

All About

# Servicing

## 24" Dishwashers

Fully Integrated Direct Feed Model  
Dishwashers

**FRIGIDAIRE™**

**W** White-Westinghouse

**Gibson**

***Kelvinator*** 

***TAPPAN***

Electrolux Major Appliances; North America  
250 Bobby Jones Expwy  
Augusta, GA 30907



### Safe Servicing Practices

**Avoid personal injury and/or property damage by observing important Safe Servicing Practices.**

**Following are some limited examples of safe practices:**

1. DO NOT attempt a product repair if you have any doubts as to your ability to complete the repair in a safe and satisfactory manner.
2. Always Use The Correct Replacement Parts as indicated in the parts documentation. Substitutions may defeat compliance with Safety Standards Set For Home Appliances.
3. Before servicing or moving an appliance:
  - Remove power cord from the electrical outlet, trip circuit breaker to OFF position, or remove fuse.
  - Turn off water supply.
4. Never interfere with the proper operation of any safety device.
5. Use ONLY REPLACEMENT PARTS CATALOGED FOR THIS APPLIANCE. Substitutions may defeat compliance with Safety Standards Set For Home Appliances.
6. GROUNDING: The standard color coding for safety ground wires is GREEN, or GREEN with YELLOW STRIPES. Ground leads are not to be used as current carrying conductors. It is EXTREMELY important that the service technician reestablish all safety grounds prior to completion of service. Failure to do so will create a hazard.
7. Prior to returning the product to service, ensure that:
  - All electrical connections are correct and secure.
  - All electrical leads are properly dressed and secured away from sharp edges, high temperature components, and moving parts.
  - All non-insulated electrical terminals, connectors, heaters, etc. are adequately spaced away from all metal parts and panels.
  - All safety grounds (both internal and external) are correctly and securely connected.
  - All panels are properly and securely reassembled
  - Water supplies are turned ON if shut off prior to service.

### **ATTENTION!!!**

**This service manual is intended for use by persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the appliance repair trade. Electrolux Home Products, Inc. cannot be responsible, nor assume any liability, for injury or damage of any kind arising from the use of this manual.**

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# Section 1 Basic Information

This Service Manual covers Model PLD2855RFC

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## Section 1 Basic Information

### Important Safety Instructions

The service technician should be aware of the safety instructions below to make sure the customer is operating the dishwasher in accordance with the Use and Care Manual provided with the unit.

- Read all instructions before using the dishwasher.
- Use the dishwasher only as instructed in the Use and Care Manual.
- This manual does not cover every possible condition and situation that may occur. Use common sense and caution when installing, operating and maintaining any appliance.
- National Sanitation Foundation (NSF) certified residential dishwashers are not intended for licensed food establishments. Such establishments require a higher dishwasher water temperature to meet commercial sanitization requirements.
- **DISHWASHER MUST BE ELECTRICALLY GROUNDED.** Read the Installation Instructions for details.
- This dishwasher is designed to operate on regular house current (120 V, 60 Hz). Use a circuit equipped with a 15 ampere fuse or circuit breaker. Use a 20 ampere fuse if dishwasher is connected with a food waste disposer.
- Do not operate dishwasher unless all enclosure panels are in their proper place as explained in the Installation Instructions provided with the dishwasher.
- To avoid entrapment and/or suffocation, remove the door to the washing compartment when removing an old dishwasher from service or discarding it.
- Keep young children and infants a safe distance away from the dishwasher when it is in operation.
- Use only detergents and rinse agents recommended for use in a dishwasher.
- Do not abuse, sit on, or stand on the door or dish rack of the dishwasher.
- Store dishwasher detergent and rinse agents out of the reach of children.
- Do not wash plastic items unless marked "dishwasher safe" or the equivalent. Check with manufacturer for recommendations, if not marked. Items that are not dishwasher safe may melt and create a potential fire hazard.
- If the dishwasher drains into a food disposal, make sure disposal is completely empty before running dishwasher.
- Disconnect electrical power to dishwasher before servicing.
- Repairs should be done by a qualified professional.
- Do not tamper with controls.
- Use care unloading the dishware when the SANITIZE option has been selected. Contents may be hot to the touch immediately after the end of cycle.
- When loading items to be washed:
  - Locate sharp items and knives so that they are not likely to damage the tub or door seal;
  - Load sharp items and knives with the handles up to reduce the risk of cut-type injuries. Alternatively, place sharp items and knives in the utensil shelf located in the upper rack.
- Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for 2 weeks or more. **HYDROGEN GAS IS EXPLOSIVE.** If hot water system has not been used for such a period, before using dishwasher, turn on all hot water faucets and let water flow from each for several minutes. This will release any accumulated hydrogen gas. **HYDROGEN GAS IS FLAMMABLE.** Do not smoke or use an open flame during this time.
- Do not store or use combustible materials, gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

# Section 1 Basic Information

## Product Specifications

### Electrical

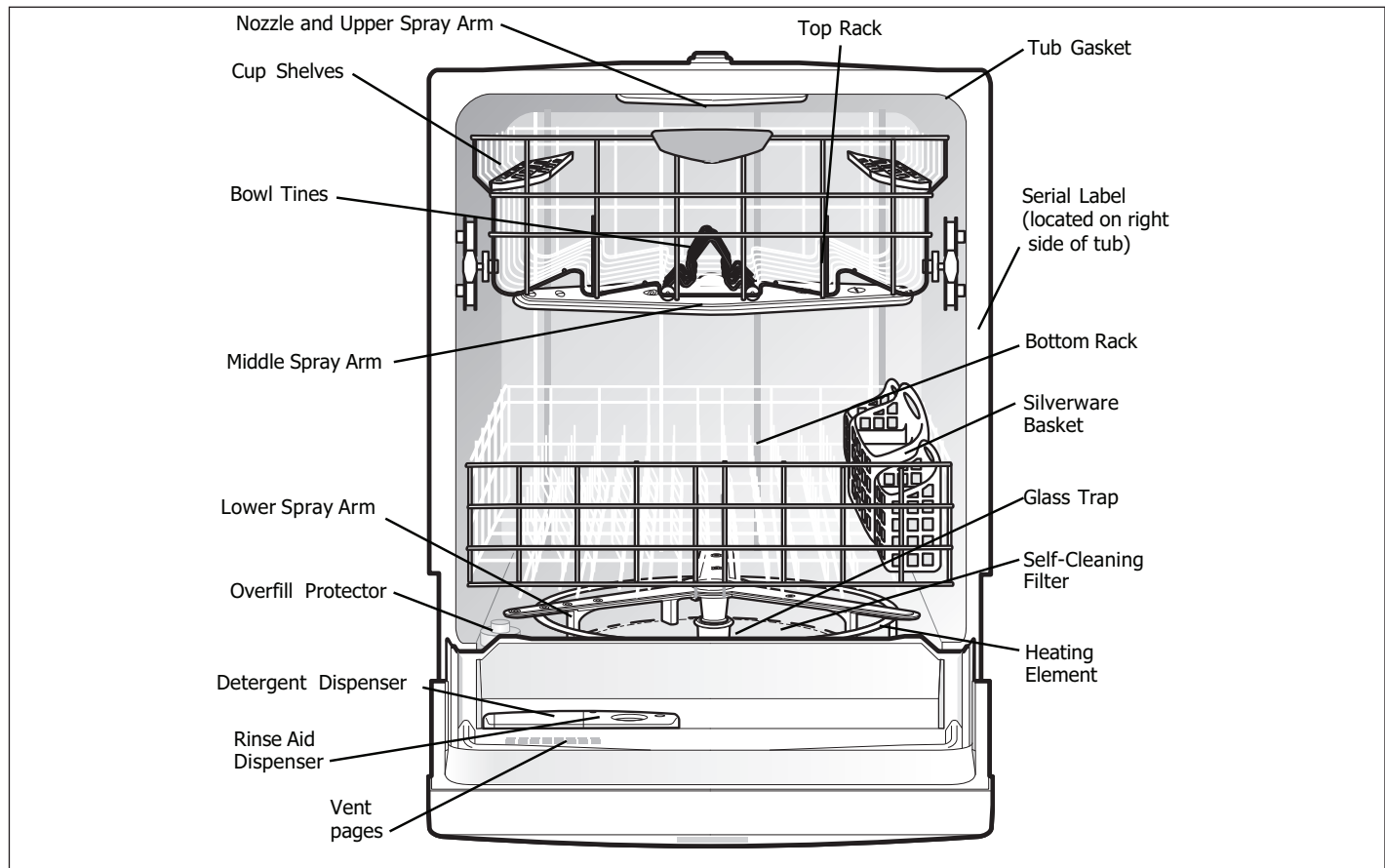
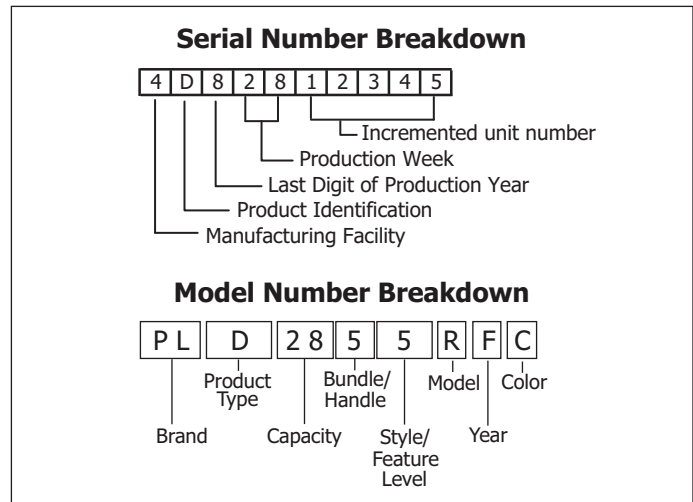
Rating .....	120 Volts, 60Hz
Separate Circuit.. .....	15 amp min., 20 amp max.
Motor (Amps) .....	1.8
Heater Wattage .....	900
Total Amps (load rated).....	10.0
TempAssure.....	140°F ±5°F
.....	(60°C±3°C) [with outer door in place]
TempBoost .....	145°F ±5°F (63°C ±3°C)
Heated Wash/Heated Rinse	
Sanitize .....	150°F ±5°F (66°C ±3°C)
Hi-Limit Thermostat .....	200°F (93°C)

### Feature Overview

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

### Water Supply

Suggested minimum incoming water temperature.....	120°F (49°C)
Pressure (PSI) min./max. ....	20/120
Connection (NPT).....	3/8"
Consumption (Normal Cycle).....	4.9 - 9.7 U.S. gallons,
.....	18.5 - 36.7 liters
Water valve flow rate (U.S. GPM).....	.83
Water recirculation rate (U.S. GPM).....	approx. 12
Water fill time.....	87 sec.



## Section 1 Basic Information

### Filling the Detergent Dispenser

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

- Use only fresh automatic dishwashing detergent. Other detergents will cause oversudsing.
- When using automatic dishwashing detergent tabs, place one tab in main wash cup and close.
- Add detergent just before starting cycle.
- Store detergent in a cool, dry location. Moist or caked detergent will not dissolve properly.

### CAUTION

The use of industrial grade detergent can damage the heating coil and other parts of the dishwasher leading to damage to the unit and surrounding property. Use only household grade automatic dishwasher detergents.

### How Much Detergent To Use

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

### Rinse Aid

Rinse aid greatly improves drying and reduces water spots and filming. Water "sheets" off dishes rather than forming water droplets that cling and leave spots. A dispenser, located next to the detergent cup, automatically releases a measured amount of rinse aid during the last rinse. If spotting and poor drying are problems, increase the amount of rinse aid dispensed by rotating the dial to a higher number. The dial is located under the dispenser cap. The indicator will be dark when full, and will show clear when it is time to refill. On models with a STATUS window, "LO" will appear at the end of the cycle indicating that it is time to refill.

To add liquid rinse aid, turn dispenser cap 1/4 turn counterclockwise and lift out. Pour in rinse aid until liquid touches the indicated fill level. Replace cap. Do not overfill as this can cause oversudsing. Wipe up any spills with a damp cloth. The dispenser holds enough for 35 to 140 washes, depending on setting.

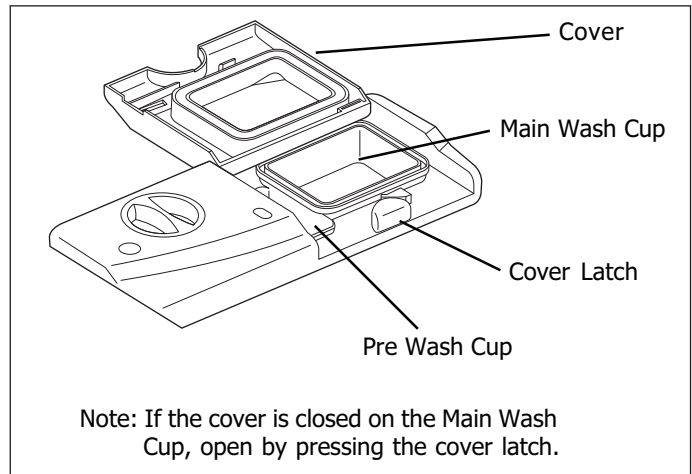


Figure 1-1

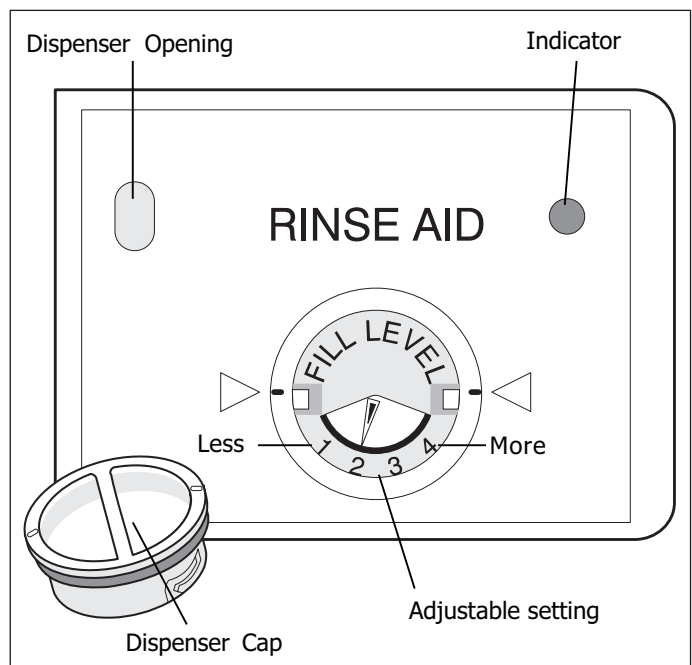


Figure 1-2

### NOTE

The HEAT DRY option in combination with rinse aid will enhance drying performance. The energy required to use the HEAT DRY option costs pennies per cycle. Choosing not to select the HEAT DRY option may leave items in the dish load that will not be completely dry at the end of the cycle.



<b>Detergent Usage Guide</b>				
Cycle	Soft Water (0-3 grains)	Medium Hard Water (4-8 grains)	Hard Water (9-12 grains)	Very Hard Water* (over 12 grains)
Pots & Pans or Normal Wash	2 teaspoons (each cup— 1/4 full)	5 teaspoons (each cup—fill to line above "Regular")	8 teaspoons (each cup— completely full)	Each Cup— Completely Full (water softener recommended)
Energy Saver or China Crystal	2 teaspoons (Main Wash cup— 1/4 full)	5 teaspoons (Main Wash cup—fill to line above "Regular")	8 teaspoons (Main Wash cup— completely full)	Main Wash Cup— Completely Full (water softener recommended)
Rinse Only	No Detergent	No Detergent	No Detergent	No Detergent (water softener recommended)

\*Note: For very hard water, detergent alone may not be enough. A water softener is recommended to improve water quality and dishwashing performance. Try adding more detergent at the beginning of the main wash portion of the cycle. As a rule, use 1 teaspoon for each grain above 12. Unlatch the door, open slowly and add detergent to the bottom of the tub. Close the door to latch and the dishwasher will continue through the cycle.

### Care and Cleaning

#### **WARNING**

##### **Burn Hazard**

**Allow heating element to cool before cleaning the interior. Failure to do so can result in burns.**

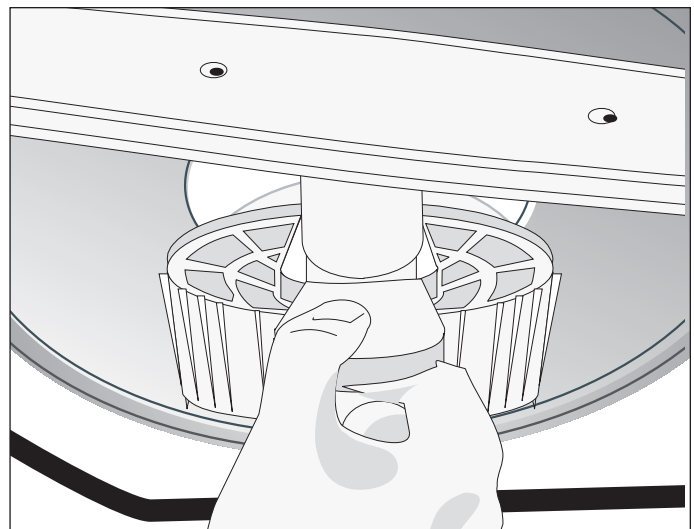
**Outside** - Occasionally wipe with a mild nonabrasive detergent and water. Rinse and dry.

**Models with Easy Care Real Stainless Finish** - Clean outer door with warm soapy water and a dishcloth or sponge. Rinse with clean water and a dry cloth. Do not use harsh cleaners.

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

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

Hard water may cause lime deposit buildup on the interior of the dishwasher.



**Figure 1-3**

### Overfill Protector

The overfill protector keeps dishwasher from overflowing and is located in the left front corner of the tub.

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

## Section 1 Basic Information

### Care of Drain Air Gap

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

### Winterizing

#### CAUTION

Freezing temperatures may cause water lines to rupture. Be sure all supply lines to unit and circulating lines within dishwasher are protected. Failure to do so could result in property damage.

A dishwasher left in an unheated location should be protected from freezing.

#### To Disconnect Service:

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

#### To Restore Service:

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

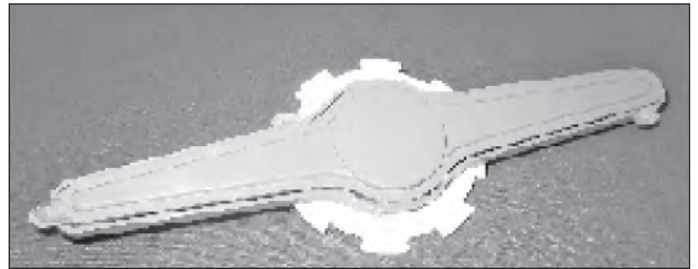
### Cleaning the Spray Arm

The spray arm may need to be cleaned to insure that there are no clogs to the spray arm jets and bearings due to hard water chemicals.

To remove spray arm, simply hold the spray arm in place and turn the retaining nut clockwise. Then pull up on the spray arm lifting it off the shaft.

To clean the spray arm, use warm soapy water and a soft brush to clean the jets and bearings.

To replace the spray arm, simply set the spray arm on the shaft, take the retaining nut and turn it counter-clockwise until it has locked into place.



**Figure 1-4**

### Wash System

The wash system consists of a wash pump and motor assembly to provide water under pressure to three spray arms to loosen and remove food. Water sprayed from these arms will alternate starting first with the bottom arm then changing to both the center and upper spray arms simultaneously. Water passes through a filter and soil director to remove food particles so that only clean water is sprayed onto the dishes for cleaning. (See Figure 1-5).

The remaining parts in the wash system are the sump assembly which acts as a reservoir for clean water and the delivery tube which supplies water to the upper two spray arms.



Figure 1-5

### The Alternating Wash System

The alternating wash system used in this dishwasher will only spray from the lower arm or the upper set of arms at a time.

Alternating the spray is achieved with a check ball moving between two holes in the sump. One hole is located in the rear of the sump for the upper two spray arms, and the second is located out the top of the volute cover for the lower arm. The check ball rests at the end of a ramp molded into the sump partially blocking the rear hole. As pressurized water enters the volute cover, the check ball is held tightly into the rear hole restricting water flow from this opening. (See Figure 1-6 and 1-7).

Water is now forced to leave the remaining hole from the top of the cover into the lower spray arm. The force of the water entering and leaving the arm causes it to turn. The ball covering the rear hole allows a small amount of water to enter into the delivery tube. The delivery tube fills with water at a rate of approximately four inches a minute. This water is used for changing the spray from the lower arm to the upper two spray arms.



Figure 1-6

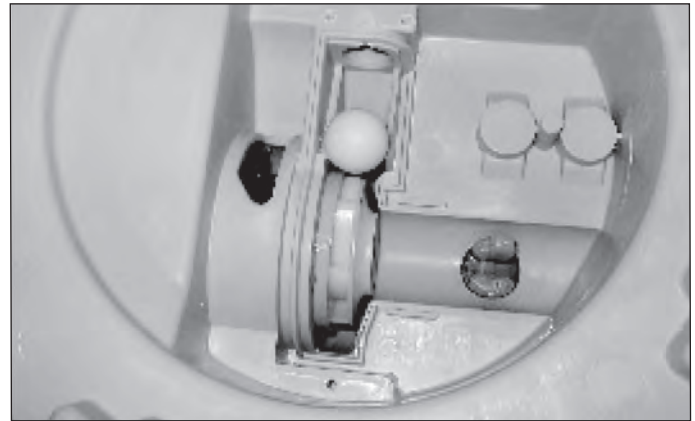


Figure 1-7

## Section 1 Basic Information

All wash and rinse cycles start using the lower wash arm. Changing spray from bottom to upper spray arms is accomplished with the wash pump stopping for not more than .6 of a second. This pause removes water pressure from the rear of the check ball, allowing the water that has accumulated in the delivery tube to reenter the sump moving the check ball away from the hole and up the ramp. (See Figure 1-8).

The pump is restarted, water pressure now is against the back of the check ball holding the ball into the top hole. Water exits out the rear hole into the delivery tube and sends water to the upper spray arms. (See Figure 1-9). Water is divided in the delivery tube with 80% going to the center spray arm and 20% to the upper arm. Spray will continue from the upper arms for approximately 90 seconds then the pump will pause for 3 seconds. This allows time for the delivery tube to completely drain and the check ball to fall back to the bottom of the ramp. The cycle restarts with water being sprayed from the bottom again.



**Figure 1-8**



**Figure 1-9**

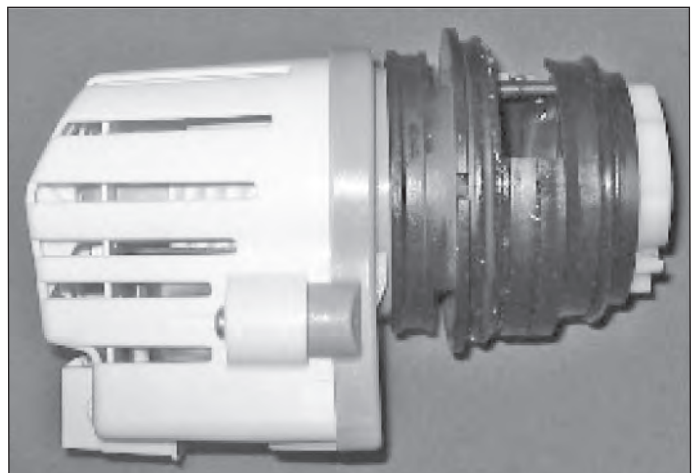
## Parts In The Wash System

### Wash Motors

The direct feed model dishwashers offer two different wash pumps: a single speed wet rotor style motor and a variable speed DC motor. The style of motor used on a specific model will depend on the features offered. All direct feed model dishwashers use a separate drain pump for draining the unit.

### Single Speed Wet Rotor Motor

This wash pump operates on 120VAC current and has 3 functional parts: a 1/12th hp drive motor, impeller and macerator blade. This will circulate water at a rate of 12 gallons per minute. This wash pump and motor assembly, is replaced as a complete assembly. (See Figure 1-10).



**Figure 1-10**



### Variable Speed Wash Motor

Models with the variable speed motor improves washing for select cycles and loads. The speed of the motor will be determined by the electronic control based on the cycle selected. The control will monitor motor speed with input from a Hall Effect sensor that is mounted to the rear of the wash motor. Input voltage for operating the motor will be 120VAC with the motor changing this to VDC with a built-in rectifier. (See Figure 1-11)

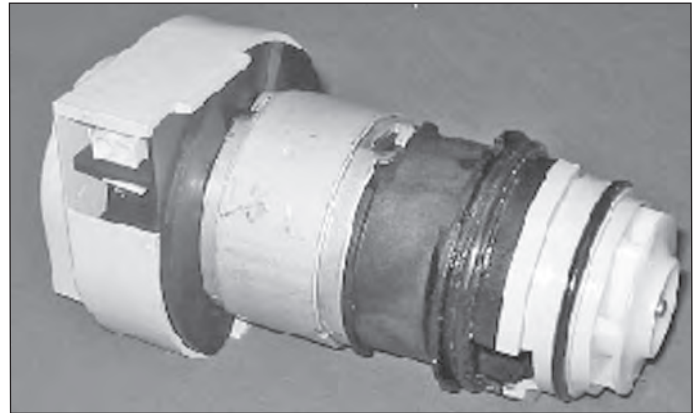


Figure 1-11

### Stainless Steel Filter

A stainless steel filter covers the entire sump area. The filter is designed to remove all food particals from the water so only cleaned water can re-enter the sump. This filter has a fine mesh polyester center basket and a soil diverter for directing soil trapped by the filter to the rear section of the sump. The spray arm support is used to hold the filter tightly in place. (See Figure 1-12)



Figure 1-12

### Upper Spray Arm

The upper spray arm located in the top of the tub turns in a counter clockwise direction, and sprays simultaneously with the center spray arm. This spray arm is threaded to the end of the delivery tube. It is removed by turning the locking nut counter clockwise. This arm comes as an assembly consisting of an arm and locking nut. The spray arm will turn at about 40 rpm. (See Figure 1-13)



Figure 1-13

### Center Spray Arm

This spray arm is mounted on a short delivery tube to the under side of the upper rack. This arm rotates clockwise at approximately 20 rpm. The center spray arm and delivery tube will move in and out with the upper rack. There is a bellows mounted to the back end of this short delivery tube which forms a seal against the back wall of the tub when the spray arm is in operation. This delivery tube is also designed for the adjustable upper rack. (See Figure 1-14)

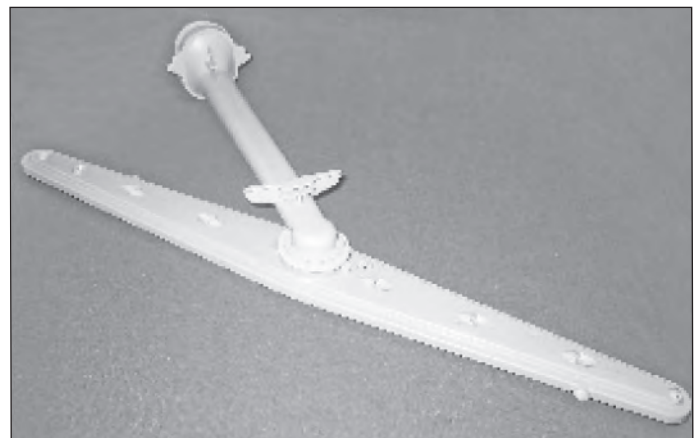


Figure 1-14

## Section 1 Basic Information

### Lower Spray Arm

This spray arm is designed using three spray arms to spray water up into the lower rack. There are also on the underside of this spray arms 4 legs used for cleaning the soil from the stainless steel filter. Three of the legs have spray openings pointed toward the center these will spray water across the top of the filter forcing the loose soil to the center. The fourth leg is mounted closer to the center of the spray arm, with a spray opening pointed straight down. This forces food collected in the center basket down into the soil director for removal in the drain segment of the wash cycles. Turning of the arm is accomplished by water under pressure being sprayed from holes molded on top of the arm, these force the arm to turn in a clockwise direction. The lower spray arm turns periodically in all cycles, this to keep the filter clean, and reduce chances of redeposit. (See Figure 1-15)



Figure 1-15

### Drain Pump

The only function of the drain pump is to remove water from the dishwasher. The drain pump is mounted directly to the front of the sump. The motor for this pump is a rated 1/25th hp drive motor. The drain pump only comes as an assembly. The front cover of the pump can be removed for cleaning if needed.

With the drain pump mounted in this location it is accessible by removing both the outer door and the toe kick panels. The drain pump connector hose from the pump to the sump is supplied as an assembly. (See Figure 1-16)

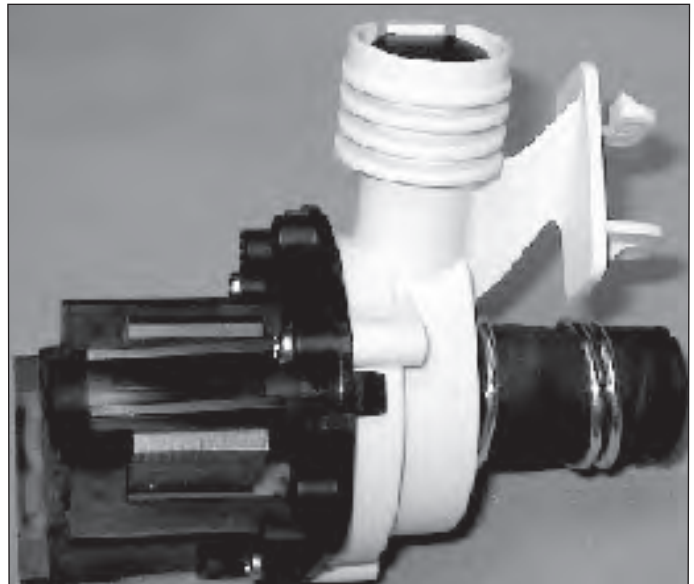


Figure 1-16

### Fill System

The fill system of this dishwasher consists of the water fill valve and a safety float switch. Power from the control is applied to the water fill valve through the float switch. The water valve is an electrically operated valve with a flow washer that regulates the amount of water, based on the water pressure applied to the valve inlet. Water pressure needs to be between 20 and 120 psi for the dishwasher to have the proper amount of water for operation. (See Figure 1-17)

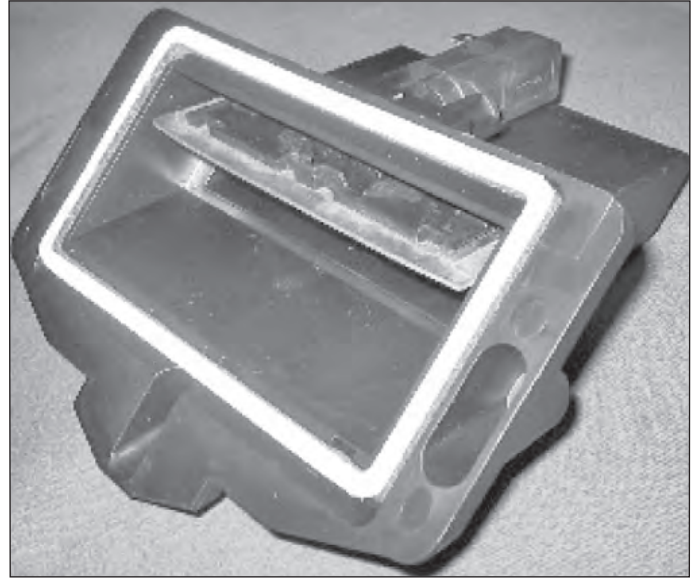
The float safety switch will shut off power to the valve if the tub over fills with water. Water enters the tub through an air gap mounted to the left side of the tub. (See Figure 1-17)



Figure 1-17

### Drying/Venting System

The vent for the dishwasher is on the upper left side of the inner door panel (See Figure 1-18). Steam and heat exit the tub during the dry cycle from this vent through a duct between the inner door panel and the outside of the console. Mounted in this duct is a baffle which is opened and closed by a wax motor. This baffle is normally open. Once a cycle is started, power is applied to the wax motor actuator by the control. This causes the actuator to close the baffle and it will remain closed until the dry portion of the cycle is reached. In the dry cycle, power is removed from the actuator causing the baffle to open. Steam is now released from the tub. This door will remain open after the cycle is completed until a new cycle is started. The vent duct is mounted with three screws and a self adhesive gasket.



**Figure 1-18**

### Heater

The heater mounted in the bottom of the tub increases water temperature, and in the dry cycle, assists in drying the dishes. The amperage draw of the heater can vary depending on the job it is to perform. When heating water, the amperage draw can be 900 watts. This amperage will drop to approximately 700 watts in the dry cycle. The design of the heater is to be more energy efficient. Mounted next to the heater on the under side of the tub is a safety thermostat. This thermostat will open if the temperature in the tub raises over 200°F. (See Figure 1-19)



**Figure 1-19**



## Section 1 Basic Information

### Dispensing System

The detergent and rinse aid dispenser consists of two dispensers combined in one housing that are controlled with one wax motor actuator. The first time the control energizes the actuator, the cover over the detergent side of the dispenser opens, dispensing detergent for the main wash cycle. The second time the actuator is energized rinse aid is released for the final rinse cycle. The detergent side of the dispenser consists of two cups: the smaller cup is for detergent used in the pre-wash cycle, the second larger cup is intended for the main wash. The rinse aid section has a clear indicator to show the presence of agent in the dispenser. On models with a digital display, the control will display "LO" when the rinse agent is low in the dispenser. There is also an adjustable hub inside the dispenser (seen by removing the cap) to control the amount of agent dispensed. This detergent and rinse aid dispenser is replaced as a complete assembly. The cap for the rinse aid dispenser is the only separate part available for the dispenser. (See Figure 1-20)

### Dispenser Operation

The dispenser has two detergent cups both covered by the same cover. In the bottom center of the spring loaded cover is a thumb release. By pushing up on this release, the cover will open. The larger of the two cups is used for the main wash cycle and the smaller for the pre-wash. With the detergent added, the cover is closed. The cover is slotted so the detergent from the smaller pre-wash cup can be washed out without the cover opening. After the fill in the main wash, the control applies power to the wax motor actuator. (See Figure 1-21). The plunger of the wax motor extends, pressing down on a pivot arm attached to the latch for the cover. This releases the cover to dispense the detergent. On the opposite end of this pivot arm is a pin that rides up in the actuating arm for the rinse aid dispenser.

With power removed from the wax motor, the plunger retracts the pin and the rinse aid actuator falls down the back side of the actuator. The dispenser is now ready to dispense the rinse aid. The control again applies power to the wax motor, and as the pivot arm raises the rinse aid actuator the rinse agent is added into the dishwasher. When power is removed from the wax motor the pivot arm rises and a leaf spring mounted to the side on the dispenser forces the actuator arm to the starting position for the next cycle.

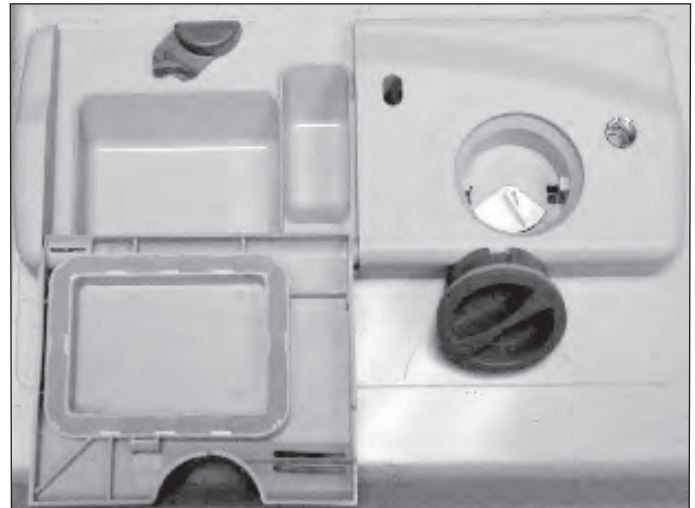


Figure 1-20

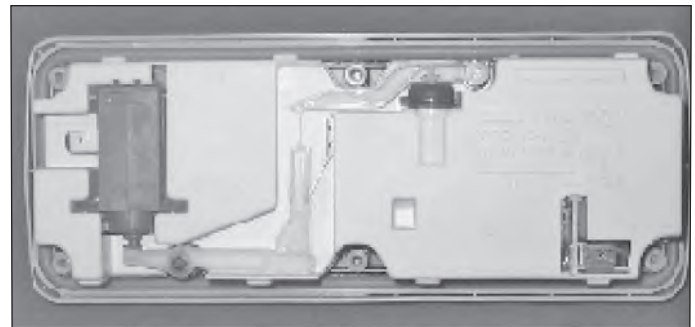


Figure 1-21



Figure 1-22

### Door Hinge and Spring

The inner door panel is attached to the tub frame by hinges. On the face of both hinges there are fiber pads that act as breaks to hold the door at any angle, these pads do not interfere with the smooth up and down movement of the door. There are door springs and cables on both hinges to assist in opening and closing the door. The door spring, which is attached to the rear frame, has a cable that passes around a friction bearing before attaching to the door hinge. This spring and cable assembly provides a quieter, smoother, operating door. (See Figure 1-22)



### Door Latch Assembly

The door latch assembly has two functions: one is to hold the inner door panel against the door seal around the tub, the second is to open and close both door switches. (See Figure 1-23). When the door is closed, a strike mounted on top of the tub forces a spring loaded catch to rotate back into the latch handle. As the catch makes contact with the handle, a hook moves up into the strike and locks the door in place. The rotating of the catch releases the door switch actuator and allows both door switches to close.

When the door latch handle is raised, the upward pressure on the handle pushes up on the catch that now pushes back on the door switch actuator that opens the door switches. This pushes the hook out of the strike to allow the door to open.

### Thermistor and Soil Sensor Assembly

The thermistor and soil sensor are assembled in the same housing and mounted directly in front of the wash pump intake. (See Figure 1-24 and 1-25)

The control is programmed with preset wash and rinse temperatures for each cycle. The use of a thermistor in the sump provides water temperature information to the control to maintain these temperatures. The control provides options for the user to select a higher temperature wash as well as a sanitize rinse.

A soil sensor is used to adjust the cycle length based on the amount of food soil found in the water. This sensing is performed in all wash cycles with the exception of the Rinse only cycle. The sensor, mounted to the under side of the sump directly in front of the wash motor intake, is made up of a transmitter and a receiver. At the proper time a light signal is passed between the transmitter and the receiver. The amount of light that is received is then measured and returned to the control. This information is used by the control to adjust the cycle time.

At the end of the pre-wash, the control stops the wash motor for 30 seconds. This allows the wash water and food soil to settle for the soil sensor to check the soil level in the water. If no soil is found, the cycle can be adjusted. The tub is then drained and refilled for the first rinse. At the conclusion of the first rinse the wash motor pauses again for 30 seconds and the water is rechecked for a change in condition. If no soil is found, the cycle may be shortened or, if large amounts of soil are found, the cycle may be extended. The control can use either one or both pauses to adjust the cycle time.

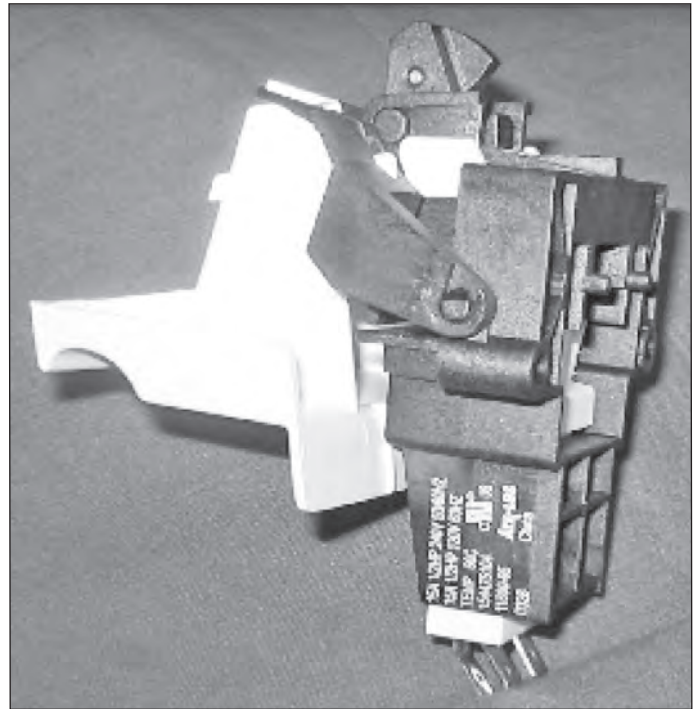


Figure 1-23

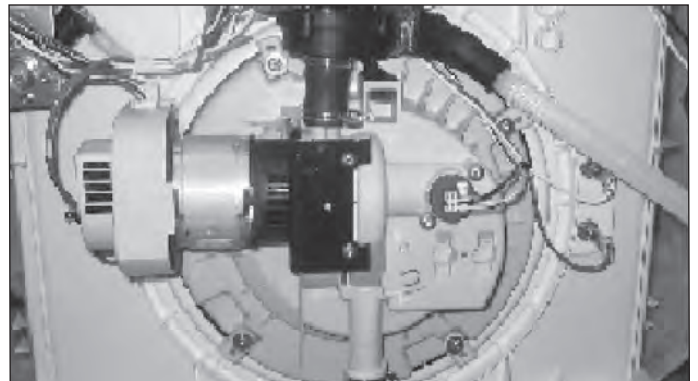


Figure 1-24

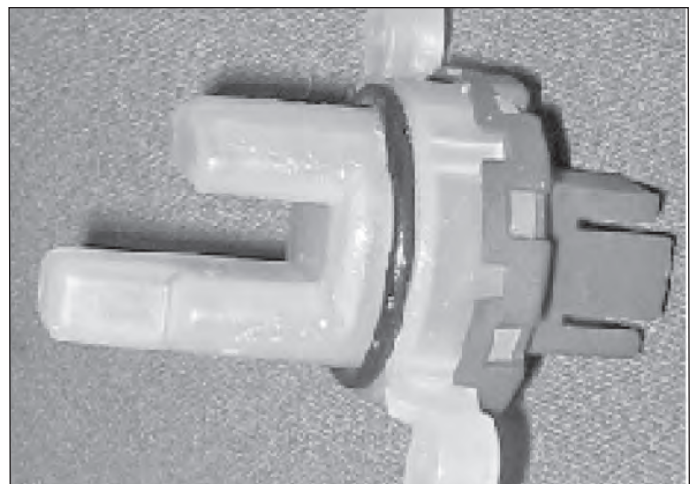


Figure 1-25

## Section 1 Basic Information

### Major Appliance Warranty Information

Your appliance is covered by a one year limited warranty. For one year from your original date of purchase, Electrolux will pay all costs for repairing or replacing any parts of this appliance that prove to be defective in materials or workmanship when such appliance is installed, used and maintained in accordance with the provided instructions.

#### Exclusions

This warranty does not cover the following:

1. Products with original serial numbers that have been removed, altered or cannot be readily determined.
2. Product that has been transferred from its original owner to another party or removed outside the USA or Canada.
3. Rust on the interior or exterior of the unit.
4. Products purchased "as-is" are not covered by this warranty.
5. Food loss due to any refrigerator or freezer failures.
6. Products used in a commercial setting.
7. Service calls which do not involve malfunction or defects in materials or workmanship, or for appliances not in ordinary household use or used other than in accordance with the provided instructions.
8. Service calls to correct the installation of your appliance or to instruct you how to use your appliance.
9. Expenses for making the appliance accessible for servicing, such as removal of trim, cupboards, shelves, etc., which are not a part of the appliance when it is shipped from the factory.
10. Service calls to repair or replace appliance light bulbs, air filters, water filters, other consumables, or knobs, handles, or other cosmetic parts.
11. Surcharges including, but not limited to, any after hour, weekend, or holiday service calls, tolls, ferry trip charges, or mileage expense for service calls to remote areas, including the state of Alaska.
12. Damages to the finish of appliance or home incurred during installation, including but not limited to floors, cabinets, walls, etc.
13. Damages caused by: services performed by unauthorized service companies; use of parts other than genuine Electrolux parts or parts obtained from persons other than authorized service companies; or external causes such as abuse, misuse, inadequate power supply, accidents, fires, or acts of God.

#### DISCLAIMER OF IMPLIED WARRANTIES; LIMITATION OF REMEDIES

CUSTOMER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE PRODUCT REPAIR OR REPLACEMENT AS PROVIDED HEREIN. CLAIMS BASED ON IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR OR THE SHORTEST PERIOD ALLOWED BY LAW, BUT NOT LESS THAN ONE YEAR. ELECTROLUX SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES SUCH AS PROPERTY DAMAGE AND INCIDENTAL EXPENSES RESULTING FROM ANY BREACH OF THIS WRITTEN LIMITED WARRANTY OR ANY IMPLIED WARRANTY. SOME STATES AND PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR LIMITATIONS ON THE DURATION OF IMPLIED WARRANTIES, SO THESE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS WRITTEN WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

#### If You Need Service

Keep your receipt, delivery slip, or some other appropriate payment record to establish the warranty period should service be required. If service is performed, it is in your best interest to obtain and keep all receipts. Service under this warranty must be obtained by contacting Electrolux at the addresses or phone numbers below.

This warranty only applies in the USA and Canada. In the USA, your appliance is warranted by Electrolux Major Appliances North America, a division of Electrolux Home Products, Inc. In Canada, your appliance is warranted by Electrolux Canada Corp. Electrolux authorizes no person to change or add to any obligations under this warranty. Obligations for service and parts under this warranty must be performed by Electrolux or an authorized service company. Product features or specifications as described or illustrated are subject to change without notice.

USA  
1.800.944.9044  
Electrolux Major Appliances  
North America  
P.O. Box 212378  
Augusta, GA 30907



Canada  
1.800.668.4606  
Electrolux Canada Corp.  
5855 Terry Fox Way  
Mississauga, Ontario, Canada  
L5V 3E4

## Section 2 Installation Information

### Recognize safety symbols, words and labels:

Safety items throughout this manual are labeled with a WARNING or CAUTION based on the risk type as described below:



#### **WARNING**

This symbol alerts you to situations that may cause serious body harm, death or property damage.



#### **CAUTION**

This symbol alerts you to situations that may cause bodily injury or property damage.



#### **WARNING**

To reduce the risk of fire, electrical shock, or injury when using a dishwasher, follow basic safety precautions including the following:

- Read all instructions before operating the dishwasher.
- Before performing any type of service or installation, make sure that electric power to the dishwasher is disconnected.
- To avoid the possibility of explosion or fire, do not store or use combustible, flammable, or explosive liquids or vapors (such as gasoline) inside or in the vicinity of this or any other appliance.
- This appliance is equipped with a three-prong grounding plug for protection against possible electric shock hazards. Plug it only into a dedicated, grounded electrical outlet. When only a standard two-prong electrical outlet is available, the customer must have it replaced with a dedicated, properly grounded three-prong electrical outlet before using this appliance.
  - Do not under any circumstances, cut or remove the third (ground) prong from the power cord.
  - Do not use an adapter plug.
  - Do not use an extension cord.
  - Do not use a power cord that is frayed or damaged.
  - The use of a ground fault interrupter (GFI) is not recommended.
- Do not install or use a damaged appliance. If you receive a damaged appliance, immediately contact your dealer or builder.
- The installer must show the customer the location of the power plug so that they know where and how to disconnect power to the dishwasher.
- Do not install, repair, or replace any part of the dishwasher unless specifically recommended in the literature accompanying it. A qualified service technician should perform all other service.



#### **WARNING**

Electrolux Home Products Inc. cannot be held responsible for damage to property or injury to persons caused by failure to comply with the installation, maintenance and safety instructions contained in this Service Manual.

## Section 2 Installation Information

### Tools and Materials Needed for Installation

- Drill, Electric
- Driver, Socket 5/32", 1/4" and 5/16"
- Flaring Tool / Tube Cutter (for copper tubing)
- Flashlight
- Level
- Pipe Joint Compound (for iron pipe plumbing) or Pipe Thread Tape (for sealing threads)
- Pliers
- Safety Glasses
- Saw, Keyhole or 1/2", 1-1/2" to 2" Hole Cutters
- Screw Drivers, Slotted and #2 Phillips (magnetic tip preferred)
- Tape, Electrical or Duct
- Tape, Measuring
- Wire Stripper or Utility Knife
- Wrench, Hex-end
- Wrenches, 2 Adjustable (for copper tubing) or 2 Pipe wrenches (for iron pipe plumbing)

### Parts You Will Need \*(Not Included)

- Conduit Connector
- Drain Hose Clamp, 1-1/4" Diameter
- Elbow, 90° with a 3/8" National Pipe Thread
- Wire Nuts, UL listed (2) for 12-14 gauge wire

#### \* If required:

- "Y" Branch Tailpiece and Connector Kit, Available at Plumbing Supply Store.
- Air Gap Kit, Available at Plumbing Supply Store.
- Fasteners for floor anchoring, Available at Hardware Store
- Hand Shut-off Valve, Available at Plumbing Supply Store.

### WARNING

The dishwasher must be connected to a grounded metal, permanent wiring system. The equipment grounding conductor must be run with the circuit conductors and connected to the appliances' equipment grounding terminal or lead. It is the consumers responsibility to contact a qualified installer to make sure the electrical installation conforms with the National Electrical Code and local codes and ordinances.

Do not connect the dishwasher to the power supply until the appliance is permanently grounded.

All wiring connections must be enclosed in the junction box. This unit has copper lead wires. Joining aluminum building wire to stranded copper wire should be done by a qualified electrician using materials recognized by UL and local codes.

Do not use an extension cord. Such use can result in fire, electrical shock, or other personal injury.

Failure to follow these instructions could result in death or serious injury.

### WARNING

Disconnect electrical power at the fuse box or circuit breaker box before beginning installation. Failure to follow this warning could result in death or serious injury.

Read all instructions before installing dishwasher. For your safety, please read and observe all safety instructions.

## Section 2 Installation Information

### Installation Preparation

1. Make sure your location has the right drain, water, and electrical outlets to make the connections. Do not install unit under a cooktop range. Damage to plastic tub will occur.
2. Remove any carpet from area to provide motor clearance. Floor should be flat and free of any obstruction.

#### **WARNING**

Electrical, water, and drain lines must be confined to shaded areas in Figure 2-1. Electric conductors, water, and drain could be damaged. Failure to follow these instructions could result in fire or electric shock.

#### **IMPORTANT**

For proper operation and appearance of unit, cabinet opening should have dimensions as shown in Figure 2-1. If unit is to be placed in a corner, there must be at least a 2-inch side clearance to open door.

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

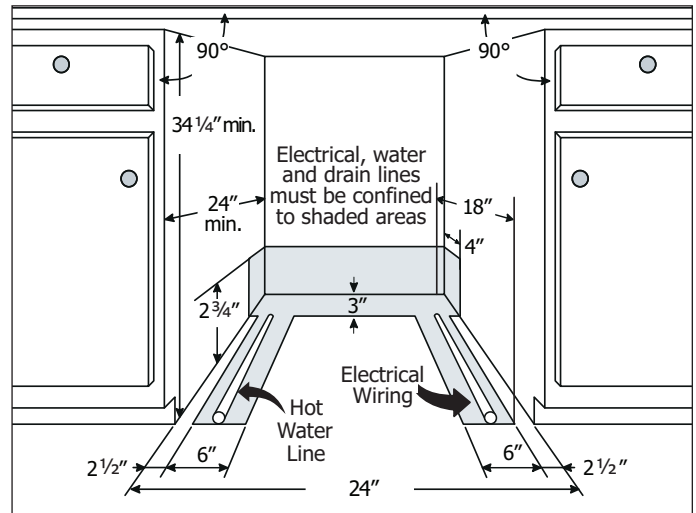
### Dishwasher Preparation

1. Remove two (2) screws at front of the kickplate assembly using a #2 Phillips screw driver.
2. Tilt and pull forward to remove. (See Figure 2-2).

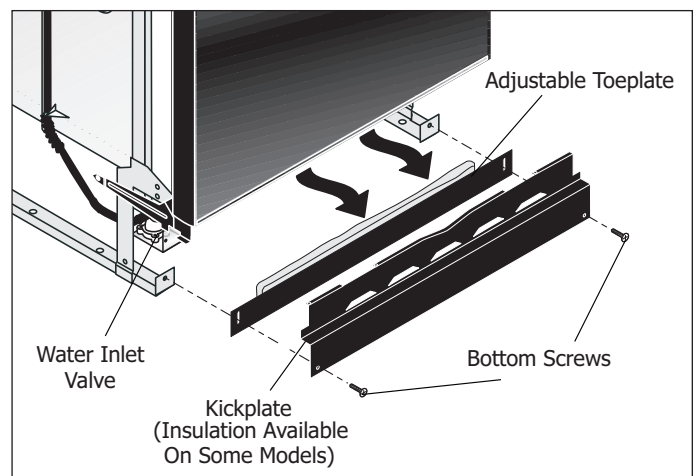
#### **NOTE**

It is not necessary to remove the outer door for installation. However, it may be more convenient to do so. Directions for removing door on page 2-10.

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



**Figure 2-1.**



**Figure 2-2.**

#### **NOTE**

As a precaution, it is recommended, but not required that the cabinets enclosing all sides of the dishwasher (including the underside of the countertop) be sealed with an oil based paint or moisture-proof polyurethane to prevent possible steam/moisture damage.

#### **NOTE**

You can order a Cabinet Seal Kit (Kit # 154528701) by contacting your dealer or parts supplier. This kit provides a seal between the unit and cabinets once installation is complete. (This kit is included on select models).



## Section 2 Installation Information

### Connections For Electrical, Water, and Drain

#### Locating the Connections

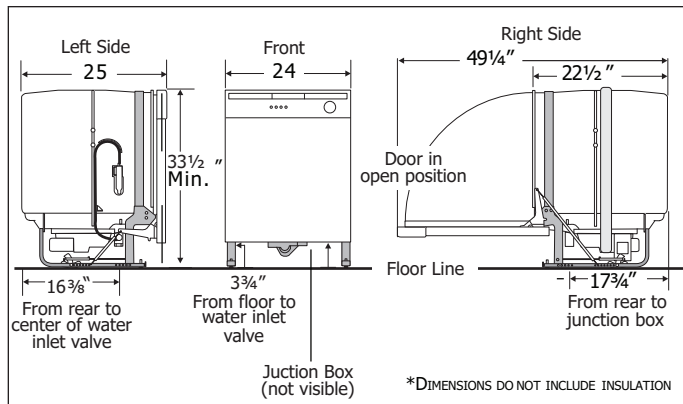
1. Follow local codes and ordinances.
2. Do not exceed 10 feet distance to drain.
3. Do not connect drain lines from other devices to the dishwasher drain hose.
4. Dishwasher must be connected to waste line with an air gap (not supplied) or 32" minimum high drain loop, depending on local codes and ordinances to prevent back flow into the dishwasher.
5. Air gap must be used if waste tee or disposer connection is less than 18' above the floor to prevent siphoning.

#### → IMPORTANT

Disconnect power before starting installation.

#### → IMPORTANT

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



#### ! CAUTION

An air gap **MUST** be used if the drain hose is connected to waste tee or disposer lower than 18" above the floor. Failure to provide the proper drain connection height with air gap or 32" minimum, high drain loop will result in improper draining of the dishwasher.

#### 🔧 NOTE

Install waste tee or disposer and air gap according to manufacturer's instructions.

### Electrical

#### ! WARNING

FOR PERSONAL SAFETY:  
Remove house fuse or open circuit breaker before beginning installation.  
Do not use an extension cord or adapter plug with this appliance.



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

#### Grounding Instructions - Cable Direct

This appliance must be connected to a grounded metal, permanent wiring system, or an equipment grounding conductor must be run with the circuit conductors and be connected to the equipment grounding terminal or lead on the appliance.

#### ! WARNING

The improper connection of the equipment grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service representative if you are in doubt that the appliance is properly grounded.



## Section 2 Installation Information

### Water

1. Determine where you will connect to hot water supply. Review Figure 2-3 and note the location of water inlet valve.

#### CAUTION

Do not use the furnished drain hose or a rubber garden hose for the water supply line. Either of these hoses can burst. Flooding may occur and cause property damage.

2. Be sure water inlet valve is protected from freezing. If valve freezes and ruptures, flooding may occur.
3. Determine amount of tubing needed to connect hot water supply to the unit's water inlet valve. Copper tubing must have a minimum 3/8" OD. High-pressure and high-temperature rated plastic tubing with a minimum inner diameter of 1/4" may be used. A shut-off valve installed outside dishwasher cabinet is best. (See Figure 2-4).
4. Cut water access hole in shaded area in Figure 2-1.
5. Route water supply line into installation area.

#### IMPORTANT

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

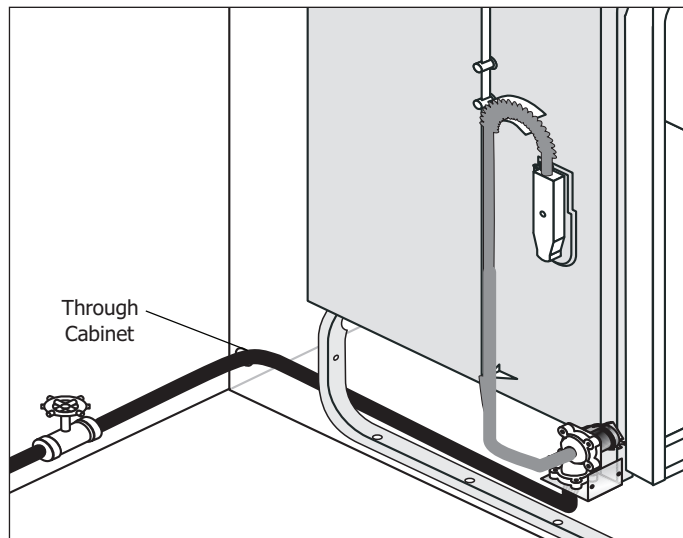


Figure 2-4.

### Drain

1. Review Figures 2-5, 2-6 and 2-8 to see the different ways to connect dishwasher to drain system. Choose method that best suits your need.
2. If you connect to a sink drain, entry will need to be above trap. A "Y" branch tailpiece and connector kit, not included, will make this method easier and includes all needed fittings and instructions. (See Figure 2-5).

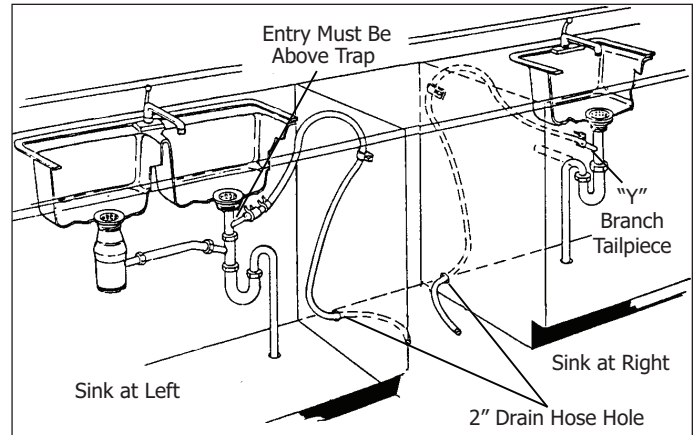


Figure 2-5.

3. If you connect to a sink trap, local codes may require you to install an air gap kit, (not included). The drain hose will be routed from dishwasher to air gap inlet as shown in Figure 2-6. An air gap kit is available from a plumbing supply store. (If the drain hose is installed through the floor, an air gap is necessary).

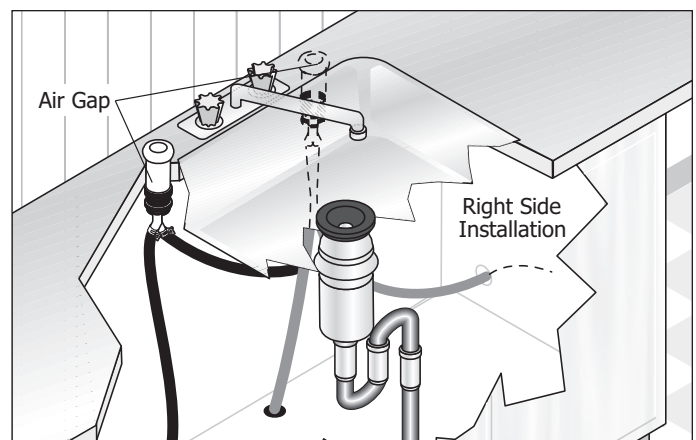
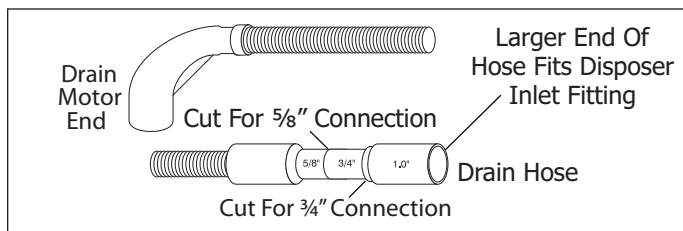


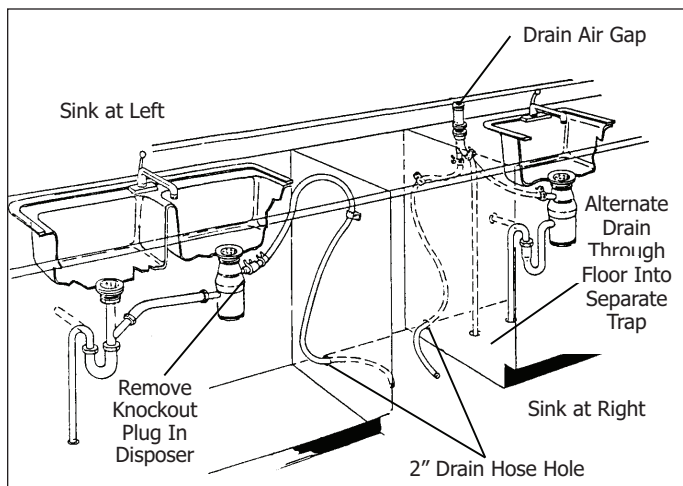
Figure 2-6.

## Section 2 Installation Information

- If you connect to a disposer, the large end of drain hose will fit. Figure 2-7. The knock out plug must be removed from inside disposer inlet before making the final fit to drain hose. (See Figure 2-8).
- Before cutting drain hose access, check both sides of selected area to avoid interference. Cut a 2" diameter hole as shown in Figure 2-8.
- If the cabinet wall is wood, sand edges of hole until smooth and rounded. If cabinet wall is metal, cover all sharp edges with electrical or duct tape to avoid cutting drain hose.



**Figure 2-7.**



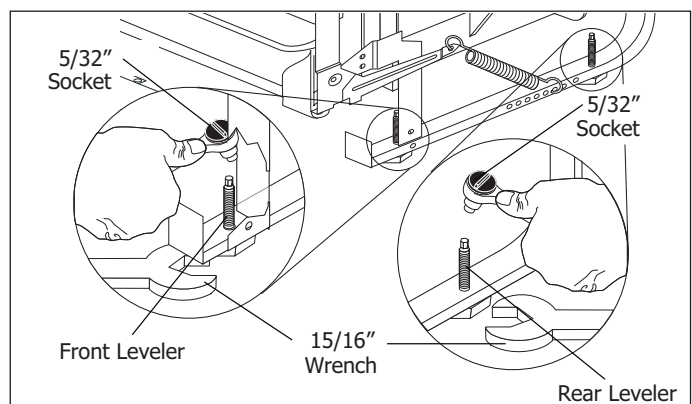
**Figure 2-8.**

## Leveling Dishwasher Within Cabinets

- Measure height of cabinet opening from underside of countertop to floor. Check chart for height opening and suggested adjustment.
- Move dishwasher to front of installation area.
- Loosen the front and rear leveling legs by turning counterclockwise. Refer to chart for number of turns. (See Figure 2-9). Front levelers should allow 1/4" below underside of countertop.
- If levelers have to be removed, make sure floor is free of obstructions.
- Place dishwasher inside cabinet area so that it is centered in opening. Use caution when moving dishwasher to prevent damage to dishwasher, floor and cabinets.
- Check that dishwasher is level from side to side by placing a level against the top front section of tub.
- Check that dishwasher is level from front to back by placing level on side of opened door.
- Adjust levelers up or down until dishwasher is level.

Leg Leveler Adjustment Chart	
Height of Cabinet Opening	Number of Turns to Adjust Levelers
34" (86.4cm)	0
34 <sup>1</sup> / <sub>8</sub> " (86.7cm)	2
34 <sup>5</sup> / <sub>16</sub> " (87.2cm)	6
34 <sup>1</sup> / <sub>2</sub> " (87.6cm)	9

**Figure 2-9.**



**Figure 2-10.**



## Section 2 Installation Information

### Finishing the Drain Connection

#### **WARNING**

Plumbing material and drain hose must not come in contact with wiring or electrical components. Failure to follow this warning could result in personal injury from exposed wiring.

1. Pull out unit and check to see if drain hose is correctly attached to the drain pump assembly. If drain hose is not attached to drain pump, follow the instruction sheet (included with drain hose) on how to correctly install the drain hose to the drain pump assembly.
2. Move unit back in place while routing drain hose through access hole. Use caution to prevent damage to the dishwasher, floor and cabinets.

#### **IMPORTANT**

Make sure there are no sharp bends or kinks that might restrict drain flow.

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

#### **IMPORTANT**

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

4. Be sure unit does not rest on drain hose. It should be free of electrical components and door springs. Do not cut corrugated drain hose. Pull excess through cabinet and place under sink. Make sure hose does not come in contact with any sharp edges. (See Figure 2-11).

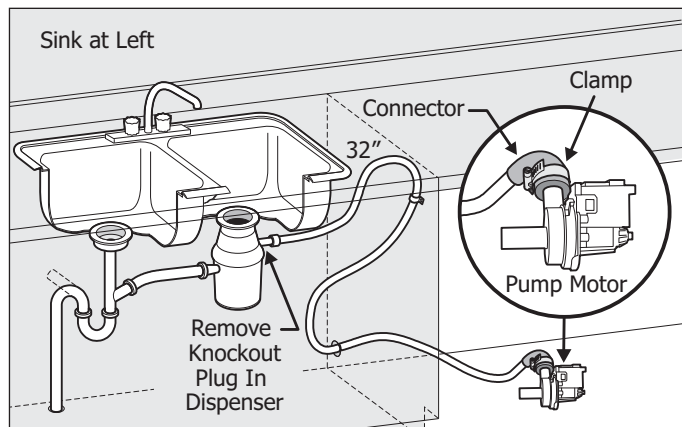


Figure 2-11.

### Finishing the Water Connection

#### **CAUTION**

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

#### Water Line

1. Flush water line before connecting it to water inlet valve to prevent early clogging of filter screen. Place a bunched towel over end of line to prevent splashing. Open water supply valve for a few seconds and let water drain into a pan. Turn off water supply at shut-off valve.
2. Route water line to water inlet valve as shown in Figure 2-12.
3. While firmly pulling water supply line into 90° elbow, tightly connect water supply to water inlet valve. Supply line must be free of kinks, scales, chips, and lubricants.
4. Turn on water supply and check for leaks.
5. If water inlet valve clogs, make sure water supply is off. Remove four (4) screws at inlet end of valve and clean filter screen.

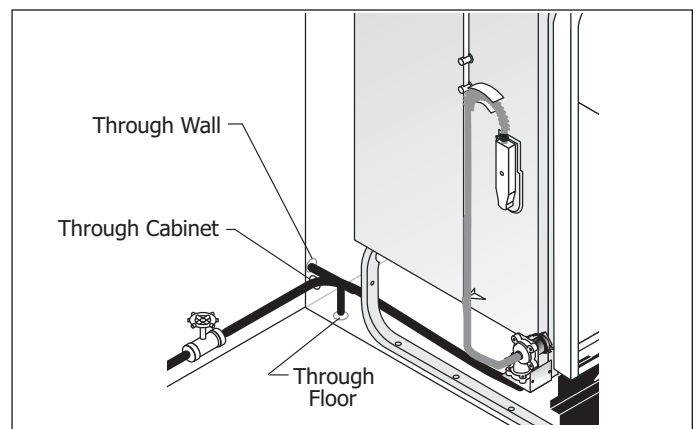


Figure 2-12.

## Section 2 Installation Information

### Finishing the Electrical Connection

1. Remove junction box cover and pull house wiring into junction box. (See Figures 2-13 and 2-14).
2. Use a UL listed conduit connector, (not included), at box to stabilize wiring.

#### IMPORTANT

Be sure electrical cable is not routed behind dishwashers' motor.

3. Inside junction box, attach ground wire under head of grounding screw and tighten. (See Figure 2-14).
4. Connect incoming black lead to dishwasher's black lead and incoming white lead to dishwasher's white lead with wire nuts or other suitable connectors, (not included). Wire nuts should be tight.
5. Replace junction box cover. (See Figure 2-14).

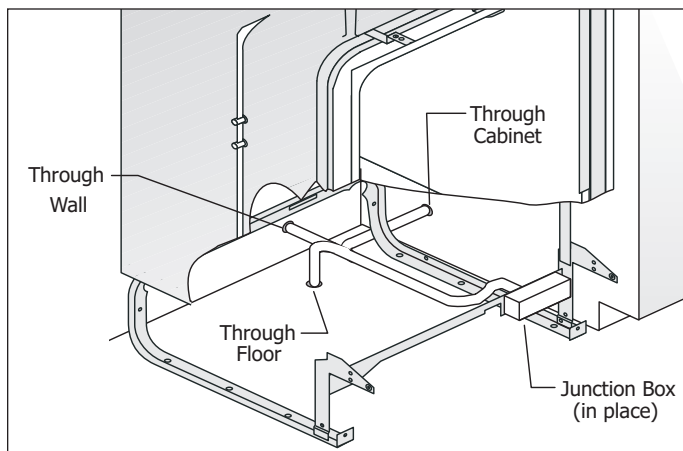


Figure 2-13.

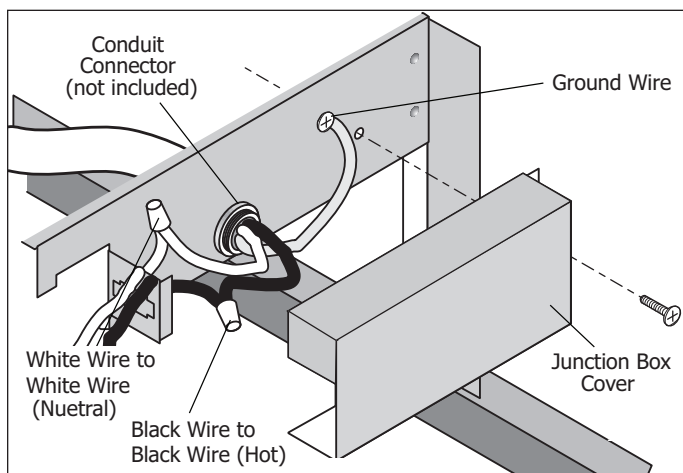


Figure 2-14.

#### WARNING

Make sure electrical power has been disconnected at fuse box or circuit breaker box.

The dishwasher must be connected to a grounded metal, permanent wiring system. The equipment-grounding conductor must be run with the circuit conductors and connected to appliances' equipment grounding terminal or lead. It is the consumer's responsibility to contact a qualified installer to make sure electrical installation conforms with the National Electrical Code and local codes and ordinances.

Do not connect the dishwasher to the power supply until the appliance is permanently grounded.

All wiring connections must be enclosed in a junction box.

This unit has copper lead wires. Joining aluminum building wire to stranded copper wire should be done by a qualified electrician using materials recognized by and local codes.

Do not use an extension cord. Such use can result in fire, electrical shock, or other personal injury.

Failure to follow these instructions could result in death or serious injury.

## Section 2 Installation Information

### Securing the Dishwasher

The dishwasher must be secured to keep it from tilting when door is opened. Choose one of the methods described below to secure unit.

#### Countertop Anchoring

1. Install Cabinet Seal Kit (Instructions included in Kit)
2. Replace Kickplate. (See Figure 2-2)
3. Adjust levelers so mounting brackets touch the underside of countertop.

#### IMPORTANT

Dishwasher must rest on floor. Do not hang from countertop. See Figure 14.

#### NOTE

Dishwasher Kit #154406801 can be used to replace the bracket(s) mounted to the frame of the dishwasher. Two brackets and 4 screws are supplied with the kit.

4. Tub needs to be even with the front of adjoining cabinets.
5. Screw mounting brackets firmly to countertop using screws provided in literature packet. (See Figure 2-15)
6. Open and close dishwasher door slowly. If door hits mounting brackets lower the dishwasher in front and rear.

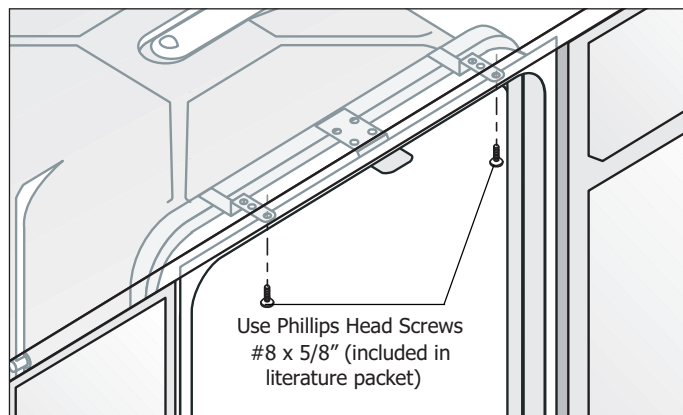


Figure 2-15.

### Floor Anchoring

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

1. Screw 1/4" lag screws, (not included), through holes provided in frame rail. (See Figure 2-16).
2. Use expansion fasteners if floor is concrete.

#### NOTE

If mounting your dishwasher to the countertop or to the floor is not a desirable option, you can order the Side Mount kit #154477201, by contacting your dealer or parts supplier. This allows you to install the dishwasher by securing it to the cabinets or partitions on either side of the unit. The kit utilizes the front frame of the dishwasher to secure the unit to the cabinet or partitions. Two brackets, screws and instructions are provided with the kit.

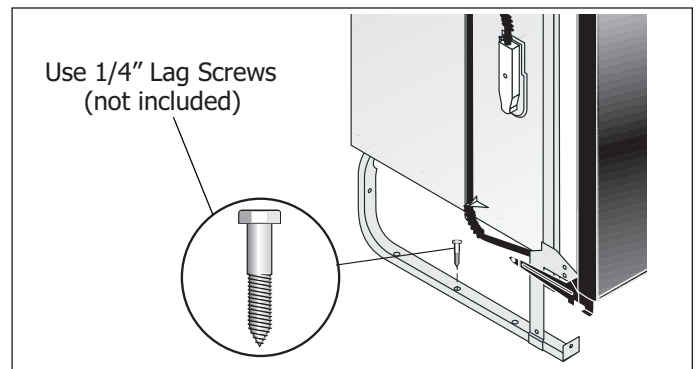


Figure 2-16.

### To Install a Custom Wood Panel

The dishwasher door panel can be customized to match wood cabinets. This will require a kit that includes a mid-door with side and bottom trim, heavy-duty door springs and instructions. Kits are available from your dealer or parts supplier.

#### CAUTION

Metal color panels are sharp and should be handled with care. Wear gloves to protect hands. Failure to follow this warning may result in injury.

## Section 2 Installation Information

### To Remove and Replace Outer Door

1. Unlatch and open door. Using a Phillips head screw driver, remove two (2) screws from inner door. Save screws to reassemble. (See Figure 2-17).
2. Close and latch door while holding both sides.
3. Place one hand on each side of door and pull down at top approximately 1/4". Pull entire door assembly toward you to remove. (See Figure 2-18).
4. Place door where it will not get scratched or damaged while completing installation.
5. When ready to replace door, fit the slots on each side of top door edge over the tabs on the metal liner. Push on sides to insure the door is flat. Push up from bottom until there is no gap between door and console. (See Figure 2-19).
6. Unlatch door and open while supporting outer door on both sides at bottom to keep in place. Align screw holes and replace screws.

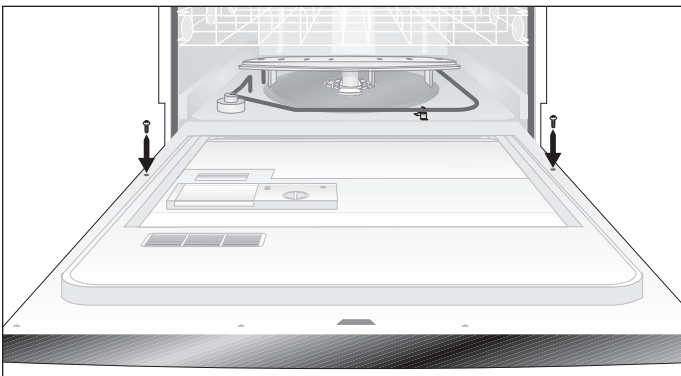


Figure 2-17.

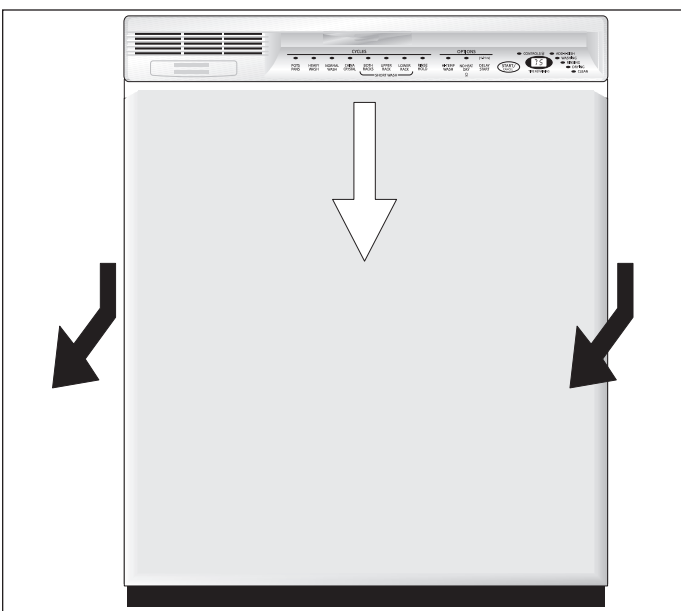


Figure 2-18.

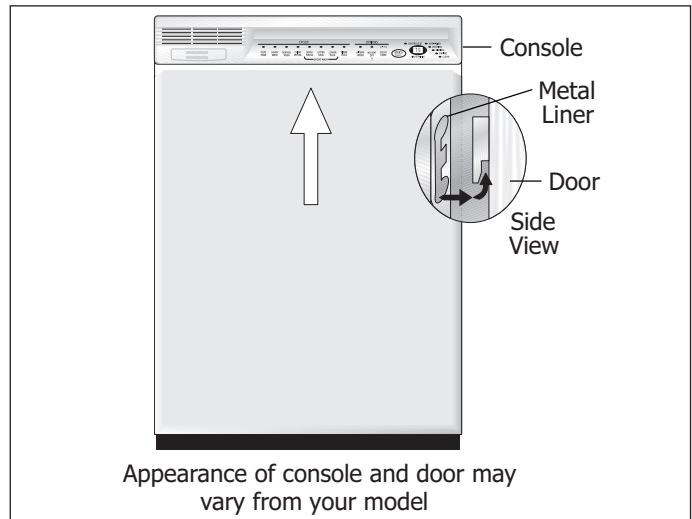


Figure 2-19.

### Adjusting The Door Spring Tension

1. Refer to numbers 5 and 6 from the left hand column for replacing outer door.
2. Adjust door springs to balance weight of door. A correct spring setting allows door to remain horizontal in opened position, yet will rise to close with a slight lift of the finger.
3. If necessary, increase tension by moving springs to a hole toward rear of unit, or decrease by moving them toward the front.

### Installation Checklist

#### Doors

- Handles are secure and tight
- Door seals completely to cabinet on all sides
- Dishwasher is secured to cabinets, countertop or floor

#### Leveling

- Dishwasher is level, side-to-side and front-to-back
- Toe grille is properly attached to dishwasher
- Cabinet is setting solid on all corners and is securely fastened.

#### Electrical Power

- House power turned on
- Dishwasher is plugged in

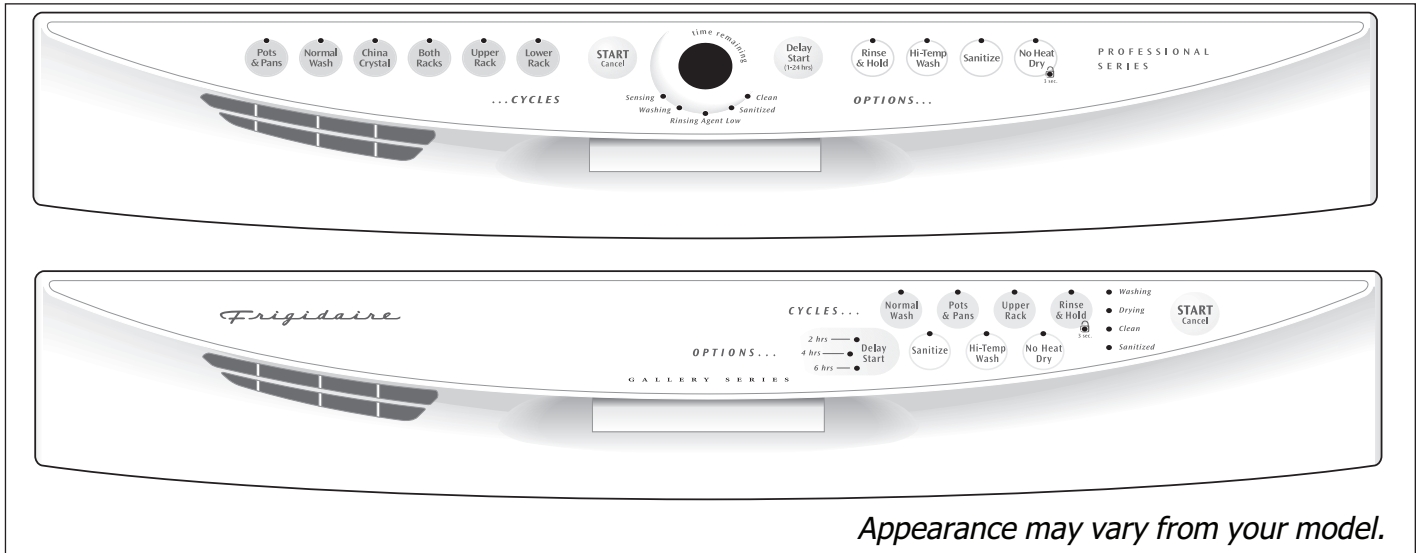
#### Water System

- Drain hose is assembled to drain pump
- Drain functioning, water turned on
- Check for leaks at all joints
- Water and drain lines have no kinks.

#### Final Checks

- Shipping material removed from interior
- Registration card sent in

## Section 3 Service and Testing Electrical System



Appearance may vary from your model.

Figure 3-1. Control Panel

### Basic Operation

1. Load dishwasher.
2. Add detergent.
3. Add rinse aid, if needed.
4. Close door to latch.
5. Select desired CYCLE. The indicator light above the pad will glow when selected.
6. Select desired OPTIONS. The indicator light above the pad will glow when selected.
7. Run hot water faucet nearest dishwasher until water is hot. Turn water off.
8. To start, press START/CANCEL pad.

#### NOTE

The dishwasher is programmed to remember your last cycle so you do not have to reset each time. To start the dishwasher using the same cycle and options selected on the previous wash, just press the START/CANCEL pad.

### Status Window

The STATUS window, indicates the following activity:

- 1H-24H...** Number of delay start hours. The last hour will count down in minutes.
- CL .....** Close dishwasher door. The status indicator lights will also flash to indicate current cycle status.
- Hd or HO** Indicates a water heat delay.
- MINUTES** Number of minutes left in cycle (1-99). If cycle is longer than 99 minutes, a small light will appear in the lower right corner and remain on until time counts below 99.
- PF .....** Appears in window when dishwasher is first installed, or when power has been interrupted. HI-TEMP WASH and NO HEAT DRY indicator lights will also flash. To clear, touch START/CANCEL pad.



#### NOTE

The time remaining could suddenly increase or drop several minutes. This means the iSense Soil Sensor has checked the soil level and determined if additional water fills are needed or if water fills can be deleted.

## Section 3 Service and Testing Electrical System

On some models, the Smart Sensor checks the soil level on your dishes in the Pots Pan, Normal and Light Wash (Both Racks) cycles. Depending on soil level, the sensor will determine if additional water fills are needed to clean the dishes or if water fills can be deleted. Cycle time and water usage will vary based on the amount of soil on the dishes. Cycle time will also vary based on the options selected and the incoming water temperature.

**Note:** Not all cycles available on all models.

Cycle Chart					
Cycle	To Select Cycle	Soil Level	Water (approx.)	Time* (minutes)	Washes/Rinses
Pots & Pans For pots, pans, casseroles and dinnerware with dried-on or baked-on soils.	Select POTS & PANS and desired OPTIONS. HI-TEMP WASH and SANITIZE will automatically be provided.	Heavy and Medium	9.7 gal. 8.1 imp. gal. 36.7 liters	115	2 washes 6 rinses
		Light	7.3 gal. 6.1 imp. gal. 27.6 liters	95	2 washes 4 rinses
Normal Wash For regularly soiled dishes and silverware.	Select NORMAL WASH and desired OPTIONS.	Heavy	8.5 gal. 7.1 imp. gal. 32.2 liters	105	2 washes 5 rinses
		Medium	7.3 gal. 6.1 imp. gal. 27.6 liters	95	2 washes 4 rinses
		Light	4.9 gal. 4.1 imp. gal. 18.5 liters	75	2 washes 2 rinses
Light Wash - Both Racks For lightly soiled and pre-rinsed dishes and silverware.	Select LIGHT WASH (BOTH RACKS) and desired OPTIONS.	Heavy	8.5 gal. 7.1 imp. gal. 32.2 liters	105	1 wash 6 rinses
		Medium	6.1 gal. 5.1 imp. gal. 23.1 liters	85	1 wash 4 rinses
		Light	4.9 gal. 4.1 imp. gal. 18.5 liters	75	1 wash 3 rinses
China Crystal For lightly soiled china and crystal.	Select CHINA CRYSTAL and desired OPTIONS.		6.1 gal. 5.1 imp. gal. 23.1 liters	85	1 wash 4 rinses
Light Wash - Upper Rack For lightly soiled or pre-rinsed dishes and silverware when you do not have a full load.	Select LIGHT WASH (UPPER RACK) and desired OPTIONS.		3.7 gal. 3.1 imp. gal. 14.0 liters	65	1 wash 2 rinses
Light Wash - Lower Rack For lightly soiled or pre-rinsed dishes, pots, pans and silverware when you do not have a full load.	Select LIGHT WASH (LOWER RACK) and desired OPTIONS.		3.7 gal. 3.1 imp. gal. 14.0 liters	65	1 wash 2 rinses
Rinse Only For rinsing dishes that will be washed later.	Select RINSE ONLY. DO NOT USE detergent.		2.5 gal. 2.1 imp. gal. 9.5 liters	18	2 rinses

\* Includes dry time.



## Section 3 Service and Testing Electrical System

### Cycle Indicators

The SENSING light (some models) comes on at the beginning of the selected cycle and will remain on until the end of the sensing sequence.

The WASHING light (some models) comes on at the beginning of cycle and remains on until the end of the main wash.

The DRYING light (some models) indicates the drying portion of the cycle. The light will come on when either drying option is selected.

When the SANITIZE option is selected, the SANITIZED light will glow when the SANITIZE cycle is finished. If the dishwasher did not properly sanitize the dishes, the light will not come on. This can happen if the cycle is interrupted. The light will remain on until the door is opened.

The RINSING AGENT LOW light (some models) comes on at the end of a cleaning cycle when the rinse agent reservoir is low. The light will remain on through 5 successive cycles or until the reservoir is filled.

The CLEAN light (some models) will come on at end of cycle and remain on until door is opened.

### Wash Cycle Selections

Cycle times are approximate and will vary with options selected. An automatic sensor will check the incoming water temperature and, if it is not hot enough, the timer will be delayed for automatic water heating in the main wash of all cycles. This happens even when HI-TEMP WASH option has not been selected. When HI-TEMP WASH is selected, an even higher temperature will be guaranteed to handle heavier soil loads.

To better understand these different wash cycles, the following are each cycle, the settings and what options are available.

#### Hi-Temp Wash

When HI-TEMP WASH option is selected, the dishwasher heats water in the main wash to approximately 140°F (60°C). This increase in water temperature helps dishwasher detergent remove food grease and soil from dishes more effectively and aids in drying. HI-TEMP WASH option can be used with all cycles except CHINA CRYSTAL (some models) and RINSE ONLY.

HI-TEMP WASH is automatically provided when POTS & PANS cycle is selected. When HI-TEMP WASH option is selected, the light above the pad will come on and remain on until end of cycle. To turn off the HI-TEMP WASH option, press the pad a second time. The light above the pad will turn off.

#### Sanitize Option

To sanitize your dishes and glassware, select the SANITIZE option. When selected, the light above the pad will come on and remain on until end of cycle. The water temperature in the final rinse will be raised to 155°F (68°C) and will maintain that temperature for 9 minutes. This option is available in POTS & PANS, NORMAL and LIGHT (Both Racks) cycles. Only these sanitization cycles have been designed to meet NSF requirements.

The cycle time will be extended until the proper water temperature is reached. Washing action will continue during the water heating delay. For best results, the incoming water temperature should be at least 120°F (49°C).

The sanitize criteria may not be satisfied if there is an interruption of the cycle, power failure or if the incoming water temperature is below 120°F (49°C).

To turn off the SANITIZE option, press the pad a second time. The light above the pad will turn off.

#### Heat Dry

The HEAT DRY option in combination with rinse aid will enhance drying performance. The energy required to use the HEAT DRY option costs pennies per cycle. You may choose not to select the HEAT DRY option; however you will have items in your dish load that will not be completely dry at the end of the cycle.

You may see water vapor coming from the vent during the drying portion of cycle. The vent is closed during washing to hold moisture and sound inside. The vent opens during the last few minutes of the final rinse and remains open for drying. The drying option may be changed at any time during the cycle and affects only the drying period. Opening the door longer than one minute during the dry cycle cancels the selected dry program.

## Section 3 Service and Testing Electrical System

### Delay Start

The DELAY START option allows you to automatically delay starting your dishwasher from 1-10, 1-24 or 2-4-6 hours depending on your model.

On models with 1-10 or 1-24 hour delay, press the DELAY START pad until the desired delay time shows in the STATUS window. A light will come on indicating the delay start hours and will remain on until cycle starts.

On models with 2-4-6 hour delay, press the pad once for a 2 hour delay, twice for 4 hours and three times for 6 hours. A light will come on indicating the delay start hours and will remain on until cycle starts.

To cancel the DELAY START option and begin the cycle before the delay period is over, press the START/CANCEL pad.

### To Cancel a Cycle

You can cancel a cycle anytime during the cycle. Press START/CANCEL pad and the dishwasher will start a 90 second drain. At the end of the drain, select the desired cycle.

### Child Lock Controls

The control lock disables the keypad so that settings entered into the control can not be changed. To activate the control lock press and hold the DELAY START pad for 3 seconds with the dishwasher door closed. The Control Lock indicator will illuminate when the lock is set. To remove the control lock press and hold the DELAY START pad for 3 seconds until the light goes out. If the control lock is used, it should be turned off after the cycle is completed and before the door is opened.

If the control lock was used and not turned off before the dishwasher door is opened, the light will go out with control still locked, resulting in a non functioning dishwasher. This can be corrected by removing power from the unit this will reset the control.

### Factors Affecting Performance

#### Water Pressure

The hot water line to dishwasher must provide water pressure between 20 and 120 psi. Low water pressure may occur when laundry or showers are in operation. Wait until water use is reduced before starting dishwasher.

#### Water Temperature

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

To check water temperature entering dishwasher:

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



## Section 3 Service and Testing Electrical System

### The Control System

The electronic control, with input from various sensors, has total operation of the dishwasher once a wash cycle has been started. The electronic control is mounted inside the console with its power coming directly from the power junction box. Power to operate the control can not be interrupted by opening or closing the door. However, the control does know when the door is opened. The black power lead from the door switch is attached to the control, this line operates all of the components in the dishwasher.

Input to the control comes from the following:

1. The keypad is a membrane switch that allows the user to select a specific wash cycle and any available option for the dishwasher to perform,
2. A soil sensor that determines the concentration of soil in the water.
3. A thermistor to measure the temperature of the water.
4. A reed switch in the rinse aid dispenser to report the presence of rinse aid in the dispenser.

This section will describe the sensors how they operate followed by tests that can be performed to test the control system and all of the components in the dishwasher.

### Soil Sensing

A soil sensor is used by the control to make adjustments to length of wash cycles based on the soil level found in the water. This sensor is located in the base of the sump directly in front of the wash motor intake. The soil sensor receives a voltage signal from the control which it converts into a small beam of light; the transmitter then directs this light beam to a receiver through water that has been used to prewash the load in the unit. As the light passes through the water the density of the water can reduce the strength of the light beam reaching the receiver. The receiver turns the light back to a voltage this is then returned to the control, which interprets this reading and adjusts the cycle length accordingly.

The number of times the control checks the soil level varies with cycle but in cycles it is used the pre-wash water will always be checked. The control can increase a cycle length or decrease as needed but never longer than the longest cycle or shorter than the shortest cycle available.

The control pauses the wash motor for 30 seconds to allow time for the water to settle before checking then the water is drained and any adjusts to the cycle are made.

### Temperature Controls

The control is programmed with preset wash and rinse temperatures for each cycle. The use of a thermistor in the sump provides water temperature information to the control to maintain these temperatures. The control provides options for the user to select a higher temperature wash as well as a sanitize rinse.

The thermistor is located in the same housing as the Soil Sensor. The post on the Soil Sensor that is taller is the location of the Thermistor. With the sensor in the water of the sump it gets a more accurate reading of water temperature.

To insure pre-programmed water temperature for the wash cycle is reached, the control can pause the main wash cycle up to 10 minutes in a Temp assure cycle. This Temp assure cycle is automatic and not selected as an option. If the Hi-temp wash option is selected, the control will delay the main wash section once again for up to 10 minutes to increase the water temperature to 155°F. Whether or not the water temperature is reached in this 10 minute delay, the cycle will continue without indication that it reached or did not reach this temperature.

When Sanitize option is chosen, the National Sanitation Foundation requires in the final rinse cycle that 155°F be reached and maintained for a certain amount of time. During the final rinse, the control pauses the time remaining for up to 30 minutes to reach this 155°F temperature before proceeding to the end of the cycle. Should the cycle meet the requirements defined for the sanitize option, the Sanitize light will come on and stay on until the door is opened. If the requirements are not met the sanitize light will not come on at the end of the cycle.

## Section 3 Service and Testing Electrical System

### Testing the Control System

There are two tests that can be used on the control system for checking the control as well as the thermistor and the soil sensor. These tests can be performed from idle and are intended to assist in diagnosing problems in the control circuit.

### Water Temperature Test

This test will check the thermistor to ensure it is reading the proper water temperature. Start a cycle and once the tub has filled with water press the START/CANCEL pad twice. This will stop the cycle and place the dishwasher in idle. Then press the START/CANCEL and Normal Wash pads simultaneously. The temperature of the water in the tub will read on the display using the last two digits of the water temperature. If the temperature is greater than 99°F a decimal point is illuminated along with the 2 digits of the temperature.

### Water/Service Test

This test checks the operation of both the control to operate the dishwasher as well as the components in the dishwasher. This test is entered from idle by pressing and holding the NO HEAT DRY and the START/CANCEL key pads simultaneously for 1.5 seconds. The test will follow the chart below through the dishwasher operations. By pressing the START/CANCEL key, the cycle can be advanced manually to the next sequence. The last step of this test will illuminate both the Clean and Sanitize LED's. Once the door is opened the control returns to idle.

### Water Service Test Chart

STEP	DESCRIPTION	TOTAL TIME (SEC.)	WATER VALVE	CIRCULATION MOTOR	DRAIN MOTOR	HEATER	DISPENSER	VENT	WASHING LED	RINSING LED	DRYING LED	SANITIZE LED	SENSING LED	CLEAN LED	ELLIPSE ROTATION
1	FILL / DISPENSER	60	1	0	0	0	1	1	1	0	0	0	1*	0	0
2	FILL / DISPENSER	27	1	0	0	0	0	1	1	0	0	0	1*	0	0
3	WASH / HEAT (3450rpm)	45	0	1	0	1	0	1	1	0	0	0	1*	0	0
4	PAUSE	0.4	0	0	0	1	0	1	1	0	0	0	1*	0	0
5	WASH / HEAT (2800rpm)	75	0	1	0	1	0	1	0	1	0	0	0	0	1
6	WASH / HEAT / DISP(3450rpm)	60	0	1	0	1	1	1	0	1	0	0	0	0	0
7	DRAIN	90	0	0	1	0	0	0	0	1	0	0	0	0	0
8	DRY	90	0	0	1	X	0	0	0	0	1	0	0	0	0
TOTAL		447							0	0	0	1	0	1	0

X= Denotes selectable option

Sanitize and Clean LED stay on until door is opened or cycle started

\* LED is on only if voltage feedback is present from the soil/thermistor sensor

## Section 4 Component Teardown

### Component Teardown

This section explains how to access and remove components from a Frigidaire Precision 24" Direct Feed Dishwasher, and has been arranged in such a way as to simulate which components would need to be removed first in order to gain access to other components. When following a component removal procedure, it may be necessary to reference another component removal procedure listed earlier in this section.

#### **IMPORTANT**

Before continuing, please take note of the **WARNINGS** and **CAUTIONS** below.

#### **WARNING**

- If it is necessary to remove a dishwasher unit from its installation, use proper lifting techniques as units are heavy and could fall resulting in serious injury or death. Pulling a unit from its installation should only be performed by a trained authorized service technician or installer.
- To avoid electric shock, power to a dishwasher unit must be disconnected whenever accessing/ removing components powered by electricity or components near other electrical components.
- After service is completed, be sure all safety-grounding circuits are complete, all electrical connections are secure, and all access panels are in place.
- If unit was used prior to service, the heating element will be hot. Wear protective gloves and the appropriate safety gear when working with heating elements.
- If removing a door or drawer from a unit, remember that the doors and drawers are heavy. If they were to fall, they could cause serious personal injury.
- All voltage checks should be made with a voltmeter having a full scale range of 130 volts or higher.

#### **CAUTION**

- If working in the sump area, remember that tubing and heating element may be hot.

## Section 4 Component Teardown

### Kickplate Removal

Remove the kickplate and adjustable toeplate by extracting the two Phillips head screws securing the assemblies to the unit frame. (See Figure 4-1)

### Outer Door Panel Removal

1. Disconnect power from unit.
2. Unlatch and open door. Using a Phillips head screw driver, remove two (2) screws from inner door. Save screws to reassemble. (See Figure 4-2)
3. Close and latch door while holding both sides.
4. Place one hand on each side of door and pull down at top approximately 1/4". Pull entire door assembly toward you to remove.

### Door Handle Removal

1. Disconnect power to the dishwasher.
2. Remove outer door panel.
3. Using a 7/16" socket or wrench, remove the nuts from the handle mounting studs. Pull handle from outer door panel. (See Figure 4-3)

### Console Removal

When removing the console, it is recommended to have a small stool or sturdy box to lay the console on to prevent strain on the wire harness connections. Have a clean soft towel or other protective material on hand to protect the face of the console from being scratched while interior components are accessed.

1. Disconnect power to the dishwasher.
2. Remove outer door panel.
3. Extract the six Phillips head screws securing the console to inner door assembly. Hold the console as the last screws are removed to prevent strain on the wire harness connections. (See Figure 4-4)
4. While holding console to inner door panel, close and latch inner door. Lower console front face down onto a stool or sturdy box. Protect the console face from damage.

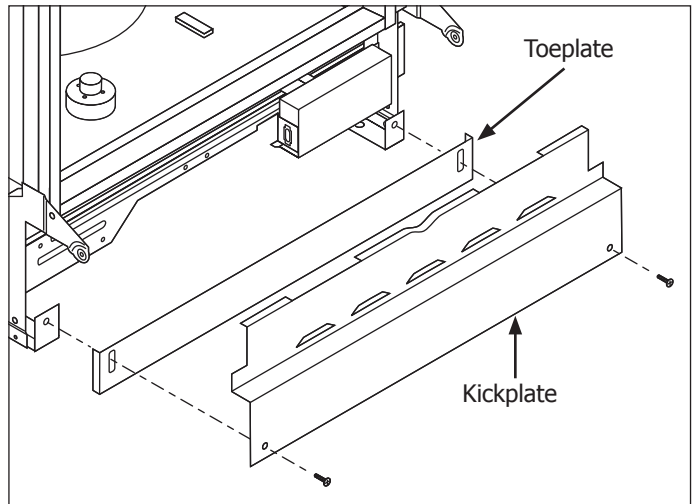


Figure 4-1.

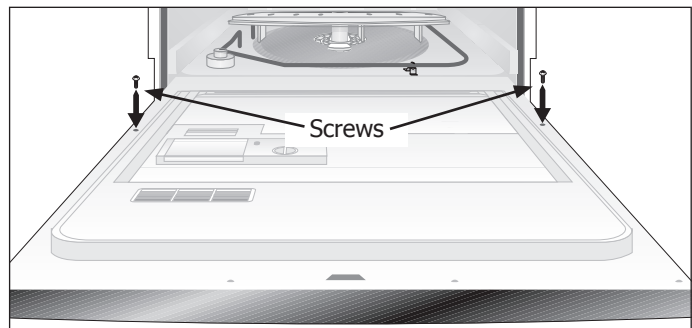


Figure 4-2.

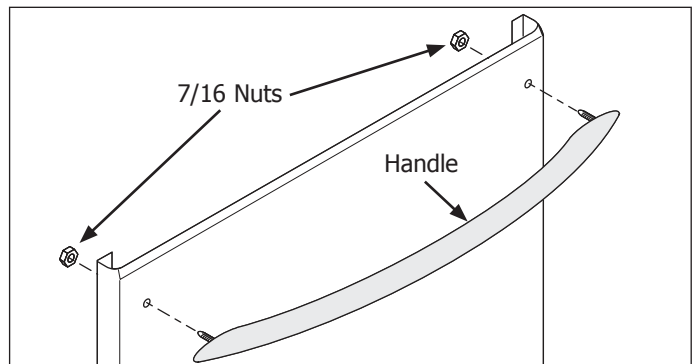


Figure 4-3.

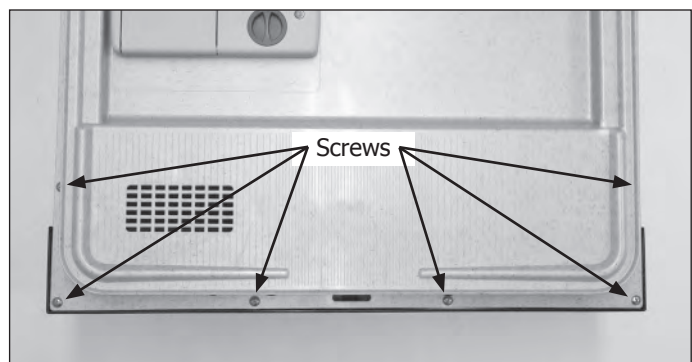


Figure 4-4.

## Section 4 Component Teardown

### Control Board Removal

1. Disconnect power to the dishwasher.
2. Remove outer door panel.
3. Remove the console.
4. Extract the three Phillips head screws securing the control board cover to the console. Lift cover off console. (See Figure 4-5)
5. Disconnect all wiring harness connections from control board. Remove ribbon cable connections from control board. (See Figure 4-6)

#### CAUTION

When handling or replacing a control board, it is important the servicer have a wrist ground strap on and connected to the cabinet or another ground to prevent static electricity from damaging the board.

6. Extract the three Phillips head screws securing the control board to the console. Remove board from console. (See Figure 4-6)

### Display Board Removal

1. Disconnect power to the dishwasher.
2. Remove outer door panel.
3. Remove the console and control board cover.
4. Extract the two screws securing display board cover to console. (See Figure 4-5) Remove cover.
5. Disconnect ribbon cable from electronic control board. (See Figure 4-6)
6. Push back retaining latch and pull display board out from under the retaining latch, then pull display board to the left until the tab is free of the console. (See Figure 4-7)

#### CAUTION

When handling or replacing a control board, it is important the servicer have a wrist ground strap on and connected to the cabinet or another ground to prevent static electricity from damaging the board.

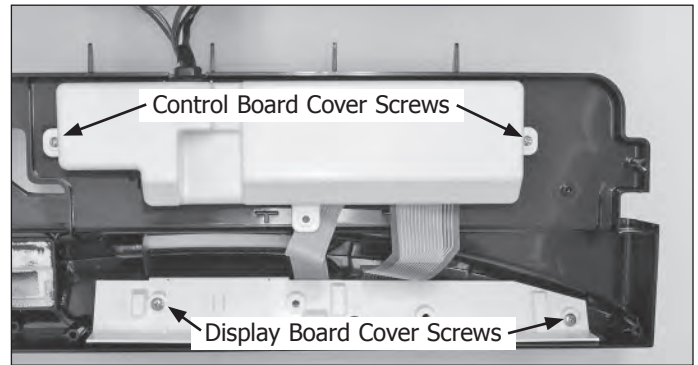


Figure 4-5.

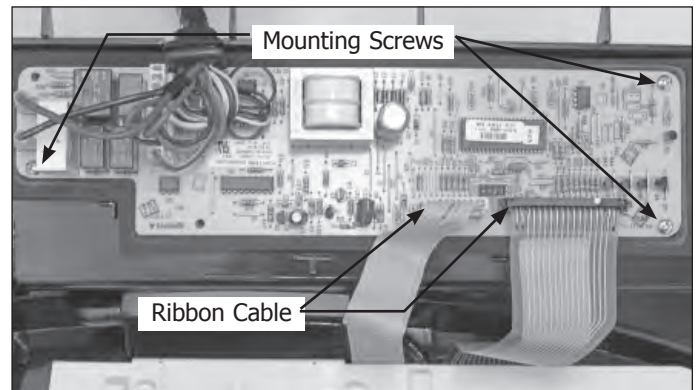


Figure 4-6.

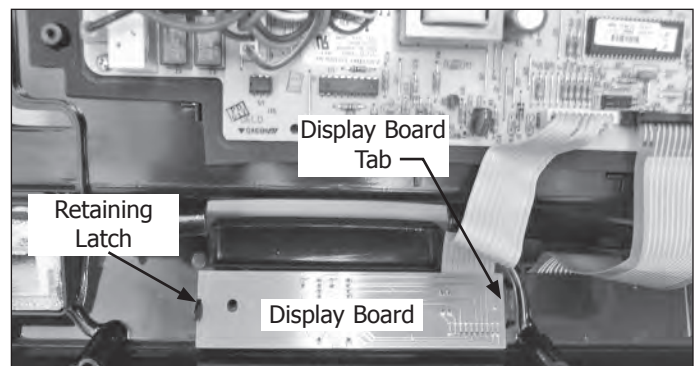


Figure 4-7.



## Section 4 Component Teardown

### Dispenser Assembly Removal

1. Disconnect power to the dishwasher.
2. Remove outer door panel.
3. Remove the two wire leads from dispenser wax motor terminals and the two wire leads from the rinse aid reed switch terminals on the right side of dispenser. Terminals have locks, press down on lock to remove from terminal.
4. Extract the six screws securing dispenser assembly to door panel. Remove mounting reinforcements from dispenser. (See Figure 4-8)
5. Push dispenser through inner panel and remove from unit.

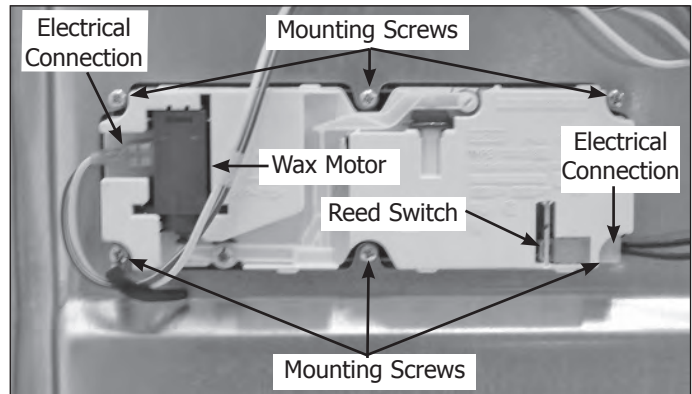


Figure 4-8.

### Vent Assembly Removal

1. Disconnect power to the dishwasher.
2. Remove console from inner door panel.
3. Disconnect the electrical connection from the vent housing terminals.
4. Extract the three screws, using either a Phillips head or a #1 square bit driver, that secure the vent housing to the inner door panel. (See Figure 4-9) Pull vent assembly off inner panel.
5. On reassembly make sure vent gasket is properly seated in vent housing.

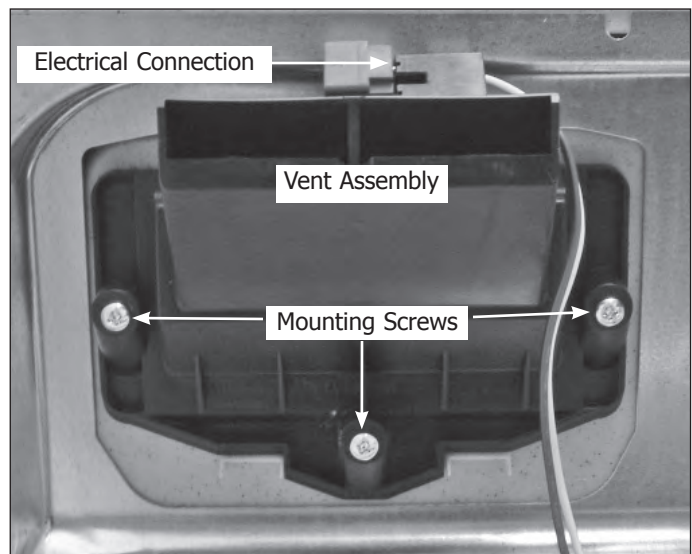


Figure 4-9.

### Door Latch Assembly Removal

1. Disconnect power to the dishwasher.
2. Remove outer door panel and console from inner door panel.
3. Remove the wire harness connections from the door latch terminals.
4. Using a Torx T-25 bit, extract the two screws securing the door latch to the inner panel. (See Figure 4-10)

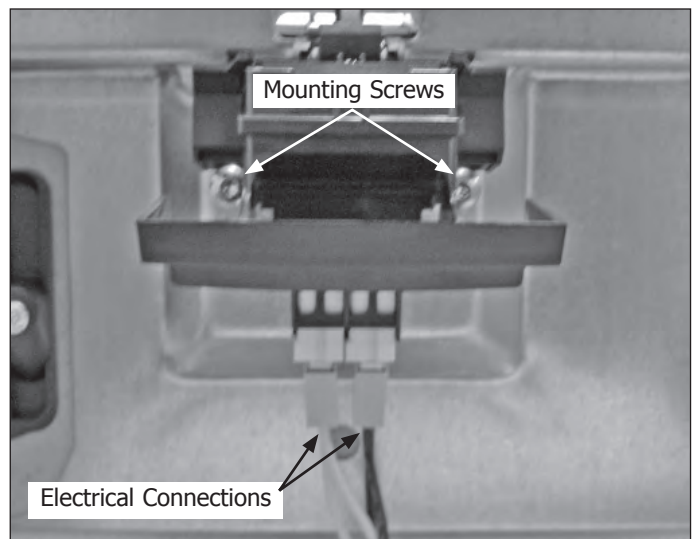


Figure 4-10.

## Section 4 Component Teardown

### Door Spring Removal

#### NOTE

When removing the product from under the counter, extreme care must be taken to protect the product and the floor from damage. Always use protection under feet and legs when pulling unit out. When reinstalling, make sure product is leveled and secured.

1. Disconnect power to the dishwasher.
2. Extract dishwasher installation screws and pull forward to access door spring.
3. Remove spring from adjustment holes in frame. (See Figure 4-11) Remove opposite end of spring from linkage.
4. When replacing the spring, adjust as needed by installing spring end into proper hole in frame.
5. Reinstall unit, making sure unit is level and secure.

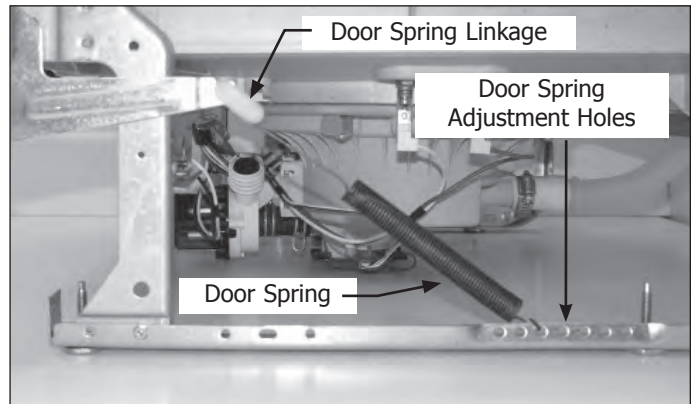


Figure 4-11.

### Inner Door Panel Removal

1. Disconnect power to the dishwasher.
2. Extract dishwasher installation screws and pull forward to access door spring. Release the door springs from door hinges.
3. Remove outer door panel.
4. Disconnect wire harness connections from door latch and dispenser assembly.
5. Cut retaining straps securing wire harness to inner door panel. Extract the screw securing the ground wire to the inner door assembly.
6. Remove the console from inner door panel.
7. Using a Torx T-25 bit and a 3/8" socket or wrench, extract the four screws securing inner door panel to hinge assembly. Remove inner door panel from unit. (See Figure 4-12)

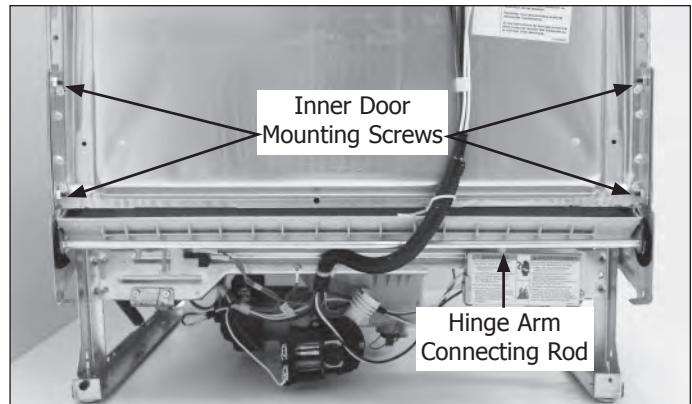


Figure 4-12.

### Hinge Assembly Removal

1. Disconnect power to the dishwasher.
2. Remove inner door panel.
3. Using a Torx T-25 bit, extract the screw that passes through the hinge arm and fastens to a connecting rod. (See Figure 4-13) Repeat on opposite side to remove opposite hinge arm and to free the connecting rod from the unit.

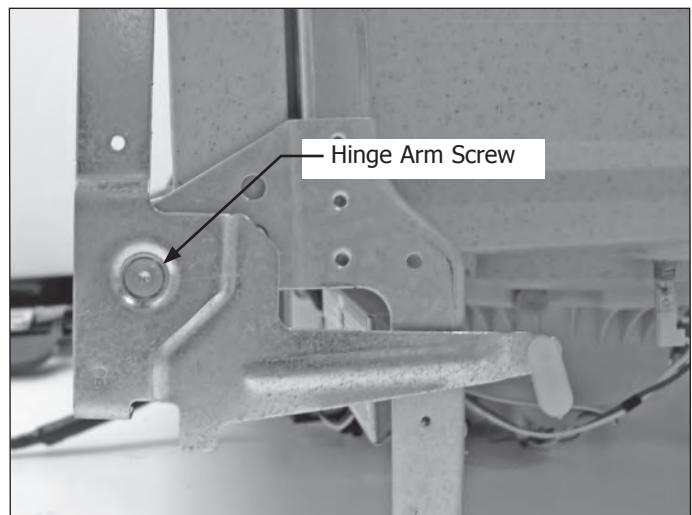


Figure 4-13.

## Section 4 Component Teardown

### Door Strike Removal

1. Disconnect power to the dishwasher.
2. Open door assembly.
3. Using a 5/16" socket or wrench, extract the two screws securing the door strike to the tub frame. (See Figure 4-14)
4. Pull front of door strike down and slide strike through slot in tub frame.

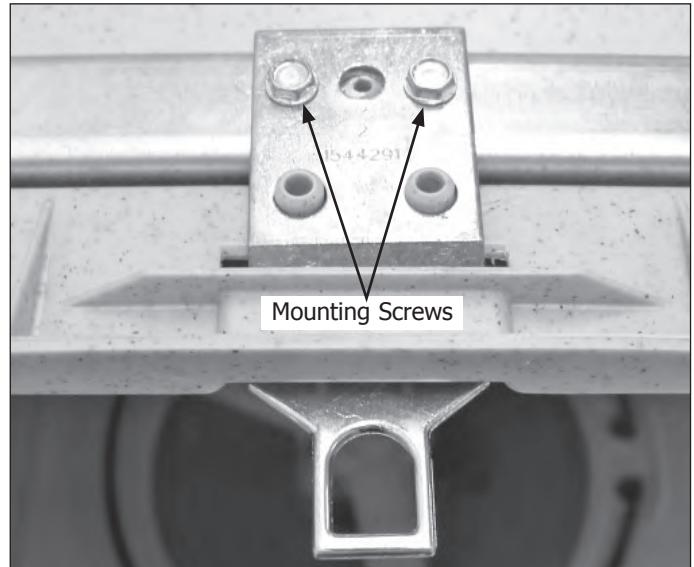


Figure 4-14.

### Accessing the Interior Components

#### Lower Rack Removal

The lower rack assembly is removed by opening the door and simply pulling the lower rack assembly out of the unit.

#### Lower Spray Arm Removal

1. Disconnect power to the dishwasher.
2. Open door and remove lower rack.
3. The lower spray arm has two retaining clips securing it to the lower spray arm support. Use a flat bladed screwdriver to release the clips, then pull the lower spray arm from the lower spray arm support. (See Figure 4-15)

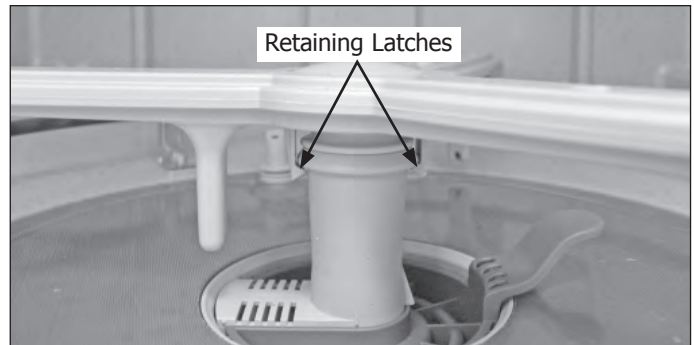


Figure 4-15.

#### Upper Rack Removal

1. Disconnect power to the dishwasher.
2. Open door.
3. Slide rack rail forward. The end cap on the rail has a retaining latch securing the end cap to the rack rail.
4. Release retaining latch, then pull end cap through rack rail. Repeat on opposite end. (See Figure 4-16)
5. Slide rack from rails. Pull rails out from rollers.

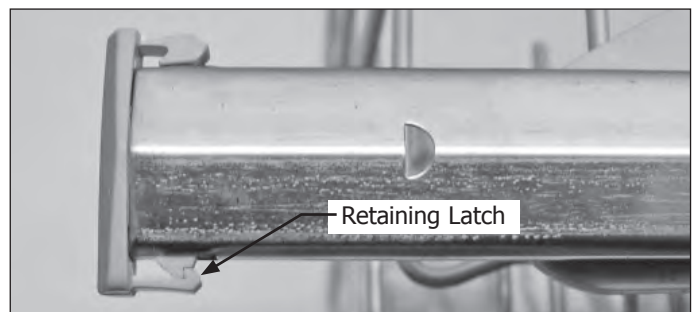


Figure 4-16.

#### Upper Spray Arm Removal

1. Disconnect power to the dishwasher.
2. Remove upper rack.
3. Turn nut counter clockwise and remove from delivery tube. (See Figure 4-17)

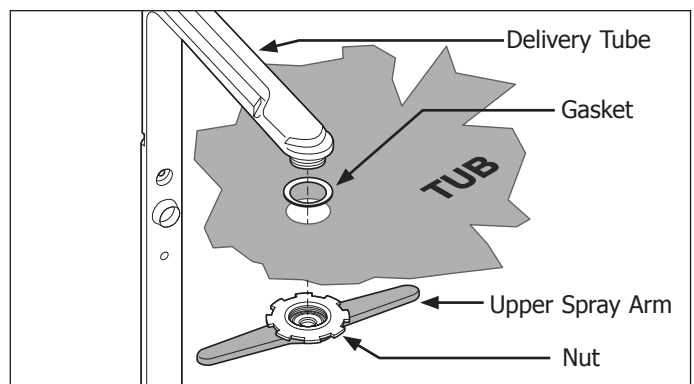


Figure 4-17.



## Section 4 Component Teardown

### Center Spray Arm Removal

1. Disconnect power to the dishwasher.
2. Remove upper rack.
3. Slide the spray arm assembly towards the rear of the upper rack to disengage the retaining clips securing the assembly to the wire rack. (See Figure 4-18)

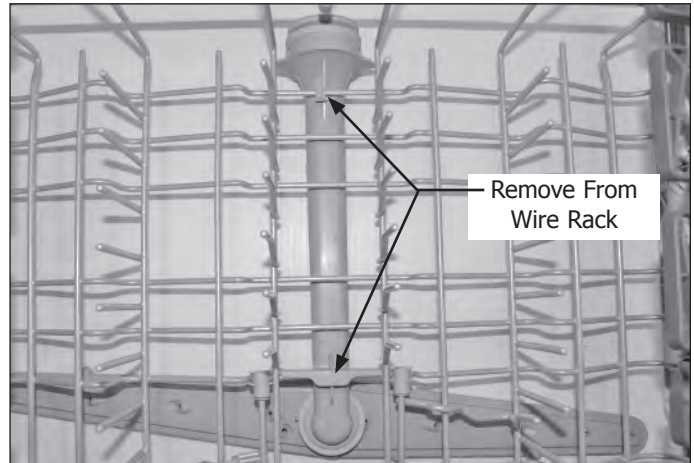


Figure 4-18.

### Removing the Filters

The filtration system consists of the glass trap, the soil director base and filter, and the large filter assembly.

1. Disconnect power to the dishwasher.
2. Open door and remove lower rack.
3. Remove lower spray arm.
4. Grab glass trap by handle and pull out from sump area.
5. Turn lower spray arm support counter-clockwise until retaining tabs are free of the inlet tube. Remove lower spray arm support from unit. (See Figure 4-19)
6. Lift filter assembly from bottom of tub.

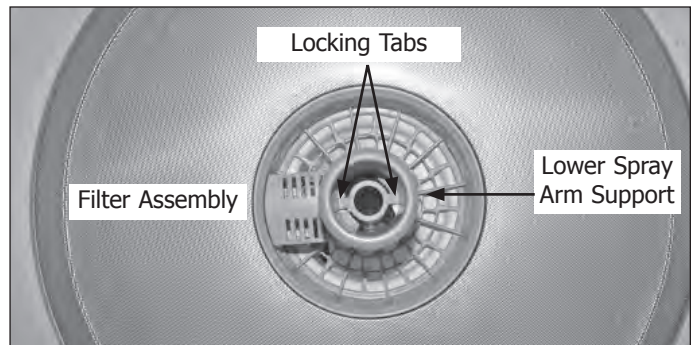


Figure 4-19.

### Heater Element Removal

1. Disconnect power to the dishwasher.
2. Open door and remove lower rack.
3. Using a 1/2" open end wrench, remove the left hand thread nuts securing heater element to the bottom of the tub. (See Figure 4-20) The unit may need to be pulled from its installation to access the heater element nuts and electrical terminals.
4. From inside tub, remove the heater element from the retaining clips. Pull heater element out of tub. (See Figure 4-21)

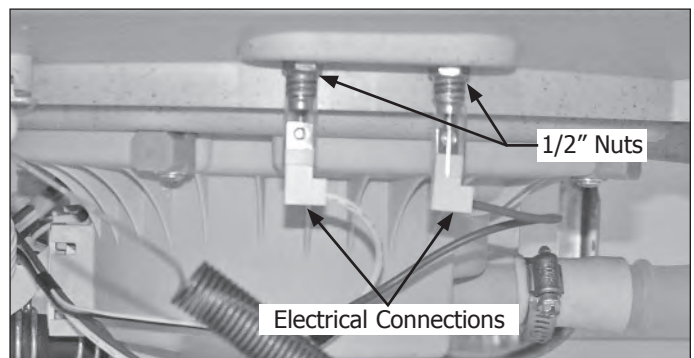


Figure 4-20.

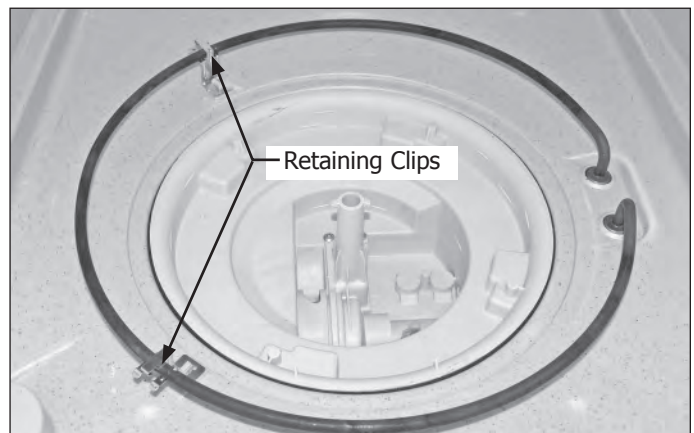


Figure 4-21.

## Section 4 Component Teardown

### Volute Cover Removal

1. Open door and remove lower rack.
2. Using a Torx T-15 bit, extract the three (3) screws securing the volute cover to the sump. Remove volute cover from sump area. The check ball is located beneath the volute cover. (See Figure 4-22)

### Roller Assembly Removal

1. Open door and remove upper rack and rail.
2. Using a Torx T-25 bit, extract the screw securing each roller to the interior tub sidewall. (See Figure 4-23)

### Door Seal Removal

1. To remove the door seal, open door and pull free from the channel around the tub.
2. Locate the inside of new seal. Go to the end of the seal, one side will be smooth, the other side will have ridges on the outside. The smooth side is the visible side in the seal channel. (See Figure 4-24)
3. Find center of seal. First push the center of seal into the channel below the door strike to hold in place.
4. Go to bottom of seal and adjust so end is on bottom of tub, then push into channel.
5. Go to top corner and form seal into corner, then tack seal into the channel continuing to the bottom of the tub.
6. Repeat for opposite side.
7. Close door to seat seal into channel.

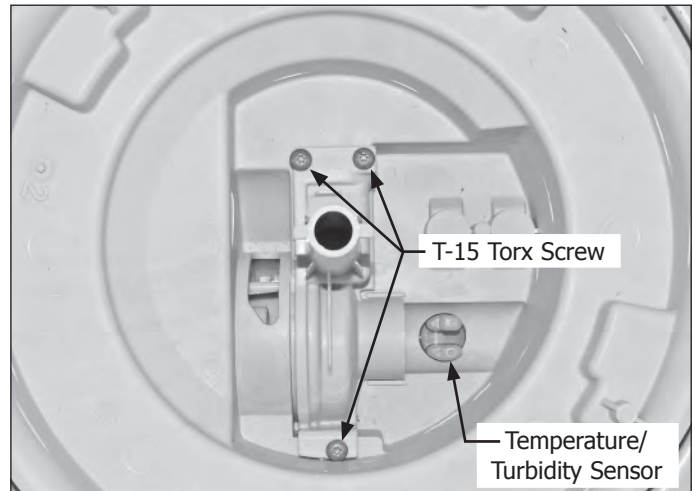


Figure 4-22.

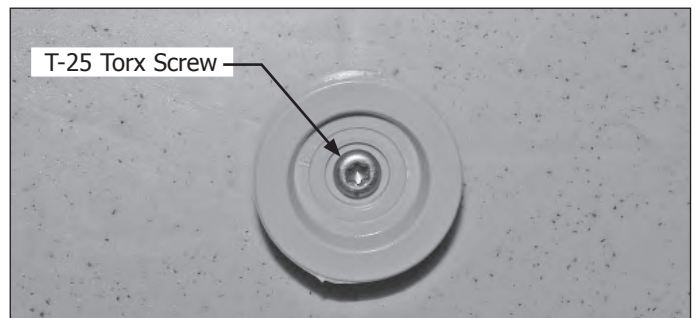


Figure 4-23.

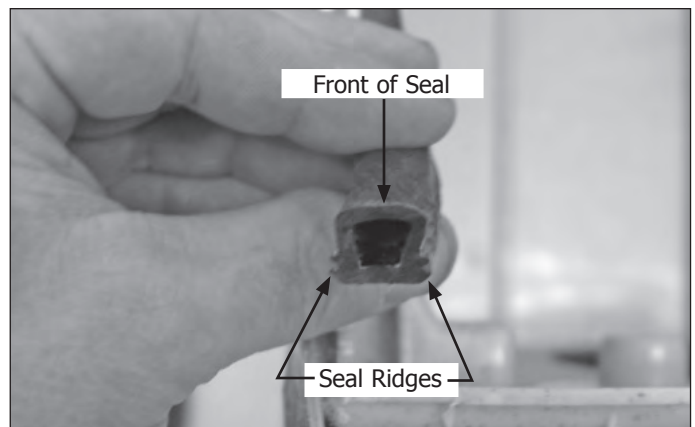


Figure 4-24.

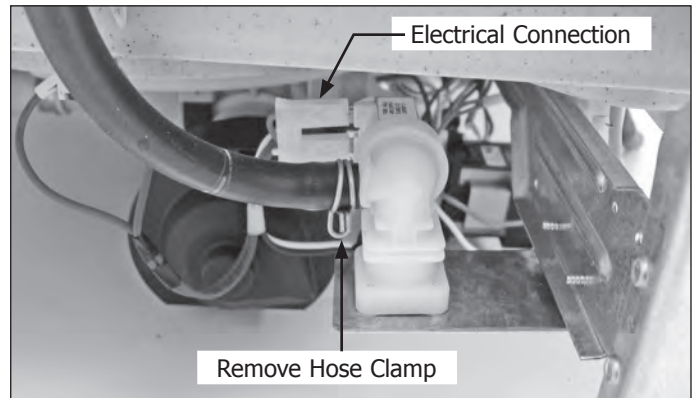
## Section 4 Component Teardown

### Accessing the Water System Components

#### NOTE

To access the water system components, it may be necessary to remove the unit from its installation. When removing the product from under the counter, extreme care must be taken to protect the product and the floor from damage. Always use protection under feet and legs when pulling unit out.

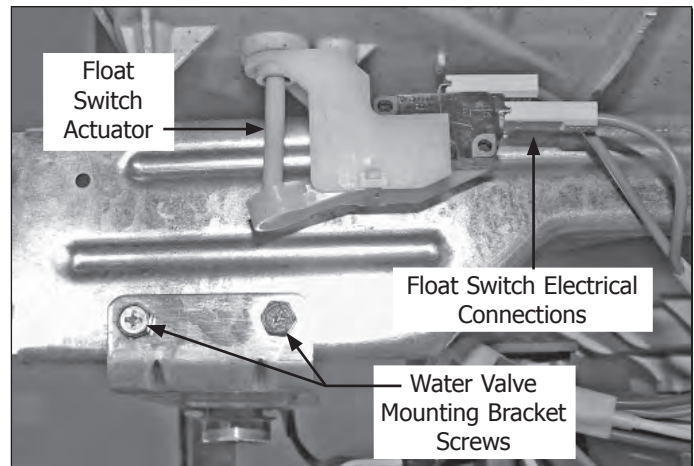
The insulation wrap is removed by cutting the retaining straps and lifting the insulation cover from the unit. When servicing water lines, have a material available to absorb water present in the water system. When reinstalling, make sure unit is leveled and secured.



**Figure 4-25.**

### Water Valve Removal

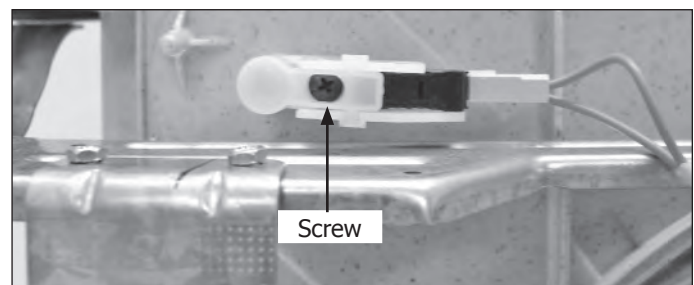
1. Disconnect power and water supply to dishwasher.
2. Remove kickplate and toeplate.
3. Turn off water supply to dishwasher then place protection under water valve inlet to catch water that will be in the line when hose is removed.
4. Remove fill hose from valve.
5. Extract the two Phillips head screws securing valve mounting bracket to front cross brace. (See Figure 4-26)
6. Disconnect wire leads from water valve terminals. (See Figure 4-25)
7. Remove hose clamp from outlet hose, then remove hose from water valve outlet. (See Figure 4-25)
8. Extract the four Phillips head screws securing the water valve to the mounting bracket.



**Figure 4-26.**

### Float and Switch Removal

1. Disconnect power to dishwasher.
2. Remove kickplate and outer door panel.
3. Disconnect the wire harness connections from the float switch. (See Figure 4-26)
4. Extract the Phillips head screw securing the float switch assembly to the bottom of the tub. (See Figure 4-27)
5. Pull float switch assembly from bottom of tub. The float can now be pulled out from the inside of the tub.



**Figure 4-27.**



## Section 4 Component Teardown

### Junction Box Cover Removal

1. Disconnect power to dishwasher.
2. Remove kickplate and toeplate.
3. Extract the screw securing the junction box cover to front cross brace. (See Figure 4-28)
4. Disconnect the wires at junction box. Extract the ground wire screw from cross brace. Remove the wire harness from junction box.

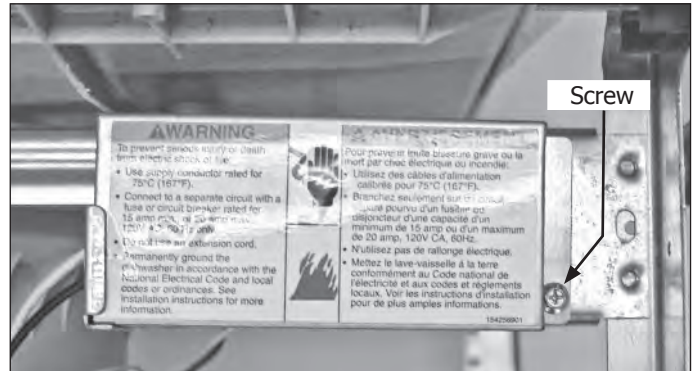


Figure 4-28.

### Accessing the Sump and Components Mounted Under the Tub

For accessing the drain pump, wash motor and sump components, the unit will need to be removed from its installation and set upon its back. To do this, the inlet water line must be removed from the water valve and the upper and lower racks must be removed from the tub.

#### NOTE

When removing the product from under the counter, extreme care must be taken to protect the product and the floor from damage. Always use protection under feet and legs when pulling unit out. When reinstalling, make sure product is leveled and secured.

Some water may be present in the water lines. Have absorbent material on hand to protect the flooring from water damage.

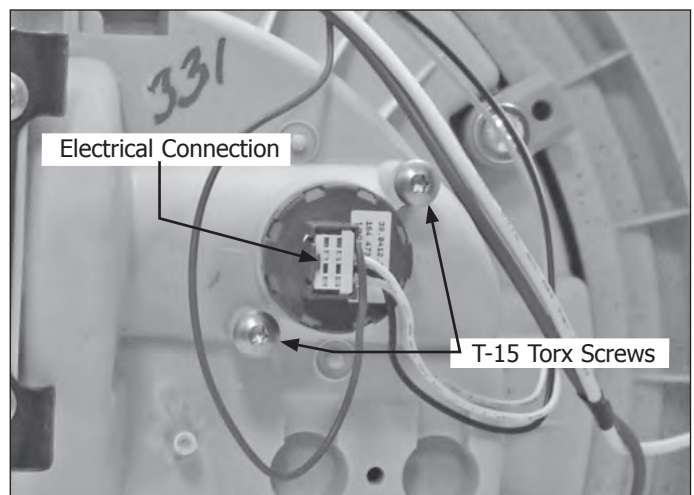


Figure 4-29.

### Turbidity/Temperature Sensor

1. Disconnect power and water supply to dishwasher.
2. Remove kickplate and toeplate.
3. Pull unit from its installation. Remove inlet water line from water valve. Remove racks from tub.
4. Lay unit on its back.
5. Push back the retaining latch and disconnect the wiring harness leads from the turbidity sensor.
6. Using a Torx T-15 bit, extract the two screws securing the turbidity sensor to the bottom of the sump. (See Figure 4-29)

## Section 4 Component Teardown

### Drain Pump Removal

1. Disconnect power and water supply to dishwasher.
2. Remove kickplate and toeplate.
3. Pull unit from its installation. Remove inlet water line from water valve. Remove racks from tub.
4. Lay unit on its back.
5. Place protection under pump to catch water as drain inlet and outlet hoses are removed from drain pump.
6. Disconnect wire harness connections from drain pump terminals.
7. Remove hose clamps from drain hose outlet and remove hose from drain pump. (See Figure 4-30)
8. Remove hose clamp from drain pump inlet hose and pull hose off sump. (See Figure 4-30)
9. Using a small flat bladed screwdriver, release the tabs securing the drain pump to the sump and remove from unit.

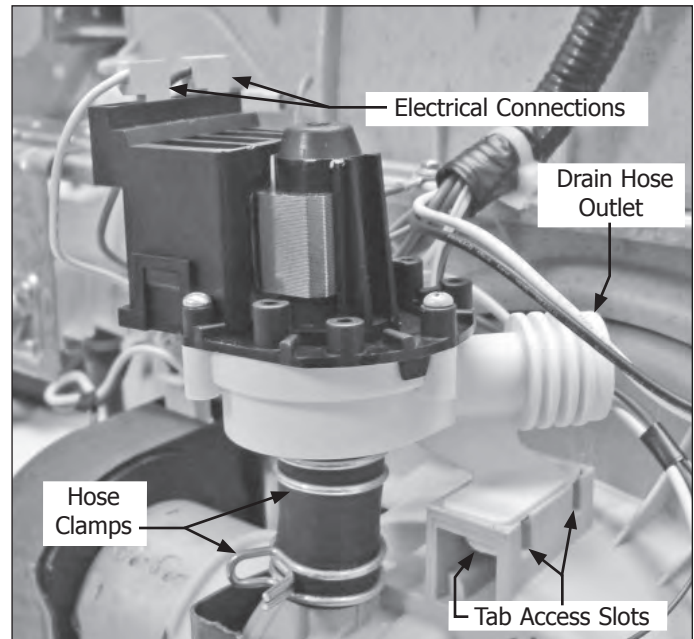


Figure 4-30.

### Wash Motor Removal

1. Disconnect power and water supply to dishwasher.
2. Remove kickplate and toeplate.
3. Pull unit from its installation. Remove inlet water line from water valve. Remove racks from tub.
4. Lay unit on its back.
5. Remove drain pump.
6. Disconnect wire harness leads from wash motor terminals.
7. Using a Torx T-15 bit, extract the two screws securing the wash motor bracket to the bottom of the sump. Pull bracket out of the slots in the bottom of the sump. (See Figure 4-31)
8. Pull the wash motor straight back to remove from the sump. Two O-rings seal the wash motor inside the sump.

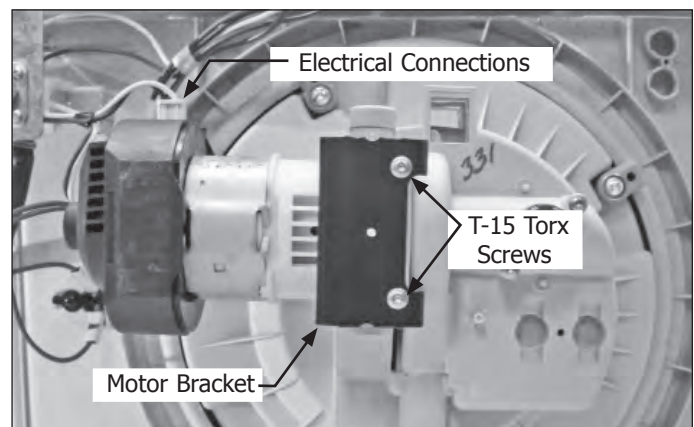


Figure 4-31.

### Resetting Thermostat Removal

1. Disconnect power and water supply to dishwasher.
2. Remove kickplate and toeplate.
3. Pull unit from its installation. Remove inlet water line from water valve. Remove racks from tub.
4. Lay unit on its back if needed.
5. Disconnect wire harness leads from resetting thermostat. (See Figure 4-32)
6. Extract the Phillips head screw and remove thermostat from retainer.

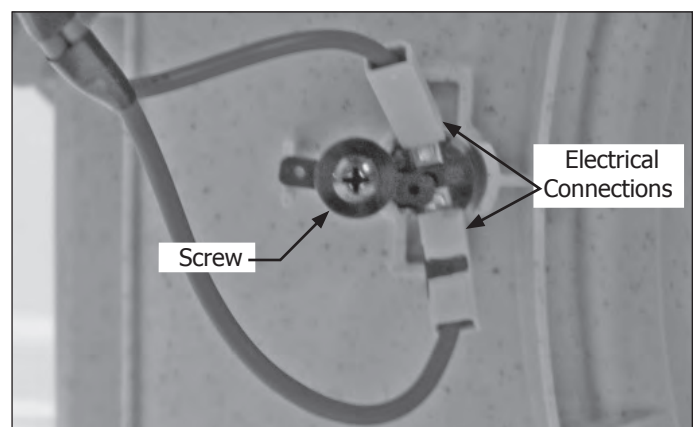


Figure 4-32.

## Section 4 Component Teardown

### Delivery Tube Removal

1. Disconnect power and water supply to dishwasher.
2. Remove kickplate and toeplate. Remove racks from tub.
3. Remove inlet water line from water valve. Pull unit from its installation.
4. Place protection under delivery tube to catch water as delivery tube is removed from the sump.
5. From inside of tub, remove the upper spray arm. push delivery tube out of hole in top of tub.
6. From rear of unit, extract the screw securing the delivery tube to the rear wall of the tub. Pull the delivery tube out of hole in rear wall of tub.
7. Using a flat bladed screwdriver, remove the hose clamp securing the delivery tube to the outlet of the sump. Pull delivery tube off sump outlet and remove from unit. (See Figure 4-33)

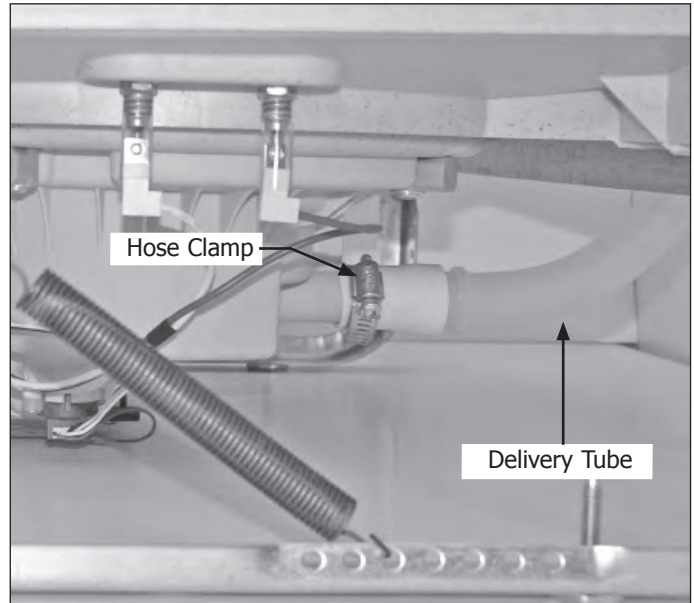


Figure 4-33.

### Sump Removal

1. Disconnect power and water supply to dishwasher.
2. Remove kickplate and toeplate.
3. Pull unit from its installation. Remove inlet water line from water valve. Remove racks from tub.
4. Remove dishwasher door assembly.
5. Lay unit on its back.
6. Remove drain pump.
7. Disconnect wire harness leads from turbidity sensor.
8. Remove wash motor. Remove delivery tube from sump outlet.
9. Using a Torx T-15 bit, extract the four screws securing the sump retainers to the bottom of the tub. (See Figure 4-34)
10. Push sump into tub and remove from unit.
11. Make sure the sump gasket is properly installed and in good condition when reassembling the sump to the tub.

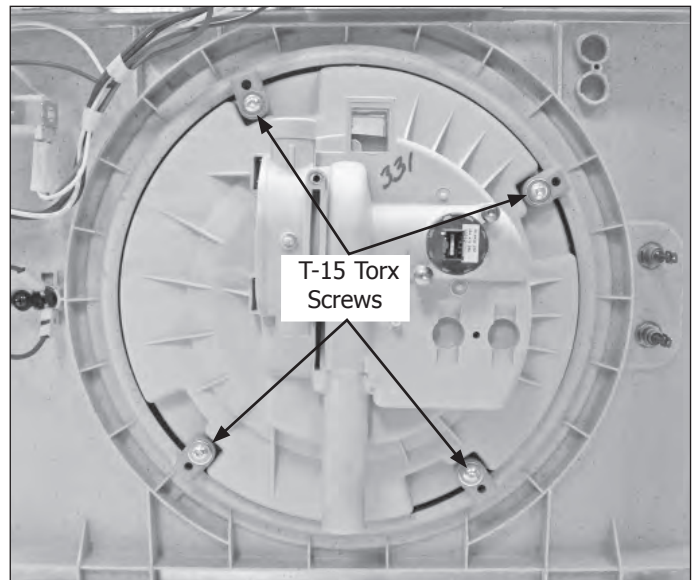


Figure 4-34.

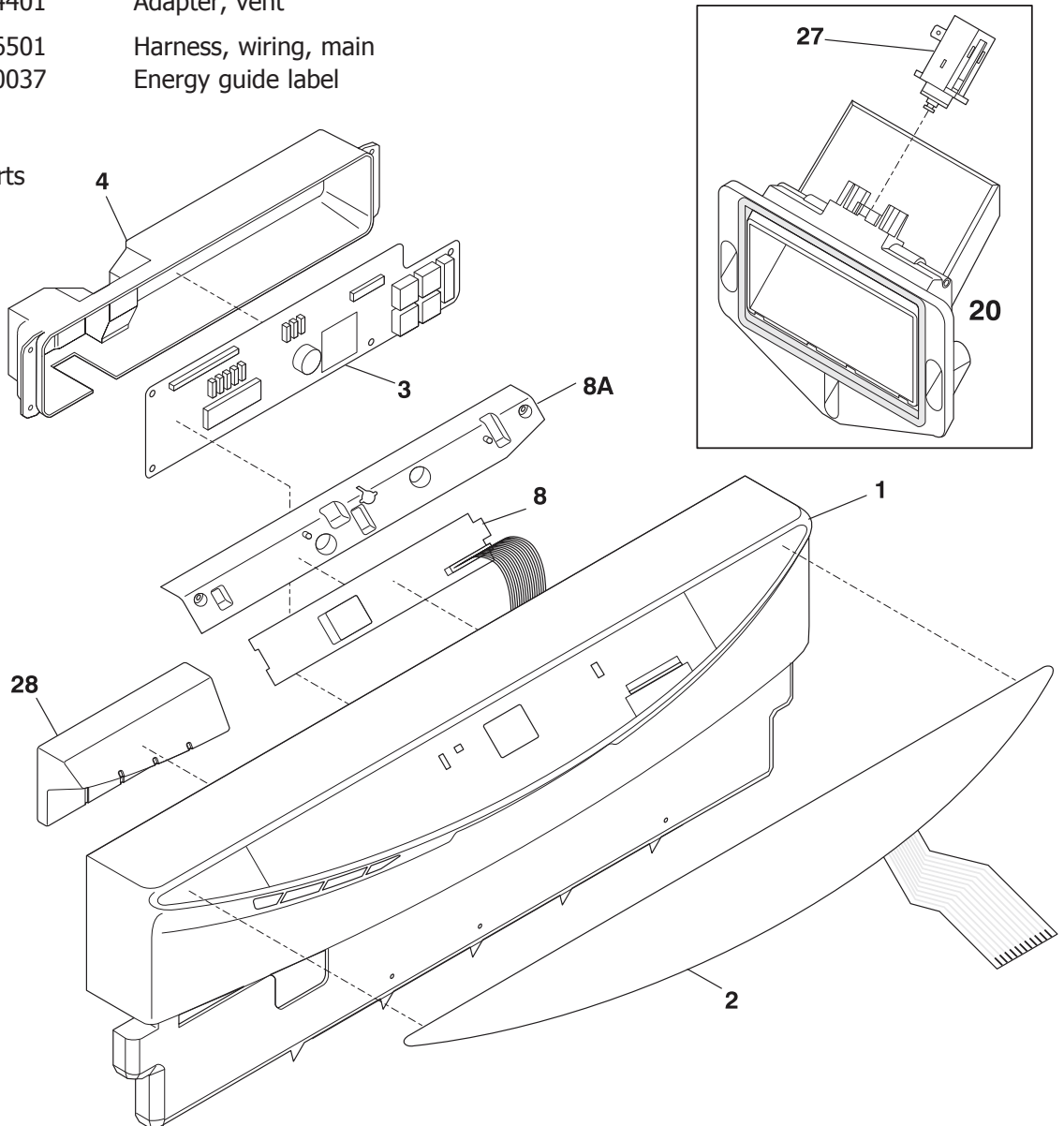


## Console Components

POS. NO	PART NO.	DESCRIPTION
1 #	154486103	Panel, control, black
2	154459903	Insert, control panel, black, w/12p switch
3	154596505	Board, control
3 *	154200401	Screw, 6-10 x 3/8, pan plask
4	154554601	Cover, control
4 *	154478901	Gasket, cover
8	154474801	Board, segment display
8 *	5303318719	Screw, mtg.
8A	154486201	Shield, tactile switch
20	154423601	Vent assy, active dry, w/actuator
20 *	154436201	Screw, dry duct, (3)
27	154433501	Actuator, active dry vent
28	154474401	Adapter, vent
* #	154606501	Harness, wiring, main
*	154540037	Energy guide label

# Functional Parts

\* Non-Illustrated Parts



## Section 5 Parts List & Exploded Views

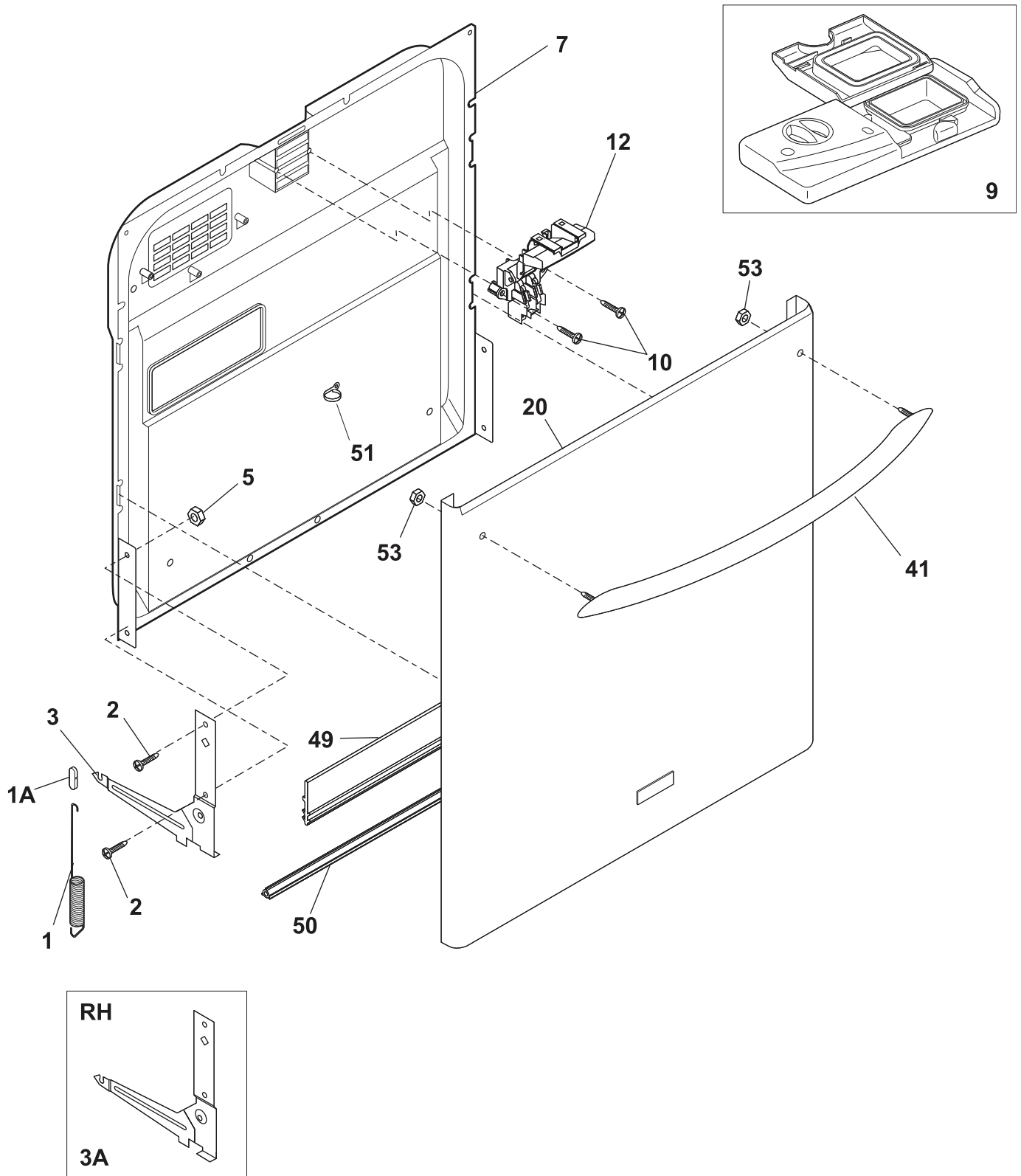
### Door Components

POS. NO	PART NO.	DESCRIPTION
1	154430601	Spring, door, (2)
1A	154325201	Linkage, door spring, (2)
2	154093301	Screw, arm assy, (4)
3	154597503	Arm Assy, LH
3A	154596103	Arm Assy, RH
*	154529101	Pin, arm assy
5	154079601	Nut, arm assy, and handle mtg.
7	154494603	Liner, door assy., grey
9	154542104	Dispenser, det/rinse aid, w/read
9*	154294701	Screw, #7 plas .375, (6), disp. assy.
10	154103702	Screw, latch mtg, (2)
12 #	154529403	Latch assy, black
20	154533201	Door, stainless, w/badge
20*	154253201	Insulation, door
20*	5304428306	Screw, door mtg., (2)
41	154574305	Towel bar assy, stainless
49	154576501	Gasket, door, bottom
50	154211401	Support, door hinge
51	154320301	Clamp, drip loop, wire
53	154425001	Nut, Keps, (2), handle mtg.
*	154409401	Screw, #8-18 x .375

# Functional Parts

\* Non-Illustrated Parts

Door Components Exploded View



## Section 5 Parts List & Exploded Views

### Tub Components

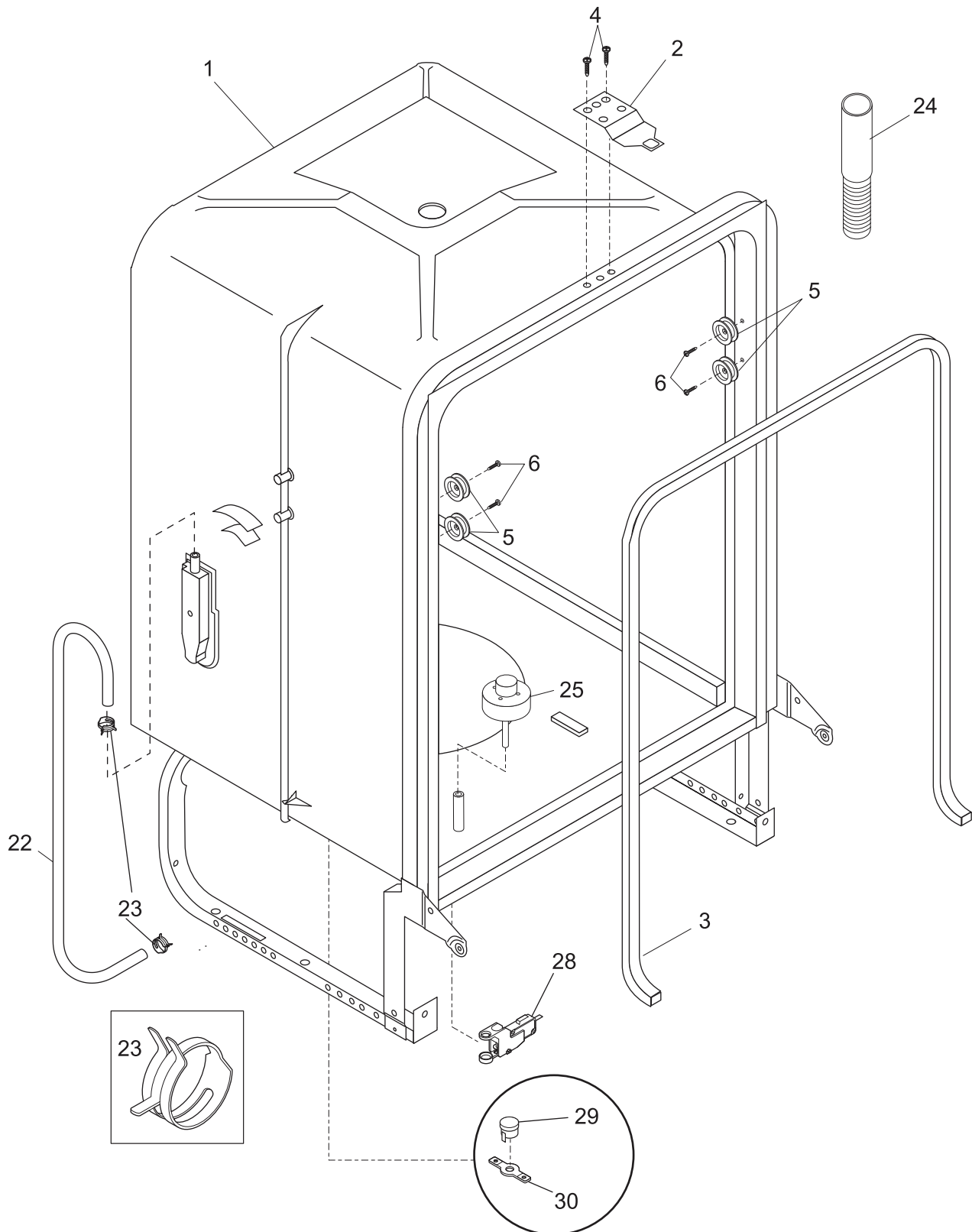
POS. NO	PART NO.	DESCRIPTION
1 #	154594101	Tub assy, w/frame parts
2	154429101	Strike, door
3 #	154561001	Gasket, tub
4	154200602	Screw, 10-16 x 3/8, hex
5	5304456938	Roller, tub, grey, (8), w/screw+washer
6	5303943103	Screw, w/washer, (8)
22	154446002	Tubing, water inlet
23	5303318539	Clamp, tubing, (2)
24 #	154525301	Hose, drain
25 #	154209702	Float, grey
28	154408701	Switch Assy, float
29 #	154290204	Thermostat, re-settable
30	154241101	Retainer, thermostat
30 *	154297701	Screw, retainer-thermo
*	154447102	Insulation, blanket
*	154447301	Insulation, tub back
*	154041001	Screw, plask #1, 10-10 x 9/16
*	5300807270	Screw, (2), countertop mtg.

# Functional Parts

\* Non-Illustrated Parts

# Section 5 Parts List & Exploded

## Tub Components Exploded View





## Section 5 Parts List & Exploded Views

### Motor and Pump Components

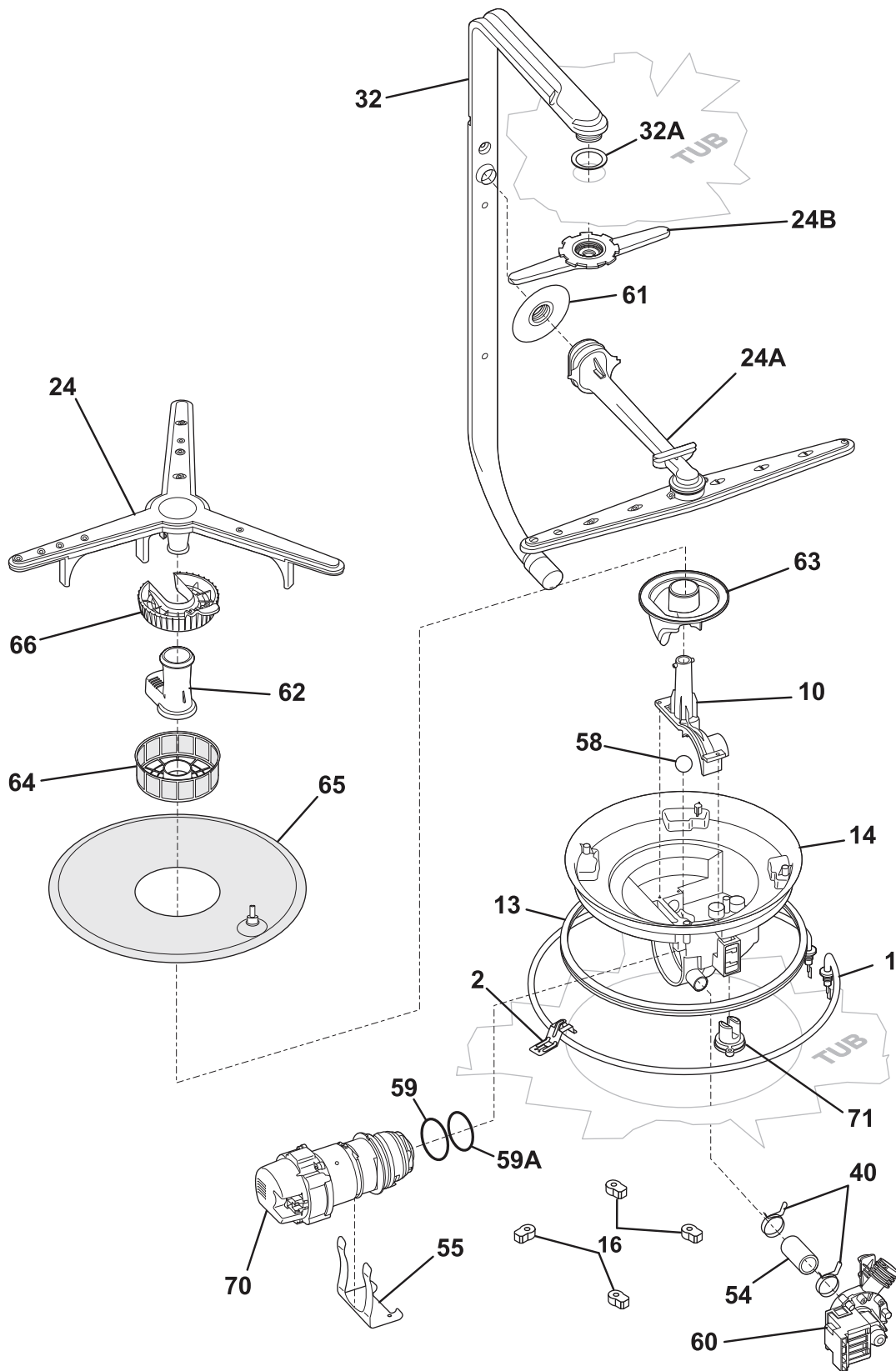
POS. NO	PART NO.	DESCRIPTION
1 #	154482901	Heater, round
1 *	154289801	Shield, heater terminal
1 *	154106202	Nut, heater, (2)
2	154465101	Bracket, heater, (2)
10	154245501	Cover, volute
13	154246801	Gasket, sump
14	154461902	Housing, sump
16	154246502	Retainer, sump
24	154467702	Spray arm, grey, lower
24A	154468502	Spray arm, grey, center
24B	154478202	Spray arm, 3rd level, grey
32	154464101	Tube, delivery
32 *	154491101	Screw, delivery tube
32A	154406401	Gasket, delivery tube
40	154106801	Clamp, hose, worm/drain
40 *	154380601	Clamp, hose, worm/gear
54	154234401	Hose, connector
55	154595901	Bracket, motor
55 *	5303316032	Screw, truss ss, 8 .625
58	154246402	Check ball
59	154246901	O-ring, rear
59A	154247001	O-ring, front
60	154491301	Pump, drain
60 *	5303318719	Screw, mtg.
61	154463402	Grommet, delivery tube
62	154294102	Support, spray arm, grey, lower
63	154252201	Base, soil director
64	154252302	Filter, soil director, grey
65	154283005	Filter Assy, grey
66	154252702	Trap, glass, grey
70 #	154594201	Motor & Pump Assy
71 #	154473901	Sensor, turbidity
71 *	154376001	O-ring, turbidity
*	154200601	Screw, #10-16 x 3/8

# Functional Parts

\* Non-Illustrated Parts

# Section 5 Parts List & Exploded

## Motor and Pump Components Exploded View



## Section 5 Parts List & Exploded Views

### Rack Components

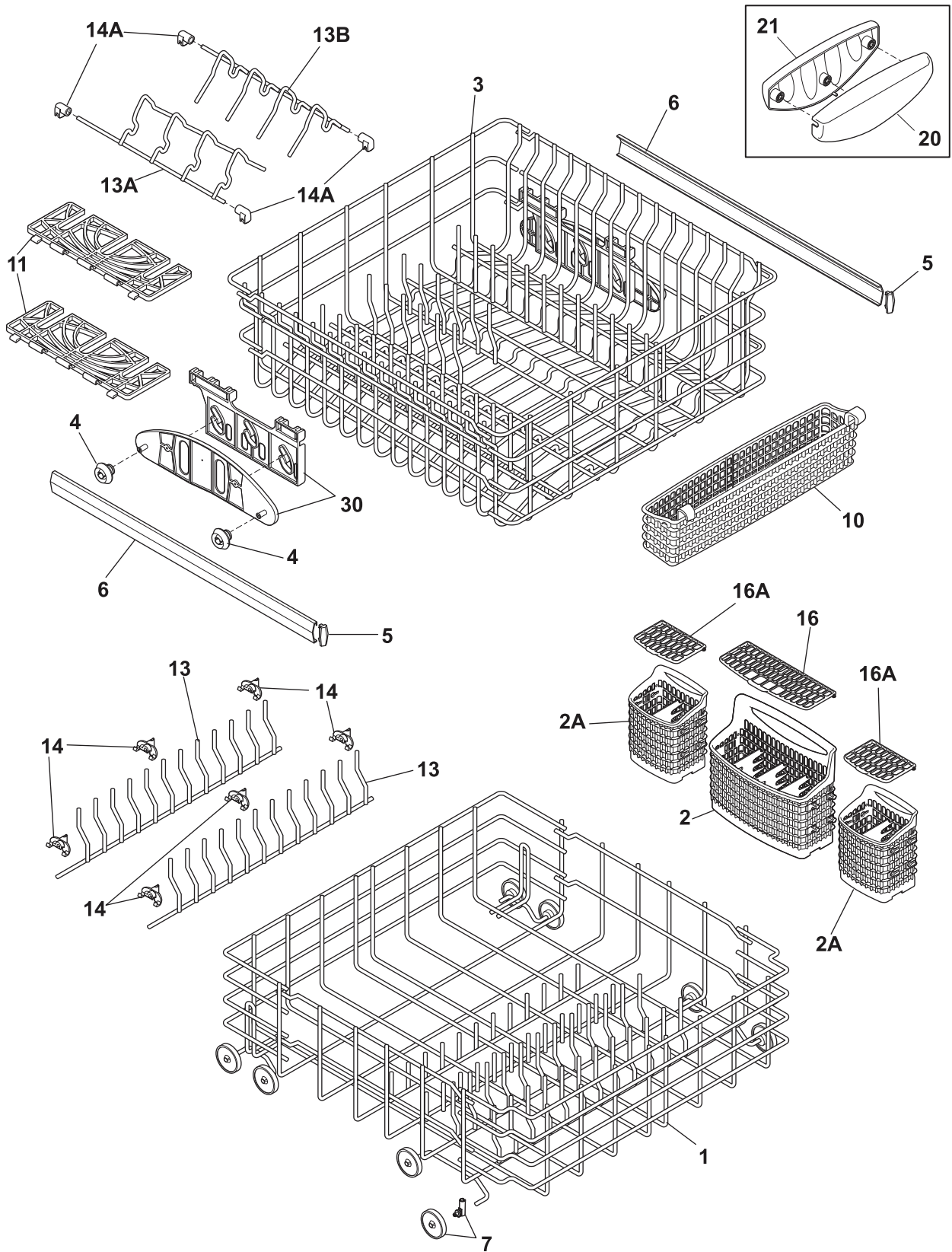
POS. NO	PART NO.	DESCRIPTION
1	154432604	Rack assy, lower, grey
2	154424002	Basket, silverware, grey, main
2A	154424102	Basket, silverware, grey, (2), side
3	154494404	Rack assy, upper, grey
4	154494502	Wheel assy., upper rack, (4)
5	5304440996	Cap, slide, grey, (4)
6	154597801	Slide, rack, upper, (2)
7	154174503	Wheel & bracket assy, grey, lower rack, (8)
10	154466902	Basket, utility, grey
11	154436104	Shelf, cup, half width, grey
13	154425503	Fence, fold down, grey, lower rack, (2), full length
13A	154480403	Fence, multi, 4 wire, LH, upper rack
13B	154480503	Fence, multi, 4 wire, RH, upper rack
14	154428402	Bracket, fold down fence, grey, lower rack, (6)
14A	154242002	Bracket, multi fence, white, upper rack, (4)
14A*	154242102	Bushing, multi fence, upper rack, (4)
16	154424203	Cover, main basket, grey, silverware
16A	154424303	Cover, side basket, grey, (2), silverware
20	154530702	Handle, pull, grey, front, upper rack
21	154530902	Handle, pull, grey, rear, upper rack
30	154570402	Bracket, adjustment, LH, upper rack, assembly
30*	154570502	Bracket, adjustment, RH, upper rack, assembly

# Functional Parts

\* Non-Illustrated Parts

# Section 5 Parts List & Exploded

## Rack Components Exploded View



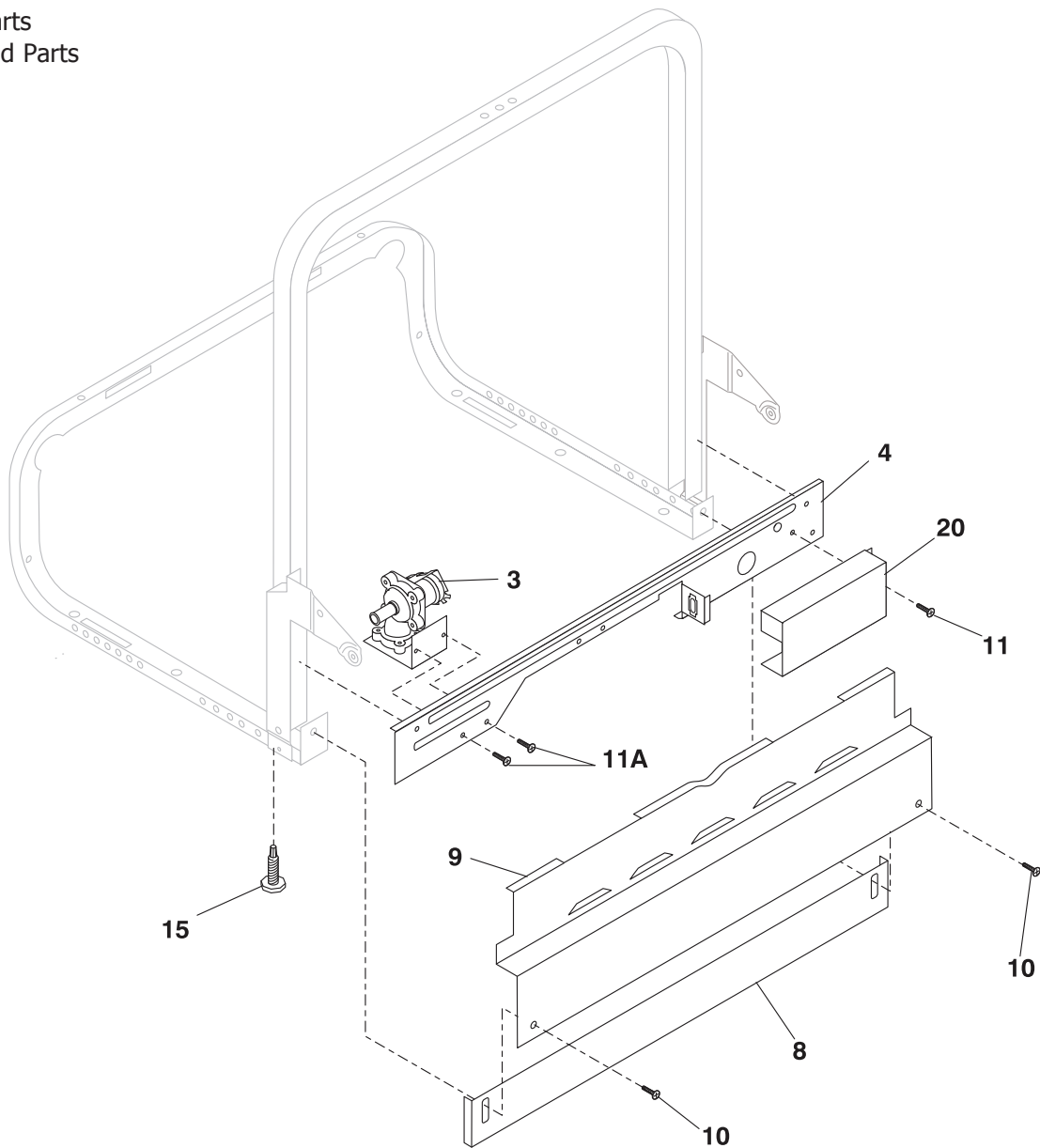
## Section 5 Parts List & Exploded Views

### Frame Components

POS. NO	PART NO.	DESCRIPTION
3 #	154476101	Valve, water
4	154595801	Brace, front frame
8	154589403	Toeplate, adjustable, black
9	154589503	Kickplate Assy, black
10	5300808658	Screw, #8A x .375", black
11	154200701	Screw, #10-32 x 3/8
11A	154200601	Screw, #10-16 x 3/8
15	154571101	Leg, leveling, (4)
20	154597001	Cover, junction box
*	154041001	Screw, plask #1, 10-10 x 9/16
*	154200602	Screw, 10-16 x 3/8, hex
*	154409401	Screw, #8-18 x .375

# Functional Parts

\* Non-Illustrated Parts





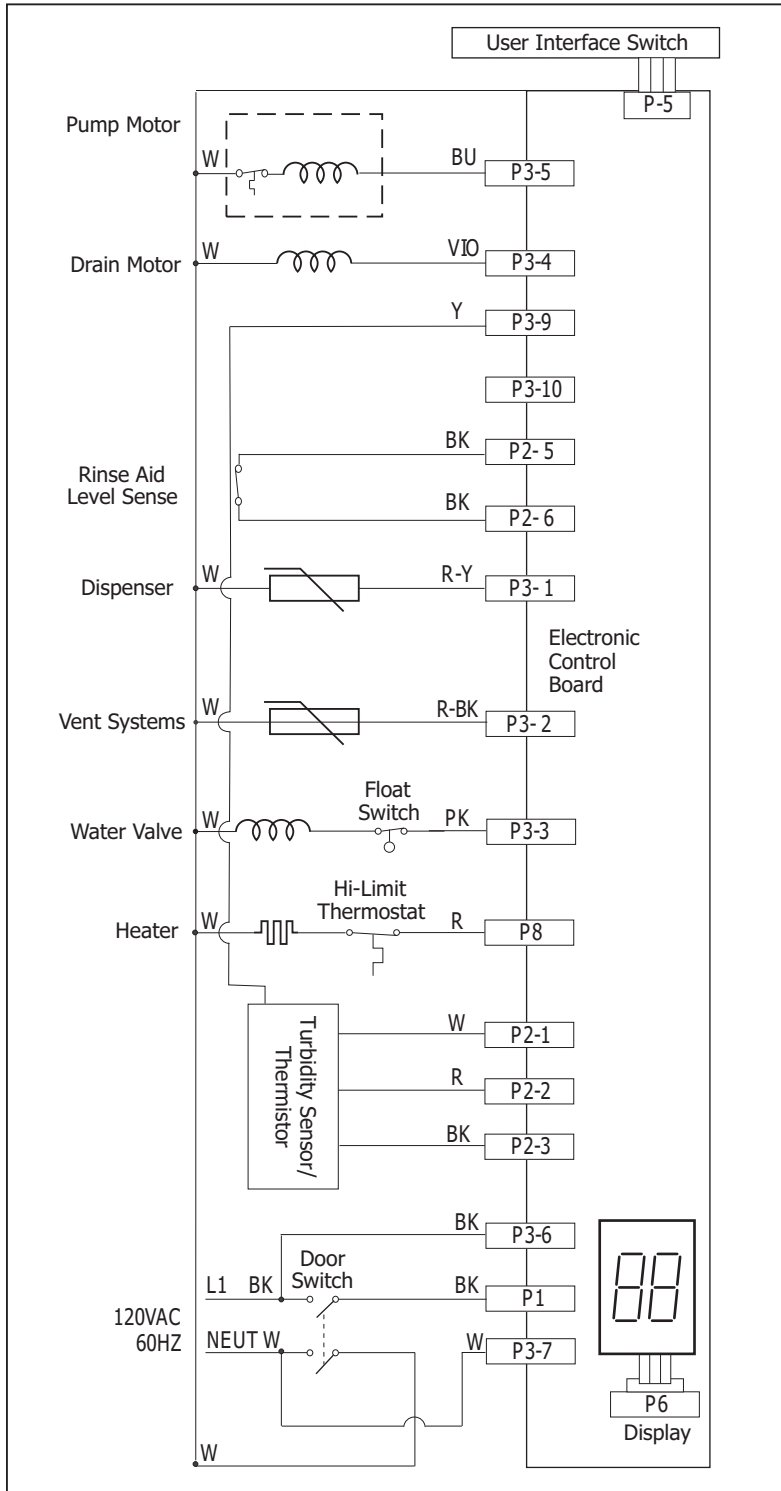
## Section 6 Troubleshooting

Problem	Cause	Correction
Dishwasher will not operate when turned on.	<ol style="list-style-type: none"> <li>1. Fuse (blown or tripped).</li> <li>2. 120 VAC supply wiring connection faulty.</li> <li>3. Electronic control board defective.</li> <li>4. No 12 VAC power to control.</li> <li>5. Motor (inoperative).</li> <li>6. Door switch (open contacts).</li> <li>7. Door latch not making contact with door switch.</li> <li>8. Touch pad circuit defective.</li> <li>9. No indicator lamps illuminate when START or OPTIONS are pressed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace fuse or reset breaker.</li> <li>2. Repair or replace wire fasteners at dishwasher junction box.</li> <li>3. Replace control board.</li> <li>4. Replace control board.</li> <li>5. Replace motor/impeller assembly.</li> <li>6. Replace door switch.</li> <li>7. Replace latch assembly.</li> <li>8. Replace console assembly.</li> <li>9. Replace console assembly.</li> </ol>
Motor hums but will not start or run.	<ol style="list-style-type: none"> <li>1. Motor (bad bearings).</li> <li>2. Motor stuck due to prolonged non-use.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace motor assembly.</li> <li>2. Rotate motor impeller.</li> </ol>
Motor trips out on internal thermal overload protector.	<ol style="list-style-type: none"> <li>1. Improper voltage.</li> <li>2. Motor windings shorted.</li> <li>3. Glass or foreign items in pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check voltage.</li> <li>2. Replace motor/impeller assembly.</li> <li>3. Clean and clear blockage.</li> </ol>
Dishwasher runs but will not heat.	<ol style="list-style-type: none"> <li>1. Heater element (open).</li> <li>2. Electronic control board defective.</li> <li>3. Wiring or terminal defective.</li> <li>4. Hi-Limit thermostat defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace heater element.</li> <li>2. Replace control board.</li> <li>3. Repair or replace.</li> <li>4. Replace thermostat.</li> </ol>
Dispenser cover will not latch or open.	<ol style="list-style-type: none"> <li>1. Latch mechanism defective.</li> <li>2. Electronic control board defective.</li> <li>3. Wiring or terminal defective.</li> <li>4. Broken spring(s).</li> <li>5. Defective actuator.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace dispenser.</li> <li>2. Replace control board.</li> <li>3. Repair or replace.</li> <li>4. Replace dispenser.</li> <li>5. Replace actuator.</li> </ol>
Dishwasher will not pump out.	<ol style="list-style-type: none"> <li>1. Drain restricted.</li> <li>2. Electronic control board defective.</li> <li>3. Defective drain pump.</li> <li>4. Blocked impeller.</li> <li>5. Open windings.</li> <li>6. Wiring or terminal defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clear restrictions.</li> <li>2. Replace control board.</li> <li>3. Replace pump.</li> <li>4. Check for blockage, clear.</li> <li>5. Replace pump assembly.</li> <li>6. Repair or replace.</li> </ol>
Dishwasher will not fill with water.	<ol style="list-style-type: none"> <li>1. Water supply turned off.</li> <li>2. Defective water inlet fill valve.</li> <li>3. Check fill valve screen for obstructions.</li> <li>4. Defective float switch.</li> <li>5. Electronic control board defective.</li> <li>6. Wiring or terminal defective.</li> <li>7. Float stuck in "UP" position.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn water supply on.</li> <li>2. Replace water inlet fill valve.</li> <li>3. Disassemble and clean screen.</li> <li>4. Repair or replace.</li> <li>5. Replace control board.</li> <li>6. Repair or replace.</li> <li>7. Clean float.</li> </ol>

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Problem	Cause	Correction
Dishwasher water siphons out.	<ol style="list-style-type: none"> <li>1. Drain hose (high) loop too low.</li> <li>2. Drain line connected to a floor drain not vented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair to proper 32-inch minimum height.</li> <li>2. Install air gap at counter top.</li> </ol>
Detergent left in dispenser.	<ol style="list-style-type: none"> <li>1. Detergent allowed to stand too long in dispenser.</li> <li>2. Dispenser wet when detergent was added.</li> <li>3. Detergent cover held closed or blocked by large dishes.</li> <li>4. Improper incoming water temperature to properly dissolve detergent.</li> <li>5. See "Detergent cover will not open."</li> </ol>	<ol style="list-style-type: none"> <li>1. Instruct customer/user.</li> <li>2. Instruct customer/user.</li> <li>3. Instruct customer/user on proper loading of dishes.</li> <li>4. Incoming water temperature of 120°F is required to properly dissolve dishwashing detergents.</li> </ol>
At the end of the cycle dishes are not dry.	<ol style="list-style-type: none"> <li>1. Type of dishes that make up the load.</li> <li>2. Dishwasher installed in closed cabinetry.</li> <li>3. Incoming water not hot enough.</li> <li>4. The rinse aid dispenser is empty.</li> <li>5. Rinse aid is not being dispensed in the cycle.</li> </ol>	<ol style="list-style-type: none"> <li>1. Plastic items do not dry well in dishwashers.</li> <li>2. Ample outside air is needed for intake of vent system.</li> <li>3. Check incoming water temperature needs to be at least 120°F.</li> <li>4. Rinse aid is needed to speed evaporation of water from the dishes. Fill rinse aid section of the dispenser. Check setting of dispenser and increase setting to aid in drying.</li> <li>5. See Problem: Dispenser is not opening.</li> </ol>

# Section 7 Wiring Diagrams



R-Y.....Red/Yellow  
 VIO.....Violet  
 BK.....Black  
 BU.....Blue  
 PK.....Pink  
 R.....Red  
 R-BK.....Red/Black  
 W.....White

