

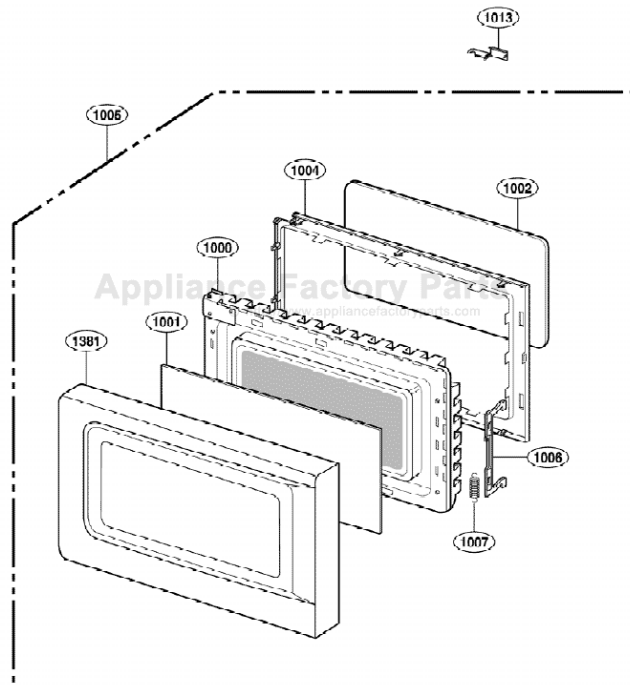
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SEARS

MODEL 721.62223

DIVISION 20

BASIC FIELD MANUAL

FOR

MICROWAVE OVEN

MODEL 721.62223200
721.62223201

September, 2002

CAUTION

WARNING TO SERVICE TECHNICIANS

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 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.
- Proper operation of the microwave ovens requires that the magnetron be assembled to the wave guide 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.
 - Routine service safety procedures should be exercised at all times.
 - Untrained personnel should not attempt service without a thorough review of the test procedures and safety information contained in this manual.

FOREWORD

Read this Manual carefully. Failure to adhere to or observe the information in this Manual may result in exposing yourself to the Microwave Energy normally contained within the oven cavity.

MODEL 721.62223

MECHANICAL SERVICE INFORMATION

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1. ADJUSTMENT PROCEDURES

To avoid possible exposure to microwave energy leakage, adjust the door latches and interlock switches, using the following procedure.

ONLY AUTHORIZED SERVICE PERSONNEL SHOULD MAKE THIS ADJUSTMENT.

The Interlock Monitor and Primary Interlock Switch act as the final safety switch protecting the user from microwave energy. The terminals between "COM" and "NC" of the Interlock Monitor must close when the door is opened. After adjusting the Interlock Monitor Switch, make sure that it is correctly connected. See Figures 1-a and 1-b throughout this procedure.

CHECK THE DOOR LATCH AND SWITCH CLOSING.

NOTE: The outer cover of the microwave oven is removed.

- (1) Set the microwave oven on its side so that you can see the latch board and the switches, as shown in Figure 1-a.
- (2) Close the door tightly and check gaps A and B to be sure they are no more than 1/64" (0.5 mm). See Figure 1-b for close-up view of gaps A and B (door latches). If all gaps are less than 1/64" (0.5 mm), adjustment of the latch board may not be necessary. Go to Steps 5 and 6 to check the sequence of the switches.

NOTE: To correct sequence of the Primary Interlock Switch, Secondary Interlock Switch and the Interlock Monitor Switch are very important.

If any gap is larger than 1/64" (0.5 mm), you will need to adjust the latch board-U, L. Go to step 3 and follow all steps in order.

ADJUST THE LATCH AND SWITCH CLOSING

- (3) Loosen the two screws holding the plastic latch board as shown.
- (4) With the oven door closed tightly, move the latch board upward toward the top of the oven and/or away from the door latch until the gaps are less than 1/64" (0.5 mm).

Hold the latch board tightly in this position until you check the sequence of the switches in steps 5 and 6.

TEST THE LATCH AND SWITCH SEQUENCE

- (5) Open the oven door slowly. Watch the door latch and the Primary Switch. Release Rod and Lever on the switches to make sure they are zero to the body of the switches in the following sequence:
 - Primary Interlock Switch
 - Secondary Interlock Switch
 - Interlock Monitor Switch

Adjust the latch board until the switches operate in this sequence. See Steps 3 and 4.

- (6) Close the oven door slowly and be sure it is tightly closed. Watch the three switches to make sure they are zero to the body of the switches in the following sequence:
 - Interlock Monitor Switch
 - Primary Interlock Switch
 - Secondary Interlock Switch

NOTE: The Interlock Monitor Switch is an added safety check on the Primary and Secondary Interlock Switches. If the Primary and Secondary Interlock Switches allow the oven to operate with the door open, the Monitor Switch will blow the fuse.

- (7) When you achieve the proper sequence of switches in Steps 5 and 6, tighten the latch board screws at that point.

TEST THE MICROWAVE ENERGY LEAKAGE

- (8) Using a survey meter, make sure the microwave energy is below 5 mW/cm.sq.

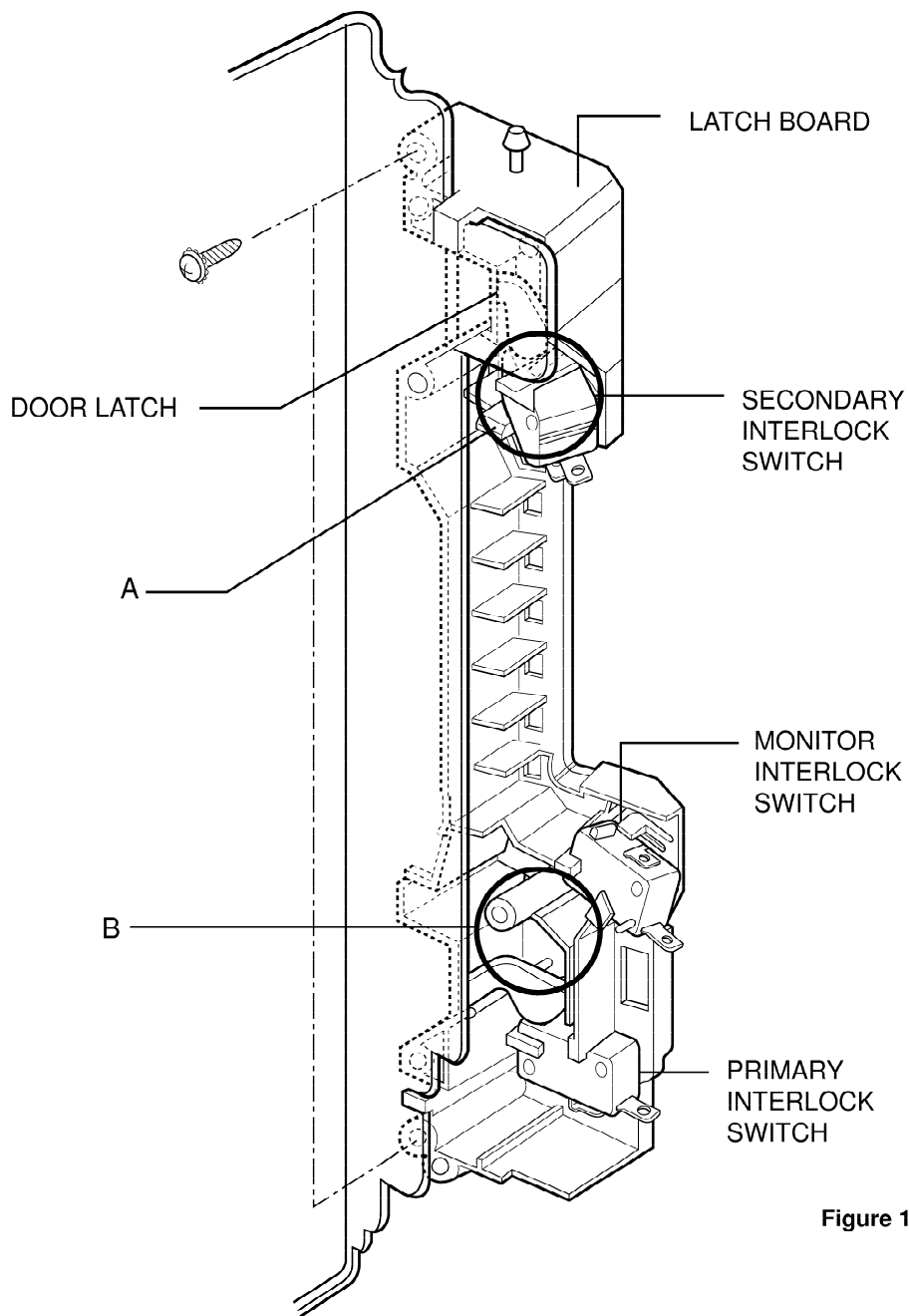


Figure 1-a

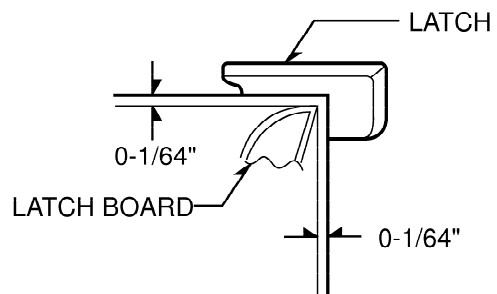


Figure 1-b

2. PRECAUTIONS ON INSTALLATION

(Figure 2)

- A. Plug the power supply cord into a 120 V AC, 60 Hz, single-phase power source with a capacity of at least 20 amperes.
- B. Since the unit weights about 38 lbs, be sure to place it on a sturdy and flat surface.
- C. Avoid placing the unit in a location where there is direct heat or splashing water.
- D. Place the unit as far away as possible from TV, radio, etc. to prevent interference.

CAUTION

This unit is equipped with a 3-pronged plug for your safety. If the wall outlet is a grounded 3-hole type, the unit will be grounded automatically.

Properly Polarized and Grounded Outlet

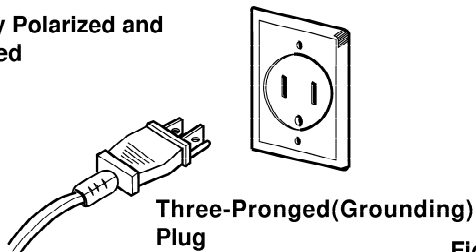


Figure 2

3. GENERAL PRECAUTIONS IN USE

- A. Never operate the unit when it is empty. Operating the oven with no load may shorten the life of the magnetron. Whenever cooking dry foods (dried fish, bread, etc.) or a small amount of food, be sure to put a glass of water into the cooking compartment. The turntable tray may become hot after operating, be careful when touching it.
- B. Aluminum foil should be avoided because it will disrupt cooking and may cause arcing. However, small pieces may be used to cover some parts of food to slow the cooking. Any aluminum foil used should never be closer than 2.5 cm to any side wall of the oven.

4. TRIAL OPERATION

After installation, the following sequences and results should be checked carefully.

- A. Put a container filled with water (about 1 liter) into the oven, and close the door tightly.
- B. Touch the STOP/CLEAR and the COOK TIME keys.
- C. Set cooking time for 10 minutes by touching "1" and then "0" three times. "1000" appears in the display window.
- D. Touch the START key.
Make sure the cavity light comes on. The unit will begin cooking and the display window will show the time counting down by seconds.
- E. After about 5 minutes, make sure the primary interlock switch, the secondary interlock switch and the interlock monitor and oven lamp switch operate properly by opening and closing the door several times. Touch the START key each time the door is closed.
- F. Continue operating the unit. Four long beep sound signal is heard when the time is up. The unit will shut off automatically.
- G. Confirm the water is hot.
- H. Finally, measure the output power according to "POWER OUTPUT MEASUREMENT" on page 13.

5. FEATURES AND SPECIFICATIONS

- A. The safety systems incorporated in this model are:
 - (1) Primary interlock switch
 - (2) Secondary interlock switch
 - (3) Interlock monitor switch
 - (4) Choke system
 - (5) Magnetron thermostat
 - (6) Oven cavity thermostat(Note: This thermostat located on the oven cavity will open and stop the unit from operation only if a high temperature is reached, such as, a fire created by overcooking food.)
- B. Any one of 10 power output levels ranging 100W to 1100W can be selected by the touch control and electronic computer system.
- C. Cooking time can be displayed on the digital readout.
- D. Three different cooking stages can be set. The oven remembers three cooking stages and changes from one cooking stage to another. This is made possible with the memory function of the microprocessor.

SPECIFICATIONS

Rated Power Consumption	1500W maximum
Output	1100W maximum (*IEC 60705 Rating standard)
.....	Adjustable 100W through 1100W, 11 steps
Frequency	2,450 MHz \pm 50 MHz
Power Supply	120V \pm 12V AC, 60Hz
Rated Current.....	13 Amp.
Magnetron Cooling.....	Forced Air Cooling
Microwave Stirring.....	Turntable
Rectification.....	Rectification Voltage Doubler Half-Wave
Door Sealing	Choke System
Safety Devices	Thermostat:
	Open at 90°C \pm 5°C
	Open at 75°C \pm 5°C
	Fuse(20A)
	Primary Interlock Switch
	Secondary Interlock Switch
	Interlock Monitor
Magnetron	2M246
High Voltage Capacitor	Capacitor: 0.95 μ F, 2.1KV Ac
High Voltage Diode	350mA, 9.0KV
Cavity Lamp	125V, 20W
Timer	Digital, up to 99 mm. 99 sec. (in each cooking stage)
Tray	Tempered Safety Glass
Overall Dimensions	20 ¹ / ₈ " (W) x 12" (H) x 15 ¹ / ₈ " (D)
Oven Cavity Size.....	13 ⁷ / ₈ " (W) x 9 ⁵ / ₁₆ " (H) x 14 ³ / ₁₆ " (D)
Effective Capacity of Oven Cavity	1.1 Cu.ft.
Accessories.....	Use and Care Manual , Turntable, Rotating Ring Assembly.

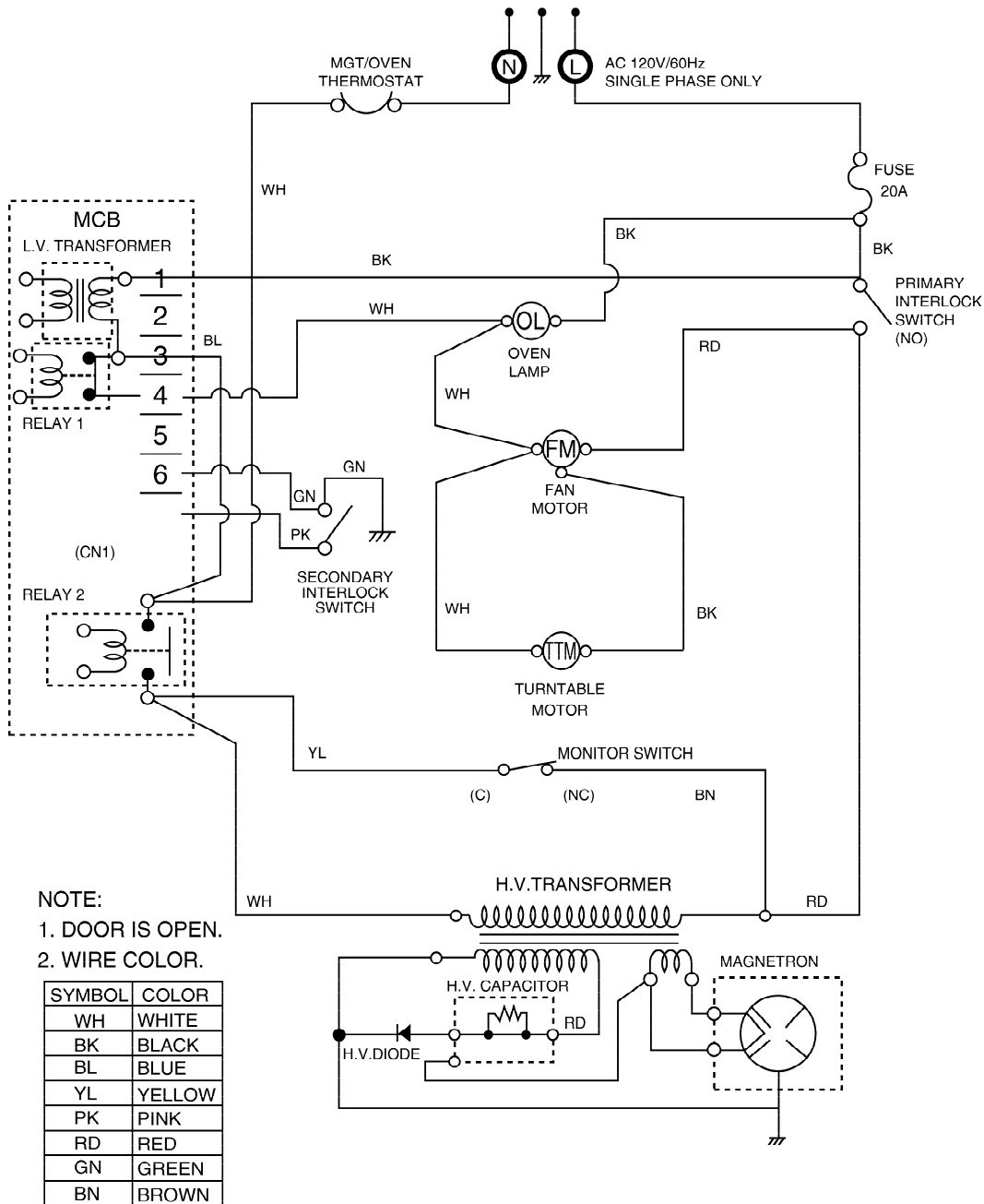
SWITCH CHART

SWITCH MODE	PRIMARY INTERLOCK SWITCH	SECONDARY INTERLOCK SWITCH	INTERLOCK MONITOR SWITCH
CONDITIONS	COM NO	COM NO	COM NC
DOOR OPEN	∞	∞	0
DOOR CLOSED	0	0	∞

NOTE: Use the above switch chart with circuit diagram on page 7.

6. OVERALL CIRCUIT DIAGRAM

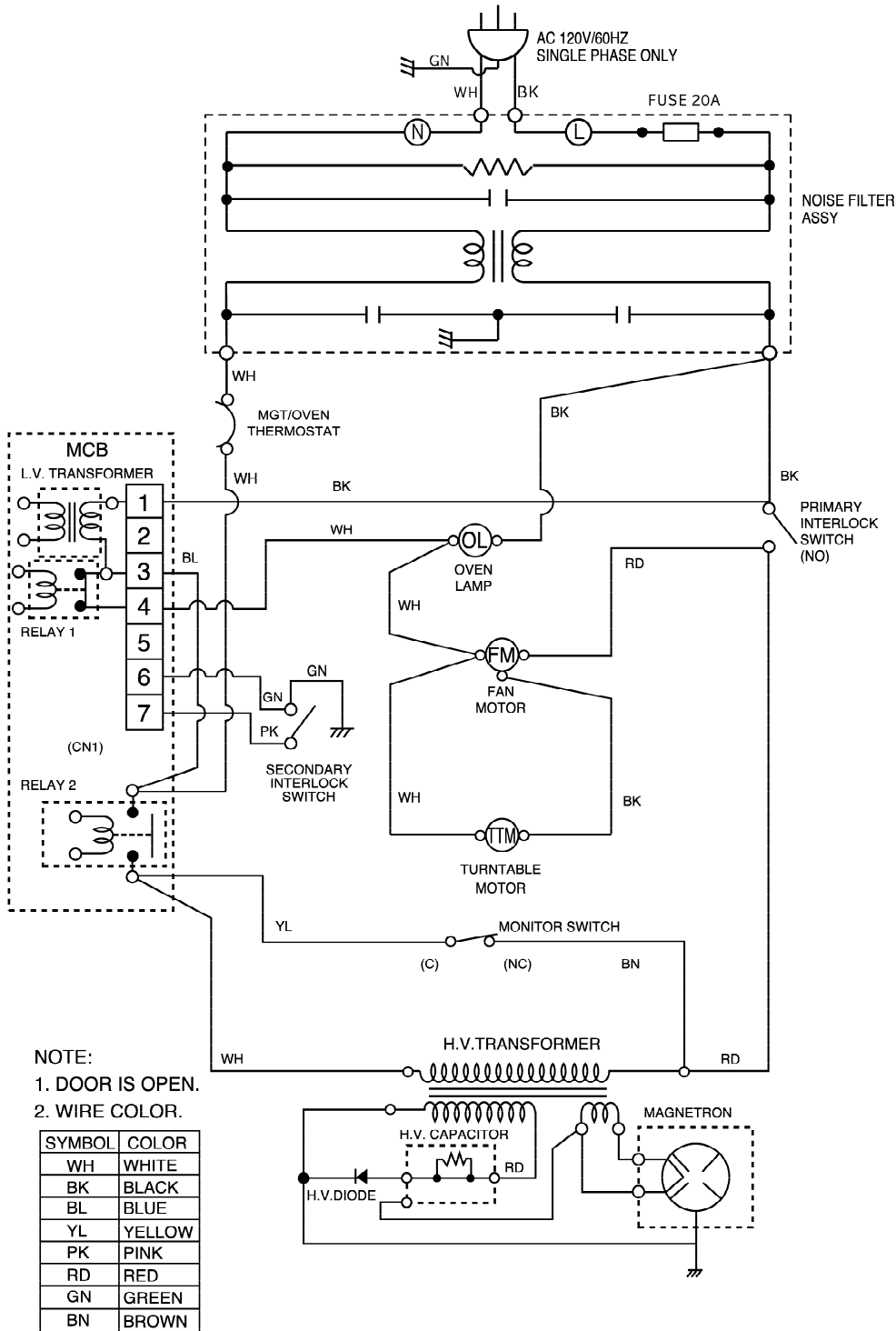
A (I). SCHEMATIC DIAGRAM *Check the Model No.



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.

A (II). SCHEMATIC DIAGRAM *Check the Model No. (ADD Noise filter)



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.

B. MATRIX CIRCUIT FOR TOUCH KEY BOARD

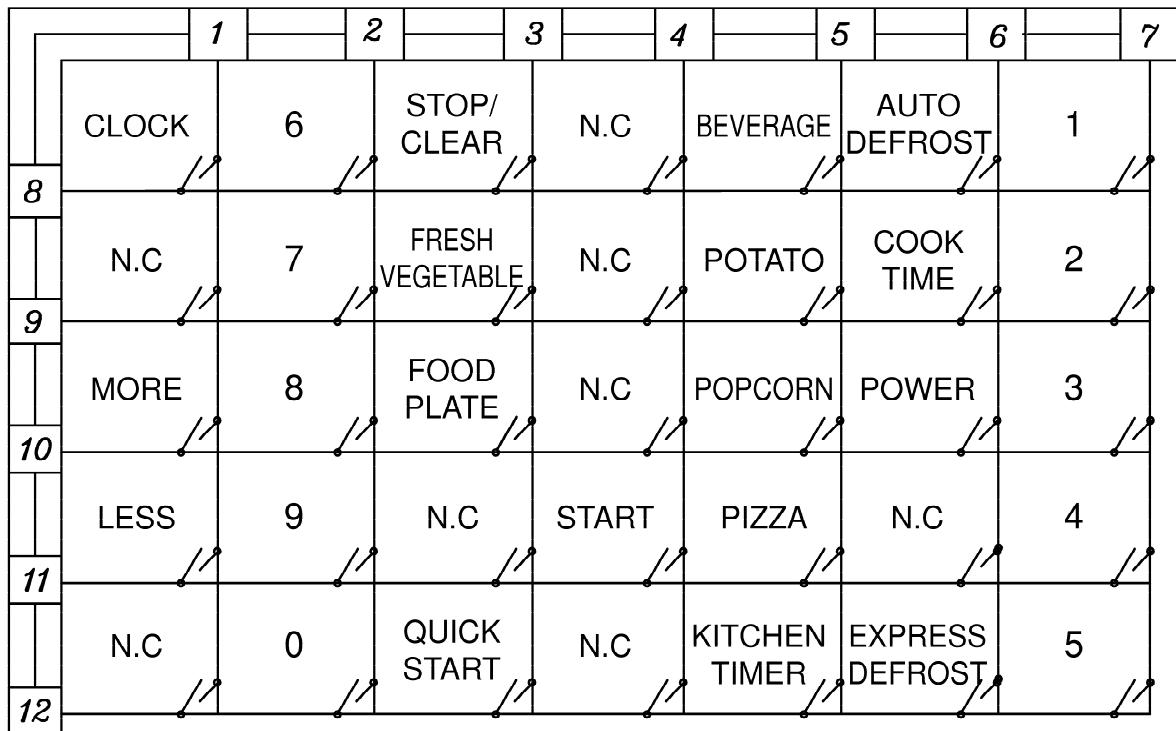


Figure 4

7. OPERATING PROCEDURES
A. OVEN CONTROL PANEL

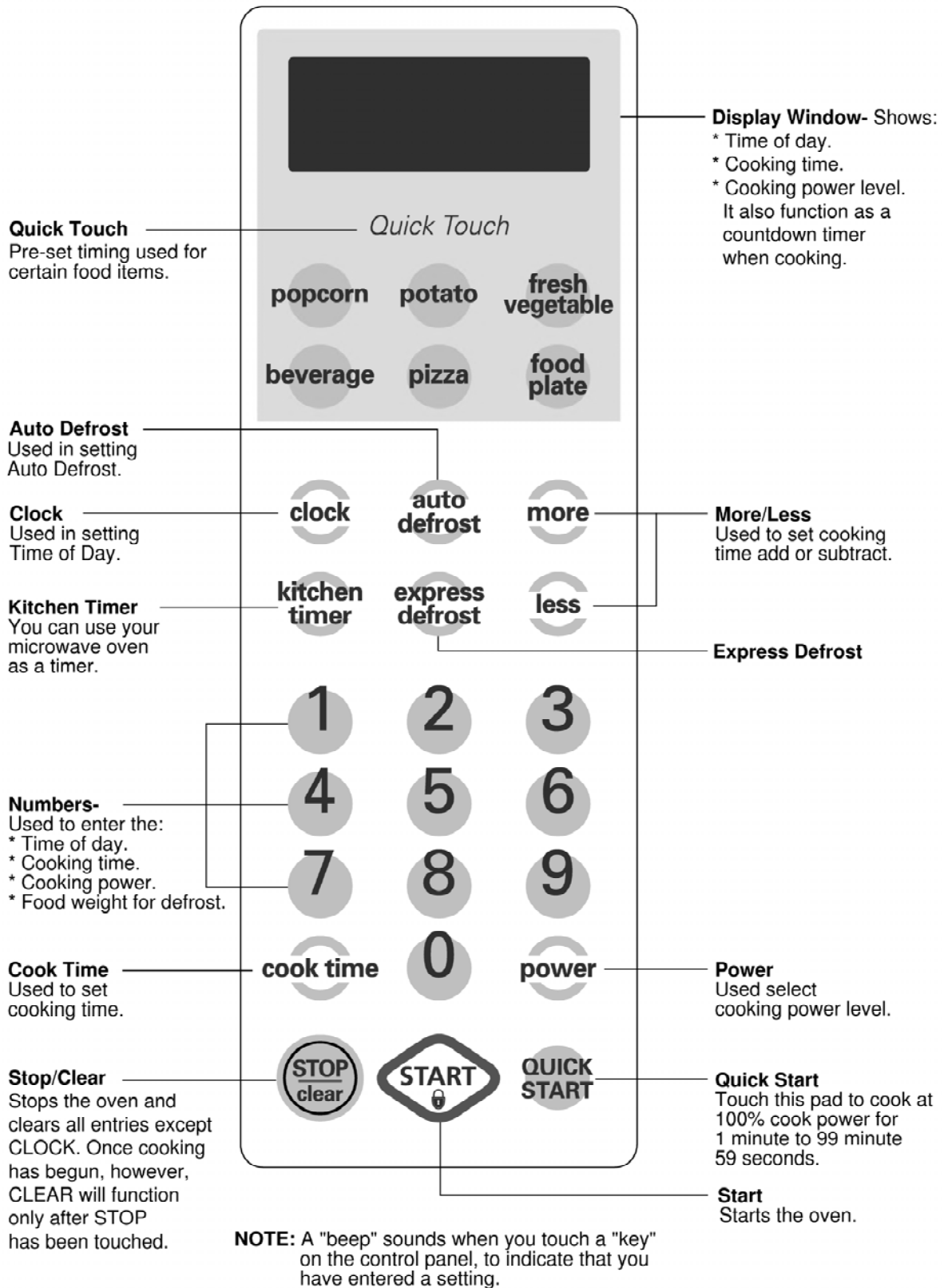


Figure 5

B. PANEL INSTRUCTIONS

The entire operation is done by simple touch control pads.

(1) DISPLAY WINDOW.

The Display includes a clock and indicators that tell you time of day, cooking time settings, and cooking functions selected.

(2) QUICK TOUCH Keys

Use this function to cook food without entering a cook time or power.

(3) AUTO DEFROST Key

Touch this pad to thaw meat, fish, or poultry by entering a weight.

(4) NUMBER PADS

Touch Number Pads to enter cooking time, power level, quantities, or weights.

(5) COOK TIME Key

Touch this pad to set a cooking time.

(6) STOP/CLEAR Key

Touch this pad to stop the oven or clear entries.

(7) CLOCK Key

Touch this pad to enter the time of day.

(8) POWER Key

Touch this pad to set a cooking power.

(9) QUICK START Key

Touch this pad to cook at 100% cook power for 1 to 99 minutes.

(10) KITCHEN TIMER Key

Touch this pad to use your microwave oven as a kitchen timer.

(11) START Key

Touch this pad to start all entries (except the functions which start automatically) and to turn Child Lock on or off.

(12) MORE/LESS Key

Each time you touch this pads. you add or subtract 10 seconds from the cooking time.

(11) EXPRESS DEFROST Key

Touch this pad to defrost foods quickly.

C. EASY USE CHART

(1) CLOCK

1. Touch STOP/CLEAR.
2. Touch CLOCK.
3. Touch numbers for correct time of day.
4. Touch START.

(2) KITCHEN TIMER

1. Touch STOP/CLEAR.
2. Touch KITCHEN TIMER.
3. Touch correct numbers for time.
4. Touch START.

(3) CHILD LOCK

To set:

1. Touch STOP/CLEAR.
2. Touch "START" more than 4 seconds.

To cancel:

1. Touch STOP/CLEAR.
2. Touch "START" more than 4 seconds.

(4) QUICK START

1. Touch STOP/CLEAR.
2. Touch QUICK START

(5) TIMED COOKING

1. Touch STOP/CLEAR.
2. Touch COOK TIME.
3. Touch numbers for cooking time.
4. Touch POWER.
5. Touch number for cooking power level.
6. Touch START.

(6) MULTI-STAGE COOKING

1. Touch STOP/CLEAR.
2. Touch COOK TIME.
3. Touch numbers for cooking time.
4. Touch POWER.
5. Touch number for cooking power level.
6. Repeat steps 2-5 to set 2nd cooking stage.
7. Touch START.

(7) QUICK TOUCH COOKING

1. Touch STOP/CLEAR.
2. Touch POPCORN.

(8) AUTO DEFROST

1. Touch STOP/CLEAR.
2. Touch AUTO DEFROST.
Three different defrosting levels are provided.
(MEAT, POULTRY, FISH)
3. Enter the weight of your food in decimal increments from 0.1 to 6.0 pounds.
4. Touch START
5. At beeping, turn food over by following the instructions in the manual.
6. After turning food over, touch START to resume defrosting.

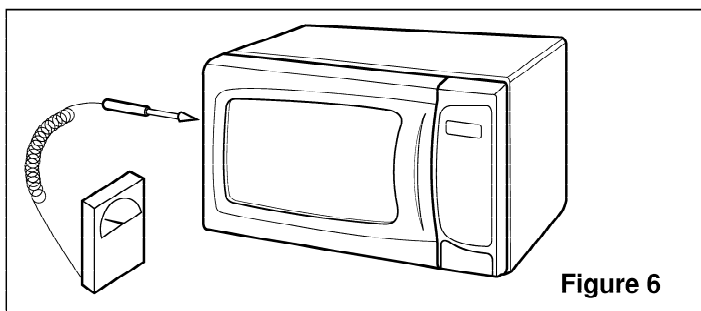
8. PROCEDURE FOR MEASURING MICROWAVE ENERGY LEAKAGE

A. CAUTIONS

- (1) Be sure to check a microwave emission prior to servicing the oven if the oven is operative prior to servicing.
- (2) The service personnel should inform the manufacturer, importer, or assembler of any certified oven unit found to have a microwave emission level in excess of 5mW/cm^2 and should repair any unit found to have excessive emission levels at no cost to the owner and should ascertain the cause of the excessive leakage. The service personnel should instruct the owner not to use the unit until the oven has been brought into compliance.
- (3) 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 Health
1390 Piccard Drive
Rockville, Maryland 20850
- (4) The service personnel should check all surface and vent openings for microwave emission testing.
- (5) Check for microwave energy leakage after every servicing. The power density of the microwave radiation leakage emitted by the microwave oven should not exceed 1mW/cm^2 . And always start measuring of an unknown field to assure safety for operating personnel from radiation leakage.
NOTE: The standard is 5mW/cm^2 while in the customer's home. 1mW/cm^2 stated here is manufacturer's own voluntary standard for units in customer's home.

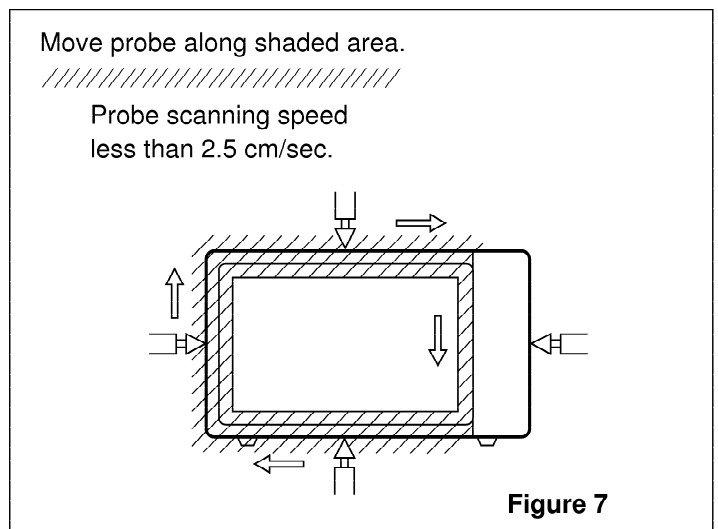
EQUIPMENT

- Electromagnetic energy leakage monitor (NARDA 8100B, HOLADAY HI 1501)
- 600cc glass beaker
- Glass thermometer 100°C



B. MEASURING MICROWAVE ENERGY LEAKAGE

- (1) Pour $275 \pm 15\text{cc}$ of $20 \pm 5^\circ\text{C}$ water in a beaker which is graduated to 600 cc, and place the beaker in the center of the oven.
- (2) Set the energy leakage monitor to 2,450 MHz and use it following the manufacturer's recommended test procedure to assure correct result.
- (3) When measuring the leakage, always use the 2 inch (5cm) spacer supplied with the probe.
- (4) Operate the oven at its maximum output.
- (5) Measure the microwave radiation using and electromagnetic radiation monitor by holding the probe perpendicular to the surface being measured. (See Figure 7)



C. MEASUREMENT WITH THE OUTER CASE REMOVED

- (1) 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.
 - Around the magnetron
 - The waveguide

WARNING: AVOID CONTACTING ANY HIGH VOLTAGE PARTS.

D. MEASUREMENT WITH A FULLY ASSEMBLED OVEN

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

NOTES:

Leakage with the outer panels removed - less than 5mW/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 1 mW/cm .sq.

E. NOTE WHEN MEASURING

- (1) Do not exceed meter full scale deflection.
- (2) The test probe must be removed no faster than 1 inch/sec (2.5cm/sec) along the shaded area, otherwise a false reading may result.
- (3) 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.
- (4) 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.

F. RECORD KEEPING AND NOTIFICATION AFTER MEASUREMENT

- (1) 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.
- (2) Should the microwave energy leakage not be more than 1mW/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.
- (3) At least once a year, have the electromagnetic energy leakage monitor checked for calibration by its manufacturer.

G. POWER OUTPUT MEASUREMENT

- (1) Fill the test beaker with 59 °F(15 °C) ~ 75 °F(24 °C) 1 liter tap water.
- (2) Stir the water in the beaker with thermometer (°F or °C) and measure temperature as T1.
- (3) Place the beaker on the center of turntable.
- (4) Set for one (1) minute and three (3) seconds and operate the oven at high power.

NOTE: The additional three (3) seconds is to allow the magnetron to begin generating power.

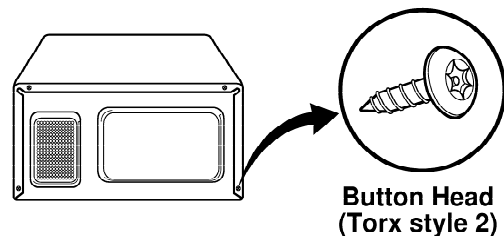
- (5) When the heating is finished, stir the water again with thermometer and measure the temperature of water as T2.
- (6) Subtract T1 from T2, this will give you the temperature rise.
- (7) The microwave power output is within specification, if the temperature rise is as shown below:

Line Voltage	Temperature Rise	
	Degrees °F	Degrees °C
120 V	18.9 ~ 25.2	10.5 ~ 14
108 V	Min. 17.5	Min 9.7

- (8) Power output will be influenced by line voltage of power supply. Consequently, correct power output must be measured within 120V AC \pm 1 Volt while unit is operating.

SPECIAL TIP

- This oven used the button head screws.



- When you remove the screws, using the tamper-resistant Torx driver have a pin-in-head.

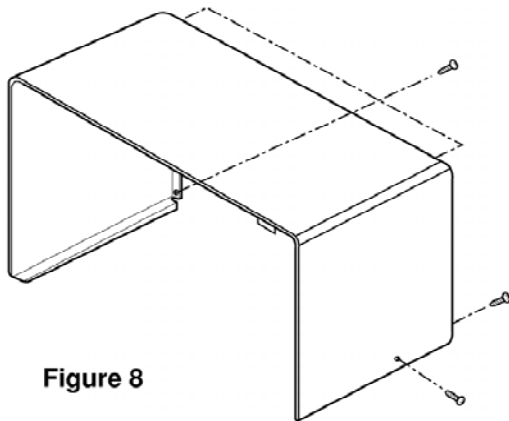
9. DISASSEMBLY INSTRUCTIONS

IMPORTANT NOTES:

UNIT MUST BE DISCONNECTED FROM ELECTRICAL OUTLET WHEN MAKING REPAIRS, RE-PLACEMENTS, ADJUSTMENTS AND CONTINUITY CHECKS. WAIT AT LEAST ONE MINUTE, UNTIL THE HIGH VOLTAGE CAPACITOR IN THE HIGH VOLTAGE POWER SUPPLY HAS FULLY DISCHARGED. THE CAPACITOR SHOULD BE DISCHARGED BY USING INSULATED WIRE - I.E. TEST PROBE CONNECTED TO 10KOHM RESISTOR IN SERIES TO GROUND. WHEN RECONNECTING THE WIRE LEADS TO ANY PART, MAKE SURE THE WIRING CONNECTIONS AND LEAD COLORS ARE CORRECTLY MATCHED ACCORDING TO THE OVERALL CIRCUIT DIAGRAM. (ESPECIALLY SWITCHES AND HIGH VOLTAGE CIRCUIT.)

A. REMOVING OUTER CASE (Figures 8)

- (1) Remove three screws from the rear section.
- (2) Remove one screw from the side section.
- (3) Push the outer case back about 1 inch (3cm).
- (4) Lift the case from the set.

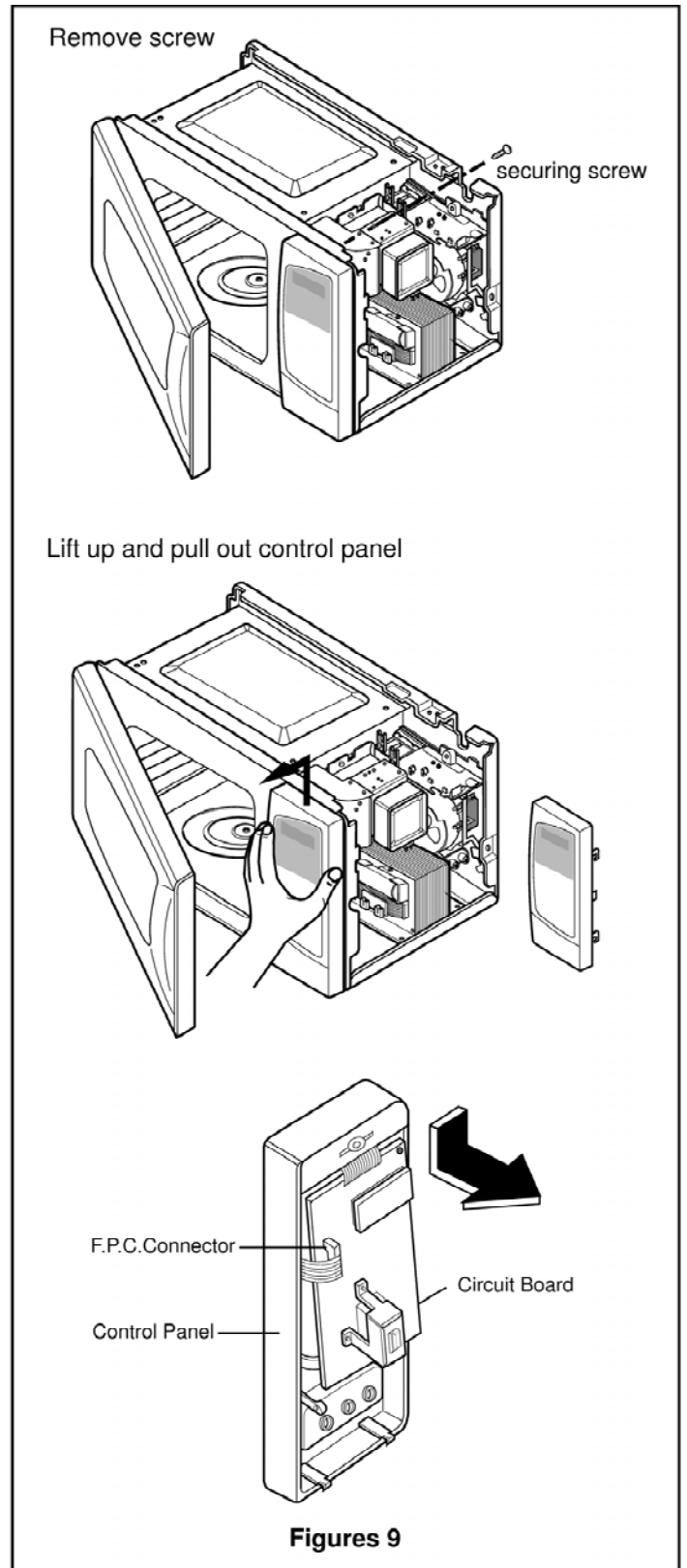


B. REMOVING POWER AND CONTROL CIRCUIT BOARD(Figure 9)

- (1) Open the door.
- (2) Remove one screw from the cavity.
- (3) Disconnect the lead wire from RELAY(RY2) on the circuit board.
- (4) Lift up and pull out control panel assembly carefully from the cavity.
- (5) Disconnect the lead wire from connector(CN1) on the circuit board.
- (6) Remove two screws, securing the circuit board.

CAUTION: DISCHARGE THE HIGH VOLTAGE CAPACITOR BEFORE SERVICING.

- (6) Pull down and remove the circuit board from the control panel.
- (7) Remove the F.P.C connector from the terminal socket.



C. DOOR GROSS ASSEMBLY REMOVAL

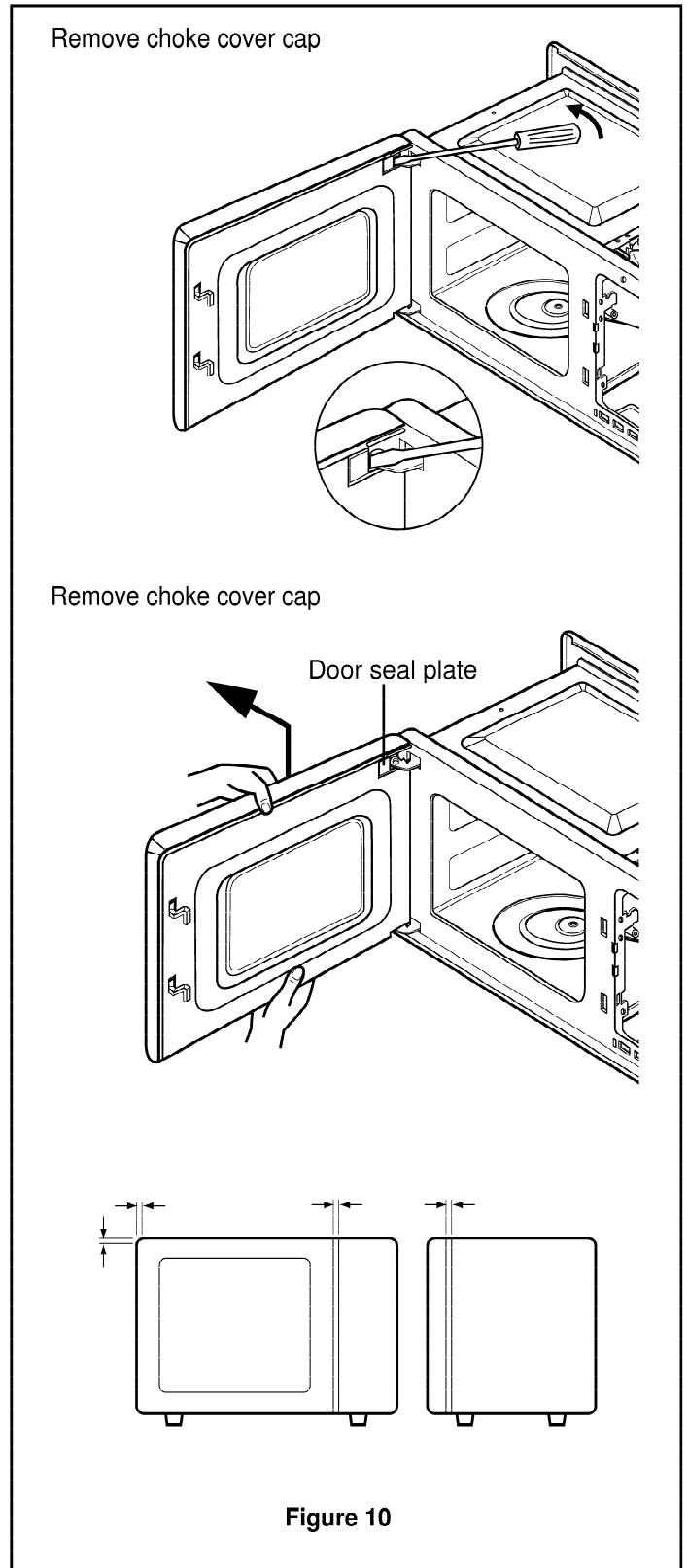
- (1) Open the door.
- (2) Remove the choke cover cap very carefully with a flat-blade screwdriver.

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

- (3) Lift up and pull out 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 5 mW/cm.sq. (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.



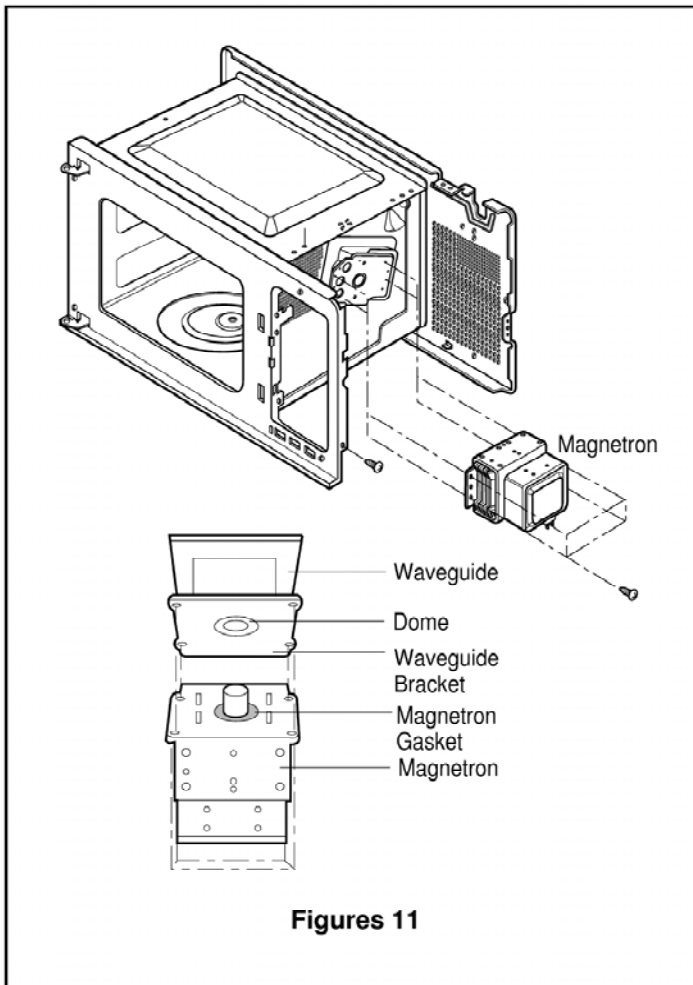
D. MAGNETRON REMOVAL

- (1) Disconnect the wire lead 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.

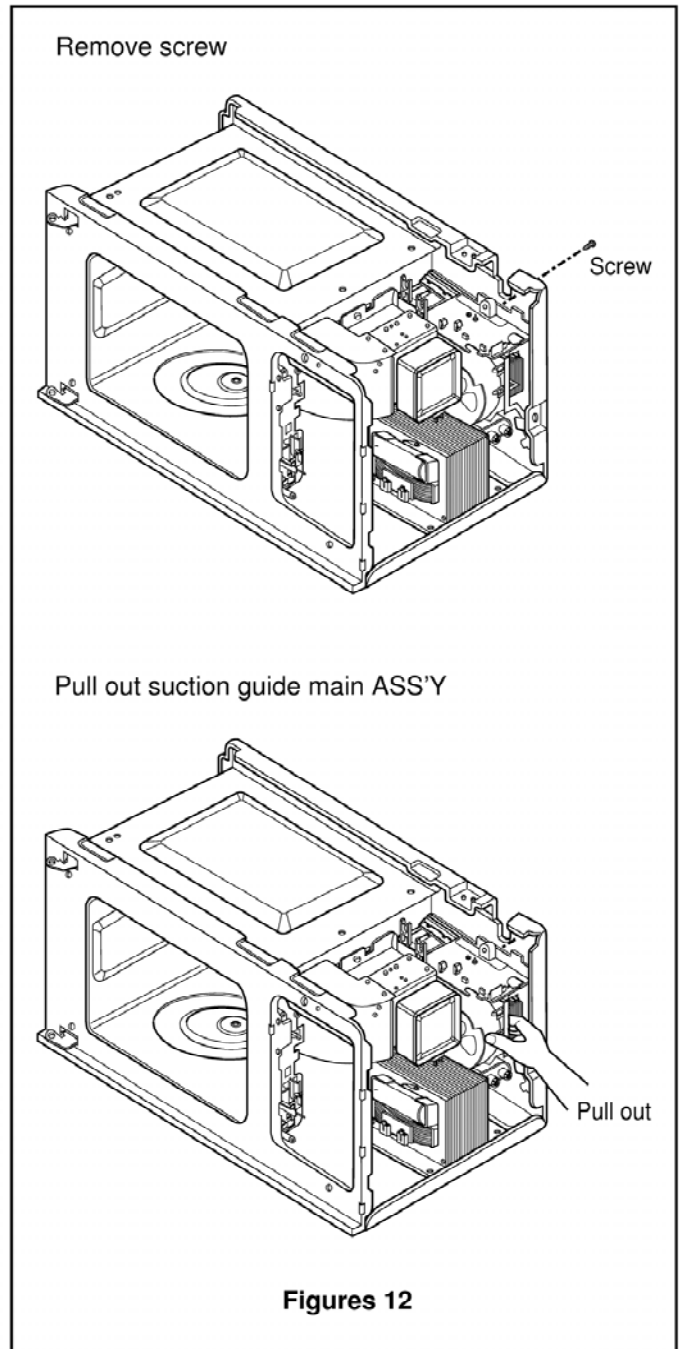


Figures 11

E. SUCTION GUIDE MAIN ASSEMBLY

NOTE: To repair any of them, the Suction Guide Main ASS'Y should be removed first.

- (1) Disconnect the wire lead from the capacitor and fan motor.
- (2) Remove two screws holding the Suction Guide Main ASS'Y to oven cavity.
- (3) Pull out Suction Guide Main ASS'Y from the oven.

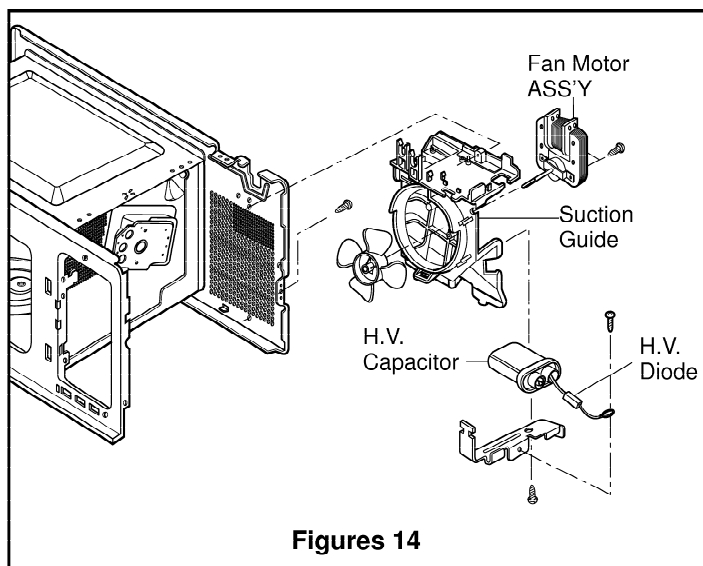


Figures 12

F. FAN MOTOR ASSEMBLY REMOVAL

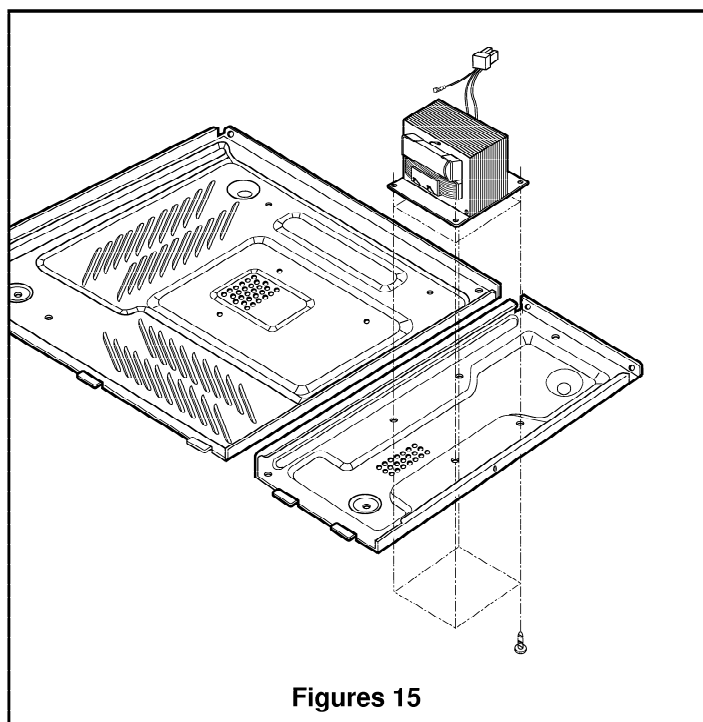
NOTE: To repair any of them, the Suction Guide Main ASS'Y should be removed first.

- (1) Disconnect the wire lead from the fan motor.
- (2) Remove the fan.
- (3) Remove the two screws holding the fan motor assembly to the suction guide ass'y.



G. HIGH VOLTAGE TRANSFORMER REMOVAL

- (1) Discharge the high voltage capacitor.
- (2) Disconnect the wire lead from the magnetron, the high voltage transformer, and the capacitor.
- (3) Remove the screw holding the high voltage transformer to the base-plate.



I. HIGH VOLTAGE CAPACITOR AND DIODE REMOVAL

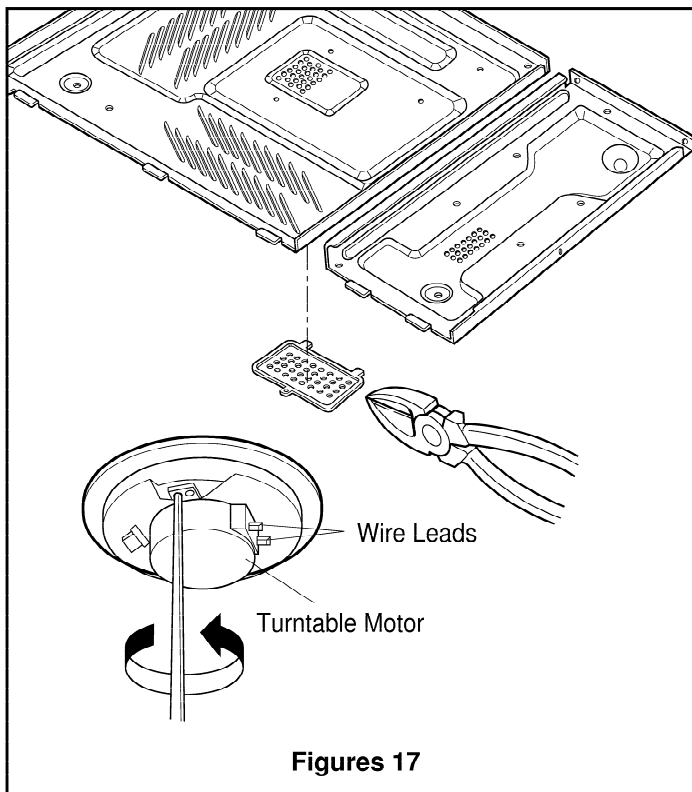
- (1) Discharge the high voltage capacitor.
- (2) Disconnect the wire lead from the high voltage capacitor.
- (3) Remove the screw holding the high voltage capacitor bracket.

J. REMOVING THE TURNTABLE MOTOR

- (1) Remove the glass turntable & the rotating ring ASS'Y by hand.
- (2) Remove the turntable motor cover.
The turntable base cover is easily removed by pinching the six parts with wire cutting pliers.
- (3) Disconnect the wire lead from the turntable motor terminals.
- (4) Remove the screw securing the turntable motor to the oven cavity assembly.
- (5) After repairing the motor, rotate the removed turntable motor cover.
- (6) 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.



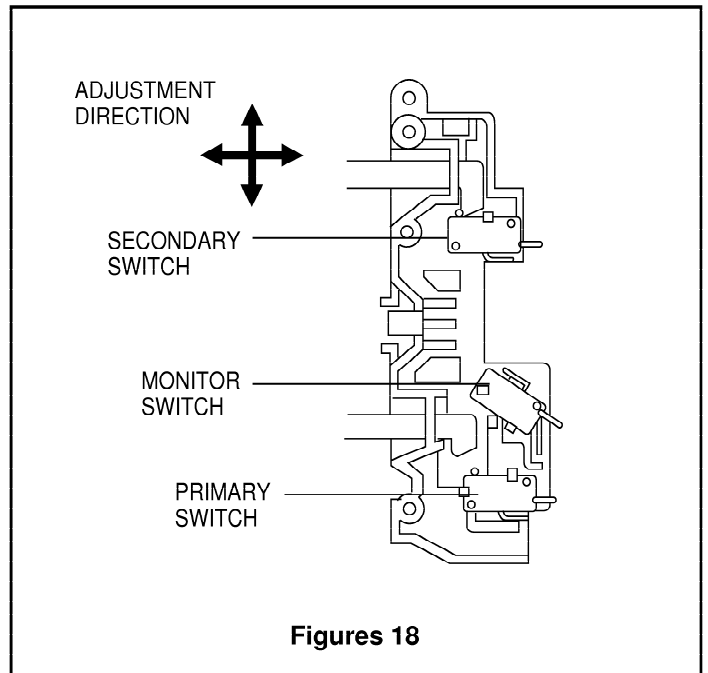
Figures 17

K. INTERLOCK SYSTEM

(1) INTERLOCK MECHANISM

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

(2) MOUNTING OF THE PRIMARY/MONITOR/SECONDARY SWITCHES TO THE LATCH BOARD



Figures 18

(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.

10. 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

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 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.

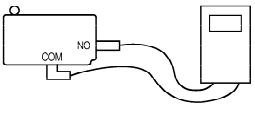
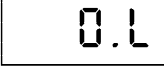

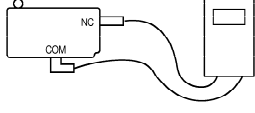
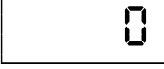
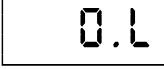
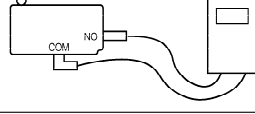


B. SECONDARY INTERLOCK SWITCH TEST

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.

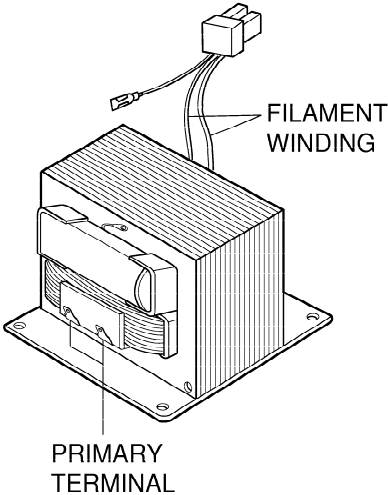
COMPONENTS	TEST PROCEDURE	RESULTS	
		Door open	Door closed
SWITCHES (Wire leads removed)	Check for continuity of the switch with an Ohm-meter		
	Primary Switch 		
	Monitor Switch 		
	Secondary Switch 		
NOTE : After checking for the continuity of switches, make sure that they are connected correctly.			

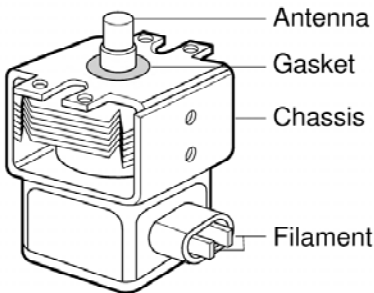
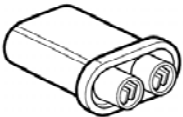
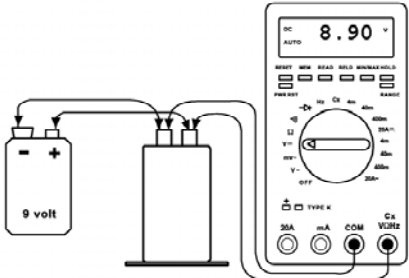
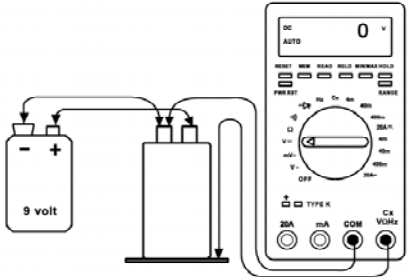
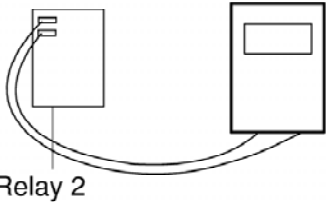
11. TEST AND CHECKOUT PROCEDURES, AND TROUBLESHOOTING

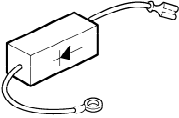
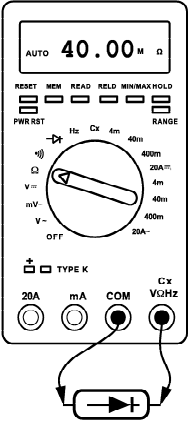
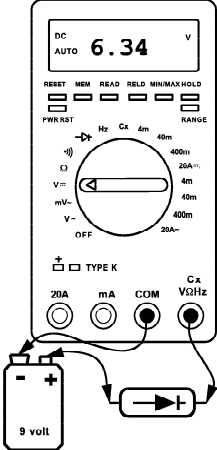
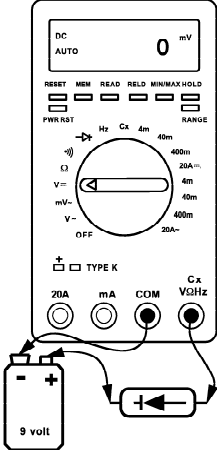
CAUTIONS

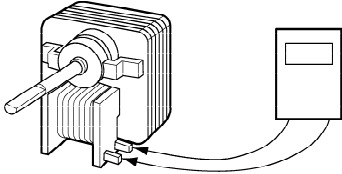
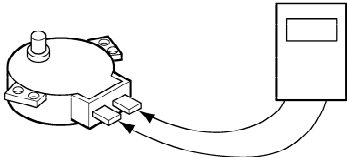
1. DISCONNECT THE POWER SUPPLY CORD FROM THE OUTLET WHENEVER REMOVING THE OUTER CASE FROM THE UNIT. PROCEED WITH THE TEST ONLY AFTER DISCHARGING THE HIGH VOLTAGE CAPACITOR AND REMOVING THE WIRE LEADS FROM THE PRIMARY WINDING OF THE HIGH VOLTAGE TRANSFORMER.
2. ALL OPERATIONAL CHECKS WITH MICROWAVE ENERGY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

A. TEST PROCEDURES

COMPONENTS	TEST PROCEDURE	RESULTS
<p>HIGH VOLTAGE TRANSFORMER (Wire leads removed)</p>	 <p>The diagram shows a high voltage transformer with a filament winding on top and a primary terminal on the side. Labels with leader lines point to the 'FILAMENT WINDING' and the 'PRIMARY TERMINAL'.</p> <ol style="list-style-type: none"> 1. Measure the resistance. (Select the Ω scale on the meter) <ul style="list-style-type: none"> • Primary winding • Secondary winding • Filament winding 2. Measure the resistance. (Select the Ω scale on the meter) <ul style="list-style-type: none"> • Primary winding to ground • Filament winding to ground 	<p>Approx.: 0.2 ~ 0.4 ohm Approx.: 50 ~ 90 ohm Less than: 1 ohm</p> <p>Normal: Infinite Normal: Infinite</p>
<p>MAGNETRON (Wire leads removed)</p>	<ol style="list-style-type: none"> 1. Measure the resistance. (Select the Ω scale on the meter) <ul style="list-style-type: none"> • Filament terminal 2. Measure the resistance. (Select the Ω scale on the meter) <ul style="list-style-type: none"> • Filament to chassis 	<p>Normal: Less than 1 ohm</p> <p>Normal: Infinite</p>

COMPONENTS	TEST PROCEDURE	RESULTS		
	 <p>NOTE: When testing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.</p>			
<p>HIGH VOLTAGE CAPACITOR</p> 	<ol style="list-style-type: none"> 1. Check DC 9V battery before performing tests. 2. Select the DCV scale on the meter. 3. Using the meter, battery, and jump wire, connect the items as illustrated in figures. <p>■ Terminal to terminal</p>  <p>■ Terminal to case</p> 	<p>Normal: Approximately 9V</p> <p>Normal: Approximately 0V or a value displayed in mV Will be seen.</p>		
<p>RELAY 2</p>	<p>Check for continuity of relay 2 with an ohm-meter. (Remove wire leads from relay 2 and operate the unit.)</p> 	<p>POWER LEVEL</p>	<p>0</p>	<p>0.L</p>
		<p>1 2 3 4 5 6 7 8 9 10</p>	<p>4 sec 6 sec 8 sec 10 sec 12 sec 14 sec 16 sec 18 sec 20 sec 22 sec</p>	<p>18 sec 16 sec 14 sec 12 sec 10 sec 8 sec 6 sec 4 sec 2 sec 0 sec</p>

COMPONENTS	TEST PROCEDURE	RESULTS
<p data-bbox="86 315 373 344">H.V.Diode (RECTIFIER)</p> 	<p data-bbox="467 324 911 383">STEP 1. Test the diode to see if it is shorted.</p> <p data-bbox="467 387 596 414">Procedure:</p> <ol data-bbox="467 418 1011 696" style="list-style-type: none"> 1. Select the Ω scale on the meter. 2. Place the meter leads across the diode as pictured in Figure 1. The reading should be "40MΩ," "OL," or a reading of infinity. 3. Reverse the meter leads. The reading should again indicate a reading of infinity. If the diode shows "infinity" in BOTH directions, it is NOT shorted. 4. If the diode is not shorted, proceed to step 2. <p data-bbox="467 725 1002 757">STEP 2. Test the diode for forward biasing.</p> <p data-bbox="467 761 596 788">Procedure:</p> <ol data-bbox="467 792 1011 1128" style="list-style-type: none"> 1. Select the DCV scale on the meter. 2. Using the meter, battery and jumper wire, connect the items as illustrated in Figure 2. This has the positive side of the battery connected to the cathode of the diode. 3. The diode should be forward biased therefore a voltage reading of approximately 4.7 VDC to 6.4 VDC will be read depending on meter, battery strength, etc. (Note: If the meter leads were reversed, a negative voltage of the same amount would be seen.) <p data-bbox="467 1160 999 1191">STEP 3. Test the diode for reverse biasing.</p> <p data-bbox="467 1196 596 1223">Procedure:</p> <ol data-bbox="467 1227 1011 1469" style="list-style-type: none"> 1. Using the same scale on the meter, connect the positive side of the battery to the anode of the diode as illustrated in Figure 3. 2. The diode should be reverse biased therefore a reading of 0 volt or a value displayed in mV will be seen. (The display will be erratic changing values rapidly in the mV scale.) 	<p data-bbox="1050 788 1219 878">Normal: Approximately 4.7-6.4V</p> <p data-bbox="1050 1191 1257 1258">Normal: Approximately 0V</p>
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p data-bbox="587 1975 692 2007">Figure 1</p> </div> <div style="text-align: center;">  <p data-bbox="922 1975 1027 2007">Figure 2</p> </div> <div style="text-align: center;">  <p data-bbox="1267 1975 1372 2007">Figure 3</p> </div> </div>		

COMPONENTS	TEST PROCEDURE	RESULTS
FAN MOTOR (Wire leads removed)	Measure the resistance. (Select the Ω scale on the meter) 	Normal: Approx. 65 ~ 80 ohm Abnormal: Infinite or several ohm.
TURNTABLE MOTOR (Wire leads removed)	Measure the resistance. (Select the Ω scale on the meter) 	Normal: Approx. 2 ~ 4K ohm Abnormal: Infinite or several ohm.
<p>NOTE : • A MICROWAVE LEAKAGE TEST MUST ALWAYS BE PERFORMED WHEN THE UNIT IS SERVICED FOR ANY REASON.</p> <ul style="list-style-type: none"> • 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. 		

B. CHECKOUT PROCEDURES

(1) CHECKOUT PROCEDURES FOR FUSE BLOWING

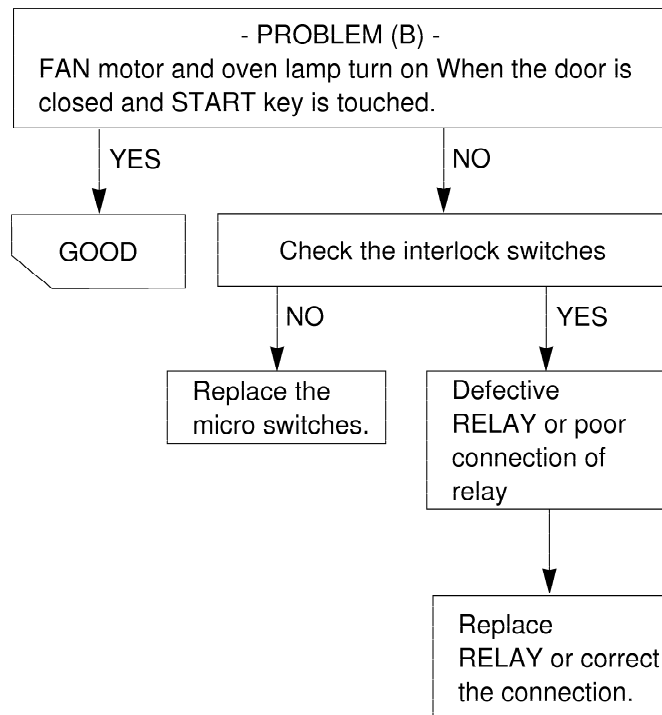
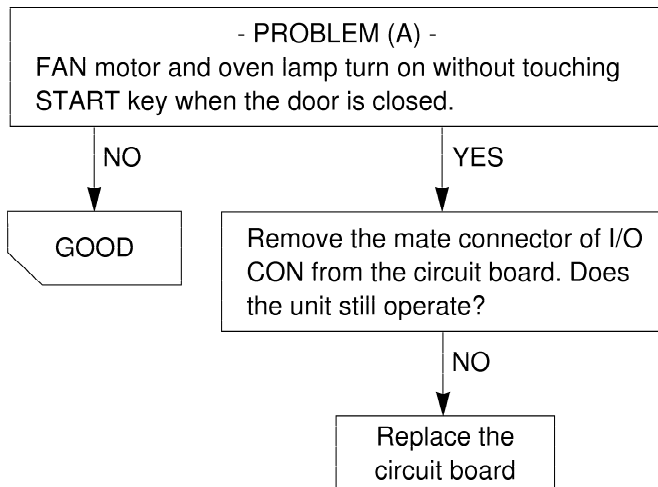
CAUTION: REPLACE BLOWN FUSE WITH 20 AMPERE FUSE.

PROBLEMS	CAUSES
Fuse blows immediately after the door is closed.	Improper operation of the primary, secondary interlock switches and/or the interlock monitor switch.
Fuse blows immediately after the door is opened.	
Fuse blows when the door is closed and START key is touched.	Malfunction of the high voltage transformer; the high voltage capacitor including the diode, the magnetron, the blower motor or the circuit board.

NOTES:

- If the fuse is blown by an improper switch operation, replace the defective switches and the fuse at the same time. After replacing the defective switches with new ones, make sure that they are correctly connected.
- Check for microwave energy leakage according to "1. ADJUSTMENT PROCEDURES" on page 3, when the primary, secondary interlock switches and/or the interlock monitor switch are adjusted or replaced.

(2) CHECKOUT PROCEDURES FOR RELAY



(3) CHECKOUT PROCEDURES FOR CIRCUIT BOARD

The following symptoms indicate a defective circuit board.

- (1) The start function fails to operate but the high voltage Systems, the interlock switches, the door sensing and the relay check good.
- (2) The unit with a normal relay continuously operates.
- (3) The buzzer does not sound or continues to sound.
- (4) Some segments of one or more digits do not light up, or they continue to light up, or segments light when they should not.
- (6) Wrong figures appear.
- (7) The figures of all digits flicker.
- (8) Some of the indicators do no light up.
- (9) The clock does not keep time properly.

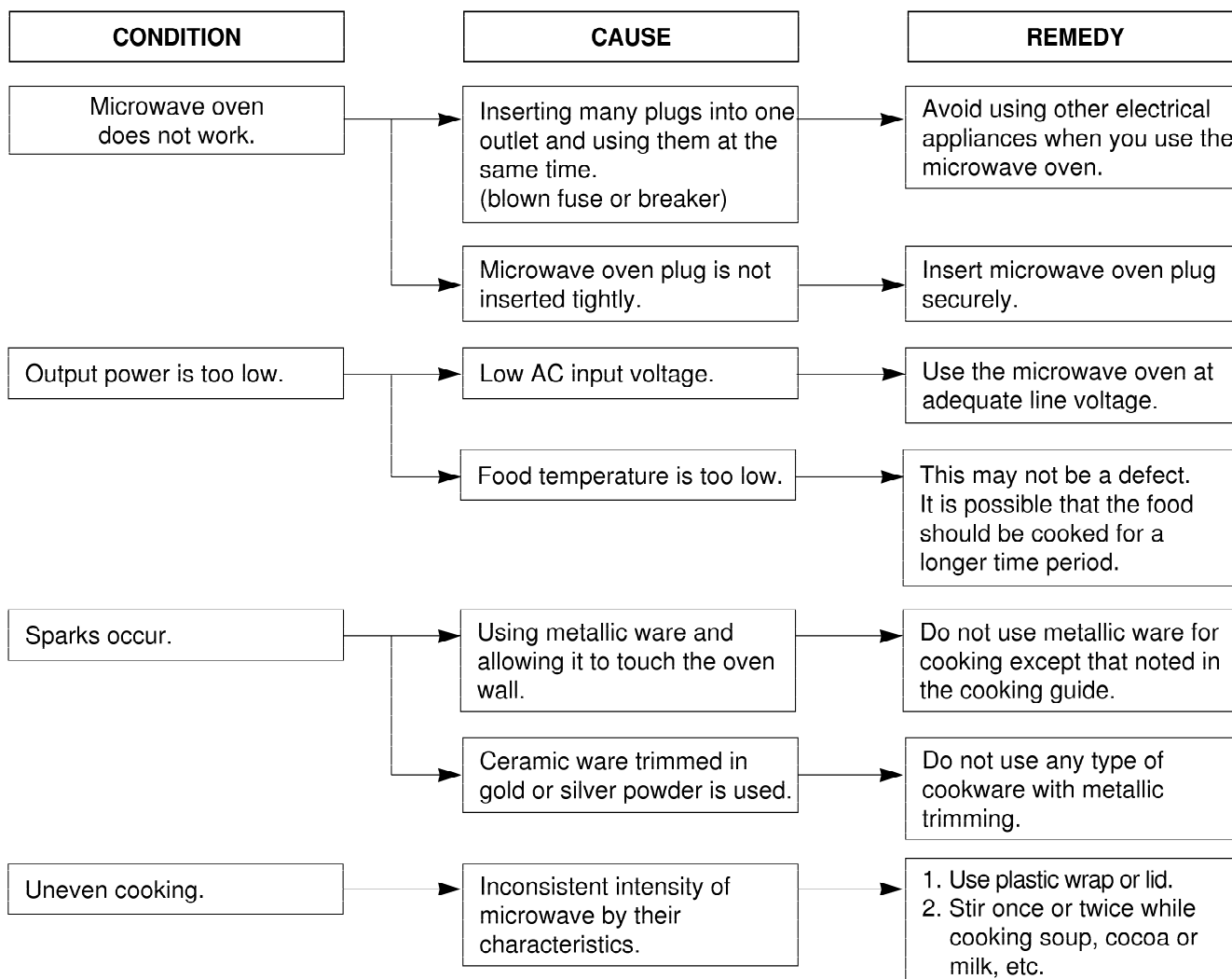
NOTE: A MICROWAVE ENERGY LEAKAGE TEST MUST ALWAYS BE PERFORMED WHEN THE UNIT IS SERVICED FOR ANY REASON.

C. 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.

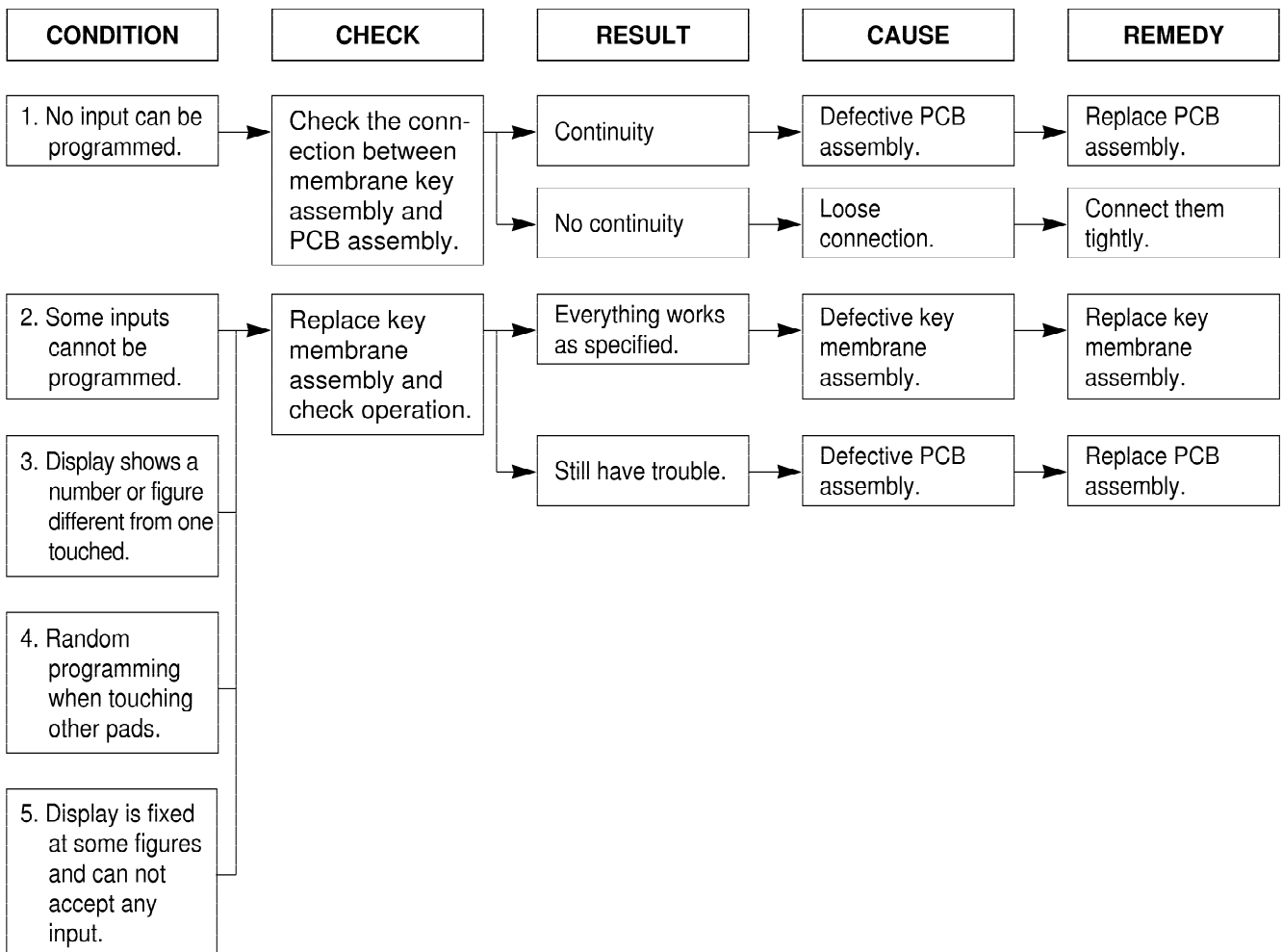
CAUTIONS

1. Check grounding before checking for trouble.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor.
4. When checking the continuity of the switches or the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. Otherwise it 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)

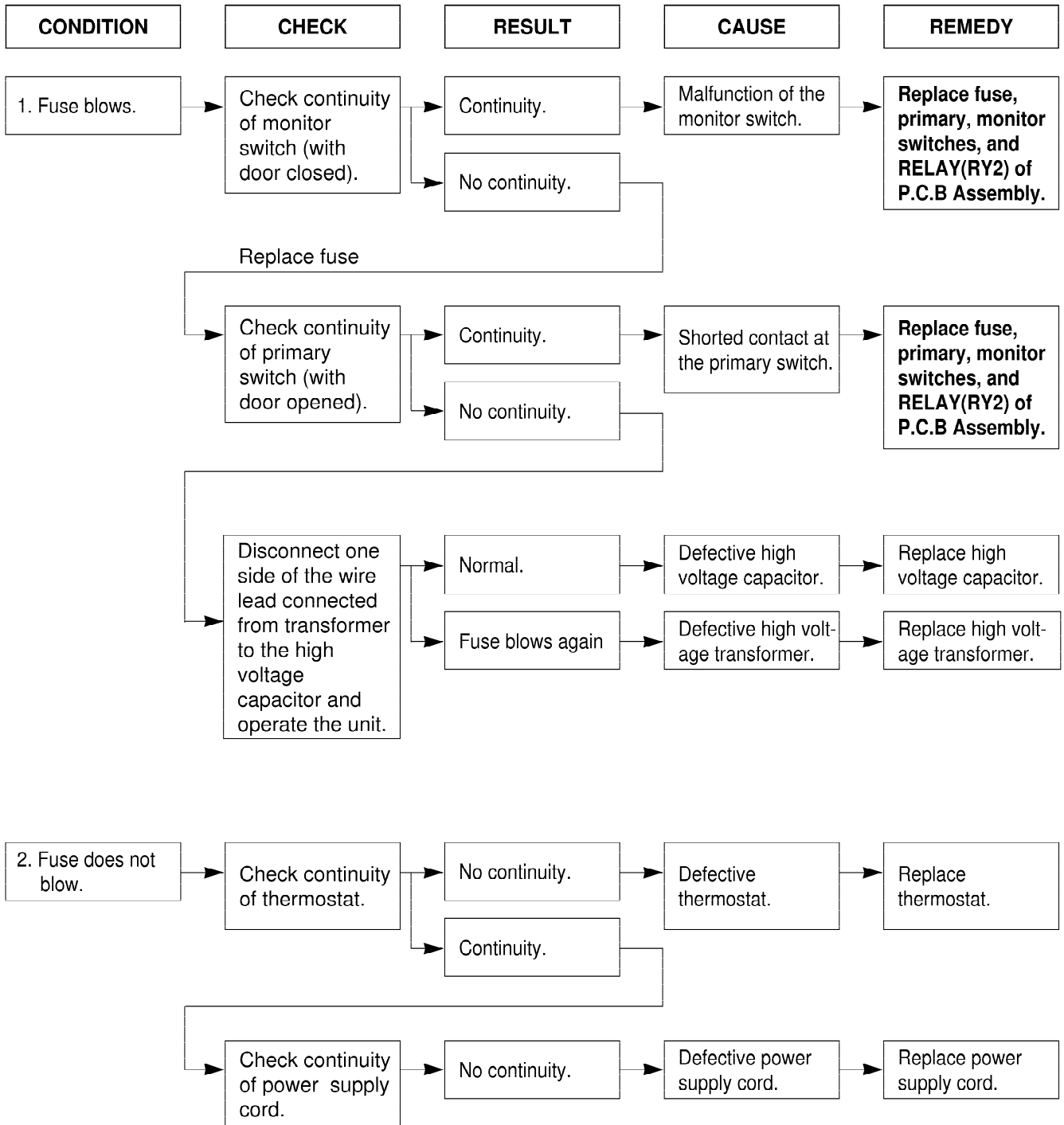


(TROUBLE 1) The following visual conditions indicate a probable defective control circuit.

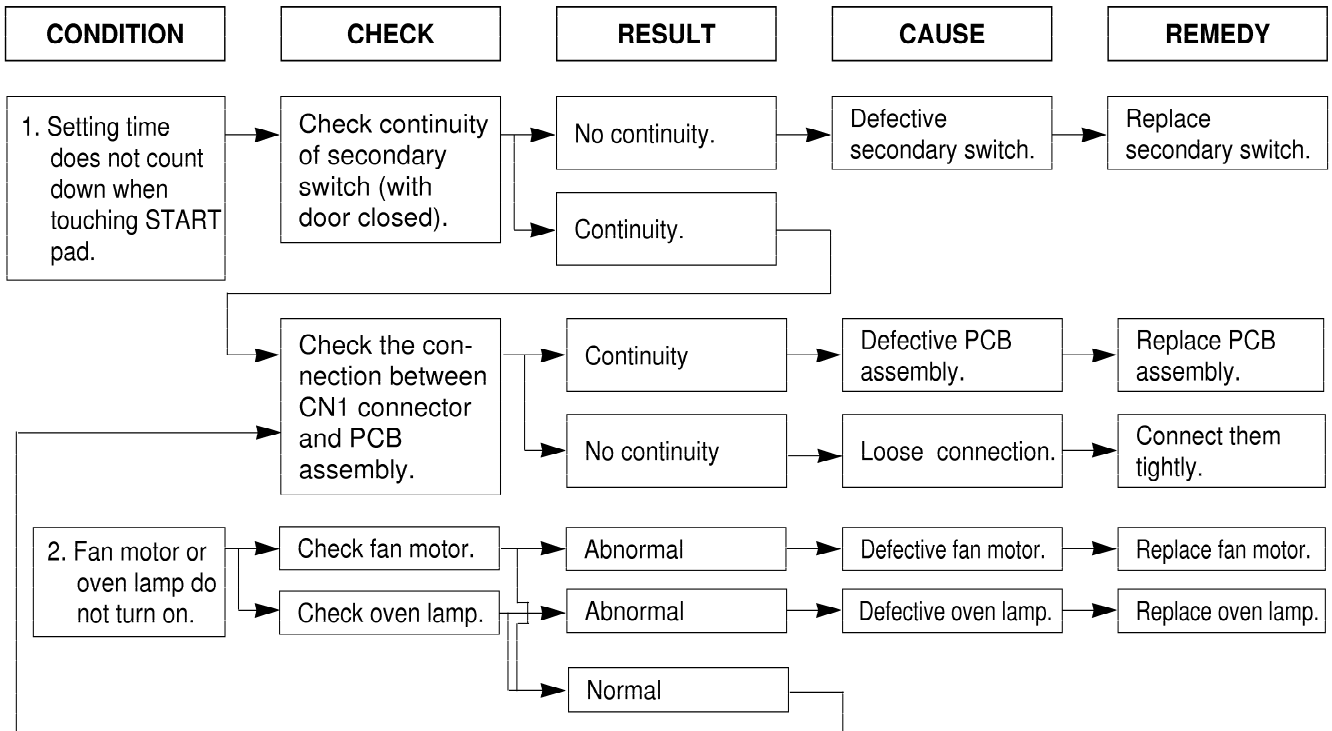
1. Incomplete segments.
 - Segment missing.
 - Partial segment missing.
 - Digit flickering (NOTE: Slight flickering is normal.)
2. Colon does not turn on or blink.
3. A distinct change in the brightness of one or more numbers in display.
4. One or more digits in the display are not lighting.
5. Display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



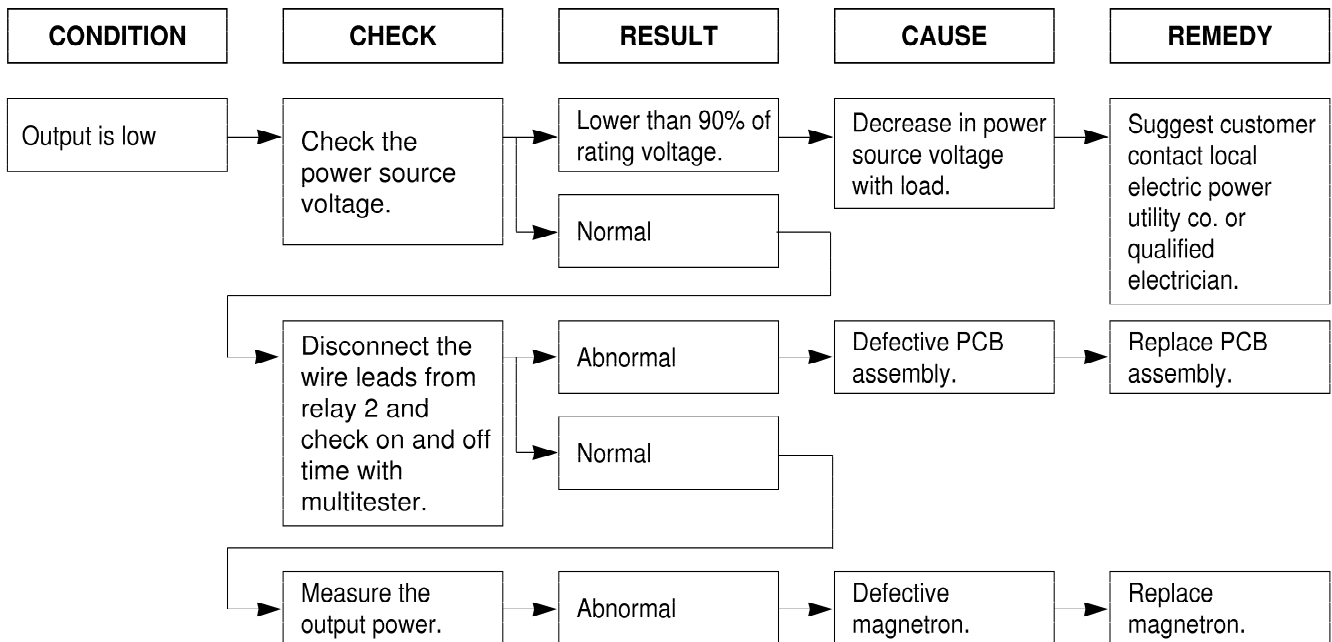
(TROUBLE 2) Oven does not operate at all and Display window does not display any figures and no input is accepted.



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

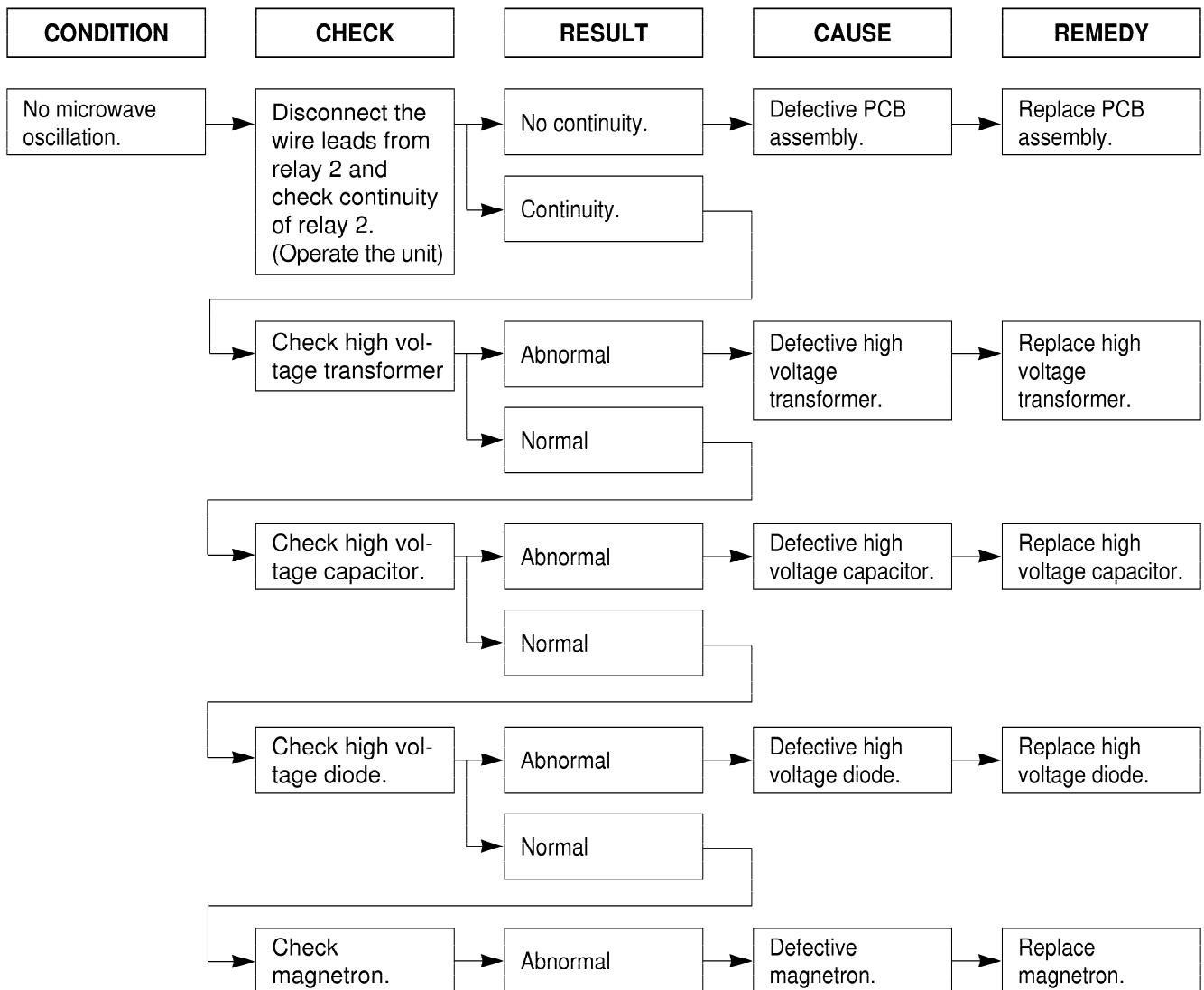


(TROUBLE 4) Oven seems to be operating but little heat is produced in oven load.



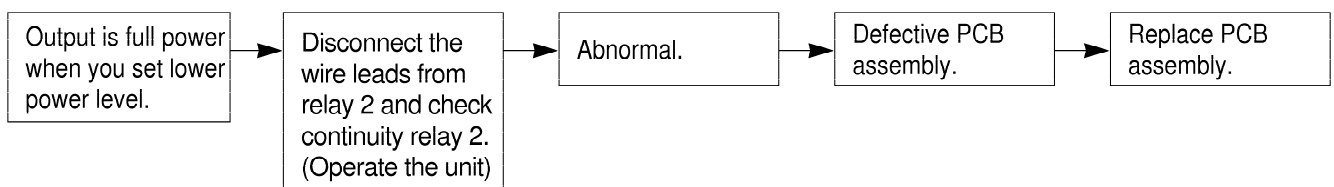
NOTE : Simple test of power output-conducted by heating one liter water for one min. if available. Minimum 8.5°C temperature rise is normal condition.

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



NOTE : • Make sure the wire leads correct position.

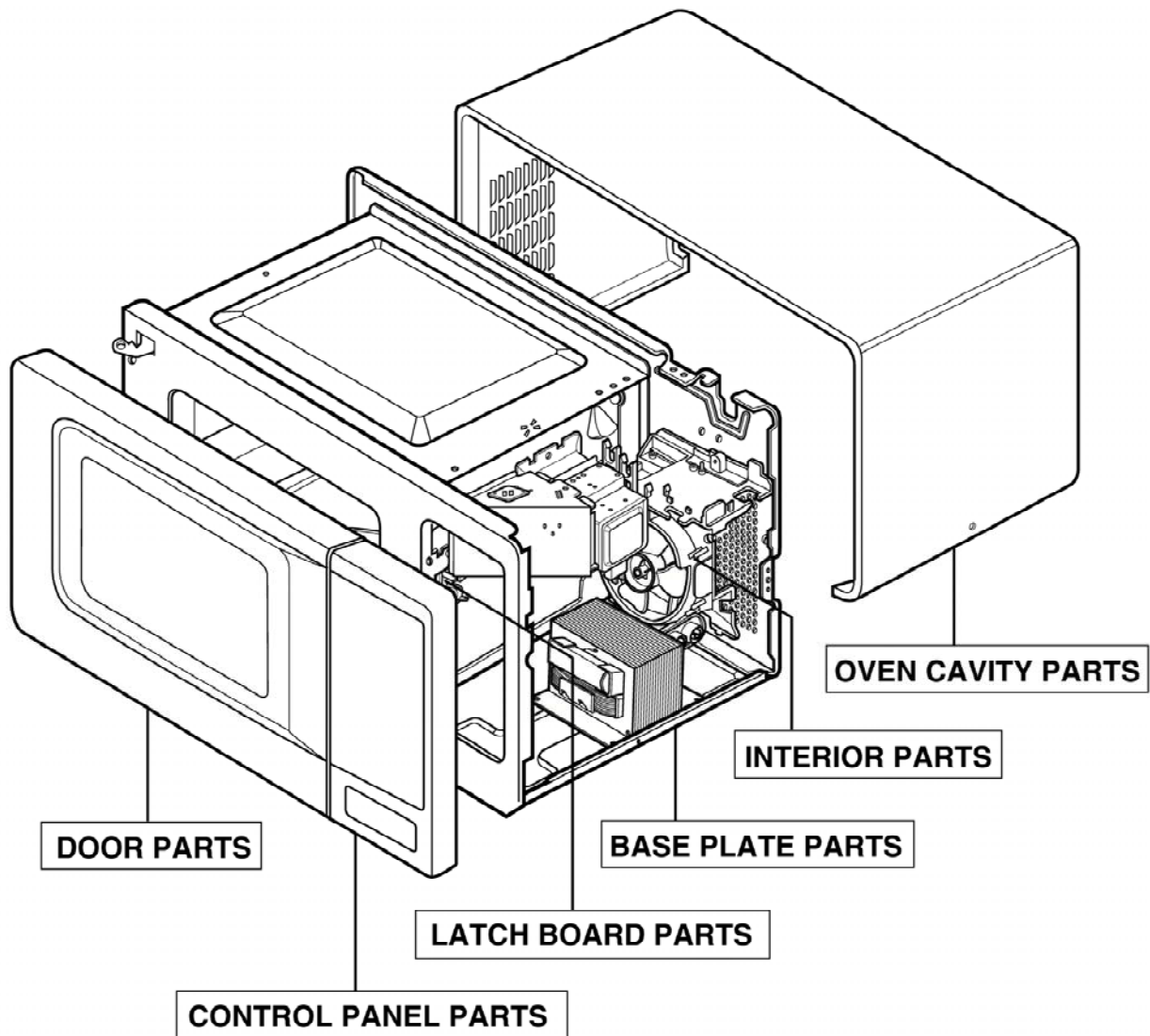
- When Removing the wire leads from the parts, be sure to grasp the connector, not the wires.
- When removing the magnetron, be sure to install the magnetron gasket in the correct position and in good condition.



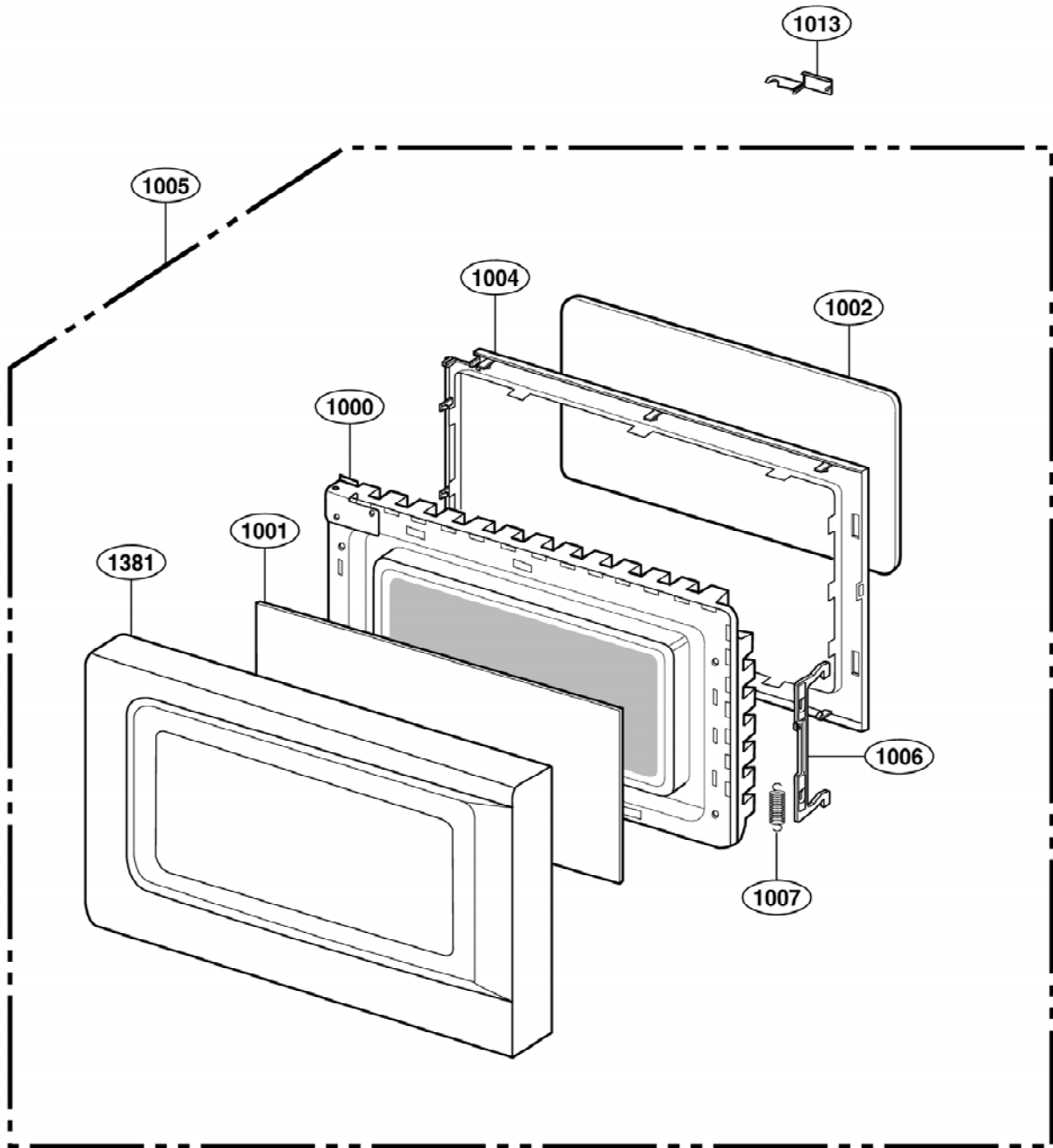
EXPLODED VIEW

INTRODUCTION

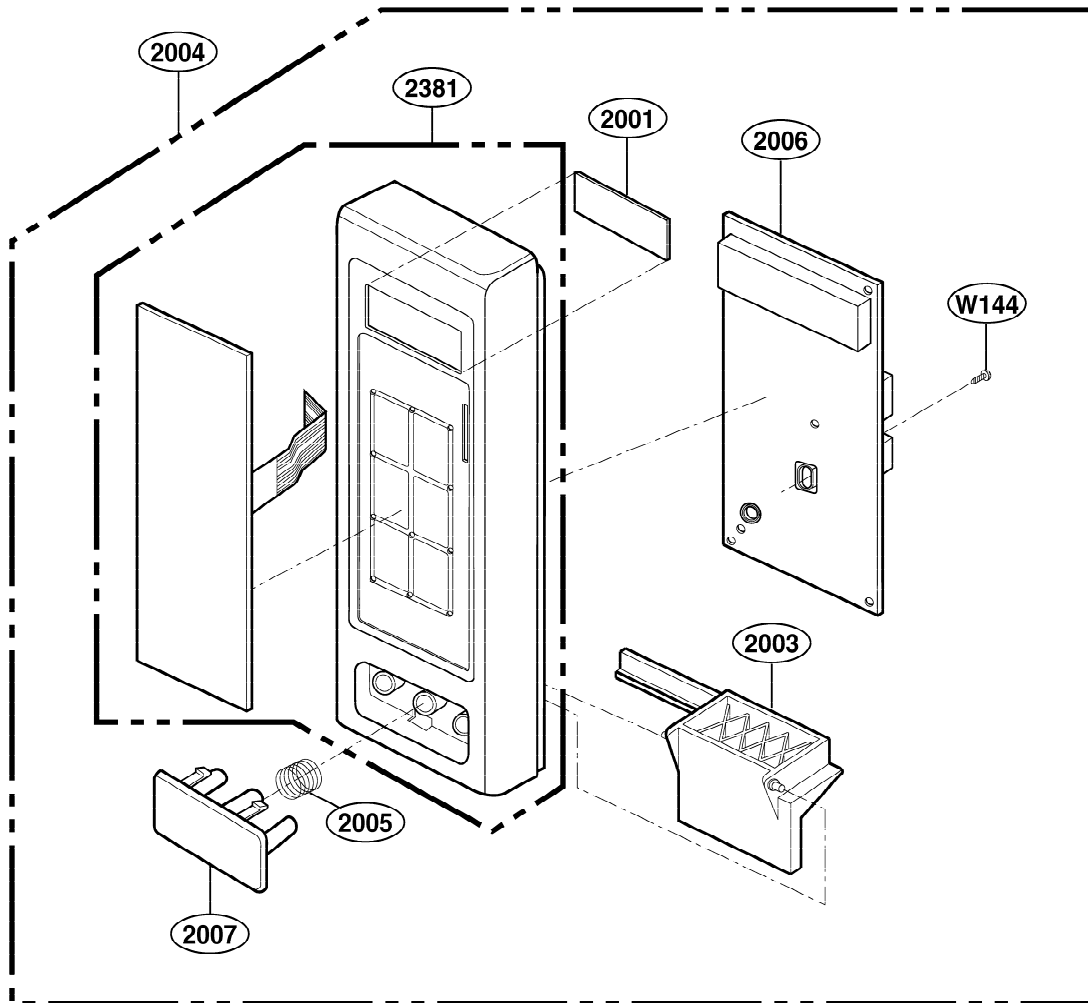
Model: 721.62223200
721.62223201



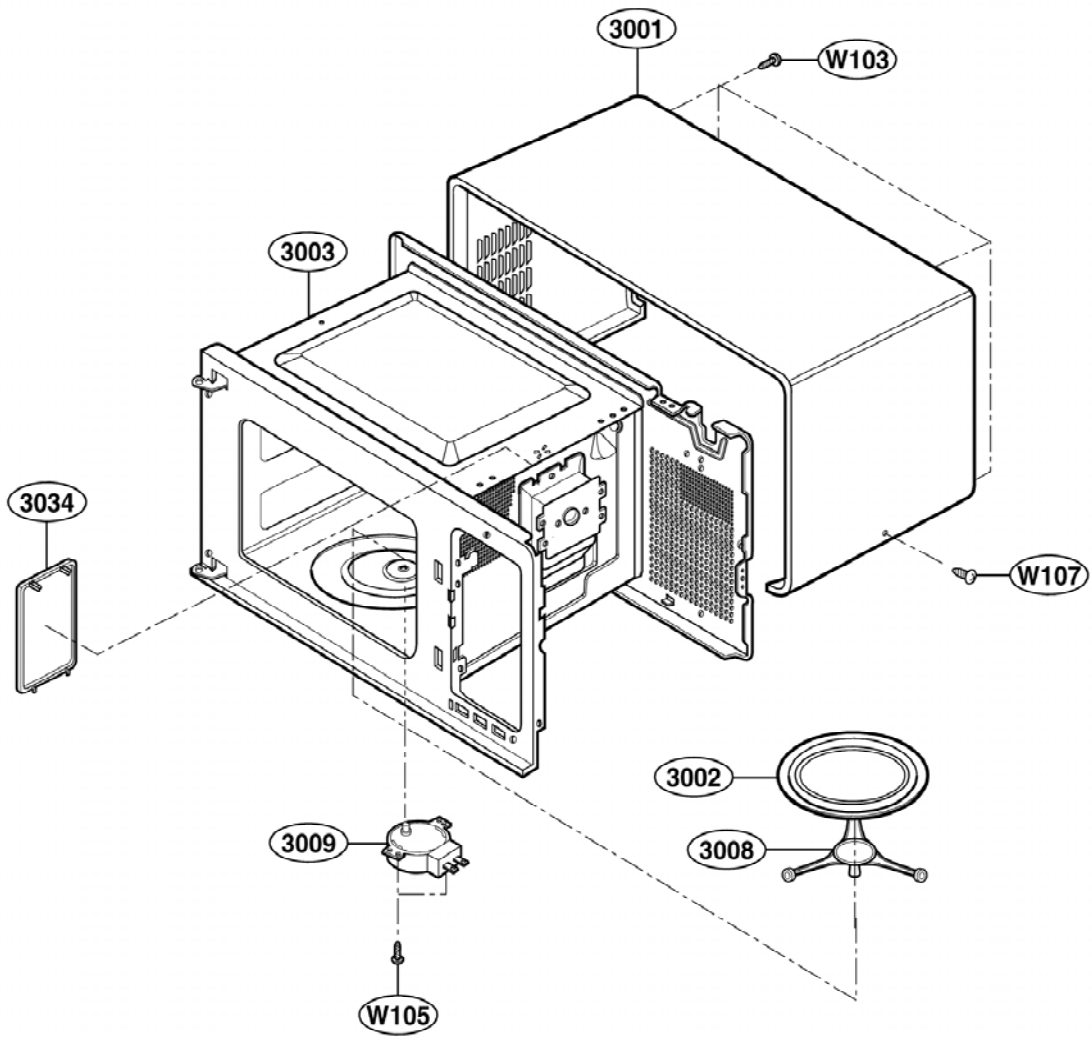
DOOR PARTS



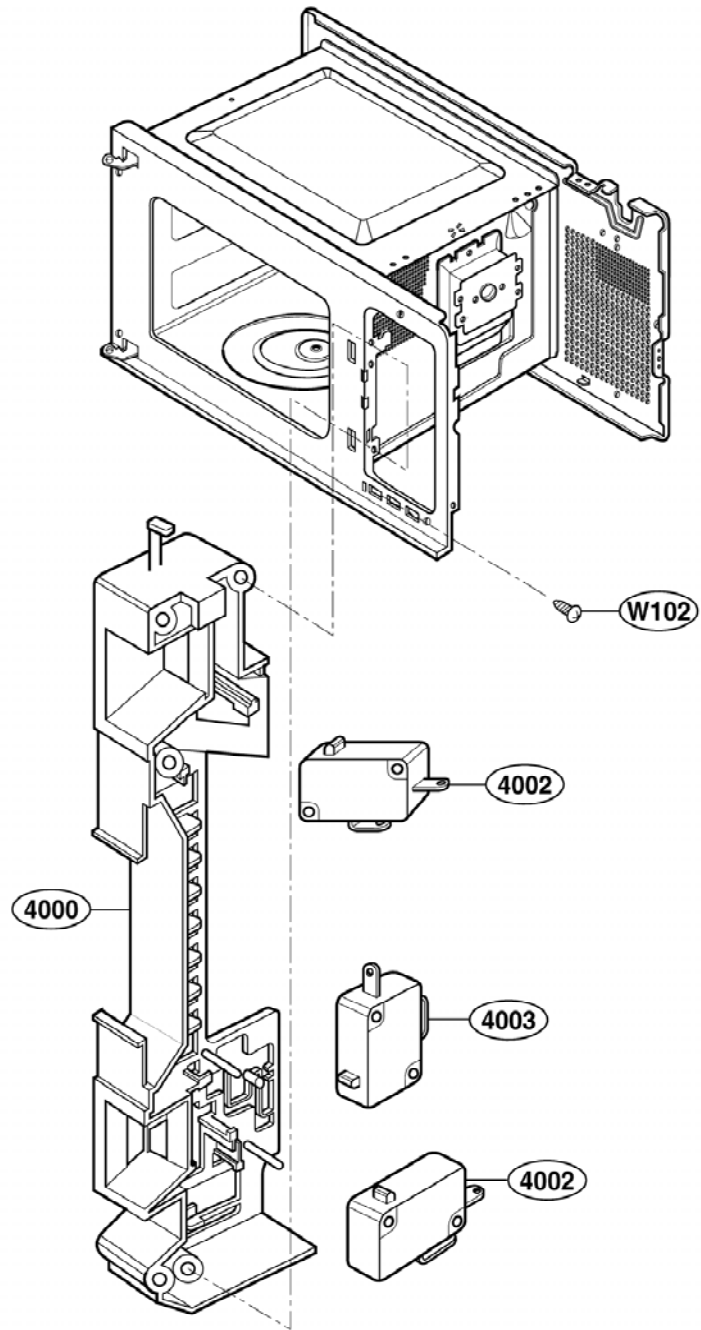
CONTROLLER PARTS



OVEN CAVITY PARTS



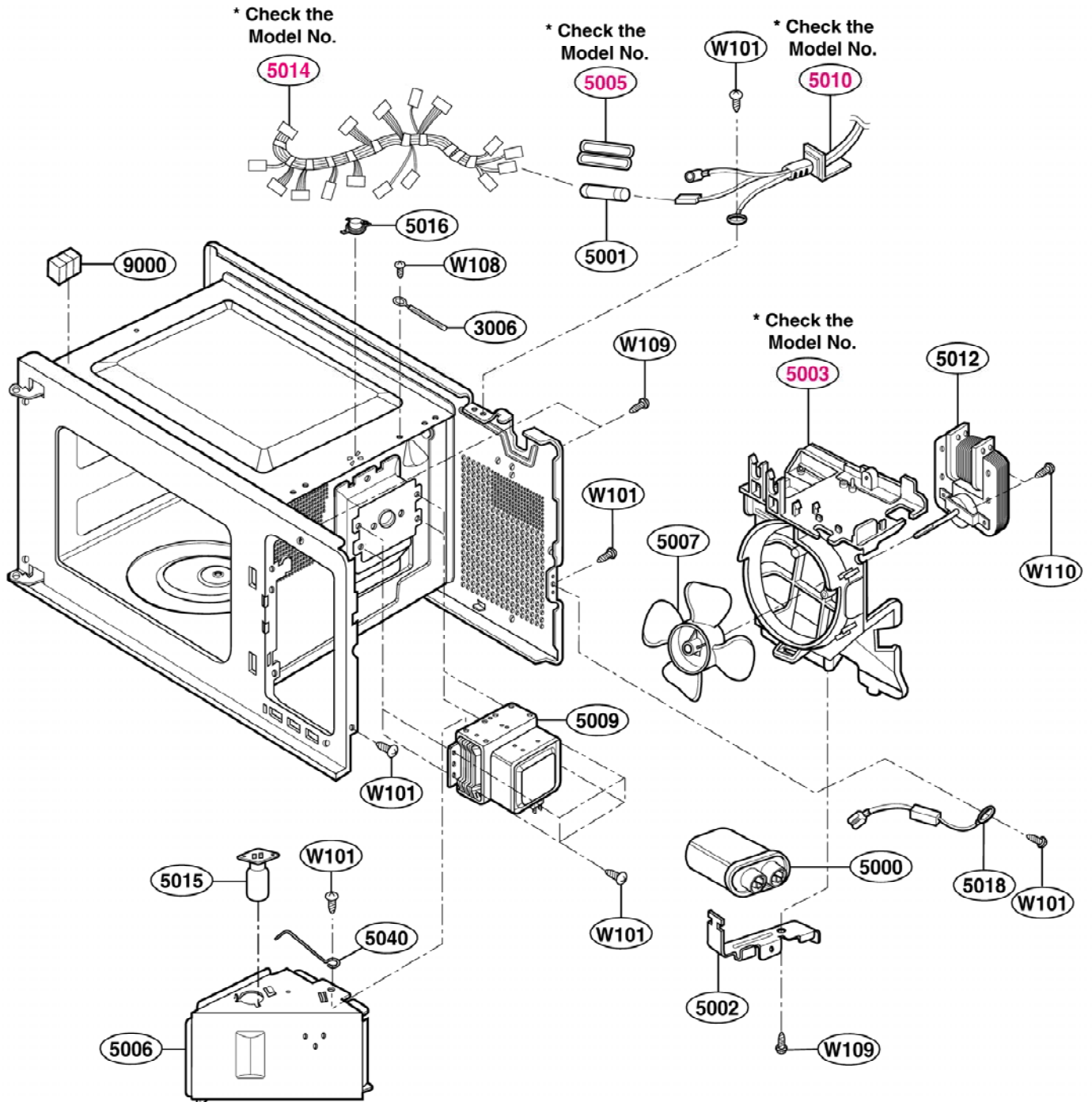
LATCH BOARD PARTS



INTERIOR PARTS (I)

Model: 721.62223200

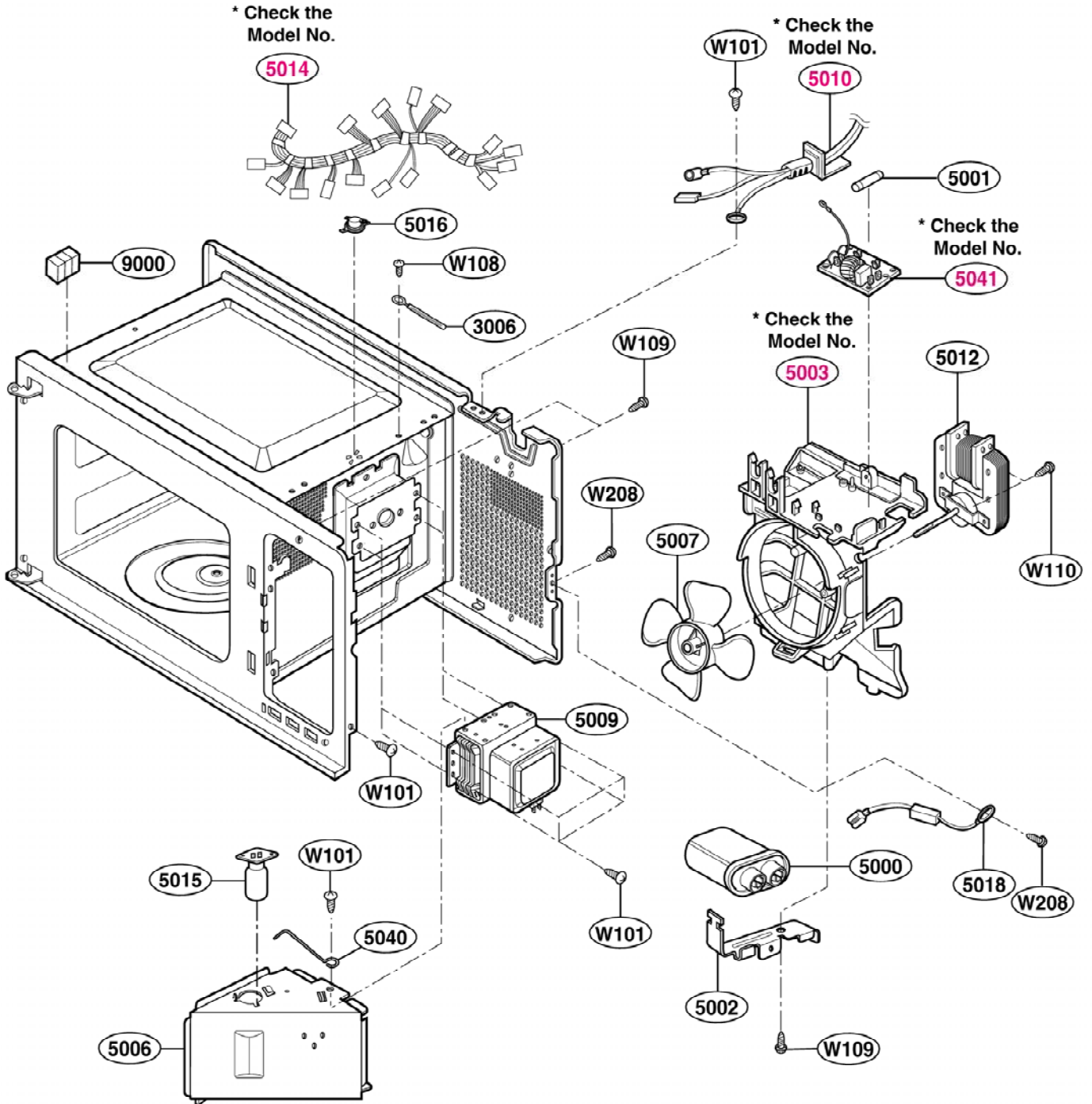
Check the rating label of **Model** and order SVC parts according to the **Model No.**



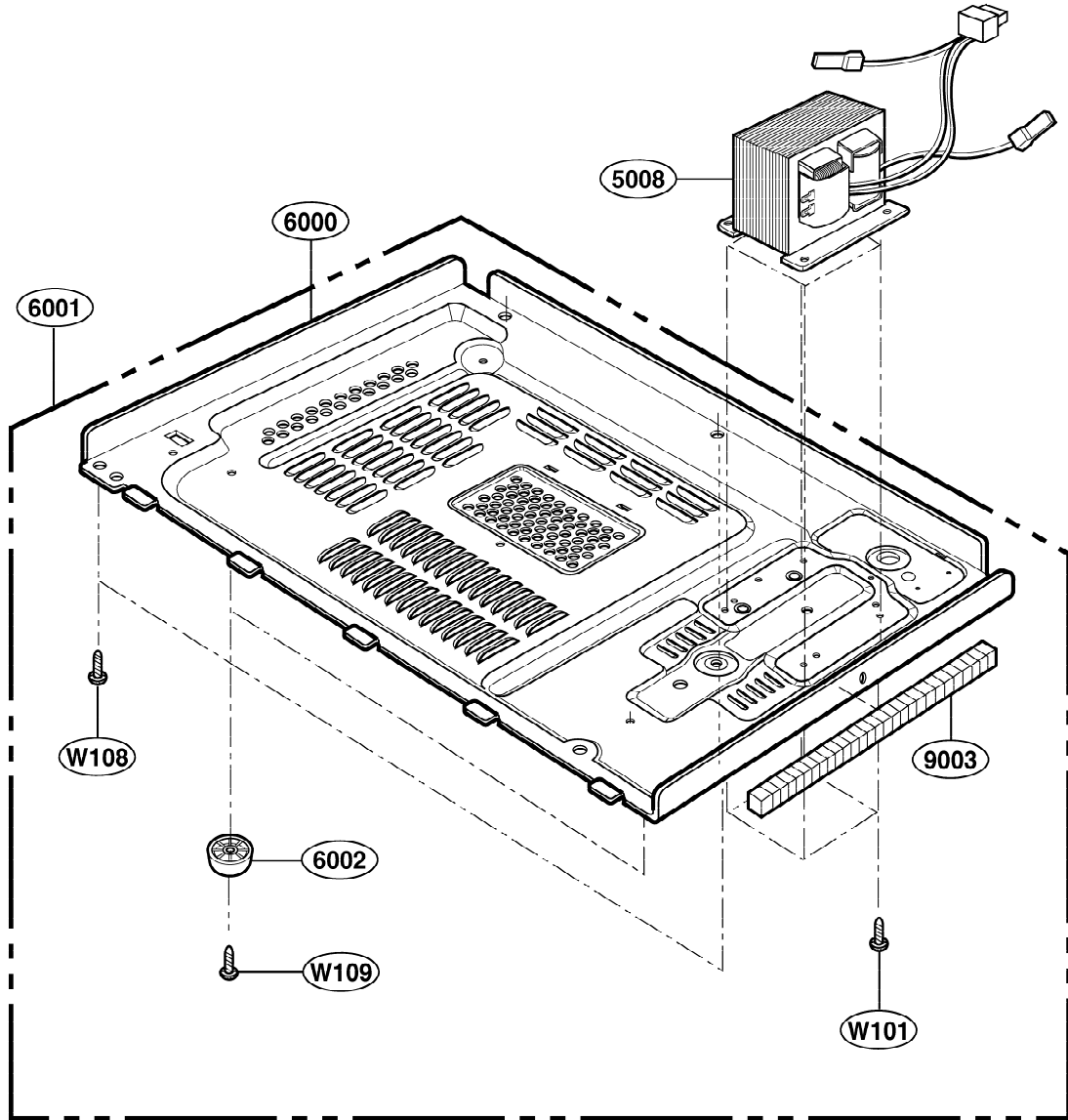
INTERIOR PARTS (II)

Model: 721.62223201

Check the rating label of **Model** and order SVC parts according to the **Model No.**



BASE PLATE PARTS



REPLACEMENT PARTS LIST

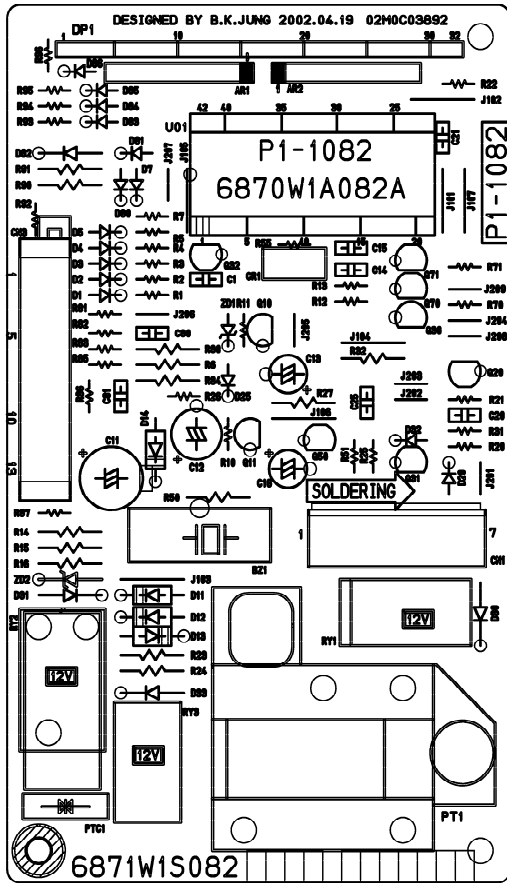
LOC. NO.	PART NO	DESC	SVC	ALTER
*01	3828W5A2833	MANUAL,OWNERS	R	
*02	3828W5S2517	MANUAL,SERVICE	R	
*10	3890W3C130A	BOX,COLOR	R	
1000	3213W1A034H	DOOR FRAME ASSEMBLY	R	3213W1A034B
1001	3352W2A046C	FRONT SCREEN	S	
1002	3536WRA001W	SEAL TAPE	R	
1004	3552W1A038A	CHOKE COVER	R	
1005	3581W1A328F	DOOR ASSEMBLY	R	
1006	4026W2A016A	LATCH	R	
1007	4970WRA001B	SPRING	R	
1013	5006W3A012A	CAP,CHOKE COVER	R	
1381	3581W1A328B	DOOR ASSEMBLY	R	
2000	3506W1A309A	KEY MEMBRANE	R	
2001	3550W4A029B	COVER,DIGITRON	R	
2003	4510W3L003A	LEVER	R	
2004	4781W1M289G	CONTROLLER ASSEMBLY,MICOM	R	
2005	4B72023B	SPRING	R	
2006	6871W1S082H	PWB(PCB) ASSEMBLY,SUB	R	
2007	5020W1A068A	BUTTON	R	
2381	383EW1A044A	SERVICE PARTS	R	
3001	3112W1U028A	OUT CASE,U-BENDING	R	
3002	3390W1G003G	TRAY,GLASS	R	3390W1G003A
3003	3461W1A040F	CAVITY ASSEMBLY	R	
3006	4930W3B029A	HOLDER,WIRE	R	
3008	5889W2A014A	ROTATING RING ASSEMBLY	R	
3009	6549W1S011J	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S017E
3034	3052W2A021A	CANOPY,RESIN	R	
4000	3500W1A004B	BOARD,LATCH	R	
4002	6600W1K003D	SWITCH,MICRO	R	6600W1K001D
4002	6600W1K003D	SWITCH,MICRO	R	6600W1K002E
4003	6600W1K003C	SWITCH,MICRO	R	6600W1K001C
5000	0CZZW1H001Q	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004B
5000	0CZZW1H001Q	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004G
5001	3B74133K	FUSE,DRAWING	R	3B74133H
5002	4810W4C003B	BRACKET,CAPACITOR	R	
5003	4974W1S048B	GUIDE,SUCTION	R	
5005	5006WRA002D	CAP,FUSE	R	
5006	5262W2A037C	DUCT	R	
5007	5900W1A004A	FAN	R	
5008	6170W1D023L	TRANSFORMER,HIGH VOLTAGE	R	
5009	6324W1A001B	MAGNETRON	R	
5010	6411W1A002H	POWER CORD ASSEMBLY	R	
5012	6549W1F005B	MOTOR(CIRC),FAN	R	
5014	6877W1A359A	HARNESS	R	
5015	6912W3B002L	LAMP,DRAWING	R	
5016	6930WRT002F	THERMOSTAT	R	

LOC. NO.	PART NO	DESC	SVC	ALTER
5018	6021W3B001N	CABLE ASSEMBLY	R	
5040	4980W3A038A	SUPPORTER	R	
6000	3302W0A025A	BASE PLATE	R	
6001	3303W0A013B	BASE PLATE ASSEMBLY	R	
6002	4778W3A002A	LEG	R	
9000	3B72244T	CUSHION	R	
9003	4850W1A001F	CUSHION	R	
W101	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R	
W102	4B70188C	SCREW,DRAWING	R	
W103	1SZZW2A002A	SCREW,DRAWING	R	
W105	1TPL0402418	SCREW TAPPING,PAN HEAD	R	
W107	1TTL0402416	SCREW TAPPING,TRUSS HEAD	R	
W108	1TTL0402418	SCREW TAPPING,TRUSS HEAD	R	
W109	1TTL0402818	SCREW TAPPING,TRUSS HEAD	R	
W110	1TTL0403818	SCREW TAPPING,TRUSS HEAD	R	
W144	1TTL0402618	SCREW TAPPING,TRUSS HEAD	R	

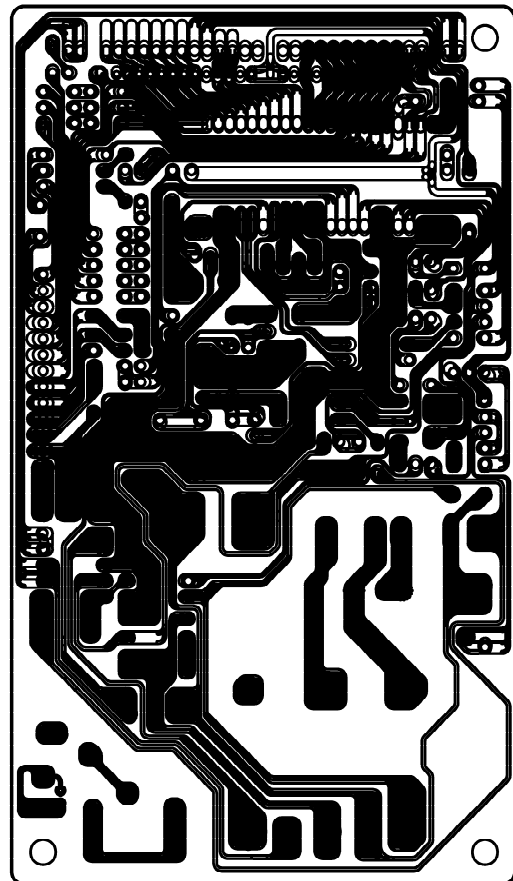
R : SERVICE PARTS

KENMORE MICROWAVE OVEN
MODEL NO. 721.62223

POWER AND CONTROL CIRCUIT BOARD



COMPONENT SIDE



SOLDER SIDE

**KENMORE MICROWAVE OVEN
MODEL NO. 721.62223**

POWER AND CONTROL CIRCUIT BOARD

(See Illustration "POWER AND CONTROL CIRCUIT BOARD")

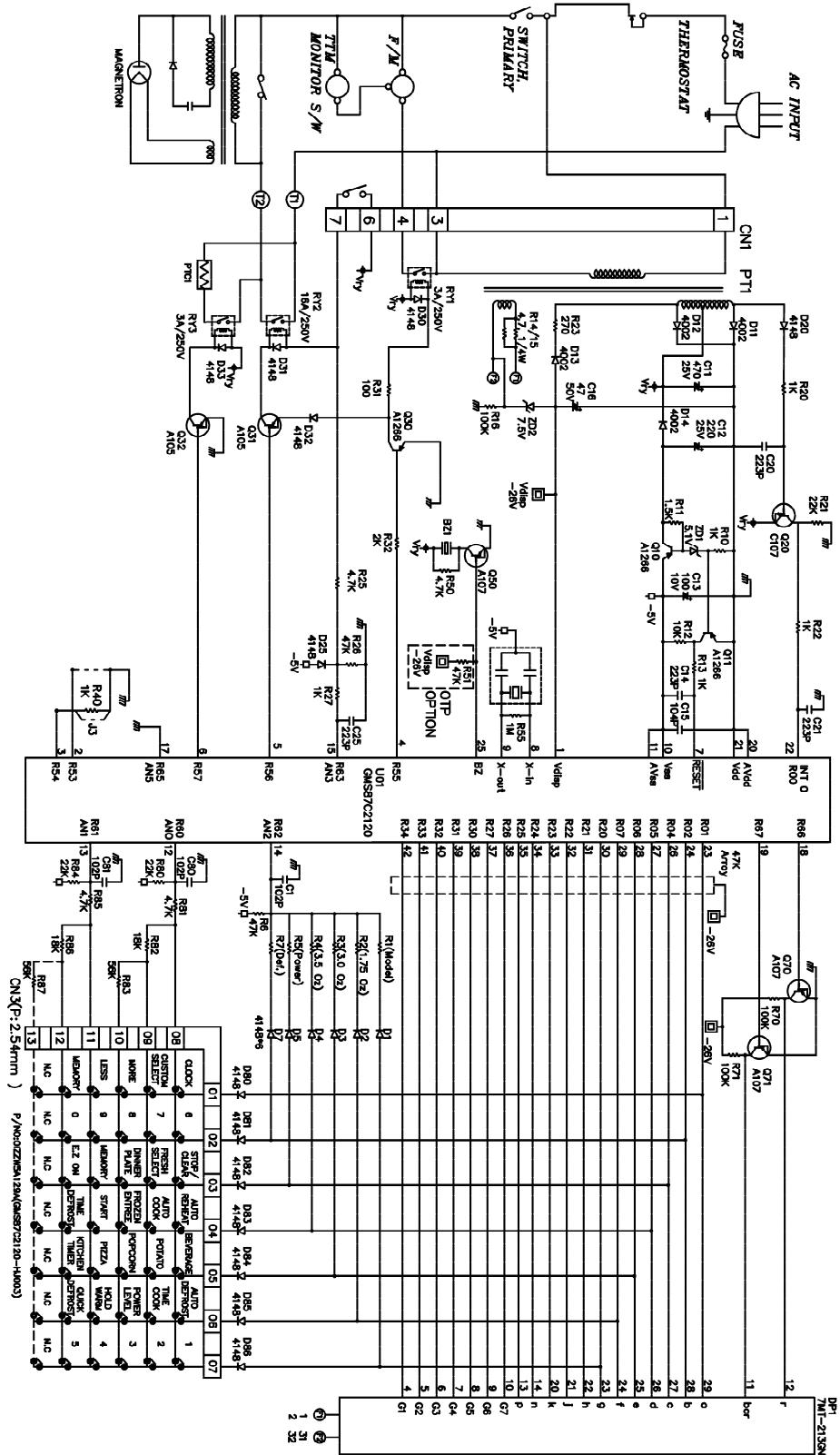
N.S.P (NOT SERVICE PART): THESE PARTS ARE NOT AVAILABLE AS REPAIR PARTS BECAUSE THEY ARE TOO COSTLY OR NOT PRACTICAL TO REPLACE OR NEVER EXPECTED TO FAIL DURING THE LIFE EXPECTANCY OF THE UNIT. * ITEMS NOT ILLUSTRATED.

*** ALL SERVICE ON MICROWAVE OVENS SHOULD BE PERFORMED BY A QUALIFIED TECHNICIAN USING APPROVED TESTING EQUIPMENT. CUSTOMERS SHOULD NOT ATTEMPT TO REPLACE PARTS IDENTIFIED BY A TRIPLE ASTERISK(***)

September, 2002

KENMORE MICROWAVE OVEN
MODEL NO. 721.62223

SCHEMATIC DIAGRAM OF P.C.B



**KENMORE MICROWAVE OVEN
MODEL NO. 721.62223**

SCHEMATIC DIAGRAM OF P.C.B

(See Illustration "SCHEMATIC DIAGRAM OF P.C.B")

N.S.P (NOT SERVICE PART): THESE PARTS ARE NOT AVAILABLE AS REPAIR PARTS BECAUSE THEY ARE TOO COSTLY OR NOT PRACTICAL TO REPLACE OR NEVER EXPECTED TO FAIL DURING THE LIFE EXPECTANCY OF THE UNIT. * ITEMS NOT ILLUSTRATED.

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September, 2002

P.C.B PARTS LIST

LOC. NO.	PART NO.	DESCRIPTION	SPEC	SVC	ALTER
BZ1	6908W3YA01B	BUZZER	TFM-57 CW NINGBO EAST	R	6908W3YA01A
C1	0CK1020K518	CAPACITOR, FIXED CERAMIC(HIGH DIELECTRIC)	10KPF D 50V K B TA26	R	
C11	0CE4776H618	CAPACITOR, FIXED ELECTROLYTIC	470UF SMS, SG 25V 20% FL TP 5	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	
CN1	6630W5YA12D	CONNECTOR (CIRC), WAFER	YW396-725V YEONHO 7P 3.96MM	R	
CN3	6630W5V017C	CONNECTOR (CIRC), WAFER	JE501S JAE EUN 12P 2.54MM WAFER	R	
CR1	6212W5M002A	RESONATOR, CERAMIC	CSTS0400 MURATA 4MHZ +/-0.5%	R	
CU1	4850W4C001B	CUSHION	5.0T 15W 40L RUBBER BLACK	R	
D11	0DD400209AA	DIODE, RECTIFIERS	1N4002 PYUNG CHANG TP26 DO41	R	
D12	0DD400209AA	DIODE, RECTIFIERS	1N4002 PYUNG CHANG TP26 DO41	R	
D13	0DD400209AA	DIODE, RECTIFIERS	1N4002 PYUNG CHANG TP26 DO41	R	
D14	0DD400209AA	DIODE, RECTIFIERS	1N4002 PYUNG CHANG TP26 DO41	R	
D20	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D25	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D30	0DD414809AA	DIODE, SWITCHING	1N4148 ROHM TP26 DO35 100V 450MA	R	
D31	0DD414809AA	DIODE, SWITCHING	1N4148 ROHM TP26 DO35 100V 450MA	R	
D32	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D5	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D80	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D81	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D82	0DD414809AA	DIODE, SWITCHING	1N4148 ROHM TP26 DO35 100V 450M	R	
D83	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D84	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D85	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
D86	0DD414809AB	DIODE, SWITCHING	1N4148M PYUNG CHANG TP26 DO34	R	
DP1	6302W5A002A	DIGITRON	SVM-07SS15 7 AMB-306ML 7-	R	
PT1	6010W2P037A	TRANSFORMER, POWER	120V 60HZ 12V/150MA	R	
Q10	0TRFC80002A	TRANSISTOR, BIPOLARS FAIRCHILD	KSA733C R/TP TO92L 60V 100MA	R	0TR126609AA
Q11	0TRFC80002A	TRANSISTOR, BIPOLARS FAIRCHILD	KSA733C R/TP TO92L 60V 100MA	R	0TR126609AA
Q20	0TRFC90012A	TRANSISTOR, BIPOLARS FAIRCHILD	KSR1006 TP TO92 50V 100MA	R	0TR107009AD
Q30	0TRFC80002A	TRANSISTOR, BIPOLARS FAIRCHILD	KSA733C R/TP TO92L 60V 100MA	R	0TR126609AA
Q31	0TRFC90002A	TRANSISTOR, BIPOLARS FAIRCHILD	KSR2013 TP TO92 50V 100MA	R	0TR105009AD
Q50	0TRFC90021A	TRANSISTOR, BIPOLARS FAIRCHILD	KSR2006 TP TO92 50V 100MA	R	0TR107009AE
Q70	0TRFC90021A	TRANSISTOR, BIPOLARS FAIRCHILD	KSR2006 TP TO92 50V 100MA	R	0TR107009AE
Q71	0TRFC90021A	TRANSISTOR, BIPOLARS FAIRCHILD	KSR2006 TP TO92 50V 100MA	R	0TR107009AE
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	
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	

R : SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SPEC	SVC	ALTER
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	0RN7502F408	RESISTOR, FIXED METAL FILM	75K 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 1% 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 1.00% TA26	R	
R93	0RN4701F408	RESISTOR, FIXED METAL FILM	4.7K OHM 1/6 W 1.00% TA26	R	
R94	0RN4701F408	RESISTOR, FIXED METAL FILM	4.7K OHM 1/6 W 1.00% TA26	R	
R95	0RN4701F408	RESISTOR, FIXED METAL FILM	4.7K OHM 1/6 W 1.00% TA26	R	
R96	0RN4701F408	RESISTOR, FIXED METAL FILM	4.7K OHM 1/6 W 1.00% TA26	R	
RY1	6920W2D010A	RELAY	OJ-SS-112LM OEG 250VAC 3A	R	6920W2D010B
RY2	6920W5A012A	RELAY	G5G-1A-DT1-LG OMRON 250VAC	R	
U01	0IZZW5A164C	IC, DRAWING	HYNIX, GMS81G2120 42PIN, SDIP	R	0IZZW5A164B
ZD1	0DZ510009AE	DIODE, ZENERS	UZ5.1BS ROHM TP26 DO34 500MW	R	
ZD2	0DZ750009QA	DIODE, ZENERS	UZ-7.5BM PYUNG CHANG TP26	R	

R : SERVICE PARTS

