

Base manual covers general information on Built-In Dishwashers. Refer to individual Technical Sheets for information on specific models.

DWA22A
DWA33A
DWA53A
DWA63A
DWA73A

Service

Built-In Dishwashers

This manual is to be used by qualified appliance technicians only. Amana does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

Amana

RS3300003
Revision 0
February 1999

Table of Contents

Important Information	4	Before Calling Service	22
Important Safety Information	5	Food Soils Left on Dishes	22
Installation Instructions		Dishes not Dry	22
Before Beginning	6	Glassware/Flatware Spotted or Cloudy	22
Preparation Check List	6	Dishware Chipped	22
Installation Preparation	7	Dishware Stained or Discolored	22
Roughing In	7	Etching	22
Connections for Electric, Water, and Drain	7	Detergent Left in Cups	22
Leveling Dishwasher within Cabinets	9	Dishwasher Leaks	23
Finishing the Drain Connection	9	Normal Sounds You Will Hear	23
Finishing the Water Connection	10	Water in Bottom of Tub	23
Finishing the Electrical Connection	10	Vapor at Vent	23
Securing the Dishwasher	11	Dishwasher Will Not Operate	23
Installing Wood Panels	11	Dishwasher Does Not Drain Properly	23
Checking the Installation	12	Cycle Takes a Long Time	23
General Information		Dishwasher Will Not Fill	23
Water Distribution System	13	Dishwasher Has an Odor	23
Water Distribution Components	13	Stains on Tub Interior	23
Drying System	14	Removing Spots and Film	23
Drying System Components	14	Component Testing Procedures	24
Dispensing System	14	Troubleshooting Procedures	
Door Latch Assembly	15	Clean light does not lite at end-of-cycle	25
Selector Switch and Thermostat	16	Detergent dispenser does not open	25
High Limit Thermostat	16	Dishes are not drying	26
Dishwasher Leveling System	16	Dishwasher will not operate	27
Care and Cleaning		Dishwasher overfills	27
Outside	17	Dishwasher will not drain	28
Inside	17	Dishwasher will not fill	28
Overfill Protector	17	Door leaks	29
Care of Drain Air Gap	17	Water heating status light does not	
Winterizing	17	glow during pause	29
Dishwasher Features		Delay start light does not glow during delay	29
Water Pressure	18	Steam comes from the vent during wash cycle	30
Water Temperature	18	Timer will not advance out of pause when rinse	
Normal Operating Sounds		temp boost is selected	30
Preparing and Loading Dishes	19	Timer will not advance out of pause when wash	
Dish Preparation	19	temp boost is selected	31
Loading the Top Rack	19	Timer will not pause in rinse when rinse	
Loading the Bottom Rack	20	temp boost is selected	31
Fold-down Tines (Some models)	20	Timer will not pause in wash when wash	
Loading the Silverware Basket	20	temp boost is selected	32
Adding a Dish	20	Timer will not pause in wash when water	
Dishwasher Dispenser & Detergents		temperature is below 125°F	33
Filling the Detergent Dispenser	21	Timer will not advance	33
How Much Detergent to Use	21	Wash pump motor will not operate	34
Rinse Aid	21		

Table of Contents

Disassembly Procedures

Control Panel	35
Timer Knob	35
Timer	35
Rocker Switch	35
Electronic Touchmatic™ Overlay	35
Keypad Overlay	35
Control Board	36
Door Panel	36
Door Vent Assembly	36
Vent Valve	36
Door Latch Assembly	36
Detergent / Rinse Aid Dispenser	36
Inner Door Panel	37
Door Seal	37
Upper Rack	37
Upper Water Tube	37
Upper Spray Arm	37
Water Distributor	37
Kick Plate	38
Heating Element	38
Float Switch and Bracket	38
Water Valve	38
Drain Pump	38
Lower Spray Arm	39
Glass Trap	39
Lower Spray Arm Support	39
Filter	39
Pump Cover	39
Pump and Motor Assembly	39
Thermostats (On Sump)– Mechanical Timer Models	40
Thermostats (On Sump)– Electronic Control Models	40
High Limit Thermostat (On Tub Bottom)	40
Indicator Lamps–Mechanical Timer Models	40
Indicator Lamps–Electronic Control Models	40
Motor and Impeller	41
Motor Mounting Bracket	41
This page intentionally left blank	42

Appendix A

DWA22A Operating Instructions	A–2
DWA33A Operating Instructions	A–3
DWA53A Operating Instructions	A–5
DWA63A Operating Instructions	A–7
DWA73A Operating Instructions	A–9

Important Information

Pride and workmanship go into every product to provide our customers with quality products. It is possible, however, that during its lifetime a product may require service. Products should be serviced only by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments and the appropriate service manual. **REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL BEFORE BEGINNING REPAIRS.**

Important Notices for Consumers and Servicers



WARNING

To avoid risk of serious injury or death, repairs should not be attempted by an unauthorized personnel, dangerous conditions (such as exposure to electrical shock) may result.



CAUTION

Amana will not be responsible for any injury or property damage from improper service procedures. If performing service on your own product, assume responsibility for any personal injury or property damage which may result.

To locate an authorized servicer, consult your telephone book or dealer from whom you purchased this product. For further assistance, contact: 1 (800) 628-5782 first, if no answer call number listed below.

CONSUMER AFFAIRS DEPT.
AMANA APPLIANCES
AMANA, IOWA 52204

**OR
CALL**

1 (800) 843-0304

If outside the United States contact:

AMANA
ATTN: CONSUMER AFFAIRS DEPT
AMANA, IOWA 52204, USA
Telephone: (319) 622-5511
Facsimile: (319) 622-2180
TELEX: 4330076 AMANA
CABLE: "AMANA", AMANA, IOWA, USA

Recognize Safety Symbols, Words, and Labels



DANGER

DANGER - Immediate hazards which **WILL** result in severe personal injury or death.



WARNING

WARNING - Hazards or unsafe practices which **COULD** result in severe personal injury or death.



CAUTION

CAUTION - Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

Important Safety Information



Recognize this symbol as a safety precaution.

- Read all instructions before using your dishwasher.
- Use your dishwasher only as instructed in this Owner's Manual.
- This Manual does not cover every possible condition or situation that may occur. Use common sense and caution when installing, operating and maintaining any appliance.
- Do not operate dishwasher unless all enclosure panels are in their proper place.
- Dispose of discarded appliance and shipping or packing material properly.
- Do not allow children to play in or on dishwasher.
- Do not abuse, sit, stand or play on door or racks of a dishwasher.
- Use only detergents and rinse agents recommended for use in a dishwasher.
- Store dishwasher detergent and rinse agents out of the reach of children.
- If the dishwasher drains into a food disposer, make sure disposer is completely empty before running dishwasher.
- Repairs should be done by a qualified technician.
- Do not tamper with controls.
- Do not touch the heating element during or immediately after use.
- Load sharp knives with the handles up to reduce the risk of cut-type injuries or damaging seal.



DANGER

To avoid death, severe personal injury, fire or electrical shock when using dishwasher observe the following:

- Disconnect electrical power to dishwasher before servicing.
- Connect dishwasher to a grounded metal, permanent wiring system.
- This dishwasher is designed to operate on regular house current (120 V, 60 Hz). Use a circuit equipped with a 15 ampere fuse or circuit breaker. Use a 20 ampere fuse if dishwasher is connected with a food waste disposer. Read Installation Instructions for details.
- Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for 2 weeks or more. **HYDROGEN GAS IS EXPLOSIVE.** If hot water system has not been used for such a period, before using dishwasher, turn on all hot water faucets and let water flow from each for several minutes. This will release any accumulated hydrogen gas. **HYDROGEN GAS IS FLAMMABLE.** Do not smoke or use an open flame during this time.
- Do not store or use combustible materials, gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Do not wash plastic items unless marked "dishwasher safe" or the equivalent. Check with manufacturer for recommendations, if not marked. Items that are not dishwasher safe may melt and create a potential fire hazard.
- To avoid entrapment and/or suffocation, remove door or door latch mechanism from any dishwasher that is discarded or not in use.

Installation Instructions

Installer: Leave Installation Instructions with owner.

Owner: Read your dishwasher Owner's Manual. It contains important safety information for operating this appliance. It also has many suggestions for getting the best results from your dishwasher.

Before Beginning

Read all instructions before installing dishwasher. For your safety, please read and observe all safety instructions. This guide will help you anticipate drain, water, and electrical connections, and help you select the best location for the dishwasher.



WARNING

To avoid risk of personal injury or property damage, do not use dishwasher until completely installed, do no push down on open door.

Tools and Materials Needed for Installation

- Drill, Electric
- Driver, Socket 3/16", 1/4", 5/16"
- Flaring Tool/Tube Cutter (for copper tubing)
- Flashlight
- Gloves (for changing color panels)
- Level
- Pipe Joint Compound (for iron pipe plumbing) or Pipe Thread Tape (for sealing threads)
- Pliers
- Safety Glasses
- Saw, Keyhole or 1/2". 1 1/2" to 2" Hole Cutters
- Screw Drivers, Slotted and #2 Phillips (magnetic tip preferred)
- Tape, Electrical or Duct
- Tape, Measuring
- Wire Stripper or Utility Knife

Parts You Will Need (Not Included)

- Drain Hose Clamp, 1 1/4" Diameter
- Elbow, 90° with a 3/8" National Pipe Thread
- Strain Relief Bushing
- Wire Nuts, two (2) for 12-14 gauge wire
- "Y" Branch Tailpiece and Connector Kit (See Step 4)
Plumbing Supply Store
- Air Gap Kit (See Step 4)
- Fasteners for floor anchoring (See Step 9)
Hardware Store



WARNING

To avoid risk of electric shock, personal injury or death, disconnect electrical power at fuse box or circuit breaker box before beginning installation.

Preparation Check List

- Examine dishwasher and locate connections.
- Locate dishwasher for easy access to drain, water, and electrical lines. Best location is either side of kitchen sink for access to existing plumbing and ease in loading dishes.
- Electrical, water, and drain connections are not the same for all age, brands, or models of dishwashers. Check the location and length of home utilities.
- A 15-20 amp, grounded, 120 VAC only, electrical supply is required.
- If dishwasher drain hose will be connected to a food disposer for the first time, remove plug located inside disposer inlet.
- Kinked water or drain hoses can cause problems. Do not remove drain hose from tub attachment.
- Dishwashers need to be connected to a hot water supply with enough water pressure to insure an adequate fill.
- Each home installation differs. Additional parts maybe required to complete installation.
- Flush water line prior to making final connection to prevent clogging of dishwasher's filter screen.
- Dishwasher will look, sound, and perform best when properly leveled.

NOTE: If levelers are removed during installation, verify floor is flat and free of any obstruction.

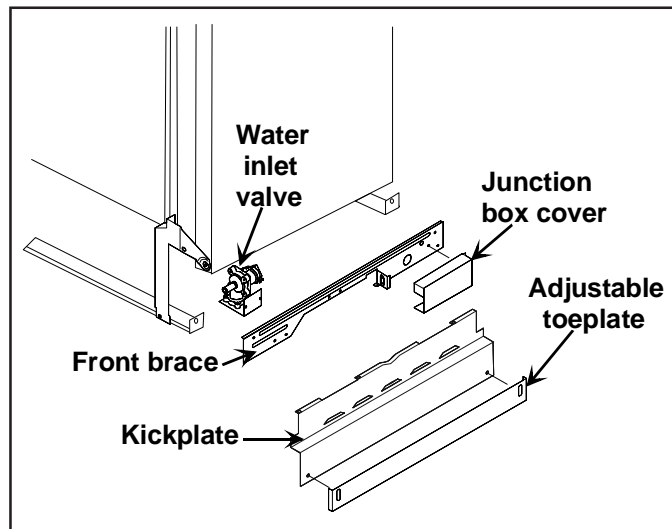
- Anchor dishwasher to countertop.

Installation Instructions

Installation Preparation

1. Remove screws securing front of the kickplate assembly.
2. Tilt and pull forward to remove.

NOTE: It is not necessary to remove outer door for installation. However, you might find it more convenient to do so.



3. Locate water inlet valve behind kickplate on bottom left underside of unit. The valve has a 3/8" NPT female fitting.
4. Wrap 90° elbow (not included) with pipe thread tape (or apply joint compound) and thread it into water inlet valve.
5. Tighten elbow with a wrench, leaving elbow pointing toward rear of unit. To prevent bending of bracket or breaking of valve, avoid overtightening.

Roughing In



WARNING

To avoid risk of electric shock, personal injury or death, observe all local codes and ordinances for electrical and plumbing connections. All electrical and plumbing work should be performed by qualified persons.

1. Verify location has the right drain, water, and electrical outlets to make the connections.



CAUTION

To avoid property damage or fire, do not install unit under a cooktop range. Damage to plastic tub will occur.

NOTE: For proper operation and appearance of unit, cabinet opening should have dimensions as shown below. If unit is to be placed in a corner, there must be at least a 2" side clearance to open door.

2. Remove any carpet from area to provide proper motor clearance. Floor should be flat and free of any debris or obstruction.

NOTE: Drain, water, and electrical lines should be roughed-in before going any further.



WARNING

To avoid risk of electric shock, personal injury or fire; electrical, water, and drain lines must be confined to shaded areas. Electric conductors, water, and drain could be damaged.

NOTE: If dishwasher is installed at the end of a cabinet line, sides and back of unit must be fully enclosed.

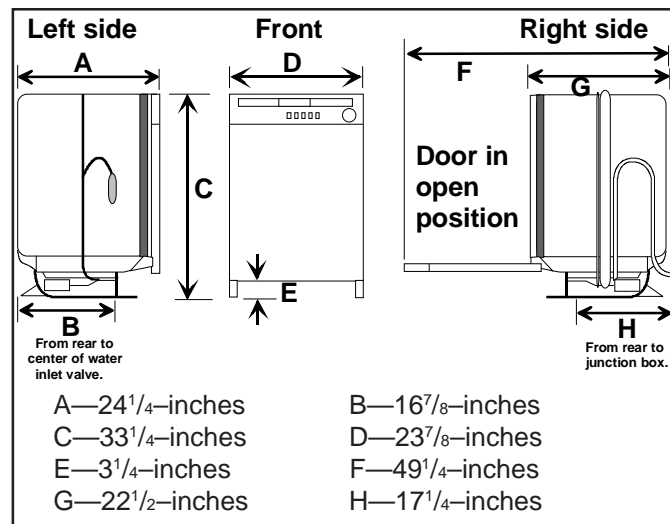
Connections for Electrical, Water, and Drain

NOTE: Do not cross drain, water, and electrical lines in front of dishwasher motor or frame.

Locating the Connections

1. Review dimensions to locate dishwasher's drain, water, and electrical connections.
2. All connections must be made in area shown.

NOTE: Do not remove drain hose from side of unit.



NOTE: Disconnect power before starting installation.

Installation Instructions

Electrical

1. The dishwasher operates on a 120 VAC, 60 Hz electrical supply. Provide a separate circuit with a fuse or circuit breaker rated for at least 15 amps (20 amps if connected with disposer), but not more than 20 amps.
2. Note the locations of electrical supply and dishwasher's electrical junction box on right side of unit behind kickplate assembly.
3. Cut access hole in area shown.
4. Pull electrical cable through hole into installation area.

Water

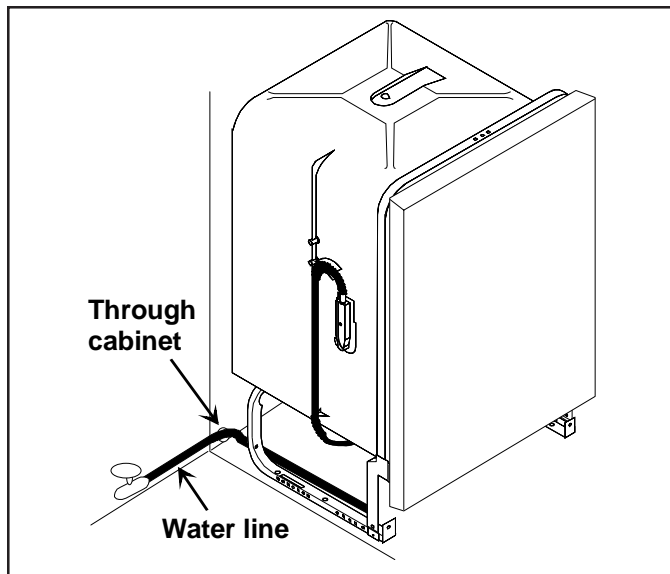
1. Determine where connection to hot water supply location to water inlet valve is located.



CAUTION

To avoid risk of property damage, do not use furnished drain hose or a rubber garden hose for the water supply line. Either of these hoses can burst, flooding may occur.

2. Verify water inlet valve is protected from freezing. If valve freezes and ruptures, flooding will occur.
3. Determine amount of tubing needed to connect hot water supply to unit's water inlet valve. Copper tubing must have a minimum 3/8" OD. High-pressure and high-temperature rated plastic tubing with a minimum inner diameter of 1/4" may be used. A shut-off valve installed outside dishwasher cabinet is best.

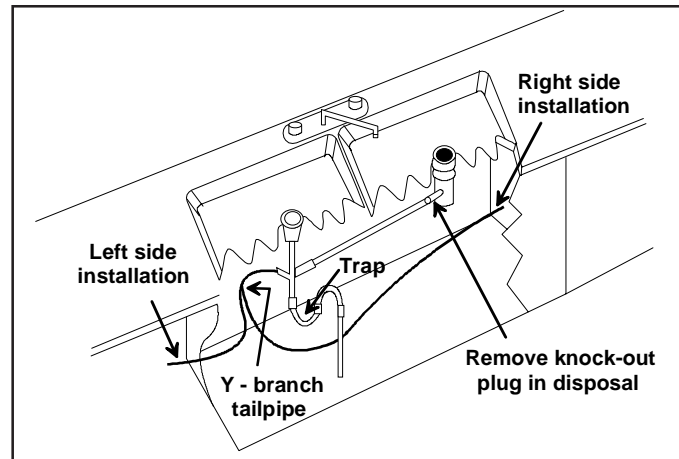


4. Cut water access hole in area shown.
5. Route water supply line into installation area.

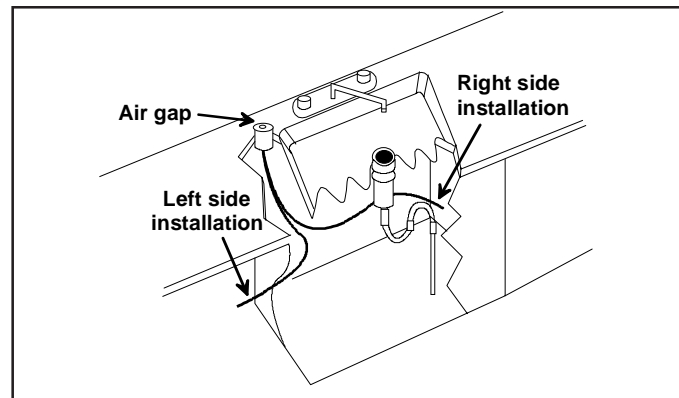
NOTE: Incoming hot water temperature should be at least 120°F (49°C). Water pressure should be between 20-120 psi.

Drain

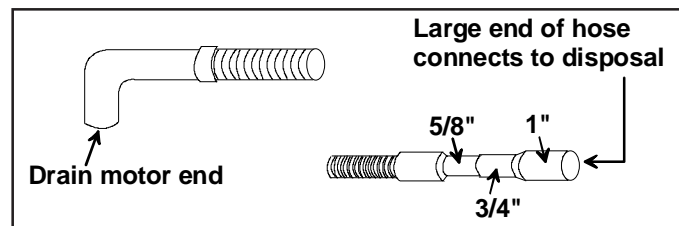
1. Review different ways to connect dishwasher to drain system. Choose method that best suits the need.



2. If you connect to a sink drain, entry will need to be above trap. A "Y" branch tailpiece and connector kit, not included, will make this method easier and includes all needed fittings and instructions.



3. If you connect to a sink trap, local codes may require installation of an air gap kit, not included. The drain hose will be routed from dishwasher to air gap inlet. An air gap kit is available from a plumbing supply store.
4. If connecting to a disposer, the large end of drain hose will fit. The knock out plug must be removed from inside disposer inlet before making the final fit to drain hose.



5. Before cutting drain hose access, check both sides of selected area to avoid interference. Cut a 2" diameter hole.
6. If cabinet wall is wood, sand edges of hole until smooth and rounded. If cabinet wall is metal, cover all sharp edges with electrical or duct tape to avoid cutting drain hose.

Installation Instructions

Leveling Dishwasher within Cabinets

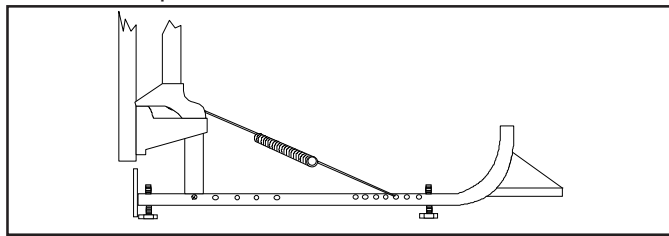
1. Measure height of cabinet opening from underside of countertop to floor. Check chart for height opening and suggested adjustment.

Leg Leveler Adjustment Chart

Height of Cabinet Opening	Number of Turns to Adjust Levelers
34" (86.4 cm)	0
34 1/8" (86.7 cm)	2
34 5/16" (87.2 cm)	6
34 1/2" (87.6 cm)	9

For additional height add shims under levelers.

2. Move dishwasher to front of installation area.
3. Loosen front and rear leveling legs by turning counterclockwise. Refer to chart for number of turns. Front levelers should allow 1/4" below underside of countertop.



4. If levelers have to be removed, make sure floor is free of obstructions.
5. Place dishwasher inside cabinet area so that it is centered in opening. Use caution when moving dishwasher to prevent damage to dishwasher, floor, and cabinets.
6. Verify dishwasher is level from side to side by placing a level against the top front section of the tub.
7. Verify dishwasher is level from front to back by placing level on side of opened door.
8. Adjust levelers up or down until dishwasher is level.

Finishing the Drain Connection



WARNING

To avoid risk of electric shock, personal injury or death, plumbing material and drain hose must not come in contact with wiring or electrical components.

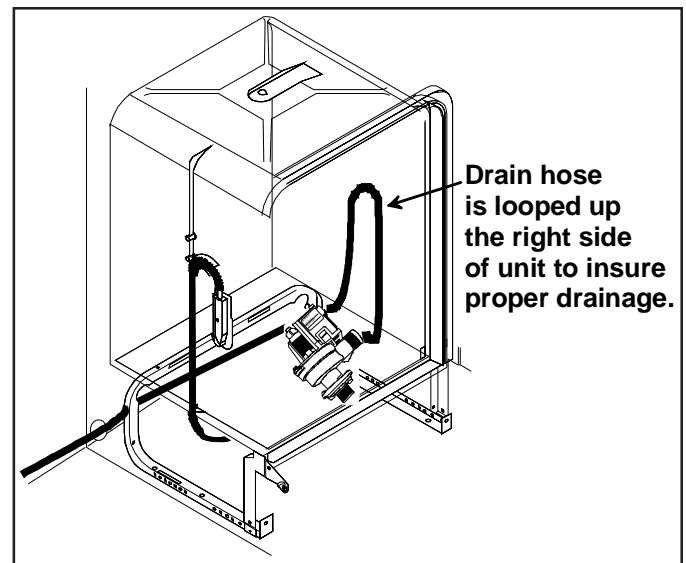
1. Pull out unit and move back in place while routing drain hose through access hole. Use caution to prevent damage to the dishwasher, floor and cabinets.

NOTE: Verify there are no sharp bends or kinks that might restrict drain flow.

2. Secure drain hose to sink drain, disposer, or separate trap with a clamp.

NOTE: Be careful not to overtighten clamp or damage to end of hose may result. Do not connect hose to horizontal pipe between sink drain and disposer.

3. Verify unit does not rest on drain hose. It should be free of electrical components and door springs. Do not cut corrugated drain hose. Pull excess through cabinet and place under sink. Verify hose does not come in contact with any sharp edges.



NOTE: Do not remove hose from attachment.

Installation Instructions

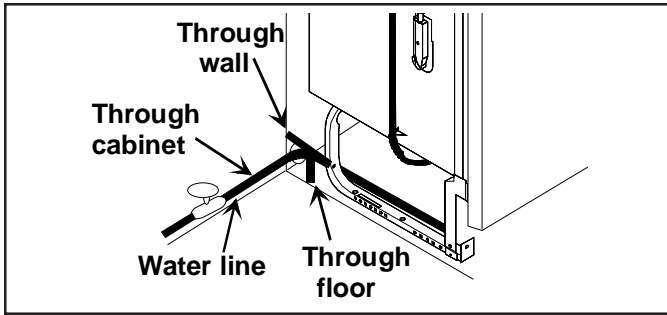
Finishing the Water Connection

CAUTION

To avoid risk of property damage, do not solder within 6" of the water inlet valve. Damage to the plastic parts in the valve may occur. Use care that no sealer, dirt, or other objects enter the valve. Damage to the filter screen may occur. Verify dishwasher is placed where water inlet valve will be kept from freezing. If the valve freezes, it may rupture and flooding may occur.

Water Line

1. Flush water line before connecting to water inlet valve to prevent early clogging of filter screen. Place a bunched towel over end of line to prevent splashing. Open valve for a few seconds and let water drain into a pan. Turn off water supply at shut-off valve.



2. Route water line to water inlet valve as shown.
3. While firmly pulling water supply line into 90° elbow, lightly connect water supply to water inlet valve. Supply line must be free of kinks, scales, chips, and lubricants.
4. Turn on water supply and check for leaks.
5. If water inlet valve clogs, verify water supply is off. Remove four screws at inlet end of valve and clean filter screen.

Finishing the Electrical Connection

WARNING

To avoid risk of electric shock, personal injury or death:

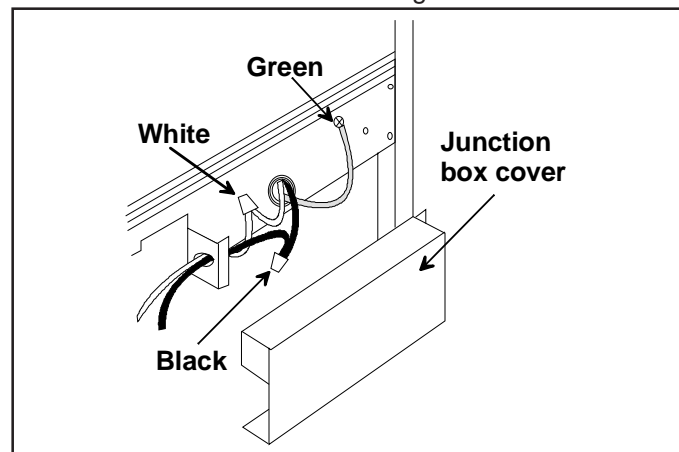
- Make sure electrical power has been disconnected at fuse box or circuit breaker box.
- The dishwasher must be connected to a grounded metal, permanent wiring system. The equipment-grounding conductor must be run with the circuit conductors and connected to the appliance's equipment grounding terminal or lead. It is the consumer's responsibility to contact a qualified installer to make sure the electrical installation conforms with the National Electrical Code and local codes and ordinances.
- Do not connect the dishwasher to the power supply until the appliance is permanently grounded.
- All wiring connections must be enclosed in the junction box. This unit has copper lead wires.
- Joining aluminum building wire to stranded copper wire should be done by a qualified electrician using materials recognized by UL and local codes.
- Do not use an extension cord. Such use can result in fire, electrical shock, or other personal injury.

Electrical Supply

1. Remove junction box cover and pull house wiring into junction box.
2. Use a UL listed strain-relief bushing, not included, at box to stabilize wiring.

NOTE: Be sure electrical cable is not routed behind dishwasher's motor.

3. Inside junction box, attach ground wire under head of grounding screw and tighten.
4. Connect incoming black lead to dishwasher's black lead and incoming white lead to dishwasher's white lead with wire nuts or other suitable connectors, not included. Wire nut should be tight.



5. Replace junction box cover.

Installation Instructions

Securing the Dishwasher

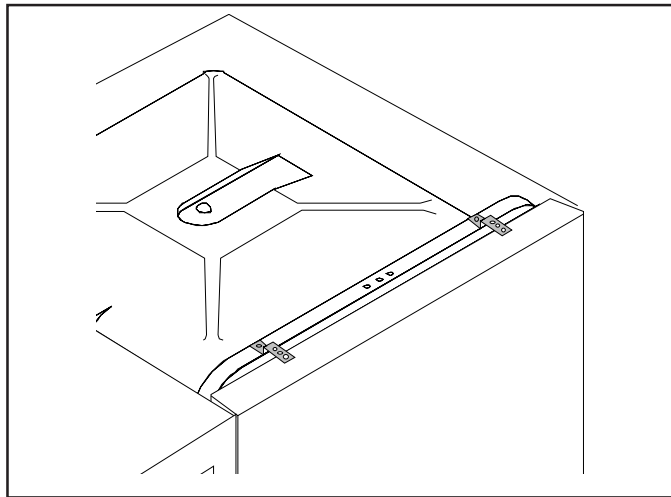
Dishwasher must be secured to keep from tipping when door is opened. Choose one of the methods described below to secure unit.

Countertop Anchoring

1. Adjust levelers so mounting brackets touch underside of countertop.

NOTE: Dishwasher must rest on floor - do not hang from countertop.

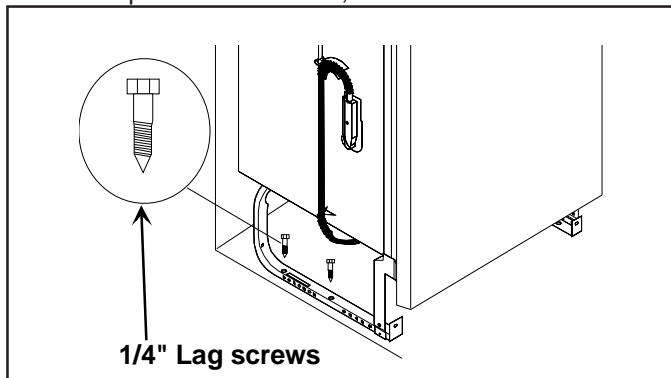
2. Screw mounting brackets firmly to countertop using screws provided in literature packet.
3. Open and close dishwasher door slowly. If door hits mounting bracket screw heads, adjust front levelers.



Floor Anchoring

This procedure is difficult and should be used only if countertop mounting brackets cannot be used.

1. Screw 1/4" lag screws (minimum 1 1/2"), not included, through holes provided in frame rail.
2. Use expansion fasteners, if floor is concrete.



Installing Wood Panels

Removing and Replacing Door



WARNING

To avoid risk of electric shock, personal injury or death, disconnect electrical power at the fuse box or circuit breaker box before beginning installation.



CAUTION

To avoid risk of personal injury, exposed edges of metal panels can cut if not handled properly. Always wear gloves to protect hands.

NOTE: Models with a formed door (no trim) can be customized to match wood cabinets. This will require a kit that includes a mid-door with side and bottom trim, heavy duty door springs, and instructions. These kits are available from your dealer or parts supplier and should be ordered based on the color of side trim desired.

To Install Customer Wood Panels

Models that have door trim will accept a customized panel up to 1/4" thick. A heavy-duty door spring kit is required if panel weighs more than 4 pounds. This kit is available from your dealer or parts supplier.

1. Cut wood door panel to the dimensions.
2. File or sand edges of wood panel until smooth. To protect wood panel from humidity, apply a moisture-resistant sealer on sides and edges.
3. Unlatch and open door. Using a screwdriver, remove screws from inner door. Save screws for reassembly.
4. Close and latch door while holding both sides.
5. Place one hand on each side of door and pull down at the top approximately 1/4". Pull entire door assembly toward you to remove.
6. Lay door assembly on flat surface and pull up on bottom trim to remove. Slide color panel(s) and spacer down and remove. Save panel(s) and spacer for future use.
7. Starting at the bottom, insert customer panel on inside edges of door. Push up into place.
8. Replace bottom trim by fitting slot over bottom edge of door. Secure by pressing from one side to the other.
9. Reinstall door by fitting the slots on each side of top door edge over the tabs on the metal liner. Push in to insure the door is flat. Push up from bottom until there is no gap between door and control panel.

NOTE: It may be necessary to loosen bottom screw on each side of control panel for proper fit when replacing door.

Installation Instructions

10. Unlatch door and open while supporting door on both sides at the bottom to keep in place. Align screw holes and replace screws. Tighten screws on control panel if loosened in step 9.
11. Adjust door springs to balance weight of wood panel. A correct spring setting allows door to remain horizontal in opened position, but will rise to close with slight lift of finger.
12. If necessary, increase tension by moving springs to a hole towards rear of unit or decrease by moving them towards the front.

Checking the Installation

Before starting the dishwasher, check these items:

- All packing materials and consumer literature have been removed from unit.
- Dishwasher is level and securely fastened.
- Water and drain lines have no kinks.
- Wiring connections to junction box are tight.
- Water supply is turned on.
- Joints are free of leaks.

Replacing Door

1. See "To Install Customer Wood Panels", numbers 9 and 10, for replacing outer door.
2. Turn electrical supply on.

Operate the machine through at least one fill and pump-out, checking the following items:

- At first fill, make sure water completely covers filter surface. (Motor pump sound may be heard before water enters unit.)
- At pump-out, make sure all water is pumped out.
- Check water connections again for leaks.



WARNING

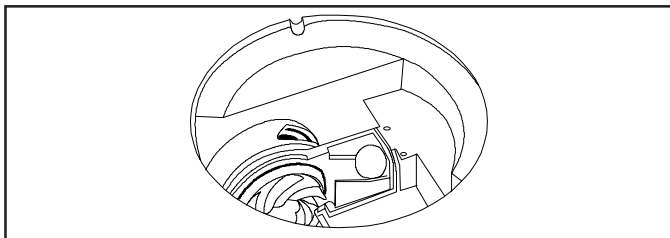
To avoid risk of electric shock or personal injury, if all connections are correct, there are no leaks and unit runs properly, replace the kickplate assembly before placing unit into operation.

General Information

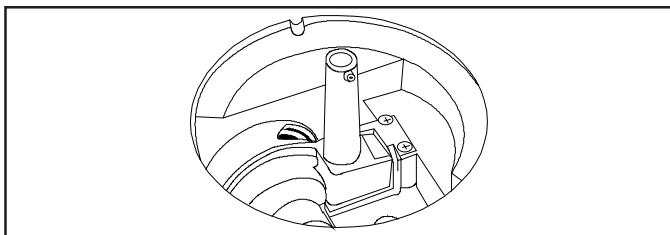
Water Distribution System

Water distribution system consists of an upper and lower spray arm, upper (spray) arm delivery tube, filter, soil director, pump, sump, and check ball. The system is designed to operate only one spray arm at a time. During the first wash and first and second rinses, only the lower spray arm operates. In the second wash, third and fourth rinses the spray arms alternate approximately every **90 seconds**.

This alternating of the spray arms is achieved with a check ball located on a ramp between two outlets to the pump. There is an outlet to the bottom spray arm and an outlet to the upper arm delivery tube. In the normal position the ball is at the bottom of the ramp, in front of the opening to the upper arm delivery tube.



When the pump starts, the force of the water pushes the ball to block the opening to the upper arm delivery tube.



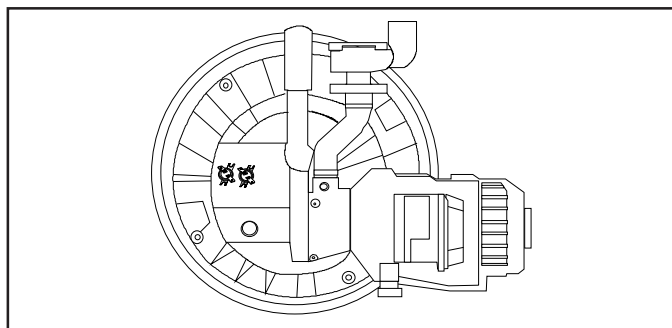
Not all of the water is blocked however. The opening is constructed to allow a small amount of water to bypass the ball and enter the tube, which fills the tube at a rate of approximately **four inches a second**. At the same time, the outlet to the lower spray arm is open, so the lower spray arm operates. When the pump stops, the pressure is removed from the ball and the water flows down the tube, forcing the ball up the ramp and against the outlet to the lower spray arm. If the pump remains off for more than **ten seconds**, all the water in the tube escapes and the ball returns to the bottom of the ramp. But, if the pump starts in less than **ten seconds**, the water from the upper arm delivery tube is still forcing the ball up the ramp against the outlet to the lower spray arm. The force of the water from the pump continues to hold the ball against the outlet to the lower spray arm which leaves the outlet to the upper arm delivery tube open. When the ball is in this position only the upper spray arm operates. This momentary stopping of the pump is controlled by a contact in the timer.

Another unique feature of the water distribution system is the two cavities of the sump. One cavity provides filtered water to the pump for recirculation through the spray arms. The other, called a quiet water cavity, allows soil to collect in the area of the macerator blade, where it is held until the drain pump removes it.

Water Distribution Components

Wash Pump

The recirculation (wash) pump has three functional parts, a 1/12th HP drive motor, impeller, and macerator blade. The pump circulates water at the rate of **12 gallons per minute**. This pump is used only during the wash cycle, a separate pump is used during the drain cycle. The wash pump is to be replaced as a complete assembly.

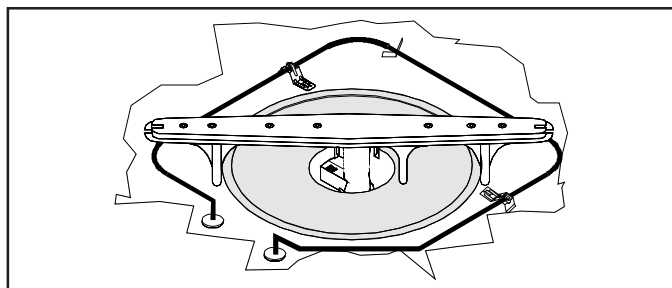


Upper Spray Arm

The upper spray arm hangs from a bracket that is snapped to the upper rack. The water is supplied to the arm with a nozzle and funnel arrangement. The nozzle is located at the top of the tub and the funnel is located directly below it and directs water into the arm. All the spray jets but one face up.

Lower Spray Arm

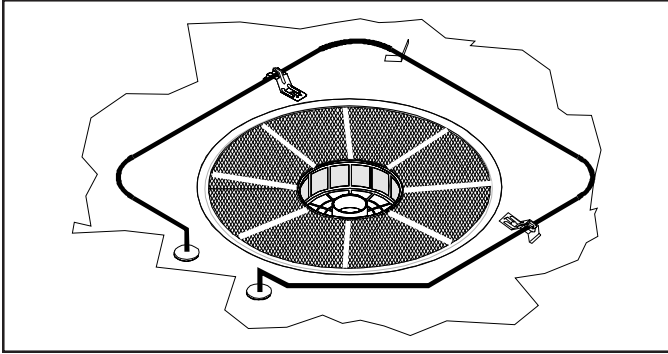
The lower spray arm rotates on the lower spray arm support. It has two functions, washing the dishes and cleaning the filter. The jets located on the top portion of the arm cleans the dishes and propels the arm. The three jets located on the bottom of the arm are aimed to flush the soil on the filter toward the glass trap and soil director.



General Information

Filter

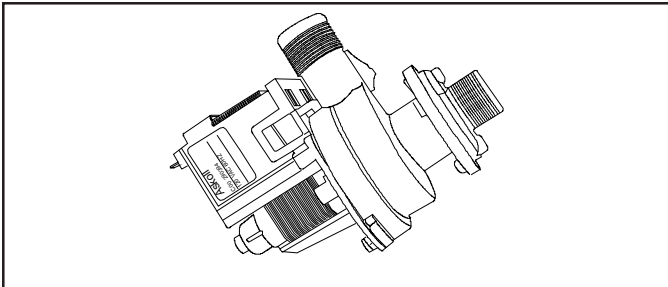
The filter consists of two parts, an inner basket constructed of fine polyester mesh, and an outer filter of molded polypropylene.



Drain Pump

The drain pump has only one function, to remove water from the dishwasher. The drain pump is driven by a 1/25th HP drive motor. Which consists of four functional parts; a pump cover, impeller and armature, and stator.

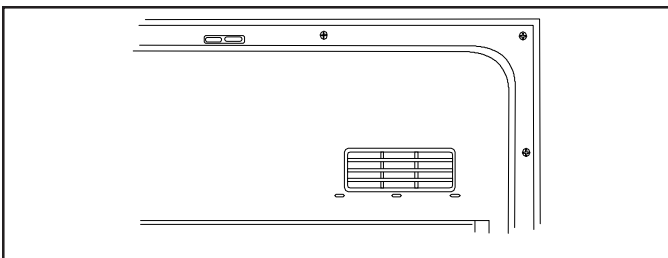
The quiet cavity and impeller cavity are connected by a hose underneath the sump. This connection between the two cavities allows both cavities to be drained.



Drying System

At the start of the dry cycle, a vent opens at the upper left hand corner of the door allowing the warm moist air to escape out the front of the control panel. Dry room air is drawn into the dishwasher tub through an opening across the bottom of the door. If the heated dry cycle is selected, the heating element raises the temperature of the air to increase the evaporation rate and the flow rate of air through the dishwasher.

The door vent actuator opens the vent only during the dry cycle. Vent is closed during all other cycles to minimize heat loss and prevent noise from being transmitted into the kitchen.



Drying System Components

Vent Valve

The vent valve is a rectangular rubber covered pad slightly larger than the opening. The vent valve is attached to the vent actuator which is electrically operated.

Vent Actuator

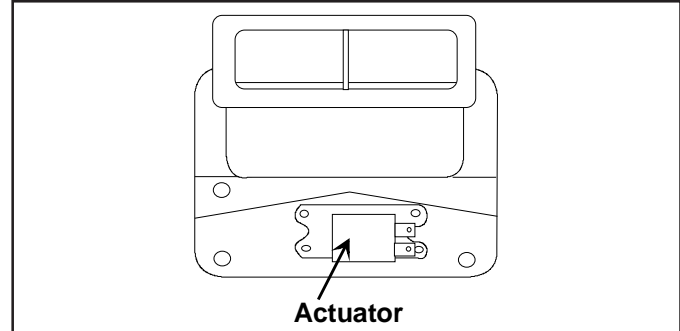
The actuator is made up of a rod, slide, wax motor and spring. The valve is attached to one end of the rod and the slide is inserted in the other. The spring pushes inward on the slide, forcing the rod to push the valve against the opening in the door panel.

When the timer enters the dry cycle, 120 VAC is applied to the wax motor. The wax motor is made up of a heating disk, fluid chamber, and piston. When voltage is applied to the heating disk, fluid is heated in the chamber causing the fluid to expand, driving the piston outward. The piston then forces the slide outward causing the vent valve to open.

The vent actuator is replaced as a complete assembly, no replacement parts are available.

Vent Housing

The vent housing is screwed to the inner door panel and directs the air from inside the unit to the outlet in the console.



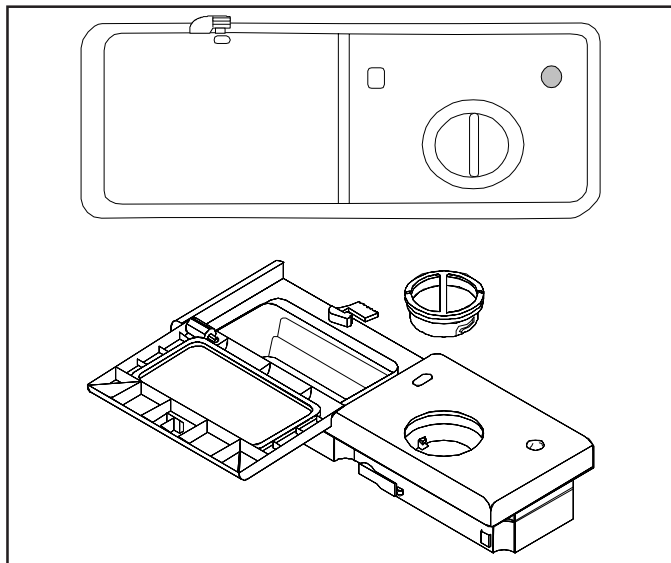
Dispensing System

Detergent & Rinse Aid Dispenser

The detergent and rinse aid dispenser consists of two dispensers combined in one housing which are controlled with one wax motor actuator. The first time the actuator is energized in a cycle it dispenses the detergent. The second time the actuator is energized it dispenses the rinse aid. Using a pointer under the fill cap, the amount of rinse aid dispensed may be adjusted from one to four ml.

The dispenser is replaced as a complete assembly, no replacement parts are available. If a more detailed explanation on how the dispenser operates is desired; continue.

General Information



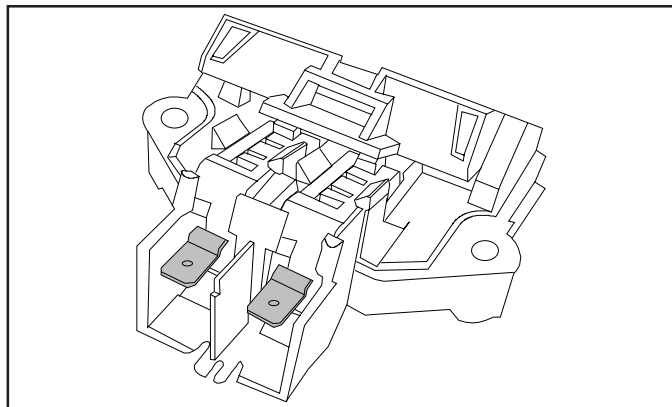
The dishwasher has two detergent cups, one in the dispenser that has a spring loaded cover with a manual or automatic release latch. The other cup is formed in the inner door panel without a cover. Prior to starting the dishwasher, detergent is added to the dispenser cup and the cover is latched closed. The open cup is for additional detergent which empties into the tub as soon as the door is lifted to the upright position.

The detergent in the covered cup is held until the start of the second wash. The timer then supplies 120 VAC to the dispenser actuator for **one minute**. It takes approximately **30 seconds** for the actuator to move the pivot arm to release the cover. When power is applied to the actuator, this pushes the end of the pivot arm down. The pivot arm rotates on the shaft of the detergent dispenser door latch. As the shaft rotates, it turns the door latch releasing the spring loaded cover.

The pivot arm is spring loaded so that when power is removed it returns to the normal (horizontal) position. The other end of the pivot arm has a pin that moves in a slot(s) of the rinse injector pump arm. The rinse injector pump arm is slotted in such a way that when the actuator pushes the lever down the first time to release the detergent cup cover, the pin moves up but does not raise the rinse injector pump arm. When the timer removes power from the actuator, the spring forces the rinse injector pump arm end of the pivot arm down. The compound slot in the rinse injector pump arm directs the pivot arm pin down the front of the rinse injector pump arm and under a shorter slot in the center of the arm. When the timer reaches the middle of the final rinse cycle, it again applies 120 VAC to the dispenser actuator which forces the pivot arm up at the rinse injector end. As the pin engages the shorter slot it raises the rinse injector pump arm which operates the pump. When the power is removed, the pivot arm spring forces the pin to the bottom of the slot. A leaf spring pushes the rinse injector pump arm to the left so that the pin returns to the original starting position.

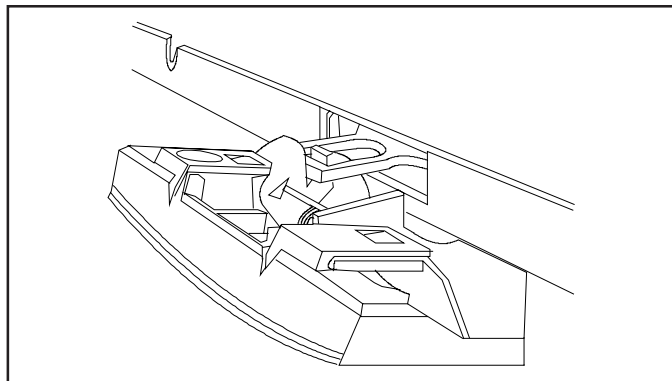
Door Latch Assembly

The door latch assembly has two functions, one is to lock the door in a closed position and the other is to operate the door switches.



The door latch assembly consists of the door handle, door handle bracket, door catch, door switch bracket, and door switches. The assembly is secured to the inner door panel with two locator pins and two screws. The handle is hidden by, and accessed through the control panel.

When the door is closed, the door strike, mounted on the tub, forces the spring loaded catch to rotate back until the bottom of the catch clears the door handle bracket. At that time the spring forces the door handle bracket to rotate. The bar on the top of the door handle rotates back under the door catch locking the door. The plunger on the bottom of the bracket rotates forward closing the door switches.

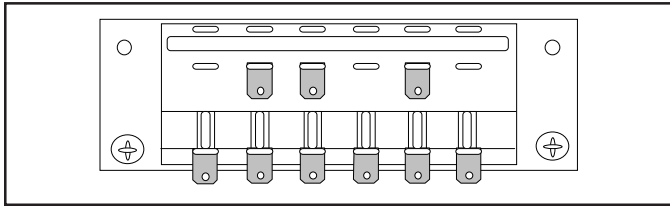


The door is released by lifting up on the door handle. When the handle is lifted up, the door handle bracket rotates in at the top, allowing the door catch to rotate open, and out at the bottom to open the door switches. When the catch is rotated to the open position, it holds the door handle bracket away from the door switches.

General Information

Selector Switch and Thermostat

Depending on model, the selector switch may have two to six buttons and consist of one to three switches.



Heat Dry

If the dishwasher has two buttons controlling one switch, the switch is in series with the element during the dry cycle, allowing the element to be turned on or off. When “on” is selected, the contacts of the switch are closed and when “off” is selected the contacts of the switch are open.

Temperature Boost

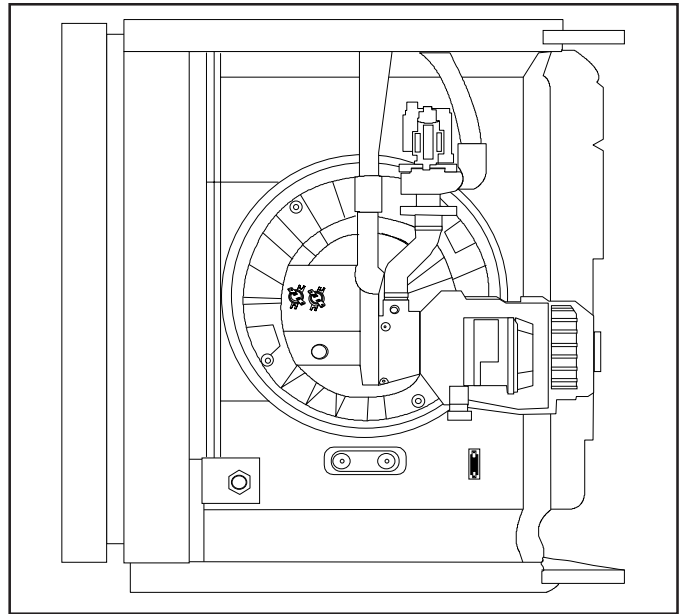
If the selector switch has four buttons and two switches, one switch controls the dry cycle like the two button switch. The second switch is in parallel with a thermostat mounted to the bottom of the pump sump and a contact in the timer. These three components are electrically in series with the timer motor. The timer contact opens near the end of the second wash and near the end of the final rinse. This means for the timer to advance, the motor must receive power from either the selector switch or thermostat. If the contacts of the switch are closed, power is not interrupted to the motor so the timer does not pause. If the contacts of the switch are open, power for the timer motor must come through the thermostat. The contacts of the thermostat will close when the temperature of the water in the tub reaches **135° F**. If the water temperature in the dishwasher is below **135° F**, the timer will pause until the heating element raises the water temperature to **135° F**.

Temperature Assure

If the selector switch has six buttons and three switches, an extra switch and additional thermostat is added (as compared to the four button switch). It functions like the four button switch except the customer can select either high temperature wash, high temperature rinse, or both. On the six button model, the wash thermostat opens at **125° F**.

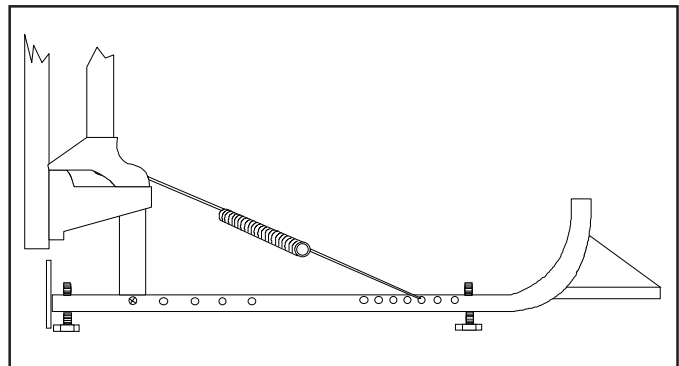
High Limit Thermostat

Located on the left rear tub bottom, the high limit thermostat is used to prevent the tub from overheating in the event of a component failure. The thermostat will open at **200° F**.



Dishwasher Leveling System

The front and rear corners of the dishwasher can be adjusted to level the dishwasher using the typical hex shaped leveling leg.



Care and Cleaning Instructions

WARNING

To avoid risk of burns, allow heating element to cool before cleaning the interior.

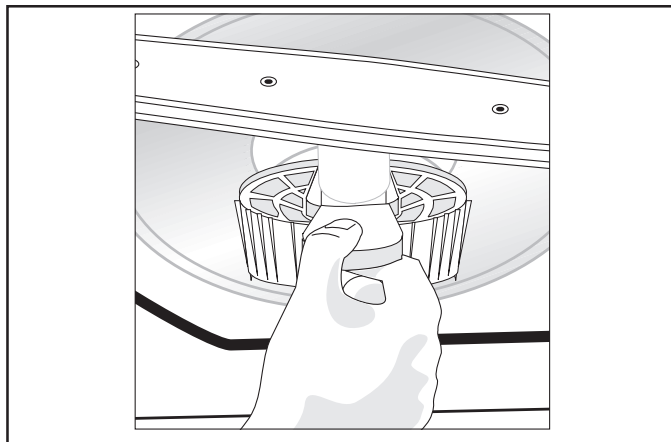
Outside

Occasionally wipe with a mild nonabrasive detergent and water. Rinse and dry.

Inside

The inside of the dishwasher is self-cleaning with normal use. If needed, clean around the tub gasket area with a damp cloth.

The filter is self-cleaning. A glass trap located in the center of the filter is designed to collect pieces of broken glass, straws, bones and pits. To remove items in glass trap, grasp handle, lift out, empty and replace.



Do not use the following items to clean interior:

- Abrasive or harsh cleaners, ammonia, chlorine bleach etc.
- Concentrated detergents
- Solvents
- Metal scouring pads

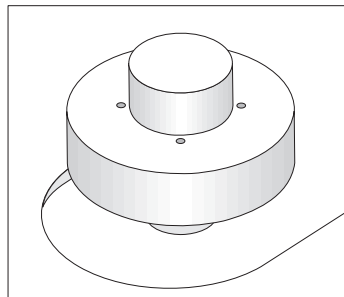
These items can scratch, crack and discolor surfaces.

NOTE: Hard water may cause lime deposit buildup on the interior of the dishwasher. For cleaning instructions see *Removing Spots and Film*, in *Before Calling For Service* section.

Overfill Protector

Overfill protector keeps dishwasher from overfilling and is located in the left front corner of the tub.

- Clean occasionally with household cleaner containing vinegar or bleach to dissolve any buildup.
- Overfill Protector should move up and down freely about one inch. If it does not move, lift and clean underneath.



Care of Drain Air Gap

If a drain air gap was installed for your built-in dishwasher, check to make sure it is clean so the dishwasher will drain properly. A drain air gap is usually mounted on countertop and can be inspected by removing the cover. This is not part of your dishwasher and is not covered by warranty.

CAUTION

To avoid property damage all supply lines to and circulating within dishwasher must be protected. Freezing temperatures may cause water lines to rupture.

Winterizing

A dishwasher left in an unheated place should be protected from freezing. Have a qualified person do the following:

To Disconnect Service:

1. Turn off electrical power to the dishwasher at the supply source by removing fuses or tripping circuit breaker.
2. Shut off water supply.
3. Place a pan under the inlet valve. Disconnect water line from inlet valve and drain into pan.
4. Disconnect drain line from pump and drain water into pan.

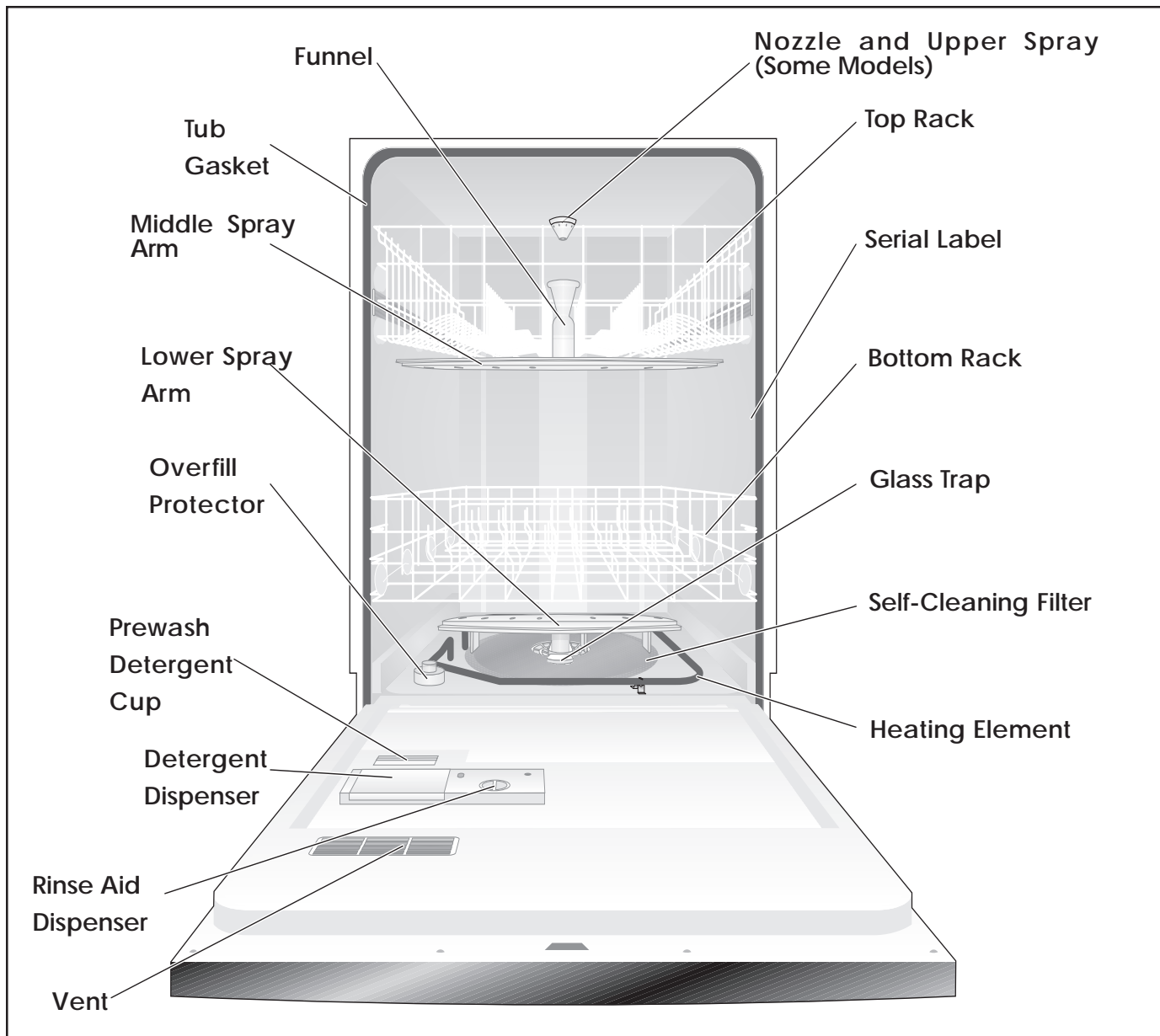
To Restore Service:

1. Reconnect the water, drain, and electrical power supply.
2. Turn on water and electrical power supply.
3. Fill both detergent dispensers and run dishwasher through a NORMAL cycle.
4. Check connections to make sure they do not leak.

NOTE: See Installation Instructions for more details.

Dishwasher Features

Your dishwasher cleans by spraying a mixture of hot water and detergent through the spray arms against soiled surfaces. Each cycle begins with a pre-drain. Next, the dishwasher fills with water covering the filter area. Water is then pumped through the filter and spray arms. Soil particles go down the drain as the water is pumped out and replaced with clean water. The number of water fills will vary with the cycle being used.



Water Pressure

Dishwasher hot water line must provide water pressure between 20 and 120 psi.

Low water pressure may occur when laundry or showers are in operation. Wait until water use is reduced before starting dishwasher.

Water Temperature

Hot water is needed for best dishwashing and drying results. Water entering dishwasher should be at least 120°F (49°C) to give satisfactory results.

To check water temperature entering dishwasher:

- Turn on hot water faucet nearest dishwasher for several minutes to clear cool water from pipes.
- Hold a candy or meat thermometer in stream of water to check the temperature.
- If temperature is below 120°F (49°C), have a qualified person raise the thermostat setting on household water heater.

NOTE: Before starting a cycle, run hot water to clear cool water from pipe.

Normal Operating Sounds

Preparing and Loading Dishes

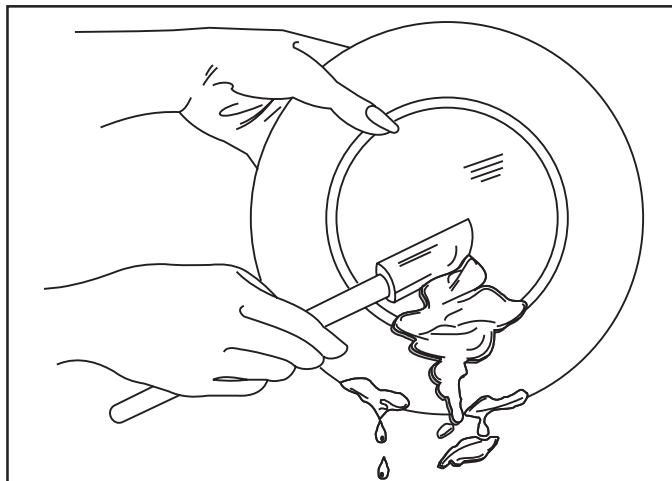
Important Read before operating your dishwasher. This dishwasher is quieter than comparable dishwashers.

The new wash system uses energy efficient motors for the wash and drain portions of the cycle you select. Each cycle has a series of water fills and drains for washing and rinsing dishes.

You will hear splashing water as it enters the tub. Then the lower arm rotates and circulates water. This is followed by a pause and a slightly different sound as the upper arm sprays water. You can hear a change in sound as the wash action switches from one arm to the other.

Dish Preparation

Scrape away large pieces of food, bones, pits, toothpicks, etc. The continuous filtered wash system will remove remaining food particles. Burned-on foods should be loosened before loading. Empty liquids from glasses and cups.

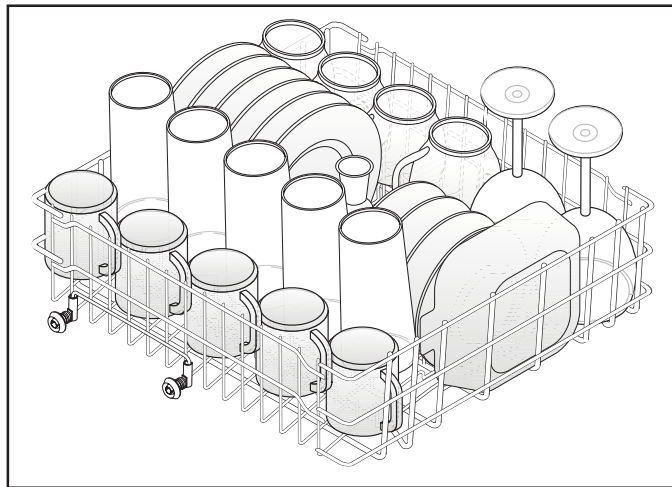


Foods such as mustard, mayonnaise, vinegar, lemon juice and tomato based products may cause discoloration of stainless steel and plastics if allowed to sit for a long period of time. Unless the dishwasher is to be operated at once, it is best to rinse off these food soils.

- Load racks so large items do not prevent detergent dispenser from opening.
- Check manufacturer's recommendations before washing items in question.
- If the dishwasher drains into a food disposer, **be sure disposer is completely empty before starting dishwasher.**

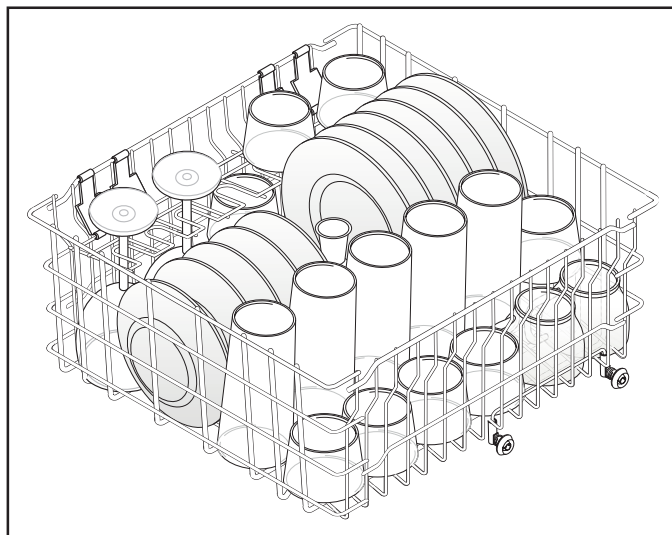
Loading the Top Rack (Racks may vary from model to model.)

NOTE: Do not cover the funnel when loading.



- Top rack is designed for cups, glasses, small plates, saucers and bowls. Load glasses in top rack. Damage may occur if these items are placed in bottom rack.
- Load plastic items in top rack only. Melting may occur if placed in bottom rack.
- Load items with open ends facing down for better cleaning and draining.
- Damage may occur if delicate items touch each other during dishwasher operation.
- Long-handled knives and utensils can be placed in top rack.
- Be sure nothing protrudes through the bottom of the rack to block rotation of middle spray arm.

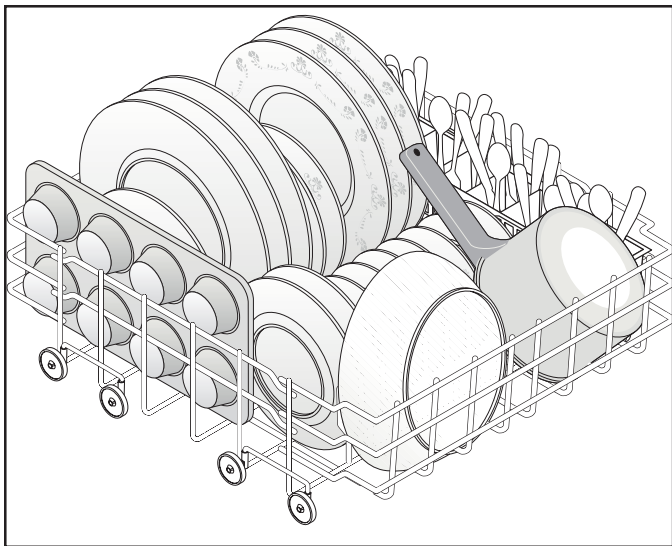
Some models feature a cup shelf or stemware holder in top rack. Cup shelf/stemware holders can be used for two layers of short items or to hold stemware in place. When using two layers, alternate items in top layer with lower layer so water can reach all items.



Normal Operating Sounds

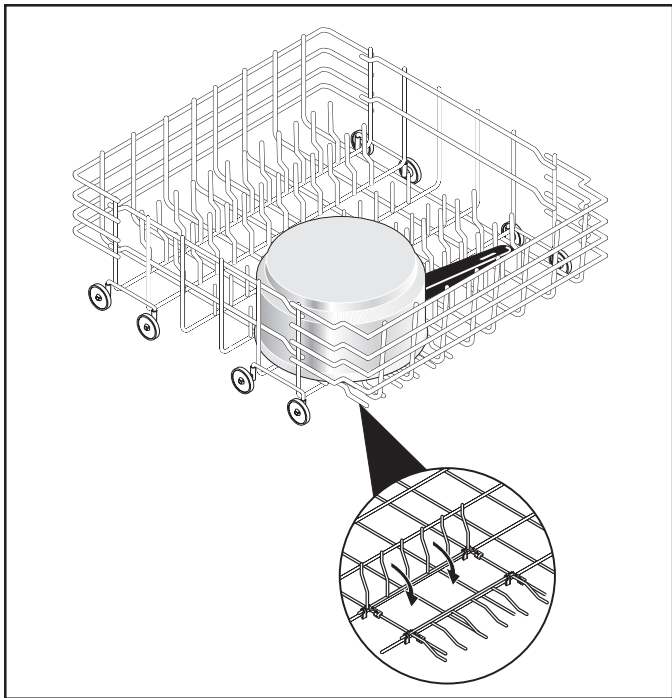
Loading the Bottom Rack

- Make sure tall items do not block spray arm rotation.
- Place plates and platters so they do not touch.
- Place bowls, casseroles and sauce pans with the soiled surface facing down or toward the center. Tilt slightly for better drainage.
- Be sure pan handles do not protrude through the bottom of the rack and block spray arm rotation.



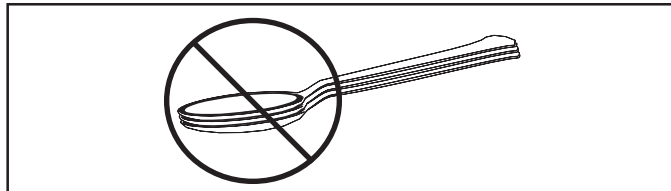
Fold-down Tines (Some models)

Fold-down tines in lower rack make easy loading of those extra large and hard to fit items. Fold-down tines may be left up for normal use or folded down for more flexible loading.



Loading the Silverware Basket

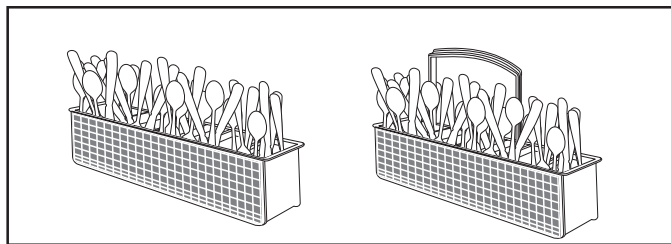
Mix spoons, forks and knives to prevent nesting. Mixing items gives better cleaning and drying. Small plastic dishware such as measuring spoons and lids are not recommended for automatic dishwashing.



WARNING

To avoid personal injury or property damage, load sharp knives and forks with handles up in silverware basket.

Be sure nothing protrudes through bottom of basket or rack to block spray arm. (Some models feature a silverware basket with a handle.)



Do not mix silver and stainless to avoid damaging the silver finish.

If silverware basket is positioned on side of rack, orient silverware so they lean towards center of dishwasher. This will prevent silverware from damaging the dishwasher tub.

Adding a Dish

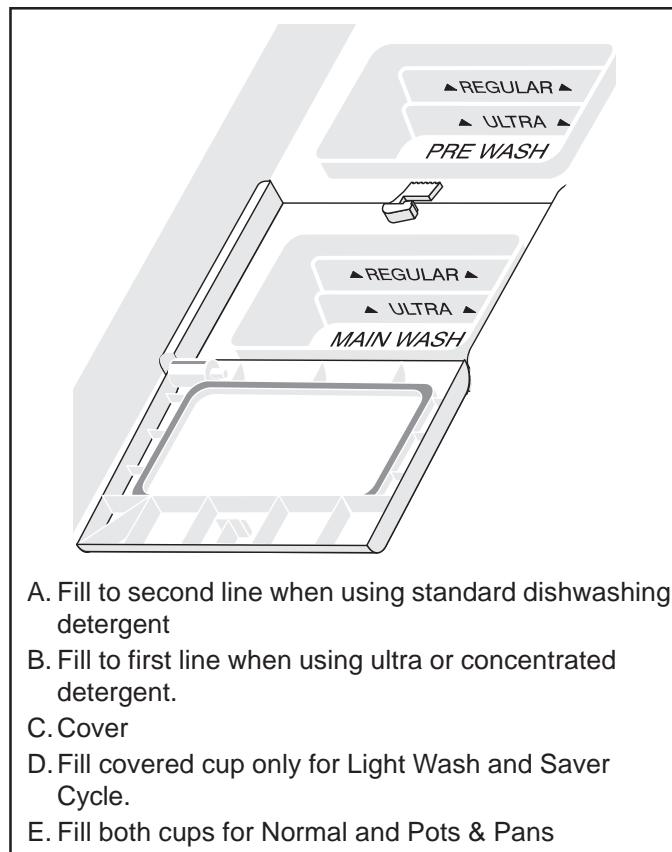
To add or remove items after wash cycle starts:

- Unlatch door and wait a few seconds until wash action stops before opening.
- Add the item and wait a few seconds to allow cold air to slowly expand inside dishwasher.
- Close door firmly to latch and resume cycle. (Press Start/Cancel pad if available on your model.)
- Use only fresh automatic dishwashing detergent. Other types will cause oversudsing.
- Add detergent just before starting cycle.
- Store detergent in a cool, dry location. Moist or caked detergent will not dissolve properly.

Dishwasher Dispenser & Detergents

Filling the Detergent Dispenser

The detergent dispenser has one covered and one uncovered cup. Detergent in the uncovered cup falls into the dishwasher when the door is closed. The covered cup opens automatically in the main wash.



How Much Detergent to Use

The amount of detergent to use depends on the water hardness. Water hardness is measured in grains per gallon. Using too little detergent can result in poor cleaning and hard water filming or spotting. Using too much detergent in soft water can cause permanent etching on glassware. Your local water company, water softener company or county extension agent can tell you the water hardness in your area.

More detergent may be needed if the phosphorus content is 8.7% or less. The phosphorus content is shown on the detergent label. Phosphorous detergents are not available in some areas.

Detergent Chart	
Water Hardness	Amount per cup
Soft (0-3 grains)	2 Teaspoons
Medium (4-8 grains)	5 Teaspoons
Hard (9+ grains*)	10 Teaspoons (fill level with top)

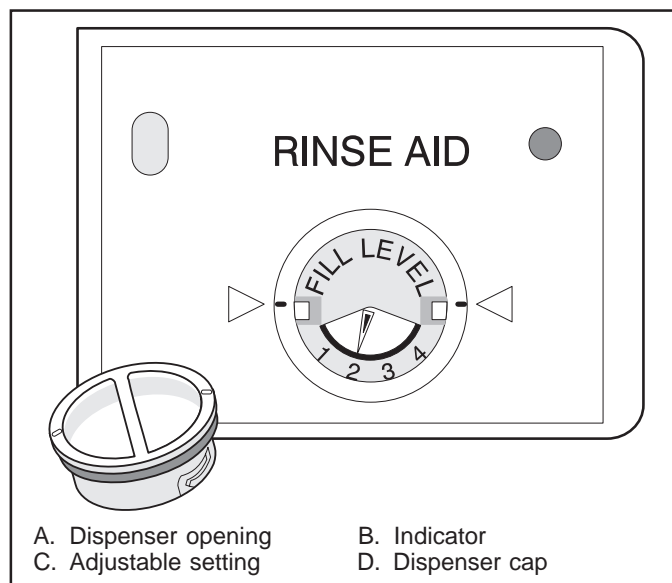
*12 grains and higher is extremely hard water. Detergent alone may not be enough. A water softener is recommended to improve water quality and dishwashing performance.

Rinse Aid

Rinse aid greatly improves drying and reduces water spots and filming. Water "sheets" off dishes rather than forming water droplets that cling and leave spots.

A dispenser, located next to the detergent cup, automatically releases a measured amount of rinse aid during the last rinse. If spotting and poor drying are problems, increase the amount of rinse aid dispensed by rotating the dial to a higher number. The dial is located under the dispenser cap. The indicator will be dark when full and will show clear when it is time to refill.

To add liquid rinse aid, turn dispenser cap $\frac{1}{4}$ turn counterclockwise and lift out. Pour in rinse aid until liquid touches the indicated fill level. Replace cap.



Do not overfill since this can cause oversudsing. Wipe up any spills with a damp cloth.

The dispenser holds enough for 35 to 140 washes, depending on setting.

Before calling service, review this list. It may save both time and expense. This list includes common experiences that are not the result of defective workmanship or material in your dishwasher.

Before Calling Service

Food Soils Left on Dishes

- Choose another cycle for longer washing time.
- Check rack loading section for proper loading—avoid nesting items. See *Preparing and Loading Dishes*.
- Home water pressure may be too low—should be 20 to 120 pounds per square inch (psi).
- Check incoming water temperature. It should be at least 120°F (49°C). See *Factors Affecting Performance*.
- Check water hardness. For extremely hard water, it may be necessary to install a water softener. See *Detergent Chart*.
- Use fresh detergent.
- Check to make sure funnel in top rack is not blocked.
- Make sure items are not blocking the spray arms, preventing them from rotating. See *Preparing and Loading Dishes*.
- Check to see if the rinse aid dispenser needs refilling. See *Rinse Aid*.
- Check phosphate level of automatic dishwasher detergent. Use detergent with higher phosphate level if available in your area.
- Confirm automatic dishwasher detergent (if not a gel detergent) is not old or wet. If so, replace detergent.

Dishes not Dry

- Select Heated Dry option. See *Operating Instructions*.
- Make sure the rinse aid dispenser is filled. See *Rinse Aid*.
- Increase the amount of rinse aid. See *Rinse Aid*.
- Check the incoming water temperature. Be sure it is at least 120°F (49°C).
- Check for proper loading—avoid nesting items. See *Preparing and Loading Dishes*.
- Plastic items may need to be towel dried.
- Cups with a concave bottom will collect water.

Glassware/Flatware Spotted or Cloudy

- Check water hardness. For extremely hard water, it may be necessary to install a water softener. See *Detergent Chart*.
- Water temperature may be low. Avoid extremely low or high temperatures. See *Factors Affecting Performance*.
- Avoid overloading and improper loading. See *Preparing and Loading Dishes*.
- Use fresh detergent. Old detergent is ineffective.
- Make sure rinse aid dispenser is filled. See *Rinse Aid*.
- Check to see that proper amount of detergent is being used for cycle selected. Also, check phosphate level of detergent. See *Detergent Dispenser*.
- Home water pressure may be too low—it should be 20 to 120 pounds per square inch (psi).

Dishware Chipped

- Load with care and do not overload. See *Preparing and Loading dishes*.
- Place delicate items in top rack. See *Preparing and Loading dishes*.
- Place glasses securely against pins and not over pins.
- Load items so they are secure and don't jar loose when moving racks in and out. Move racks in and out slowly.
- Make sure tall glasses and stemware will clear top of tub when rack is pushed in.
- Fine antique china and crystal should be hand-washed.

Dishware Stained or Discolored

- Tea and coffee can stain cups. Remove the stains by handwashing in a solution of 1/2 cup (120 ml) bleach and one quart (1 L) of warm water. Rinse thoroughly.
- Iron deposits in water can cause a yellow or brown film. A special filter installed in the water supply line will correct this problem. See *Removing Spots and Film*.
- Aluminum utensils can leave gray/black marks when they rub against other items. Load properly.
- Certain high acid foods can cause discoloration of stainless steel and plastics if allowed to sit for a long period. Use the Rinse & Hold cycle or rinse by hand if not operating dishwasher at once.
- Mixing stainless steel and silver utensils in silverware basket can cause pitting of the stainless steel blades. Avoid mixing stainless steel and silver.

Etching

- Using too much detergent in soft or softened water causes a film (etching) that cannot be removed.
- Adjust the amount of detergent based on the water hardness. (Check Detergent Chart.)
- Lower the water temperature.
- Use the Air Dry option.

Detergent Left in Cups

- Detergent may be old. Discard and use fresh detergent.
- Be sure water action can reach the dispenser. See *Preparing and Loading Dishes*.
- Check to see if cycle has been completed.
- Make sure items do not prevent the detergent dispenser from opening.

Before Calling Service

Dishwasher Leaks

- Use only fresh detergent designed for automatic dishwashers. Measure detergent carefully. Try a different brand.
- Spilled rinse aid can cause foam and lead to overflowing. Wipe up any spills with a damp cloth.
- Check to see that dishwasher is level. See *Installation Instructions*.

Normal Sounds You Will Hear

- Normal sounds include water fill, water circulation and motor sounds. See *Normal Operating Sounds*.
- There is a noticeable change in sound when the wash action switches between the lower and middle spray arm. This is normal since each spray arm has its own sound.
- It is normal for dishwasher to pause (no sound) when the wash action is switching between the lower and middle spray arms.

Water in Bottom of Tub

- Water left in bottom of tub after cycle is complete is not normal. If water remains in the bottom of the tub, dishwasher may not be draining properly. See *Dishwasher Does Not Drain Properly*.

Vapor at Vent

- Water vapor escapes from the vent when the dishwasher goes into the drying part of cycle. This is normal.

Dishwasher Will Not Operate

- Check to see if circuit breaker is tripped or a fuse is blown.
- Make sure water supply is turned on.
- Check to see if cycle is set correctly (See *Operating Instructions*).
- Is dishwasher set for delay start option?
- Make sure door is closed and latched.

Dishwasher Does Not Drain Properly

- If unit is hooked up to a food waste disposer, make sure the disposer is empty.
- Check to see if the knockout plug has been removed from inside the food waste disposer inlet. See *Installation Instructions*.
- Check to see if drain hose is kinked.
- Make sure cycle is complete, not in a pause.

Cycle Takes a Long Time

- Is cycle in a water heating delay? See *Operating Instructions*.
- Has the delay start option been selected?

Dishwasher Will Not Fill

- Is water supply turned on?
- Does overflow protector move up and down freely? See *Overflow Protector*.

Dishwasher Has an Odor

- Soiled dishes left in dishwasher too long can create an odor. Use Rinse & Hold cycle.
- There will be a "new" smell when first installed. This is normal.
- Check to see if unit is draining properly. See *Dishwasher Does Not Drain Properly*.

Stains on Tub Interior

- Washing large amounts of dishware with tomato based soil can cause a pink/orange appearance. This will not affect performance and will gradually fade with subsequent washings. Pre-rinsing or using the Rinse & Hold cycle will reduce the chance of staining. Using Air Dry option will lessen staining.

Removing Spots and Film

Hard water can cause lime deposit buildup on the interior of the dishwasher. Dishes and glasses may also get spots and film for a number of reasons. See *Glassware/Flatware Spotted or Cloudy* section. To remove buildup, spots and film, clean using the following instructions:

1. Load clean dishes and glasses in normal manner. Do not load any metal utensils or silverware.
2. Do not add detergent.
3. Select the NORMAL WASH cycle. Close and latch door to start. (Press Start/Cancel pad if available on your model.)
4. Allow dishwasher to run for 25 minutes to reach the main wash portion of cycle.
5. Unlatch and open door and pour 2 cups of white vinegar into the bottom of dishwasher.
6. Close and latch door and allow the cycle to finish. (Press Start/Cancel pad if available on your model.)
7. If condition persists repeat above procedures using 1/4" cup of citric acid crystals instead of vinegar in step 5. Contact Consumer Information Department to order citric acid crystals part number R0910039.

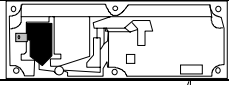
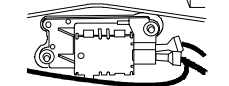
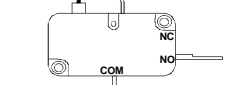
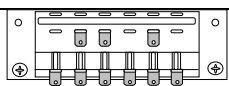
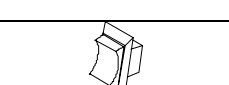
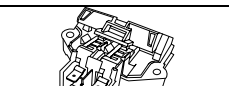


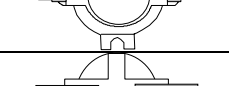
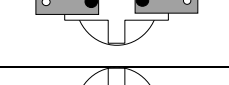
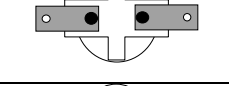
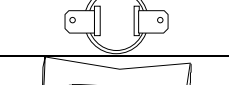

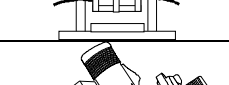

NOTE: If these conditions persist, a home water softener should be considered.

Component Testing Procedures



WARNING

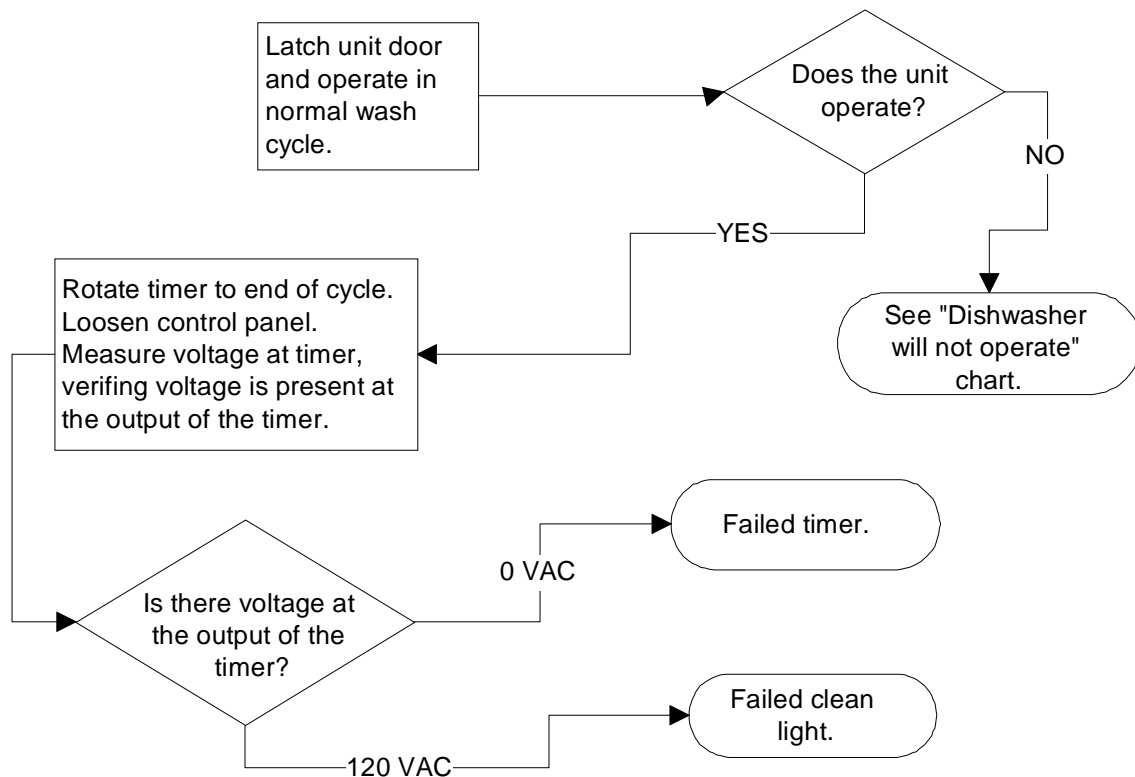
To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing, unless testing requires it.

Illustration	Component	Test Procedure	Results
	Dispenser	Measure resistance from terminal to terminal:	Approximately 1928 Ω
	Vent actuator	Measure resistance from terminal to terminal:	Approximately 1893 Ω
	Float switch	Switch connection in following positions: Engaged Disengaged	0.5 Ω Infinite
	Selector switch	Press each button and measure resistance from terminal to terminal: Engaged Disengaged	Refer to wiring diagram/schematic for switch action. Continuity Infinite
	Rocker switch	Measure continuity of positions: Closed Open	Continuity Infinite
	Latch assembly	Measure resistance from terminal to terminal: Door Closed Door Open	Continuity Infinite
	Water valve	Measure coil resistance, terminal to terminal:	Approximately 699 Ω
	Reset thermostat	Measure resistance from terminal to terminal: Reset–continuity Open–infinite	Resets at 100°F Opens at 200°F
	Temperature assure thermostat	Measure resistance from terminal to terminal: Reset– continuity Open–infinite	117°F $\pm 5.5^\circ\text{F}$ 97°F $\pm 7^\circ\text{F}$
	Temperature boost thermostat	Measure resistance from terminal to terminal: Reset– continuity Open–infinite	127°F $\pm 5.5^\circ\text{F}$ 107°F $\pm 7^\circ\text{F}$
	Thermistor	Measure resistance from terminal to terminal:	10 k Ω at 77°F
	Heating element	Measure resistance from terminal to terminal:	Approximately 9.28 Ω
	Transformer DWA73* units only	Measure continuity of terminals: Primary terminals 1 to 2 Secondary terminals 3 to 4	102 Ω 2.4 Ω
	Drain motor	Measure resistance from terminal to terminal:	Approximately 28 Ω
	Pump motor	Measure resistance from terminal to terminal:	Approximately 4.3 Ω

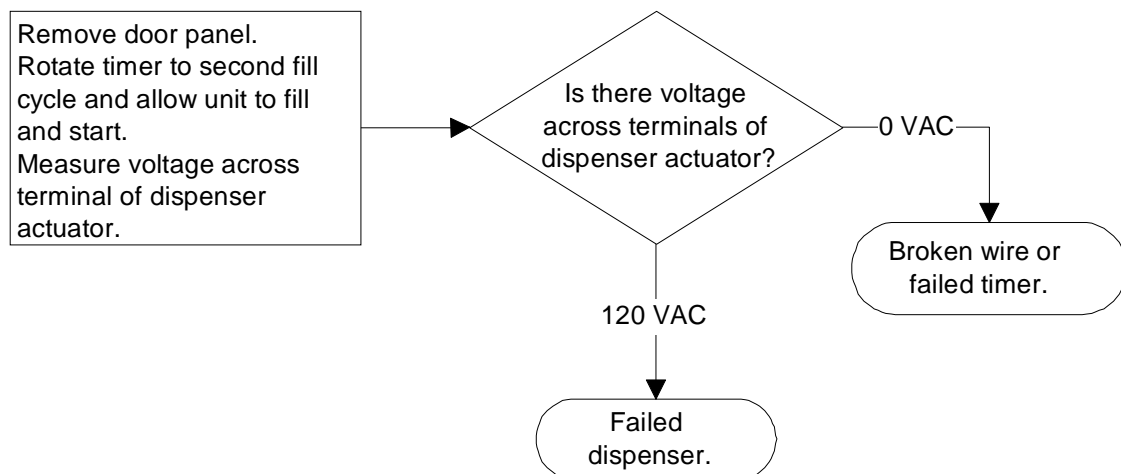
Troubleshooting Procedures

Clean light does not illuminate at end of cycle.

NOTE: Some models may not have this feature.



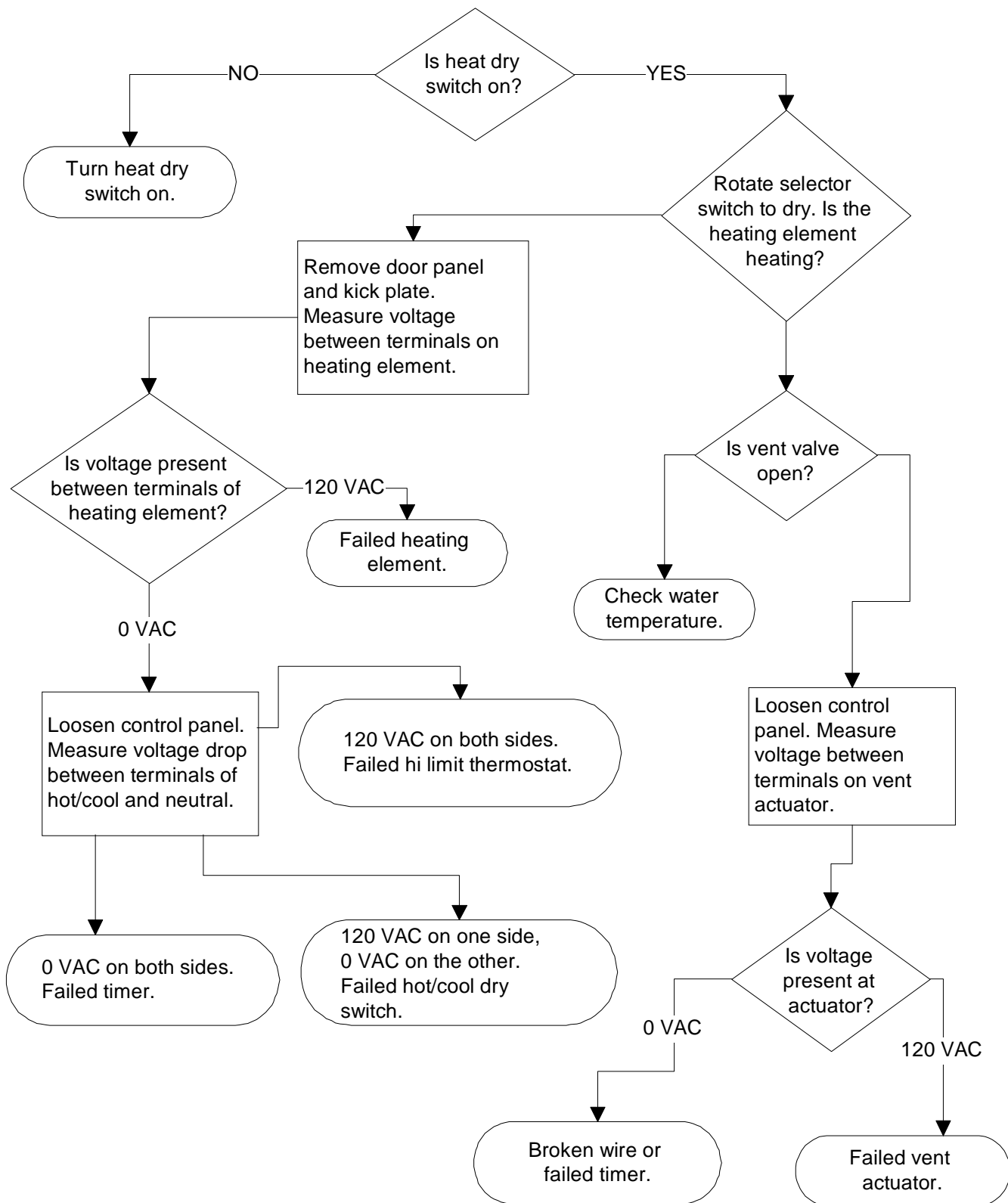
Detergent dispenser does not open.



Troubleshooting Procedures

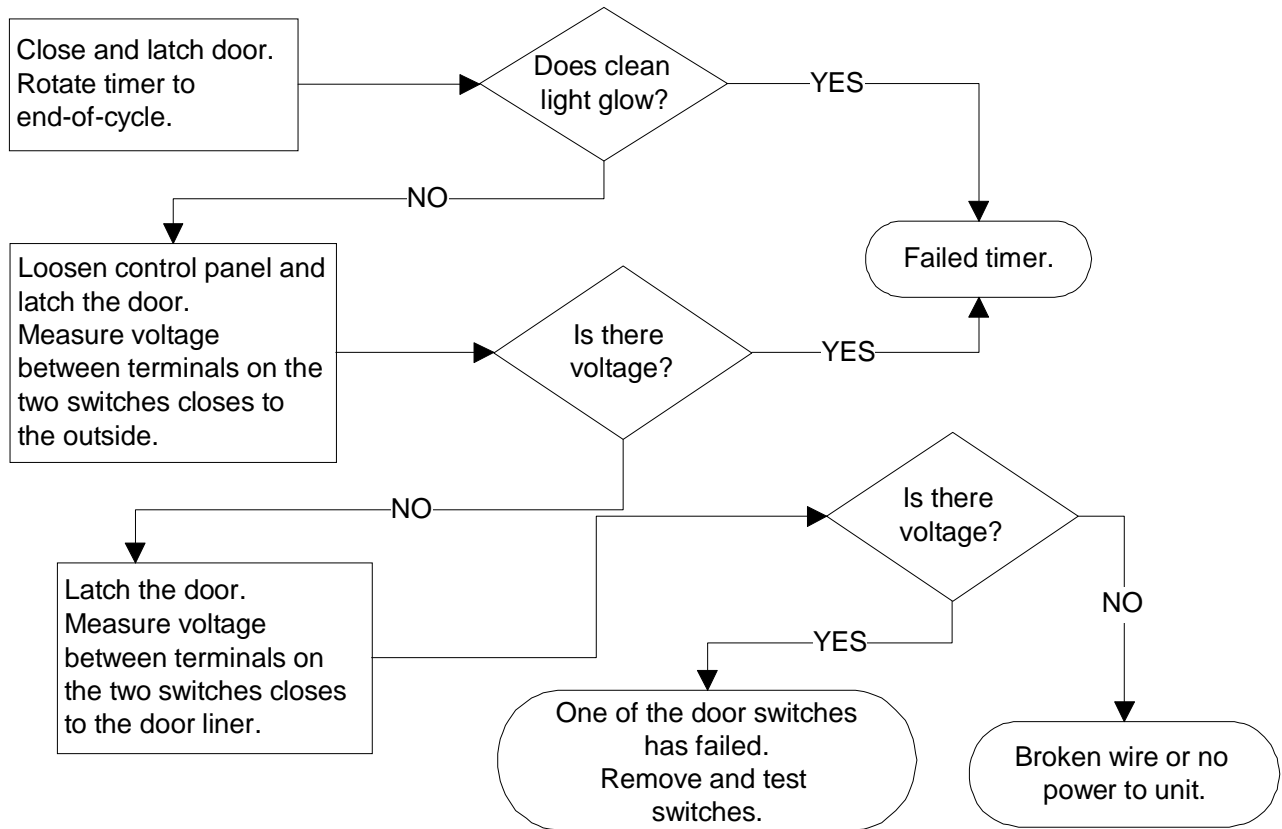
Dishes are not drying.

NOTE: Incoming water must be above 120°F to operate properly.

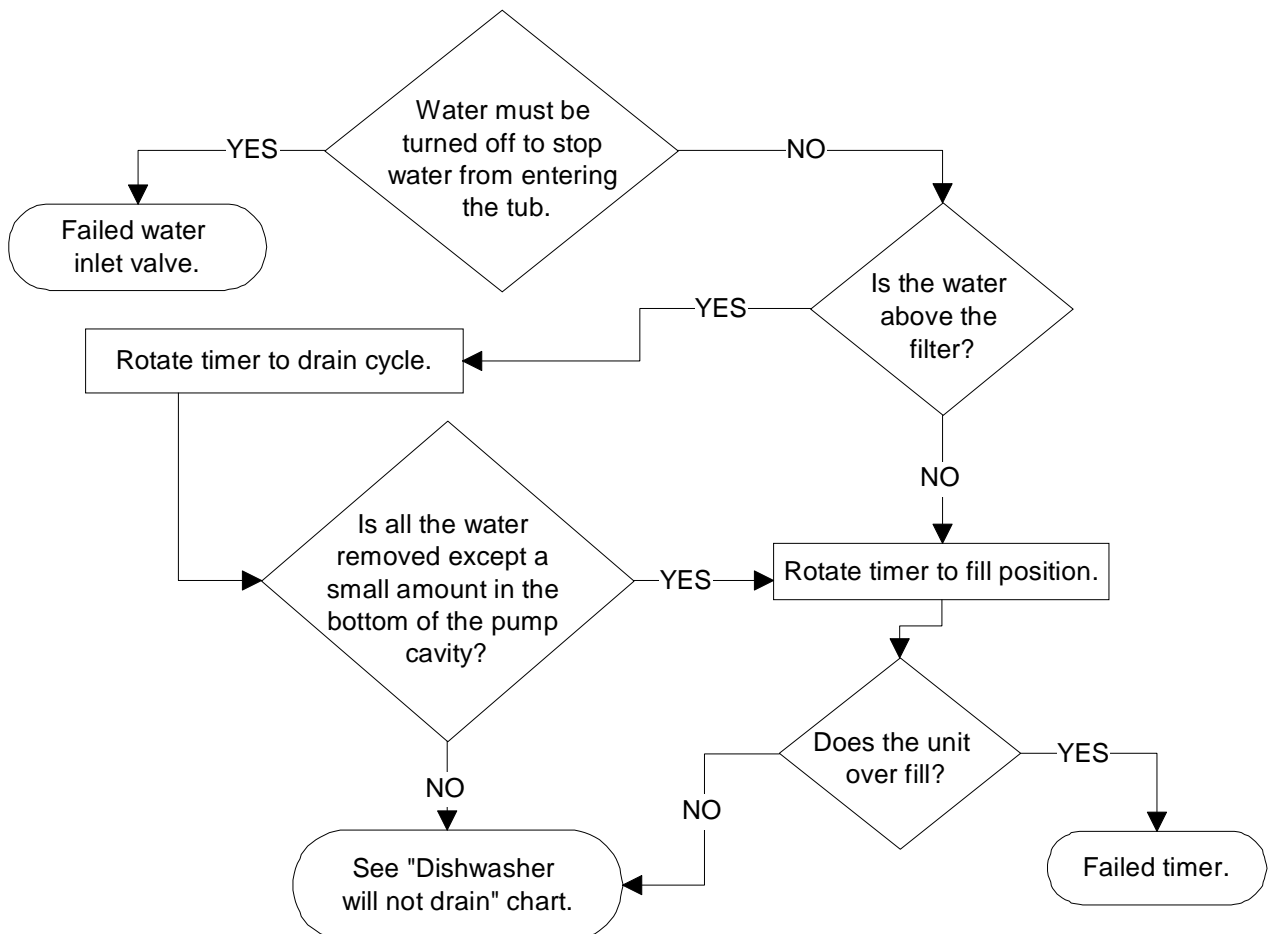


Troubleshooting Procedures

Dishwasher will not operate.

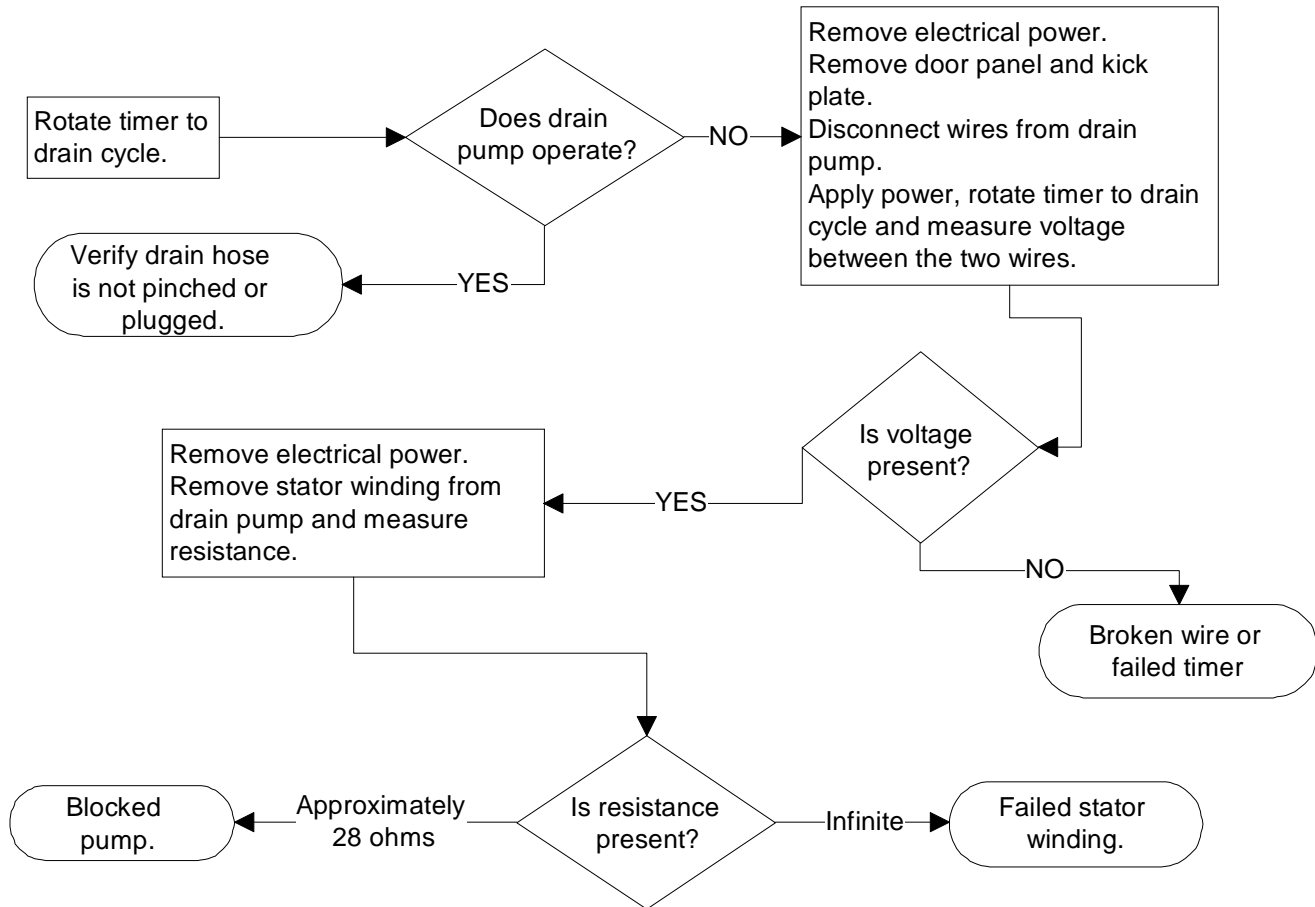


Dishwasher overfills.

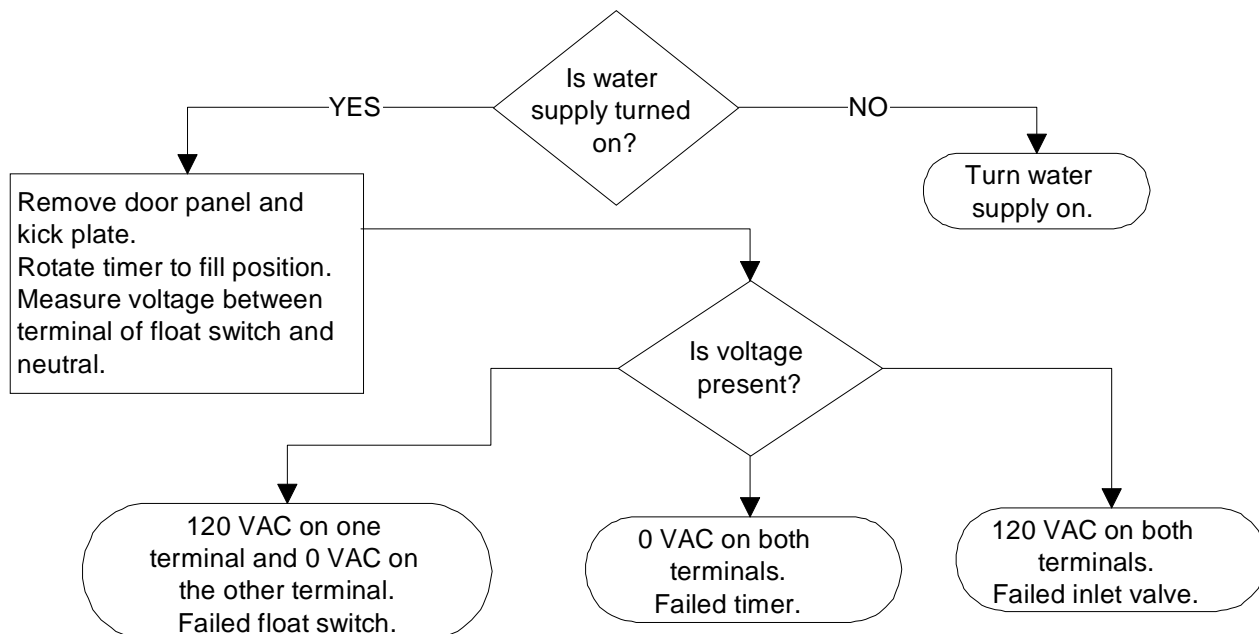


Troubleshooting Procedures

Dishwasher will not drain.

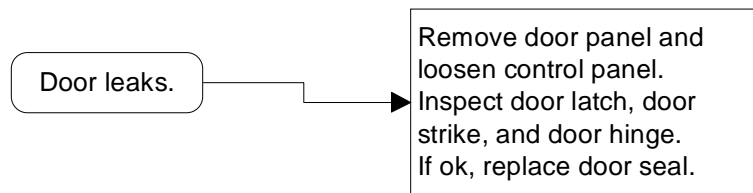


Dishwasher will not fill.



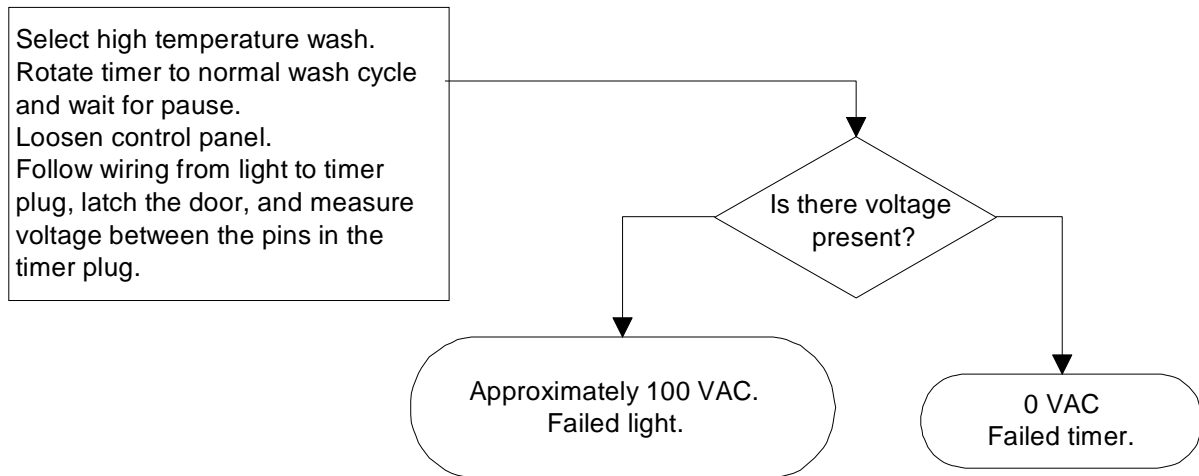
Troubleshooting Procedures

Door leaks.



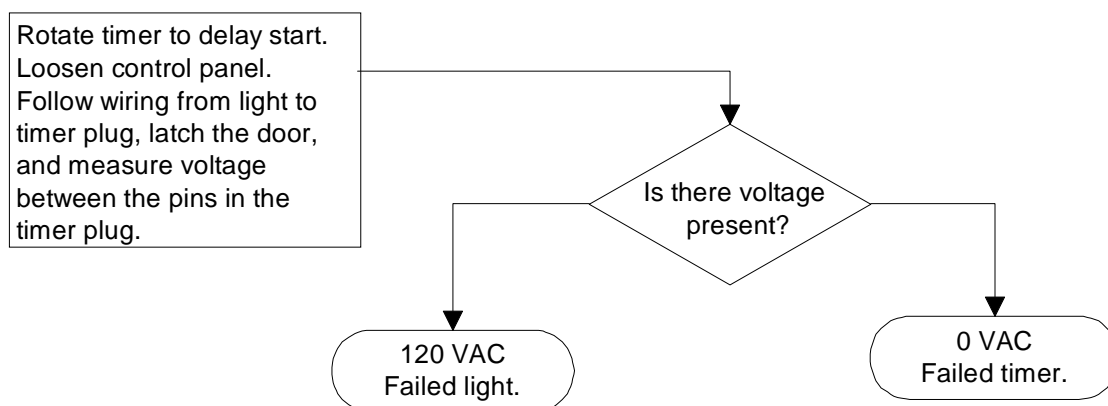
Water heating status light does not glow during pause.

NOTE: Some models may not have this feature.



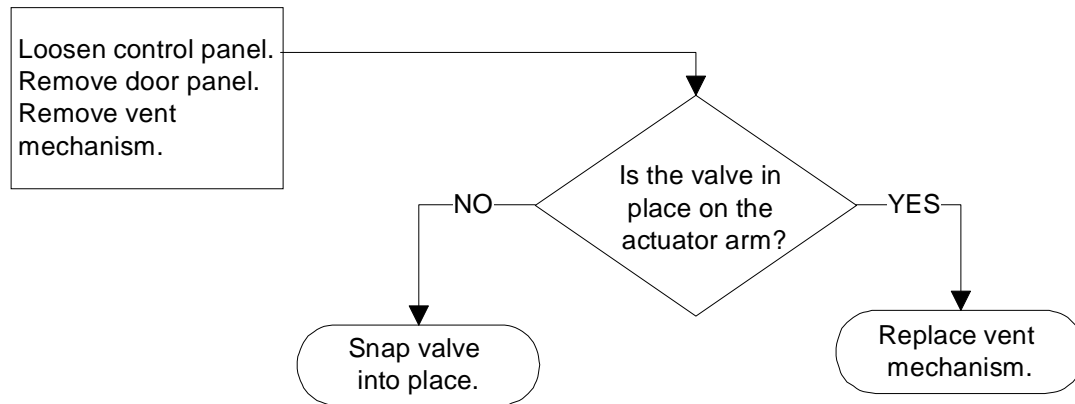
Delay start light does not glow during delay.

NOTE: Some models may not have this feature.



Troubleshooting Procedures

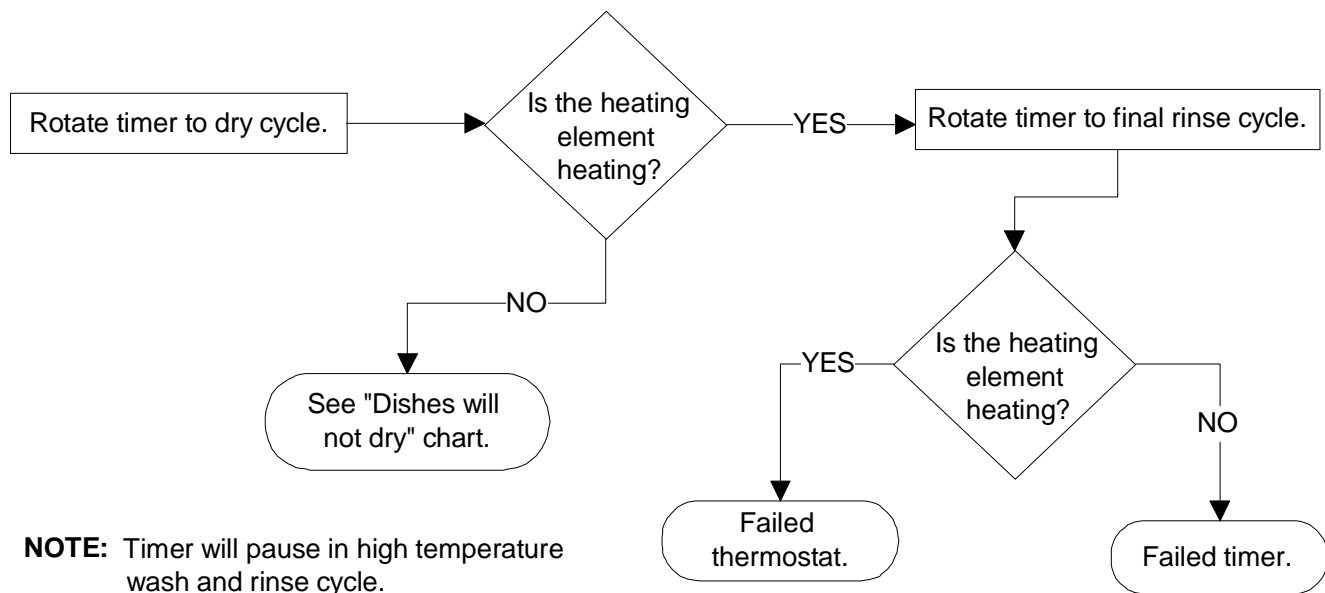
Steam comes from the vent during wash cycle.



Timer will not advance out of pause when rinse temp boost is selected.

NOTE: Timer should advance when water temperature reaches 135°F.
Heater should increase water temperature approximately 1°F a minute.

NOTE: Some models may not have this feature.



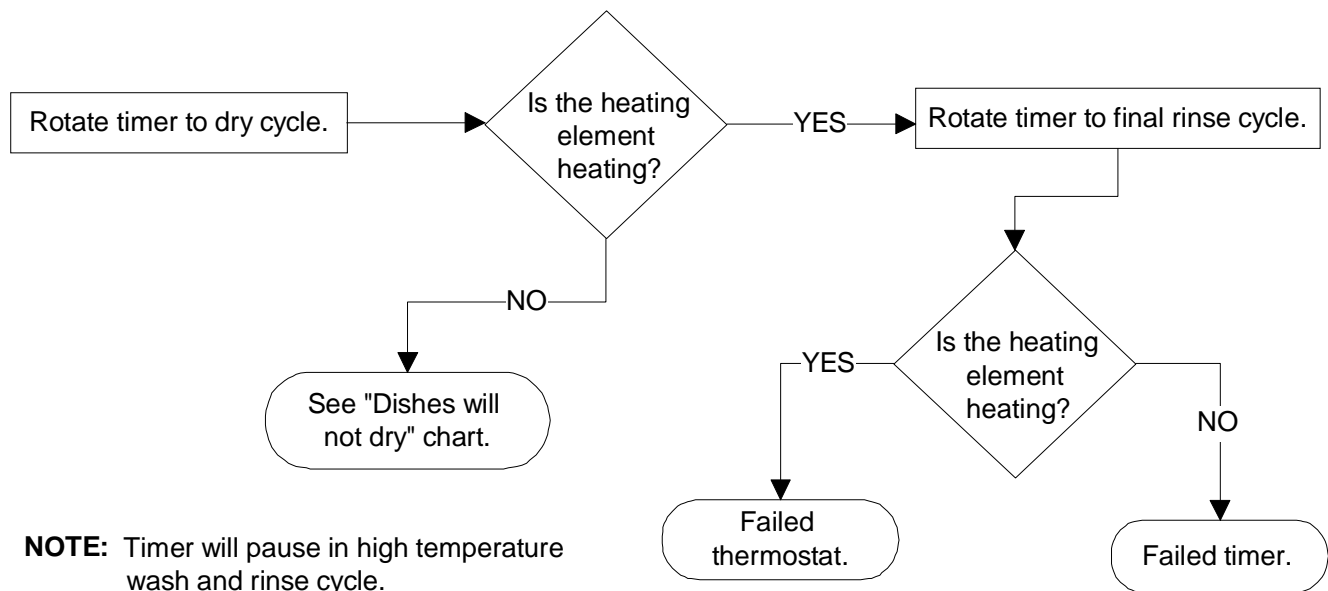
NOTE: Timer will pause in high temperature wash and rinse cycle.

Troubleshooting Procedures

Timer will not advance out of pause when wash temp boost is selected.

NOTE: Timer should advance when water temperature reaches 135°F.
Heater should increase water temperature approximately 1°F a minute.

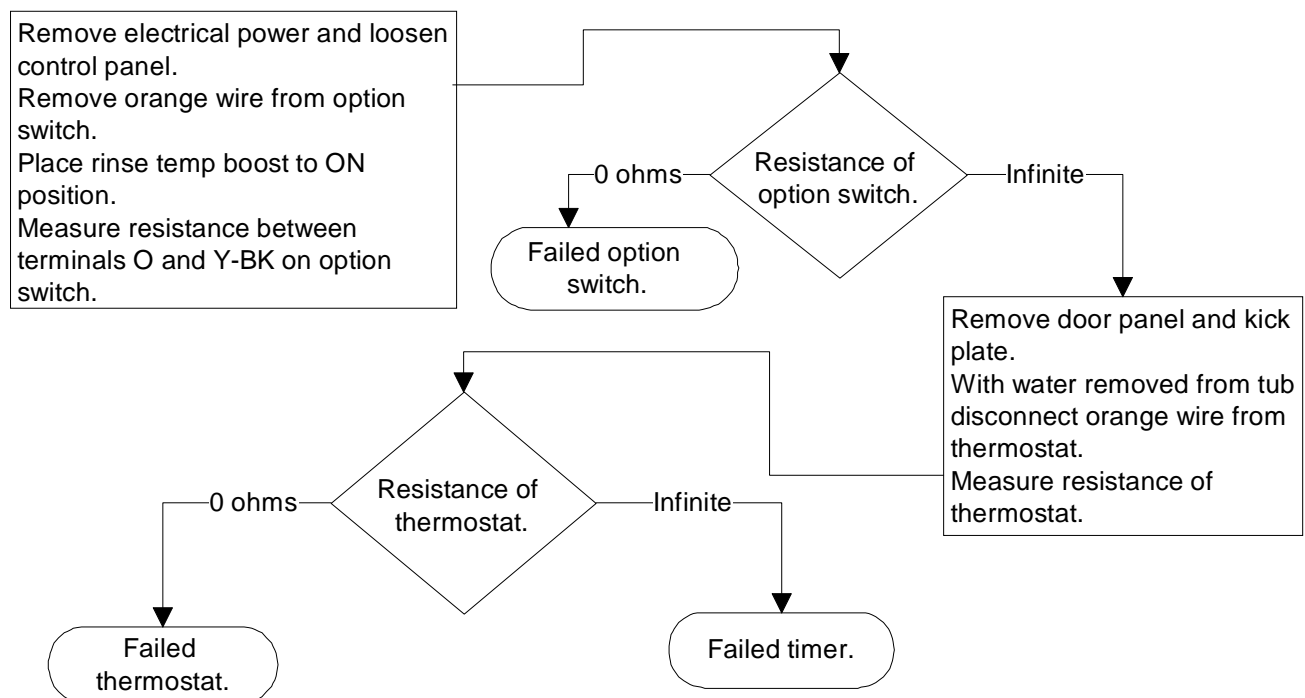
NOTE: Some models may not have this feature.



Timer will not pause in rinse when rinse temp boost is selected.

NOTE: Timer should advance when water temperature reaches 135°F.
Heater should increase water temperature approximately 1°F a minute.

NOTE: Some models may not have this feature.

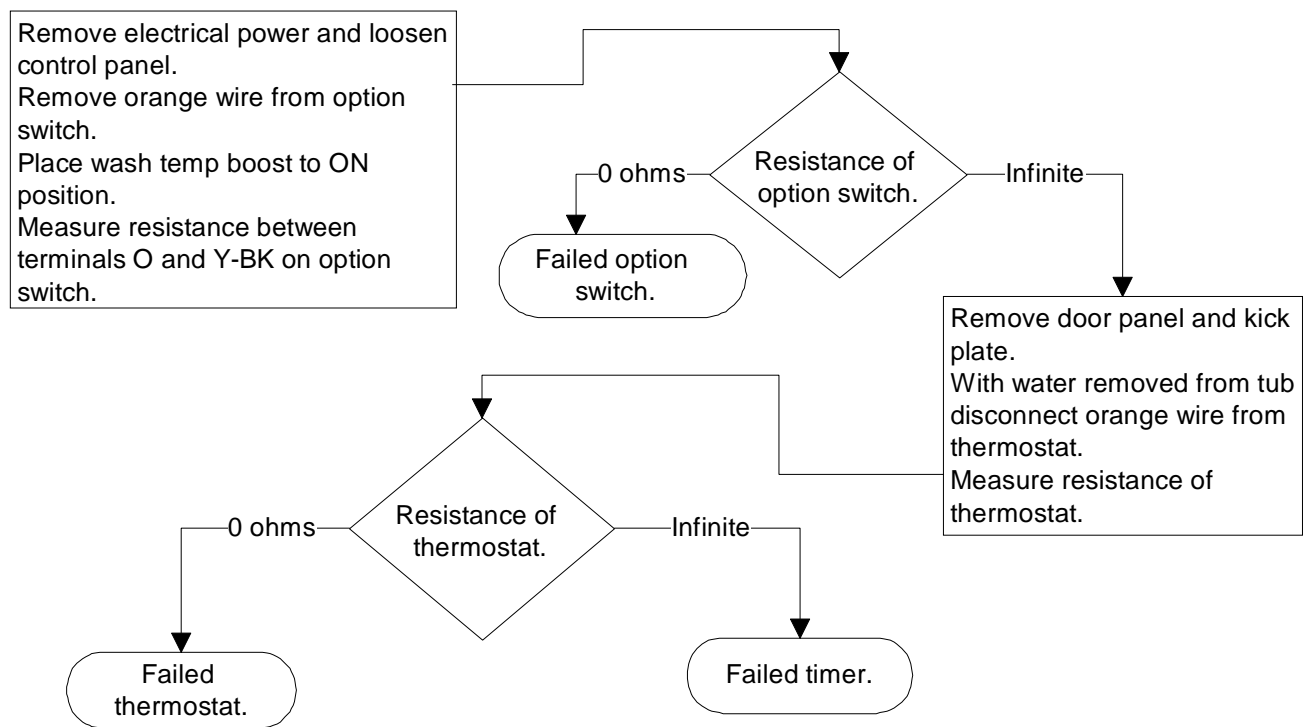


Troubleshooting Procedures

Timer will not pause in wash when wash temp boost is selected.

NOTE: Timer should advance when water temperature reaches 135°F.
Heater should increase water temperature approximately 1°F a minute.

NOTE: Some models may not have this feature.

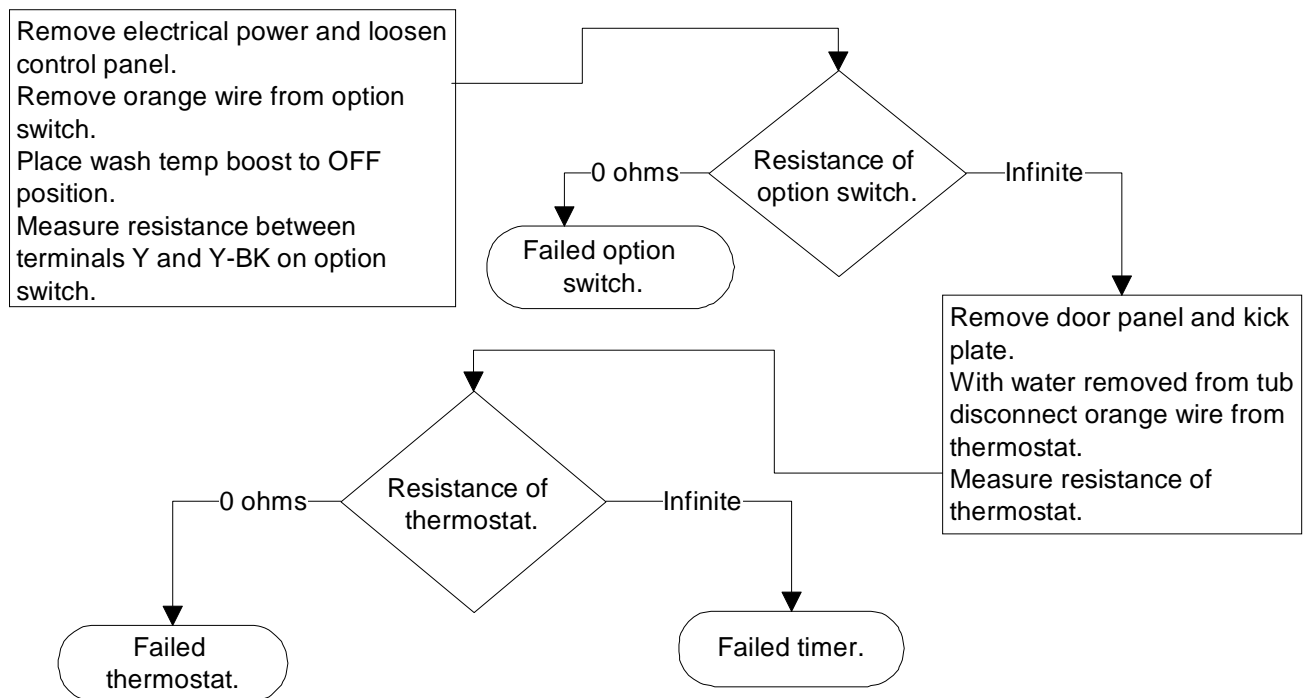


Troubleshooting Procedures

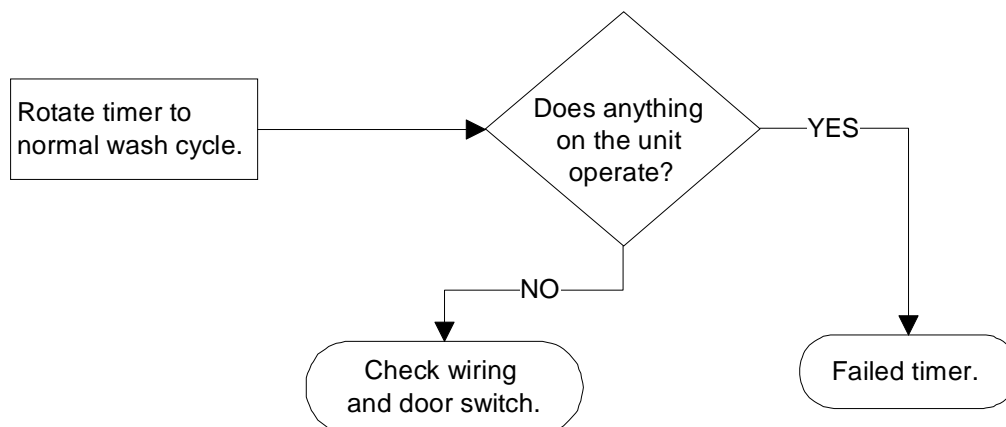
Timer will not pause in wash when water temperature is below 125°F.

NOTE: Temp assure operates only if wash temp boost is NOT selected.

NOTE: Some models may not have this feature.

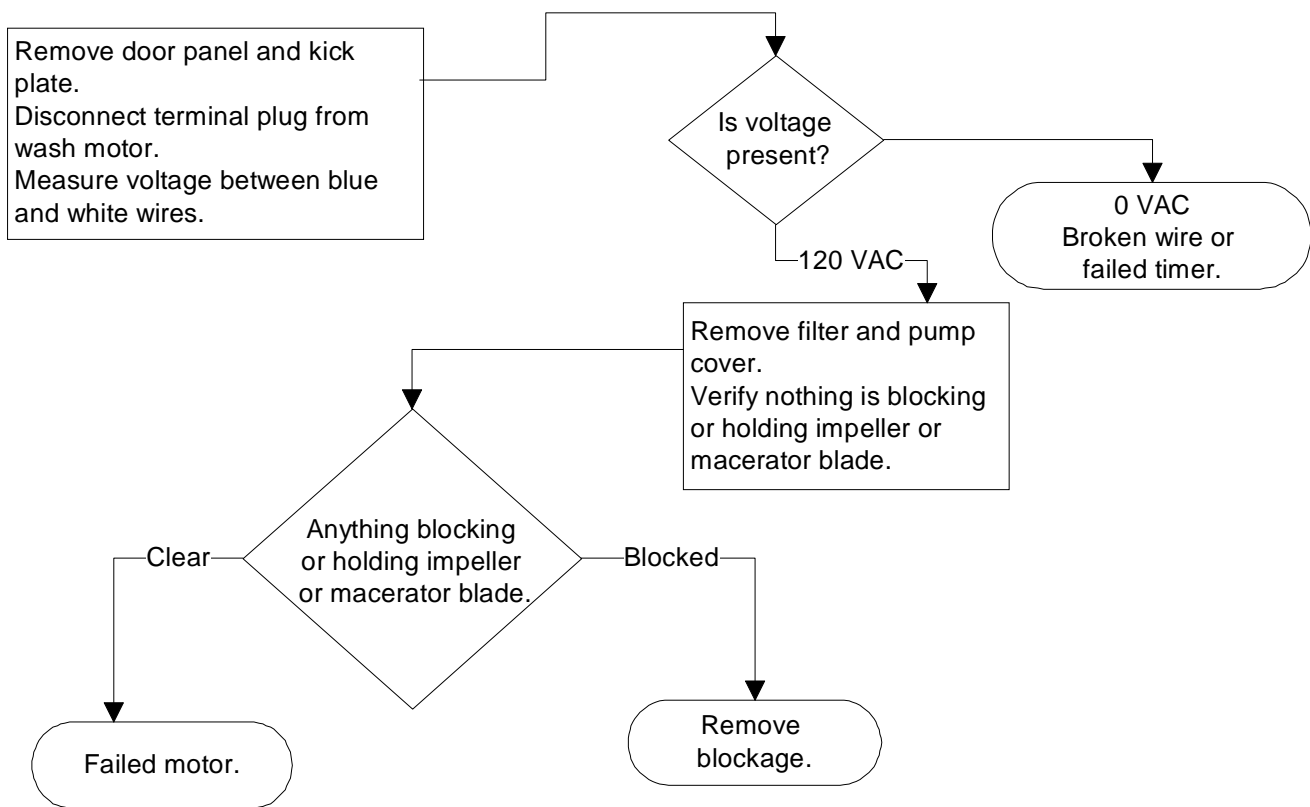


Timer will not advance.



Troubleshooting Procedures

Wash pump motor will not operate.



Disassembly Procedures

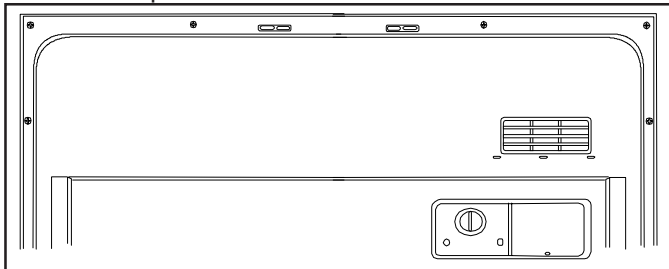


WARNING

To avoid risk of electrical shock, personal injury, or death: disconnect electrical supply before servicing.

Control Panel

1. Turn off power supply to unit.
2. Remove screws securing top of the inner door panel.
3. Disconnect wire terminals for control panel and lay control panel on a padded surface.
4. Reverse procedure to reassemble.

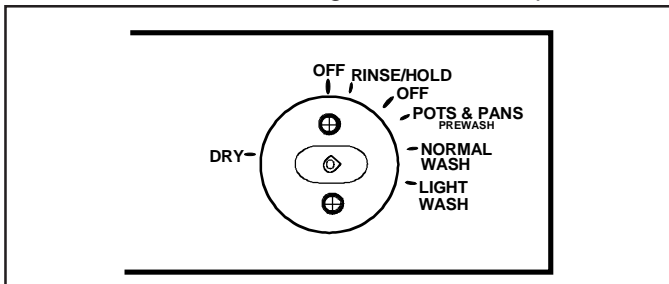


Timer Knob

- Use a strong piece of cloth working it under the knob on the face of the control panel and pull outward. This will provide a good grip and a nonscratching action.

Timer

1. Turn off power supply to unit.
2. Remove control panel, see "Control Panel" procedure.
3. Pull timer knob off timer shaft.
4. Remove screws securing timer to control panel.



5. Disconnect terminal plug to test or replace timer.
6. Reverse procedure to reassemble.

NOTE: Transfer protective plastic covering to new timer if replacing timer.

Rocker Switch

1. Turn off power supply to unit.
2. Remove control panel, see "Control Panel" procedure.
3. Disconnect wire terminals from switch.
4. Remove screws securing switch to control panel and remove switch.
5. Reverse procedure to reassemble.

Electronic Touchmatic™ Overlay

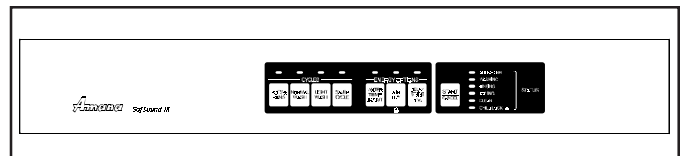
1. Turn off power supply to unit.
2. Remove control panel, see "Control Panel" procedure.
3. Remove screws securing protective cover around control board.
4. Disconnect ribbon by sliding top part of connector upward. Once in released position remove ribbon from connector by sliding ribbon side-to-side.
5. Remove Touchmatic™ overlay by peeling overlay off the front of control panel.

NOTE: Use denatured alcohol to remove old glue residue from control panel.

6. Remove protective cover from new Touchmatic™ overlay exposing side with glue.
7. Feed ribbon through slot provided.
8. Align new Touchmatic™ overlay on control panel.

NOTE: For correct alignment start overlay from a corner, verifying overlay is straight.

9. Reverse procedure to reassemble.



Keypad Overlay

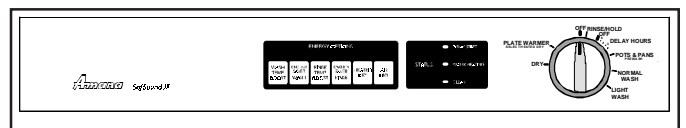
1. Turn off power supply to unit.
2. Remove control panel, see "Control Panel" procedure.
3. Remove screws securing protective cover around control board.
4. Remove selector knob from control panel. See "Selector Switch" procedure.
5. Peel overlay off the front of control panel.

NOTE: Use denatured alcohol to remove old glue residue off of control panel.

6. Align new overlay on control panel.

NOTE: For correct alignment start overlay from a corner, verifying overlay is straight.

7. Reverse procedure to reassemble.



Disassembly Procedures



WARNING

To avoid risk of electrical shock, personal injury, or death: disconnect electrical supply before servicing.

Control Board

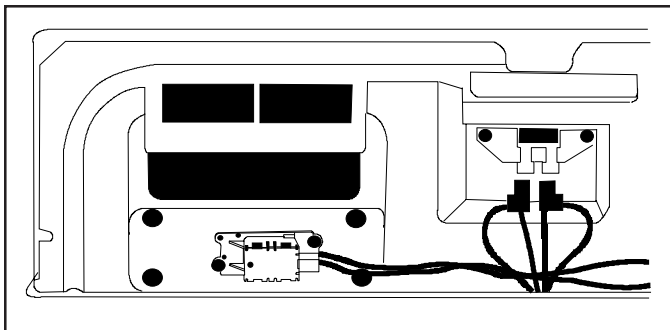
1. Turn off power supply to unit.
2. Remove control panel, see "Control Panel" procedure.
3. Remove screws securing protective cover around circuit board.
4. Disconnect keypad ribbon from control board (if so equipped).
5. Disconnect and label wire terminals from control board.
6. Remove screws securing control board to back of control panel.
7. Reverse procedure to reassemble.

Door Panel

1. Disconnect the dishwasher from electrical supply.
2. Outer door panel is held to the inner door panel with four locking tabs and two screws. Loosen the two lower screws securing the control panel.
3. Remove screws securing the door panel to the door (located at the lower section of the inner door panel).
4. Slide the door panel down and outward to remove.
5. Reverse procedure to reassemble.

Door Vent Assembly

1. Turn off power supply to unit.
2. Remove outer door panel, see "Door Panel" procedure.
3. Remove control panel, see "Control Panel" procedure.
4. Disconnect wiring to vent actuator.
5. Remove screws securing the vent to the inner door panel.
6. Reverse procedure to reassemble.

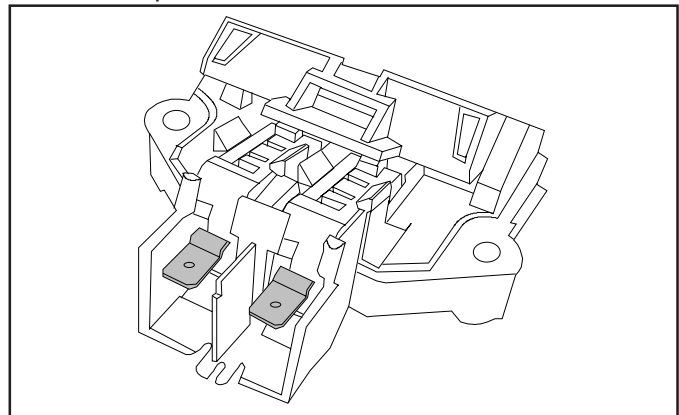


Vent Valve

1. Turn off power supply to unit.
2. Remove outer door panel, see "Door Panel" procedure.
3. Remove control panel, see "Control Panel" procedure.
4. Slide the vent valve upward to remove from the actuator arm.
5. Reverse Procedure to reassemble.

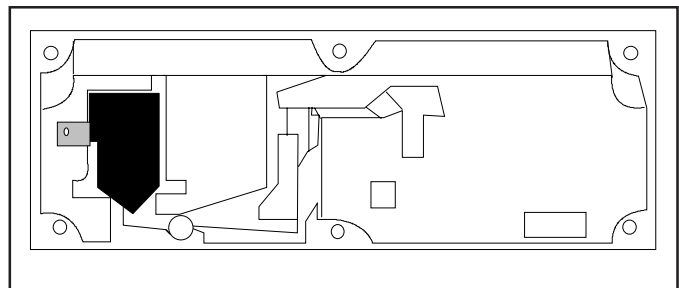
Door Latch Assembly

1. Turn off power supply to unit.
2. Remove outer door panel, see "Door Panel" procedure.
3. Door latch is secured to inner door panel with two screws and two locator pins. Remove screws and pull to remove.
4. Remove door switches, push plastic bracket open and rotate the bottom of the switch upward.
5. Reverse procedure to reassemble.



Detergent / Rinse Aid Dispenser

1. Turn off power supply to unit.
2. Remove outer door panel, see "Door Panel" procedure.
3. Disconnect and label the wiring.
4. Remove six screws and carefully push the dispenser into the tub.
5. Reverse procedure to reassemble.



Disassembly Procedures



WARNING

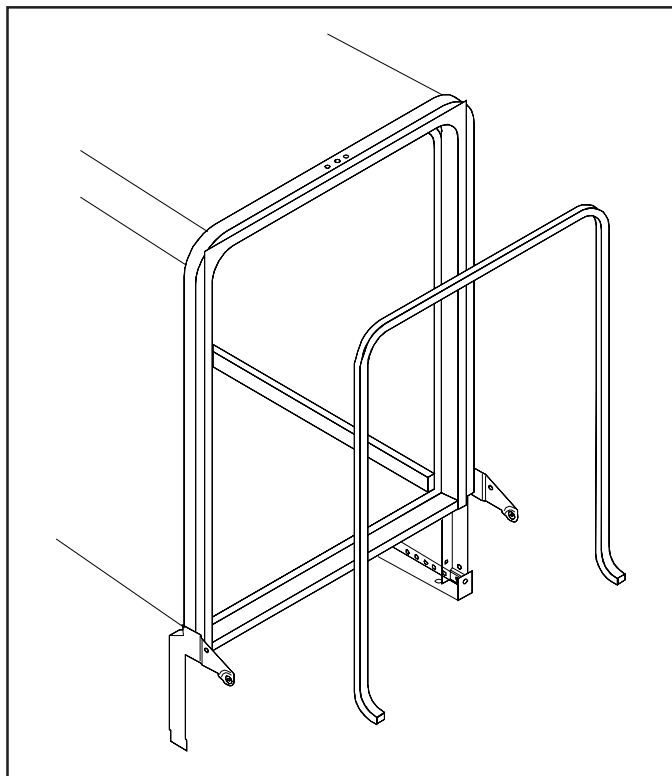
To avoid risk of electrical shock, personal injury, or death: disconnect electrical supply before servicing.

Inner Door Panel

1. Remove control panel, door vent, dispenser and latch.
2. Remove the two bolts (T-25 TORX®) from each hinge and lift off.
3. Reverse procedure to reassemble.

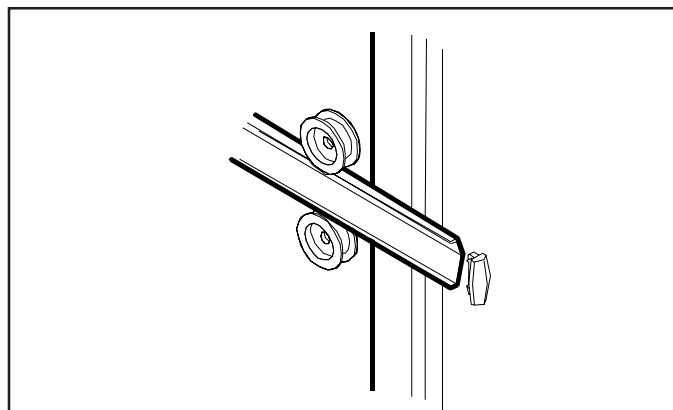
Door Seal

1. Remove seal by lifting one end and gently pulling entire seal out.
2. To replace or reinstall seal, center white mark at the top of seal recess and press seal in place going left and right from top center. Do not stretch or bunch the seal while installing.



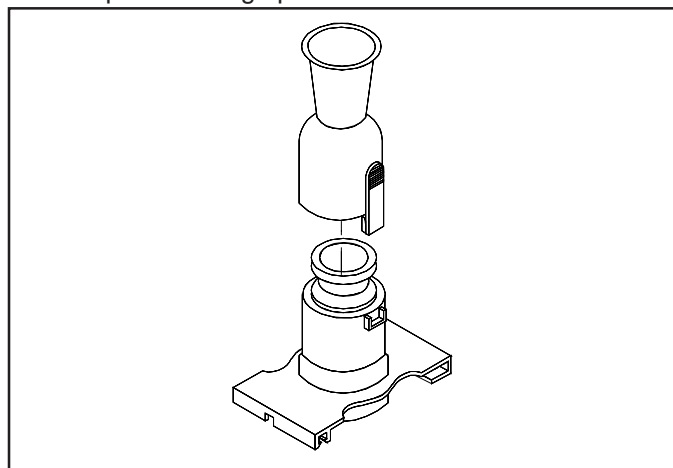
Upper Rack

1. Remove rack by unsnapping and removing retainers at the end of the metal track. Once retainers are removed, pull rack straight outward.
2. Each rack roller is each secured with a T-25 TORX® bolt.
3. Reverse procedure to reassemble.



Upper Water Tube

- Remove upper water tube by pressing in on the top of two clips and lifting upward.

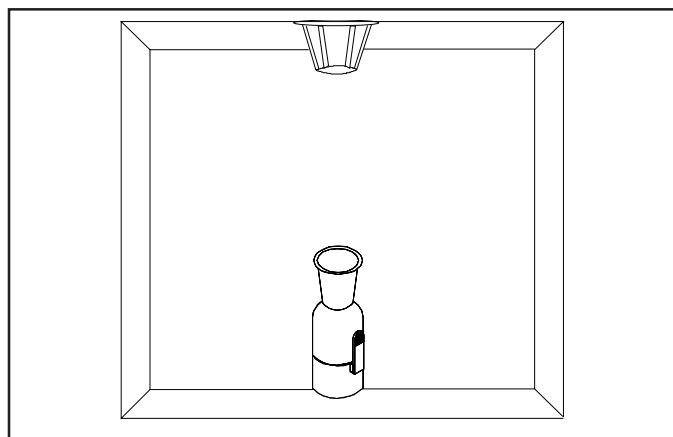


Upper Spray Arm

- Remove upper spray arm by unscrewing the plastic nut securing spray arm to the support.

Water Distributor

- Water distributor is screwed to the top of the upper arm delivery tube. A rubber seal is used on the top side of the tub to eliminate leaks.



Disassembly Procedures



WARNING

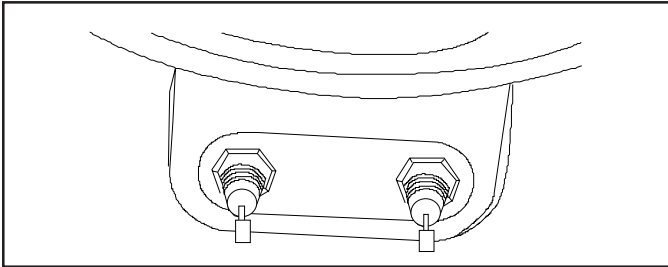
To avoid risk of electrical shock, personal injury, or death: disconnect electrical supply before servicing.

Kick Plate

- Remove kick plate and insulation by removing screws and pulling outward on bottom of kick plate.

Heating Element

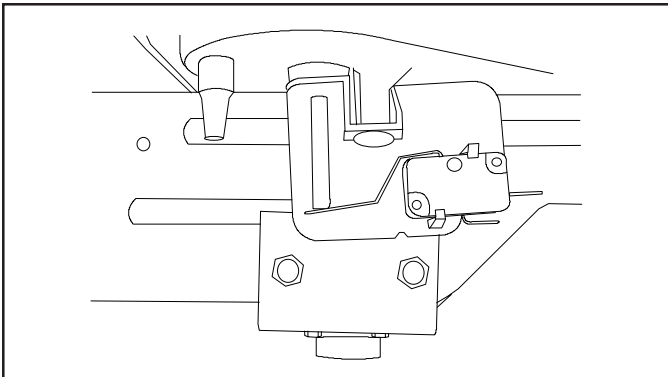
1. Turn off power supply to unit.
2. Disconnect wiring and remove element mounting nuts.



3. Lift terminal ends of the element into the tub and rotate element sideways, out of retainers.
4. Reverse procedure to reassemble.

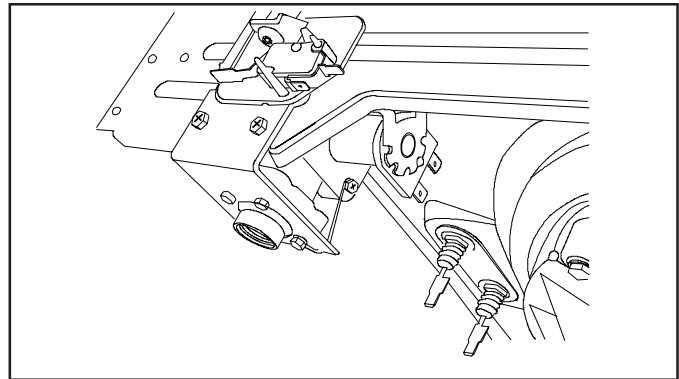
Float Switch and Bracket

1. Turn off power supply to unit.
2. Remove outer door panel, kick plate, and wires to float switch. A single screw secures bracket to the tub.
3. Remove float switch by spreading mounting clips.
4. Reverse procedure to reassemble.



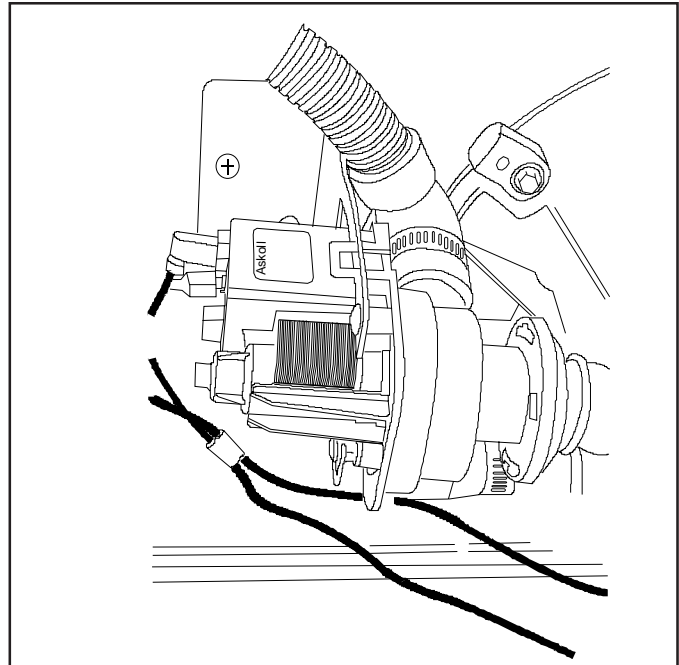
Water Valve

1. Turn off power supply to unit.
2. Remove outer door panel, kick plate, and wires.
3. Water valve is secured with hex screws.
4. Reverse procedure to reassemble.



Drain Pump

1. Turn off power supply to unit.
2. Remove outer door panel and kick plate.
3. Remove hoses and wiring to drain pump.
4. Remove screws securing drain pump to mounting bracket.



NOTE: Drain pump assembly consists of three primary parts, stator winding, motor armature & impeller, and front housing.

5. Remove front housing by turning housing approximately 45° counterclockwise and lift off.
6. Remove stator winding by releasing plastic catches and slide stator winding off.
7. Reverse procedure to reassemble.

Disassembly Procedures



WARNING

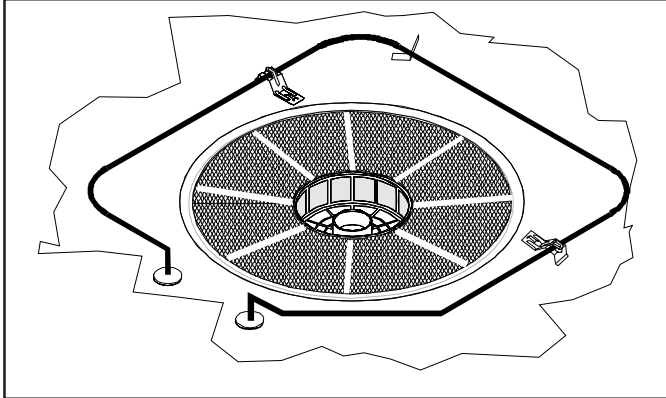
To avoid risk of electrical shock, personal injury, or death: disconnect electrical supply before servicing.

Lower Spray Arm

- Remove lower spray arm by pulling outward on retaining clips and lift upward.

Glass Trap

- Remove glass trap by lifting the handle up and raising trap up and out of the sump.



Lower Spray Arm Support

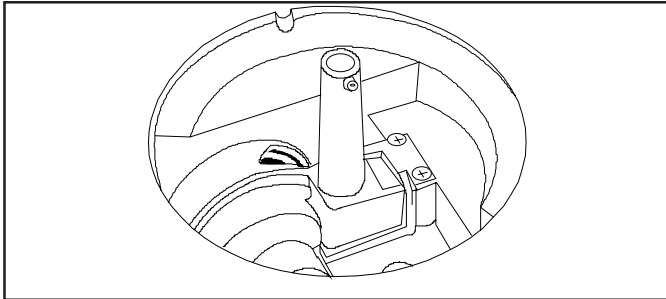
- Remove spray arm and glass trap, then turn support 90° clockwise and lift upward.

Filter

- Remove glass trap, spray arm, and spray arm support. Lift filter up to remove.

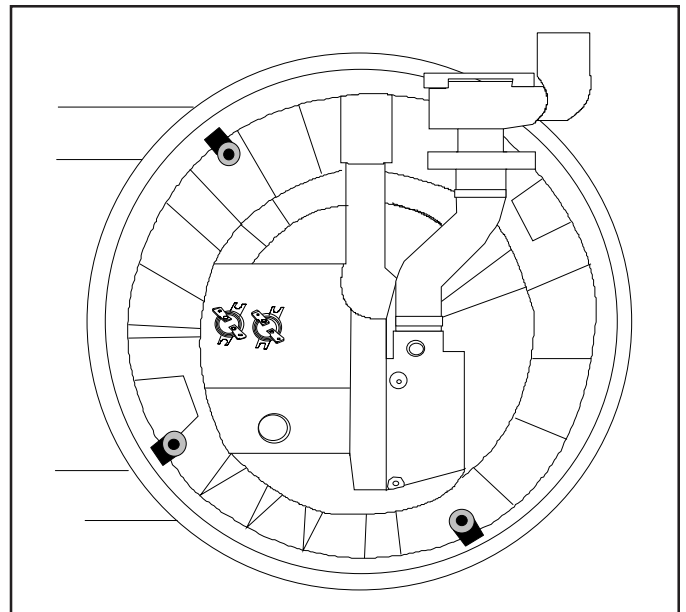
Pump Cover

- Remove glass trap, spray arm, spray arm support, and filter.
- Remove bolts and lift cover off.



Pump and Motor Assembly

- Turn off power supply to unit.
- Remove glass trap, spray arm, spray arm support, and filter.
- Remove door panel and kick plate.
- Disconnect upper spray arm hose, drain hose, and motor wiring.
- Disconnect wiring to thermostat(s)/thermistor or remove thermostat/thermistor mounting bracket screw.
- Pump and motor assembly is secured in place using retainers that rotate easily. Turn retainers 90° and lift assembly from tub.
- Reverse procedure to reassemble.



Disassembly Procedures

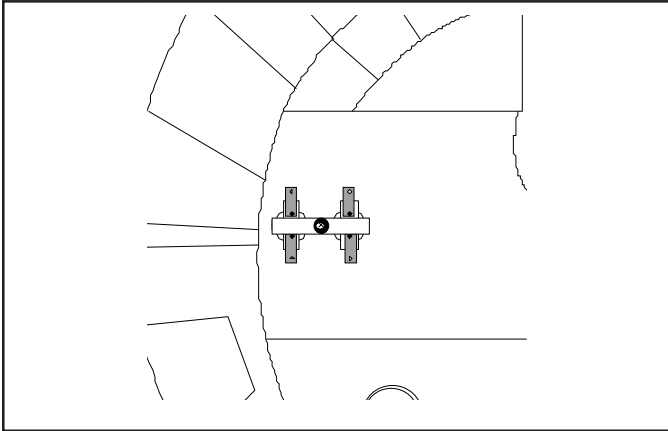


WARNING

To avoid risk of electrical shock, personal injury, or death: disconnect electrical supply before servicing.

Thermostats (On Sump)–Mechanical Timer Models

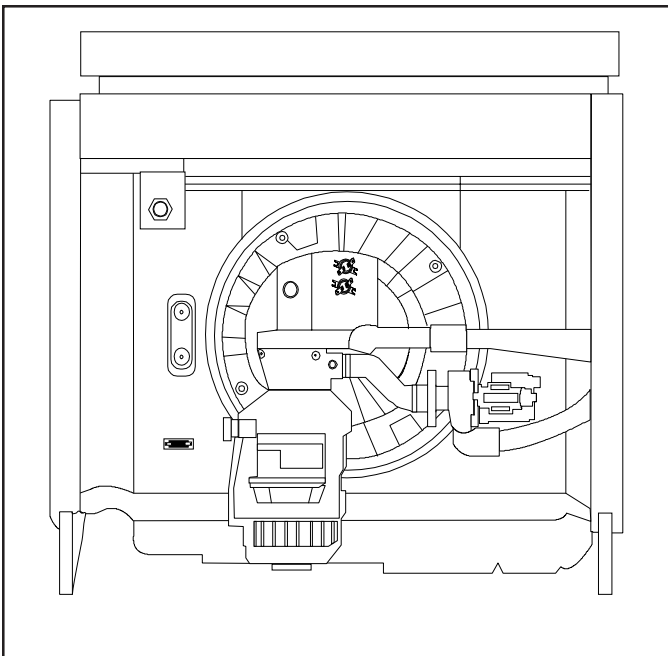
1. Turn off power supply to unit.
2. Remove outer door panel and kick plate.
3. Disconnect wires from thermostat and remove single screw.
4. Reverse procedure to reassemble.



Thermistor (On Sump)–Electronic Control Models

1. Turn off power supply to unit.
2. Remove outer door panel and kick plate.
3. Disconnect wires from thermistor and remove single screw and retainer.

NOTE: When removing or replacing thermistor, make sure to apply more thermal mastic to the face of the thermistor.



High Limit Thermostat (On Tub Bottom)

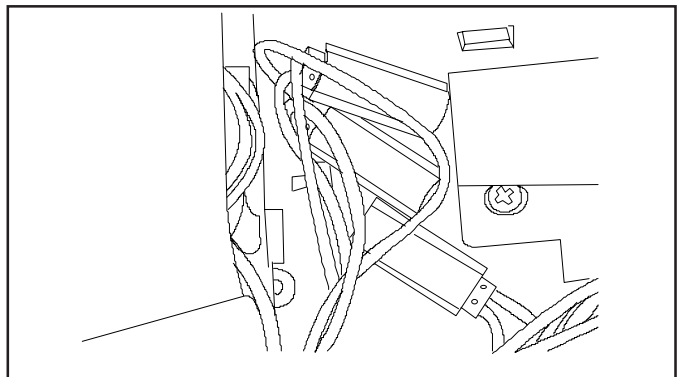
1. Turn off power supply to unit.
2. Disconnect wires from thermostat and remove single screw.

NOTE: Determine failure causing high limit thermostat to open before replacing.

3. Reverse procedure to reassemble.

Indicator Lamps–Mechanical Timer Models

1. Turn off power supply to unit.
2. Remove an indicator lamp by dropping the control panel and slide the lamp off lens.
3. Indicator lamps are wired directly to the harness. To replace one, it will be necessary to cut and splice using a suitable connector.
4. Reverse procedure to reassemble.



Indicator Lamps–Electronic Control Models

1. Turn off power supply to unit.
2. To replace the indicator lamps please see instructions for "Electronic Keypad." Use either the Slimline or Selectronic instructions, whichever one is applicable.

Disassembly Procedures



WARNING

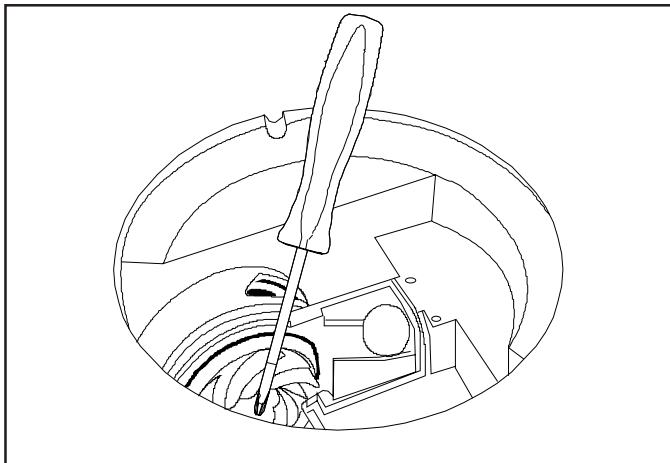
To avoid risk of electrical shock, personal injury, or death: disconnect electrical supply before servicing.

Motor and Impeller

1. Turn off power supply to unit.
2. Remove pump housing, motor mounting bracket, and pump cover to remove motor.
3. Place a large screwdriver between housing and impeller and force impeller and motor out of housing.

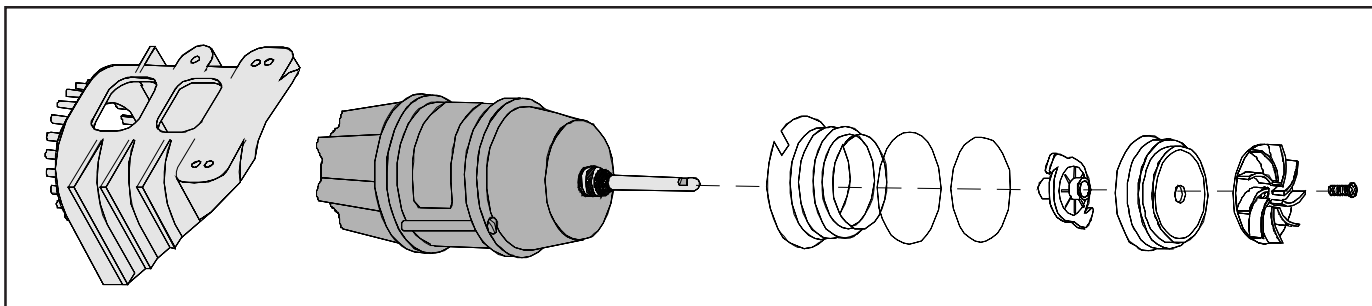
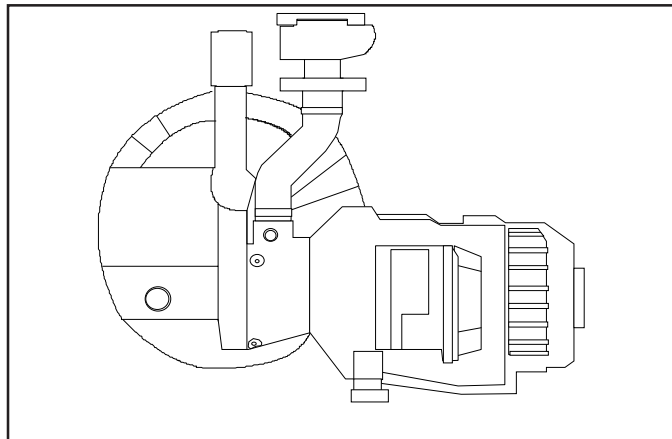
NOTE: DO NOT ROCK MOTOR TO RELEASE.
Lubricate with Vaseline® when reinstalling.

4. Reverse procedure to reassemble.



Motor Mounting Bracket

1. Turn off power supply to unit.
2. Remove pump and motor assembly to remove motor mounting bracket.
3. Remove bolts and slide motor mounting bracket off the end of the motor.
4. Reverse procedure to reassemble.



Disassembly Procedures



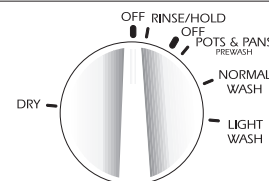
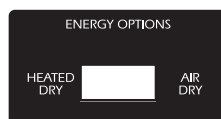
WARNING

To avoid risk of electrical shock, personal injury, or death:
disconnect electrical supply before servicing.

This page intentionally left blank.

Appendix A

DWA22A Operating Instructions



NOTE: Before operating dishwasher read *Important Safety Instructions, Preparing and Loading Dishes, Dishwasher Dispenser and Detergents* and *Rinse Aid* sections of owner's manual.

1. Load dishwasher (See *Preparing and Loading Dishes* section of *owner's manual*).
2. Add detergent (See *Dishwasher Dispenser and Detergents* section of *owner's manual*).
3. Add rinse aid if needed (See *Rinse Aid* section of *owner's manual*).
4. Select Heated Dry option or Air Dry option (See *Energy Options* chart below).
5. Turn dial clockwise to select cycle (See *Wash Cycles* chart below).
6. Run hot water faucet nearest dishwasher until water is hot. Turn water off.
7. Close door to latch and start dishwasher.

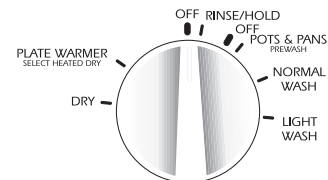
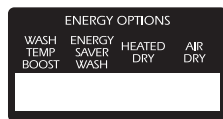
Wash Cycle

Wash Cycle/Cycle Time/Water Used	Cycle selection procedure	Sequence
Pots & Pans (92 minutes) (7.2 gallons/ 27.3 liters) For pots, pans, casseroles and dinnerware with dried-on or baked-on soils.	<ol style="list-style-type: none"> 1. Turn dial to <i>POTS & PANS</i>. 2. Select <i>HEATED DRY</i> or <i>AIR DRY</i>. 	Wash, rinse, rinse, wash, rinse, rinse, dry
Normal Wash (83 minutes) (6 gallons/ 22.7 liters) For regularly soiled dishes and silverware.	<ol style="list-style-type: none"> 3. Turn dial to <i>NORMAL WASH</i>. 4. Select desired option. 	Wash, rinse, wash, rinse, rinse, dry
Light Wash (75 minutes) (4.8 gallons/ 18.2 liters) For lightly soiled or pre-rinsed dishes and silverware.	<ol style="list-style-type: none"> 1. Turn dial to <i>LIGHT WASH</i>. 2. Select desired option. 	Rinse, wash, rinse, rinse, dry
Rinse/Hold (6 minutes) (1.2 gallons/ 4.5 liters) For rinsing dishes that will be washed later.	<ol style="list-style-type: none"> 1. Do not use detergent. 2. Turn dial to <i>RINSE/HOLD</i>. 	Rinse

Energy Options

Option	Option selection procedure	Description
Heated Dry Provides faster drying since heating element is on during drying cycle.	<ol style="list-style-type: none"> 1. Push <i>HEATED DRY</i> button. 2. Push <i>AIR DRY</i> button to turn <i>HEATED DRY</i> off. 	Water vapor may be seen coming from vent during any drying cycle. Vent is closed during wash cycle to hold in moisture and noise. Vent opens during drying cycle. Drying option may be changed at anytime during wash cycle.
Air Dry Saves electricity since heating element is off during drying cycle.	<ol style="list-style-type: none"> 1. Push <i>AIR DRY</i> button. 2. Push <i>HEATED DRY</i> option to turn <i>AIR DRY</i> option off. 	Air-dries dishes without using heating element. To speed drying process open door slightly after cycle is complete.

DWA33A Operating Instructions



NOTE: Before operating dishwasher read *Important Safety Instructions, Preparing and Loading Dishes, Dishwasher Dispenser and Detergents* and *Rinse Aid* sections of owner's manual.

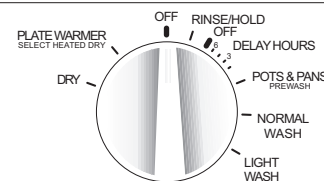
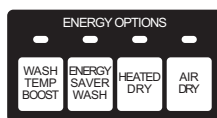
1. Load dishwasher (See *Preparing and Loading Dishes* section of *owner's manual*).
2. Add detergent (See *Dishwasher Dispenser and Detergents* section of *owner's manual*).
3. Add rinse aid if needed (See *Rinse Aid* section of *owner's manual*).
4. Turn dial clockwise to select cycle. (See *Wash Cycle* chart below).
5. Select Energy Options desired (See *Energy Options* chart).
6. Run hot water faucet nearest dishwasher until water is hot. Turn water off.
7. Close door to latch and start dishwasher.

Wash Cycle		
Wash Cycle/Cycle Time/Water Used	Cycle selection procedure	Sequence
Pots & Pans (92 minutes) (7.2 gallons/ 27.3 liters) For pots, pans, casseroles and dinnerware with dried-on or baked-on soils.	1. Turn dial to <i>POTS & PANS</i> . 2. Select <i>WASH TEMP BOOST</i> and any other desired option.	Wash, rinse, rinse, wash, rinse, rinse, dry
Normal Wash (83 minutes) (6 gallons/ 22.7 liters) For regularly soiled dishes and silverware.	1. Turn dial to <i>NORMAL WASH</i> . 2. Select desired options.	Wash, rinse, wash, rinse, rinse, dry
Light Wash (75 minutes) (4.8 gallons/ 18.2 liters) For lightly soiled or pre-rinsed dishes and silverware.	1. Turn dial to <i>LIGHT WASH</i> . 2. Select desired options.	Rinse, wash, rinse, rinse, dry
Rinse/Hold (6 minutes) (1.2 gallons/ 4.5 liters) For rinsing dishes that will be washed later.	1. Do not use detergent. 2. Turn dial to <i>RINSE/HOLD</i> .	Rinse
Plate Warmer (14 minutes) For warming dishes and serving plates before serving hot foods.	1. Load clean plates and dishes to be warmed. 2. Turn dial to <i>PLATE WARMER</i> . 3. Select <i>HEATED DRY</i> .	Hot dry

DWA33A Operating Instructions

Energy Options		
Option	Cycle selection procedure	Description
Wash Temp Boost Heats water to approximately 140°F (60°C). Can be used with any cycle except <i>RINSE/HOLD</i> and <i>PLATE WARMER</i> .	1. Select <i>WASH TEMP BOOST</i> button. 2. Select <i>ENERGY SAVER WASH</i> button to turn <i>WASH TEMP BOOST</i> option off. <i>WASH TEMP BOOST</i> is always on unless <i>ENERGY SAVER WASH</i> is selected.	Delays timer advancement until proper water temperature is reached. Helps activate detergent to clean food, grease and soil from dishes.
Energy Saver Wash Dishwasher goes through wash cycle without a timer delay to heat water.	1. Select <i>ENERGY SAVER WASH</i> button. 2. Select <i>WASH TEMP BOOST</i> option to turn option off.	Dishwasher goes through wash cycle without a timer delay to heat water.
Heated Dry Provides faster drying since heating element is on during drying cycle.	3. Select <i>HEATED DRY</i> button. 4. To cancel option, select <i>AIR DRY</i> button.	Water vapor may be seen coming from vent during any drying cycle. Vent is closed during wash cycle to hold in moisture and noise. Vent opens during drying cycle. Drying option may be changed at anytime during wash cycle.
Air Dry <i>AIR DRY</i> option saves electricity since the heating element is off during drying cycle.	1. Select <i>AIR DRY</i> button. 2. To cancel option, select <i>HEATED DRY</i> option.	Air-dries dishes without using heating element. To speed drying process open door slightly after cycle is complete.

DWA53A Operating Instructions



NOTE: Before operating dishwasher read *Important Safety Instructions, Preparing and Loading Dishes, Dishwasher Dispenser and Detergents* and *Rinse Aid* sections of owner's manual.

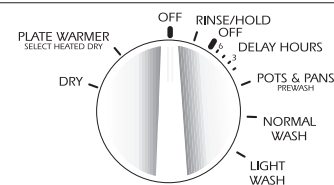
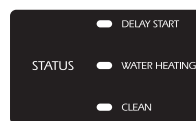
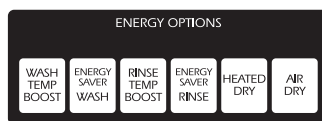
1. Load dishwasher (See *Preparing and Loading Dishes* section of owner's manual).
2. Add detergent (See *Dishwasher Dispenser and Detergents* section of owner's manual).
3. Add rinse aid if needed (See *Rinse Aid* section of owner's manual).
4. Turn dial clockwise to select cycle or delayed start (See *Wash Cycles* chart).
5. Select desired *ENERGY OPTIONS* (See *Energy Options* chart).
6. If using *DELAYED START*, go to step number 8.
7. Run hot water faucet nearest dishwasher until water is hot. Turn water off.
8. Close door to latch and start dishwasher.

Wash Cycles		
Wash Cycle/Cycle Time/ Water Used	Cycle selection procedure	Sequence
Pots & Pans (83 minutes) (7.2 gallons/ 27.3 liters) For pots, pans, casseroles and dinnerware with dried-on or baked-on soils.	1. Turn dial to <i>POTS & PANS</i> . 2. Select <i>WASH TEMP BOOST</i> and any other desired option.	Wash, rinse, rinse, wash, rinse, rinse, dry
Normal Wash (75 minutes) (6 gallons/ 22.7 liters) For regularly soiled dishes and silverware.	1. Turn dial to <i>NORMAL WASH</i> . 2. Select desired options.	Wash, rinse, wash, rinse, rinse, dry
Light Wash (68 minutes) (4.8 gallons/ 18.2 liters) For lightly soiled or pre-rinsed dishes and silverware.	1. Turn dial to <i>LIGHT WASH</i> . 2. Select desired options.	Rinse, wash, rinse, rinse, dry
Rinse/ Hold (5 minutes) (1.2 gallons/ 4.5 liters) For rinsing dishes that will be washed later.	1. Do not use detergent. 2. Turn dial to <i>RINSE/HOLD</i> .	Rinse
Plate Warmer (14 minutes) For warming dishes and serving plates before serving hot foods.	1. Load clean plates and dishes to be warmed. 2. Turn dial to <i>PLATE WARMER</i> . 3. Select <i>HEATED DRY</i> .	Hot dry
Delay Start (6 hours maximum) Allows you to delay starting the <i>POTS & PANS</i> cycle for up to 6 hours.	1. Turn dial to desired hour delay. 2. Select <i>WASH TEMP BOOST</i> option and other desired options.	

DWA53A Operating Instructions

Energy Options		
Option	Cycle selection procedure	Description
Wash Temp Boost Heats water to approximately 140°F (60°C). Can be used with any cycle except <i>RINSE/HOLD</i> and <i>PLATE WARMER</i> .	1. Select <i>WASH TEMP BOOST</i> pad. 2. Select <i>ENERGY SAVER WASH</i> pad to turn off option. <i>WASH TEMP BOOST</i> is always on unless <i>ENERGY SAVER WASH</i> is selected.	Delays timer advancement until proper water temperature is reached. Helps activate detergent to clean food, grease and soil from dishes.
Energy Saver Wash Dishwasher goes through wash cycle without a timer delay to heat water.	1. Select <i>ENERGY SAVER WASH</i> pad. 2. Select <i>WATER TEMP BOOST</i> pad to turn option off.	Dishwasher goes through wash cycle without a timer delay to heat water.
Heated Dry Provides faster drying since heating element is on during drying cycle.	1. Select <i>HEATED DRY</i> . 2. Heated dry is always on unless <i>AIR DRY</i> pad is selected.	Water vapor may be seen from vent during any drying cycle. Vent is closed during wash cycle to hold in moisture and noise. Vent opens during drying cycle. Drying option may be changed at anytime during cycle.
Air Dry <i>AIR DRY</i> option saves electricity since the heating element is off during drying cycle.	1. Select <i>AIR DRY</i> pad. 2. Select <i>HEATED DRY</i> pad to turn off option.	Air-dries dishes without using heating element. To speed process open door slightly after cycle is complete.

DWA63A Operating Instructions



NOTE: Before operating dishwasher read *Important Safety Instructions, Preparing and Loading Dishes, Dishwasher Dispenser and Detergents* and *Rinse Aid* sections of owner's manual.

1. Load dishwasher (See *Preparing and Loading Dishes* section of *owner's manual*).
2. Add detergent (See *Dishwasher Dispenser and Detergents* section of *owner's manual*).
3. Add rinse aid if needed (See *Rinse Aid* section of *owner's manual*).
4. Turn dial clockwise to select cycle (See *Wash Cycles* chart below) or number of hours for delayed start.
5. Select desired energy options. See *ENERGY OPTIONS*. The indicator light will show red when an option is selected.
6. If using *DELAY HOURS*, go to step number 8.
7. Run hot water faucet nearest dishwasher until water is hot. Turn water off (Optional).
8. Close door to latch and start dishwasher.

NOTE: Cycle times are approximate and will vary with options selected. Hot water is necessary to activate dishwasher detergent and melt fatty food soils. An automatic sensor will check the incoming water temperature and, if not high enough will delay timer, and automatic water heating takes place. This will happen even when *WASH TEMP BOOST* is not selected. When *WASH TEMP BOOST* is selected, an even higher temperature will be guaranteed to handle heavier soil loads.

Wash Cycles

Wash Cycle/Cycle Time/Water Used	Cycle selection procedure	Sequence
Pots & Pans (83 minutes) (7.2 gallons/ 27.3 liters) For pots, pans, casseroles and dinnerware with dried-on or baked-on soils.	<ol style="list-style-type: none"> 1. Turn dial to <i>POTS & PANS</i>. 2. Select <i>WASH TEMP BOOST</i> and any other desired option. 	Wash, rinse, rinse, wash, rinse, rinse, dry
Normal Wash (75 minutes) (6 gallons/22.7 liters) For regularly soiled dishes and silverware.	<ol style="list-style-type: none"> 1. Turn dial to <i>NORMAL WASH</i>. 2. Select desired options. 	Wash, rinse, wash, rinse, rinse, dry
Light Wash (68 minutes) (4.8 gallons/18.2 liters) For lightly soiled or pre-rinsed dishes and silverware.	<ol style="list-style-type: none"> 1. Turn dial to <i>LIGHT WASH</i>. 2. Select desired option. 	Rinse, wash, rinse, rinse, dry
Rinse/Hold (5 minutes) (1.2 gallons/4.5 liters) For rinsing dishes that will be washed later.	<ol style="list-style-type: none"> 1. Do not use detergent. 2. Turn dial to <i>RINSE/HOLD</i>. 	Rinse
Plate Warmer (14 minutes) For warming dishes and serving plates before serving hot foods.	<ol style="list-style-type: none"> 1. Load clean plates and dishes to be warmed. 2. Turn dial to <i>PLATE WARMER</i>. 3. Select <i>HEATED DRY</i>. 	Hot dry
Delay Hours (6 hours) Allows you to delay starting the <i>POTS & PANS</i> cycle for up to 6 hours.	<ol style="list-style-type: none"> 1. Turn dial to desired time delay. 2. Select <i>WASH TEMP BOOST</i> option and other desired options. <i>DELAY START</i> light will come on when door is closed. 	

DWA63A Operating Instructions

Energy Options

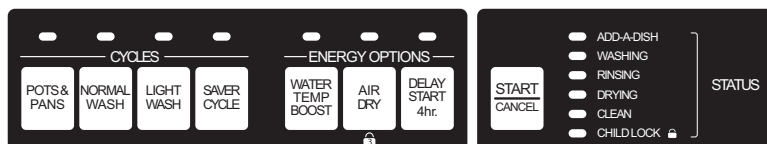
Option	Cycle selection procedure	Description
Wash Temp Boost Heats water to approximately 140°F (60°C). Can not be used with <i>RINSE & HOLD</i> or <i>PLATE WARMER</i> .	1. Select <i>WASH TEMP BOOST</i> pad. 2. Select <i>ENERGY SAVER WASH</i> pad to turn option off.	Delays timer advancement until proper water temperature is reached. Helps activate detergent to clean food, grease and soil from dishes.
Rinse Temp Boost Heats water in final rinse to approximately 140°F (60°C). Can be used with any cycle except <i>RINSE & HOLD</i> or <i>PLATE WARMER</i> .	1. Select <i>RINSE TEMP BOOST</i> pad. 2. Select <i>ENERGY SAVER RINSE</i> pad to turn off option.	Speeds drying and reduces spotting on dishes.
Heated Dry Provides faster drying using heating element during drying portion of cycle. Drying option may be changed at any time during cycle.	1. Select <i>HEATED DRY</i> pad. 2. Select <i>AIR DRY</i> pad to turn option off.	Water vapor may be seen coming out of vent during dry cycle. Vent is open only during drying portion of cycle.
Air Dry Saves energy by keeping heating element off during drying portion of cycle. Drying option may be changed at any time during cycle.	1. Select <i>AIR DRY</i> pad. 2. Select <i>HEATED DRY</i> to turn option off.	Opening door slightly after cycle is complete will help eliminate water droplets. Water vapor may be seen coming out of vent during drying cycle.

Status Indicator Lights

Description

DELAY START	Glows as timer counts down to begin cycle.
WATER HEATING	Cycle is being extended to heat water to proper temperature in main wash or final rinse based on option selected.
CLEAN	Light comes on when cycle is complete. To turn light off, turn dial slightly until it goes off.

DWA73A Operating instructions



NOTE: Before operating dishwasher read *Important Safety Instructions, Preparing and Loading Dishes, Dishwasher Dispenser and Detergents* and *Rinse Aid* sections of owner's manual.

1. Load dishwasher (See *Preparing and Loading Dishes* section of *owner's manual*).
2. Add detergent (See *Dishwasher Dispenser & Detergents* section of *owner's manual*).
3. Add rinse aid if needed (See *Rinse Aid* section of *owner's manual*).
4. Close door to latch.
5. Select desired **WASH CYCLE** (See *Wash Cycle* selections). Indicator light above pad will glow when selected.
6. Select desired **ENERGY OPTION** (See *Energy Options*). Indicator light above pad will glow when a pad is selected.
7. If using **DELAY START**, go to step number 9.
8. Run hot water faucet nearest dishwasher until water is hot. Turn water off.
9. To start, press **START/CANCEL** pad.

NOTE: Cycle times are approximate and will vary with options selected. Hot water is necessary to activate dishwasher detergent and melt fatty food soils. An automatic sensor will check the incoming water temperature and, if not high enough will delay timer, and automatic water heating takes place. This will happen even when **WATER TEMP BOOST** is not selected. When **WATER TEMP BOOST** is selected, an even higher temperature will be guaranteed to handle heavier soil loads.

Wash Cycle Options

Wash Cycle/Cycle time/Water used	Cycle selection procedure	Sequence
Pots & Pans (112 minutes) (8.4 gallons/31.8 liters) For pots, pans, casseroles and dinnerware with dried-on or baked-on soils.	<ol style="list-style-type: none"> 1. Select POTS & PANS. 2. Select WATER TEMP BOOST and any other desired option. 	Wash, rinse, wash, rinse, rinse, rinse, dry
Normal Wash (91 minutes) (6.0 gallons/22.7 liters) For regularly soiled dishes and silverware.	<ol style="list-style-type: none"> 1. Select NORMAL WASH. 2. Select desired options. 	Wash, rinse, wash, rinse, rinse, dry
Light Wash (74 minutes) (4.8 gallons/18.2 liters) For lightly soiled or pre-rinsed dishes and silverware.	<ol style="list-style-type: none"> 1. Select LIGHT WASH. 2. Select desired options. 	Rinse, wash, rinse, rinse, dry
Saver Cycle (66 minutes) (3.6 gallons/13.6 liters) For lightly soiled or pre-rinsed dishes. Saves energy by using less hot water.	<ol style="list-style-type: none"> 1. Select SAVER CYCLE. 2. Select desired options. 	Rinse, wash, rinse, dry
To Cancel a Cycle	A cycle can be canceled at anytime during the cycle. Press START/CANCEL pad and dishwasher will start a 90-second drain. At end of draining, select desired cycle.	
Child Lock	Prevents children from accidentally changing dishwasher cycle. Lock controls by pressing AIR DRY pad for 3 seconds. CHILD LOCK light will come on and no new selections can be made until lock is released. Unlock controls by pressing AIR DRY pad for 3 seconds until light goes out.	

DWA73A Operating instructions

Energy Options		
Option	Cycle selection procedure	Description
Water Temp Boost Heats water to approximately 140°F (60°C).	1. Select <i>WATER TEMP BOOST</i> . 2. Select <i>WATER TEMP BOOST</i> a second time to turn option off.	Delays timer advancement to allow water to heat. Helps activate detergent to clean food, grease and soil from dishes.
Hi-Temp Rinse Hi-Temp Rinse of approximately 145°F (63°) will automatically be provided in final rinse <i>if WATER TEMP BOOST</i> option has been selected.	Select <i>WATER TEMP BOOST</i> at beginning of cycle.	Speeds drying and reduces spotting on dishes.
Air Dry <i>AIR DRY</i> option saves electricity since the heating element is off during drying process.	Select <i>AIR DRY</i> pad. Light above pad will come on when selected and remain on until cycle is complete.	Air-dries dishes without using heating element. To speed process open door slightly after cycle is complete.
Heated Dry Provides faster drying since heating element is on during drying process.	<i>HEATED DRY</i> is always on unless <i>AIR DRY</i> is selected. Opening door longer than one minute during dry cycle cancels selected drying program.	Water vapor may be seen coming from vent during drying cycle. Vent is closed during wash cycle to hold in moisture and noise. Vent opens during drying cycle. Drying option may be changed at anytime during cycle.
Delay Start Allows you to delay start of wash cycle 4 hours.	1. Select <i>DELAY START</i> pad. 2. To start cycle before 4 hours expires, select <i>START/CANCEL</i> pad.	When <i>DELAY START</i> is selected the light above the pad will come on and stay on until wash cycle begins.

Status Indicator Lights	Description
ADD-A-DISH	When ADD-A-DISH light is on additional items can be added to dishwasher.
WASHING	Light comes at beginning of cycle and remains on until end of main wash.
RINSING	Light comes on and remains during final two rinses of all cycles.
DRYING	Light indicates drying portion of cycle. Drying light comes on when either drying option is selected.
CLEAN	Light comes on at end of cycle and remains on until door is open.