

GE Consumer & Industrial

Technical Service Guide

September 2008

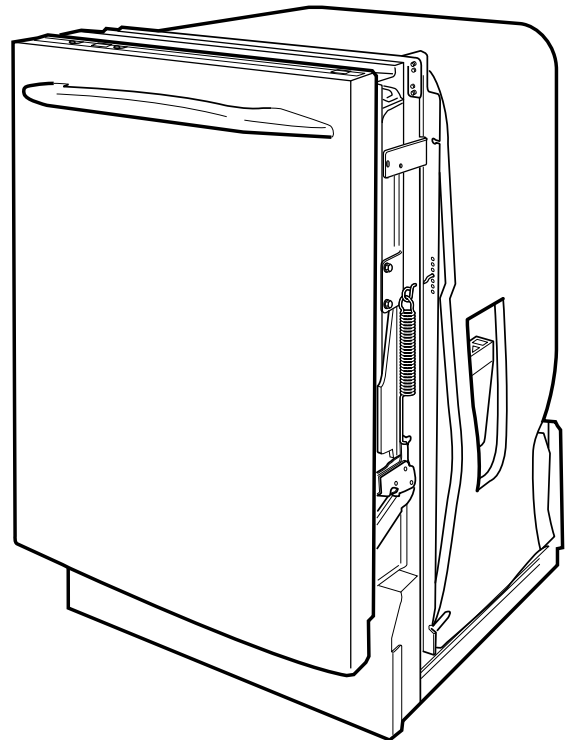
18-in. Dishwasher with Top Controls

PDW1800

PDW1860

ZBD1850

ZBD1870



31-9175



GE Appliances
General Electric Company
Louisville, Kentucky 40225



IMPORTANT SAFETY NOTICE

The information in this service guide is intended for use by individuals possessing adequate backgrounds of electrical, electronic, and mechanical experience. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

WARNING

To avoid personal injury, disconnect power before servicing this product. If electrical power is required for diagnosis or test purposes, disconnect the power immediately after performing the necessary checks.

RECONNECT ALL GROUNDING DEVICES

If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

GE Consumer Products
Technical Service Guide
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Introduction

The 18-in. Built-In Dishwasher with top controls has a compact size, allowing the unit to fit in areas as small as 18 inches (45.72 cm) wide, 22 inches (55.88 cm) long, and 34 inches (86.36 cm) high. It is compact in size, yet still delivers the performance of larger units. With a low power usage, this product model meets ENERGY STAR® guidelines for energy efficiency.

The 18-in. Built-In Dishwasher with top controls has the following wash cycles: HEAVY, NORMAL, LIGHT, GLASSES, AIR-DRY, SPEED and RINSE.



Specifications

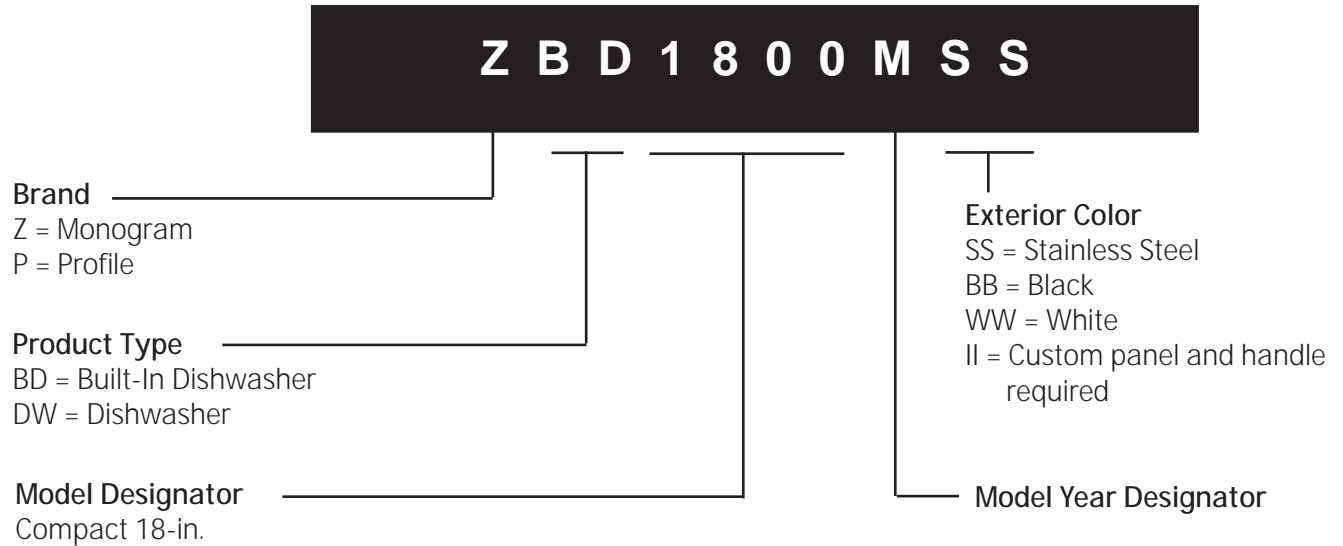
| Electrical | |
|---------------------------|-----------------------------|
| Rating | 120 Volts, 60 Hz $\pm 10\%$ |
| Separate Circuit | 4.5 to 5.5 Amps |
| Motor (HP) | 1/5 |
| Motor (Amps) | 1 $\pm 10\%$ |
| Heater Wattage – Wash/Dry | 465 $\pm 10\%$ |
| Total Amps (Load Rated) | 5 $\pm 10\%$ |

| Component Resistance (OHMS) | |
|-------------------------------------|-----------------|
| Timer Motor | 1460 $\pm 10\%$ |
| Heating Element | 31 $\pm 5\%$ |
| Pump Motor Windings | |
| Drain | 27 $\pm 10\%$ |
| Wash (Blue to Red) | 47 $\pm 10\%$ |
| Run Windings – Main (Blue to Black) | 17.5 $\pm 10\%$ |
| Water Valve Solenoid | 1140 $\pm 5\%$ |
| Total Amps (Load Rated) | 5 $\pm 10\%$ |

| Water Supply | |
|---|---|
| Suggested Minimum Incoming Water Temperature | 120 °F to 150 °F (49 °C to 66 °C) |
| Sump Water Temperature With Outer Door In Place | 145 °F ± 5 °F (63 °C ± 3 °C) |
| Water Charge | 2.54 to 3.27 Quarts (2.4 to 3.1 Liters) |
| Pressure | 20 Min./120 Max. (PSI) 138 Min./827 Max. (kPa) |
| Connection (NPT) | 3/8 In. (0.95 cm) |
| Consumption (Total) | 4.7 to 6.1 Gallons (17.8 to 23.1 Liters) |
| Water Valve Flow Rate (GPM) | 1.8 $\pm 14\%$ (6.81 LPM $\pm 14\%$) |
| Water Circulation Rate (GPM) | 10 $\pm 10\%$ (37.85 LPM $\pm 10\%$) |
| Water Fill Time (Seconds) | 30 (± 1) |

Nomenclature

Model Number



Nomenclature



The serial plate of your dishwasher is located on the tub wall, just outside the door.

The service information sheet is located behind the kick panel.

Serial Number

The first two characters of the serial number identify the month and year of manufacture.
 Example: **AR**123456S = January, 2008

| | |
|---------|----------|
| A - JAN | 2008 - R |
| D - FEB | 2007 - M |
| F - MAR | 2006 - L |
| G - APR | 2005 - H |
| H - MAY | 2004 - G |
| L - JUN | 2003 - F |
| M - JUL | 2002 - D |
| R - AUG | 2001 - A |
| S - SEP | 2000 - Z |
| T - OCT | 1999 - V |
| V - NOV | 1998 - T |
| Z - DEC | 1997 - S |

The letter designating the year repeats every 12 years.

Example:

- T - 1974
- T - 1986
- T - 1998

Custom Panel Installation

Some models of this dishwasher are designed for use with a 3/4-in. custom front panel. For easier installation, the custom panel and custom handle should be attached before installing the dishwasher. Use the template from Pub. No. 31-30244 supplied with the dishwasher to locate mounting screws and spacers on the custom panel.

Note: A custom handle must be installed on the custom panel. Install the custom handle 4 1/2 inches max. from the top of the panel.

Parts Included:

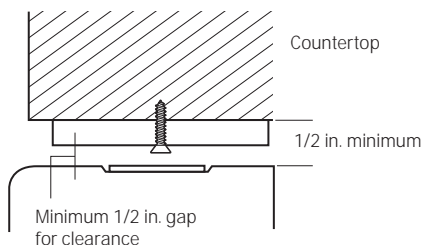
- (2) Brackets
- (4) 1/2-in. Phillips flat-head screws
- (2) Spacer pads
- (2) Metal spacers
- (2) 1-in. Phillips flat-head screws
- (2) 3/4-in. Phillips round-head screws

1. Custom Panel Size Requirements

Height - Panel height should be 26 5/32 inches (68 cm). The top of the custom panel must be flush with the top of the door. The 1/2-inch minimum gap between the top of the door and the bottom of the countertop must be maintained.

Width - The panel width must be 17 1/2 inches (44.4 cm). If the panel width is less than 17 1/2 inches, it will not cover the dishwasher frame.

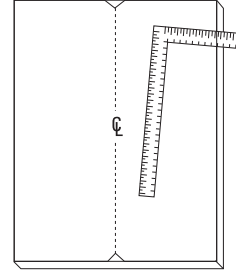
Note: To ensure optimum door balance performance, the custom panel must not weigh more than 8 lbs.



2. Draw Centerline

Place the custom panel on a flat surface with the appearance side down.

Locate the vertical center of the panel at the top. Use a carpenter's square to draw a centerline from top to bottom.

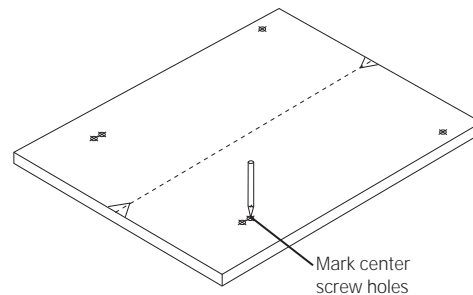


3. Align Template to Panel

Trim the template on the dotted line along all sides. Place the template on the panel aligned with the top edge and the centerline. Use tape to hold in place.

IMPORTANT: If the template is not aligned with the top edge of the panel, the 1/2 inch minimum gap will not be maintained. This 1/2 inch minimum gap must be maintained to prevent condensation and damage to the control panel from screw heads.

Use an awl to mark the screw hole locations indicated on the template. Remove the template.

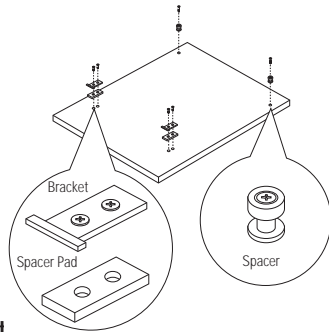


4. Install Mounting Screws and Spacers

Note: The custom panel is secured to the dishwasher door with the metal spacers, screws and brackets provided. The metal spacers and brackets will slip into the slots on the dishwasher door and control panel.

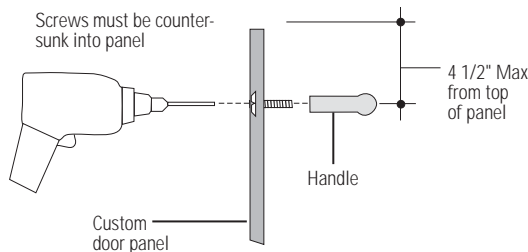
Align the metal spacers over the top pilot holes. Ensure the thick, recessed side is facing up. Drive the supplied 1-in. Phillips flat-head screws through the metal spacers and into the panel. Align the brackets over the bottom pilot holes. Ensure the curved lip is

facing up. If the back surface of the panel is not flat, use the spacer pads provided. Drive the 1/2-in. Phillips flat-head screws through the brackets and into the panel.



5. Install Custom Handle

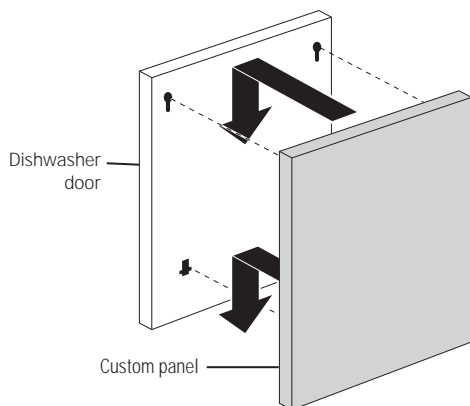
A custom handle must be installed on the panel before the panel is secured to the dishwasher door. The handle should be installed so that it aligns with adjacent drawer handles, or 4 1/2 inches maximum from the top of the panel. Secure the handle in the same manner as the cabinet handles. Screws must be countersunk into the panel.



6. Install Assembled Panel

Secure the panel to the door by inserting the top metal spacers and bottom brackets into the matching slots on the dishwasher door and control panel.

Make sure both metal spacers and both brackets engage the slots.



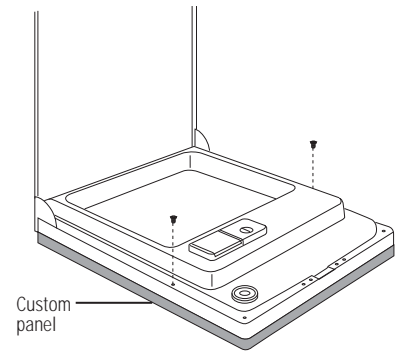
the top and sides.

Press the panel against the door and push downward until the metal spacers and brackets are fully engaged in the slots. The panel should align evenly with

Stand the dishwasher upright and open the dishwasher door to remove the 2 plug buttons, one on each side as shown.

Place the supplied 3/4-in. Phillips round-head screws inside the plastic sleeve and drive through the inner door and into the custom panel.

Replace the 2 plug buttons by pressing them firmly back into the plastic sleeve.



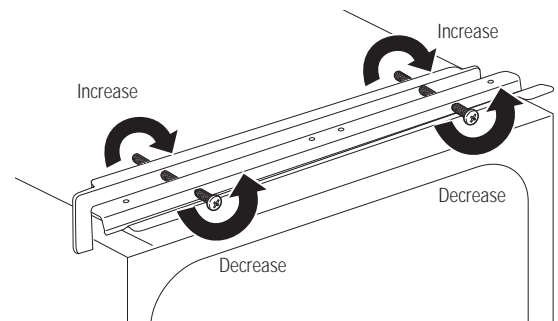
Caution: Do not overtighten screws. Excessive tightening of the screws could damage door edges.

7. Check Door Balance

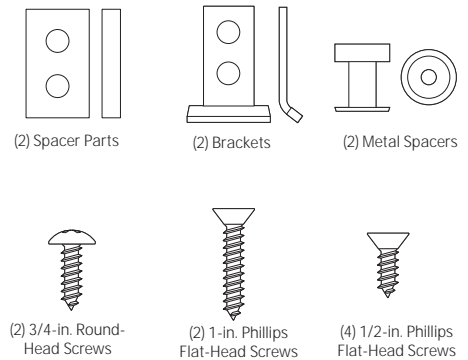
To check the door balance, hold the top of the dishwasher firmly. Check the door balance by opening and closing the door.

If the door drops when released, increase the spring tension. If the door rises when released, decrease the spring tension.

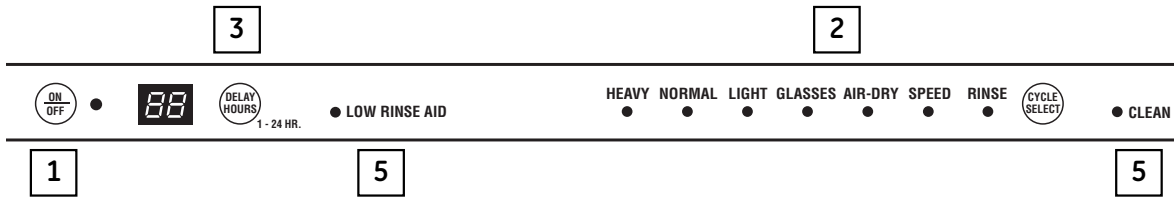
Using a T25 Torx driver, adjust in the direction shown. Adjust both sides equally.



Parts Supplied



Control Panel Features



1 ON/OFF With door open, press ON/OFF button to turn the unit ON to begin operation and OFF at the end of a wash cycle. The ON/OFF light is displayed when the dishwasher is ON.

2 WASH CYCLE SELECTIONS Press CYCLE SELECT button to choose wash cycle. The light under the cycle name will display to indicate which cycle has been selected.

NOTE: All cycle times and water usage information contained in this section are approximate values. Actual results will depend on several factors including, but not limited to, inlet water temperature and household water pressure.

HEAVY 6.2 gallons, 125 minutes
This cycle is meant for heavily soiled dishes or cookware with dried-on or baked-on soils. This cycle may not remove burned-on foods. Everyday dishes are safe to be used in this cycle. This cycle also includes heated dry.

NORMAL 5.3 gallons, 100 minutes
This cycle is meant for loads of everyday dishes, glasses and cookware with medium soils that have not been pre-rinsed. This cycle also includes heated dry.

LIGHT 4.4 gallons, 85 minutes
This cycle is meant for loads of everyday dishes, glasses and cookware with light soils that have been pre-rinsed. This cycle also includes heated dry.

GLASSES 3.5 gallons, 65 minutes
This cycle is meant for lightly soiled glassware. This cycle has less heating during the wash and rinse to protect your glassware. This cycle also has a lower temperature heated dry.

AIR-DRY 3.5 gallons, 50 minutes
This cycle is meant for loads of everyday dishes, glasses and cookware with light soils that have been pre-rinsed and should air dry naturally. This cycle does not include heated dry.

SPEED 5.3 gallons, 80 minutes
This cycle is meant for loads of everyday dishes, glasses and cookware with medium soils that have not been pre-rinsed. This cycle features reduced wash times to allow for faster cycle completion. This cycle also has a reduced time heated dry.

RINSE 1 gallon, 10 minutes
For rinsing partial loads that will be washed later. Do not use detergent with this cycle. This cycle does not include heated dry.

3 DELAY HOUR SELECTION

This option allows you to delay the start of a wash cycle for up to 24 hours.

With the door open, turn the dishwasher ON by pressing the ON/OFF button; then press DELAY HOURS button to choose the number of hours you want to delay the start of the wash cycle. The hours will show in the display window.

NOTE: To cancel the DELAY HOURS option before the start of the cycle, repeatedly press the DELAY HOURS button until the display is blank or reads "00."

4 STARTING A CYCLE

After selecting the wash cycle (Step 2) and delay hours (Step 3), if desired, close the door of the dishwasher to start the cycle or begin the DELAY HOURS countdown. When the cycle starts, the drain begins and approximately 60 seconds later the water fill begins.

5 STATUS INDICATORS

LOW RINSE AID

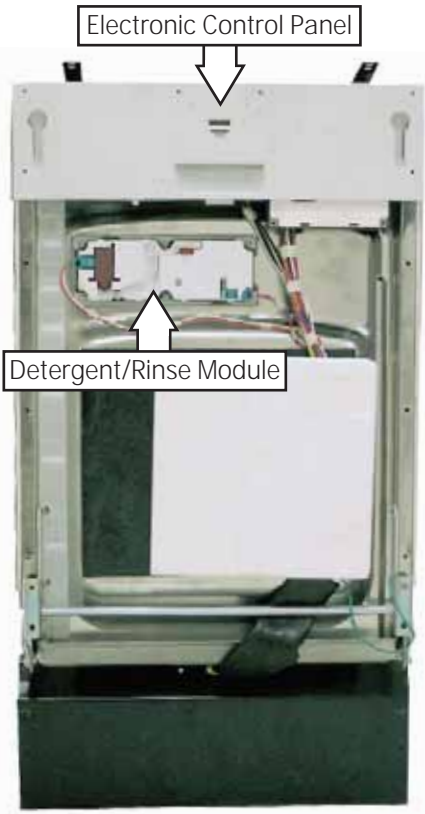
The red light will display when the rinse aid dispenser needs to be refilled with liquid rinse aid. Use of **Jet-Dry®** or **Cascade Crystal Clear®** rinse agent removes spots and prevents new film buildup on your dishes, glassware, flatware, cookware and plastics. See page 6 for instructions on refilling the rinse aid dispenser.

CLEAN

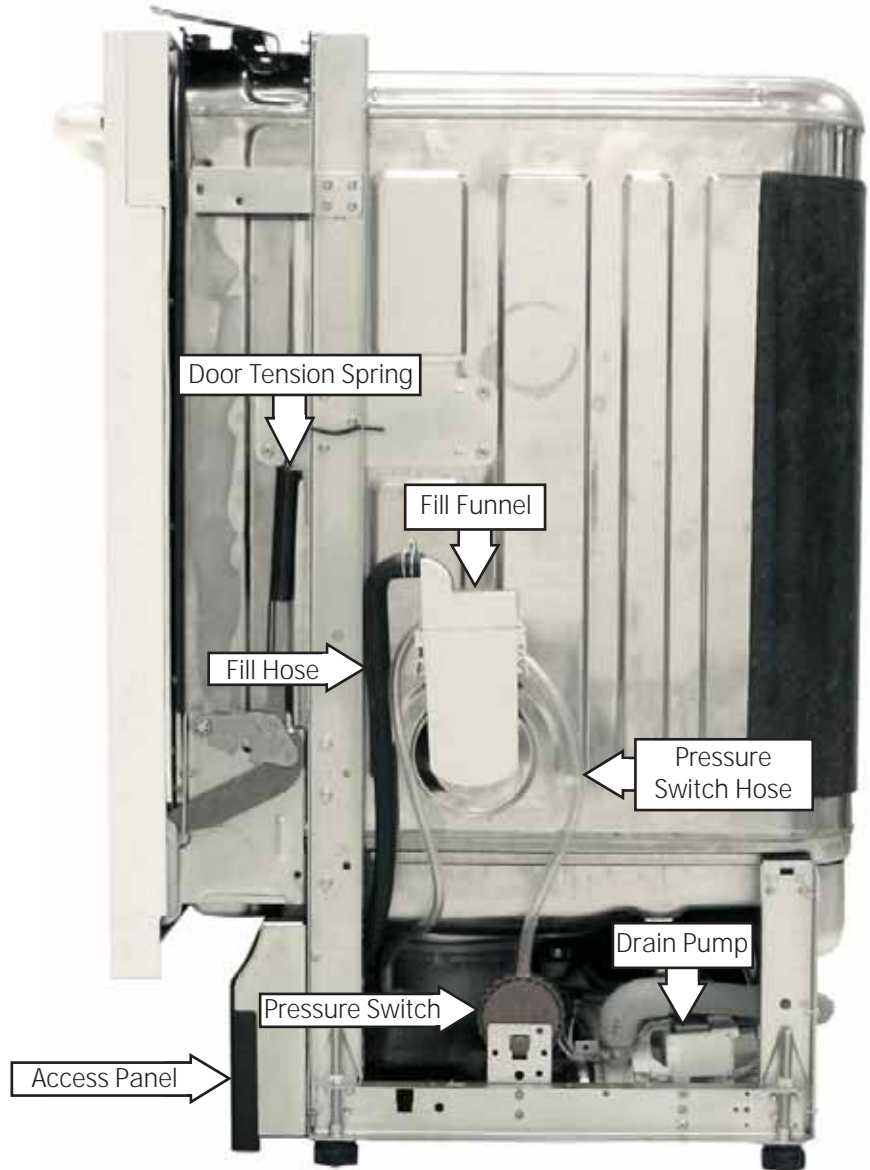
The green light will display and a beep will sound to alert you that the wash cycle is complete.

Component Locator Views

Front View
(Door Panel Removed)



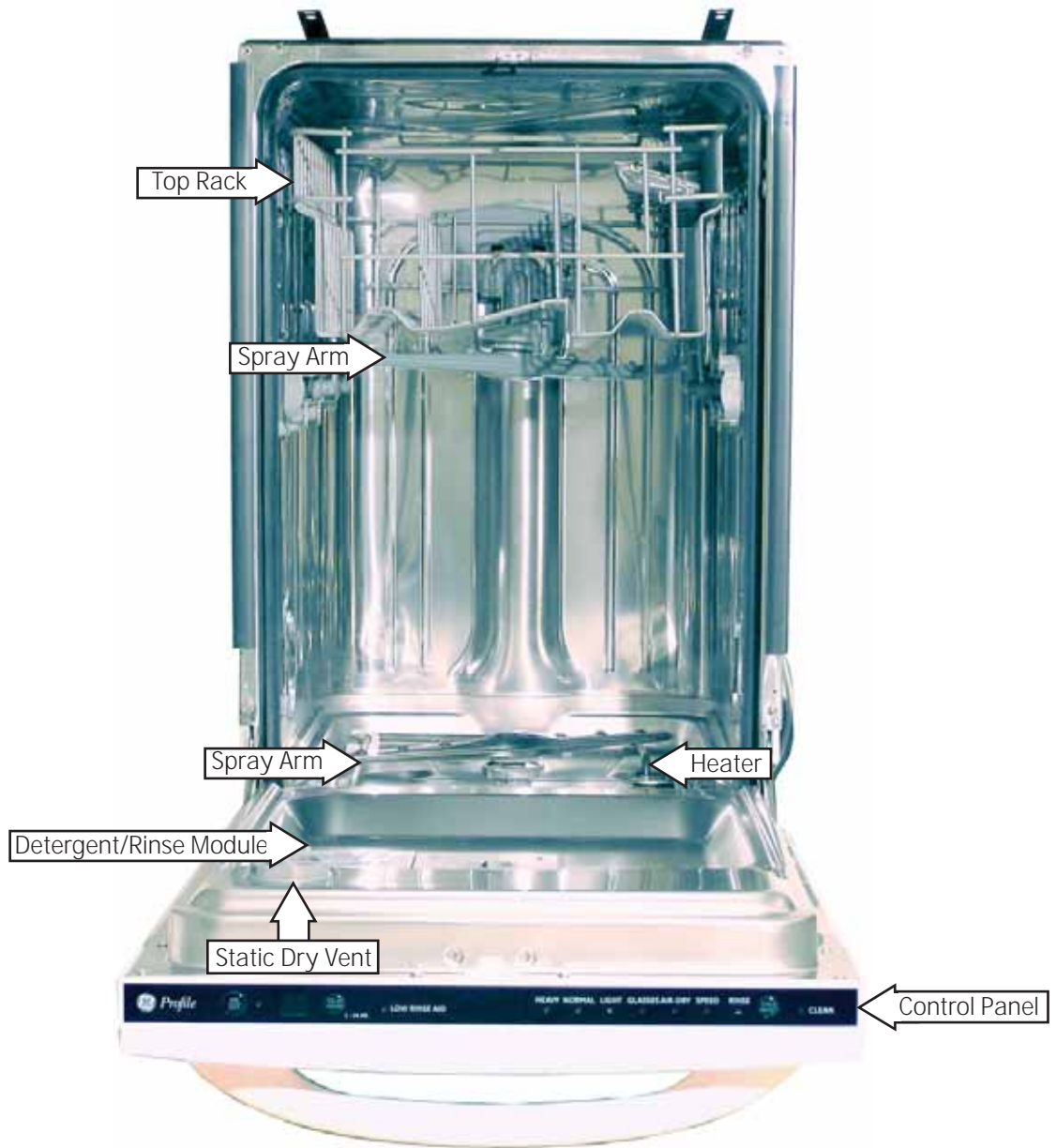
Right Side View (Insulation Removed)



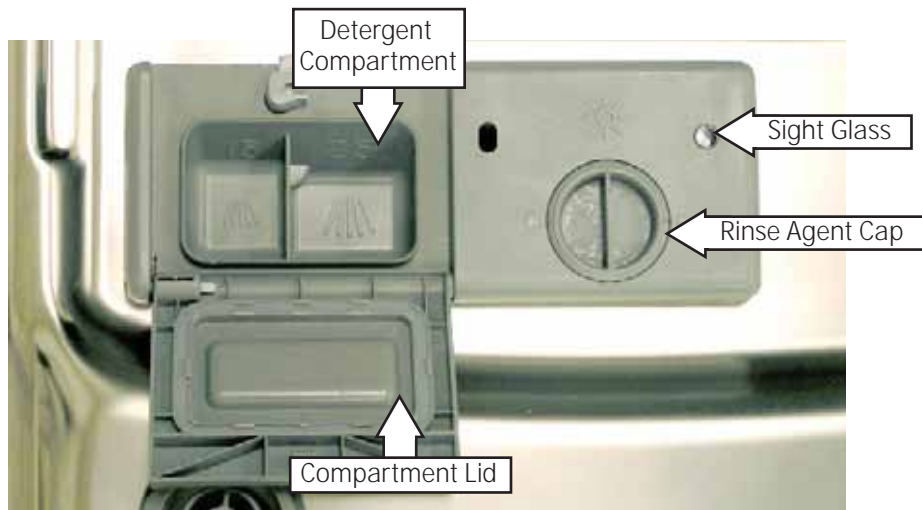
Control Panel View



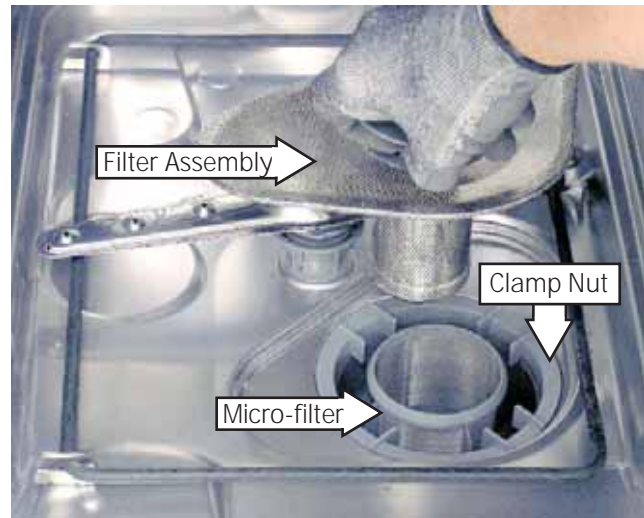
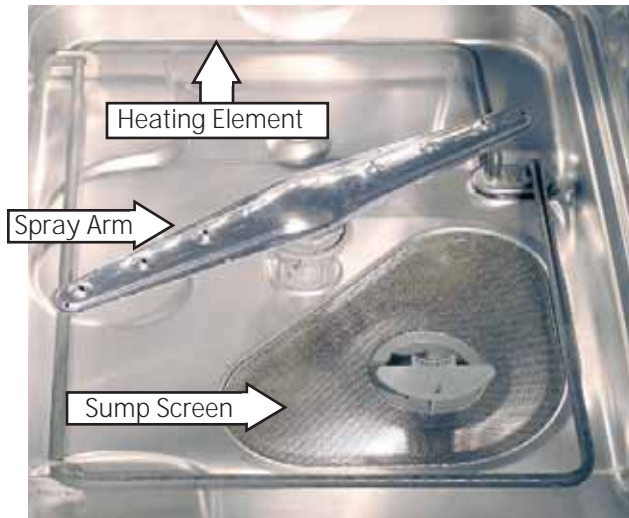
Interior View (With Bottom Rack Removed for Clarity)



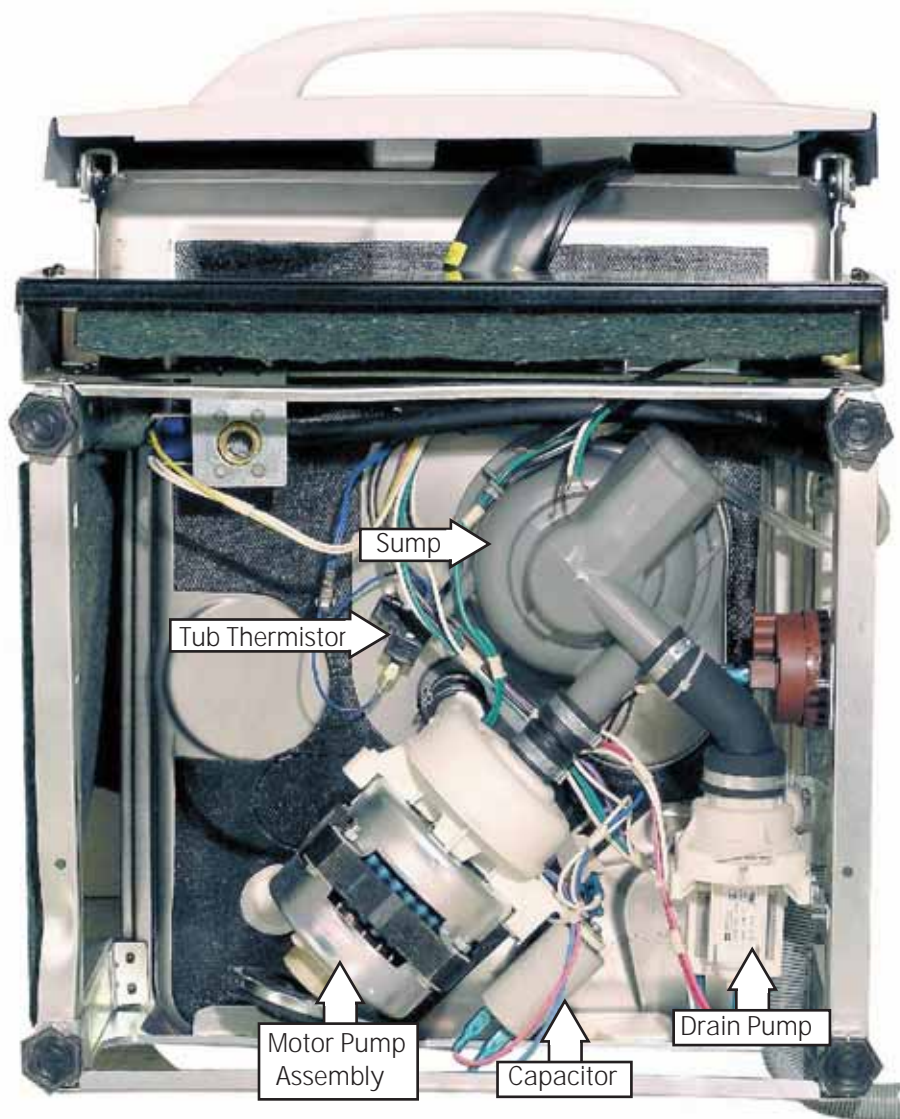
Detergent/Rinse Module Compartment View



Interior View of Basin (With Racks Removed)



Bottom View (Looking Up)



Dishwasher Components

Throughout this manual, features and appearance may vary from your model.

Door Panel

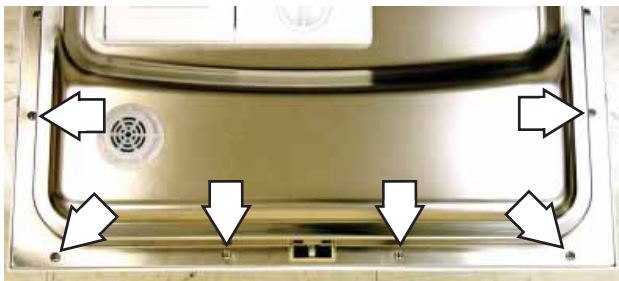
The door panel covers the door to the dishwasher and protects the detergent/rinse module electronics. For custom door panel installations, see *Custom Panel Installation*.

Removal

1. Disconnect power.
2. Open the dishwasher door.
3. Remove the lower 6 Phillips-head screws from the door panel.



4. Back out the 6 Phillips-head screws that hold the control panel cover to the door assembly 1/2 inch. Remove the door panel.

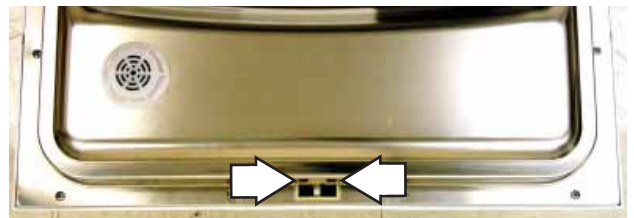


Control Panel

The control panel is located on the door assembly behind the door panel. The control panel consists of a 2-board push-button keypad with LED indicators and a power board assembly.

Removal and Installation

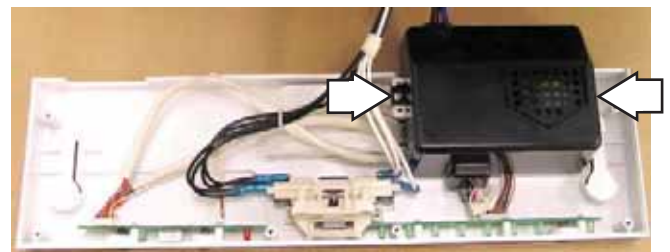
1. Remove the door panel. (See *Door Panel*.)
2. Remove the 6 Phillips-head screws from the top of the door assembly.
3. Remove the 2 Phillips-head screws from the door switch and latch assembly.



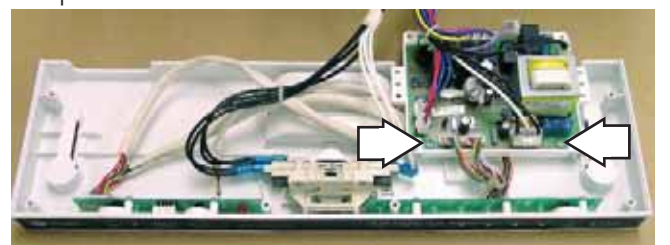
4. Remove the control panel from the dishwasher door.

Power Board

1. Remove the 2 Phillips-head screws from the power board cover.

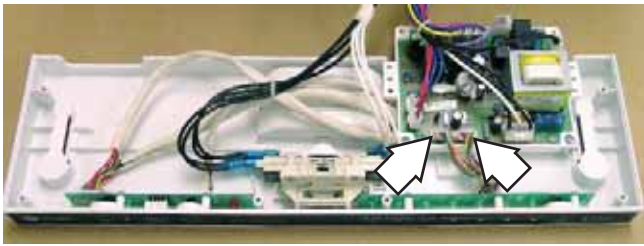


2. Mark and disconnect the terminals.
3. Remove the 2 Phillips-head screws from the power board.

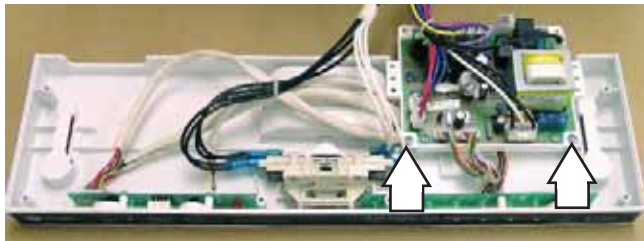


User Interface Boards

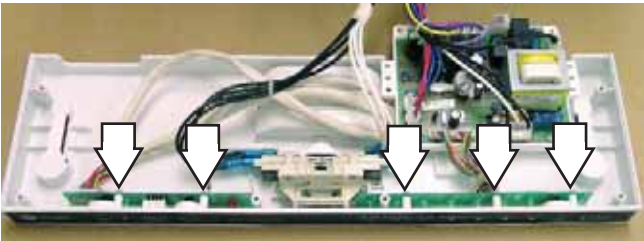
1. Disconnect the 2 wire harnesses from the power board.



2. Remove the 2 Phillips-head screws from the power board tray.



3. Remove the 5 Phillips-head screws from the 2 user interface boards.



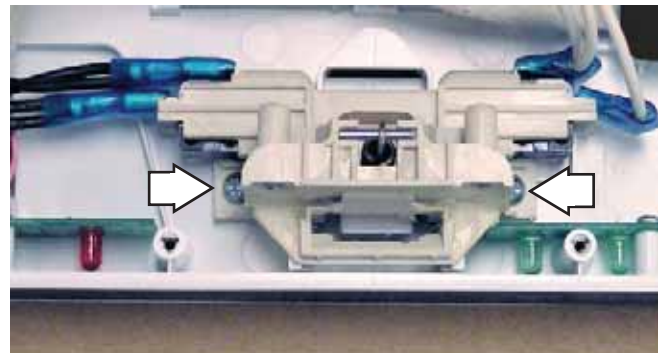
4. Remove the 2 boards and connecting wire harnesses.

Door Latch Assembly

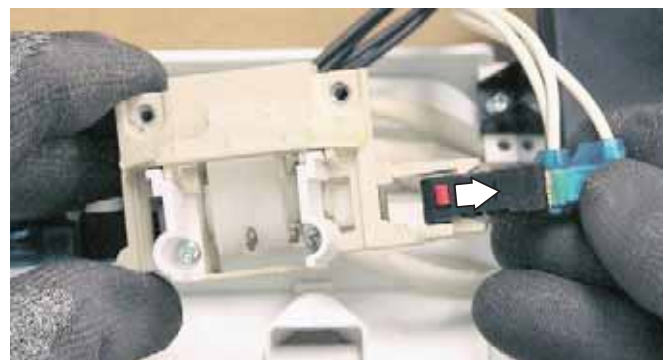
The door latch assembly is located on the door assembly behind the control panel cover. The dishwasher will not operate until the door is closed, the latch engages the door catch (holding the door firmly against the seal), and the normally open contacts of the double-pole, single-throw door safety switch are closed.

Removal and Installation

1. Disconnect the electrical supply from the dishwasher.
2. Open the dishwasher door.
3. Remove the door panel. (See *Door Panel*.)
4. Remove the control panel from the dishwasher door. (See *Control Panel*.)
5. Remove the 2 screws and the door latch assembly.



6. Remove the door switch from the door latch assembly.



7. Tag and disconnect the appropriate wire terminals from the door switch.

Static Dry System

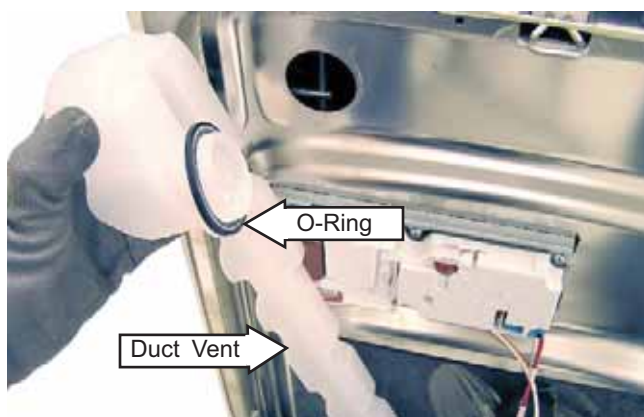
The static dry system operates through a vent located behind the left side of the door panel. The vent allows hot air to exit the dishwasher tub and gradually remove moisture.

Removal

1. Open the dishwasher door.
2. Remove the door panel. (See *Door Panel*.)
3. Remove the control panel (see *Control Panel*) and allow the control panel to hang against the dishwasher door.
4. Unscrew the static vent channel cover and remove the assembly as shown below. Inspect the cover for hard water/lime deposits or debris and clean if necessary.



5. Inspect the o-ring. If the o-ring shows obvious signs of wear or damage, replace the duct vent and gasket assembly.

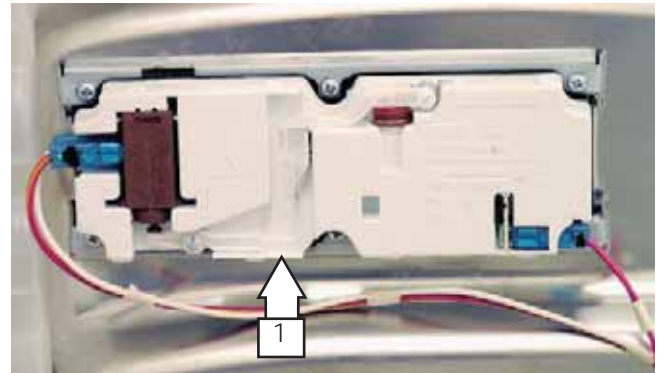


Detergent/Rinse Module

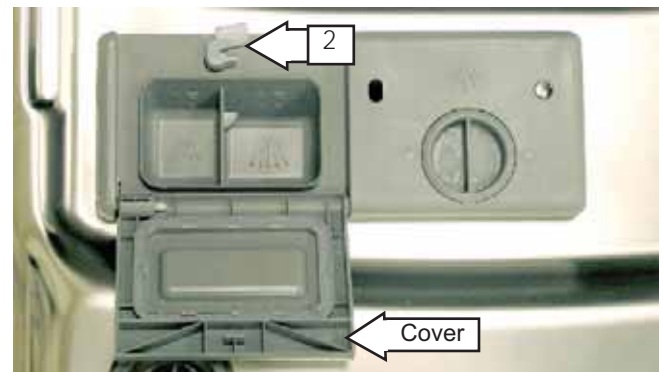
The detergent/rinse module sends a signal to turn on the "LOW RINSE AID" LED on the control panel when the rinse agent is low.

The detergent/rinse module automatically dispenses both the detergent and the rinse agent at the appropriate times. The module is activated twice during a wash cycle.

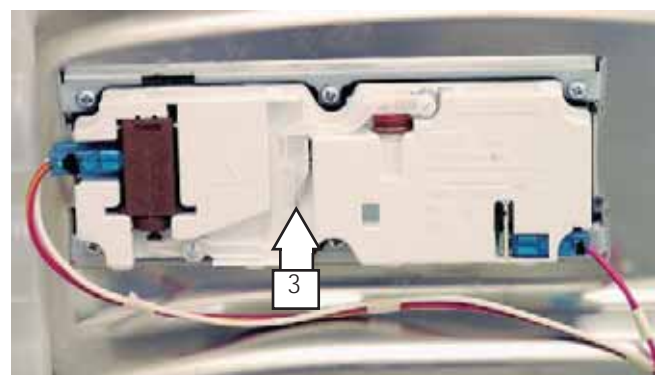
The first time the module is activated (1), the lever slides up the right-hand path of the connecting rod.



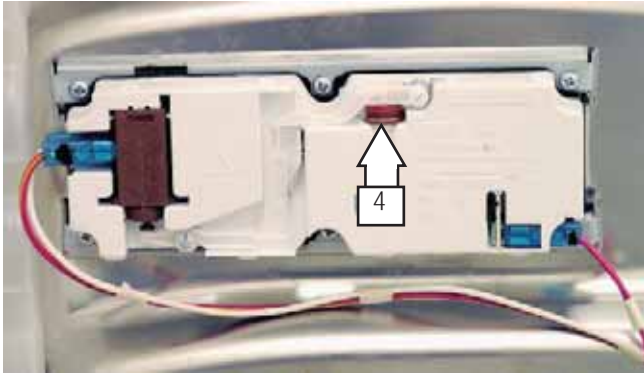
This action moves the cover catch (2) and releases the detergent cover.



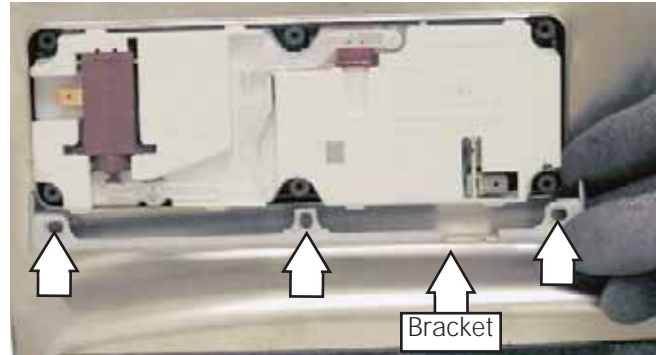
When deactivated (3), the lever resets to rest under the notch in the center of the connecting rod.



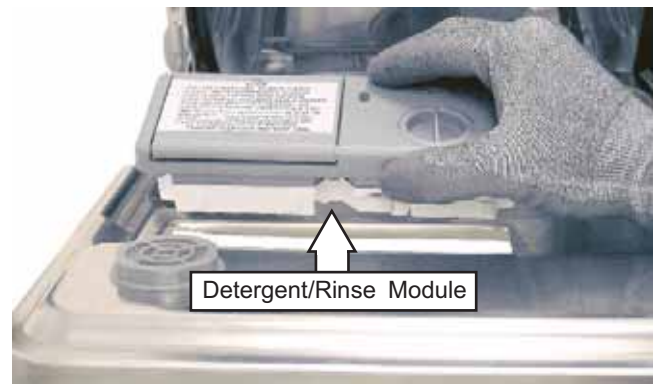
When activated for the second time in a cycle, the lever lifts the connecting rod by the notch, lifting the rinse dispenser plunger (4) and releasing the rinse agent. When deactivated, the lever returns to its original starting position.



5. Remove the 3 screws and bottom mounting bracket.



6. Remove the detergent/rinse module from door assembly.

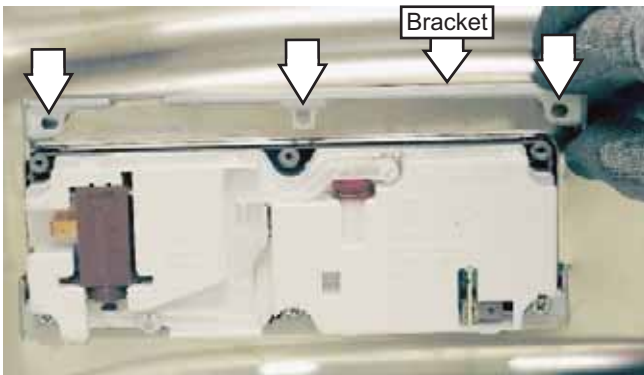


Removal and Replacement

1. Disconnect power.
2. Remove the door panel. (See *Door Panel*.)
3. Disconnect the 4 terminals from the detergent/rinse module.



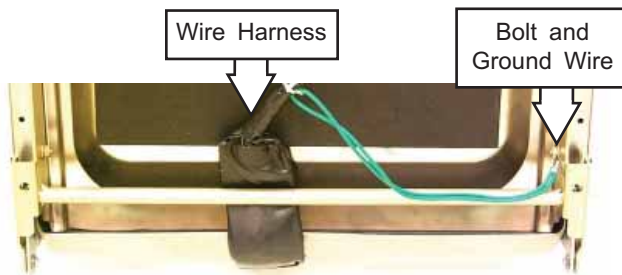
4. Remove the 3 screws and top mounting bracket.



Door Assembly

Removal and Replacement

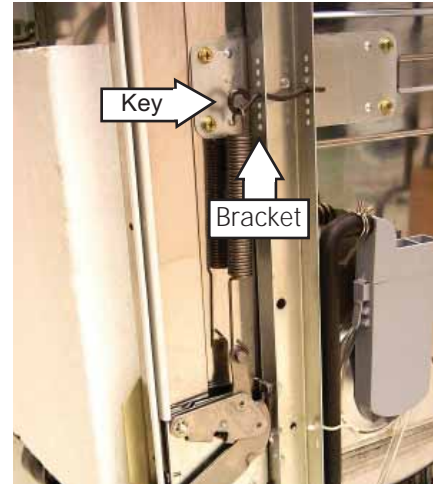
1. Disconnect power.
2. Carefully pull the dishwasher out from its installation.
3. Remove the control panel. (See *Control Panel*.)
4. Remove the door foam wire guide and place the control panel on a cloth or cardboard protected surface.
5. Remove the detergent/rinse module. (See *Detergent/Rinse Module*.)
6. Remove the static dry system. (See *Static Dry System*.)
7. Remove the bolt and ground wire from the door.
8. Remove the wire harness from the door.



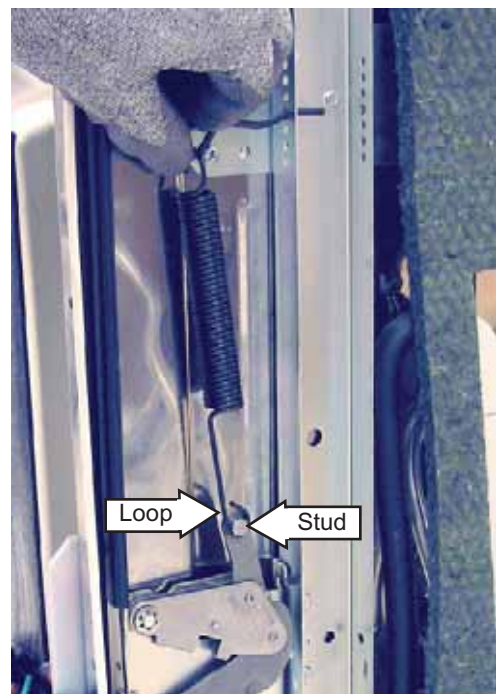
Note: There is a door hinge assembly on both the left and right sides of the dishwasher. Both door hinge assemblies must be removed in order to remove the door. The procedure to remove the right-side door hinge assembly is outlined in steps 9 through 19. The left-side door hinge assembly is identical.

9. Remove the 4 screws, access panel, and toe-kick panel from the dishwasher.

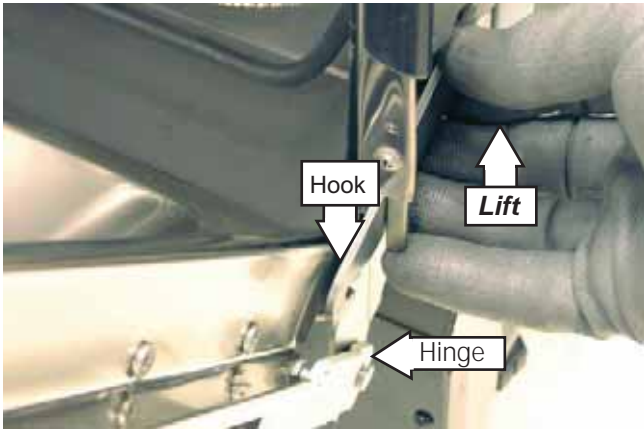
10. Mark the position of the spring bolt key in the mounting bracket with a felt-tip marker.



11. Pull the spring and spring bolt key from the mounting bracket.
12. Lift the bottom of the spring loop from the hinge arm stud.



13. Open the dishwasher door approximately 30 degrees.
14. Lift the bottom hinge arm up from the bottom hinge, far enough to expose the hook.

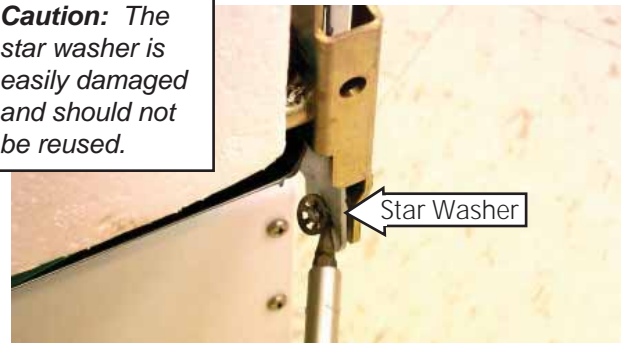


15. Close the dishwasher door.

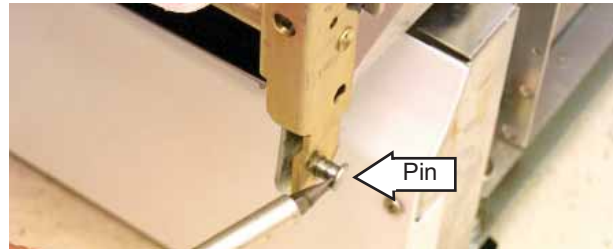
Caution: The star washer is easily damaged during removal and should not be reused. Order a new set of star washers (part number: WD01X10254).

16. Remove the star washer from the dishwasher door hinge.

Caution: The star washer is easily damaged and should not be reused.



17. Remove the hinge pin from the dishwasher door hinge.



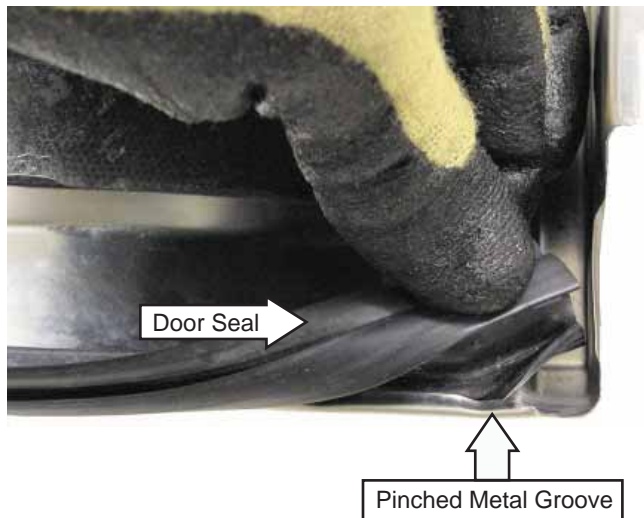
18. Repeat steps 3 through 10 to remove the left-side door hinge assembly.
19. Remove the dishwasher door from the dishwasher.

Bottom Door Seal

The bottom door seal prevents water leakage. The seal is fitted in a pinched metal groove at the bottom of the dishwasher door.

WARNING: The pinched metal groove is sharp. Wear Kevlar gloves when removing or installing the bottom door seal. Failure to comply may result in personal injury.

It is necessary to remove the door assembly to access the bottom door seal. (See *Door Assembly*.) The seal is pulled out from the pinched metal groove.



To install the bottom door seal it will be necessary to open the pinched metal groove. Make sure the seal is seated properly in the metal groove before pinching closed. Run your finger over the groove to make sure it is smooth and even for a proper seal.

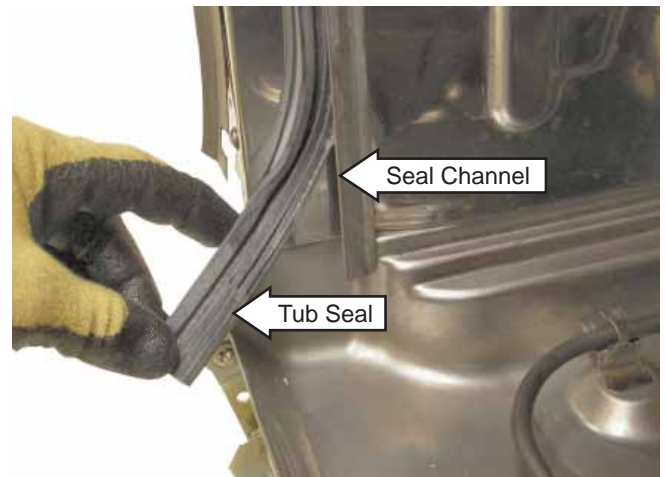


Dishwasher Tub Seal

The dishwasher tub seal prevents water leakage. The seal is fitted in a seal channel that lines the rim of the dishwasher tub.

Removal and Replacement

1. Open the dishwasher door.
2. Grasp one end of the dishwasher tub seal and peel it away from the seal channel.



3. Reverse the above procedure to install.

Note: When installing the tub seal, make sure it is seated properly in the seal channel. Run your finger over the seal to make sure it is smooth and even for a proper seal. A correctly installed gasket will have both ends of the gasket equidistant from the bottom of the tub.



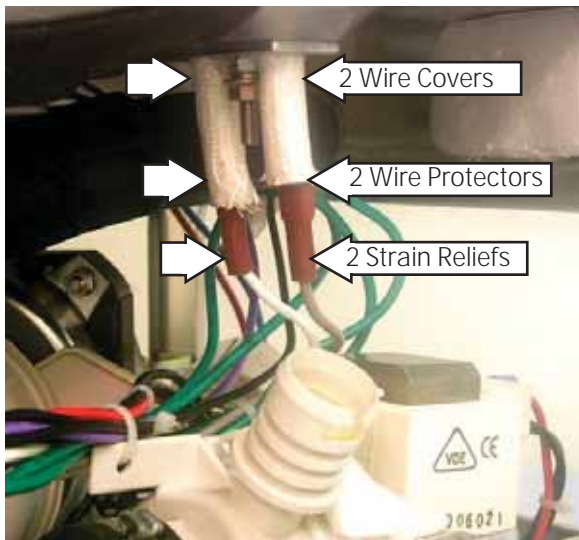
Heating Element

The heating element maintains water temperature during the wash and rinse cycles and heats the air during the static dry cycle. (The heating element has an approximate resistance value of 29.5 to 32.5 Ω .)

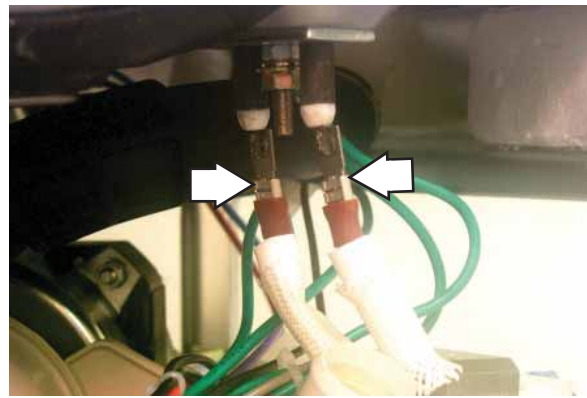
To check operation, see step 9 of *Service Mode*. Allow one minute before opening the dishwasher door and note if heat is present.

Removal and Replacement

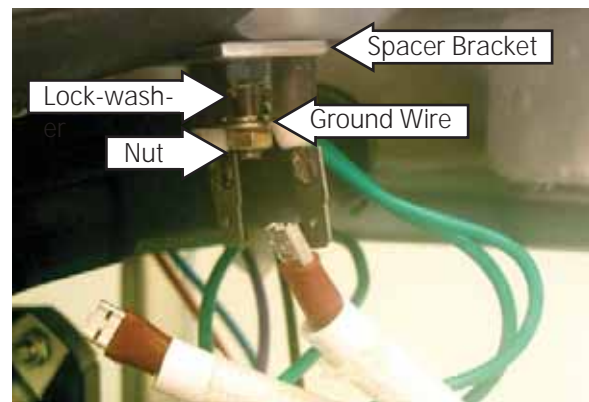
1. Disconnect power.
2. Open the dishwasher door.
3. Remove the top and bottom dishwasher racks.
4. From underneath the dishwasher tub, locate the wires leading to the heating element.
5. Pull down the nylon covers, rubber wire protectors, and plastic strain reliefs from the wire terminals.



6. Disconnect the 2 terminal lugs from the heating element.



7. Remove the nut and ground wire.
8. Remove the lock washer and spacer bracket.



9. Release the 2 heating element clamps.



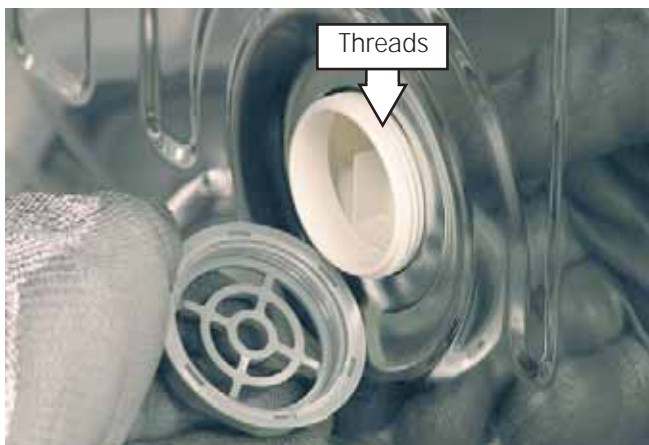
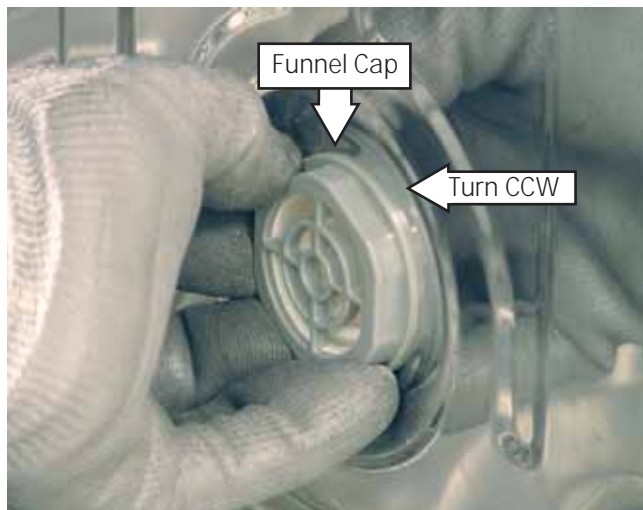
10. Lift up and remove the heating element from the dishwasher.

Fill Funnel

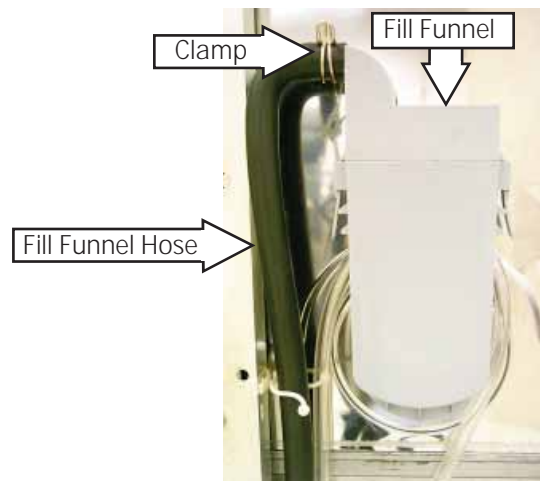
The fill funnel is mounted on the right side of the tub. Its purpose is to provide a method of supplying water for the wash and rinse cycles. The fill funnel provides an air gap, which prevents wash water from siphoning back into the water supply system if the water pressure drops to less than atmospheric pressure. The fill funnel also allows air into the tub to permit airflow for dish drying.

Removal and Replacement

1. Fold back the insulation surrounding the fill funnel assembly.
2. Open the dishwasher door.
3. Rotate the fill funnel cap counterclockwise and remove it from the fill funnel threads.



4. Loosen the clamp and disconnect the fill funnel hose from the fill funnel.
5. Remove the fill funnel from the dishwasher.



Note: Make sure that the clear plastic air tube is looped around that part of the fill funnel that protrudes into the dishwasher tub and mates with the fill funnel cap.

Water Valve

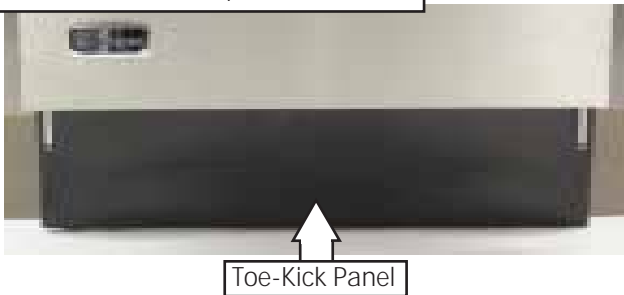
The water valve is solenoid operated and regulated by the electronic control. The flow of water is controlled by a rubber flow washer capable of maintaining a flow rate of $1.8 \pm 14\%$ gallons per minute ($6.81 \pm 14\%$ liters per minute) with incoming water pressure of 20 to 120 PSI. The water valve is mounted to the left hinge support of the dishwasher.

Removal and Replacement

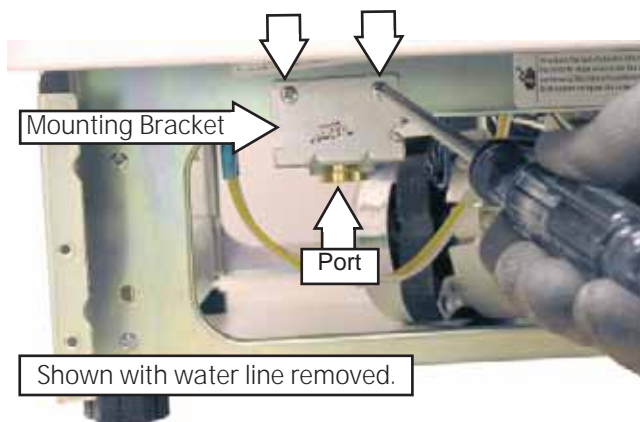
1. Disconnect power.
2. Remove the 4 screws, access panel, and toe-kick panel from the dishwasher.



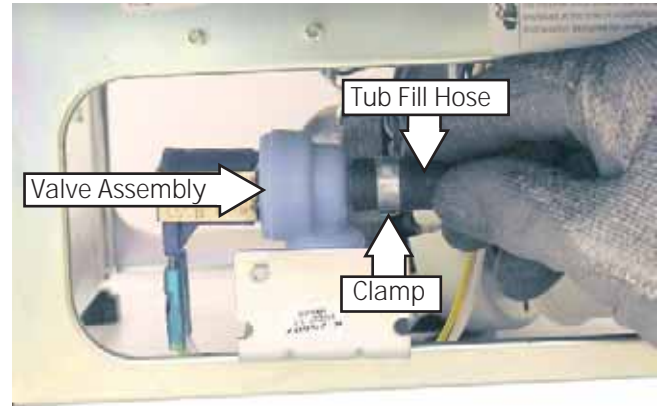
Shown with access panel removed.



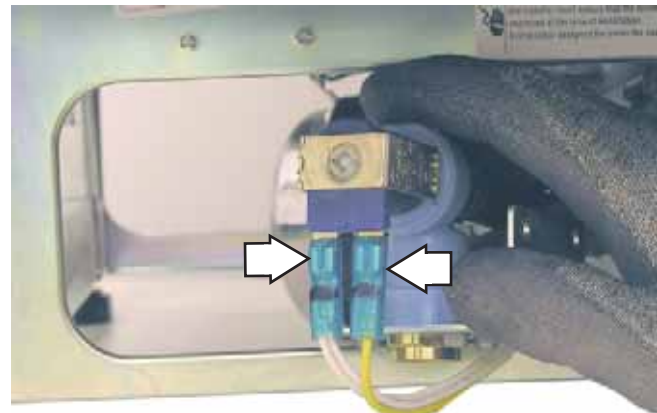
3. Disconnect the incoming water line from the water fill valve port.
4. Remove the 2 screws and mounting bracket from the dishwasher.



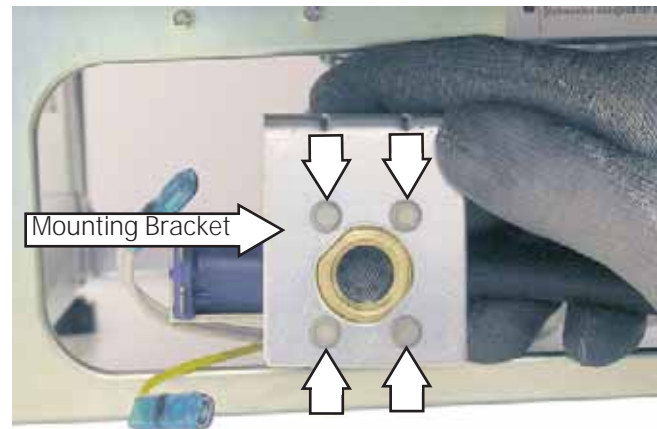
5. Remove the clamp and disconnect the tub fill hose from the water valve assembly.



6. Disconnect the 2 wires from the water fill valve assembly.



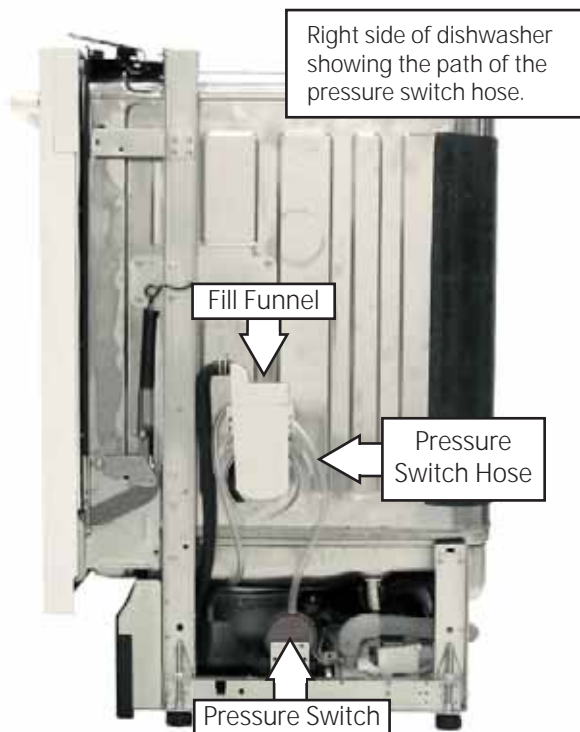
7. Remove the 4 screws, and water fill valve from the mounting bracket. Retain the mounting bracket and screws.



Pressure Switch

The pressure switch is a water valve safety device. It is located under the tub at the right, front corner. A clear plastic tube, (the pressure switch hose), runs from the float switch, around the fill funnel, and to the sump.

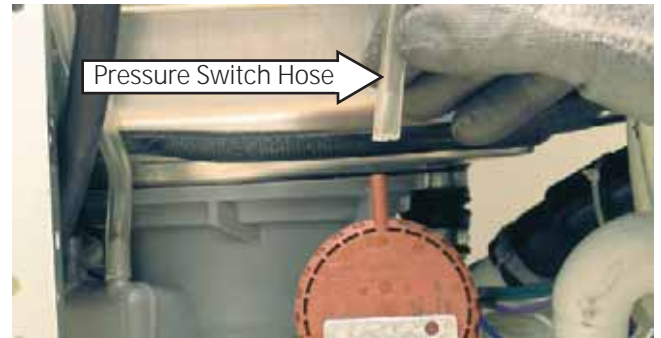
As the dishwasher basin fills with water, the air pressure in the pressure switch hose increases. Normally, the electronic control regulates the amount of time the water fill valve remains open. If the water fill valve remains energized, the overfilling of the basin increases the air pressure in the pressure switch hose, causing the pressure switch to open the circuit to the electronic control and closing the circuit to the drain pump. The drain pump then empties the water in the sump.



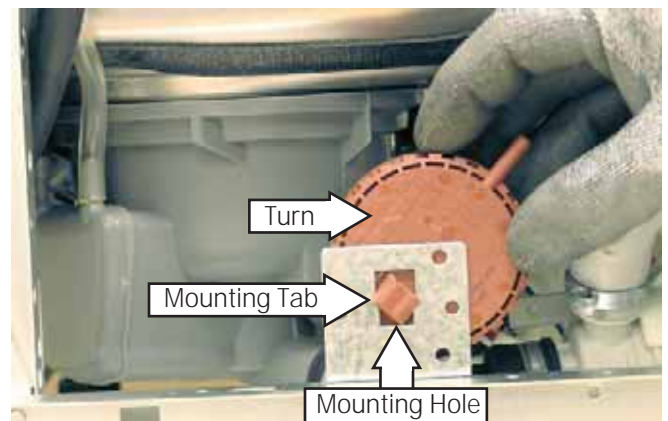
Removal and Replacement

1. Disconnect power.
2. Carefully pull the dishwasher out from its installation.
3. Remove the 4 Phillips-head screws, access panel, and toe-kick panel from the dishwasher.
4. Remove the 10 screws and the right side panel.

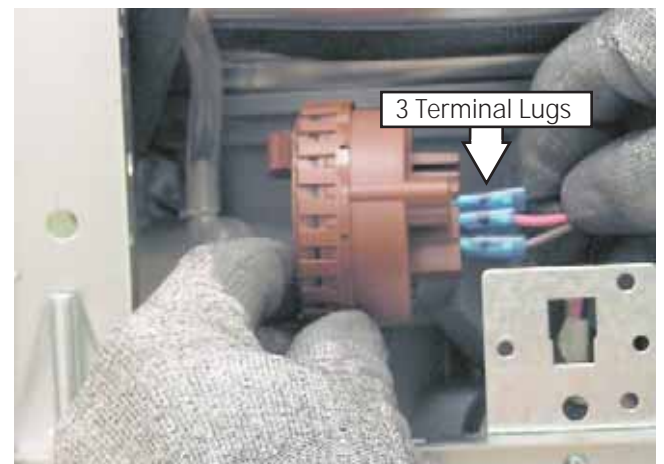
5. Remove the pressure switch hose from the pressure switch.



6. Turn the float switch clockwise to align the mounting tab vertically with the mounting hole and remove the pressure switch from the dishwasher frame.



7. Label and disconnect the three wires from the pressure switch. Remove the pressure switch.

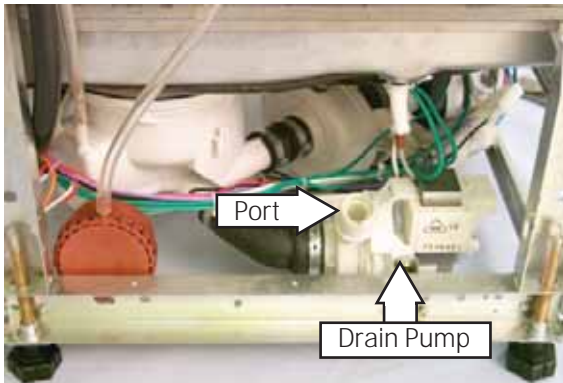


Drain Pump Assembly

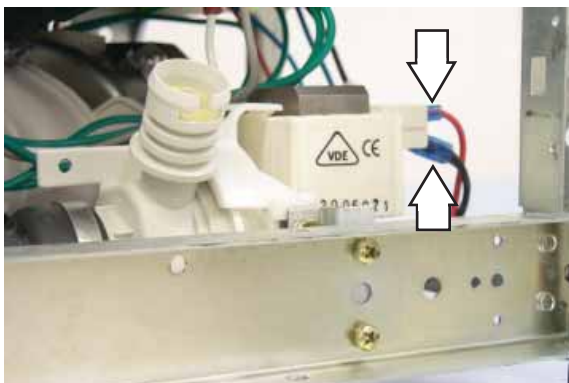
The drain pump assembly is located under the tub at the right, rear corner. The drain pump operates on 120 VAC and is energized 60 seconds after the wash pump shuts down, to remove any water in the dishwasher sump. The drain pump forces the water out the drain line. A check valve flapper on the drain pump prevents the dirty water from reentering the sump.

Removal and Replacement

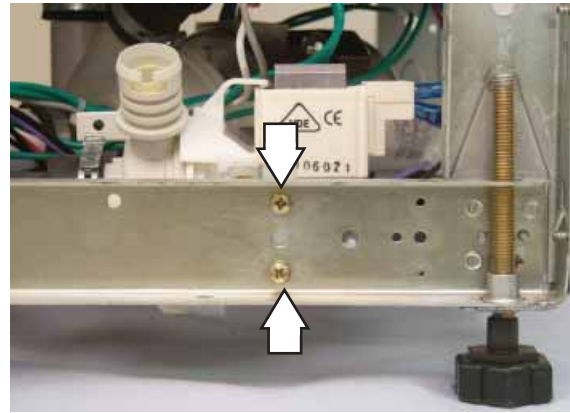
1. Disconnect power.
2. Carefully pull the dishwasher out from its installation.
3. Remove the 4 Phillips-head screws, access panel, and toe-kick panel from the dishwasher.
4. Remove the drain tube (not shown) from the drain tube port.



5. Label and disconnect the two wires from the drain pump.

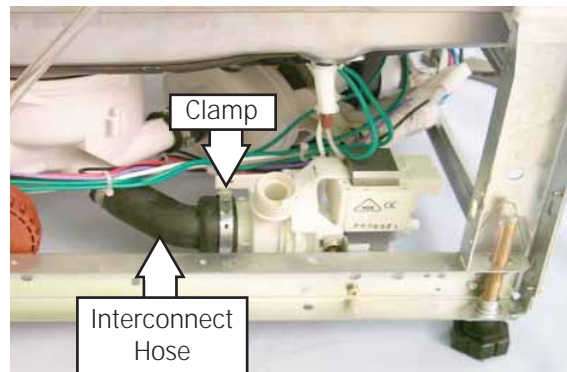


6. Remove the 2 Phillips-head screws that attach the pump mounting bracket to the frame.

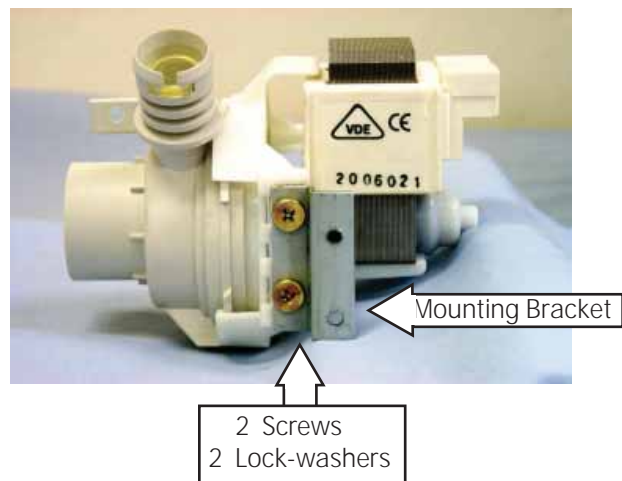


Caution: The clamp is easily damaged during removal and should not be reused. Replace the old clamp with a new universal clamp (part number: WH1X2036).

7. Remove the clamp from the sump interconnect hose.
8. Remove the drain pump from the sump interconnect hose.



9. Remove and save the 2 screws, lock washers, and mounting bracket from the drain pump.

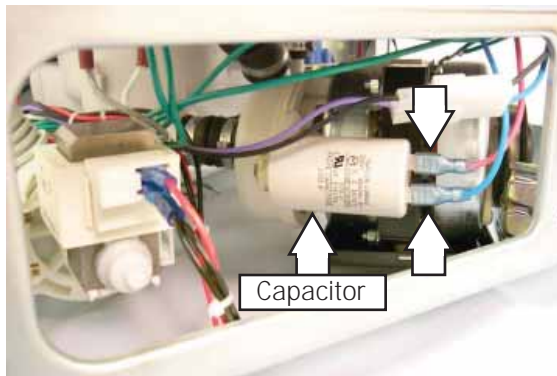


Motor Pump Assembly

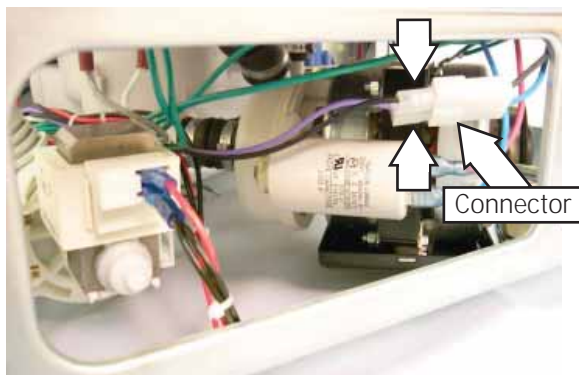
The motor pump assembly is located under the tub behind the sump assembly. This dishwasher model uses a capacitor start induction motor. The motor rotates clockwise (as viewed from the terminal end) and draws approximately 1 amp ($\pm 10\%$) at 120 VAC ($\pm 10\%$).

Removal and Replacement

1. Disconnect power.
2. Carefully pull the dishwasher out far enough from its installation to access the drain pump from the rear of the dishwasher.
3. Label and disconnect the 2 wires to the capacitor.

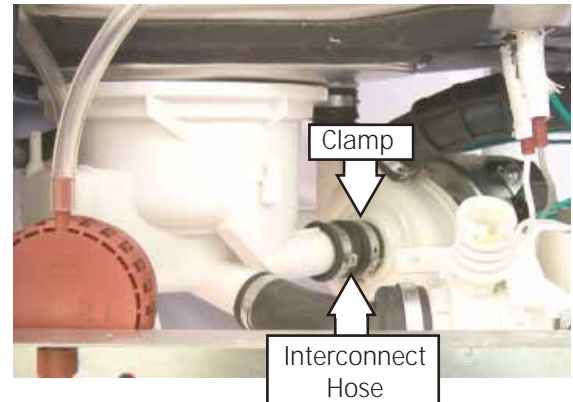


4. Label and disconnect the 2 terminals to the motor wire connector.



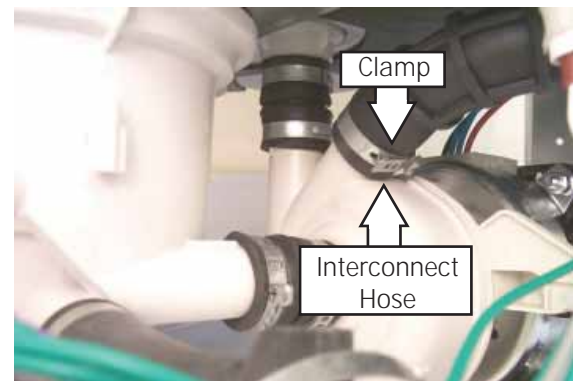
Caution: The clamp is easily damaged during removal and should not be reused. Replace the old clamp with a new universal clamp (part number: WH1X2036).

5. Remove the clamp from the motor sump interconnect hose.



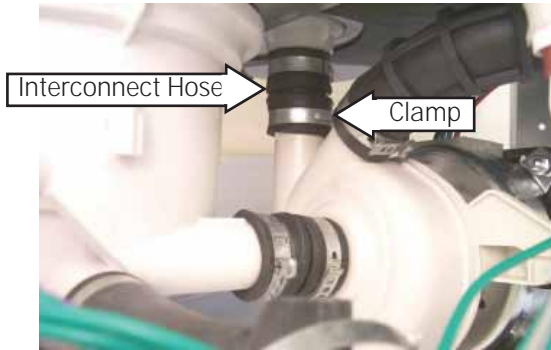
Caution: The clamp is easily damaged during removal and should not be reused. Replace the old clamp with a new universal clamp (part number: WH1X2036).

6. Remove the clamp from the main conduit interconnect hose.



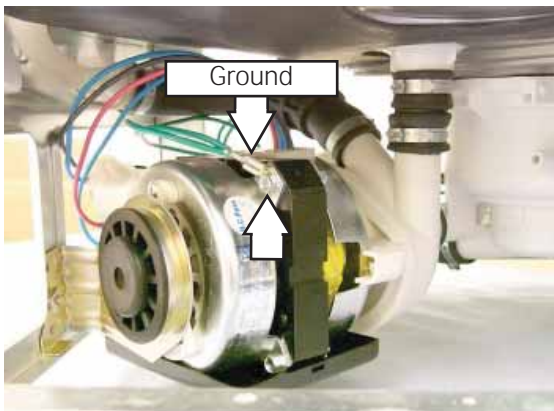
Caution: The clamp is easily damaged during removal and should not be reused. Replace the old clamp with a new universal clamp (part number: WH1X2036).

7. Remove the clamp from the motor to the washer arm interconnect hose.

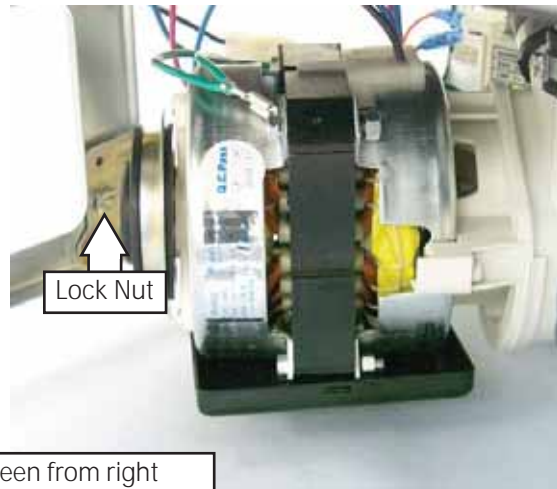
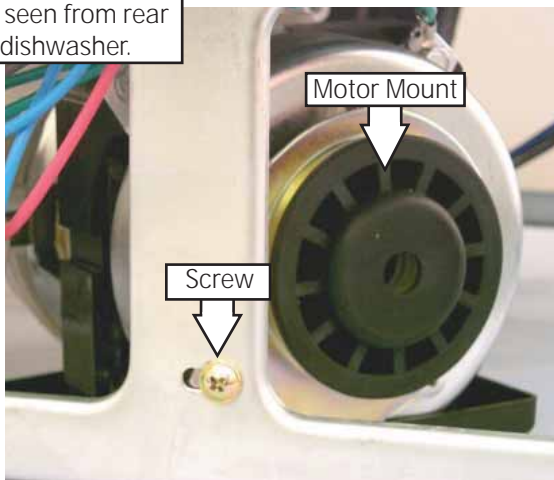


Note: Do not attempt to remove the Phillips-head screw and locknut that connect the motor mount to the dishwasher frame.

8. Disconnect the ground wire from the wash pump motor assembly.

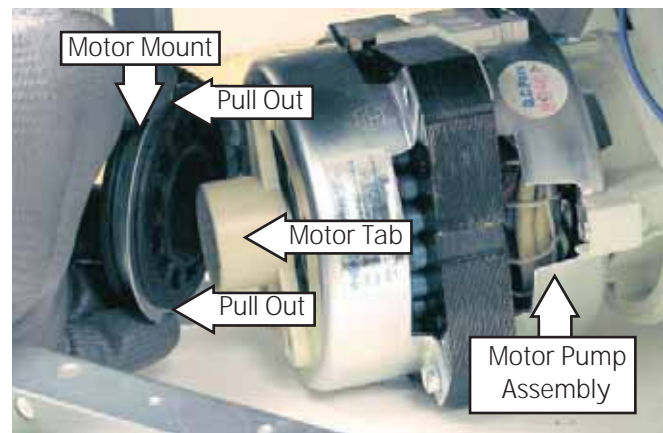


As seen from rear of dishwasher.



As seen from right side of dishwasher.

9. Pull the motor mount back far enough to clear the motor tab, work the motor from the attaching hoses, and remove the motor pump assembly from the dishwasher.

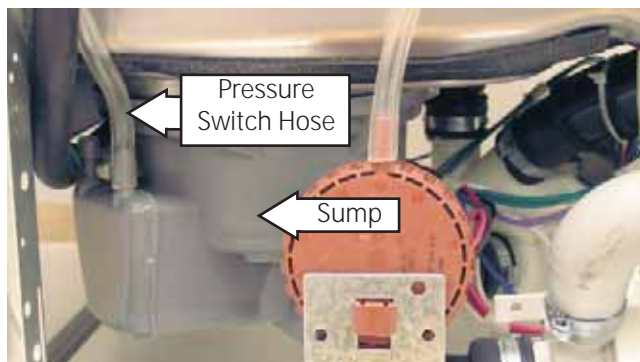


Sump Assembly

The sump assembly consists of the filter assembly, micro-filter, sump clamping nut, sump gasket, and sump. The filter assembly prevents large particles from reaching the micro-filter and the micro-filter prevents small particles from reaching the sump. The filter assembly rests above the sump and the micro-filter sits above the sump basin. The clamping nut holds the sump gasket and sump to the bottom of the dishwasher. The filter assembly, micro-filter, and sump clamping nut are accessed from inside the dishwasher. The gasket and sump are located under the tub in front of the motor pump assembly.

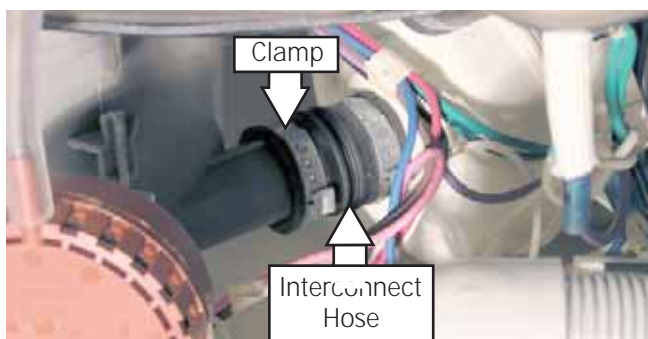
Removal and Replacement

1. Disconnect power.
2. Carefully pull the dishwasher out from its installation.
3. Remove the 4 Phillips-head screws, access panel, and toe-kick panel from the dishwasher.
4. Remove the pressure switch hose from the sump.

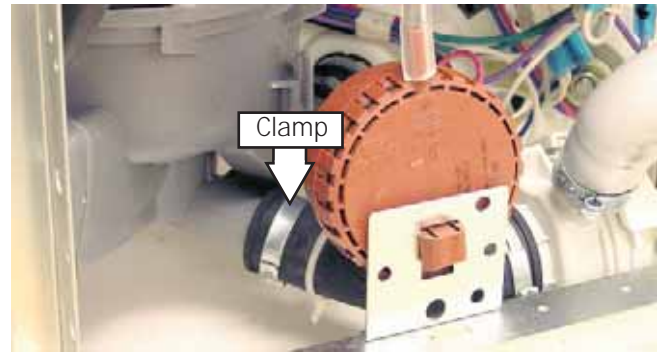


Caution: The clamp is easily damaged during removal and should not be reused. Replace the old clamp with a new universal clamp (part number: WH1X2036).

5. Remove the clamp from the hose that connects the sump to the wash pump motor hose.



6. Remove the clamp from the hose that connects the sump to the drain pump assembly.



7. Open the dishwasher door and remove the bottom rack (not shown).
8. Remove the filter assembly.

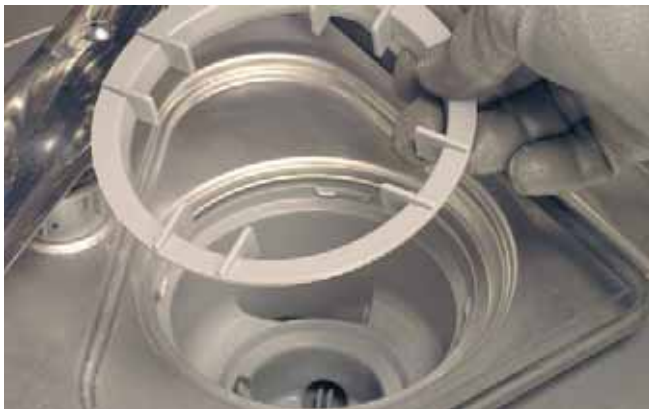
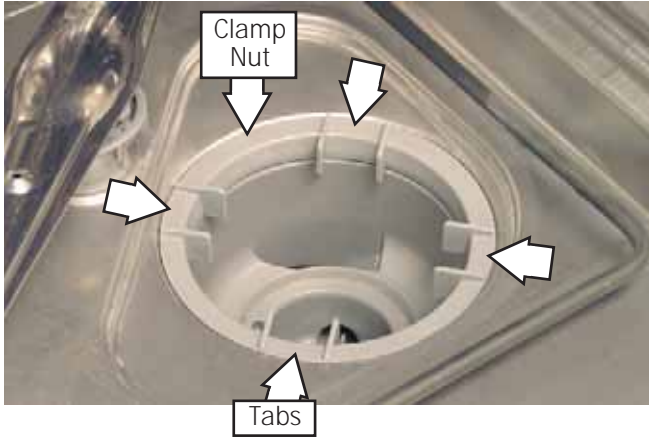


9. Remove the micro-filter.



Note: The sump clamping nut turns counterclockwise and may be difficult to remove. It may be necessary to insert a screwdriver or other tool between the clamping nut tabs to enable you to apply sufficient torque to break the factory seal.

10. Remove the clamping nut.



11. Remove the sump gasket (not shown) and sump.

Tub Thermistor

The tub thermistor is located under the tub and is attached to the left side of the sump with 2 lock tabs. A thermal mastic is applied to the flat side of the thermistor where it makes contact with the underside of the tub.

During the hot wash cycle, the thermistor senses the water temperature and turns the heating element off when the water reaches 128°F.

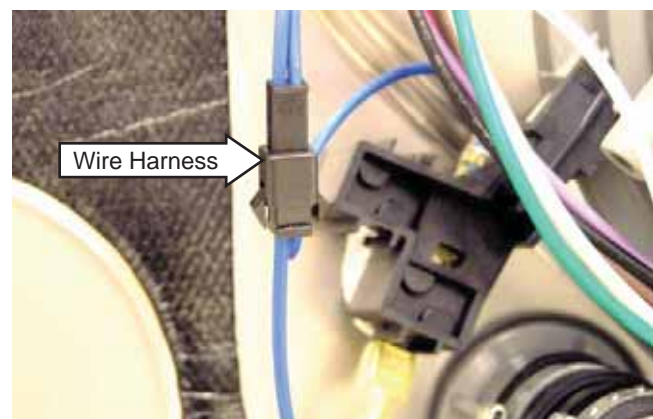
Note: If the thermistor is not operating, the hot wash cycle will default to a set time for the heating element to cycle.

The thermistor has a negative coefficient. As the temperature at the contact point on the tub increases, the thermistor's resistance decreases. The thermistor has an approximate resistance value of 56.5K Ω at 72°F.

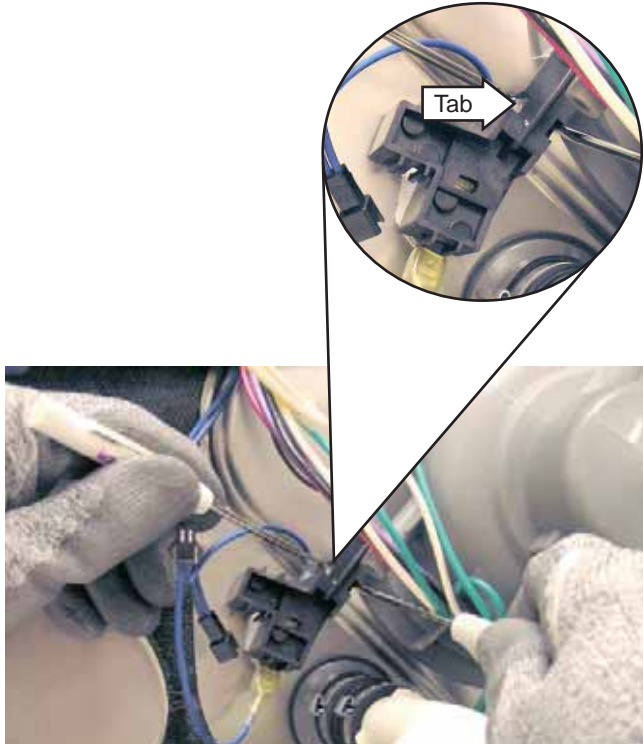
To remove the thermistor:

Note: Wear latex gloves to perform this repair.

1. Disconnect power.
2. Open the dishwasher door and remove the bottom rack.
3. Remove the dishwasher from its installation.
4. Lay the dishwasher on its back.
5. Disconnect the thermistor wire harness.



- Using a small flat-blade screwdriver, lift each of the 2 lock tabs (one on each side) that hold the thermistor to the sump.



- Slide the thermistor off the sump.

Note: Before installing the thermistor, evenly apply white thermal mastic (included in box with part) about 0.10-in. thick over the entire disk.

Troubleshooting

WARNING: Always turn off the electric power supply before servicing any electrical component, making ohmmeter checks, or replacing any parts.

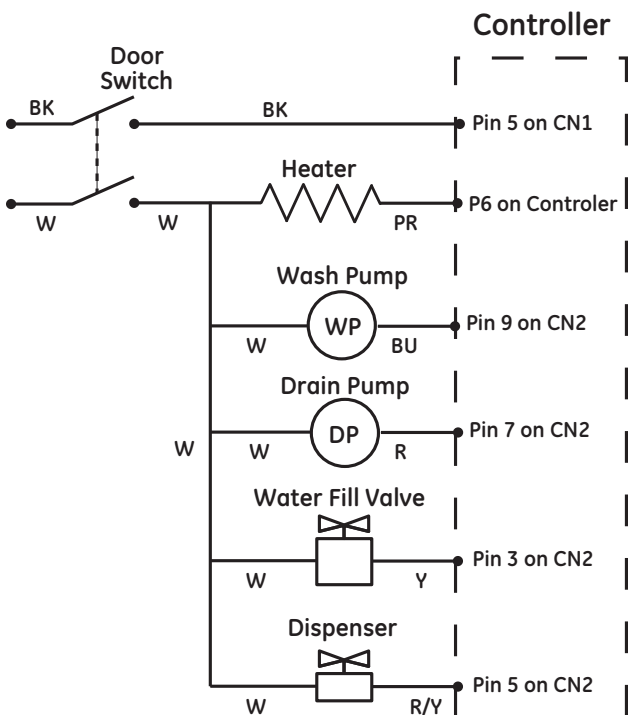
Note: After service is completed, be sure all safety grounding circuits are complete, all electrical connections are secure, and all access panels are in place.

Troubleshooting the Door Switch

The door switch can be tested using an ohmmeter and the strip circuit.

1. Disconnect the electrical supply from the dishwasher.
2. Remove the wire leads from the door switch.
3. Use an ohmmeter to check the door switch for continuity.
4. If the door switch is defective, remove it from the latch assembly. If the door switch is good, check to see if the controller is defective by running the service mode test steps 6 through 10. (See *Service Mode*.)

Door Switch Strip Circuit



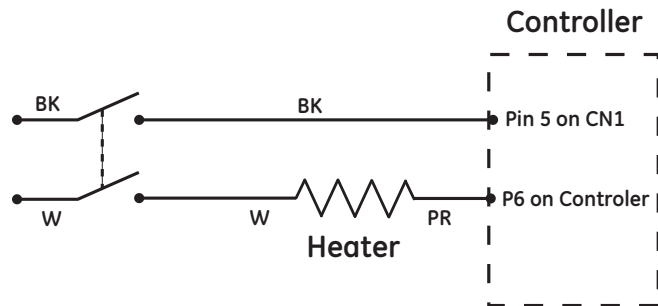
Troubleshooting the Heating Element

The heating element maintains water temperature during the wash and rinse cycles and heats the air during the static dry cycle. (See **Specifications** for heating element wattage ratings.)

To check operation, run service mode test step 9. (See *Service Mode*.) Open the dishwasher door and note if heat is present.

1. Disconnect dishwasher from electrical supply.
2. Remove electrical connection from one side of heating element and test continuity.
3. Measure the resistance of the heating element. The resistance should be approximately 31 ohms.

Heating Element Strip Circuit

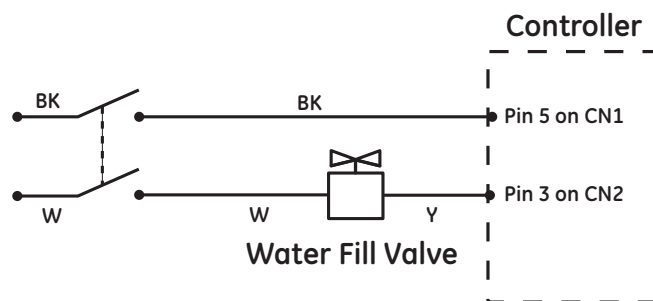


Troubleshooting the Water Valve

If the water valve is suspected of faulty operation, refer to the strip circuit and proceed as follows:

1. Disconnect dishwasher from electrical supply.
2. Remove the 4 Phillips-head screws securing bottom of access panel and kick panel.
3. Remove valve electrical leads and, using ohmmeter, check resistance of solenoid. (See **Specifications** for correct ohms reading.)
4. To check for proper mechanical operation of the water valve, attach a separate 115-volt grounded power source to the valve terminals and metal frame of the dishwasher. Turn the power on for a few seconds and then turn the power off. If water flow does not stop within 2 seconds after turning the valve off, replace the water valve.

Water Fill Valve Strip Circuit



No Water To Tub

1. Be sure the main water supply and electrical power are turned on.
2. Remove both the service panel and the kick panel.
3. Run service mode test step 6. (See **Service Mode**.)
4. Use a voltmeter to check for voltage at the water valve solenoid coil.
5. If voltage is present, disconnect power and measure resistance of the water fill valve solenoid coil. (See **Specifications** for correct ohms reading.) Replace the water valve, if it is defective.

6. If the water valve is good, check the filter screen and clean it, if necessary.
7. If there is no voltage present at the water valve solenoid coil, disconnect power and check continuity through the latch switch, timer contacts, pressure switch, and wiring. Repair wiring, as necessary.

Water Level Too Low

1. Turn on the dishwasher and allow the bottom of the basin to fill with water. Listen for the water fill cycle to stop and, when it does, open the dishwasher door. The water level should touch the heating element.
2. If the water does not touch the heating element, disconnect power, close the door, and check the incoming water pressure. A minimum incoming water pressure of 20 PSI (138 kPa) is needed to properly fill the dishwasher basin.

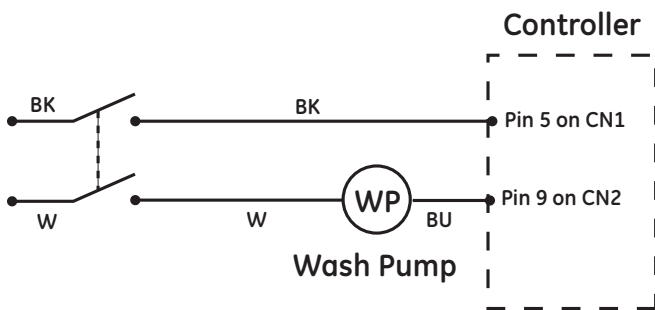
Water Fill Valve Will Not Shut Off

1. Turn on the dishwasher and allow the bottom of the basin to start filling with water. Disconnect power while the basin is filling. If water continues to flow, turn off the water supply and replace the water fill valve.
2. If the water turns off when power is disconnected, troubleshoot the electronic control. Replace the defective part.

Troubleshooting the Wash Pump Motor

The wash pump motor does not start immediately when the dishwasher cycle has started. The tub will begin filling with water and the motor will start approximately 40 seconds into the fill cycle. If the motor hums, but will not start, make certain the pump impeller is free from obstructions and the motor shaft can turn freely. If the capacitor is open or shorted, the motor will hum and will not start. Check for 120 VAC ($\pm 10\%$) at the wash pump motor terminals. Take the voltage measurement while "under load" (as the motor is trying to start). This will eliminate the possibility of a poor wiring connection. If the 120 VAC ($\pm 10\%$) is present and the motor will not start, the motor will have to be replaced.

Wash Pump Motor Strip Circuit



THIS DISHWASHER IS PROGRAMMED WITH A SERVICE MODE TO AID THE TECHNICIAN IN TROUBLESHOOTING THE DISHWASHER. EACH COMPONENT IS CYCLED TO DETECT IF IT IS FUNCTIONING CORRECTLY.

TO ENTER SERVICE MODE:

Cycle breaker off then on. With door open within 3 min of power on, Press and hold DELAY HOURS first and then Power ON/OFF. Unit will begin moving through steps below. Press CYCLE SELECT to skip to the next step.

TO EXIT SERVICE MODE:

Press Power ON/OFF

| Service Mode Test Matrix * | | | | |
|----------------------------|----------------------------------|-------------------------|--------------|--|
| Step | Action | Display / LED Indicator | Duration | Door position |
| 1 | Turn On all LEDs and beeper | 88 | 3s for LED's | Door may be open or closed for these steps |
| 2 | Turn Off all LEDs | Blank | 3s | |
| 3 | Display SW Version | 0A - FF | 5s | |
| 4 | Display Error code | E0 or E1 or 00 | 5s | |
| 5 | Display Error code | E0 or E1 or 00 | 5s | |
| 6 | Turn on Water Valve | 15/Heavy LED | 30s | Door must be closed for these steps |
| 7 | Turn on Main Pump | 14/Normal LED | 60s | |
| 8 | Turn on Dispenser | 13/Light LED | 60s | |
| 9 | Turn on Main Pump + Heater | 12/Glasses LED | 60s | |
| 10 | Turn on Drain Pump | 11/Air-Dry LED | 60s | |
| 11 | Display machine type | C0 | 5s | Door may be open or closed for these steps |
| 12 | Turn OFF all components and LEDs | Blank | Beeper 30ms | |

Error codes: E0 - Thermal sensor cut E1 - Thermal sensor short

*NOTE: Service mode will automatically turn off after progressing through all steps

Troubleshooting Checklist

The troubleshooting checklist is common for all dishwasher models. They use different parts to accomplish the same thing and diagnosis will remain similar.

When a problem arises, and a possible cause is listed, follow the test and remove or replace procedures as outlined in this Technical Service Manual.

The wiring diagram, schematic, and service mode test are a necessity when making electrical checks. In most cases, an ohmmeter will handle all the tests necessary.

To verify the setup of any particular cycle of operation, refer to *Control Panel Features*.

| Symptom | Check for the Following | Remedy |
|--|--|---|
| Dishwasher will not operate when turned ON. | 1. A blown fuse or tripped circuit breaker. | 1. Replace the fuse or reset the breaker. |
| | 2. Damaged or defective wiring. | 2. Repair the wiring. |
| | 3. Improper motor resistances. | 3. Replace the motor. |
| | 4. Defective door switch contacts. | 4. Replace the door switch. |
| | 5. Defective door latch. | 5. Replace the door latch. |
| Dishwasher runs but will not heat. | 1. Heater element is open. | 1. Replace the heater element. |
| | 2. Damaged or defective wiring. | 2. Repair the wiring. |
| Dishwasher runs but will not stop. | 1. Electronic control inoperative. | 1. Replace the electronic control. |
| | 2. Damaged or defective wiring. | 2. Repair the wiring. |
| Dishwasher runs with door open. | 1. Defective door safety switch. | 1. Replace the door safety switch. |
| Motor hums but will not start or run. | 1. Defective motor bearings. | 1. Replace the motor. |
| | 2. Defective motor capacitor. | 2. Replace the motor capacitor. |
| Motor trips out on internal thermal overload protector. | 1. Improper motor voltage. | 1. Replace the motor. |
| | 2. Motor shaft binding. | 2. Replace the motor. |
| | 3. Motor windings shorted. | 3. Replace the motor. |
| Etching on glassware. | 1. Soft water condition (Natural or artificial). | 1. Have a sample of the water analyzed by the local water department. |
| Dishwasher continues to fill even though there is no voltage to the fill valve (flooding condition). | 1. Defective water fill valve. | 1. Replace the water fill valve. |
| | 2. Debris buildup under the diaphragm in the water fill valve. | 2. Clean out the debris or replace the water fill valve. |

| Symptom | Check for the Following | Remedy |
|--|--|--|
| No heat during the dry cycle. | 1. Defective heater element. | 1. Replace the heater element. |
| | 2. Damaged or defective wiring. | 2. Repair the wiring. |
| Dishwasher will not fill with water or will not fill properly. | 1. The water supply is turned off. | 1. Turn the water supply on. |
| | 2. Low water pressure. | 2. Minimum water pressure of 20 PSI. |
| | 3. Defective water fill valve. | 3. Replace the water fill valve. |
| | 4. Obstructed water fill valve or hose. | 4. Disassemble and clean the water fill valve and hose. |
| | 5. Damaged or defective wiring. | 5. Repair the wiring. |
| | 6. Defective pressure switch. | 6. Replace the pressure switch. |
| | 7. Heavy water usage elsewhere in home. | 7. Use dishwasher when water usage is at a minimum. |
| Dishwasher will not pump out. | 1. Defective drain pump. | 1. Replace the drain pump. |
| | 2. Defective impeller. | 2. Replace the impeller. |
| | 3. Defective electronic control. | 3. Replace the electronic control. |
| Water siphons out. | 1. Drain hose loop too low. | 1. Move the drain hose to the proper height. |
| | 2. Drain line connected to a floor drain not properly vented. | 2. Install a vent air gap at counter top. |
| Too much water fill. | 1. Defective water fill valve. | 1. Replace the water fill valve. |
| Water leaks from dishwasher. | 1. Too much water fill. | 1. See previous symptom. |
| | 2. Defective tub seal. | 2. Replace the tub seal. |
| | 3. Defective vent plate. | 3. Replace the vent plate. |
| | 4. Dishwasher door not level. | 4. Adjust the dishwasher door. |
| | 5. Dishwasher not level. | 5. Level the dishwasher. |
| | 6. Soap suds leak from dishwasher. | 6. Refer to use and care manual. |
| | 7. Loose hose clamps. | 7. Tighten or replace hose clamps. |
| | 8. Loose heater element. | 8. Tighten heater element mounting nuts. |
| | 9. Defective water seals. | 9. Replace the water seals. |
| | 10. Motor and pump assembly not seated properly in tub liner bottom. | 10. Remount the motor and pump assembly in the tub liner bottom. |

| Symptom | Check for the Following | Remedy |
|----------------------------------|--|---|
| Poor washability. | 1. Improper loading of dishes, pots, pans, and nesting of silverware. | 1. Instruct the customer on proper loading of the dishwasher. Refer to the Owner's Manual. |
| | 2. Defective spray arm. | 2. Check spray arm for proper rotation. |
| | 3. Water level should cover heating element. | 3. See "Dishwasher will not fill with water or will not fill properly" symptom. |
| | 4. Defective detergent/rinse module. | 4. Replace the detergent/rinse module. |
| | 5. Old, improper amount, or wrong type of detergent used (detergents lose effectiveness in a damp area). | 5. Instruct the customer on proper use of dishwasher detergent. Refer to the Owner's Manual. |
| | 6. Low incoming water temperature. | 6. Incoming water temperature of 120°F is required to properly dissolve dishwashing detergents. |
| | 7. Clogged filter assembly. | 7. Clean the filter assembly and microfilter. |
| Poor drying of dishes. | 1. Improper loading of dishes, pots, pans, and nesting of silverware. | 1. Instruct the customer on proper loading of the dishwasher. Refer to the Owner's Manual. |
| | 2. Low incoming water temperature. | 2. Incoming water temperature of 120°F is required to properly dissolve dishwashing detergents. |
| | 3. Water remaining in tub after drain cycle is completed. | 3. See "Dishwasher will not pump out" symptom. |
| | 4. Defective heating element. | 4. Replace the heating element. |
| | 5. Damaged or defective wiring. | 5. Repair the wiring. |
| Door will not latch. | 1. Defective door latch. | 1. Replace the door latch. |
| Noisy pump assembly. | 1. Defective motor bearings. | 1. Replace the pump motor. |
| | 2. A sucking sound is heard at the end of the cycle. | 2. This is a normal condition. |
| Detergent left in the dispenser. | 1. Detergent allowed to stand too long in the dispenser. | 1. Instruct the customer on proper use of dishwasher detergent. Refer to the Owner's Manual. |
| | 2. Dispenser was wet when detergent was added. | 2. Instruct the customer on proper use of dishwasher detergent. Refer to the Owner's Manual. |
| | 3. Detergent is binding on detergent/rinse module cover. | 3. Replace the heating element. |
| | 4. Detergent cup held closed or blocked by large dishes. | 4. Instruct the customer on proper loading of dishwasher. Refer to the Owner's Manual. |
| cycle is completed | - 36 - | <i>(Continued next page)</i> |

| Symptom | Check for the Following | Remedy |
|---|---|--|
| Noisy pump assembly. | 1. Debris in bottom of tub sump area. | 1. Clean out the sump area. |
| | 2. Pump parts were not properly installed. | 2. Inspect the pump and correct any installation errors. |
| | 3. Impellers are not properly shimmed or are rubbing. | 3. Use the shim gage furnished in the impeller seal kit. When the seal is properly shimmed the impellers will be in the correct operating position. |
| | 4. Defective motor bearings. | 4. Replace the motor. |
| | 5. A sucking sound is heard at the end of the cycle. | 5. This is a normal condition. |
| Spotting or filming on glasses (reposition of food soil). | 1. Detergent allowed to stand too long in the dispenser or excessive amounts of detergent are being used. | 1. Instruct the customer on proper use of dishwasher detergent. Refer to the Owner's Manual. |
| | 2. Low incoming water temperature. | 2. Incoming water temperature of 120°F is required to properly dissolve dishwashing detergents. |
| | 3. Improper loading of dishes, pots, pans, and nesting of silverware. | 3. Instruct the customer on proper loading of the dishwasher. Refer to the Owner's Manual. |
| | 4. Water high in mineral content. | 4. Have water analyzed. Use of commercially available rinse agents (such as Jet Dry) helps to reduce the spotting by lowering the surface tension of the water (the water then "sheets" off the dishes). |
| | 5. High incoming water temperature. | 5. Incoming water temperature of 160°F or higher will cause high protein food particles to bake onto the dishes before detergent can remove them. Set water heater tank to deliver 120°F water. |
| | 6. Improper installation of the dishwasher to a food waste disposal. | 6. Install properly. Refer to Installation Manual. |

Washability Complaints

Hot Water – Ample supply of water at a temperature of 120°F (60°C) is necessary for best results. Do **not** use dishwasher soon after using clothes washer or filling bathtub.

Loading - Consult Owner's Manual on loading procedures.

Amount of Water – Make sure dishwasher is level. Check water level, allowing dishwasher to fill normally for first fill. **The water level should be to the heating coil.** If water level is low, check for clogged screen and check pressure switch. (See *Water Valve*.)

Detergent/Rinse Module Leakage – Some moisture in cup is normal. Detergent must not be soaking wet, oozing out, and down the inner door panel. If a leak is detected, check the detergent/rinse module door lid, latch operation, and gasket seal. (See *Detergent/Rinse Module*.)

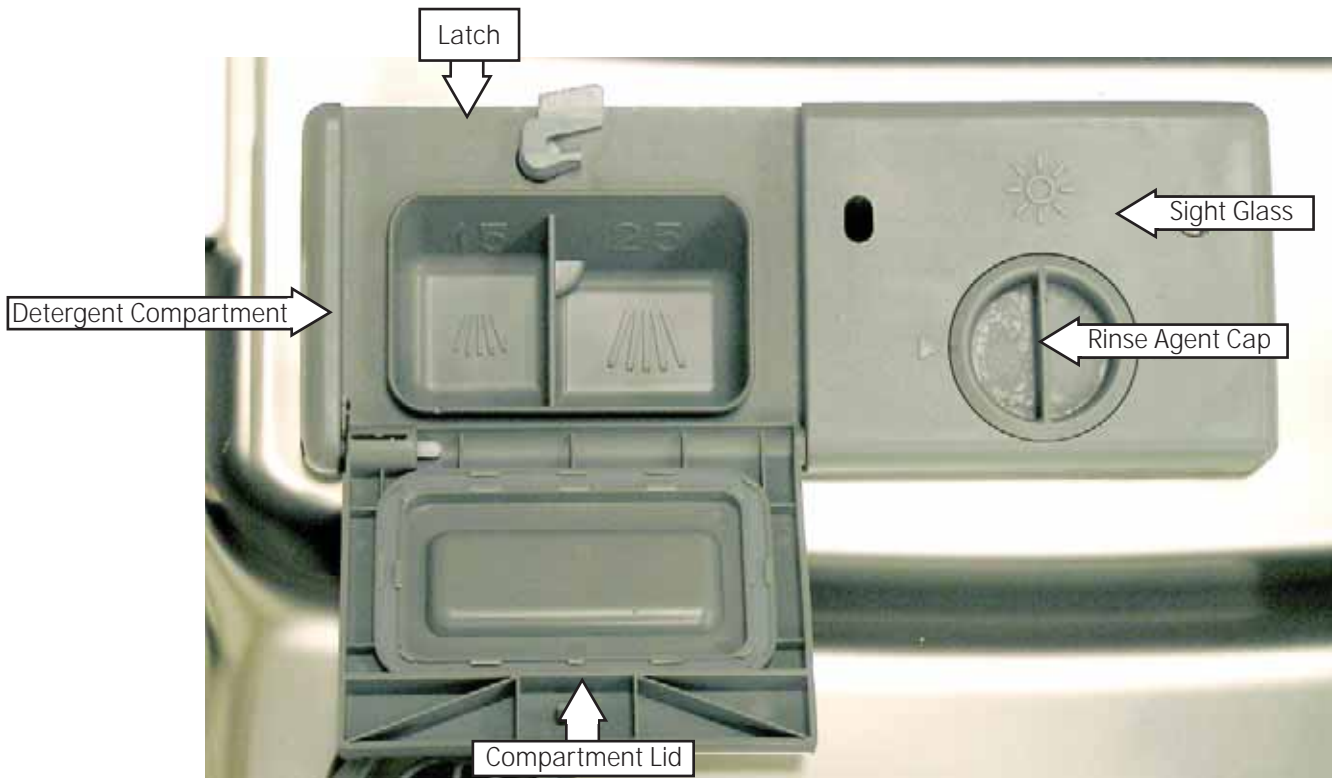
Proper Amount of Detergent – Use full detergent cup of fresh detergent in hard water. Use only enough detergent to get good wash performance in soft water.

Rinse Agent – Use rinse agent if spotting or drying is a problem. A rinse agent will improve the water sheeting action and drying performance.

Water Valve – (See *Water Valve*.)

Spray Arm – Check to be sure the spray arms spin freely and jets are not clogged. Check to be sure the middle spray arm water conduit is connecting properly to the main conduit.

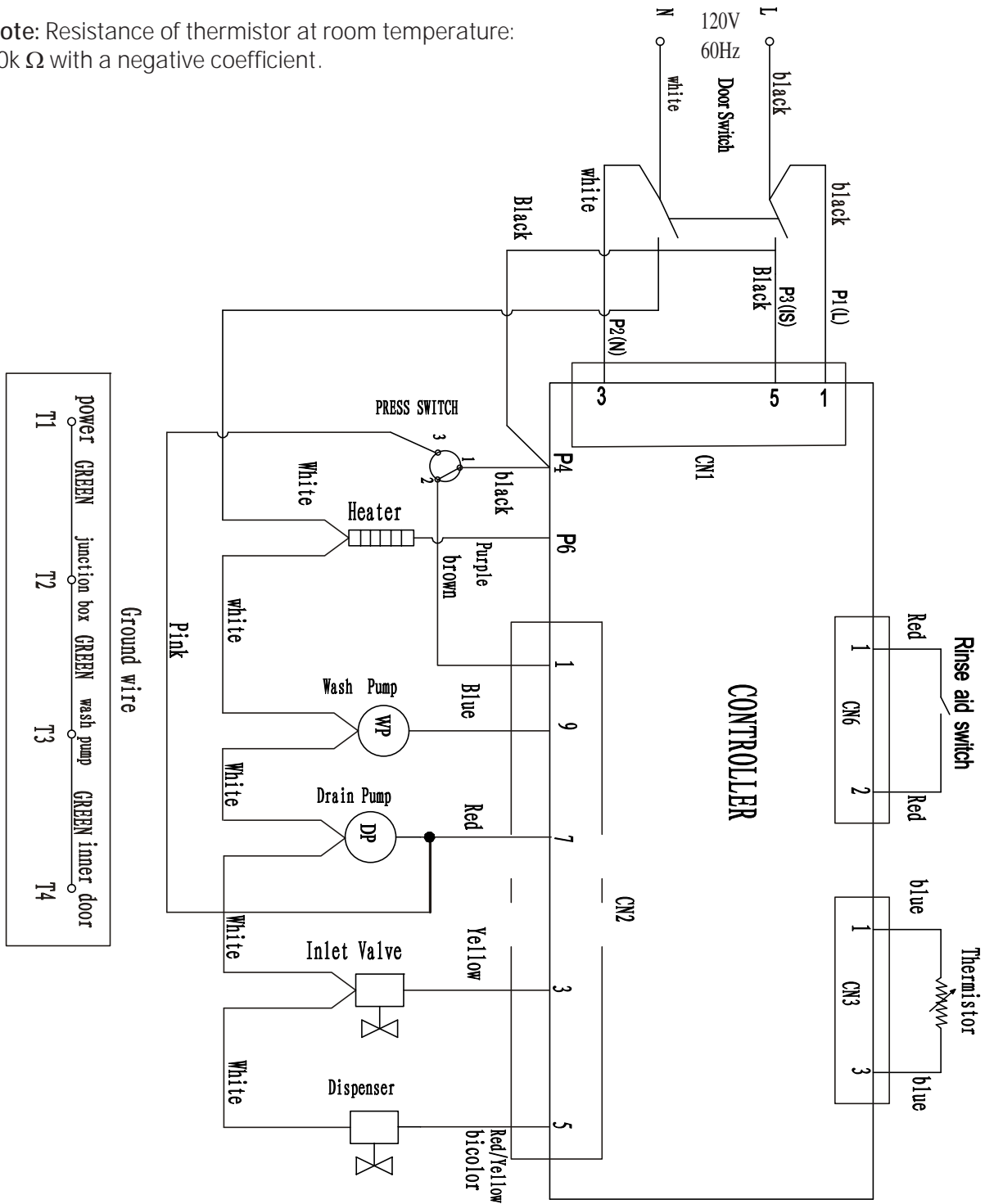
Drying – Water inlet temperature must be at least 120°F (48.9°C) for proper drying. Low water inlet temperature will prevent proper convection air movement and increase drying time substantially.



Schematic

WARNING: Power **must** be disconnected before servicing the appliance.

Note: Resistance of thermistor at room temperature: 50k Ω with a negative coefficient.



Note: Schematic diagram subject to change. Please refer to diagram supplied with product located behind the kick plate.

Warranty

GE Dishwasher Warranty.



All warranty service provided by our Factory Service Centers, or an authorized Customer Care® technician. To schedule service, on-line, 24 hours a day, visit us at GEAppliances.com, or call 800.GE.CARES (800.432.2737).

Staple your receipt here.
Proof of the original purchase date is needed to obtain service under the warranty.

For The Period Of: GE Will Replace:

One Year

From the date of the original purchase

Any part of the dishwasher which fails due to a defect in materials or workmanship. During this **full one-year warranty**, GE will also provide, **free of charge**, all labor and in-home service to replace the defective part.

What GE Will Not Cover:

- Service trips to your home to teach you how to use the product.
- Improper installation.
- Failure of the product if it is abused, misused, or used for other than the intended purpose or used commercially.
- Replacement of house fuses or resetting of circuit breakers.
- Damage to the product caused by accident, fire, floods or acts of God.
- Incidental or consequential damage caused by possible defects with this appliance.
- Cleaning or servicing of the air gap device in the drain line.

This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. Proof of original purchase date is needed to obtain service under the warranty. In Alaska, the warranty excludes the cost of shipping or service calls to your home.

Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To know what your legal rights are, consult your local or state consumer affairs office or your state's Attorney General.

Warrantor: General Electric Company. Louisville, KY 40225