

GE Appliances

# Technical Service Guide

September 2011

## Top-Control Stainless Steel Tub Dishwashers

GDWT668V

GDWT768V

PDWT180V

PDWT380V

PDWT560V

PDWT565V

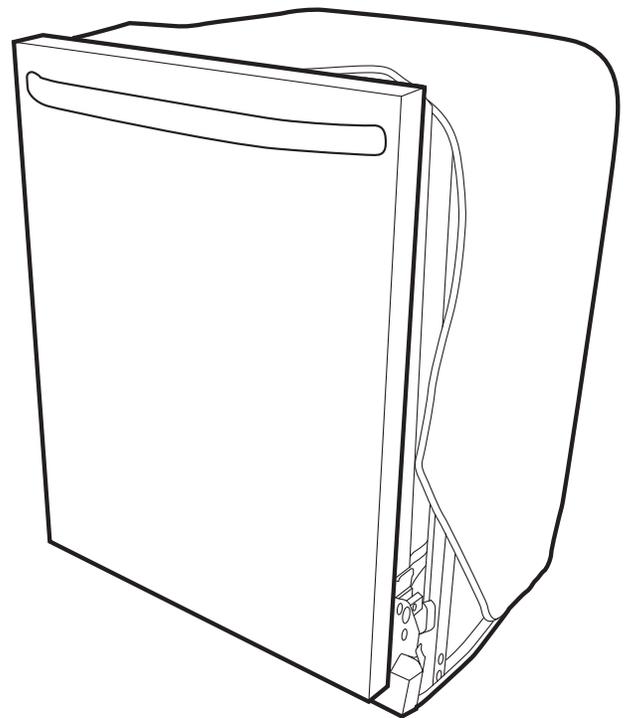
CDWT280V

CDWT980V

ZBD6920V

ZBD7920V

ZBD8920V



31-9221



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.

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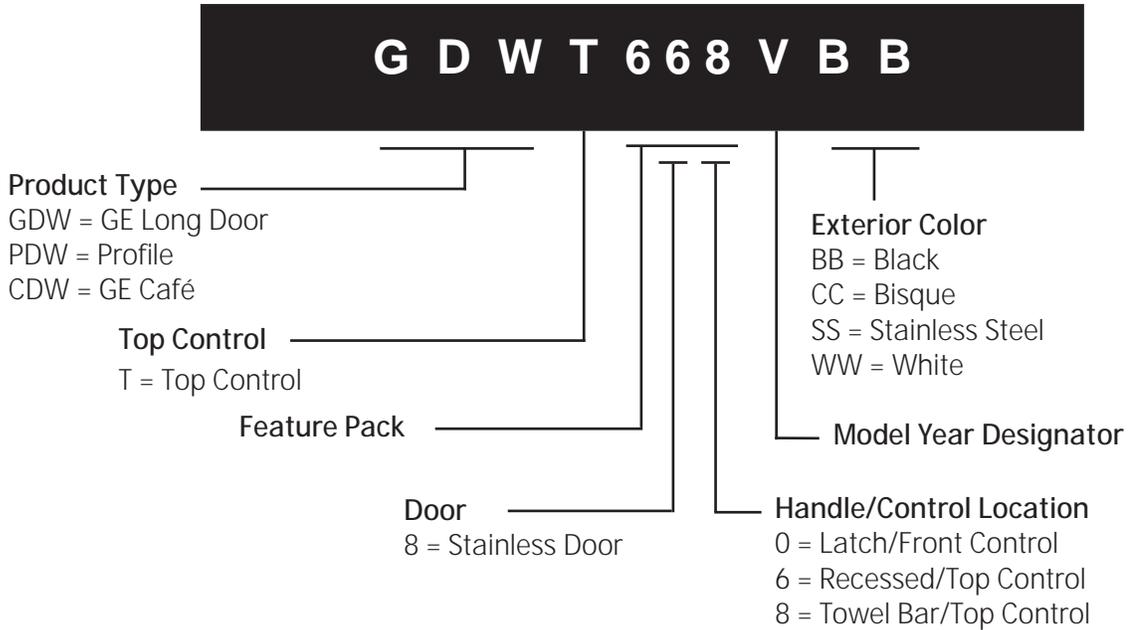
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# Nomenclature

## Model Number



The nomenclature plate is located on the left side of the tub wall, inside the door jamb.

The mini-manual is located behind the access panel.

## Serial Number

The first two characters of the serial number identify the month and year of manufacture.

*Example:* VV123456S = November, 2011

V - NOV	2011 - V
Z - DEC	2010 - T
A - JAN	2009 - S
B - FEB	2008 - R
F - MAR	2007 - M
G - APR	2006 - L
H - MAY	2005 - H
L - JUN	2004 - G
M - JUL	2003 - F
R - AUG	2002 - D
S - SEP	2001 - A
T - OCT	2000 - Z

The letter designating the year repeats every 12 years.

*Example:*  
 V - 2011  
 V - 1999  
 V - 1987

# Introduction

## New Features and Benefits

- Five-stage filtration with Piranha™ hard food disposer
- Dedicated silverware jets
- Steam PreWash
- Fan assist dry with heated option and ActiveVent
- Fifty-two dBA sound level
- ENERGY STAR® qualified and CEE Tier II rated
- SmartDispense™ (only on models GDWT7XX, PDWT3XX, PDWT5XX, CDWT980, and ZBD89XX)

## Weights and Dimensions

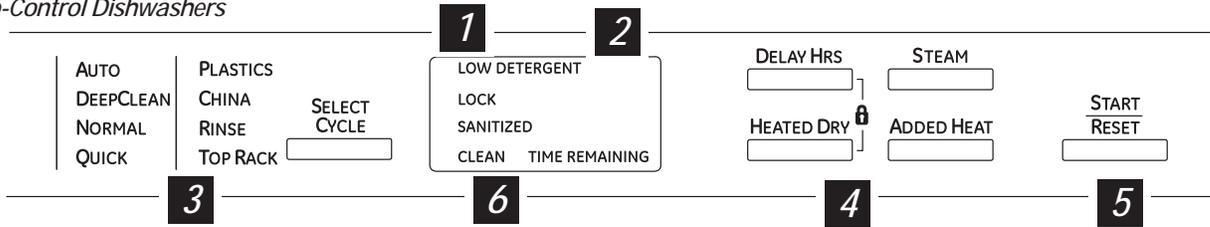
Approximate Shipping Weight .....	115 lb
Net Weight.....	110 lb
Overall Height .....	34 in.
Height with Legs Extended.....	35 in.
Overall Depth .....	24 <sup>3</sup> / <sub>4</sub> in.
Overall Width.....	24 in.



# Control Features

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

## Top-Control Dishwashers



## Control Settings

### 1 Status Indicator Lights (Indicators vary by models)

The Status display tells you what is happening while the dishwasher is in operation and may flash, indicating a malfunction. The lights will come **ON** indicating the sequence of the dishwasher operation.

**LOW DETERGENT** Displayed when the SmartDispense™ needs to be refilled with liquid or gel automatic dishwasher detergent.

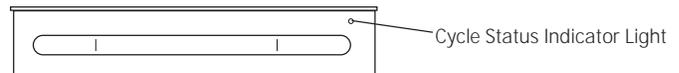
**NOTE:** If you are not using SmartDispense™ and you want to turn the **LOW DETERGENT** LED light off, press the **ADDED HEAT** button 5 times within 3 seconds. You will hear 3 beeps; then the light will go off. You can turn the light back on by pressing the **ADDED HEAT** button 5 times within 3 seconds.

**SENSING** Displayed while the Clean Sensor™ is measuring the amount of soil and temperature of water. The dishwasher will adjust the selected cycle to achieve optimal performance.

**SANITIZED** Displayed at the end of the cycle when SANITIZE has been selected and the dishwasher has met the requirements for sanitization. See SANITIZE, below, for complete cycle description. Opening the door or pressing any key while the door is closed and latched will turn off the light.

**CLEAN** Displayed when a wash cycle is complete. Refer to Item 6, page 9, for further explanation of clean light operation

**CYCLE STATUS INDICATOR** The cycle status indicator light is located on the right side of the dishwasher, above the handle. This light comes on as amber while the selected cycle is running. The light turns to green when the selected cycle is complete. The light stays **ON** as green as a reminder that the dishes are clean until the door is opened or until another cycle is selected.



### 2 Time Remaining Display (on some models)

During operation, the display shows the minutes remaining until the cycle is complete. The display may adjust the remaining time while the Sensing light is on. The time displayed at the start of each cycle may change from the factory setting as the unit customizes itself to home use. During a delay start, the display will show hours of time remaining until the cycle starts.

**NOTE:** This dishwasher is equipped with CleanSensor™ with automatic temperature control; therefore, cycle length and time may vary depending on soil and water temperature conditions.

### 3 Wash Programs (Selections)

Front-Control Dishwashers: Close and latch door. Press the button for the desired wash cycle.

Top-Control Dishwashers: Use the Select Cycle button to scroll through the wash cycles while the door is open.

**NOTE:** All cycle times and water usage information contained in the following section are approximate values. Actual results will depend on several factors, including but not limited to inlet temperature and amount of soil in the wash water.

The light above or next to the selected button will be **ON** to indicate which **WASH CYCLE** has been selected.

Wash Program	Time (minutes)	Water Usage (gallons/cycle)	Food Soil Level	Description
Sanitize/ Sani Wash	50-135	7.5-8.75	Light to heavy	This cycle raises the water temperature in the final rinse to sanitize your dishware. <b>NOTE:</b> This cycle is monitored for sanitization requirements. If the cycle is interrupted during or after the main wash portion or if the incoming water temperature is so low that adequate water heating cannot be achieved, the sanitizing conditions may not be met. In these cases, the sanitized light will not illuminate at the end of the cycle. When using this cycle, do not open the dishwasher door in the final rinse.
Deep Clean/ Scour	115-175	10	Heavy to baked on food	This cycle is meant for heavily soiled dishes or cookware with dried on or baked on soils. Every day dishes are safe to be used in this cycle. <b>NOTE:</b> On some models the STEAM enhancement will be automatically selected when this cycle is selected, and cannot be deselected. <b>NOTE:</b> This cycle is monitored for sanitization requirements. If the cycle is interrupted during or after the main wash portion or if the incoming water temperature is so low that adequate water heating cannot be achieved, the sanitizing conditions may not be met. In these cases, the sanitized light will not illuminate at the end of the cycle. When using this cycle, do not open the dishwasher door in the final rinse.
Cookware/ Pots & Pans	75-140	8.75-10	Heavy to baked on food	This cycle is meant for heavily soiled dishes or cookware with dried on or baked on soils. Everyday dishes are safe to be used in this cycle.
Auto	62-114	5.2	Light to heavy	This cycle is meant for light to heavily soiled dishes.
Normal	68-118	3.75-5.2	Normally soiled dishes	This cycle is meant for normal every day soil levels and is designed to conserve both water and energy. The Normal cycle was used to rate the efficiency of this dishwasher.
China/ Crystal Light Wash	40-60	7.5	Light to Normal	This cycle is specifically designed for delicate ware such as crystal and china by maintaining lower temperatures.
Glasses	40-75	7.5	Light to normal	This cycle is specifically designed for glasses.
Plastics	85-145	6.25-7.5	Light to heavy	This cycle is specifically designed for plastic ware and includes a built in drying portion that is specifically designed to reduce the risk of melting plastic items and improve plastic drying.
Top Rack	50-110	5-8.75	Light	Upper rack only.
Rinse	11	2.5	Any	For rinsing partial loads that will be washed later. Do not use detergent with this cycle.

**NOTE:** Only the **Sanitize**, **Sani Wash**, **Deep Clean** and **Scour** cycles have been designed to meet the requirements of Section 6, NSF 184 for soil removal and sanitization efficacy.

**NOTE:** NSF-certified residential dishwashers are not intended for licensed food establishments.

(Continued next page)

## 4 Enhancements

The light above the selected button will be **ON** to indicate which **ENHANCEMENT** has been selected.

ENHANCEMENTS	DESCRIPTION
<b>DELAY HOURS</b>	<p>You can delay the start of a wash cycle for up to 24 hours (depending on model). Press the <b>DELAY START</b> button to choose the number of hours you want to delay the start of the cycle; then press <b>START/RESET</b>.</p> <p><b>Front-Control Dishwashers:</b> The machine will count down and start automatically at the correct time.</p> <p><b>Top-Control Dishwashers:</b> After closing the door, the machine will count down and automatically start at the correct time.</p> <p><b>NOTE:</b> To cancel the <b>DELAY START</b> selection before the cycle begins, repeatedly press the <b>DELAY START</b> button until the display is blank.</p>
<b>ADDED HEAT</b>	<p>When selected, the cycle will run longer with heating element on to improve both wash and dry performance.</p> <p><b>NOTE:</b> Cannot be selected with <b>RINSE AND HOLD</b> cycle.</p>
<b>STEAM</b>	<p>For use with heavily soiled and/or dried-on, baked-on soils. This option <b>MUST</b> be selected <b>PRIOR</b> to starting the cycle. The <b>STEAM</b> option will use the heater to increase the temperature of the water. The circulation pump will turn off periodically, allowing water to drip onto the hot calrod which will create steam. The <b>STEAM</b> option adds 26 minutes to the cycle time.</p> <p><b>NOTE:</b> Cannot be selected with <b>RINSE AND HOLD</b> cycle.</p>
<b>HEATED DRY</b>	<p>When <b>HEATED DRY</b> is off, dishes will air dry. Top-control models have a fan that assists the drying process.</p> <p><b>Light Off:</b> Shuts off the drying heat option. Dishes will air dry naturally (front-control dishwashers) or fan dry (top-control dishwashers) to save energy.</p> <p><b>Light On:</b> Turns the heater on for faster drying. This will extend the total cycle time between 8 and 38 minutes depending on the cycle selected.</p> <p><b>NOTE:</b> Cannot be selected with <b>RINSE AND HOLD</b> cycle.</p>
<b>LOCK</b>  	<p>You can lock the controls to prevent any selections from being made. Or you can lock the controls after you have started a cycle.</p> <p><b>Children cannot accidentally start dishwasher by touching buttons with this option selected.</b></p> <p><b>Front Control:</b> To unlock the dishwasher controls, press and hold the <b>HEATED DRY</b> button for 3 seconds. The light above the lock button will turn off. To lock the dishwasher, press and hold the <b>HEATED DRY</b> button for 3 seconds. The light above the <b>LOCK</b> button will turn on.</p> <p><b>Top Control:</b> To unlock the dishwasher controls, press and hold the <b>HEATED DRY</b> and <b>DELAY HOURS</b> buttons for 3 seconds. The lock status indicator light will turn off. To lock the dishwasher, press and hold the <b>HEATED DRY</b> and <b>DELAY HOURS</b> buttons for 3 seconds. The lock status indicator light will turn on.</p>
<b>START/RESET</b>	<p>For top control models, open the door slowly. For front control models leave the door closed, then follow below.</p> <p>To change a cycle after washing starts, touch the <b>START/RESET</b> button to cancel the cycle.</p> <p>The <b>START/RESET LED</b> will turn off and the drain pump will pump water out of the dishwasher for 75 seconds and then turn off. Cycle selection and option <b>LED</b>'s will remain on, and buttons will respond during pump out. If the <b>START/RESET</b> is pressed while the dishwasher is in pump out, the <b>START/RESET LED</b> will turn on and the dishwasher will start a new wash cycle.</p>

## 5 Start

### Top-Control Dishwashers

After selecting the cycle and desired enhancements, touch the **START/RESET** button to ready the dishwasher to begin the cycle. Close the door to start the cycle or begin the **DELAY START** countdown. When the cycle starts, the water fill begins and approximately 60 seconds later the wash action begins.

The dishwasher will always display your last selection and enhancements. If you don't want to change the settings, simply touch the **START/RESET** button to ready the dishwasher and close the door to begin the cycle.

**ALL MODELS:** If a power failure occurs **AUTO** and **HEATED DRY** will automatically be programmed. Make any new selections and touch the **START/RESET** button to begin the new cycle.

When the door is opened, the indicator lights will turn off if the **START/RESET** button is not selected within 5 minutes. To activate the display, open and close the door or touch any button.

## 6 Clean

### Top-Control Dishwasher

The **CLEAN** light will illuminate and a double beep will sound when a wash cycle is complete. The **CLEAN** light will remain on until the door is opened and then relatched or until any key is pressed.

**ALL MODELS:** To turn off the audible end-of-cycle signal (or re-activate it if it was previously turned off), press the **HEATED DRY** button 5 times within 3 seconds. A triple beep will sound to indicate the end-of-cycle beep option has been toggled.

## Recommended dishwasher products.

GE recommends the following products for use in its dishwashers:

For your manual detergent dispenser, **Cascade®** Complete ActionPacs are recommended. Powders, liquids, and gels may also be used but may not work as effectively. See page 11 for more details. For your SmartDispense™ Detergent Dispenser, **Cascade®** Complete gel is recommended. See page 12 for differences between liquid gel types and a warning about mixing liquid detergents together.

**Cascade® Rinse Aid™** rinse agent to remove spots and prevent new film buildup on your dishes, glasses, flatware, cookware and plastic. Using rinse agent also improves dry performance.

# Cycles

## Auto Hot Start:

Auto Hot Start is initiated by the control board when it senses water temperature is below 80°F. If the water is below 80°F after prewash, the unit circulates for 1 to 5 minutes (depending on the cycle selected) and then drains for 75 seconds. This procedure repeats up to 4 times or until the water reaches 80°F.

## Added Heat:

The added heat option differs for the various cycles. Some cycles will not be modified, some cycles will increase the calrod time, and some cycles will get additional segments added (e.g., **AUTO** has 6 segments without added heat and 9 segments with added heat).

## Heated Dry:

During **HEATED DRY**, the heater cycles at a rate of 60 seconds on and 51 seconds off.

## Cycle Explanations and Exceptions:

- Turbidity Response is used during the **SANITIZED**, **NORMAL**, and **AUTO** cycles only.
- Timed cycles can change depending on the water temperature. If the minimum temperature is not met, an extended time is added until the temperature is met or the time expires.
- Partial Drain and Fill Algorithm is used during **NORMAL** and **AUTO** cycles only.
- Auto Hot Start may cause the first prewash to repeat up to 4 times.
- Disabling **STEAM** will shorten the cycle time.
- If **STEAM** is selected during **NORMAL** or **AUTO** cycles, turbidity response is ignored, and cycle defaults to the heavy soil algorithm.
- **HEATED DRY** takes 34 minutes for the **NORMAL** cycle while the other cycles vary to as long as 60 minutes for **PLASTICS**. There is no **HEATED DRY** for the **RINSE** cycle.
- Drain Overlap is a short period when both the wash and drain pumps run simultaneously as the circulation cycle ends and draining begins.
- Drain Pause is a short period between the circulation cycle ending and the drain starting.
- Extend Times enables both the circulation pump and heater to operate simultaneously.

## Turbidity Response

The turbidity response is measured in DC volts. Four to 5 VDC registers light soil and a shorter wash cycle, while 0 to 2 VDC registers heavy soil and a longer wash cycle. **SANITIZED** wash measures the turbidity response during the third prewash cycle and adjusts the time based on these measurements. **NORMAL** wash measures the turbidity response during the first prewash and the prewash before the main wash. If a clean response is measured during the first prewash, the cycle advances directly to the main wash with no drain or fill. If a clean response is measured during the prewash before the main wash, the control shortens the active heater time.

# Cycle Chart

Normal Cycle	PW1*	PW2	PW3	PW4	PW5	MW**	PR 1	PR2	FR	Dry	Cool-Down	Fan
Turb DOE	[Vdc] 3.1	-	5.0	5.0	-	-	-	-	-	-	-	-
Turb MIN	[Vdc] 2.1	-	5.0	5.0	-	-	-	-	-	-	-	-
Turb MED	[Vdc] 2.1	-	5.0	5.0	-	-	-	-	-	-	-	-
Turb MAX	[Vdc] 1.0	-	0.1	0.1	-	-	-	-	-	-	-	-
Time DOE	[min] 5	-	-	10	-	-	-	-	-	-	-	-
Time MIN	[min] 5	-	-	10	-	-	-	-	-	-	-	-
Time MED	[min] 5	-	-	10	-	-	-	-	-	-	-	-
Time MAX	[min] 1	-	3	10	-	-	-	-	-	-	-	-
MW DOE Circulate Time	[min]	-	-	-	-	30	-	-	-	-	-	-
MW DOE Heater Time	[min]	-	-	-	-	28	-	-	-	-	-	-
MW MIN Circulate Time	[min]	-	-	-	-	30	-	-	-	-	-	-
MW MIN Heater Time	[min]	-	-	-	-	27	-	-	-	-	-	-
MW MED Circulate Time	[min]	-	-	-	-	30	-	-	-	-	-	-
MW MED Heater Time	[min]	-	-	-	-	27	-	-	-	-	-	-
MW MAX Circulate Time	[min]	-	-	-	-	30	-	-	-	-	-	-
MW MAX Heater Time	[min]	-	-	-	-	30	-	-	-	-	-	-
Pre-Rinse 1 (PR 1)	[min]	-	-	-	-	-	7	-	-	-	-	-
Pre-Rinse 2 (PR 2)	[min]	-	-	-	-	-	-	-	-	-	-	-
Final Rinse (FR)	[min]	-	-	-	-	-	-	-	6	-	-	-
Heater On Time	[min]	0	-	0	10	y**	0	-	5	-	-	-
Dry Time (Total Time) w/ HD	[min]	-	-	-	-	-	-	-	-	34	-	-
HD - Initial ON Time	[min]	-	-	-	-	-	-	-	-	4	-	-
HD - Pulse OFF Time	[sec]	-	-	-	-	-	-	-	-	105	-	-
HD - Pulse ON Time	[sec]	-	-	-	-	-	-	-	-	75	-	-
Dry Time (Total Time) w/o HD	[min]	-	-	-	-	-	-	-	-	0	-	-
Cool-Down Time	[min]	-	-	-	-	-	-	-	-	-	14	-
Fan Time w/ Heated Dry	[min]	-	-	-	-	-	-	-	-	-	-	48
W/ Out Heated Dry	[min]	-	-	-	-	-	-	-	-	-	-	14
Pause time (cic to drain)	[sec]	0	-	15	0	15	0	-	15	-	-	-
Fill Time (low flow water valve)	[sec]	62	-	16	62	21	62	-	23	-	-	-
Fill Time (high flow water valve)	[sec]	46	-	13	46	15	46	-	17	-	-	-
Drain Time	[sec]	7	-	75	10	75	11	-	105	-	-	-
Max Temp Limit	[F]	-	-	-	158	158	-	-	158	-	-	-
Min Temp Limit	[F]	-	-	-	-	120	-	-	120	-	-	-
Extend Time	[min]	0	-	0	0	5	0	-	5	-	-	-

<b>Total Primitive</b>	[min]	6.15	-	4.52	11.20	-	31.25	8.22	8.13	34.00	14.00	
							31.60		13.13			
							36.60					

Shortest Cycle	[min]	67.63
Longest Cycle	[min]	93.82
ART (Max)	[min]	69.82
ART (Med)	[min]	69.82
AH-MW	[min]	NA
HTD	[min]	34.00
CD	[min]	14.00

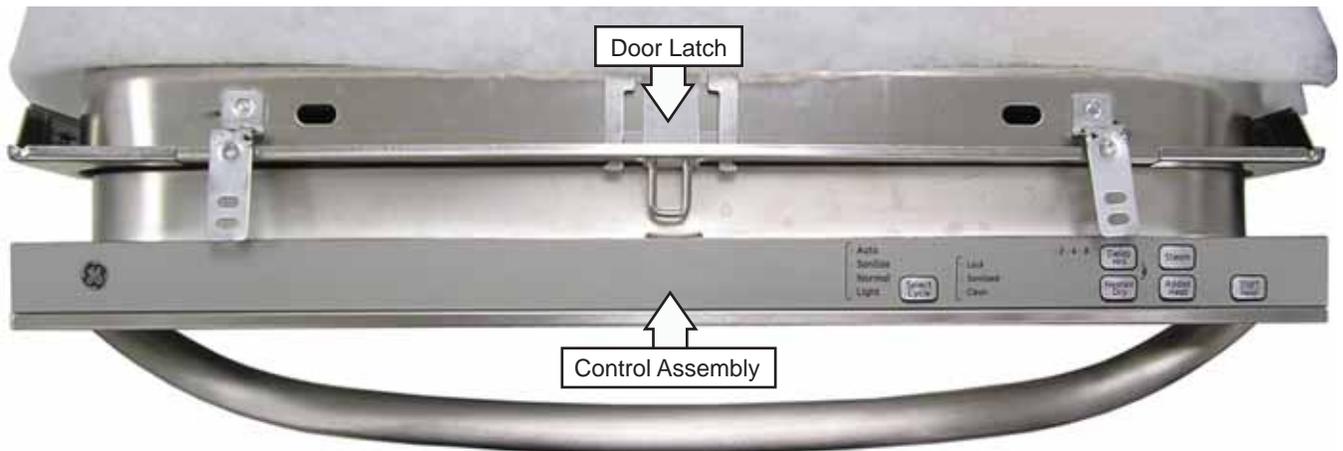
\* IF on PW1 the turbidity is greater than the DOE response the cycle will skip the drain portion of PW1, completely skip PW3, PW4, and skip the fill into MW...effectively merging PW1 and MW circ  
 \* IF on PW1 the turbidity is less than the DOE response but greater than the MIN response the cycle will skip PW3, PW4.  
 \*\* Circulation and Heater ON times for Main Wash are determined by the turb valies in PW1  
 \*\*\* Detergen/Rinse Aid relay will be activated in FR  
 NOTE: \*\*\*\*PW2, PW5, PR2 intentionally left blank due to separating the added heat functionality into its own cycle definition table. See Norm\_Auto+AH cycle table.\*\*\*

# Component Locator Views

Front View



Control Panel View



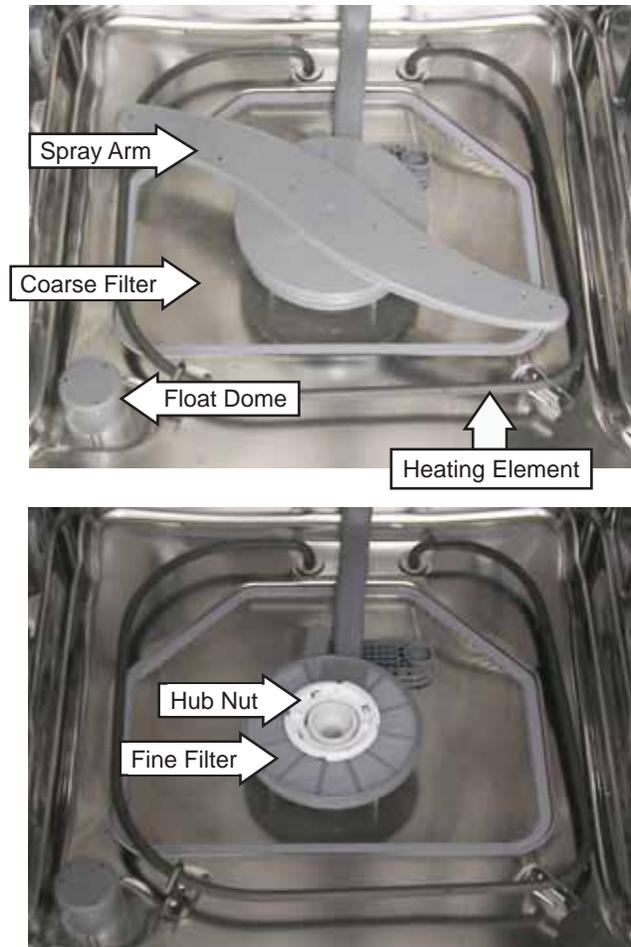
Interior View (Without Racks)



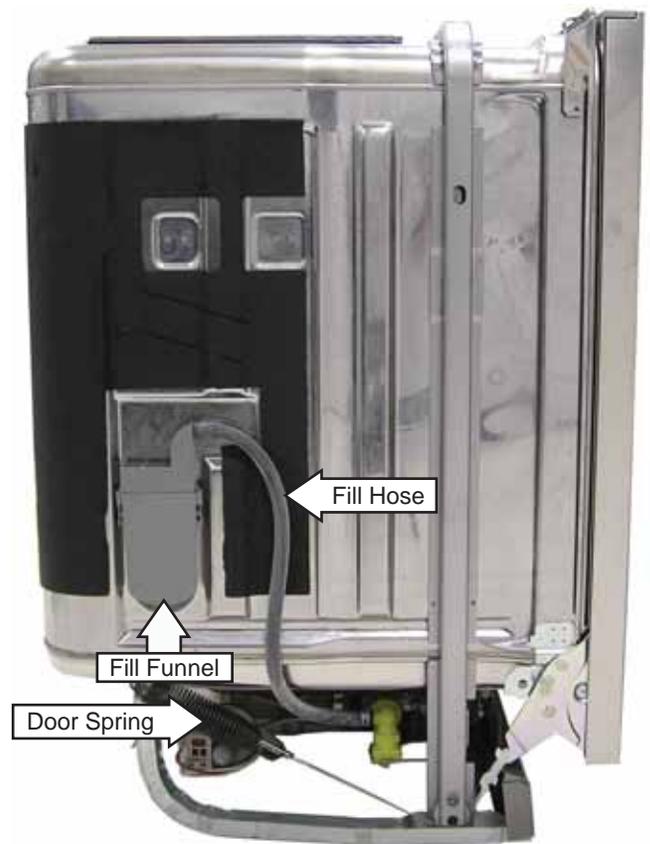
Detergent/Rinse Module Compartment View



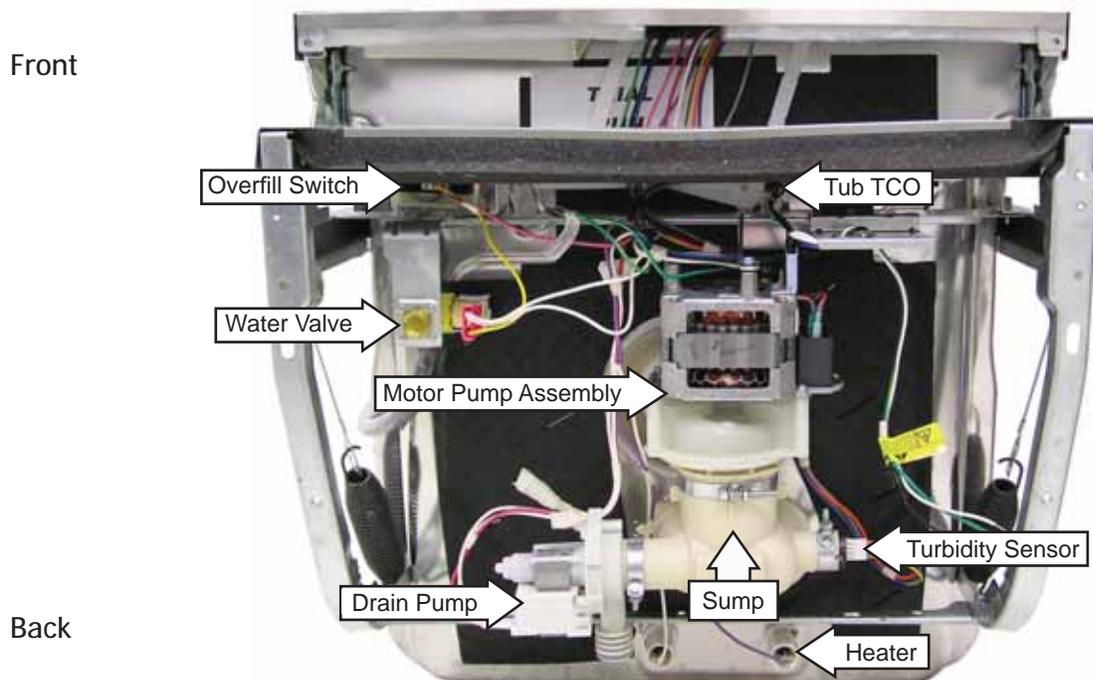
Interior View of Basin (With Racks Removed)



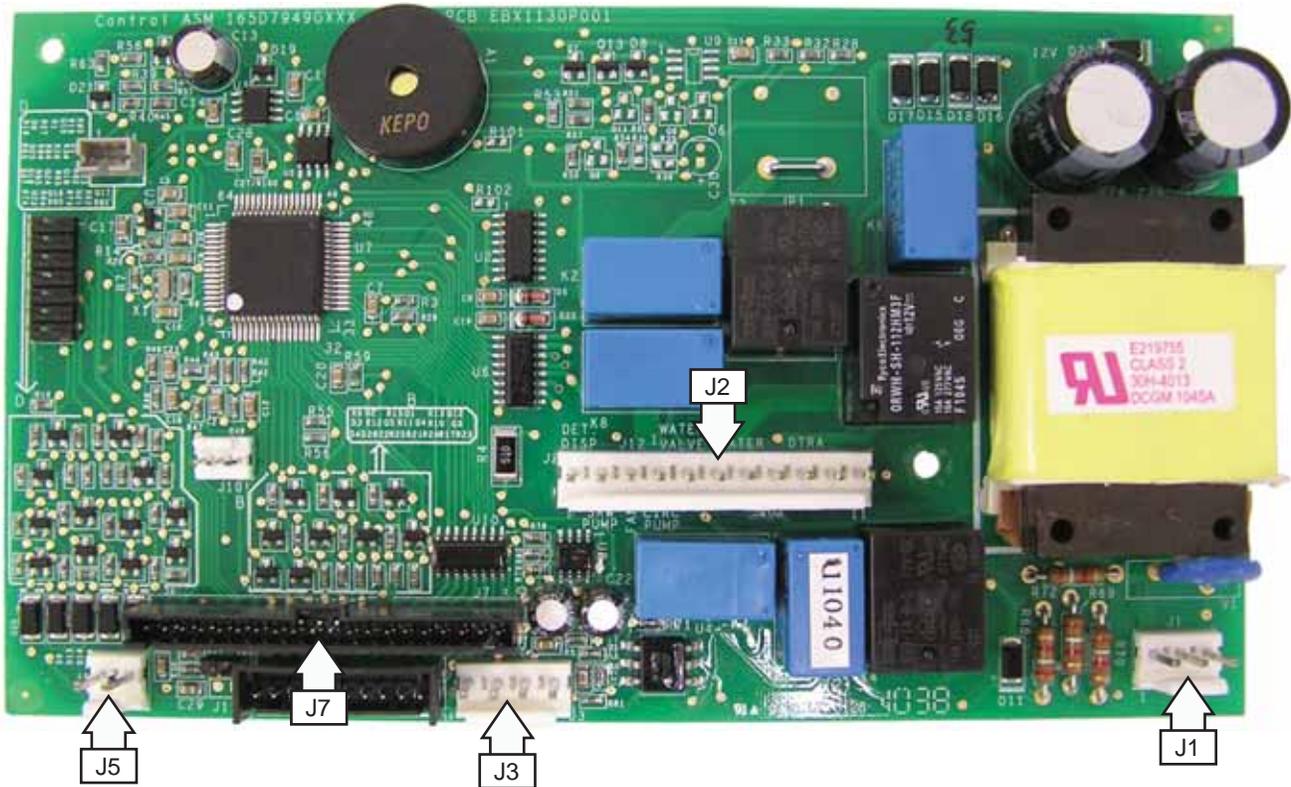
Left Side View (Insulation Removed)



Bottom View (Looking Up)



# Control Board Connector Locator View



J1 - Power Supply

J2 - Power Switching

J3 - Turbidity/Temperature Sensor

J5 - Active Vent

J7 - Keypad

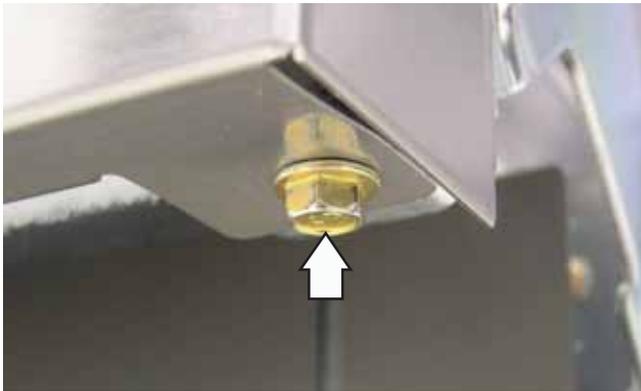
# Dishwasher Components

## Outer Door Panel

The outer door panel must be removed to access the control board, detergent/rinse module, control TCO, tactile switch, door switch, vent, and lens.

To remove the outer door panel:

1. Remove the two 1/4-in. hex-head screws from the bottom of the front door panel (one on each side).

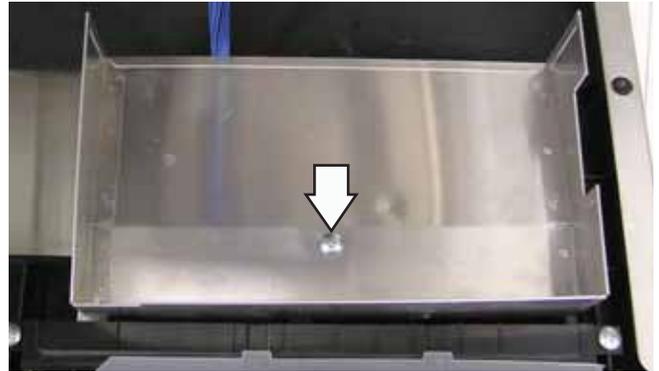


2. Remove the ten T-15 torx screws from the outer door panel.

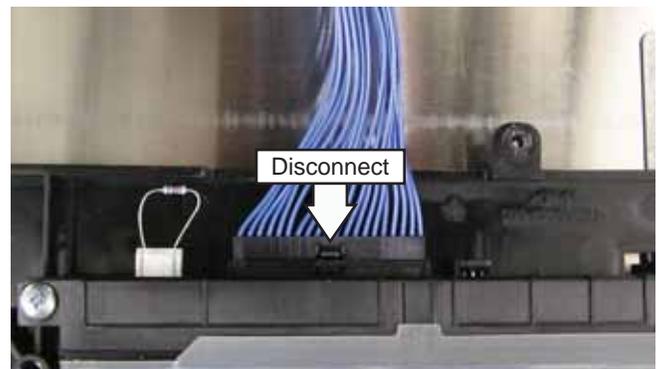
**Caution:** Carefully remove the outer door from the inner door frame.



3. Remove the single Phillips-head screw from the control cover.



4. Disconnect the wire harness from the tactile switch.

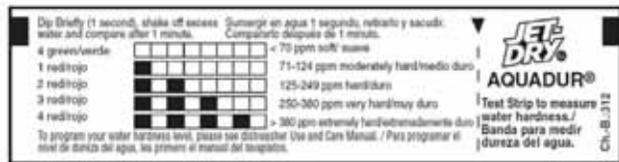


## Water Hardness Test and Calibration

### Test Water Hardness

The automatic liquid dishwasher detergent dispenser (SmartDispense™) dispenses the optimum amount of detergent to clean the dishes. The amount of detergent introduced during each cycle is based on the soil level of the dishes and the hardness of the water. Therefore, the correct water hardness setting is very important for both optimum cleaning of dishes and detergent usage.

Prior to its first use, the dishwasher must be calibrated for water hardness. This process requires the use of a water hardness test strip (Part # WD01X10295).



Test water hardness following the instructions on the test strip package shown above.

The 4 light green stripes on the test strip change color depending on the water hardness. The harder the water, the more stripes change from green to red.

**Note:** If all stripes remain green after the test, the outcome is "0 RED." The value to be entered into the dishwasher is "1."

Convert the test reading according to the table below.

#### Water Hardness Test Strip Indication

Red Stripes on Strip	Value to Enter into Dishwasher
0	1
1	2
2	3
3	4
4	5

**Note:** 1 grain per gallon = 17.1 parts per million.

To enter water hardness value (on some models):

**Note:** Dishwasher must be in standby mode. Press the **SELECT CYCLE** button to activate the tactile switch and illuminate the lights on the control panel.

1. Press the **SELECT CYCLE** and **DELAY HRS** buttons simultaneously and hold for 3 seconds.
2. The current hardness setting is shown on the **TIME REMAINING** display.
3. Enter the value from the test strip using the **STEAM** button to increase the value or the **SELECT CYCLE** button to decrease the value.
4. Press the **START/RESET** button to return the dishwasher to normal operation. The last displayed value is saved as the water hardness value.

### SmartDispense™

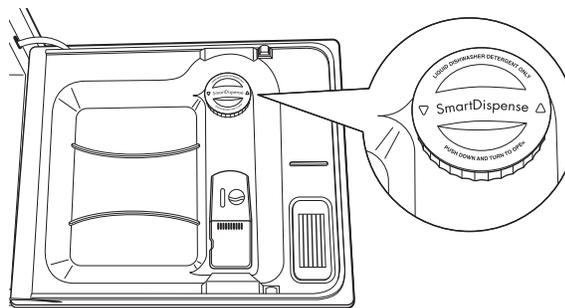
SmartDispense is a bulk liquid detergent dispenser assembly consisting of the following components:

- **Detergent Reservoir** – Mounted within the inner door panel.
- **Detergent Level Sensor** – Connected to a **LOW DETERGENT** LED on the control panel.
- **Positive Displacement Pump** – Injects the optimal amount of detergent into the dishwasher during each cycle.

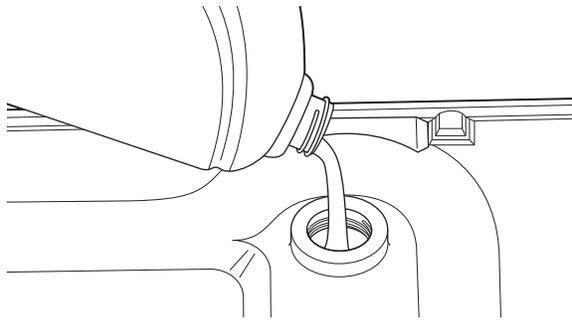
#### Detergent Reservoir

**Note:** The SmartDispense system can only be used with liquid or gel automatic dishwasher detergent.

To access the reservoir, push down on the cap covering the reservoir to engage the ratchet, then turn it counterclockwise to open.



Position the door at a 30- to 45-degree angle. Fill the reservoir with a liquid automatic dishwasher detergent until the detergent reaches the threads of the reservoir access. The dispenser tank holds approximately 45 ounces of liquid dishwasher detergent (about 1 to 2 months' supply).



Place the cap on the reservoir access threads, push down, and then turn clockwise until the cap is tight.

#### To remove the detergent reservoir:

**Note:** Removing the reservoir access collar causes structural damage to the collar. It must be replaced with a new part (Part # WD35X10059).

Remove the outer door panel. (See *Outer Door Panel*.) Insert a small, flat blade screwdriver into the slot in the side of the retaining collar and push the screwdriver handle counterclockwise while turning the reservoir access collar counterclockwise a quarter turn. Remove the retaining collar. Unplug the tube from the reservoir outlet and disconnect the sensor from the control module.



**Note:** The dispenser tank comes as an assembly. It includes the sensor with wire harness, gasket, and retaining collar. The complete assembly part number is WD35X10058.

#### Detergent Level Sensor

The SmartDispense detergent level sensor consists of a single-level detection continuity sensor and includes the following components:

- A grommet seal
- A **LOW DETERGENT** LED indicator light
- A wire harness

When the detergent in the reservoir drops below the continuity sensor, a signal is sent to the control board, and the **LOW DETERGENT** LED indicator light is turned on. The light indicates 3 to 7 wash cycles are left before the detergent reservoir is completely empty.



**Note:** The **LOW DETERGENT** LED may look like it is illuminated when in fact it is not. An illuminated indicator shines bright red.

**Note:** If the SmartDispense system is not being used, the **LOW DETERGENT** light can be turned off (or on) by pressing the **ADDED HEAT** button 5 times within 3 seconds. There are 3 audible beeps when the light goes off.

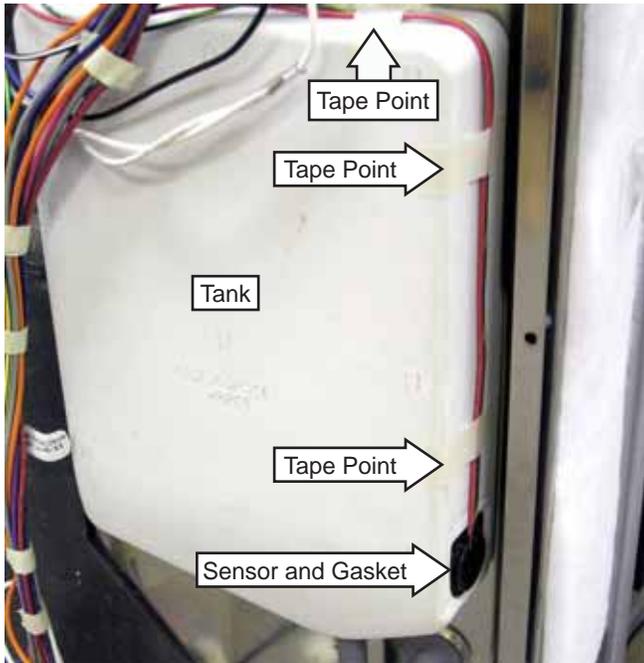
The sensor is similar to the type used in several automotive applications, such as the windshield wiper fluid reservoir.



The control takes a reading of the detergent level at power-up (when power is restored from an outage) and each time the door is closed and latched.

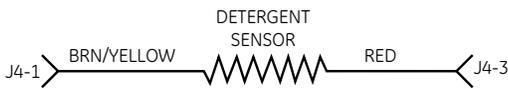
The control outputs a pulsing 5-VDC analog signal to the sensor and monitors the return voltage. Changes in the quantity of detergent in the tank change the amount of current drawn by the sensor.

The routing of the DC wiring from the tank is very important. The 3 tape points on the tank keep the DC wiring perpendicular to the AC harness wiring running down across the front of the tank.



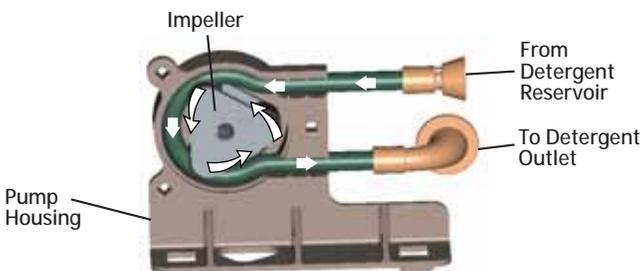
**Note:** The dispenser tank, sensor with wire harness, and gasket are only available as a complete assembly (Part # WD35X10058). They are shipped with a new dispenser tank retaining collar.

Detergent Level Sensor Strip Circuit



**Positive Displacement Pump**

The SmartDispense positive displacement pump consists of a continuous flexible tube running from the detergent reservoir to the inner door detergent outlet. The tube runs around the inside edge of the pump housing. A 3-roller impeller fits tightly into the center of the pump housing, with each of the 3 rollers squeezing the sidewall of the tube. As the impeller is driven counterclockwise by the motor, it squeezes out a predetermined amount of detergent for each 1/3 revolution of the impeller.



The dispenser pump operates on 120 VAC. During each prewash cycle, the pump is energized for 5 seconds, dispensing 4 ml of detergent.

The electronic control uses two inputs to determine the total amount of detergent dispensed during the main wash cycle:

- Soil level determined by the turbidity sensor
- Water hardness as calibrated for the location

A water hardness selection mode permits the calibration of the water hardness for the location at installation. (See *Water Hardness Test and Calibration*.)

To determine the amount of detergent to dispense during the main wash, the electronic control uses the following formula:

$$4 \text{ ml} \times \text{Number of Prewashes} + 25 \text{ ml} + \text{Additional Quantity for Hardness}$$

The additional quantity is a predefined quantity of detergent based on the water hardness level programmed into the control.

**Approximate Detergent Use**

SmartDispense Dosage Amount

Dosage (ml)	Soil Level				
	1	2	3	4	
Hardness	1	33	41	49	57
	2	35.4	43.4	51.4	59.4
	3	37.8	45.8	53.8	61.8
	4	40.2	48.2	56.2	64.2
	5	42.6	50.6	58.6	66.6

SmartDispense Bottle Duration

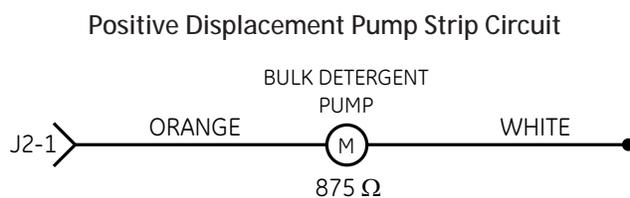
Bottle Duration (wks)	Soil Level				
	1	2	3	4	
Hardness	1	10.3	8.3	6.9	5.9
	2	9.6	7.8	6.6	5.7
	3	9.0	7.4	6.3	5.5
	4	8.4	7.0	6.0	5.3
	5	8.0	6.7	5.8	5.1

### To remove the positive displacement pump:

1. Remove the outer door panel. (See *Outer Door Panel*.)
2. Remove 2 Phillips-head screws from the lower right side of the door edge to release the pump bracket.



3. Remove the grommet from the inner door panel and unplug the tube from the reservoir outlet.
4. Disconnect the wires and remove the pump.



### Consumer Purge of the Bulk Dispenser Tank

#### When to Purge the Bulk Dispenser Tank

Only liquid or gel automatic dishwasher detergent can be used in the dispenser tank. The dispenser tank must be purged if the consumer puts hand dishwashing detergent or a rinse agent in the dispenser tank. These products produce copious amounts of suds, and water leaks result every time the dishwasher is run, until the dispenser tank is emptied.

The dispenser must also be purged if a liquid dishwasher detergent containing chlorine (like Cascade Pure Rinse Formula) and one containing enzymes (like Cascade Complete) have been mixed in the dispenser tank. When this happens, the chlorine destroys the enzymes, resulting in poor wash performance. You can tell if the detergent contains chlorine or enzymes by reading the content label on the container.

A chemical reaction also takes place between the chlorine detergent and the enzyme detergent, which causes the two liquids to coagulate and build up around the detergent level sensor. This buildup may prohibit the sensor from sending the low-detergent signal to the control board, and the **LOW DETERGENT** light will not illuminate when the dispenser tank is empty.

#### Consumer Purge Cycle

The consumer must enter service mode to activate the purge cycle. (See *Service Mode*.) The purge cycle fills the dishwasher for 57 seconds, then energizes the dispenser pump (instead of the main motor) continuously to drain the dispenser tank.

The purge cycle deselects all other options and runs for 65 minutes. The consumer should run the purge cycle 3 times, filling the dispenser tank with water for the second and third cycles. Total time is approximately 3 hours.

#### To purge the bulk dispenser tank (on some models):

1. Make sure **STEAM**, **ADDED HEAT**, and **HEATED DRY** LEDs are off.
2. Press **HEATED DRY** button and **SELECT CYCLE** button simultaneously for 3 seconds. If done correctly, all the LEDs illuminate.
3. Press **SELECT CYCLE** button and **ADDED HEAT** button simultaneously for 3 seconds. If done correctly, the **AUTO** and **LOCK** LEDs illuminate.
4. Press **START/RESET** button one time to exit service mode.
5. Press **START/RESET** button to start an auto cycle and make sure **STEAM**, **ADDED HEAT**, and **HEATED DRY** LEDs are off.
6. Dishwasher runs a complete cycle with the main motor instead of the dispenser tank. Cycle is complete when the **CLEAN** light illuminates. This should take approximately 60 minutes.
7. Open door and wipe up the excess detergent from the door and tub.
8. Pour water on the door and tub where there is detergent residue.
9. Remove SmartDispense cap and fill dispenser tank with water. Replace the cap.

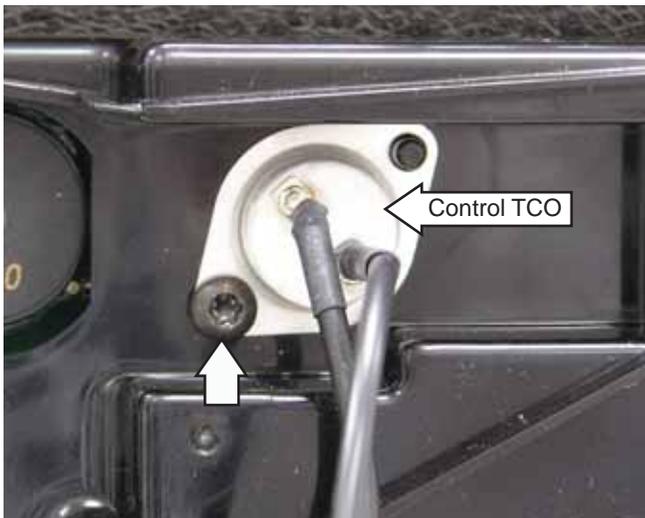
10. Repeat steps 1 thru 9 one time.
11. Repeat steps 1 thru 6. When the **CLEAN** LED illuminates, the system is purged and ready to be refilled with the correct detergent.

### Control Thermal Cutout (TCO)

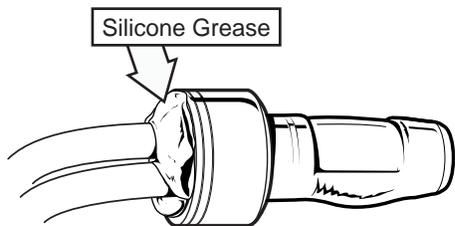
The control TCO is one shot with a trip temperature of 250°F. If the control TCO trips, no voltage is supplied to the control board or components. Look for control or wire damage and replace as necessary.

#### To remove the control TCO:

1. Remove the outer door panel. (See *Outer Door Panel*.)
2. Remove the T-15 torx screw from the control TCO.



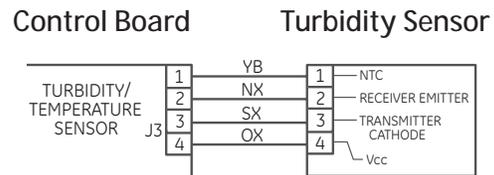
**Note:** When replacing the control TCO, splice a new thermostat into the harness using connectors and procedures approved for damp/wet conditions.



### Control Board

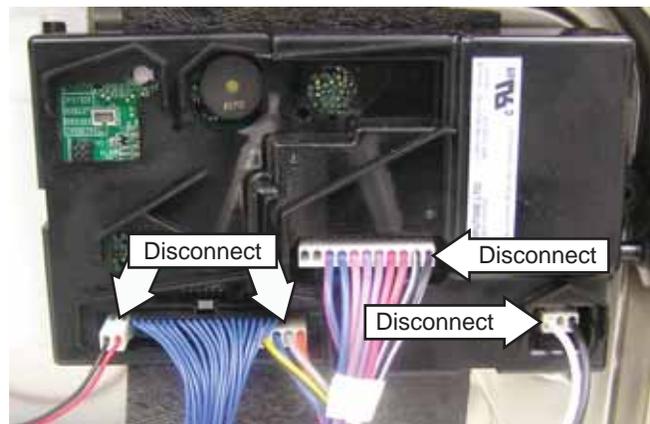
The control board is attached to the right side of the inner door panel.

Voltage from the control board to the turbidity sensor can be tested by checking the voltage at J3 on the control board. (See *Control Board Connector Locator View*.) A pulsed 2-VDC signal should be measured across wires J3, pin 2 (dark blue wire), and J3, pin 3 (gray wire).

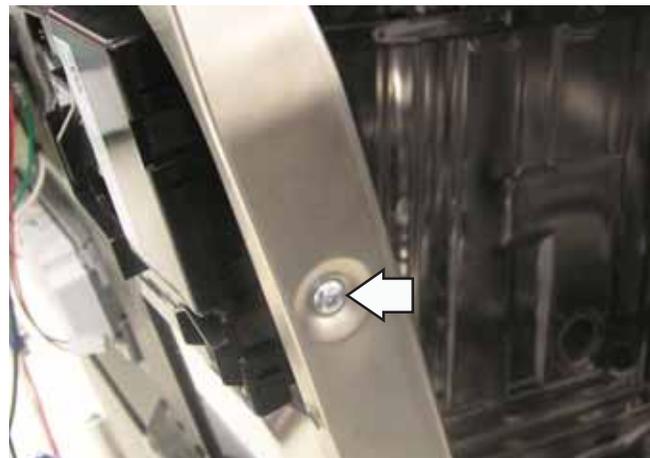


#### To remove the control board:

1. Remove the control TCO. (See *Control TCO*.)
2. Disconnect the 4 wire harnesses from the control board.

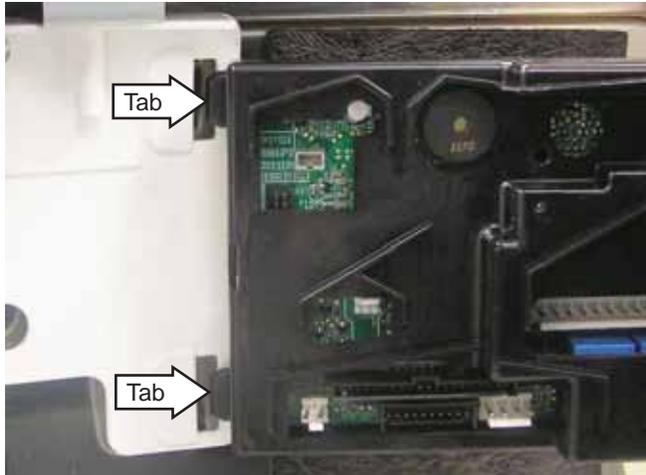


3. Remove the Phillips-head screw holding the control board to the inner door panel.



(Continued next page)

- Disengage the control board tabs from the inner door panel.



### Tactile Switch

The tactile switch includes a silicone pad to protect the switch from moisture. The tactile switch buttons and silicone pad come as an assembly.

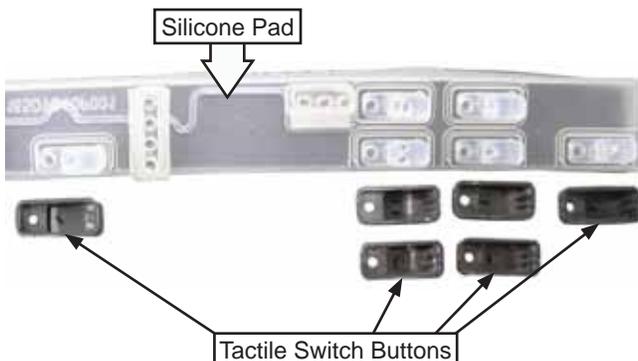
**To remove the tactile switch:**

- Remove the outer door panel. (See *Outer Door Panel*)
- Remove the 2 Phillips-head screws and the tactile switch from the console.

**Note:** When replacing the tactile switch, transfer the model select plug to the new switch.



**Note:** The tactile switch buttons are keyed to fit in the proper place on the silicone pad.

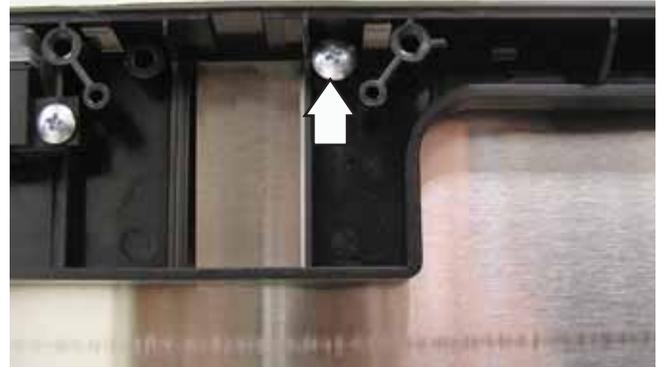


### Lens

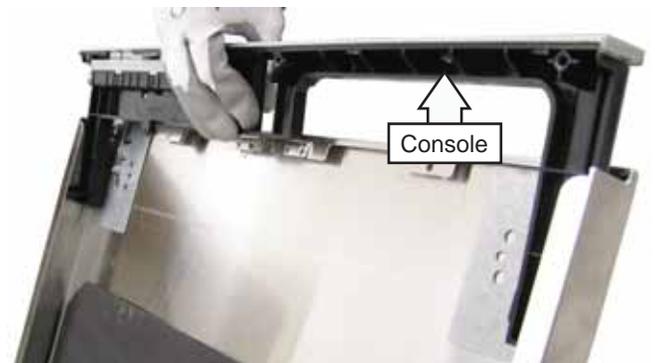
The lens is located behind the console and attached to the front panel with double-back tope. A new lens comes with the console as a kit.

**To remove the lens:**

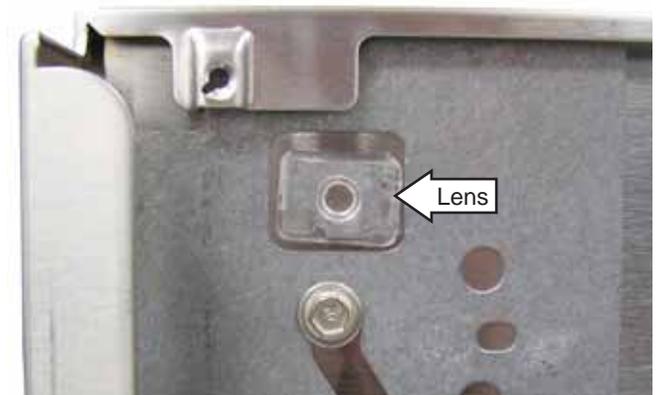
- Remove the outer door panel. (See *Outer Door Panel*)
- Remove the single Phillips-head screw from the console.



- Pull the console out of the door.



- Pry the lens off the door panel with a flat blade screwdriver.



## Door Handle

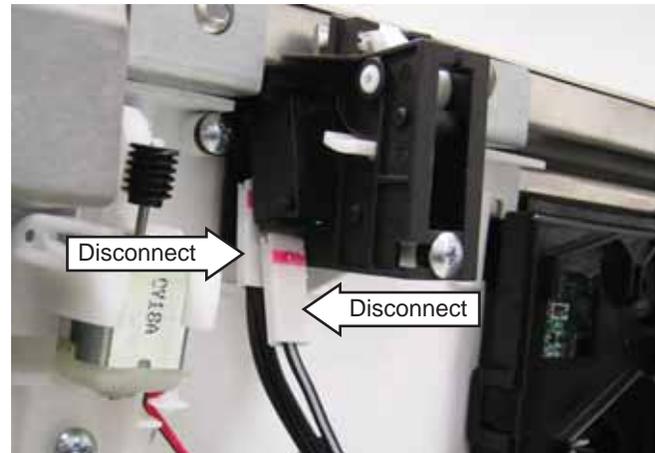
The door handle is held in place by 2 screws that can be accessed by removing the console.

### To remove the door handle:

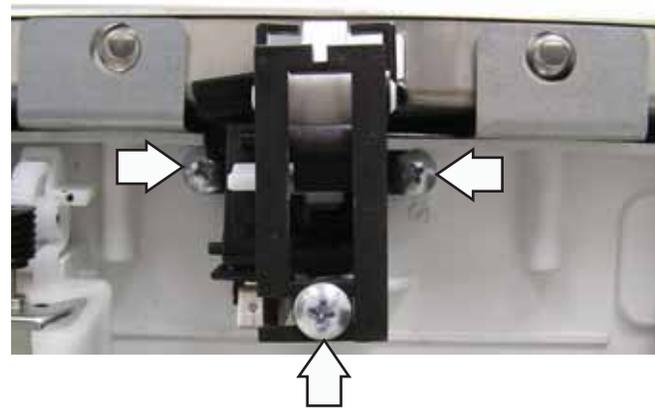
1. Remove the console. (See *Lens*, steps 1-3.)
2. Remove the two 1/4-in. hex-head screws holding the handle to the outer door (1 on each side).



3. Disconnect the 2 wires from the door switch.



4. Remove the 3 Phillips-head screws from the door switch.



## Door Switch Assembly

The door switch assembly is activated by a spring-loaded plunger that connects or disconnects the line (hot) side of 120 VAC.

When the door is in the closed position, the door latch presses and holds down the switch plunger on the door switch assembly. This action holds the door firmly against the seal, with the contacts of the door switch closed.

### To remove the door switch assembly:

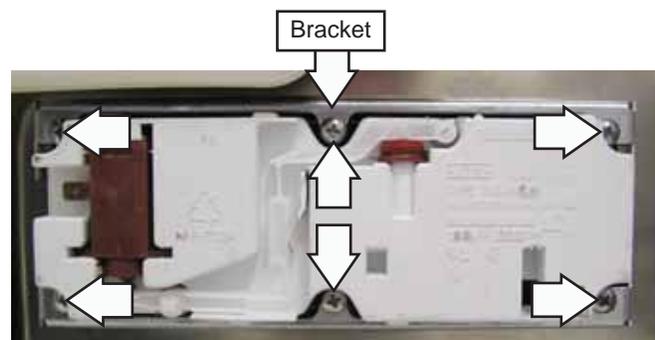
1. Disconnect the power supply to the dishwasher.
2. Remove the outer door panel. (See *Outer Door Panel*.)

## Detergent/Rinse Module

The inner door panel must be removed to access the detergent/rinse module. (See *Inner Door Panel*.)

The detergent/rinse module is connected by 2 wires and held in place by 6 Phillips-head screws and a bracket.

The detergent/rinse module operates on 120 VAC and has an approximate resistance value of 1.2 to 2.8 K $\Omega$ .



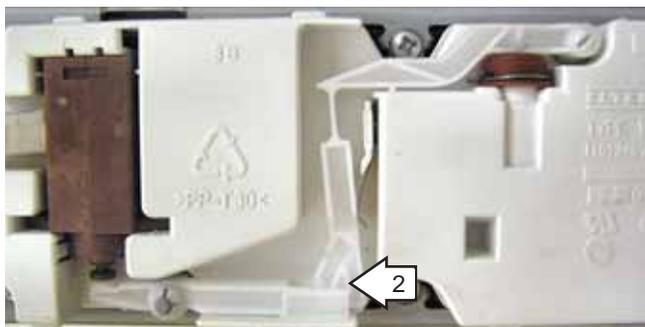
The detergent/rinse module automatically dispenses both detergent and rinse agent at the appropriate times. The module is activated twice during a wash cycle. Detergent is dispensed at the beginning of the main wash cycle and rinse agent at the beginning of the final rinse.

Operation of the detergent/rinse module can be checked by using the service test mode. (See *Service Mode*.)

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



When the module is deactivated, the lever returns down the left-hand path and comes to rest under the notch (2) in the center of the connecting rod.



At the second activation of the module, the lever lifts the connecting rod by the notch. This action lifts the rinse dispenser plunger (3) and releases the rinse agent. When the module is deactivated, the lever returns to its original starting position.

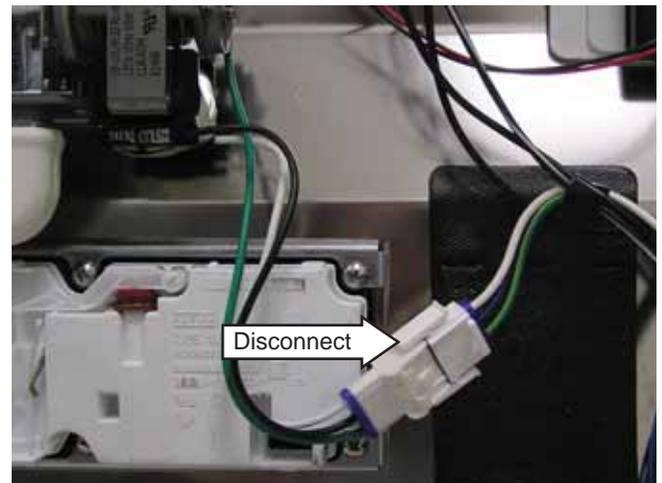


## Vent Fan

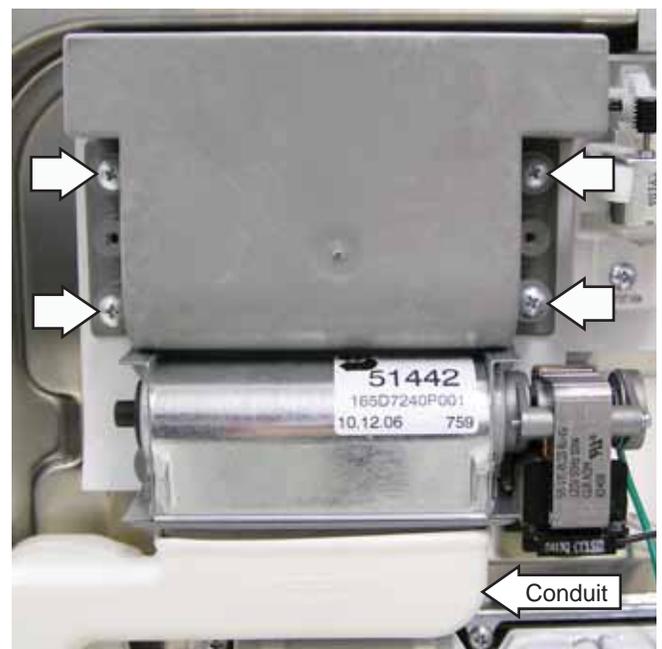
The vent fan runs at the end of the dry cycle, whether **HEATED DRY** has been selected or not. It will run for 1 to 15 minutes when not in **HEATED DRY** and 30 to 50 minutes during some **HEATED DRY** cycles. The vent is located on the upper-left side of the inner door panel and has a resistance of 65  $\Omega$ .

To remove the vent fan:

1. Remove the outer door panel. (See *Outer Door Panel*.)
2. Disconnect the vent fan wire harness.



3. Remove the 4 Phillips-head screws from the vent fan and lift it off the conduit exhaust.

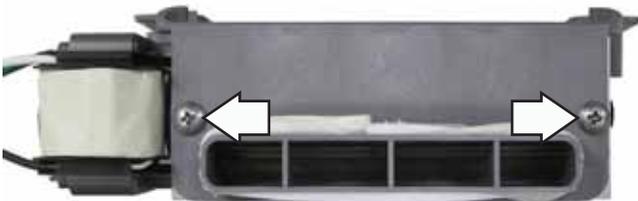


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- Remove the 4 Phillips-head screws from the back of the vent fan.



- Remove the 2 Phillips-head screws from the bottom of the vent fan.

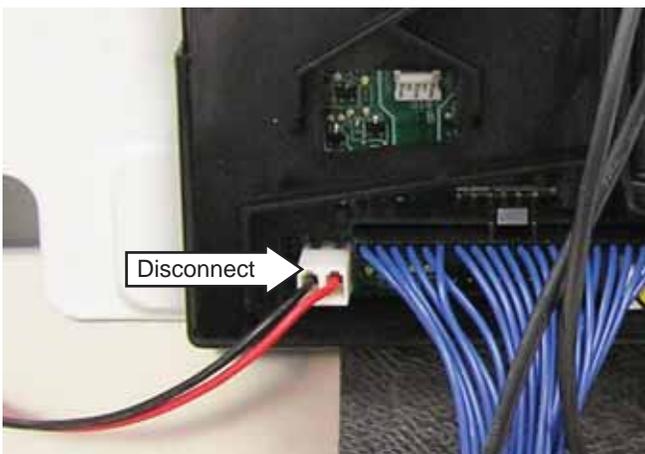


### Active Vent

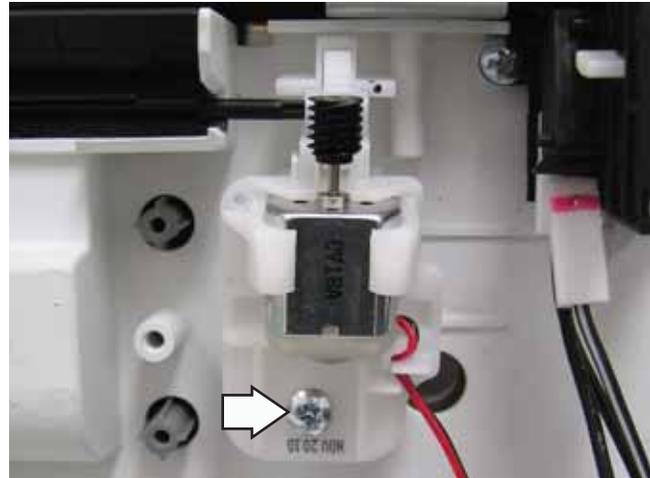
The active vent is attached to the inner door panel between the vent and door switch. It operates on 12 VDC and has a resistance of 103  $\Omega$ . The vent motor turns the active vent switch clockwise to close the vent and counterclockwise to open the vent.

To remove the active vent:

- Remove the vent fan. (See *Vent Fan*, steps 1-3.)
- Disconnect the active vent wire harness.



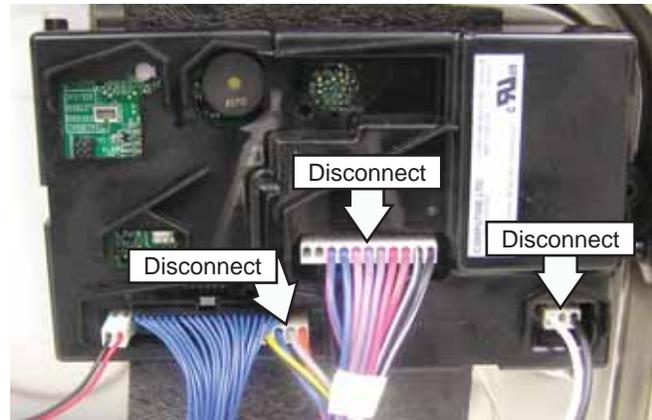
- Remove the single Phillips-head screw from the vent switch housing.



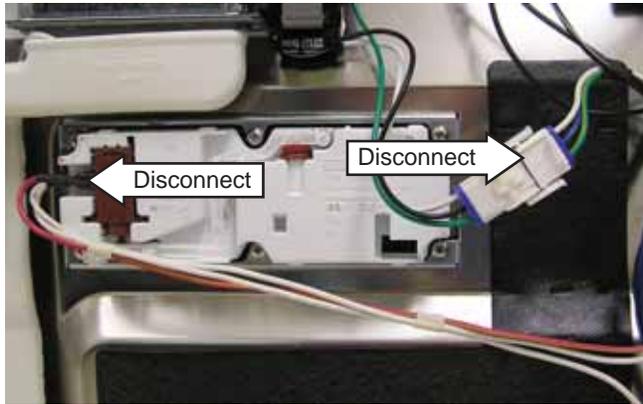
### Inner Door Panel

To remove the inner door panel:

- Remove the control TCO. (See *Control TCO*)
- Disconnect 3 wire harnesses from the control board.



3. Disconnect the 2 detergent/rinse module wires and the vent fan wiring harness.



4. If the installation allows, pull the dishwasher out to access the door hinges.
5. Insert 2 screwdrivers (1 on each side) thru the door hinge bracket holes and secure them under the dishwasher tub.



6. Remove the 4 Phillips-head screws holding the inner door panel to the door hinges (2 on each side).



7. Slide the inner door panel off the door hinges.

## Bottom Door Seal

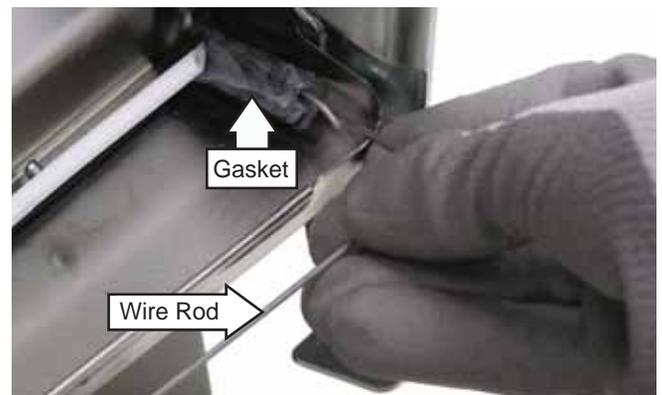
The bottom door seal is riveted to the inner door panel. To remove the bottom door seal, replace the inner door panel. (See *Inner Door Panel*.)

## Tub Gasket

The dishwasher tub gasket prevents water leakage and fits in a channel that lines the rim of the dishwasher tub. The gasket uses a wire rod that provides tension to the seal.

To remove the tub gasket:

1. Remove the outer door panel. (See *Outer Door Panel*.)
2. Pull the wire rod out of the gasket.



3. Remove the dishwasher tub gasket by grasping an end and peeling it away from the channel.

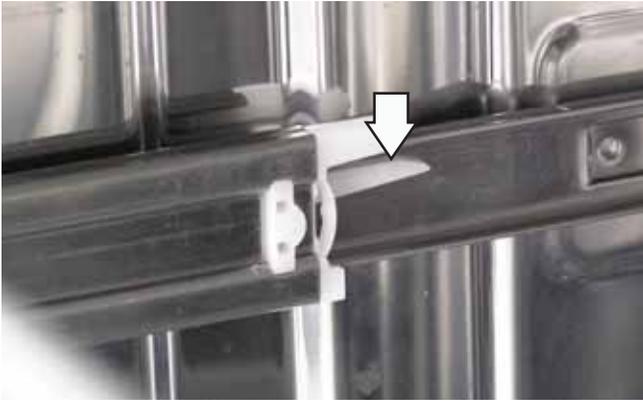


**Caution:** When installing the tub gasket, run your finger over the gasket, assuring it is smooth and even for a proper seal.

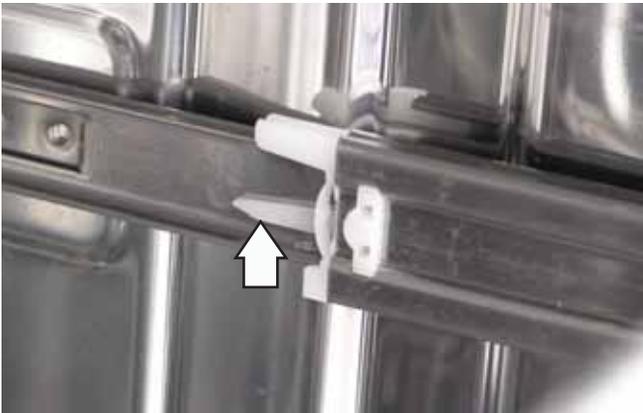
## Center Wash Arm

To remove the center wash arm:

1. Disengage the left upper rack slide by pressing the lever down while pulling the rack out.



2. Disengage the right upper rack slide by pressing the lever up while pulling the rack out.

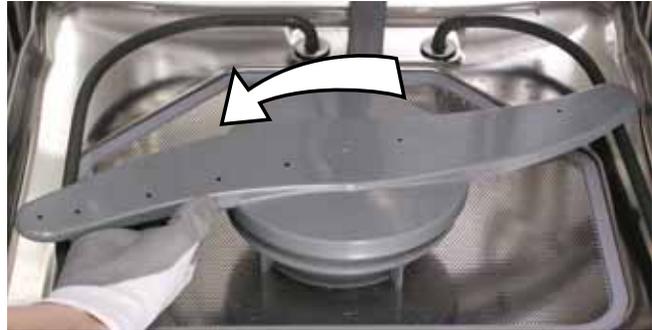


3. Remove the 1/4-in. hex-head screw from the center wash arm.



## Lower Wash Arm

The lower wash arm can be accessed by opening the dishwasher door and removing the bottom rack. Remove the lower wash arm by pulling it up while turning it counterclockwise.



## Upper Wash Arm

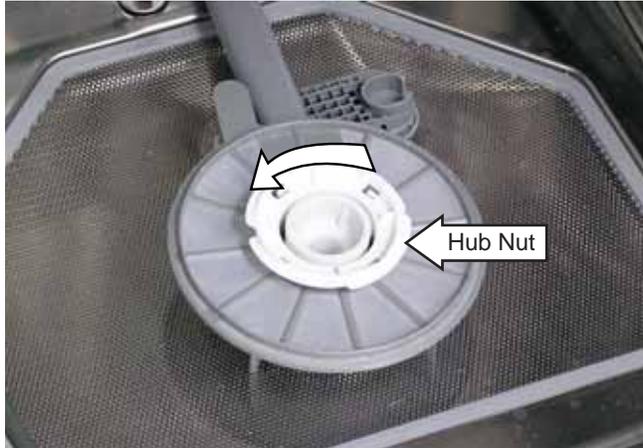
Remove the upper wash arm by removing the 1/4-in. hex-head screw holding the arm to the conduit.



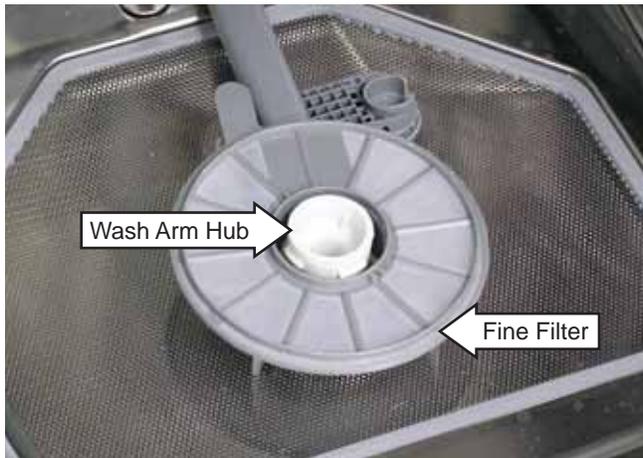
## Fine Filter

To remove the fine filter:

1. Remove the lower wash arm. (See *Lower Wash Arm*.)
2. Rotate the hub nut counterclockwise. Lift the hub nut off the fine filter.



3. Lift the fine filter off the wash arm hub.



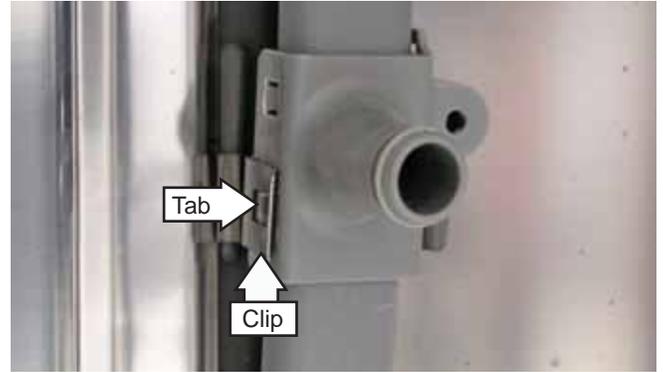
## Sump Filter

The sump filter prevents large particles from entering the sump.

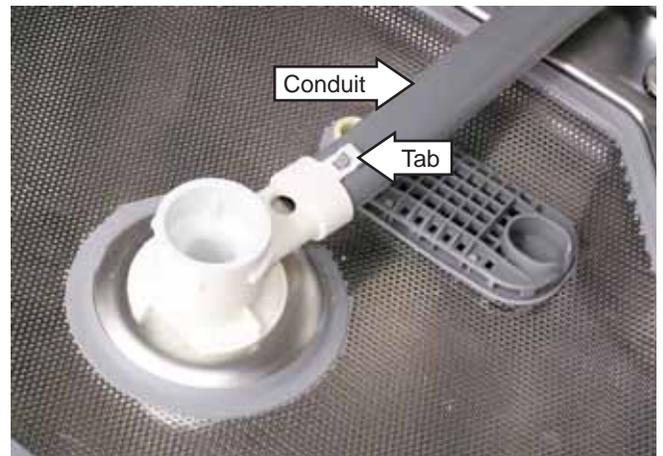
To remove the sump filter:

1. Remove the upper rack. (See *Center Wash Arm*, steps 1-2.)
2. Remove the upper wash arm. (See *Upper Wash Arm*.)
3. Remove the fine filter. (See *Fine Filter*.)

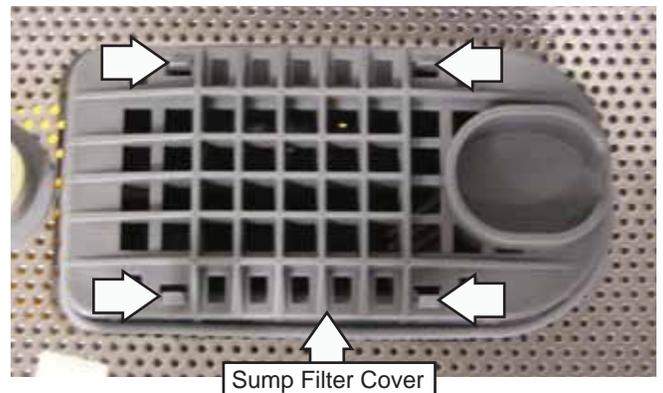
4. Pull the 2 clip hinges (1 on each side) outward to release the conduit tabs.



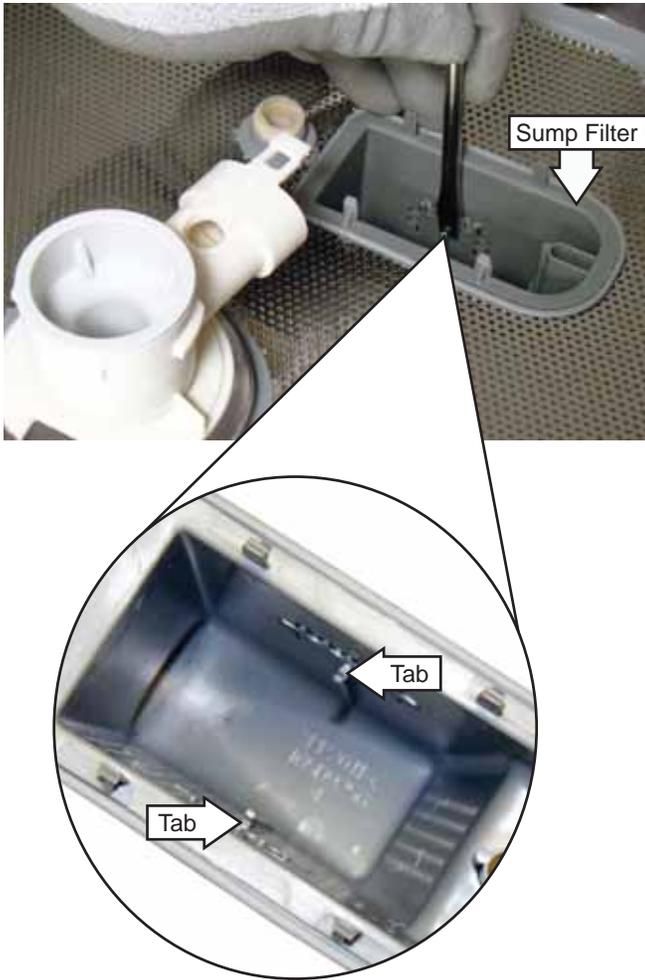
5. Lift the tab on the wash arm hub while pulling the conduit back to remove it.



6. Release the 4 tabs on the sump filter cover to remove it.



7. Release the 2 sump filter tabs with a flat blade screwdriver or putty knife.



8. Remove the sump filter by pulling it up and to the right.



## Coarse Filter

To remove the coarse filter:

1. Remove the sump filter. (See *Sump Filter*.)
2. Turn the wash arm hub counterclockwise and remove it from the tub.



3. Lift the coarse filter from the dishwasher.



**Note:** Insure the wash arm bearing is in the proper location before assembly.



## Float Switch

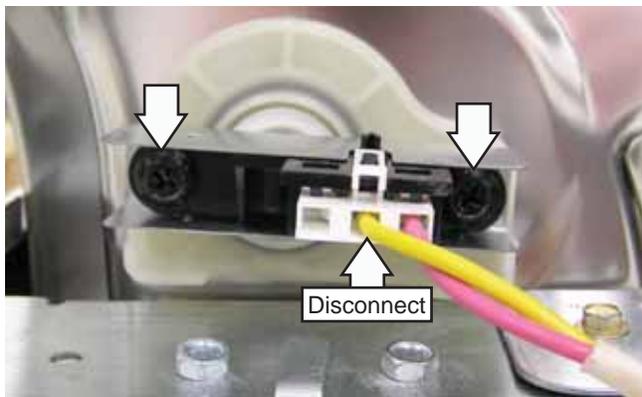
The float switch activates if water reaches the float stem inside the dishwasher. The switch only terminates the voltage to the water valve.

### To remove the float switch:

1. Remove the two 1/4-in. hex-head screws and the access panel.



2. Disconnect the float switch wire harness.
3. Remove the 2 Phillips-head screws holding the switch to the dishwasher.



4. Pull the float switch out of the bracket.



## Turbidity Sensor

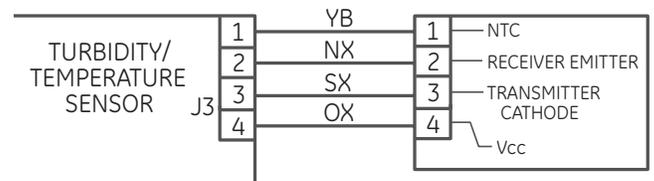
The turbidity sensor measures the amount of suspended particles in the wash water in the sump. The sump water lays within the 1/4- to 3/8-in. gap between the LED transmitter and the receptor during the designated fills. Successive turbidity measurements are supplied to the control module and used to determine whether to add or skip any prewash or rinse cycles and whether to adjust the wash or heat times. By measuring the turbidity level, the control module can conserve energy on lightly soiled loads by skipping unnecessary cycles. If the soil level is high, the control module adds one or more rinse cycles and increases the wash and heat times as necessary.

**Note:** If the turbidity sensor fails, the unit operates for the maximum amount of time, using the maximum number of wash and rinse fills for the selected cycle.

The turbidity sensor can be tested by checking the resistance across the wires on the control board at J3, pin 1 (yellow/black wire), and J3, pin 4 (orange wire). (See *Control Board Connect Locator View*.) The thermistor's resistance has a negative temperature coefficient.

- At 75°F, the resistance is approximately 9.9 K $\Omega$ .
- At 140°F, the resistance is approximately 2.8 K $\Omega$ .

### Control Board

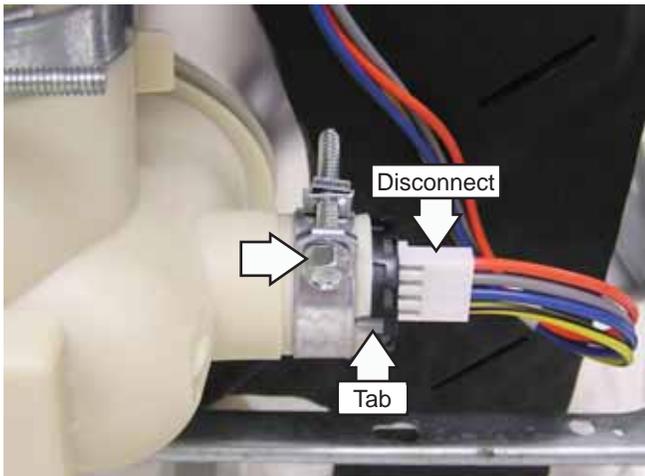


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### To remove the turbidity sensor:

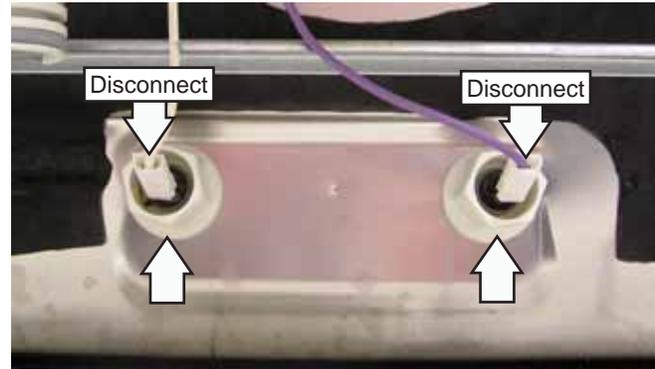
1. Remove the dishwasher from its installation.
2. Lay the dishwasher on its back.
3. Disconnect the wire harness from the turbidity sensor.
4. Loosen the 5/16-in. hex-head screw from the hose clamp and pull the turbidity sensor out of the sump.

**Note:** When installing the turbidity sensor, align the sensor tab in the cutout before tightening the hose clamp.



### To remove the heating element:

1. Remove the dishwasher from its installation.
2. Lay the dishwasher on its back.
3. Disconnect the 2 wires from the heating element terminals.
4. Remove the 2 nuts holding the heating element to the dishwasher housing.



5. Remove the lower wash arm. (See *Lower Wash Arm*.)
6. Release the heating element from the 2 retainers and remove it from the tub.

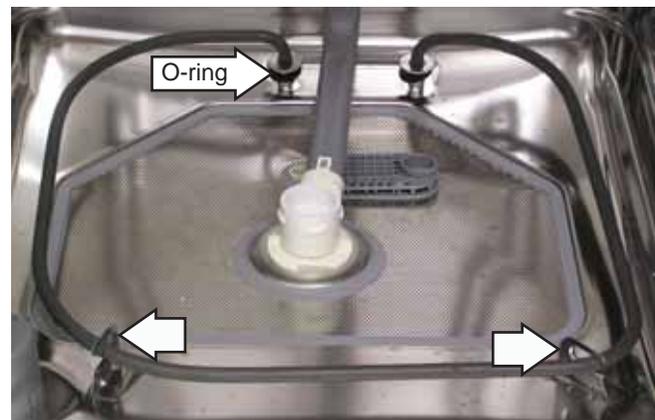
**Caution:** To prevent water leakage, assure the O-rings are placed between the heating element and tub floor before installing the heating element nuts.

## Heating Element

The heating element maintains water temperature during some wash and rinse cycles.

The heating element has an approximate resistance value of 16  $\Omega$ . It is rated at 835 watts in wet conditions and 665 watts in dry conditions.

Operation of the heating element can be checked using the service test mode. (See *Service Mode*.) Allow 1 or 2 minutes before opening the dishwasher door and note if heat is present.

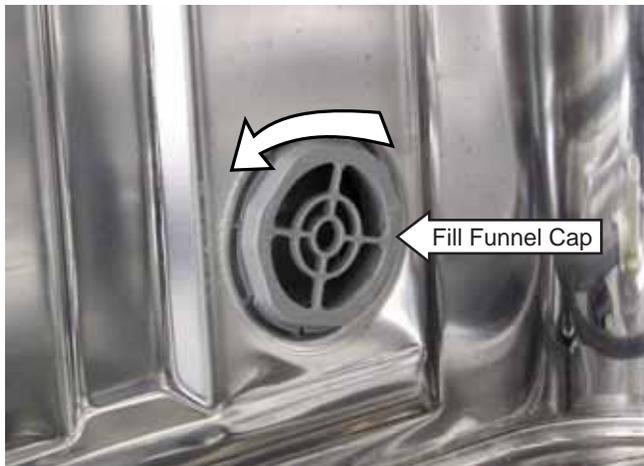


## Fill Funnel

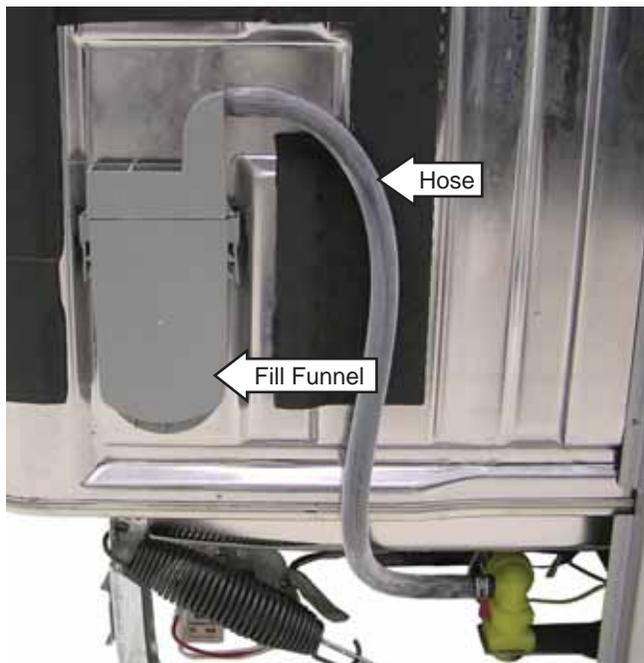
The fill funnel is mounted on the left side of the tub. Its purpose is to provide a method for supplying water for the wash and rinse cycles. The air gap prevents wash water that has been siphoned from flowing back into the water supply system should the water pressure drop to less than atmospheric pressure. The fill funnel also allows air into the tub to permit airflow for drying dishware.

### To remove the fill funnel:

1. Access the fill funnel by carefully pulling the dishwasher out from its installation.
2. Remove the fill funnel cap by rotating it counterclockwise.



3. Pull the hose off the fill funnel.



**Caution:** To prevent water leakage, assure the O-ring is in place before installing the fill funnel.



## Water Inlet Valve

The water inlet valve is electronically controlled and solenoid-operated. The flow of water is controlled by a rubber flow washer capable of maintaining a flow rate of 1.1 to 1.3 gallons per minute with incoming water pressure of 20 to 120 psi. The water inlet valve is attached to a bracket located on the left side of the front brace.

The water inlet valve is energized for approximately 21 to 62 seconds during each fill. See the cycle chart for specific times during cycles. (See *Cycle Chart*.)

The water inlet valve has an approximate resistance value of 0.725 to 1.2 K $\Omega$ .

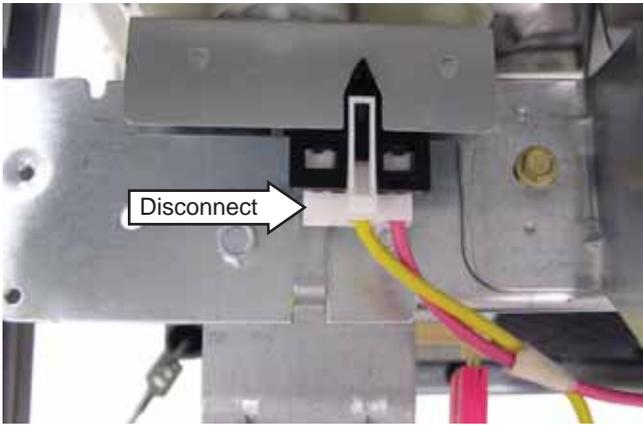
Operation of the water inlet valve can be checked by using the service test mode. (See *Service Mode*.)

### To remove the water inlet valve:

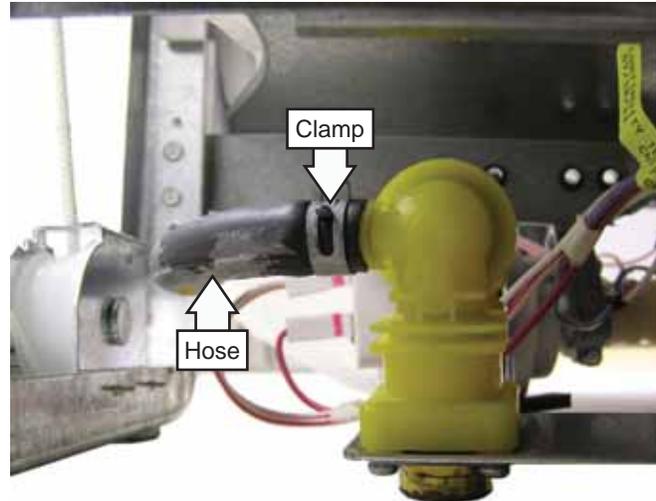
1. Remove the two 1/4-in. hex-head screws and the access panel.



2. Disconnect the overflow switch wiring harness.

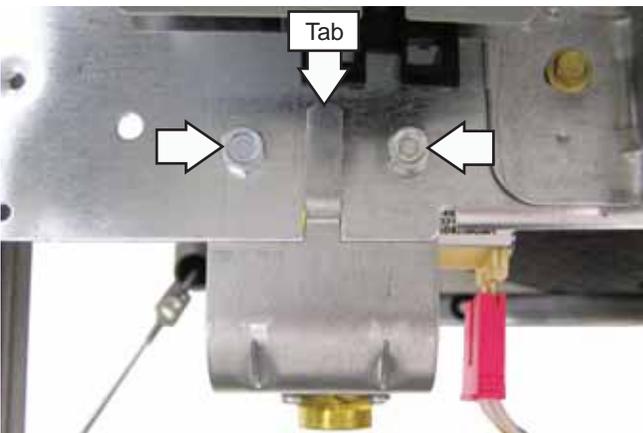


6. Remove the clamp and outlet hose from the valve.

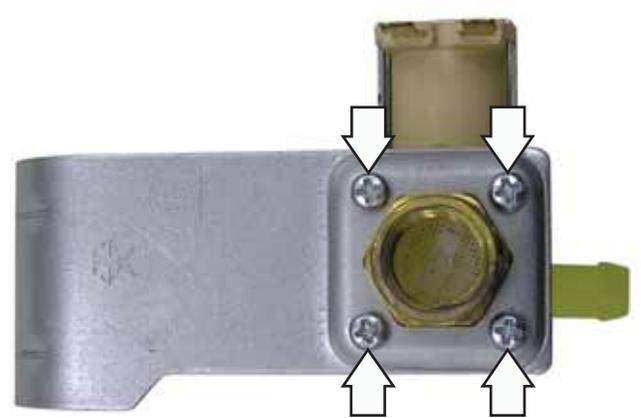


3. Remove the two 5/16-in. hex-head screws from the water inlet valve bracket.

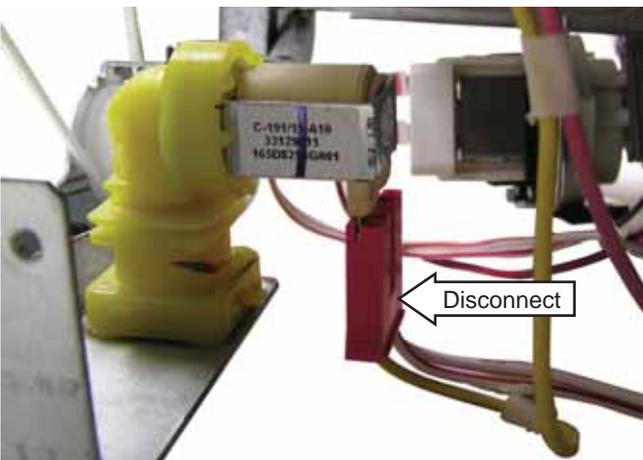
4. Slide the bracket down to disengage the tab that holds the bracket to the dishwasher frame.



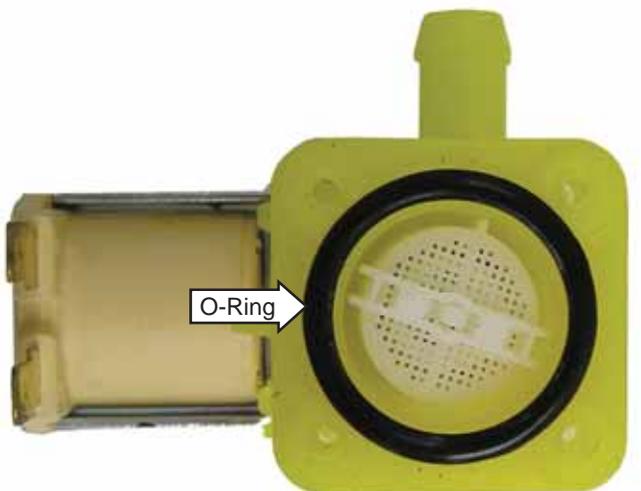
7. Remove the 4 Phillips-head screws from the water inlet valve bracket.



5. Disconnect the wiring harness from the water inlet valve.



**Caution:** To prevent water leakage, assure the O-ring is retained in the valve before installing the bracket.



## Drain Pump Assembly

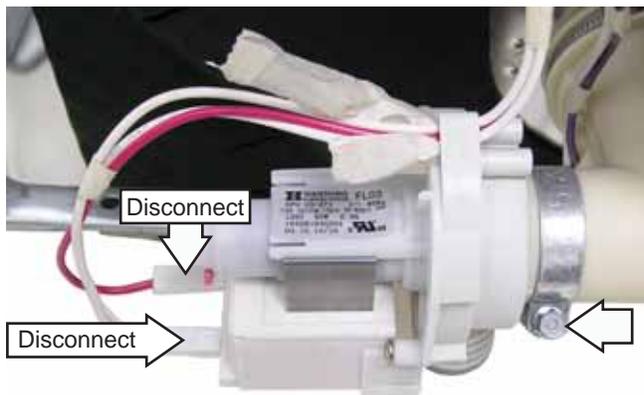
The drain pump assembly is located under the tub and operates on 120 VAC. It is energized for the first 60 seconds of a new cycle and for approximately 105 seconds after the wash pump shuts down to remove any water in the dishwasher sump. The drain pump forces water out of the drain line. A check valve flap on the drain pump prevents the discharged water from entering the sump.

The drain pump has an approximate resistance value of 30  $\Omega$ .

Operation of the drain pump assembly can be checked by using the service test mode. (See *Service Mode*.)

### To remove the drain pump assembly:

1. Disconnect power.
2. Remove the dishwasher from its installation.
3. Lay the dishwasher on its back.
4. Disconnect the 2 wires from the drain pump.
5. Loosen the 5/16-in. hex-head screw, then pull the drain pump off the sump.



## Motor Pump Assembly

The motor pump assembly is located under the tub behind the sump. The motor utilizes a start capacitor rated at 10  $\mu$ fd. The motor rotates clockwise (as viewed from the terminal end) and draws approximately 1 amp at 120 VAC.

The motor pump assembly has an approximate resistance value of 10  $\Omega$ .

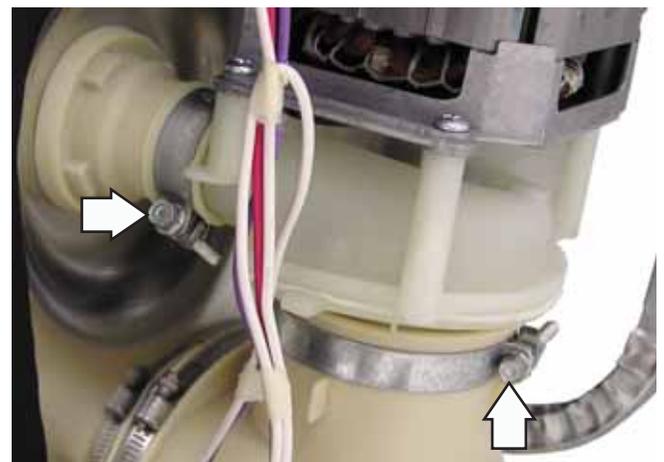
Operation of the motor pump assembly can be checked using the service test mode. (See *Service Mode*.)

### To remove the motor pump assembly:

1. Disconnect power.
2. Remove the dishwasher from its installation.
3. Lay the dishwasher on its back.
4. Disconnect the wire harness from the motor.

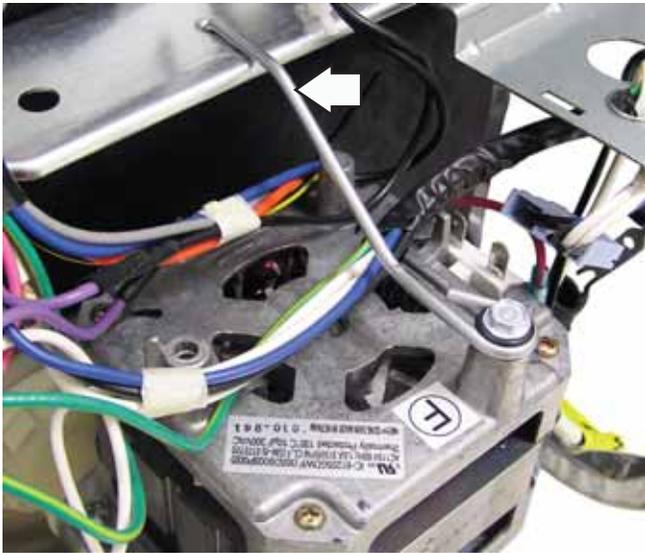


5. Loosen the two 5/16-in. hex-head screws from the hose clamps.

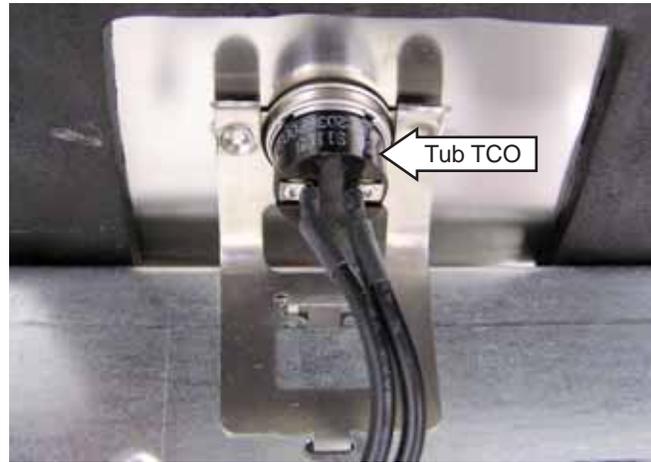


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- Disengage the motor hanger arm to remove the motor pump assembly.



- Slide the tub TCO off the bracket.



**Note:** When replacing the tub TCO, splice a new thermostat into the harness using connectors and procedures approved for damp/wet conditions.

### Tub Thermal Cutout (TCO)

The tub TCO trips at 165°F and it auto resets at 150°F.

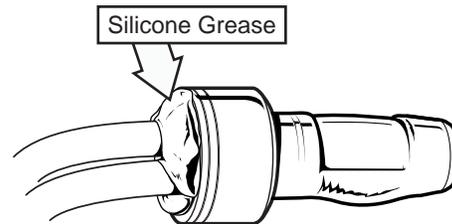
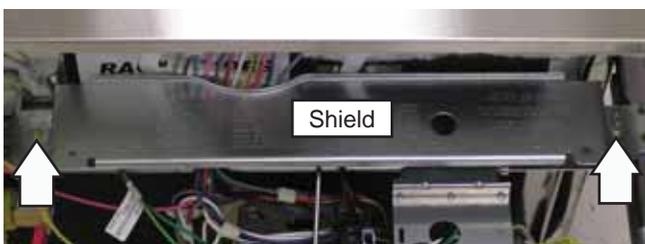
The tub TCO is located under the tub behind the toe kick panel.

#### To remove the tub TCO:

- Disconnect power.
- Remove the two 1/4-in. hex-head screws and the access panel.



- Remove the two 1/4-in. hex-head screws and the shield.



# Troubleshooting

## Service Mode

The dishwasher is programmed with a service mode to aid the technician in troubleshooting it. Each component can be cycled to detect if it is functioning correctly. Components are cycled by pressing buttons on the control panel.

To enter the service mode:

- Put the dishwasher in standby mode.
- Press the **HEATED DRY** and **SELECT CYCLE** buttons simultaneously.

If performed correctly, the control board responds with two beeps, and all LEDs illuminate for 4 seconds. To exit the service mode, press the **START/RESET** button at any time. The dishwasher will automatically exit service mode if the control panel is inactive for 5 minutes.

### Service Mode Control Operation:

When a control is activated in the service mode, the output continues to remain active until the maximum time has expired or another button is pressed. Once the water valve is activated, the microprocessor must perform a drain cycle to pump out the water before exiting the service mode.

### Control Replacement/Calibration:

The dishwasher enters into the test/00 calibration mode when the unit is first powered on. The door must be closed and latched. Wait approximately 6 minutes for the second fill before canceling the cycle by pressing the **START/RESET** button. The dishwasher will be ready to operate after the water is pumped out.

## Top-Control



Service Mode Test Matrix*		
Keypad	Description	3-Digit Display
PAD		
Heated Dry	Activates/Deactivates Heater	
Added Heat	Activates/Deactivates Water Valve and Smart Detergent Dispenser	Varies by model
Delay Hours	Activates/Deactivates Detergent cup	>228 means bulk detergent dispenser is empty
Steam	Activates/Deactivates Auxilliary Pump	Digital equivalent of the current turbidity value 0 = not calibrated
Select Cycle	Activates/Deactivates Main Pump and Single Rack Wash motor**	Digital equivalent of the temperature sensor thermal value
Added Heat & Heated Dry	Activates/Deactivates fan (Hold both buttons simultaneously for 3 seconds)	Varies by model

**\*NOTE: Service mode may be used for 30 minutes maximum. After 30 minutes, the service mode will automatically turn off.**

**Component may be deactivated by pressing the same button that was pressed to activate the component. Pressing another component's button will deactivate the original button's components.**

**\*\*When servicing units with Single Rack Wash, do not forget to replace the ball back into the motor mechanism assembly.**

## Factory Test Mode

The factory test mode initiates automatically upon installation of a new main control board.

Factory test mode (approximately 5 minutes total):

- All LEDs light (10 seconds).
- Close door.
- Vent opens, fan activates for 5 seconds, and vent closes (15 seconds).
- Detergent rinse module and water inlet valve are energized (45-65 seconds, depending on model).
- Main pump is energized (55 seconds).
- Turbidity sensor is calibrated and other checks occur (90 seconds).
- Drain pump is energized (75 seconds).
- When second fill starts, exit test mode by pressing the **START/RESET** button.

In some cases, it may be necessary to unplug the unit to exit the test mode. If the unit is left in factory test mode, the dishwasher could run as long as 75 minutes before exiting.

### **Turbidity Sensor Replacement/Calibration:**

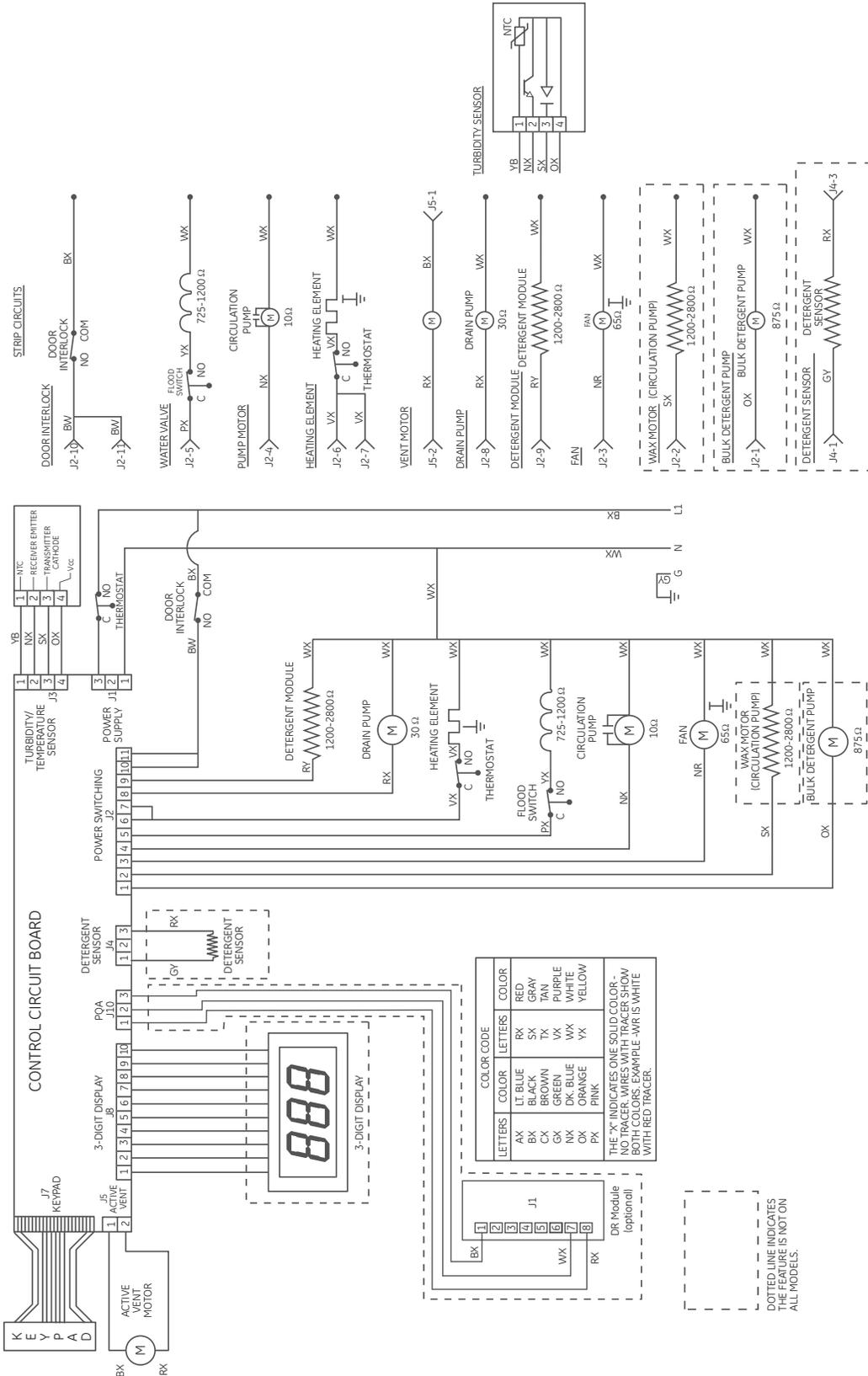
When the main control board is replaced, the dishwasher starts a factory test mode when powered on. During this test, the turbidity sensor is calibrated. If the turbidity sensor is replaced without replacing the control board, the sensor may be calibrated manually by pressing the **START/RESET** button 100 times.

If the turbidity sensor fails, the control board uses the maximum wash/rinse cycles.

# Schematics and Wiring Diagrams

**WARNING:** Disconnect electrical power before servicing.

**Caution:** Label all wires prior to disconnection. Wiring errors can cause improper and dangerous operation. Verify operation after servicing.



# Warranty

## GE Dishwasher Warranty.



All warranty service provided by our Factory Service Centers, or an authorized Customer Care® technician. To schedule service, on-line, visit us at [GEAppliances.com](http://GEAppliances.com), or call 800.GE.CARES (800.432.2737) in the United States. In Canada, call 1.800.561.3344. Please have serial number and model number available when calling for service.

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:

<b>One Year</b> From the date of the original purchase	<b>Any part</b> of the dishwasher which fails due to a defect in materials or workmanship. During this <b>limited one-year warranty</b> , GE will also provide, <b>free of charge</b> , all labor and in-home service to replace the defective part.
<b>Five Years</b> (only for model numbers beginning with PDW or CDW) From the date of the original purchase	<b>The dishwasher racks and the electronic control module</b> if they should fail due to a defect in materials or workmanship. During this <b>five-year limited warranty</b> , you will be responsible for any labor or in-home service costs.
<b>Lifetime of Product</b> (only for model numbers beginning with PDW or CDW)	<b>The Stainless tub or door liner</b> , if it fails to contain water due to a defect in materials or workmanship. During this <b>limited warranty</b> , GE will also provide, <b>free of charge</b> , all labor and in-home service to replace the defective part.

### What GE Will Not Cover (for customers in the United States):

- Service trips to your home to teach you how to use the product.
- Improper installation, delivery or maintenance.
- 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.
- Product not accessible to provide required service.
- 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.
- Damage caused after delivery, including damage from items dropped on the door.

**EXCLUSION OF IMPLIED WARRANTIES—Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.**

This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. If the product is located in an area where service by a GE Authorized Servicer is not available, you may be responsible for a trip charge or you may be required to bring the product to an Authorized GE Service location for service. 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**

### What Is Not Covered (for customers in Canada):

- Service trips to your home to teach you how to use the product.
- Improper installation.  
If you have an installation problem, contact your dealer or installer. You are responsible for providing adequate electrical, exhausting and other connecting facilities.
- 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.
- Damage caused after delivery.

**EXCLUSION OF IMPLIED WARRANTIES—Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.**

This warranty is extended to the original purchaser and any succeeding owner for products purchased in Canada for home use within Canada. In home warranty service will be provided in areas where it is available and deemed reasonable by Mabe to provide.

WARRANTOR IS NOT RESPONSIBLE FOR CONSEQUENTIAL DAMAGES.

Warrantor: MABE CANADA INC.