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# MICROWAVE OVEN **SERVICE MANUAL**

**MODEL: MA-6400B**

**CAUTION**

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

# SAFETY PRECAUTIONS

This device is to be serviced only by properly qualified service personnel. Consult the service manual for proper service procedures to assure continued safety operation and for precautions to be taken to avoid possible exposure to excessive microwave energy.

## **PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY**

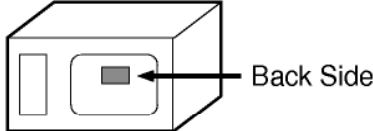
- A) Do not operate or allow the oven to be operated with the door open.
- B) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary; (1) interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
- C) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
- D) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
- E) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

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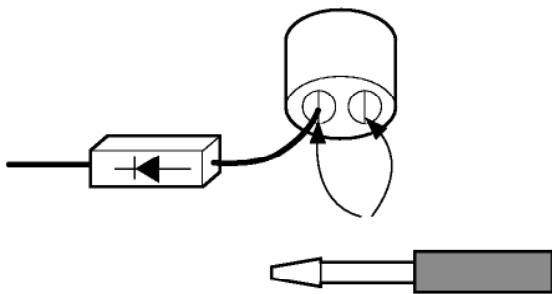
# SPECIFICATIONS

ITEM	DESCRIPTION
<b>MODEL</b>	<b>MA-6400B</b>
Power Requirement	120 Volts AC 60 Hz 910 Watts (8.5 A) Single phase, 3-wire grounded
Power Output	600 Watts full microwave power (IEC705)
Microwave Frequency	2,450 MHz
Magnetron	2M213
Timer	0 ~ 35 min.
Outside Dimensions	19" (W) x 11" (H) x 12 <sup>7</sup> / <sub>8</sub> " (D)
Cavity Dimensions	12 <sup>1</sup> / <sub>4</sub> " (W) x 7 <sup>3</sup> / <sub>4</sub> " (H) x 12 <sup>1</sup> / <sub>2</sub> " (D)
Net Weight	24.7 lbs (approx.)
Shipping weight	26.9 lbs (approx.)
Control Complement	Mechanical Rotary System Full Power Cooking
Nameplate Location	
Accessories	Owner's manual & cooking guide Glass turntable Rotating ring
<p>This microwave oven is designed for household use only. It is not recommended for commercial purposes.</p>	

# CAUTIONS

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

- DO NOT operate on a 2-wire extension cord during repair and use.
- NEVER TOUCH any oven components or wiring during operation.
- BEFORE TOUCHING any parts of the oven, always remove the power plug from the outlet.
- For about 30 seconds after the oven stops, an electric charge remains in the high voltage capacitor. When replacing or checking, you must discharge the high voltage capacitor by shorting across the two terminals with an insulated screwdriver.

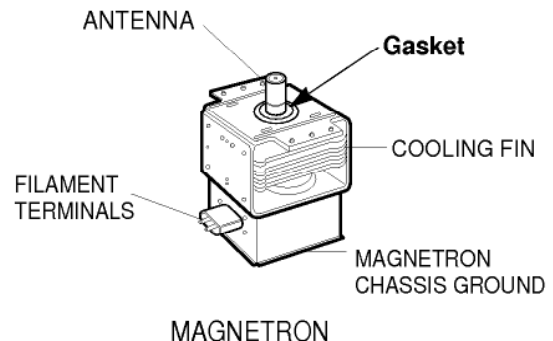


- Remove your watches whenever working close to or replacing the Magnetron.
- NEVER operate the oven with no load.
- NEVER injure the door seal and front plate of the oven cavity.
- NEVER put iron tools on the magnetron.
- NEVER put anything into the latch hole and the interlock switches area.

## MICROWAVE RADIATION

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

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



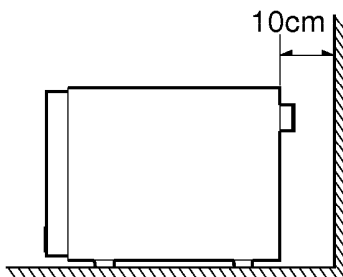
**THE OVEN IS TO BE SERVICED ONLY BY PROPERLY QUALIFIED SERVICE PERSONNEL.**

# INSTALLATIONS

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

## INSTALLING

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



## GROUNDING INSTRUCTIONS

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

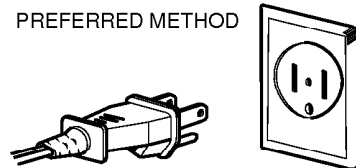
In the event of an electrical short circuit, grounding reduces the risk of electrical shock.

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

### WARNING

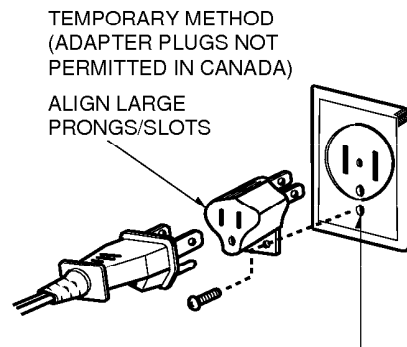
Improper use of the grounding plug can result in a risk of electric shock.

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



PREFERRED METHOD

ENSURE PROPER GROUND EXISTS BEFORE USE



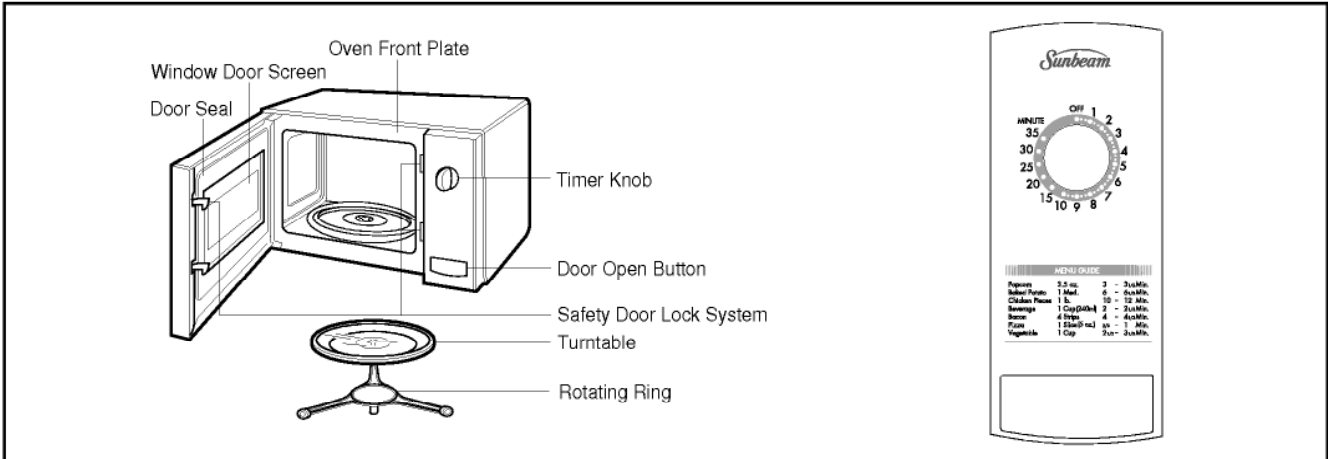
TEMPORARY METHOD  
(ADAPTER PLUGS NOT PERMITTED IN CANADA)

ALIGN LARGE PRONGS/SLOTS

ENSURE PROPER GROUND AND FIRM CONNECTION BEFORE USE

# OPERATING INSTRUCTIONS

## FEATURES



## OPERATION CHECK

After unpacking this appliance, examine the new oven for evidence of shipping damage. This is most important since a damaged oven may allow the escape of microwave energy. Make sure you remove all packing from the microwave cavity. Check the oven operation when unpacking the unit and any time the oven is not working properly.

1. Plug the power cord into an earthed electrical socket.

2. Place the glass tray inside the oven cavity.
3. Place a cup of water (at room temperature) inside the oven, on the glass tray.
4. Close the door securely.
5. Set the Timer for 3 to 4 minutes (note : microwave activity starts).
6. When the cooking time has elapsed, the signal will sound (note: all microwave activity stops).
7. If the oven is operating normally, the water will be hot.

## OPERATING PROCEDURE

The microwave oven is designed to be simple and easy to operate. Please follow these instructions carefully.

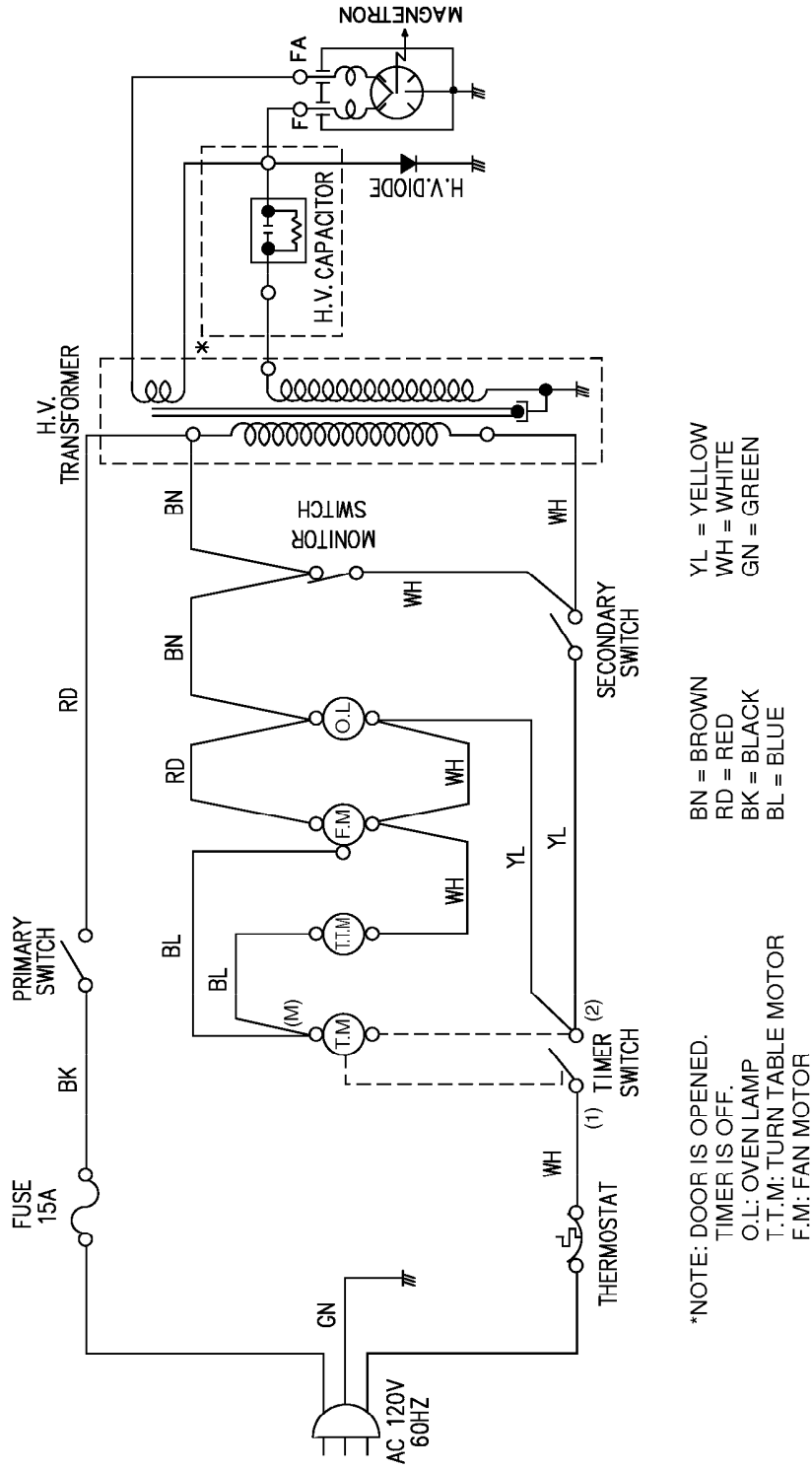
1. Place the food in a suitable cooking utensil. Open the microwave oven door and place the utensil in the center of the oven on the glass tray.
2. Close the oven door.
3. Turn the TIMER KNOB clockwise to set the cooking time.
4. When the TIMER reaches OFF, the signal sounds and the oven will automatically shut off.
5. Open the door and remove the food from the oven.

6. To stop cooking before the timer reaches OFF, either open the door or simply turn the timer to OFF.

### NOTE :

1. The oven starts as soon as the KNOB is turned. We recommend turning the KNOB past the time you want and then turn back to the desired setting.
2. The door can be opened during the cooking process by pushing the Door Open Button. The timer will stop and the microwave activity will cease. When the door is closed, cooking will resume until the full cooking time has elapsed. After cooking is finished, the Timer will be at OFF.

# SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTE: THE COMPONENTS IN SHADED AREAS ON THIS SCHEMATIC DIAGRAM INCORPORATE SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM MICROWAVE RADIATION, FIRE, ELECTRICAL SHOCK, AND OTHER 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 A BASIC SCHEMATIC DIAGRAM, THE VALUES OF COMPONENTS AND SOME PARTIAL CONNECTIONS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.



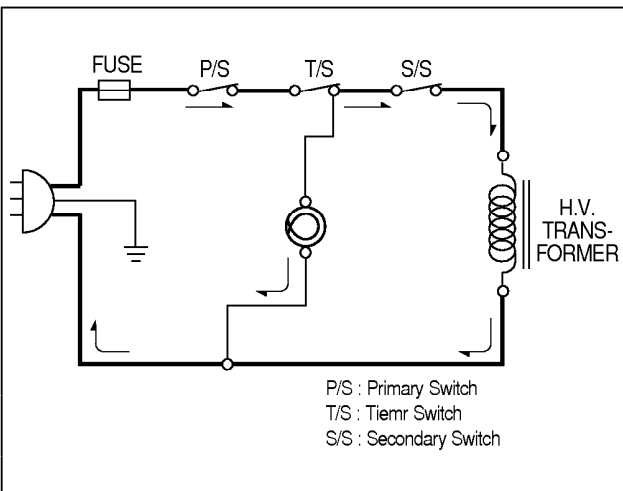
# CIRCUIT DESCRIPTION

## GENERAL DETAILS

- When the door is closed, the primary switch is ON, the secondary switch is ON, and the monitor switch opens (contact COM and NO).
- The latches are secured by the latch board, the oven light turns on while the oven is operation.

## WHEN THE TIMER KNOB IS ROTATED

- When the timer knob is rotated, the contacts of timer switch close.
- The contact of the secondary switch close the circuit.
- Power input is supplied to the high voltage transformer through the fuse to the primary timer and secondary switches.
- Turntable rotates
- The fan motor rotates and cools the magnetron by blowing air (coming from the intake on the baseplate).
- The air is also directed into the oven to exhaust the vapor in the oven through the upper plate.
- Cooking time starts counting down.



- 3.2 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 high voltage diode and charging of the high voltage capacitor.
- The negative 4,000 Volts DC is applied to the filament of the magnetron.

## WHEN THE DOOR IS OPENED DURING COOKING

- Both the primary and timer switches are cut off primary winding voltage of the high voltage transformer.
- When the door is opened, the secondary switch is opened and when the door is closed, the secondary switch is closed.
- The timer, turntable and fan motor stop.
- As the door is opened, if the contact of primary 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.

