

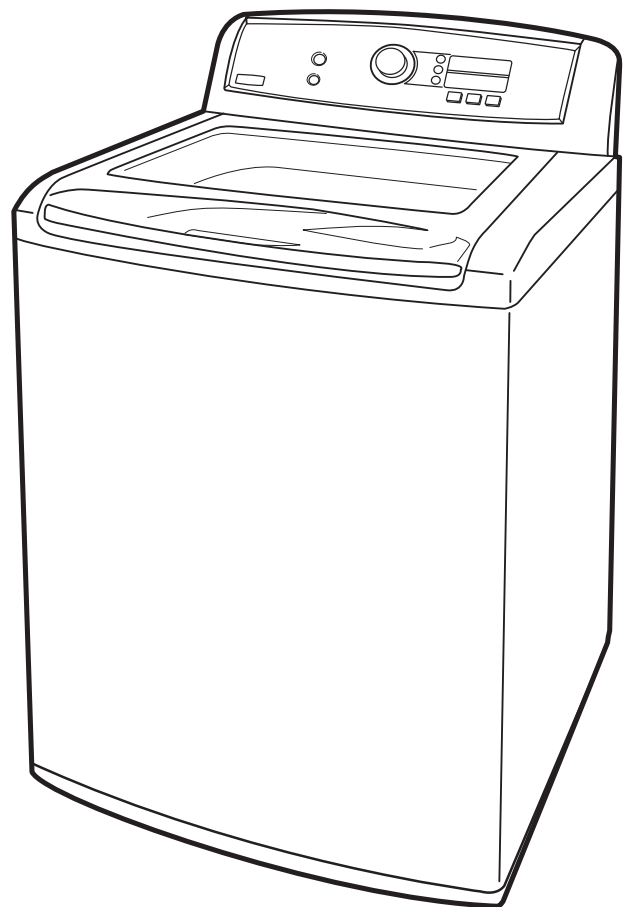
GE Appliances

Technical Service Guide

July 2011

GE Profile 4.5 DOE cu. ft. Stainless Steel Capacity Washer

PTWN8055MMS
PTWN8050MWW



31-9211



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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Technical Service Guide
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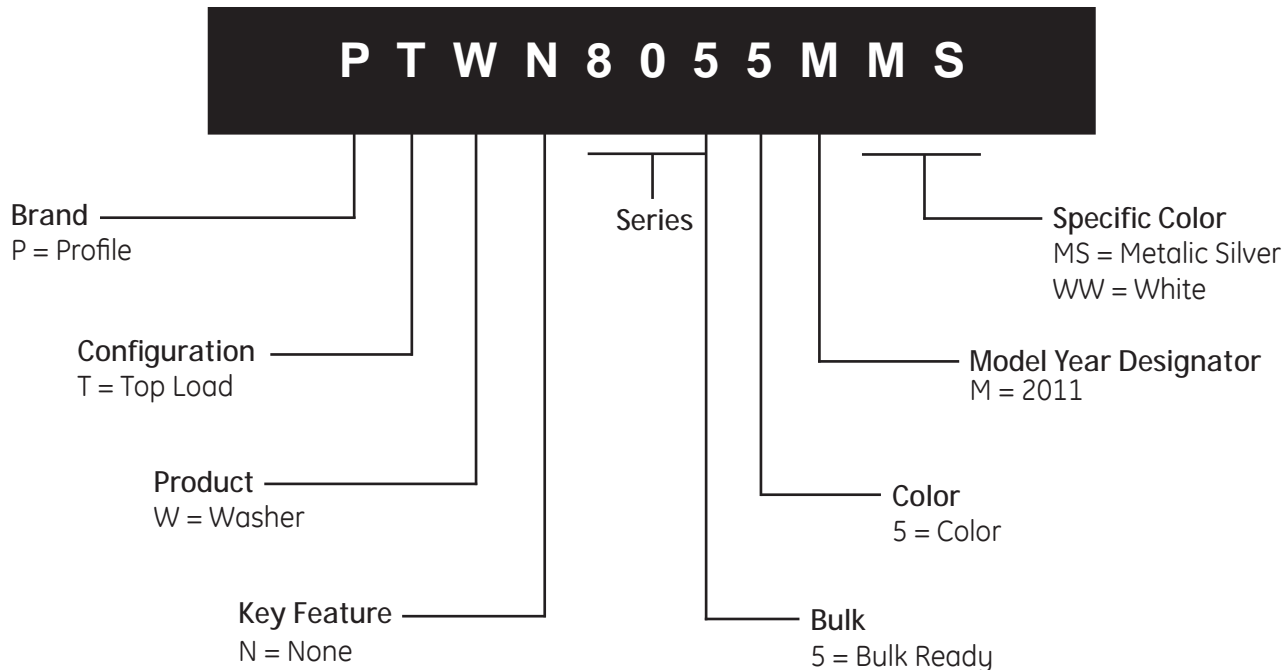
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Nomenclature

Model Number



Model number and serial number are located on the rear of the control panel cover.

Note: The technical sheet is located inside the control panel.

Serial Number

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

Example: **MV123456S** = July, 2011

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

The letter designating the year repeats every 12 years.

Example:
V - 2011
V - 1999
V - 1987

Introduction

General

The GE Profile Harmony Washer is part of the GE Profile Clothes Care system utilizing the latest developments in washing technology.

The washer does not use the typical agitator found on conventional washers. Instead, the direct drive motor, capable of spinning at 1010 rpm, and the 304 stainless steel wash basket create a centrifugal force that pulls wash water through fabrics for a thorough cleaning action. (See *Operation Overview*.)

These washers also utilize an automatic load sensing system to determine load size and water levels. The washer automatically fills the wash basket with the appropriate amount of water needed for optimal wash performance.

Other features include:

QuietClose Hydraulic Glass Lid - Extra wide glass lid closes gently.

Flow-Thru™ Dispensers - Each of the 3 dispensers is timed to release at the right time during the wash cycle. Each reservoir is flushed with water to pre-dilute the product before adding it to the washer. This flushing action removes all product to help keep the compartment clean and free flowing.

Note: The bleach dispenser fills with water during the main wash to dispense the bleach and refills during the rinse cycle to flush any remaining bleach from the reservoir.

Direct Drive Motor - The washer does not use a transmission or mechanical brake. Direct drive technology results in fewer moving parts for smooth, quiet operation. (See *Motor Assembly*.)

Infusor™ Wash - The washer has specific cycles that aid in mixing the detergent/water solution and dispersing the load evenly in the wash water. (See *Operation Overview*.)

Centrifugal Wash - The washer uses a centrifugal washing action to clean clothes instead of an agitator. The basket spins creating a strong flow of water under the centrifugal force. As water passes through the fabric, its natural cleansing action washes away dirt without damaging or tangling the fabric.

Auto-Balance Suspension - The washer is programmed to correct out-of-balance situations. (See *Operation Overview*.)

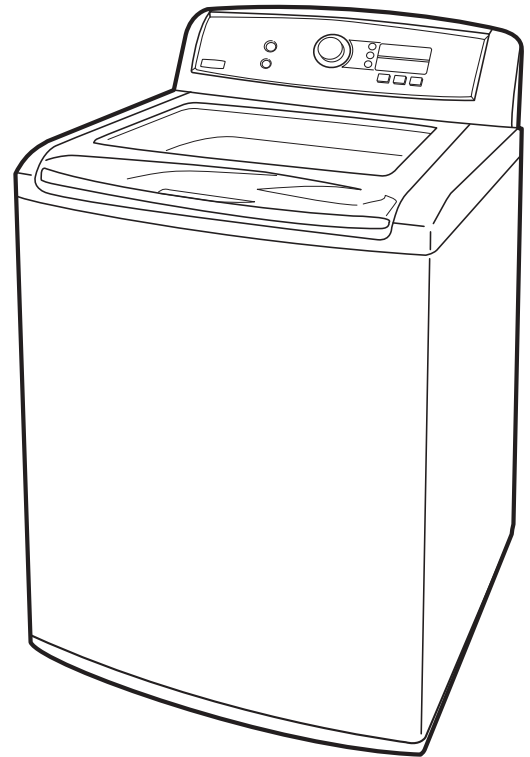
Specialty Cycles - These cycles that offer improved care for specific types of fabric now include intuitive names to make it simple to choose the right one. These cycles, including Jeans, Towels & Sheets, or Washable Wool, take all the guesswork out of getting the best possible results.

Antibacterial Option - The internal HydroHeater™ extends heating cycle time to reduce certain types of bacteria by 99.9%.

Delay Start - Set the washer to begin whenever it's convenient.

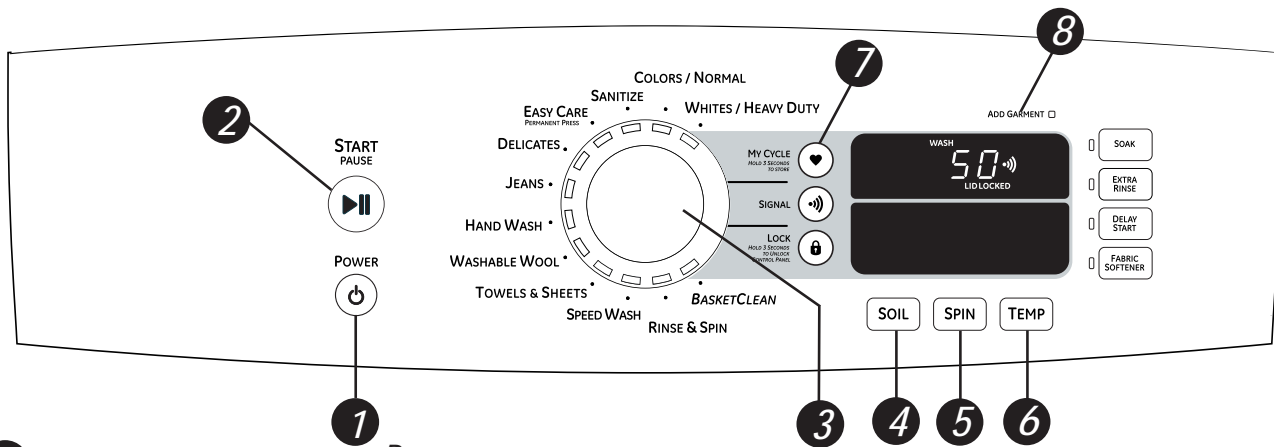
Cycle Countdown - shows exactly how much time is remaining between loads.

Service Test Mode - Built-in service test mode that aids the service technician to quickly identify failed or improperly operating washer components.



Control Features

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



1 Power
Press to “wake up” the display. If the display is active, press to put the washer into idle mode.

NOTE: Pressing POWER does not disconnect the appliance from the power supply.

NOTE: If the washer remains idle for 4 minutes after turning the washer off, the water in the tub will drain.

2 START/PAUSE

Press to start a wash cycle. If the washer is running, pressing it once will pause the washer. Press again to restart the wash cycle.

NOTE: If the washer is paused and the cycle is not restarted within 2 hours the washer will turn off. Before enter idle state will drain the water out.

3 Wash Cycles

The wash cycles are optimized for specific types of wash loads. The chart below will help you match the wash setting with the loads. The GentleClean™ lifters lightly tumble the clothes into the water and detergent solution to clean the load.

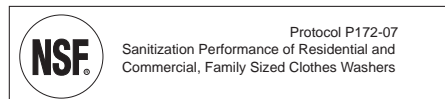
WHITES/HEAVY DUTY For heavily soiled white cottons, household linens, work and play clothes.

COLORS/NORMAL For colorfast cottons, household linens, work and play clothes.

SANITIZE Use to sanitize and kill more than 99% of many bacteria found in home laundry. This is a cycle with an extra heavy soil setting and uses an extra heater to heat water to 140° F. **Do not use with delicate fabrics.**

* The **SANITIZE** Cycle is Certified by NSF International (formerly National Sanitation Foundation) to NSF Protocol P172-07 Sanitization Performance of Residential Clothes Washers.

Selecting the sanitize cycle will increase total wash time close to 3 hours.



EASY CARE (PERMANANT PRESS) For wrinkle-free and permanant press items

DELICATES For lingerie and special-care fabrics with light to normal soil. Provides gentle tumbling and soak during wash and rinse.

JEANS For use with jeans or denim fabrics.

HANDWASH For items labeled hand-washable with light soils. Provides gentle rocking to mimic the handwashing action.

Wash Cycles (cont)

WASHABLE WOOL	For the washing of machine washable wool products, provided that they are washed according to the instructions on the garment label. When selecting this cycle, you must use a detergent suitable for washing wool.
TOWELS & SHEETS	For towels, sheets, comfortors and pillows
SPEED WASH	For lightly soiled items that are needed in a hurry. Cycle time is approximately 35 minutes, depending on selected options.
RINSE & SPIN	To quickly rinse out any items at any time.
BASKETCLEAN	Use for cleaning the basket of residue and odor. Recommended use of once per month

4 Soil Level

Changing the **SOIL LEVEL** increases or decreases the wash agitation to remove different amounts of soil. To change the **SOIL LEVEL**, press the **SOIL LEVEL** button until you have reached the desired setting. You can choose between Extra Light, Light, Normal, Heavy or Extra Heavy soil.

5 Spin Speed

Changing the **SPIN SPEED** changes the final spin speed of the cycles. Always follow the fabric manufacturer's care label when changing the **SPIN SPEED**.

To change the **SPIN SPEED**, press the **SPIN SPEED** button until you have reached the desired setting. Higher spin speeds are not available on certain cycles, such as Delicates.

Higher spin speeds remove more water from the clothes and will help reduce dry time, but may also increase the possibility of setting wrinkles on some fabrics.

6 Temperature

Adjust to select the proper water temperature for the wash cycle.

Follow the fabric manufacturer's care label when selecting the wash temperature.


To change the wash temperature, press the **TEMP** button until you have reached the desired setting.

NOTE: Not all temperature settings are available on each cycle selection.

My Cycles

7 Set up your favorite combination of settings and save them here for one touch recall. These custom settings can be set while a cycle is in progress.

To store a MY CYCLES combination of settings:

1. Select your washing cycle (except **BASKET CLEAN**).
2. Change **SOIL**, **SPIN** and **TEMP** settings to fit your needs.
3. Select any washer **OPTIONS** you want (except **SIGNAL**).
4. Press and hold the  pad for three seconds to store your selection. A beep will sound and the pad will light up.

To recall your stored MY CYCLES combination:

Press the **MY CYCLES** button before washing a load.

To change your stored MY CYCLES combination:

Follow steps 1-4 in "**To store a MY CYCLES combination of settings**".

Add Garment

8 The add garment indicator light is illuminated to inform you that the washer is in the proper cycle to add garments for best performance. If you add garments when the light is off it may cause unsatisfactory performance.

To add garments when **ADD GARMENT** light is illuminated:

1. Press **START/PAUSE**
2. Open lid after unlocked
3. Add garments
4. Close lid
5. Press **START/PAUSE** to resume wash cycle.

NOTE: If the washer remains idle for 2 hours after pausing the cycle, the water in the tub will drain.

Washer Features

MY CYCLE HOLD 3 SECONDS TO STORE



MY CYCLE

To save a favorite cycle, set the desired settings for wash cycle, soil level, spin speed and wash temp settings and hold down the **MY CYCLE** button for 3 seconds. A beep will sound to indicate the cycle has been saved.

To use your custom cycle, press the **MY CYCLE** button before washing a load.

To change the saved cycle, set the desired settings and hold down the **MY CYCLE** button for 3 seconds.

NOTE: When using **MY CYCLE**, wash options cannot be modified after the cycle has been started.

NOTE: If you change wash options with **MY CYCLE** before starting the cycle, the **MY CYCLE** light will turn off and you will be returned to the base cycle.

SIGNAL



Signal

Alerts you that the cycle is complete. The clothes should be removed when the beeper goes off so wrinkles don't set in.

Press **SIGNAL** to select low or high volume, or to turn the beeper off.

The beeper will continue to sound every 2 minutes (maximum of 4 times).

LOCK

HOLD 3 SECONDS
TO UNLOCK
CONTROL PANEL



Lock

You can lock the controls to prevent any selections from being made. Or you can lock the controls after you have started a cycle.

Children cannot accidentally start the washer by touching pads with this option selected.

To lock the washer, press the **LOCK** button. To unlock the washer, press and hold the **LOCK** button for 3 seconds.

When the lock function is enabled, the red lock icon will appear in the upper display.

SOAK

Soak

Soak is an extra wash before the main wash. Use it for heavily soiled clothes or for clothes with a care label that recommends soaking before washing. Be sure to add high-efficiency detergent, or the proper wash additive to the soak dispenser.

NOTES:

- When selecting soak, it is recommended to use powder detergent in the main wash (detergent) compartment.
- The maximum soak time is 3 hours.

EXTRA RINSE

Extra Rinse

Use an extra rinse when additional rinsing is desired to remove excess dirt and detergent from soiled loads.

DELAY START

Delay Start

You can delay the start of a wash cycle for up to 24 hours. Press the **DELAY START** button to choose the number of hours you want to delay the start of the cycle, then press the **START** button. The machine will count down and start automatically at the correct time.

NOTE: If you open the lid when the delay is counting down, the machine will enter the pause state. You must close the lid and press **START** again in order to restart the countdown.

FABRIC SOFTENER

Fabric Softener

Select **FABRIC SOFTENER** button to change the final rinse type from spray rinse, to deep rinse. This works best when used with liquid fabric softener. Fabric softener is displayed during the final rinse.

NOTES:

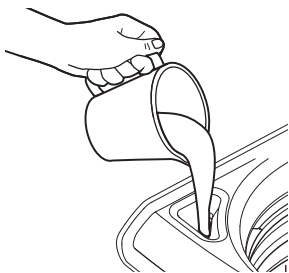
- For best performance with **COLORS/NORMAL**, or **WHITES/HEAVY DUTY** select fabric softener or extra rinse.
- If extra rinse is selected instead of fabric softener, fabric softener will be displayed during the extra rinse cycle.

(Continued Next Page)

TIDAL WAVE Wash System

Your washer has an innovative washing system which uses rapid spinning motion and an angled spray to pull water through fabric. The **TIDAL WAVE** Wash system provides a gentler and more thorough cleaning.

TIDAL WAVE Wash is available only during **COLORS/NORMAL** and **WHITES/HEAVY DUTY** cycles.



Using the Liquid Bleach Dispenser

The bleach dispenser automatically dilutes and dispenses liquid chlorine bleach at the proper time in the wash cycle.

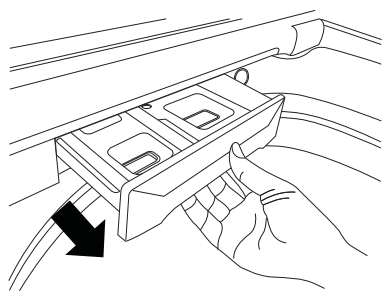
- 1 Check clothing care labels for special instructions.
- 2 Measure liquid bleach carefully, following instructions on the bottle.
 - **Never pour undiluted liquid chlorine bleach directly onto clothes or into the wash basket.**
 - **Do not pour powdered bleach into bleach dispenser. Do not place load items on top of the bleach dispenser when loading and unloading the washer.**
 - **Avoid overfilling or splashing when adding bleach to the dispenser. The maximum capacity of the bleach dispenser is one cup of bleach per wash cycle. Overfilling could result in early dispensing of bleach.**
- 3 Before starting the washer, pour measured amount of bleach directly into bleach dispenser. If you prefer to

use powdered bleach, add it into the wash basket directly before adding clothes.

⚠ WARNING! *Do not mix chlorine bleach with ammonia or acids such as vinegar and/or rust remover. Mixing can produce a toxic gas which may cause death.*

The manufacturer's recommended amount of undiluted bleach goes into the bleach dispenser. During the final "Infusor" wash action, the bleach is added to the wash load. This ensures performance won't be diminished. Two sequential flushes through the bleach dispenser completely remove the bleach from the dispenser. Any residual liquid left in the dispenser at the end of the cycle is water, not bleach. To prevent self-siphoning of the bleach into the wash basket and damage to your clothes, never add more than the maximum fill level marked on the dispenser.

Also keep clothes away from the bleach dispenser so they don't absorb any bleach droplets left around the bleach dispenser.



Using the Dispenser Drawer

The dispenser drawer contains 2 compartments:

- Liquid Fabric Softener
- Liquid or Powder Low-Sudsing, High-Efficiency Detergent

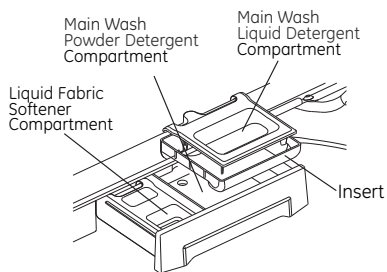
The dispenser automatically dispenses additives at the proper time in the wash cycle.

- 1 Slowly open the dispenser drawer by pulling out the drawer until it stops.
- 2 After adding laundry products, slowly close the dispenser drawer. Closing the drawer too quickly could result in early dispensing of additives.

- Avoid overfilling or splashing when adding laundry products to the dispenser. Doing so could result in early dispensing of laundry products.

At the end of the cycle, you may see water in the compartments. This is part of the normal operation of the washer.

NOTE: Do not use bleach in the dispenser drawer.



Adding Detergent

NOTE: Use only low-sudsing, high-efficiency detergent such as Tide® HE.

Add measured detergent to the detergent compartment of the dispenser drawer.

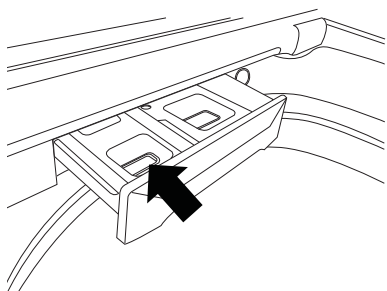
- **Do not exceed the maximum fill line.**

Detergent is flushed through the dispenser at the beginning of the wash phase. Either powdered or liquid detergent can be used.

When using liquid detergent, make sure the liquid detergent compartment and insert are in place. For powdered detergent, remove both the liquid detergent compartment and insert.

Powdered detergent will not dispense with the liquid detergent compartment and insert in place.

Detergent usage may need to be adjusted for water temperature, water hardness, size and soil level of the load. Avoid using too much detergent in your washer, as it can lead to oversudsing and detergent residue being left on the clothes.



Adding Fabric Softener

If desired, pour the recommended amount of liquid fabric softener into the left-hand compartment. Use only liquid fabric softener.

Dilute with water to the maximum fill line.

- **Do not exceed the maximum fill line.**

Overfilling can cause early dispensing of the fabric softener, which could stain clothes.

NOTE: Do not pour fabric softener directly on the wash load. It may stain the clothes.

Demo Mode

The washer control has demo mode that can be utilized to show user interface functionality. Once the user presses the **START** button, the display shall rapidly count down (at approximately 100 times faster than normal time), and illuminate the different cycle indicators on the 7-segment display.

To enter the demo mode:	To exit the demo mode:
<p>With the power connected and in the idle state (all LCD and LED indicators off):</p> <ol style="list-style-type: none"> 1. Press and hold the SOIL and the SPIN buttons, then press the POWER button. 2. Press the START button. 	<ol style="list-style-type: none"> 1. Unplug the washer. 2. Wait 10-seconds. 3. Reconnect power to the washer.

Operation Overview

Basic Wash Cycle

Note: See *Component Locator Views* for identification and location of washer components.

After a load is placed in the basket, the user selects the appropriate wash cycle and presses **START**.

Cycle time and wash patterns will vary depending on user time adjustments, soil level adjustments, fabric type, and wash-load weight.

Dry Load Sensing

Before an initial fill, the infusor rotates the dry clothes load. This rotation is controlled by the power board. The power board measures the amount of time it takes for the motor to coast to a stop. The larger the clothes load, the less momentum the motor is capable of generating, so the faster it will stop. The infusor will rotate back and forth up to 4 times. This information is used to determine the initial water fill level.

Water Fill

The washer automatically fills to the proper level based on the load sensing measurements. Depending on the cycle chosen and the quantity of clothes, there are 27 possible water levels. This information is stored in memory for the final rinse at the end of the wash cycle. Water levels are matched to load size using approximately one-third less water than typical top load washers.

Note: The washer can use as little as 16 gallons of water for small loads and has an average water use of 24 gallons per load.

Wet Load Sensing

After the first fill, the infusor and basket lock together and rotate to measure the clothes load. During this time, the motor momentum is measured again. The washer compares this information to the previous dry load sensing measurements and determines if additional water is required.

Wash Water Temperature

During the fill, the washer monitors and regulates wash water temperatures within 5°F (-15°C) of the target temperature. This accuracy is achieved using a thermistor located in the outer tub. The thermistor monitors the tub water temperature during the fill cycle.

Based on information received from the thermistor, the power board controls the hot and cold inlet valves to achieve the desired wash temperature. (See *Thermistor/ATC Control (Auto Temp.)*)

Target Water Temperatures:

Sanitize - 140°F (60°C)

Hot - 120°F (49°C)

Warm - 95°F (35°C)

Cold - 65°F (18°C)

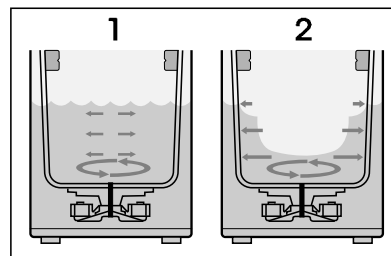
During the fill, the basket slowly rotates in a clockwise direction. This action mixes the detergent and water to assure proper distribution and assure the thermistor is reading an accurate basket water temperature.

Tidal Wave Wash

The infusor and wash basket lock together and rotate clockwise and then counterclockwise at 230 RPM. This action mixes the detergent and water while distributing the clothes evenly in the wash water. The basket wash speed is based on fabric type and load size. Delicate fabrics are gently rotated while heavier fabrics are rotated more vigorously.

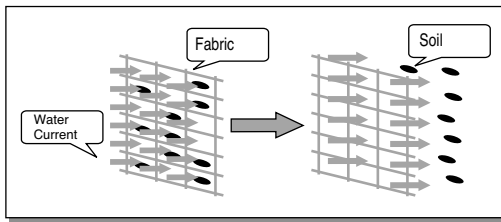
Centrifusion Wash

The locked infusor and wash basket begin a clockwise spin (figure 1). The speed of the spin is customized to the load type and fabric type. As the basket spins faster, it creates a strong flow of water under the centrifugal force (figure 2).



(Continued Next Page)

As water passes through the fabric, its natural cleansing action washes away dirt without damaging or tangling the fabric.



After several seconds of clockwise spinning, the basket slows down and stops. The wash water pools back into the wash basket. The wash basket starts spinning in the counterclockwise direction creating the same cleaning action. The washer will change direction (up to 4 times) before going to the next cycle.



Infusor Wash

Following the centrifusion wash cycle, the basket and infusor unlock and the wash basket remains stationary. The infusor rotates to evenly distribute the wash load while continuing to clean. The redistribution of fabrics helps ensure that the lint and dirt do not become trapped.

Jet Spray Rinse

Jet Spray is used during the rinse cycles in order to use less water. Water is sprayed over the clothes as the basket rotates.

Jet Spray is the default rinse type unless either **FABRIC SOFTENER** or **EXTRA RINSE** cycle additions are selected.

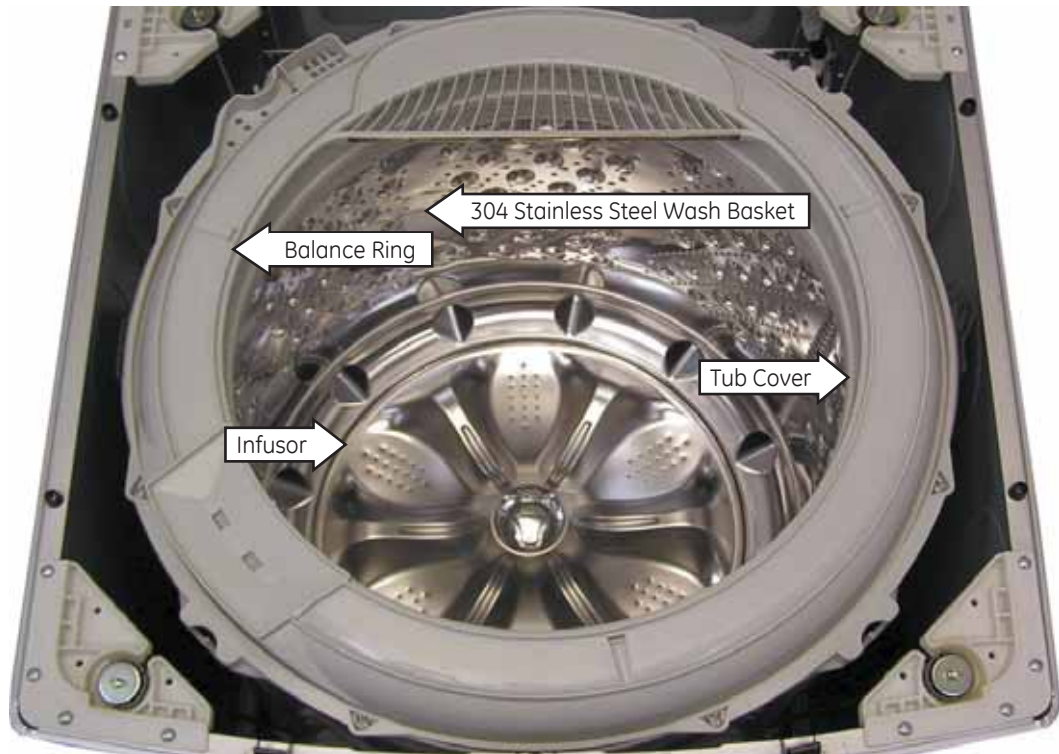
Cycle Cancellation

If the user cancels a cycle by pressing the **POWER** pad, after 4 minutes the pump will turn on and pump the water out of the tub. The control does not illuminate and the tub does not spin. The pump is operated until the tub is empty.

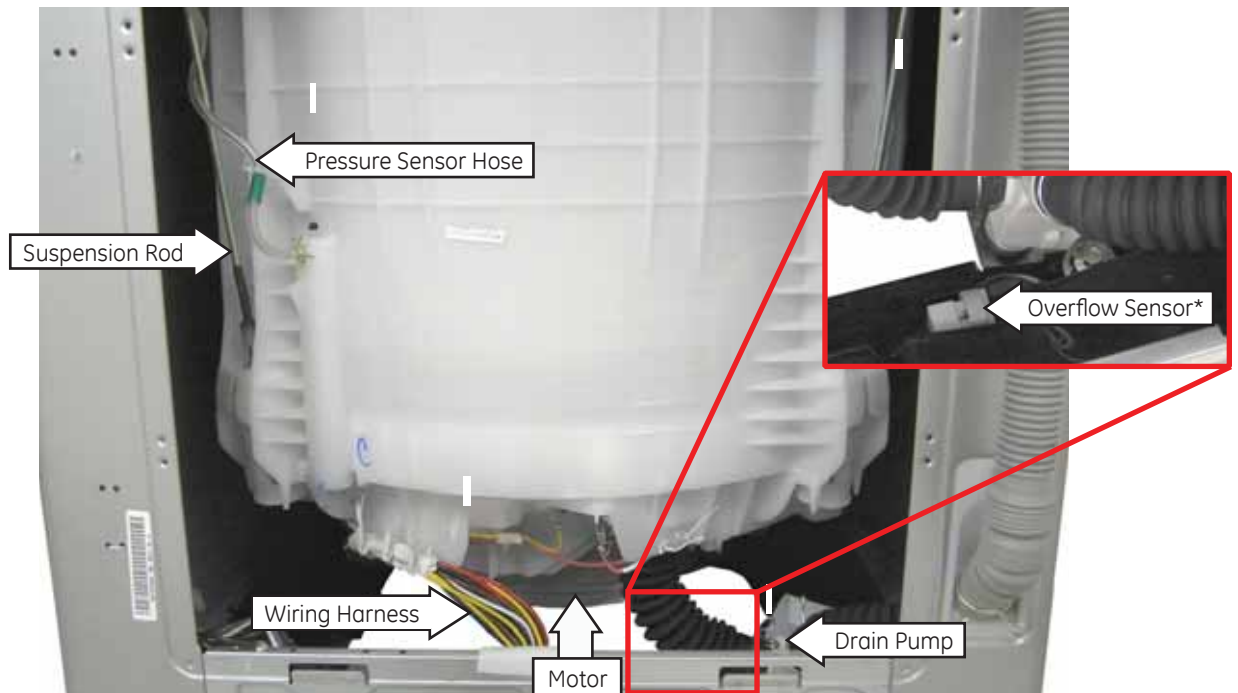
If the customer pauses a cycle for an extended amount of time, after 2 hours have elapsed, the machine will pump the water out of the tub and shut off.

Component Locator Views

Top View (top cover removed)

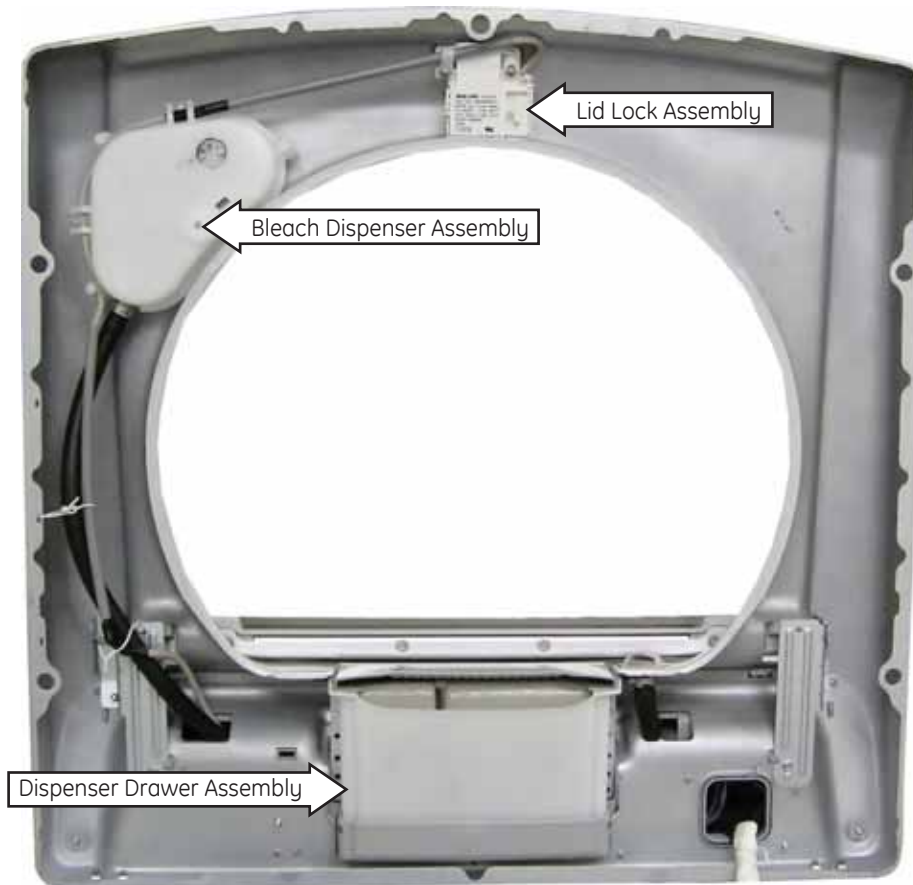


Rear View (back cover removed)

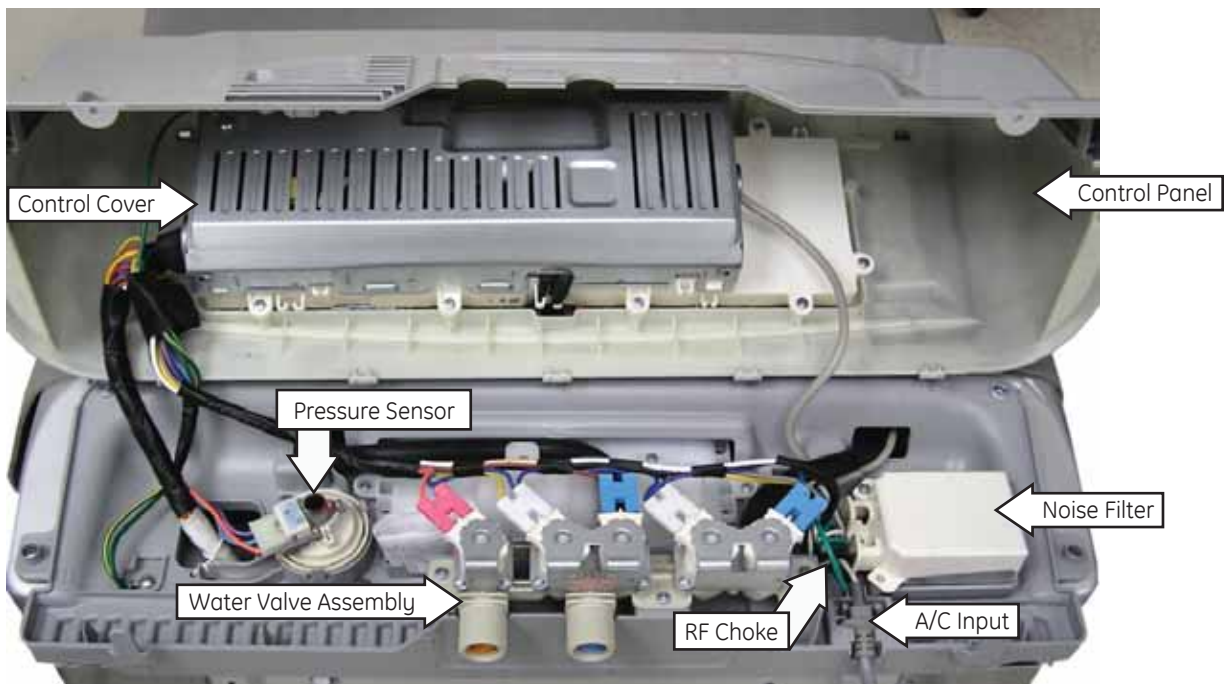


* Overflow sensor located behind cabinet and near the left side of the drain pump.

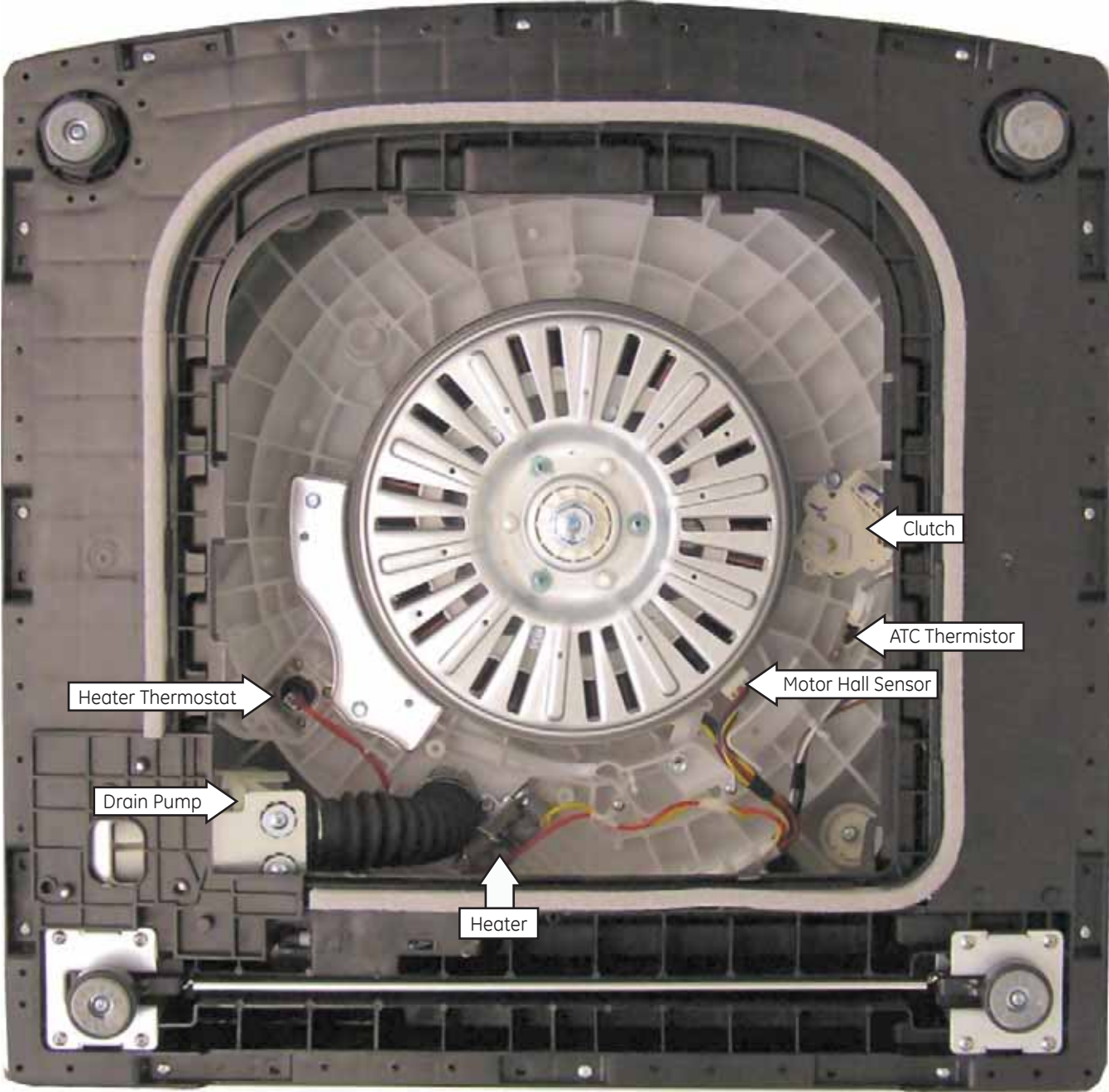
Underside of Top Cover



Component Tray (control panel in service position)

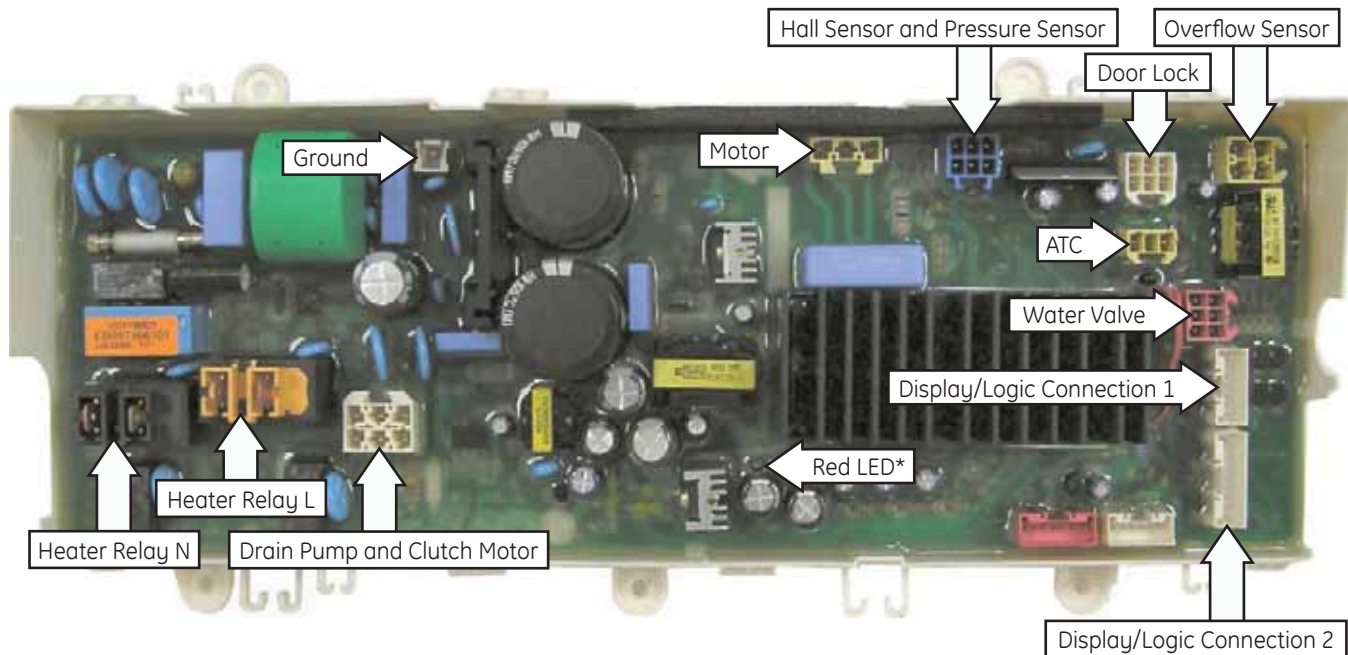


Underside of Washer



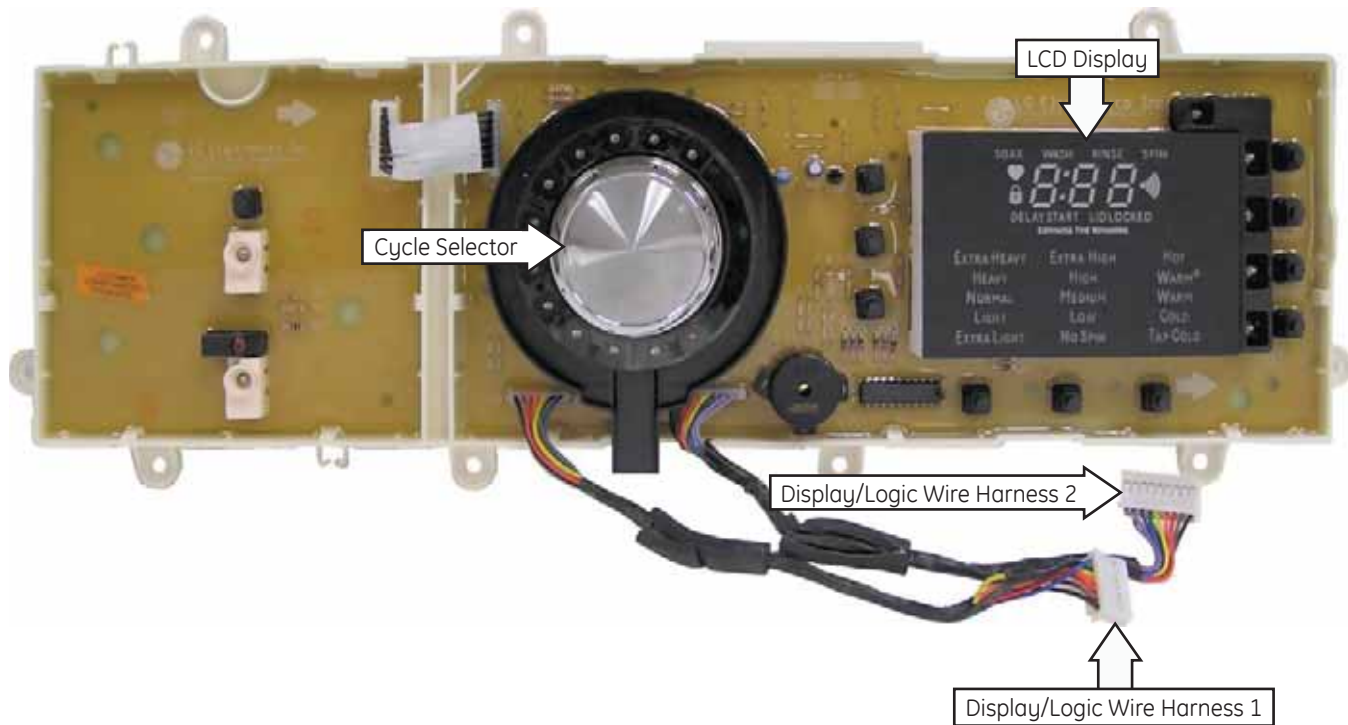
Circuit Board Connector Locator View

Power Board



* Red LED indicates that the power board is powered and awake.

Display/Logic Board



Washer Components

WARNING: Sharp edges may be exposed when servicing the washer. Use caution to avoid injury. Wear Kevlar gloves or equivalent protection.

Control Panel

The control panel must be removed to access the control system components.

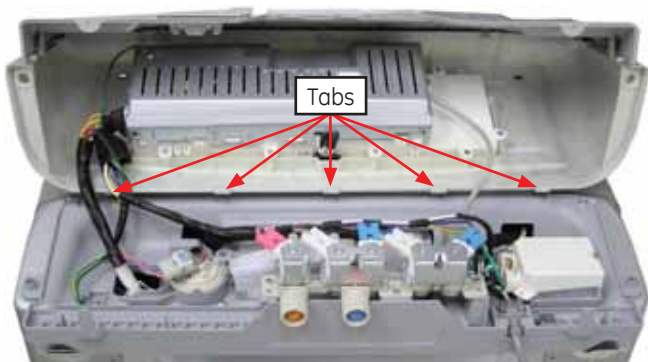
To remove the control panel:

1. Remove the 2 Phillips-head screws from the bottom of the control panel cover.



Note: To prevent damage to the control panel and top cover, place a protective surface over the top cover.

2. Tilt the control panel toward the front of the washer to disengage 5 tabs from slots located in the top cover.
3. Lay control panel face down on the top cover (Service position).



Service Position

Control Board Assembly

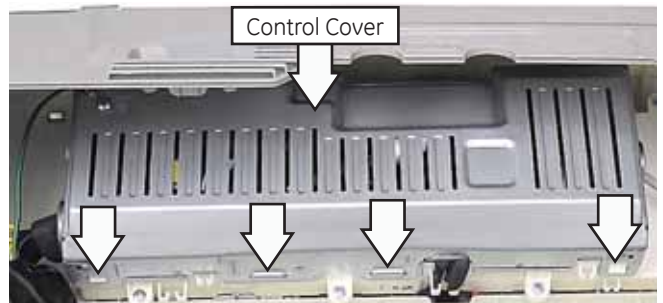
The control board assembly consists of the power board and the display/logic board. Both are attached to the control panel as one unit. Each board is bonded to a plastic frame. The power board has a red LED that indicates that the board is powered and awake. (See *Circuit Board Connector Locator View*.) The power and display/logic boards are available separately.

To remove the control board assembly:

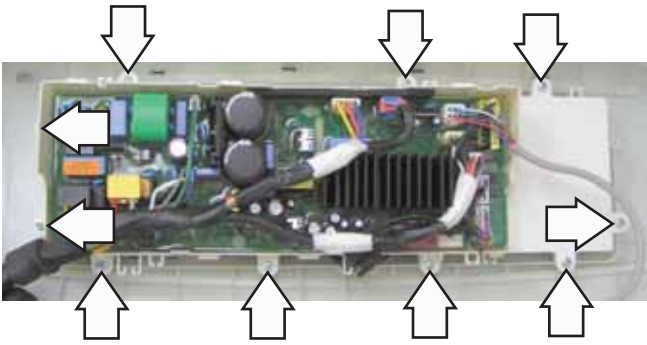
1. Remove the 3 Phillips-head screws from the top of the control panel cover.



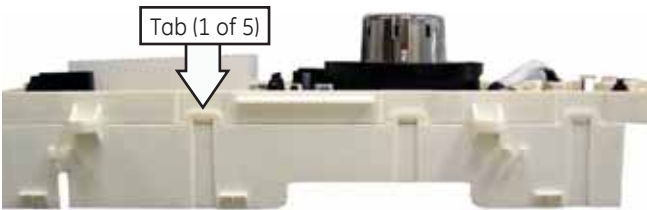
2. Place the control panel in the service position. (See *Control Panel*.)
3. Lift and remove the control panel cover.
4. Pull out and disengage the control cover from 4 tabs on the bottom of the control board.
5. Lift and remove the control cover from the control board.



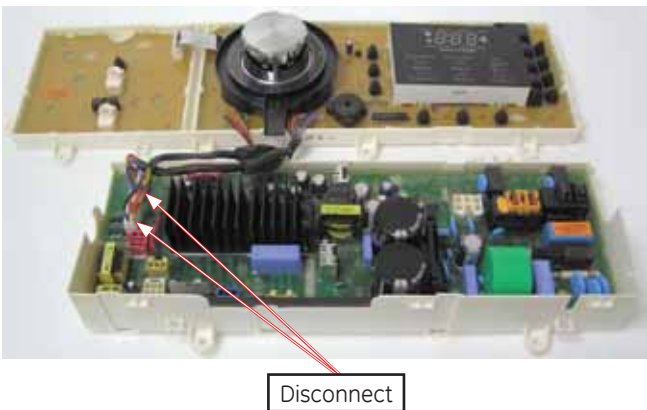
- Disconnect the wiring from the power board .
- Remove the 10 Phillips-head screws that attach the control board assembly to the control panel. Remove the assembly.



- Carefully pull out the 5 plastic tabs that attach the power and display/logic boards together.



- Disconnect the 2 electrical connectors from the power board.



Note: The control panel, selector buttons, and pads are replaced as a complete assembly.



Water Valve

The water valve consists of a valve body and 5 solenoid coils. It is only available as a complete assembly.

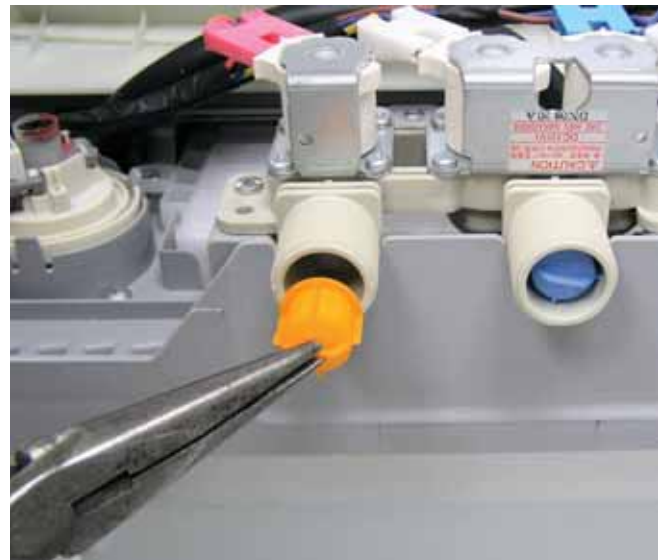
Each solenoid controls a specific water function.

When energized, there should be approximately 5-6 VDC at the appropriate coil.

Each coil on the water valve assembly has an approximate resistance value of 30 Ω .

Pink colored plastic pressure fittings are used on the water valve for a tight fit and to reduce the possibility of leaks.

Note: Hot and cold water inlet screens are used to prevent debris from entering the valve assembly. Inlet screens can be removed by grasping hold of the handle on the rear of the screen with a pair of needle nose pliers and pulling it straight out. After cleaning, insert for continued use.

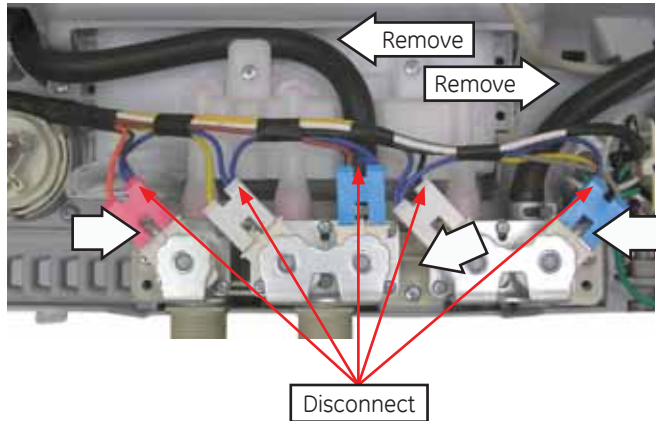


To remove the water valve assembly:

- Turn off the hot and cold water supply valves, and then remove the fill hoses from the back of the washer.
- Place the control panel in the service position. (See *Control Panel*.)

(Continued Next Page)

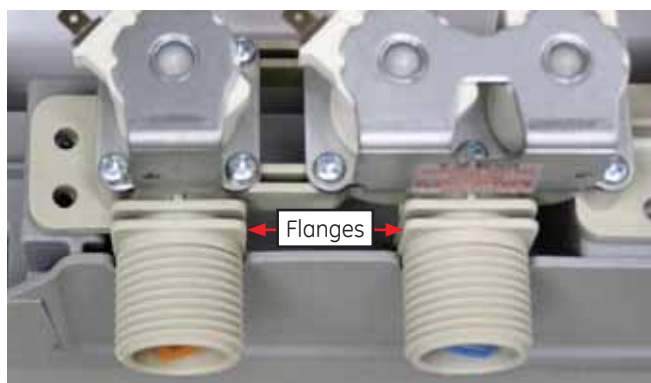
- Note the placement of the wiring, and then disconnect the wire harnesses from each coil.
- Remove the 2 outlet hoses from the valve assembly.
- Remove the 3 Phillips-head screws that attach the valve to the component tray.



- Carefully lift and pull the water valve assembly out of the water distribution system inlet.

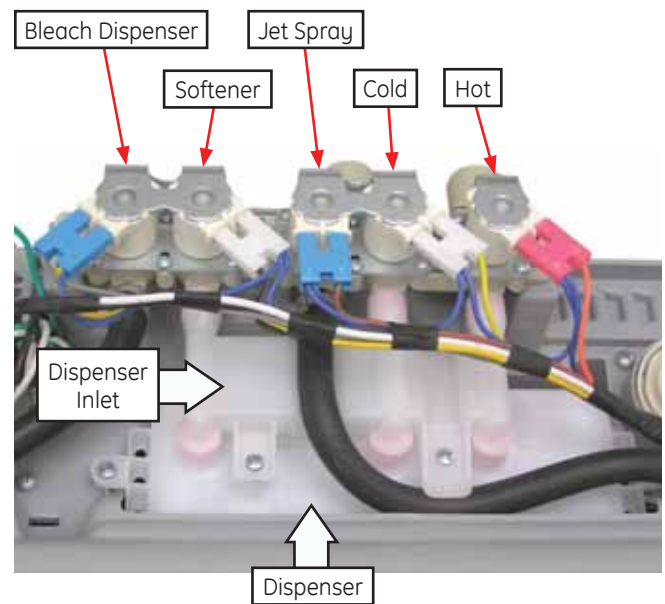


Note: When installing the water valve assembly, place valve with flanges inside the component tray (as shown below).



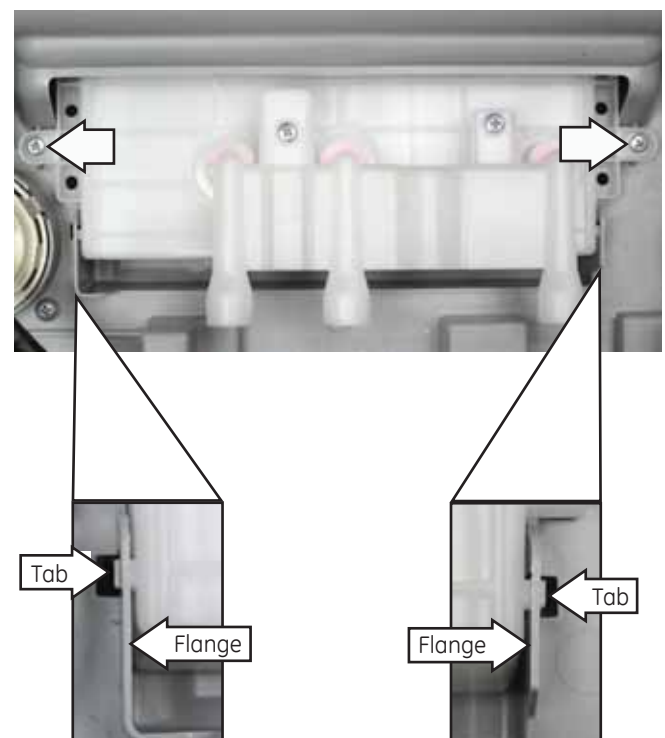
Water Distribution System

The water distribution system consists of a multi-function water valve, dispenser inlet, dispenser, and bleach dispenser and jet spray outlet hoses.



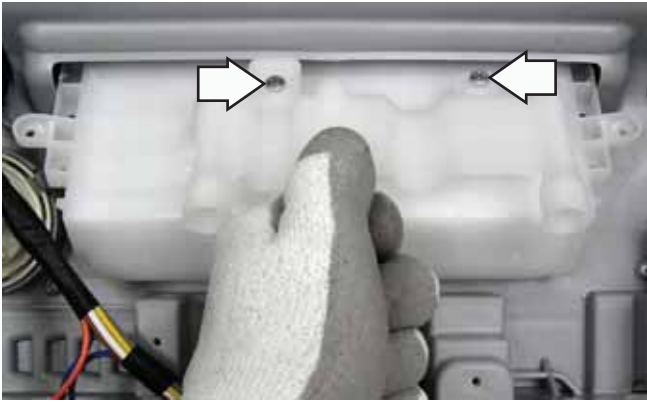
To remove the water distribution system:

- Remove the water valve. (See *Water Valve*.)
- Remove the 2 Phillips-head screws from the dispenser.
- Push the flange, located near each side of the dispenser, outward to clear the tab.



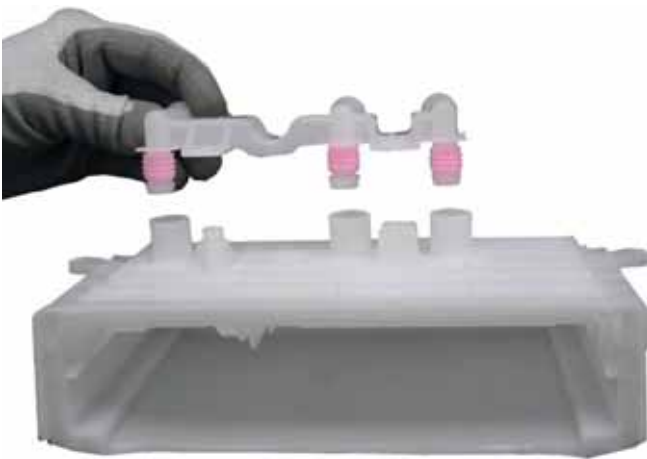
(Continued Next Page)

- Lift the dispenser from the component tray.
- Remove the 2 Phillips-head screws that attach the dispenser inlet to the dispenser.



- Lift the dispenser inlet out of the dispenser.

Note: Pink plastic pressure fittings are used on the dispenser inlet for a tight fit and to reduce the possibility of leaks.



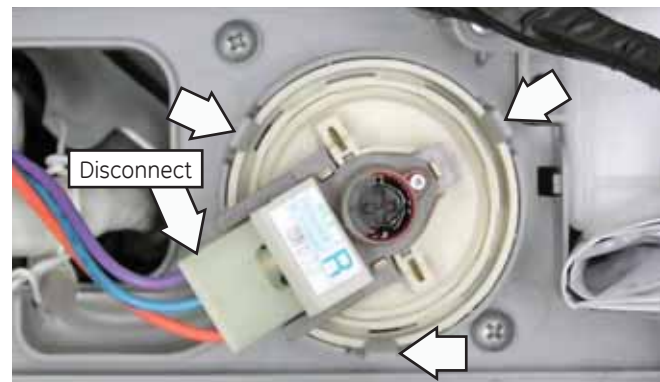
Pressure Sensor

The pressure sensor is connected by a clear pressure hose to an air reservoir near the bottom of the outer tub and operates by a frequency (kHz) signal to the power board.

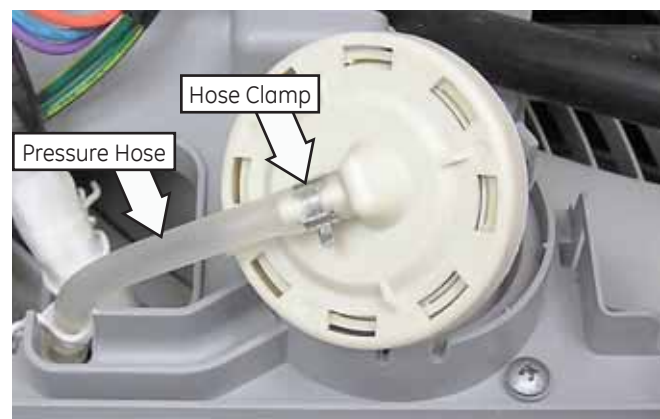
- When the water level rises in the washer tub, air is trapped in the reservoir. As the water level rises, the air pressure in the reservoir increases.
- The pressure is translated into an electrical signal (frequency) by the pressure sensor.
- The frequency will vary from approximately 27 kHz (empty tub) to 21 kHz (full tub).
- This frequency can be measured at the pressure sensor between the purple and orange wires.

To remove the pressure sensor:

- Place the control panel in the service position. (See *Control Panel*.)
- Disconnect the wire harness.
- Push outward on the 3 flexible plastic tabs, and then lift the pressure sensor from the component tray.



- Squeeze and slide down the hose clamp.
- Remove the pressure hose from the pressure sensor.



Noise Filter

The noise filter helps to block out line noise that could adversely affect the washer control system.

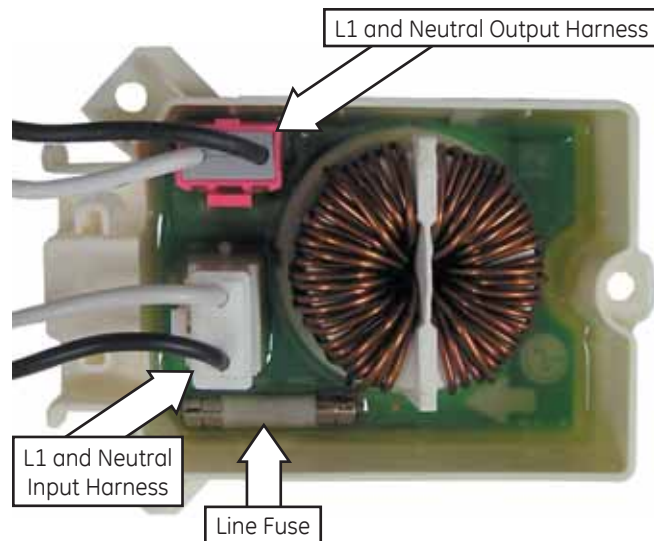
To remove the filter:

1. Place the control panel in the service position. (See *Control Panel*.)
2. Remove the 2 Phillips-head screws that attach the filter to the component tray.



3. Lift, and then turn filter over.
4. Disconnect the wire harness.

Note: 15-amp line fuse is not replaceable. Noise filter is replaced as an assembly.

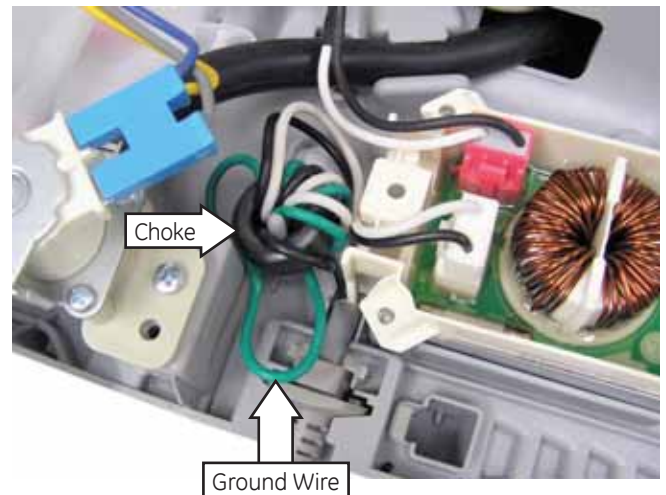


RF Choke

The RF choke consists of a donut shaped ferrite core that helps to prevent electrical interference to nearby electronic devices.

L1 and neutral input wires, and the ground wire are wrapped around and through the ferrite core.

To access the choke, it is necessary to place the control panel in the service position. (See *Control Panel*.)



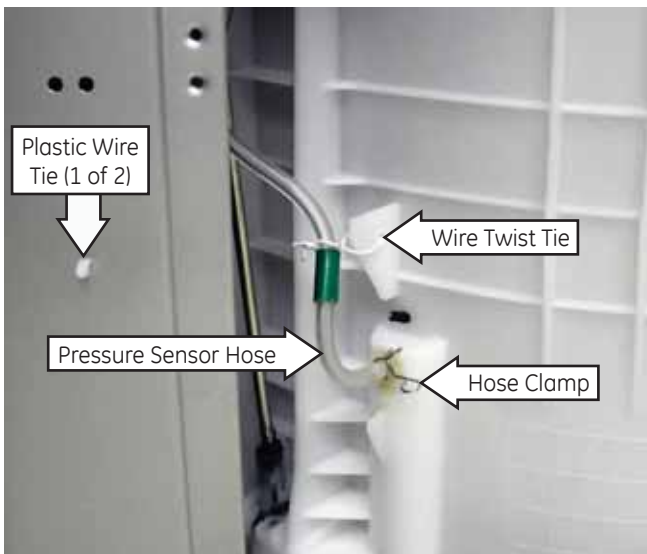
Top Cover

To remove the top cover:

1. Remove the 4 Phillips-head screws (2 on each side) that hold the back cover in place. Remove the back cover.



2. Remove the wire twist tie, hose clamp, and pressure sensor hose from the outer tub.
3. Remove the 2 plastic wire ties that attach the top cover wiring harness to the inside corner of the washer cavity.

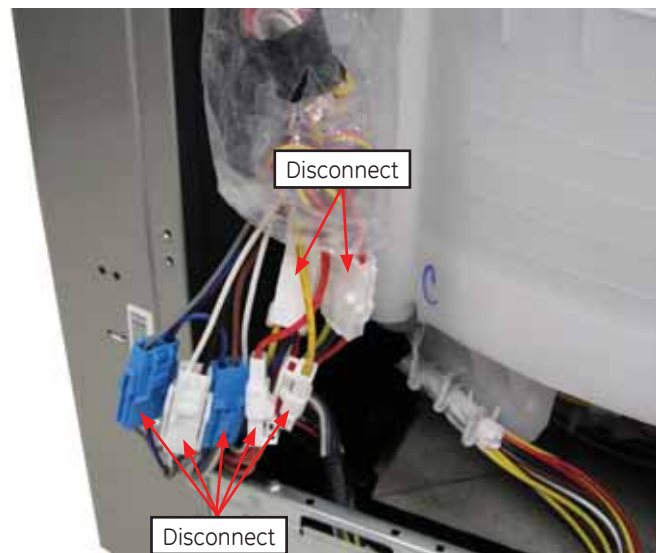


4. Roll up the plastic cover that protects the top cover wire harness connectors.



Note: When installing the top cover, make sure to roll down the plastic cover that protects the main wire harness connectors.

5. Disconnect the 7 top cover wiring harness connectors.



Note: The front of the washer top is held to the cabinet with 2 release clips. The back of the washer top has 2 brackets, each inserted into a hinge plate attached to the cabinet. When the clips are released, the washer top cover, when raised, can pivot on 2 hinge plates.



6. Insert a putty knife between the cabinet and top cover 7 inches from each side.
7. Open the lid, reach inside, and pull up on the top cover as you push each release clip.



8. Lift the front of the top cover approximately 12 inches, and then pull the top cover forward to clear each hinge plate.
9. Continue to lift the top cover until wiring is clear of the cabinet.

Service Position

The top cover can be placed in a service position to access the wash basket, suspension rods, and lid lock.

To place the top cover in the service position:

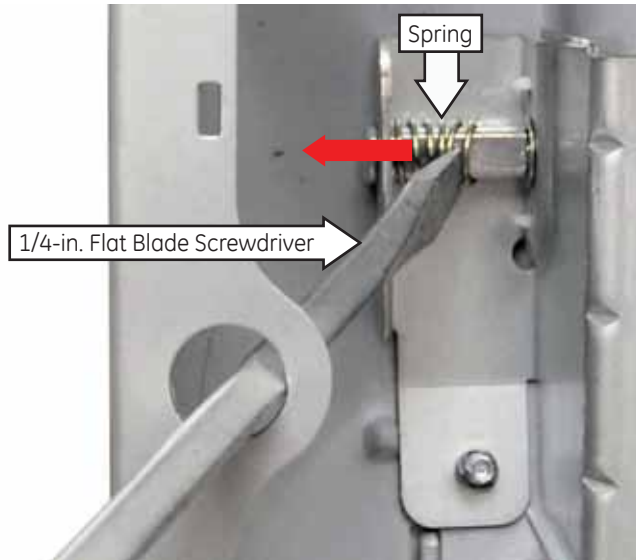
1. Position the back of the washer 1 foot away from the wall
2. Insert a putty knife between the cabinet and top cover 7 inches from either side. (See *Top Cover*.)
3. Open the lid, reach inside, and pull up on the top cover as you push each release clip.
4. Place a protective cover between the top cover and the wall.
5. Lift the top cover and carefully place it against the wall.



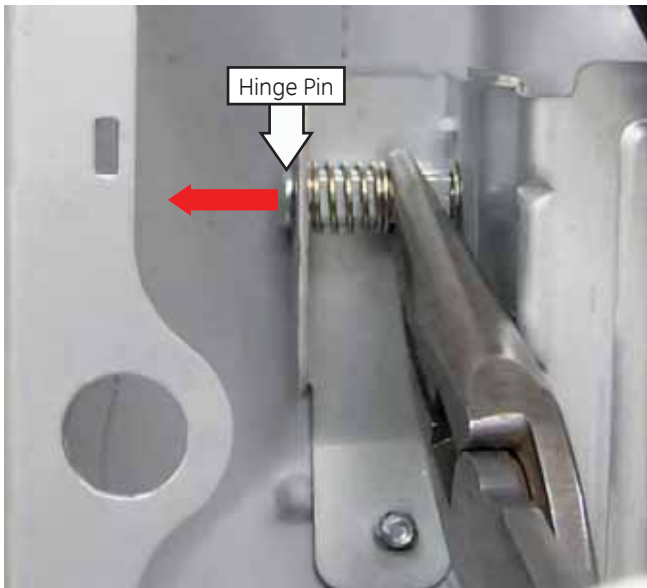
Lid

To remove the lid assembly:

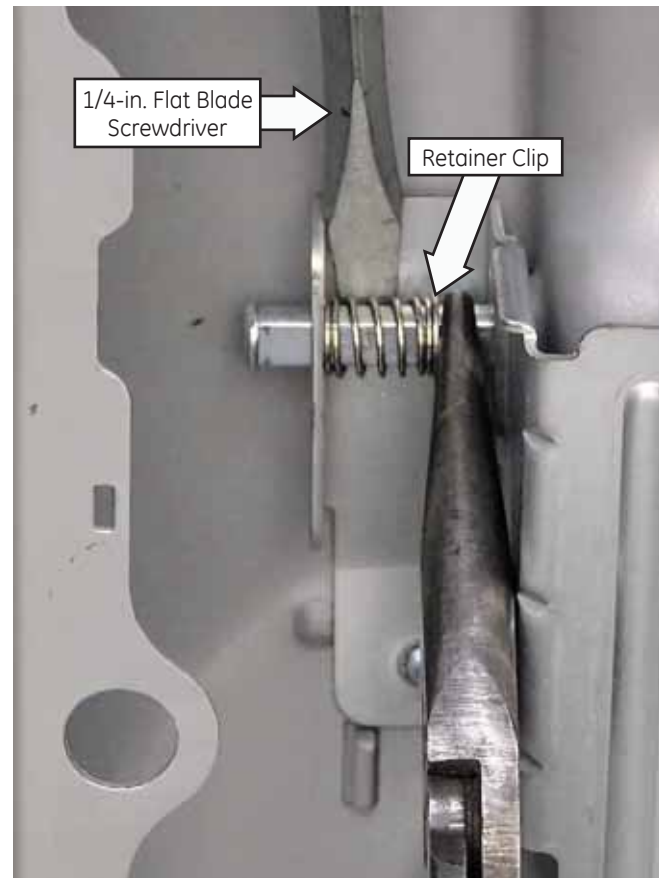
1. Close the lid. Then tape the right side of the lid to the top cover to prevent it from opening.
2. Place the top cover in the service position. (See *Top Cover*, service position.)
3. Insert a 1/4-in. flat blade screwdriver into the spring and move the spring to the left.



4. Grasp the spring loaded hinge pin with a pair of needle nose pliers, and then pull the pin to the left as far as possible.



5. Wedge the 1/4-in. flat blade screwdriver behind the hinge pin to hold the spring and pin in the left position.
6. Using the pliers, grasp the hinge pin to the right of the retainer clip. Then remove the screwdriver.



7. In the following step, lower the top cover from the service position to provide clearance to remove lid.
8. Retract the pin from the left side of the lid by pulling the pin as far left as it will go.



9. With the hinge pin positioned completely to the left, lift left side of the lid to clear the pin. (When clear, release the needle nose pliers and the spring loaded hinge pin will snap to extended position.)
10. Lower the top cover to the cabinet.
11. Remove the tape.



12. Open, and then pull lid to the left to disengage the right side hinge pin from the bushing in the top cover.
13. Lift and remove lid from the top cover.



Note: Lid is only available as an assembly.

To replace the lid:

1. Place the lid in the open position, and then insert the right side hinge pin into the bushing in the top cover.



2. Use a putty knife to press the left side hinge pin into the hinge assembly.

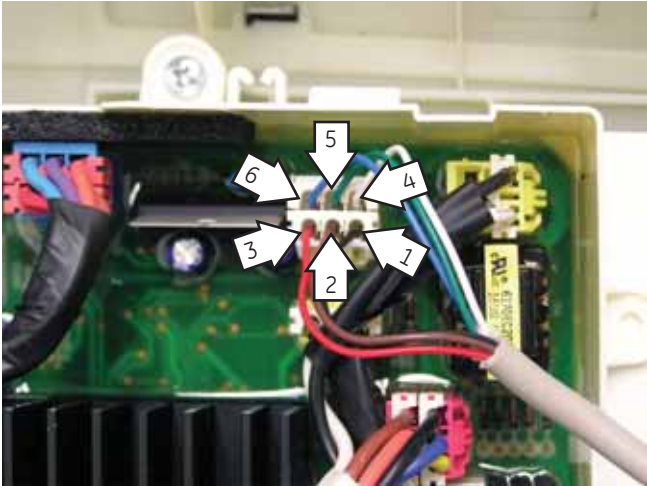


3. Lower left side of the lid into position, and remove putty knife. Allow pin to enter the bushing in the lid.



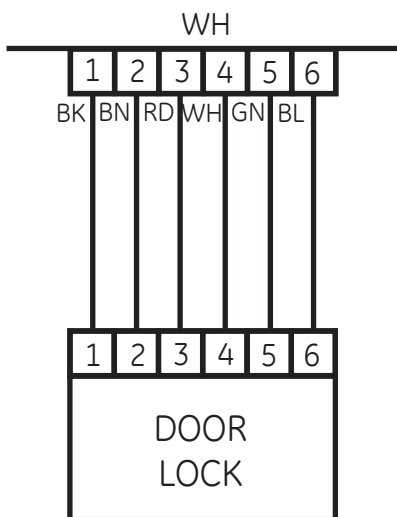
Lid Lock Assembly

The lid lock assembly is secured to the underside of the washer top with 2 Phillips-head screws. The assembly includes the interconnect cable and plug. It connects to a six-pin connector on the power board at the plug shown below.



Door Lock Power Board WH6

Pin Location	Unlocked		Locked	
	Volts	Ohms	Volts	Ohms
3 to 4	5 VDC	Open	0 VDC	0 Ω
6 to 4	0 VDC	0 Ω	5 VDC	Open
1 to 2	12 VDC Momentarily Locking or Unlocking			



To remove the lid lock assembly:

1. Place the control panel in the service position. (See *Control Panel*.)
2. Pull out and disengage the control cover from 4 tabs on the bottom of the control board.
3. Lift and remove the control cover from the control board.



4. Disconnect the cable from the power board at the 6-pin white connector. (See *Circuit Board Connector Locator View*.)
5. Carefully place the shield and the control panel aside.
6. Place the top cover in the service position. (See *Top Cover*, service position.)
7. Remove the lid lock wire harness tie from the left hinge and from retainers on the bleach dispenser tank.
8. Remove the 2 Phillips-head screws that attach the lid lock to the underside of the top cover.

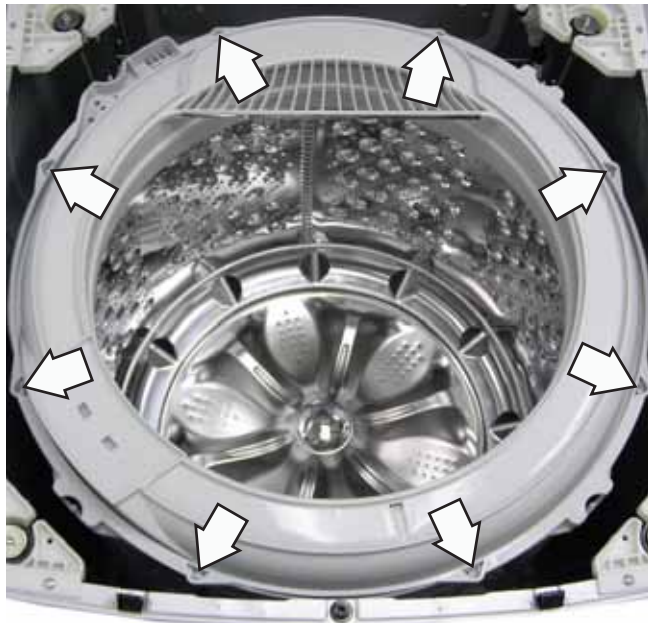


Wash Basket

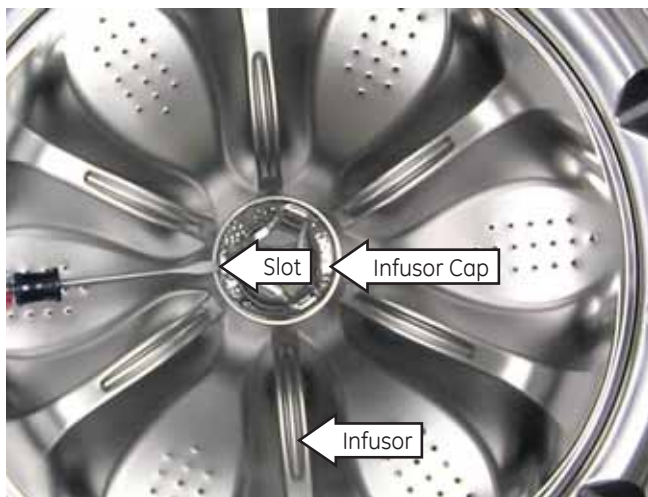
Caution: If the basket is not free to rotate, damage to the clutch coupler can occur. Ensure that the washer is in the spin mode before removing the wash basket. The wash basket will rotate freely when it is in spin mode. Do not attempt to remove the hub nut if the basket is not free to rotate.

To remove the wash basket:

1. Remove the top cover. (See *Top Cover*.)
2. Remove the 8 Phillips-head screws that hold the outer tub cover in place.



3. Place a flat blade screwdriver in the slot under the infusor cap and gently pry off.



4. Using a socket or Phillips-head screwdriver, remove the 10-mm hex-head screw that holds the infusor in place (turn screw counterclockwise to remove).

Note: The 10-mm screw has a serrated lock washer and a rubber O-ring.



WARNING: The inner edge of the infusor can be sharp. Wear Kevlar gloves or equivalent protection.

5. Pull the infusor up and out.
6. Remove the flat washer.

Note: Ensure the basket is free-wheeling before attempting to loosen the hub nut.

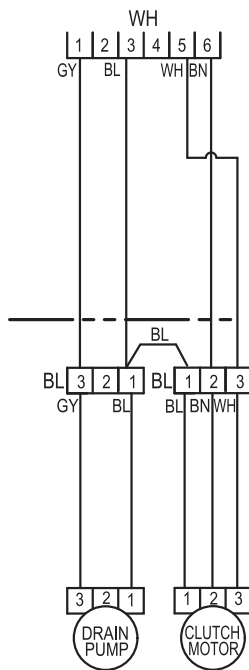
7. Using a socket or Crescent wrench, remove the 37.5-mm (1½-in. SAE equivalent) hub-nut. (Turn hub-nut counterclockwise to remove).



7. Lift the wash basket up and out.

Drain Pump

- The drain pump consists of a 120 VAC, 60-Hz, motor, impeller, and impeller housing.
- The pump is capable of pumping to a stand-pipe height of 8 ft. The maximum length of the drain hose is 10 ft. (An accessory drain hose extension is not available at this time.)
- The drain pump will operate independently of other mechanical components and will evacuate water at various times during the cycle.
- The drain pump motor has an approximate resistance value of 11 Ω .
- When the drain pump is activated, the gray and blue wires on the power board drain pump and clutch motor white connector should measure 120 VAC. (See *Circuit Board Connector Locator View*.)



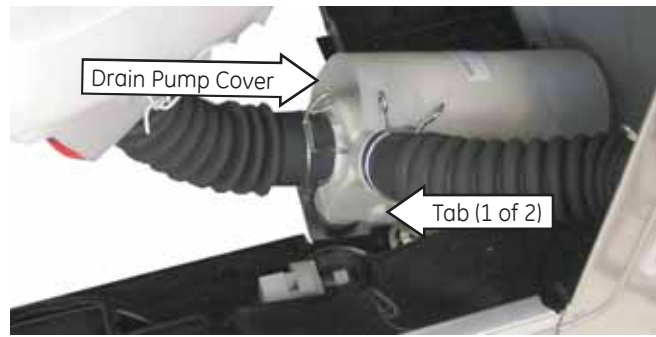
To clean the impeller and impeller housing:

WARNING: The drain pump bracket is not grounded. Unplug the unit before servicing to avoid electric shock.

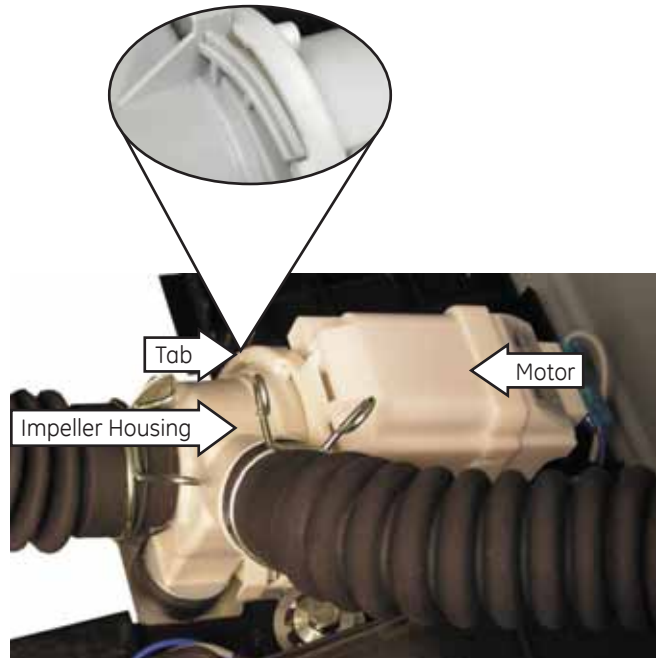
Note: The impeller can be accessed for cleaning without removing the drain hoses. Water will remain in hoses even when the tub appears empty. Use care to avoid water spills.

1. Disconnect power to the machine.
2. Remove the back cover. (See *Top Cover*, step 1.)

3. Remove the thin plastic cover over the drain pump by pulling down on the ends to clear the 2 tabs.



4. Lift up the tab on the impeller housing with a flat blade screwdriver. When viewed from the impeller housing end, rotate the motor in a counterclockwise direction to remove.



5. Remove any foreign objects from the impeller and impeller housing. Inspect the impeller for any damage, and replace the pump assembly if necessary.

To remove the drain pump:

Note: Water will remain in the hoses even when the tub appears empty. Use care to avoid water spills.

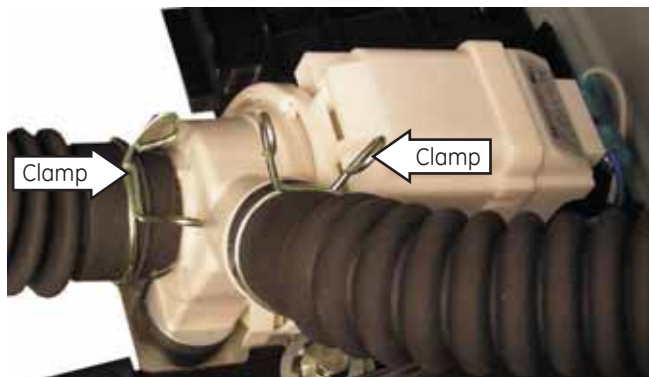
1. Disconnect power to the machine.
2. Remove the back cover. (See *Top Cover*, step 1.)

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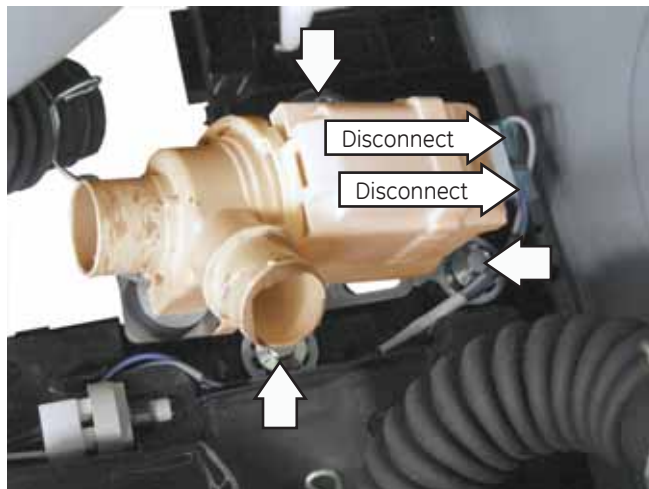
3. Remove the thin plastic cover over the drain pump. (See **To clean the impeller and impeller housing**, this section.)
4. Remove the drain hoses from the pump:

Note: The drain hoses are difficult to remove due to a sealing compound used at the factory.

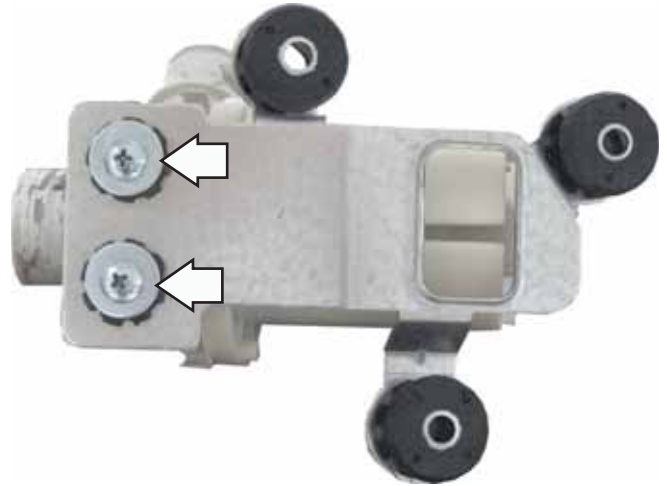
- a. Squeeze each clamp and slide it back.
- b. Carefully break the hoses loose by inserting a small flat-blade screwdriver under the hoses to break the seal.
- c. Remove the hoses.



5. Remove the three 10-mm hex-head screws that hold the drain pump mounting plate to the washer floor.
6. Disconnect the 2 drain pump wires.



7. Remove the 2 Phillips-head screws that hold the drain pump to the mounting plate. Remove the drain pump.



Caution: Care must be taken when reinstalling and sealing the drain hoses to the drain pump to ensure there is no water leakage.

Note: When installing the drain pump, apply a thin coat of sealing compound (Part # WH60X15) to the inner surface of the drain hoses.

Overflow Sensor

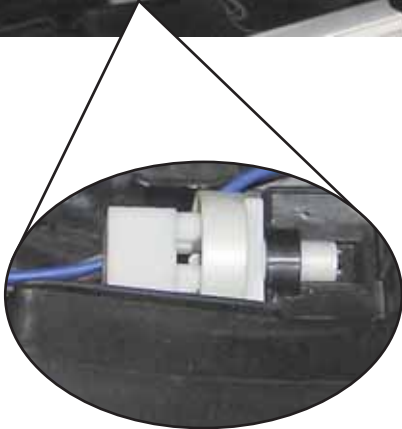
If an overloaded washer load causes a splash over, it will be detected by the sensor.

When wet, the sensor will terminate the Tidal Wave part of the wash cycle. Normal agitate and the rest of the cycles will continue unaffected.

The resistance value of a dry sensor is infinite ohms.

The theoretical maximum electrical resistivity for ultra-filtered and deionized ultra-pure water is approximately 182K Ω . The resistance value of the sensor when in contact with tap water is approximately 70K Ω . The wet resistance value will vary depending upon the chemical properties present in the water.

The overflow sensor is located near the left side of the drain pump and is inserted into a recess in the washer floor. Two wires are connected to the overflow sensor. It is necessary to remove the rear cover to access the overflow sensor. (See *Top Cover*, step 1.)



Overflow Sensor Removed

Thermistor/ATC Control (Auto Temp)

- The ATC control uses a water temperature sensor (thermistor) to regulate the wash water temperature.
- The thermistor has a negative temperature coefficient (as temperature increases, resistance decreases).
- The thermistor is located in the bottom of the outer tub, under the wash basket. (See *Component Locator Views*.)

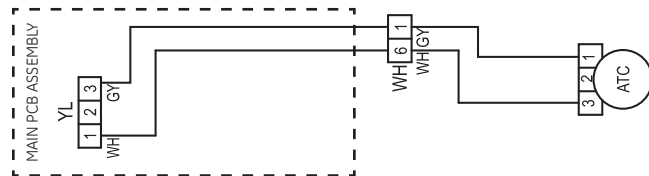
To determine the temperature of the incoming water, the washer control measures the difference between the voltage sent and the voltage returned from the water temperature sensor. The washer control then makes temperature adjustments accordingly.

The washer control should maintain the water temperature in the tub within +/- 5°F (+/- 3°C) by opening or closing the hot and cold water valves.

The thermistor has an approximate resistance value of 56K Ω at room temperature.

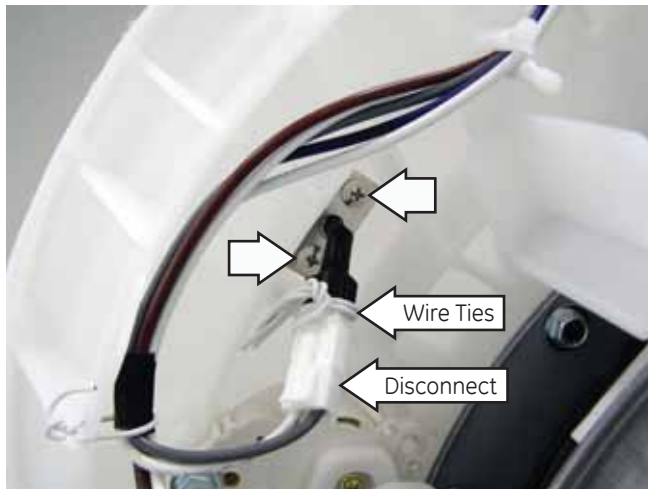
Water Temperature	Resistance ± 5%
86°F (30° C)	39.5 K Ω
104°F (40° C)	26.1 K Ω
140°F (60° C)	12.1 K Ω
158°F (70° C)	8.5 K Ω
203°F (95° C)	3.8 K Ω
221°F (105° C)	2.8 K Ω

The resistance of the thermistor can be checked between the gray and white wires on the power board white ATC connector. Make sure to unplug the connector to isolate the thermistor before taking resistance readings. (See *Circuit Board Connector Locator View*.)



To remove the thermistor:

1. Disconnect power to the machine.
2. Remove the back cover. (See *Top Cover*, step 1.)
3. Remove the wire ties from the thermistor.
4. Disconnect the wiring connector at the thermistor.
5. Remove the 2 Phillips-head screws that hold the thermistor to the bottom of the outer tub.
6. Pull the thermistor straight out from the outer tub.



Caution: To prevent water leakage, make sure the O-ring is in place before installing the thermistor.



Heater

- The heating element is used only on the SANITIZE cycle.
- The power board regulates the heating element through information received from the thermistor/ATC control.
- The heating element is located above the drain at the bottom of the outer tub.
- The heating element is inserted into a bracket attached to the high limit thermostat and held in place by a 10-mm hex nut.
- When the 10-mm hex nut is tightened, it squeezes the rubber gasket between the 2 mounting plates to seal the heater to the opening of the tub.
- The hex nut is set from the factory at 43.4 in. lbs (4.9 Nm) of torque.

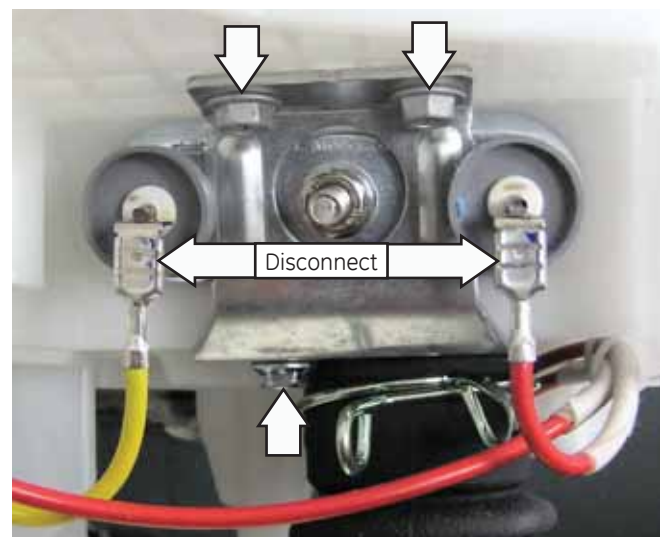
Heating Element Specifications:

- 120 VAC
- 1200 Watts
- 9.0 Amps
- 12.5 Ω

To remove the heater:

Note: The heating element must be removed before removing the hi-limit thermostat.

1. Disconnect 2 wires from the terminal ends of the heating element.
2. Remove the three 8-mm hex-head screws holding the heating element bracket in place. Remove the bracket.



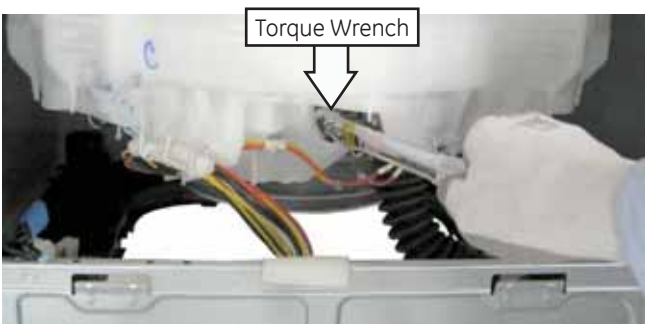
- Loosen the 10-mm hex nut until flush with the end of the stud.
- Push inward on the 10-mm hex nut to relax the rubber gasket.



- Grasp the heating element and pull it from the tub.



Caution: Proper torque must be applied to the 10-mm hex nut to assure a proper seal. Under torquing could cause water leakage; over torquing could cause the tub to crack.

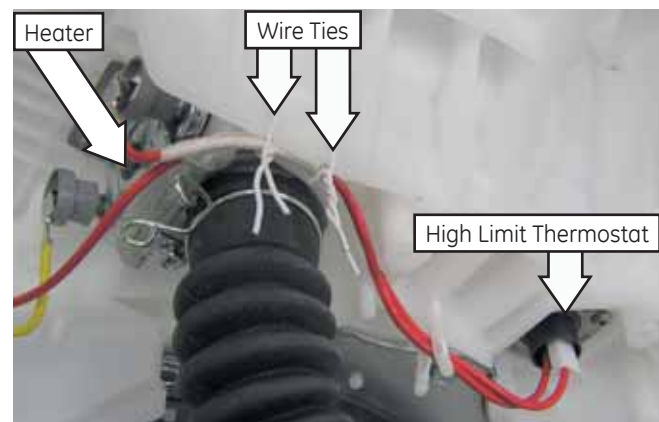


High Limit Thermostat

- The outer tub is protected from over heating from the heating element by a high limit thermostat.
- The high limit thermostat is located on the bottom of the outer tub.
- The high limit thermostat is a safety device that monitors the temperature of the heating element.
- The high limit thermostat is wired in series with the heating element.
- If the high limit thermostat reaches a temperature beyond its maximum temperature rating, it will trip and disable the heating function only.
- Heating functions will be restored when the high limit thermostat cools and resets.
- The high limit thermostat has a trip temperature of 185°F (85°C) +/- 5% and a reset temperature of 86°F (30°C) +/- 5%.

To remove the high limit thermostat:

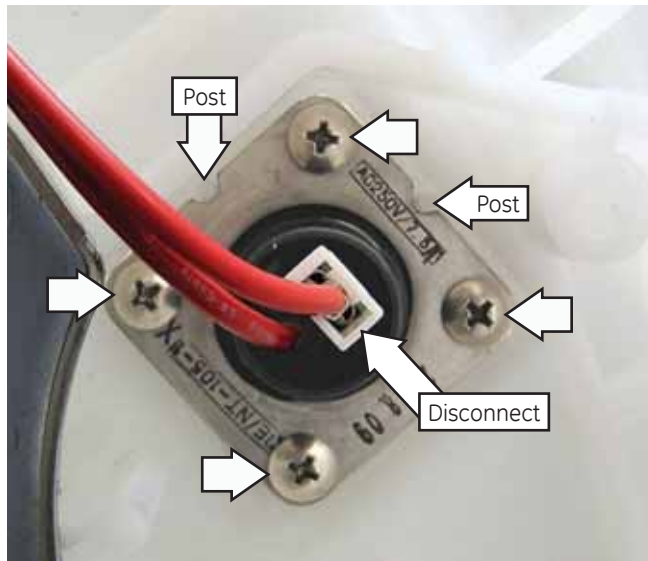
- Remove the heater from the outer tub. (See *Heater*.)
- Remove the wire ties that hold the high limit thermostat wiring to the outer tub.



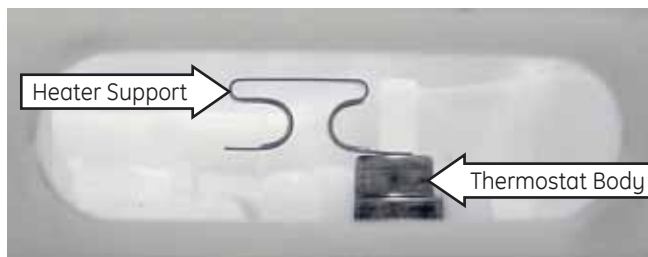
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3. Disconnect the red wire (white connector) from the high limit.
4. Remove the 4 Phillips-head screws that attach the thermostat to the outer tub.

Note: Observe the 2 small posts on the bottom of the tub and 2 cut outs in the thermostat body. When installing the high limit thermostat, align the cut outs with the posts for proper orientation. The reason for proper orientation of the thermostat is because the heater support is part of the thermostat body and must be positioned correctly for the heater to be installed.



View inside heater opening in tub



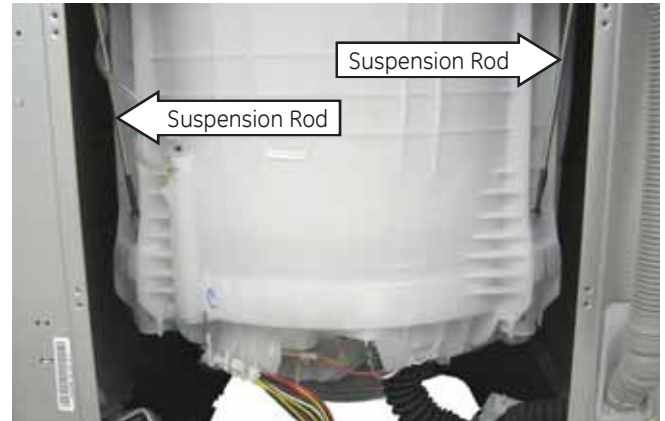
5. Pull the high limit thermostat from the outer tub.

Caution: To prevent water leakage, make sure the O-ring is in place before installing the thermostat.



Outer Tub and Suspension Assembly

The wash basket, outer tub, and motor are suspended by 4 rod and spring assemblies. The rod and spring assemblies are attached to each corner of the washer cabinet. They extend down and connect to the bottom of the outer tub.



To remove the outer tub:

WARNING: The outer tub assembly is heavy and requires 2 people to remove it from the washer housing. Care should be taken when removing and installing the outer tub assembly.

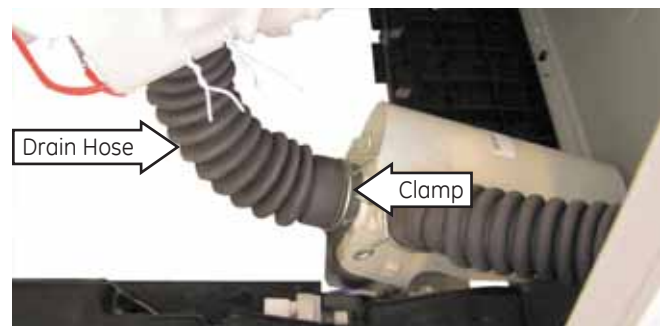
1. Remove the top cover. (See *Top Cover*.)

Note: In the following step, water will remain in the hose even when the tub appears empty. Use care to avoid water spills.

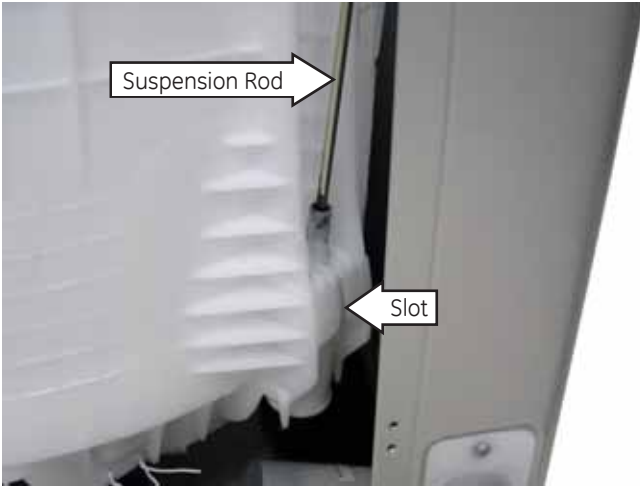
2. Remove the drain hose from the drain pump.

Note: The drain hose is difficult to remove due to a sealing compound used at the factory.

- a. Squeeze the clamp and slide it back.
- b. Carefully break the hose loose by inserting a small flat blade screwdriver under the hose to break the seal.
- c. Remove the hose.



- Lift the outer tub up and disengage the suspension rod assembly from the slot in each corner of the outer tub.



- Pull the outer tub assembly out of the washer cabinet.

Caution: Care must be taken when installing and sealing the drain hose to ensure there is no water leakage.

Note: When installing, apply a thin coat of sealing compound (part no. WH60X15) to the inner surface of the drain hose.

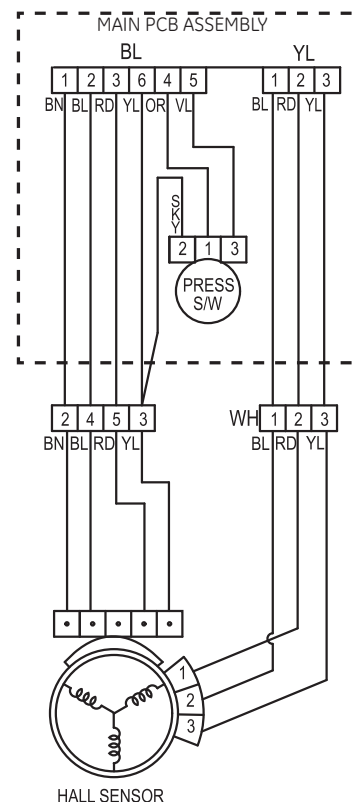
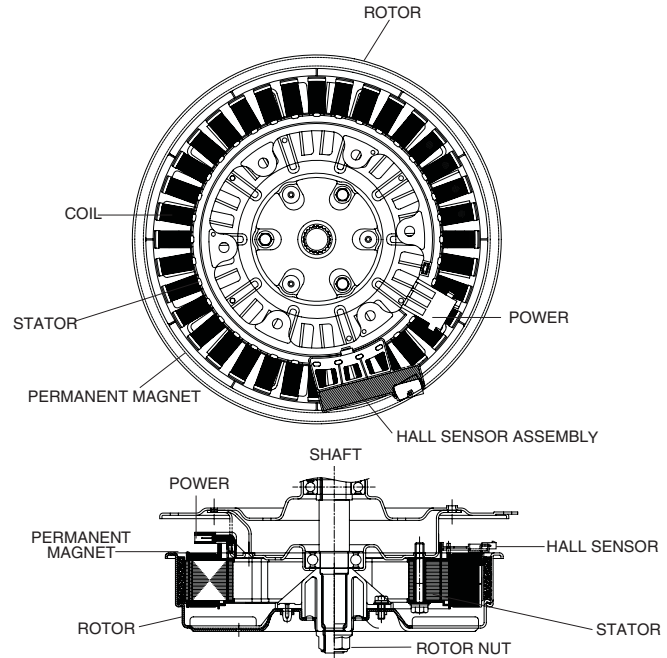
Motor Assembly

- The washer has a direct-drive, pulse-width modulation motor that does not utilize a belt, transmission, or mechanical brake.
- The motor assembly is composed of a coil wound stator, Hall sensor, and permanent magnet rotor.
- The motor varies speed and torque when the pulse-width modulated voltage from the power changes frequency.
- The motor reverses rotational direction when the power board reverses electrical polarity to the motor.

The washer motor has an approximate resistance value of 5 to 15 Ω between any 2 of the 3 wires:

- Blue to red - 5 to 15 Ω
- Red to yellow - 5 to 15 Ω
- Blue to yellow - 5 to 15 Ω

Resistance can be measured at the yellow, 3-pin connector on the power board or at the motor. (See *Circuit Board Connector Locator View*.)



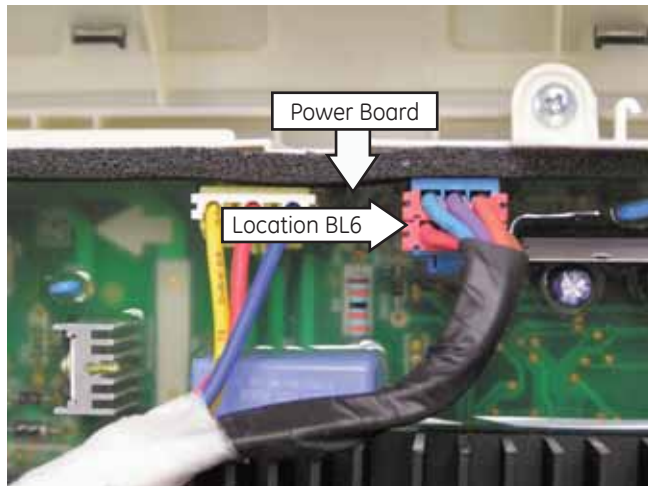
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Hall Sensor

- The Hall effect sensor measures the motor rpm.
- Four wires connect the Hall sensor to the power board at the 6-pin dark blue connector. (See *Circuit Board Connector Locator View*.)
- If the sensor has failed, the motor will not operate.
- The Hall sensor clips onto the frame of the stator, and can be replaced separately.

Hall Sensor resistance and supply voltage from power board location BL6.

Test Locations	Resistance	Voltage (DC)
Red to Blue	19K Ω	0 VDC
Blue to Brown	9K Ω	12 VDC
Brown to Red	9K Ω	12 VDC

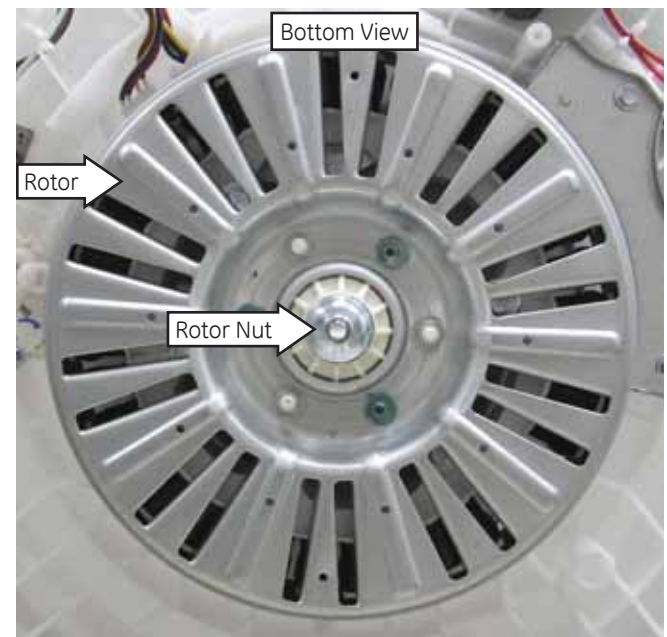


To remove the rotor and stator:

WARNING: The rotor is not grounded. Unplug the washer before servicing to avoid electrical shock.

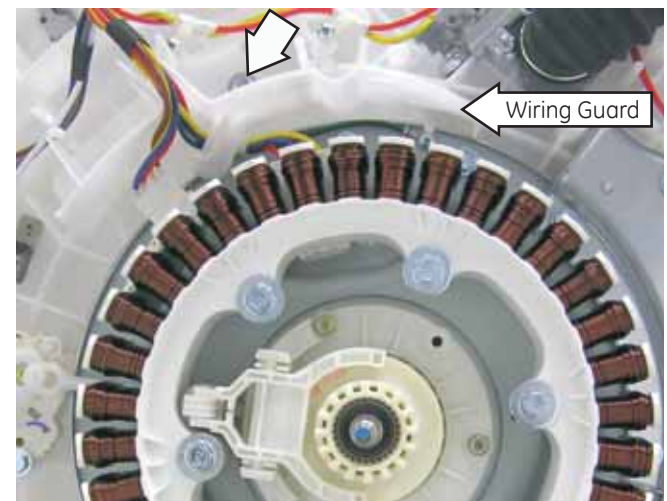
1. To access the motor, the washer must be placed on its side. Place a towel or blanket on the floor to prevent scratches to the surface of the washer.
2. Remove the 24-mm (15/16-in. SAE equivalent) rotor nut with a socket or adjustable Crescent wrench (rotate rotor nut counterclockwise to remove). Remove the flat washer.

Note: Use a rubber mallet if needed to tap the wrench to break the nut free.



3. Pull the rotor away from the drive shaft.

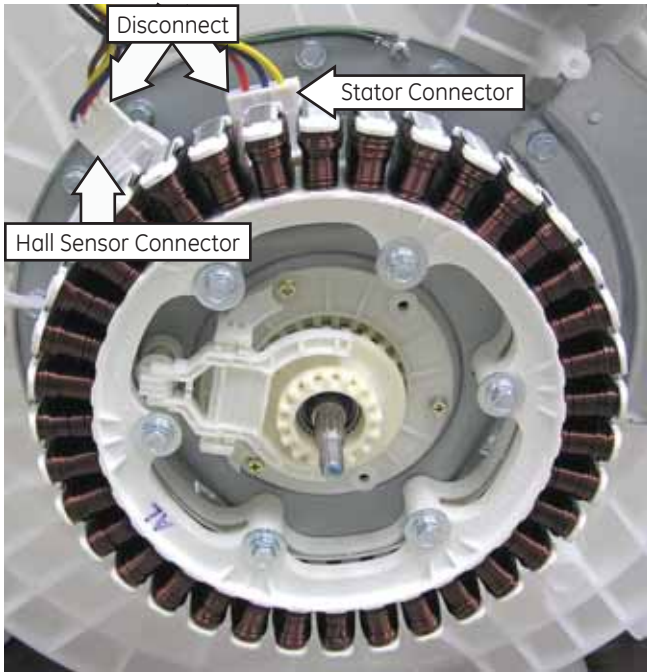
Note: Removal of the wiring guard (held in place by one 10-mm hex-head screw) will give better access to the motor connectors.



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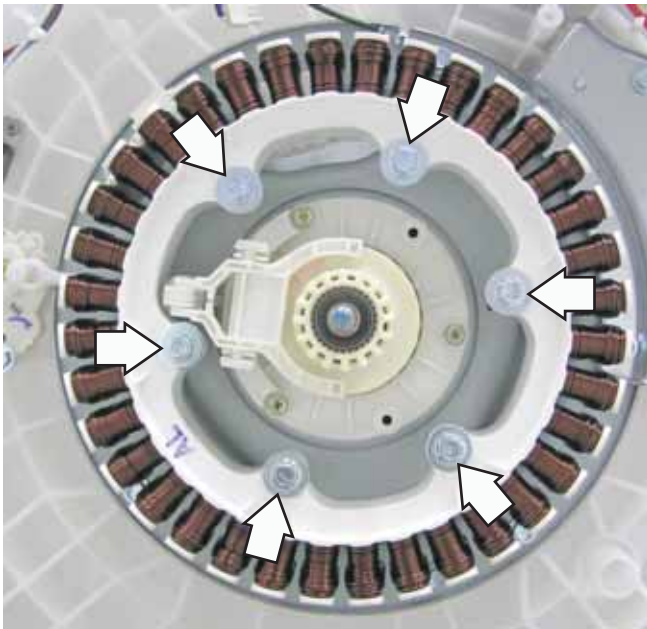
Caution: The stator connector and Hall sensor connector are very fragile, handle with care.

4. Disconnect the wiring harnesses from the stator and the Hall sensor.



Note: When assembling, be sure to put the stator and Hall sensor wires back in the wiring guard away from the motor.

5. Remove the six 10-mm hex-head screws that hold the stator in place.



Clutch Shifter Assembly

The clutch assembly locks or unlocks the basket and infusor together, depending on the wash cycle pattern. (See *Basic Wash Cycle* for a brief description of wash cycles.)

- The infusor is connected directly to the motor shaft. Whenever the motor is rotating, the infusor is rotating.
- The clutch only locks or unlocks the wash basket.

When the washer first starts a cycle, the infusor moves back and forth several times to make sure the basket and infusor are in the unlocked position before starting. This action is called “clutching” and confirms that the clutch motor is in the unlocked position.

Note: Wash cycle patterns will vary depending on user time adjustments, soil level adjustments, fabric types, and wash-load weights.

The infusor and basket are in the **locked** position during the following cycles:

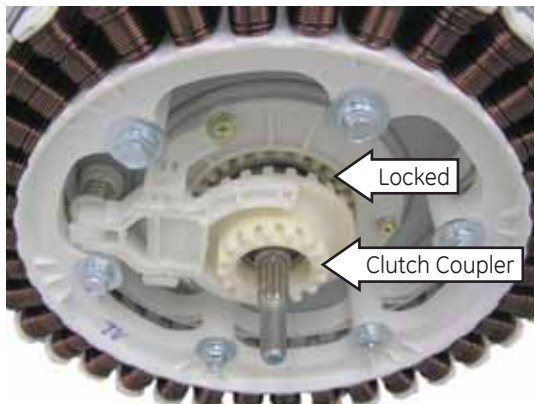
- Water Fill
- Wet Load Sensing
- Tidal Wave Wash
- Centrifusion Wash
- Spin
- Spray Rinse

The infusor and the basket are in the **unlocked** position during the following cycles:

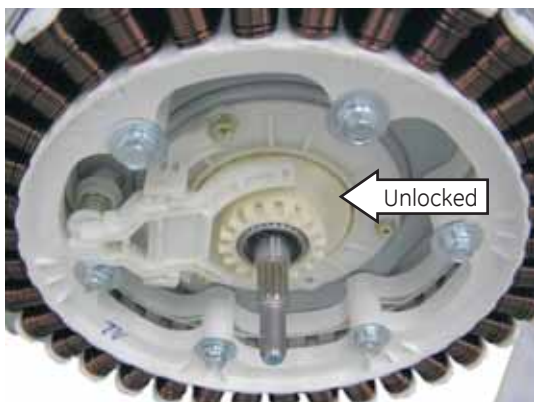
- Dry Load Sensing
- Infusor Wash

Clutch Operation

- The clutch locks and unlocks the basket by engaging teeth on the inside of the rotor with teeth on the clutch coupler.
- When the basket and infusor are in the locked position, the clutch moves downward and engages the rotor and clutch coupler teeth allowing the basket to rotate with the infusor.



- When the basket and infusor are in the unlocked position, the clutch moves upward, disengaging the clutch coupler and rotor teeth, allowing the infusor to rotate independently of the basket.

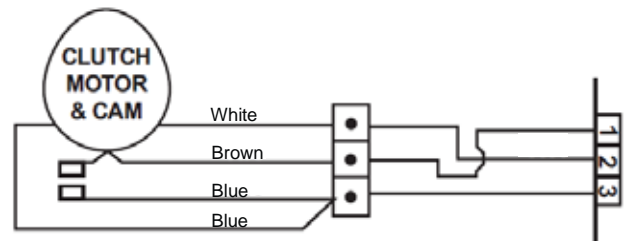


To diagnose the clutch motor:

- Power board location WH6 supplies 120 VAC to the clutch motor through the brown and white wires when the clutch motor changes position.

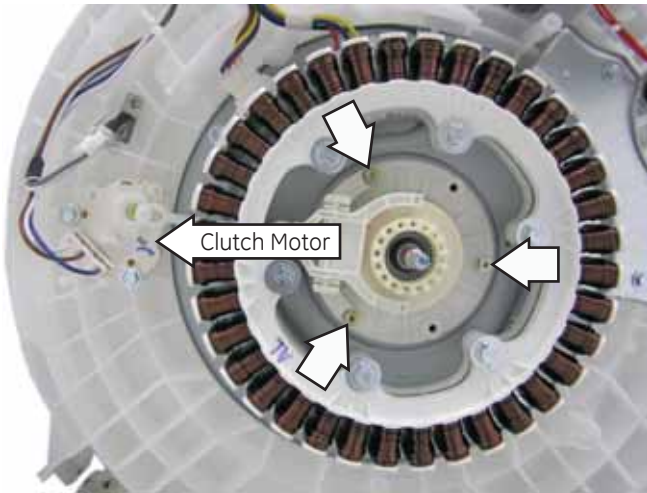
Note: Disconnect power and unplug the clutch motor connector at the power board.

- The clutch motor has an approximate resistance value of 1.95 to 2.25K Ω . This can be measured between the white and brown wires on the power board location WH6. (See *Circuit Board Connector Locator View*.)
- The rotation of the clutch motor causes an internal switch to open or close. This can be measured between the brown and blue wires on the power board location WH6.
- When the clutch is in the unlocked position, the switch should be closed (0 Ω).
- When the clutch is in the locked position, the switch should be open (infinity).

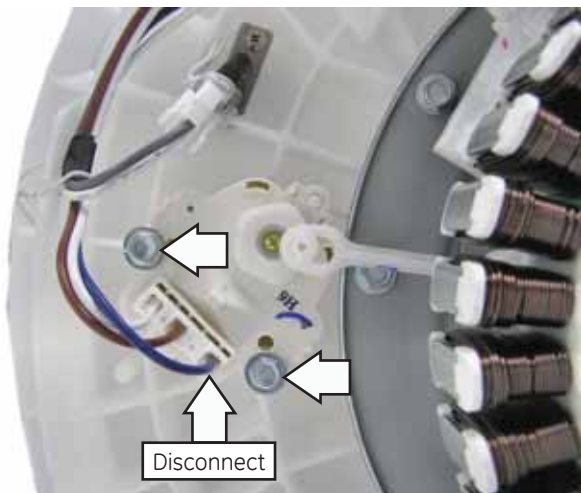


To remove the clutch shifter assembly:

1. Remove the rotor. (See *Motor Assembly*.)
2. Remove the three Phillips-head screws from the clutch coupler plate.



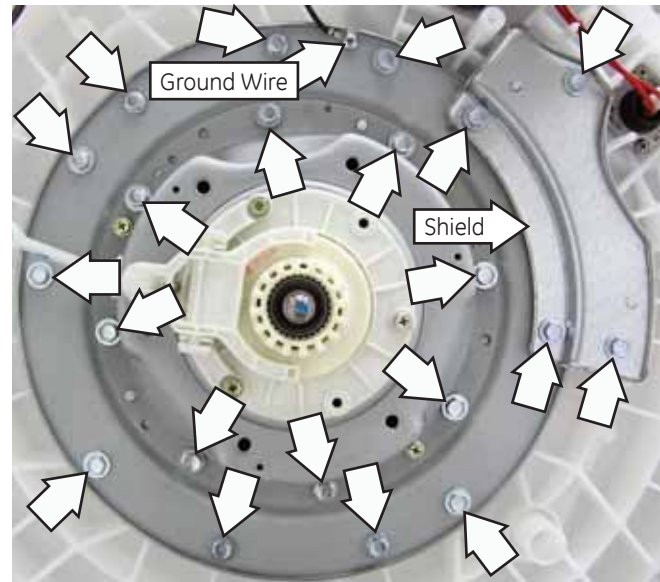
3. Remove the clutch coupler assembly.
4. Disconnect the wiring connector from the clutch motor.
5. Remove the two 10-mm hex-head screws that hold the clutch motor in place.



Bearing Housing Assembly

To remove the bearing housing assembly:

1. Remove the motor assembly and clutch shifter assembly. (See *Motor Assembly* and *Clutch Shifter Assembly*.)
2. Remove the screw that holds the ground wire to the bearing housing. Remove the twenty-one 10-mm hex-head screws that attach the bearing housing assembly and safety shield.



3. Remove the bearing housing assembly.



Note:

- When installing the bearing housing, be sure the safety shield is in place.
- Make sure the motor and Hall sensor wires are positioned in the wiring guard and away from the motor.

Troubleshooting

Service Test Mode

The washer control has a service test mode that can be utilized by the service technician to test critical components and to access error codes. This service test mode will help the service technician to quickly identify failed or improperly operating washer components.

To enter the service test mode:	To exit the service test mode:
<p>With the power connected and in the idle state (all LCD and LED indicators off):</p> <ol style="list-style-type: none"> 1. Press and hold the SPIN and the TEMP buttons, then press the POWER button. 2. If the control does not enter the t1 test mode described below, the step 1 sequence was not executed correctly. 3. Press the POWER button to clear the display, then repeat step 1. 4. Rotate the selector knob to navigate from test to test. 5. Press the START/PAUSE button to enter a test. 6. To end a test and navigate to another test, rotate the selector knob. 	<ul style="list-style-type: none"> • Press the POWER button from either the menu screen or while a test is running in the service test mode. • Disconnect power from the washer. <p>Note: If no key is pressed for 15 minutes, the control will automatically exit the service test mode and enter the idle state.</p>

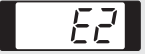

Test Mode	Test	Description
t1	Software Version	Press start button once to display power board software version. Press start a second time to view display/logic board software. All control panel LEDs should be illuminated as part of test.
t2	Error Codes	Press start button to display error codes. E00 will be displayed if there are no codes in the system. Eeprom will store up to 5 error codes and will continuously display them in chronological order on the display screen. To clear error codes, press start pad while errors are being displayed. Turn selector knob to exit test.
t3	Button / Pad Check	Buttons or pads should light and beep when pressed. Each time a button or pad is pressed, the display will change from "111" to "222" then "333" and on and on.....

Test Mode	Test	Description
t4	Inlet Valve and Pressure Sensor Check	Press start to initiate test. Each time start is pressed a different valve is energized and a different corresponding letter is displayed. A : Cold valve is energized. B : Hot valve is energized. C : Jet spray valve is energized. D : Bleach valve is energized. E : Softener valve is energized. Pump will activate when water frequency is 21.0 KHz. Water level frequency will be displayed.
t5	Heater / Thermistor Test	Press start to initiate test. Tub will begin to fill with water. When water reached the 25.8 KHZ level, heater will be energized for 5 minutes. Water temperature will be displayed. After 5 minutes, pump is energized.
t6	Pump Check	Press start to initiate test. Pump will be energized for 1 minute. After 1 minute, pump will turn off. Water frequency will be displayed.
t7	Tidal Wave Wash Check	Press start to initiate test. Tub will spin CCW at @ 230 RPM for 3 minutes. RPM value will be displayed.
t8	Agitate-1 Check (Centrifusion Wash)	Press start to initiate test. Tub will slowly spin CW then stop then spin for 3 minutes. With an empty tub, "720 ~ 902 should be displayed. This is the reading from the load sensor for an empty tub. It is not the RPM reading of the tub speed.
t9	Agitate-2 Check (Infusor Wash)	Press start to initiate test. Product will alternately rotate infusor CW then CCW for 1 minute.
t10	Spin Check	Press start to initiate test. Pump will run until water frequency is under 26.0 KHz. Tub will then slowly ramp up to maximum RPM (1000 RPM), RPM will be displayed. Tub will spin at maximum RPM for 3 minutes. After 3 minutes, tub will slowly decelerate to 0 RPM. Note: 999 will be the maximum RPM displayed.

Error Codes	
E00	No error codes
E1	Over flow error
E2	Lid switch error. (Lid opened during run state, RPM >= 40RPM)
E3	Thermistor error. (ATC thermistor)
E4	Inlet valve failure
E5	Pump failure
E6	Clutch error
E7	Pressure sensor failure
E8	Lid switch failure. (lid opened during run state, RPM < 40RPM)
E9	EEprom error
E10	Motor not rotating properly
E11	No E11 error code
E12	Clutch coupling error
E13	IPM (Integrated Power Module) Thermistor. Monitors current flow to the motor stator
E14	Door lock / Unlock error

<i>Problem</i>	<i>Possible Cause</i>	<i>What To Do</i>
<i>Washer won't operate</i>	Control panel is asleep	• This is normal. Press POWER .
	Washer is unplugged	• Make sure cord is plugged securely into a working outlet.
	Water supply is turned off	• Turn both hot and cold faucets fully on.
	Controls are not set properly	• Make sure the cycle was set correctly, close the lid and press START .
	Lid is open—safety feature. Prevents the washer from filling and operating when lid is up	• Close lid and reset cycle, to the beginning if necessary.
	Circuit breaker/fuse is tripped/blown	• Check house circuit breakers/fuses. Replace fuses or reset breaker. Washer should have separate outlet.
	Electronics need to be reset	• Unplug washer, wait 2 minutes, plug back in and press POWER .
	START was not pressed after a cycle was set	• Press START .
	Extremely low water pressure	• Press START again.
Washer is too cold	• If the washer has been exposed to temperatures below freezing for an extended period of time, allow it to warm up before pressing POWER . Otherwise, the display will not come on.	
<i>Water not filling properly</i>	Filter clogged or fill hoses may be kinked	• Make sure that the water valve filters (blue and orange screen must be free of solids) on the unit are not clogged. Turn off water and check filter by disconnecting hose at machine. Check that fill hoses are not kinked or clogged.
	Energy efficiency	• This is an energy-efficient washer. As a result, the temperature settings for this washer may be different than non-energy-efficient washers.
	Insufficient water supply	• Make sure that the water supply is turned on. Make sure that the water faucets are turned to their completely open positions.
	The washer lid is open	• The washer lid must be closed for all washer cycle operations. If the lid is opened during washer operation, all functions will stop, including water filling.
	Incorrect fill hose connection	• Make sure that the fill hoses connect the hot water supply to the hot inlet on the washer, and the cold water supply to the cold inlet on the washer (hot to hot, cold to cold).
	Water fill optimization	• Water may not cover the top level of the clothes. This is normal for this high-efficiency washer. The water fill is optimized by the system for best wash performance.
<i>Washer will not drain water standing in the tub</i>	Kinked drain hose or drain located higher than 8' above floor	• Ensure that the drain hose is not kinked. Per the recommended installation instructions, the drain outlet cannot be over 8' above the floor.

<i>Problem</i>	<i>Possible Cause</i>	<i>What To Do</i>
<i>Water leaks every load</i>	Hoses not installed correctly	<ul style="list-style-type: none"> • Check all fill and drain hose connections to ensure that they are tight and secure.
<i>Water leaks</i>	Oversudsing of detergent	<ul style="list-style-type: none"> • Oversudsing may create leaks, and may be caused by the type and amount of detergent used. High-efficiency detergent is recommended. Make sure that detergent and any additives are put into the correct dispenser bins. Follow the detergent manufacturer's recommendations for the amount of detergent, but try using less detergent,
	Too many garments loaded	<ul style="list-style-type: none"> • If too many garments are loaded in the tub, the water can overflow out of the tub during wash. Never load clothes above the tub. Be especially cautious when pillows or comforters are loaded in the machine. These type of buoyant items should be placed at the bottom of the washer basket.
<i>Incomplete or no dispensing of detergent</i>	Detergent bins clogged from incorrect filling	<ul style="list-style-type: none"> • Make sure that detergent and additives are put into the correct dispenser bins. If liquid detergent is used, make sure that the liquid detergent insert box is in the dispenser bin. If powdered detergent is used, make sure that the liquid detergent insert box is not used. Liquids must be put in the fabric softener bin. For all detergent types, always make sure that the dispenser box is fully closed before the start of the cycle.
	Too much detergent used	<ul style="list-style-type: none"> • Make sure that the suggested amount of detergent is used per the manufacturer's recommendations. You may also dilute the detergent with water to the maximum fill line on the bin to avoid clogging. High-efficiency detergent is recommended for this washer.
	Insufficient water supply	<ul style="list-style-type: none"> • Make sure that the water supply is turned on. Make sure that the water faucets are turned to their completely open positions.
	Normal residue	<ul style="list-style-type: none"> • Normal operation. Residue may remain in the bins of the dispenser box. The dispenser box may be removed for occasional cleaning with warm water and a scrub brush. The liquid detergent insert box and siphon caps may also be removed from the detergent bin for occasional cleaning. Remember that only liquid may be used in the fabric softener bin. Powder will not dispense from the fabric softener bin.
<i>Premature dispensing of bleach</i>	Bleach bin filled for future load	<ul style="list-style-type: none"> • You cannot store bleach in the dispenser for future use. The bleach bin will be dispensed every load for optimal safety of the washer.
	Overfilling the bleach bin	<ul style="list-style-type: none"> • Overfilling the bin with bleach may lead to premature dispensing. There is a maximum fill line indicated on the bleach bin to help avoid overfilling.
<i>Clogging of bleach</i>	Bleach bin is not seated	<ul style="list-style-type: none"> • Make sure that the bleach cover is properly seated and snapped into place before the start of the cycle.
	Insufficient cleaning	<ul style="list-style-type: none"> • You may remove and clean the bleach cover with warm water and a scrub brush to clear clogging.
<i>Poor stain removal</i>	Presoak not selected	<ul style="list-style-type: none"> • When stain inspector is used, presoak temperature and time are automatically selected. If you choose not to use the stain inspector, we recommend that you select presoak when defining your wash cycle. Always make sure that any additives, such as your high-efficiency liquid detergent, are added before starting the cycle. Always reference your clothes care label before treating stains.

<i>Problem</i>	<i>Possible Cause</i>	<i>What To Do</i>
<p>The display shows:</p> 	Lid lock switch error	<ul style="list-style-type: none"> • Make sure that the lid is closed and press the START/PAUSE button. The washer will not spin unless the lid is locked (LID LOCKED will appear in the display). • If the lid is closed and the lid lock error message is displayed, call for service.
	<p>Unbalance detection. your washer has detected an unbalanced load. Articles of clothing may cause an out of balance. Your washer will attempt to rebalance by adding more water and agitating to redistribute the clothing and then restart the spin cycle.</p>	<ul style="list-style-type: none"> • Allow the machine to continue its cycle. • Washer will continue to re-balance the load by adding more water and agitating to better redistribute the clothing. • This Code is displayed for informational purpose only. • See Loading the washer section in this Use and care Guide.

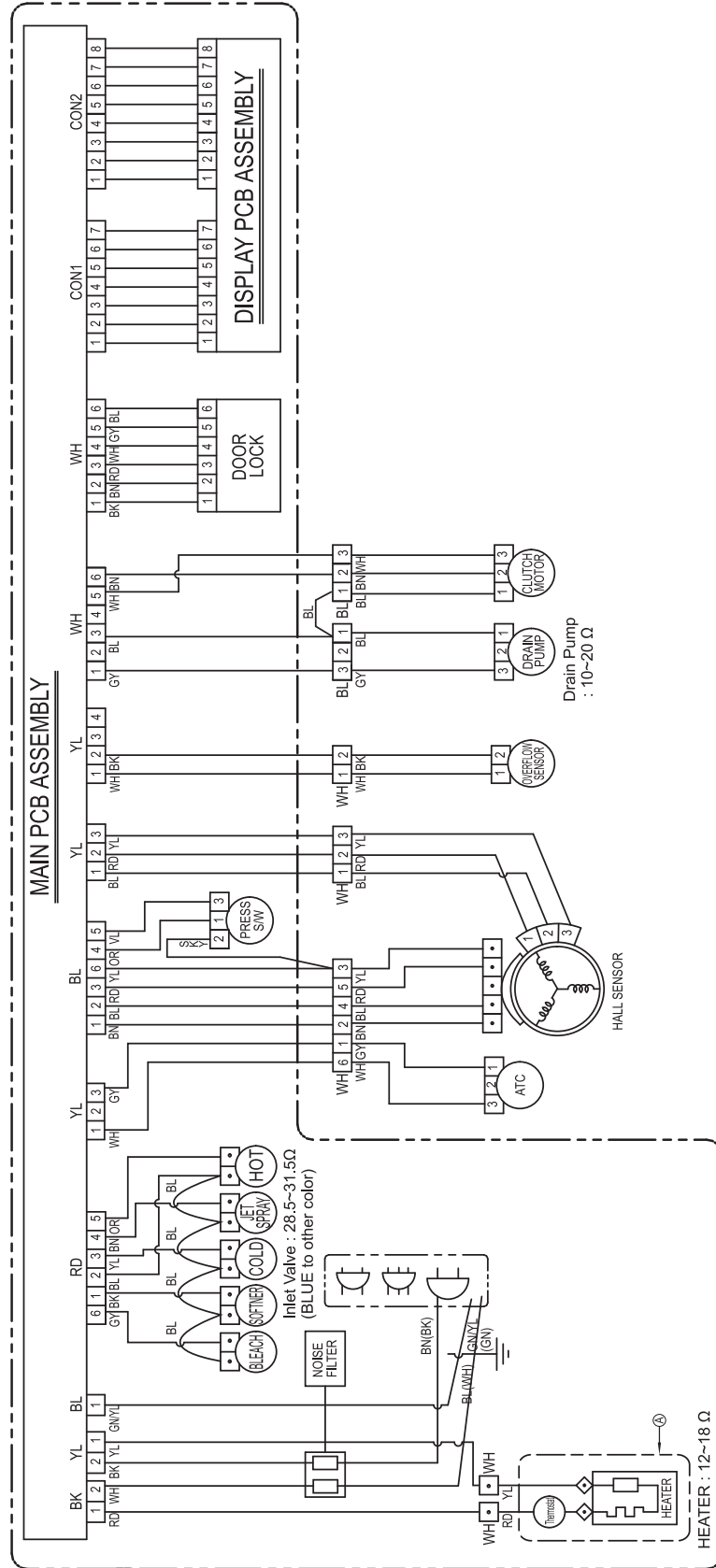
NOTE: If an error message is displayed for 4 minutes, the water in the tub will automatically drain. Once the washer initiates draining, all functions will be suspended until draining is complete.

Normal Operating Sounds

The following are normal sounds you may hear:

<i>Sound</i>	<i>Description</i>
<i>Repeated starting and stopping</i>	<ul style="list-style-type: none"> • The HydroWash™ action spins the wash basket in one direction, then pauses and spins in the opposite direction to clean your items.
<i>Sound of water being added after the washer has already been operating</i>	<ul style="list-style-type: none"> • The washer adapts to the load size and type to add more water to the cycle as needed. • The wash load may be unbalanced. If the washer senses that the load is unbalanced, it will stop and refill to redistribute the load. • The washer may be diluting laundry additives to add to the wash load.
<i>Clicking sound during the wash cycle</i>	<ul style="list-style-type: none"> • The washer will make a series of clicking noises as it changes the cleaning mode.
<i>High-pitched noise during the spin cycle</i>	<ul style="list-style-type: none"> • The wash basket spins faster to remove moisture from the load.
<i>Water flushing sound</i>	<ul style="list-style-type: none"> • The washer is diluting laundry additives to add to the wash load. Wash Boost additives are dispensed during presoak. Detergent is dispensed at the beginning of the wash cycle. Bleach is dispensed during the main wash. Fabric softener is dispensed during the final rinse.
<i>Humming noise during draining</i>	<ul style="list-style-type: none"> • The pump is operating to remove water from the basket.
<i>Pinging noise during the spin or rinse cycle</i>	<ul style="list-style-type: none"> • The washer has special rinse features to remove detergent residue from the load after the main wash cycle.
<i>Water sloshing sound when washer is turned off and tub is rotated</i>	<ul style="list-style-type: none"> • A liquid in the balance ring around the wash basket helps the basket spin smoothly.

Wiring Diagram



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, or call 800.GE.CARES (800.432.2737). 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:	We Will Replace:
One Year From the date of the original purchase	Any part of the washer which fails due to a defect in materials or workmanship. During this limited one-year warranty , GE will also provide, free of charge , all labor and related service costs to replace the defective part.
Second through Fifth Year From the date of the original purchase	The suspension rod and spring assembly, and main electronic control board if any of these parts should fail due to a defect in materials or workmanship. GE will also replace the washer lid or cover if they should rust under operating conditions. During this additional three-year limited warranty , you will be responsible for any labor or related service costs.
Second through Tenth Year From the date of the original purchase	The direct drive motor and outer washer tub if any of these parts should fail due to a defect in materials or workmanship. During this additional eight-year limited warranty , you will be responsible for any labor or related service costs.
Lifetime of Product From the date of the original purchase	The washer basket if it should fail due to a defect in materials or workmanship. During this product lifetime limited warranty , you will be responsible for any labor or related service costs.

What Is Not Covered (in the United States):

- 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.

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. 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