

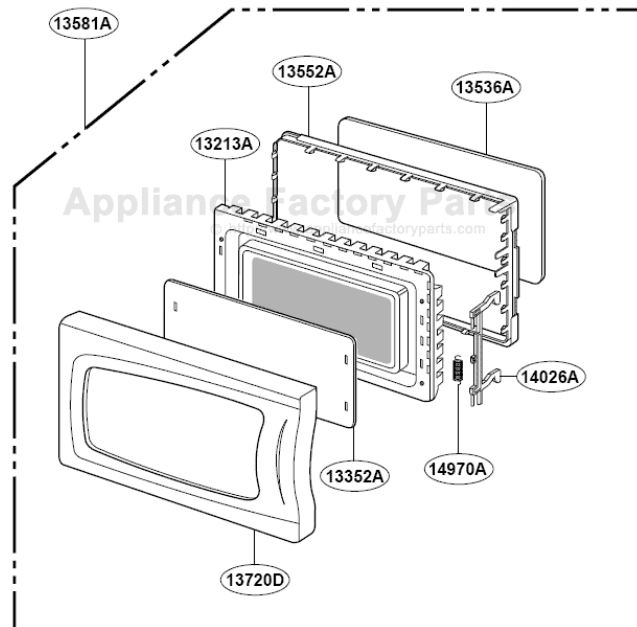
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# GOLDSTAR MA-1303BRV Owner's Manual

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## DOOR PARTS



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----- Manual continues below -----

# GoldStar

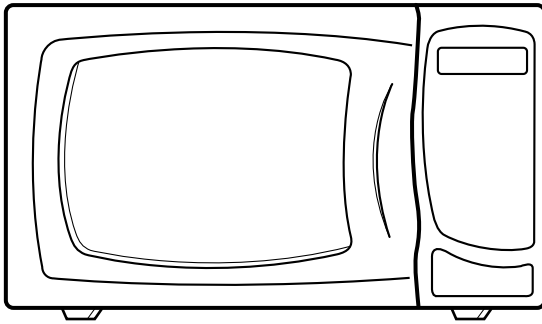
<http://www.LGService.com>  
e-mail:techsupport@LGService.com

# MICROWAVE OVEN SERVICE MANUAL

**MODEL: MA-1303BRV**

**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**

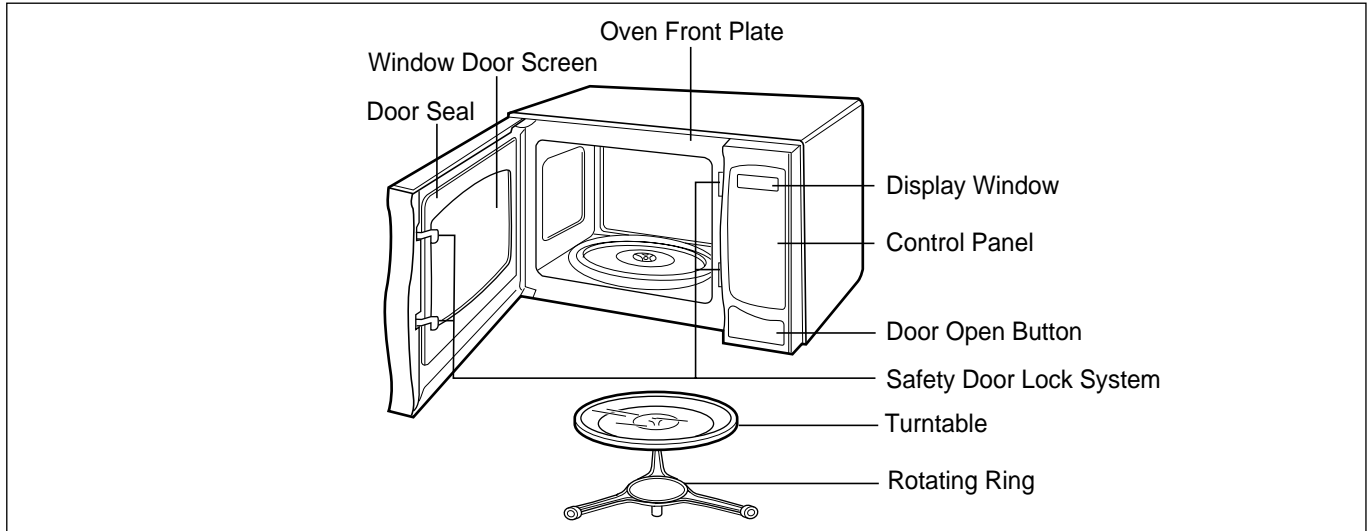
- A) Do not operate or allow the oven to be operated with the door open.
- B) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary; (1) interlock operation, (2) proper door closing, (3) seal and sealing surfaces (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 and CSA should be performed on each oven prior to release to the owner.

# SPECIFICATIONS

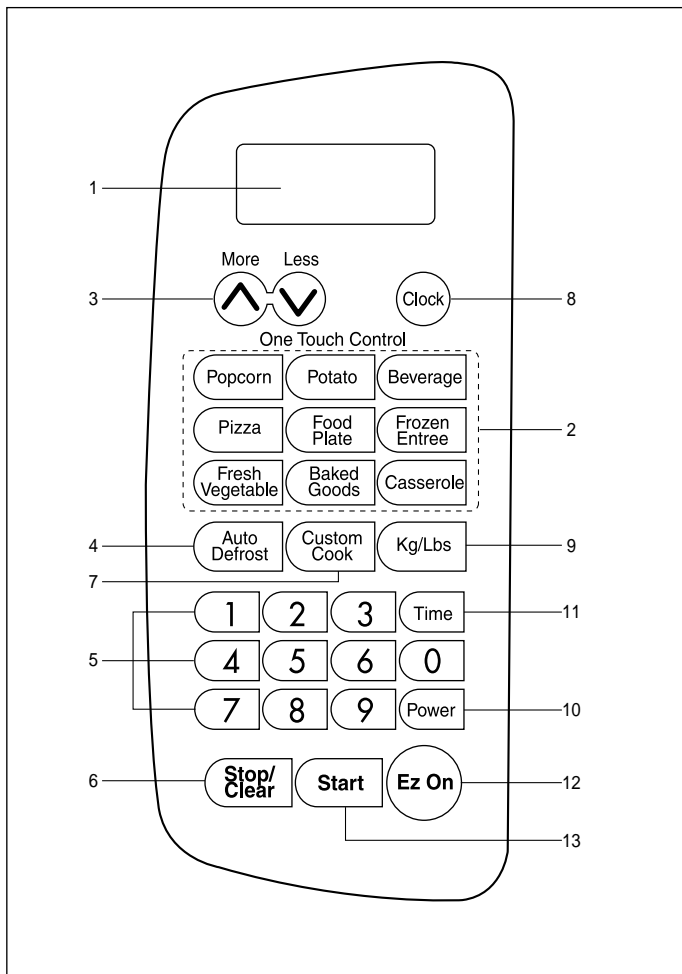
ITEM	DESCRIPTION
<b>MODEL</b>	<b>MA-1303BRV</b>
Power Requirement	120 Volts AC 60 Hz 1,300 Watts (12.0A) Single phase, 3 wire grounded
Power Output	900 Watts full microwave power (IEC705)
Microwave Frequency	2,450 MHz
Magnetron	2M214
Timer	0 ~ 99 min. 99 sec.
Outside Dimensions	21 <sup>7</sup> / <sub>8</sub> " (W) x 12 <sup>5</sup> / <sub>8</sub> " (H) x 17 <sup>1</sup> / <sub>4</sub> " (D)
Cavity Dimensions	14 <sup>3</sup> / <sub>4</sub> " (W) x 9 <sup>1</sup> / <sub>4</sub> " (H) x 16" (D)
Net Weight	37 lbs (approx.)
Shipping weight	40 lbs (approx.)
Control Complement	Touch Control System Clock : 1:00 - 12:59 Microwave Power for Variable Cooking Power level HIGH ----- Full power throughout the cooking time 9 (Saute) ----- approx. 90% of Full power, 8 (Reheat) ----- approx. 80% 7 (Med.-High) ----- approx. 70%, 6 (Medium) ----- approx. 60% 5 (Med.-Low) ----- approx. 50%, 4 (Defrost) ----- approx. 40% 3 (Low) ----- approx. 30%, 2 (Simmer) ----- approx. 20% 1 (Warm) ----- approx. 10%
Accessories	Owner's manual Glass turntable Rotating ring
It is not recommended for commercial purposes.	

# OPERATING INSTRUCTIONS

## FEATURES



## CONTROL PANEL

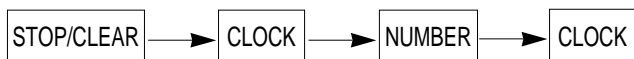


1. DISPLAY WINDOW
2. ONE TOUCH COOK: This menu has been pre programmed to cook food automatically by one touch.
3. MORE / LESS: All of the one touch cook and TIMED COOK can be adjusted to cook food for a longer or shorter time.
  - MORE → Pressing MORE will add 10 seconds to the cooking time.
  - LESS → Pressing LESS will subtract 10 seconds of cooking time.
4. AUTO DEFROST: This feature provides you with the best defrosting method for frozen foods.
5. NUMBER: These used to set for time of day, cooking time, power level, or defrost weight.
6. STOP/CLEAR: It used to stop oven and clear all entries except time of day.
7. CUSTOM COOK: This feature allows you to set and execute a frequently used single stage program.
8. CLOCK: It is used to set the time of day.
9. Kg/Lbs
10. POWER: You can select the desired power level for cooking.
11. TIME: You can set the desired cook time.
12. EZ ON: You can extend cooking time in multiples of 30 seconds by repeatedly touching this pad during cooking.
13. START: This feature allows oven to begin functioning.

# OPERATING SEQUENCE

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

## 1. SETTING THE 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 **STOP/CLEAR** pad whenever you need to cancel an entry or a function currently in use.

The display will either return to the last item entered or to the clock.

## 3. EZ ON

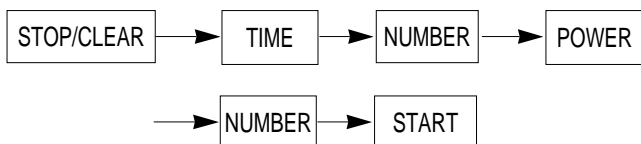


## 4. ONE TOUCH COOKING



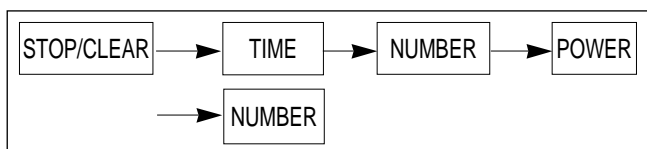
NOTE: Heat only 1 package at a time

## 5. TIME COOKING

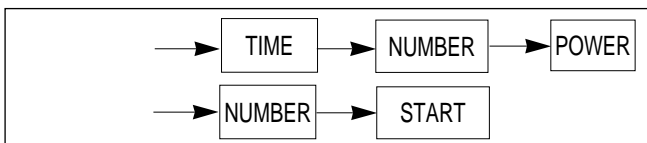


## 6. MULTI-STAGE COOKING

1ST STAGE



2ND STAGE



## 7. AUTO WEIGHT DEFROST COOKING



## 8. CHILD LOCK

This oven has a CHILD LOCK feature TO SET CHILD LOCK

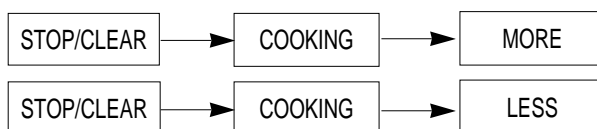
- Touch the **STOP/CLEAR** pad
- Touch and hold **STOP/CLEAR** pad → **LOCK** appear on the display.

TO CANCEL CHILD LOCK

- Touch the **STOP/CLEAR** pad
- Touch and hold **STOP/CLEAR** pad → **LOCK** disappears.

## 9. MORE / LESS

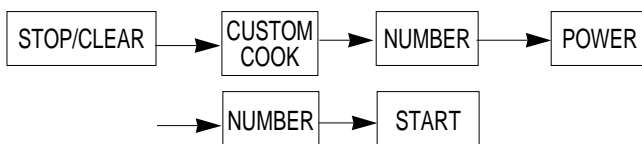
The cook time is adjustable by MORE pad or LESS pad



## 10. CUSTOM COOK

You can program the cook time and power level by using CUSTOM COOK pad.

ex) To set cook time 10 mine 30seconds, touch number key [1],[0],[3], and [0]



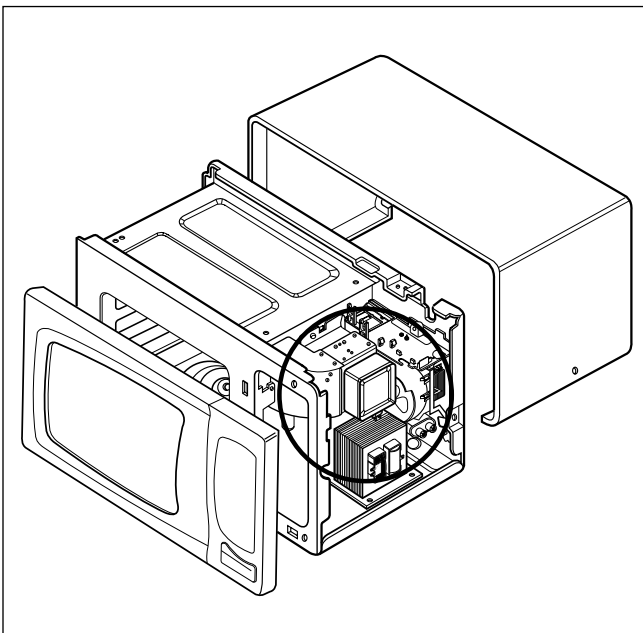
## **MEASUREMENT WITH OUTER CASE REMOVED**

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

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

- Around the magnetron
- The waveguide

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



## **MEASUREMENT WITH A FULLY ASSEMBLED OVEN**

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

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

## **NOTES WHEN MEASURING**

- Do not exceed meter full scale deflection.
- The test probe must be removed no faster than 1 inch/sec (2.5 cm/sec) along the shaded area, otherwise a false reading may result.
- The test probe must be held with the grip portion of the handle.  
A false reading may result if the operator's hand is between the handle and the probe.
- When testing near a corner of the door, keep the probe perpendicular to the surface making sure the probe horizontally along the oven surface; this may possibly cause probe damage.

## **RECORD KEEPING AND NOTIFICATION AFTER MEASUREMENT**

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

# MEASUREMENT OF MICROWAVE POWER OUTPUT

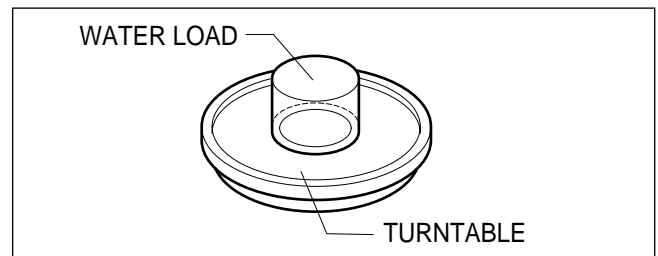
- Microwave power output measurement is made with the microwave oven supplied at its rated voltage and operated at its maximum microwave power setting with a load of (1000±5) g of potable water.
- The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of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

- The microwave power output P in watts is calculated from the following formula :

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

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

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



## DISASSEMBLY AND ADJUSTMENT

### A. OUTER CASE REMOVAL

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

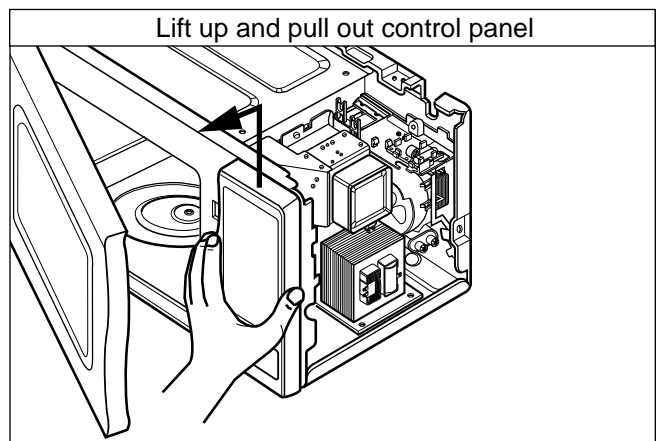
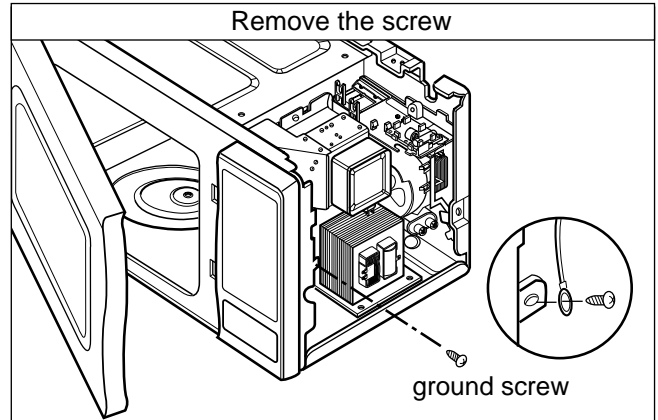
### B. POWER SUPPLY CORD

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

### C. CONTROL PANEL ASSEMBLY

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

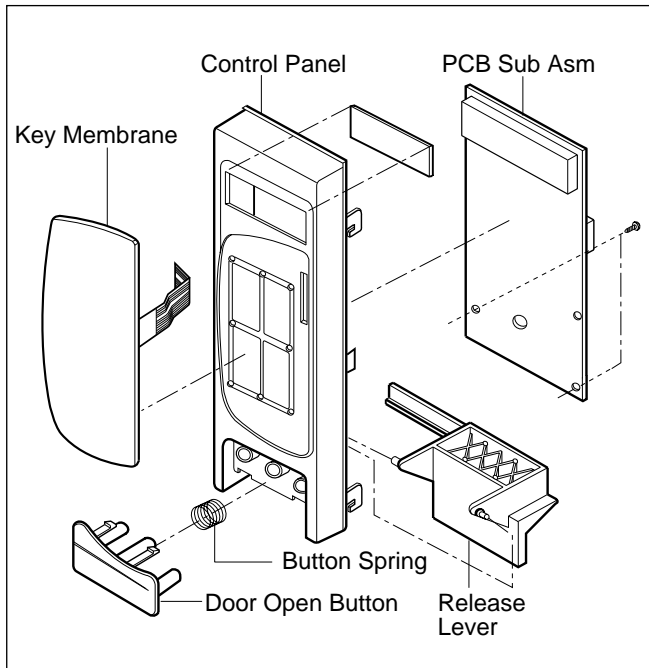
**CAUTION: DISCHARGE THE HIGH VOLTAGE CAPACITOR BEFORE SERVICING**  
(refer to page 2-1)





## D. PCB ASSEMBLY REMOVAL

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



## E. DOOR MAIN ASSEMBLY REMOVAL

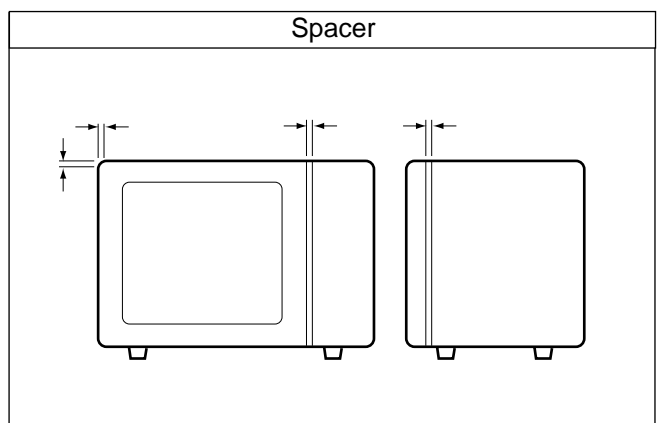
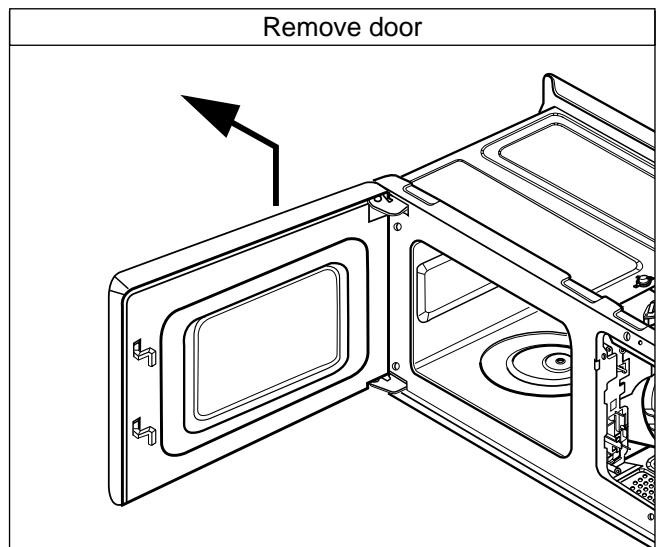
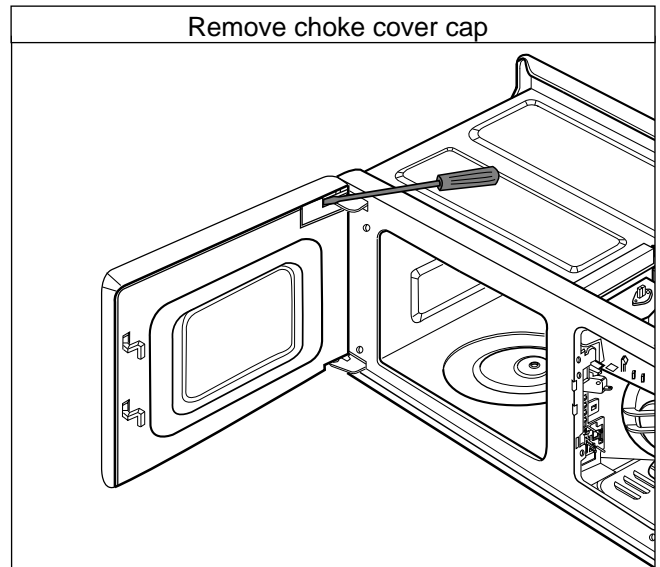
- 1) Open the door.
- 2) Remove the choke cover cap very carefully with a flat-blade screwdriver.

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

- 3) Lift up and 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.



## F. AIR DUCT ASSEMBLY REMOVAL

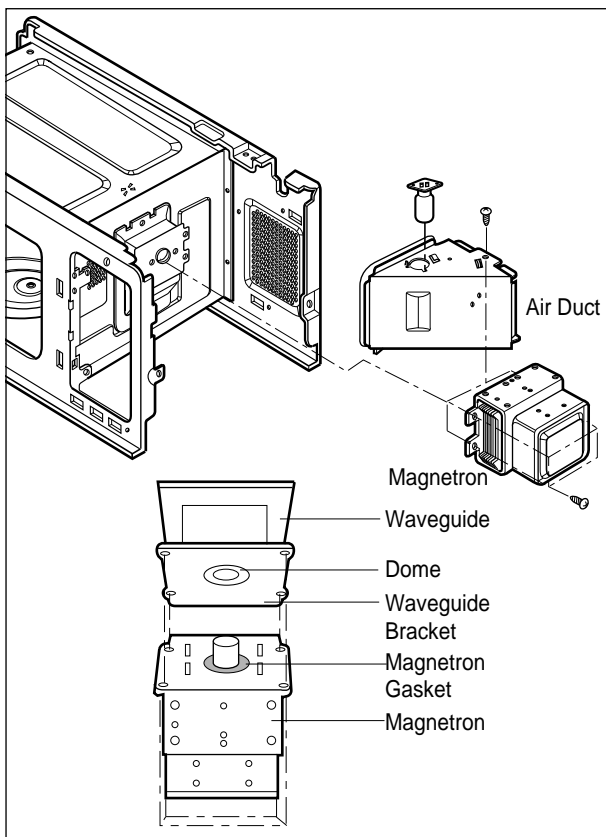
- 1) Disconnect the leadwire from the lamp.
- 2) Remove the mounting screw to the magnetron.

## G. MAGNETRON REMOVAL

- 1) Disconnect the leadwire from the magnetron.
- 2) Carefully remove the mounting screws holding the magnetron and the waveguide.
- 3) Remove the magnetron ASS'Y until the tube is clear from the waveguide.

### NOTE:

1. When removing the magnetron, make sure its dome does not hit any adjacent parts, or it may be damaged.
2. When replacing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.
3. After replacing the magnetron, check for microwave leakage with a survey meter around the magnetron. Microwave energy must be below the limit of  $5 \text{ mW/cm}^2$ . (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.

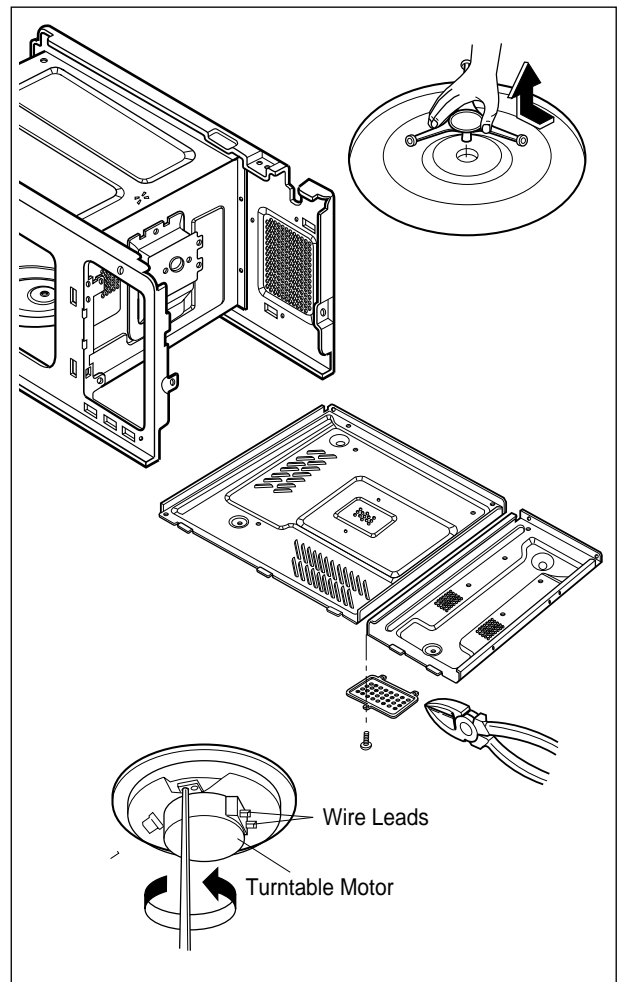


## H. REMOVING THE TURNTABLE MOTOR

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

### NOTE:

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



## K. HIGH VOLTAGE TRANSFORMER REMOVAL

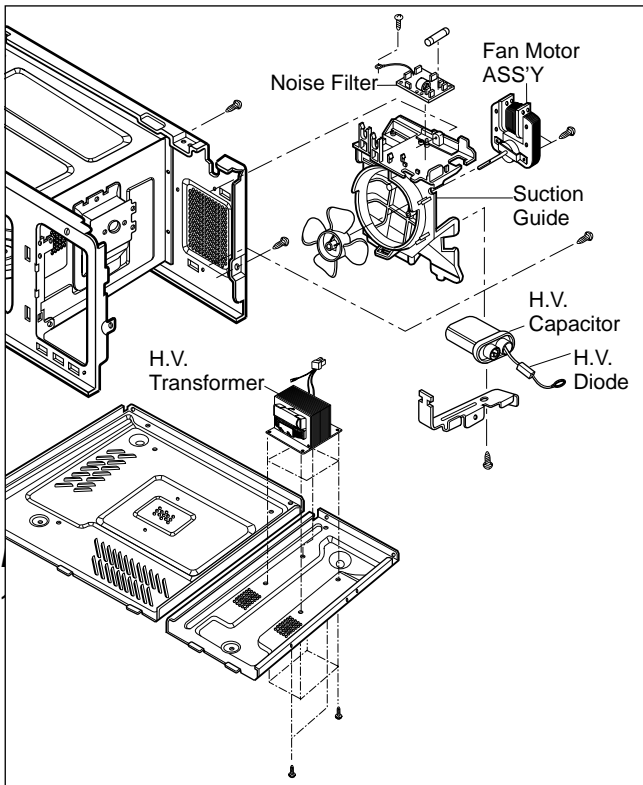
- 1) Discharge the high voltage capacitor.
- 2) Disconnect the leadwire from magnetron, high voltage transformer, and capacitor.
- 3) Remove the screw holding the high voltage transformer to the baseplate.

## J. FAN MOTOR ASSEMBLY REMOVAL

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

## K. HIGH VOLTAGE CAPACITOR AND DIODE REMOVAL

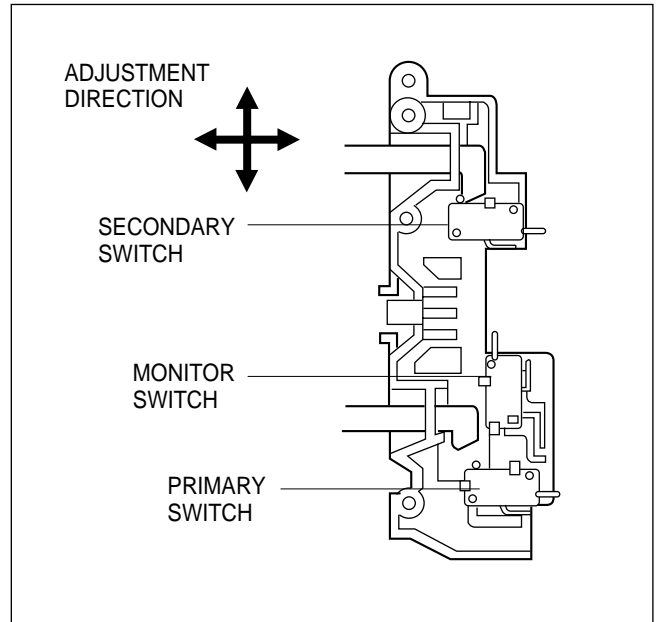
- 1) Discharge the high voltage capacitor.
- 2) Disconnect the leadwire from fan motor and high voltage capacitor.
- 3) Remove the screw holding the suction guide ASS'Y to the oven cavity and remove the high voltage diode earth screw.
- 4) Remove the screw holding the high voltage capacitor bracket.



## L. INTERLOCK SYSTEM

### 1) INTERLOCK MECHANISM

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



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

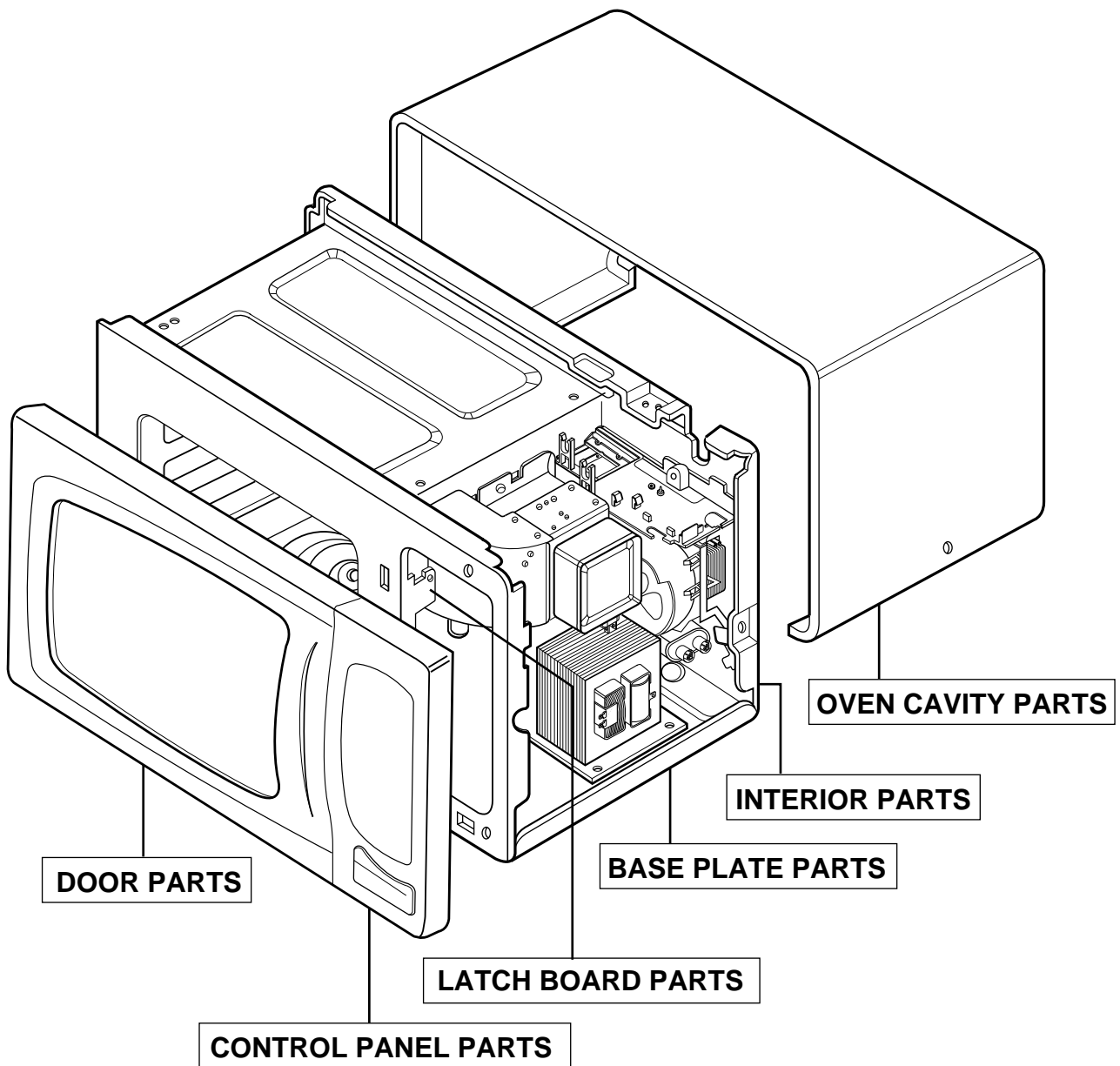
### 3) INSTALLATION AND ADJUSTMENT OF THE LATCH BOARD TO THE OVEN ASSEMBLY

- Mount the latch board to the oven assembly.
- Adjust the latch board in the arrow direction so that oven door will not have any play in it when the door is closed.
- Tighten the mounting screw.
- **Check for play in the door by pushing the door release button. Door movement should be less than 0.5 mm. (1/64 inch)**

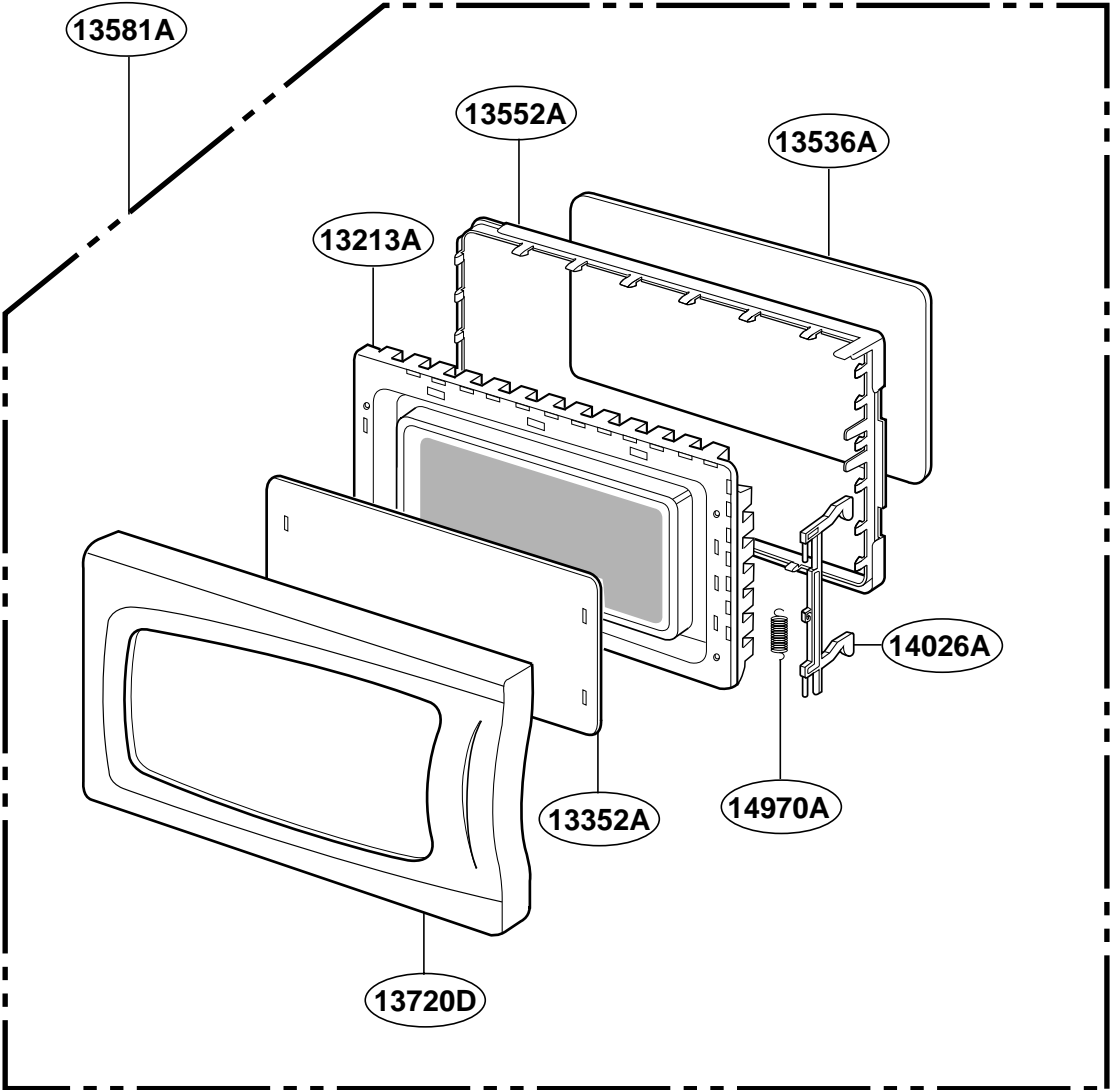
Don't push the door release button while making adjustment. Make sure that the latch moves smoothly after adjustment are completed and that the screws are tight. Make sure the primary, monitor, and secondary switches operate properly by following the continuity test procedure.

# EXPLODED VIEW

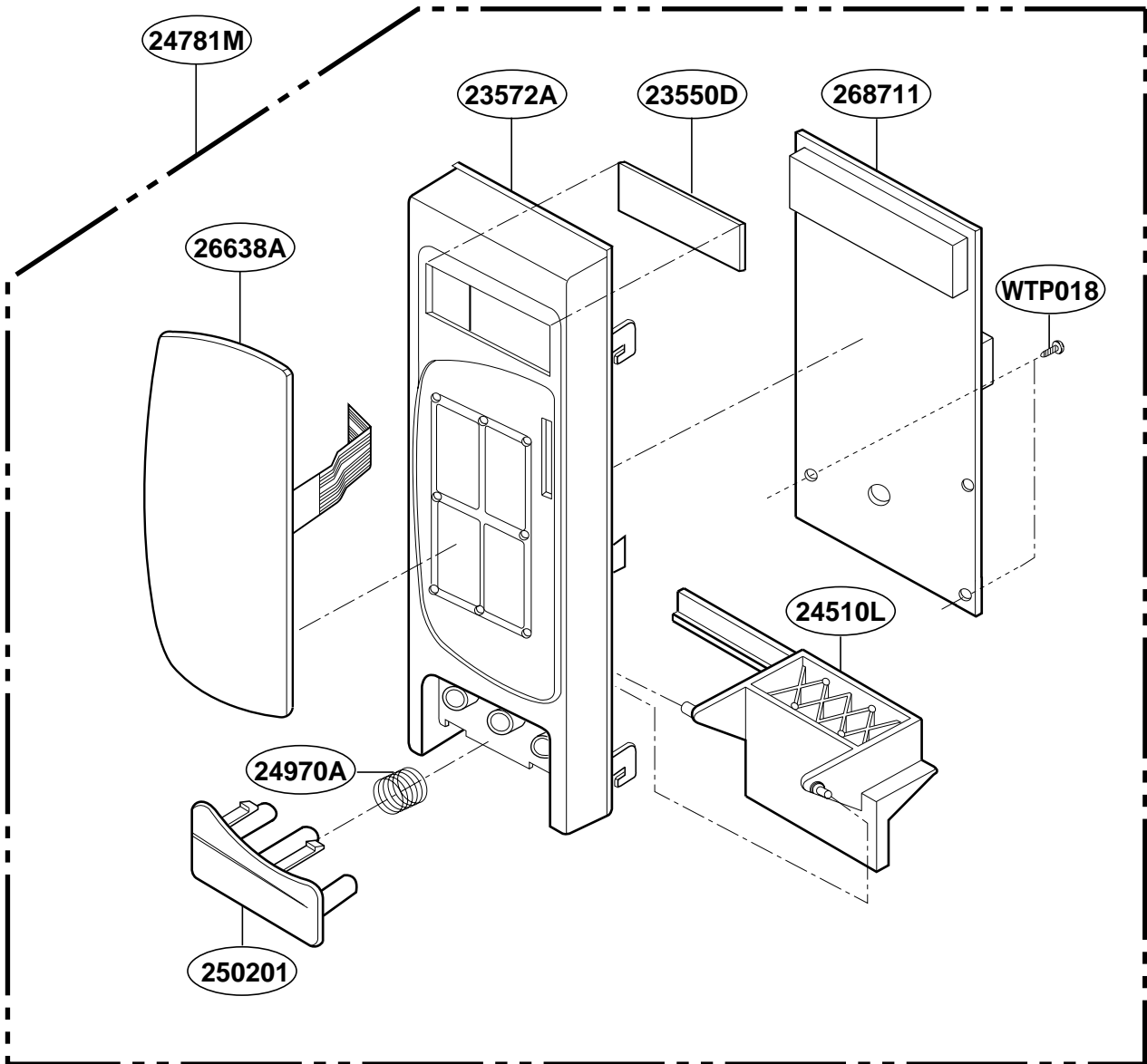
## INTRODUCTION



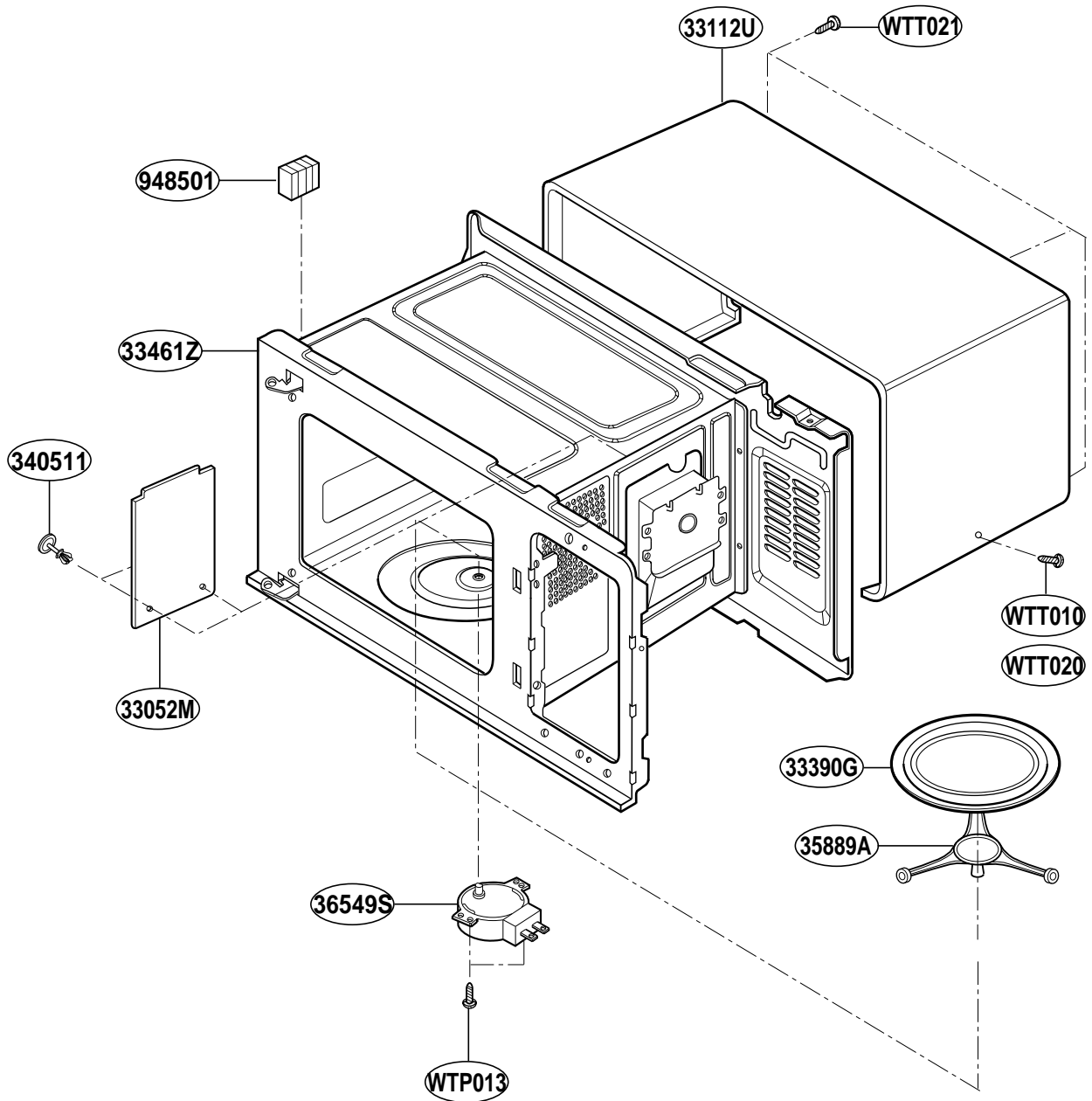
# DOOR PARTS



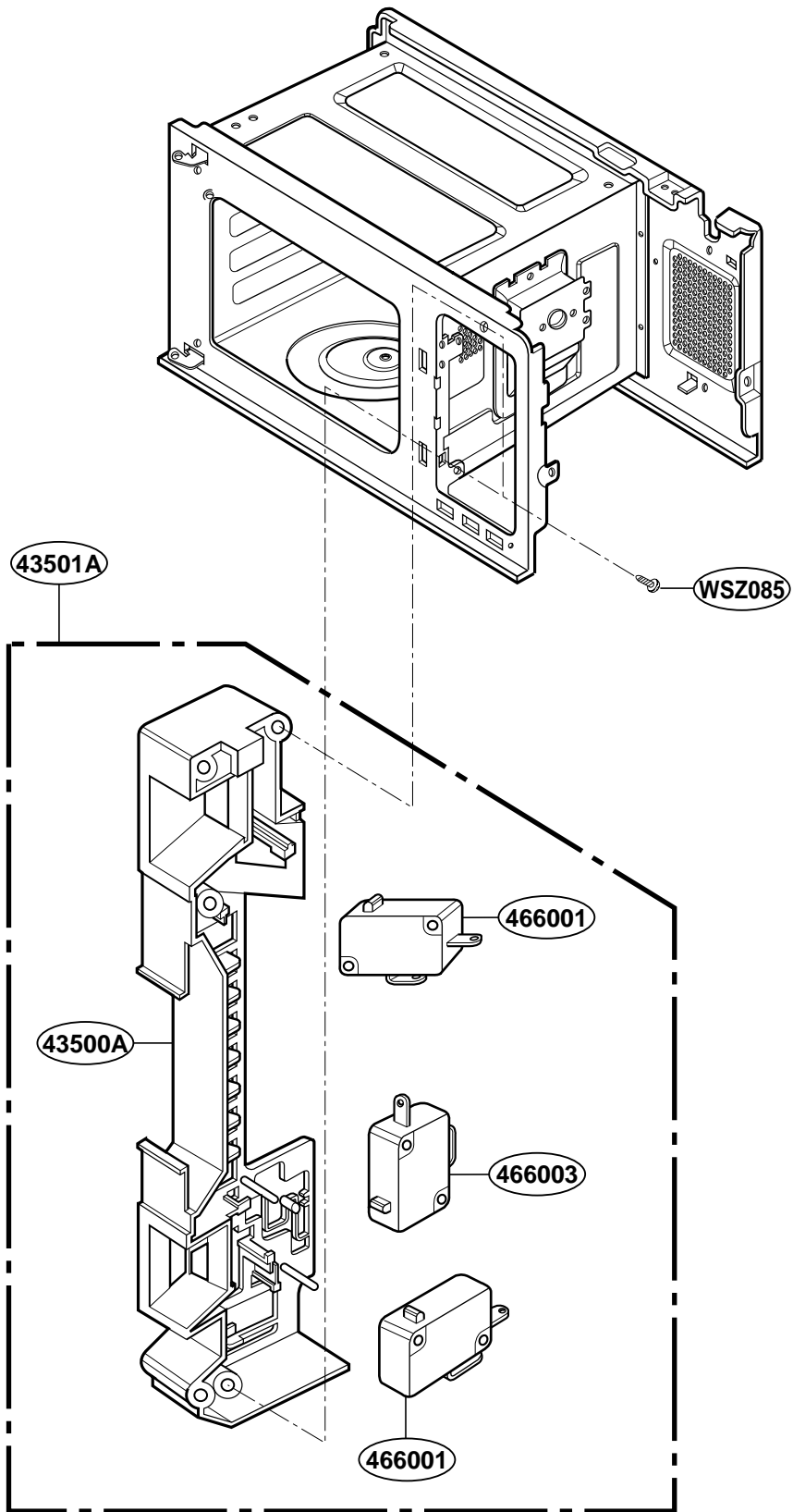
# CONTROLLER PARTS



# OVEN CAVITY PARTS

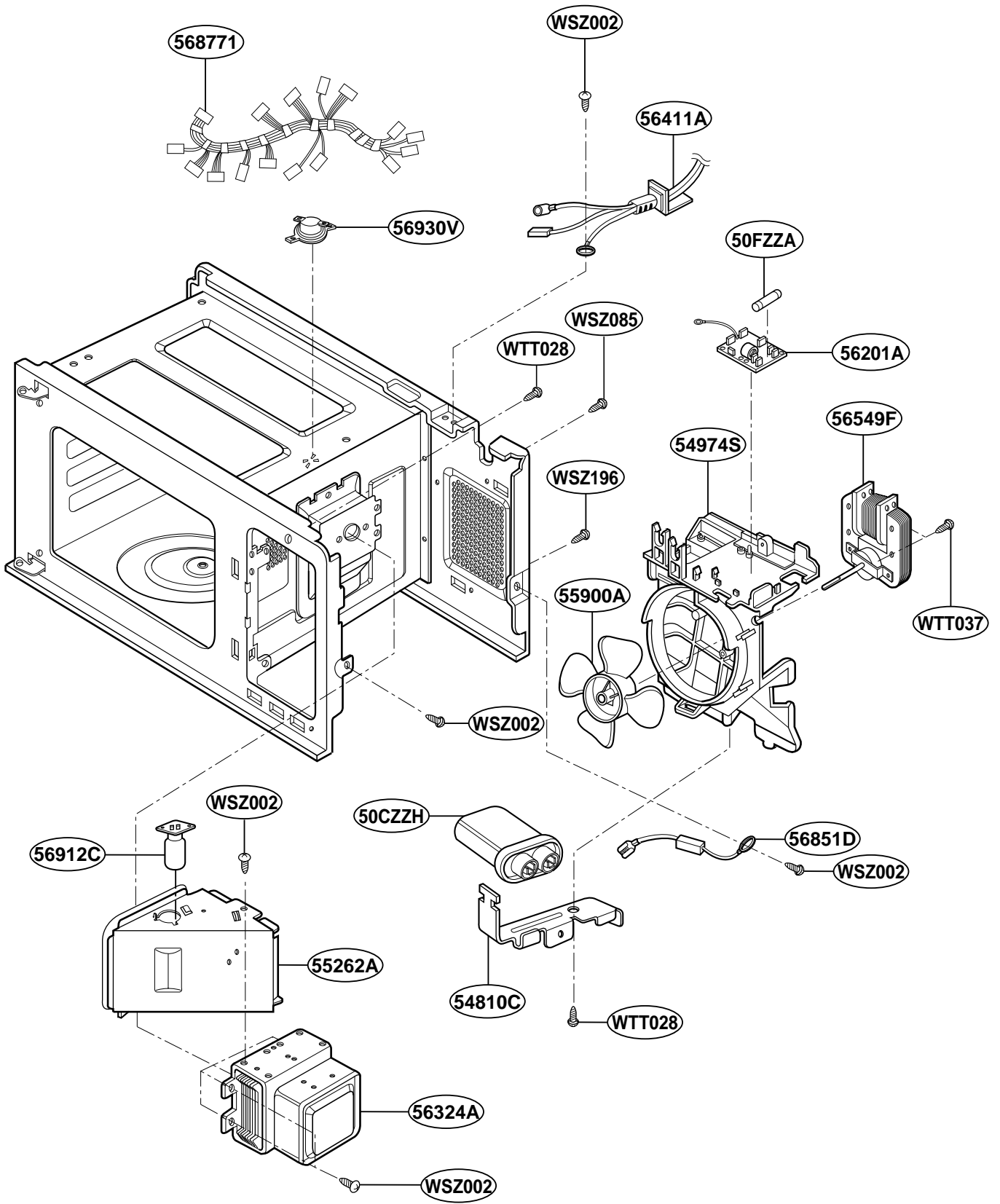


# LATCH BOARD PARTS

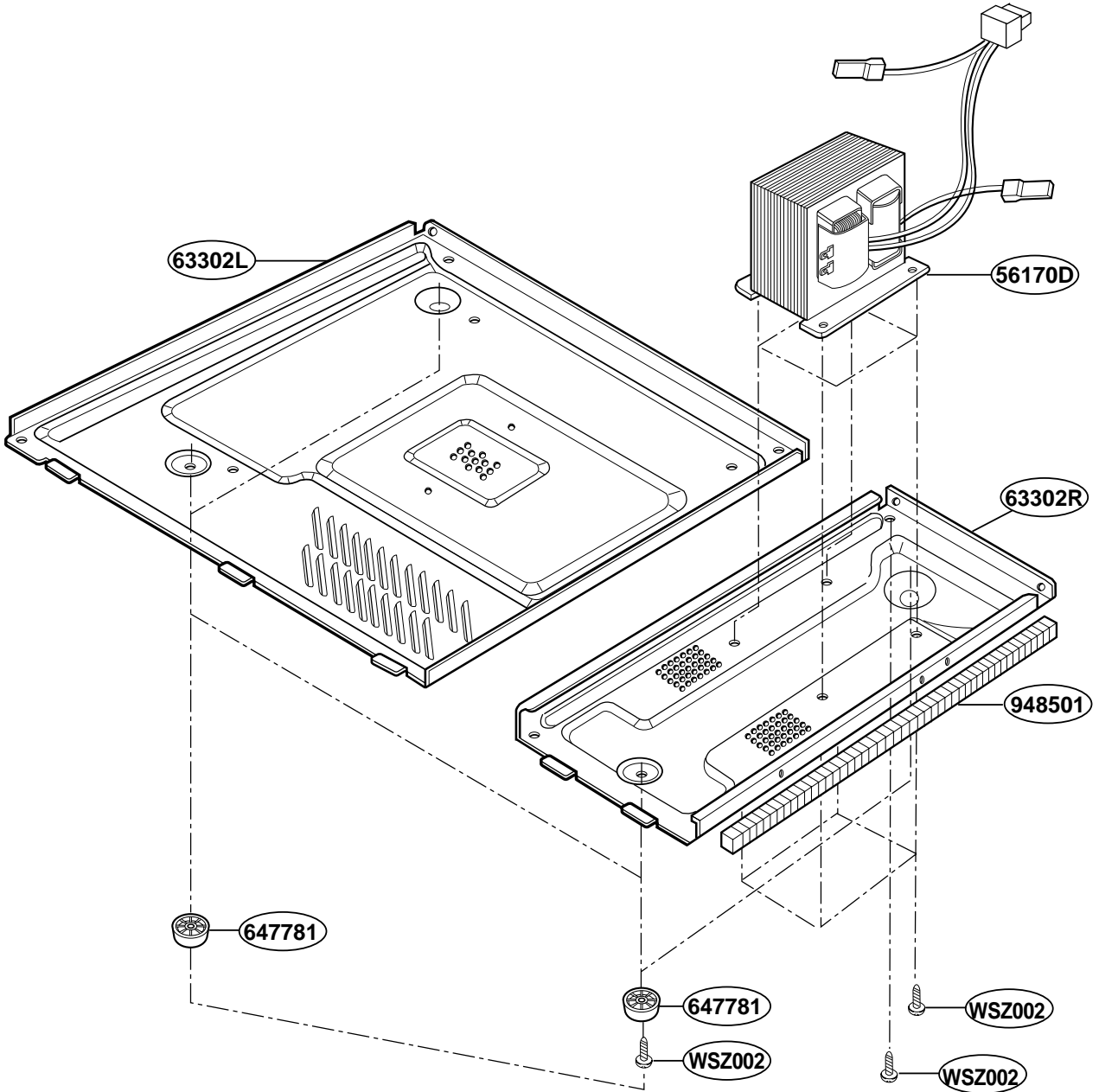




# INTERIOR PARTS



# BASE PLATE PARTS





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