

GE Appliances

Technical Service Guide

September 2011

Profile Front Load Washer

PFWS4600LO
PFWS4605LO
PFWS4400LO
PFWS4405LO



31-9218



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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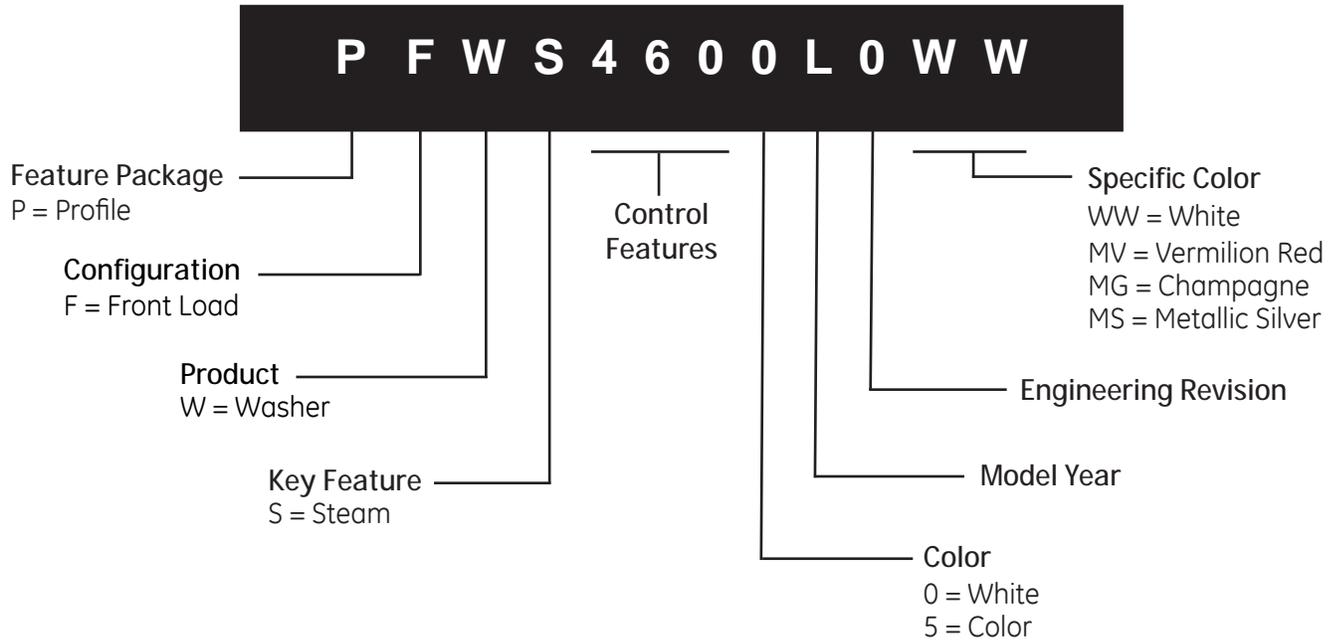
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Nomenclature

Model Number



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



The nomenclature tag is located in two places: behind the door and near the bottom, front corner on the right side of the cabinet.

Note: The technical sheet is located behind the service panel on the right side.

Introduction

The new Profile Front Load Washer has the following features:

- Overnight Ready – A small load is washed and ready to wear in 8 hours or less without needing to move the load from the washer to the dryer.
- Steam Refresh, which helps reduce wrinkles and odors and rejuvenates fabrics, and Steam Assist, which penetrates fabrics to dissolve soils and help remove tough stains.
- ENERGY STAR® qualified and CEE Tier III rated, it meets or exceeds federal guidelines for energy efficiency for year-round energy and money savings.
- Adaptive Vibration Control (AVC), which adapts and optimizes spin patterns, reducing vibration and sound no matter where your laundry room is located.
- Specialty cycles – Pre-set cycles take specific care of 24 types of specialty loads, including performance fabrics, fleece, pet bedding, and bras and hosiery.
- Energy-saving eWash option, which uses a cold water wash on select cycles without sacrificing performance.
- Ten wash cycles, which include a variety of fabric-specific settings, from Extra-Heavy Cottons to Easy-Care Colors.
- My Cycle selection, which saves a favorite cycle for future use.
- A nozzle that sprays water on the inner door glass to reduce detergent and mineral buildup.
- A built-in Service test mode that can operate specific washer components and record any associated error codes. This diagnostic feature can be accessed on the control panel's VFD (Vacuum Fluorescent Display).
- A two-piece plastic outer tub, which is formed from tough, lightweight polypropylene.
- A wash tub that is constructed of durable stainless steel.
- Two suspension springs and four dampers that provide maximum off-balance load protection with minimal vibration transfer to the floor.
- An intricate door lock that keeps the door locked during operation.
- Blackout protection, which resumes the wash cycle when power is restored after a power loss. This protection eliminates restarting the entire wash cycle.
- Flush door handle.
- UV stabilizers that are utilized on the control panel, top cover, and door outer panel to prevent yellowing when exposed to sunlight.
- The capability of installing the GE Profile dryer on top of the washer. An optional stacking kit is available under the accessory number GEFLSTACK.
- The capability of stacking the washer and dryer on a pedestal, which is ordered separately.

SPSD157JMG - Champagne (Non-Bulk Dispenser)

SPSD157JWW - White (Non-Bulk Dispenser)

SPBD880JMG - Champagne (Bulk Dispenser)

SPBD880JWW - White (Bulk Dispenser)



Control Features

About the washer control panel.

You can locate your model number on a label on the side of the washer.

⚠ WARNING! To reduce the risk of fire, electric shock, or injury to persons, read the **IMPORTANT SAFETY INSTRUCTIONS** before operating this appliance.

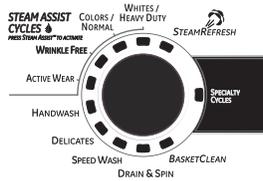
Quick Start

If the screen is dark, press the **POWER** button to “wake up” the display.

1 Press the **POWER** button.



2 Select a wash cycle or **Steam Refresh** cycle. (Defaults are set for each cycle. These default settings can be changed. See Control settings for more information.)

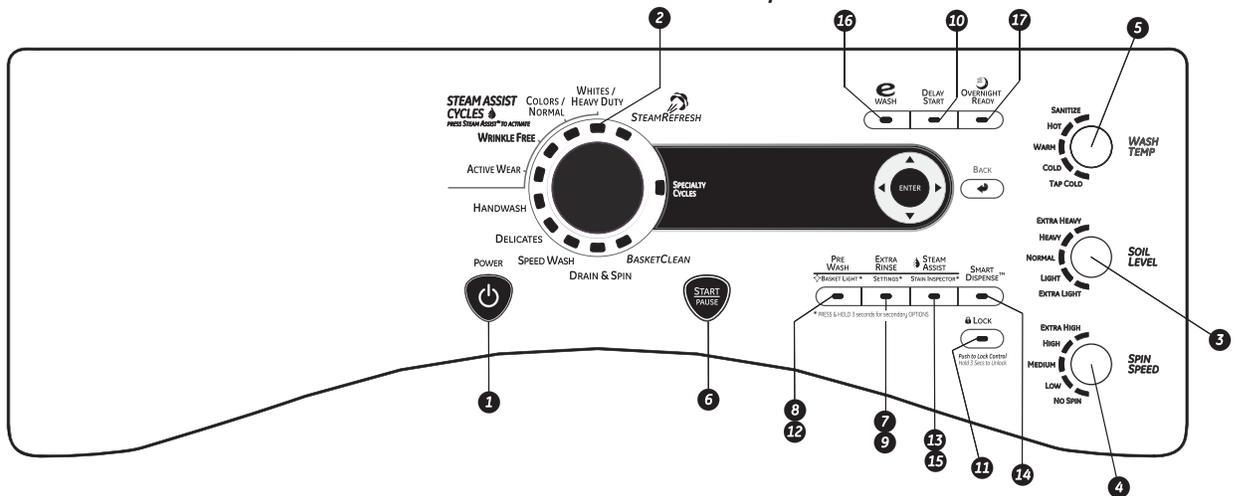


3 If you selected a cycle other than the **SPECIALTY CYCLE**, press the **START/PAUSE** button.

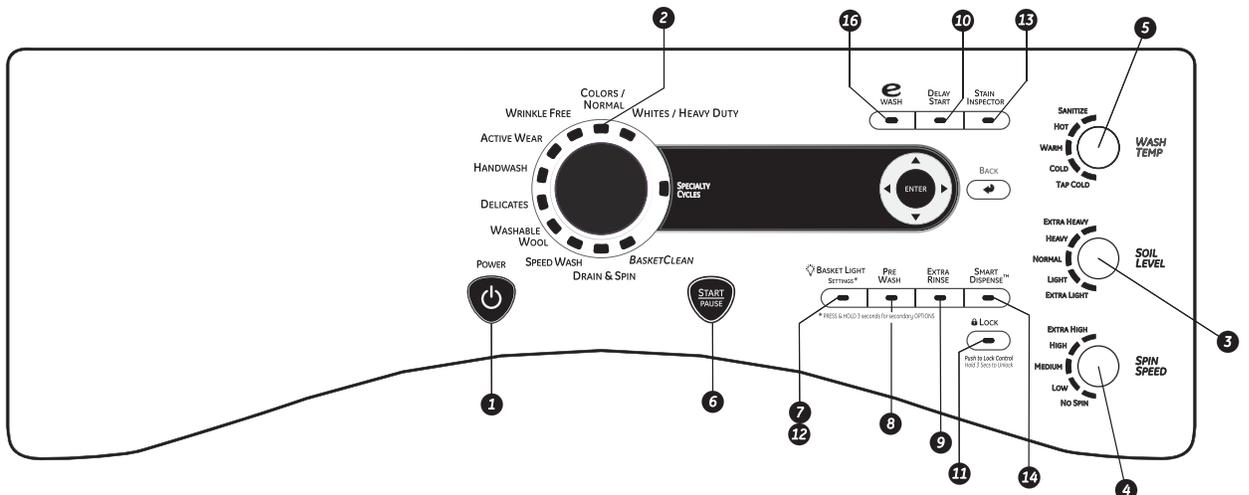


If you selected **SPECIALTY CYCLE**, choose between *Rinse and Spin*, *Garments*, *Bed and Bath*, and *Other Specialty* for your specific needs before pressing **START/PAUSE**. See specialty cycles for more information.”

PFWS4600, PFWS4605 – Profile HA Steam Washer w/ SmartDispense™



PFWH4400, PFWS4405 – Profile HA Washer w/o Steam, w/ SmartDispense™



1 **Power**
Press to “wake up” the display. If the display is active, press to put the washer into standby mode.
NOTE: Pressing **POWER** does not disconnect the appliance from the power supply.

(Continued Next Page)

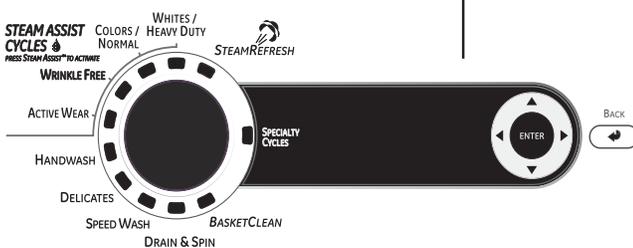
2 Wash Cycles

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 to lightly soiled white cottons, household linens, work and play clothes. Can use the STEAM ASSIST option with this cycle.
COLORS/NORMAL	For heavy to lightly soiled colorfast cottons, household linens, work and play clothes. Can use the STEAM ASSIST option with this cycle.
WRINKLE FREE (PERMA PRESS)	For heavy soiled colorfast cottons, household linens, work and play clothes.
STEAM REFRESH (some models)	To de-wrinkle 1 to 5 cotton blend items. This is not a wash cycle, but a cycle that applies only steam to the garments. Select the correct number of garments using the arrow keys and press Enter . The washer will beep upon completion of the cycle, and will continue to tumble for 30 minutes to keep wrinkles from setting in. Press Start/Pause to remove clothes. If clothes are slightly damp after completion of the cycle, hang dry clothes for 10 minutes before wearing.
HANDWASH	For items labeled hand-washable with light soils. Provides gentle rocking to mimic the handwashing action.
DELICATES	For lingerie and special-care fabrics with light to normal soil. Provides gentle tumbling and soak during wash and rinse.
ACTIVE WEAR	For active sports, exercise and some casual wear clothes. Fabrics include modern technology finishes and fibers such as spandex, stretch and micro-fibers.
WASHABLE WOOL (some models)	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.
SPEED WASH	For lightly soiled items that are needed in a hurry. Cycle time is approximately 30 minutes, depending on selected options.
DRAIN & SPIN	To quickly drain and spin out any items at any time.
BASKET CLEAN	Use for cleaning the basket of residue and odor. Recommended use of once per month.
SPECIALTY CYCLES	For unique garments that may need special treatment.

Specialty Cycles

Rinse & SPIN	GARMENTS	BED and BATH	SPECIALIZED CYCLES
Quickly rinse out any items at any time.	Coats Dress Shirts Hosiery/Bras Jeans Khakis Sweaters	Blankets (cotton) Comforters Sheets Towels	Athletic Shoes Energy Savings Fabric Refresh Fleece Fragile Cottons Performance Fabrics Pet Bedding Play Clothes Single Item Wash Sleeping Bag Soak Super Clean Throw Rugs



While in the Specialty Cycle, use the ▲ and ▼ arrow keys to scroll between the different options. Press **ENTER** to select the cycle. Press **BACK** to go to the previous menu.

Control settings.

- 3 Soil Level**

Changing the **SOIL LEVEL** increases or decreases the wash time 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.
- 4 Spin Speed**

Changing the **SPIN SPEED** changes the final spin speed of the cycles. Always follow the garment 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. You can choose between No Spin, Low, Medium, High or Extra High Spin. 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.
- 5 Wash Temp**

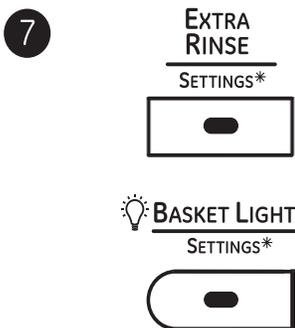
Adjust to select the proper water temperature for the wash cycle. The prewash and rinse water is always cold to help reduce energy usage and reduce setting of stains and wrinkles. Follow the fabric manufacturer's care label when selecting the wash temperature. To change the wash temperature, press the **WASH TEMP** button until you have reached the desired setting. You can choose between Tap Cold, Cold, Warm, Hot or Sanitize. The Sanitized wash temperature is not available on certain cycles, such as Delicates.

When selecting the Sanitize wash temperature, the washer increases the water temperature to sanitize and kill more than 99% of many common bacteria found in home laundry. The sanitize wash temperature is only available on the Whites/Heavy Duty wash cycle. For best results, select the heavy soil setting when using the Sanitize wash temperature setting.

NOTE: The first 10 seconds of the wash fill is always cold. This feature assists in conditioning the fabric and preventing stains from setting on garments.

- 6 START/PAUSE**

Press to start a wash cycle. If the washer is running, pressing it once will pause the washer and unlock the door. It will take a few seconds for the door to unlock after pressing PAUSE. Press again to restart the wash cycle. **NOTE:** If the washer is paused and the cycle is not restarted within 15 minutes, the current wash cycle will be cancelled. **NOTE:** In some cycles the washer will drain first, then unlock the door when it is paused. **NOTE:** The washer performs automatic system checks after pressing the START button. Water will flow in 45 seconds or less. You may hear the door lock and unlock before water flows; this is normal.



Settings

Press & hold for 3 seconds for **SETTINGS**.

Use the **SETTINGS** button to adjust the following features:

Dryer Link:

Press the **SETTINGS** button. When "DRYER LINK" appears in the display, press **ENTER**. Using the ◀▶ arrow keys, select ON and press **ENTER**.

When the washer cycle is completed, the washer will communicate with the dryer when any button on the control panel is touched or the door is opened.

The washer will display, "TRANSFERRING CYCLE INFORMATION TO THE DRYER" and the dryer will display, "RECEIVING CYCLE INFORMATION TO THE DRYER".

The dryer will only communicate with the washer if the dryer is not running a cycle.

If the washer starts a new cycle before the dryer has a chance to communicate with it, the information will be lost.

End-of-Cycle Volume:

Press the **SETTINGS** button. When "VOLUME" appears in the display, press **ENTER**, then select "End of Cycle". Using the ◀▶ arrow keys, select High, Medium, Low or Off.

Control Sounds:

Press the **SETTINGS** button, then select "Volume". When "CONTROL SOUNDS" appears in the display, press **ENTER**. Using the ◀▶ arrow keys, select High, Medium, Low or Off.

Display Brightness:

Press the **SETTINGS** button. When "DISPLAY BRIGHTNESS" appears in the display, press **ENTER**. Using the ◀▶ arrow keys, select High, Medium or Low.

Water Hardness

(Selectable only when SMART DISPENSER Pedestal Accessory is connected to washer):

This will adjust the amount of detergent dispensed automatically for the SMART DISPENSER. See the Owner's Manual supplied with the SMART DISPENSER for instructions for use.

8



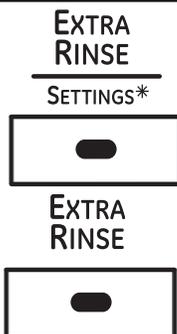
Prewash

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

The prewash feature will fill the washer (adding the prewash detergent), tumble the clothes, drain and spin. Then the washer will run the selected wash cycle.

NOTE: In some special cycles, the prewash is selected automatically as the default. You can modify this selection at any time.

9



Extra Rinse

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

NOTE: In some special cycles, the extra rinse is selected automatically as the default. You can modify this selection at any time. Some cycles have additional rinses done automatically.

10



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. Use the ▲ and ▼ (up and down) arrows to find the desired delay time; then press **ENTER** to select the delay time. Finally, press the **START** button after the desired cycle is selected. The machine will count down and start automatically at the correct time.

NOTE: If you forget to fully close the door, a reminder signal will beep reminding you to do so.

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

11



Lock

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

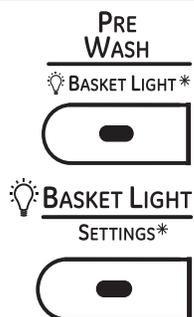
press and hold the **LOCK** button for 3 seconds. A sound is made to indicate the lock/unlock status.

Children cannot accidentally start the washer by touching pads with this option selected. To lock the washer, press and hold the **LOCK** button for 3 seconds. To unlock the washer controls,

The control lock icon on the display will light up when it is on.

NOTE: The **POWER** button can still be used when the machine is locked.

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BASKET LIGHT

The basket light will turn on and remain on for 5 minutes when the door opens, start/pause button is pressed, or by pressing and holding the basket light button for 3 seconds. The basket light can be turned off by pressing and holding the basket light button for 3 seconds. The basket light can not be turned off while the unit is idle.

Control settings.

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Stain Inspector

PFWS4600, 4605 Press & hold for 3 seconds for **STAIN INSPECTOR**.

The **STAIN INSPECTOR** feature allows you to indicate what stains are on the garments in your load. This feature can be used with any wash cycle.

To use **STAIN INSPECTOR**:

1. Select the wash cycle.
2. Press the **STAIN INSPECTOR** button (the button will light up when it is on).
3. Check the wash instructions on your garment.

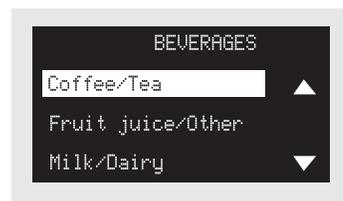


4. Press the **ENTER** button to continue.

5. Use the ▲ and ▼ arrows to find the desired stain category.



6. Press the **ENTER** button to select the stain category.
7. Use the ▲ and ▼ arrows to select the desired stain.



You have the following stains available to choose from:

OUTDOOR	COSMETICS	BEVERAGES	FOOD/COOKING
Clay	Lipstick/Lip Balm	Grape Juice	Butter/Margarine
Grass	Deodorant	Coffee/Tea	Cooking/Vegetable Oil
Mud/Dirt	Lotions	Fruit Juice/Other	Chocolate
Rust Iron	Makeup (water-based)	Milk/Dairy	Tomato Based
Tree Sap	Oil (hair/mineral)	Wine (red/white)	Barbecue Sauce

PERSONAL	SCHOOL/OFFICE/HOME	LAUNDRY	OIL/GREASE/WAX
Blood	Adhesive Tape	Dingy White Socks	Motor Oil/Lube
Perspiration	Ballpoint Ink	Collar/Cuff Soil	Ointment/Salve
Urine/Feces	Glue (white common)	Dye Transfer	Candle Wax
Mouthwash	Pencil Mark	Fabric Softener	Crayon
Vomit	Correction Fluid	Yellowing	Chapstick™

8. Press the **ENTER** button to select the stain.
9. Your selected stain will appear on the display.
10. Press the **START** button to start the cycle.

NOTE: To turn off **STAIN INSPECTOR** or to select a different stain, press the **STAIN INSPECTOR** button again.

NOTE: Prewash is selected automatically as the default for some stains. When selected automatically, the **PREWASH** button will light. For optimum stain removal, it is recommended to add high-efficiency detergent or proper wash additive to the prewash dispenser. You can turn off the prewash option if you do not want to add the prewash to the cycle.

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SMART DISPENSE™ – optional accessory (on some models)

If you have purchased the PROFILE SMART DISPENSE System, refer to the Owner's Manual that comes with the SMART DISPENSE System.

If you have not purchased the PROFILE SMART DISPENSE System, you will not have bulk-dispensing capability. If you select the **SMART DISPENSE** option, a message will be displayed advising that your unit does not have the capability. You should then put

detergent and other selected additive in the flow-through dispenser drawer located at the top left of the unit. To purchase the PROFILE SMART DISPENSE System, go online to GEAppliances.com or contact your local retailer.

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STEAM ASSIST (on some models)

STEAM ASSIST adds steam into the washer during WHITES/HEAVY DUTY, COLORS/NORMAL, WRINKLE FREE or ACTIVE WEAR cycles.

To use:

1. Turn power **ON** and select a wash cycle.
The **STEAM ASSIST** option is only available on **WHITES/HEAVY DUTY**, **COLORS/NORMAL**, **WRINKLE FREE** or **ACTIVE WEAR** cycles.

2. Select the **STEAM ASSIST** button to activate Steam.
3. Press the **START/PAUSE** button.

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ENERGY SAVINGS WASH

Use **"e" WASH** to save energy on specified wash cycles. **"e" WASH** cannot be used with **STEAM REFRESH**, **ENERGY SAVING**, **ATHLETIC SHOES**, **BASKET CLEAN**, and **WASH CARE w/ SOAK**.

17



OVERNIGHT READY

(on some models)

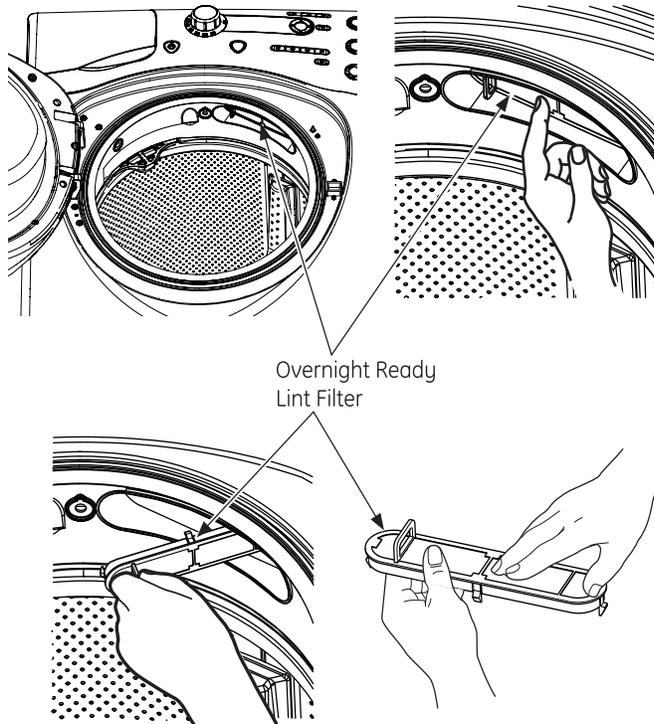
OVERNIGHT READY is intended for smaller loads only. This feature is intended for use when clothes need to be washed and ready to hang or finished the next morning. This feature will tumble clothes and introduce a constant stream of air into the machine compartment upon completion of select wash cycles. Clothes can be removed at any time by pressing pause. To use the feature, press the Overnight Ready button and follow the prompts on the screen. After use, check the lint filter located at the top of the rubber

door gasket, cleaning as needed. High wear or delicate articles are not recommended for this cycle.

The table below describes example loads that can be used with this feature:

2-3 athletic uniforms
2 sets of scrubs
2 sets of baby's crib sheets
1 dress shirt, 1 pair of dress pants
3 dress shirts

Control settings.



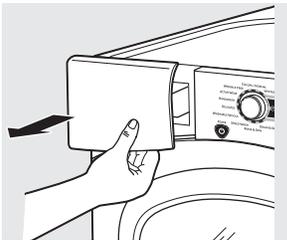
CLEANING OVERNIGHT READY LINT FILTER

(on some models)

The filter is located in the top right portion of the washer gasket. For best performance, clean this filter after every Overnight Ready cycle by running your fingers over the filter to remove lint.

For further cleaning, the filter can be removed by pulling forward on the tab. Replace the filter after cleaning.

About the washer features.



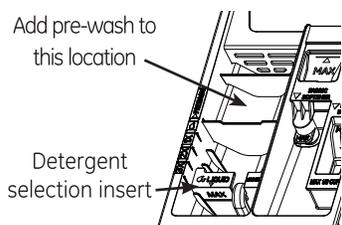
The Dispenser Drawer

Slowly open the dispenser drawer by pulling it out until it stops.

After adding laundry products, slowly close the dispenser drawer. Closing the drawer too quickly could result in early dispensing of the bleach, fabric softener or detergent.

You may see water in the bleach and fabric softener compartments at the end of the cycle. This is a result of the flushing/siphoning action and is part of the normal operation of the washer.

Use only HE High-Efficiency detergent.



The Prewash Compartment

■ Only use the Prewash Compartment if you are selecting the Prewash cycle for heavily soiled clothes. Add measured detergent or prewash additive to the back left prewash compartment of the dispenser drawer.

■ Detergent or prewash additive is flushed from the dispenser in the prewash cycle (if selected).

NOTE: Liquid detergent will drain into the washer basket as it is added.

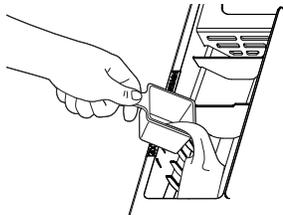
■ Detergent usage may need to be adjusted for water temperature, water hardness, size and soil level of the load. Avoid using too much detergent in your washer as it can lead to over sudsing and detergent residue being left on the clothes.



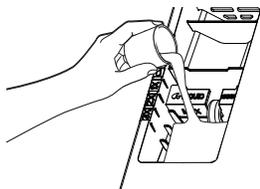
Adjustment Rails

The Detergent Compartment

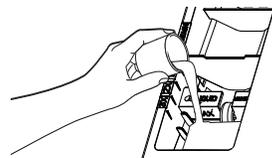
- Only use high-efficiency detergent in this washer. DO NOT fill high-efficiency detergent over the MAX line. Use detergent manufacturer's recommended amount.
- Powder Detergent – Remove the Detergent selection insert and place it in a safe location outside of the washer. Follow the detergent manufacturer's instructions when measuring the amount of powder to use.
- Liquid Detergent – Locate the concentration of your detergent on the bottle. Place the Detergent selection insert in the corresponding location depending on the concentration.
- Move the insert by pulling it up and replace it by sliding it down between two detergent compartment rails. Make sure to push the insert to the bottom of the compartment so that it is flush to the bottom of the compartment. It is not an issue if the detergent leaks past the insert to the back of the compartment.
- 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, detergent residue being left on the clothes, and could extend wash times.
- Do not put clumped detergent in the dispenser. Clumped detergent can cause a leak.



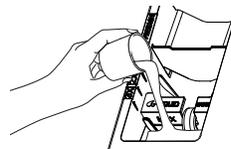
For HE powder detergent remove the Detergent selection insert and add powder here



For HE liquid detergent that is non-concentrated, place the insert in the "1X" position



For HE 2X liquid detergent, place the insert in the "2X" position



For HE 3X liquid detergent, place the insert in the "3X" position



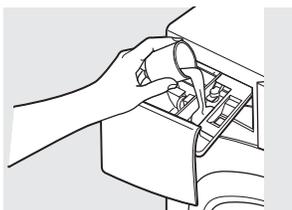
The Liquid Bleach Compartment

If desired, measure out the recommended amount of liquid bleach, not to exceed 1/3 cup (80 ml) and pour into the center compartment labeled "LIQUID BLEACH" marked with this symbol .

It is recommended to use High-Efficiency (HE) bleach in this front-load washer.

Do not exceed the maximum fill line. Overfilling can cause early dispensing of the bleach which could result in damaged clothes.

NOTE: Do not use powdered bleach in the dispenser.



The Fabric Softener Compartment

If desired, pour the recommended amount of liquid fabric softener into the compartment labeled "FABRIC SOFTENER."

Use only liquid fabric softener in the dispenser. 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.

Loading and using the washer.

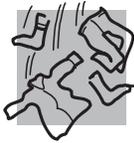
Always follow fabric manufacturer's care label when laundering.



Sorting Wash Loads

Colors	Soil	Fabric	Lint
Whites	Heavy	Delicates	Lint Producers
Lights	Normal	Easy Care	Lint Collectors
Darks	Light	Sturdy Cottons	

- Combine large and small items in a load. Load large items first. Large items should not be more than half the total wash load.
- Washing single items is not recommended. This may cause an out-of-balance load. Add one or two similar items.
- Pillows and comforters should not be mixed with other items. This may cause an out-of-balance load.
- Sort dark-colored clothes from light-colored clothes to prevent dye transfer. This is a high-efficiency washer, so it uses less water, making dye transfer more common.



Loading the Washer

The wash drum may be fully loaded with loosely added items. **Do not wash garments containing flammable materials (waxes, cleaning fluids, etc.).**

To add items after the washer has started, press **START/PAUSE** and wait until the door is unlatched. The washer may take up to 30 seconds to unlock the door after pressing **START/PAUSE**, depending on the machine conditions. Do not try to force the door open when it is locked. After the door unlocks, open gently. Add items, close the door and press **START/PAUSE** to restart.

Loading Examples*

WORKWEAR	LINENS	MIXED LOAD	DELICATES*	SPEED WASH (2-4 GARMENTS)
4 Jeans 5 Work Wear Shirts 5 Work Wear Pants	2 Bath Sheets 10 Bath Towels/ 12 Washcloths 7 Hand Towels/ 2 Terrycloth Bath Mats OR 2 Flat Queen-Sized Sheets 2 Fitted Queen-Sized Sheets 4 Pillowcases	4 Pillowcases 2 Hand Towels 2 Flat Sheets/ 2 Fitted Sheets 2 Bath Towels/ 4 Washcloths OR 6 Shirts (Men's or Women's) 4 Pair Pants (Khakis or Twills) 5 T-shirts 7 Pairs of Boxers 4 Pairs of Shorts OR 6 T-shirts 4 Pairs of Sweatpants 4 Sweatshirts 2 Hoodies 7 Pairs of Socks	7 Bras 7 Panties 3 Slips 2 Camisoles 4 Nightgowns *Using a nylon mesh bag for small items is recommended.	2 Casual Wear Work Shirts 1 Pair Casual Wear Work Pants OR 3 Soccer Uniforms

*Using a nylon mesh bag for small items is recommended.

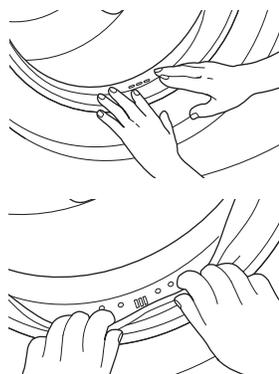
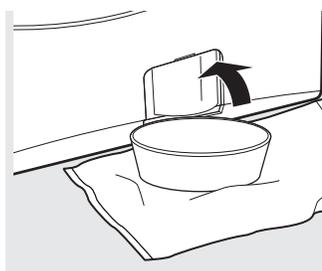
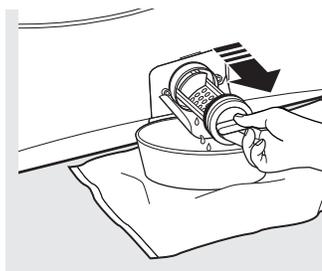
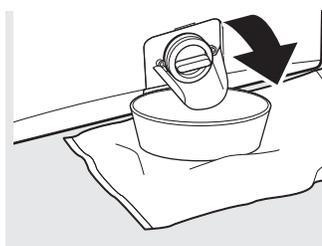
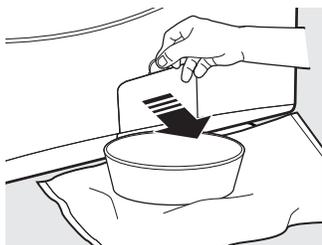
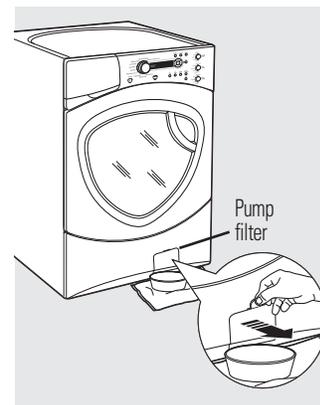


Care and Cleaning/General Maintenance

Cleaning the Pump Filter

Due to the nature of the front-load washer, it is sometimes possible for small articles to pass to the pump. The washer has a filter to capture lost items so they are not dumped to the drain. To retrieve lost items, clean out the pump filter.

1. Using a small flathead screwdriver, open the access door.
2. Place a shallow pan or dish under the pump access door and towels on the floor in front of the washer to protect the floor. It is normal to catch about a cup of water when the filter is removed.
3. Pull down the pour spout.
4. Turn the pump filter counterclockwise and remove the filter slowly, controlling the flow of the draining water.
5. Remove the filter and clean the debris from the filter.
6. Replace the filter and turn clockwise. Tighten securely.
7. Flip up the pour spout.
8. Close the access door by hooking the bottom tabs first, then rotating the access door shut.



Cleaning the Door Gasket

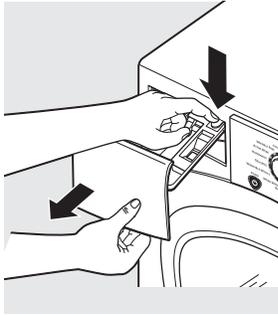
Open the washer door. Using both hands, press down the door gasket. Remove any foreign objects if found trapped inside the gasket. Make sure there is nothing blocking the holes behind the gasket.

While holding down the door gasket, inspect the interior gasket by pulling it down with your fingers. Remove any foreign objects if found trapped inside this gasket. Make sure there is nothing blocking the holes behind the gasket.

When you are finished cleaning the door gasket, remove your hands and the gaskets will return to the operating position.

Loading and using the washer.

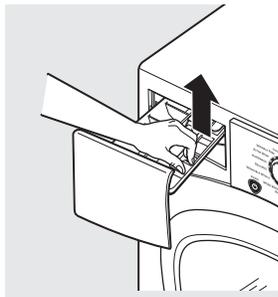
Always follow fabric manufacturer's care label when laundering.



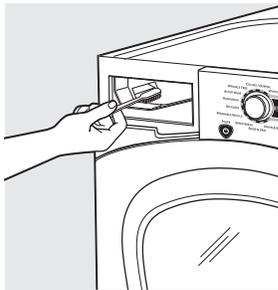
Lock tab is visible only after drawer has been pulled out

Dispenser Drawer Area: Detergent and fabric softener may build up in the dispenser drawer. Residue should be removed once or twice a month.

- Remove the drawer by first pulling it out until it stops. Then reach back into the right rear corner of the drawer cavity and press down firmly on the lock tab, pulling out the drawer.



- Remove the insert from the bleach and fabric softener compartments and the detergent insert. Rinse the inserts and the drawer with hot water to remove traces of accumulated laundry products.



- To clean the drawer opening, use a small brush to clean the recess. Remove all residue from the upper and lower parts of the recess.
- Return inserts to the proper compartments. Replace the dispenser drawer.

- To reduce buildup in the Dispenser Drawer area:

*Use only HE
High-Efficiency
detergent.*





Fabric Care Labels

Below are fabric care label "symbols" that affect the clothing you will be laundering.

WASH LABELS

Machine wash cycle						
	Normal	Permanent Press/ wrinkle resistant	Gentle/ delicate	Hand wash	Do not wash	Do not wring
Water temperature						
	Hot (50°C/120°F)		Warm (40°C/105°F)		Cold/cool (30°C/85°F)	

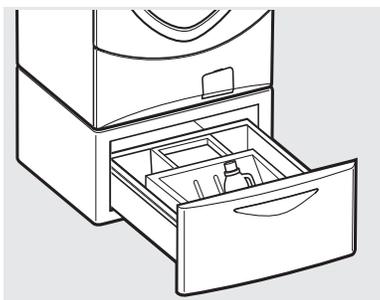
BLEACH LABELS

Bleach symbols			
	Any bleach (when needed)	Only non-chlorine bleach (when needed)	Do not bleach

DETERGENT LABELS

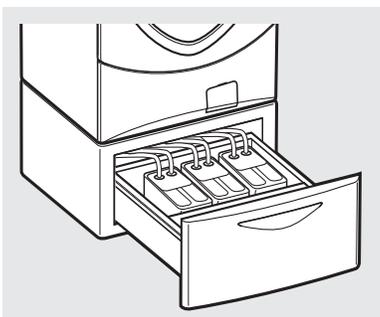
	Use only HE High-Efficiency detergent.
--	--

Available accessories.



Pedestal

There is a pedestal available for your washer. This pedestal gives the washer more height and gives storage for your washing necessities. Included with the pedestal is a divider that allows you to store liquid laundry detergent out of sight. See the pedestal installation instructions.



Profile Smart Dispense System

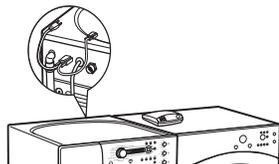
The Profile SMART DISPENSE System lets you store laundry detergent and fabric softener to be dispensed automatically during the wash and rinse cycles of this washer. NO BLEACH may be used in this dispense system. See the Owner's Manual that is included with the Profile SMART DISPENSE System for installation instructions.

Models PFWS4600/5 AND 4400/5 are compatible with the GE Smart Appliance Module (SAM) which can be purchased separately. Contact your local utility or visit www.GEAppliances.com/smart-appliances to see if your area is using Demand Response (SAM) technology.

INSTALLATION

The preferred location for the module installation is on top of the clothes dryer.

Details on how to connect the cables to the module are in the instructions that come with the module.



Wait 5 minutes; then press the Settings button. Scroll and look for the energy management screen as seen below.



This screen means the module is attached correctly and you can begin to use your Smart appliance following the instructions below.

If the Energy Management Screen is not available, refer to the SAM module troubleshooting guide.

QUICK GUIDE

There are 4 power levels available: Critical, High, Normal and Low. On the Normal and Low levels, the unit runs as normal. The following steps show how the unit reacts during startup at Critical and High power levels.

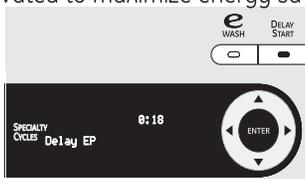
Option 1 (Delay EP)

During startups at Critical and High levels, the unit will delay starting until the level becomes Medium or Low. Press the **START/PAUSE** button.

Option 2 (Override Delay EP)

When Delay EP is shown, the delay function can be overridden by pressing the **DELAY START** button. Pressing the **START/PAUSE** key will begin the selected cycle with **"e" WASH** enabled. The **"e" WASH** indicator will be illuminated.

During a Critical Rate period, the Critical Response Mode** will also be activated to maximize energy savings. EP will be displayed.



Option 3 (Override "e" WASH)

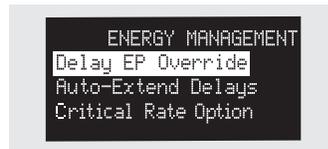
After overriding the delay function, pressing the **"e" WASH** button will disable the **"e" WASH** setting. Pressing the **START/PAUSE** key will begin the selected cycle.

During a Critical Rate period, the Critical Response Mode** will be activated to maximize energy savings. EP will be displayed.

****Note:** The Critical Response Mode can be disabled at any time by pressing and holding the **"e" WASH** Button for 3 seconds. EP will be removed from the display.

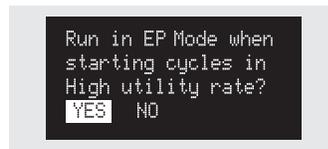
SETTINGS MENU

Press **SETTINGS**; then select Energy Management.



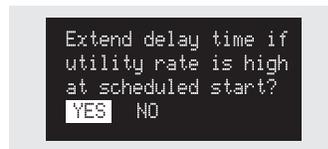
Delay EP Override

This option allows your smart washer to automatically engage the **"e" WASH** setting when overriding a Delay EP and starting a cycle during a Critical or High Rate period. The default setting is **YES**.



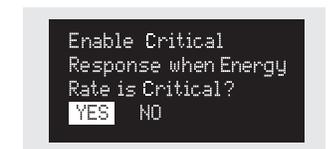
Auto-Extend Delays

If a timed delay is selected, this option allows for the scheduled start to extend if the utility rate is Critical or High at the scheduled start. The default setting will automatically extend these cycles.



Critical Rate Option

This option allows your smart appliance to respond to Critical Rate information by automatically engaging the Critical Response Mode. The Critical Response Mode is designed to maximize energy savings when a cycle is run during a Critical Rate period. The default setting is **YES**. Setting this option to **NO** will disable the Critical Response Mode.



In order for the demand response features on the appliance to work, additional equipment is required to be installed to interface with the local utility. Such equipment may be sold separately and/or is available through your utility as part of the pilot test program. Check with your utility company to see if a pilot test program is available in your area and for full details.

PLEASE NOTE: If you move to an area where the program is not available, the demand response features cannot be activated and utilized on the appliance. The appliance will function as normal after the demand response equipment has been deactivated or disconnected.

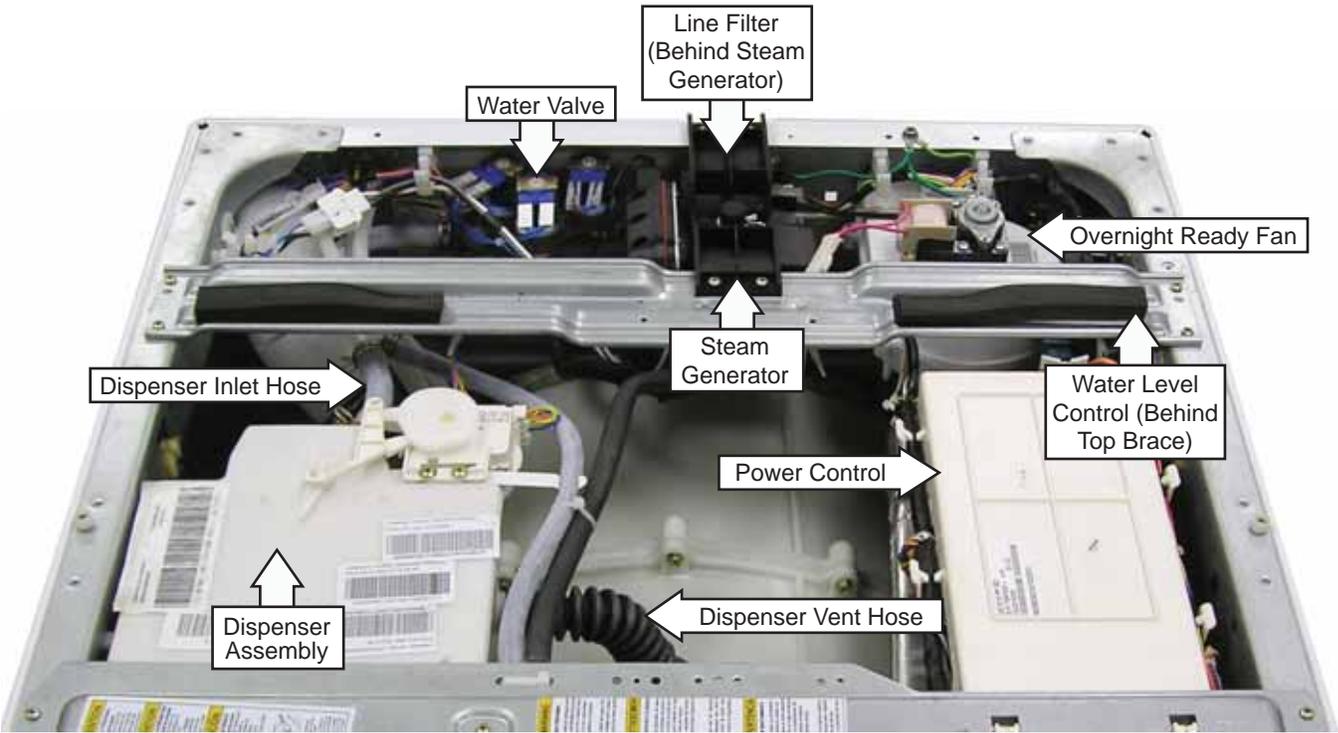
Demo Mode

In demo mode, the only components that will function are the control LEDs. No other components will operate. The countdown display will run much faster than normal.

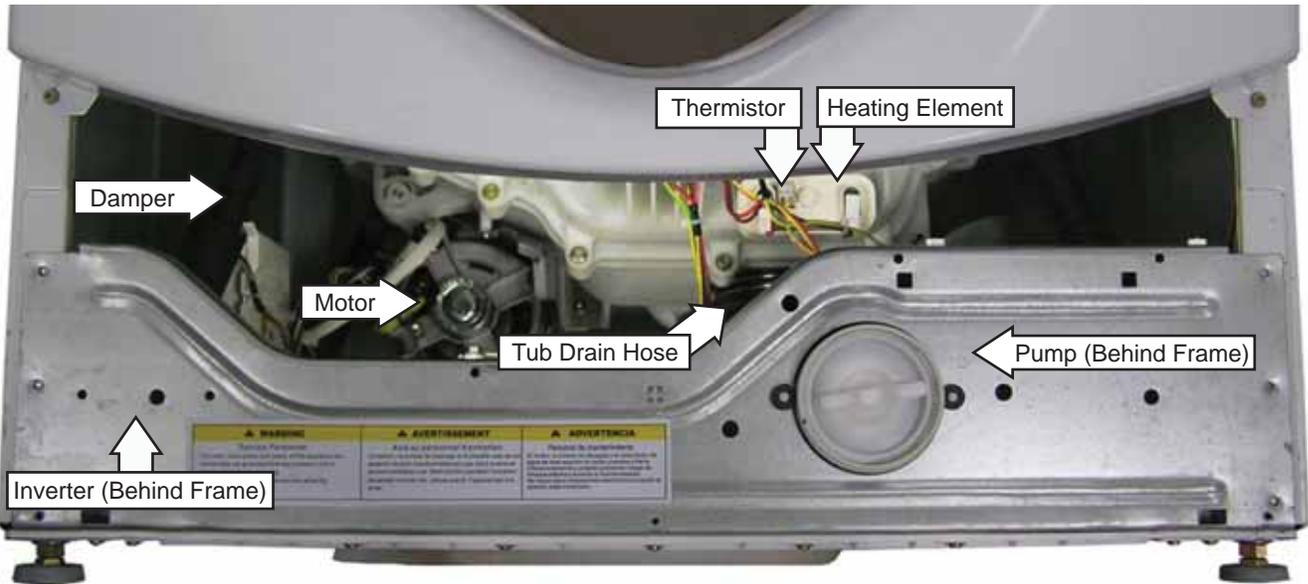
To Enter Demo Mode	To Exit Demo Mode
<ol style="list-style-type: none">1. Turn off the unit.1. Unplug the washer.2. Open the door.3. Wait 30 seconds.4. Restore power to washer.5. Press START/PAUSE 4 times within 30 seconds of applying power.	<p>Use same procedure as entering demo mode.</p> <p>Note: Removing power from washer will not exit demo mode.</p>

Component Locator Views

Top View



Front View



Front View (Con't)



Rear View

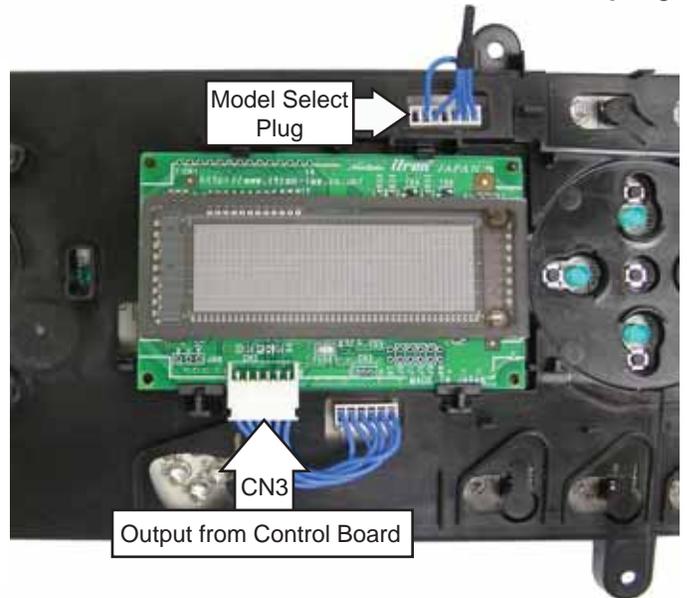


Circuit Board Connections

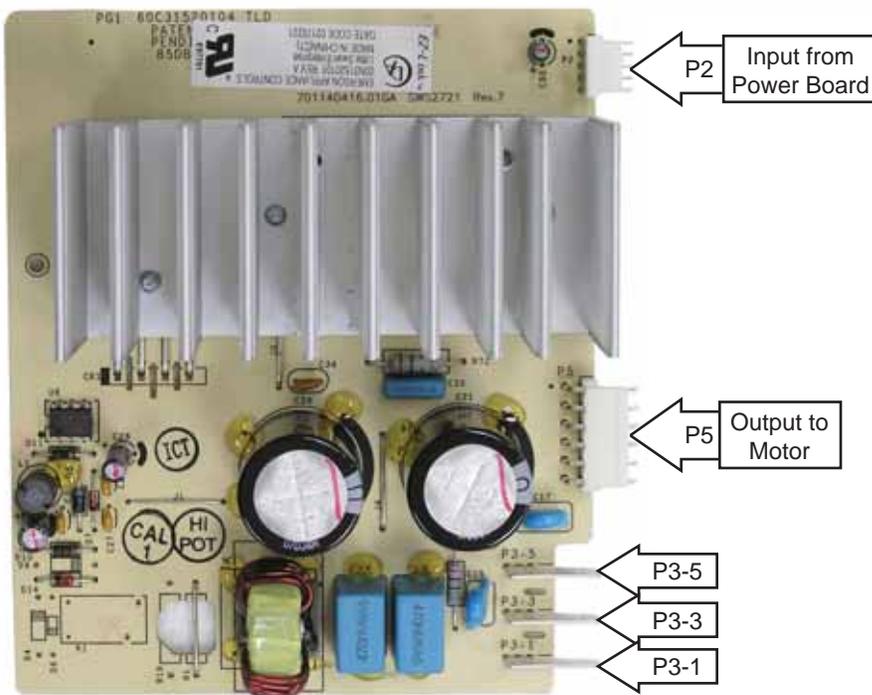
Control Board



VFD (Vacuum Fluorescent Display)



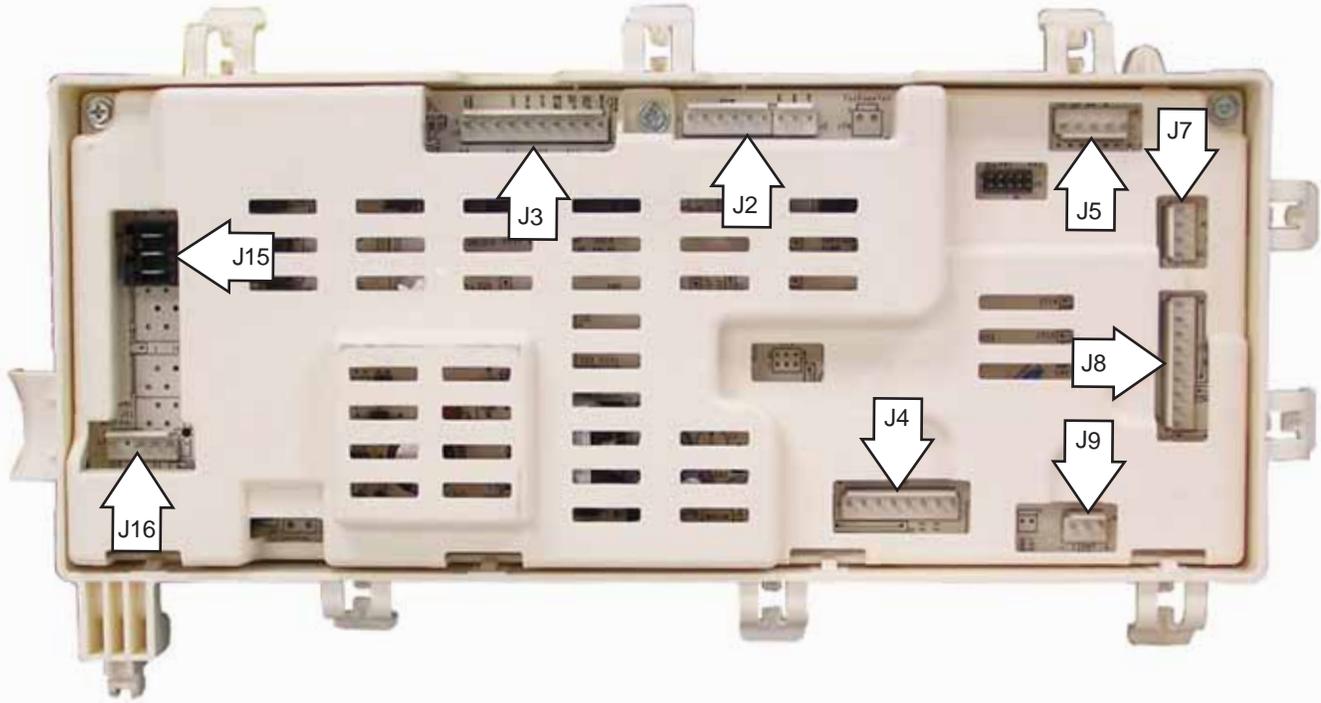
Inverter Board



P3-5	Inverter / Precharge (L1)
P3-3	Ground
P3-1	Door Lock and Heater (Neutral)

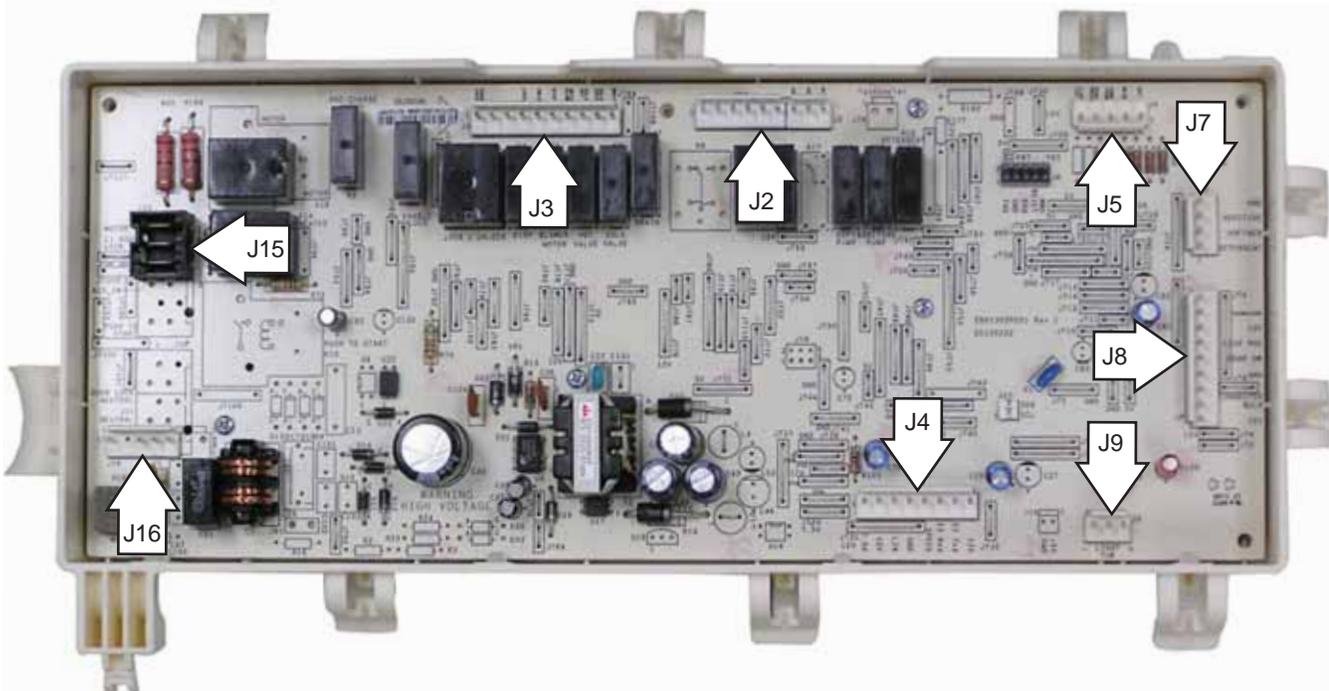
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Power Supply Board (rear cover on)



J2	Softener pump and detergent pump motors
J3	Door lock and unlock solenoids, dispenser motor, hot and cold water valves, and water pump
J4	7V and 12V to UI, LINbus, ground to UI and inverter, Ezlink tx, tx, and 5V to inverter
J5	Pressure switch: foam, main, and overflow switches
J7	Detergent and softener level sensors
J8	Bulk dispenser switch, dispenser position switch, heater temperature thermistor, and door lock switch
J9	Tube light
J15	L1 output to inverter, door lock switch, heater, and power filter
J16	L1 door lock switch, heater, N to inverter, N to bulk dispenser board, and N to power filter

Power Supply Board (rear cover off)



Washer Components

Top Panel

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

Note: Combined Phillips-head/hex-head screws can be utilized throughout this appliance. Either Phillips screwdrivers or nut drivers can be used to extract or install these screws.

Removal of the top panel provides access to the control panel, power board, dispenser, water valve, water level control, line filter, steam generator, and overnight ready fan. The top panel is held in place by 3 screws on the back.

The top panel has 2 key slots that engage grommets attached to the top of the cabinet. The top panel is attached to the rear of the cabinet with three 7-mm hex-head screws. After removing these screws, it is necessary to slide the top panel rearward 1 inch for removal.

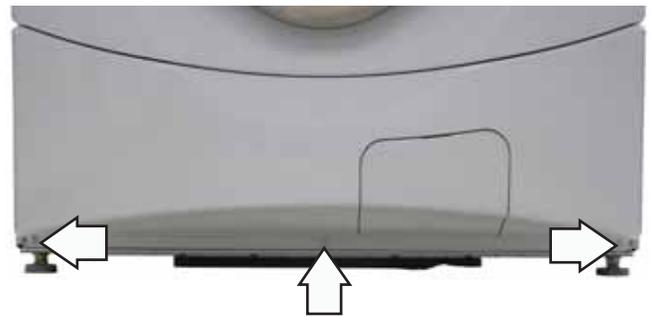


Service Panel

Removal of the service panel provides access to the pump cleanout, pump, tub drain hose, heater assembly, inverter, wire junction box, front dampers, and door lock release ring.

To remove the service panel:

1. Remove the three 7-mm hex-head screws that hold the service panel to the cabinet.
2. Pull the service panel down.

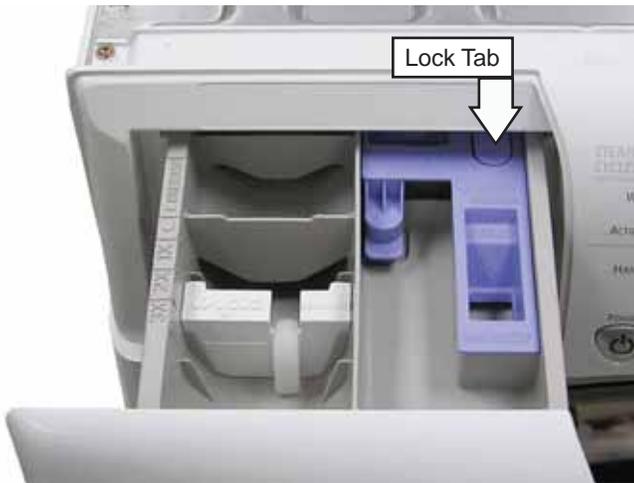


Control Panel

The control panel is held in place with 5 Phillips-head screws and 1 tab.

To remove the control panel:

1. Remove the top panel. (See *Top Panel*.)
2. Pull the dispenser out to the stop position. Press down on the lock tab. Pull the dispenser out.



3. Remove the 2 Phillips-head screws from the control panel dispenser recess.



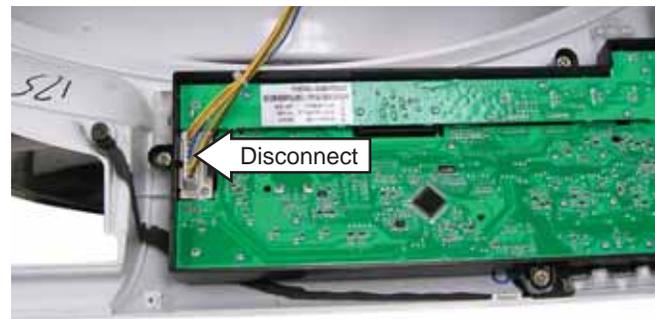
4. Remove the 3 Phillips-head screws that attach the top of the control panel to the control panel brace.



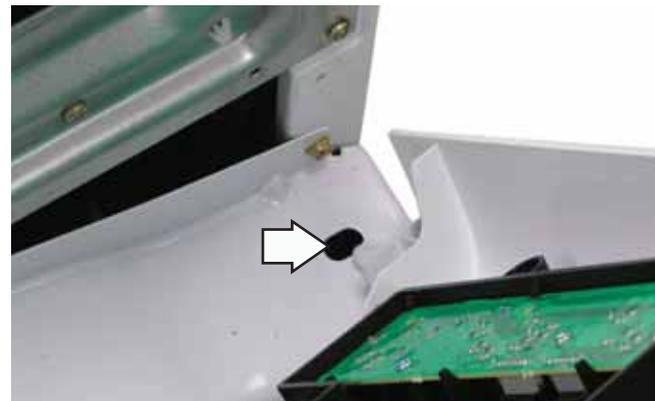
5. Lift the top edge of the panel to disengage the tab that holds the top of the panel in place.



6. Lift the panel from the cabinet.
7. Disconnect the wire harness from the control panel.



Note: When installing the control panel, place the panel pin in the locator hole in the top, right side of the front panel before engaging the tab.



Control Board

The control board is mounted in a housing attached to the inside of the control panel. The control board and housing are replaced as an assembly. The washer includes 6 modes of operation that are determined by the control board.

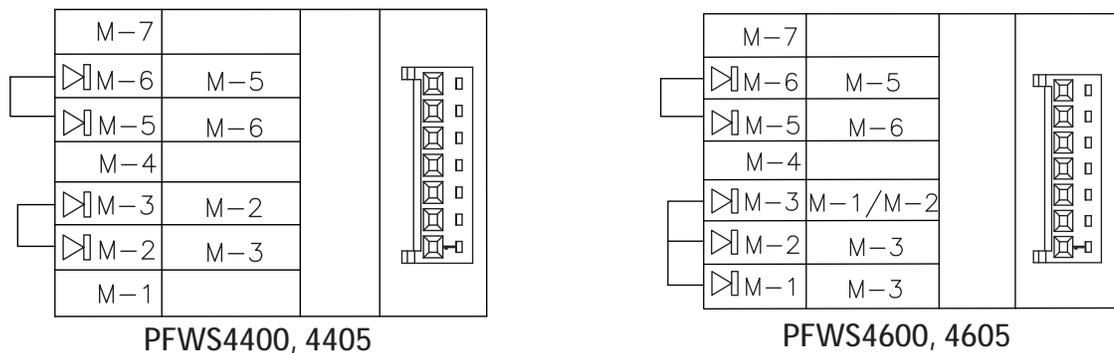
Mode Name	Description
Idle	No cycle is selected. All LEDs, VFD on front panel, load selections, and options are off. The door is unlocked. The control board is ready to take input from user.
Standby	A cycle is selected with the appropriate load selections and options. LEDs and VFD on the front panel are on. The door is unlocked. The control board is ready to take user input to either modify cycle selections or start a selected cycle.
Run	The control board is executing the currently selected cycle. The door is locked.
Pause	The control is stopped by the user during the execution of a cycle. LEDs and VFD on the front panel stay on. All loads are turned off. The door is unlocked. The control board is ready to take user input to modify, resume, or cancel the cycle.
End of Cycle	A cycle is completed. LEDs and VFD on the front panel stay on, and all loads are turned off. The door is unlocked. The control board remains in this mode until the door is opened or after 2 hours have passed.
Fault	The control board detected a critical failure condition. Certain functions of the washer will not operate. The VFD will show the fault code in the service test mode. The fault code can only be removed in the service test mode. (See <i>Service Test Mode</i> .)

Operation of the control board can be checked by using the service test mode. (See *Service Test Mode*.)

Specific failures associated with the control board can initiate error codes E1, E2, E10, and E26. (See *Error Codes*.)

When replacing the control board, wire the model select plug according to the correct model diagram shown below.

Model Select Plug



To determine if correct model select plug is assembled:

1. PFWS4400, 4405: Turn unit on. Turn knob to **Basket Clean**. Display should display basket clean instructions.
2. PFWS4600, 4605: Turn unit on. Turn knob to **Steam Refresh**. Display should display steam refresh instructions.

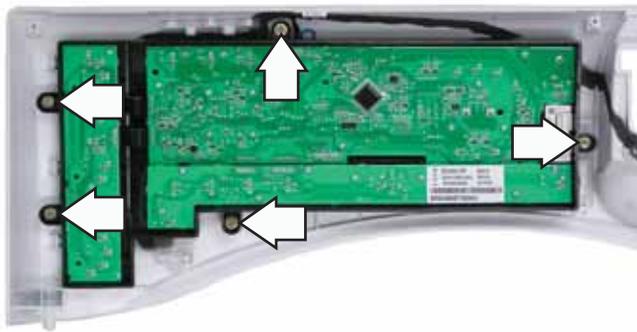
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To remove the control board assembly:

1. Remove the control panel. (See *Control Panel*.)

Note: In the following step, the knob is held in place by 4 plastic clips and may require some effort to remove.

2. Remove the knob by pulling it straight out.
3. Remove the five 6-mm hex-head screws that hold the control board assembly to the control panel.

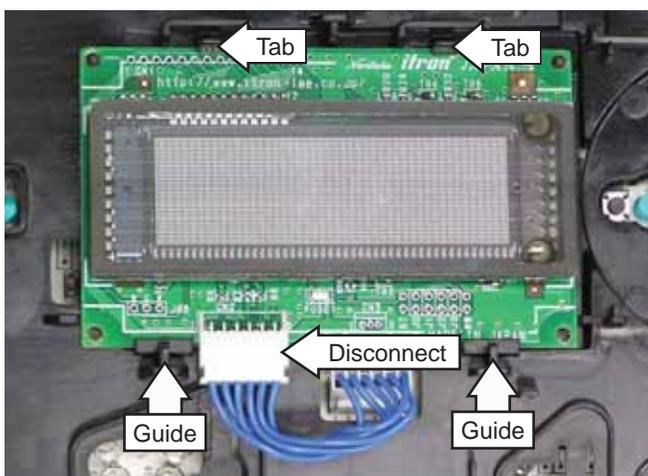


4. Remove the control board assembly from the control panel.
5. Remove the cycle selection buttons.

VFD (Vacuum Fluorescent Display)

To remove the VFD:

1. Remove the control panel. (See *Control Panel*.)
2. Disconnect the wire harness from the VFD.
3. Press the 2 tabs that hold the VFD to the control panel and remove the VFD from the 2 guides.



Line Filter

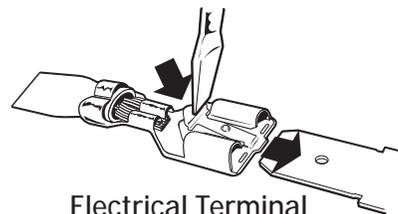
The line filter helps to smooth out any fluctuations in voltage, protecting the control board and providing more reliable operation. The line filter is installed on the interior side of the rear panel and is located left of the water valve.

To check the line filter, look for the outer surface to be burnt by heat or a power surge. The filter resistance should be approximately 0Ω between the black (top) wire terminals and 0Ω between the white (bottom) wire terminals.

To remove the line filter:

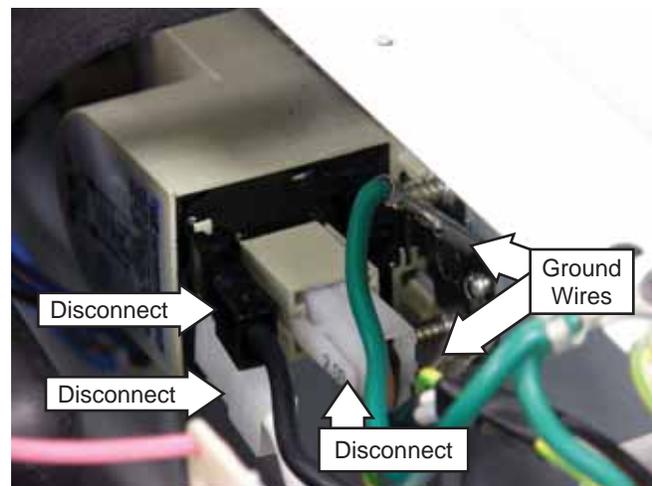
1. Remove the top panel. (See *Top Panel*.)
2. Remove the single black (top) and single white (bottom) wires.
3. Disconnect the wire harness by pressing the tab and pulling outward.

Note: The ground wires attached to the line filter have release/locking tabs.



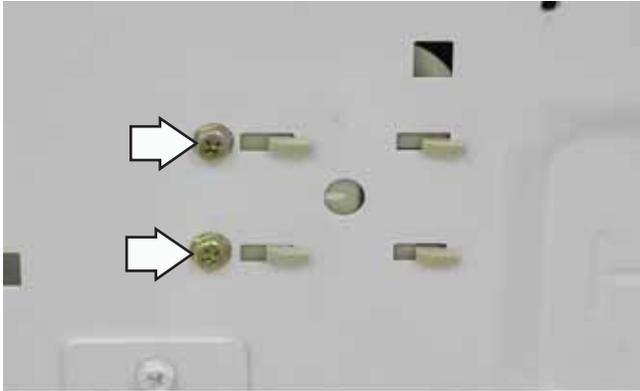
Electrical Terminal
Release/Locking Tab

4. Press the locking tab on each terminal and remove the 2 ground wires (green and yellow/green). Disconnect the black and white wires and the 4-pin connector



(Continued Next Page)

- Remove the two 7-mm hex-head screws that holds the line filter to the frame.



- Slide the line filter to the right to disengage the tabs.

Door Strike

To remove the door strike:

- Open the door.
- Remove the 2 Phillips-head screws that hold the door strike to the door frame cover.



- Remove the door strike.

Note: The door strike position on the door can be horizontally adjusted 1/8 inch. Adjust the position of the door strike for best door closure.

Door Lock

The door lock contains a door switch and solenoid-operated locking and unlocking mechanism.

The door locks when a cycle is entered (wake-up routine) and during every cycle. The door unlocks at the completion of a cycle.

The door will not open when:

- The foam switch is open.
- Water temperature is above 130°F (54°C).
- Wash basket is rotating.

Specific failures associated with the door lock can initiate error codes E11, E12, E13, and E28. (See *Error Codes*.)

The door lock is held to the front panel with 3 Phillips-head screws. The door lock is accessed from the front of the washer when the right side of the gasket is partially pulled back.

To remove the door lock:

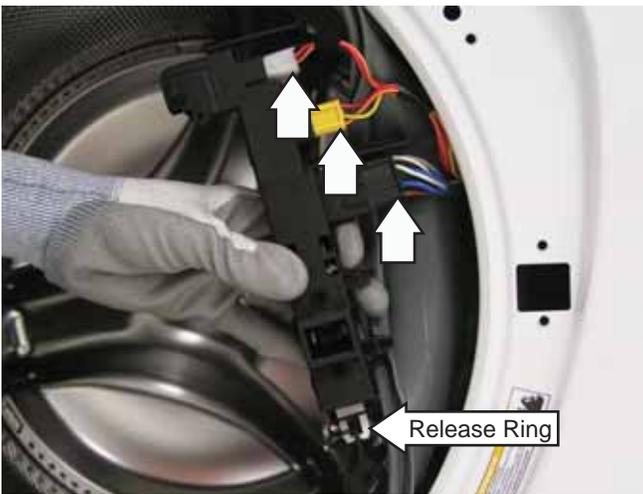
- Open the door and remove the 3 Phillips-head screws that hold the door lock to the front panel.



- Use long-nose pliers to grasp the wire loop at the spring and expand it to clear the gasket.



- Remove the spring and wire from the gasket.
- Pull the right side of the gasket away from the front panel.
- Pull the door lock toward the opening and remove the 3 wire harnesses.



Note: The door latch is solenoid-activated. It can remain locked after the power is removed.

To manually unlock door:

- Disconnect the washer from the electrical supply.

WARNING: To avoid injury, ensure all mechanical movement has stopped.

- Remove the service panel. (See *Service Panel*.)
- Reach behind and up the right side of the front panel, pull the release ring down, and then open the door.

Front Panel

The front panel is hung on 2 hooks attached to the cabinet and held in place with four 1/4-in. hex-head and 2 Phillips-head screws. A gasket provides a watertight seal between the front panel and outer tub. The front of the gasket is secured to the front panel flange by a spring and wire located in the fold of the gasket. The door lock and wiring is attached to the front panel.

To remove the front panel:

- Remove the control panel. (See *Control Panel*.)
- Remove the service panel. (See *Service Panel*.)
- Open the door. Remove the 3 Phillips-head screws that hold the door lock to the front panel. (See *Door Lock*.)
- Remove the spring and wire from the gasket. (See *Door Lock*.)
- Position the gasket behind the front panel door opening. Close the door.
- Remove the four 1/4-in. hex-head and 2 Phillips-head screws that attach the front panel to the cabinet.

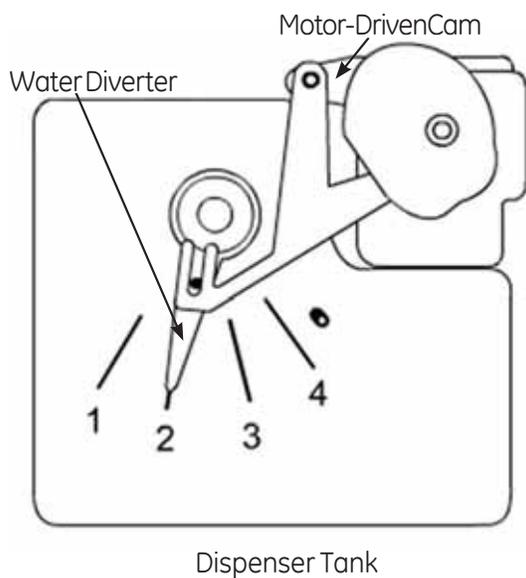


- Lift up, then remove the front panel from the 2 hooks.

Dispenser Assembly

The dispenser assembly provides automatic dispensing of detergent, bleach, and fabric softener as long as the user fills the compartments prior to starting the washer.

The products added to the dispenser are diluted with water before they are dispensed into the wash tub. This is accomplished by a water diverter that sprays a controlled jet of water into the proper compartment at the correct time. The water diverter movement is provided by a motor-driven cam located on the dispenser tank. The diverter motor and water valve are operated by the control board. At the start of a cycle, after the wake-up routine is completed, the dispenser moves into the proper position before fill takes place.



Position	Dispenser Function
1	Pre Wash
2	Main Wash
3	Fabric Softener
4	Liquid Bleach

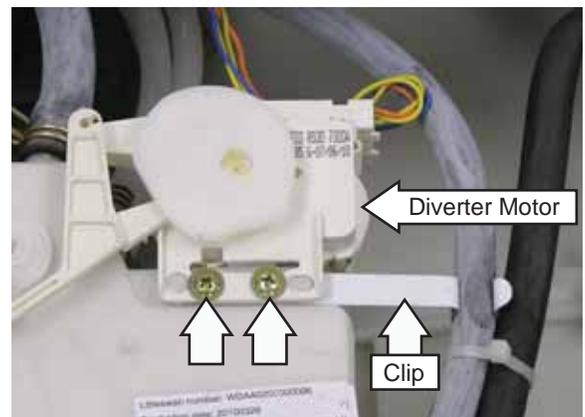
Operation of the dispenser can be checked by using service test mode t15. (See *Service Test Mode*.)

Specific failures associated with the dispenser can initiate error code E9. (See *Error Codes*.)

Caution: When testing the diverter motor, DO NOT remove the wiring harness from the diverter motor unless replacing the motor assembly. The motor assembly has a special locking connector, and the wiring harness will not stay reconnected if removed and reinstalled on the same motor.

To remove the dispenser assembly:

1. Remove the top panel. (See *Top Panel*.)
2. Remove the gasket inlet hose from the clip attached to the dispenser.
3. Remove the 2 Phillips-head screws that attach the diverter motor and gasket inlet hose clip to the dispenser tank. Place the motor and clip aside.

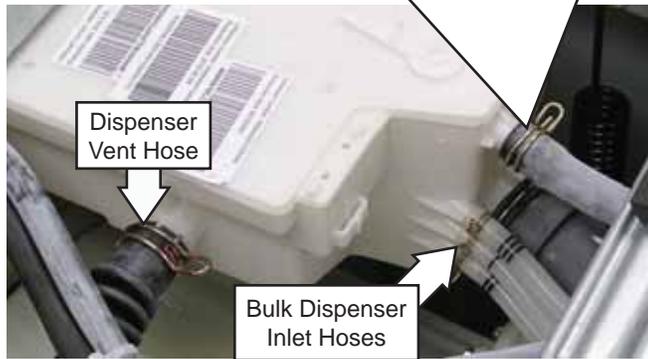
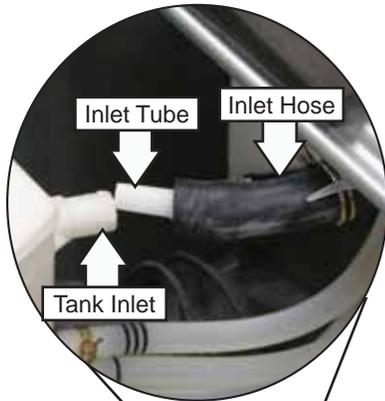


4. Remove the water inlet, dispenser vent, and bulk dispenser inlet hoses from the dispenser.

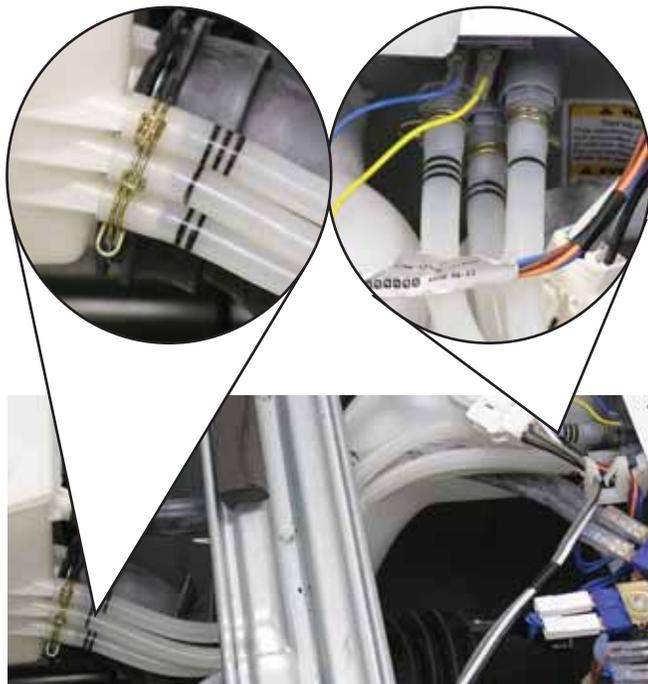
Note: The water inlet, dispenser vent, and bulk dispenser inlet hoses are difficult to remove.

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

Note: An inlet tube is located between the inlet hose and the dispenser tank. The inlet tube provides the proper water pressure to the dispenser and nozzle. When removing the inlet hose, the inlet tube may remain in the hose. Ensure the inlet tube is fully inserted into the tank inlet upon reassembly.



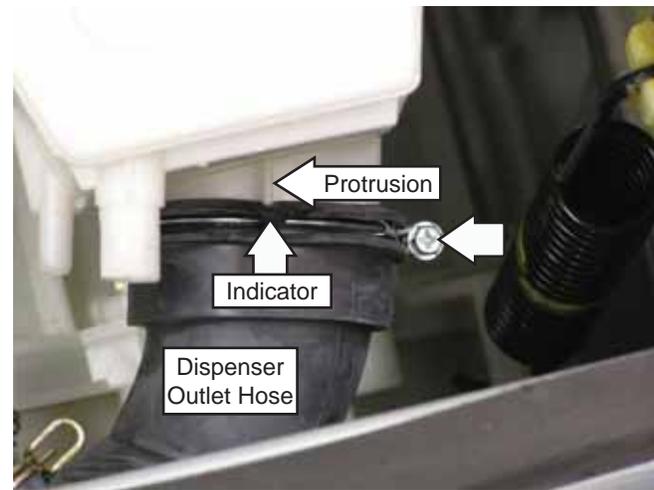
Bulk Hose Connections to Dispenser Tank



Note: Install the dispenser vent hose with the notch aligned with the tab on the dispenser tank tube.



- Using either a Phillips-head screwdriver or a 7-mm hex-head nut driver, loosen the clamp screw, loosen the clamp, and remove the dispenser outlet hose from the dispenser.

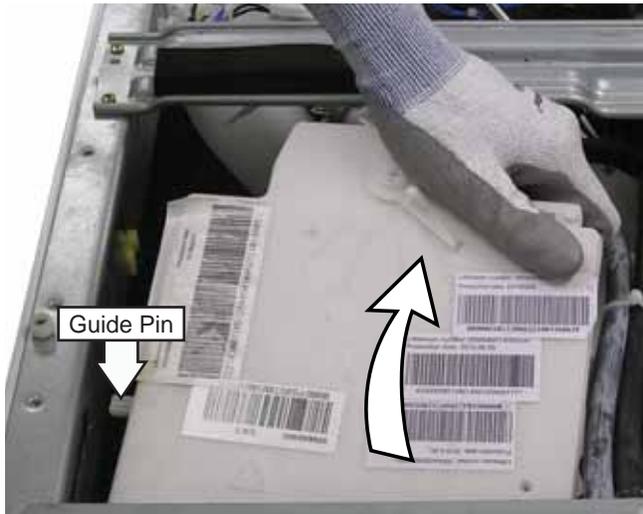


Note: Install the dispenser outlet hose with the hose indicator aligned with the dispenser tank protrusion.

- Remove the 2 Phillips-head screws that attach the dispenser to the front bracket.



- Pull the dispenser towards the rear of the washer and remove the dispenser from the front bracket.



Note: When installing the dispenser, ensure the dispenser guide pin is inserted into the slot in the top brace on the left side of the cabinet and the 2 front pins are inserted in the holes in the front bracket.



Dispenser Motor

The dispenser is operated by a 120 VAC, 60 Hz motor. The dispenser motor receives commands from the power board and controls dispenser operation.

Operation of the dispenser motor can be checked by using the Service Test Mode t15. (See *Service Test Mode*.)

Specific failure associated with the dispenser motor can initiate error code E9. (See *Error Codes*.)

To remove the dispenser motor:

- Remove the top panel. (See *Top Panel*.)
- Remove the 2 Phillips-head screws that attach the diverter motor and gasket inlet hose clip to the dispenser tank. (See *Dispenser Assembly*.)
- Lift the dispenser motor vertically from the dispenser tank.

Caution: The lock tabs on the dispenser motor wiring harnesses are fragile. Tab breakage can occur if excessive release pressure is applied.

Note: In the following step, it can be helpful to insert a small, flat blade screwdriver (as shown) to remove the wire harnesses.

- Carefully press the lock tab and disconnect the 2 wire harnesses from the dispenser motor.

Wire Harness Removal



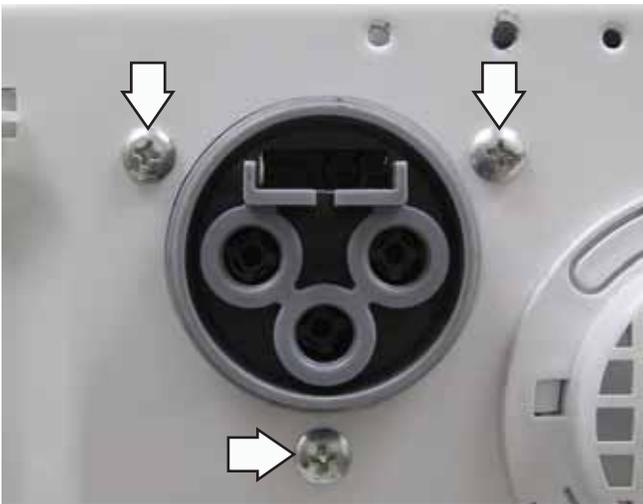
Bulk Dispenser Switch

The bulk dispenser switch has 3 outlet hoses. When these hoses are connected to the bulk dispenser switch, a tab on the connector presses against the switch, causing it to close. If the switch is closed, the power board enables the **Smart Dispense™** option and allows 12 VDC to be supplied to the 3 relay coils that supply power to the 3 pumps in the **Smart Dispense** system. The power board supplies DC ground to the other side of the relay coil for the pump it wants to turn on.

For information pertaining to the **Smart Dispense** pedestal, see publication # 31-9169.

To remove the bulk dispenser switch:

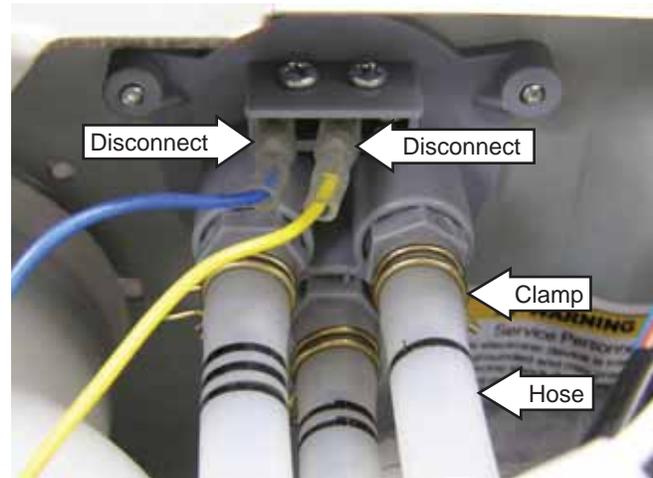
1. Remove the top panel. (See *Top Panel*.)
2. Remove the 3 Phillips-head screws from the bulk dispenser switch.



3. Disconnect the 2 wires from the bulk dispenser switch.
4. Remove the 3 bulk dispenser switch outlet hoses from the bulk dispenser switch.

Note: The bulk dispenser switch outlet hoses are difficult to remove.

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



Power Board Assembly

To remove the power board assembly:

The power board and its cover are replaced as an assembly.

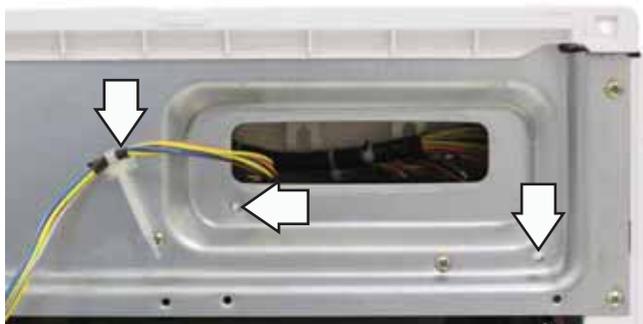
1. Remove the top panel. (See *Top Panel*.)

Note: The power board assembly is attached to the control bracket with a 6-mm hex-head screw and 2 tabs and to the right-side top brace with 1 locking tab.

2. Remove the 6-mm hex-head screw that attaches the power board assembly to the control bracket.



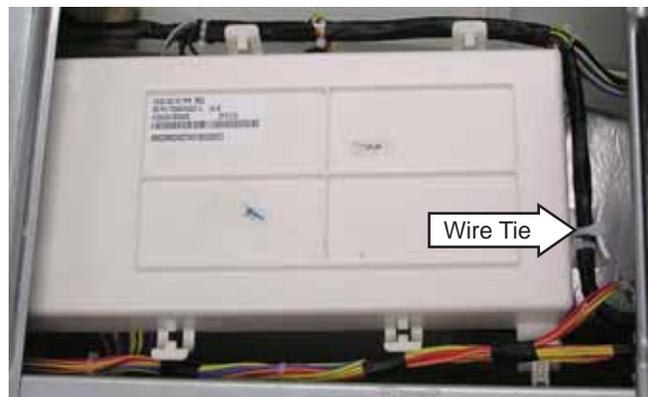
3. Remove the 3 compression tabs from the front brace.



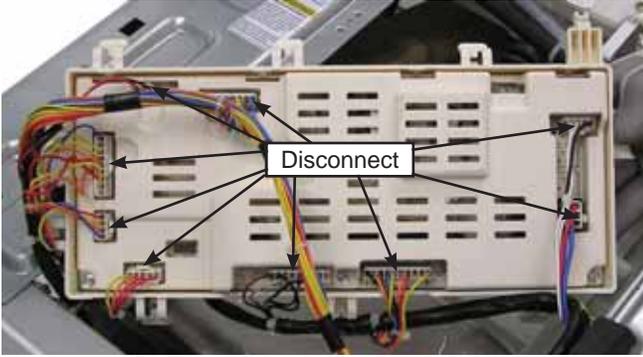
4. Pull the power board toward the rear of the washer to disengage the 2 front tabs and pull toward the left side to disengage the right tab.
5. Remove the wires from the 6 power board wire retainers (2 not shown).



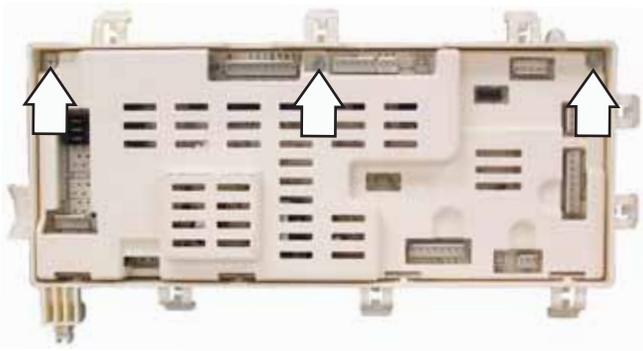
6. Remove the wire tie from the back end of the power board housing.



- Turn the power board over and disconnect 9 wire harnesses.



- Remove the 3 Phillips-head screws from the power board housing cover and remove the cover.

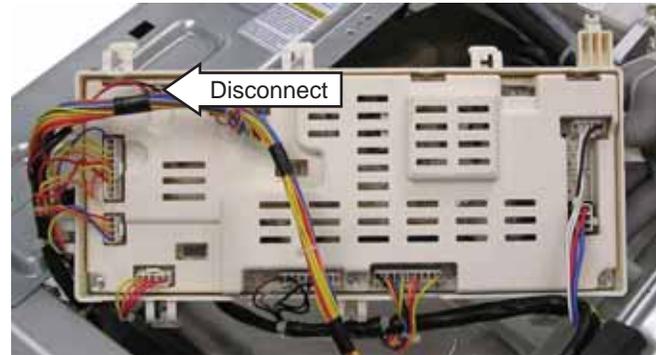


Basket Light

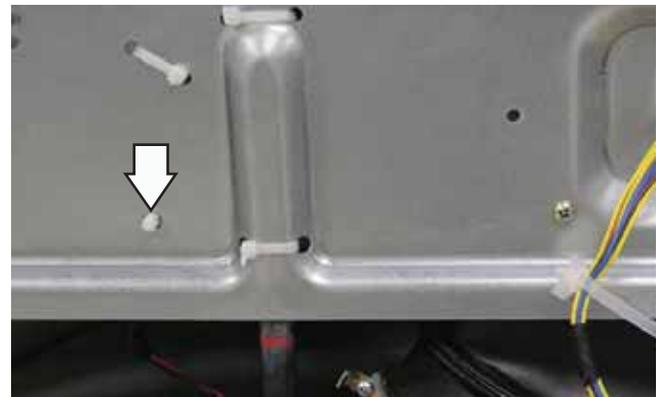
The basket light will illuminate for 5 minutes when the door is opened, the **Start/Pause** button is pressed, or the **Basket Light** button is held for 3 seconds. The light can be turned off when the **Basket Light** button is held for 3 seconds, except when the unit is in idle. The basket light uses a 3.3 VDC LED lamp.

To remove the basket light:

- Remove the front panel. (See *Front Panel*.)
- Follow steps 1-6 of the power board removal procedure. (See *Power Board Assembly*.)
- Turn the power board over and disconnect the basket light wiring harness.



- Depress the tab to remove the wire retainer that attaches the light wiring to the front bracket.



- Push the light thru the gasket to remove it from the washer.



Water Level Control

The water level control is installed on the top brace on the right side of the cabinet. The water level control is connected by a hose to an air chamber attached to the bottom of the outer tub. The water level control consists of 3 internal switches that monitor 4 water level conditions.

- When the water level rises in the outer tub, air is trapped in the air chamber.
- As the water level rises, the air pressure in the air chamber increases.
- The increased air pressure initiates operation of the 3 internal switches.
- The washer has overflow protection and will automatically pump out regardless of whether the washer is on or off, as long as the unit is plugged in. This action supersedes all other commands.
- The 3 internal switches are identified as foam, main, and overflow. The 4 water level conditions monitored are empty, foam, main, and overflow.

Level	Switch Position		
	Foam	Main	Overflow
Empty	Closed	Open	Open
Foam	Open	Open	Open
Main	Open	Closed	Open
Overflow	Open	Closed	Closed

Water Level Control Operation

When the machine is empty, the foam switch is closed and the motor circuit is disabled. When the main wash cycle is activated, the fill valve begins operating. The machine fills to the foam water level, the foam switch opens, and the tub rotates. Water temperature is read by the thermistor, and the fill valve percentage of operation (water tempering) is calculated for the main wash. When calculated, or when the load absorbs water, the tumbling pauses. Water fills the tub until the main water level is reached (adaptive fill), then the main switch closes, and the main wash tumbling begins.

Water Levels

The foam water level is approximately 1½ inches deep measured behind the baffle and approximately 1/2 inch deep measured at the bottom center of the wash basket.

Foam Water Level



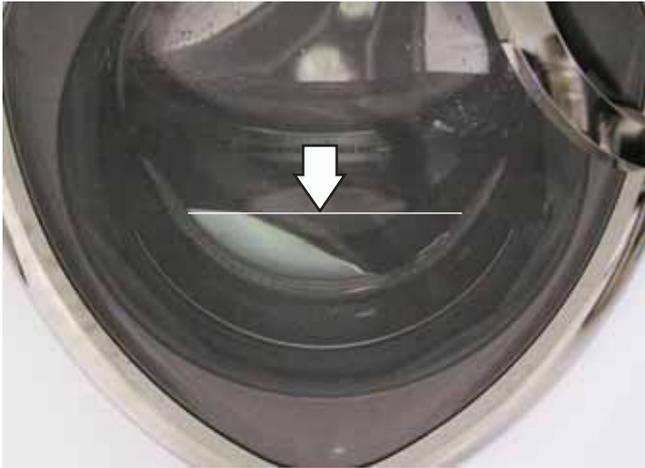
The main water level is approximately 3 inches deep measured behind the baffle and approximately 1¾ inches deep measured at the bottom center of the wash basket.

Main Water Level



The overflow water level is approximately 7 inches above the door opening. Overflow protection will occur when this water level is reached.

Overflow Water Level

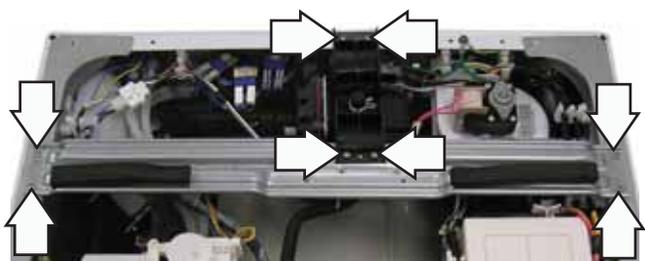


Operation of the water level control can be checked by using service test mode t09. (See *Service Test Mode*.)

Specific failures associated with the water level control can initiate error codes E6 and E14. (See *Error Codes*.)

To remove the water level control:

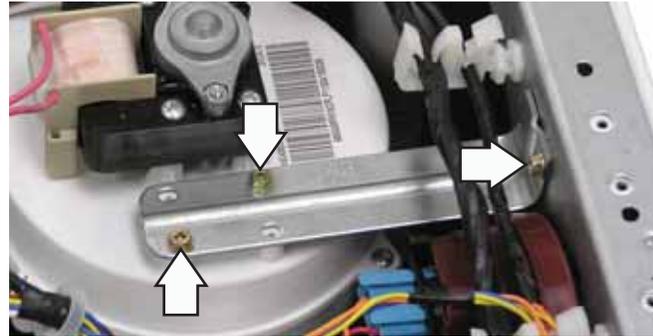
1. Remove the top panel. (See *Top Panel*.)
2. Remove 4 Phillips-head screws from the cross support and 4 Phillips-head screws from the steam generator.



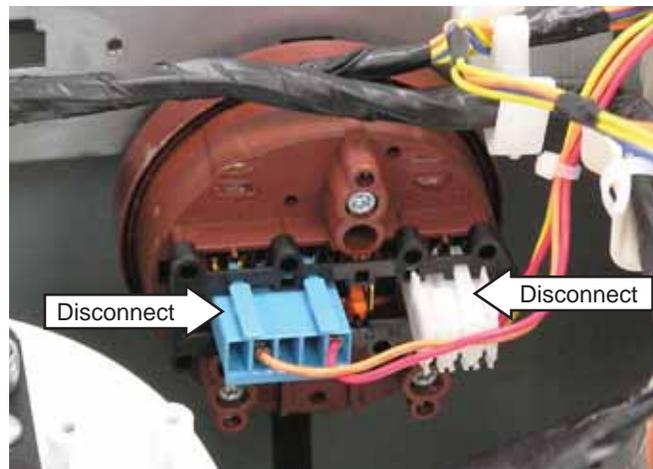
3. Remove the two 6-mm hex-head screws holding the overnight ready fan bracket to the overnight ready fan housing.

Note: The fan bracket is attached to the washer frame with 1 screw and a tab.

4. Remove the 6-mm hex-head screw from the overnight ready fan bracket and remove the bracket by sliding it up and out to release the tab.



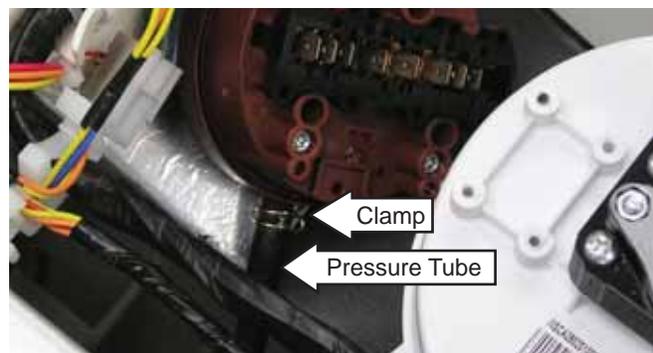
5. Disconnect the 2 wire harnesses.



6. Remove the pressure tube.

Note: The pressure tube is difficult to remove.

- 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.



7. Rotate the water level control 1/4-turn clockwise and pull it out of the cabinet.

Overnight Ready Fan Motor

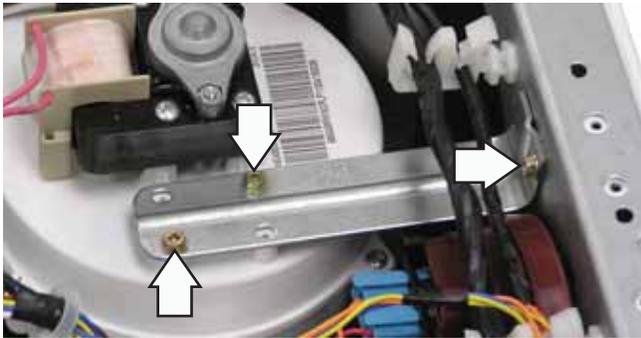
The overnight ready fan motor is attached to an air compartment and vent that draw air out of the tub thru a filter in the tub gasket. The fan motor is 120 VAC with a resistance of 32 Ω . The blower motor, blade, and housing come as an assembly (Part # WH01X10515).

To remove the overnight ready fan motor:

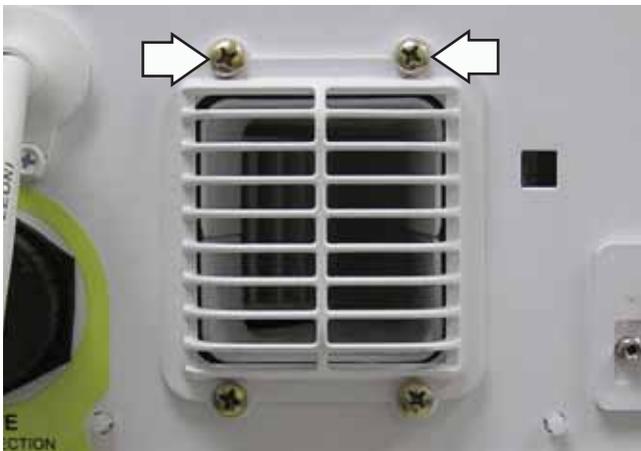
1. Remove the top panel. (See *Top Panel*.)
2. Remove the two 6-mm hex-head screws holding the overnight ready fan bracket to the overnight ready fan housing.

Note: The fan bracket is attached to the washer frame with 1 screw and a tab.

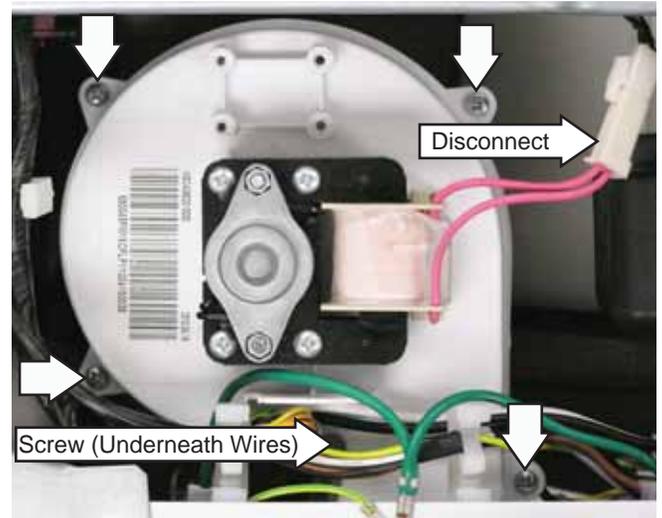
3. Remove the 6-mm hex-head screw from the overnight ready fan bracket and remove the bracket by sliding it up and out to release the tab.



4. Remove 2 Phillips-head screws from the overnight ready fan inlet vent.



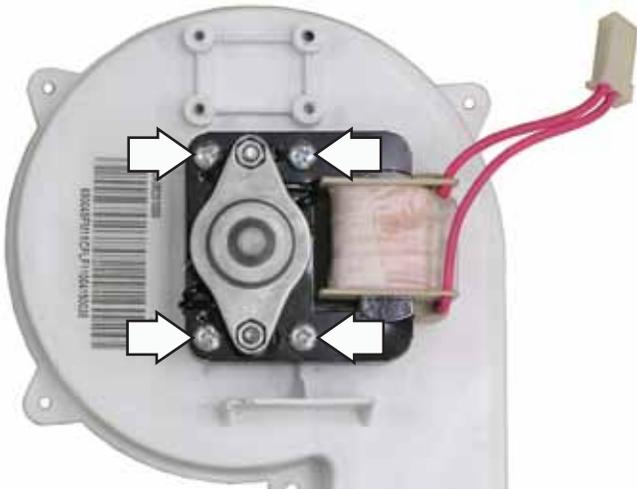
5. Disconnect the overnight ready fan motor wiring harness.
6. Remove the 5 Phillips-head screws from the overnight ready fan housing (1 not shown). Remove the top half of the housing.



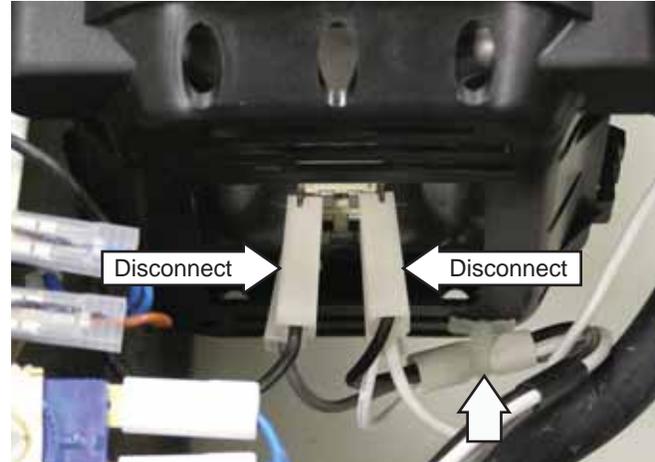
7. Remove the 10-mm nut, lock washer, and washer from the overnight ready fan to remove the fan from the motor.



- Remove the 4 Phillips-head screws from the overnight ready fan motor and remove the motor from the fan housing.



- Disconnect the 4 wiring harnesses and wire tie from the steam generator.

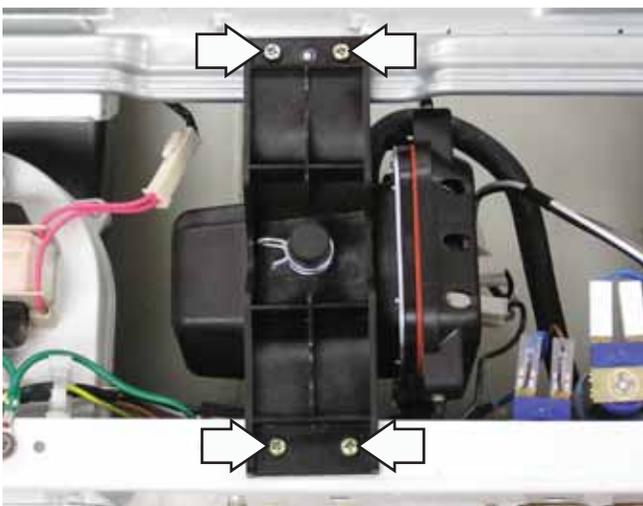


Steam Generator

The steam generator is rated at 1000 watts, 120 VAC, 8.3 amps, and 15 Ω . It consists of a water tank, an electric heater, and 2 thermostats. The safety limit opens at 403°F, and the cycling thermostat opens at 266°F and resets at 221°F.

To remove the steam generator:

- Remove the top panel. (See *Top Panel*.)
- Remove the 4 Phillips-head screws holding the steam generator to the rear panel and cross support.



- Remove the 2 hoses from the steam generator.

Note: The steam hoses are difficult to remove.

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



Water Valve Assembly

The water valve assembly consists of an additional low-flow, cold water valve that supplies water to the steam generator.

The cold water valve is controlled by the cycling thermostat on the steam generator, which opens at 266°F when the unit is depleted of water. After the cycling thermostat opens, 120 VAC is fed thru the limiter and the heater element, which energizes the valve coil. This replenishes the steam generator unit with cold water until the cycling thermostat closes upon reaching 221°F, allowing the steam process to resume.

Operation of the water valves can be checked by using service test modes t11 and t12. (See *Service Test Mode*.)

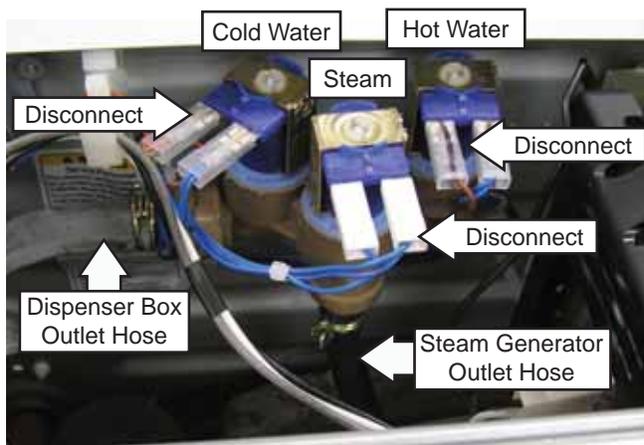
Specific failures associated with the water valves can initiate error code E7. (See *Error Codes*.)

To remove the water valves:

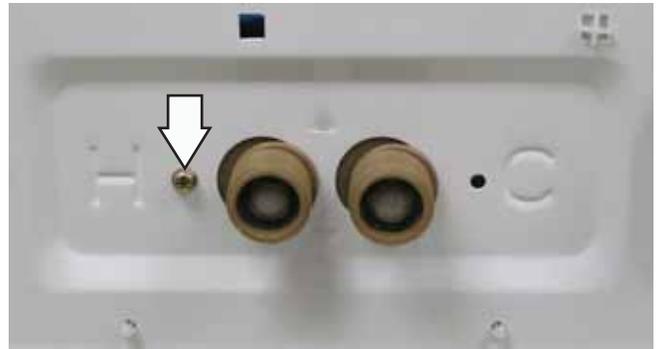
1. Remove the top panel. (See *Top Panel*.)
2. Disconnect all 6 wire harnesses from the cold water, hot water, and steam valves.
3. Disconnect the dispenser box outlet hose and steam generator outlet hose.

Note: The water valve outlet hoses are difficult to remove.

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



4. Remove the single 6-mm hex-head screw that holds the water valve to the cabinet.



5. Move the water valve horizontally towards the hot indicator stamped on the back of the washer.

Drain Pump

The drain pump consists of a 120 VAC, 60 Hz motor, an impeller and impeller housing, and a removable strainer that helps prevent foreign objects from entering the pump impeller and drain outlet.

- The pump runs whenever the washer is in the spin function of a cycle.
- The pump runs when the water level control overflow switch is closed and the washer is plugged in (overflow protection).
- The pump is capable of eliminating 17 gallons (64 liters) per minute.
- Recommended minimum standpipe diameter is 1¼ inches.
- Standpipe maximum height is 96 inches, measured from the floor at the washer location.
- The pump motor has an approximate resistance value of 10.6 Ω.

Operation of the drain pump can be checked by using service test mode t08. (See *Service Test Mode*.)

Specific failures associated with the drain pump can initiate error code E8. (See *Error Codes*.)

To remove the drain pump:

1. Remove the front panel. (See *Front Panel*.)

Caution: Under normal conditions, approximately 1 quart of water will drain out when the pump cleanout is removed.

2. Place a shallow pan under the pump cleanout.
3. Turn the pump cleanout counterclockwise approximately 2 turns, then pull outward.

Note: Remove any debris or foreign objects from the strainer and interior of the pump before reinstalling.

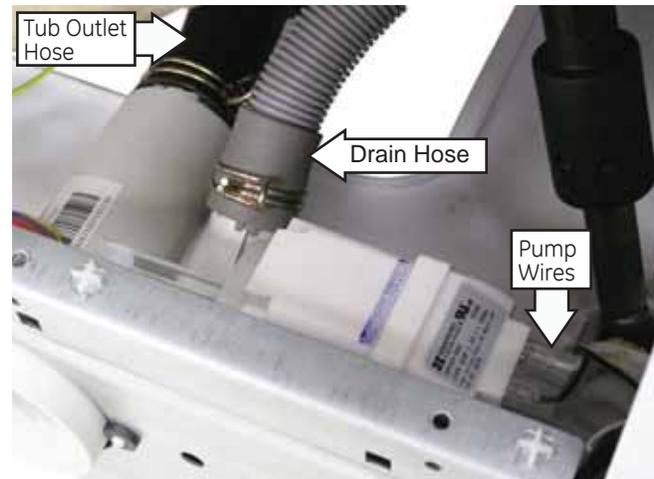


4. Remove the drain pump hoses from the pump:

Note: The drain pump hoses are difficult to remove.

- a. Squeeze each clamp and slide it back.
- b. Carefully break each hose loose by inserting a small, flat blade screwdriver under the hose to break the seal.
- c. Remove the tub outlet hose from the drain pump inlet.
- d. Remove the drain hose from the drain pump outlet.

5. Disconnect the 2 wires from the drain pump.

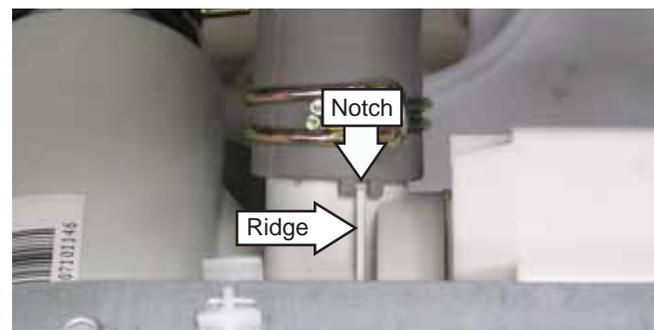


6. Remove the 2 Phillips-head screws and 2 washers that hold the drain pump to the chassis.
7. Pull the drain pump rearward to clear the 2 locator pins from the 2 grommets in the front frame.



Locator Pins

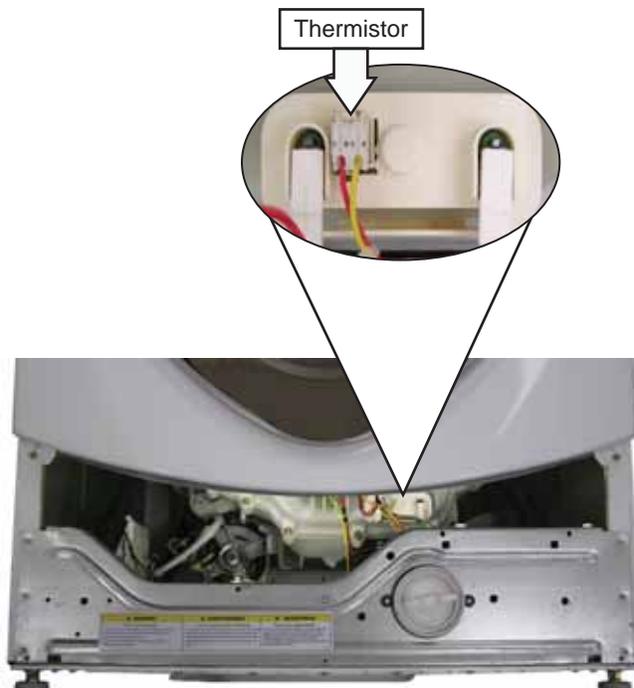
Note: Before installing the clamp, align the notch in the drain hose with the raised ridge on the drain pump outlet.



Heater Assembly

- The heater assembly is located above the drain pump and is accessed from the front of the washer.
- The heater assembly consists of a heating element and a water temperature thermistor.
- The heater operates when the **Sanitize** wash temperature is selected on the **Whites/Heavy Duty** wash cycle.
- The heater assembly is held in place by a bracket attached to the inside of the outer tub and a 10-mm nut that compresses a rubber gasket to the tub opening.
- When the 10-mm hex nut is tightened, it squeezes the rubber gasket between 2 mounting plates to seal the heater assembly to the opening of the tub.
- The hex nut is set by the factory at 31 in. lbs of torque.

Operation of the heater assembly can be checked by using service test mode t10. (See *Service Test Mode*.)

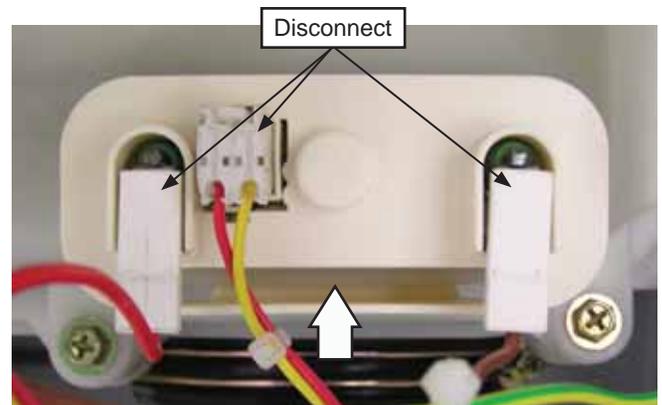


Heating Element Specifications:

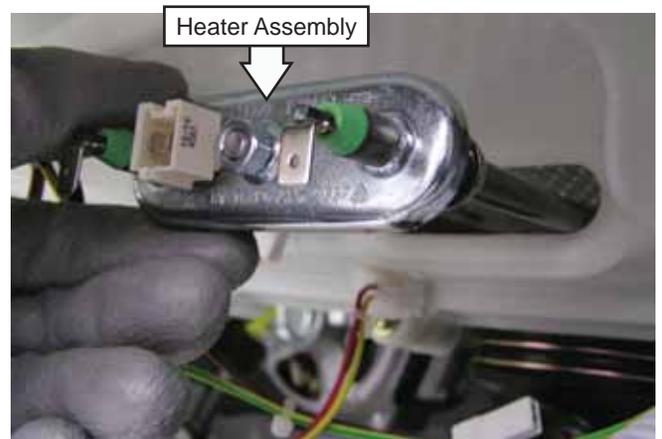
- 120 VAC
- 970 watts
- Approximately 8 amps
- Approximately 15 Ω

To remove the heater assembly:

1. Remove the service panel. (See *Service Panel*.)
2. Drain the washer using the pump cleanout. (See *Pump*.)
3. Disconnect the 2 wires from the heater assembly and the wire harness from the thermistor.
4. Remove the heater assembly cover by releasing the rear tab.



5. Loosen the 10-mm hex nut until it is flush with the end of the stud.
6. Push inward on the 10-mm hex nut to relax the rubber gasket.
7. Grasp the heater assembly and pull outward.

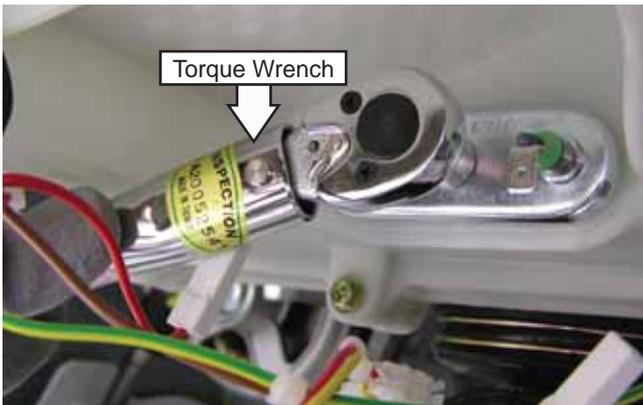


To replace the heater assembly:

1. Slide the heater assembly into the tub opening and inside the bracket attached to the outer tub.



2. Seat the heater assembly in the tub opening.
3. Use a torque wrench to tighten the 10-mm hex nut to 31 in. lbs of torque.



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.

4. Replace the heater assembly cover.
5. Connect 2 wires to the heater assembly and the wire harness to the thermistor.

Thermistor

Thermistor Specifications:

- 12 K Ω at 75°F (24°C).
- Resistance goes down as temperature goes up.
- Thermistor has a negative temperature coefficient.

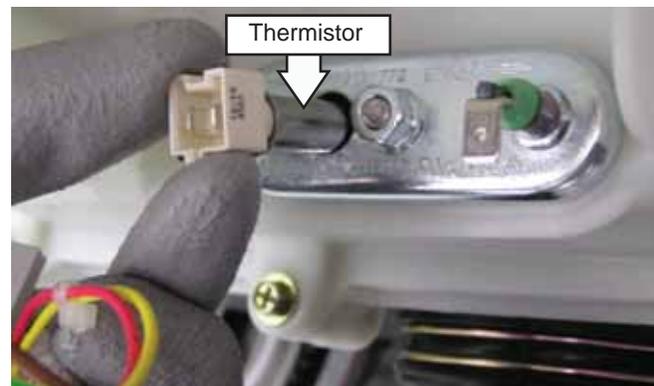
Specific failures associated with the thermistor can initiate error codes E4 and E5. (See *Error Codes*.)

To remove the thermistor:

1. Follow steps 1 thru 5 of heater assembly removal procedure. (See *Heater Assembly*.)

Note: It may be helpful to pull the heater assembly out of the washer, allowing easier access to the thermistor.

2. Push inward on the 10-mm hex nut to relax the rubber gasket and then pull out the thermistor.



To replace the thermistor:

1. Push the thermistor into the rubber gasket until fully seated.

Note: Ensure heater assembly is fully seated in the tub.

2. Follow steps 3 thru 5 of the heater assembly replacement procedure to replace the heater assembly. (See *Heater Assembly*.)

Inverter

The inverter receives commands from the control board and controls motor operation. The inverter is enclosed in a protective housing and is located on the chassis, under the left side of the outer tub. It is inserted in 2 guides at the rear and held in place by a single Phillips-head screw at the front.

To check the inverter:

1. Remove the service panel. (See *Service Panel*.)
2. Enter test mode t04, t13, or t14. (See *Service Test Modes*.)
3. Check for 120 VAC between the blue/brown and blue wires (pins 1 and 5) at P3 on the inverter.
4. Check for 12 VDC between the purple and brown wires (pins 1 and 3) at P2 on the inverter.

Note: 120 VAC and 12 VDC are only present at the inverter when the power board runs the motor.

5. Unplug washer, then check motor resistance. (See *Motor Assembly*.)
6. If 120 VAC and 12 VDC are present and the motor resistance is correct, replace the inverter.

Note: If the inverter overheats, the washer stops for 5 minutes.

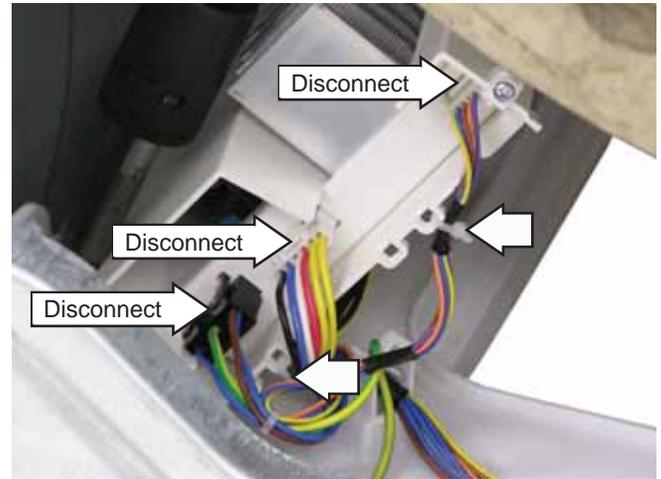
Specific failures associated with the inverter can initiate error codes E3, E17, and E22 thru E25. (See *Error Codes*.)

To remove the inverter:

1. Remove the service panel. (See *Service Panel*.)
2. Remove the single Phillips-head screw that holds the inverter to the base pan.



3. Slide the inverter rearward to clear the guides that hold the rear of the inverter to the chassis.
4. Disconnect the 3 wiring harnesses from the inverter.
5. Cut the 2 wire ties off the inverter housing.



6. Remove the wire tie from the back of the inverter housing.

Note: You may remove the wire tie from inside the inverter housing after completing step 8 if a spare wire tie is not available.



7. Remove the 2 Phillips-head screws from the front inverter bracket.



8. Pull out the inverter board from the housing.

Belt

To remove the belt:

1. Remove the four 6-mm screws from the cabinet's rear cover.



2. Pull the cover outward from the middle.
3. Remove the belt by turning the tub drive pulley and rolling the belt off the pulley.



Note: The belt is elastic and designed to be removed and installed in this manner.

Wash Basket Pulley

To remove the wash basket pulley:

1. Remove the belt. (See *Belt*.)
2. Remove the 18-mm hex nut that holds the tub drive pulley to the wash basket. Remove the pulley.



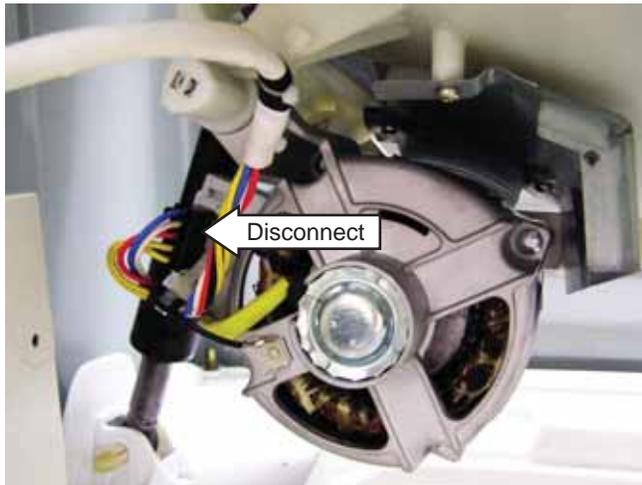
Caution: When installing, use a torque wrench to tighten the 18-mm hex nut to 44 ft. lbs of torque.

Motor Assembly

The motor assembly consists of a reversible, variable-speed, 3-phase induction DC motor and sensor. The motor drives the tub drive pulley with a 7-rib belt. The sensor monitors motor rpm and is connected to the control board. The motor assembly is checked from the front of the washer and removed from the rear.

To check the motor:

1. Remove the service panel. (See *Service Panel*.)
2. Disconnect the motor wire harness.



On the motor plug, check for an approximate resistance value of 6Ω between any two of the three wires:

- Blue to white – 6Ω
- Blue to red – 6Ω
- White to red – 6Ω

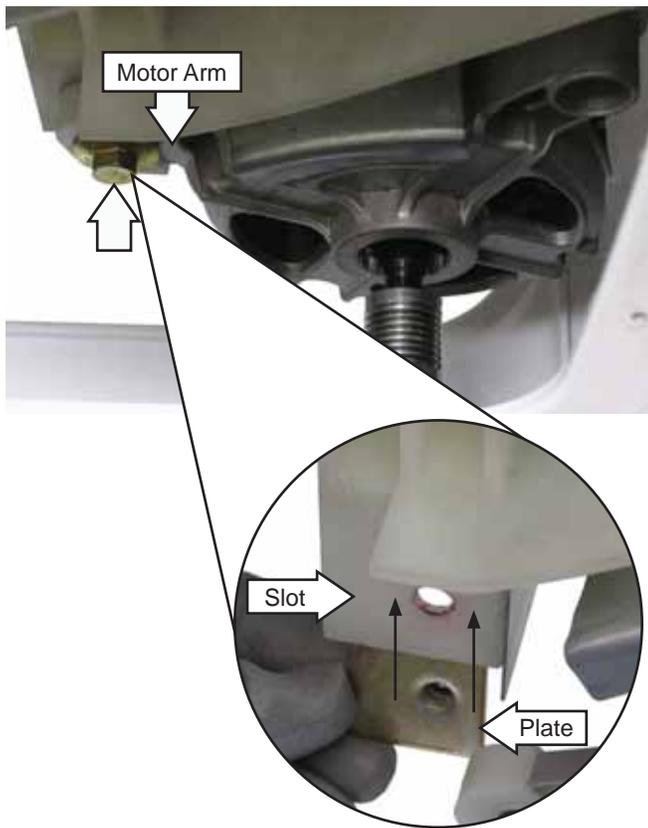
The sensor has a resistance value of approximately 114Ω between the two yellow wires (tacho generator).

Operation of the motor assembly can be checked by using service test modes t04, t13, and t14. (See *Service Test Mode*.)

Specific failures associated with the motor assembly can initiate error codes E15, E16, and E18 thru E21. (See *Error Codes*.)

To remove the motor:

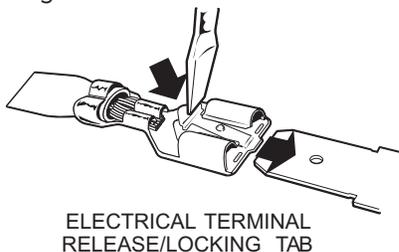
1. Remove the belt. (See *Belt*.)
2. Remove the 1/2-in. bolt from the threaded plate that holds the motor arm to the outer tub.



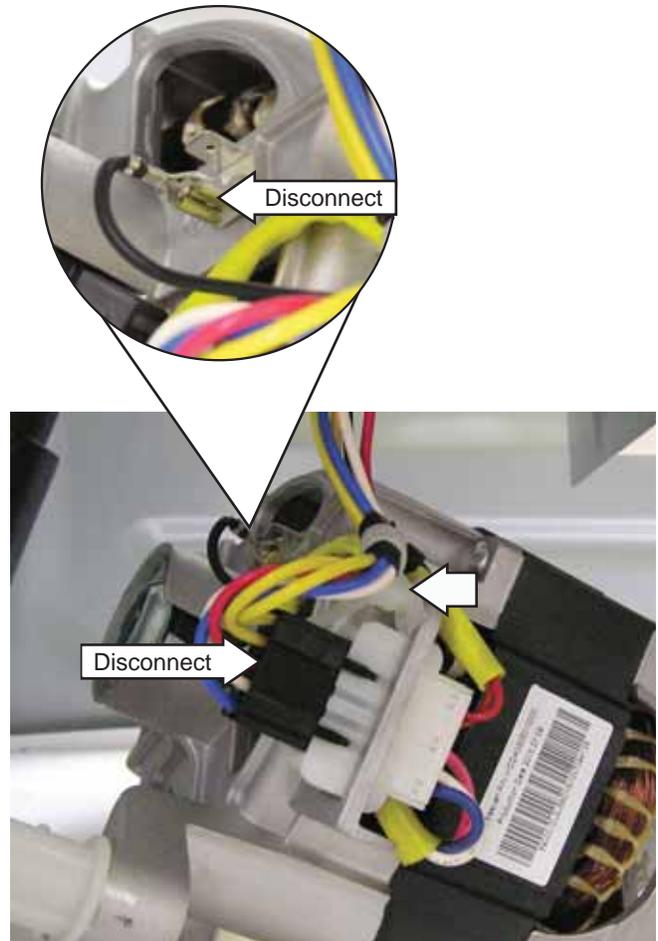
Note

- The threaded plate can fall out of the recessed slot in the motor mount. Ensure this plate is reinserted in the slot upon reassembly.
 - When installing the bolt, apply Loctite (Part # WX5X1005) to the bolt threads. Ensure the motor arm is at the lowest position under the motor bolt before tightening.
3. Rock the motor rearward to clear the motor mounts from the outer tub. Place the motor on the washer chassis.

Note: The motor ground wire connector has a release/locking tab.



4. Press the locking tab and remove the motor ground wire.
5. Disconnect the motor wire harness.
6. Remove the plastic wire tie that holds the motor wire harness and ground wire to the motor.



7. Lift the motor out of the washer.

Note: When reinstalling the belt, ensure it is positioned to track in the 7 outer grooves of the motor pulley.



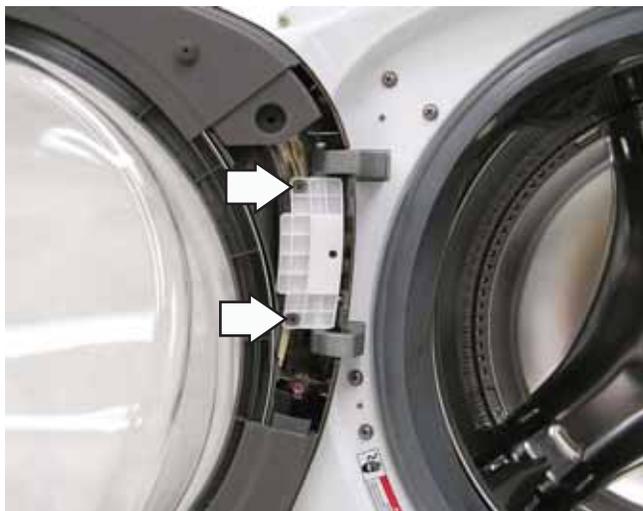
Door

To remove the door components:

1. Remove the 2 Phillips-head screws from the hinge cover.



2. Remove the 2 Phillips-head screws that hold the door to the hinge door plate.



Note: Place the door on a soft, protected flat surface so that the door glass faces up. (The door should rest on the handle side.)

3. Remove the 10 Phillips-head screws (3 not shown) that hold the door cover and door strike to the door frame.



4. Lift and unsnap the door cover from the door frame.
5. Lift the door glass out of the door frame.

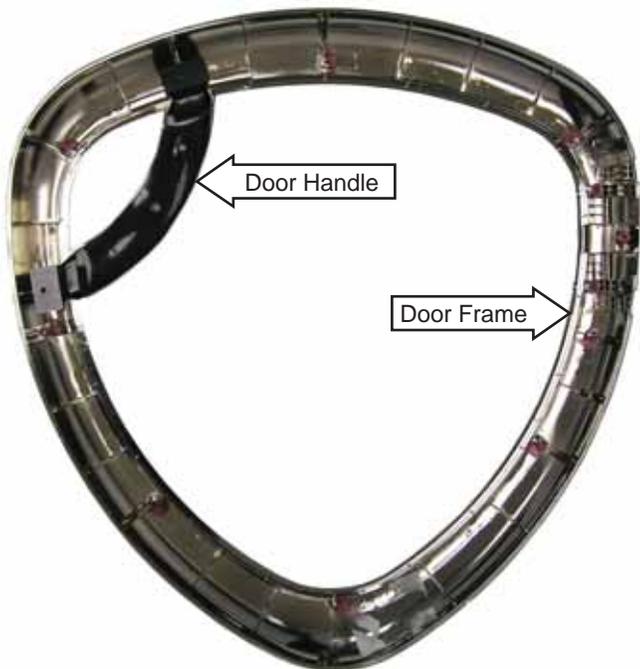


6. Remove the 2 Phillips-head screws that attach the protect cover and ring to the door frame.



7. Lift and remove the protect cover and ring.

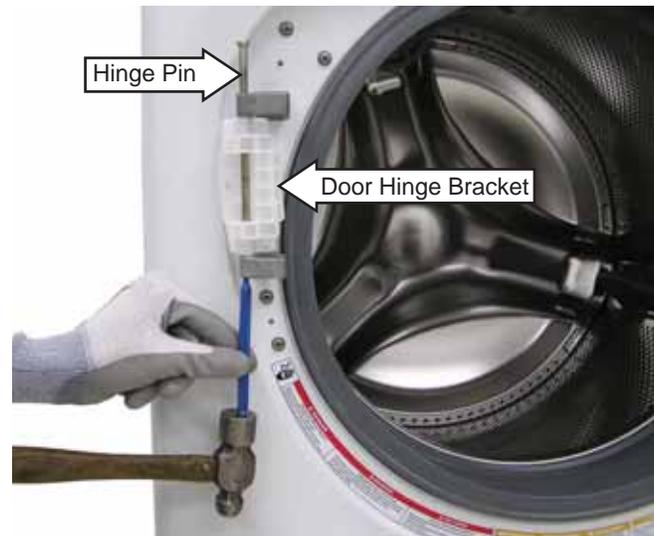
Note: The door handle and door frame are replaced as an assembly (Part # WH46X10210).



Door Hinge

To remove the door hinge:

1. Remove the door. (See *Door*.)
2. Use a 3/16-in. pin punch to drive the hinge pin out of the door hinge bracket. Remove the door hinge bracket.



3. Remove the 5 Phillips-head screws that hold the door hinge to the front panel.



4. Remove the gasket from the front panel. (See *Door Lock*.)
5. Push and fold the left side of the gasket inside the wash basket and remove the door hinge.



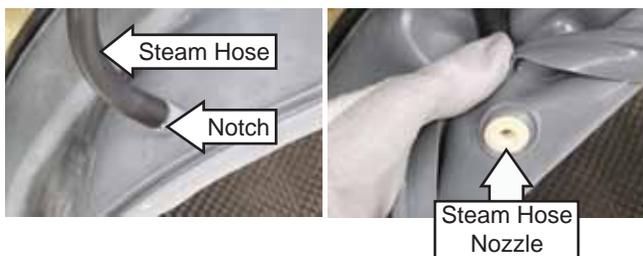
Tub Gasket (Boot)

The tub gasket provides a watertight seal between the front of the washer and the outer tub. The front of the tub gasket is secured to the front panel flange by a spring and wire located in the fold of the gasket. The back of the tub gasket is attached to the outer tub lip with a wire and bolt assembly.

To remove the tub gasket:

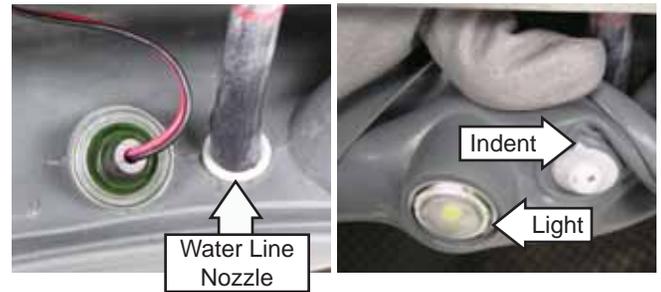
1. Remove the front panel. (See *Front Panel*.)
2. Pull the steam hose out of the tub gasket.
3. Remove the steam hose nozzle.

Note: When reinserting the steam hose nozzle, be sure the notch aligns with the gasket cutout.



4. Pull the water line nozzle out of the tub gasket.
5. Push the light thru the tub gasket.

Note: When reinserting the water line nozzle, make sure the nozzle and gasket indents line up.

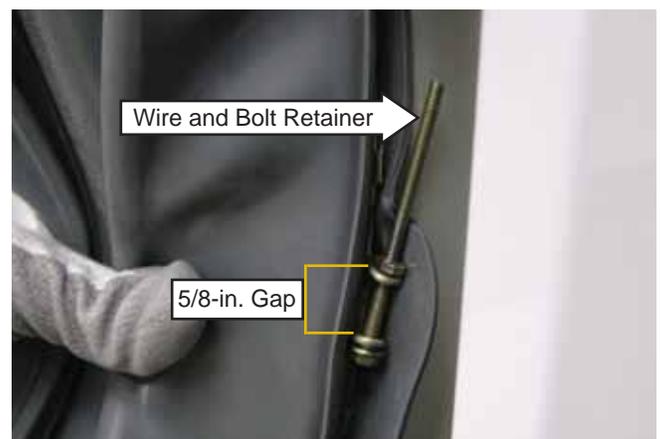


6. Remove the Phillips-head screw from the bracket holding the vent to the tub gasket.
7. Pull the tub gasket off the vent.



8. Loosen the 7-mm bolt that holds the wire and bolt assembly to the outer tub lip. Remove the wire and bolt assembly from the tub gasket.

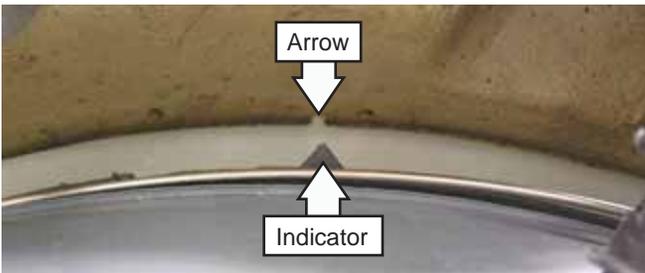
Note: When installing the wire and bolt assembly, tighten to a gap of approximately 5/8 inch (as shown). Do not overtighten.



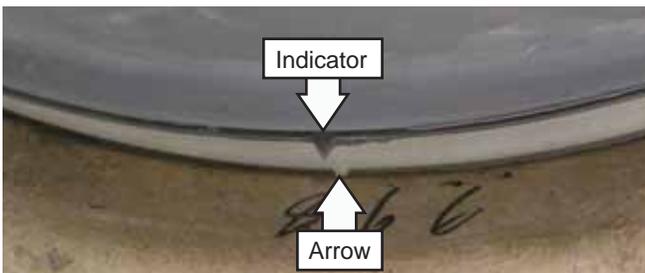
9. Pull the tub gasket off the outer tub lip.



Note: When reinstalling the tub gasket on the outer tub, align the indicators on the top and the bottom of the gasket with the arrows located on the top and the bottom of the tub.



Top of Gasket



Bottom of Gasket

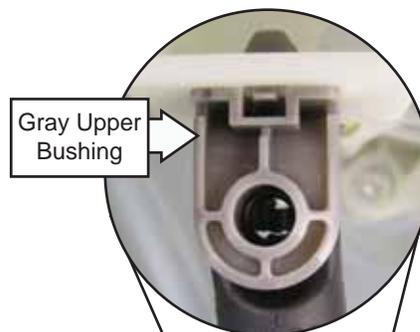
Dampers

Each of the 4 dampers is secured to the outer tub by a gray upper bushing that locks in a slot in the outer tub. Each damper is held to the chassis with a plastic pin.

To remove the dampers:

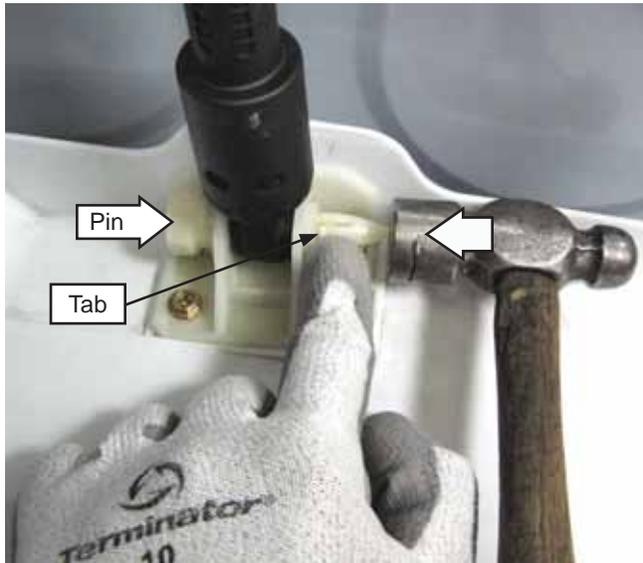
Caution: Do not twist the damper cylinder by hand to remove. Stress may result in the damper developing noise at a later date.

1. Remove the service panel. (See *Service Panel*.)
2. Rotate the gray upper bushing a quarter-turn clockwise (as viewed from the top) using a 6-in. adjustable crescent wrench with a jaw opening of approximately 7/8 inch.
3. Depress and remove the damper from the slot in the outer tub.



4. Remove the pin that secures each damper to the chassis by pressing the lock tab while pulling the pin out.

Note: It may be helpful to tap the pins out with a small hammer while pressing on the lock tabs.



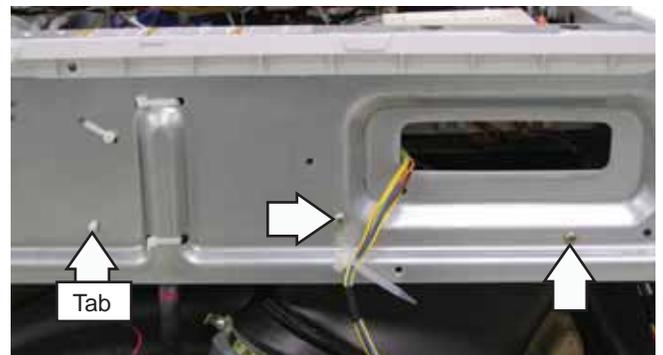
Note: The pin will be damaged when removed from the chassis. Be sure to install the new pin supplied with the replacement damper. Ensure the 2 lock tabs on the gray upper bushing are in the square holes in the outer tub.

Wash Basket

The wash basket is contained inside the outer tub. The wash basket is rotated by a belt-driven, tub drive pulley. A drive nut attaches the tub drive pulley to the wash basket. To remove the wash basket, it is necessary to separate the outer tub halves.

To remove the wash basket:

1. Drain the washer using the pump cleanout. (See *Pump*.)
2. Remove the top, control, service, and front panels. (See *Top Panel*, *Control Panel*, *Service Panel*, and *Front Panel*.)
3. Remove the wash basket pulley. (See *Wash Basket Pulley*.)
4. Remove the power board assembly from the control bracket and right-side brace and set it aside. (See *Power Board Assembly*, steps 2-4.)
5. Remove the dispenser vent hose from the outer tub, the dispenser outlet hose from the dispenser, and the gasket inlet hose from the clip. (See *Dispenser Assembly*.)
6. Remove the 2 Phillips-head screws that attach the dispenser to the front bracket and set the dispenser aside. (See *Dispenser Assembly*.)
7. Depress the tabs to remove the wire retainer that attaches the light wiring to the front bracket.
8. Remove the 2 Phillips-head screws that hold the vent to the front bracket.



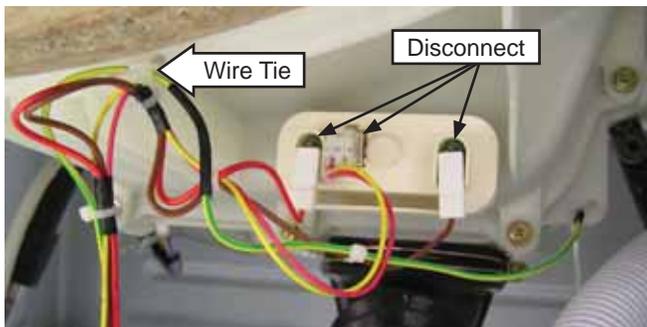
9. Disengage the steam hose, water line nozzle, light, vent bracket, and vent from the gasket. (See *Tub Gasket [Boot]*.)

10. Remove the remaining 8 Phillips-head screws that attach the front bracket and control panel rear cover and position the bracket and cover at the top rear of the washer.



11. Disconnect the 3 heater assembly wires.

12. Remove the plastic wire tie that holds the heater assembly wiring to the outer tub.



13. Remove the eight 13-mm nuts and washers (2 not shown) from the bolts that hold the counterweights to the front of the outer tub.

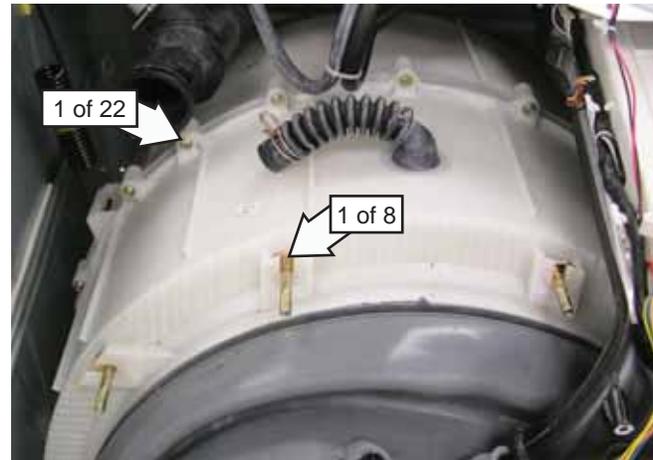
14. Remove the top and bottom counterweights from the outer tub.



15. Remove the 8 bolts from the slots in the outer tub.

16. Remove the front dampers from the outer tub. (See *Dampers*.) Depress the dampers and position them toward the outside of the cabinet.

17. Remove the twenty-two 8-mm hex-head screws from the perimeter of the outer tub.



18. Press the 2 tabs (1 not shown) located on the sides of the outer tub inward and remove the front half of the outer tub.



Note:

- Install new outer tub seal (Part # WH08X10023) whenever tub halves have been separated.
- Use a torque wrench to tighten the twenty two 8-mm hex-head tub screws to 45 in. lbs of torque.
- When installing the front half of the outer tub, ensure the heater is inserted inside the bracket attached to the rear half of the outer tub. (See *Heater Assembly*.)

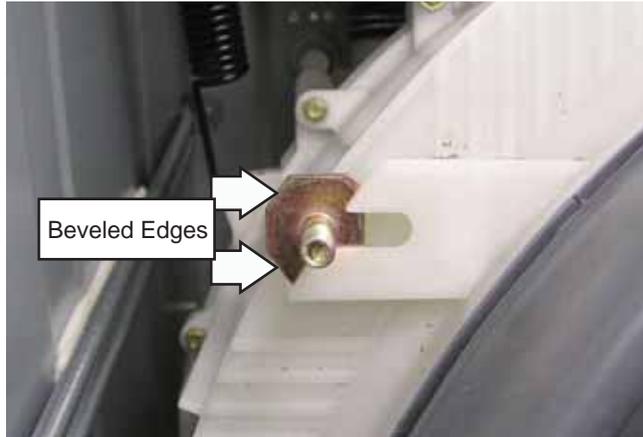
19. Pull the wash basket out of the rear half of the outer tub .

(Continued Next Page)

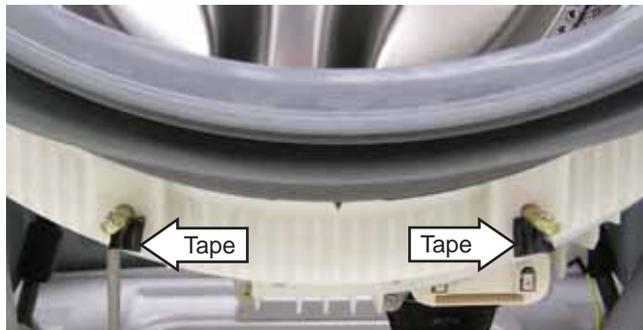
Installing Front Counterweights

When installing the front counterweights, make sure the short bolts are used to attach the top counterweight and the long bolts are used to attach the bottom counterweight. Insert the bolts into the slots with the beveled edges outward.

Use a torque wrench to tighten the eight 13-mm nuts to 142 in. lbs of torque.



Note: To make installation of the front bottom counterweight easier, secure the placement of the bottom bolts with electrical tape.



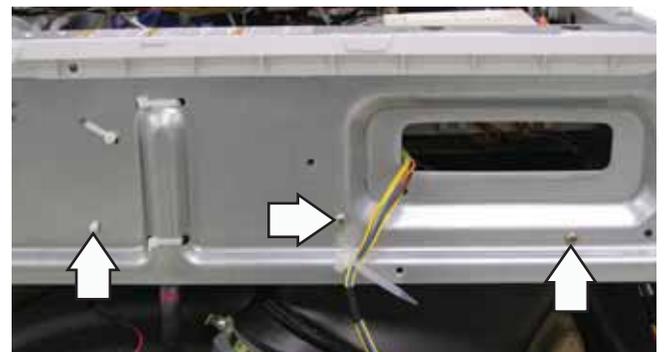
Outer Tub Assembly and Suspension

The outer tub assembly is constructed in two halves and contains the wash basket. The bearing and seal assembly is part of the rear half of the outer tub. The outer tub assembly is supported by 2 suspension springs and 4 dampers. Each spring is located between the top of the tub assembly and a cabinet top brace, one on each side. Washer stabilization is achieved by the use of 4 dampers that are located between the bottom of the tub assembly and chassis, 2 per side.

To remove the outer tub assembly:

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

1. Drain the washer using the pump cleanout. (See *Pump*.)
2. Remove the top, control, service, and front panels. (See *Top Panel*, *Control Panel*, *Service Panel*, and *Front Panel*.)
3. Remove the power board assembly from the control bracket and right-side brace and set it aside. (See *Power Board Assembly*, steps 2-4.)
4. Remove the dispenser vent hose from the outer tub, the dispenser outlet hose from the dispenser, and the gasket inlet hose from the clip. (See *Dispenser Assembly*.)
5. Remove the 2 Phillips-head screws that attach the dispenser to the front bracket and set the dispenser aside. (See *Dispenser Assembly*.)
6. Depress the tabs to remove the wire retainer that attaches the light wiring to the front bracket.
7. Remove the 2 Phillips-head screws that hold the vent to the front bracket.

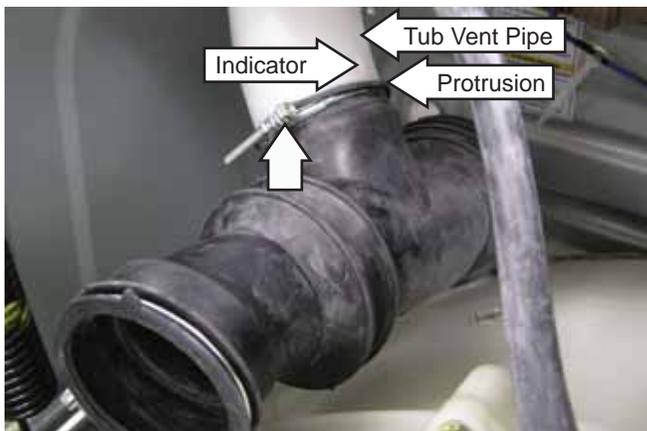


8. Disengage the steam hose, water line nozzle, light, vent bracket, and vent from the gasket. (See *Tab Gasket [Boot]*.)
9. Remove the remaining 8 Phillips-head screws that attach the front bracket and control panel rear cover and set the front bracket aside.

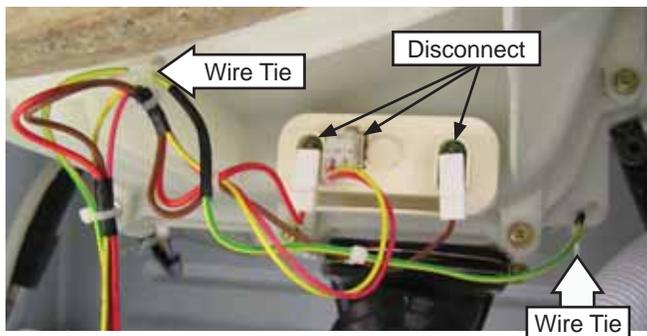


10. Using either a Phillips-head screwdriver or a 7-mm hex-head nut driver, loosen the clamp and remove the dispenser outlet hose from the vent pipe.

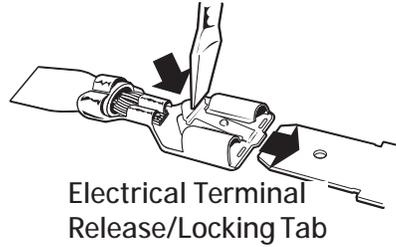
Note: Install the dispenser outlet hose with the hose indicator aligned with the tub vent pipe protrusion.



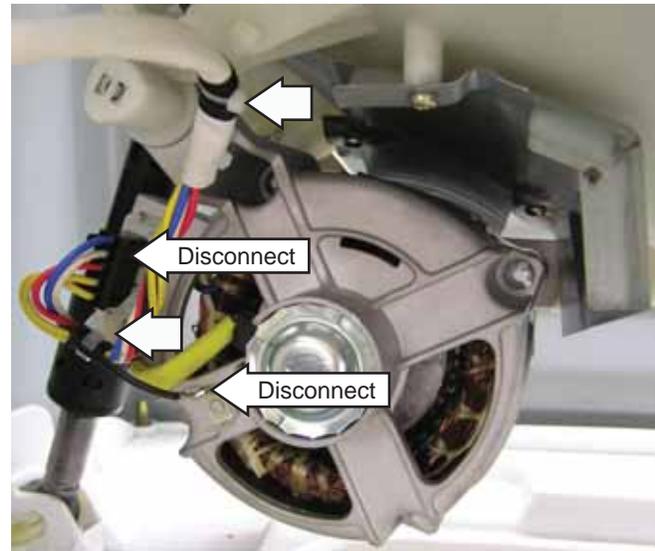
11. Disconnect the 3 heater assembly wires.
12. Remove the plastic wire ties that hold the heater assembly wiring and the ground wire to the outer tub.



Note: The motor ground wire connector has a release/locking tab.



13. Disconnect the motor wire harness and motor ground wire and remove the plastic wire ties that hold the wiring to the motor and outer tub.



14. Remove the tub drain hose from the pump.

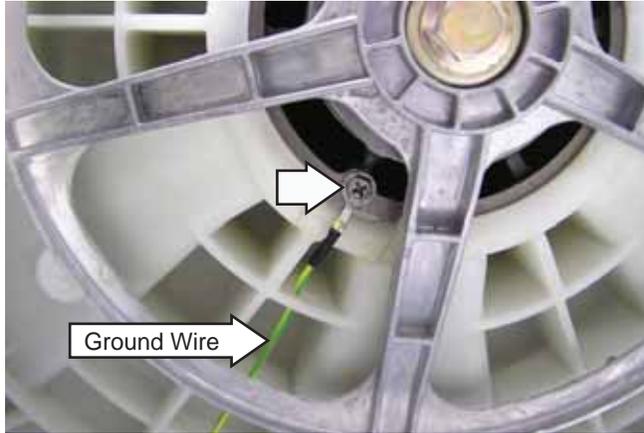
Note: The tub drain hose is difficult to remove.

- 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.



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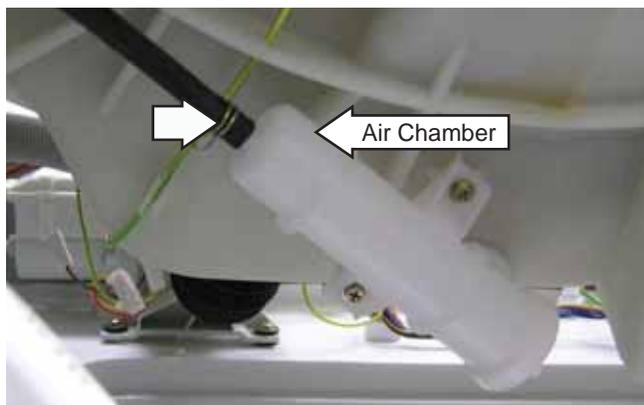
15. Remove the 4 Phillips-head screws from the cabinet's rear cover.
16. Pull the rear cover outward from the middle.
17. Remove the Phillips-head screw that holds the outer tub ground wire. Remove the ground wire from the outer tub wire guides.



18. Remove the pressure tube from the air chamber attached to the outer tub.

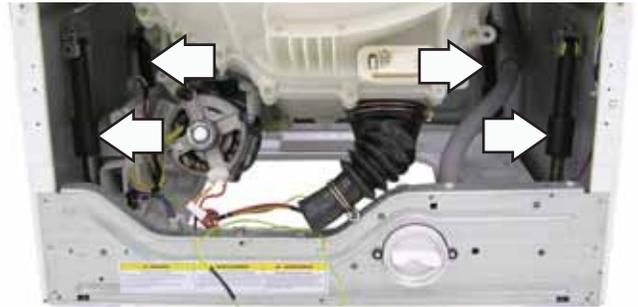
Note: The pressure tube is difficult to remove.

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



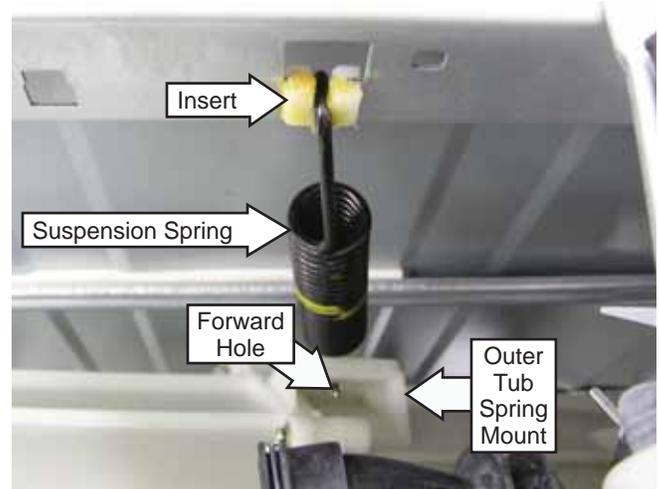
19. Remove the top and bottom counterweights. (See *Wash Basket*.)

20. Remove the 4 dampers from the outer tub. (See *Dampers*.)
21. Depress the dampers and position them toward the outside of the cabinet.



22. Lift the outer tub assembly, then release the 2 suspension springs from the slotted plastic inserts in the cabinet's top braces.
23. Carefully remove the tub assembly out thru the front of the cabinet.

Note: When installing the tub assembly, hook each of the suspension springs in the forward hole of the outer tub spring mount and the slot in the insert.



Service Test Mode

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

Caution: Testing is accomplished thru built-in test procedures. Unplugging components for testing can damage component connections.

The washer must be in idle mode (blue screen is blank) before entering the test mode. Idle mode occurs when the washer has completed a cycle. If the cycle is interrupted, the washer will drain water when the power is reapplied. The water level switch must reset before the test mode can be entered. If water remains in the washer, manually drain the washer to reset the water level switch. A failed water level switch can cause an inability to enter the test mode.

To enter the test mode:	To exit the test mode:
1. Press Power button to clear any current cycles. Note: The display must be blank to proceed. 2. Press Extra Rinse-Delay Start-Extra Rinse-Delay Start . A washer left in the test mode will exit the test mode and unlock the door after approximately 30 minutes.	Press (while the unit is idle - the Blue Screen is blank): Extra Rinse-Delay Start-Extra Rinse-Delay Start .

Test Mode Selection	Description
1. Error Codes	Checks for any error codes reported by the controls.
2. Version Information	Checks the software version.
3. Vibration Test	Tests the washer vibration by spinning to the extra high spin speed as fast as possible. Note: No out-of-balance detection will be performed here, so the washer will spin up regardless of the out of balance that is placed in the drum.
4. EEPROM Test	Checks the memory on the user interface control board, then the memory on the Power Board.
5. UI Test	Verifies all LEDs operate correctly.
6. Key Continuity	Verifies that each key operates correctly.
7. Pump Test	Test drain pump.
8. Water Level Sensor	Fills to all 3 levels, then pumps out water.
9. Temp & Heater	Verifies that both the Thermistor and Heater work.
10. Hot Water Test	Verifies hot water valve turns on/off.
11. Cold Water Test	Verifies cold water valve turns on/off.
12. Tumble Test	Verifies washer tumbles (i.e., Wash Cycle).
13. Spin Test	Verifies washer spins. Note: No out-of-balance detection will be performed here, so the washer will spin up regardless of any out-of-balance condition in the drum.

(Continued Next Page)

Test Mode Selection	Description
14. Dispenser Test	Verifies the dispenser motor works and can locate all 4 dispenser positions.
15. Bulk Pumps Test	Verifies all the Smart Dispenser Pumps work.
16. Bulk Sensors Test	Verifies all the Smart Dispenser Sensors work.
17. Auto Spin Profile	Tests each spin speed of the washer. Note: No out-of-balance detection will be performed here, so the washer will spin up regardless of any out-of-balance condition in the drum.
18. Bulk Manual Priming	Manually initiates the priming of the Smart Dispenser pumps.
19. Bulk Primed Status	Checks the control status of the prime status of the pumps and allows the user to change/reset the prime status.
20. Steam	Tumbles while operating the steam generator.

The following tables show the diagnostic tests and the button sequence that is required to perform them.

Service Mode Test		Sequence	
t01	Configure UI	Enter	Displays "configure UI."
		Power	Returns to service mode screen.
t02	Error Codes	Enter	Displays error codes.
		Start/Pause	Clears highlighted error code from machine.
		Power	Returns to service mode screen.
t03	Version Info	Enter	Displays the current version of software.
		Power	Returns to service mode screen.
t04	Vibration Test	Enter	Spins up to 1300 rpm; then goes back to service mode screen.
		Power	Interrupts and returns to service mode.
t05	EEProm Test	Enter	Displays "test in progress" for a while; then displays UI Memory status.
		Start	Displays PB status.
		Power	Returns to service mode screen.
t06	UI Test	Enter	Lights up LEDs on the left side of UI and VFD; then lights up the right side LEDs.
		Power	Returns to service mode screen.
t07	Key Continuity	Enter	Begins testing.
		Any Button but Power	Beep sounds as button is pressed.
		Power	Returns to service mode screen.
t08	Pump Test	Enter	Begins running the drain pump.
		Power	Interrupts draining and returns to service mode.
t09	Water Level Sensor	Enter	Unit begins to drain. When draining is complete, displays "Tub Empty."
		Start	Fills to foam level. Displays "Tub Empty" until fill is complete; then shows "Foam Level."
		Start	Fills to normal level. Displays "Foam Level" until fill is complete, then shows "Normal Wash Level."
		Start	Fills to overflow level. Display shows "Normal Wash Level" until fill is complete. When overflow level is reached, the pump begins to drain out the water.
		Power	Drains and returns to service mode.
t10	Temp Sensor and Heater	Enter	Displays "baseline" and "current" temperature. Unit fills with water and gets heated.
		Power	Drains and returns to service mode screen.
t11	Hot Water Valve Test	Enter	Fills with hot water. Display shows "Hot Water On."
		Power	Drains and returns to service mode screen.
t12	Cold Water Valve Test	Enter	Fills with cold water. Display shows "Cold Water On."
		Power	Drains and returns to service mode screen.
t13	Tumble Test	Enter	Unit tumbles.
		Power	Returns to service mode screen.

Service Mode Test		Sequence	
t14	Spin Test	Enter	Displays "estimated" and "current" rpm. Unit begins spinning at 410 rpm.
		Start	Ramps up to 1050 rpm.
		Start	Ramps up to 1150 rpm.
		Start	Ramps up to 1300 rpm.
		Power	Ramps down and returns to service mode screen.
t15	Dispenser Test	Enter	Displays "pre-wash" and dispenser moves to position 1.
		Start	Displays "main detergent" and dispenser moves to position 2.
		Start	Displays "fabric softener" and dispenser moves to position 4.
		Start	Displays "bleach" and dispenser moves to position 3.
		Start	Repeats above sequence, starting with "main detergent."
		Power	Drains and returns to service mode screen.
t16	Bulk Pumps Test	Enter	Displays "left detergent pump;" water fills and primes left detergent.
		Start	Displays "softener pump" and begins priming.
		Start	Displays "right det pump" and begins priming.
		Start	Continues cycling through the bulk pumps.
		Power	Drains and returns to service mode screen.
t17	Bulk Sensors Test	Enter	Displays the status of Left Detergent, Softener and Right Detergent.
		Power	Returns to service mode screen.
t18	Auto Spin Profile	Enter	Slowly ramps up to 90, then 120, then 410.
		Power	Interrupts and returns to service mode screen.
t19	Bulk Manual Priming	Enter	Displays "prime left detergent," "prime softener," "prime right detergent" with one highlighted.
		Enter	Begins priming selected, with water on to rinse it from dispenser drawer.
		Power	Drains; then returns to service mode screen.
t20	Bulk Primed Status	Enter	Displays "left detergent pump," "softener pump," "right detergent pump" with one highlighted.
		Enter	Displays "left det primed status;" choose status "yes" (lines primed) or "no" (lines not primed).
		Enter	Returns back to "Bulk Primed Status."
		Power	Returns to service mode screen.
t21	Steam	Enter	Displays "Steam" tumbles at 43 rpm in 15/3/15 increments. Enables steam generator throughout duration of test.
		Power	Steam Generator turns off, drum stops, returns to service mode screen.
t22	Overnight Ready	Enter	Unit begins a slow tumble clockwise then counterclockwise. Overnight ready fan is energized.
		Power	Returns to service mode screen.
t23	OOB Test	Enter	The unit spins at a low RPM and displays the out of balance number measured by the inverter. Check 255 means the inverter has not yet checked the out of balance value. Once the 255 is updated, any number below 15 is normal out of balance operation. Any number between 15 and 20 is marginally acceptable. Any number greater than 20 means an abnormal out of balance is detected.
		Power	Returns to service mode screen.
t24	Slow Ramp Test	Enter	Slowly ramps to the maximum spin speed.
		Power	Returns to service mode screen.

Error Codes

Note: It's important to note error codes should only be used to help identify components which require testing. *Never replace a part based solely on an error code.* The control can generate a false error if the right conditions exist. Use the code only as a reference and always check the component before replacing.

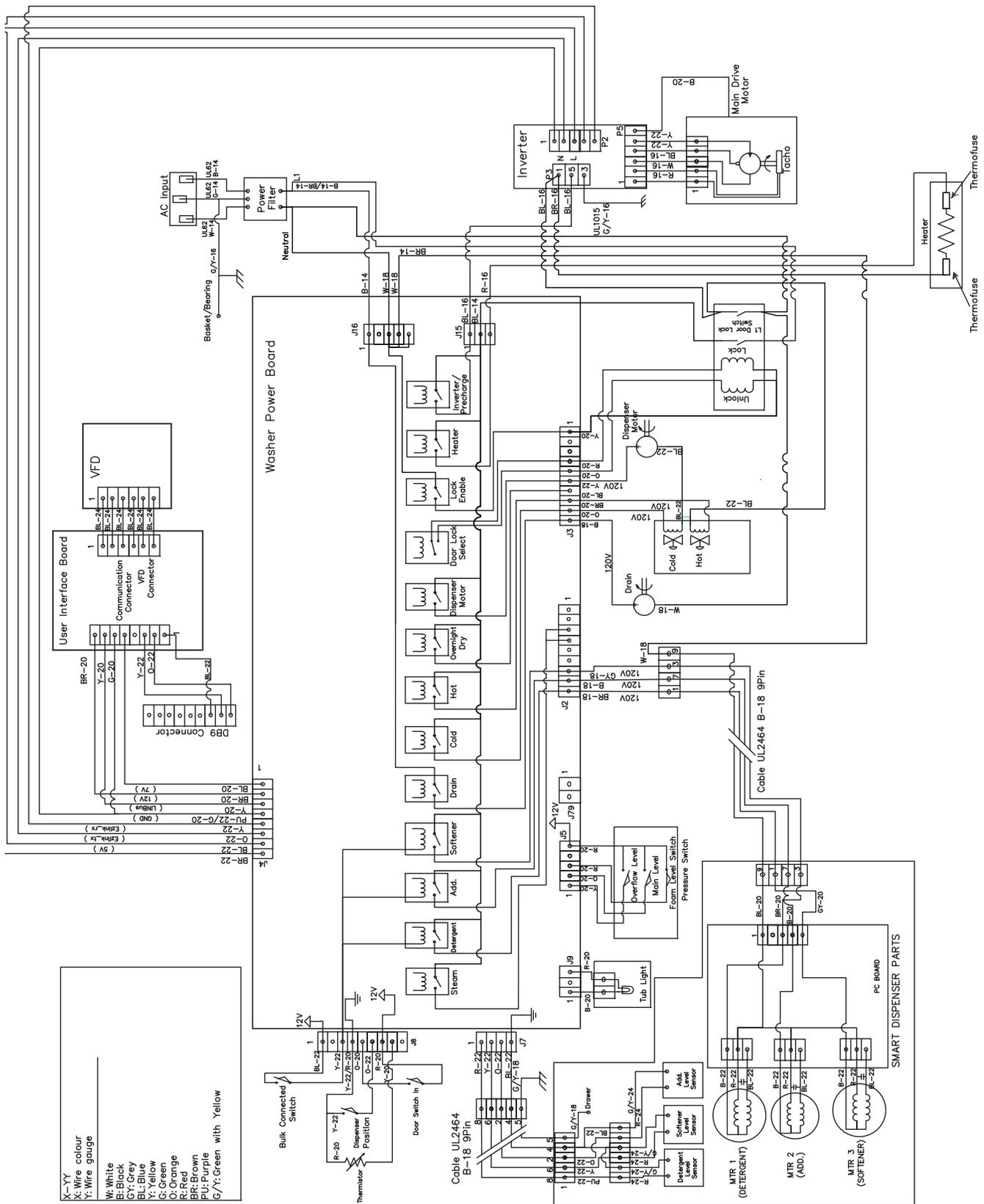
Error Code	Description	Action
E1 UI EEPROM E2 Power EEPROM	Internal problem with UI or MC board	<ul style="list-style-type: none"> Replace board as necessary.
E4 Thermistor Short E5 Thermistor Open	Water Temperature Sensor Problem	<ul style="list-style-type: none"> Check integrity of wiring and connections between main control and Thermistor Assembly. Using ohmmeter, measure Thermistor resistance. If outside expected range, replace Thermistor Assembly. <p>IF ABOVE STEPS DO NOT CLEAR THE PROBLEM:</p> <ul style="list-style-type: none"> Replace the main control.
E6 Pressure Switch	Water Level Sensor Problem	<ul style="list-style-type: none"> Check integrity of wiring and connections between main control and Water Level Sensor. Check integrity of Water Level Sensor; replace if necessary. Check drain system. <p>IF ABOVE STEPS DO NOT CLEAR THE PROBLEM:</p> <ul style="list-style-type: none"> Replace the main control.
E7 Slow Fill	Fill Problem	<ul style="list-style-type: none"> Ensure manual water valves are fully open. Check if water strainers on solenoid valve assembly are clogged. Check for obstructions inside inlet water hoses. Ensure solenoid valves do not leak when the valves are de-energized and the washer is powered down. Measure coil resistance for both valves. If outside range (1000–1250 ohms at room temp), replace solenoid valve assembly. <p>IF ABOVE STEPS DO NOT CLEAR THE PROBLEM:</p> <ul style="list-style-type: none"> Replace solenoid valve assembly.
E8 Drain System	Drain Problem	<ul style="list-style-type: none"> Ensure pump strainer is clean and free of debris. Check for obstruction inside the drain hose. Check pump impeller blades and bearing; if evidence of blade damage or seized bearings are present, replace the pump. Check the electrical connections at the pump motor and harness. Measure pump motor resistance. If outside range (9–14 ohms at room temp), replace the pump.
E9 Dispenser Motor	Dispenser Problem	<ul style="list-style-type: none"> Check for obstruction in dispenser mechanism and linkages. Check the electrical connections at the motor feedback switch and in the harness. Check the electrical connections of water valves in the harness. <p>IF ABOVE STEPS DO NOT CLEAR THE PROBLEM:</p> <ul style="list-style-type: none"> Replace dispenser motor assembly.

(Continued Next Page)

Error Code	Description	Action
E10 Motor Comm Interface	Communication Problem Between Main Control and Inverter	<ul style="list-style-type: none"> • Check integrity of wiring and connections between main control and inverter. • Clear error code and run a cycle. • If fault persists and reappears, replace the main control.
E11 Door Lock E12 Door Unlock E13 Door Open E28 Unexpected Door Unlock Detected	Door Lock Assembly Problems	<ul style="list-style-type: none"> • Check integrity of wiring and connections between main control and Door Lock mechanism. • Investigate Door Lock mechanism; check door microswitch operation, lock and unlock solenoid continuity and contact integrity; replace Door Lock mechanism if necessary. <p>IF ABOVE STEPS DO NOT CLEAR THE PROBLEM:</p> <ul style="list-style-type: none"> • Replace the main control.
E14 Overflow Error	Overflow level was reached.	<ul style="list-style-type: none"> • Check valve for any signs of leaks. • Check integrity of Water Level Sensor. Replace if necessary.
E15 Open Circuit	Open circuit in any of three motor phases detected. No speed info present and bridge will be turned off immediately. Motor will coast down. Drive will preserve non-zero speed info during the stop check stage.	<ul style="list-style-type: none"> • Check integrity of wire connections between the inverter and the motor. • Clear fault and run cycle. If fault persists and reappears, replace the inverter.
E16 Over Trip E18 Heatsink Over Temp E19 Motor Over Temp E20 Overload Current E21 Overload Power	Inverter operation above design limits.	<ul style="list-style-type: none"> • Ensure all 4 shipping bolts have been properly removed. • Remove all foreign objects that may be lodged between inner and outer baskets. • Look for signs of seized bearing(s) on basket and drum motor. Replace components as necessary. • Inspect condition and mounting of door gasket. Replace and re-mount as necessary. • Ensure inner basket (drum) can rotate freely. <p>IF ABOVE STEPS DO NOT CLEAR THE PROBLEM:</p> <ul style="list-style-type: none"> • Replace inverter or motor.

Error Code	Description	Action
E22 Over Volts E23 Under Volts E24 Under Volts After Start E25 Power Up E3 Inverter EEPROM Fault Event E17 ADC Fault Event	Inverter Internal Problems	<ul style="list-style-type: none"> • Measure AC outlet voltage; ensure correct range (120 V to 132 VAC). • Check electrical connections at the inverter. • Check harness integrity between main control and inverter. • Unplug the unit, wait 30 seconds and restart the unit. • If the fault persists and reappears, replace the inverter.
E26 LIN Comm Fail	There is a problem with the Communication between the Main Control and the User Interface Control.	<ul style="list-style-type: none"> • Check the integrity of the wiring between the Main Control Board and the User Interface. • Clear the fault and run the cycle. If fault persists and reappears, replace the Main Control.

Model 4400 without Steam



X-YY	Wire colour
Y	Wire gauge
W	White
B	Black
GY	Grey
BL	Blue
Y	Yellow
G	Green
O	Orange
R	Red
BR	Brown
P	Purple
G/Y	Green with Yellow

Warranty

GE Washer Warranty. (For customers in the United States)



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 strut assembly, motor and motor controller if any of these parts should fail due to a defect in materials or workmanship. GE will also replace the washer top panel, front panel or service panel 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 outer tub and driven pulley 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, delivery or maintenance.
- Failure of the product if it is abused, misused, or used for other than the intended purpose or used commercially.
- Damage after delivery.
- 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.
- Product not accessible to provide required service.

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