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# **MICROWAVE OVEN**

# **OWNER'S MANUAL & COOKING GUIDE**

PLEASE READ THIS OWNER'S MANUAL THOROUGHLY BEFORE OPERATING.

MS-74ME



# PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

- (a) Do not attempt to operate this oven with the door open since open-door operation can result in harmful exposure to microwave energy. It is important not to defeat or tamper with the safety interlocks.
- (b) Do not place any object between the oven front face and the door or allow soil or cleaner residue to accumulate on sealing surfaces.
- (c) Do not operate the oven if it is damaged. It is particularly important that the oven door close properly and that there is no damage to the:
  - (1) Door (bent),
  - (2) Hinges and latches (broken or loosened),
  - (3) Door seals and sealing surfaces.
- (d) The oven should not be adjusted or repaired by anyone except properly qualified service personnel.

#### Thank you for purchasing a Goldstar microwave oven

Please record the model number and serial number of this unit for future reference. We also suggest you record the details of your contact with Goldstar (LG Electronics U.S.A., Inc.) concerning this unit.

Model No:
Serial No:
Dealer:

Dealer Phone No:

Staple your Receipt here to prove your retail purchase.

Customer Relations LG Electronics U.S.A., Inc. Service Division Bldg. #3 201 James Record Rd. Huntsville, AL 35824-0126

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## **TECHNICAL SPECIFICATIONS**

	MS-74ME	
Power Supply	120V AC., 60Hz	
Rated Power Consumption	1050W	
Microwave Output	*700W	
Frequency	2,450MHz	
Rated Current	9.3A	
Overall Dimensions (WXHXD)	19"X11"X12 <sup>7</sup> / <sub>8</sub> "	
Oven Cavity Dimensions (WXHXD)	12¹/4"X7³/4"X12¹/2"	
Effective Capacity of Oven Cavity	0.7 Cu.ft.	

<sup>\*</sup> IEC 705 RATING STANDARD

Specifications subject to change without prior notice.

#### IMPORTANT SAFETY INSTRUCTIONS

**WARNING**— To reduce the risk of burns, electric shock, fire, injury to persons or exposure to excessive microwave energy:

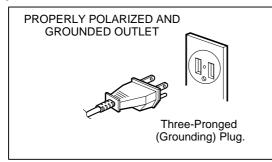
- 1. Read all instructions before using the appliance.
- 2. Read and follow the specific "PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY" found on page 2 of this manual.
- This appliance must be grounded. Connect only to properly grounded outlet.See "GROUNDING INSTRUCTIONS" found on page 5 of this manual.
- 4. Install or locate this appliance only in accordance with the provided installation instructions.
- 5. Some products such as whole eggs and sealed containers—for example, closed glass jars—may explode and should not be heated in this oven.
- 6. Use this appliance only for its intended use as described in the manual. Do not use corrosive chemicals or vapors in this appliance. This type of oven is specifically designed to heat, cook, or dry food. It is not designed for industrial or laboratory use.
- 7. As with any appliance, close supervision is necessary when used by children.
- 8. Do not operate this appliance if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.
- 9. This appliance should be serviced only by qualified service personnel. Contact nearest authorized service facility for examination, repair or adjustment.
- 10. Do not cover or block any openings on the appliance.
- 11. Do not store this appliance outdoors. Do not use this product near water for example, near a kitchen sink, in a wet basement, or near a swimming pool, and the like.
- 12. Do not immerse cord or plug in water.
- 13. Keep cord away from heated surfaces.
- 14. Do not let cord hang over edge of table or counter.
- 15. Either (a) When cleaning surfaces of door and oven that come together on closing the door, use only mild, nonabrasive soaps or detergents applied with a sponge or soft cloth; or when separate cleaning instructions apply, (b) See door surface cleaning instructions on(specific page or section to be included).
- 16. To reduce the risk of fire in the oven cavity:
  - a. Do not overcook food. Carefully attend appliance if paper, plastic, or other combustible materials are placed inside the oven to facilitate cooking.
  - b. Remove wire twist-ties from paper or plastic bags before placing bag in oven.
  - c. If materials inside the oven should ignite, **KEEP OVEN DOOR CLOSED**, turn oven off, and disconnect the power cord, or shut off power at the fuse or circuit breaker panel.
  - d. Do not use the cavity for storage purposes. Do not leave paper products, cooking utensils, or food in the cavity when not in use.
- 17. a. Do not operate any heating or cooking appliance beneath this appliance.
  - b. Do not mount unit over or near any portion of a heating or cooking appliance.
  - c. Do not mount over a sink.
  - d. Do not store anything directly on top of the appliance surface when appliance is in operation.
- 18. Do not heat any type of baby bottles or baby food. Uneven heating may occur and could cause personal injury.
- 19. Avoid using corrosive and vapors, such as sulfide and chloride.
- 20. Liquids heated in certain shaped containers (especially cylindrical-shaped containers) may become overheated. The liquid may splash out with a loud noise during or after heating or when adding ingredients (instant coffee, etc.), resulting in harm to the oven and possible injury. In all containers, for best results, stir the liquid several times before heating. Always stir liquid several times between reheatings.

## SAVE THESE INSTRUCTIONS

#### INSTALLATION

#### A. GROUNDING INSTRUCTIONS

For personal safety, this appliance must be properly grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape route for the electric current. The power cord of this appliance is equipped with a three-prong (grounding) plug to minimize the possibility of electric shock hazard from this appliance. 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.

The consumer should have it checked by a qualified electrician or serviceman if the grounding instructions are not completely understood, or if doubt exists as to whether the appliance is properly grounded. Where a standard two-prong wall receptacle is encountered, it is the responsibility and obligation of the consumer to have it replaced with a properly grounded three-prong wall receptacle.

- a) If customer has two-prong wall receptacle, he should replace it with a three-prong (grounding) receptacle by a qualified electrician before using the appliance.
- b) Use of extension cords: If it is necessary to use an extension cord, use only a 3-wire extension cord that has a 3-blade grounding plug, and a 3-slot receptacle that will accept the plug on the appliance. The marked rating of the extension cord should be equal to or greater than the electrical rating of the appliance.

#### NOTE:

- A short power-supply cord is provided to reduce the risks resulting from becoming entangled in or tripping over a longer cord.
- Longer cord sets or extension cords are available and may be used if care is exercised in their use.
- 3. If a long cord or extension cord is used, (1) the

marked electrical rating of the cord set or extension cord should be at least as great as the electrical rating of the appliance, (2) the extension cord must be a grounding-type 3-wire cord, and (3) the longer cord should be arranged so that it will not drape over the countertop or tabletop where it can be pulled on by children or tripped over accidentally.

#### **B. CIRCUITS**

For safety purposes this oven must be plugged into a 15 Amp circuit. No other electrical

appliances or lighting circuits should be on this line. If in doubt, consult a licensed electrician.

#### C. VOLTAGE WARNING

The voltage used at the wall receptacle must be the same as specified on the oven serial plate located on the back or on the side of the control panel of the oven. Use of a higher voltage is dangerous and may result in a fire or other type of accident causing oven damage. Low voltage will cause slow cooking. In case your microwave oven does not perform normal operation in accordance with AC power source and voltage, remove the power cord and then insert it again.

#### D. PLACEMENT OF THE OVEN

Your microwave oven can easily be placed in your kitchen, family room or any other room in your home. Place the oven on a flat surface such as a kitchen counter top or a specially designed microwave oven cart. Do not place oven above a gas or electric range. Free air flow around the oven is important.

#### E. DO NOT BLOCK AIR VENTS

All air vents should be kept clear during cooking. If air vents are covered during oven operation the oven may overheat. In this case, a sensitive thermal safety device automatically turns the oven off. The oven will be inoperable until it has cooled sufficiently.

#### F. RADIO INTERFERENCE

- Operation of the microwave oven can cause interference to your radio, TV or similar equipment.
- 2. When there is interference, it may be reduced or eliminated by taking the following measures:
  - a. Clean door and sealing surfaces of the oven
  - b. Reorient the receiving antenna of radio or televi-
  - Relocate the microwave oven with respect to the receiver.
  - d. Move the microwave oven away from the receiver.
  - e. Plug the microwave oven into a different outlet so that microwave oven and receiver are on different branch circuits.

#### INTRODUCTION

# HOW YOUR MICROWAVE OVEN WORKS

Microwaves are a form of energy similar to radio and television waves. Your microwave oven is constructed in such a way as to take advantage of microwave energy.

Electricity is converted into microwave energy by the magnetron tube, and microwaves are then directed into the cooking area through openings in the oven. Microwaves reflect off the metal walls of the oven. They can be transmitted through glass, paper, wicker and microwavesafe cooking dishes. Microwaves do not heat the cookware, though dishes will eventually feel hot from the heat generated by the food. Microwaves are attracted to the moisture in foods and cause the water molecules to vibrate, 2,450 million times per second. This is called absorption. As the water molecules vibrate they rub against each other, producing friction. This friction, in turn, causes the food to get hot. If you have trouble imagining how this is possible, just think how hot your hands would get if you rubbed your palms together 2,450 million times per second!

#### A very safe appliance:

Your microwave oven is one of the safest of all home appliances. When the door is opened, the oven automatically stops producing microwaves. By the time microwave energy has been converted into heat in the process of making food hot, the microwaves have completely dissipated.

#### GETTING THE BEST RESULTS FROM YOUR MICROWAVE OVEN

#### Keeping an eye on things:

The recipes in this book have been developed with great care, but your success in preparing them depends upon how much attention you pay to the food as it cooks. Your microwave oven is equipped with a light that turns on automatically when the oven is in operation. You can see inside the oven and check the progress of your food. Directions given in recipes to "elevate", "stir", "rotate", etc., should be thought of as the minimum steps recommended, for evenness and speed in microwave cooking.

#### Factors affecting cooking time:

The cooking times given in the recipes in this book are approximate. Many factors affect cooking times. The temperature of ingredients used in a recipe, makes a big difference in the cooking time. For example, a cake made with cold butter, milk and eggs will take considerably longer to cook than one made with ingredients that are at room temperature.

On very cold or very hot days, a great deal of electricity is diverted for heating or cooling. Therefore, less electricity is available for your oven, and the food will cook more slowly than usual.

#### Range of cooking times:

All of the recipes in this book give a range of cooking times. In general, you will find that the food remains undercooked at the lower end of the time range.

You may sometimes want to cook your food beyond the maximum time given. Personal preferences vary, as do the cooking speeds of different ovens under different conditions. While undercooked food may always be cooked a bit more, overcooked food can be ruined.

Some of the recipes, particularly those for breads, cakes and custards suggest that food be removed from the oven when it is still slightly undercooked. This is not a mistake. When allowed to stand, the food will continue to cook outside of the oven, as the heat trapped within the outer portions of the food gradually travels inward. If the food is left in the oven until it is cooked all the way through, the outer portions will become overcooked. As you gain experience in using your microwave oven, you will become increasingly skillful in estimating both cooking and standing times for various foods.

#### INTRODUCTION

# HOW CHARACTERISTICS OF FOOD AFFECT MICROWAVE COOKING

#### Quantity:

The greater the volume of food, the longer it takes to cook it. In general, cooking time is increased by about 50 percent, when doubling a recipe. Time is reduced by approximately 40 percent when cutting a recipe in half.

#### Density:

Light, porous foods such as cakes and breads cook more quickly than heavy, dense food such'as roasts, potatoes and casseroles.

#### Height:

Whether conventional or microwave cooking methods are used, areas of food close to the energy source may need to be turned or shielded for even cooking.

#### Shape and Size:

For more even cooking results, choose food pieces that are similar in size and shape. Arrange small, thin pieces toward the center of the dish and thicker pieces toward the outside of the dish.

#### Sugar, Fat and Moisture:

Food with high sugar, fat and moisture content cooks faster than food low in these elements.

# SPECIAL TECHNIQUES IN MICROWAVE COOKING

#### **Browning:**

Meat and poultry with high fat content that are cooked 10-15 minutes or longer, will brown lightly. Food that is cooked for a shorter period of time, may be brushed with a browning agent to achieve an appetizing color. The most commonly used browning sauces are Worcestershire sauce, soy sauce, barbecue sauce and bouquet sauce.

#### Covering:

A cover traps heat and steam causing the food to cook more quickly. You may either use a lid or plastic wrap with a corner folded back, for excess steam to escape. Waxed paper effectively prevents food from spattering and helps food to retain some heat. Sandwiches and many other foods can be wrapped in paper towels to prevent them from drying out.

#### Spacing:

Individual foods such as baked potatoes, cupcakes, and hors d'oeuvres will heat more evenly if placed in the oven an equal distance apart, preferably in a circular pattern.

#### Stirring:

Stirring is an important microwaving technique. Microwaved foods are stirred in order to blend flavors and redistribute heat. Always stir from the outside toward the inside, since the outside of the food cooks first.

#### **Turning over:**

Larger size food such as roasts and whole poultry should be turned, so that the top and bottom will cook evenly. It is also a good idea to turn chicken pieces and chops.

#### **Arrangement:**

Since microwaves cook from the outside-in, it makes sense to place thicker portions of meat, poultry and fish to the outer edge of the baking dish. This way, thicker portions will receive the most microwave energy and the food will cook evenly.

#### Shielding:

Strips of aluminum foil, which reflect microwaves, are sometimes placed over the corners or edges of square and rectangular shaped pans to prevent those portions from over cooking. Keep foil at least one inch away from the oven walls.

#### **Testing for doneness:**

Because food cooks so quickly in a microwave oven, it is necessary to test for doneness frequently. Most foods are removed from the oven while still slightly undercooked, and finish cooking during standing time.

The internal temperature of food will rise from 5°F to 15°F during standing time.

#### Piercing:

To prevent bursting, food enclosed in a shell, skin or membrane must be pierced prior to cooking. Such foods include both the yolks and whites of eggs, clams and oysters, and many whole vegetables, such as potatoes and squash.

#### INTRODUCTION

#### MICROWAVE-SAFE UTENSILS

Never use metal or metal-trimmed utensils in your microwave oven. Microwaves cannot penetrate metal. They will bounce off metal objects in the oven and cause "arcing", which resembles lightning. Most heat-resistant, nonmetallic cooking utensils are safe for use in your microwave oven. However, some may contain materials that render them unsuitable for microwave cooking. If you have any doubts about a particular utensil, there's a simple way to find out if it can be used in your microwave oven.

#### **Testing Utensils for Microwave Use:**

Place the utensil in question next to a glass measure filled with water, in the microwave oven. Microwave at (Power Level 10) for 1-2 minutes. If the water heats up, but the utensil remains cool, the utensil is microwave-safe. However, if the utensil becomes warm, microwaves are being absorbed by the utensil and it should not be used in the microwave oven.

You probably have many items on hand in your kitchen right now that can be used as cooking equipment in your microwave oven. Read through the following checklist.

#### 1. Dinner Plates:

Many kinds of tableware are microwave safe. If in doubt, consult the manufacturer's literature or perform the microwave dish test.

#### 2. Glassware:

Some glassware that is heatresistant is microwave-safe. This would include most brands of oven-tempered glass cookware. Do not, however, use delicate tumblers, wine glasses, etc. in the oven, as they are likely to shatter.

#### 3. Paper:

Paper plates and containers without wax coatings are convenient and safe to use in your microwave oven, for short cooking times. Paper towels are also very useful for absorbing moisture and grease. In general, use white paper products.

#### 4. Plastic Storage Containers:

These can be used to hold foods that are to be quickly reheated. However, they should not be used to heat foods that will need considerable time in the oven, as hot foods will eventually warp or melt the container.

#### 5. Cooking Bags:

Cooking bags are microwave safe. However, be sure to make a slit in the bag so that steam can escape. Substitute string for metal twist ties.

#### 6. Plastic Microwave Cookware:

A variety of cookware is available. Certain special items such as plastic ring molds, muffin pans, etc. are convenient. Check the manufacturer's instructions.

#### 7. Pottery, Stoneware and Ceramic:

Containers made of these materials are usually fine for use in your microwave oven. They should be checked by using the dish test.





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