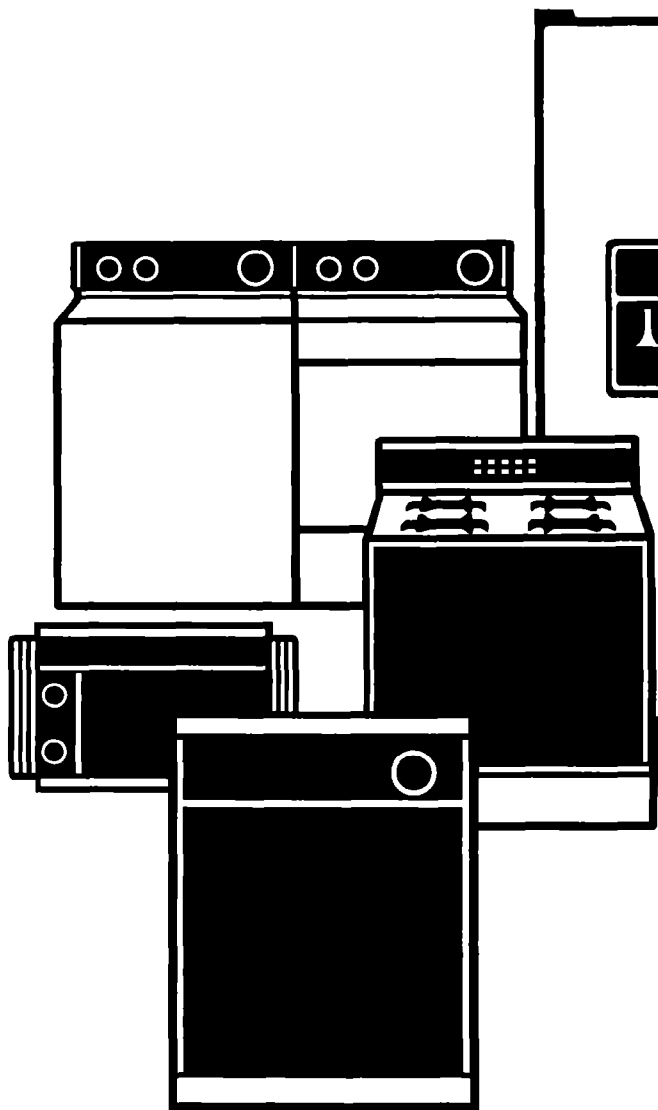


Estate

Use And Care

GUIDE



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1-800-253-1301
Call us with questions or comments.

UNDERCOUNTER DISHWASHERS
MODEL SERIES TUD2000, TUD3000, TUD5000, TUD7000

4/14

A NOTE TO YOU

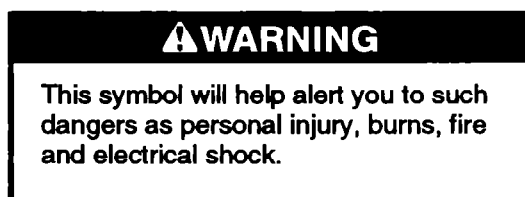
A Note To You

Thank you for buying an Estate® appliance.

You have purchased a quality, *world-class* home appliance. Years of engineering experience have gone into its manufacturing. To ensure that you will enjoy many years of trouble-free operation, we have developed this Use and Care Guide. It is full of valuable information on how to operate and maintain your appliance properly and safely. Please read it carefully. Also, please complete and mail the Ownership Registration Card provided with your appliance. This will help us notify you about any new information on your appliance.

Your safety is important to us.

This guide contains safety statements under warning symbols. Please pay special attention to these symbols and follow any instructions given. Here is an example of the use of the symbol.



Our Consumer Assistance Center number, 1-800-253-1301, is toll-free, 24 hours a day.

If you ever have a question concerning your appliance's operation, or if you need service, first see "If You Need Assistance Or Service" on page 24. If you need further help, feel free to call our Consumer Assistance Center. When calling, you will need to know your appliance's complete model number and serial number. You can find this information on the model and serial number label (see diagram on page 4). For your convenience, we have included a handy place below for you to record these numbers, the purchase date from the sales slip and your dealer's name and telephone number. Keep this book and the sales slip together in a safe place for future reference.

Model Number _____

Dealer Name _____

Serial Number _____

Dealer Phone _____

Purchase Date _____

Important Safety Instructions

⚠ WARNING

To reduce the risk of fire, electrical shock, or injury when using your dishwasher, follow basic precautions including the following:

- Read all instructions before using the dishwasher.
- Use your dishwasher only for the uses described in this manual.
- **DISHWASHER MUST BE ELECTRICALLY GROUNDED.** Read the Installation Instructions for details.
- When discarding an old dishwasher, always remove the door to prevent accidental entrapment or suffocation.
- Use **ONLY** detergents and rinse agents recommended for use in a dishwasher.
- Store dishwasher detergent in a cool, dry place **WHERE CHILDREN CAN'T REACH IT.**
- When loading items to be washed:
 - Load sharp items and knives with the handles up to reduce risk of cut-type injuries.
 - Locate sharp items and knives so that they are not likely to damage the door or tub.
- **DO NOT** let children play in or on the dishwasher.
- **DO NOT** reach into the area below the bottom rack until the heating element has cooled for at least 20 minutes.
- **DO NOT** wash plastic items unless marked "Dishwasher Safe" or the equivalent. If not marked, check manufacturer's recommendations.
- **DO NOT** use your dishwasher unless all enclosure panels are properly in place.
- **DO NOT** sit on, stand on or abuse the dishwasher door or dish racks.
- **DO NOT** tamper with controls.
- If hot water has not been used recently (usually two weeks or longer), hydrogen gases may build up in the water heater and the hot water pipes. **HYDROGEN GAS IS EXPLOSIVE.** To prevent injury or damage, before using your dishwasher, turn on all hot water faucets and allow water to run for several minutes. This will allow gases to escape. Do not smoke or use any open flame near the faucet while it is open.
- **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. The fumes can create a fire hazard or explosion.
- Disconnect electrical power to the dishwasher before attempting to service.

– SAVE THESE INSTRUCTIONS –

Help us help you

Please:

- Have your dishwasher installed by a qualified installer.
- Install where dishwasher is protected from the elements.
- Install and level dishwasher on a floor that will hold the weight, and in an area suitable for its size and use.
- Properly connect dishwasher to electricity, water and drain.*
- Remove all shipping plugs from hoses and connectors (such as drain connector on a disposer) before installing.*
- Remove all hang tags and temporary labels.
- Make sure dishwasher is not used by anyone unable to operate it properly.
- Properly maintain dishwasher. See page 19.

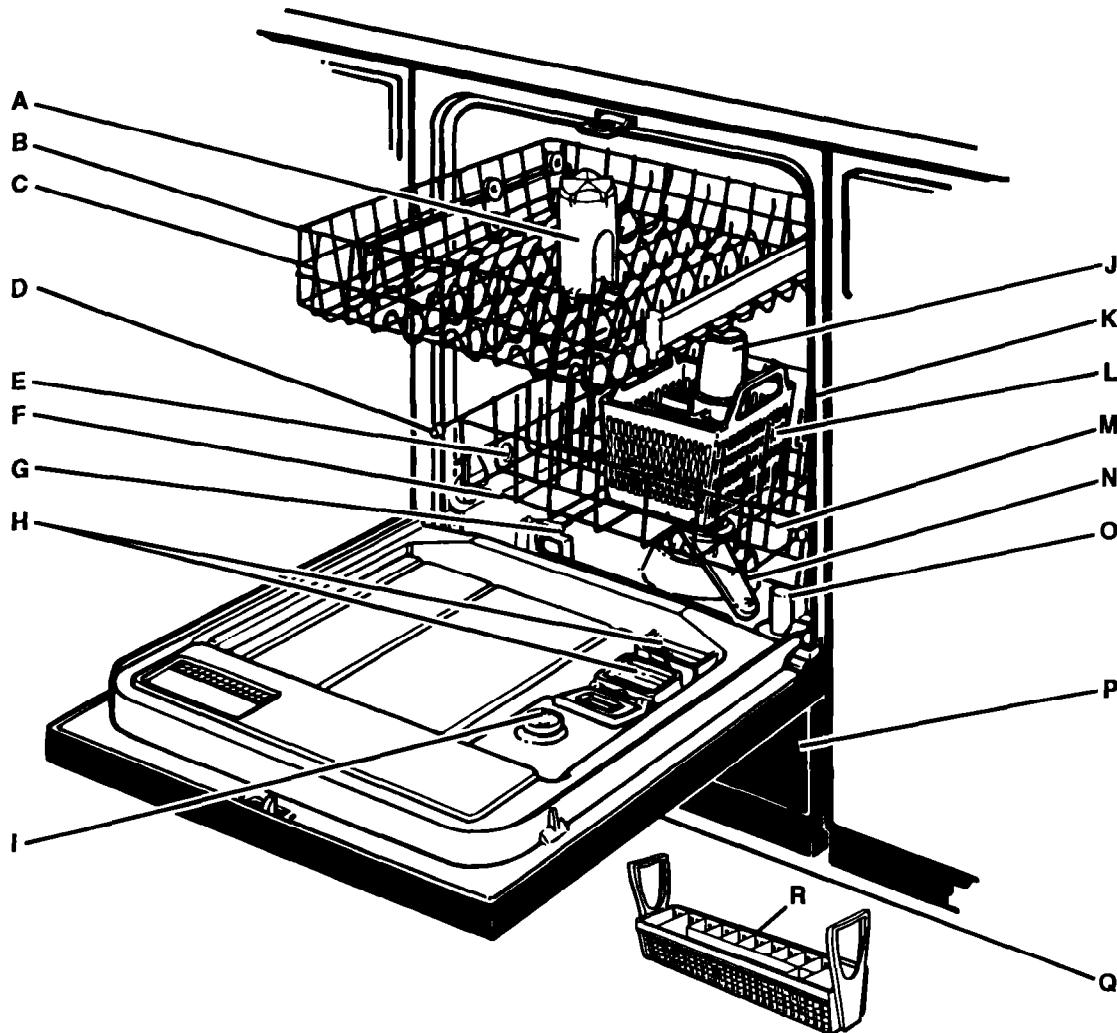
* See Installation Instructions for complete information.

PARTS AND FEATURES

Parts And Features

This section contains captioned illustrations of your appliance. Use them to become familiar with the location and appearance of all parts and features.

NOTE: The drawings in this book may vary from your dishwasher model. They are designed to show the different features of all models covered by this book. Your model may not include all features. Page numbers are included next to some features. Refer to those pages for more information about the features.



- A Third level wash (p. 16)
(on some models)
- B Top rack (p. 16)
- C Extra-capacity fold down shelves
(on some models) (p. 17)
- D Rack bumper
- E Water inlet opening
- F Bottom rack (p. 17)
- G Heating element
- H Detergent dispenser
- I Rinse agent dispenser

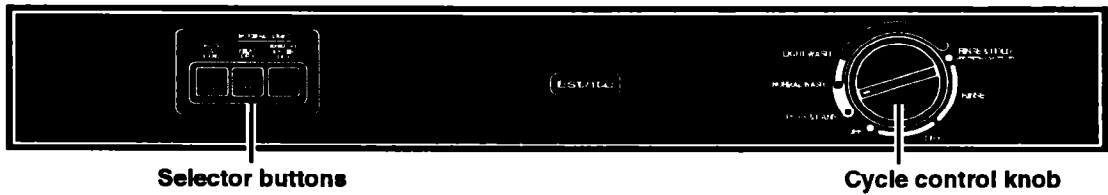
- J Spray tower and protector
- K Model and serial number label
(on right side)
- L Silverware basket (p. 18)
(on some models)
- M Filter system screen (p. 19) (not shown)
- N Spray arm
- O Overfill protector
- P Access panel
- Q Door color panel
- R Silverware basket (p. 18)
(on some models)

PARTS AND FEATURES

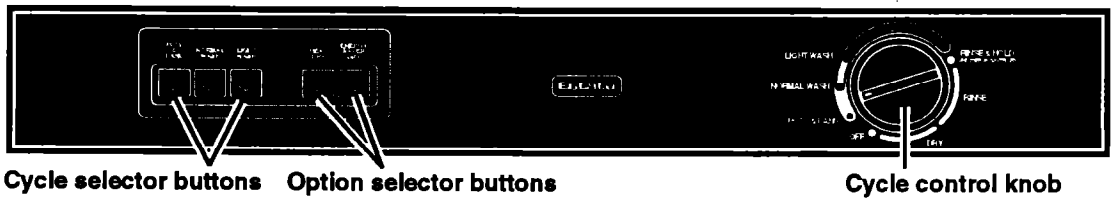
Models with rocker switch



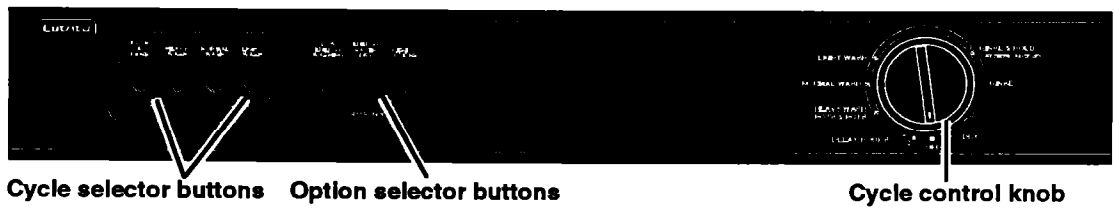
Models with three buttons



Models with five buttons



Models with seven buttons









Using Your Dishwasher

In This Section		Page	Page
Before starting your dishwasher	6	Using delay wash	10
Starting your dishwasher	6	Using the detergent dispenser	11
Adding a dish during a cycle	7	Using the rinse agent dispenser	12
Changing a cycle setting	8	Quiet operating tips	13
Changing an option	8	Water temperature tips	14
Canceling a cycle	8	Energy saving tips	14
Cycle selection chart	9	Special tips on dishwasher use	15
What happens in each option	10		

Operating your dishwasher properly enables you to obtain the best possible results. This section explains proper dishwasher operation.

Before starting your dishwasher

1. Properly load the top rack, bottom rack, and the silverware basket. See pages 16-18. 
2. Spin the lower spray arm with lower rack in place to make sure nothing prevents arm from turning freely. 
3. Add detergent. See pages 11 and 12. 
4. Check the rinse agent dispenser. See pages 12 and 13. 
5. Push door firmly when closing and it will automatically latch. 
6. Run hot water at sink nearest dishwasher until water is hot. Turn off water. 

Starting your dishwasher

The dishwasher will wash and dry dishware according to the selections you make on the control panel.

1. Select a drying option. See pages 9 and 10 for description.

NOTE: Select ENERGY SAVER or ENERGY SAVER DRY for the Rinse & Hold cycle.

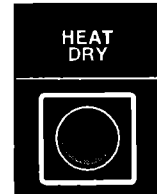
For models with three buttons, the Heated Dry option is automatically selected with the Pots & Pans cycle.



On some models



On some models

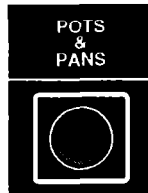


USING YOUR DISHWASHER

2. Select a wash cycle. See chart on page 9 for cycle descriptions.

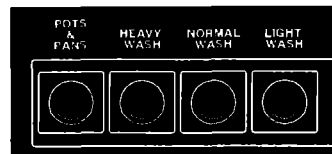
For models with rocker switches:
Skip to Step 3.

For models with three buttons:
If the Pots & Pans cycle will be used,
push the POTS & PANS button.



For models with more than three buttons:

Push a Cycle Selector button for the desired cycle. Rinse & Hold cycle will operate with any Cycle Selector button selected. The Cycle Control knob determines which cycle operates.

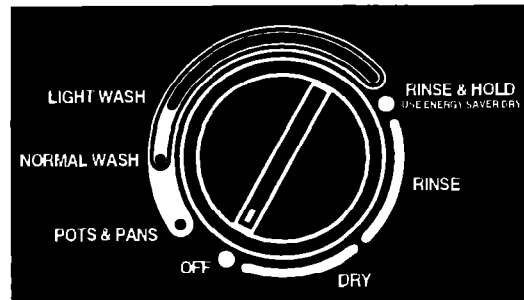


Cycles may vary with models

3. Turn the Cycle Control knob clockwise to point to the desired cycle. See page 9 for cycle descriptions.

You will feel a definite stop at each cycle mark. The dishwasher will automatically start the cycle you selected.

NOTE: If the door is latched, you will hear cycles start and stop as the knob passes each cycle mark. This is normal and will not hurt the dishwasher. If you prefer, you can set cycles with the door unlatched.



Cycles vary with models

Adding a dish during a cycle

(model series TUD3000, TUD5000, TUD7000)

You can add an additional item to the dishwasher anytime before the Cycle Control knob reaches LIGHT WASH. See page 9.

1. Lift up on the door latch to unlatch the door and stop the cycle. Wait a moment for the spray action to stop before opening the door.
2. Open the door and add the dish.
3. Close the door. **Do not latch it.** Wait 30 seconds for air in the dishwasher to warm up. This helps reduce the amount of moisture that can come from the vent when restarting the cycle.
4. Press door in to latch it. The dishwasher will start where it stopped.

Changing a cycle setting

(model series TUD3000, TUD5000, TUD7000)

You can change a setting anytime during any cycle.

1. Lift up on the door latch to unlatch the door and stop the cycle.
2. Turn the Cycle Control knob clockwise to the cycle you want.
3. Check the detergent dispenser to be sure it is properly filled for the new cycle. See pages 11 and 12.

NOTE: Turning the Cycle Control knob may cause the covered section of the detergent dispenser to open. Be sure to fill the covered section, and close the cover, if the cycle uses detergent in both sections.

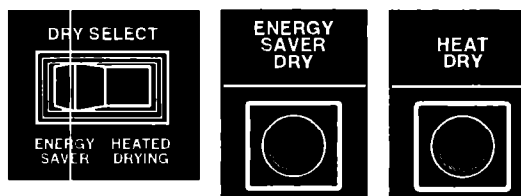
4. Close and latch the door. The dishwasher will automatically start the new cycle.

Changing an option

You can change an option anytime during a cycle. To change the selected option(s):

For models with less than seven buttons:

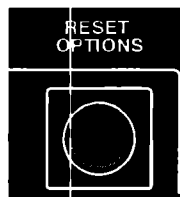
Select the other drying option.



Selection varies with models

For models with seven buttons:

1. Push the RESET OPTIONS button.
2. Push an Option Selector button for each desired option.








Canceling a cycle

You can cancel a setting anytime during any cycle.

1. Turn the Cycle Control knob slowly clockwise to the drain portion of the wash or rinse. You will hear water draining when you have advanced to the proper location.
2. Let the dishwasher drain completely.
3. Lift up on the door latch to unlatch the door.
4. Turn the Cycle Control knob clockwise to point to OFF.

Cycle selection chart

Your model may not have all cycles.

Cycle	A "•" shows what steps are in each cycle							Cycle Time (Minutes)
	Wash	Rinse	Rinse	Main Wash	Rinse	Rinse	Dry	
Pots & Pans  A double wash for maximum cleaning of cooked-on or baked-on foods. For models with three buttons, the Heat Dry option is automatically selected during this cycle.	•	•	•	•	•	•	•	98*
Heavy Wash  A double wash for heavily soiled loads.	•	•	•	•	•	•	•	98*
Wash or Normal Wash  A double wash for moderately to heavily soiled loads. (The Energy Guide Label is based on this cycle.)	•		•	•	•	•	•	90*
Light Wash  A single wash for light to moderately soiled loads.			•	•	•	•	•	85*
Rinse & Hold  For rinsing a few items to be washed one or more days later. Do not use detergent. Use Energy Saver Dry option only. Heat Dry option may cause food to bake on dishes.					•	•		20

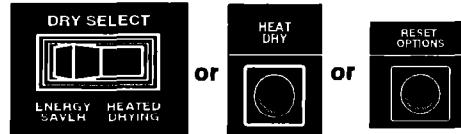
*Cycle time includes heated dry time.

What happens in each option

Heat Dry option

If the Heat Dry option is selected, air in the dishwasher is heated during the “dry” part of the cycle. For best results, use a liquid rinse agent.

SELECT



models with rocker switch

models with 3 or 5 buttons or models with 7 buttons

Energy Saver (Dry) option

If the Energy Saver (Dry) option is selected, air in the dishwasher is not heated during the “dry” part of the cycle. Using this option helps save energy, but dishes take longer to dry (overnight) and some water spotting may result. Some items (such as plastics) may need towel drying. For best drying results, use a liquid rinse agent.

SELECT



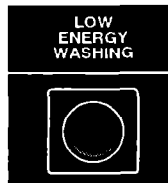
models with rocker switch

models with buttons

Low-Energy Washing option (on some models)

When the Low-Energy Washing option is selected, water heating is reduced during the main wash and final rinse. This will reduce the amount of electricity needed to run the dishwasher. However, dishes may not wash as well. See page 14.

SELECT



Using delay wash

(on some models)

You can set the dishwasher to start a cycle 1 or 2 hours later.

1. Push desired Cycle Selector button.
2. Push desired Option Selector button(s).
3. Turn Cycle Control knob clockwise to the number of hours you want the dishwasher to delay before the selected cycle starts.
4. Close and latch the door.



Example for 2-hour delayed Pots & Pans cycle with Energy Saver Dry option

NOTE:

- You can add items while time is counting down. Close and latch the door. The Cycle Control knob will not advance if the door is unlatched.
- Rinse & Hold and Light Wash cycles cannot be delayed.

Using the detergent dispenser

What type of detergent to use

- Use automatic dishwasher detergent only. Other detergents are too mild and much too sudsy to work in the dishwasher.
- Follow manufacturer's directions when using liquid automatic dishwasher detergent or concentrated powder detergent.
- Do not add detergent until you are ready to wash.
- Store detergent tightly closed in a cool, dry place. **Fresh automatic dishwasher detergent is necessary for best washing results.**

NOTE: Different brands of dishwasher detergent have different amounts of phosphorus for softening water. If water is hard and phosphorus content is low (6.0% or less), you may need to:

- Use more detergent.

OR

- Use a brand with a higher phosphorus content (8.7%).

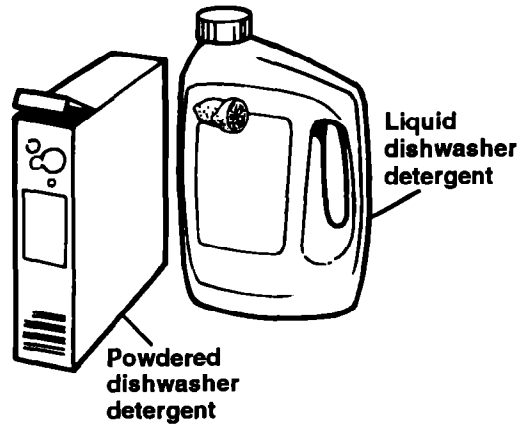
How much detergent to use

The detergent dispenser has one section with a cover and one without. The amount of detergent you use in a section depends on the water hardness. See "Water hardness and detergent" on page 12 for more information.

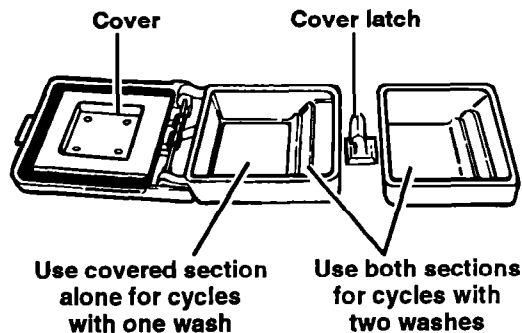
- Put detergent in both sections for cycles with two washes. See "Cycle selection chart" on page 9.
- Put detergent only in the covered section for cycles with one wash. See "Cycle selection chart" on page 9.
- Push the cover down until it is latched.

Detergent in the open section falls into the dishwasher when the door is closed. The covered section opens automatically when the main wash starts.

NOTE: It is normal for cover to open partially when dispensing detergent. The cover will open fully when the door is opened.



See phosphorus content on package labels

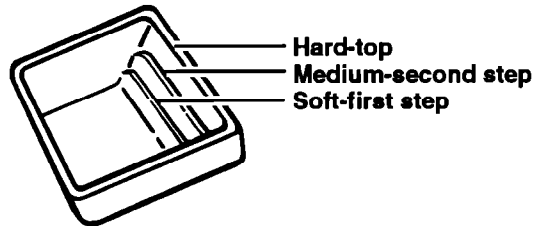


USING YOUR DISHWASHER

Water hardness and detergent

The amount of detergent to use depends on the hardness of your water. If too little is used, dishes won't be clean. However, if too much is used in soft water, glassware will begin to etch.

- **HARD**—Fill one or both sections to slightly below the top of the section (3 tablespoons) if water hardness is 8 or more grains per gallon, or 136 or more parts per million. Leave enough space in the covered section to allow cover to close.
- **MEDIUM**—Fill one or both sections to the top of the second step (2 tablespoons) if water hardness is 5 to 7 grains per gallon, or 85 to 119 parts per million.
- **SOFT**—Fill one or both sections to the top of the first step (1 tablespoon) if water hardness is 0 to 4 grains per gallon, or 0 to 68 parts per million.



Find out your water's hardness by asking your local water department, water softener company or county extension agent.

Using the rinse agent dispenser

Rinse agent dispenser

Keep the rinse agent dispenser filled with a liquid rinse agent. A rinse agent greatly improves the drying of dishes by helping water flow off them during the last rinse. A rinse agent also keeps water from forming droplets and drying as spots.

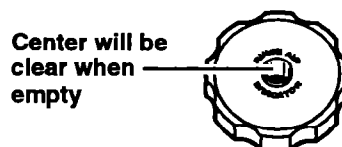
Release of a small amount of rinse agent into the rinse water is automatic in the final rinse of each cycle. For best drying results, check the dispenser periodically to see if it needs refilling.

To check dispenser

Remove dispenser cap. If dispenser is empty, an "E" will be clearly visible inside the dispenser.



The center of the Fill Indicator Cap will be clear when dispenser needs refilling.



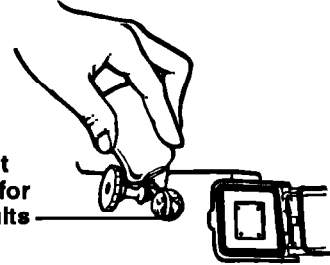
To fill dispenser

You do not have to wait until the dispenser is empty to refill it, but do not overfill it. The dispenser will hold 6 ounces (175 mL) of rinse agent. Under normal conditions, this will last about 3 months.

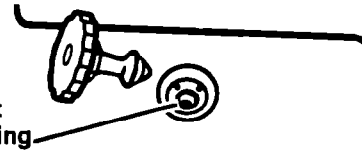
1. Make sure the dishwasher door is fully open.
2. Remove the Fill Indicator Cap.
3. Add rinse agent to the dispenser. Do not fill past the smallest opening in the lower part of the dispenser.
If you overfill, excess rinse agent can come out. This will not harm the dishwasher, but could cause over-sudsing.
4. Clean up any spilled rinse agent with a damp cloth.
5. Replace the Fill Indicator Cap and keep it tightly closed.

NOTE: Your dishwasher is designed to use a liquid rinse agent. You do not need to use a solid or bar-type rinse agent.

Keep rinse agent dispenser filled for best drying results



Do not fill past smallest opening



Quiet operating tips

To avoid thumping and clattering noises during operation:

- Make sure lightweight load items are secured in the racks.
- Make sure pot lids and handles, pizza pans, cookie sheets, etc. do not touch interior walls or interfere with the spray arm's rotation or cover the spray tower.

- Load dishes so they do not touch one another.

NOTE: Keep sink drain plugs inserted during dishwasher operation to prevent noise transfer through drains.

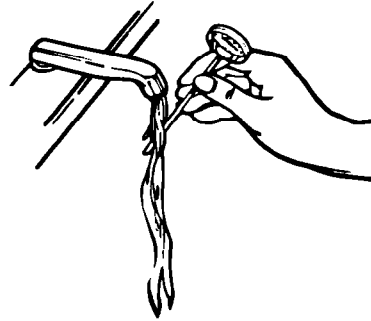
Water temperature tips

Hot water dissolves and activates the dishwashing detergent. Hot water also dissolves grease on dishes and helps dry glasses spot-free.

For best dishwashing results, water must be at least 120°F (49°C) as it enters the dishwasher. The dishwasher will automatically heat the water to help washing performance.

To check water temperature

1. Run hot water at the faucet closest to your dishwasher. Let the water run for at least one minute.
2. Measure the water temperature with a candy or meat thermometer. Put the thermometer in the running stream of water.
3. If the water temperature at the faucet is below 120°F (49°C), have a qualified person raise the water heater's thermostat setting.



Energy saving tips

You can help save energy if you:

- Wash full loads. Running a half-filled dishwasher uses the same amount of electricity and hot water as a fully loaded machine.
 - If your model has the Light Wash Cycle, use it whenever possible. The cycle uses less hot water and energy than the Normal Wash Cycle.
 - Use the Energy Saver option when you don't need a rapid drying cycle. Allow longer drying times (overnight). Use a rinse agent to improve drying.
 - Use the Low-Energy Washing option, if available. The water heating in the main wash and final rinse will be reduced.
- Load correctly for best washing results. Incorrect loading may cause poor washing and the need to rewash all or part of the load.
 - Do not pre-rinse normally soiled dishes. Select the correct cycle for the load and use the recommended amount of detergent for good washing results without hand rinsing.
 - Use your dishwasher during off-peak hours. Local utilities recommend this to avoid heavy usage of energy at certain times of day.

NOTE: Loads may not wash as well if the water temperature is too low.

Special tips on dishwasher use

If you have any doubts about a particular piece of dishware, check with the manufacturer to see if it is dishwasher safe.

NOTE: It is the user's responsibility to determine if dishware should be washed in a dishwasher.

Material	Dishwasher Safe?	Exceptions/Special Information
Aluminum	Yes	High water temperature and detergents may affect finish of anodized aluminum.
Bottles and Cans	No	Wash bottles and cans by hand. Labels attached with glue can loosen in your dishwasher. Loose labels and glue can clog spray arm(s) or the pump and will reduce washing performance.
Cast Iron	No	Seasoning will be removed and iron will rust.
China/ Stoneware	Yes	Always check manufacturer's recommendations before washing. Antique, hand-painted or over-the-glaze patterns may fade. Gold leaf may discolor or fade.
Crystal	Yes	Always check manufacturer's recommendations before washing. Some types of leaded crystal may etch with repeated washings.
Gold	No	Gold-colored flatware will discolor.
Glass	Yes	Milk glass will yellow with repeated dishwasher washing.
Hollow- Handle Knives	No	Handles of some knives are attached to the blade with adhesives which may loosen if washed in the dishwasher.
Pewter	No	High water temperatures and detergent may discolor or pit finish.
Disposable Plastics	No	Cannot withstand high water temperatures and detergents.
Plastics	Yes	Always check manufacturer's recommendations before washing. Plastics vary in their capacity to withstand high water temperatures and detergents.
Stainless Steel	Yes	Run a Rinse & Hold cycle (if available) if not washing immediately. Prolonged contact with food containing salt, vinegar, milk products or fruit juice could damage finish.
Sterling Silver or Silver Plate	Yes	Run a Rinse & Hold cycle (if available) if not washing immediately. Prolonged contact with food containing salt, acid or sulfide (eggs, mayonnaise and seafood) could damage finish.
Tin	No	May rust.
Wooden Ware	No	Always check manufacturer's recommendations before washing. Untreated wood may warp, crack or lose its finish.

Loading Your Dishwasher

In This Section	
	Page
Preparing to load the dishwasher ...	16
Loading the top rack	16
Loading the bottom rack	17
Loading the silverware basket	18

This section tells you how to properly load your dishwasher for the best washing and rinsing results.

Preparing to load the dishwasher

- Scrape leftover food, bones, toothpicks and other hard items from dishes.
- To save water and energy, do not rinse dishes before putting them into the dishwasher.
- Foods like eggs, rice, pasta, and cooked cereals may be hard to remove if they are left to dry over a period of time.
Run a Rinse & Hold cycle (if available) to keep dishes moist if you do not plan to wash them soon.
- Load dishes so soiled surfaces face the rotating spray arms.
- Load dishes so they are not stacked or overlapping. It is important for the water spray to reach all soiled surfaces for best washing. For best drying, water must be able to drain from all surfaces.

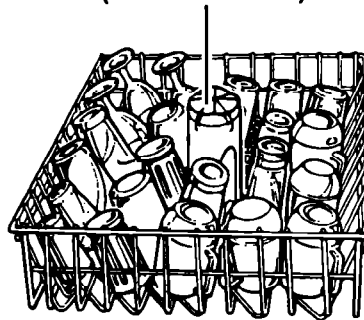
Loading the top rack

The top rack is designed for cups, glasses and smaller items. Some models have a third level wash to improve washability. Do not cover the third level wash when loading the top rack.

Cup and glass load

- Place so open ends face down for cleaning and draining.
- Load glasses in top rack only. The bottom rack is not designed for glasses. Damage may occur to glasses in bottom rack.
- Place items in the rows between prongs. Placing them over the prongs can lead to breakage.
- Be sure lightweight items are held firmly in place.
- China, crystal and other delicate items must not touch each other during dishwasher operation. Damage may occur.

Do not cover third level wash (on some models)



Cup and glass load

LOADING YOUR DISHWASHER

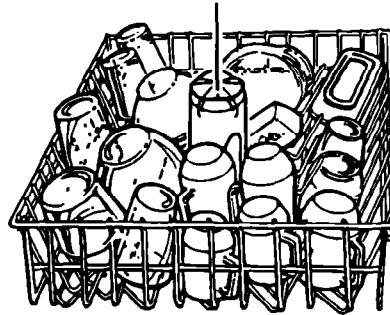
Mixed load

- Load plastic items in the top rack only. Only plastic items marked "dishwasher safe" are recommended.
- Load plastic items so the force of the spray does not move them during the cycle.
- Plastic items may melt in the bottom rack.

Utensil load

- Small bowls, pans and other utensils can be placed in the top rack.

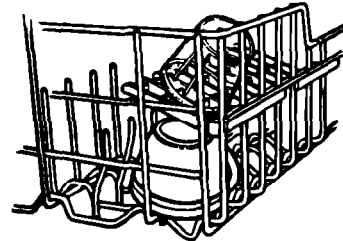
Do not cover third level wash
(on some models)



Mixed load

Extra-capacity fold down shelves (on some models)

Extra shelves on the right and left sides of the top rack can be folded down over short items (cups, juice glasses, cereal bowls, etc.) to hold extra items.



Loading the bottom rack

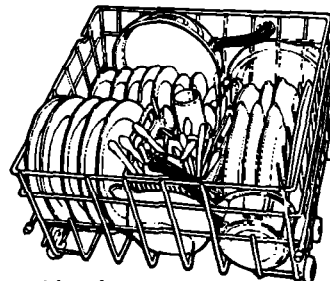
Items with cooked-on or dried-on food should be loaded in the bottom rack, with soiled surfaces facing inward to the spray.

Mixed load

- Make sure pot handles and other items do not stop rotation of the lower spray arm. Spray arm must move freely.
- Load items so they do not block or cover the spray tower.
- Securely place heavily soiled cookware face down in rack.

Dish load

- Place plates, soup bowls, etc., between prongs and facing inward to the spray.
- Do not place items directly over spray tower.



Mixed load

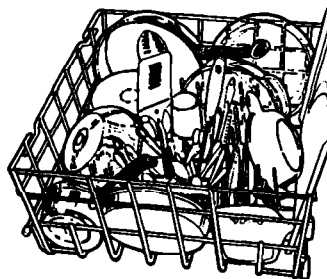
LOADING YOUR DISHWASHER

Utensil load

- Load cookie sheets, cake pans and other large items at sides and back. Loading such items in front may keep water spray from reaching detergent dispenser.

NOTE:

- Do not load glasses, cups or plastic items in the bottom rack.
- When lower rack is removed, replace with bumpers in front.



Utensil load

Loading the silverware basket

⚠ WARNING

Personal Injury Hazard

Load sharp items (knives, forks, skewers, etc.), with the point down. Failure to do so could cause personal injury.

- Load the silverware basket while in the bottom rack or take the basket out for loading on a counter or table.

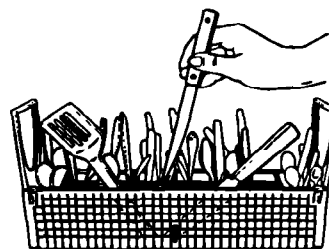
NOTE: The loaded basket must be placed in the center front of the bottom rack for proper washing. (Style 1 basket fits over the spray tower.)

Some of the load may not be completely washed if the loaded silverware basket is placed in a different location.

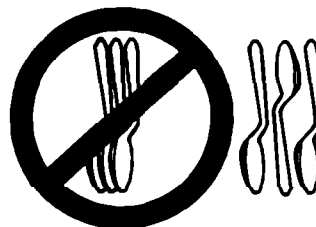
- The basket can also be removed for easy unloading. Always unload or remove the basket before unloading the racks to avoid spilling water droplets on the silverware.
- Load forks and spoons so they don't nest together. Spray cannot reach nested items.
- Mix items in each section of the basket with some pointing up and some down.
- Small items (baby bottle caps, jar lids, etc.) can be put in any section.



Style 1



Style 2



Caring For Your Dishwasher

Your new dishwasher is designed to give you many years of dependable service. There are a few things you can do to maintain your dishwasher properly. This section tells you how to clean and care for your dishwasher. Refer to "Solution chart" on pages 20-22 for special cleaning problems.

⚠ WARNING

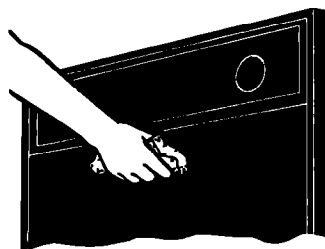
Personal Injury Hazard

Before cleaning interior or filter screen, wait at least 20 minutes after a cycle for the heating element to cool down.

Failure to do so could result in burn injuries.

Cleaning the exterior

In most cases, regular use of a soft, damp cloth or sponge and a mild detergent is all that is necessary to keep the outside of your dishwasher nice looking and clean.



Cleaning the interior

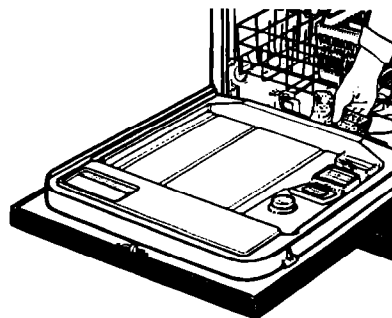
Hard water minerals may cause a white film to build up on the inside surfaces, especially just beneath the door area. To clean interior:

- Apply powdered dishwasher detergent to a damp sponge to make a paste.

OR

- Use liquid automatic dishwasher detergent and clean with damp sponge.

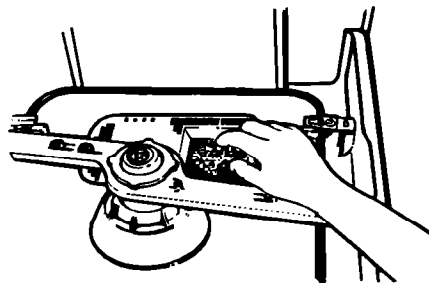
Wear rubber gloves. **Do not** use any type of cleanser other than dishwasher detergent because it may cause foaming or sudsing.



Cleaning the filter screen

The filter system requires periodic cleaning as needed. To clean screen:

1. Unload and slide the bottom rack forward. (Remove bottom rack if necessary to reach filter screen.)
2. Remove collected particles from the screen with your fingers or paper towel.
3. Return the bottom rack to original position.



Common Dishwashing Problems

In This Section		Page	Page
Solution chart	20	Removing spots and film	23

Solution chart

A convenient checklist for handling minor performance problems. Go over this list before calling for service. If you are unable to solve your dishwasher's problem, turn to page 24 for service information.

Problem	Cause	Solution
Food Soil Left on Dishes	Improper loading	Follow loading instructions on pages 16-18.
	Water temperature is too low	If needed, turn home water heater up to ensure water entering dishwasher is 120°F (49°C) minimum. See recommended procedure on page 14.
	Use of incorrect, too little or ineffective detergent	Use recommended dishwasher detergents only. Follow recommendations on pages 11 and 12 for amounts; never use less than one tablespoon per load. Detergent must be fresh to be effective. Always store detergent in a cool, dry area, preferably in an airtight container.
	Detergent cakes in dispenser	Use fresh detergent only. Do not allow detergent to sit for several hours in a wet dispenser. Check dispenser for caked detergent. Clean dispenser when caked detergent is present.
	Pump or spray arm clogged by labels from bottles and cans	Remove labels before washing or wash by hand. See page 15. Clean filter screen. See page 19.
	Low water pressure due to insufficient fill	Home water pressure should be 20 to 120 psi for proper dishwasher fill. A booster pump on the water supply may be necessary if pressure is too low.
	Slowdown of wash arm due to high suds	Never use soap or laundry detergents. Use recommended dishwasher detergents only.
Spotting and Filming	Hard water or high mineral content in water	Conditioning the final rinse water with a liquid rinse agent helps eliminate spotting and filming. Keep the dispenser filled with a rinse agent at all times.

COMMON DISHWASHING PROBLEMS

Problem	Cause	Solution
Spotting and Filming (continued)	<p>Water temperature is too low</p> <p>Use of incorrect detergents</p> <p>Incorrect amount of detergent</p> <p>Use of ineffective detergents</p> <p>Insufficient fill caused by low water pressure</p>	<p>If needed, turn home water heater up to ensure water entering dishwasher is 120°F (49°C) minimum. See recommended procedure on page 14.</p> <p>Use recommended dishwasher detergents only.</p> <p>Follow recommendations on pages 11 and 12 for amount. Heavy soil and/or hard water generally require extra detergent.</p> <p>Detergent should be fresh. Store in a cool, dry place, preferably in an airtight container. Discard lumpy detergent.</p> <p>Home water pressure should be 20 to 120 psi for proper dishwasher fill. A booster pump on the water supply may be necessary if pressure is too low.</p>
Dishes Do Not Dry Completely	<p>Dishes do not drain properly</p> <p>Plastics</p>	<p>Dishes must have proper water drainage. Do not overload. Follow instructions for loading dishwasher on pages 16-18. Use a liquid rinse agent to speed draining.</p> <p>Some plastics, due to material, may need to be towel dried.</p>
Silica Film or Etching (Silica Film is a White Iridescent Deposit; Etching is a Cloudy Film)	<p>A water chemical reaction with certain types of glassware. Usually caused by some combination of soft or softened water, alkaline washing solutions, insufficient rinsing, over-loading the dishwasher, and heat of drying.</p>	<p>It may not be possible to prevent problem, except by hand-washing. To retard this process, use a minimum amount of detergent but not less than one tablespoon per load. Use a liquid rinse agent and underload the dishwasher to allow thorough rinsing. Silica film and etching are permanent and can not be removed. Use the Energy Saver Dry option.</p>
Black or Gray Marks on Dishes	<p>Aluminum items</p>	<p>Aluminum items should be loaded so that they will not rub against dishes during washing. Throw-away aluminum items should not be washed in the dishwasher because they may break down and cause marking. Aluminum markings can be removed by using a mild abrasive cleanser.</p>

continued on next page

COMMON DISHWASHING PROBLEMS

Problem	Cause	Solution
Brown Stains on Dishes and Dishwasher Interior	High iron content in water supply	Remove by washing dishes (after food soil has been removed) with 1 teaspoon to 1 tablespoon of citric acid crystals added to covered section of detergent dispenser. Do not use detergent, use Normal Wash cycle (if available). Follow with a Light Wash cycle with detergent. (For models with rocker switches and one wash cycle, use Wash cycle twice.) If treatment is needed more than every other month, the installation of an iron removal unit is recommended.
Orange Stains on Dishwasher Interior	Large amounts of tomato based foods on dishes placed in the dishwasher	Stains may gradually fade over time. Regular use of Heat Dry option may cause stains to fade slower. Stains will not affect dishwasher performance. Regular use of Rinse & Hold cycle with Air Dry option for partial loads will reduce the likelihood of staining.
White Spots on Cookware with Non-Stick Finish	Seasoning removed by dishwasher detergents	Re-season cookware after dishwasher washing.
Odor in the Dishwasher	Dishes only washed every two to three days	Run a Rinse & Hold cycle (if available) at least once or twice a day until a full load is accumulated.
Chipping of Dishes	Improper loading	Load dishes and glasses so that they are stable and do not strike together from washing action. Moving racks in and out smoothly will also minimize chipping. NOTE: Some types of china and glassware are too delicate for automatic dishwashing and should be hand-washed; for example: antiques, feather-edged crystal and similar types.

Removing spots and film

Keep the rinse agent dispenser filled with a liquid rinse agent. A rinse agent prevents water from forming droplets and drying as spots or streaks.

To remove spots and film on dishes and glasses, or hard water film on the interior of the dishwasher, you may use white vinegar with the following procedure:

1. Load clean dishes and glasses in dishwasher in regular manner. Do not load silverware or other metals in the dishwasher.
2. Close and latch door.
3. Select the Wash or Normal Wash cycle and Energy Saver option. Do not use detergent.
4. Allow dishwasher to run through the first wash. When washer has filled for main wash portion of cycle, unlatch and open door.
5. Pour 2 cups of household vinegar into the dishwasher.
6. Close and latch door. Allow dishwasher to finish the cycle.

If You Need Assistance Or Service

This section is designed to help you save the cost of a service call. Part 1 of this section outlines possible problems, their causes, and actions you can take to solve each problem. Parts 2 and 3 tell you what to do if you still need assistance or service. When calling our Consumer Assistance Center for help or calling for service, please provide a detailed description of the problem, your appliance's complete model and serial numbers and the purchase date. (See page 2.) This information will help us respond properly to your request.

1. Before calling for assistance ...

Performance problems often result from little things you can find and fix without tools of any kind. Please check the chart below for problems you can fix. It could save you the cost of a service call.

PROBLEM	CHECK THE FOLLOWING
Dishwasher does not run or stops during a cycle	Is the door tightly closed and securely latched? Has the cycle been set correctly? See page 6. Has a household fuse or circuit breaker blown or tripped? If the motor has stopped because of an overload, it will automatically reset itself within a few minutes. If the motor does not start, call for service. Is the water supply turned on? Is the dishwasher wired into a live circuit with the proper voltage?
Dishwasher will not fill	Is overflow protector stuck in "up" position? Overflow protector should move up and down freely. Press down to release.
Water remains in dishwasher	Wait for the cycle to finish. A small amount of water remaining is normal. Check the drain air gap (if installed). If it is clogged follow the manufacturer's cleaning instruction.
Detergent remains in covered section of dispenser	Has the cycle completed? Is the detergent fresh and dry without lumps? Is the bottom rack in backwards? The rack bumpers should face the door.
Dishes are not as dry as you expected	Is the rinse agent dispenser empty? Using a rinse agent greatly improves drying. See pages 12 and 13. Use Heat Dry option on the next load. See page 10.

IF YOU NEED ASSISTANCE OR SERVICE

PROBLEM	CHECK THE FOLLOWING
White residue appears on front of access panel	<p>Is too much detergent being used? See pages 11 and 12 for recommended amounts of detergent.</p> <p>Some liquid detergents develop excess foam and build up on access panel. Try a different brand to reduce foaming and eliminate build-up.</p>

2. If you need assistance*...

Call Whirlpool Consumer Assistance Center telephone number. Dial toll-free from anywhere in the U.S.A.:
1-800-253-1301

and talk with one of our trained consultants. The consultant can instruct you in how to obtain satisfactory operation from your appliance or, if service is necessary, recommend a qualified service company in your area.

If you prefer, write to:

Mr. William Clark
 Consumer Assistance Representative
 Whirlpool Corporation
 2000 N. State Route 63
 Benton Harbor, MI 49022-2692

Please include a daytime phone number in your correspondence.

3. If you need service*...



Whirlpool has a nationwide network of authorized Whirlpool® service companies. Whirlpool service technicians are

trained to fulfill the product warranty and provide after-warranty service anywhere in the United States. To locate the authorized Whirlpool service company in your area, call our Consumer Assistance Center telephone number (see Step 2) or look in your telephone directory Yellow Pages under:

• APPLIANCE-HOUSEHOLD-MAJOR, SERVICE & REPAIR
 - See: Whirlpool Appliances or Authorized Whirlpool Service
 (Example: XYZ Service Co.)

• WASHING MACHINES & DRYERS, SERVICE & REPAIR
 - See: Whirlpool Appliances or Authorized Whirlpool Service
 (Example: XYZ Service Co.)

4. If you need FSP® replacement parts ...

FSP is a registered trademark of Whirlpool Corporation for quality parts. Look for this symbol of quality whenever you need a replacement part for your Estate® appliance. FSP replacement parts will fit right and work right, because they are made to the same exacting specifications used to build every new Estate appliance.

To locate FSP replacement parts in your area, refer to Step 3 above or call the Whirlpool Consumer Assistance Center number in Step 2.

5. If you are not satisfied with how the problem was solved ...

- Contact the Major Appliance Consumer Action Panel (MACAP). MACAP is a group of independent consumer experts that voices consumer views at the highest levels of the major appliance industry.
- Contact MACAP only when the dealer, authorized servicer and Whirlpool have failed to resolve your problem.

Major Appliance Consumer Action Panel
 20 North Wacker Drive
 Chicago, IL 60606

- MACAP will in turn inform us of your action.

***When calling or writing for help or service:**
 Please provide a detailed description of the problem, your appliance's complete model and serial numbers and the purchase date. (See page 2.) This information will help us respond properly to your request.

ESTATE[®]

Dishwasher Warranty

LENGTH OF WARRANTY	WHIRLPOOL WILL PAY FOR
FULL ONE-YEAR WARRANTY From Date of Purchase	FSP [®] replacement parts and repair labor to correct defects in materials or workmanship. Service must be provided by an authorized Whirlpool [®] service company.
FULL TEN-YEAR WARRANTY From Date of Purchase	FSP replacement parts and repair labor for the DURAPERM [™] tub and/or inner door should they fail to contain water due to defective materials or workmanship. Service must be provided by an authorized Whirlpool service company.
WHIRLPOOL WILL NOT PAY FOR	
<p>A. Service calls to:</p> <ol style="list-style-type: none"> 1. Correct the installation of the dishwasher. 2. Instruct you how to use the dishwasher. 3. Replace house fuses or correct house wiring or plumbing. <p>B. Repairs when dishwasher is used in other than normal, single-family household use.</p> <p>C. Pickup and delivery. This product is designed to be repaired in the home.</p> <p>D. Damage to dishwasher caused by accident, misuse, fire, flood, acts of God or use of products not approved by Whirlpool.</p> <p>E. Any labor costs during the limited warranty.</p> <p>F. Repairs to parts or systems caused by unauthorized modifications made to the appliance.</p>	

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WHIRLPOOL CORPORATION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Outside the United States, a different warranty may apply. For details, please contact your authorized Whirlpool distributor or military exchange.

If you need service, first see the "Assistance or Service" section of this book. After checking "Assistance or Service," additional help can be found by calling our Consumer Assistance Center telephone number, 1-800-253-1301, from anywhere in the U.S.A.



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 50% recovered materials

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