GoldStar

website http://biz.lgservice.com

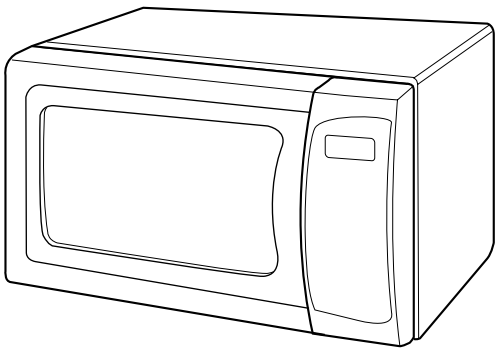
MICROWAVE OVEN

SERVICE MANUAL

MODEL : MA2120B
MA2120W

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.

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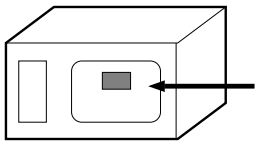
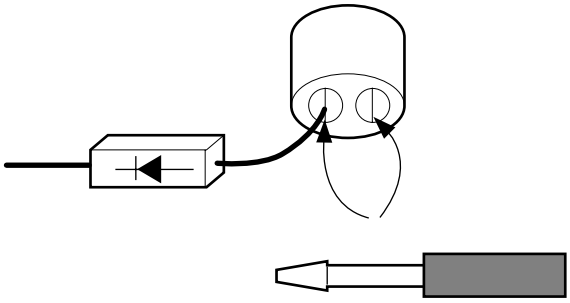
SPECIFICATIONS

ITEM	DESCRIPTION
MODEL	**MA2120B/W**
Power Requirement	120 Volts AC 60 Hz 1,600 Watts (13.5 A) Single phase, 3-wire grounded
Power Output	1,200 Watts full microwave power (IEC60705)
Microwave Frequency	2,450 MHz
Magnetron	2M282J
Timer	0 ~ 99 min. 99 sec.
Outside Dimensions	$23\frac{7}{8}$" (W) x $13\frac{9}{16}$" (H) x $18\frac{13}{16}$" (D)
Cavity Dimensions	$17\frac{1}{2}$" (W) x11" (H) x $18\frac{1}{2}$" (D)
Net Weight	42 lbs (approx.)
Shipping weight	46 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%
Nameplate Location	
Accessories	Owner's manual & cooking guide Glass turntable Rotating ring
This microwave oven is designed for household use only. 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.

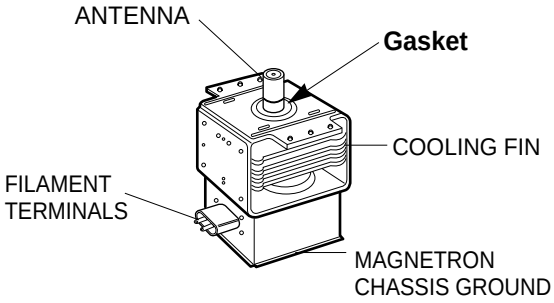


- Remove your watches whenever working close to or replacing the Magnetron.
- DO NOT touch any parts of the control panel circuit. A resulting static electric discharge may damage this P.C.B.
- NEVER operate the oven with no load.
- NEVER injure the door seal and front plate of the oven cavity.
- NEVER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



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.)

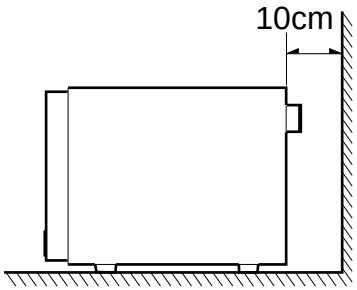
3. Do not block the vent and the air intake openings. Blocking vent or air intake openings can cause damage to the oven and poor cooking results. Make sure the microwave oven legs are in place to ensure proper air flow.

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.



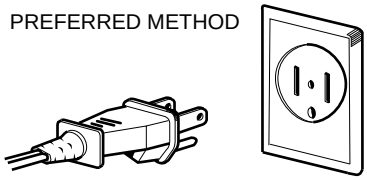
GROUNDING INSTRUCTIONS

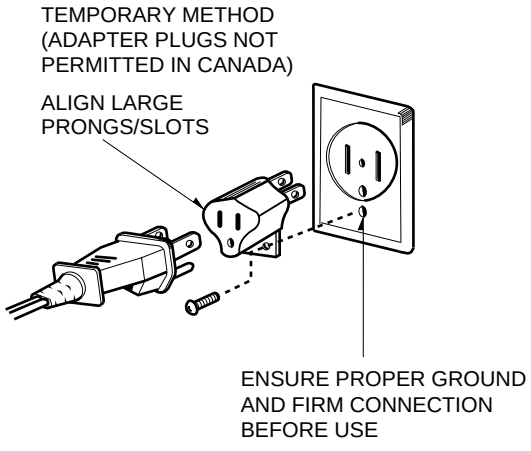
For personal safety, this appliance must be fully grounded at all times.

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

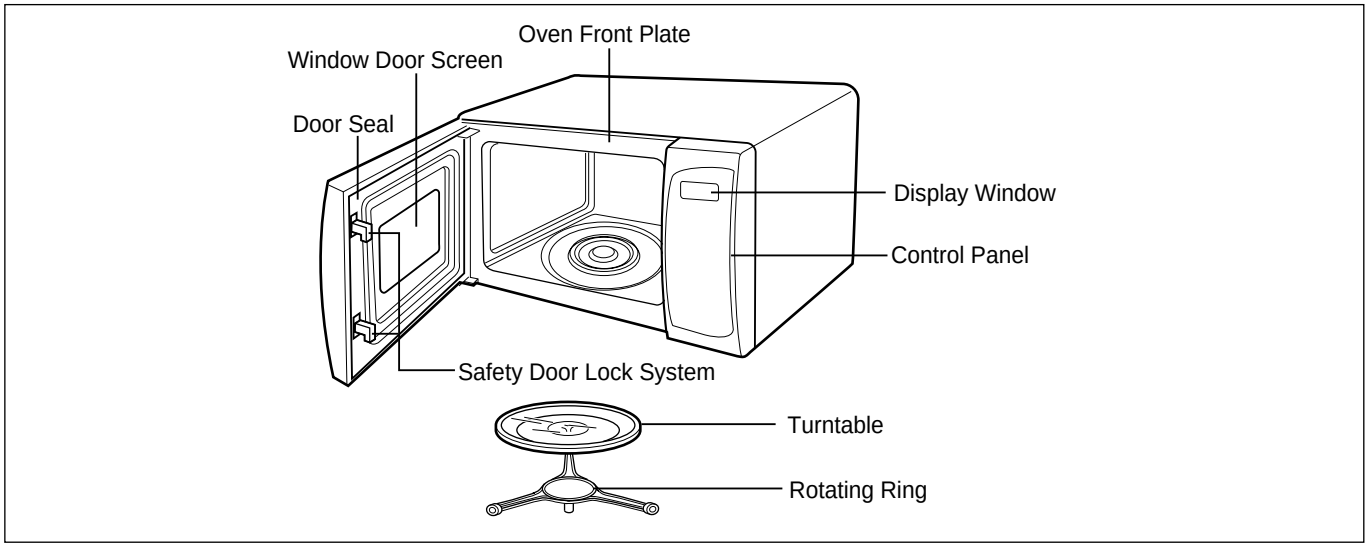
Improper use of the grounding plug can result in a risk of electric shock.
Do not, under any circumstances, cut or remove the third ground prong from the power cord plug.



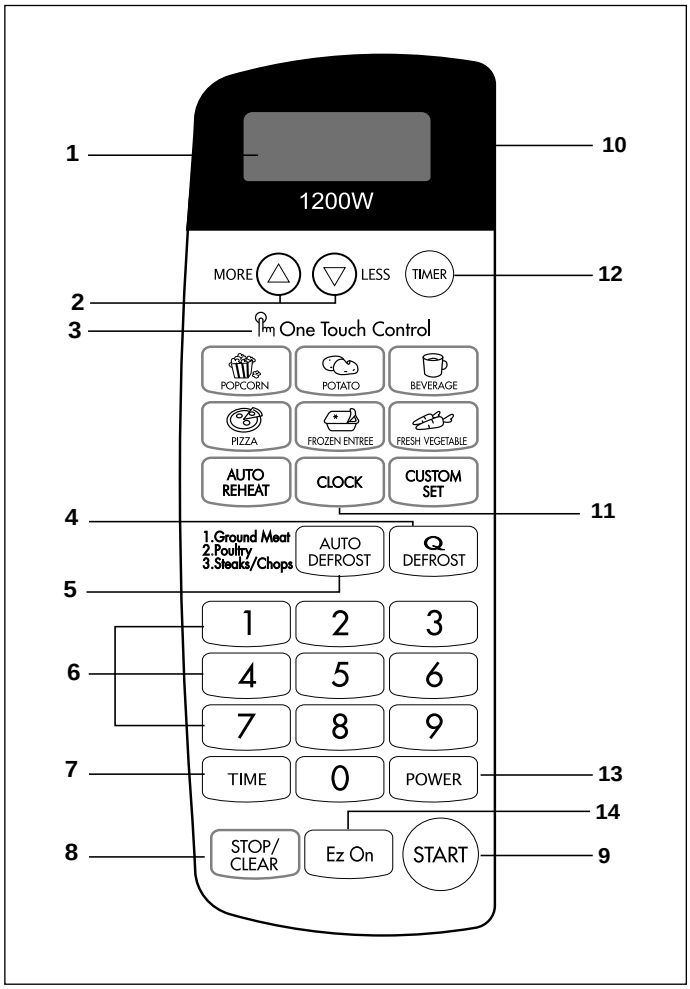


OPERATING INSTRUCTIONS

FEATURES



CONTROL PANEL



1. **INDICATORS.**
2. **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.
3. **ONE TOUCH CONTROL:** This menu has been pre programmed to cook food automatically by one touch.
4. **Q-DEFROST:** You can thaw specific foods and weight very quickly.
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. **CLEAR:** It used to stop oven and clear all entries except time of day.
9. **START/PAUSE:** This feature turns the oven on instantly.
10. **DISPLAY WINDOW.**
11. **CLOCK:** It is used to set the time of day.
12. **TIMER:** You can use the timer function of your oven for purpose other than cooking.
13. **POWER:** You can select the desired power level for cooking.
14. **EZ ON:** You can extend cooking time in multiples of 1 minute by repeatedly touching this pad during cooking.

OPERATING SEQUENCE

The following is a description of component functions during oven operation.

1. SETTING THE CLOCK

CLEAR → CLOCK → NUMBER → CLOCK

ex.) To set 4:30, touch number key [4],[3], and [0].

NOTE: 1) This is a 12 hour clock.
2) Clock will operate as long as power is applied to the oven.

2. CANCEL FUNCTION

Touch the CLEAR pad whenever you need to cancel an entry or a function currently in use.
The display will return either to the last item entered or to the clock.

3. EZ ON

CLEAR → EZ on

4. ONE TOUCH COOKING

CLEAR → POPCORN

NOTE: Heat only 1 package at a time

5. TIME COOKING

CLEAR → TIME → NUMBER → POWER
→ NUMBER → START/PAUSE

6. MULTI-STAGE COOKING

1ST STAGE

CLEAR → TIME → NUMBER → POWER
→ NUMBER

2ND STAGE

→ TIME → NUMBER → POWER
→ NUMBER → START/PAUSE

7. AUTO DEFROST COOKING

CLEAR → AUTO DEFROST → WEIGHT → START/PAUSE

8. CHILD LOCK

This oven has a CHILD LOCK feature

TO SET CHILD LOCK

- Touch and hold 0 pad → **LOCKED** appears on the display.

TO CANCEL CHILD LOCK

- Touch and hold 0 pad → **LOCKED** disappears.

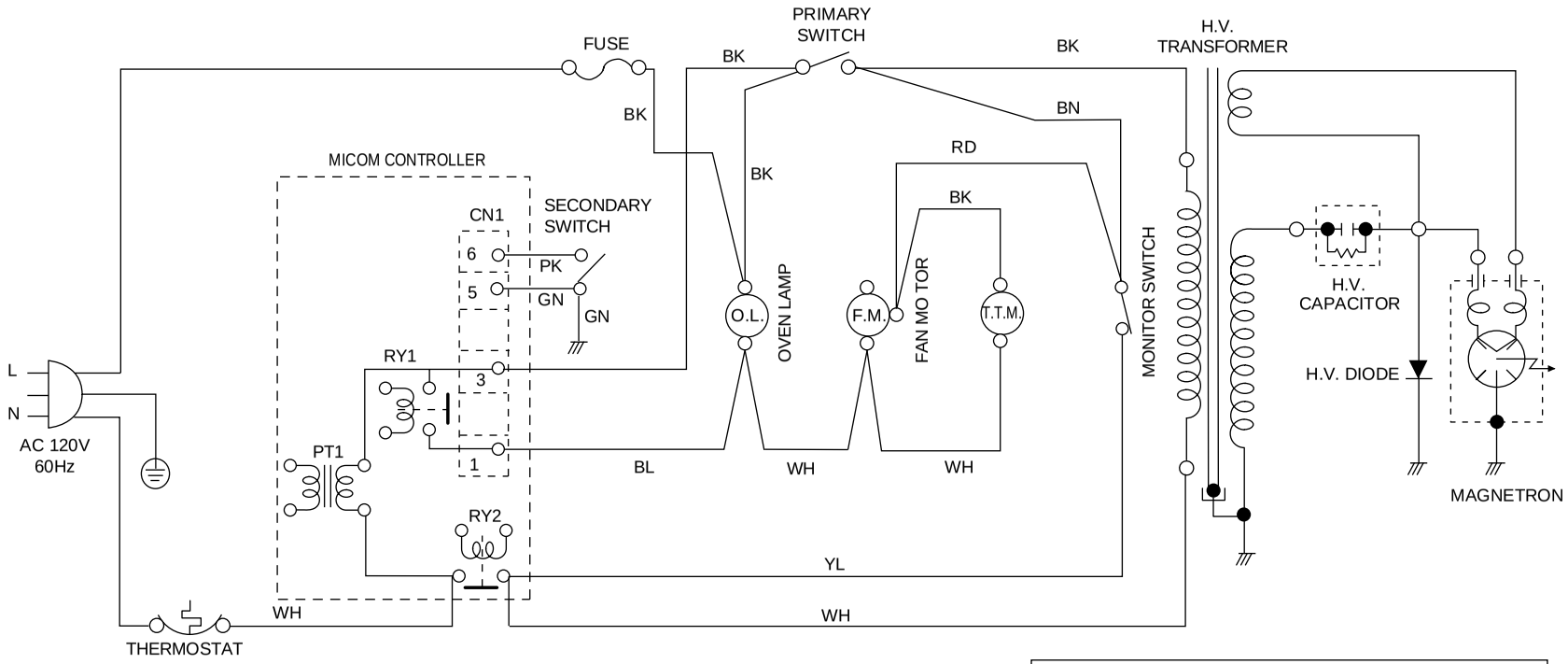
9. MORE / LESS

The cook time is adjustable by MORE pad or LESS pad

CLEAR → COOKING → MORE

CLEAR → COOKING → LESS

SCHEMATIC DIAGRAM



** NOTE : DOOR IS OPENED.

BK : BLACK	BL : BLUE	YL : YELLOW	RD : RED
WH : WHITE	PK : PINK	GN : GREEN	BN : BROWN

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

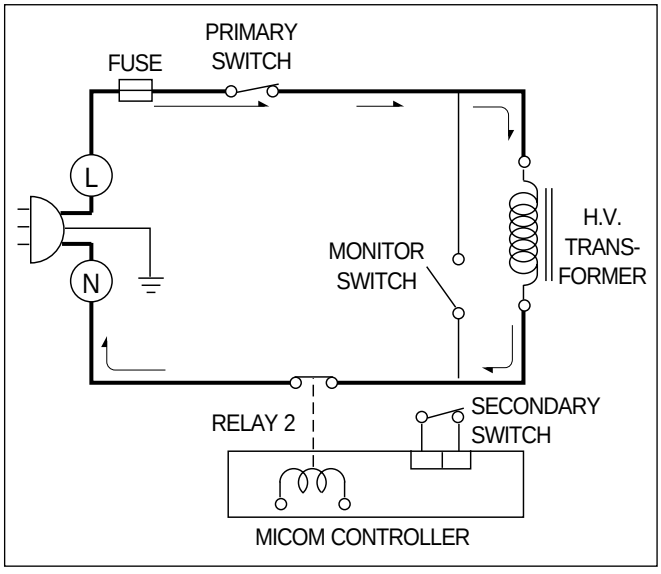
- The low voltage transformer supplies the necessary voltage to the micom controller when power cord is plugged in.
- When the door is closed, the primary switch is ON, the secondary switch is ON, and the monitor switch opens (contact COM and NO).

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.



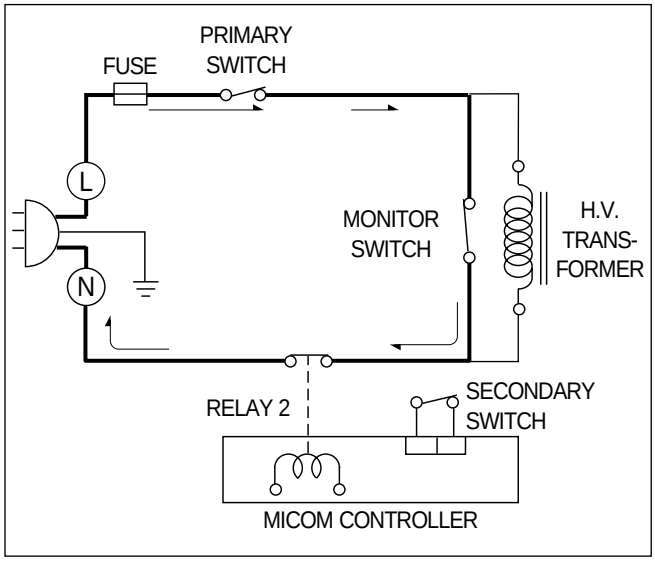
- The fan motor rotates and cools the magnetron by blowing air (coming from the intake on the base-plate).
- The air is also directed into the oven to exhaust the vapor in the oven through the upper plate.
- Cooking time starts counting down.
- 3.3 volts AC is generated from the filament winding of the 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. (refer to page 1-1)
- One complete cycle of the 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-1500
    HI-1501
  - Narda 8100
    8200
- Inch scale
- 600 cc non conductive material beaker (glass or plastic), inside diameter: approx. 8.5 cm ($3^1/_2$ 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 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 and CDRH (Center for Devices and Radiological Health) immediately.**

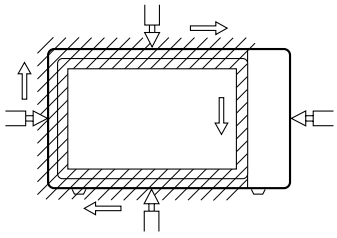
NOTE: Address on CDRH
Office of Compliance(HFZ-312)
Center for Devices and Radiological
Healthe 1390, Piccard Drive,
Rockville. MD 20850

- 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**

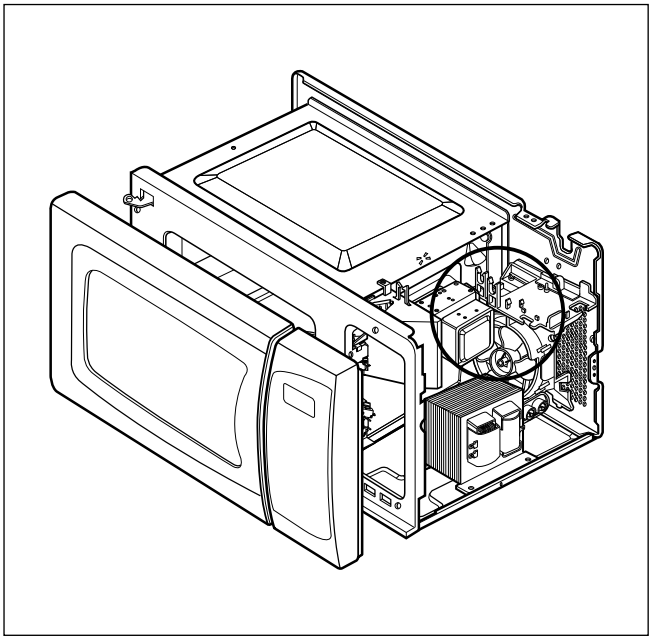
Move probe along shaded area
////////////////////////////
Probe scanning speed
Less than 2.5 cm/sec
(1 in/sec)



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 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

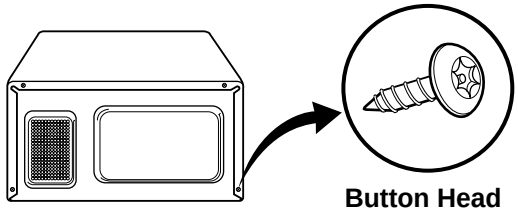
- Do not exceed meter full scale deflection.
- The test probe must be removed no faster than 1 inch/sec (2.5 cm/sec) along the shaded area, otherwise a false reading may result.
- The test probe must be held with the grip portion of the handle.
  A false reading may result if the operator's hand is between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

SPECIAL TIP

- **This oven used the button head screws.**



Button Head
(Torx style 2)

- **When you remove the screws, use the tamper-resistant Torx driver having a pin-in-head.**

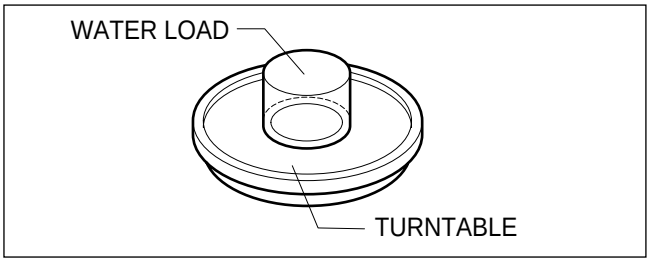
MEASUREMENT OF MICROWAVE POWER OUTPUT

- 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 (T1) 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 Δ T of (10±2)° 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°.
- 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

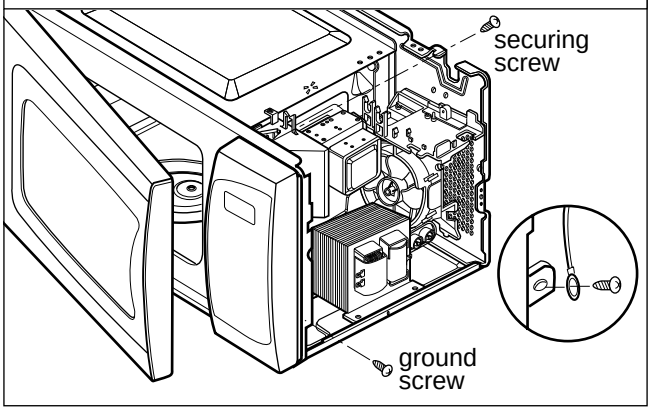
1) Remove the outer case.
2) Disconnect two terminals and remove one screw of the ground terminal.

C. CONTROL PANEL ASSEMBLY

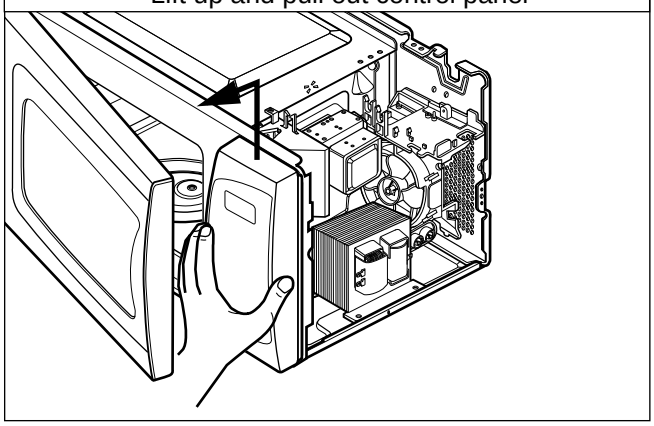
1) Open the door.
2) Disconnect the leadwire from RELAY (RY2) of the PCB SUB ASSEMBLY.
3) Disconnect the leadwire from connector (CN1) of the PCB SUB ASSEMBLY.
4) Lift up and pull out control panel assembly carefully from the cavity.

CAUTION: DISCHARGE THE HIGH VOLTAGE CAPACITOR BEFORE SERVICING
(refer to page 2-1)

Remove the screw

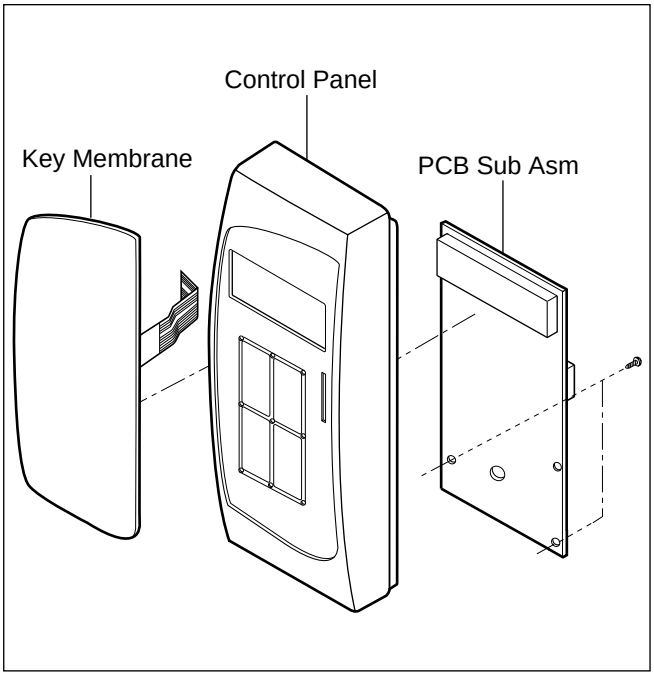


Lift up and pull out control panel



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 ASSEMBLY to the control panel.
3) Disconnect the flat cable from the PCB SUB ASSEMBLY and take off the PCB SUB ASSEMBLY.



E. DOOR MAIN ASSEMBLY REMOVAL

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

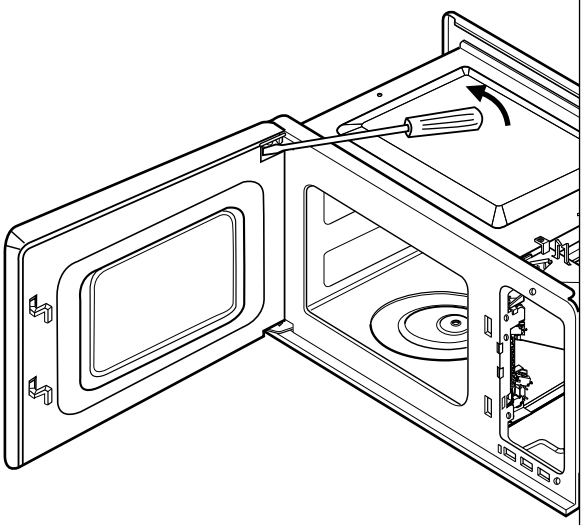
CAUTION: Be careful not to damage door seal plate by screwdriver.

3) Lift up and push the door.

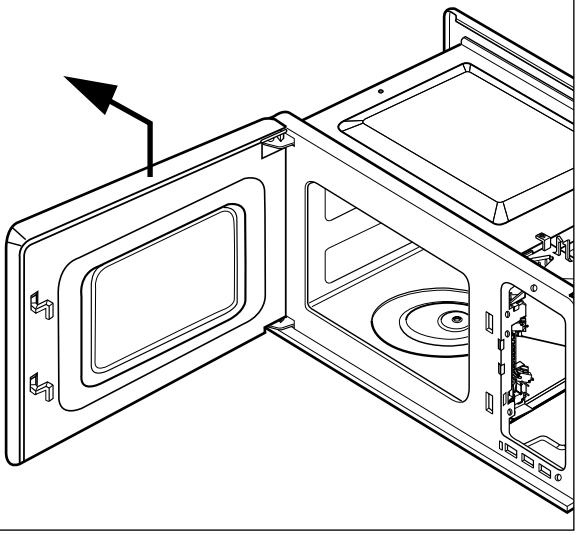
NOTE:

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.

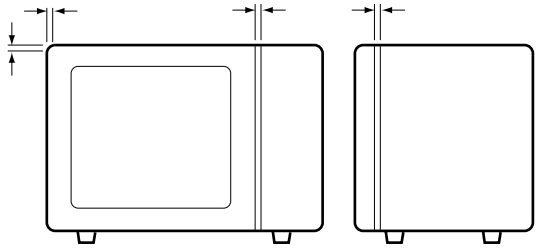
Remove choke cover



Remove door



Spacer



F. AIR DUCT ASSEMBLY REMOVAL

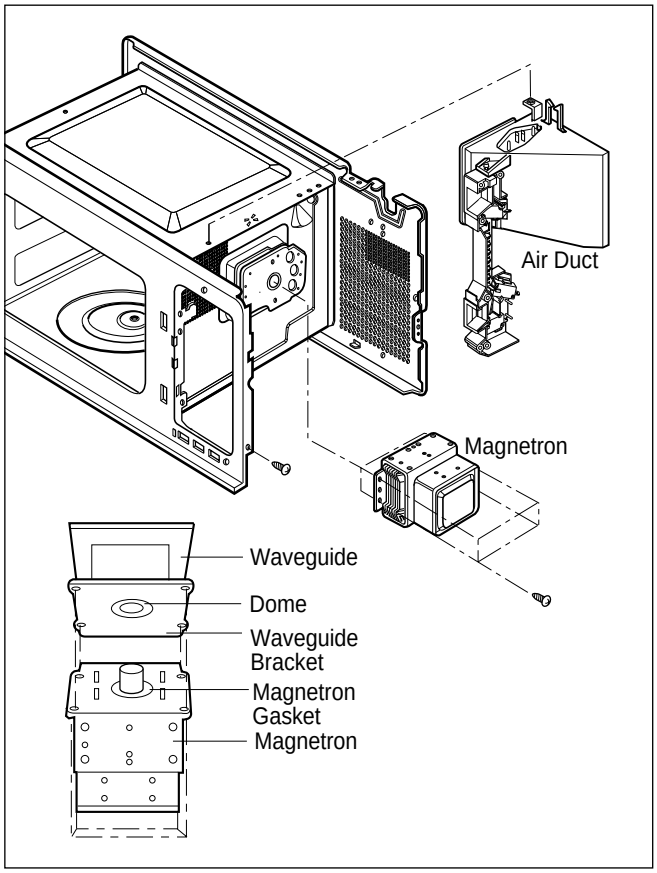
1) Disconnect the leadwire from the lamp.
2) Remove the mounting screw to the magnetron.

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 ASSEMBLY 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.

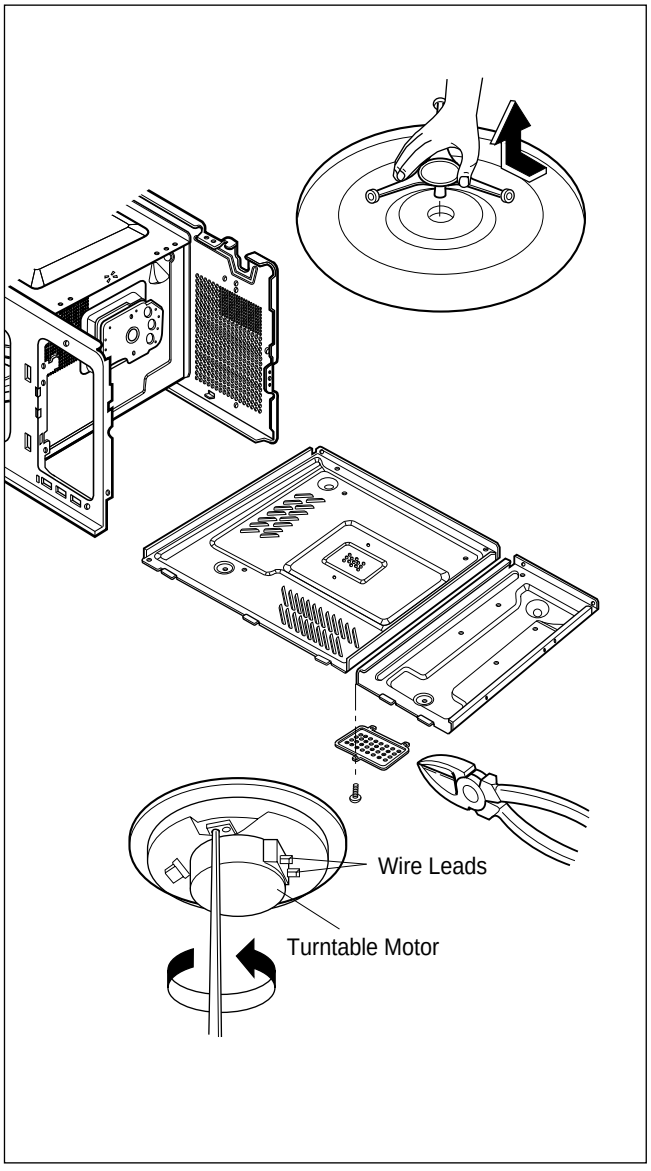


H. REMOVING THE TURNTABLE MOTOR

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 ASSEMBLY.
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

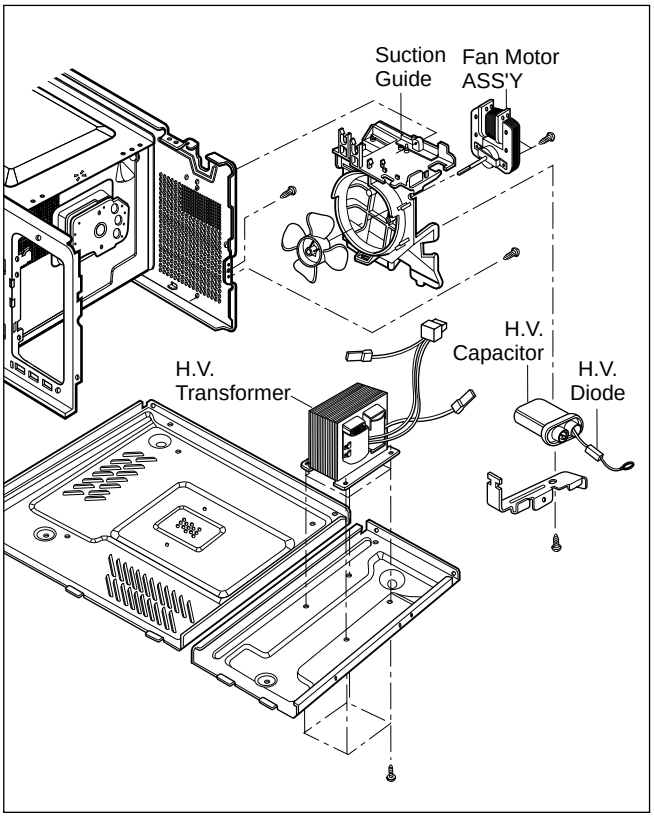
1) Discharge the high voltage capacitor.
2) Disconnect the leadwire from magnetron, high voltage transformer, and capacitor.
3) Remove the screw holding the high voltage transformer to the baseplate.

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 the suction guide ASSEMBLY to the oven cavity.
4) Remove the two screws holding the fan motor ASSEMBLY to the suction guide ASSEMBLY.

K. HIGH VOLTAGE CAPACITOR AND DIODE REMOVAL

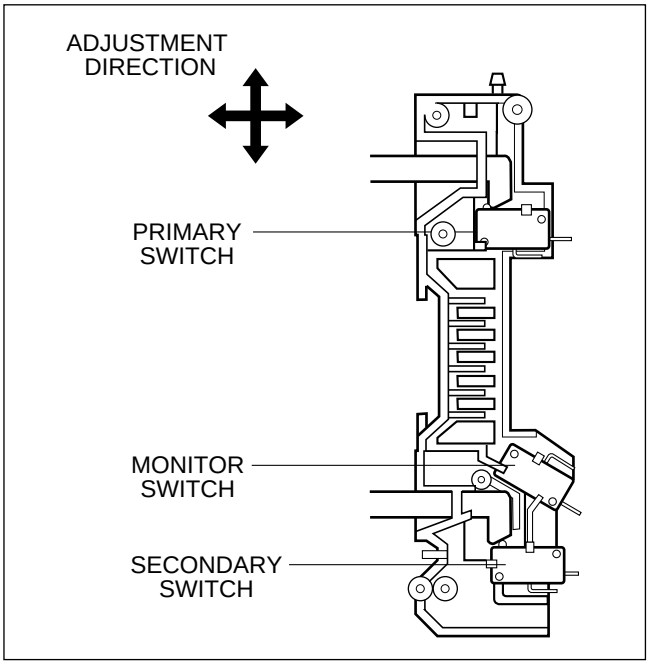
1) Discharge the high voltage capacitor.
2) Disconnect the leadwire from fan motor and high voltage capacitor.
3) Remove the screw holding the suction guide ASSEMBLY to the oven cavity.
4) Remove the screw holding the high voltage capacitor bracket and remove the high voltage diode earth screw.



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. ALL THESE SWITCHES MUST BE REPLACED AT THE SAME TIME.

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

A. PRIMARY INTERLOCK SWITCH TEST

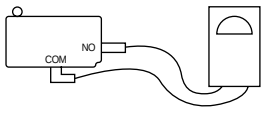
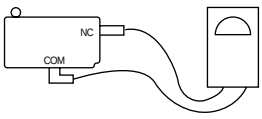
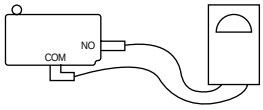
When the door release button is depressed slowly with the door closed, an audible **click** should be heard at the same time or successively at intervals. When the button is released slowly, the latches should activate the switches with an audible **click**.
If the latches do not activate the switches when the door is closed, the switches should be a 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

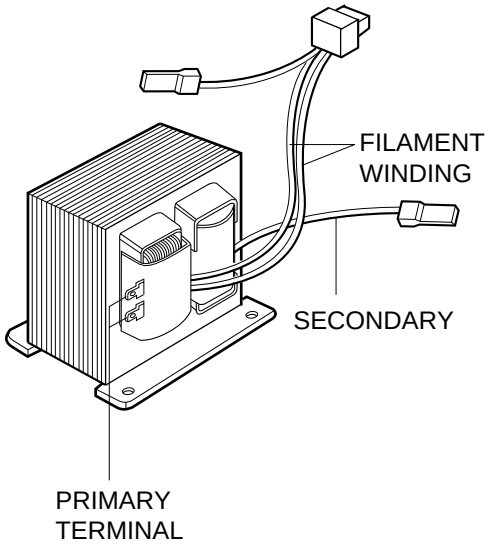
Disconnect the wire lead from the monitor switch. Connect the ohmmeter leads to the common (COM) and normally closed (NC) terminals of the switch. The meter should indicate closed circuit in the door open condition. When the door is closed, meter should indicate an open circuit. When the monitor switch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

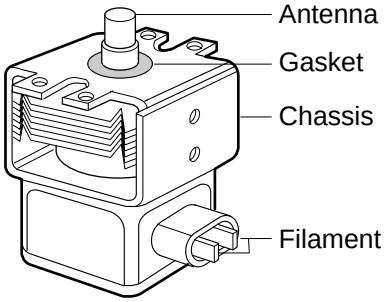
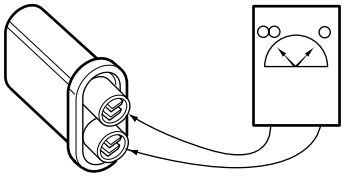
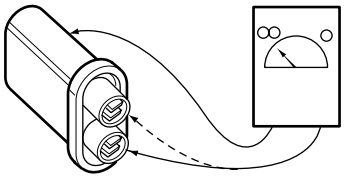
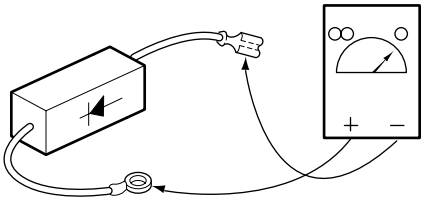
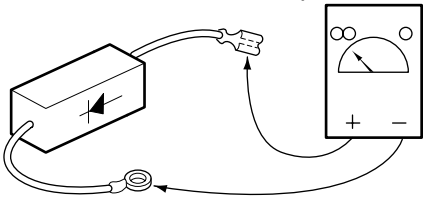
COMPONENTS	TEST PROCEDURE		RESULTS	
SWITCHES (Wire leads removed)	Check for continuity of the switch with an Ohm-meter		Door open	Door closed
	Primary Switch			
	Monitor Switch			
	Secondary Switch			
	NOTE : After checking for the continuity of switches, make sure that they are connected correctly.			

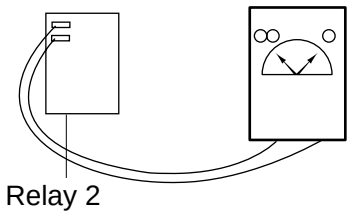
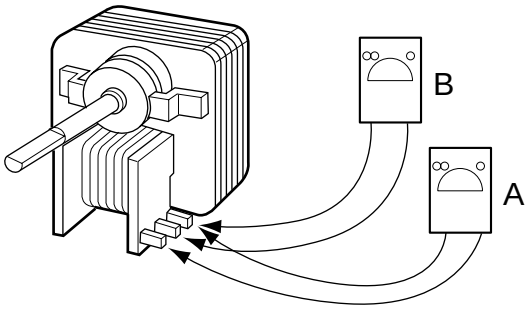
COMPONENT TEST PROCEDURE

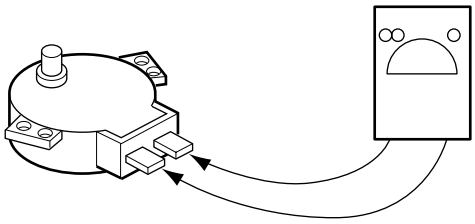
CAUTIONS

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 2-1)
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
HIGH VOLTAGE TRANSFORMER (Wire leads removed)	 1. Measure the resistance. (Ohm-meter scale: Rx1 and Rx100) • Primary winding • Secondary winding • Filament winding 2. Measure the resistance. (Ohm-meter scale: Rx1000) • Primary winding to ground • Filament winding to ground	 Approx.: 0.2 ~ 0.4 ohm Approx.: 60 ~ 90 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: Rx1000) • 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: Rx1000) • Terminal to terminal. 	Normal: Momentarily indicates several ohms, and then gradually returns to infinite.
	Measure the resistance. (Ohm-meter scale: Rx1000) • Terminal to case. 	Normal: Infinite.
HIGH VOLTAGE DIODE NOTE : Some inexpensive meters may indicate infinite resistance in both direction.	Measure the continuity (Forward). (Ohm-meter scale: Rx10000) 	Normal: Continuity. Abnormal: Infinite.
	Measure the continuity (Reverse). (Ohm-meter scale: Rx10000) 	Normal: Infinite. Abnormal: Continuity.

<table>
<tr><th>COMPONENTS</th><th>TEST PROCEDURE</th><th>RESULTS</th></tr>
<tr><td>RELAY 2</td><td>Check for continuity of relay 2 with an ohm-meter.
(Remove wire leads from relay 2 and operate the unit.)
 
Relay 2</td><td>
<table>
<tr><th>POWER LEVEL</th><th>∞ ⌒ ∞</th><th>∞ ⌒ ∞</th></tr>
<tr><td>1</td><td>4 sec</td><td>18 sec</td></tr>
<tr><td>2</td><td>6 sec</td><td>16 sec</td></tr>
<tr><td>3</td><td>8 sec</td><td>14 sec</td></tr>
<tr><td>4</td><td>10 sec</td><td>12 sec</td></tr>
<tr><td>5</td><td>12 sec</td><td>10 sec</td></tr>
<tr><td>6</td><td>14 sec</td><td>8 sec</td></tr>
<tr><td>7</td><td>16 sec</td><td>6 sec</td></tr>
<tr><td>8</td><td>18 sec</td><td>4 sec</td></tr>
<tr><td>9</td><td>20 sec</td><td>2 sec</td></tr>
<tr><td>10</td><td>22 sec</td><td>0 sec</td></tr>
</table>
</td></tr>
<tr><td>FAN MOTOR
(Wire leads removed)</td><td>Measure the resistance.
(Ohm-meter scale: R x 1)
 
</td><td>Normal:
A: Approx. 85 ~ 100 ohm.
B: Approx. 10 ~ 25 ohm.

Abnormal: Infinite or several ohms.</td></tr>
<tr><td>TURNTABLE
MOTOR
(Wire leads removed)</td><td>Measure the resistance.
(Ohm-meter scale: R x 1)
  </td><td>Normal: Approx.100~150 ohm
Abnormal: Infinite or several ohm.</td></tr>
<tr><td colspan="3">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.</td></tr>
</table>

TROUBLESHOOTING

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.

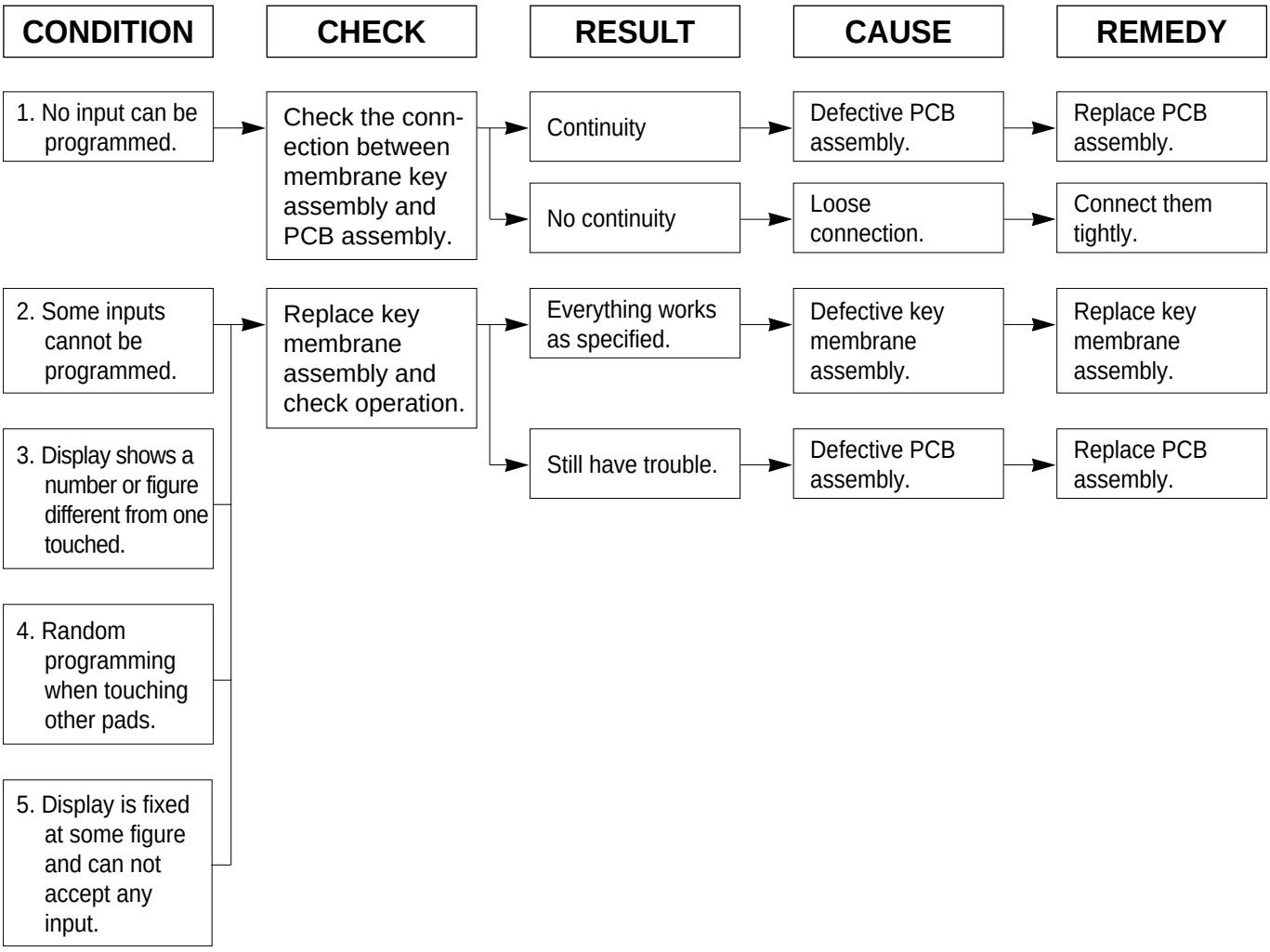
CAUTIONS

1. Check grounding before checking for trouble.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor. (See page 2-1)
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)

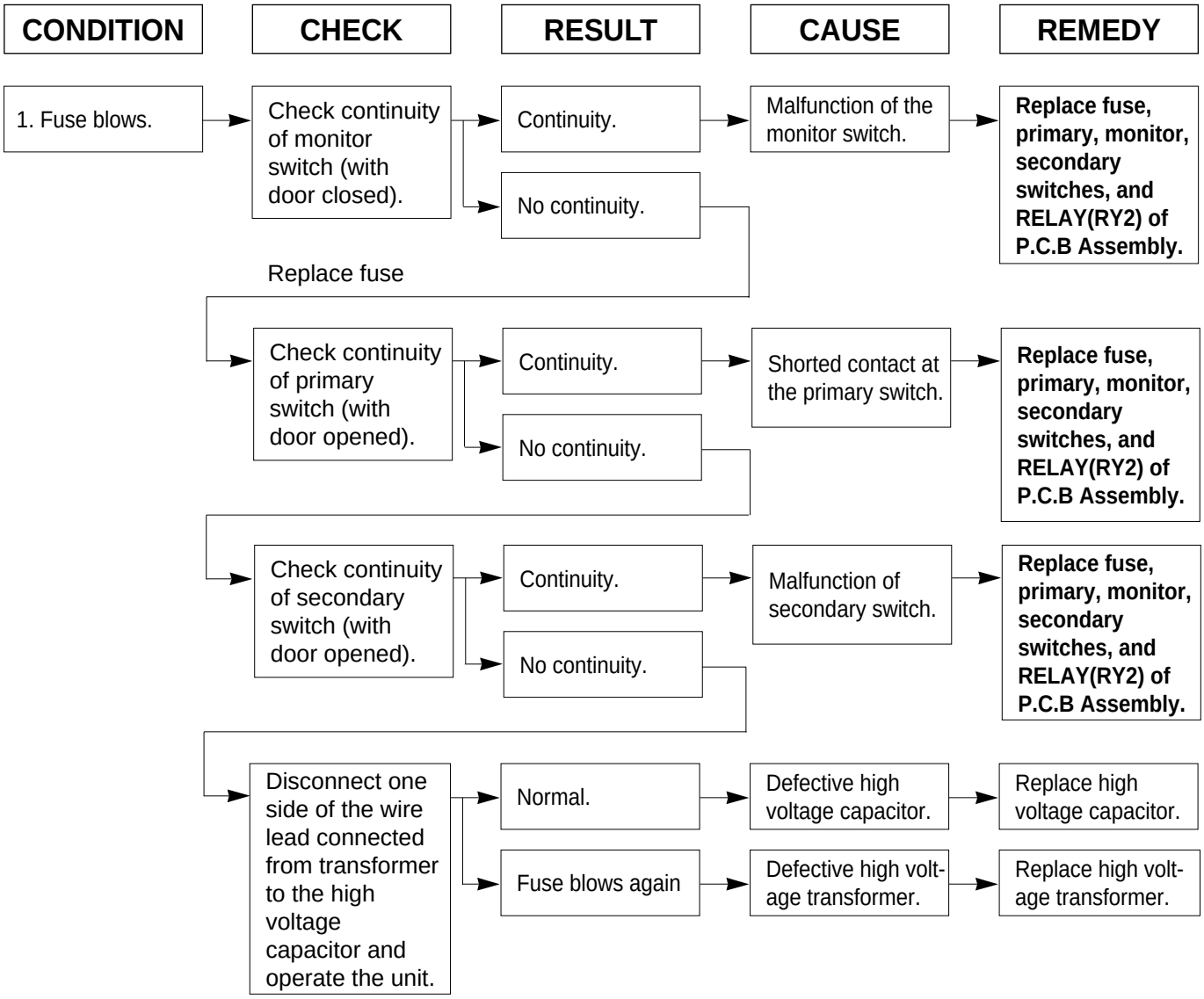
CONDITION	CAUSE	REMEDY
Microwave oven does not work.	Inserting many plugs into one outlet and using them at the same time. (blown fuse or breaker)	Avoid using other electrical appliances when you use the microwave oven.
	Microwave oven plug is not inserted tightly.	Insert microwave oven plug securely.
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.

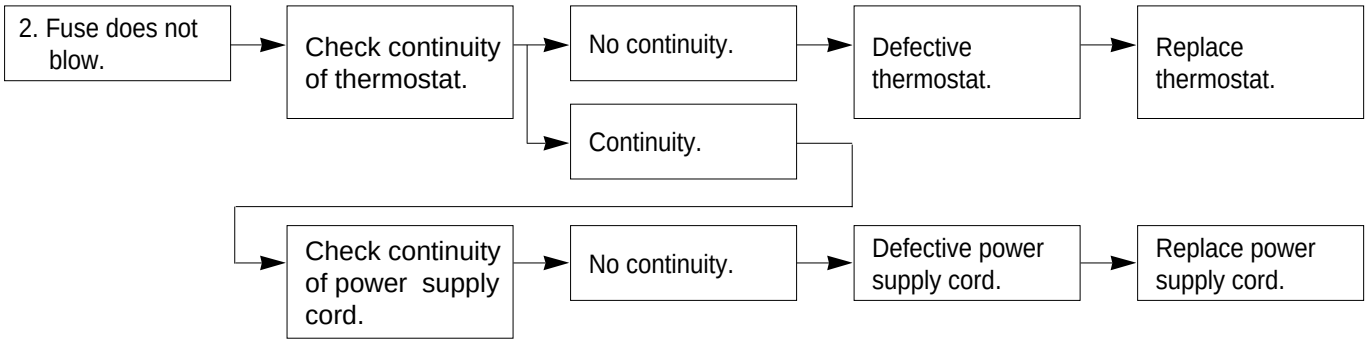
1. Incomplete segments.
   - Segment missing.
   - Partial segment missing.
   - Digit flickering (NOTE: Slight flickering is normal.)
2. Colon does not turn on or blink.
3. A distinct change in the brightness of one or more numbers in display.
4. One or more digits in the display are not lighting.
5. 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.



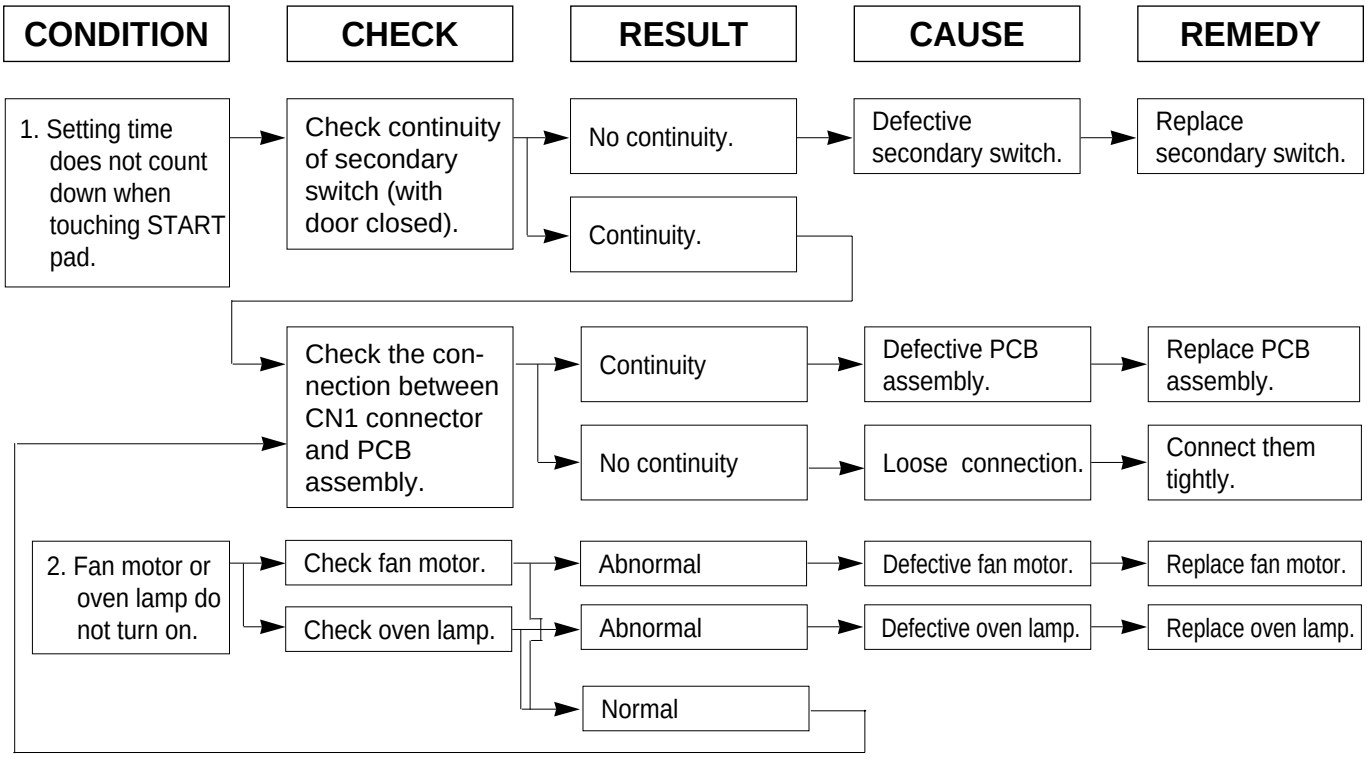
(TROUBLE 2) Oven does not operate at all, display window does not display any figures, and no input is accepted.



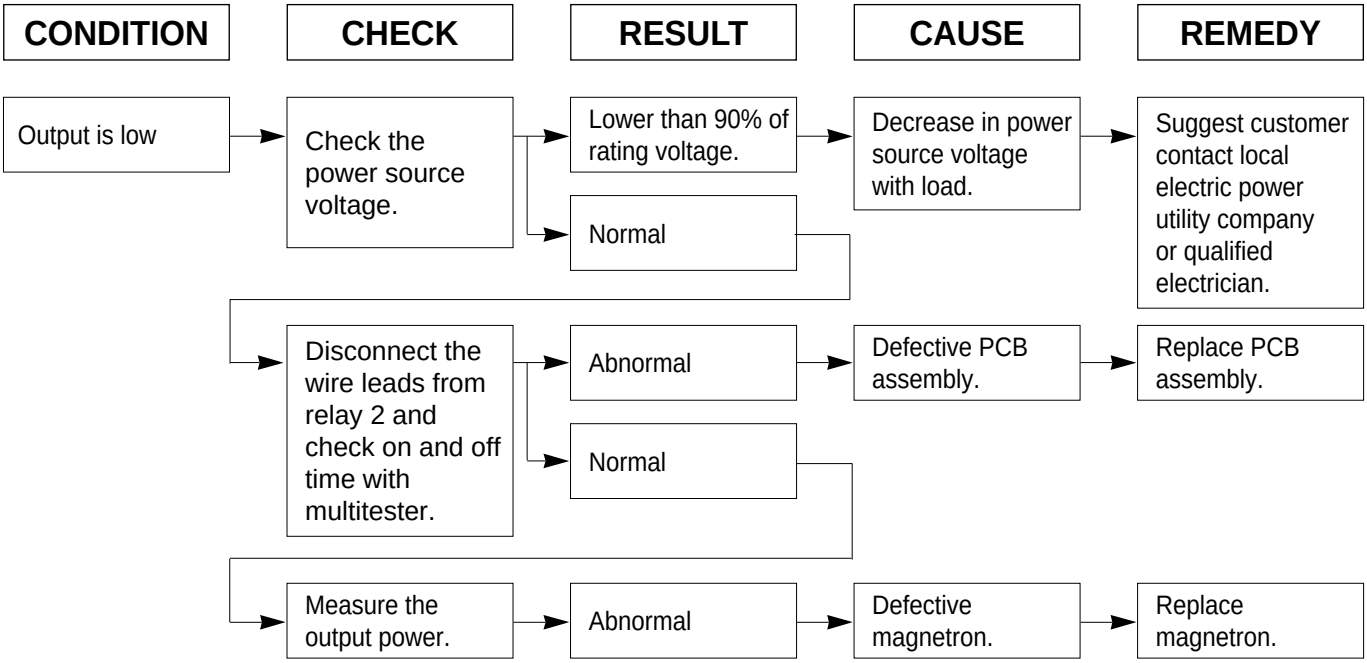
NOTE : All these switches must be replaced at the same time. Refer to page 5-7, 5-8



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

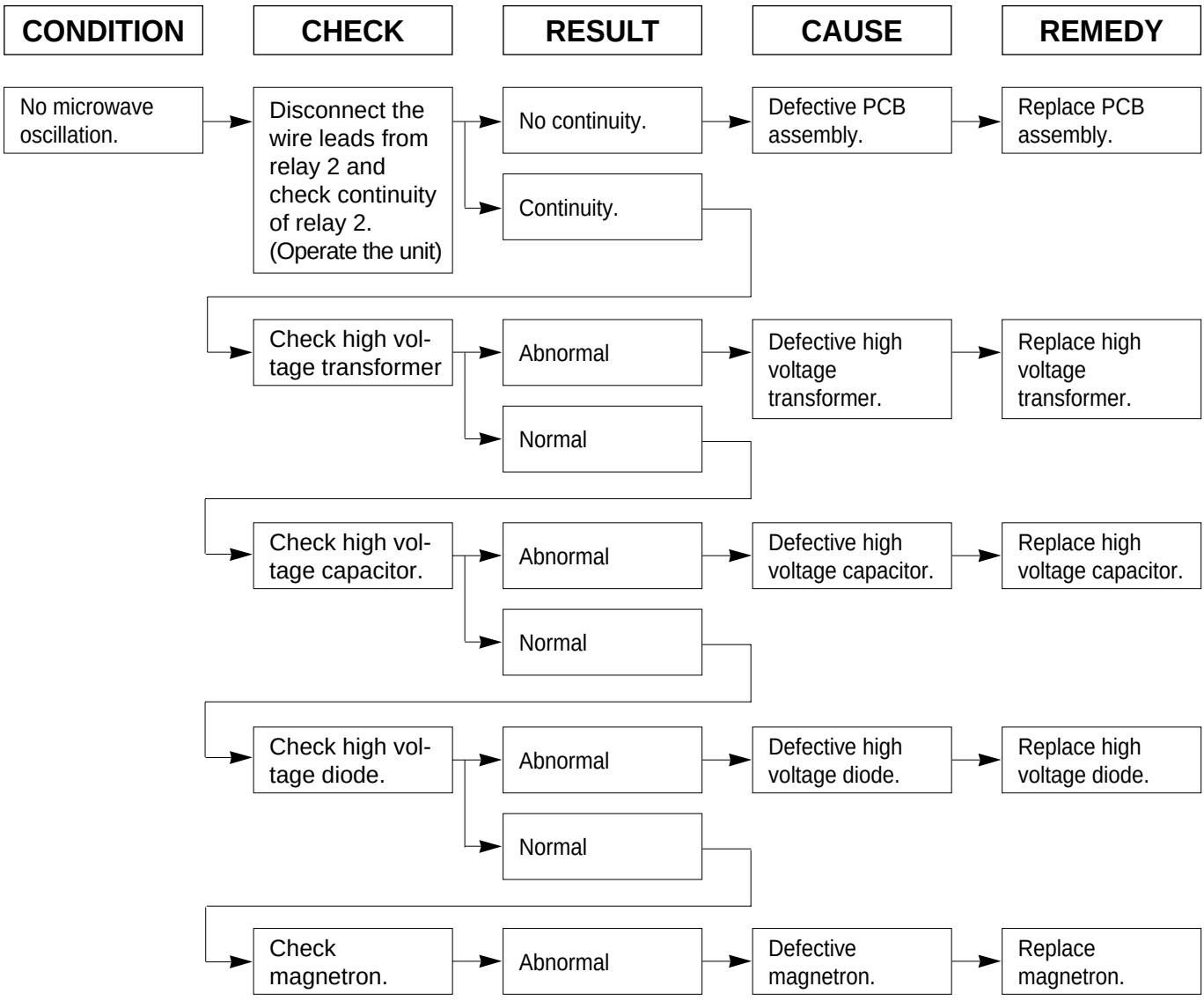


(TROUBLE 4) Oven seems to be operating but little heat is produced in oven load.



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

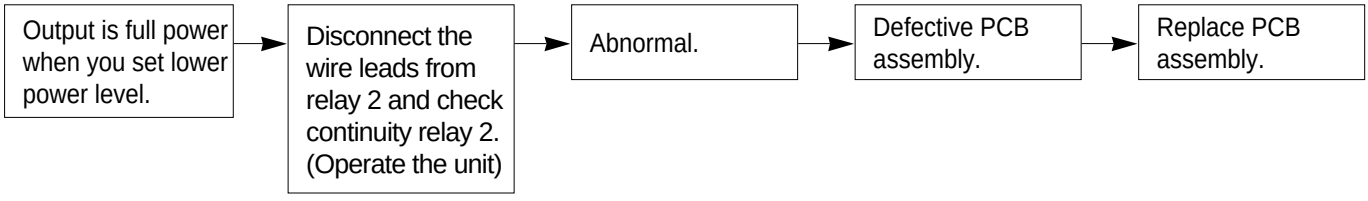
(TROUBLE 5) No microwave oscillation even though oven lamp and fan motor run. (Display operates properly)



NOTE : • Make sure the wire leads are in the correct position.

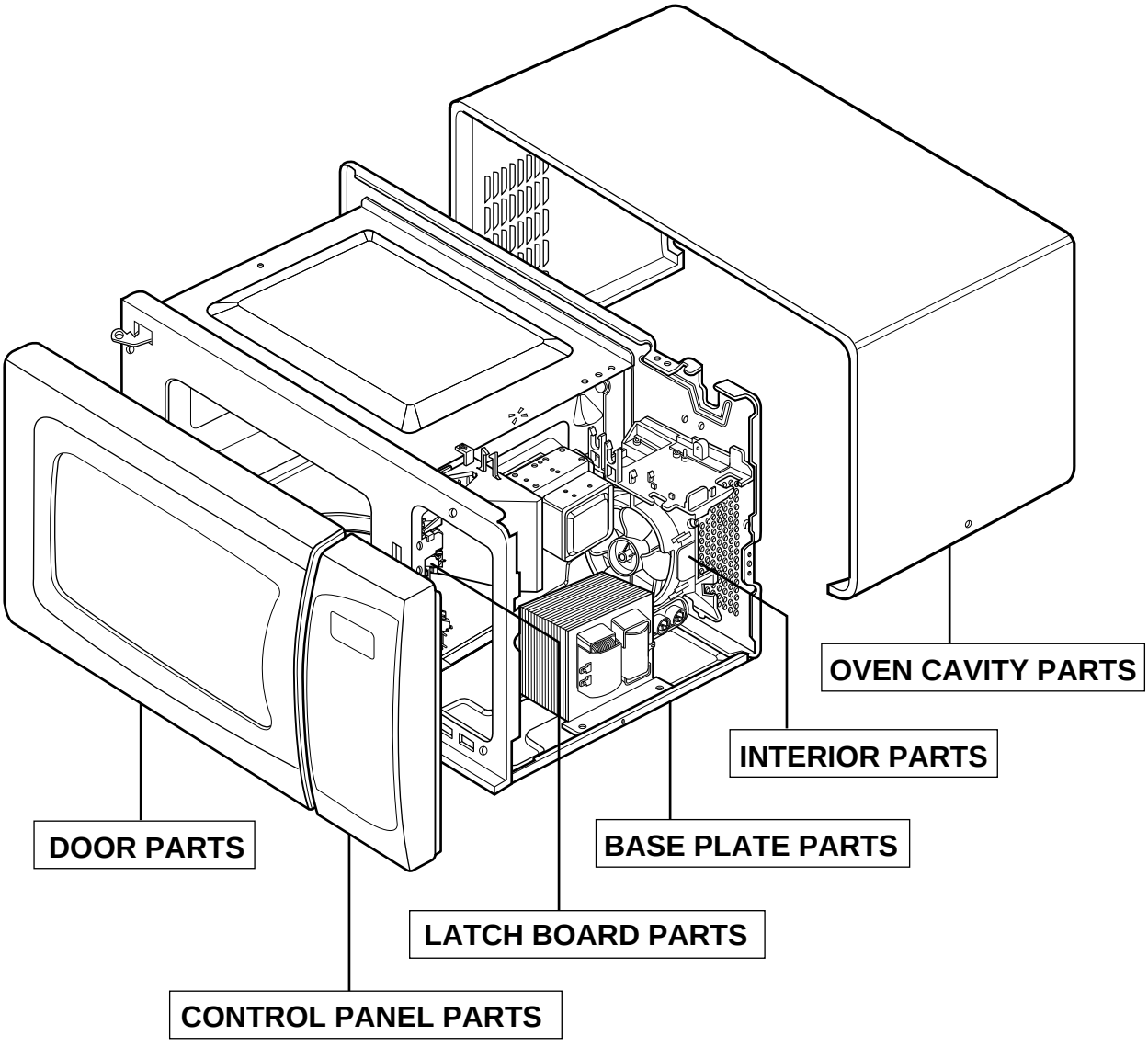
• When removing the wire leads from the parts, be sure to grasp the connector, not the wires.

• When removing the magnetron, be sure to install the magnetron gasket in the correct position and in good condition.

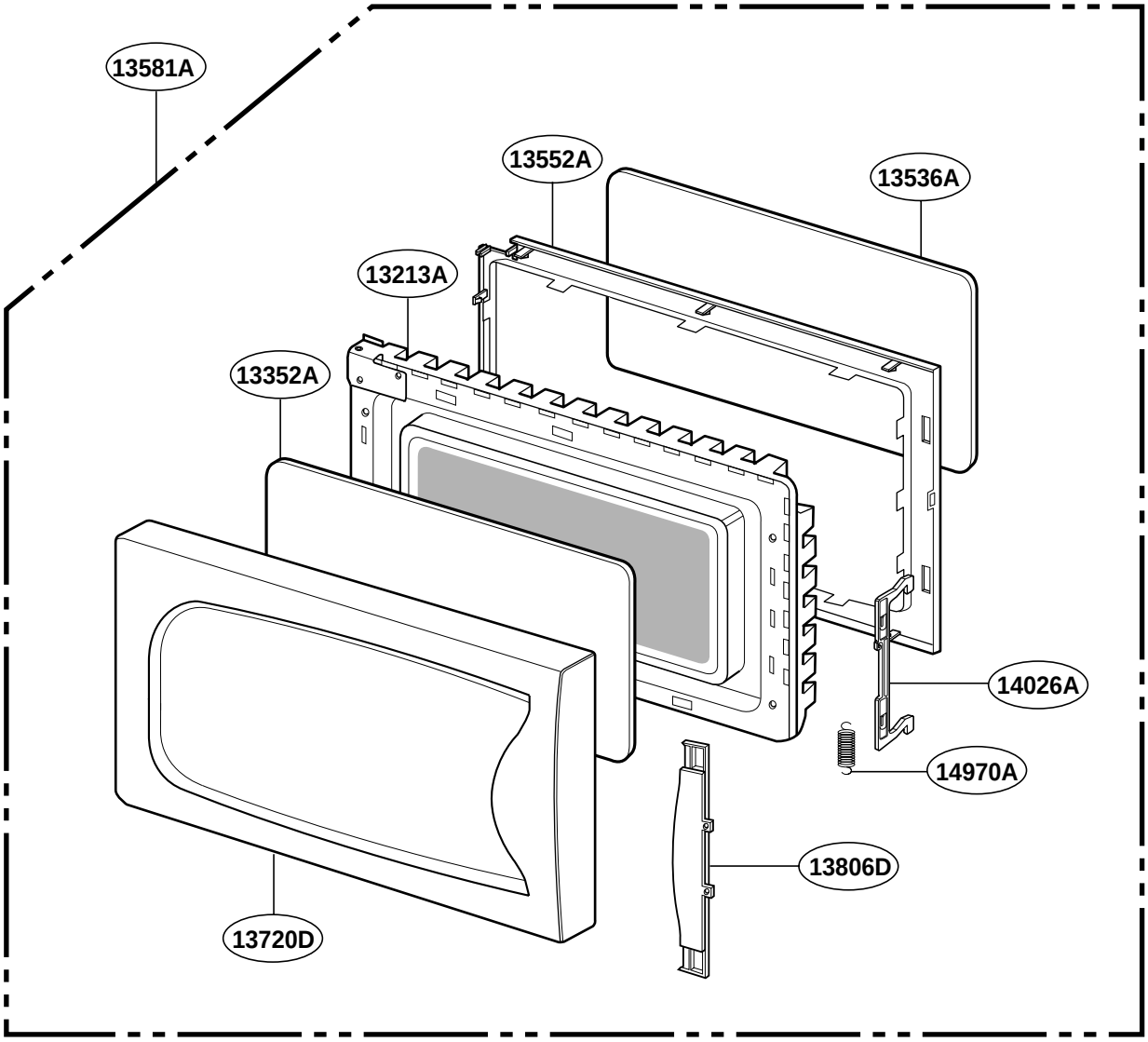


EXPLODED VIEW

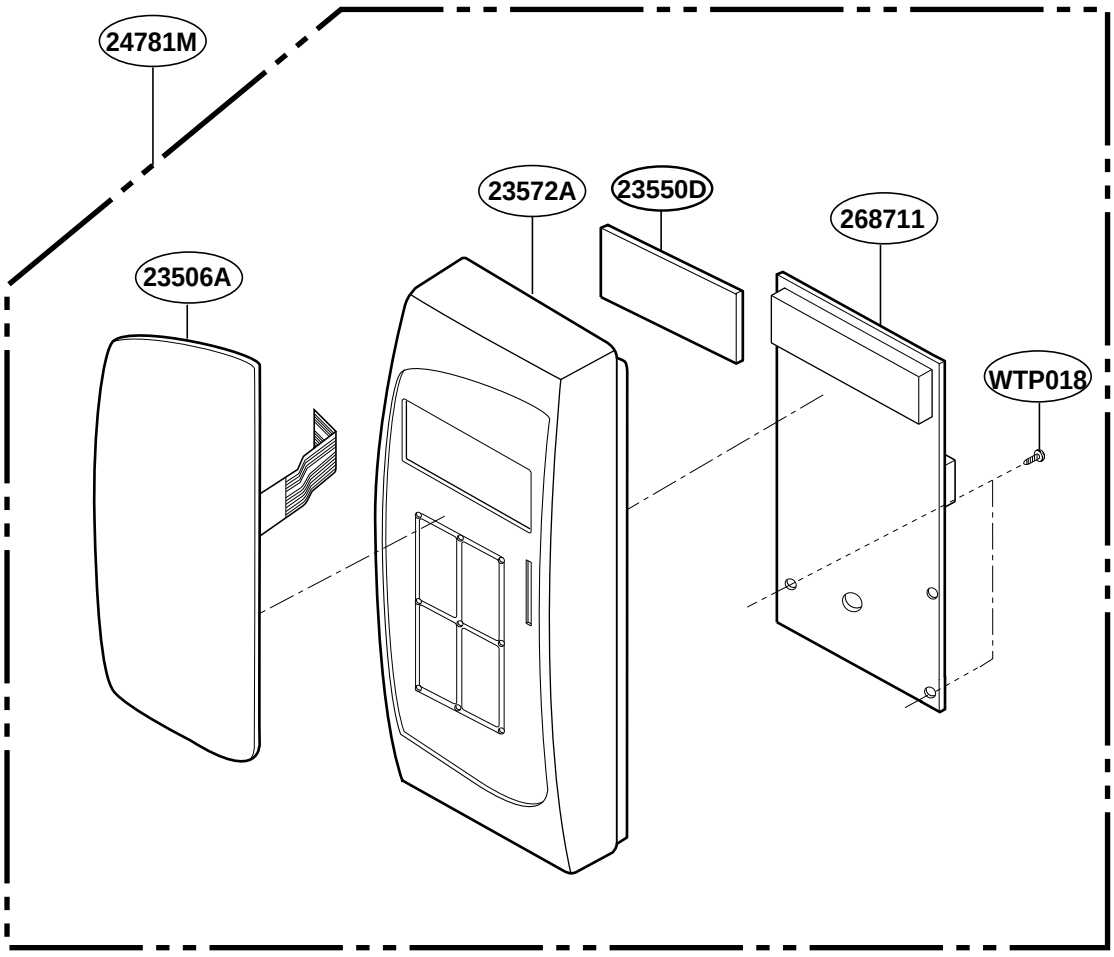
INTRODUCTION



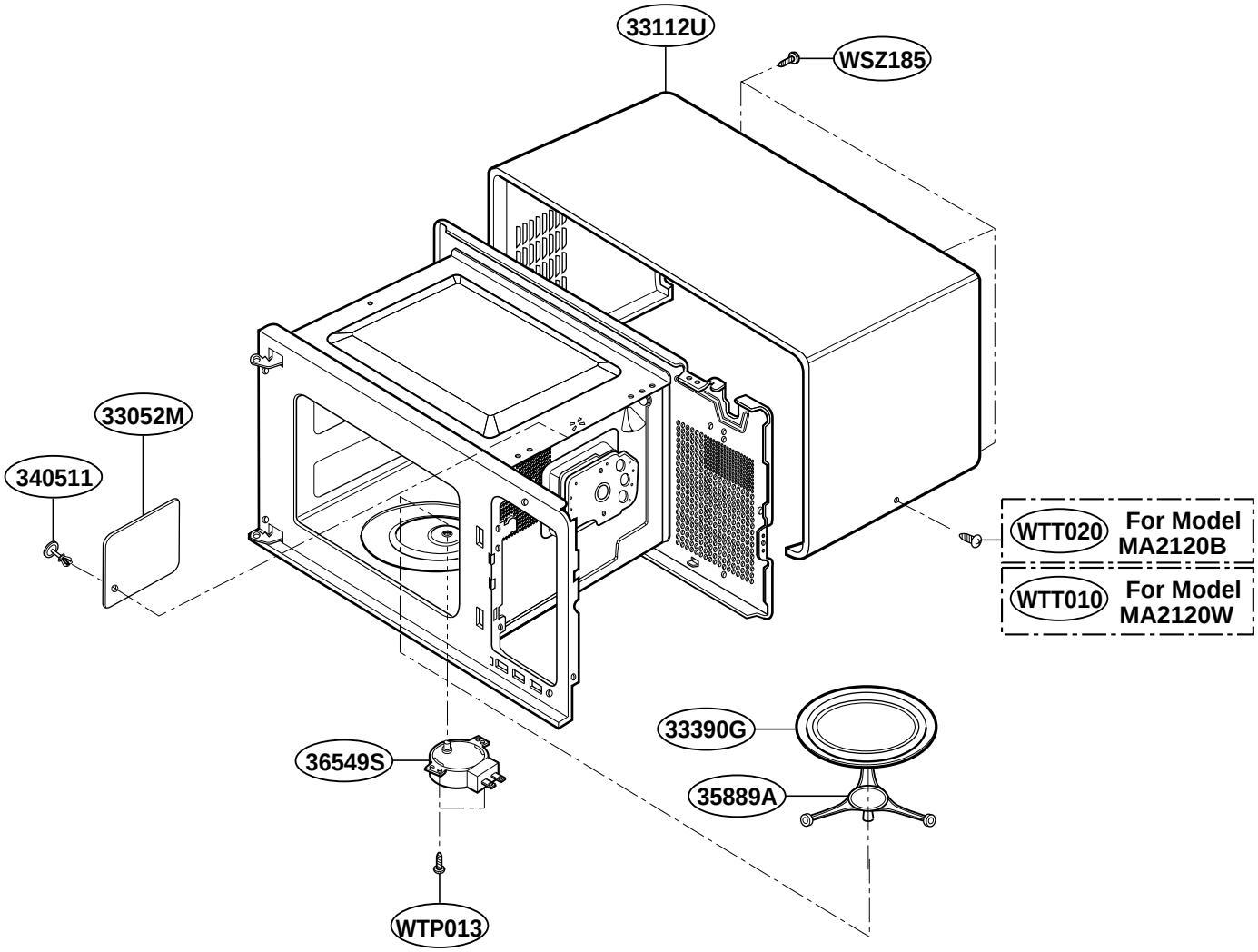
DOOR PARTS


13581A
13552A
13536A
13213A
13352A
14026A
14970A
13806D
13720D

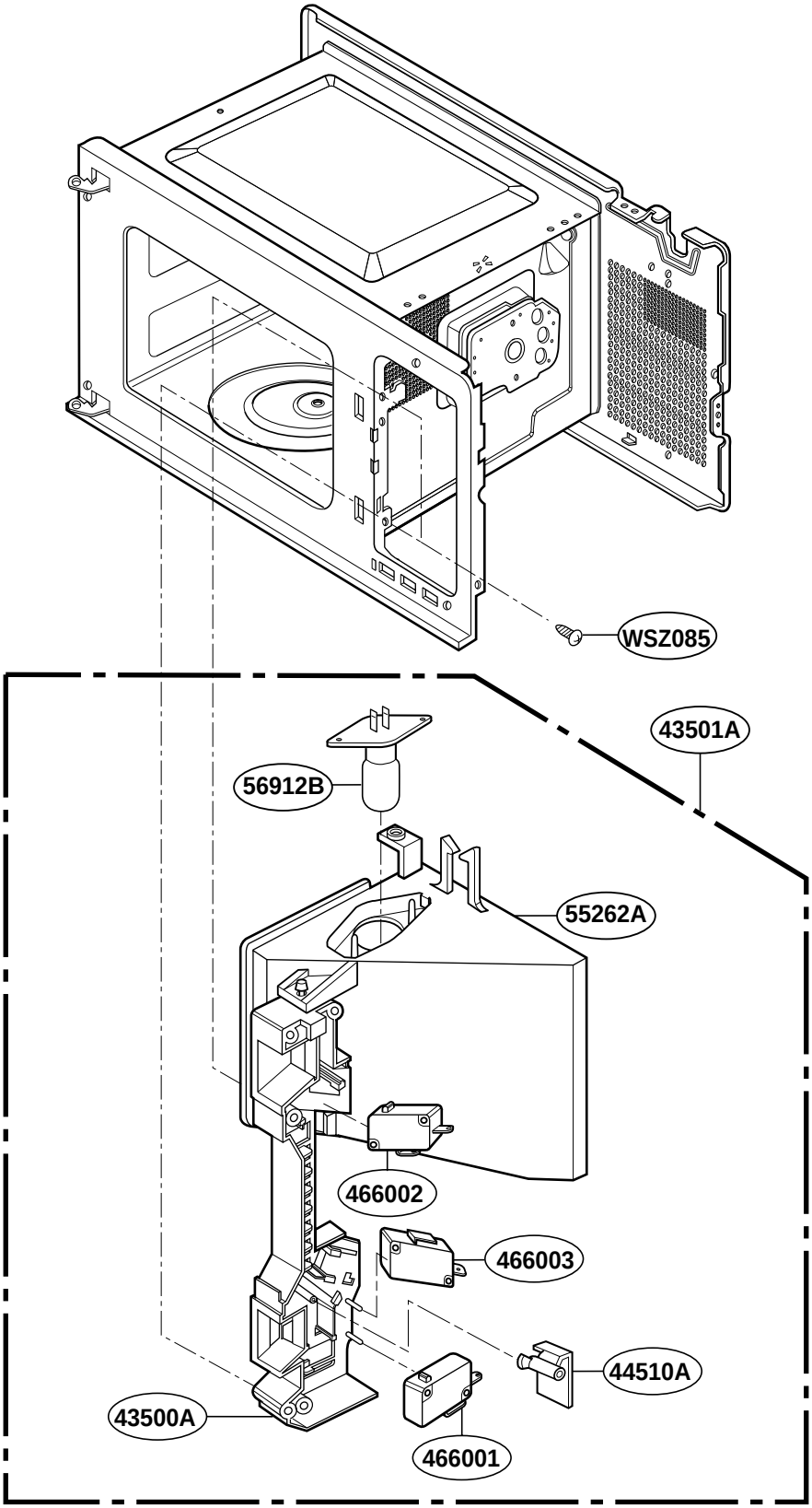
CONTROLLER PARTS



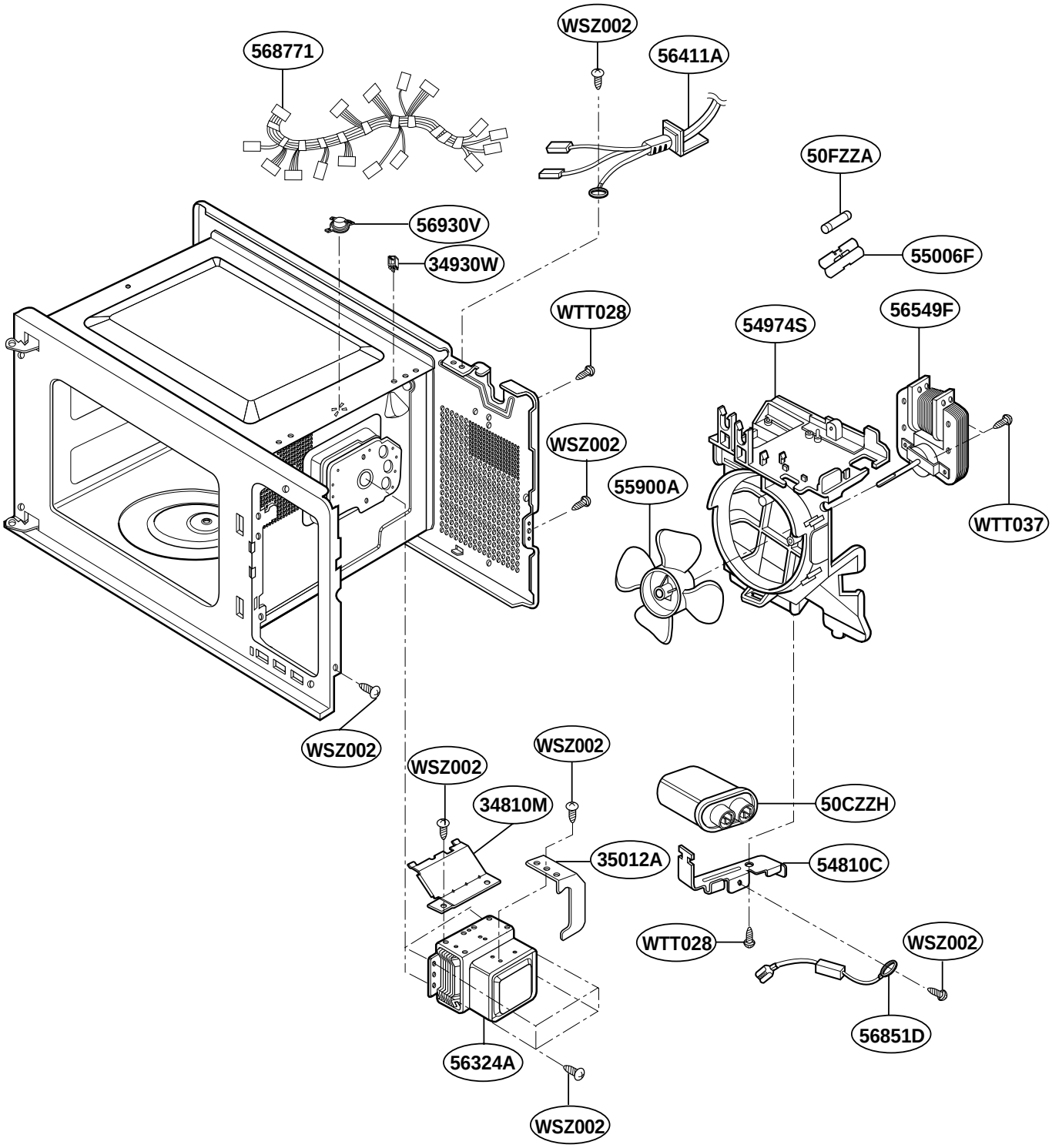
OVEN CAVITY PARTS



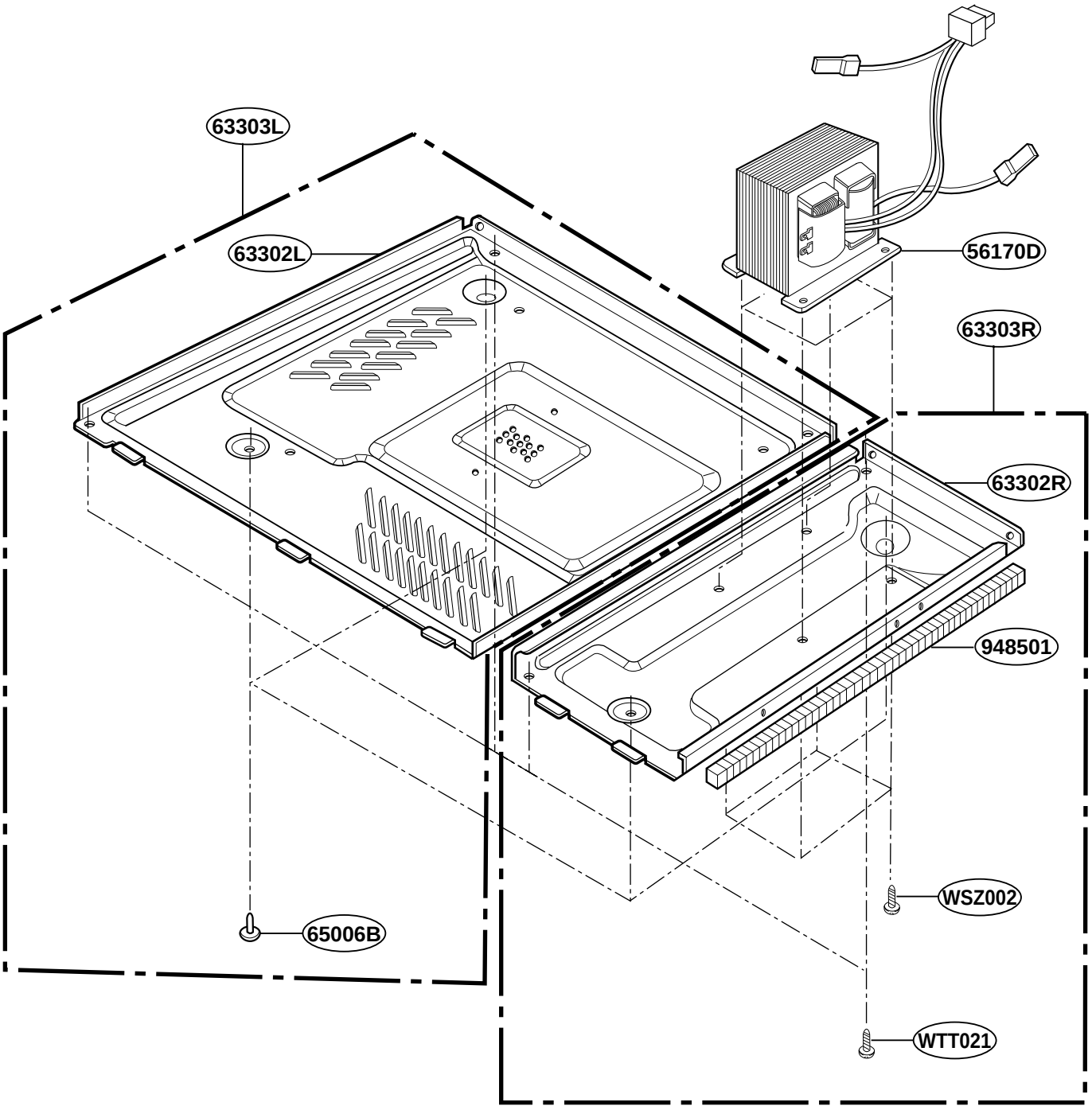
LATCH BOARD PARTS



INTERIOR PARTS



BASE PLATE PARTS



REPLACEMENT PARTS LIST

Buyer	Buyer Model	Rating Label	First check the rating label on the back of oven. and order SVC parts accoding to ECN
LGEUS	MA2120B	MA2120B / 01	

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTER
*01	3828W5A2443	MANUAL,OWNERS	R	
*02	3828W5S2170	MANUAL,SERVICE	R	
*05	3850W3A377E	LABEL,COOKING GUIDE	R	
*10	3890W3Y406B	BOX,YELLOW	R	
13213A	3213W0A001G	DOOR FRAME ASSEMBLY	R	
13352A	3352W1A092A	FRONT SCREEN	R	
13536A	3536WRA001Q	SEAL TAPE	R	
13552A	3552W1A035A	CHOKE COVER	R	
13581A	3581W1A214M	DOOR ASSEMBLY	R	
13720D	3720W0D151K	PANEL,DOOR	R	
13806D	3806W2A007B	DECO,DOOR	R	
14026A	4026W2A015A	LATCH	R	
14970A	4970WRA001B	SPRING	R	
23506A	3506W1A159B	KEY MEMBRANE	R	
23550D	3550W4A029B	COVER,DIGITRON	R	
23572A	3572W0A176B	PANEL,CONTROL	R	
24781M	4781W1M219M	CONTROLLER ASSEMBLY,MICOM	R	
268711	6871W1S082A	PWB(PCB) ASSEMBLY,SUB	R	
33052M	3052W3M011F	CANOPY,MICA	R	
33112U	3112W0U028V	OUT CASE,U-BENDING	R	
33390G	3390W1G009C	TRAY,GLASS	R	
340511	4051W3A001A	RIVET ASSEMBLY	R	
34930W	4930W3B029A	HOLDER,WIRE	R	
35012A	5012W3A020A	INSULATOR	R	
35889A	5889W2A011B	ROTATING RING ASSEMBLY	R	
36549S	6549W1S011A	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S015A
43500A	3500W1A013A	BOARD,LATCH	R	
43501A	3501W1A016M	BOARD ASSEMBLY,LATCH	R	
44510A	4510W4A005A	LEVER	R	
466001	6600W1K004C	SWITCH,MICRO	R	3B73362E
466001	6600W1K004C	SWITCH,MICRO	R	3B73362F
466003	6600W1K004B	SWITCH,MICRO	R	3B73361D
466003	6600W1K004B	SWITCH,MICRO	R	3B73361E
50CZZH	0CZZW1H002J	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004C
50CZZH	0CZZW1H002J	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	6120W3H002C
50CZZH	0CZZW1H002J	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	6120W3H003J
50FZZA	3B74133K	FUSE,DRAWING	R	
54810C	4810W4C003A	BRACKET,CAPACITOR	R	
54810G	4810W2G052A	BRACKET,MISC	R	
54974S	4974W1S010A	GUIDE,SUCTION	R	
55006F	5006WRA002A	CAP,FUSE	R	5006WRA002E
55262A	5262W2A043B	DUCT	R	
55900A	2B72125A	FAN	R	
56170D	6170W1D023P	TRANSFORMER,HIGH VOLTAGE	R	6170W1D050E

R, S: SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTER
56324A	6324W1A001E	MAGNETRON	R	
56411A	2B72325H	POWER CORD ASSEMBLY	R	6411W1A002M
56411A	2B72325H	POWER CORD ASSEMBLY	R	6411W1A002L
56549F	6549W1F005B	MOTOR(CIRC),FAN	R	6549W1F008B
56851D	6021W3B001M	CABLE ASSEMBLY	R	
568771	6877W1A187F	HARNESS	R	
56912B	6912W3B002G	LAMP,DRAWING	R	6912W3B002Q
56930V	6930WRT001C	THERMOSTAT	R	6930W1A001J
56930V	6930WRT001C	THERMOSTAT	R	6930W3A001L
56930V	6930WRT001C	THERMOSTAT	R	6930WRT002C
56930V	6930WRT001C	THERMOSTAT	R	6930W1A003A
63302L	3302W0A014A	BASE PLATE	R	
63302R	3302W1A046B	BASE PLATE	R	
63303L	3303W0A010A	BASE PLATE ASSEMBLY	R	
63303R	3303W1A040B	BASE PLATE ASSEMBLY	R	
65006B	5006W3A016B	CAP,BASE PLATE	R	
948501	3B72245D	CUSHION	R	
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R	
WSZ085	4B70188C	SCREW,DRAWING	R	
WSZ185	1SZZW2A002A	SCREW,DRAWING	R	
WSZ196	1SZZW2A001B	SCREW,DRAWING	R	
WTP013	1TPL0402418	SCREW TAPPING,PAN HEAD	R	
WTP018	1TPL0402818	SCREW TAPPING,PAN HEAD	R	
WTT020	1TTL0402416	SCREW TAPPING,TRUSS HEAD	R	
WTT021	1TTL0402418	SCREW TAPPING,TRUSS HEAD	R	
WTT028	1TTL0402818	SCREW TAPPING,TRUSS HEAD	R	
WTT037	1TTL0403818	SCREW TAPPING,TRUSS HEAD	R	

R, S: SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTER
**01	3828W5A3861	MANUAL,OWNERS	R	
*02	3828W5S2170	MANUAL,SERVICE	R	
*05	3850W1D057D	LABEL,COOKING GUIDE	R	
*10	3890W3Y772B	BOX,YELLOW	R	
13213A	3213W0A001L	DOOR FRAME ASSEMBLY	R	
13352A	3352W1A151A	FRONT SCREEN	S	
13536A	3536W1A009A	SEAL TAPE	S	
13552A	3552W1A035B	CHOKE COVER	R	
13581A	3581W1A437B	DOOR ASSEMBLY	R	
13720D	3720W0D151M	PANEL,DOOR	R	
13806D	3806W2A007D	DECO,DOOR	R	
14026A	4026W2A019A	LATCH	R	
14970A	4970WRA001B	SPRING	R	
23506A	3506W1A159B	KEY MEMBRANE	R	
23550D	3550W4A029L	COVER,DIGITRON	R	
23572A	3572W0A176E	PANEL,CONTROL	R	
24781M	4781W1M365F	CONTROLLER ASSEMBLY,MICOM	R	
268711	6871W1S082Q	PWB(PCB) ASSEMBLY,SUB	R	
33052A	3052W3M011F	CANOPY,MICA	R	
33112U	3112W0U072E	OUT CASE,U-BENDING	R	
33390G	3390W1G009D	TRAY,GLASS	R	
340511	4051W3A001A	RIVET ASSEMBLY	R	
34930W	4930W3B029A	HOLDER,WIRE	R	
35012A	5012W3A020C	INSULATOR	R	
35889A	5889W2A014A	ROTATING RING ASSEMBLY	R	
36549S	6549W1S011B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S017A
36549S	6549W1S011B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S015A
43500A	3500W1A028A	BOARD,LATCH	R	
44510A	4510W3A012B	LEVER	R	
466001	6600W1K004C	SWITCH,MICRO	R	6600W1K001D
466001	6600W1K004C	SWITCH,MICRO	R	6600W1K003D
466003	6600W1K004B	SWITCH,MICRO	R	6600W1K003C
466003	6600W1K004B	SWITCH,MICRO	R	6600W1K001C
50CZZH	0CZZW1H004C	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	6120W3H003J
50CZZH	0CZZW1H004C	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H005A
50FZZA	3B74133K	FUSE,DRAWING	R	3B74133H
54810C	4810W4C003B	BRACKET,CAPACITOR	R	
54810G	4810W2G052B	BRACKET,MISC	R	
54974S	4974W1S048B	GUIDE,SUCTION	R	
55006F	5006WRA002D	CAP,FUSE	R	
55262A	5208W1A034B	DUCT	R	
55900A	5900W1A004A	FAN	R	
56170D	6170W1D023P	TRANSFORMER,HIGH VOLTAGE	R	
56324A	6324W1A001E	MAGNETRON	R	

R, S: SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTER
56411A	6411W1A031B	POWER CORD ASSEMBLY	R	
56549F	6549W1F005B	MOTOR(CIRC),FAN	R	
56851D	6021W3B001N	CABLE ASSEMBLY	R	
568771	6877W1A538B	HARNESS	R	
56912B	6912W3B002L	LAMP,DRAWING	R	
56930V	6930W1A003A	THERMOSTAT	R	6930W1A001J
56930V	6930W1A003A	THERMOSTAT	R	6930WRT002F
63302L	3302W0A014B	BASE PLATE	R	
63302R	3302W1A046E	BASE PLATE	R	
63303L	3303W0A010C	BASE PLATE ASSEMBLY	R	
63303R	3303W1A040E	BASE PLATE ASSEMBLY	R	
65006B	5006W3A019A	CAP,BASE PLATE	R	
948501	3B72244T	CUSHION	R	
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R	
WSZ085	4B70188C	SCREW,DRAWING	R	
WSZ185	1SZZW2A002A	SCREW,DRAWING	R	
WTP013	1TPL0402418	SCREW TAPPING,PAN HEAD	R	
WTP018	1TPL0402818	SCREW TAPPING,PAN HEAD	R	
WTT020	1TTL0402416	SCREW TAPPING,TRUSS HEAD	R	
WTT021	1TTL0402418	SCREW TAPPING,TRUSS HEAD	R	
WTT028	1TTL0402818	SCREW TAPPING,TRUSS HEAD	R	
WTT037	1TTL0403818	SCREW TAPPING,TRUSS HEAD	R	

R, S: SERVICE PARTS

Buyer	Buyer Model	Rating Label	First check the rating label on the back of oven. and order SVC parts accoding to ECN
LGEUS	MA2120W	MA2120W / 01	

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTER
*01	3828W5A2443	MANUAL,OWNERS	R	
*02	3828W5S2170	MANUAL,SERVICE	R	
*05	3850W3A377E	LABEL,COOKING GUIDE	R	
*10	3890W3Y406A	BOX,YELLOW	R	
13213A	3213W0A001E	DOOR FRAME ASSEMBLY	R	
13352A	3352W1A092A	FRONT SCREEN	R	
13536A	3536WRA001Q	SEAL TAPE	R	
13552A	3552W1A035A	CHOKE COVER	R	
13581A	3581W1A214L	DOOR ASSEMBLY	R	
13720D	3720W0D151A	PANEL,DOOR	R	
13806D	3806W2A007A	DECO,DOOR	R	
14026A	4026W2A015A	LATCH	R	
14970A	4970WRA001B	SPRING	R	
23506A	3506W1A159A	KEY MEMBRANE	R	
23550D	3550W4A029B	COVER,DIGITRON	R	
23572A	3572W0A176A	PANEL,CONTROL	R	
24781M	4781W1M219K	CONTROLLER ASSEMBLY,MICOM	R	
268711	6871W1S082A	PWB(PCB) ASSEMBLY,SUB	R	
33052M	3052W3M011F	CANOPY,MICA	R	
33112U	3112W0U028A	OUT CASE,U-BENDING	R	
33390G	3390W1G009C	TRAY,GLASS	R	
33461Z	3461W1A052C	CAVITY ASSEMBLY	R	
340511	4051W3A001A	RIVET ASSEMBLY	R	
34930W	4930W3B029A	HOLDER,WIRE	R	
35012A	5012W3A020A	INSULATOR	R	
35889A	5889W2A011B	ROTATING RING ASSEMBLY	R	
36549S	6549W1S011A	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S015A
43500A	3500W1A013A	BOARD,LATCH	R	
43501A	3501W1A016M	BOARD ASSEMBLY,LATCH	R	
44510A	4510W4A005A	LEVER	R	
466001	6600W1K004C	SWITCH,MICRO	R	3B73362E
466001	6600W1K004C	SWITCH,MICRO	R	3B73362F
466003	6600W1K004B	SWITCH,MICRO	R	3B73361D
466003	6600W1K004B	SWITCH,MICRO	R	3B73361E
50CZZH	0CZZW1H002J	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004C
50CZZH	0CZZW1H002J	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	6120W3H002C
50CZZH	0CZZW1H002J	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	6120W3H003J
50FZZA	3B74133K	FUSE,DRAWING	R	
54810C	4810W4C003A	BRACKET,CAPACITOR	R	
54810G	4810W2G052A	BRACKET,MISC	R	
54974S	4974W1S010A	GUIDE,SUCTION	R	
55006F	5006WRA002A	CAP,FUSE	R	5006WRA002E
55262A	5262W2A043B	DUCT	R	
55900A	2B72125A	FAN	R	

R, S: SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTER
56170D	6170W1D023P	TRANSFORMER,HIGH VOLTAGE	R	6170W1D050E
56324A	6324W1A001E	MAGNETRON	R	
56411A	2B72325H	POWER CORD ASSEMBLY	R	6411W1A002M
56411A	2B72325H	POWER CORD ASSEMBLY	R	6411W1A002L
56549F	6549W1F005B	MOTOR(CIRC),FAN	R	6549W1F008B
56851D	6021W3B001M	CABLE ASSEMBLY	R	
568771	6877W1A187F	HARNESS	R	
56912B	6912W3B002G	LAMP,DRAWING	R	6912W3B002Q
56930V	6930WRT001C	THERMOSTAT	R	6930W1A003A
56930V	6930WRT001C	THERMOSTAT	R	6930W1A001J
56930V	6930WRT001C	THERMOSTAT	R	6930W3A001L
56930V	6930WRT001C	THERMOSTAT	R	6930WRT002C
63302L	3302W0A014A	BASE PLATE	R	
63302R	3302W1A046B	BASE PLATE	R	
63303L	3303W0A010A	BASE PLATE ASSEMBLY	R	
63303R	3303W1A040B	BASE PLATE ASSEMBLY	R	
65006B	5006W3A016B	CAP,BASE PLATE	R	
948501	3B72245D	CUSHION	R	
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R	
WSZ085	4B70188C	SCREW,DRAWING	R	
WSZ185	1SZZW2A002A	SCREW,DRAWING	R	
WSZ196	1SZZW2A001B	SCREW,DRAWING	R	
WTP013	1TPL0402418	SCREW TAPPING,PAN HEAD	R	
WTP018	1TPL0402818	SCREW TAPPING,PAN HEAD	R	
WTT010	1TTG0402422	SCREW TAPPING,TRUSS HEAD	R	
WTT021	1TTL0402418	SCREW TAPPING,TRUSS HEAD	R	
WTT028	1TTL0402818	SCREW TAPPING,TRUSS HEAD	R	
WTT037	1TTL0403818	SCREW TAPPING,TRUSS HEAD	R	

R, S: SERVICE PARTS

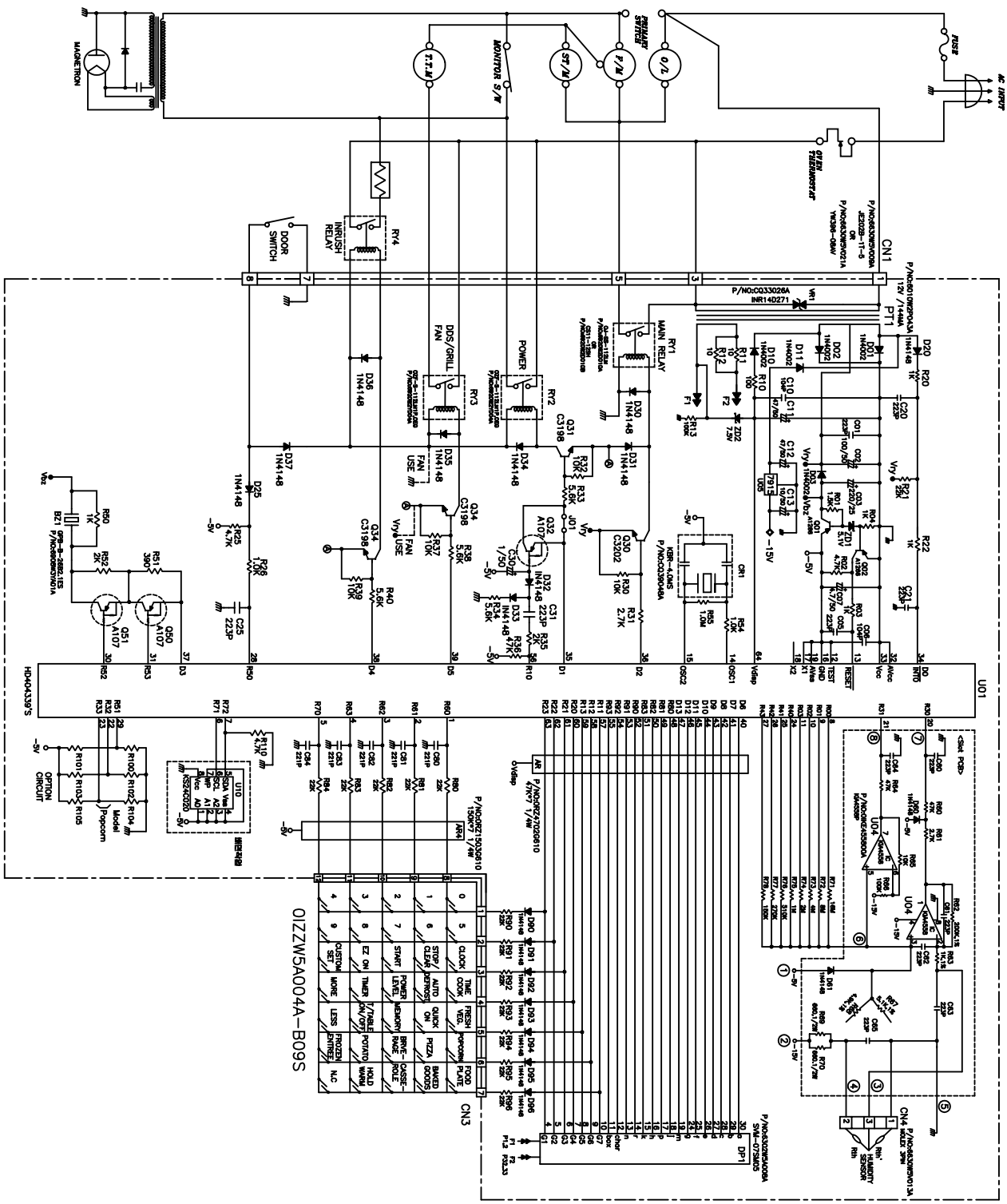
LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTER
*01	3828W5A3861	MANUAL,OWNERS	R	
*02	3828W5S2170	MANUAL,SERVICE	R	
*05	3850W1D057D	LABEL,COOKING GUIDE	R	
*10	3890W3Y772A	BOX,YELLOW	R	
13213A	3213W0A001K	DOOR FRAME ASSEMBLY	R	
13352A	3352W1A151A	FRONT SCREEN	S	
13536A	3536W1A009A	SEAL TAPE	S	
13552A	3552W1A035B	CHOKE COVER	R	
13581A	3581W1A437A	DOOR ASSEMBLY	R	
13720D	3720W0D151L	PANEL,DOOR	R	
13806D	3806W2A007C	DECO,DOOR	R	
14026A	4026W2A019A	LATCH	R	
14970A	4970WRA001B	SPRING	R	
23506A	3506W1A159A	KEY MEMBRANE	R	
23550D	3550W4A029L	COVER,DIGITRON	R	
23572A	3572W0A176D	PANEL,CONTROL	R	
24781M	4781W1M365E	CONTROLLER ASSEMBLY,MICOM	R	
268711	6871W1S082Q	PWB(PCB) ASSEMBLY,SUB	R	
33052M	3052W3M011F	CANOPY,MICA	R	
33112U	3112W0U072A	OUT CASE,U-BENDING	R	
33390G	3390W1G009D	TRAY,GLASS	R	
340511	4051W3A001A	RIVET ASSEMBLY	R	
34930W	4930W3B029A	HOLDER,WIRE	R	
35012A	5012W3A020C	INSULATOR	R	
35889A	5889W2A014A	ROTATING RING ASSEMBLY	R	
36549S	6549W1S011B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S017A
36549S	6549W1S011B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S015A
43500A	3500W1A028A	BOARD,LATCH	R	
44510A	4510W3A012B	LEVER	R	
466001	6600W1K004C	SWITCH,MICRO	R	6600W1K001D
466001	6600W1K004C	SWITCH,MICRO	R	6600W1K003D
466003	6600W1K004B	SWITCH,MICRO	R	6600W1K003C
466003	6600W1K004B	SWITCH,MICRO	R	6600W1K001C
50CZZH	0CZZW1H004C	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	6120W3H003J
50CZZH	0CZZW1H004C	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H005A
50FZZA	3B74133K	FUSE,DRAWING	R	3B74133H
54810C	4810W4C003B	BRACKET,CAPACITOR	R	
54810G	4810W2G052B	BRACKET,MISC	R	
54974S	4974W1S048B	GUIDE,SUCTION	R	
55006F	5006WRA002D	CAP,FUSE	R	
55262A	5208W1A034B	DUCT	R	
55900A	5900W1A004A	FAN	R	
56170D	6170W1D023P	TRANSFORMER,HIGH VOLTAGE	R	
56324A	6324W1A001E	MAGNETRON	R	

R, S: SERVICE PARTS

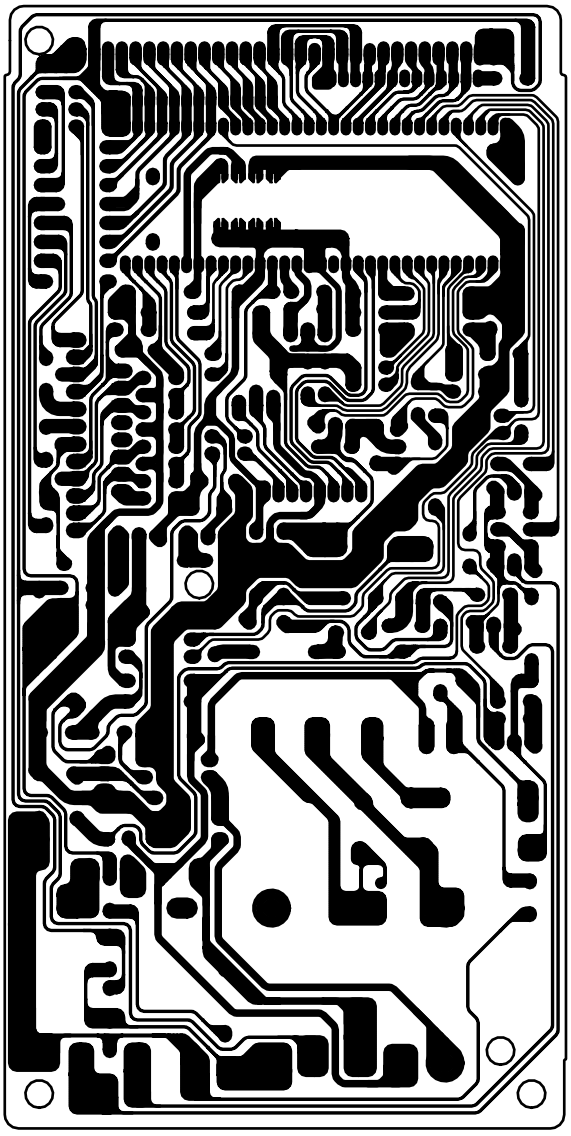
LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTER
56411A	6411W1A031B	POWER CORD ASSEMBLY	R	
56549F	6549W1F005B	MOTOR(CIRC),FAN	R	
56851D	6021W3B001N	CABLE ASSEMBLY	R	
568771	6877W1A538B	HARNESS	R	
56912B	6912W3B002L	LAMP,DRAWING	R	
56930V	6930W1A003A	THERMOSTAT	R	6930W1A001J
56930V	6930W1A003A	THERMOSTAT	R	6930WRT002F
63302L	3302W0A014B	BASE PLATE	R	
63302R	3302W1A046E	BASE PLATE	R	
63303L	3303W0A010C	BASE PLATE ASSEMBLY	R	
63303R	3303W1A040E	BASE PLATE ASSEMBLY	R	
65006B	5006W3A019A	CAP,BASE PLATE	R	
948501	3B72244T	CUSHION	R	
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R	
WSZ085	4B70188C	SCREW,DRAWING	R	
WSZ185	1SZZW2A002A	SCREW,DRAWING	R	
WTP013	1TPL0402418	SCREW TAPPING,PAN HEAD	R	
WTP018	1TPL0402818	SCREW TAPPING,PAN HEAD	R	
WTT010	1TTG0402422	SCREW TAPPING,TRUSS HEAD	R	
WTT021	1TTL0402418	SCREW TAPPING,TRUSS HEAD	R	
WTT028	1TTL0402818	SCREW TAPPING,TRUSS HEAD	R	
WTT037	1TTL0403818	SCREW TAPPING,TRUSS HEAD	R	

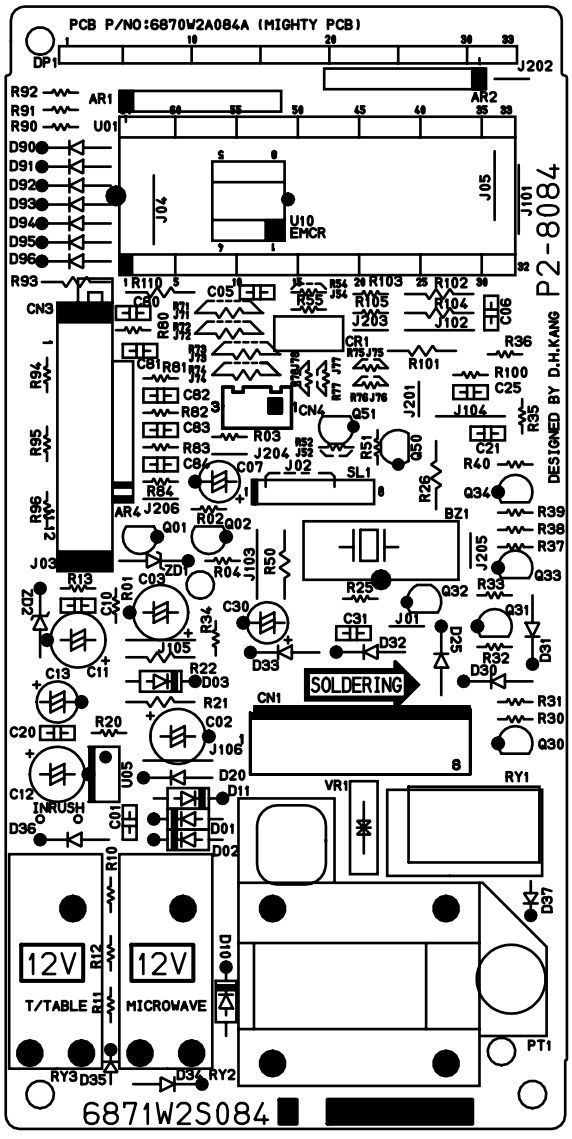
R, S: SERVICE PARTS

SCHEMATIC DIAGRAM OF P.C.B.



PRINTED CIRCUIT BOARD





P.C.B. PARTS LIST

LOC. NO.	PART NO.	DESCRIPTION	SPEC	SVC	ALTER
BZ1	6908W3YA01B	BUZZER	TFM-57 CW NINGBO EAST PIEZO 2048HZ 70DB 3V 0.0012	R	6908W3YA01A
C1	0CK1020K518	CAPACITOR,FIXED CERAMIC(HIGH DIELECTRIC)	10KPF D 50V K B TA26	R	
C12	0CE2276H638	CAPACITOR,FIXED ELECTROLYTIC	220UF SMS,SG 25V 20% FM5 TP 5	R	
C13	0CE1076D638	CAPACITOR,FIXED ELECTROLYTIC	100UF SMS,SG 10V 20% FM5 TP 5	R	
C14	0CK2230K948	CAPACITOR,FIXED CERAMIC(High dielectric)	22NF D 50V 80%,-20% F(Y5V) TA26	R	
C15	0CK1040K948	CAPACITOR,FIXED CERAMIC(HIGH DIELECTRIC)	0.1UF D 50V 80%,-20% F(Y5V) TA26	R	
C16	0CE4766K638	CAPACITOR,FIXED ELECTROLYTIC	47UF SMS,SG 50V 20% FM5 TP 5	R	
C20	0CK2230K948	CAPACITOR,FIXED CERAMIC(High dielectric)	22NF D 50V 80%,-20% F(Y5V) TA26	R	
C21	0CK2230K948	CAPACITOR,FIXED CERAMIC(High dielectric)	22NF D 50V 80%,-20% F(Y5V) TA26	R	
C25	0CK2230K948	CAPACITOR,FIXED CERAMIC(High dielectric)	22NF D 50V 80%,-20% F(Y5V) TA26	R	
C80	0CK1020K518	CAPACITOR,FIXED CERAMIC(HIGH DIELECTRIC)	10KPF D 50V K B TA26	R	
C81	0CK1020K518	CAPACITOR,FIXED CERAMIC(HIGH DIELECTRIC)	10KPF D 50V K B TA26	R	
CU1	4850W4C001B	CUSHION	5.0T 15W 40L RUBBER BLACK	R	
D1	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D11	0DRSB00093A	DIODE,RECTIFIERS	1N4002 SINBLE TP26 DO41 100V 1A 30A 0SEC 5UA	R	
D12	0DRSB00093A	DIODE,RECTIFIERS	1N4002 SINBLE TP26 DO41 100V 1A 30A 0SEC 5UA	R	
D13	0DRSB00093A	DIODE,RECTIFIERS	1N4002 SINBLE TP26 DO41 100V 1A 30A 0SEC 5UA	R	
D14	0DRSB00093A	DIODE,RECTIFIERS	1N4002 SINBLE TP26 DO41 100V 1A 30A 0SEC 5UA	R	
D20	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D25	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D30	0DSSB00023A	DIODE,SWITCHING	1N4148 SINBLE TP26 DO35 75V 300MA 500MA 4NSEC 5UA	R	
D31	0DSSB00023A	DIODE,SWITCHING	1N4148 SINBLE TP26 DO35 75V 300MA 500MA 4NSEC 5UA	R	
D32	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D33	0DSSB00023A	DIODE,SWITCHING	1N4148 SINBLE TP26 DO35 75V 300MA 500MA 4NSEC 5UA	R	
D5	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D80	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D81	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D82	0DSSB00023A	DIODE,SWITCHING	1N4148 SINBLE TP26 DO35 75V 300MA 500MA 4NSEC 5UA	R	
D83	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D84	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D85	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
D86	0DSSB00083A	DIODE,SWITCHING	1N4148M SINBLE TP26 DO34 50V 300MA 500MA 4NSEC 5UA	R	
DP1	6302W5A002D	DIGITRON	VFD25-0709 7 MS-117YT ZEC	R	6302W5A002A
PT1	6010W2P037P	TRANSFORMER,POWER	120V 60HZ DC 12V / AC 2.6V LGETA LEADR(=037A)	R	6010W2P037A
Q10	0TR126609AA	TRANSISTOR,BIPOLARS	KTA1266-Y(KTA1015) KEC TP TO92 50V 150MA	R	0TRAU90018A
Q11	0TR126609AA	TRANSISTOR,BIPOLARS	KTA1266-Y(KTA1015) KEC TP TO92 50V 150MA	R	0TRAU90018A
Q20	0TR107009AD	TRANSISTOR,BIPOLARS	KRC 107M KEC TP TO92M 50V 100MA	R	0TRAU90015A
Q30	0TR126609AA	TRANSISTOR,BIPOLARS	KTA1266-Y(KTA1015) KEC TP TO92 50V 150MA	R	0TRAU90018A
Q31	0TR105009AD	TRANSISTOR,BIPOLARS	KRA105M KEC TP TO92 50V 100MA	R	0TRAU90012A
Q32	0TR105009AD	TRANSISTOR,BIPOLARS	KRA105M KEC TP TO92 50V 100MA	R	0TRAU90012A
Q50	0TR107009AE	TRANSISTOR,BIPOLARS	KRA107M KEC TP TO92M 50V 100MA	R	0TRAU90014A
Q70	0TR107009AE	TRANSISTOR,BIPOLARS	KRA107M KEC TP TO92M 50V 100MA	R	0TRAU90014A
Q71	0TR107009AE	TRANSISTOR,BIPOLARS	KRA107M KEC TP TO92M 50V 100MA	R	0TRAU90014A
R1	0RN7502F408	RESISTOR,FIXED METAL FILM	75K OHM 1/6 W 1% TA26	R	
R10	0RD1001F608	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	R	
R11	0RD1501F608	RESISTOR,FIXED CARBON FILM	1.5K OHM 1/6 W 5% TA26	R	
R12	0RD1002F608	RESISTOR,FIXED CARBON FILM	10K OHM 1/6 W 5% TA26	R	
R13	0RD1001F608	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	R	
R14	0RD0471G608	RESISTOR,FIXED CARBON FILM	4.7 OHM 1/4 W 5% TA26	R	
R15	0RD0471G608	RESISTOR,FIXED CARBON FILM	4.7 OHM 1/4 W 5% TA26	R	

R:SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SPEC	SVC	ALTER
R16	0RD1003G608	RESISTOR,FIXED CARBON FILM	100K OHM 1/4 W 5% TA26	R	
R20	0RD1001F608	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	R	
R21	0RD2202F608	RESISTOR,FIXED CARBON FILM	22K OHM 1/6 W 5% TA26	R	
R22	0RD1001F608	RESISTOR,FIXED CARBON FILM	1K OHM 1/6 W 5% TA26	R	
R23	0RD2700G608	RESISTOR,FIXED CARBON FILM	270 OHM 1/4 W 5% TA26	R	
R25	0RD4701F608	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/6 W 5% TA26	R	
R26	0RD4702F608	RESISTOR,FIXED CARBON FILM	47K OHM 1/6 W 5% TA26	R	
R27	0RD1001G608	RESISTOR,FIXED CARBON FILM	1K OHM 1/4 W 5% TA26	R	
R31	0RD1000F608	RESISTOR,FIXED CARBON FILM	100 OHM 1/6 W 5% TA26	R	
R32	0RD2001G608	RESISTOR,FIXED CARBON FILM	2K OHM 1/4 W 5% TA26	R	
R5	0RN4702F408	RESISTOR,FIXED METAL FILM	47K OHM 1/6 W 1% TA26	R	
R50	0RD4701G608	RESISTOR,FIXED CARBON FILM	4.7K OHM 1/4 W 5% TA26	R	
R55	0RD1004F608	RESISTOR,FIXED CARBON FILM	1M OHM 1/6 W 5% TA26	R	
R6	0RN4702G408	RESISTOR,FIXED METAL FILM	47K OHM 1/4 W 1.00% TA26	R	
R70	0RD1003F608	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	R	
R71	0RD1003F608	RESISTOR,FIXED CARBON FILM	100K OHM 1/6 W 5% TA26	R	
R80	0RN2202G408	RESISTOR,FIXED METAL FILM	22K OHM 1/4 W 1% TA26	R	
R81	0RD0102F608	RESISTOR,FIXED CARBON FILM	10 OHM 1/6 W 5% TA26	R	
R82	0RN1802F408	RESISTOR,FIXED METAL FILM	18K OHM 1/6 W 1% TA26	R	
R83	0RN5602F408	RESISTOR,FIXED METAL FILM	56K OHM 1/6 W 0.01 TA26	R	
R84	0RN2202G408	RESISTOR,FIXED METAL FILM	22K OHM 1/4 W 1% TA26	R	
R85	0RD0102F608	RESISTOR,FIXED CARBON FILM	10 OHM 1/6 W 5% TA26	R	
R86	0RN1802F408	RESISTOR,FIXED METAL FILM	18K OHM 1/6 W 1% TA26	R	
R90	0RN4701G408	RESISTOR,FIXED METAL FILM	4.7K OHM 1/4 W 1% TA26	R	
R91	0RN4701G408	RESISTOR,FIXED METAL FILM	4.7K OHM 1/4 W 1% TA26	R	
R92	0RN4701F408	RESISTOR,FIXED METAL FILM	4.7K OHM 1/6 W 1% TA26	R	
R93	0RN4701F408	RESISTOR,FIXED METAL FILM	4.7K OHM 1/6 W 1% TA26	R	
R94	0RN4701F408	RESISTOR,FIXED METAL FILM	4.7K OHM 1/6 W 1% TA26	R	
R95	0RN4701F408	RESISTOR,FIXED METAL FILM	4.7K OHM 1/6 W 1% TA26	R	
R96	0RN4701F408	RESISTOR,FIXED METAL FILM	4.7K OHM 1/6 W 1% TA26	R	
RY1	6920W2D010A	RELAY	OJ-SS-112LM OEG 250VAC 3A 12VDC 1A NO VENTING	R	6920W2D010B
RY2	6920W5A009A	RELAY	OMIF-S-112LM ORIGINAL 250VAC 17A 12VDC 1A NO VENT	R	
RY3	6920W2D010A	RELAY	OJ-SS-112LM OEG 250VAC 3A 12VDC 1A NO VENTING	R	6920W2D010B
ZD1	0DZSB00053B	DIODE,ZENERS	2CW37-5.1 SINBLE TP26 DO34 500MW 5.1V 10MA NAPF	R	
ZD2	0DZSB00073B	DIODE,ZENERS	2CW37-7.5 SINBLE TP26 DO34 500MW 7.5V 10MA NAPF	R	

R: SERVICE PARTS

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