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# Sharp SMC2265GS Owner's Manual

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GUIDE ROLLER

# SHARP

# SERVICE MANUAL

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## MICROWAVE OVEN



### MODEL SMC2265GS

**(1200W 120V60Hz)**

In interests of user-safety the oven should be restored to its original condition and only parts identical to those specified should be used.

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The contents are subject to change without notice.

## **SAFETY PRECAUTIONS**

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.

### **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 with the microwave generating compartments, check the magnetron, waveguide 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 should be performed on each oven prior to release to the owner.

### **CAUTION**

#### **MICROWAVE RADIATION**

**DO NOT BECOME EXPOSED TO RADIATION FROM THE MICROWAVE GENERATOR OR OTHER PARTS CONDUCTING MICROWAVE ENERGY.**

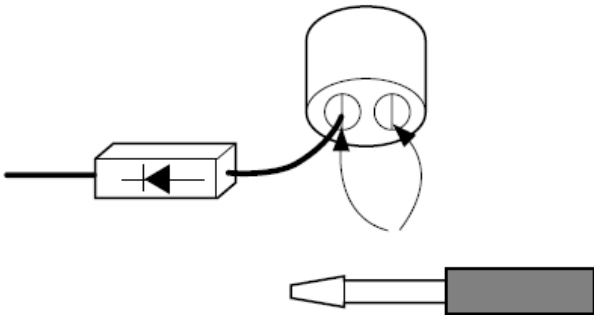
# TABLE OF CONTENTS

CAUTIONS .....	4
THE HEATING PRINCIPLE OF MICROWAVE.....	5
INSTALLATIONS .....	7
SCHEMATIC DIAGRAM .....	8
CIRCUIT DESCRIPTION .....	9
SERVICE INFORMATION .....	10
MEASUREMENT OF MICROWAVE POWER OUTPUT.....	12
TROUBLE SHOOTING PROCEDURES .....	15
COMPONENT TEST PROCEDURE .....	17
SAFETY CHECKS AND TESTS AFTER SERVICING .....	20
EXPLODED VIEWS-Appearance .....	21
EXPLODED VIEWS-Platform.....	22
REPLACEMENT PARTS LIST.....	23

## CAUTIONS

**THE OVEN IS TO BE SERVICED ONLY BY PROPERLY QUALIFIED SERVICE PERSONNEL.**

- DO NOT operate on a 2-wire extension cord during repair and use.
- NEVER TOUCH any oven components or wiring during operation.
- BEFORE TOUCHING any parts of the oven, always remove the power plug from the outlet.
- For about 30 seconds after the oven stops, an electric charge remains in the high voltage capacitor. When replacing or checking, you must discharge the high voltage capacitor by shorting across the two terminals with an insulated screwdriver.



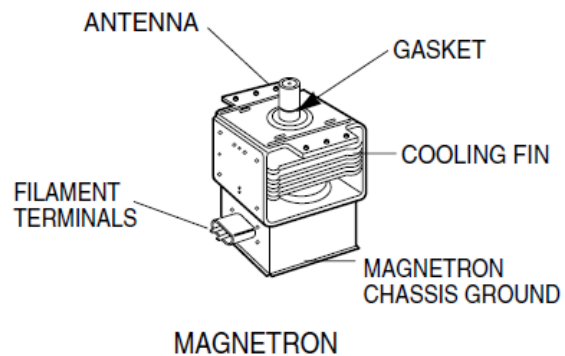
- Remove your watches whenever working close to or replacing the Magnetron.
- NEVER operate the oven with no load.
- NEVER damage the door seal and front plate of the oven cavity.
- NEVER put iron tools on the magnetron.
- NEVER put anything into the latch hole and the interlock switches area.

### 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 connection. All input and output microwave connections, waveguide, flange and gasket 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.

- Proper operation of the microwave oven requires that the magnetron be assembled to the waveguide and cavity. Never operate the magnetron unless it is properly installed.
- Be sure that the magnetron gasket is properly installed around the dome of the tube whenever installing the magnetron.



**THE OVEN IS TO BE SERVICED ONLY BY PROPERLY QUALIFIED SERVICE PERSONNEL.**

## THE HEATING PRINCIPLE OF MICROWAVE

Microwave is one kind of radio wave whose wave length is very short, frequency is very high. Therefore, it is call ultrahigh frequency electromagnetic wave. Microwave can heat food mainly result in the mutual effect of the food in the microwave field and microwave field itself.

Under the effect of microwave field, the thermal effect mechanism produced from the mutual effect of the microwave and the food includes two aspects: One is dielectric loss of polar molecule; the other is conductive loss of ion.

Usually, food is constituted of organism (plant and animal). The organism is formed by all kinds of polar water molecule, polar protein molecule, and all sorts of salt ion. The center of gravity of the positive and negative charge in the molecule is not coinciding. In normal condition, the molecule is in irregular order due to its thermal action, thus the food do not appear polarity (Fig.1-1a). Under the action of outer electric field, the positive end of the polar molecule trend to the negative electric field, the negative end of polar molecule trend to the positive electric field, and somewhat arrange in order through the direction of the electric field (Fig.1-1c). This phenomenon usually is called "TORQUE POLARITY". When the outer electric fields apply for the opposite polarity, the polar molecule then arrange an opposite direction order accordingly (Fig.1-1b). If the direction of the out electric field changed repeatedly, the polar molecule would repeatedly sway accordingly. During the swaying, it understands that the polar molecule would produce heat due to somewhat similar friction among them.

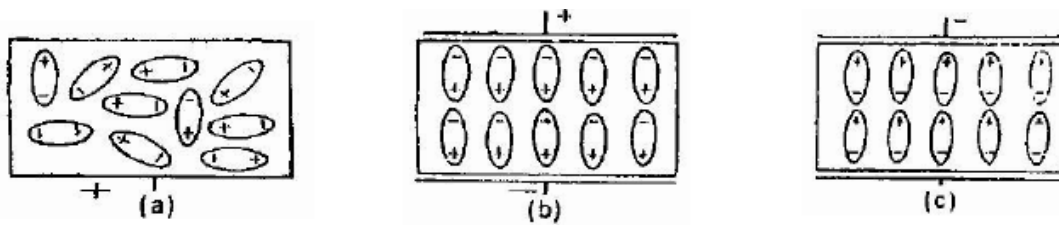


Fig1 - 1

When the electric field is applied for ultrahigh frequent microwave field from the outside, its direction would change tens billion times per second, so do the molecule. This kind of molecule swaying producing similar frictional heat from the interference and block of the action strength among the molecule, and changed to microwave heating. Microwave heating not only concerned the nature of the matter itself, but also closely connected with the electric field strength and frequency. When the frequency is low, the molecule swaying rate and the acute degree of the mutual friction among the molecule is with rotating inertia, it made the swing do not in line with the changing rhythm of the electric field because of the friction drag, thus, actually lower the polar molecule swaying speed. The friction dragging degree is concerning about the magneto electric wave frequency, polar molecule shape, and the matter's sticky degree. To different matter's molecule, there are different special frequency zone. Those ado absorb microwave energy from these zone are most capable to turn microwave energy to heat energy.

Apart from the above said action, there is another action which is electric ion under the action of microwave field, act fiercely accompanied with the acceleration of electric field. The positive ion transfer to the negative polarity of the while the negative ion does opposite. Accompanying with the changing electric field, the electric ion changing accordingly. During the transferring, heat produced with the crash among the ion. This kind of action take the main effect to those microwave heating of high salt molecule.

No matter it is the polar molecule swaying or the ion transferring, they both are turning the microwave energy which the heating matter got from the microwave field to hear energy. From the analysis of theory, we can draw such a conclusion that the power which a unit of volume matter absorbed from the microwave field as the following formula:

$$Pa=K \cdot E \cdot F \cdot Er \cdot tg \delta$$

$P_a$  Stands for the power the heated matter absorbed from the microwave field.

$K$  Stands for a constant.

$E$  Stands for microwave field strength.

$F$  Stands for the microwave frequency.

$\epsilon_r$  Stands for relative dielectric constant of the heated matter.

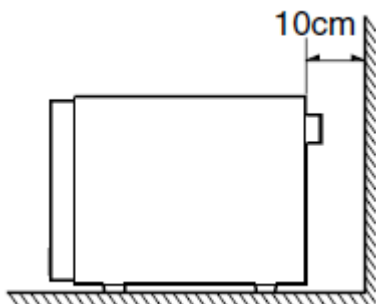
$\tan \delta$  Stands for loss angle tangent of the heated matter.

# INSTALLATIONS

**BEFORE YOU BEGIN, READ THE FOLLOWING INSTRUCTIONS COMPLETELY.**

## INSTALLING

1. Empty the microwave oven and clean inside it with a soft, damp cloth. Check for damage such as misaligned door, damage around the door or dents inside the cavity or on the exterior.
2. Put the oven on a counter, table, or shelf that is strong enough to hold the oven and the food and utensils you put in it. (The control panel side of the oven is the heavy side. Use care when handling.)
3. Do not block the vent and the air intake openings. Blocking vent or air intake openings can cause damage to the oven and poor cooking results. Make sure the microwave oven legs are in place to ensure proper air flow.
4. The oven should not be installed in any area where heat and steam are generated, because they may damage the electronic or mechanical parts of the unit. Do not install the oven next to a conventional surface unit or above a conventional wall oven.
5. Use microwave oven in an ambient temperature less than 104 °F(40 °C).
6. Place the microwave oven on a sturdy and flat surface at least 10 cm(4 inches) from the wall.
7. Place the microwave oven as far away as possible from TV, RADIO, COMPUTER, etc., to prevent interference.



## EARTHING INSTRUCTIONS

This microwave oven is designed to be used in a fully earthed condition.

It is imperative, therefore, to make sure it is properly earthed before servicing

**WARNING-**  
**THIS APPLIANCE MUST**  
**BE EARTHED**

### IMPORTANT

The wires in this mains lead are colored in accordance with the following code:

<b>Green-and-yellow:</b>	<b>Earth</b>
<b>Blue:</b>	<b>Neutral</b>
<b>Brown:</b>	<b>Live</b>

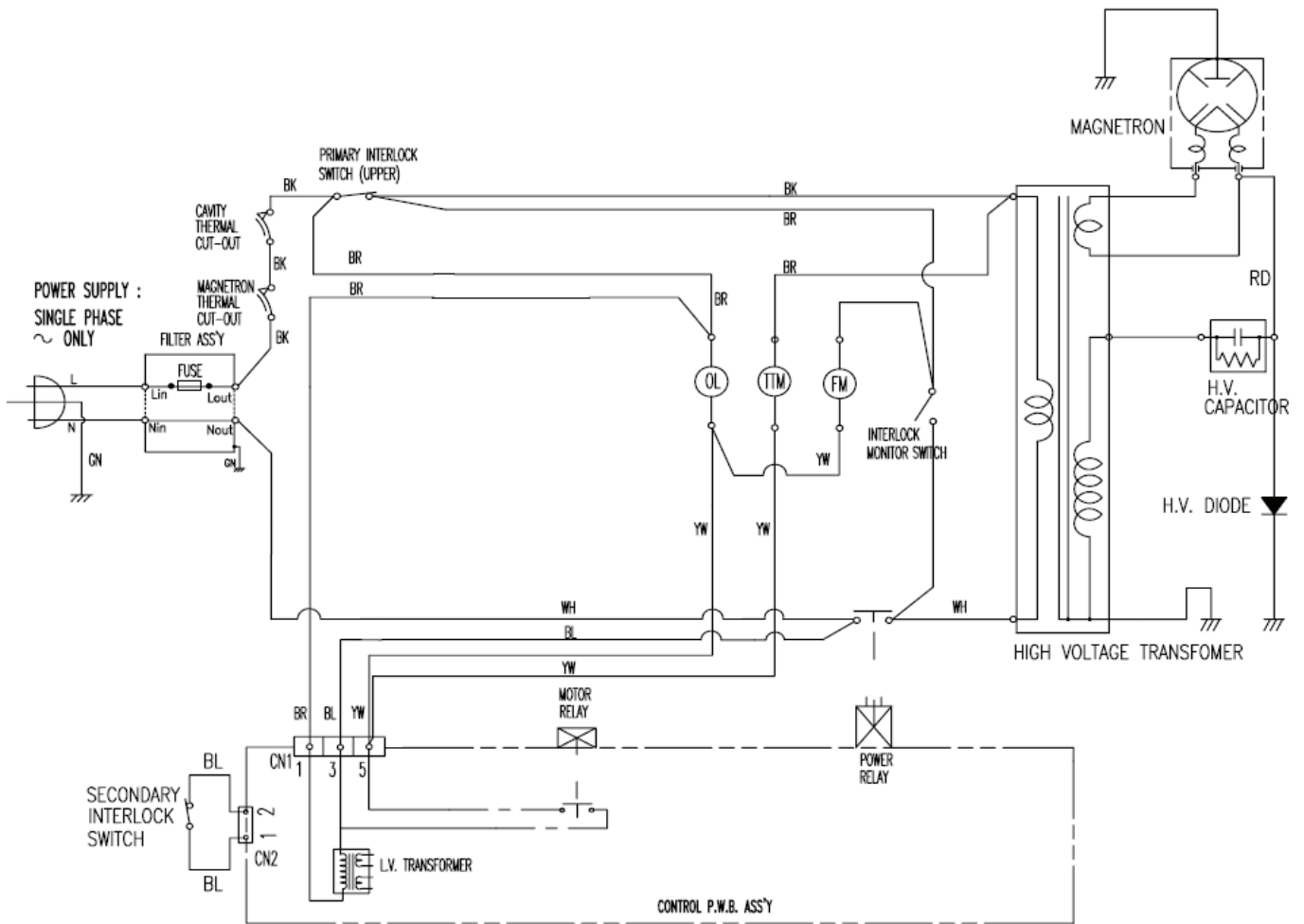
As the colors of the wires in the mains lead of this appliance may not correspond with the colored markings identifying the terminals in your plug, proceed as follows.

The wire which is colored green-and-yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol ( $\perp$ ) or colored green or green-and-yellow.

The wire which is colored blue must be connected to the terminal in the plug which is marked with the letter N or colored black.

The wire which is colored brown must be connected to the terminal in the plug which is marked with the letter L or colored red.

# SCHEMATIC DIAGRAM



[ CONDITION ]  
 DOOR : CLOSED  
 COOK : OFF

NOTE :  
 (OL) : OVEN LAMP  
 (FM) : FAN MOTOR  
 (TTM) : TURNTABLE MOTOR

BK : BLACK      BL : BLUE  
 RD : RED        BR : BROWN  
 WH : WHITE     GN : GREEN  
 YW : YELLOW

# CIRCUIT DESCRIPTION

## GENERAL DETAILS

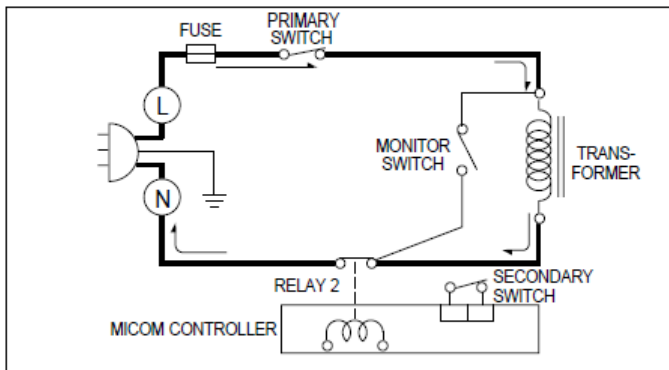
- The low voltage transformer supplies the necessary voltage to the micom controller when power cord is plugged in.
- When the door is closed, the primary switch is ON, the secondary switch is ON, and the monitor switch opens (contact COM and NO).

## WHEN SELECTING COOKING POWER LEVEL AND TIME

- The micom controller memorizes the function you set.
- The time you set appears in the display window.
- Each indicator light turns on to indicate that the stage has been set.

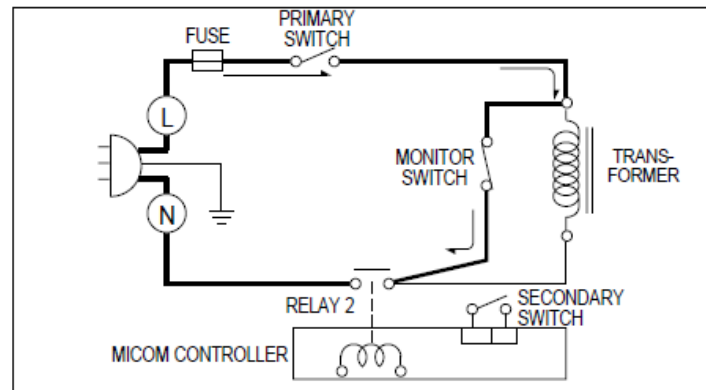
## WHEN TOUCHING THE START PAD

- The coil of the relay is energized by the micom controller.
- Power input is supplied to the high voltage transformer through the fuse to the primary switch and relay 2.
- Turntable rotates.



## WHEN THE DOOR IS OPENED DURING COOKING

- Both the primary switch and relay 2 are cut off primary winding voltage of the high voltage transformer.
- ON-OFF of relay 2 is coupled electrically with opening and closing of the secondary switch.
- When the door is opened, the secondary switch is opened and when the door is closed, the secondary switch is closed.
- The cooking time stops counting down.
- Relay stops functioning.
- As the door is opened, if the contact of primary switch and relay 2 and/or secondary switch fails to open, the fuse opens due to the large current surge caused by the monitor switch activation, which in turn stops magnetron oscillation.



- The fan motor rotates and cools the magnetron by blowing the air (coming from the intake on the baseplate)
- The air is also directed into the oven to exhaust the vapor in the oven through the upper plate.
- Cooking time starts counting down.
- 3.2 volts AC is generated from the filament winding of the high voltage transformer. This 3.2 volts is applied to the magnetron to heat the magnetron filament through two noise preventing choke coils.
- A high voltage of approximately 2100 volts AC is generated in the secondary of the high voltage transformer which is increased by the action of the high voltage diode and charging of the high voltage capacitor.
- The negative 4,000 Volts DC is applied to the filament of the magnetron.

## WHEN THE OVEN IS SET AT ANY LEVEL EXCEPT MAXIMUM.

- The micom controller controls the ON-OFF time of relay 2 by the applied signal to vary the average output power of microwave oven as POWER LEVEL.

# SERVICE INFORMATION

## TOOLS AND MEASURING INSTRUMENTS

### NECESSARY TOOLS

Tools normally used for TV servicing are sufficient. Standard tools are listed below.

- Diagonal pliers
- Long nose pliers
- Phillips screwdriver
- Flat blade screwdriver
- Wrench (size 5mm)
- Nutdriver (size 5mm)
- Adjustable wrench
- Soldering iron
- Solder
- Vinyl insulation tape
- Polishing cloth

### NECESSARY MEASURING INSTRUMENTS

## MICROWAVE LEAKAGE TEST

### CAUTIONS

- Be sure to check microwave leakage prior to servicing the oven if the oven is operative prior to servicing.
- The service personnel should inform the manufacture importer, or assembler of any certified oven unit found to have a microwave emission level in excess of  $5 \text{ mW/cm}^2$  and should repair any unit found to have excessive emission levels at no cost to the owner and should ascertain the cause of the excessive leakage. The service personnel should instruct the owner not to use the unit until the oven has been brought into compliance.
- If the oven operates with the door open, the service personnel should:
  - Tell the user not to operate the oven.
  - Contact the manufacturer.
- The service personnel should check all surface and vent openings for microwave leakage.
- Check for microwave leakage after every servicing. The power density of the microwave radiation leakage emitted by the microwave oven should not exceed  $4 \text{ Mw/cm}^2$ . Always start measuring of an unknown field to assure safety for operating personnel from radiation leakage.

### MEASURING MICROWAVE ENERGY LEAKAGE

- Pour  $275 \pm 15 \text{ cc}$  of  $20 \pm 5 \text{ }^\circ\text{C}$  ( $68 \pm 9 \text{ }^\circ\text{F}$ ) water in a beaker which is graduated to 600 cc, and place the beaker on the center of the turntable.
- Set the energy leakage monitor to 2450 MHz

- TESTER(VOLTS-DC, AC., Ohmmeter)
- Microwave survey meter
  - Holaday HI-1500  
HI-1501
  - Narda 8100  
8200
- Inch scale
- 600 cc non conductive material beaker (glass or plastic), inside diameter: approx. 8.5 cm ( $3\frac{1}{2}$  in.)
- Cylindrical and made of borosilicate glass vessel. max. thickness: 3 mm outside diameter: approx. 190mm height: approx. 90mm
- Glass thermometer:  $100 \text{ }^\circ\text{C}$  or  $212 \text{ }^\circ\text{F}$  (1 deg scale)

and use it following the manufacturer's recommended test procedure to assure correct result.

- When measuring the leakage, always use the 2- inch (5cm) spacer supplied with the probe.
- Operate the oven at its maximum output.
- Measure the microwave radiation using and electromagnetic radiation monitor by holding the probe perpendicular to the surface being measured

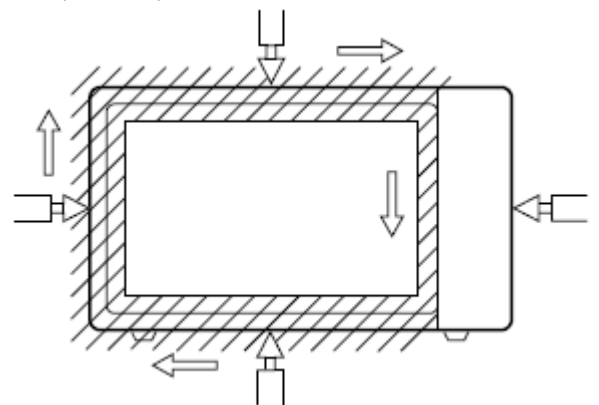
Move probe along shaded

area

////////////////////

Probe scanning speed

Less than 2.5  
cm/sec ( 1 in/sec)



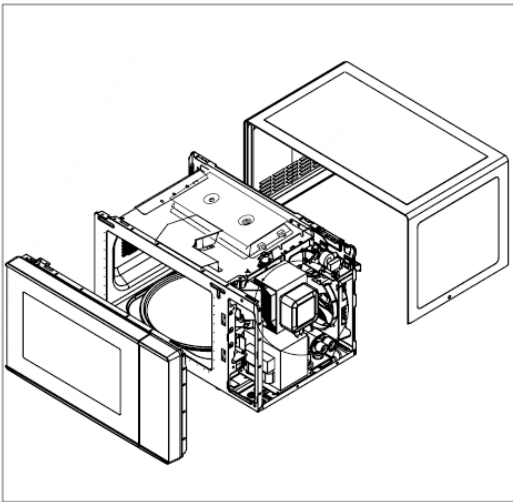
## MEASUREMENT WITH OUTER CASE REMOVED

- When you replace the magnetron, measure for microwave energy leakage before the outer case is installed and after all necessary components are replaced or adjusted.

Special care should be taken in measuring the following parts. (Circled area of below Fig.)

- Around the magnetron
- The waveguide

**WARNING : AVOID CONTACTING ANY HIGH VOLTAGE PARTS**



## MEASUREMENT WITH A FULLY ASSEMBLED OVEN

- After all components, including the outer case, are fully assembled, measure for microwave energy leakage around the door viewing window, the exhaust opening, and air inlet openings.
- Microwave energy leakage must not exceed the values prescribed below.

NOTE: Leakage with the outer case removed less than  $5\text{mW}/\text{cm}^2.\text{sq.}$  Leakage for a fully assembled oven (Before the latch switch (primary) is interrupted) with the door in a slightly opened position-less than  $2\text{mW}/\text{cm}^2.\text{sq.}$

## NOTES WHEN MEASURING

- Do not exceed meter full scale deflection.
- The test probe must be removed no faster than 1 inch/sec (2.5 cm/sec) along the shaded area, otherwise a false reading may result.
- The test probe must be held with the grip portion of the handle

A false reading may result if the operator's hand is between the handle and the probe.

- When testing near a corner of the door, keep the probe perpendicular to the surface making sure the probe horizontally along the oven surface, this may possibly cause probe damage.

## RECORD KEEPING AND NOTIFICATION AFTER MEASUREMENT

- After adjustment and repair of any microwave energy interruption or microwave energy blocking device, record the measured values for future reference. Also enter the information on the service invoice.
- The microwave energy leakage should not be more than  $4\text{mW}/\text{cm}^2.\text{sq.}$  after determining that all parts are in good condition, functioning properly and genuine replacement parts which are listed in this manual have been used.
- At least once a year, have the electromagnetic energy leakage monitor checked for calibration by its manufacturer.

## MEASUREMENT OF MICROWAVE POWER OUTPUT

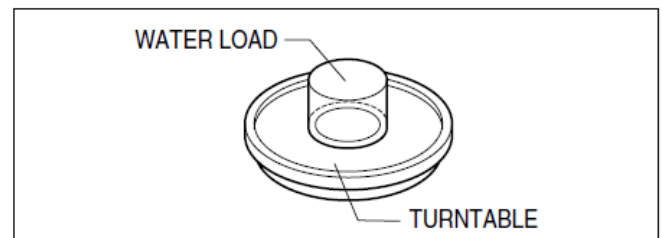
- Microwave power output measurement is made with the microwave oven supplied at its rated voltage and operated at its maximum microwave power setting with a load of (1000±5) ml of potable water.
- The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190mm.
- The oven and the empty vessel are at ambient temperature prior to the start of the test.
- The initial temperature (T<sub>1</sub>) of the water is (10±2) °C. 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 turntable which is in the lowest position and the microwave power switched on.
- The time T for the temperature of the water to rise by a value ΔT of (10±2) °C is measured, where T is the time in seconds and ΔT is the temperature rise. The initial and final water temperatures are selected so that the maximum difference between the final water temperature and the ambient temperature is 5 K.
- The microwave power output P in watts is calculated from the following formula:

$$P = \frac{4187 \times (\Delta T) + 0.55 \times (T_2 - T_0) \times M}{T}$$

- T<sub>2</sub>: Temperature after heating
- T<sub>0</sub>: Temperature of bowl
- M: Weight of bowl

is measured while the microwave generator is operating at full power. Magnetron filament heat-up time is not included.

- The water is stirred to equalize temperature throughout the vessel, prior to measuring the final water temperature.
- Stirring devices and measuring instruments are selected in order to minimize addition or removal of heat.



### NOTES:

For simple tests of microwave power output, it by heating 1L water for one minute, minimum temperature rise should be 6 °C.

### CAUTION: DISCHARGE THE HIGH VOLTAGE CAPACITOR BEFORE SERVICING

#### C. CONTROL PANEL ASSEMBLY

- 1) Disconnect the leadwire from the PCB SUB ASS'Y.
- 2) Remove the screws for the earth and securing the control panel.
- 3) Lift control panel ASS'Y from the oven by the tab unhooked.

- 3) Lift up and pull the door.

### NOTE:

1. After replacing the door, be sure to check that the primary switch, monitor switch, and secondary switch operate normally.
2. After replacing the door, check for microwave energy leakage with a survey meter. Microwave energy must be below limit of 5mW/cm<sup>2</sup>. (with a 275 ml water load)
3. When mounting the door assembly to the oven assembly, be sure to adjust the door assembly parallel to the chassis. Also adjust so the door has no play between the inner door surface and oven frame assembly. If the door assembly is not mounted properly, microwaves may leak from the clearance between the door and the oven.

## DISASSEMBLY AND ADJUSTMENT

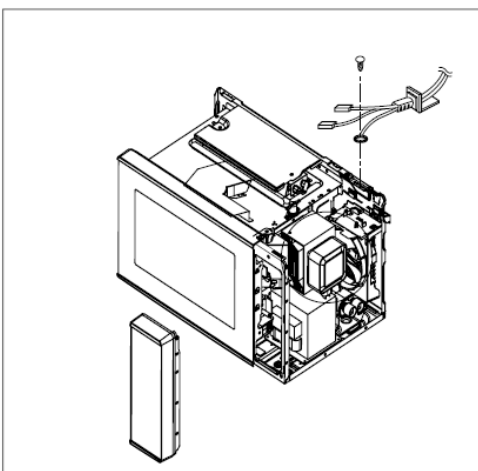
### A. OUTER CASE REMOVAL

- 1) Disconnect the power supply cord from the outlet.
- 2) Remove the screws from the rear and along side edges of the case.

The outer case must be moved backward to be lifted off.

### B. POWER SUPPLY CORD

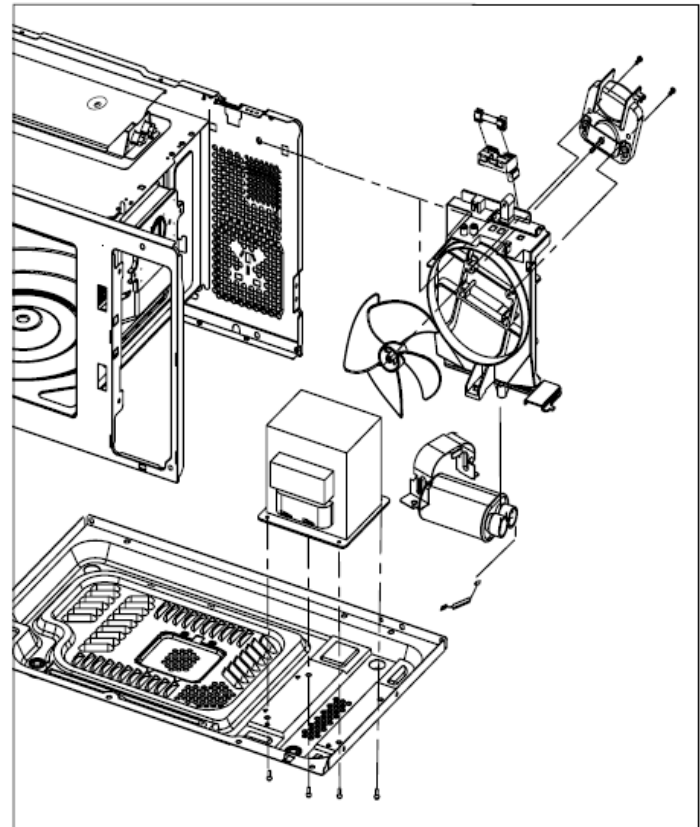
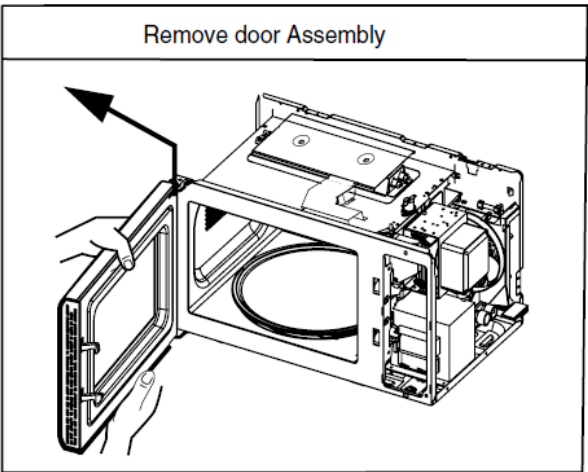
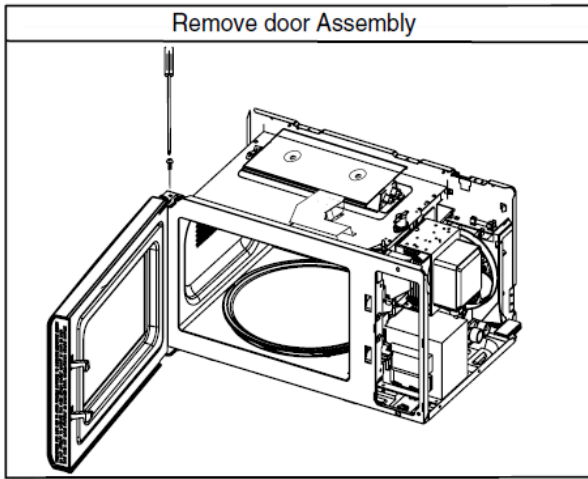
- 1) Remove the outer case.
- 2) Disconnect two terminals, and remove one screw of the earth terminal.



### D. DOOR ASSEMBLY REMOVAL

- 1) Open the door.
- 2) Remove two screws holding the Hinge to the Cavity Ass'y.

**CAUTION : Be careful not to damage Door Gasket.**



**E. HIGH VOLTAGE TRANSFORMER REMOVAL**

- 1) Discharge the high voltage capacitor.
- 2) Disconnect the leadwire from magnetron, high voltage transformer, and capacitor.
- 3) Remove the screw holding the high voltage transformer to the baseplate.

**F. ORIFICE ASSEMBLY REMOVAL**

- 1) Discharge the high voltage capacitor.
- 2) Disconnect the leadwire from fan motor, noise filter and high voltage capacitor.
- 3) Remove the two screws holding the orifice ASS'Y to the oven cavity and remove the high voltage diode earth screw.
- 4) Remove the screw of the capacitor bracket.
- 5) Remove the two screws holding the fan motor ASS'Y to the Orifice ASS'Y.

**G. HIGH VOLTAGE CAPACITOR AND DIODE REMOVAL**

- 1) Discharge the high voltage capacitor.
- 2) Disconnect the leadwire from fan motor, noise filter and high voltage capacitor.
- 3) Remove the screw holding the Orifice ASS'Y to the oven cavity and remove the high voltage diode earth screw.
- 4) Remove the screw holding the high voltage capacitor bracket.

**H. AIR GUIDE ASSEMBLY REMOVAL**

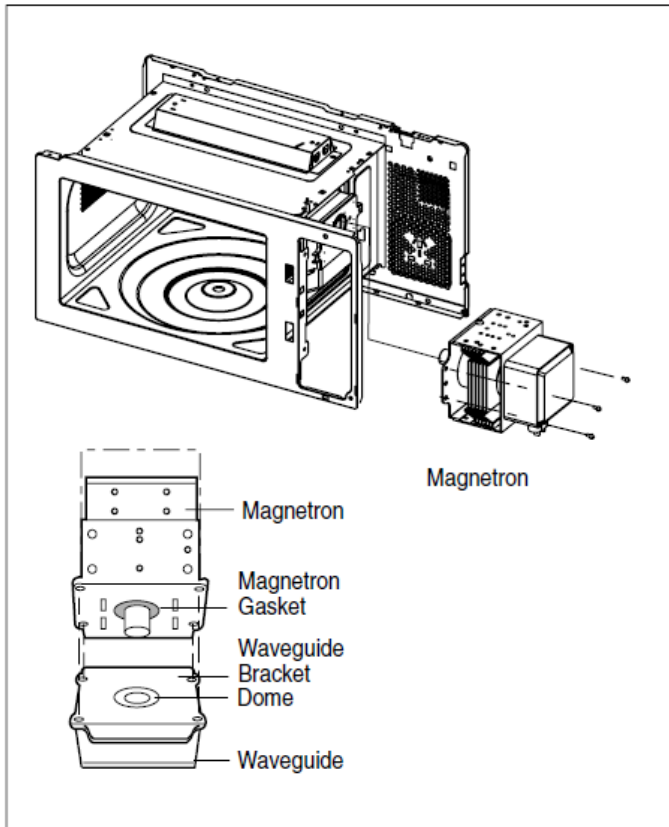
- 1) Disconnect the leadwire from lamp, A.C Relay and monitor resistor and magnetron.
- 2) Remove the screw to the cavity.

**I. MAGNETRON REMOVAL**

- 1) Disconnect the leadwire from the high voltage transformer and high voltage capacitor.
- 2) Remove the air guide.
- 3) Carefully remove the mounting screws holding the magnetron and the waveguide.
- 4) Remove the magnetron until the tube is clear from the waveguide.

**NOTE:**

1. When removing the magnetron, make sure its dome does not hit any adjacent parts, or it may be damaged.
2. When replacing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.
3. After replacing the magnetron, check for microwave leakage with a survey meter around the magnetron. Microwave energy must be below the  $5\text{mW}/\text{cm}^2$ . (With a 275 ml. water load). Make sure that gasket is rigidly attached to the magnetron. To prevent microwave leakage, tighten the mounting screws properly, making sure there is no gap between the waveguide and the magnetron.

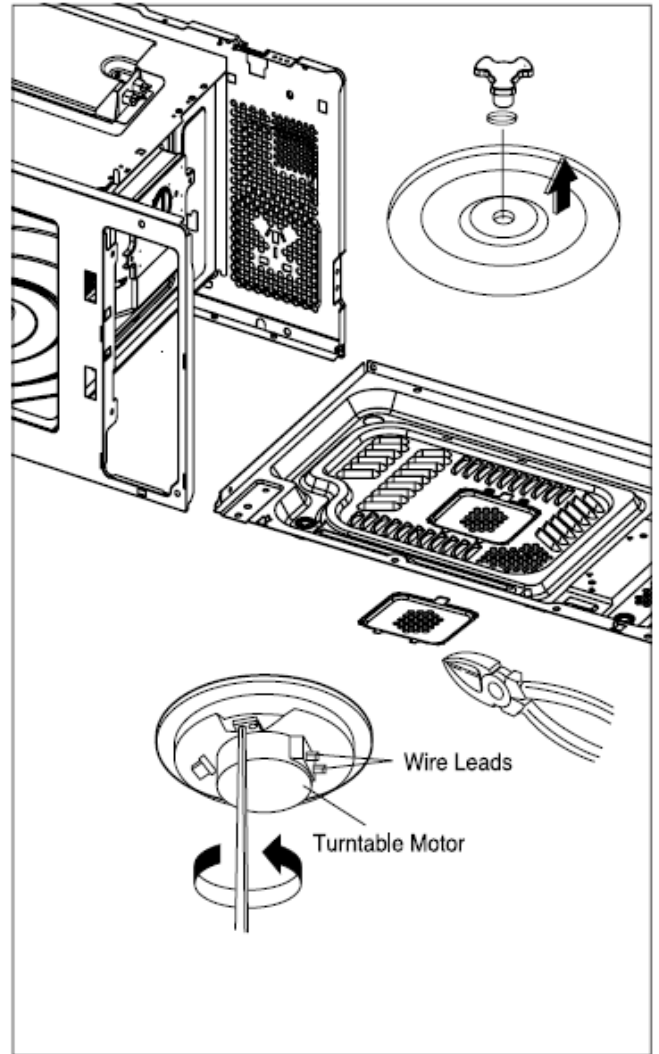


#### J. REMOVING THE TURNTABLE MOTOR

- 1) Remove the glass tray.
  - 2) Remove the pulley shaft VERY CAREFULLY
  - 3) Lay the unit down on its back.
  - 4) Remove the turntable motor cover.
- The turntable base cover is easily removed by pinching the six parts with a wire cutting.
- 5) Disconnect the leadwire from the turntable motor terminals.
  - 6) Remove the screw securing the turntable motor to the oven cavity ASS'Y
  - 7) After replacing the motor, rotate the removed turntable motor cover.
  - 8) Fit the turntable motor cover's projecting part to the base plate slit.

#### NOTE:

1. Remove the wire lead from the turntable motor VERY CAREFULLY.
2. Be sure to grasp the connector, not the wires, when removing

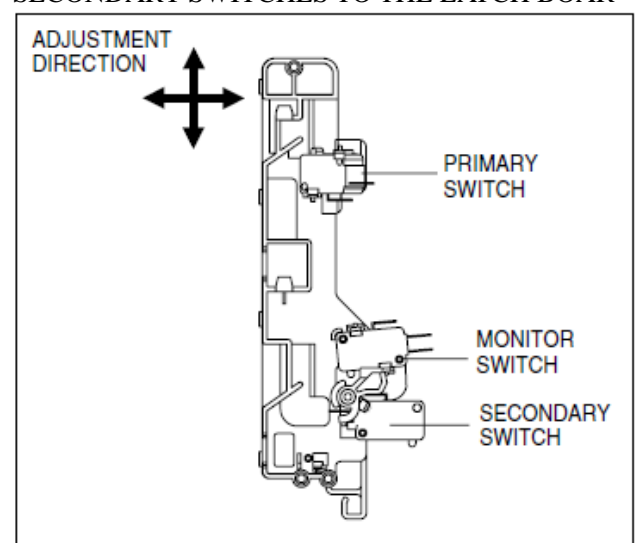


#### K. INTERLOCK SYSTEM

##### 1) INTERLOCK MECHANISM

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

##### 2) MOUNTING OF THE PRIMARY/MONITOR/SECONDARY SWITCHES TO THE LATCH BOAR



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## **TROUBLE SHOOTING PROCEDURES**

Before overhauling a microwave oven, you should judge the breakdown and the cause correctly, and then you can repair it with corresponding ways. The overhauling must be proceed in order, any hasty conclusion is not recommendable, otherwise overworking would be done when repair. The microwave oven may occur compound breakdown due to all kinds of different reasons, thus, when overhaul, they all should be taken into consideration. Special attention must be given to the microwave leakage and the electric insulation when examine because they may do harmful to the repairing staff.

### **I. MEANS OF THE BREAKDOWN EXAMINING**

How to examine a microwave oven with breakdown? A better means which demonstrated in practical operating are through inspecting and listening. On the basis of large amounts of perceptual knowledge.

You can judge and analysis the breakdown quickly and correctly.

#### **1. Inspection.**

Inspection whether the oven shapes is disordered and where is the disordered position, if any. It is normal if the outer case disordered a little, but abnormal if the oven, the door disordered, the door hook broken, the door crooked, or there are too must looseness between the oven after the door is closed.

#### **2. Listening.**

Listening to the oven operating and the noise of the fan after it conducted. Minor noise and cycling noise should be considered as normal. But it is abnormal if the following noise occurred:

#### **SPOT EXAMINING STEPS OF THE MICROWAVE OVEN.**

##### **1. Examine the microwave insulation resistance.**

Measure the insulating resistance with a multi metal or mega ohmmeter. The value should not less than 2 mega ohm. Otherwise, part examination should be taken at once. Such as checking whether the motor, the thermal cutout is electricity leaking.

##### **2. Examination of the resistance value of the microwave oven.**

Close the door, set the time (the oven is at operating condition but the power plug haven't been plugged in), measure the two feet (L-N) of the power plug with Rx1 grade of a mustimeter, the resistance value should be about 22ohm.

If open circuit occurred, then you must check whether the 20A fuse is broken,, the thermal cutout is open circuit or not, you must check whether the interlock device is put through or all the plugs are connected well.

##### **3. Examination of microwave leakage.**

Measure the microwave leakage with a microwave leakage Measure. Place a graduate of 275ml water at the middle of the glass tray of the oven (Fig.5-1). Close the door power set high, time set to 3 minutes, press the starting button to operate the oven. After rectified the microwave leakage measure, measure around the door crack, those holes position of the window and the air vent at four sides of the oven with the probe of the measure. When measure, the moving speed of the probe should not exceed 2.5cm per second, and the measuring direction should be the same with the outing direction of the microwave leakage (Fig.5-2).

When measuring, the ultimate value of microwave leakage of all the measured position should not exceed  $1.0 \text{ mW/cm}^2$ , or should be considered as abnormal.

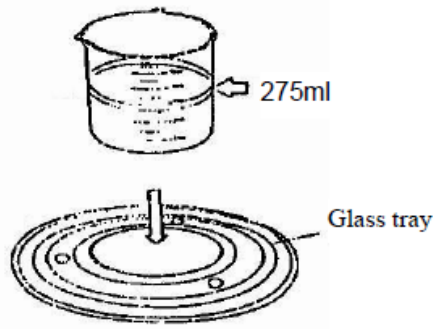


FIG5-1

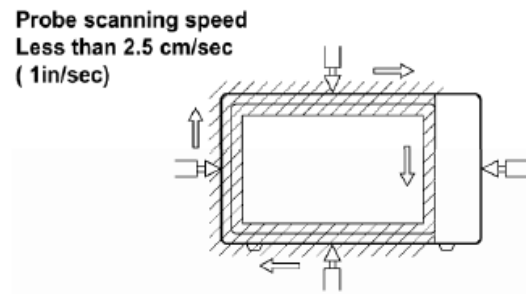


FIG5-2

## II. REPAIRING METHOD OF SEVERAL BREAKDOWN

1. Repair when there occurred large amounts microwave leakage. There are many factors, which may cause microwave leaking. Following mentioned may be the main cause of microwave leakage:

- (1) The door deformed, the hinge loosed or damaged that caused the door cannot close tightly.
- (2) The door pressing cover or the embed piece damaged or come off.
- (3) Obvious damage or uneven of the oven.
- (4) There are filth between the door and the oven.
- (5) The door and the oven are serious loosed after the door closed.
- (6) The crack of the door shielding net cover.

2. Means of repair when the oven can heat, but the turntable glass can't move.

Firstly, check whether the turntable holder is placed correctly. If it is correct, then pull out the power plug and take down the turntable combination, measure the resistance value of the turntable motor with Rx1k grade of a multi meter if it is open circuited, it indicates the turntable motor has broken, and should be replaced by a new, same model one. If the resistance value is between 15-22k, it indicates the turntable motor is normal, and then checks the connecting shaft weave. If the plastic that the shaft inserts in has broken, a new shaft weave should replace it.

3. Repair when the oven can heat, but the lamp is not on.

Pull out the power plug, take down the outer case and pull out the two terminal plugs of the lamp, measure the two plugs of the lamp with the Rx100 grade of a multi meter. If it is open circuited, it indicates the lamp has broken, and should be replaced by a same model one.

4. Means of repair when the oven stop working after several minutes operating.

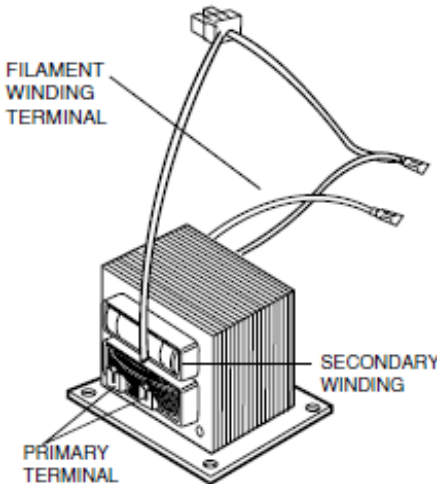
The phenomenon indicated the thermal cutout is playing its protective role, and you should check whether the fan is working in normal. Turn off the oven, and pull out the power plug, remove the outer case, then turn the fan with hand to check whether it is moving flexibly. If not, it indicates that the oil bearing of the fan motor has run off the oil, and should uninstall the fan combination to repair the motor. Loosen the two screws which fix the bearing out the shaft and the bearing, and rinse them with kerosene (ATTENTION: The bearing can only be wiped with a silk which moistened with kerosene rather than be washed in the kerosene because there are felt on it, if the felt are soaked with kerosene, then the engine oil cannot be sucked up.). After the bearing being cleaned, the felt should be refueled fully with engine oil (for when the oven is operating, the engine oil empty into the oil bearing slowly). Fix the bearing cover with two screws; turn the fan around till it can move flexibly. Then install them to the oven, and plug in the two terminal plugs.

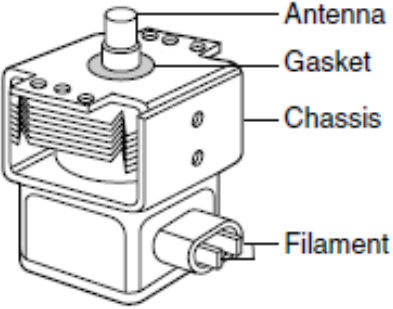
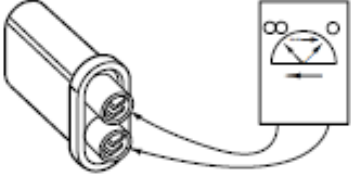
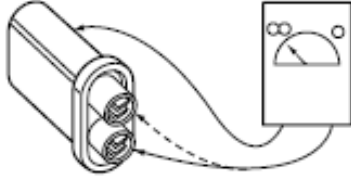
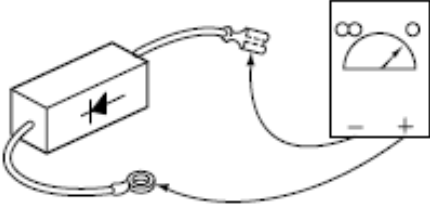
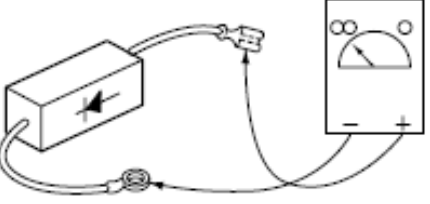
If the fan can move flexibly, then the winding of the fan motor should be examined. Measure the winding with Rx100 grade of a multi meter, if it is open-circuited, it indicates the winding of the fan motor has broken, and should be replaced by a new same model one.

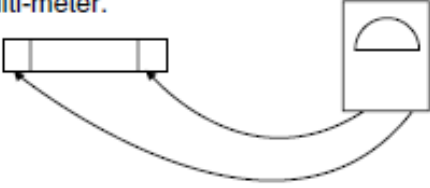
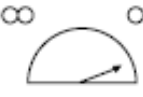
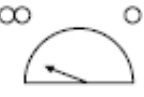
# COMPONENT TEST PROCEDURE

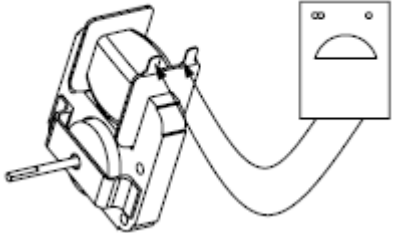
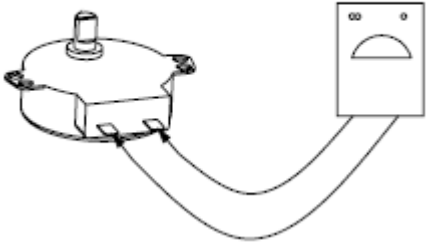
## CAUTIONS

1. DISCONNECT THE POWER SUPPLY CORD FROM THE OUTLET WHENEVER REMOVING THE OUTER CASE FROM THE UNIT. PROCEED WITH THE TEST ONLY AFTER DISCHARGING THE HIGH VOLTAGE CAPACITOR AND REMOVING THE WIRE LEADS FROM THE PRIMARY WINDING OF THE HIGH VOLTAGE TRANSFORMER. (SEE PAGE 2-1)
2. ALL OPERATIONAL CHECKS WITH MICROWAVE ENERGY MUST BE DONE WITH A LOAD (1 LITER OF WATER IN CONTAINER) IN THE OVEN.

COMPONENTS	TEST PROCEDURE	RESULTS
<b>HIGH VOLTAGE TRANSFORMER</b> (Wire leads removed)	 <p>The diagram shows a high voltage transformer with three sets of terminals. One set is labeled 'FILAMENT WINDING TERMINAL' and has two wires connected to it. Another set is labeled 'PRIMARY TERMINAL' and has two wires connected to it. The third set is labeled 'SECONDARY WINDING' and has two wires connected to it. The transformer is mounted on a metal base.</p> <ol style="list-style-type: none"> <li>1. Measure the resistance.                      (Ohm-meter scale: Rx1)                     <ul style="list-style-type: none"> <li>• Primary winding</li> <li>• Secondary winding</li> <li>• Filament winding</li> </ul> </li> <li>2. Measure the resistance.                      (Ohm-meter scale: Rx1000)                     <ul style="list-style-type: none"> <li>• Primary winding to ground</li> <li>• Filament winding to ground</li> </ul> </li> </ol>	<p>Approx.: 1.4 ohm                      Approx.: 90 ohm                      Less than: 1 ohm</p> <p>Normal: Infinite                      Normal: Infinite</p>
<b>MAGNETRON</b> (Wire leads removed)	<ol style="list-style-type: none"> <li>1. Measure the resistance.                      (Ohm-meter scale: Rx1)                     <ul style="list-style-type: none"> <li>• Filament terminal</li> </ul> </li> <li>2. Measure the resistance.                      (Ohm-meter scale: Rx1000)                     <ul style="list-style-type: none"> <li>• Filament to chassis</li> </ul> </li> </ol>	<p>Normal: Less than 1 ohm</p> <p>Normal: Infinite</p>

COMPONENTS	TEST PROCEDURE	RESULTS
	 <p>NOTE: When testing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.</p>	
HIGH VOLTAGE CAPACITOR	<p>Measure the resistance. (Ohm-meter scale: Rx1000) • Terminal to terminal.</p> 	Normal: Momentarily indicates several ohms, and then gradually returns to 10M ohms.
	<p>Measure the resistance. (Ohm-meter scale: Rx1000) • Terminal to case.</p> 	Normal: ∞
HIGH VOLTAGE DIODE  *NOTE : Some inexpensive meters may indicate infinite resistance in both direction.	<p>Measure the continuity (Forward). (Ohm-meter scale: Rx10000)</p> 	Normal: Continuity. Abnormal: ∞ *
	<p>Measure the continuity (Reverse). (Ohm-meter scale: Rx10000)</p> 	Normal: ∞ Abnormal: Continuity.

COMPONENTS	TEST PROCEDURE	RESULTS	
		Normal	Abnormal
FUSE	Check for continuity of the fuse with an multi-meter. 		
		NOTE: If the fuse is blown, check the primary, the secondary, and the monitor switches, H.V.D. and H.V.C. before replacing the fuse. If the fuse is blown by improper switch operation replace the defective switch and the fuse at the same time. Replace just the fuse if the switches operate normally.	

COMPONENTS	TEST PROCEDURE	RESULTS
Fan Motor (wire leads removed)	Measure the resistance. (Ohm-meter scale: R×100) 	Normal: Approx. 47Ω Abnormal: ∞ or Several Ω
Turntable Motor (wire leads removed)	Measure the resistance. (Ohm-meter scale: R×1000) 	Normal: Approx. 3.2kΩ Abnormal: ∞ or Several Ω

**NOTE:**

- A MICROWAVE LEAKAGE TEST MUST ALWAYS BE PERFORMED WHEN THE UNIT IS SERVICED FOR ANY REASON.
- MAKE SURE THE WIRE LEADS ARE IN THE CORRECT POSITION.
- WHEN REMOVING THE WIRE LEADS FROM THE PARTS, BE SURE TO GRASP THE CONNECTOR, NOT THE WIRES.

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# **SAFETY CHECKS AND TESTS AFTER SERVICING**

## Constructional Checks

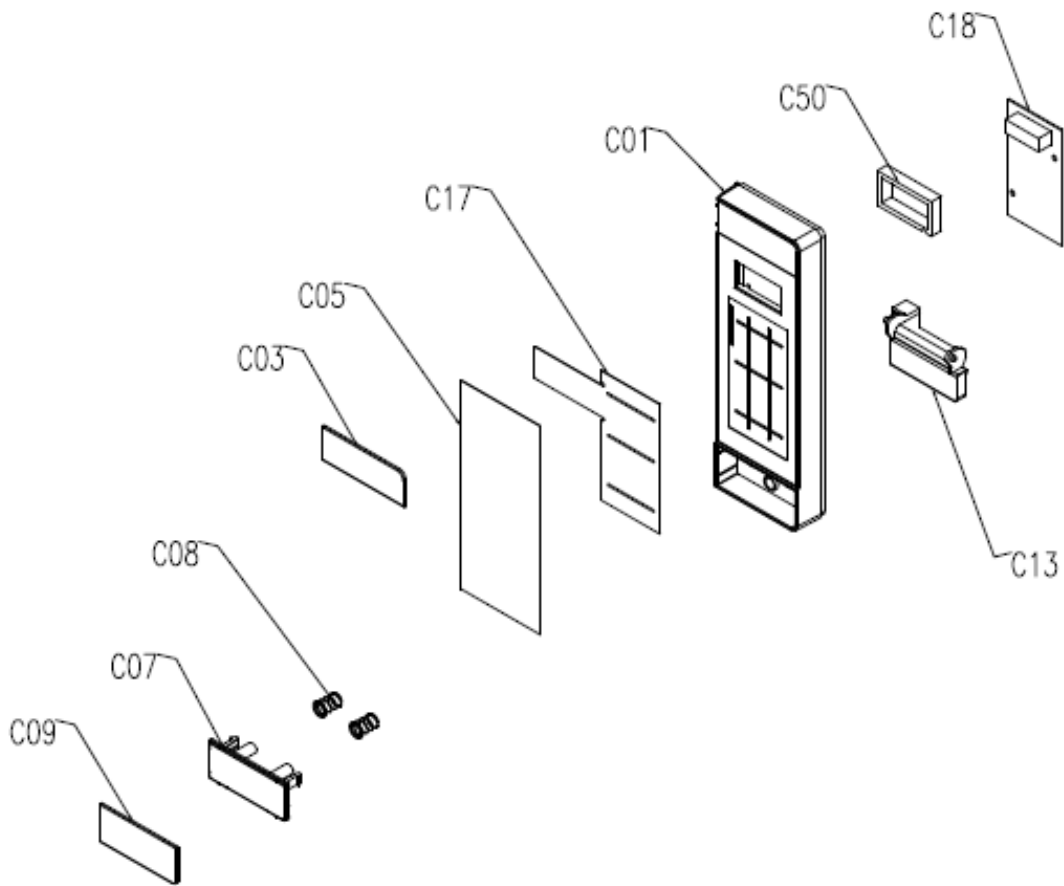
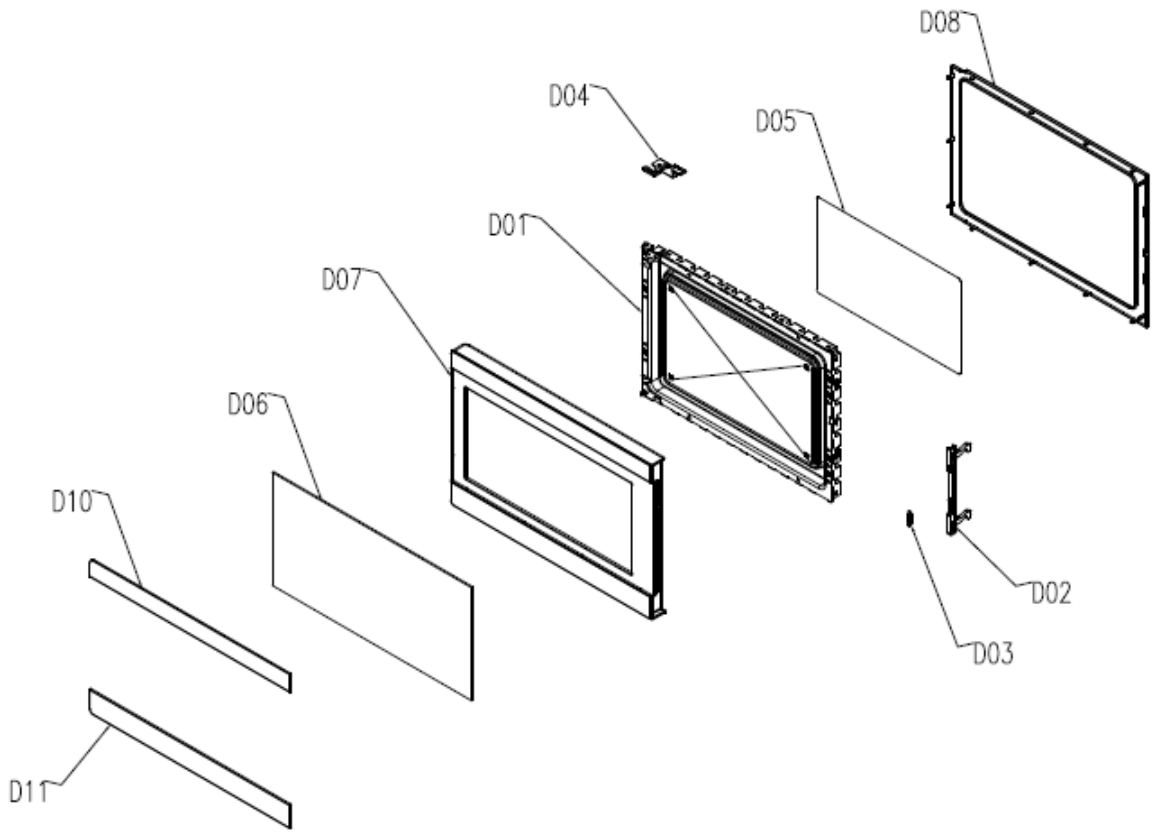
If mechanical or electrical (electronic) parts have been replaced be sure to follow the following steps.

- 1.1 Check for correct wiring, adequate mechanical decrements of parts, and firm connectors.
- 1.2 Check for adequate grounding.
- 1.3 Check the following items before turning the oven ON.
  - 1) Proper door closing, seal/choke surfaces, and hinges.
  - 2) No outer case damage.
  - 3) Proper interlock and monitor operations.

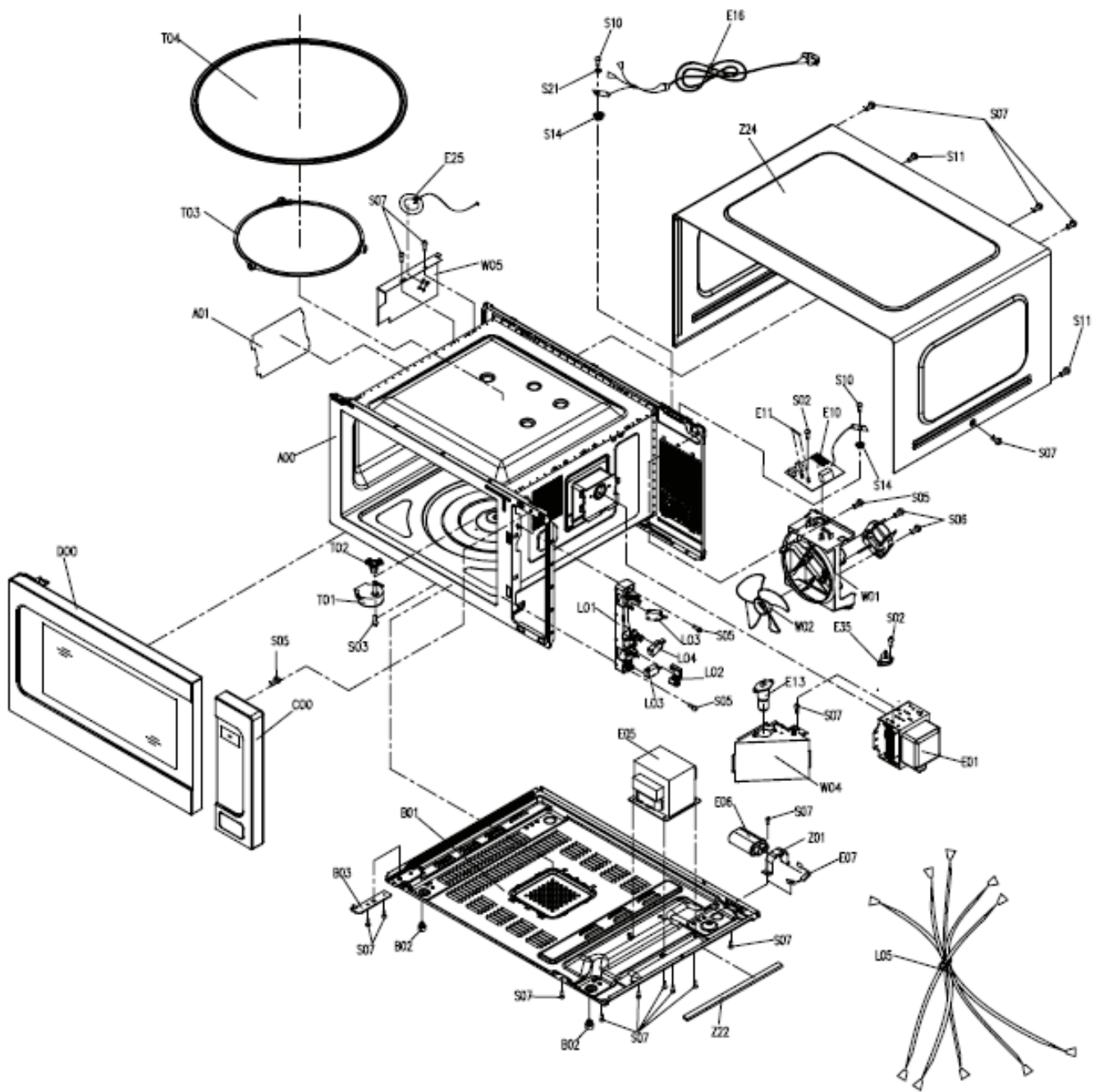
## Insulation Resistance Test

If the low voltage power supply has been repaired, use a 500V Mega ohmmeter to measure the resistance between the primary (Line and Neutral) of the power plug and operator accessible metal parts. The resistance should be no less than 2 Mega Ohms. Repair the oven again when necessary.

# EXPLODED VIEWS-Appearance



# EXPLODED VIEWS-Platform



## REPLACEMENT PARTS LIST

**NOTE:**

When ordering replacement parts, please use part numbers shown in this part list.

Do not use name of the part.

For Model: SMC2265GS

Ref No.	Part code	Part Name	Pcs
A00	9KL12270000041654	Cavity Assembly	1
A01	9KL12570000001036	Splash Cover	1
B01	9KL12270000005080	Baseplate	1
B02	9KL12170000000192	Foot	2
B03	9KL12270000006186	Hinge Assembly	1
C00	9KL17270000B81701+9KL16070000B47101+9KL17170000A06049	Control Panel Assembly	1
C01	9KL12170000037428	Control Panel	1
C02	9KL12270000043660	Control Panel Decoration	1
C05	9KL16070000B47101	Membrane Decoration	1
C07	9KL12170000037427	Door Open Button	1
C08	9KL12970000000400	Spring	1
C09	9KL12270000043659	Button Decoration	1
C13	9KL12170000009459	Door Open Lever	1
C18	9KL17170000031182	Program Chip	1
C17	9KL17170000A06049	Membrane Switch Circuit	1
D00	9KL12270000B64744+9KL12570000A35298	Door Assembly	1
D01	9KL12270000003805	Door Frame Assembly	1
D02	9KL12170000023687	Latch	1
D03	9KL12970000000365	Latch Spring	1
D04	9KL12270000006169	Hinge Assembly	1
D05	9KL12170000009502	Door Film	1
D06	9KL12570000A35298	Glass Door Screen	1
D07	9KL12170000037429	Door Panel	1
D08	9KL12170000009536	Door Gasket	1
D10	9KL12270000043661	Door Panel Decoration	1
D11	9KL12270000043662	Door Panel Decoration	1
E01	9KL17470000000819	Magnetron	1
E05	9KL17470000010443	H.V.Transformer	1
E06	9KL17470000000689	H.V.Capacitor	1
E07	9KL17470000001007	H.V.Diode	1
E10	9KL17170000A06810	Mi Assembly	1
E11	9KL17470000001552	Fuse	1
E13	9KL17470000013887	Integrated Lamp	1
E16	9KL17470000000183	Power Cord	1
E25	9KL11201004000002	Humidity sensor	1
E32	9KL17470000009111	Thermostat 120/80°C	1
E35	9KL17470000001493	Thermostat 160/95°C	1
L00	9KL17470000009607	Interlock Assembly	1
L01	9KL12170000003401	Latch Board	1

L02	9KL12170000010256	Interlock Lever	1
L03	9KL17470000008423	Microswitch Interlock	1
L03	9KL17470000009203	Microswitch Interlock	1
L04	9KL17470000008424	Microswitch Monitor	1
L05	9KL17470000001445	Main Wire Harness	1
T01	9KL11002014A00326	Synchronous motor	1
T02	9KL12170000000425	Coupler	1
T03	9KL12170000004306	Swivel Assembly	1
T04	9KL12570000000991	Glass Turntable	1
W00	9KL17470000000544	Fan Assembly	1
W01	9KL12170000004293	Fan Guide	1
W02	9KL12170000000206	Fan	1
W03	9KL11002017000375	Brushless DC Motor	1
W04	9KL12270000040301	Wind Guide Cover	1
W05	9KL12270000006304	Heat Insulator	1
W16	9KL12270000000150	Wind Guide Cover	1
Z01	9KL12270000006211	Capacitor Holder	1
Z22	9KL12670000000424	Shockproof Bar	2
Z24	9KL12270000005925	Cover	1
\	9KL16170000A85747	User Manual	1
\	9KL16270000A74996	Gift Box	1
\	9KL16370000000419	Packing *Lower	1
\	9KL16370000000409	Packing *Upper	1