

# Service Manual

Microwave Oven



**NN-E205WB BPQ**

**NN-E235MB BPQ**

**NN-E205WB EPG**

**NN-E245WB EPG**

**NN-E235MB EPG**

**NN-E205WB WPG**

**NN-E235MB WPG**

## Specifications

Power Requirement	230 Volts AC 50 Hz 1100 Watts Single phase, 3 wire grounded
Power Output	800 Watts full microwave power (IEC60705)
Microwave Frequency	2450 MHz
Magnetron	2M167B - M47J1
Timer	0 ~ 60 min.
Outside Dimensions	455 (W) x 252 (H) x 320 (D) mm
Cavity Dimensions	315 (W) x 203 (H) x 294 (D) mm
Net Weight	10.5 kg (approx.)
Shipping weight	11.5 kg (approx.)
Specifications subject to change without notice.	

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P/NO : 3828W5S5178

# 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.

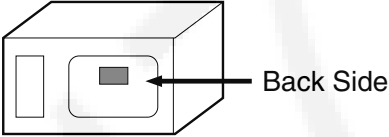
## **CAUTION MICROWAVE RADIATION**

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

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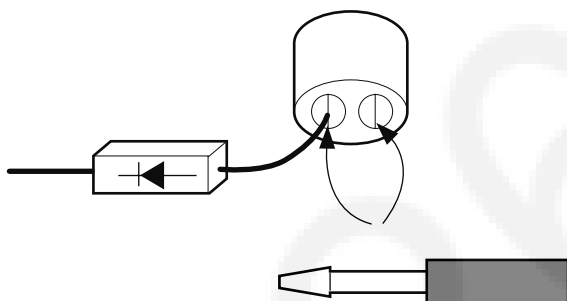
# POWER LEVEL & ACCESSORIES

ITEM	DESCRIPTION
Control Complement	Microwave Power for Variable Cooking Power level Max 600W 360W ⌘Defrost 90W High Medium Low Defrost Warm
Rating Label Location	 Back Side
Accessories	Owner's manual Glass turntable Roller rest
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 stop, an electric charge remains in the high voltage capacitor. When replacing or checking, you must discharge the high voltage capacitor by shorting across the two terminals with an insulated screwdriver.

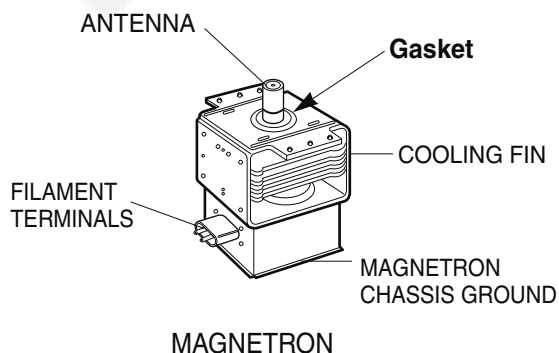


- Remove your watches whenever working close to or replacing the Magnetron.
- DO NOT touch any parts of the control panel circuit. A resulting static electric discharge may damage this P.C.B.
- NEVER operate the oven with no load.
- NEVER injure the door seal and front plate of the oven cavity.
- NEVER put iron tools on the magnetron.
- NEVER put anything into the latch hole and the interlock switches area.

## MICROWAVE RADIATION

Personnel should not be exposed to the microwave energy which may radiate from the magnetron or other microwave generating device if it is improperly used or connection. All input and output microwave connections, waveguide, flange and gasket must be secure never operate the device without a microwave energy absorbing load attached. Never look into an open waveguide or antenna while the device is energized.

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



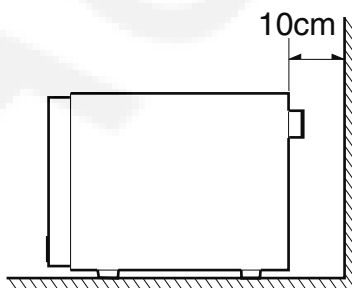
**THE OVEN IS TO BE SERVICED ONLY BY PROPERLY QUALIFIED SERVICE PERSONNEL.**

# INSTALLATIONS

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

## INSTALLING

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



## EARTHING INSTRUCTIONS

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

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

## WARNING- THIS APPLIANCE MUST BE EARTHED

### IMPORTANT

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

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

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

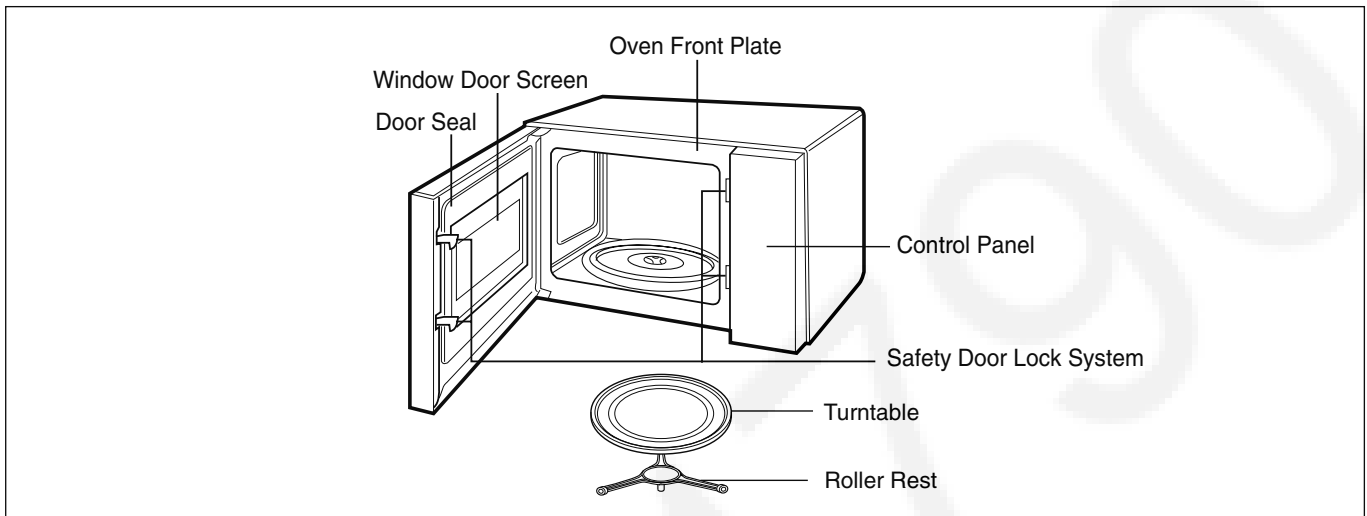
The wire which is colored **green-and-yellow** must be connected to the terminal in the plug which is marked with the letter **E** or by the **earth symbol** ( $\perp$ ) or colored **green** or **green-and-yellow**.

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

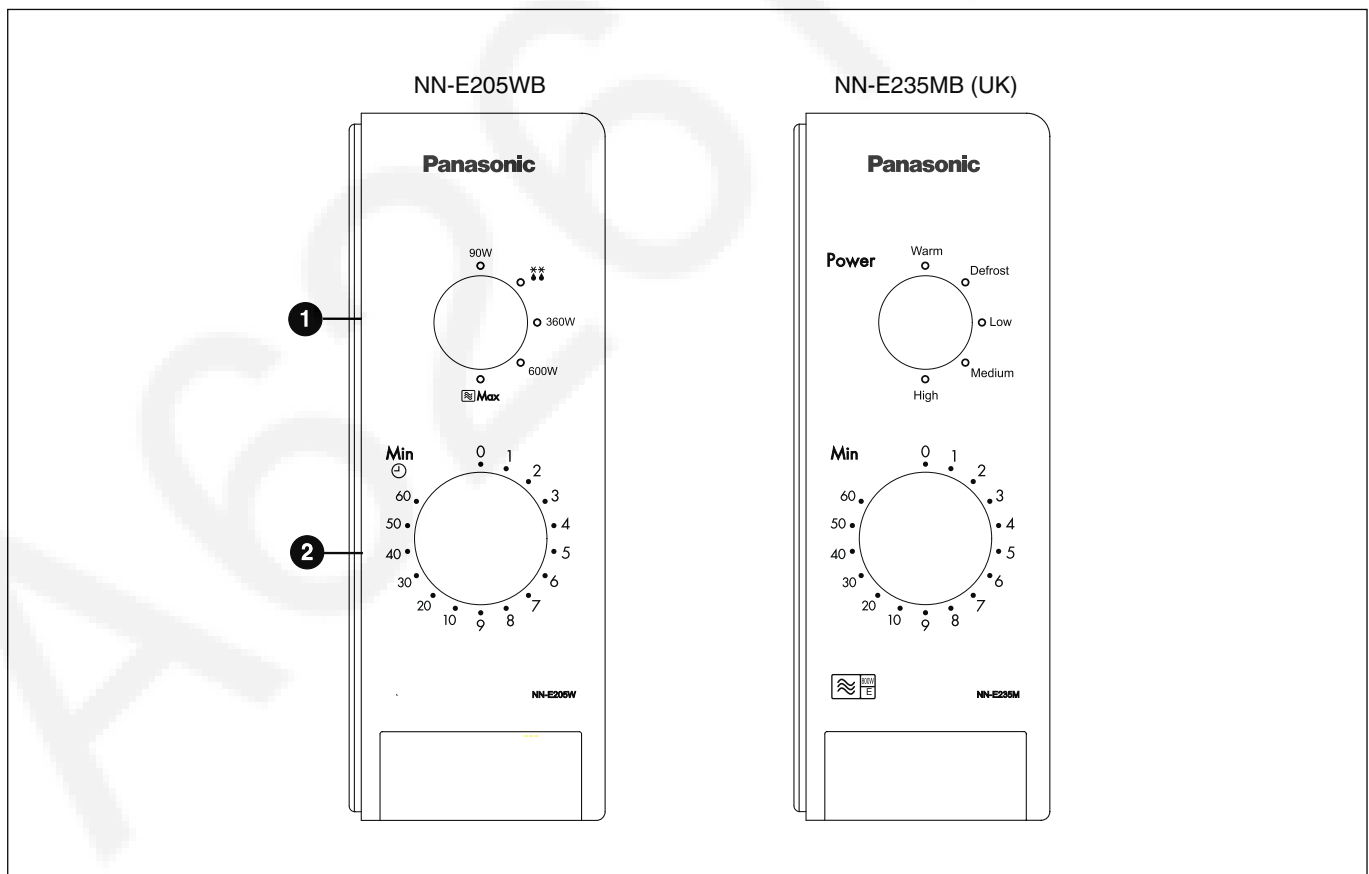
The wire which is colored **brown** must be connected to the terminal in the plug which is marked with the letter **L** or colored **red**.

# OPERATING INSTRUCTIONS

## FEATURES



## CONTROL PANEL



1. POWER CONTROL KNOB: Used to select power level for cooking.
2. TIMER KNOB: Used to set the cooking time.

# OPERATING SEQUENCE

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## MICROWAVE COOKING

1. Open the oven door, place the food on the turntable in the oven, and close the oven door.
2. Set the microwave power selector to the desired power level. There are five power levels from 90W to MAX. The power selector can be set to any one of these positions.

POSITIONS	
Max 600W	High
360W	Medium
⌘ Defrost	Low
90W	Defrost
	Warm

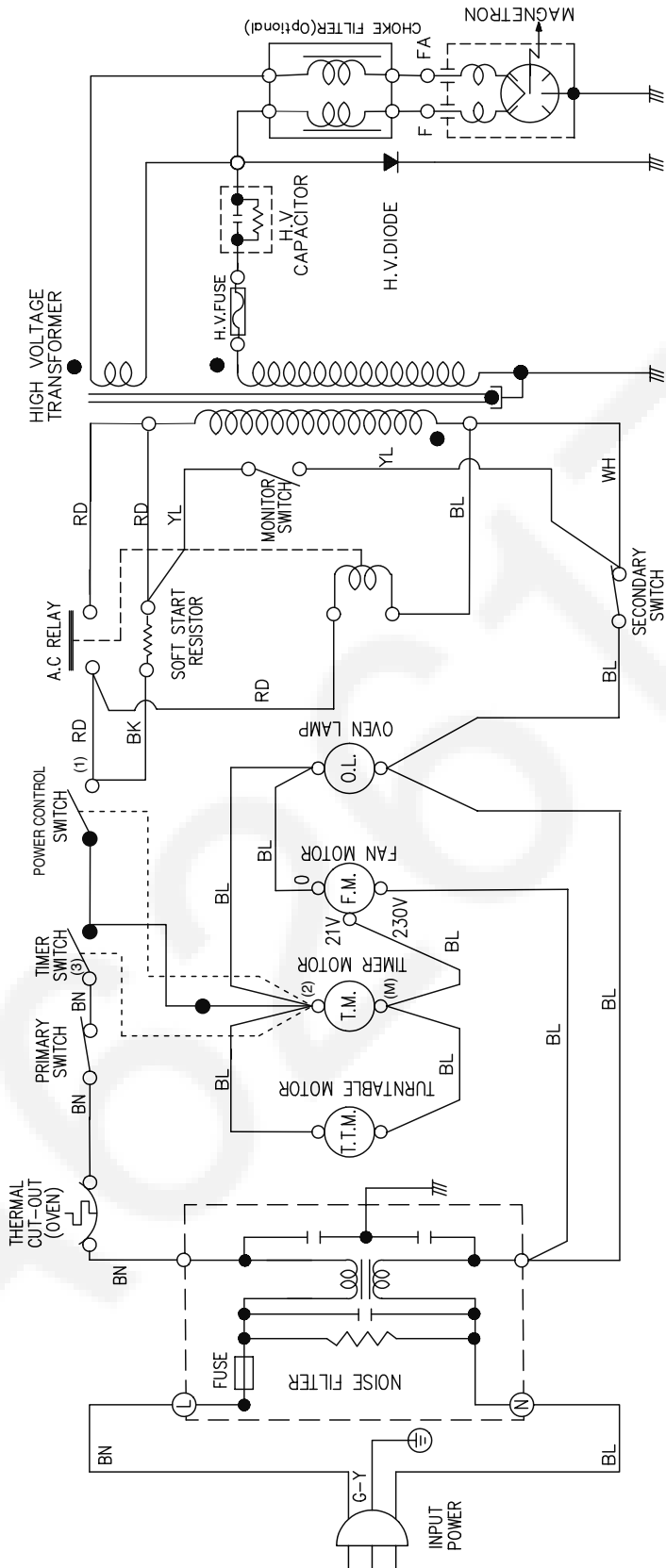
3. Set the timer to the desired cooking time. The turntable begins to rotate and cooking starts. At the end of cooking time you will a single ring sound, and the lamp is turn off.

**NOTE:**

- Each number represents minutes. To ensure accurate timing, it is advisable to turn the timer knob slightly passed the desired cooking time and then back to the proposed setting.
- Press the door opener to check the cooking condition during oven operation. Opening the door during oven operation automatically turns off the oven and stops the timer. If cooking is to continue, close the door. Cooking will be resumed until the full cooking time has elapsed.



## SCHEMATIC DIAGRAM



\* NOTE : 1.DOOR IS CLOSED.  
2.COOK OFF.  
3.CIRCUIT BE SUBJ  
CHANGE WITHOUT

SYMBOL	COLOR	SYMBOL	COLOR
G-Y	GREEN-YELLOW	WH	WHITE
BN	BROWN	BL	BLUE
RD	RED	YL	YELLOW
BK	BLACK		

**ACHTUNG** Hochspannungskondensator vor allen Servicearbeiten gegen Masse entladen.!!

AVANT INTERVENTION TECHNIQUE, DECONNECTER ET  
DECHARGER LA CAPACITE DE HAUT VOLTAGE.

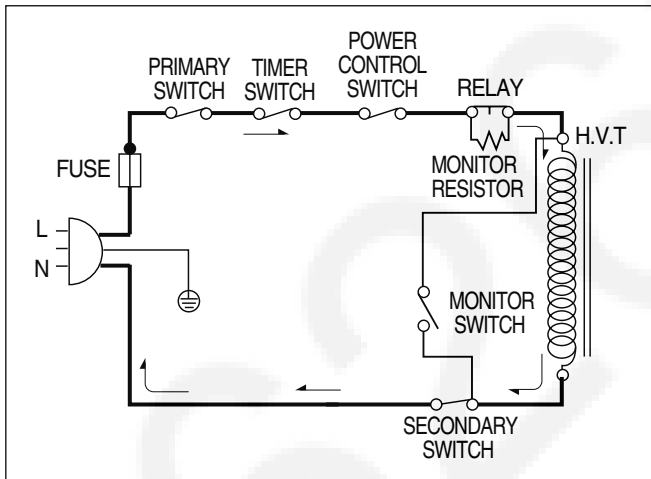
**BEFORE SERVICING** Discharge the high voltage Capacitor by shorting the negative high voltage Terminal of it to chassis ground.

# CIRCUIT DESCRIPTION

- As the door is closed, the contact of MONITOR SWITCH opens. This switch creates the short circuit to blow fuse during operation under abnormal condition. (ie, should the contacts of primary and secondary switch fail to open the circuit)
- The latches are secured by latch board. The oven light turns on while the oven is in operation.

## WHEN MICROWAVE POWER LEVEL AND COOKING TIME SET

- The contacts of the timer switch changes to ON position when the timer knob is rotated. (While power control knob is set at "Full Power")
- The contacts of primary and secondary switch close the circuit.
- Input Volts AC. is applied to the high voltage transformer through power control switch as shown by the solid line.



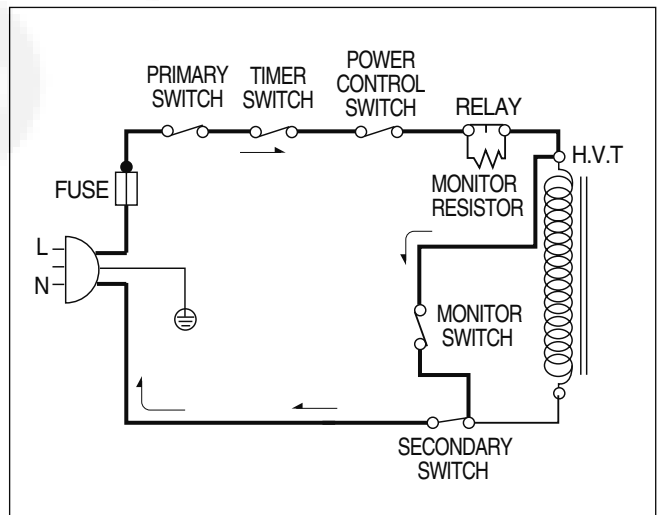
- Turntable rotates.
- The fan motor rotates and cools the magnetron by blowing the air (coming from the intake holes on the baseplate) over the magnetron.
- The air is also directed into the oven to exhaust the vapor in the oven through the upper plate.
- Timer starts rotating.

- 3.2 volts AC is generated from the filament winding of the high voltage transformer. This 3.2 volts is applied to the magnetron to heat the magnetron filament through two noise preventing choke coils.

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

## WHEN THE DOOR IS OPENED DURING COOKING

- Both primary switch and secondary switch open to cut off the primary winding voltage to the high voltage transformer to stop microwave oscillation.
- Timer, turntable and fan motor stop.
- As the door is opened, if the contact of primary switch and 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/cm<sup>2</sup> and should repair any unit found to have excessive emission levels at no cost to the owner and should ascertain the cause of the excessive leakage. The service personnel should instruct the owner not to use the unit until the oven has been brought into compliance.
- If the oven operates with the door open, the service personnel should:
  - Tell the user not to operate the oven.
  - Contact the manufacturer.
- The service personnel should check all surface and vent openings for microwave leakage.
- Check for microwave leakage after every servicing: The power density of the microwave radiation leakage emitted by the microwave oven should not exceed 5 mW/cm<sup>2</sup>. Always start measuring of an unknown field to assure safety for operating personnel from radiation leakage.

### MEASURING MICROWAVE ENERGY LEAKAGE

- Pour 275±15 cc 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 (5 cm)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

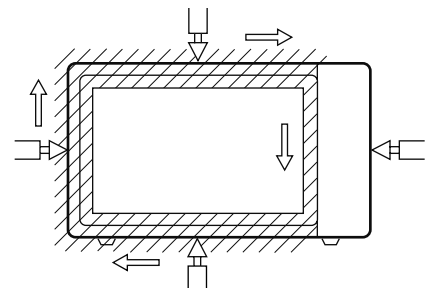
Move probe along shaded area

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Probe scanning speed

Less than 2.5 cm/sec

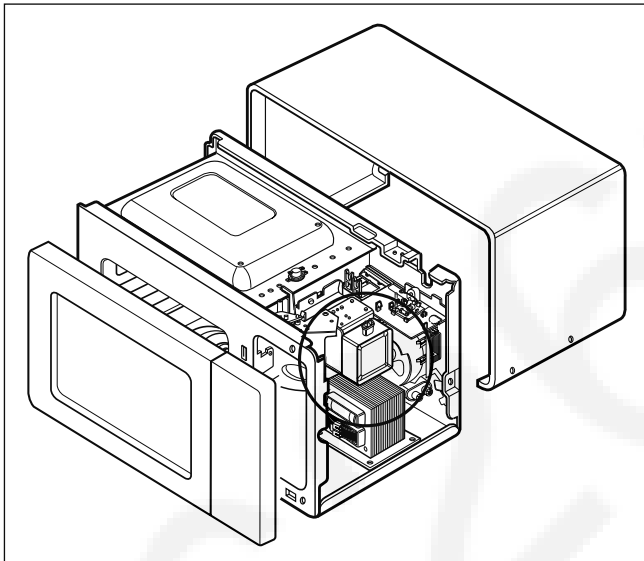
(1 in/sec)



## **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**  
**(Magnetron, H.V. Transformer, H.V. Capacitor, H.V. Cable Ass'y, H.V. Circuit Protector)**



## **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<sup>2</sup>.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<sup>2</sup>.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<sup>2</sup>.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 ΔT 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.

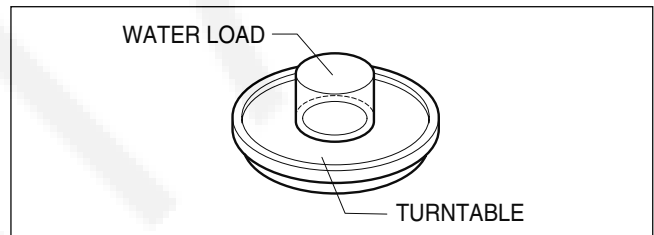
- The microwave power output P in watts is calculated from the following formula :

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

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

is measured while the microwave generator is operating at full power. Magnetron filament heat-up time is not included. (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 and along side edges of the case.  
The outer case must be moved backward to be lifted off.

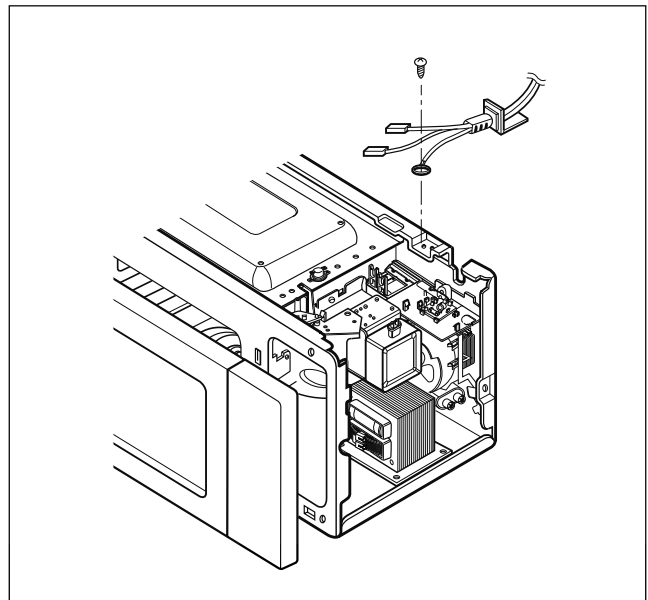
### B. POWER SUPPLY CORD

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

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

### C. CONTROL PANEL ASSEMBLY

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



## D. DOOR GROSS ASSEMBLY REMOVAL

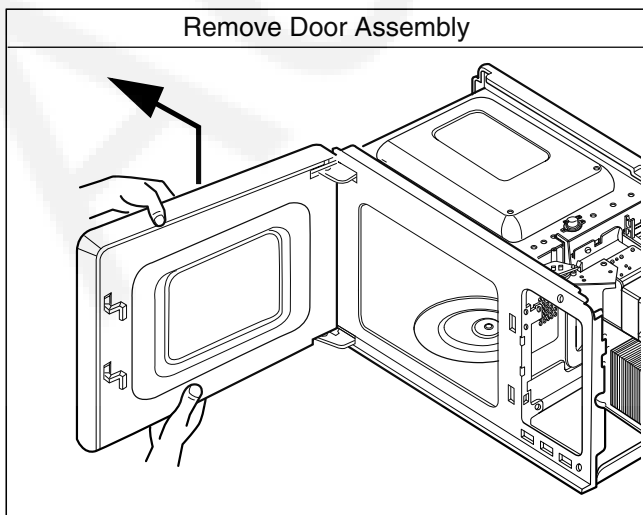
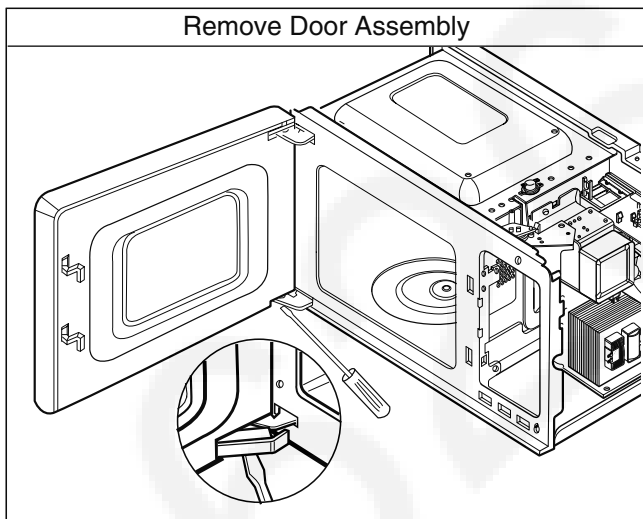
- 1) Open the door.
- 2) Remove the choke cover cap very carefully with a flat-blade screwdriver.

**CAUTION : Be careful not to damage door seal plate 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 5 mW/cm<sup>2</sup>. (with a 275 ml water load)
3. When mounting the door assembly to the oven assembly, be sure to adjust the door assembly parallel to the chassis. Also adjust so the door has no play between the inner door surface and oven frame assembly. If the door assembly is not mounted properly, microwaves may leak from the clearance between the door and the oven.



## E. HIGH VOLTAGE TRANSFORMER REMOVAL

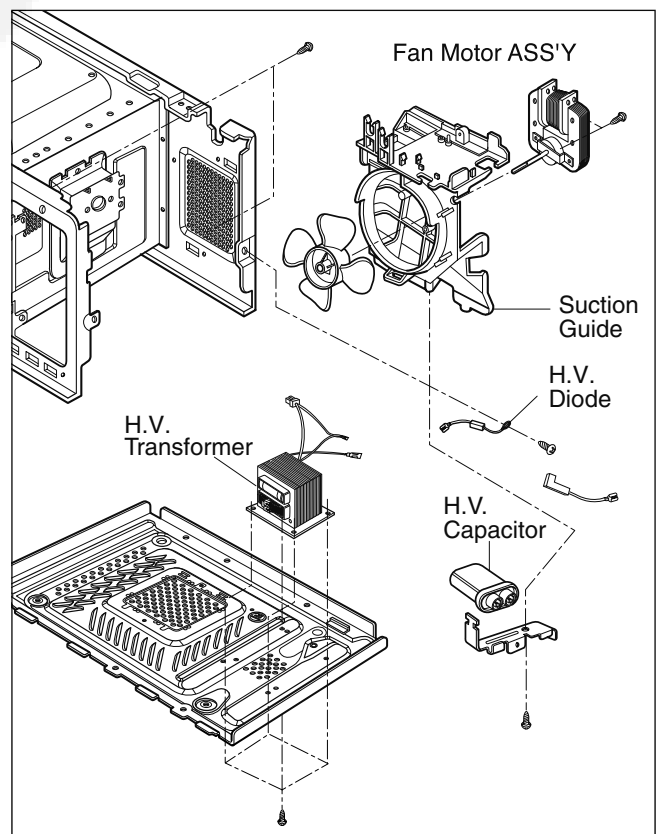
- 1) Discharge the high voltage capacitor.
- 2) Disconnect the leadwire from magnetron, high voltage transformer, and capacitor.
- 3) Remove the screw holding the high voltage transformer to the baseplate.

## F. FAN MOTOR ASSEMBLY REMOVAL

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

## G. HIGH VOLTAGE CAPACITOR AND DIODE REMOVAL

- 1) Discharge the high voltage capacitor.
- 2) Disconnect the leadwire from fan motor, noise filter and high voltage capacitor.
- 3) Remove the screw holding the 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.



## H. AIR DUCT ASSEMBLY REMOVAL

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

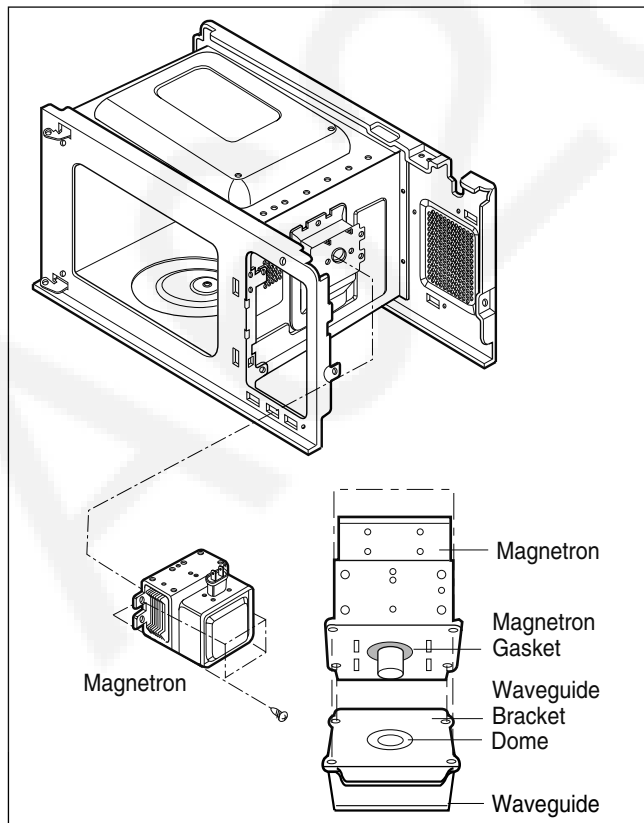
## I. MAGNETRON REMOVAL

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

### NOTE:

1. When removing the magnetron, make sure its dome does not hit any adjacent parts, or it may be damaged.
2. When replacing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.
3. After replacing the magnetron, check for microwave leakage with a survey meter around the magnetron. Microwave energy must be below the limit of 5 mW/cm<sup>2</sup>. (With a 275 ml. water load).

**Make sure that gasket is rigidly attached to the magnetron.** To prevent microwave leakage, tighten the mounting screws properly, making sure there is no gap between the waveguide and the magnetron.

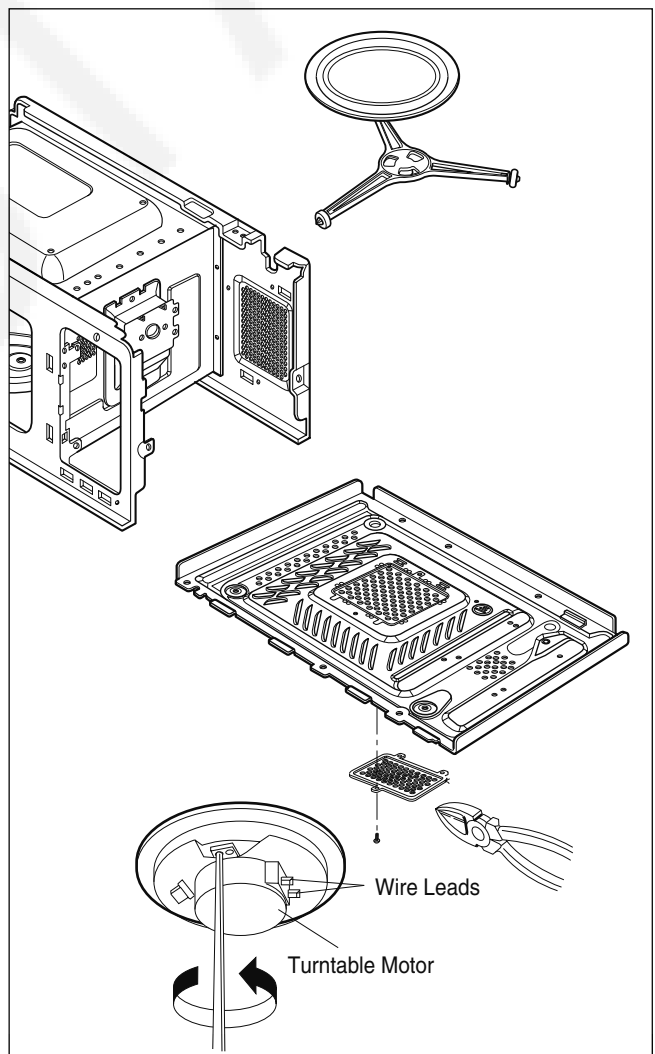


## J. REMOVING THE TURNTABLE MOTOR

- 1) Remove the 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.
- 8) Fit the turntable motor cover's projecting part to the base plate slit.

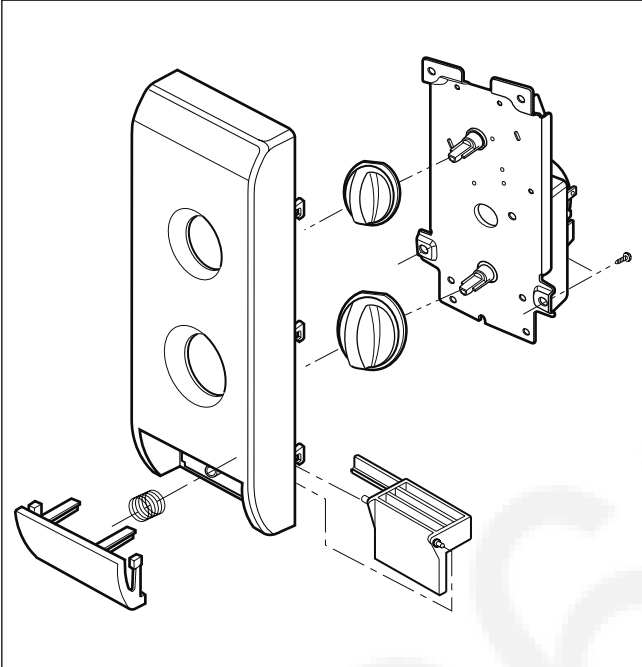
### NOTE:

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



## K. TIMER MOTOR REMOVAL

- 1) Remove the control panel assembly from the cavity.
- 2) Remove screws which hold the timer motor to the control panel.
- 3) Remove the timer motor from the control panel.
- 4) Remove the power control knob and the timer knob.

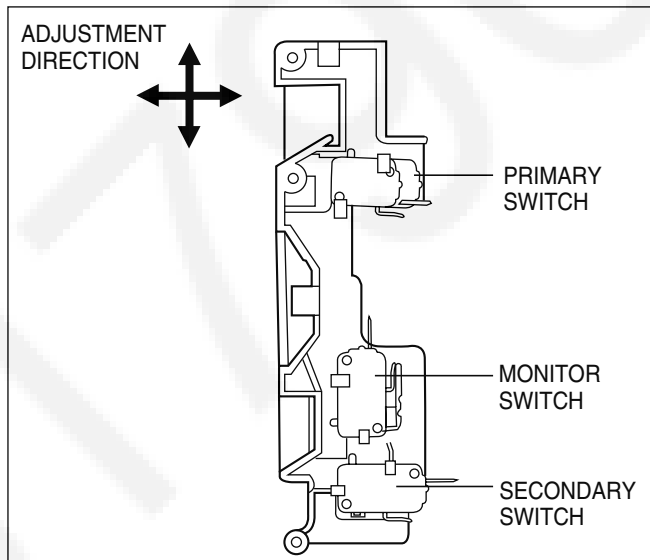


## L. INTERLOCK SYSTEM

### 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.

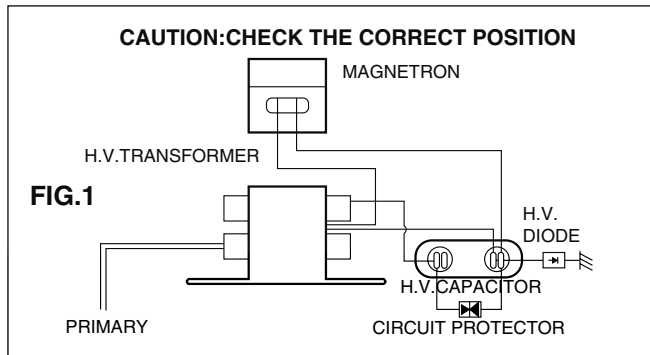
### 2) MOUNTING OF THE PRIMARY/MONITOR/SECONDARY SWITCHES TO THE LATCH BOARD



### 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.





# MEASUREMENT OF MICROWAVE POWER OUTPUT

**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 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

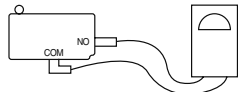


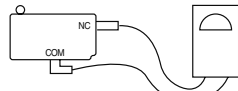


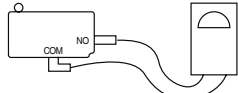


Disconnect the wire lead from the secondary switch.

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.

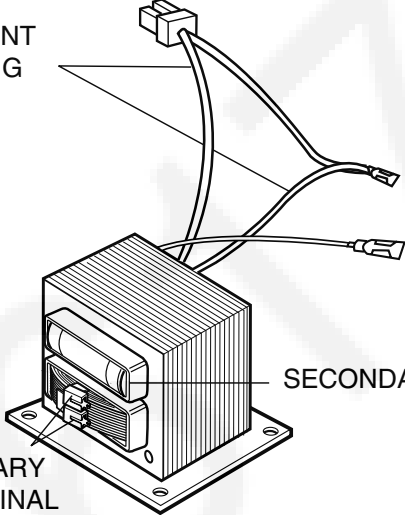
NOTE: After repairing the door or the interlock system, it is necessary to do this continuity test before operating the oven.

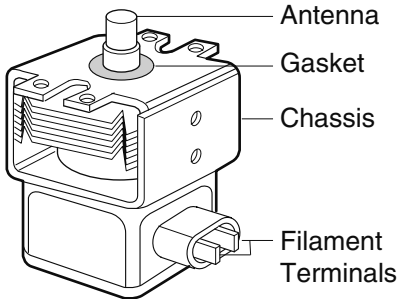
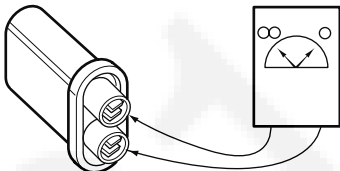
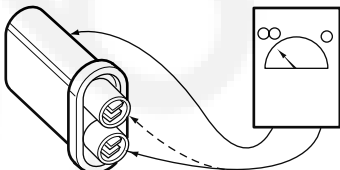
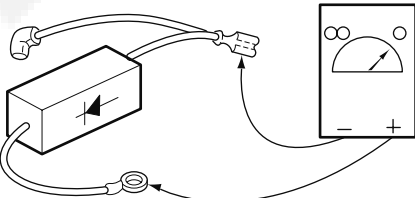
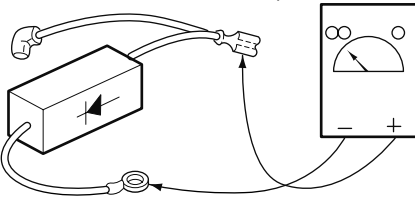
COMPONENTS	TEST PROCEDURE		RESULTS	
SWITCHES (Wire leads removed)	Check for continuity of the switch with an Ohm-meter		Door open	Door closed
	Primary Switch			
	Monitor Switch			
	Secondary Switch			
NOTE : After checking for the continuity of switches, make sure that are connected correctly.				

# COMPONENT TEST PROCEDURE

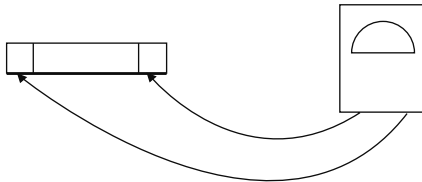


## CAUTIONS

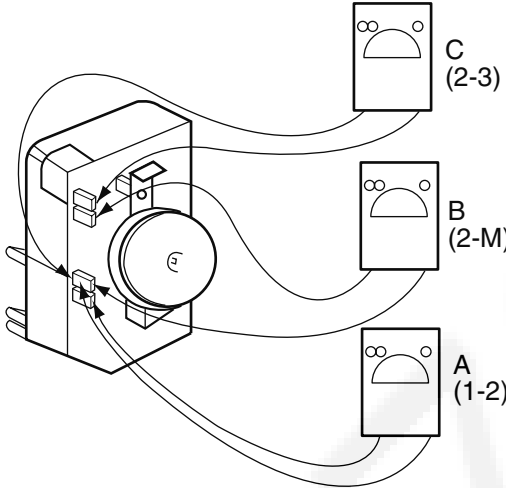






- 1. DISCONNECT THE POWER SUPPLY CORD FROM THE OUTLET WHENEVER REMOVING THE OUTER CASE FROM THE UNIT. PROCEED WITH THE TEST ONLY AFTER DISCHARGING THE HIGH VOLTAGE CAPACITOR AND REMOVING THE WIRE LEADS FROM THE PRIMARY WINDING OF THE HIGH VOLTAGE TRANSFORMER. (SEE PAGE 2-1)
- 2. ALL OPERATIONAL CHECKS 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)	<div><p>FILAMENT WINDING</p><p>SECONDARY</p><p>PRIMARY TERMINAL</p><p>1. Measure the resistance. (Ohm-meter scale: Rx1)</p><ul style="list-style-type: none"><li>• Primary winding</li><li>• Secondary winding</li><li>• Filament winding</li></ul><p>2. Measure the resistance. (Ohm-meter scale: Rx1000)</p><ul style="list-style-type: none"><li>• Primary winding to ground</li><li>• Filament winding to ground</li></ul></div>	<p>Approx.: 1.4 ohm Approx.: 90 ohm Less than: 1 ohm</p> <p>Normal: Infinite Normal: Infinite</p>
MAGNETRON (Wire leads removed)	<p>1. Measure the resistance. (Ohm-meter scale: Rx1)</p> <ul style="list-style-type: none"><li>• Filament terminal</li></ul> <p>2. Measure the resistance. (Ohm-meter scale: Rx1000)</p> <ul style="list-style-type: none"><li>• Filament to chassis</li></ul>	<p>Normal: Less than 1 ohm</p> <p>Normal: Infinite</p>

COMPONENTS	TEST PROCEDURE	RESULTS
	 <p>NOTE: When testing the magnetron, be sure to install the magnetron gasket in the correct position and be sure that the gasket is in good condition.</p>	
HIGH VOLTAGE CAPACITOR	<p>Measure the resistance. (Ohm-meter scale: Rx1000)</p> <ul style="list-style-type: none"> <li>• Terminal to terminal.</li> </ul> 	Normal: Momentarily indicates several ohms, and then gradually returns to infinite.
	<p>Measure the resistance. (Ohm-meter scale: Rx1000)</p> <ul style="list-style-type: none"> <li>• Terminal to case.</li> </ul> 	Normal: Infinite.
HIGH VOLTAGE DIODE	<p>Measure the continuity (Forward). (Ohm-meter scale: Rx10000)</p> 	Normal: Continuity. Abnormal: Infinite.
	<p>Measure the continuity (Reverse). (Ohm-meter scale: Rx10000)</p> 	Normal: Infinite. Abnormal: Continuity.

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

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

COMPONENTS	TEST PROCEDURE	RESULTS									
TIMER MOTOR (Wire leads removed)		<table><tr><td></td><td>Turn on</td><td>Turn Off</td></tr><tr><td>A</td><td></td><td></td></tr><tr><td>B</td><td colspan="2">Approx. 25 K</td></tr></table> <p>Note:A is ON,OFF switch B is power supply terminal of the timer motor C is defrost switch</p>		Turn on	Turn Off	A			B	Approx. 25 K	
	Turn on	Turn Off									
A											
B	Approx. 25 K										
FAN MOTOR (Wire leads removed)	Measure the resistance. (Ohm-meter scale: R x 1)	Normal: <table><tr><td>A ~ B</td><td>A ~ C</td></tr><tr><td>30 ~ 50</td><td>300 ~ 500</td></tr></table> Abnormal: Infinite or several ohm.	A ~ B	A ~ C	30 ~ 50	300 ~ 500					
A ~ B	A ~ C										
30 ~ 50	300 ~ 500										
TURNTABLE MOTOR (Wire leads removed)	Measure the resistance. (Ohm-meter scale: R x 1000)	Normal: Approx. 100~200 kohm Abnormal: Infinite or several ohm.									
<p>NOTE : • A MICROWAVE LEAKAGE TEST MUST ALWAYS BE PERFORMED WHEN THE UNIT IS SERVICED FOR ANY REASON.</p> <p>• MAKE SURE THE WIRE LEADS ARE IN THE CORRECT POSITION.</p> <p>• WHEN REMOVING THE WIRE LEADS FROM THE PARTS, BE SURE TO GRASP THE CONNECTOR, NOT THE WIRES.</p>											

# TROUBLE SHOOTING

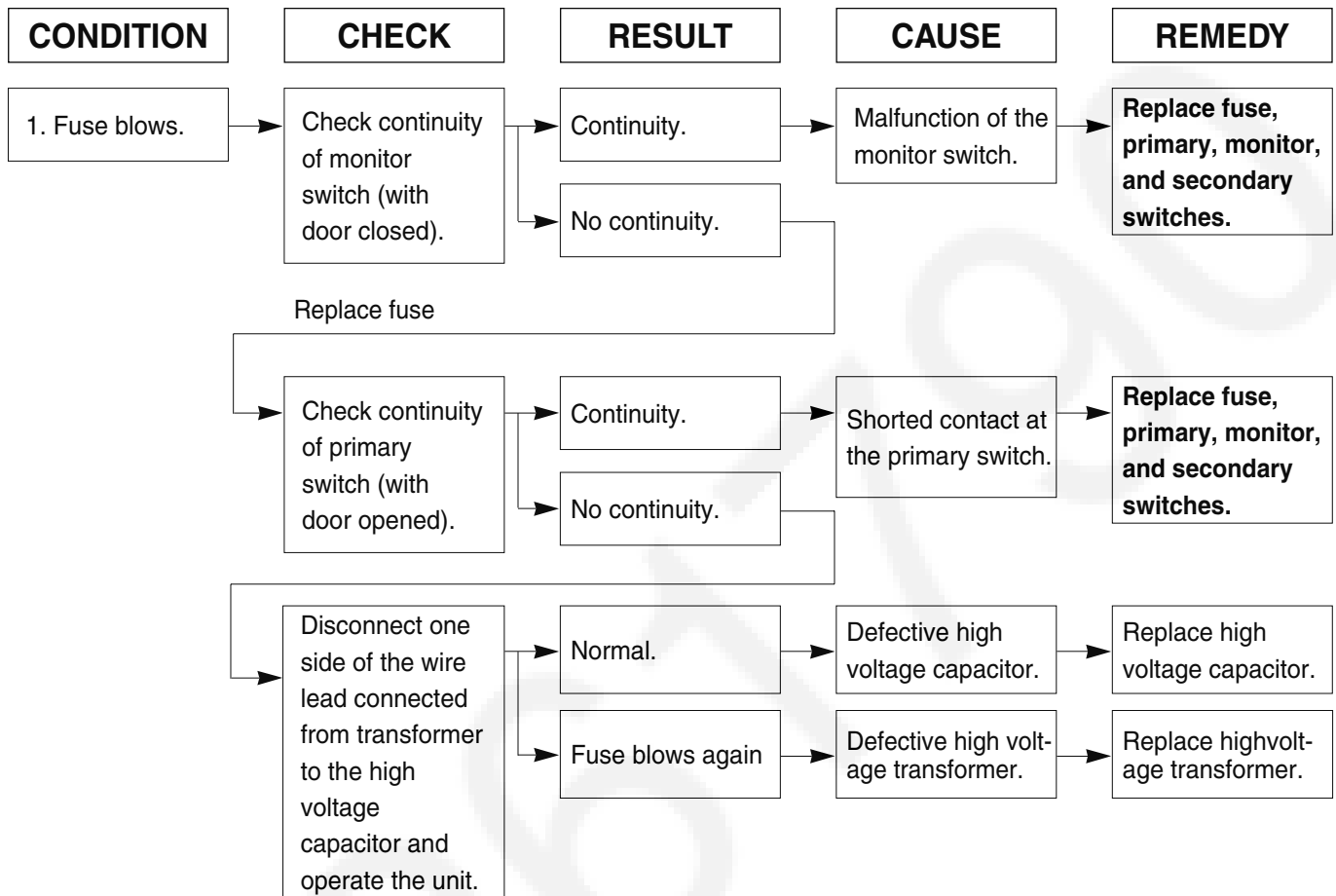
WHEN YOU GET A COMPLAINT FROM YOUR CUSTOMER, EVALUATE THE COMPLAINT CAREFULLY. IF THE FOLLOWING SYMPTOMS APPLY, PLEASE INSTRUCT THE CUSTOMER IN THE PROPER USE OF THE MICROWAVE OVEN. THIS CAN ELIMINATE AN UNNECESSARY SERVICE CALL.

## CAUTIONS

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

CONDITION	CAUSE	REMEDY
Microwave oven does not work.	Inserting many plug into one plug outlet and using them at the same time (causes overloading).	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 where 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.
Turntable drags or makes noise.	Excessive weight on tray or improperly balanced.	Distribute food evenly. Cook smaller portions and, or use lighter weight cookware.

**(TROUBLE 1) Oven lamp does not turn on when the timer knob is pushed with door closed.**



**This fuse is a special type of fuse which is kept as spare part by the importer.**

**NOTE :All these switches must be replaced at the same time.**

**(TROUBLE 2)Oven does not start even though the timer is set.**

CONDITION	CHECK	RESULT	CAUSE	REMEDY
1.Oven does not operate.	Check the continuity of the primary switch with door closed.	No continuity.	Malfunction of the primary switch.	Adjust or replace.
	Check the continuity of the secondary switch with secondary switch pushed.	No continuity.	Malfunction of the secondary switch.	Adjust or replace.
	Check the continuity of the timer switch contacts.	No continuity.	Malfunction of the timer switch.	replace.
	Check the continuity of the thermostat.	No continuity.	Faulty thermostat.	replace.

**(TROUBLE 3) Output power is low.**

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Output is low	Check the power source voltage oscillating.	Lower than 207V.	Decrease in power source voltage with load.	Suggest customer contact local electric power utility co.or qualified electrician.
		Normal		
	Measure the magnetron 's output(See test procedure).	Less than 8.5° C.	Faulty magnetron.	Replace.



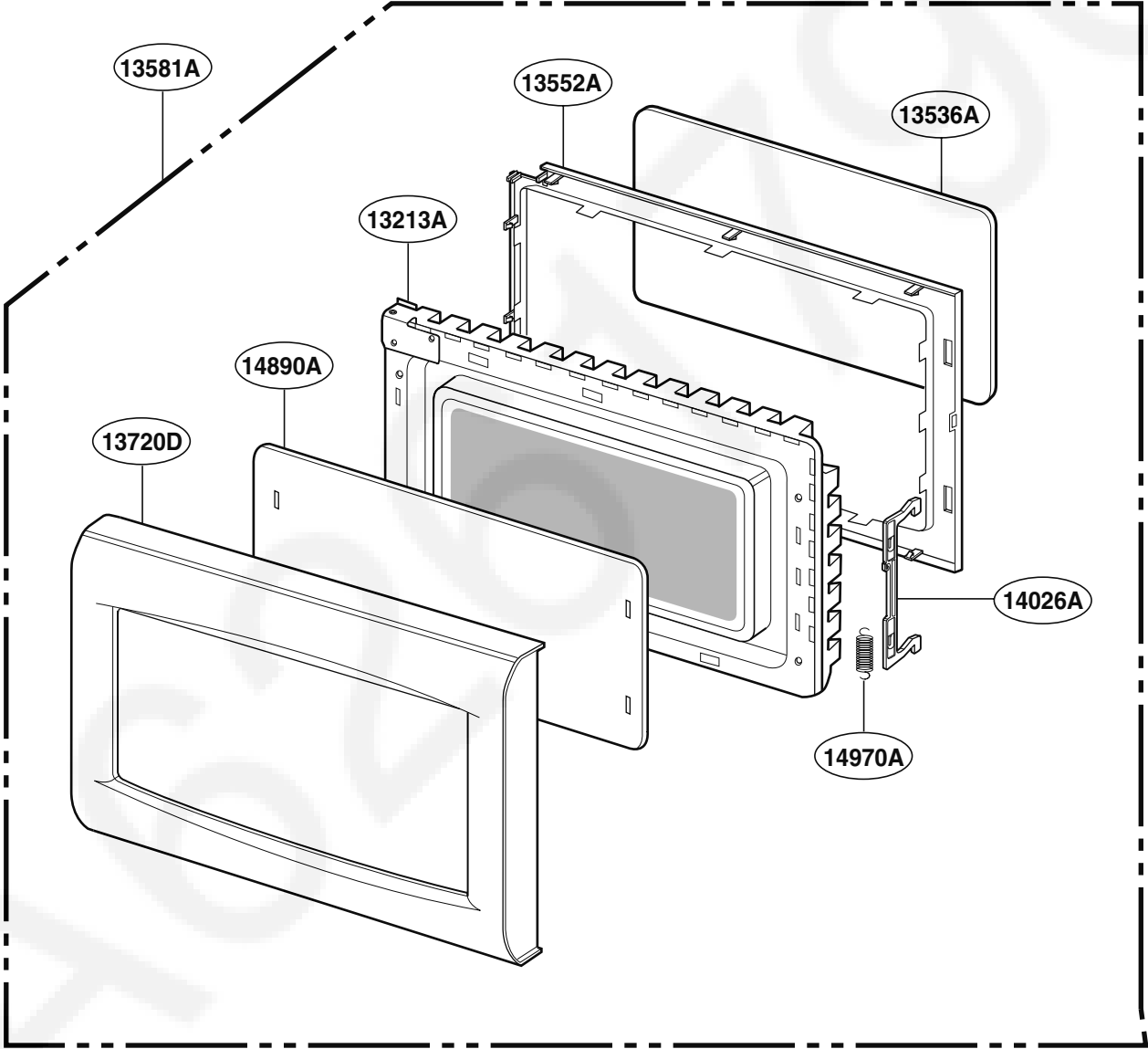
**(TROUBLE 4) Oven does not cook at all even though turntable rotates.**

CONDITION	CHECK	RESULT	CAUSE	REMEDY
No microwave oscillation.	Check the timer switch of timer motor.(cooking state)	No continuity.	Malfunction of the power control switch.	Replace the power control switch.
		Continuity.		
	Check the monitor resistor.	Abnormal or burn out.	Defective monitor resistor.	Replace.
	Check the AC relay.	Abnormal	Defective AC relay.	Replace.
		Normal		
	Check the AC relay.	Abnormal	Open the secondary winding of the high voltage transformer of faulty insulation of filament winding.	Replace.
	Check H.V. diode.	Abnormal	Shorted H.V.diode	Replace.
	Check H.V. capacitor.	Abnormal	Faulty capacitor.	Replace.
	Magnetron	Abnormal	Faulty magnetron.	Replace.

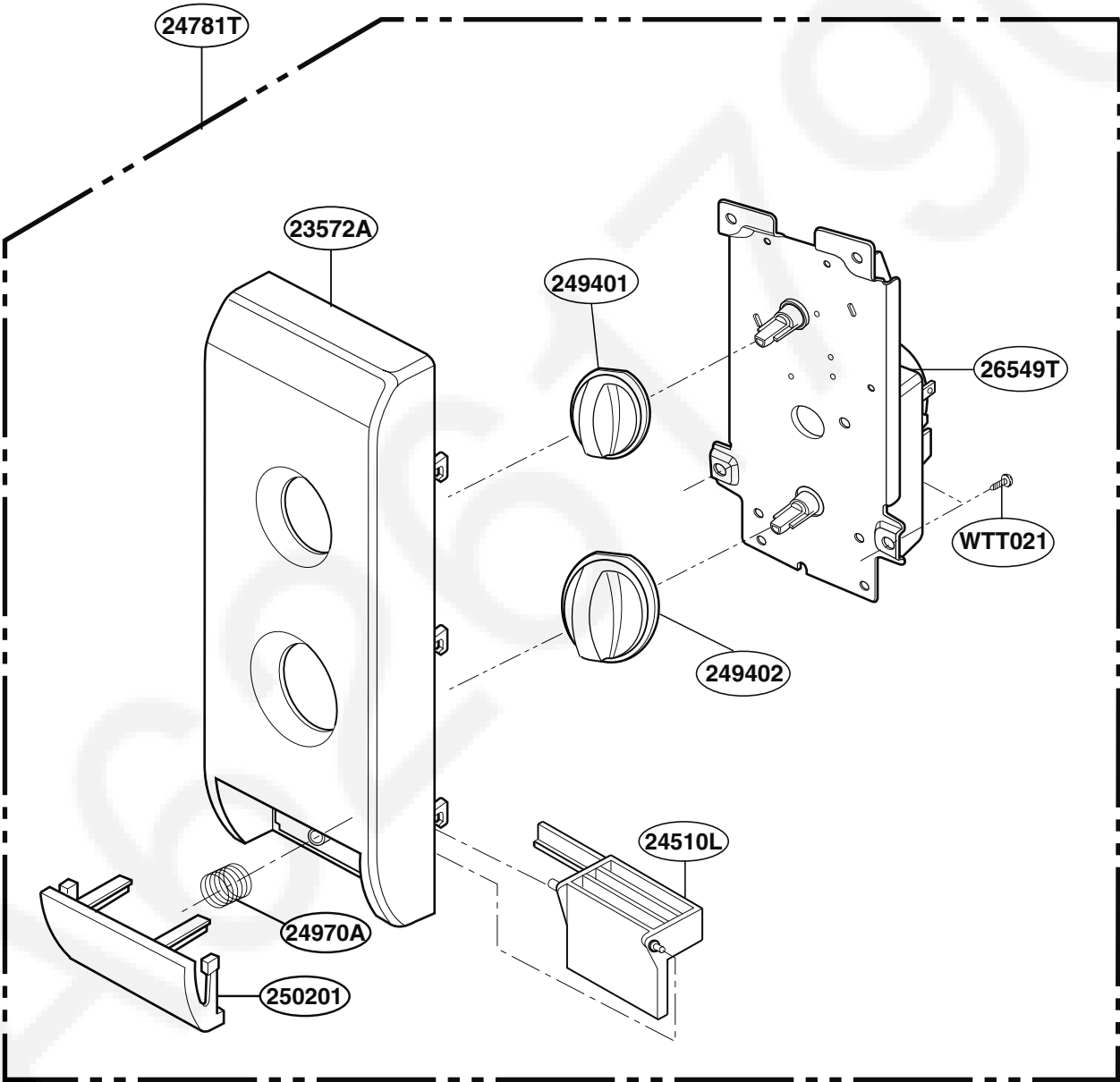
**MODEL: NN-E205WB  
NN-E245WB  
NN-E235MB**



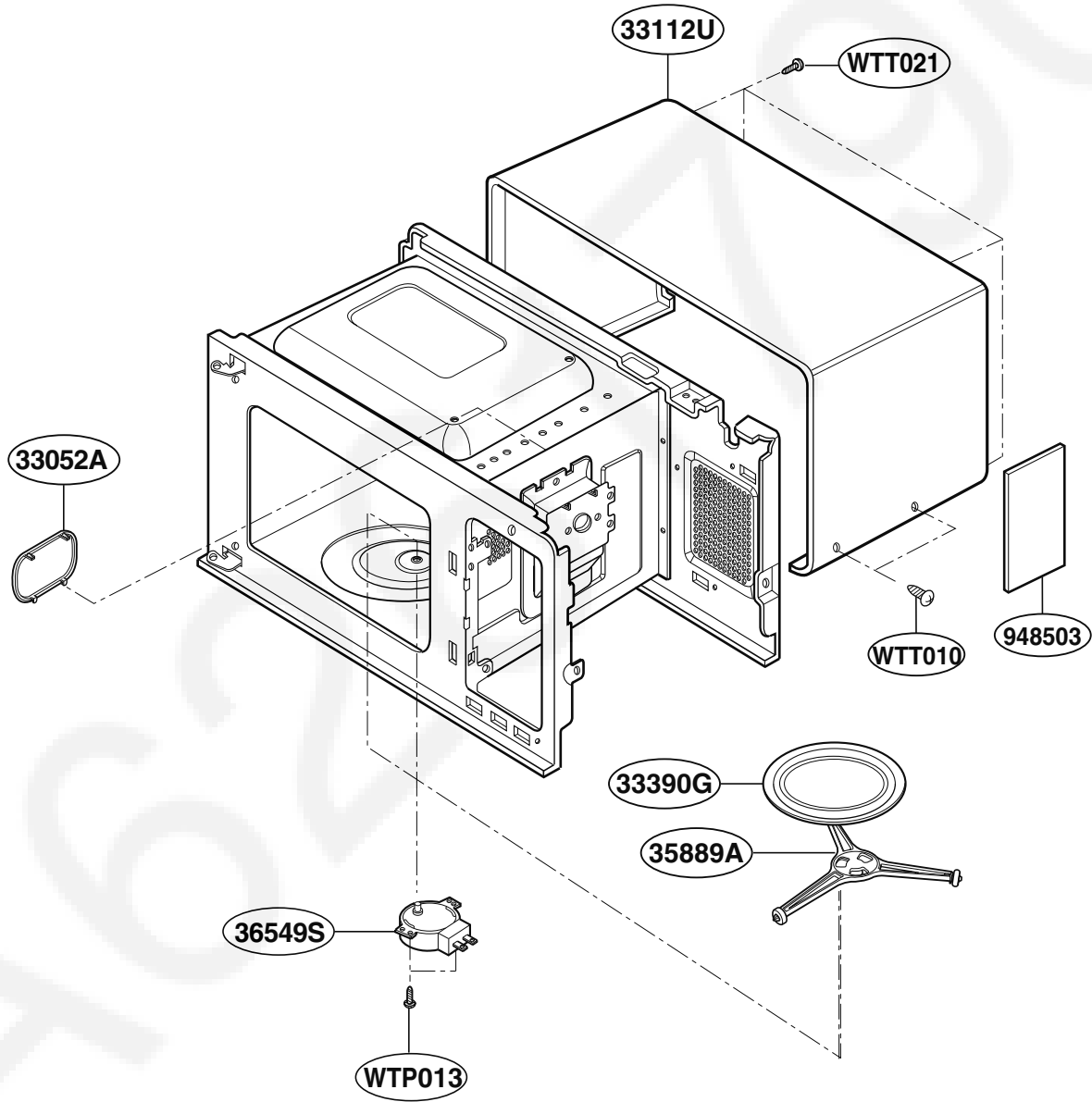
# DOOR PARTS



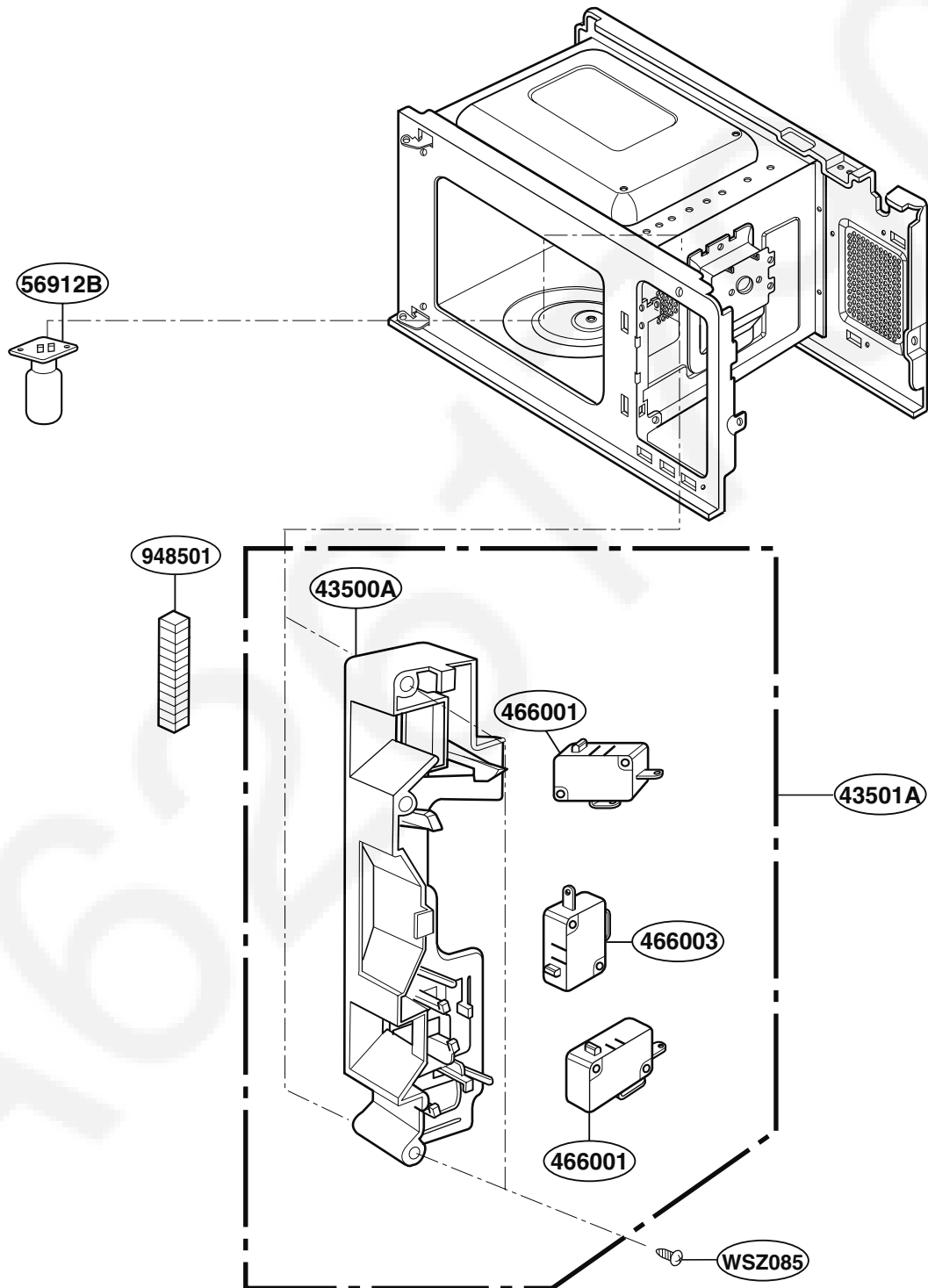
# CONTROLLER PARTS



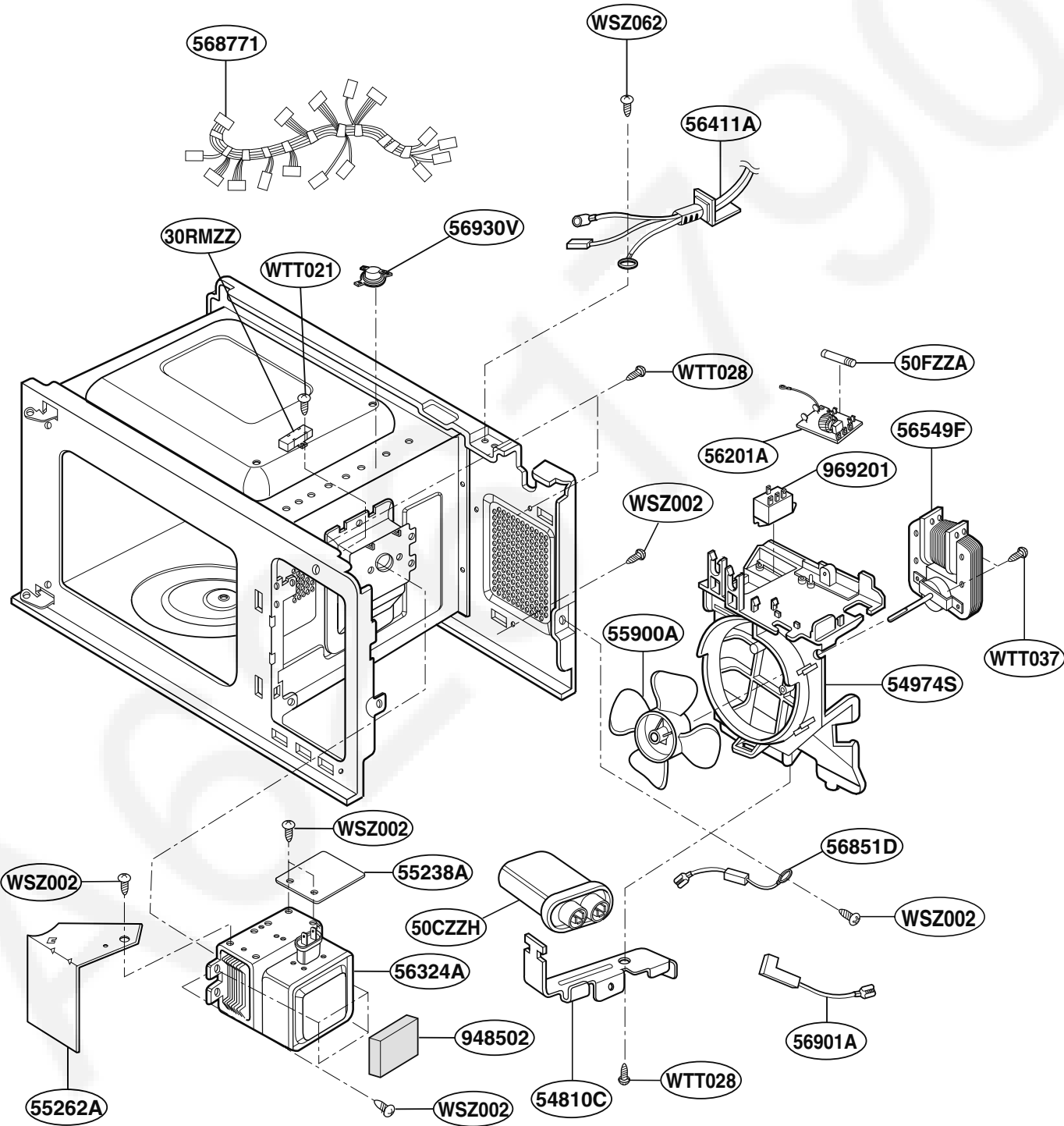
# OVEN CAVITY PARTS



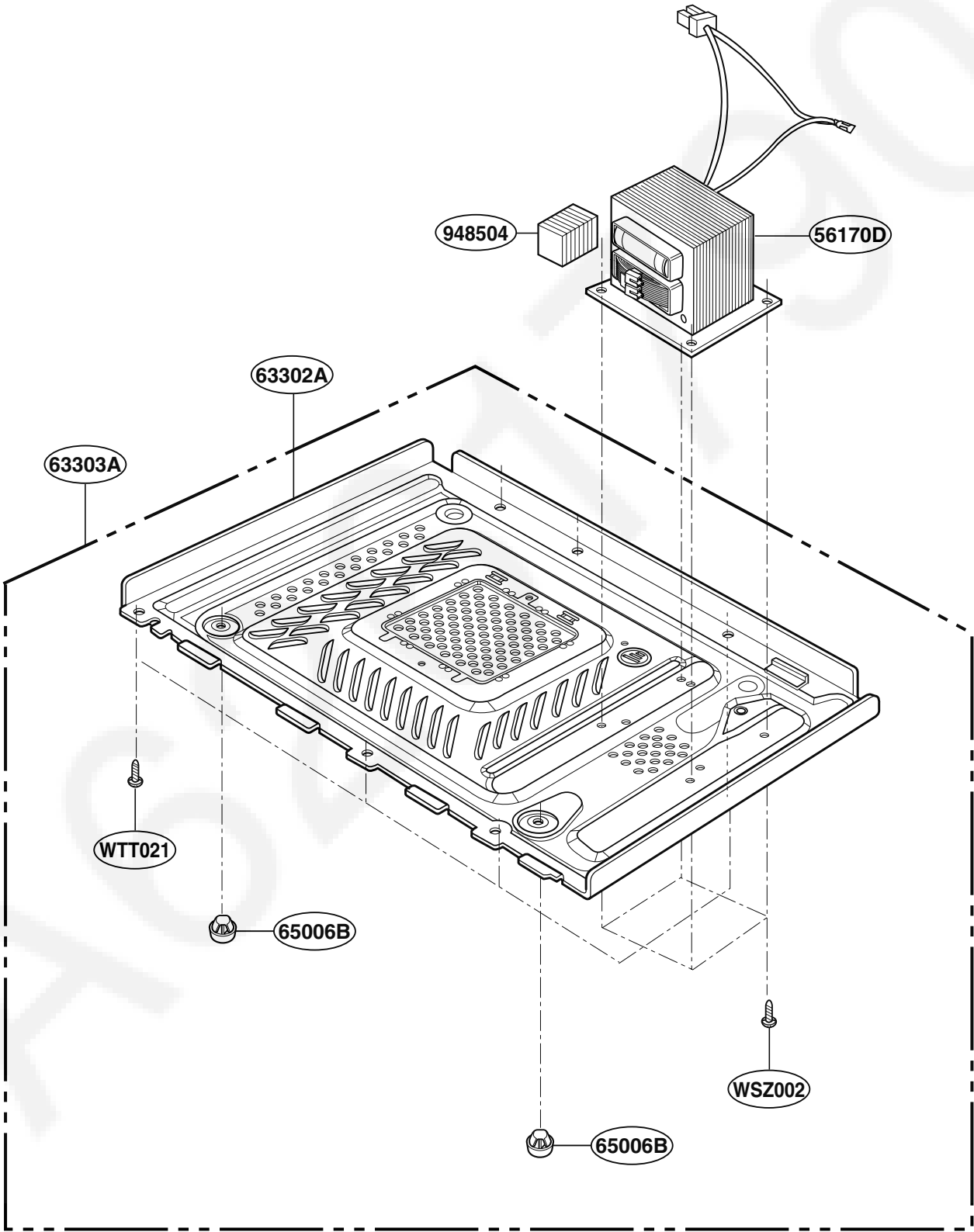
# LATCH BOARD PARTS



# INTERIOR PARTS



BASE PLATE PARTS





# Part Reference list

(Final) Rev2. 24-May-2005  
Rev1. 09-Apr-2005

For Model : NN-E205WB BPQ

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
*01	3828W5A8261	MANUAL,OWNERS	R		
*02	3828W5S5178	MANUAL,SERVICE	R		
*10	3890W3W557A	BOX,WHITE	R		
13213A	3213W1A053C	DOOR FRAME ASSEMBLY	R	3213W1A053E	
13536A	3536W1A010A	SEAL TAPE	R		
13552A	3552W1A064A	CHOKE COVER	R		
13581A	3581W1A518A	DOOR ASSEMBLY	R		
13720D	3720W1D117A	PANEL,DOOR	R		
14026A	4026W2A014A	LATCH	R		
14890A	4890W1A048P	GLASS	R		
14970A	4970WRA001D	SPRING	R		
23572A	3720W0C271D	PANEL,CONTROL	R		
24510L	4510W1A017A	LEVER	R		
24781T	4781W1T145D	CONTROLLER ASSEMBLY,MECHANICAL	R		
249401	4940W1A006A	KNOB	R		
249402	4940W1A007A	KNOB	R		
24970A	4B72023B	SPRING	R		
250201	5020W1A289A	BUTTON	R		
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T013E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001L	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T018E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W2T004Z	
30RMZZ	3B71807H	RESISTOR,DRAWING	R		
33052A	3052W1A006B	CANOPY,RESIN	R		
33112U	3112W0U084A	OUT CASE,U-BENDING	R		
33390G	3390W1A035A	TRAY,GLASS	R		
35889A	5889W1A012B	ROTATING RING ASSEMBLY	R		Change
36549S	6549W1S021B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S011B	
36549S	6549W1S021B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S017A	
43500A	3500W1A036A	BOARD,LATCH	R		Change
466001	6600W1K001D	SWITCH,MICRO	R	6600W1K004F	
466003	6600W1K001C	SWITCH,MICRO	R	6600W1K004E	
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004G	Change
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H001Q	
50FZZA	3B74133N	FUSE,DRAWING	R	3B70856K	Change
54810C	4810W1A253A	BRACKET,CAPACITOR	R	4810W1A253B	
54974S	4974W1A030A	GUIDE,SUCTION	R		
55238A	4974W1A042A	GUIDE,AIR	R		
55262A	5208W1A054A	DUCT	R		Change
55900A	5900W1A025A	FAN	R		
56170D	6170W1D057Y	TRANSFORMER,HIGH VOLTAGE	R		
56201A	6201W2B004E	FILTER ASSEMBLY(CIRC)	R		Change
56324A	6324W1A009A	MAGNETRON	R		
56411A	6411W1A017A	POWER CORD ASSEMBLY	R		
56549F	6549W1F005A	MOTOR(CIRC),FAN	R		
56851D	6851W1A002B	CABLE ASSEMBLY	R		Change
568771	6877W1A552B	HARNESS	R		

R : SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
756901A	6901W1A001A	FUSE ASSEMBLY	R		
56912B	6912W3B002D	LAMP,DRAWING	R		
56930V	6930W1A003B	THERMOSTAT	R	6930W3A001C	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004N	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004B	
63302A	3302W0A052C	BASE PLATE	R		
63303A	3303W1A067B	BASE PLATE ASSEMBLY	R		
65006B	5006W3A019A	CAP,BASE PLATE	R		
948501	3B72244C	CUSHION	R		
948502	4850W1A002H	CUSHION	R		
948503	4850W1A001F	CUSHION	R		
948504	4850W1A002J	CUSHION	R		
969201	6920W3A002A	RELAY	R	6920W3A001A	
WEB001	1EBF0402494	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ062	4000W4A003A	SCREW,DRAWING	R		
WSZ085	4B70188C	SCREW,DRAWING	R		
WTP013	1TPL0402418	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 : SERVICE PARTS

# Part Reference list

(Final) Rev2. 24-May-2005  
Rev1. 09-Apr-2005

For Model : NN-E235MB BPQ

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
*01	3828W5A8261	MANUAL,OWNERS	R		
*02	3828W5S5178	MANUAL,SERVICE	R		
*10	3890W3W557K	BOX,WHITE	R		
13213A	3213W1A053C	DOOR FRAME ASSEMBLY	R	3213W1A053E	
13536A	3536W1A010A	SEAL TAPE	R		
13552A	3552W1A064A	CHOKE COVER	R		
13581A	3581W1A518B	DOOR ASSEMBLY	R		
13720D	3720W1D117B	PANEL,DOOR	R		
14026A	4026W2A014A	LATCH	R		
14890A	4890W1A048P	GLASS	R		
14970A	4970WRA001D	SPRING	R		
23572A	3720W0C271G	PANEL,CONTROL	R		
24510L	4510W1A017A	LEVER	R		
24781T	4781W1T145G	CONTROLLER ASSEMBLY,MECHANICAL	R		
249401	4940W1A006C	KNOB	R		
249402	4940W1A007F	KNOB	R		
24970A	4B72023B	SPRING	R		
250201	5020W1A289B	BUTTON	R		
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T013E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001L	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T018E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W2T004Z	
30RMZZ	3B71807H	RESISTOR,DRAWING	R		
33052A	3052W1A006B	CANOPY,RESIN	R		
33112U	3112W0U084C	OUT CASE,U-BENDING	R		
33390G	3390W1A035A	TRAY,GLASS	R		
35889A	5889W1A012B	ROTATING RING ASSEMBLY	R		Change
36549S	6549W1S021B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S011B	
43500A	3500W1A036A	BOARD,LATCH	R		Change
466001	6600W1K001D	SWITCH,MICRO	R	6600W1K004F	
466003	6600W1K001C	SWITCH,MICRO	R	6600W1K004E	
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004G	Change
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H001Q	
50FZZA	3B74133N	FUSE,DRAWING	R	3B70856K	Change
54810C	4810W1A253A	BRACKET,CAPACITOR	R	4810W1A253B	
54974S	4974W1A030A	GUIDE,SUCTION	R		
55238A	4974W1A042A	GUIDE,AIR	R		
55262A	5208W1A054A	DUCT	R		Change
55900A	5900W1A025A	FAN	R		
56170D	6170W1D057Y	TRANSFORMER,HIGH VOLTAGE	R		
56201A	6201W2B004E	FILTER ASSEMBLY(CIRC)	R		Change
56324A	6324W1A009A	MAGNETRON	R		
56411A	6411W1A017A	POWER CORD ASSEMBLY	R		
56549F	6549W1F005A	MOTOR(CIRC),FAN	R		
56851D	6851W1A002B	CABLE ASSEMBLY	R		Change
568771	6877W1A552B	HARNESS	R		
56901A	6901W1A001A	FUSE ASSEMBLY	R		

R : SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
56912B	6912W3B002D	LAMP,DRAWING	R		
56930V	6930W1A003B	THERMOSTAT	R	6930W3A001C	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004B	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004N	
63302A	3302W0A052C	BASE PLATE	R		
63303A	3303W1A067B	BASE PLATE ASSEMBLY	R		
65006B	5006W3A019A	CAP,BASE PLATE	R		
948501	3B72244C	CUSHION	R		
948502	4850W1A002H	CUSHION	R		
948503	4850W1A001F	CUSHION	R		
948504	4850W1A002J	CUSHION	R		
969201	6920W3A002A	RELAY	R	6920W3A001A	
WEB001	1EBF0402494	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ062	4000W4A003A	SCREW,DRAWING	R		
WSZ085	4B70188C	SCREW,DRAWING	R		
WTP013	1TPL0402418	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 : SERVICE PARTS

# Part Reference list

(Final) Rev2. 24-May-2005  
Rev1. 09-Apr-2005

For Model : NN-E205WB EPG

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
*01	3828W5A8244	MANUAL,OWNERS	R		Change
*02	3828W5S5178	MANUAL,SERVICE	R		
*10	3890W3W557G	BOX,WHITE	R		
13213A	3213W1A053C	DOOR FRAME ASSEMBLY	R	3213W1A053E	
13536A	3536W1A010A	SEAL TAPE	R		
13552A	3552W1A064A	CHOKE COVER	R		
13581A	3581W1A518A	DOOR ASSEMBLY	R		
13720D	3720W1D117A	PANEL,DOOR	R		
14026A	4026W2A014A	LATCH	R		
14890A	4890W1A048P	GLASS	R		
14970A	4970WRA001D	SPRING	R		
23572A	3720W0C271E	PANEL,CONTROL	R		
24510L	4510W1A017A	LEVER	R		
24781T	4781W1T145E	CONTROLLER ASSEMBLY,MECHANICAL	R		
249401	4940W1A006A	KNOB	R		
249402	4940W1A007A	KNOB	R		
24970A	4B72023B	SPRING	R		
250201	5020W1A289A	BUTTON	R		
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T013E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W2T004Z	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T018E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001L	
30RMZZ	3B71807H	RESISTOR,DRAWING	R		
33052A	3052W1A006B	CANOPY,RESIN	R		
33112U	3112W0U084A	OUT CASE,U-BENDING	R		
33390G	3390W1A035A	TRAY,GLASS	R		
35889A	5889W1A012B	ROTATING RING ASSEMBLY	R		Change
36549S	6549W1S021B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S011B	
43500A	3500W1A036A	BOARD,LATCH	R		Change
466001	6600W1K001D	SWITCH,MICRO	R	6600W1K004F	
466003	6600W1K001C	SWITCH,MICRO	R	6600W1K004E	
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004G	Change
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H001Q	
50FZZA	3B74133N	FUSE,DRAWING	R	3B70856K	Change
54810C	4810W1A253A	BRACKET,CAPACITOR	R	4810W1A253B	
54974S	4974W1A030A	GUIDE,SUCTION	R		
55238A	4974W1A042A	GUIDE,AIR	R		
55262A	5208W1A054A	DUCT	R		Change
55900A	5900W1A025A	FAN	R		
56170D	6170W1D057Y	TRANSFORMER,HIGH VOLTAGE	R		
56201A	6201W2B004E	FILTER ASSEMBLY(CIRC)	R		Change
56324A	6324W1A009A	MAGNETRON	R		
56411A	6411W2A004J	POWER CORD ASSEMBLY	R	6411W2A004A	
56411A	6411W2A004J	POWER CORD ASSEMBLY	R	6411W2A004C	
56549F	6549W1F005A	MOTOR(CIRC),FAN	R		
56851D	6851W1A002B	CABLE ASSEMBLY	R		Change
568771	6877W1A552B	HARNESS	R		

R : SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
56901A	6901W1A001A	FUSE ASSEMBLY	R		
56912B	6912W3B002D	LAMP,DRAWING	R		
56930V	6930W1A003B	THERMOSTAT	R	6930W3A001C	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004N	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004B	
63302A	3302W0A052C	BASE PLATE	R		
63303A	3303W1A067B	BASE PLATE ASSEMBLY	R		
65006B	5006W3A019A	CAP,BASE PLATE	R		
948501	3B72244C	CUSHION	R		
948502	4850W1A002H	CUSHION	R		
948503	4850W1A001F	CUSHION	R		
948504	4850W1A002J	CUSHION	R		
969201	6920W3A002A	RELAY	R	6920W3A001A	
WEB001	1EBF0402494	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ062	4000W4A003A	SCREW,DRAWING	R		
WSZ085	4B70188C	SCREW,DRAWING	R		
WTP013	1TPL0402418	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 : SERVICE PARTS

# Part Reference list

For Model : NN-E245WB EPG

Rev.1 17-Aug-2006

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
*01	3828W5A8244	Manual,Owners	R		
*02	3828W5S5178	Manual,Service	R		
*10	MAY32914201	Box,Color	R		
13213A	3213W1A053C	Frame Assembly,Door	R		
13536A	3536W1A010A	Tape,Sealing	R		
13552A	3552W1A064A	Cover,Choke	R		
13581A	3581W1A518A	Door Assembly	R		
13720D	3720W1D117A	Panel,Door	R		
14026A	4026W2A014A	Locker	R		
14890A	4890W1A048P	Window	R		
14970A	4970WRA001D	Spring	R		
23572A	3720W0C271Q	Panel,Control	R		
24510L	4510W1A017A	Lever	R		
24781T	4781W1T145Q	Controller Assembly,Mechanical	R		
249401	4940W1A006A	Knob	R		
249402	4940W1A007A	Knob	R		
24970A	4B72023B	Spring	R		
250201	5020W1A289A	Button	R		
26549T	6549W1T013C	Module,Timer	R	6549W1T001E	
26549T	6549W1T013C	Module,Timer	R	6549W1T018E	
26549T	6549W1T013C	Module,Timer	R	6549W2T004Z	
30RMZZ	3B71807H	Resistor,Cement	R		
33052A	3052W1A006B	Cover,Resin	R		
33112U	3112W0U084A	Case,U Bending	R		
33390G	3390W1A035A	Tray,Glass	R	3390W1A035B	
33390G	3390W1A035A	Tray,Glass	R	3390W1A035C	
35889A	5889W1A012B	Turntable Assembly	R		
36549S	6549W1S021B	Motor,AC	R	6549W1S011B	
43500A	3500W1A036A	Holder,Locker	R		
43501A	3501W1A043A	Holder Assembly,Locker	R		
466001	6600W1K001D	Switch,Micro	R	6600W1K004F	
466003	6600W1K001C	Switch,Micro	R	6600W1K004E	
50CZZH	0CZZW1H004B	Capacitor,High Voltage	R	0CZZW1H004G	
50CZZH	0CZZW1H004B	Capacitor,High Voltage	R	0CZZW1H001Q	
50FZZA	3B74133N	Fuse,Time Delay	R	3B70856K	
54810C	4810W1A253A	Bracket,Capacitor	R	4810W1A253B	
54974S	4974W1A030B	Guide,Suction	R		
55238A	4974W1A042A	Guide,Air	R		
55262A	5208W1A054A	Duct	R		
55900A	5900W1A025B	Fan	R		
56170D	6170W1D098J	Transformer,high voltage	R	6170W1D057Y	
56201A	6201W2B004E	Filter,AC Line	R		
56324A	6324W1A009A	Magnetron	R		
56411A	6411W2A004J	Power Cord Assembly	R	6411W2A004A	
56411A	6411W2A004J	Power Cord Assembly	R	6411W2A004C	
56411A	6411W2A004J	Power Cord Assembly	R	6411W2A004P	
56549F	6549W1F015D	Motor,AC	R	6549W1F005A	
56851D	6851W1A002B	Drawing,Assembly	R		

R : SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
568771	6877W1A552B	Harness,Multi	R		
56901A	6901W1A001A	Drawing,Assembly	R		
56912B	6912W3B002D	Lamp,Incandescent	R		
56930V	6930W1A003B	Thermostat	R	6930W3A001C	
56930V	6930W1A003B	Thermostat	R	6930W1A004B	
56930V	6930W1A003B	Thermostat	R	6930W1A004N	
63302A	3302W0A052C	Plate,Base	R		
63303A	3303W1A067B	Plate Assembly,Base	R		
65006B	5006W3A019A	Cap,Base Plate	R		
948501	3B72244C	Damper	R		
948502	4850W1A002H	Damper	R		
948503	4850W1A001F	Damper	R		
948504	4850W1A002J	Damper	R		
969201	6920W3A002A	Relay,Contact	R	6920W3A001A	
WSZ002	1SBF0402418	Screw,Taptite	R		
WSZ062	4000W4A003A	Screw,Customzied	R		
WSZ085	4B70188C	Screw,Customzied	R		
WTP013	1TPL0402418	Screw,Tapping	R		
WTT010	1TTG0402422	Screw,Tapping	R		
WTT021	1TTL0402418	Screw,Tapping	R		
WTT028	1TTL0402818	Screw,Tapping	R		
WTT037	1TTL0403818	Screw,Tapping	R		

R : SERVICE PARTS



# Part Reference list

(Final) Rev2. 24-May-2005  
Rev1. 09-Apr-2005

For Model : NN-E235MB EPG

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
*01	3828W5A8244	MANUAL,OWNERS	R		Change
*02	3828W5S5178	MANUAL,SERVICE	R		
*10	3890W3W557M	BOX,WHITE	R		
13213A	3213W1A053C	DOOR FRAME ASSEMBLY	R	3213W1A053E	
13536A	3536W1A010A	SEAL TAPE	R		
13552A	3552W1A064A	CHOKE COVER	R		
13581A	3581W1A518B	DOOR ASSEMBLY	R		
13720D	3720W1D117B	PANEL,DOOR	R		
14026A	4026W2A014A	LATCH	R		
14890A	4890W1A048P	GLASS	R		
14970A	4970WRA001D	SPRING	R		
23572A	3720W0C271F	PANEL,CONTROL	R		
24510L	4510W1A017A	LEVER	R		
24781T	4781W1T145F	CONTROLLER ASSEMBLY,MECHANICAL	R		
249401	4940W1A006C	KNOB	R		
249402	4940W1A007F	KNOB	R		
24970A	4B72023B	SPRING	R		
250201	5020W1A289B	BUTTON	R		
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W2T004Z	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T018E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001L	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T013E	
30RMZZ	3B71807H	RESISTOR,DRAWING	R		
33052A	3052W1A006B	CANOPY,RESIN	R		
33112U	3112W0U084C	OUT CASE,U-BENDING	R		
33390G	3390W1A035A	TRAY,GLASS	R		
35889A	5889W1A012B	ROTATING RING ASSEMBLY	R		Change
36549S	6549W1S021B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S011B	
43500A	3500W1A036A	BOARD,LATCH	R		Change
466001	6600W1K001D	SWITCH,MICRO	R	6600W1K004F	
466003	6600W1K001C	SWITCH,MICRO	R	6600W1K004E	
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004G	Change
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H001Q	
50FZZA	3B74133N	FUSE,DRAWING	R	3B70856K	Change
54810C	4810W1A253A	BRACKET,CAPACITOR	R	4810W1A253B	
54974S	4974W1A030A	GUIDE,SUCTION	R		
55238A	4974W1A042A	GUIDE,AIR	R		
55262A	5208W1A054A	DUCT	R		Change
55900A	5900W1A025A	FAN	R		
56170D	6170W1D057Y	TRANSFORMER,HIGH VOLTAGE	R		
56201A	6201W2B004E	FILTER ASSEMBLY(CIRC)	R		Change
56324A	6324W1A009A	MAGNETRON	R		
56411A	6411W2A004J	POWER CORD ASSEMBLY	R	6411W2A004A	
56411A	6411W2A004J	POWER CORD ASSEMBLY	R	6411W2A004C	
56549F	6549W1F005A	MOTOR(CIRC),FAN	R		
56851D	6851W1A002B	CABLE ASSEMBLY	R		Change
568771	6877W1A552B	HARNESS	R		

R : SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
56901A	6901W1A001A	FUSE ASSEMBLY	R		
56912B	6912W3B002D	LAMP,DRAWING	R		
56930V	6930W1A003B	THERMOSTAT	R	6930W3A001C	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004B	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004N	
63302A	3302W0A052C	BASE PLATE	R		
63303A	3303W1A067B	BASE PLATE ASSEMBLY	R		
65006B	5006W3A019A	CAP,BASE PLATE	R		
948501	3B72244C	CUSHION	R		
948502	4850W1A002H	CUSHION	R		
948503	4850W1A001F	CUSHION	R		
948504	4850W1A002J	CUSHION	R		
969201	6920W3A002A	RELAY	R	6920W3A001A	
WEB001	1EBF0402494	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ062	4000W4A003A	SCREW,DRAWING	R		
WSZ085	4B70188C	SCREW,DRAWING	R		
WTP013	1TPL0402418	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 : SERVICE PARTS

# Part Reference list

(Final) Rev2. 24-May-2005  
Rev1. 09-Apr-2005

For Model : NN-E205WB WPG

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
*01	3828W5A8263	MANUAL,OWNERS	R		Change
*02	3828W5S5178	MANUAL,SERVICE	R		
*10	3890W3W557H	BOX,WHITE	R		
13213A	3213W1A053C	DOOR FRAME ASSEMBLY	R	3213W1A053E	
13536A	3536W1A010A	SEAL TAPE	R		
13552A	3552W1A064A	CHOKE COVER	R		
13581A	3581W1A518A	DOOR ASSEMBLY	R		
13720D	3720W1D117A	PANEL,DOOR	R		
14026A	4026W2A014A	LATCH	R		
14890A	4890W1A048P	GLASS	R		
14970A	4970WRA001D	SPRING	R		
23572A	3720W0C271E	PANEL,CONTROL	R		
24510L	4510W1A017A	LEVER	R		
24781T	4781W1T145E	CONTROLLER ASSEMBLY,MECHANICAL	R		
249401	4940W1A006A	KNOB	R		
249402	4940W1A007A	KNOB	R		
24970A	4B72023B	SPRING	R		
250201	5020W1A289A	BUTTON	R		
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T013E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W2T004Z	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001L	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T018E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001E	
30RMZZ	3B71807H	RESISTOR,DRAWING	R		
33052A	3052W1A006B	CANOPY,RESIN	R		
33112U	3112W0U084A	OUT CASE,U-BENDING	R		
33390G	3390W1A035A	TRAY,GLASS	R		
35889A	5889W1A012B	ROTATING RING ASSEMBLY	R		Change
36549S	6549W1S021B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S011B	
43500A	3500W1A036A	BOARD,LATCH	R		Change
466001	6600W1K001D	SWITCH,MICRO	R	6600W1K004F	
466003	6600W1K001C	SWITCH,MICRO	R	6600W1K004E	
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004G	Change
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H001Q	
50FZZA	3B74133N	FUSE,DRAWING	R	3B70856K	Change
54810C	4810W1A253A	BRACKET,CAPACITOR	R	4810W1A253B	
54974S	4974W1A030A	GUIDE,SUCTION	R		
55238A	4974W1A042A	GUIDE,AIR	R		
55262A	5208W1A054A	DUCT	R		Change
55900A	5900W1A025A	FAN	R		
56170D	6170W1D057Y	TRANSFORMER,HIGH VOLTAGE	R		
56201A	6201W2B004E	FILTER ASSEMBLY(CIRC)	R		Change
56324A	6324W1A009A	MAGNETRON	R		
56411A	6411W1A001L	POWER CORD ASSEMBLY	R		
56549F	6549W1F005A	MOTOR(CIRC),FAN	R		
56851D	6851W1A002B	CABLE ASSEMBLY	R		Change
568771	6877W1A552B	HARNESS	R		
56901A	6901W1A001A	FUSE ASSEMBLY	R		

R : SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
56912B	6912W3B002D	LAMP,DRAWING	R		
56930V	6930W1A003B	THERMOSTAT	R	6930W3A001C	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004N	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004B	
63302A	3302W0A052C	BASE PLATE	R		
63303A	3303W1A067B	BASE PLATE ASSEMBLY	R		
65006B	5006W3A019A	CAP,BASE PLATE	R		
948501	3B72244C	CUSHION	R		
948502	4850W1A002H	CUSHION	R		
948503	4850W1A001F	CUSHION	R		
948504	4850W1A002J	CUSHION	R		
969201	6920W3A002A	RELAY	R	6920W3A001A	
WEB001	1EBF0402494	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ062	4000W4A003A	SCREW,DRAWING	R		
WSZ085	4B70188C	SCREW,DRAWING	R		
WTP013	1TPL0402418	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 : SERVICE PARTS

# Part Reference list

(Final) Rev2. 24-May-2005  
Rev1. 09-Apr-2005

For Model : NN-E235MB WPG

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
*01	3828W5A8263	MANUAL,OWNERS	R		Change
*02	3828W5S5178	MANUAL,SERVICE	R		
*10	3890W3W557L	BOX,WHITE	R		
13213A	3213W1A053C	DOOR FRAME ASSEMBLY	R	3213W1A053E	
13536A	3536W1A010A	SEAL TAPE	R		
13552A	3552W1A064A	CHOKE COVER	R		
13581A	3581W1A518B	DOOR ASSEMBLY	R		
13720D	3720W1D117B	PANEL,DOOR	R		
14026A	4026W2A014A	LATCH	R		
14890A	4890W1A048P	GLASS	R		
14970A	4970WRA001D	SPRING	R		
23572A	3720W0C271F	PANEL,CONTROL	R		
24510L	4510W1A017A	LEVER	R		
24781T	4781W1T145F	CONTROLLER ASSEMBLY,MECHANICAL	R		
249401	4940W1A006C	KNOB	R		
249402	4940W1A007F	KNOB	R		
24970A	4B72023B	SPRING	R		
250201	5020W1A289B	BUTTON	R		
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T013E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001L	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T018E	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W2T004Z	
26549T	6549W1T013C	MOTOR(CIRC),TIMER	R	6549W1T001E	
30RMZZ	3B71807H	RESISTOR,DRAWING	R		
33052A	3052W1A006B	CANOPY,RESIN	R		
33112U	3112W0U084C	OUT CASE,U-BENDING	R		
33390G	3390W1A035A	TRAY,GLASS	R		
35889A	5889W1A012B	ROTATING RING ASSEMBLY	R		Change
36549S	6549W1S021B	MOTOR(CIRC),SYNCHRONOUS	R	6549W1S011B	
43500A	3500W1A036A	BOARD,LATCH	R		Change
466001	6600W1K001D	SWITCH,MICRO	R	6600W1K004F	
466003	6600W1K001C	SWITCH,MICRO	R	6600W1K004E	
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H004G	Change
50CZZH	0CZZW1H004B	CAPACITOR,DRAWING[HIGH VOLTAGE]	R	0CZZW1H001Q	
50FZZA	3B74133N	FUSE,DRAWING	R	3B70856K	Change
54810C	4810W1A253A	BRACKET,CAPACITOR	R	4810W1A253B	
54974S	4974W1A030A	GUIDE,SUCTION	R		
55238A	4974W1A042A	GUIDE,AIR	R		
55262A	5208W1A054A	DUCT	R		Change
55900A	5900W1A025A	FAN	R		
56170D	6170W1D057Y	TRANSFORMER,HIGH VOLTAGE	R		
56201A	6201W2B004E	FILTER ASSEMBLY(CIRC)	R		Change
56324A	6324W1A009A	MAGNETRON	R		
56411A	6411W1A001L	POWER CORD ASSEMBLY	R		
56549F	6549W1F005A	MOTOR(CIRC),FAN	R		
56851D	6851W1A002B	CABLE ASSEMBLY	R		Change
568771	6877W1A552B	HARNESS	R		
56901A	6901W1A001A	FUSE ASSEMBLY	R		

R : SERVICE PARTS

LOC. NO.	PART NO.	DESCRIPTION	SVC	ALTERNATE	REMARKS
56912B	6912W3B002D	LAMP,DRAWING	R		
56930V	6930W1A003B	THERMOSTAT	R	6930W3A001C	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004N	
56930V	6930W1A003B	THERMOSTAT	R	6930W1A004B	
63302A	3302W0A052C	BASE PLATE	R		
63303A	3303W1A067B	BASE PLATE ASSEMBLY	R		
65006B	5006W3A019A	CAP,BASE PLATE	R		
948501	3B72244C	CUSHION	R		
948502	4850W1A002H	CUSHION	R		
948503	4850W1A001F	CUSHION	R		
948504	4850W1A002J	CUSHION	R		
969201	6920W3A002A	RELAY	R	6920W3A001A	
WEB001	1EBF0402494	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ002	1SBF0402418	SCREW TAP TITE(S),BINDING HEAD	R		
WSZ062	4000W4A003A	SCREW,DRAWING	R		
WSZ085	4B70188C	SCREW,DRAWING	R		
WTP013	1TPL0402418	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 : SERVICE PARTS

