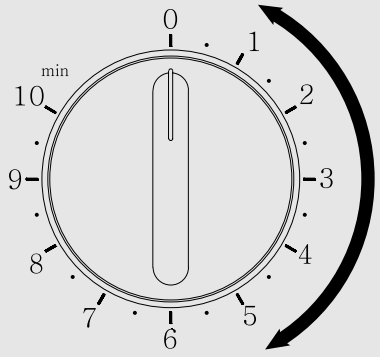
6. Examine the oven after unpacking for any damage such as:

A misaligned door, broken door or a dent in cavity.
If any of the above are visible, DO NOT INSTALL, and notify dealer immediately.

OPERATIONS AND FUNCTIONS

1. Connect the main lead to an electrical outlet.
2. After placing the food in a suitable container, open the oven door and put it on the glass tray. The glass tray must always be in place during cooking.
3. Close the door securely.
4. Choose cooking power level by setting V.P.C knob to the desired position. Refer to cookbook for recommended power levels.
5. Determine cooking time. Consult cookbook for recipe timing. Oven light turns on and cooling fan starts to operate. Microwave cooking starts.
6. You may open the door while the oven is operating. As soon as the door is opened, the safety mechanisms stop the generation of microwave power and the operation of cooking timer.

   If you wish to change the time during cooking, simply adjust the timer to the desired time.
7. When the timer reaches zero, a bell will ring and the unit will turn off. Oven light turns off. If additional cooking time is needed and the door is closed, the oven will automatically start when the timer is reset.



• Various clicking noises may be heard when turning V.P.C knob. This is normal and does not affect the operation of your microwave oven.

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

Variable power cooking

ON and OFF cycle time of mechanical V.P.C switch is 30 seconds.
When the V.P.C knob is set to the desired position and timer knob to the desired position, the V.P.C switch has a cycle (ON/OFF time(sec.)) listed below.

Variable power setting Power level	Approximate Percentage of Power
HIGH	100%
MED HIGH	77%
MEDIUM	55%
LOW STAGE	33%
DEFROST	17%

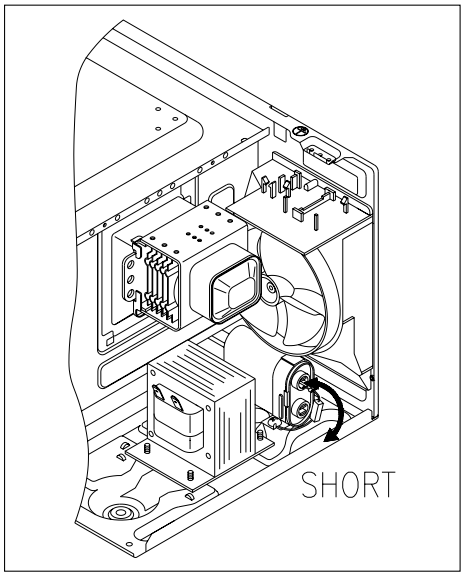
DISASSEMBLY AND ASSEMBLY

Cautions to be observed when trouble shooting.

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment.
It is completely safety during normal operation.
However, carelessness in servicing the oven can result in an electric shock or possible danger from a short circuit.
You are asked to observe the following precautions carefully.

1. Always remove the power plug from the outlet before servicing.
2. Use an insulated screwdriver and ware rubber gloves when servicing the high voltage side.
3. Discharge the high voltage capacitor before touching any oven components or wiring.

   (1) Check the grounding.
   Do not operate on a 2-wire extension cord.
   The microwave oven is designed to be used with grounded.
   It is imperative, therefore, to make sure it is grounded properly before beginning repair work.
   (2) Warning about the electric charge in the high voltage capacitor.
   For about 30 seconds after the operation stopped and electric charge remains in the high voltage capacitor.
   When replacing or checking parts, short between oven chassis and the negative high terminal of the high voltage capacitor, by using a properly insulated screwdriver to discharge.



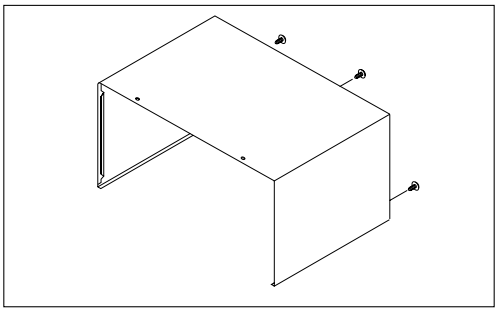
4. When the 15A fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.
6. Do not operate without cabinet.

CAUTION : Service personnel should remove their watches whenever working close to or replacing the magnetron.

WARNING : When servicing the appliance, need a care of touching or replacing high potential parts because of electrical shock or exposing microwave. These parts are as follows - HV Transformer, Magnetron, HV Capacitor, HV Diode.

1. To remove cabinet

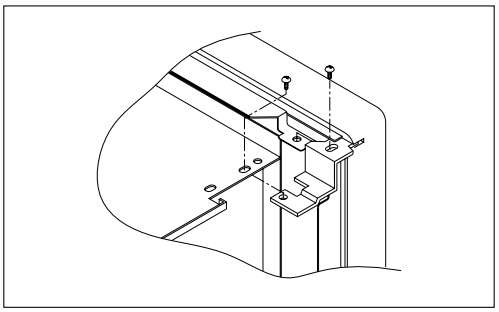
1) Remove three screws on cabinet back.
2) Push the cabinet backward.



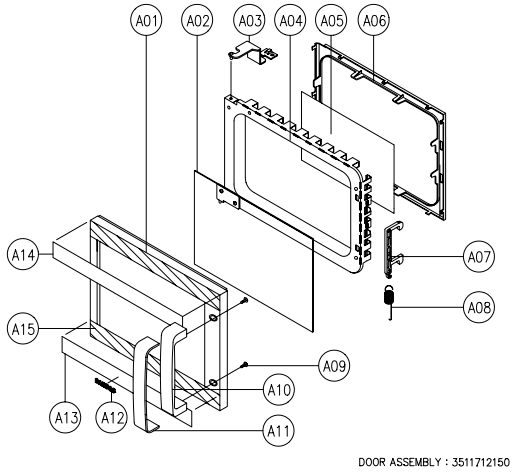
2. To remove door assembly

1) Remove two screws which secure the stopper hinge top.
2) Remove the door assembly from top plate of cavity.
3) Reverse the above for reassembly.

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



3. To remove door parts.



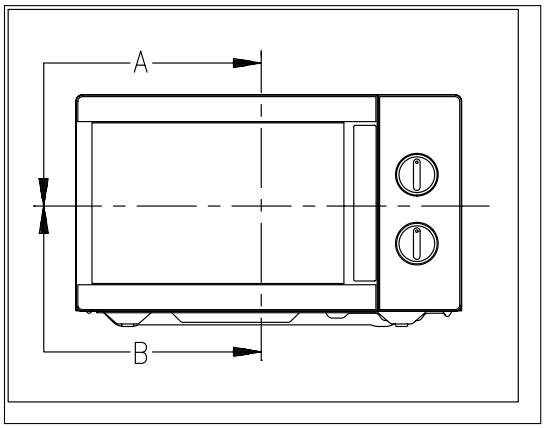
REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A01	3512203850	FRAME DOOR	ABS XR-401, H-2938	1	
A02	3517005670	BARRIER-SCREEN*O	TEMP GLASS T3.2	1	
A03	3515204100	STOPPER HINGE*T AS	KOR-63150S	1	
A04	3511706120	DOOR PAINTING AS	KOR-634R0S	1	
A05	3517002800	BARRIER-SCREEN*I	PE 0.1T	1	
A06	3512300200	GASKET DOOR	PP	1	
A07	3513100750	HOOK	POM	1	
A08	3515102000	SPRING HOOK	HSW-3	1	
A09	7122401611	SCREW TAPPING	T2SN TRS 4X16 MFZN	2	
A10	3512603300	HANDLE DOOR *U	ABS XR-401, H-2938	1	
A11	3512603400	HANDLE DOOR *T	STS T0.6	1	
A12	3511601500	DECORATOR LOGO	AL T1.5	1	
A13	3511604610	DECORATOR DOOR*U	STS T0.6	1	
A14	3511604600	DECORATOR DOOR*T	STS T0.6	1	
A15	3516003940	SPECIAL DOUBLE TAPE	SI-161 T0.15 27MM	1	

(1) Remove the gasket door from door weld as.
(2) Remove the barrier screen inner from weld as.
(3) Remove the door frame from door weld as.
(4) Remove the stopper hinge top from door weld as.
(5) Remove the spring and the hook.
(6) Remove the barrier screen outer from door frame.
(7) Reverse the above steps for reassembly.

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

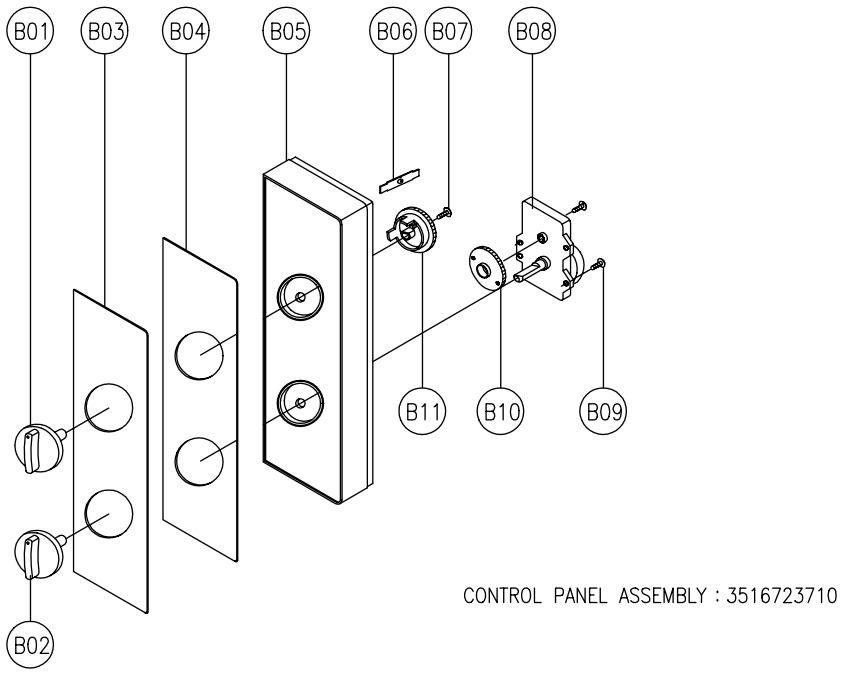
(1) To reduce gap located on part 'A'
- Loosen two screws on stopper hinge top, and then push the door to contact the door seal to oven front surface.
- Tighten two screws.

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



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

5. To remove control panel parts.

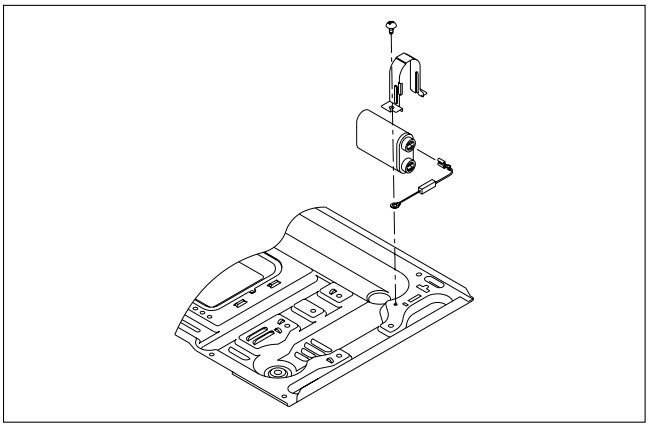


REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3513405450	KNOB VPC	ABS SG-0760D, SG-176	1	
B02	3513405460	KNOB TIMER	ABS SG-0760D, SG-175	1	
B03	3511603930	DECORATOR C-PANEL	STS T0.6	1	
B04	3516003950	SPECIAL DOUBLE TAPE	SI-161 T0.15	1	
B05	3516726320	CONTROL PANEL	ABS VT-0826, AF-348	1	
B06	3515101600	SPRING FLAT	SUS 301 T0.5	1	
B07	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1	
B08	3518206300	TIMER	NT10MKD01U-P	1	
B09	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	2	
B10	3517400400	COUPLER TIMER	POM	1	
B11	3517400500	COUPLER VPC KNOB	POM	1	

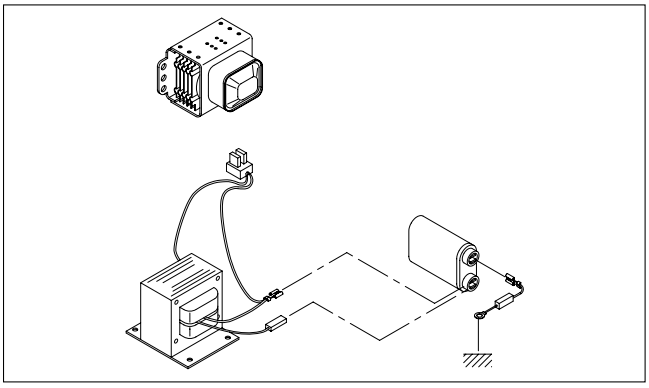
1) Remove the screw which secure the control panel, push up two snap fits and draw forward the control panel assembly.
2) Remove two screws which secure the timer assembly.
3) Remove the timer assembly.
4) Pull out the timer knob from the timer.
5) Pull out the timer coupler from the timer.
6) Remove the screw which secure the V.P.C coupler.
7) Pull out the V.P.C coupler, V.P.C knob and flat spring from the control panel.
8) Reverse the above steps for reassembly.

6. To remove high voltage capacitor.

1) Remove a screw which secure the grounding ring terminal of the H.V. diode and the capacitor holder.
2) Remove the H.V. diode from the capacitor holder.
3) Reverse the above steps for reassembly.

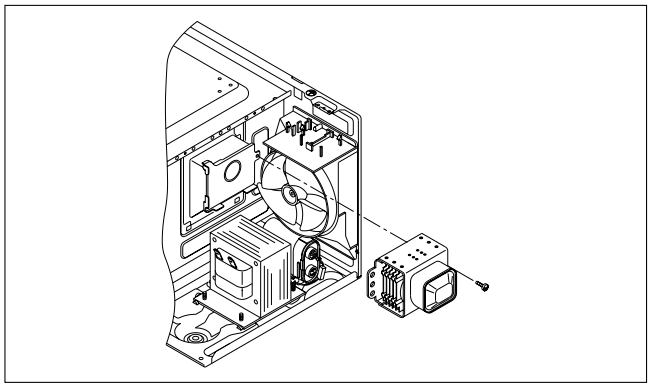


◆ High voltage circuit wiring

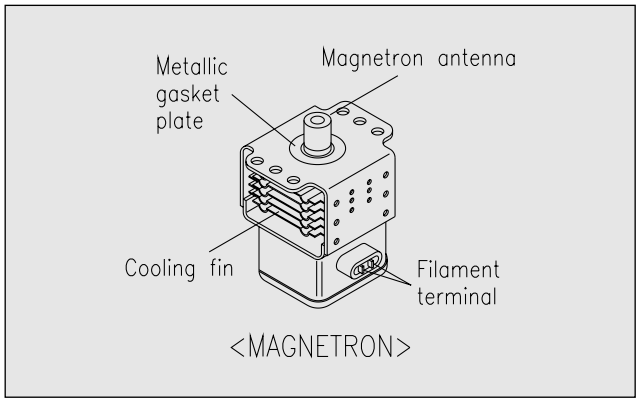


7. To remove magnetron.

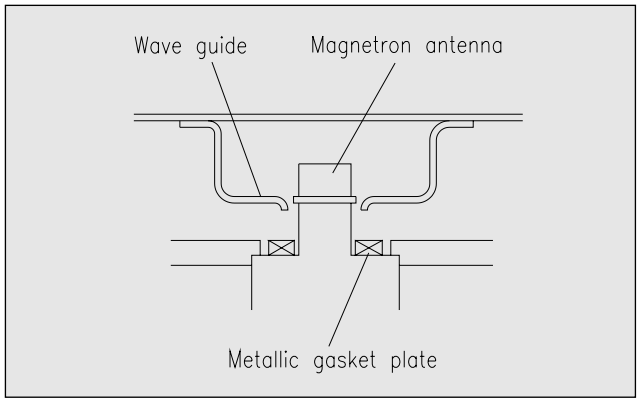
1) Remove a screw which secure the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



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

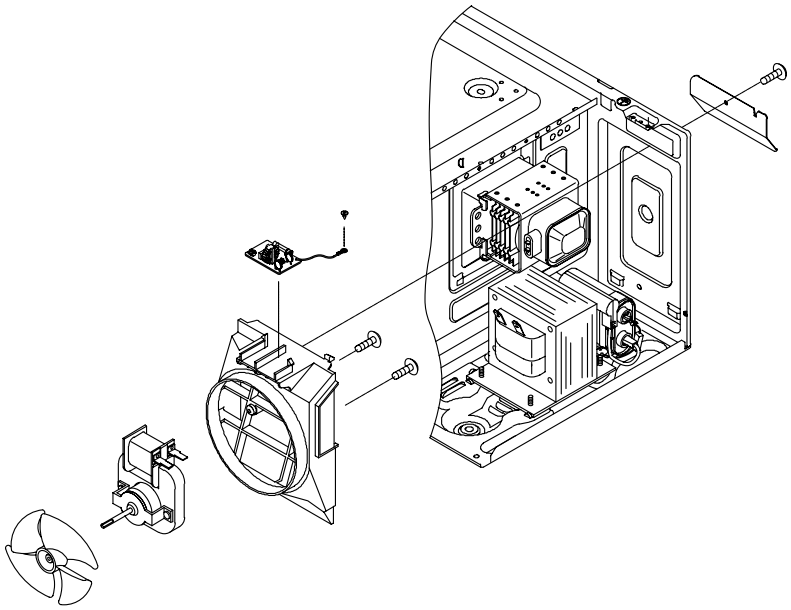


<MAGNETRON>



8. To remove wind guide assembly.

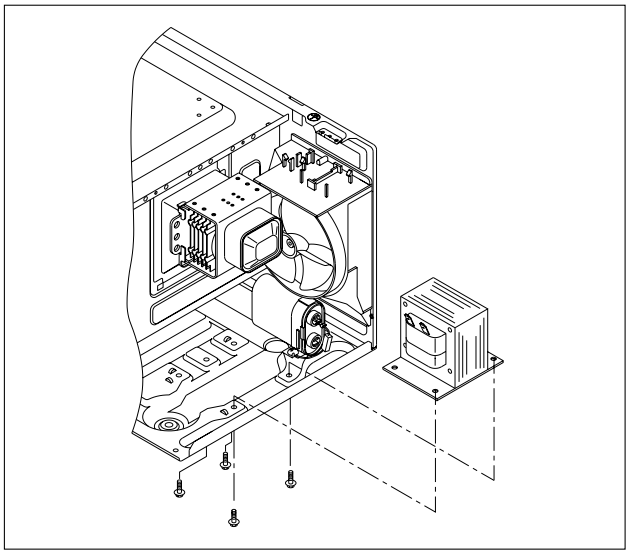
1) Remove two screws which secure the wind guide assembly and cover hole *0 and noise filter.
2) Draw forward the wind guide assembly.
3) Pull the noise filter from the wind guide assembly.
4) Pull the fan from the motor shaft.
5) Remove two screws which secure the motor shaded pole.
6) Remove the motor shaded pole.
7) Reverse the above steps for reassembly.



Noise Filter:Only KOR-63555B

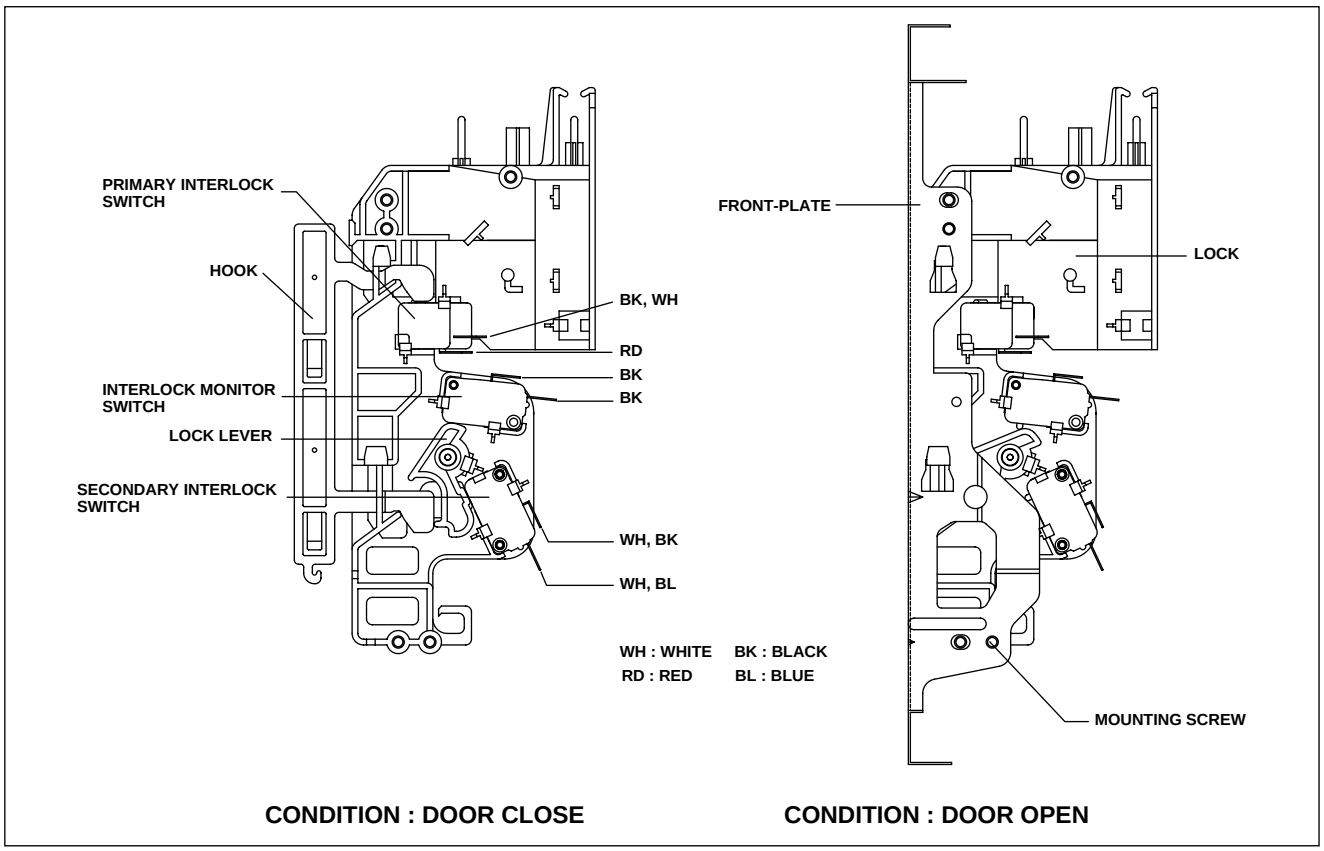
9. To remove H.V.transformer.

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



INTERLOCK MECHANISM AND ADJUSTMENT

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



(1) Primary interlock switch

When the door is closed, the hook locks the oven door. If the door is not closed properly, the oven will not operate.
When the door is closed, the hook pushes the button of the microswitch. Then the button of the primary interlock switch bring it under ON condition.

(2) Secondary interlock switch and interlock monitor switch

When the door is closed, the hook pushes the lock lever downward. The lock lever presses the button of the interlock monitor switch to bring it under NO condition and presses the button of the secondary interlock switch to bring it under ON condition.

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

(3) Adjustment steps

a) Loosen the one mounting screw.
b) Adjust interlock switch assembly position.
c) Make sure that lock lever moves smoothly after adjustment is completed.
d) Tighten completely two mounting screws.

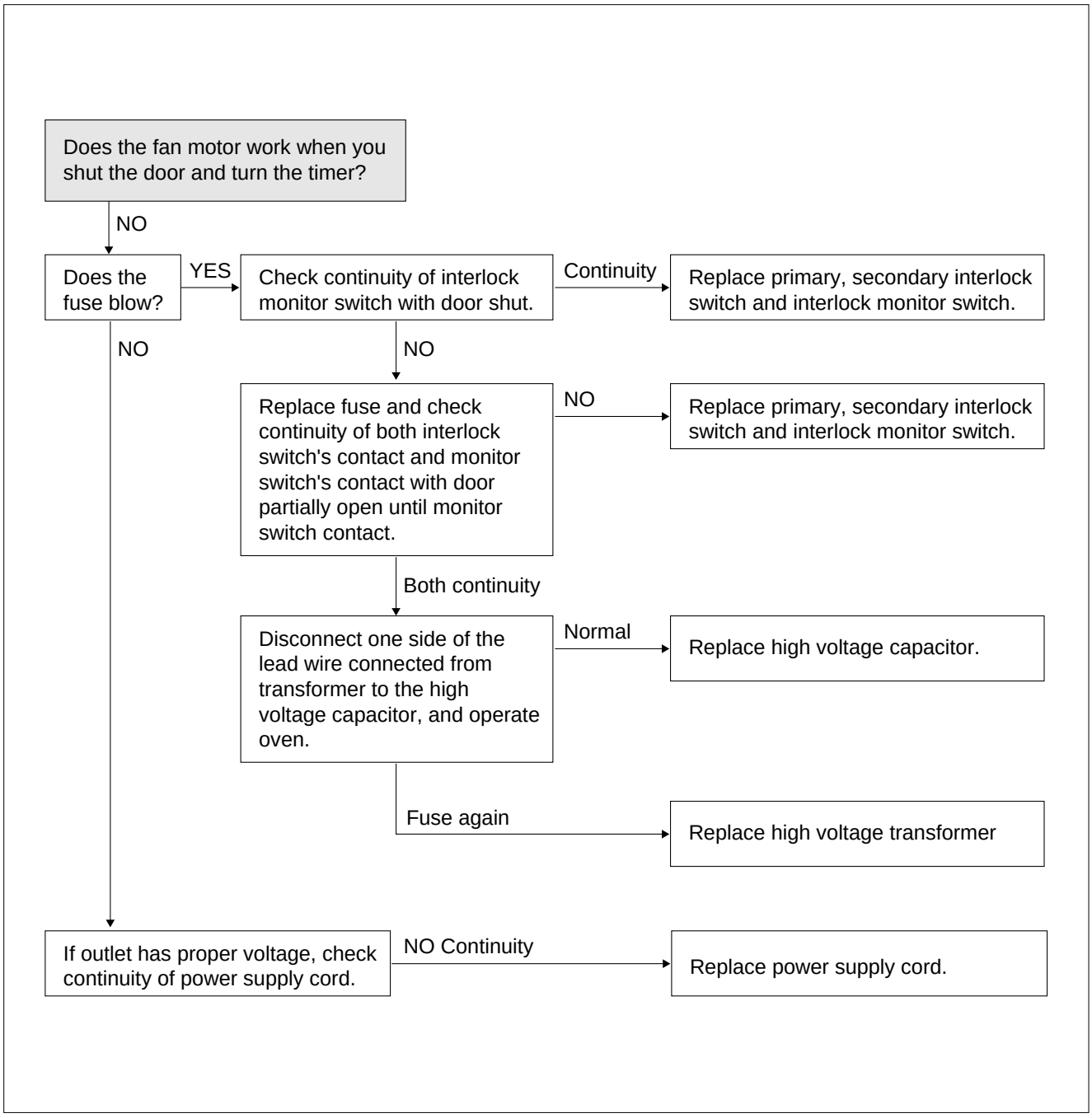
NOTE :
Microwave emission test should be performed after adjusting interlock mechanism.
If the microwave emission exceed 4mW/cm^2, readjust interlock mechanism.

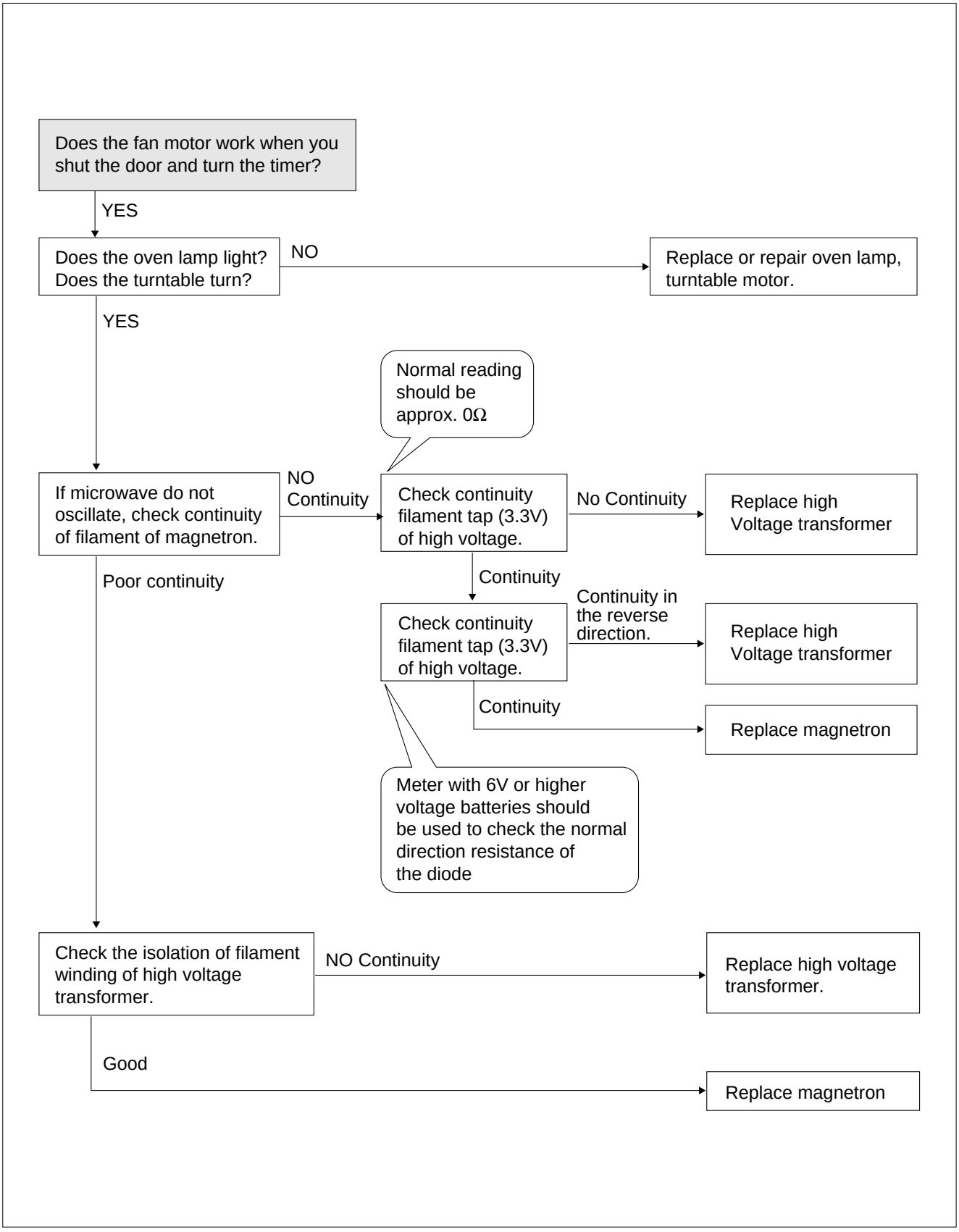
TROUBLE SHOOTING GUIDE

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

1. Check grounding before trouble checking.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor.
4. When checking the continuity of the switches, fuse or high voltage 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.

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



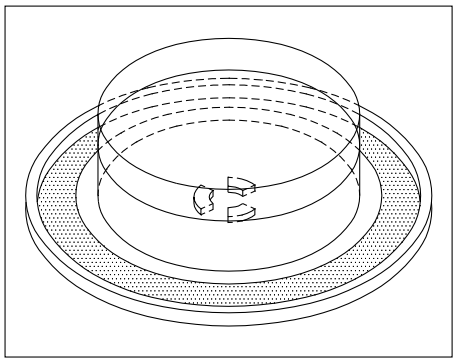

Does the fan motor work when you shut the door and turn the timer?
YES
Does the oven lamp light? Does the turntable turn?
NO
Replace or repair oven lamp, turntable motor.
YES
Normal reading should be approx. 0Ω
If microwave do not oscillate, check continuity of filament of magnetron.
NO Continuity
Check continuity filament tap (3.3V) of high voltage.
No Continuity
Replace high Voltage transformer
Poor continuity
Continuity
Check continuity filament tap (3.3V) of high voltage.
Continuity in the reverse direction.
Replace high Voltage transformer
Continuity
Replace magnetron
Meter with 6V or higher voltage batteries should be used to check the normal direction resistance of the diode
Check the isolation of filament winding of high voltage transformer.
NO Continuity
Replace high voltage transformer.
Good
Replace magnetron

MEASUREMENT AND TEST

1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

Microwave output power can be checked by indirectly measuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

PROCEDURE



1. Microwave power output measurement is made with the microwave oven supplied at rated voltage and operated at its maximum microwave power setting with a load of 1000±5cc of potable water.
2. The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3. The oven and the empty vessel are at ambient temperature prior to the start of the test.
   The initial temperature of the water is 10±2˚C (50±3.6˚F)
   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.
4. Microwave power is switched on.
5. Heating time should be exactly **A** seconds. (Refer to table as following)
   Heating time is measured while the microwave generator is operating at full power.
   The filament heat-up time for magnetron is not included.
6. The initial and final temperature of water is selected so that the maximum difference between the ambient and final water temperature is 5K.
7. The microwave power output P in watts is calculated from the following formula :

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

   • △T is difference between initial and final temperature.
   • t is the heating time.
   The power measured should be **B** (Refer to SPECIFICATIONS)W±10.0%.

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

Heating time for power output:

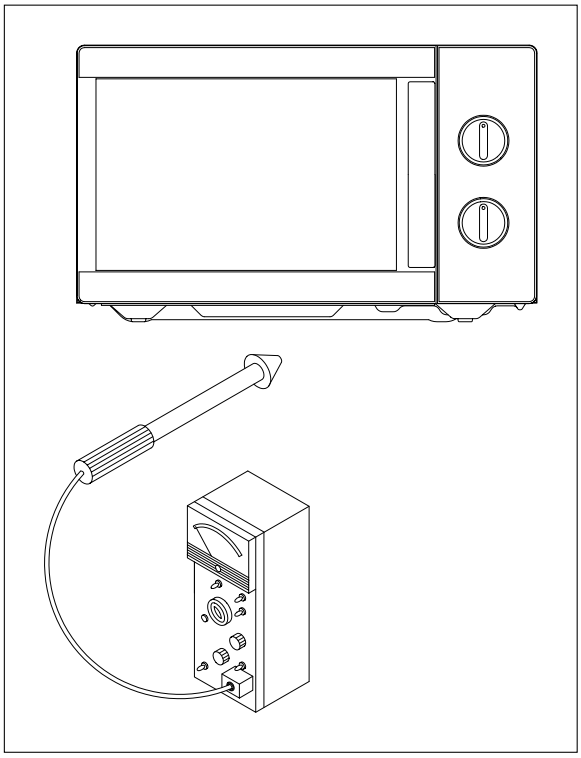
A(second)	70	64	60	56	52	49	47	44	42	40	38
B(W)	600	650	700	750	800	850	900	950	1000	1050	1100

2. MICROWAVE RADIATION TEST

CAUTION :
1. Make sure to check the microwave leakage before and after repair of adjustment.
2. Always start measuring of an unknown field to assure safety for operating personnel from microwave energy.
3. Do not place your hands into any suspected microwave radiation field unless the safe density level is known.
4. Care should be taken not to place the eyes in direct line with the source of microwave energy.
5. Slowly approach the unit under test until the radiometer reads an appreciable microwave leakage from the unit under the test.

PROCEDURES

1. Prepare Microwave Energy Survey Meter, 600cc glass beaker, and glass thermometer 100˚C(212˚F).
2. Pour 275cc±15cc of tap water initially at 20±5˚C(68±9˚F) in the 600cc glass beaker with an inside diameter of approx. 95mm(3.5in.).
3. Place it at the center of the tray and set it in a cavity.
4. Close the door and operate the oven.
5. Measure the leakage by using Microwave Energy Survey Meter with dual ranges, set to 2450MHz.
   1) Measured radiation leakage must not exceed the value prescribed below. Leakage for a fully assembled oven with door normally closed must be less than 4mW/cm^2.
   2) When measuring the leakage, always use the 5cm(2in.) space cone with probe. Hold the probe perpendicular to the cabinet and door. Place the space cone of the probe on the door, cabinet, door seem, door viewing screen, the exhaust air vents and the suction air vents.
   3) Measuring should be in a counter-clockwise direction at a rate of 1 in./sec. If the leakage of the cabinet door seem is unknown, move the probe more slowly.
   4) When measuring near a corner of the door, keep the probe perpendicular to the areas making sure the probe end at the base of the cone does not get closer than 2 in. from any metal. If it does not, erroneous reading may result.



3. COMPONENT TEST PROCEDURE

- High voltage is present at the high voltage terminal of the high voltage transformer during any cooking cycle.
- It is neither necessary nor advisable to attempt measurement of the high voltage.
- Before touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor.

1. High voltage transformer

(1) Remove connections from the transformer terminals and check continuity.
(2) Normal readings should be as follows:
Secondary winding .....Approx. 110Ω±10%
Filament winding.....Approx. 0Ω
Primary winding .....Approx. 1Ω

2. High voltage capacitor

(1) Check continuity of capacitor with meter on the highest OHM scale.
(2) A normal capacitor will show continuity for a short time, and then indicate 10MΩ once the capacitor is charged.
(3) A shorted capacitor will show continuous continuity.
(4) An open capacitor will show constant 10MΩ.
(5) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

(1) Isolate the diode from the circuit by disconnecting the leads.
(2) With the ohmmeter set on the highest resistance scale measure the resistance across the diode terminals.
Reverse the meter leads and again observe the resistance reading.
Meter with 6V, 9V or higher voltage batteries should be used to check the front-back resistance of the diode, otherwise an infinite resistance may be read in both directions.
A normal diode's resistance will be infinite in one direction and several hundred KΩ in the other direction.

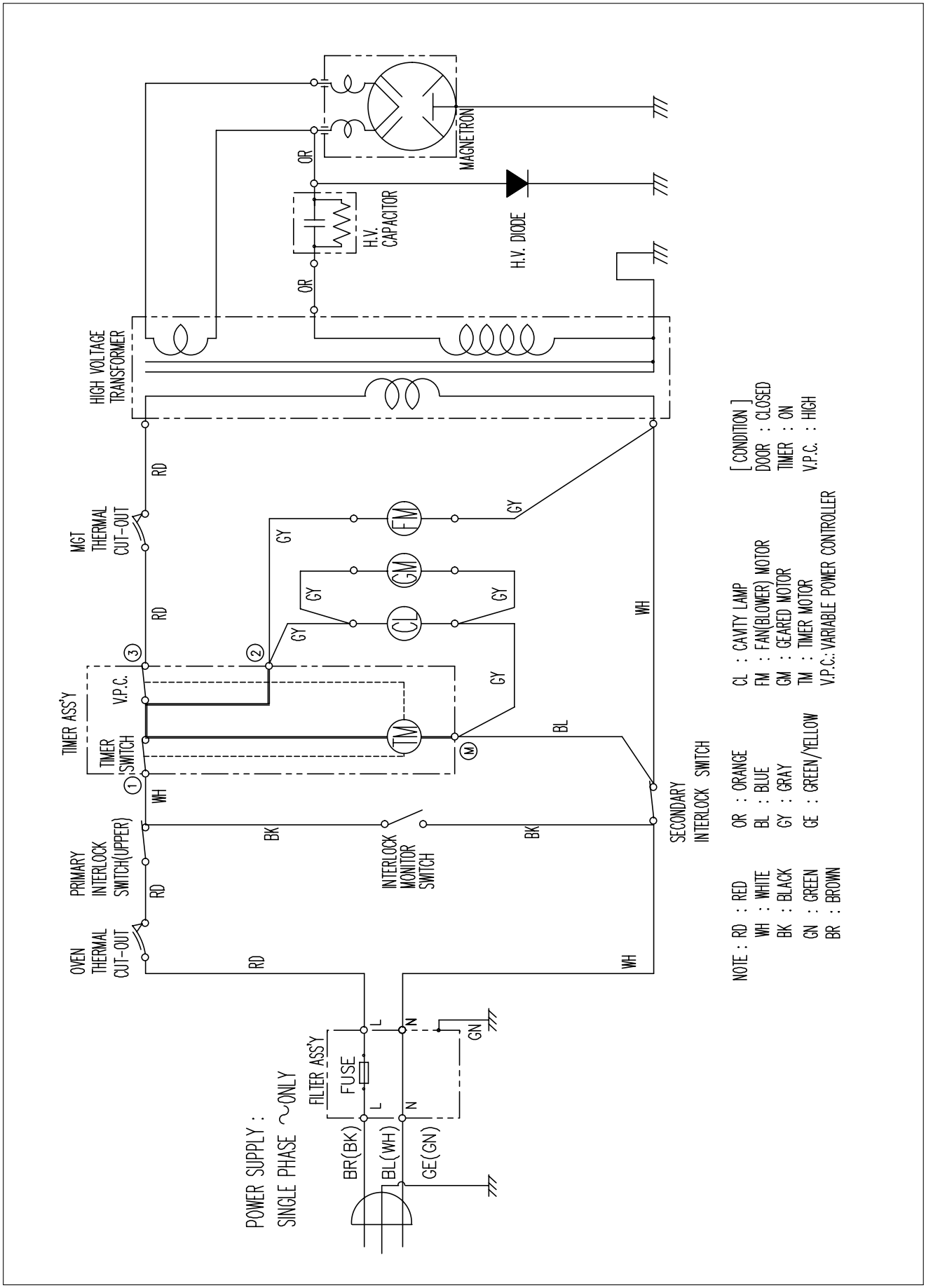
4. Magnetron

For complete magnetron diagnosis, refer to "Measurement of the Microwave Power Output".
Continuity checks can only indicate and open filament or a shorted magnetron.
To diagnose for an open filament or a shorted magnetron.
(1) Isolate magnetron from the circuit by disconnecting the leads.
(2) A continuity check across magnetron filament terminals should indicate 0.1Ω or less.
(3) A continuity check between each filament terminal and magnetron case should read open.

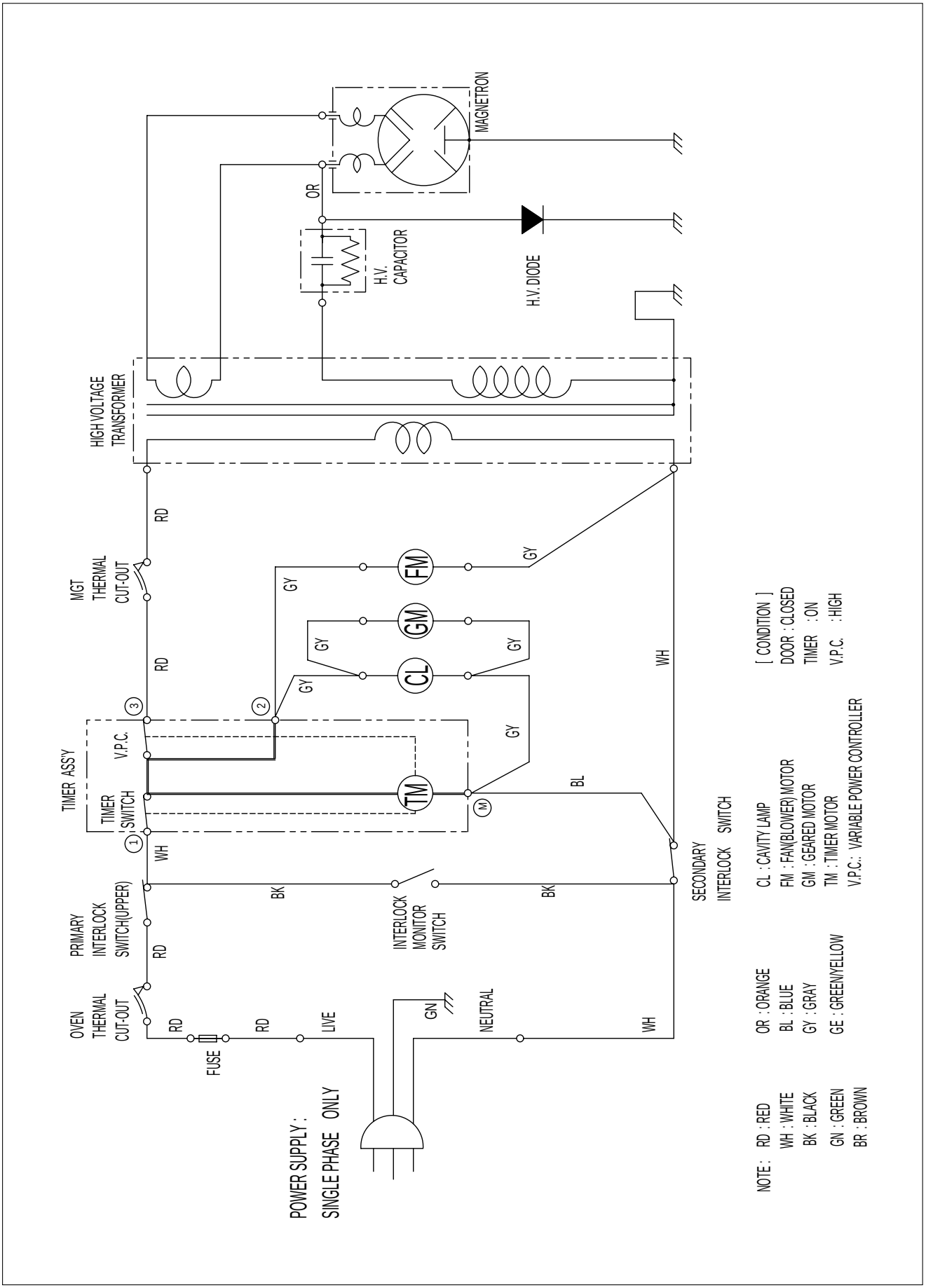
5. Fuse

If the fuse in the primary and monitor switch circuit is blown when the door is opened, check the primary and monitor switch before replacing the blown fuse.
In case the fuse is blown by an improper switch operation, replace the defective switch and fuse at the same time.
Replace just the fuse if the switches operate normally.

WIRING DIAGRAM (TMW-800TC)



WIRING DIAGRAM (TMW-800T)

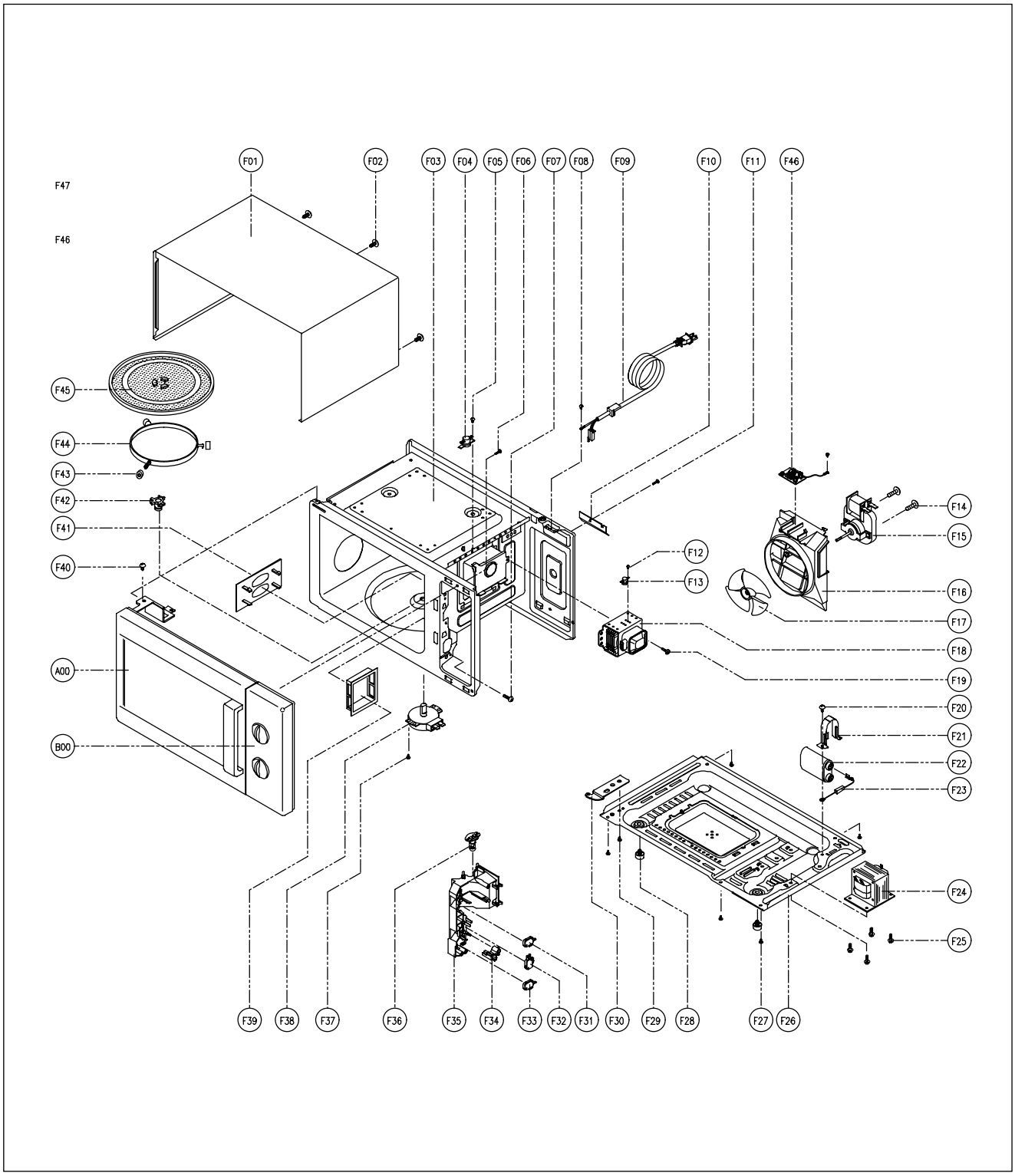


EXPLODED VIEW AND PARTS LIST

1. DOOR ASSEMBLY
Refer to Disassembly and assembly.

2. CONTROL PANEL ASSEMBLY
Refer to Disassembly and assembly.

3. TOTAL ASSEMBLY



NO	PART CODE	PART NAME	DESCRIPTION	Q'TY	NOTE
A00	3511715310	DOOR AS	KOR-63555A	1	
B00	3516726660	CONTROL PANEL AS	KOR-63555A	1	
F01	3510805000	CABINET	SECC T0.5	1	
F02	3516004100	SPECIAL SCREW	T1 TRS LR4 POLE 4X10 MFZN	3	
F03	3516109500	CAVITY AS	KOR-63150S	1	
F04	3518906300	THERMOSTAT	OFF:100 ON:60 H#187	1	
F05	7121300611	SCREW TAPPING	T2S PAN 3X6 MFZN	1	
F06	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1	
F07	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1	
F08	7112401011	SCREW TAPPING	T1 TRS 4X10 MFZN	1	
F09	35113XANT5	CORD POWER AS	3X1.25 AWG 60X60 120-RTML	1	KOR-63555A
	35113XEWT5		3X1.25 AWG 70X70 100-RTML		KOR-63555B
F10	3511409500	COVER HOLE *O	SBHG T0.7	1	
F11	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1	
F12	3518903400	THERMOSTAT	OFF:150 ON:60 V#187	1	
F13	7121300611	SCREW TAPPING	T2S PAN 3X6 MFZN	1	
F14	7121403011	SCREW TAPPING	T2S PAN 4X30 MFZN	2	
F15	3963821610	MOTOR SHADED POLE	120V 60HZ MW10XA-MO1	1	
F16	3512517000	GUIDE WIND	PP	1	
F17	3511800300	FAN	PP +30% GLASS	1	
F18	3518002400	MAGNETRON	2M218J (F)	1	
F19	3516004000	SPECIAL SCREW	T2 BOLT FLANGE 5X12 DACRO	1	
F20	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1	
F21	3513003200	HOLDER HV CAPACITOR	SECC T0.6	1	
F22	3518301600	CAPACITOR HV	2100VAC 0.79UF #187	1	
F23	3518400900	DIODE HV AS	HVR-1X-30B #187	1	
	3518401000	DIODE HV AS	ESJC13-12BX #187	1	
F24	3518117450	TRANS HV	DT-N80A1-63T	1	
F25	3516003700	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	4	
F26	3510311710	BASE	SBHT T0.7	1	
F27	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	5	
F28	3512000900	FOOT	PP DASF-130	2	
F29	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1	
F30	3515201101	STOPPER HINGE *U	SCP-1 T2.5	1	
F31	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	1	
F32	4415A66600	SW MICRO	VP-532A-OF/SPNO #187 200G	1	
F33	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	1	
F34	3513702620	LEVER LOCK	POM	1	
F35	3513811750	LOCK	CHEIL FH-44N	1	
F36	3513601500	LAMP	BL 120V 25W T25 C5A H187	1	
F37	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1	
F38	3966820200	MOTOR SYNCRO	120V 2W GM-16-12F17	1	
F39	3511409600	COVER HOLE *I	PP	1	
F40	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1	
F41	3511406220	COVER WAVE GUIDE	PP J640A WHITE	1	
F42	3517402000	COVER WAVE GUIDE	QUESTRA	1	
F43	3514700710	ROLLER	TEFLON	3	
F44	3512517300	GUIDE ROLLER	PP	1	
F45	3517203600	TRAY	GLASS	1	
F46	3518606100	NOISE FILTER	DWLF-M13	1	ONLY KOR-63555B

ABOUT THIS MANUAL

VISION CREATIVE, INC.
중구 남대문로 5가 526
대우재단빌딩 16층

담 당	이준철님	TEL	
MODEL	TMW - 1100E(EC,M,MC),800T(TC)		
접 수	2003.06.27		
일 정	1차	6차	
	2차	7차	
	3차	8차	
	4차	9차	
	5차	10차	
제 판		인쇄	
규 격			
MEMO	2003.07.10 - 표지수정 2003.07.14 - 40,42p 수정 2003.07.23 - 39,40,41,42p 수정 2004.03.03 - 39,40,41,42p 수정		

연락처
VISION 담당 박 선 민
TEL: 757 - 9340 FAX: 774 - 1039

- 매뉴얼의 첫장에 이 서식을 작성해주세요 -