

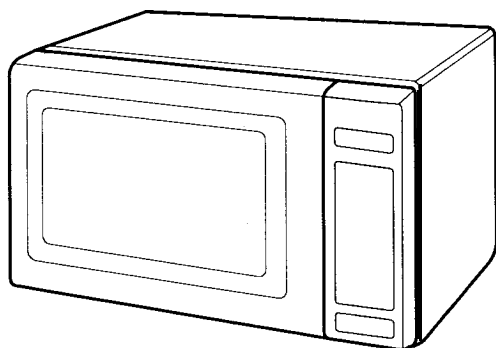


MICROWAVE OVEN SERVICE MANUAL

**MODEL: DMW10W
DMW10B**

CAUTION

BEFORE SERVICING THE UNIT, READ THE
SAFETY PRECAUTIONS IN THIS MANUAL.



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 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.

CONTENTS

(Page)

SAFETY PRECAUTIONS	Inside front cover
SPECIFICATIONS	I-1
CAUTIONS	2-1
INSTALLATIONS	3-1
OPERATING INSTRUCTIONS	4-1
FEATURES.....	4-1
CONTROL PANEL	4-1
SCHEMATIC DIAGRAM.....	4-2
CIRCUIT DESCRIPTION	4-3
SERVICE INFORMATION	5-1
TOOLS AND MEASURING INSTRUMENTS.....	5-1
MICROWAVE LEAKAGE TEST.....	5-1
MEASUREMENT OF MICROWAVE POWER OUTPUT	5-3
DISASSEMBLY AND ADJUSTMENT	5-3
INTERLOCK CONTINUITY TEST.....	5-7
COMPONENT TEST PROCEDURE.....	5-8
TROUBLE SHOOTING.....	5-11
EXPLODED VIEW	6-1
REPLACEMENT PARTS LIST	7-1
SCHEMATIC DIAGRAM OF P.C.B.	8-1
PRINTED CIRCUIT BOARD	8-2
P.C.B. PARTS LIST	9-1

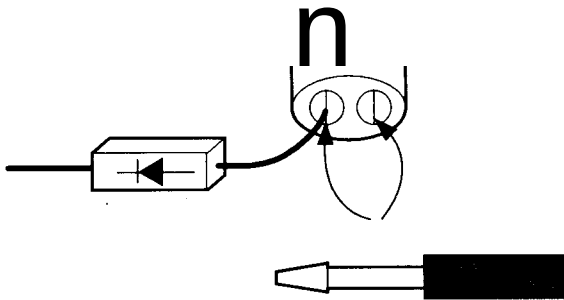
SPECIFICATIONS

ITEM	DESCRIPTION
MODEL	DMW10W / DMW10B
Power Requirement	120 Volts AC 60 Hz 1,250 Watts (11.3 A) Single phase, 3 wire grounded
Power Output	850 Watts full microwave power (IEC705)
Microwave Frequency	2,450 MHz
Magnetron	2M246, 2M248J
Timer	0 ~ 99 min. 99 sec.
Overall Dimensions	20 ⁷ / ₈ " (W) x 12 ³ / ₈ " (t-l) x 15 ¹ / ₂ " (D)
Cavity Dimensions	13 ³ / ₄ " (W) x 8 ³ / ₄ " (H) x 14 ⁵ / ₈ " (D)
Net Weight	33 lbs (approx.)
Shipping weight	36 lbs (approx.)
Control Complement	Touch Control System Clock : 1:00 - 12:59 Microwave Power for Variable Cooking Power level HIGH _____ Full power throughout the cooking time 9 (Saute) _____ approx. 90% of Full power, 8 (Reheat) - approx. 80% 7 (Med.-High) _____ approx. 70%, 6 (Medium) - approx. 60% 5 (Med.-Low) _____ approx. 50%, 4 (Defrost) - approx. 40% 3 (Low) _____ approx. 30%, 2 (Simmer) _____ approx. 20% 1 (Warm) _____ approx. 10%
Accessories	Owner's Guide Glass turntable Rotating ring
It is not recommended for commercial purposes.	

CAUTIONS

Unlike other appliances, the microwave oven is high-voltage and high-current equipment. Though it is free from danger in ordinary use, extreme care should be taken during repair.

- 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.

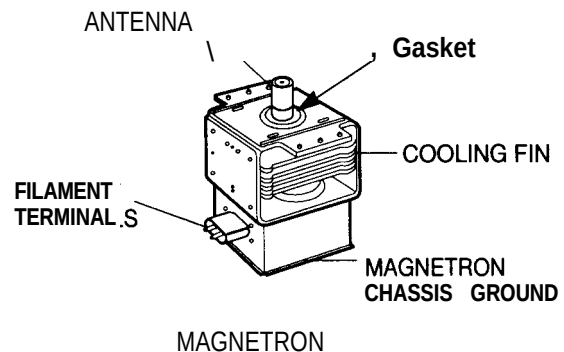


- Remove your watches whenever working close to or replacing the Magnetron.
- DO NOT touch any parts of the control panel circuit. A resulting static electric discharge may damage this P.C.B.
- NEVER operate the oven with no load.
- NEVER injure the door seal and front plate of the oven cavity.
- NEVER 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.**



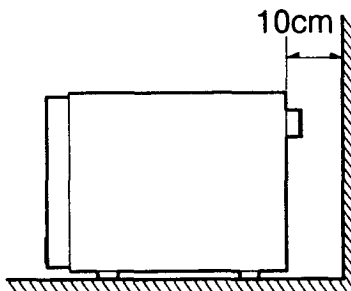
THE OVEN IS TO BE SERVICED ONLY BY PROPERLY QUALIFIED SERVICE PERSONNEL.

INSTALLATIONS

BEFORE YOU BEGIN, READ THE FOLLOWING INSTRUCTIONS COMPLETELY AND CAREFULLY.

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.



GROUNDING INSTRUCTIONS

For personal safety, this appliance must be fully grounded at all times.

In the event of an electrical short circuit, grounding reduces the risk of electrical shock.

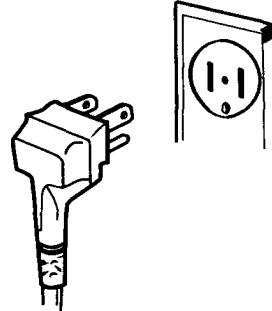
The plug must be plugged into an outlet that is properly installed and grounded.

WARNING

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

Do not, under any circumstances, cut or remove the third ground prong from the power cord plug.

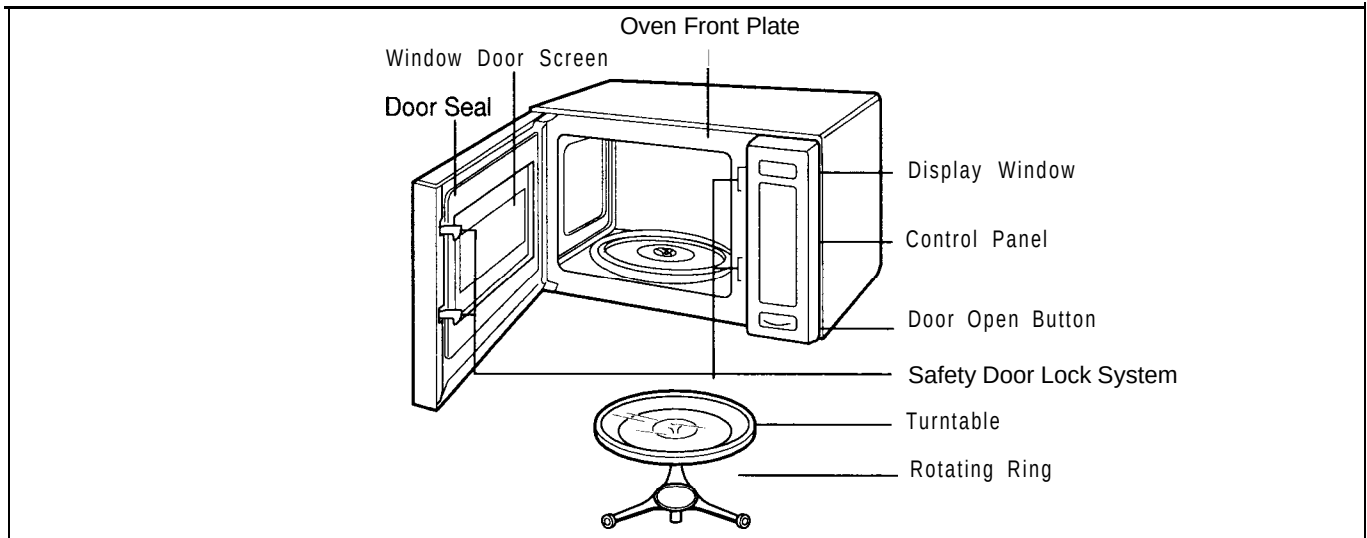
PROPERLY POLARIZED AND GROUNDED OUTLET



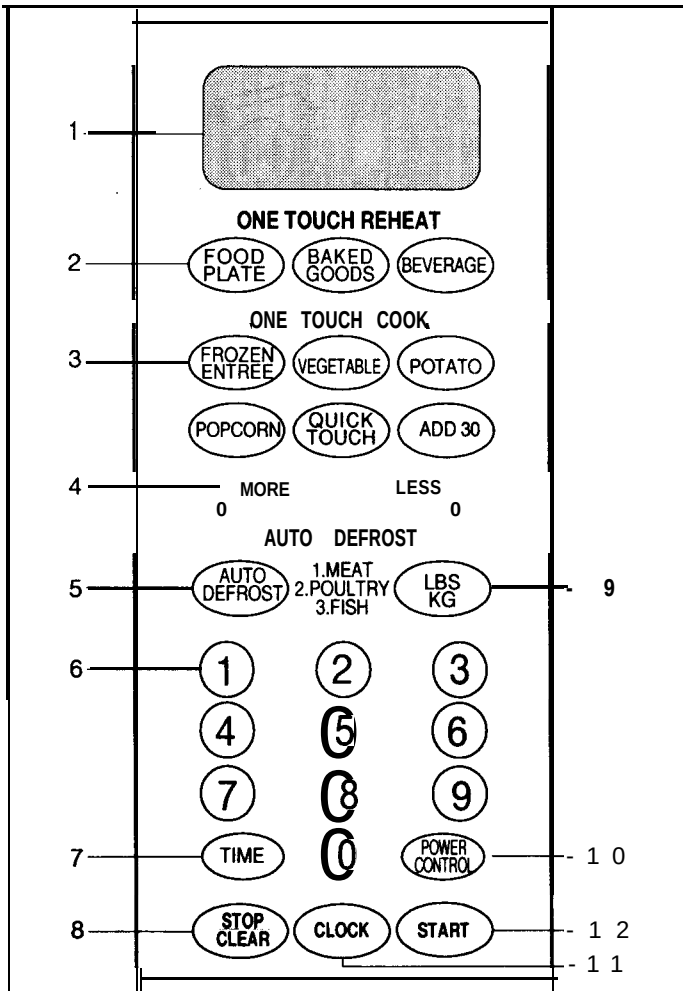
Three-Pronged (Grounding) plug

OPERATING INSTRUCTIONS

FEATURES



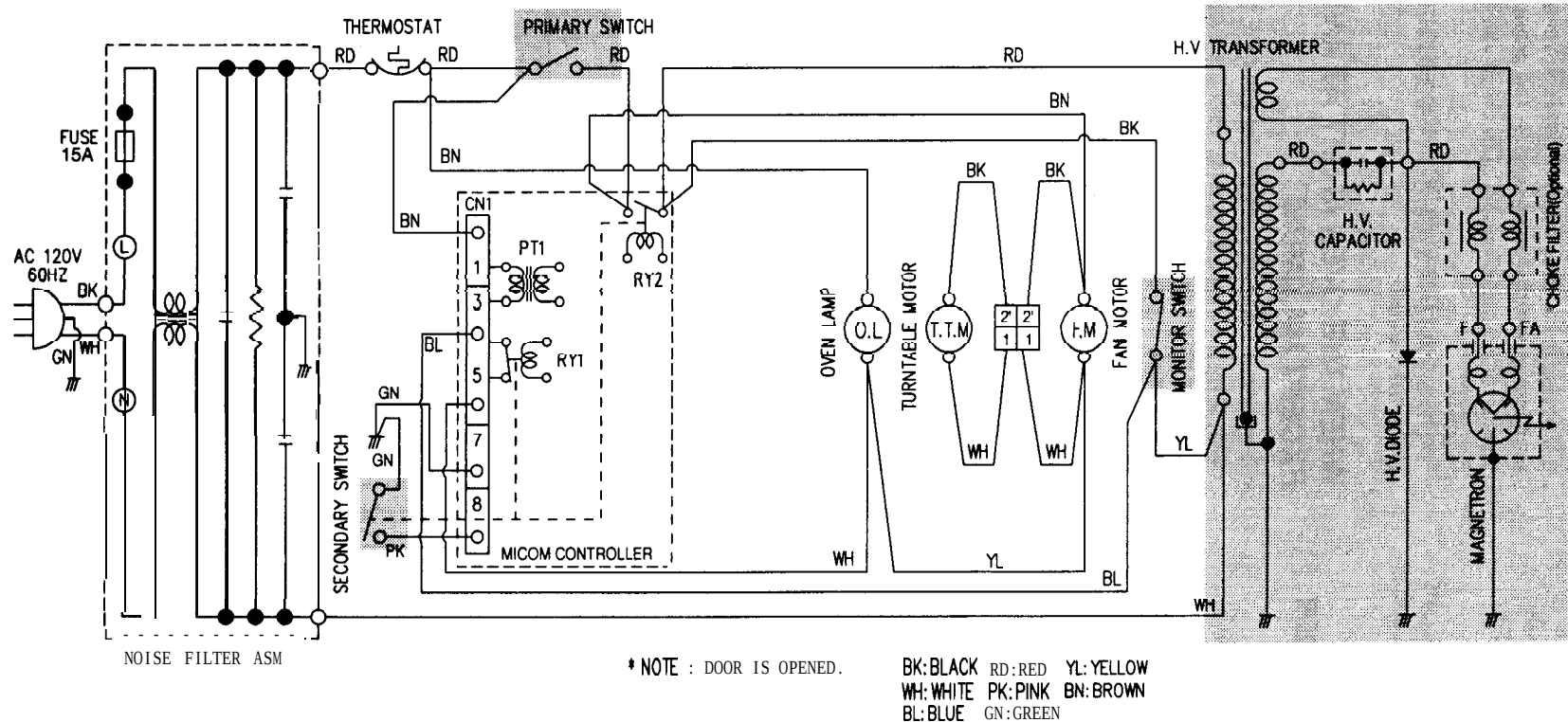
CONTROL PANEL



1. INDICATORS.
2. ONE TOUCH REHEAT
3. ONE TOUCH COOK: This menu has been pre programmed to cook food automatically.
4. MORE / LESS: All of the one touch cook and TIMED COOK can be adjusted to cook food for a longer or shorter time.
MORE → Pressing MORE will add 10 seconds to the cooking time.
LESS → Pressing LESS will subtract 10 seconds of cooking time.
5. AUTO DEFROST: This feature provides you with the best defrosting method for frozen foods.
6. NUMBER: These used to set for time of day, cooking time, power level, or defrost weight.
7. TIME: You can set the desired cook time.
8. STOP/CLEAR: It used to stop oven and clear all entries except time of day.
9. LBS/KG
10. POWER CONTROL
11. CLOCK: It is used to set the time of day.
12. START: This feature allows oven to begin functioning.

SCHEMATIC DIAGRAM

4-2



IMPORTANT SAFETY NOTE: THE SHADED AREAS ON THIS SCHEMATIC DIAGRAM INCORPORATE SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM MICROWAVE RADIATION, FIRE, ELECTRICAL SHOCK, AND HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC DIAGRAM.

NOTICE: SINCE THIS IS BASIC SCHEMATIC DIAGRAM, THE VALUES OF COMPONENTS AND SOME PARTIAL CONNECTIONS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

CIRCUIT DESCRIPTION

GENERAL DETAILS

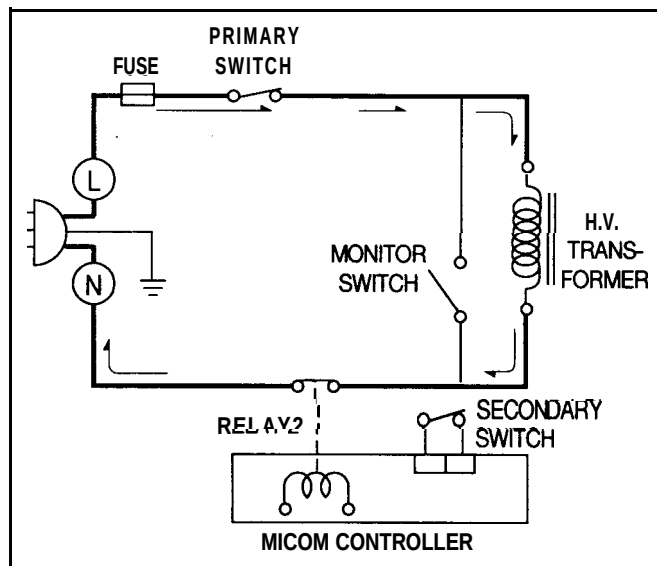
- The low voltage transformer supplies the necessary voltage to the micom controller when power cord is plugged in.
- When the door is closed, the primary switch is ON, the secondary switch is ON, and the monitor switch opens (contact COM and NO).

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.



- The fan motor rotates and cools the magnetron by blowing the air (coming from the intake on the base plate).
- The air is also directed into the oven to exhaust the vapor in the oven through the upper plate.
- Cooking time starts counting down.
- 3.3 volts AC is generated from the filament winding of the high voltage transformer. This 3.3 volts is applied to the magnetron to heat the magnetron filament through two noise-preventing choke coils.

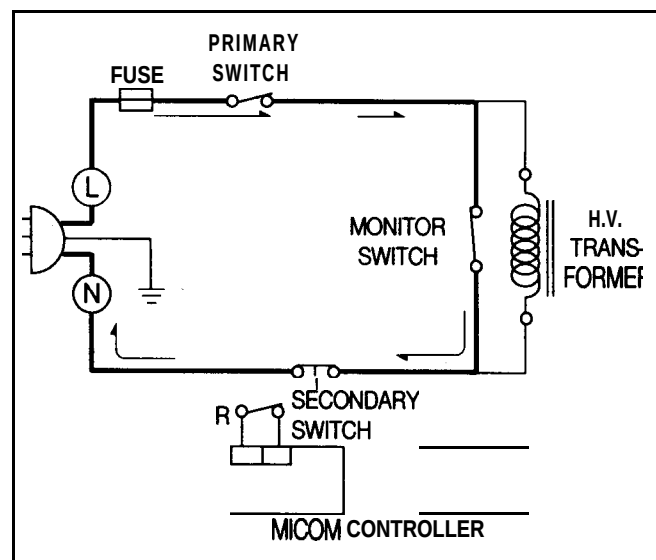
- A high voltage of approximately 2100 volts AC is generated in the secondary of the high voltage transformer which is increased by the action of the high voltage diode and charging of the high voltage capacitor.
- The negative 4,000 Volts DC is applied to the filament of the magnetron.

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.
- One complete cycle of relay 2 is 22 seconds.

WHEN THE DOOR IS OPENED DURING COOKING

- Both the primary switch and relay 2 cut off the 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 fail to open, the fuse opens due to the large current surge caused by the monitor switch activation, which in turn stops magnetron oscillation.



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

- . TESTER (VOLTS-DC, AC, Ohmmeter)
- . Microwave survey meter
 - Holaday HI-1 500
HI-1 501
 - Narda 8100
8200
- . Inch scale
- . 600 cc non conductive material beaker (glass or plastic),
inside diameter: approx. 8.5 cm (3¹/₂ in.)
- . Cylindrical and made of borosilicate glass vessel.
max. thickness: 3 mm
outside diameter: approx. 190mm
height: approx. 90mm
- . Glass thermometer: 100°C or 212°F (1 deg scale)

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 mW/cm²** 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 mW/cm²**. Always start measuring of an unknown field to assure safety for operating personnel from radiation leakage.

MEASURING MICROWAVE ENERGY LEAKAGE

- . Pour **275±15cc** of **20±5°C(68±9°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 2,450 MHz 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

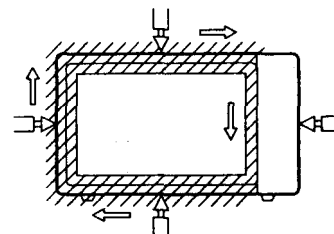
Move probe along shaded area

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

Probe scanning speed

Less than 2.5 cm/sec

(1in/sec)



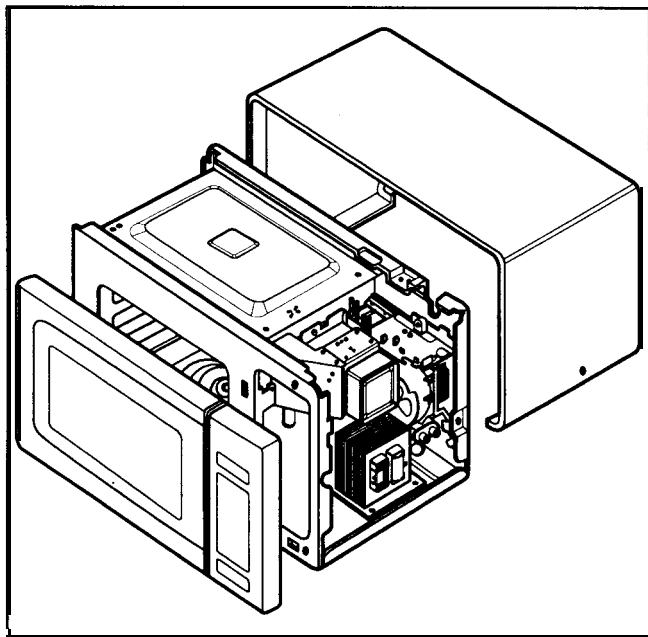
MEASUREMENT WITH OUTER CASE REMOVED

- 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 Fig. below)

- 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 **mW/cm.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 **mW/cm.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 **mW/cm.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

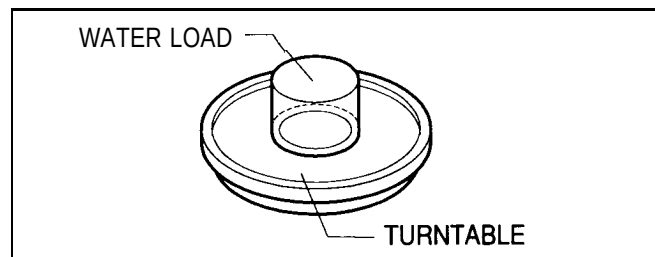
- Microwave power output measurement is made with the microwave oven supplied at its rated voltage and operated at its maximum microwave power setting with a load of (1000 ± 5) g of potable water.
- The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness 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_1) of the water is $(10\pm2)^\circ\text{C}$. 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 $(10\pm2)^\circ\text{K}$ 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 :

$$P = \frac{4187 \times (\Delta T)}{T}$$

is measured while the microwave generator is operating at full power. Magnetron filament heat-up time is not included. (about 3 sec)

- 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.



DISASSEMBLY AND ADJUSTMENT

A. OUTER CASE REMOVAL

- 1) Disconnect the power supply cord from the outlet.
- 2) Remove the screws from the rear of the case.
The outer case must be moved backward to be lifted off.

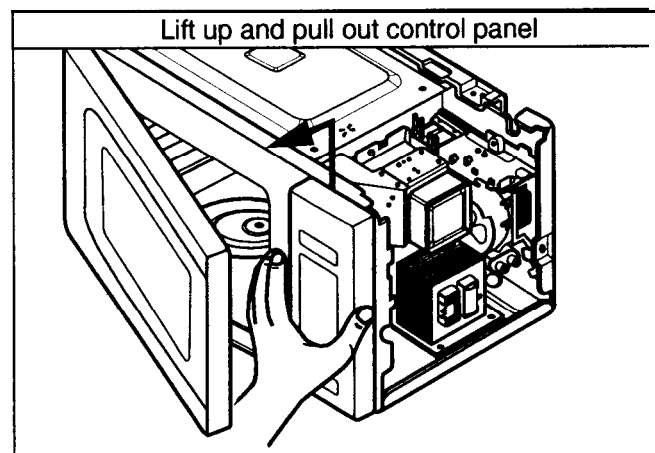
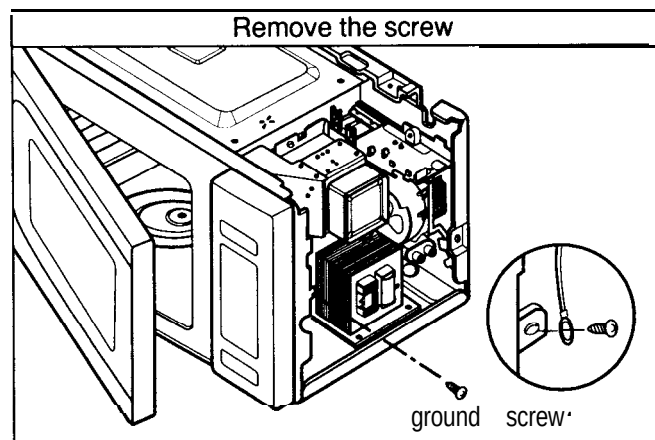
B. POWER SUPPLY CORD

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

C. CONTROL PANEL ASSEMBLY

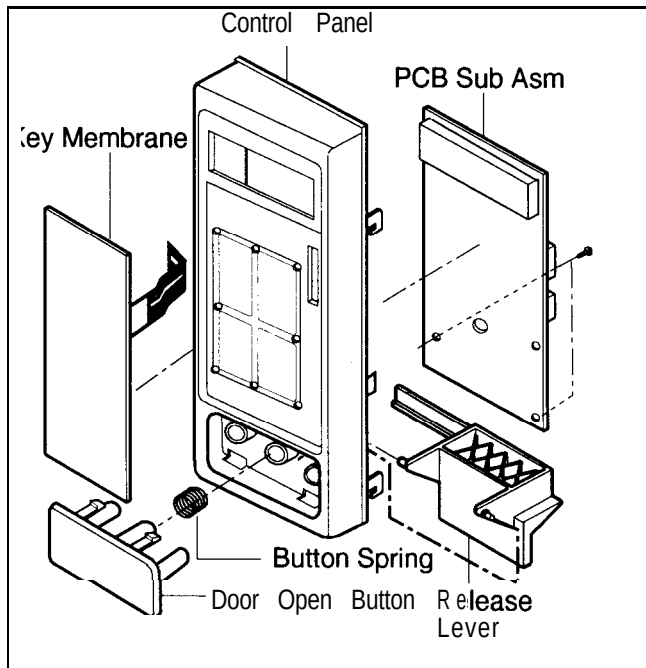
- 1) Open the door.
- 2) Disconnect the **leadwire** from RELAY (RY2) of the PCB SUB ASS'Y.
- 3) Disconnect the **leadwire** from connector (CN1) of the PCB SUB ASS'Y.
- 4) Lift up and pull out control panel assembly carefully from the cavity.

CAUTION: DISCHARGE THE HIGH VOLTAGE CAPACITOR BEFORE SERVICING
(refer to page 2-I)

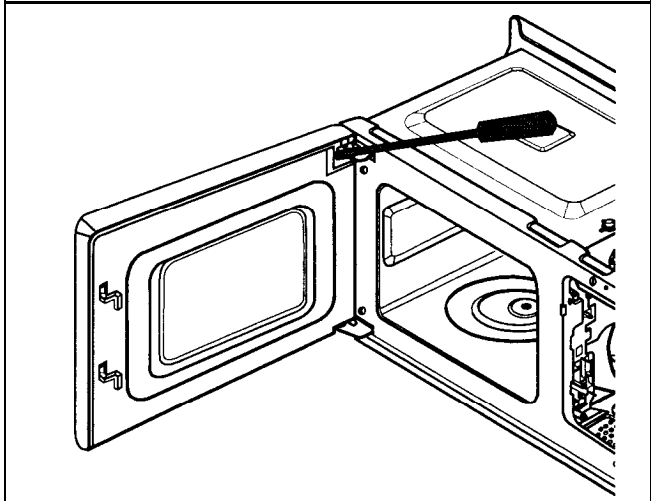


D. PCB ASSEMBLY REMOVAL

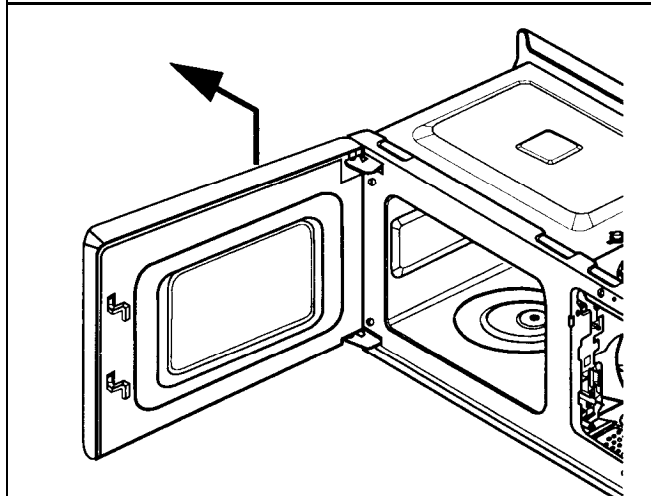
- 1) Remove the control panel assembly from the cavity. (Refer to control panel assembly removal on previous page.)
- 2) Remove screws which hold the PCB SUB ASS'Y to the control panel.
- 3) Disconnect the flat cable from the PCB SUB ASS'Y and take off the PCB SUB ASS'Y



Remove choke cover cap



Remove door



E. DOOR MAIN ASSEMBLY REMOVAL

- 1) Open the door.
- 2) Remove the choke cover very carefully with a flat-blade screwdriver.

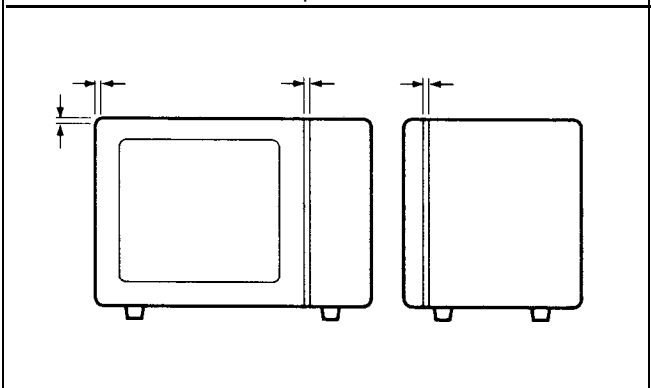
CAUTION: Be careful not to damage door seal plate by screwdriver.

- 3) Lift up and push 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 the limit of 4 mW/cm. (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.

Spacer



F. AIR DUCT ASSEMBLY REMOVAL

- 1) Disconnect the **leadwire** from the lamp.
- 2) Remove the mounting screw to the magnetron.

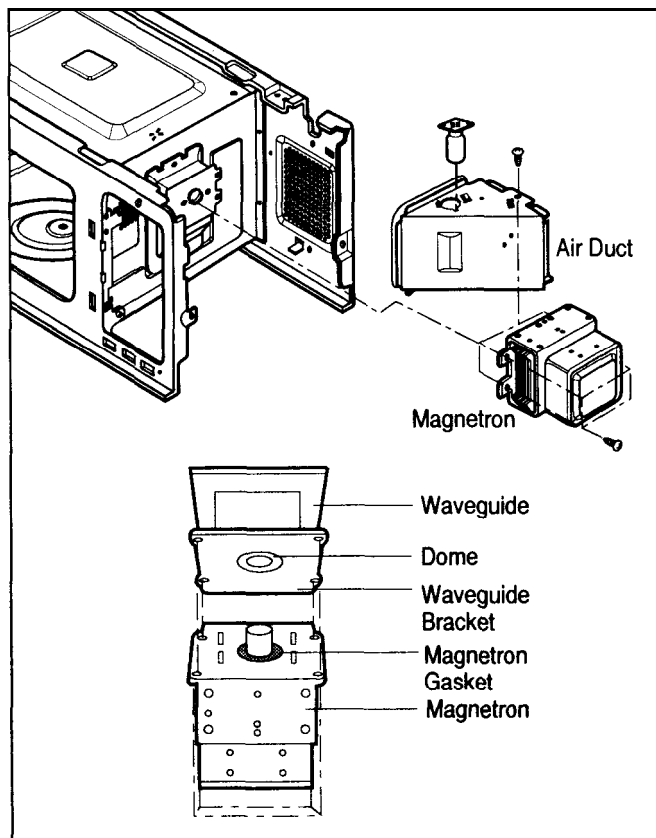
G. MAGNETRON REMOVAL

- 1) Disconnect the **leadwire** from the magnetron.
- 2) Carefully remove the mounting screws holding the magnetron and the waveguide.
- 3) Remove the magnetron ASS'Y 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 limit of 5 mW/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.

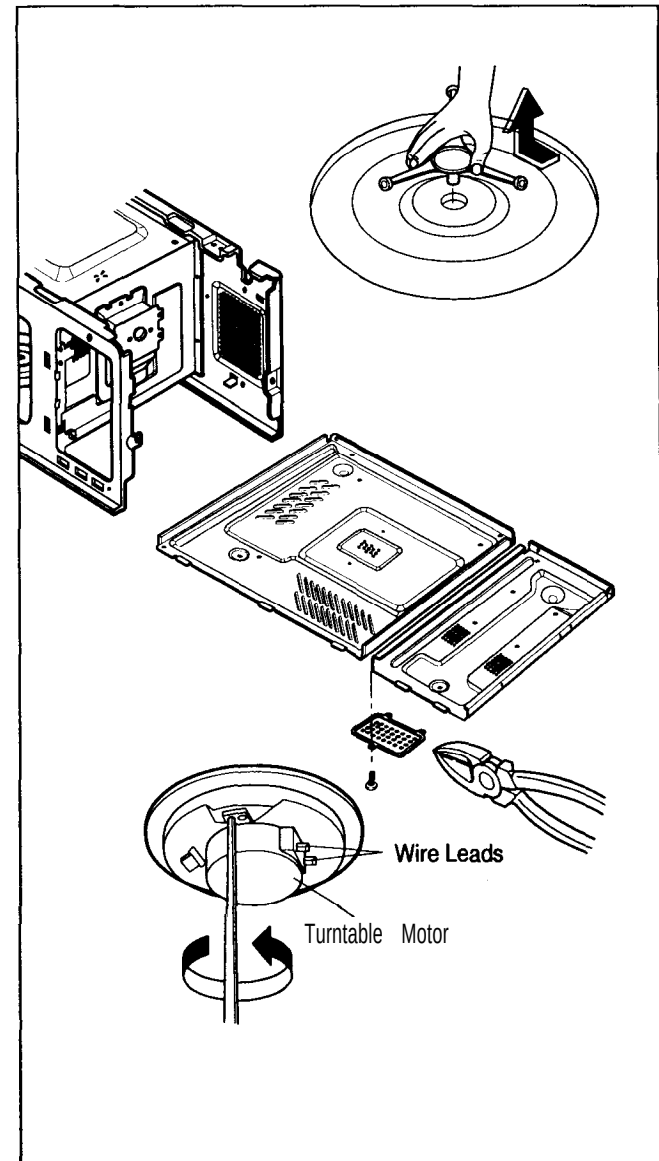


H. REMOVING THE TURNTABLE MOTOR

- 1) Remove the turntable and rotating ring.
- 2) Lay the unit down on its back.
- 3) Remove the turntable motor cover.
The turntable base cover is easily removed by pinching the eight parts with a wire cutting.
- 4) Disconnect the **leadwire** from the turntable motor terminals.
- 5) Remove the screw securing the turntable motor to the oven cavity ASS'Y
- 6) After repairing the motor, rotate the removed turntable motor cover.
- 7) 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.



I. HIGH VOLTAGE TRANSFORMER

REMOVAL

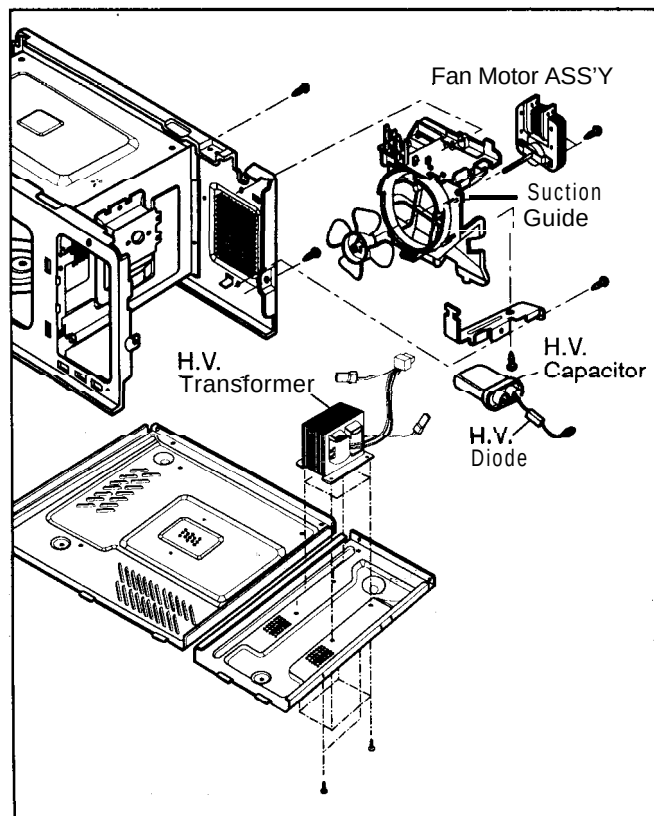
- 1) Discharge the high voltage capacitor.
- 2) Disconnect the **leadwire** from magnetron, high voltage transformer, and capacitor.
- 3) Remove the screw holding the high voltage transformer to the baseplate.

J. FAN MOTOR ASSEMBLY REMOVAL

- 1) Discharge the high voltage capacitor.
- 2) Disconnect the **leadwire** from fan motor and high voltage capacitor.
- 3) Remove the two screws holding the suction guide ASS'Y to the oven cavity and remove the high voltage diode earth screw.
- 4) Remove the two screws holding the fan motor ASS'Y to the suction guide ASS'Y.

K. HIGH VOLTAGE CAPACITOR AND DIODE REMOVAL

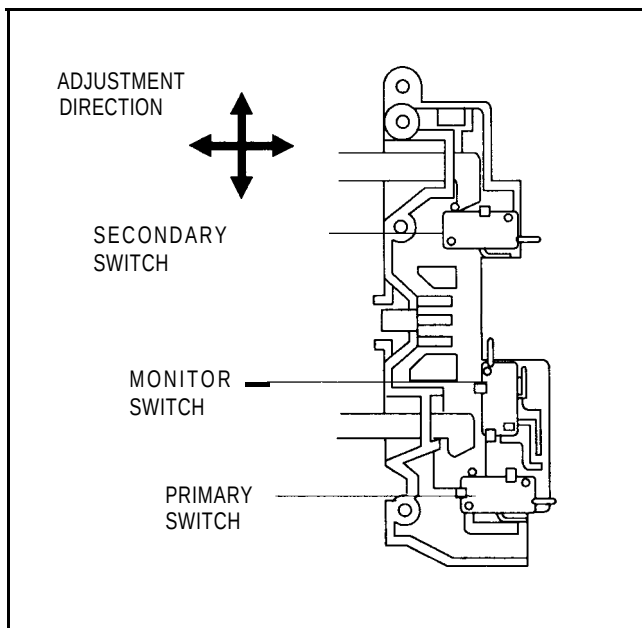
- 1) Discharge the high voltage capacitor.
- 2) Disconnect the **leadwire** from fan motor and high voltage capacitor.
- 3) Remove the screw holding the suction guide ASS'Y to the oven cavity and remove the high voltage diode earth screw.
- 4) Remove the screw holding the high voltage capacitor bracket.



L. 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 BOARD

3) INSTALLATION AND ADJUSTMENT OF THE LATCH BOARD TO THE OVEN ASSEMBLY

- Mount the latch board to the oven assembly.
- Adjust the latch board in the arrow direction so that oven door will not have any play in it when the door is closed.
- Tighten the mounting screw.

• Check for play in the door by pushing the door release button. Door movement should be less than 0.5 mm. (1/64 inch)

Don't push the door release button while making this adjustment. Make sure that the latch moves smoothly after adjustment is completed and that the screws are tight. Make sure the primary, monitor, and secondary switches operate properly by following the continuity test procedure.

INTERLOCK CONTINUITY TEST

WARNING : FOR CONTINUED PROTECTION AGAINST EXCESSIVE RADIATION EMISSION, REPLACE ONLY WITH IDENTICAL REPLACEMENT PARTS.

TYPE NO. SZM-V 16-FA-63 OR VP-533A-OF FOR PRIMARY SWITCH
TYPE NO. SZM-V 16-FA-62 OR VP-532A-OF FOR MONITOR SWITCH
TYPE NO. SZM-V 16-FA-63 OR VP-533A-OF FOR SECONDARY SWITCH

4. PRIMARY INTERLOCK SWITCH TEST

When the door release button is depressed slowly with the door closed, an audible **click** should be heard at the same time or successively at intervals. When the button is released slowly, the latches should activate the switches with an audible **click**.

If the latches do not activate the switches when the door is closed, the switches should be adjusted in accordance with the adjustment procedure. Disconnect the wire lead from the primary switch. Connect the ohmmeter leads to the common (COM) and normally open (NO) terminal of the switch. The meter should indicate an open circuit in the door open condition. When the door is closed, the meter should indicate a closed circuit.

When the primary switch operation is abnormal, make the necessary adjustment or replace the switch only with the same type of switch.

B. SECONDARY INTERLOCK SWITCH TEST

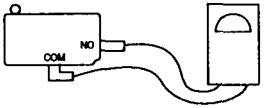
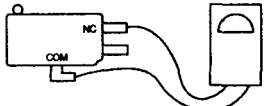
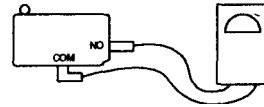
Disconnect the wire lead from the secondary switch.

Connect the ohmmeter leads to the common (COM) and normally open (NO) terminals of the switch. The meter should indicate a open circuit in the door open condition. When the door is closed, meter should indicate an closed circuit. When the secondary switch operation is abnormal, make the necessary adjustment or replace the switch only with the same type of switch.

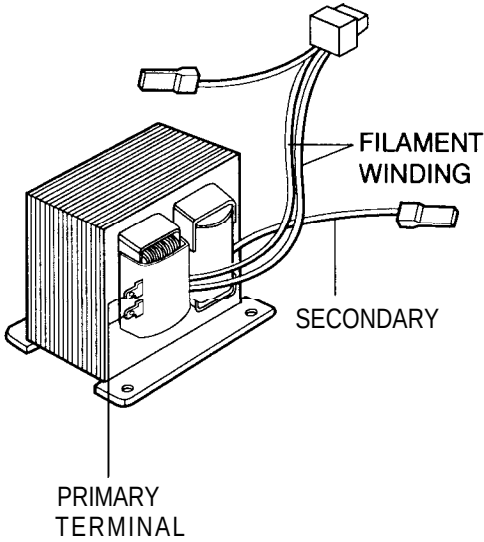
C. MONITOR SWITCH TEST

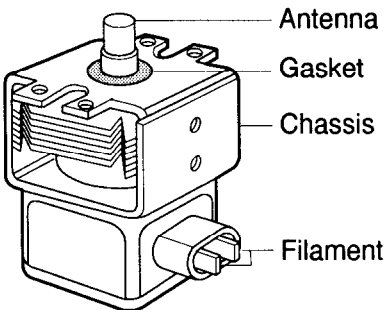
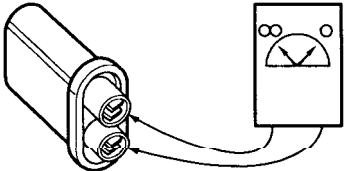
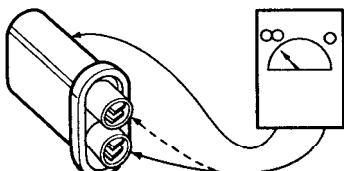
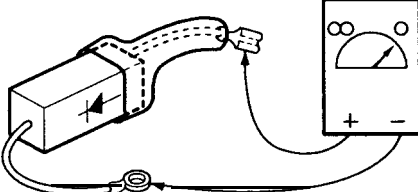
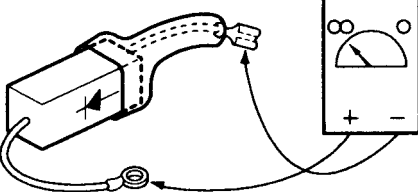
Disconnect the wire lead from the monitor switch. Connect the ohmmeter leads to the common (COM) and normally closed (NC) terminals of the switch. The meter should indicate closed circuit in the door open condition. When the door is closed, meter should indicate an open circuit. When the monitor switch operation is abnormal, replace with the same type of switch.

NOTE: After repairing the door or the interlock system, it is necessary to do this continuity test before operating the oven.

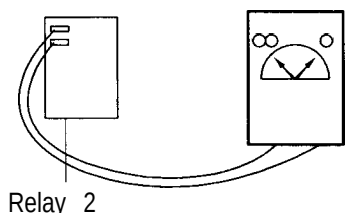
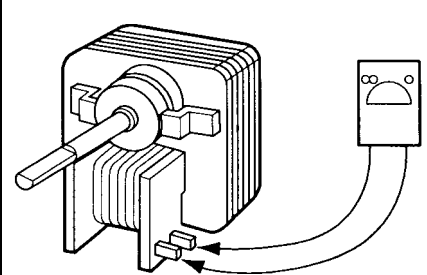
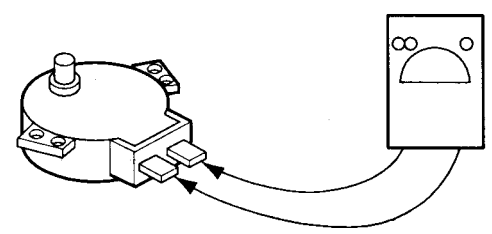
COMPONENTS	TEST PROCEDURE		RESULTS	
SWITCHES (Wire leads removed)	Check for continuity of the switch with an Ohm-meter		Door open	Door closed
	Primary Switch			
	Monitor Switch			
	Secondary Switch			
	NOTE : After checking for the continuity of switches, make sure that they are connected correctly.			

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-I) 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
HIGH VOLTAGE TRANSFORMER (Wire leads removed)	 1. Measure the resistance. (Ohm-meter scale: Rx1 and Rx1 00) • Primary winding • Secondary winding • Filament winding 2. Measure the resistance. (Ohm-meter scale: Rx1 000) • Primary winding to ground • Filament winding to ground	Approx.: 0.3 ~ 0.6 ohm Approx.: 70 ~ 100 ohm Less than: 1 ohm Normal: Infinite Normal: Infinite
MAGNETRON (Wire leads removed)	1. Measure the resistance. (Ohm-meter scale: Rx1) • Filament terminal 2. Measure the resistance. (Ohm-meter scale: Rx1 000) • Filament to chassis	Normal: Less than 1 ohm Normal: Infinite

COMPONENTS	TEST PROCEDURE	RESULTS
	 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.	
HIGH VOLTAGE CAPACITOR	Measure the resistance. (Ohm-meter scale: Rx1 000) • Terminal to terminal. 	Normal: Momentarily indicates several ohms, and then gradually returns to infinite.
	Measure the resistance. (Ohm-meter scale: Rx1 000) • Terminal to case. 	Normal: Infinite.
HIGH VOLTAGE DIODE	Measure the continuity (Forward). (Ohm-meter scale: Rx1 0000) 	Normal: Continuity. Abnormal: Infinite.
	Measure the continuity (Reverse). (Ohm-meter scale: Rx1 0000) 	Normal: Infinite. Abnormal: Continuity.

NOTE :
Some inexpensive meters may indicate infinite resistance in both direction.

COMPONENTS	TEST PROCEDURE	RESULTS		
RELAY 2	Check for continuity of relay 2 with an ohm-meter. (Remove wire leads from relay 2 and operate the unit.)  Relay 2	POWER LEVEL		
		1	4 sec	18 sec
		2	6 sec	16 sec
		3	8 sec	14 sec
		4	10 sec	12 sec
		5	12 sec	10 sec
		6	14 sec	8 sec
		7	16 sec	6 sec
		8	18 sec	4 sec
		9	20 sec	2 sec
		10	22 sec	0 sec
FAN MOTOR (Wire leads removed)	Measure the resistance. (Ohm-meter scale: R x 1) 	Normal: Approx. 65 ~ 80 ohm. Abnormal: Infinite or several ohm.		
TURNTABLE MOTOR (Wire leads removed)	Measure the resistance. (Ohm-meter scale: R x 1000) 	Normal: Approx.2~4K ohm Abnormal: Infinite or several ohm.		
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.				

TROUBLE SHOOTING

WHEN YOU GET A COMPLAINT FROM YOUR CUSTOMER, EVALUATE THE COMPLAINT CAREFULLY. IF THE FOLLOWING SYMPTOMS APPLY, PLEASE INSTRUCT THE CUSTOMER IN THE PROPER USE OF THE MICROWAVE OVEN. THIS CAN ELIMINATE AN UNNECESSARY SERVICE CALL.

CAUTIONS

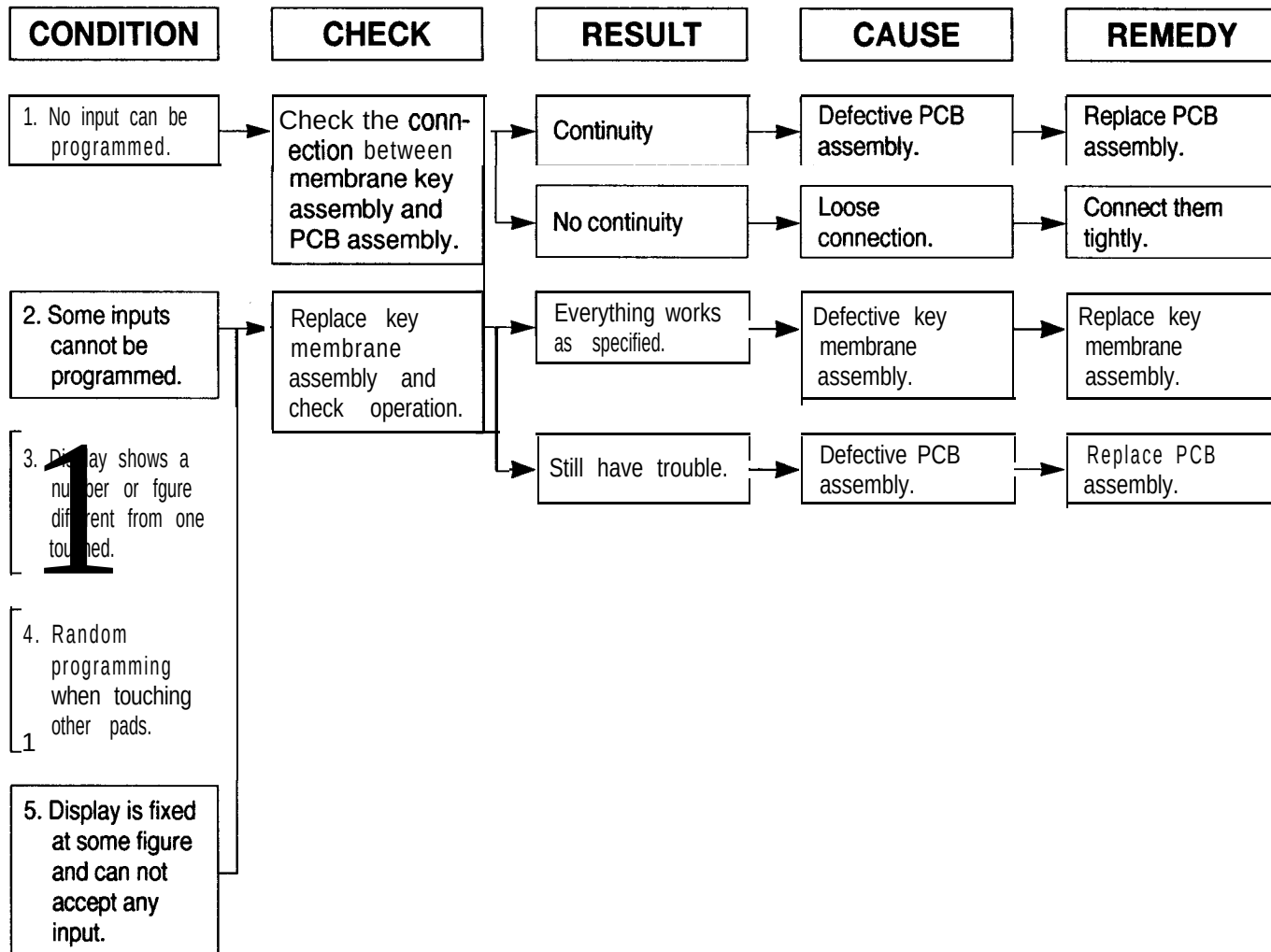
1. Check grounding before checking for trouble.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor. (See page 2-l)
4. When checking the continuity of the switches or of the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.
5. Do not touch any part of the circuit on the PCB since static electric discharge may damage this control panel.

Always touch yourself to ground while working on this panel to discharge any static charge built up in your body. (Micom model only)

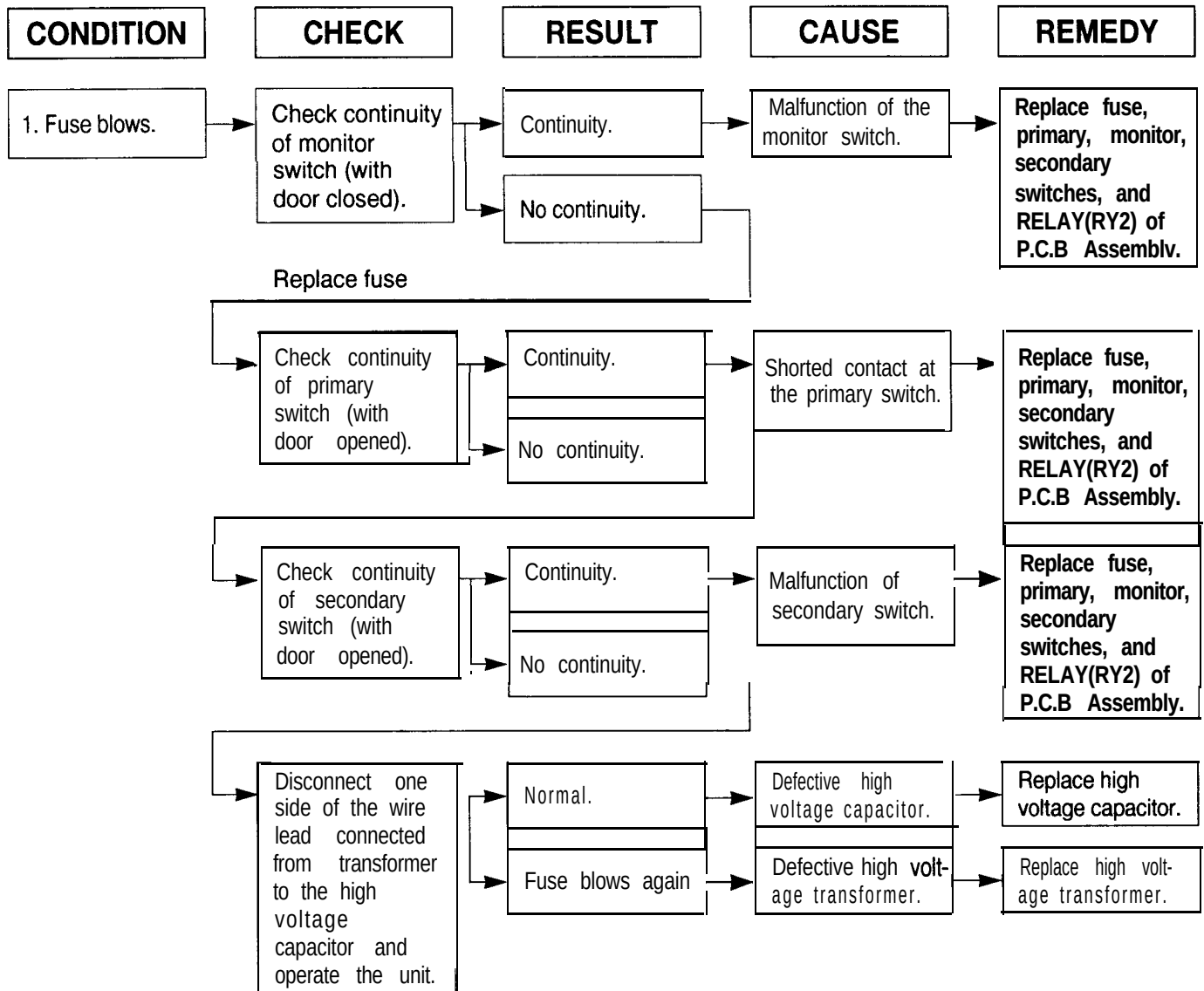
CONDITION	CAUSE	REMEDY
Microwave oven does not work.	Inserting many plugs into one outlet and using them at the same time. (blown fuse or breaker)	Avoid using other electrical appliances when you use the microwave oven.
	Microwave oven plug is not inserted tightly.	Insert microwave oven plug securely.
Output power is too low.	Low AC input voltage.	Use the microwave oven at adequate line voltage.
	Food temperature is too low.	This may not be a defect. It is possible that the food should be cooked for a longer time period.
Sparks occur.	Using metallic ware and allowing it to touch the oven wall.	Do not use metallic ware for cooking except that noted in the cooking guide.
	Ceramic ware trimmed in gold or silver powder is used.	Do not use any type of cookware with metallic trimming.
Uneven cooking.	Inconsistent intensity of microwave by their characteristics.	1. Use plastic wrap or lid. 2. Stir once or twice while cooking soup, cocoa or milk, etc.

(TROUBLE 1) The following visual conditions indicate a probable defective control circuit.

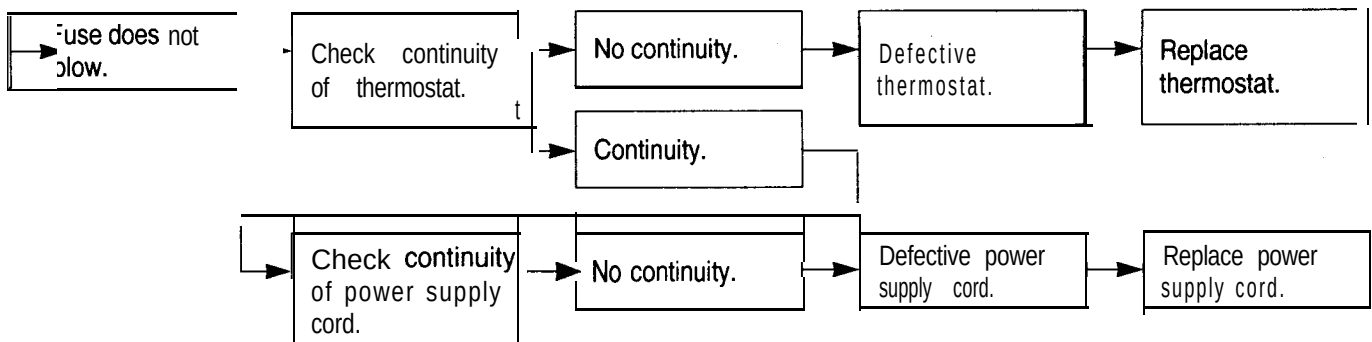
1. Incomplete segments.
 - . Segment missing.
 - . Partial segment missing.
 - . Digit flickering (NOTE: Slight flickering is normal.)
2. Colon does not turn on or blink.
3. A distinct change in the brightness of one or more numbers in display.
4. One or more digits in the display are not lighting.
5. Display indicates a number different from one touched, for example, key in 5 and 3 appears in the display.
6. Specific numbers (for example 7 or 9) will not display when key pad is touched.
7. Display does not count down with time blinking or up with clock operation.
8. Display obviously jumps in time while counting down.
9. Display counts down too fast while cooking.
10. Each indicator light does not turn on after setting cooking cycle.
11. Display time of day does not reappear when cooking is finished.



(TROUBLE 2) Oven does not operate at all, Display window does not display any figures, and no input is accepted.



NOTE : All these switches must be replaced at the same time. Refer to page 5-6, 5-7



(TROUBLE 3) Display shows all figures set, but oven does not start cooking while desired program times are set and START pad is touched.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
1. Setting time does not count down when touching START pad.	Check continuity of secondary switch (with closed).	No continuity.	Defective secondary switch.	Replace secondary switch.
		Continuity.		
	Check the connection between CN1 connector and PCB assembly.	Continuity	Defective PCB assembly.	Replace PCB assembly.
		No continuity	Loose connection.	Connect them tightly.
2. Fan motor or oven lamp do not turn on.	Check fan motor.	Abnormal	Defective fan motor.	Replace fan motor.
	Check oven lamp.	Abnormal	Defective oven lamp.	Replace oven lamp.
		Normal		

(TROUBLE 4) Oven seems to be operating but little heat is produced in oven load.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Output is low	Check the power source voltage.	Lower than 90% of rating voltage.	Decrease in power source voltage with load.	Suggest customer contact local electric power utility co. or qualified electrician.
		Normal		
	Disconnect the wire leads from relay 2 and check on and off time with multitester.	Abnormal	Defective PCB assembly.	Replace PCB assembly.
		Normal		
	Measure the output power.	Abnormal	Defective magnetron.	Replace magnetron.

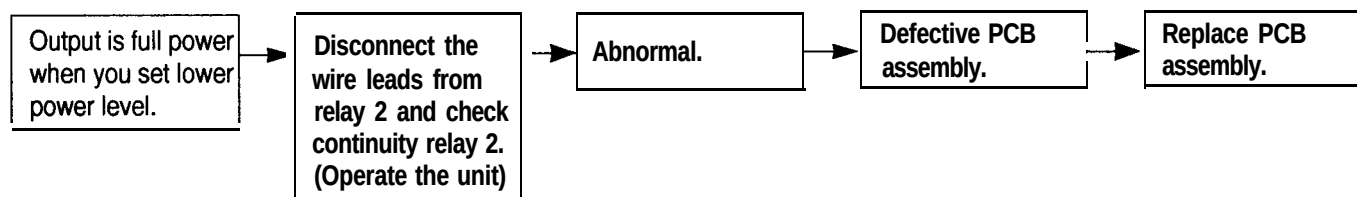
NOTE : Simple test of power output-conducted by heating one liter water for one min. if available.
Minimum 8.5% temperature rise is normal condition.

(TROUBLE 5) No microwave oscillation even though oven lamp and fan motor run.
(Display operates properly)

CONDITION	CHECK	RESULT	CAUSE	REMEDY
No microwave oscillation.	Disconnect the wire leads from relay2 and check continuity of relay 2. (Operate the unit)	No continuity.	Defective PCB assembly.	Replace PCB assembly.
		Continuity.		
	Check high voltage transformer	Abnormal	Defective high voltage transformer.	Replace high voltage transformer.
		Normal		
	Check high voltage capacitor.	Abnormal	Defective high voltage capacitor.	Replace high voltage capacitor.
		Normal		
	Check high voltage diode.	Abnormal	Defective high voltage diode.	Replace high voltage diode.
		Normal		
	Check magnetron.	Abnormal	Defective magnetron.	Replace magnetron.

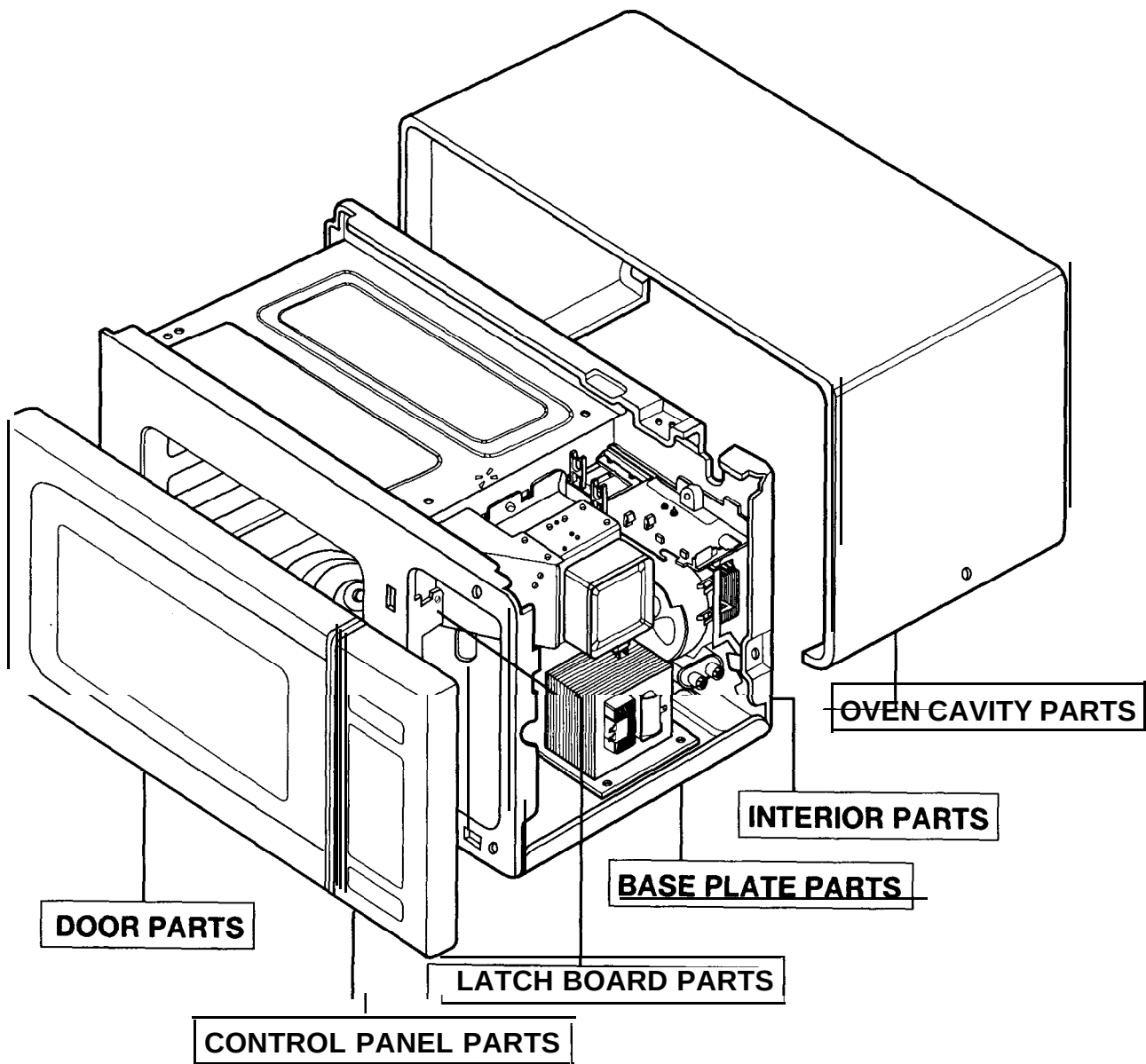
NOTE : . Make sure the wire leads correct position.

- . When Removing the wire leads from the parts, be sure to grasp the connector, not the wires.
- . When removing the magnetron, be sure to install the magnetron gasket in the correct position and in good condition.

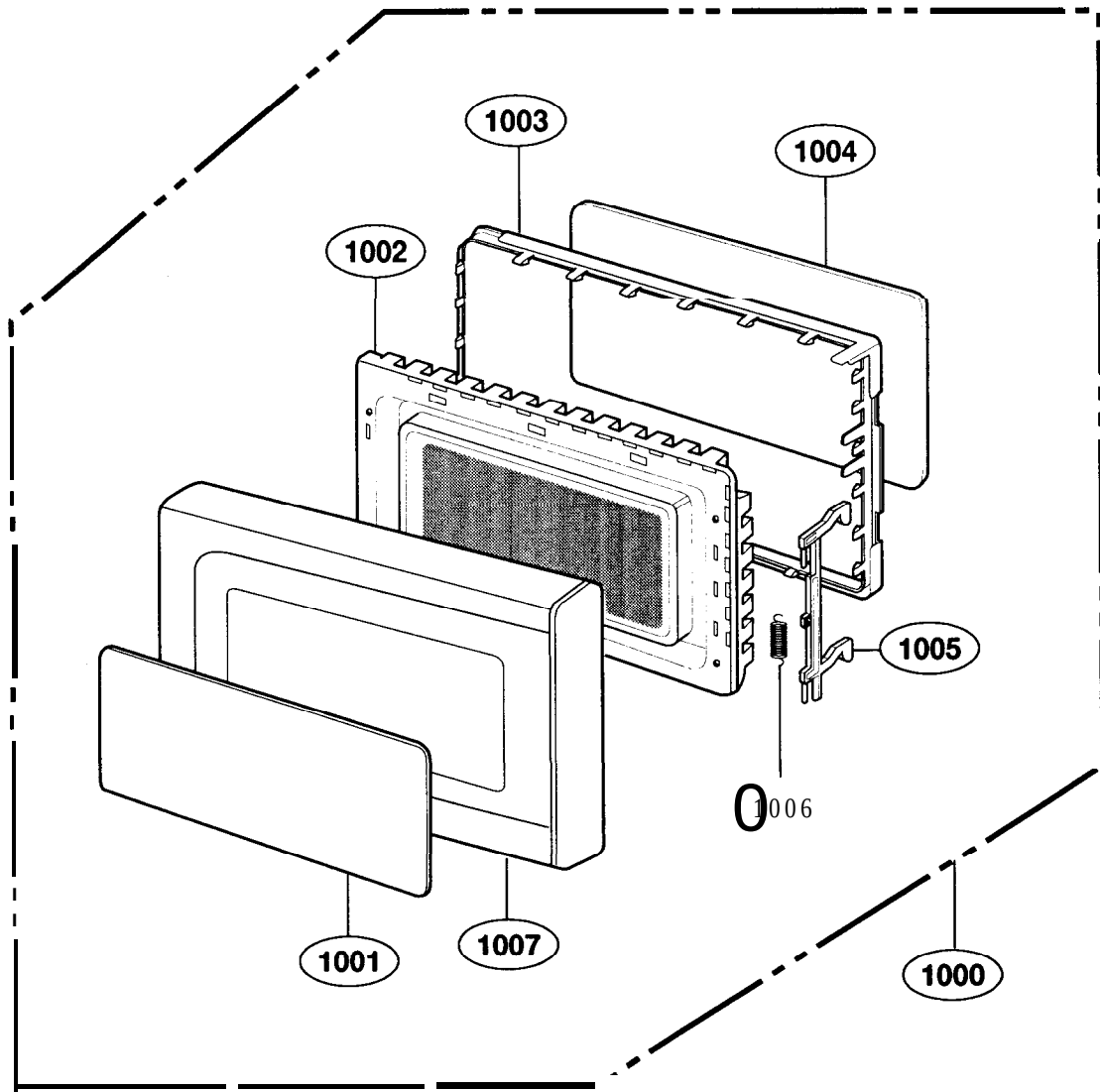


EXPLODED VIEW

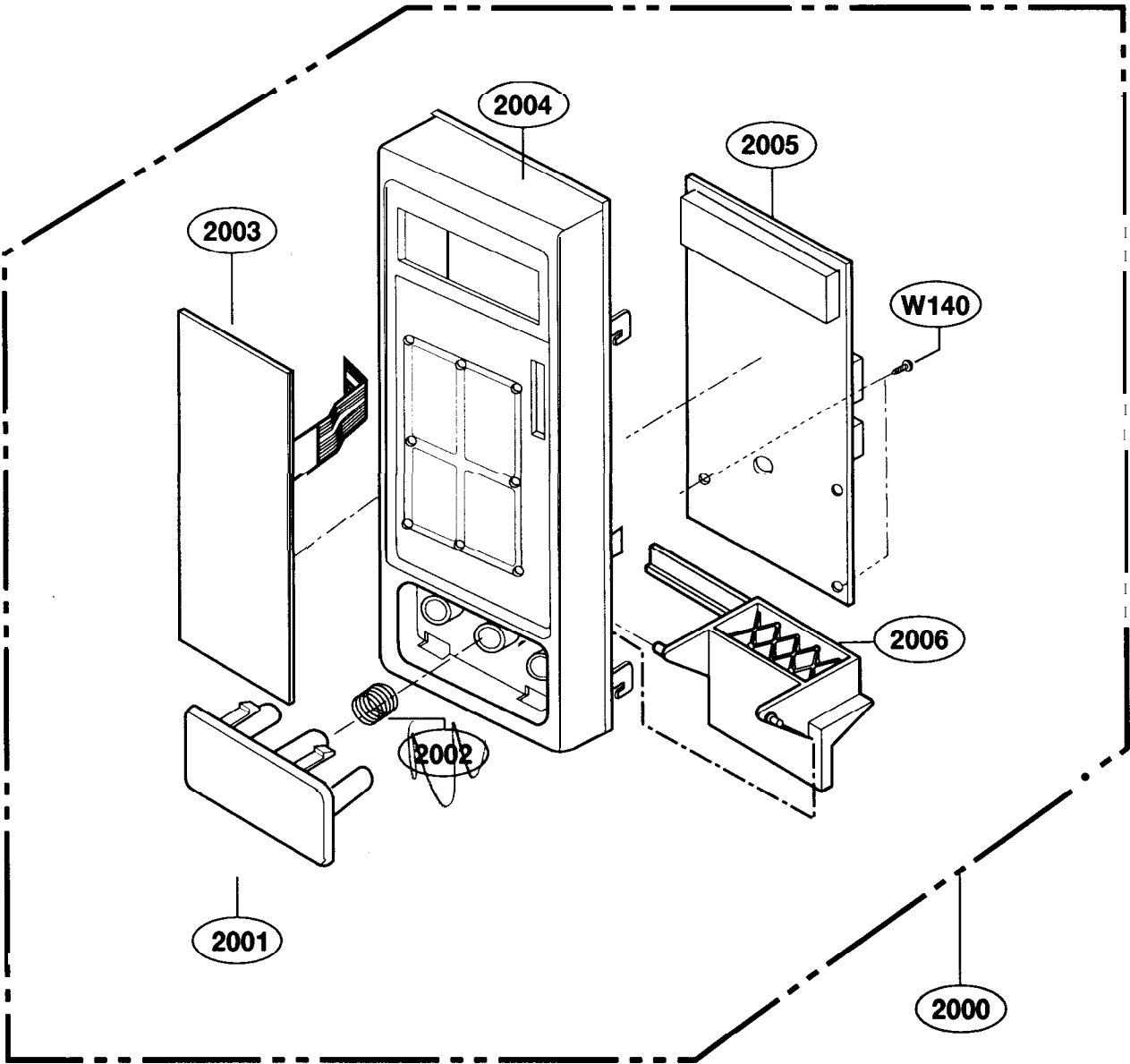
INTRODUCTION



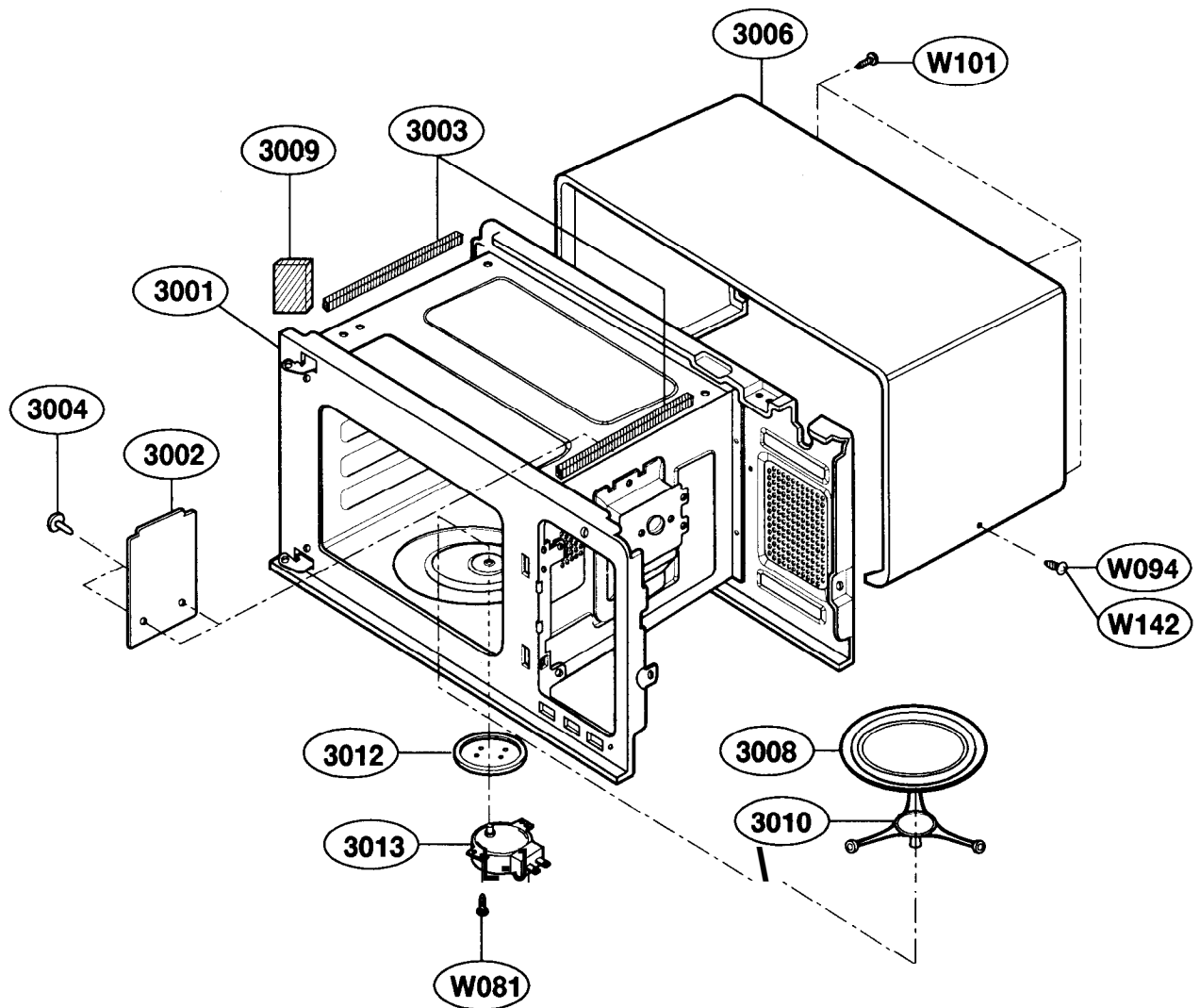
DOOR PARTS



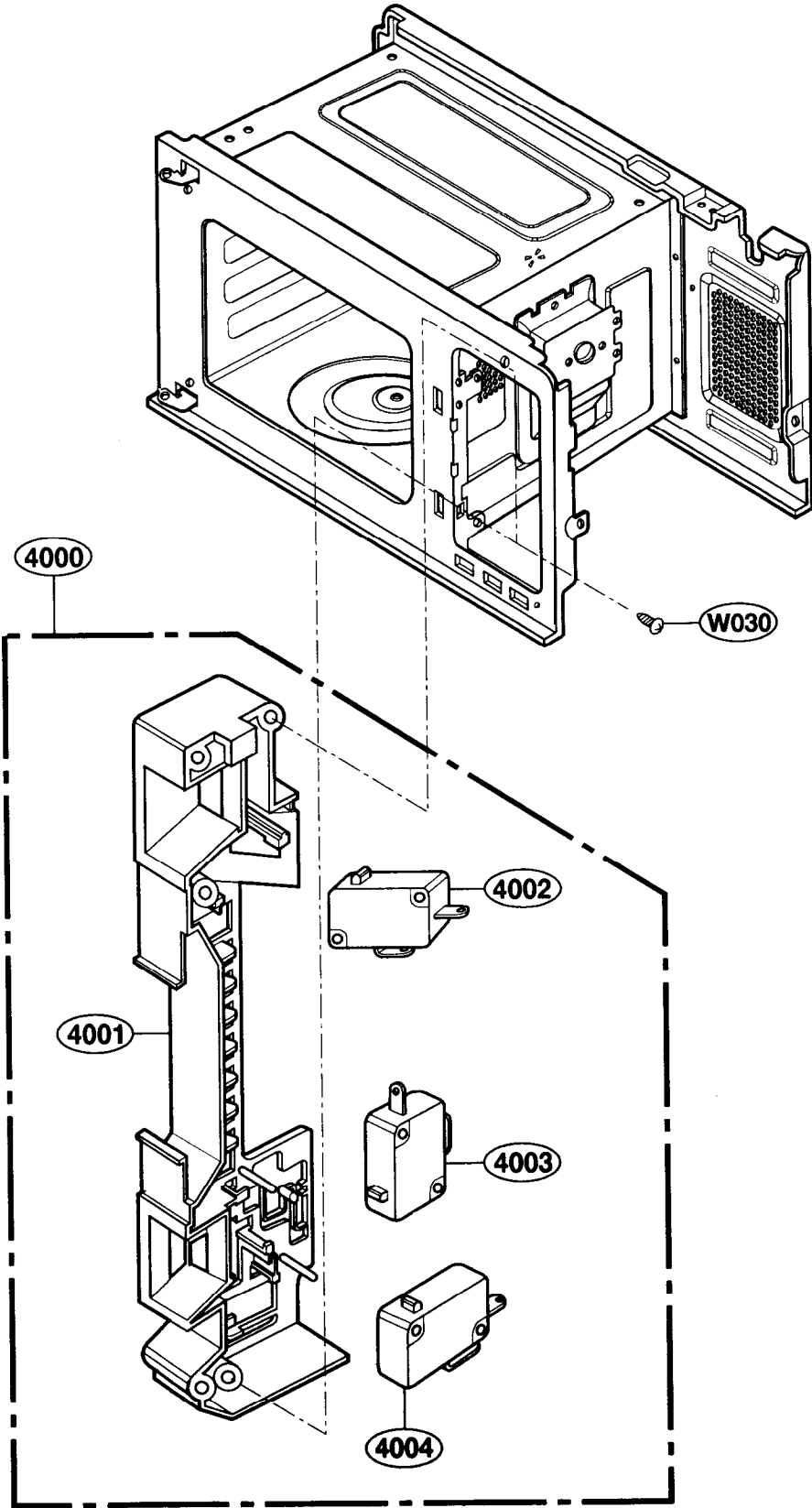
CONTROLLER PARTS



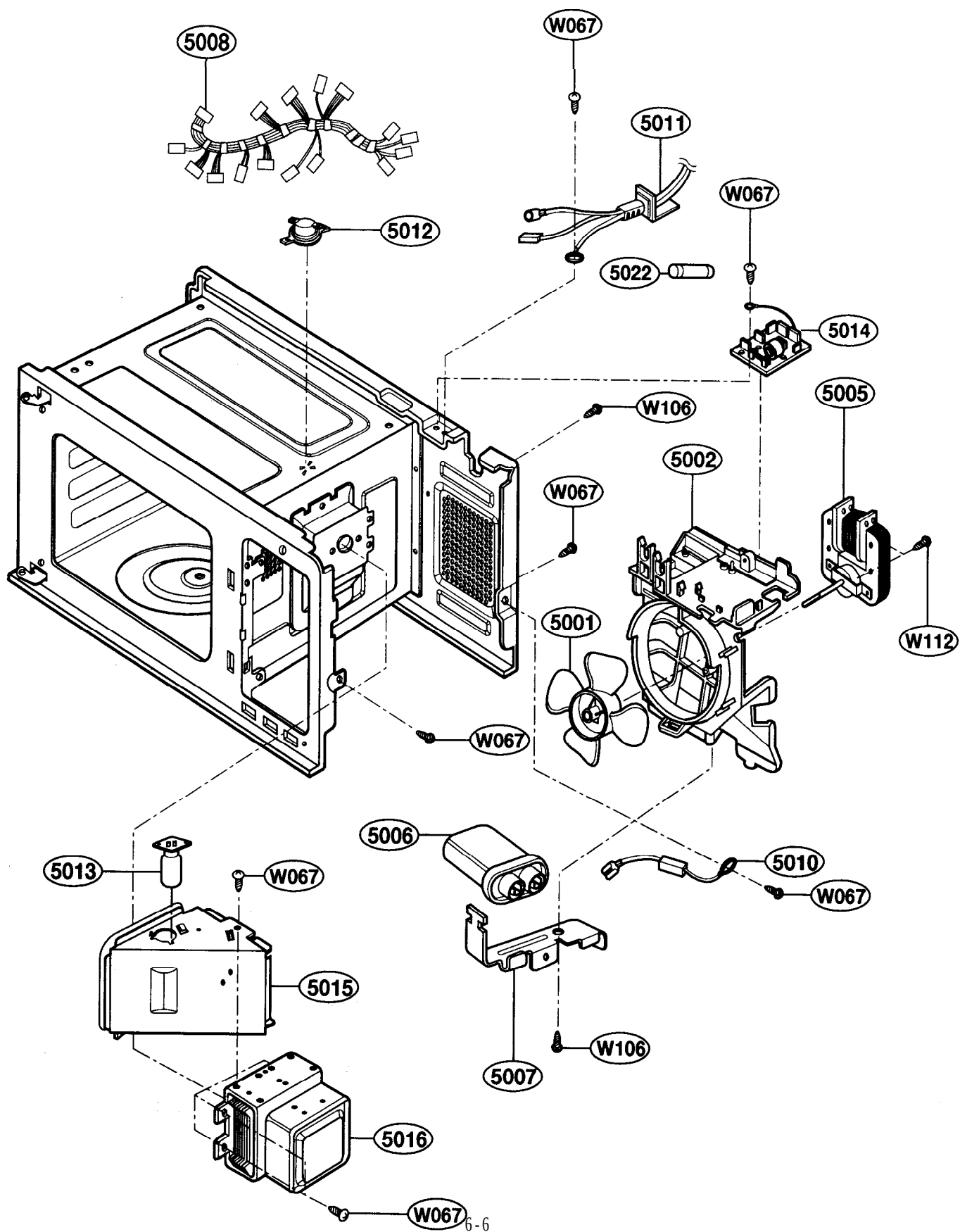
OVEN CAVITY PARTS



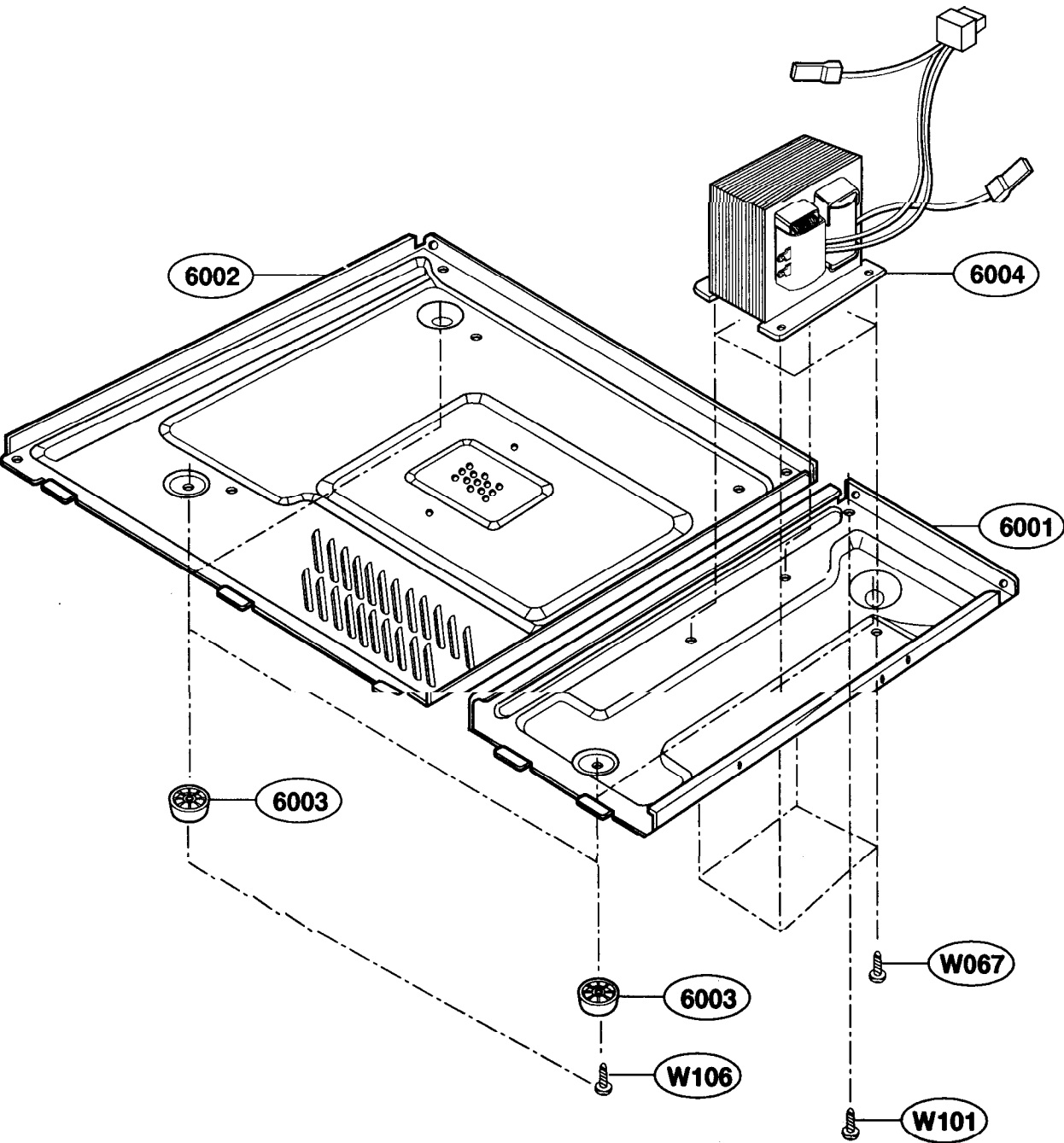
LATCH BOARD PARTS



INTERIOR PARTS



BASE PLATE PARTS



REPLACEMENT PARTS LIST

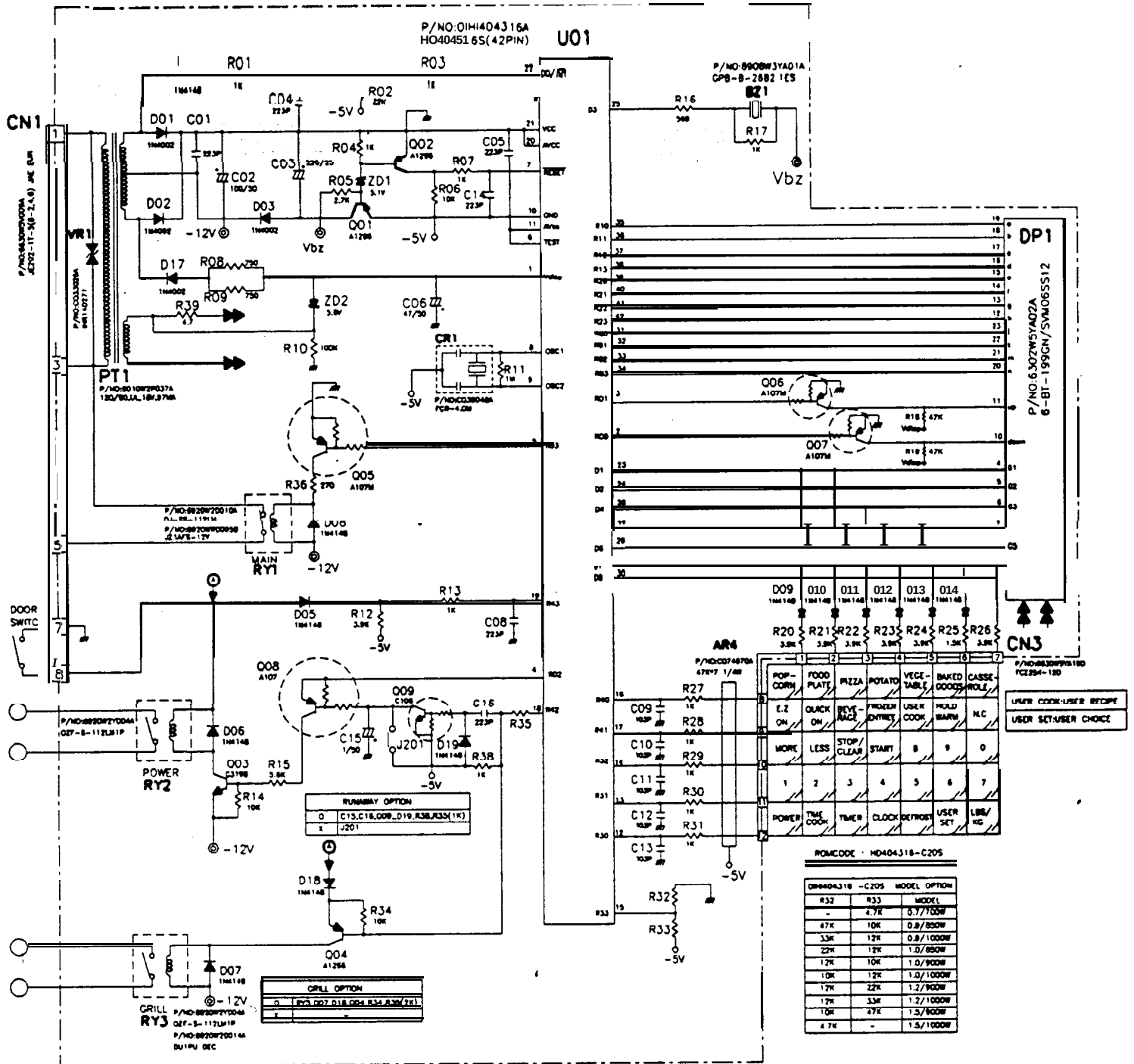
LOC. NO.	DESCRIPTION	DMW10W	DMW10B	REMARK
DOOR PARTS				
1000	DOOR ASS'Y, GROSS	3581W1A112P	3581W1A112Q	S
1001	FRONT SCREEN, ALL	3352W1A075H	3352W1A075J	S
1002	DOOR FRAME ASSY, ALL	3213W1A028E	3213W1A028B	S
1003	CHOKE COVER, ALL	3552W1A026A		S
1004	SEAL TAPE, ALL	3536WRA001L		S
1005	LATCH, ALL	4026W2A012A		S
1006	SPRING, ALL	4970WRA001C		S
1007	PANEL, DOOR	3720W0D0078E	3720W0D078G	S
CONTROLLER PARTS				
2000	CONTROLLER ASS'Y, MICOM	4781W1M094R	4781W1M094S	S
2001	BUTTON, RELEASE	5020W3G102D	5020W3G102C	S
2002	BUTTON SPRING	4B72023A		S
2003	KEY MEMBRANE, ALL	6638W2A181A	6638W2A181B	S
2004	CONTROL PANEL, ALL	3572W1A121E	3572W1A121C	S
2005	PCB ASS'Y (INTERNAL)	6871W2J004H		S
	PCB ASS'Y (INTERNAL)	6871W2S004H		A
2006	LEVER RELEASE	4510W3L002A		S
W140	PAN HEAD TAPPING SCREW	1TPL0402818		S
OVEN CAVITY PARTS				
3001	CAVITY ASS'Y, ALL	3461W1A036B		N
3002	CANOPY, MICA	3052W3M008A		S
3004	RIVET ASS'Y, ALL	4051W3A001A		S
3006	OUT CASE	3112W1U017G	3112W1U017H	N
3008	TRAY, GLASS	3390W1G003B		S
3009	CUSHION	3B72244C		S
3010	ROTATING RING ASS'Y	5889W2A011A		S
3013	MOTOR, SYNCHRONOUS	6549W2S002H		S
	MOTOR, SYNCHRONOUS	6549WRS001N		A
	MOTOR, SYNCHRONOUS	2B72754K		A
W081	PAN HEAD TAPPING SCREW	1TPL0402418		S
W094	PAN HEAD TAPPING SCREW	1TTG0402422	-	S
W101	PAN HEAD TAPPING SCREW	1TTL0402418		S
W142	PAN HEAD TAPPING SCREW	-	1TTL0402416	S

S: SERVICE PARTS
A: ALTERNATE PARTS
N: NOT SERVICE PARTS

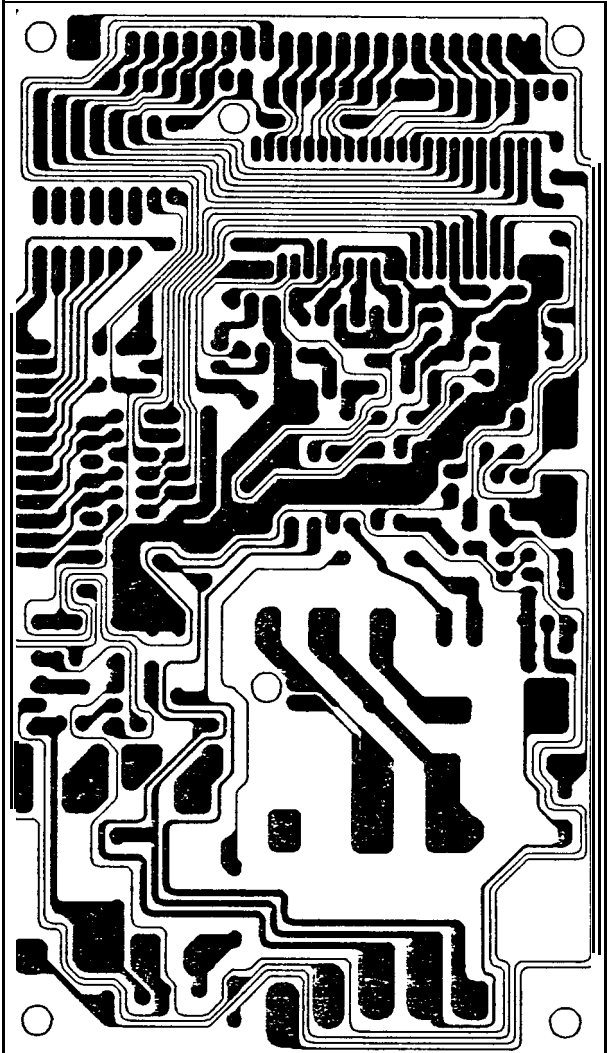
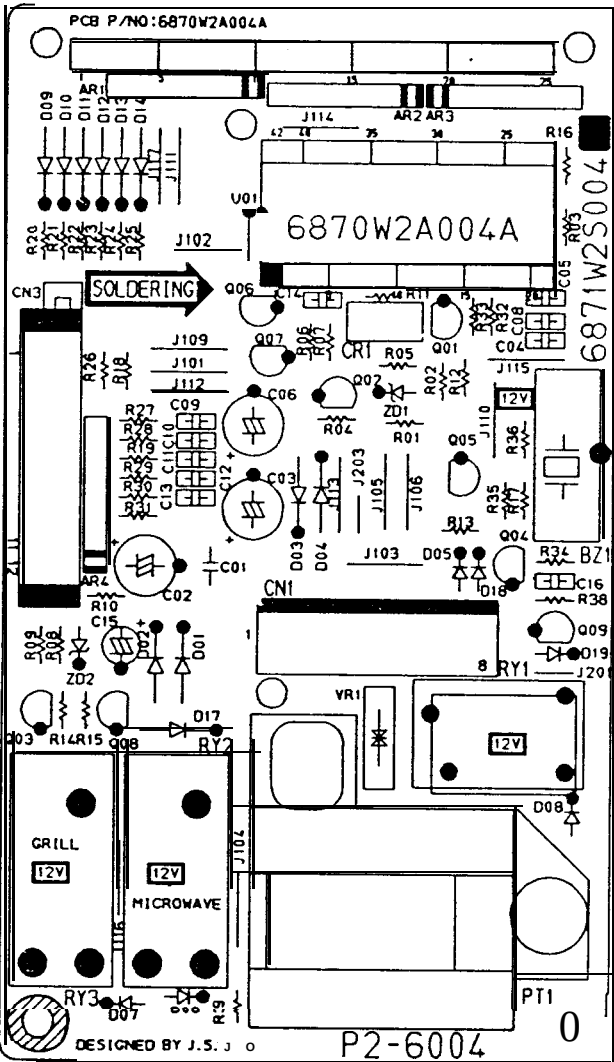
LOC. NO.	DESCRIPTION	DMW10W	DMW10B	REMARK
LATCH BOARD PARTS				
4000	BOARD ASS'Y, LATCH	3501W1A003H		S
4001	BOARD, LATCH	3500W1A004A		S
4002	SWITCH, MICRO (SECONDARY)	3B73362F		S
	SWITCH, MICRO (SECONDARY)	3B73362E		A
4003	SWITCH, MICRO (MONITOR)	3B73361E		S
	SWITCH, MICRO (MONITOR)	3B73361D		A
4004	SWITCH, MICRO (PRIMARY)	3B73362F		S
	SWITCH, MICRO (PRIMARY)	3B73362E		A
W030	SCREW, SPECIAL	4B70188C		S
INTERIOR PARTS				
5001	PROPELLER	2B72125A		S
5002	GUIDE, SUCTION	4974W1S010A		S
5005	MOTOR, FAN	2B73670B		S
5006	CAPACITOR, HIGH VOLTAGE	6120W3H003G		S
	CAPACITOR, HIGH VOLTAGE	6120WRH001F		A
5007	BRACKET, HVC	4810W4C003A		S
5008	LEAD WIRE ASS'Y	6877W1A131A		S
5010	DIODE ASS'Y	6021W3B001A		S
5011	POWER CORD ASS'Y	6411W2A002B		S
5012	THERMOSTAT	6930WRT002C		S
	THERMOSTAT	6930WRT001C		A
5013	LAMP, BASELESS	6912W3B002L		S
	LAMP, BASELESS	6912W3B002G		A
5014	NOISE, FILTER	2B72130F		S
5015	AIR DUCT	5262W2A020A		S
5016	MAGNETRON, ALL	2B72740B		S
5022	FUSE	3B74133H		S
W067	BINDING HD TAP TITE SCREW	1SBF0402418		S
W106	TRUSS HEAD TP SCREW	1TTL0402818		S
W112	TRUSS HEAD TP SCREW	1TTL0403818		S
BASE PLATE PARTS				
6001	BASE PLATE - R	3302W1A035C		S
6002	BASE PLATE - L	3302W1A036F		S
6003	LEG	4B73900A		S
6004	TRANSFORMER, HIGH VOLTAGE	6010W2H102B		S
W067	BINDING HD TAP TITE SCREW	1SBF0402418		S
W101	PAN HEAD TAPPING SCREW	1TTL0402418		S

S: SERVICE PARTS
A: ALTERNATE PARTS
N: NOT SERVICE PARTS

SCHEMATIC DIAGRAM OF P.C.B.



PRINTED CIRCUIT BOARD



P.C.B. PARTS LIST

NO.	PART NO.	DESCRIPTION	QTY
INTEGRATED CIRCUITS			
U01	01H1404316A	HD404316-C20S	1
TRANSISTORS			
Q01	0TR101509AB	KTA1015 = KTA1266	1
Q02	0TR101509AB	KTA1015 = KTA1266	1
Q03	0TR181509AB	KTC1815 = KTC3198	1
Q05	0TR107009AE	KRA 107M	1
Q06	0TR107009AE	KRA 107M	1
Q07	0TR107009AE	KRA 107M	1
Q08	0TR107009AE	KRA 107M	1
DIODES			
ZD1	0DZ510009AE	ZENER. 5.1V, 0.5W	1
ZD2	0DZ560009AB	ZENER, 5.6V, 0.5W	1
D01	0DD400209AA	RECTIFIER 1N4002	1
D02	0DD400209AA	RECTIFIER 1N4002	1
D03	0DD400209AA	RECTIFIER 1N4002	1
D04	0DD414809AA	SWITCH DIODE 1N4148	1
D05	0DD414809AB	SWITCH DIODE 1N4148M	1
D06	0DD414809AB	SWITCH DIODE 1N4148M	1
D08	0DD414809AB	SWITCH DIODE 1N4148M	1
D09	0DD414809AA	SWITCH DIODE 1N4148	1
D10	0DD414809AA	SWITCH DIODE 1N4148	1
D11	0DD414809AA	SWITCH DIODE 1N4148	1
D12	0DD414809AA	SWITCH DIODE 1N4148	1
D13	0DD414809AA	SWITCH DIODE 1N4148	1
D14	0DD414809AA	SWITCH DIODE 1N4148	1
D17	0DD400209AA	RECTIFIER 1N4002	1
CAPACITORS			
C01	0CK2230K935	CERAMIC, 0.022uF/50V	1
C02	0CE1071K638	ELECTROLYTIC, 100uF/50V	1
C03	0CE2272H638	ELECTROLYTIC, 220uF/25V	1
C04	0CK2230H518	CERAMIC, 0.022uF/25V	1
C05	0CK2230H518	CERAMIC, 0.022uF/25V	1
C06	0CE4761K638	ELECTROLYTIC, 47uF/50V	1
C08	0CK2230H518	CERAMIC, 0.022uF/25V	1
C09	0CK1030H518	CERAMIC, 0.01uF/25V	1
C10	0CK1030H518	CERAMIC, 0.01uF/25V	1
C11	0CK1030H518	CERAMIC, 0.01uF/25V	1
C12	0CK1030H518	CERAMIC, 0.01uF/25V	1
C13	0CK1030H518	CERAMIC, 0.01uF/25V	1
C14	0CK2230H518	CERAMIC, 0.022uF/25V	1
RESISTORS			
R01	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R02	0RD2202F608	CARBON FILM 22K 1/6W	1
R03	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R04	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R05	0RD2701F608	CARBON FILM 2.7K 1/6W	1
RESISTORS			
R06	0RD1002F608	CARBON FILM 10K 1/6W	1
R07	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R08	0RD7500F608	CARBON FILM 750 1/6W	1
R09	0RD7500F608	CARBON FILM 750 1/6W	1
R10	0RD1003F608	CARBON FILM 100K 1/6W	1
R11	0RD1004F608	CARBON FILM 1M 1/6W	1
R12	0RD3901F608	CARBON FILM 3.9K 1/6W	1
R13	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R14	0RD1002F608	CARBON FILM 10K 1/6W	1
R15	0RD5601 F608	CARBON FILM 5.6K 1/6W	1
R16	0RD5600F608	CARBON FILM 560 1/6W	1
R17	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R18	0RD4702F608	CARBON FILM 47K 1/6W	1
R19	0RD4702F608	CARBON FILM 47K 1/6W	1
R20	0RD3901F608	CARBON FILM 3.9K 1/6W	1
R21	0RD3901F608	CARBON FILM 3.9K 1/6W	1
R22	0RD3901 F608	CARBON FILM 3.9K 1/6W	1
R23	0RD3901F608	CARBON FILM 3.9K 1/6W	1
R24	0RD3901F608	CARBON FILM 3.9K 1/6W	1
R25	0RD1501F608	CARBON FILM 1.5K 1/6W	1
R26	0RD3901F608	CARBON FILM 3.9K 1/6W	1
R27	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R28	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R29	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R30	0RD1001 F608	CARBON FILM 1.0K 1/6W	1
R31	0RD1001F608	CARBON FILM 1.0K 1/6W	1
R32	0RD2202F608	CARBON FILM 22K 1/6W	1
R33	0RD1202F608	CARBON FILM 12K 1/6W	1
MISCELLANEOUS			
CR1	CQ39048A	CERAMIC RESONATOR FCR-4.0M	1
PT1	6010W2P037A	POWER TRANS 120V/60Hz	1
BZ1	6908W3YA01A	BUZZER GPB-8-26B2.1 ES	1
CN1	6630W5V009A	CONNECTOR WAFER JE202B-1T-5(8-2,4,6)	1
CN3	6630W5YA19D	CONNECTOR KEY FCZ254-12D	1
CN3	3Q50034A	CONNECTOR KEY CFP2111-0201	1
RY1	6920WRD005B	RELAY JZ1AFS-12V MATSUSHITA	1
RY1	6920W2D010A	RELAY OJ-SS-112LM ORIGINAL	1
RY2	6920W2YD04A	RELAY OZF-S-112LMI P ORIGINAL	1
DP1	6302W5YA02A	V.F.D. 6-8T-199GN 1 SVM-06SS12	1
AR4	CQ74070A	ARRAY RESISTOR 47K*7	1

* : ALTERNATE COMPONENT



P/NO : 3828W5S0804

April, 1998
Printed in Korea