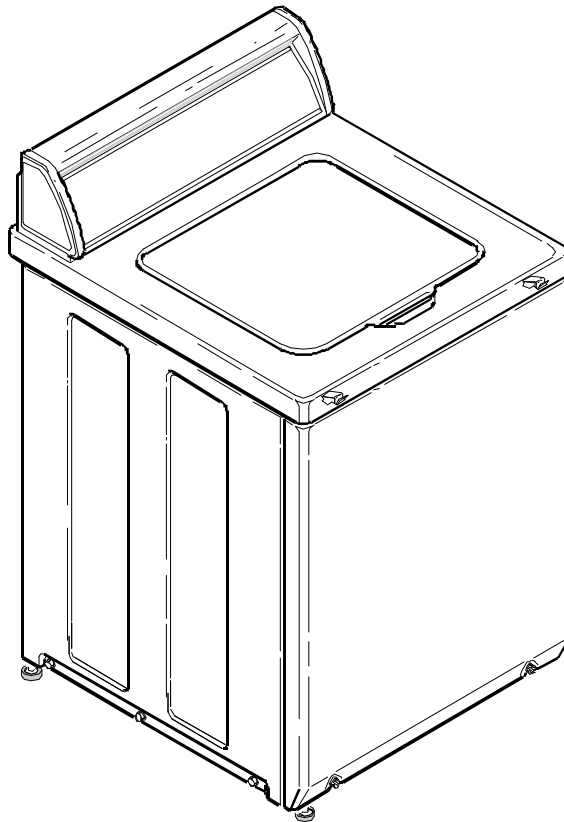


This Base Manual  
covers International Top  
Load Washing Machines.  
Refer to individual Technical Sheet  
for specific information on models.

# Service

## International Top Load Washer

Service Manual for  
Amana®



This manual is to be used by qualified appliance technicians only. Amana does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

***Amana***

RS5410001  
Revision 0  
November 1999

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# Important Information

Pride and workmanship go into every product to provide our customers with quality products. It is possible, however, that during its lifetime a product may require service. Products should be serviced only by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments and the appropriate service manual. **REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL BEFORE BEGINNING REPAIRS.**

## Important Notices for Consumers and Servicers



### WARNING

To avoid risk of serious injury or death, repairs should not be attempted by an unauthorized personnel, dangerous conditions (such as exposure to electrical shock) may result.



### CAUTION

Amana will not be responsible for any injury or property damage from improper service procedures. If performing service on your own product, assume responsibility for any personal injury or property damage which may result.

To locate an authorized servicer, please consult your telephone book or the dealer from whom you purchased this product. For further assistance, please contact:

CONSUMER AFFAIRS DEPT.  
AMANA APPLIANCES, INC.  
2800 220<sup>th</sup> Trail  
AMANA, IOWA 52204-0001

**OR  
CALL**

1-319-622-5511 or (1-800-843-0304)  
and ask for  
Consumer Affairs

If outside the United States contact:

AMANA INTERNATIONAL DIVISION  
2800 220<sup>th</sup> Trail  
AMANA, IOWA 52204-0001, USA  
Telephone: (319) 622-5511  
Facsimile: (319) 622-2180  
TELEX: 4330076 AMANA  
CABLE: "AMANA", AMANA, IOWA, USA

## Recognize Safety Symbols, Words, and Labels



### DANGER

**DANGER** - Immediate hazards which **WILL** result in severe personal injury or death.



### WARNING

**WARNING** - Hazards or unsafe practices which **COULD** result in severe personal injury or death.



### CAUTION

**CAUTION** - Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

# Important Safety Information



## WARNING

To avoid risk of fire, electric shock, serious injury or death to persons when using your washer, follow these basic precautions:

- Read all instructions before using the washer.
- Refer to the Earthing Instructions in the Installation Manual for the proper earthing of the washer.
- Do not wash articles that have been previously cleaned in, washed in, soaked in, or spotted with gasoline, dry-cleaning solvents, or other flammable or explosive substances as they give off vapors that could ignite or explode.
- Do not add gasoline, dry-cleaning solvents, or other flammable or explosive substances to the wash water. These substances give off vapors that could ignite or explode.
- Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. Hydrogen gas is explosive. If the hot water system has not been used for such a period, before using a washing machine or combination washer-dryer, turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. The gas is flammable, do not smoke or use an open flame during this time.
- Do not allow children to play on or in the washer. Close supervision of children is necessary when the washer is used near children. This is a safety rule for all appliances.
- Before the washer is removed from service or discarded, remove the door to the washing compartment.
- Do not reach into the washer if the wash tub is moving.
- Do not install or store the washer where it will be exposed to water and/or weather.
- Do not tamper with the controls.
- Do not repair or replace any part of the washer, or attempt any servicing unless specifically recommended in the User-Maintenance instructions or in published user-repair instructions that you understand and have the skills to carry out.
- Do not use an extension cord or an adapter to connect the washer to the electrical power source.
- Use your washer only for its intended purpose, washing clothes.
- Always disconnect the washer from electrical supply before attempting any service. Disconnect the power cord by grasping the plug, not the cord.
- Install the washer according to the Installation Instructions. All connections for water, drain, electrical power and earthing must comply with local codes and be made by licensed personnel when required. Do not do it yourself unless you know how!
- Clothes which have traces of any flammable substances such as vegetable oil, cooking oil, machine oil, flammable chemicals, thinner, etc. or anything containing wax or chemicals such as in mops and cleaning cloths, must not be put into the washer. These flammable substances may cause the fabric to catch on fire by itself.
- Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.
- Keep your washer in good condition. Bumping or dropping the washer can damage safety features. If this occurs, have your washer checked by a qualified service person.
- Replace worn power cords and/or loose plugs.
- Be sure water connections have a shut-off valve and that fill hose connections are tight. Close the shut-off valves at the end of each wash day.
- Loading door must be closed any time the washer is in operational fill, tumble, or spin. Do not attempt to bypass the loading door switch by permitting the washer to operate with the loading door open.
- Always read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed all warnings or precautions. To reduce the risk of poisoning or chemical burns, keep them out of the reach of children at all times (preferably in a locked cabinet).
- Always follow the fabric care instructions supplied by the garment manufacturer.
- Never operate the washer with any guards and/or panels removed.
- Do not operate the washer with missing or broken parts.
- Do not bypass any safety devices.
- Failure to install, maintain, and/or operate this washer according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

**NOTE:** The Warning and Important Safety Instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining, or operating the washer.

Always contact your dealer, distributor, service agent or manufacturer about any problems or conditions you do not understand.

# General Information

## Model Identification

Thank you for purchasing this washer. Please read the Installation Instructions thoroughly. This manual provides proper maintenance information. Any questions, call the Consumer Affairs Department at 1-800-843-0304 inside U.S.A. and 1-319-622-5511 outside the U.S.A.

Complete registration card and promptly return. If registration card is missing, call the Consumer Affairs Department. Appliance can also be registered through our website [www.amana.com](http://www.amana.com).

When contacting Amana Appliances, provide product information. Product information is on the serial plate. Record the following information.

Model Number: \_\_\_\_\_  
Manufacturing Number: \_\_\_\_\_  
S/N or Serial Number: \_\_\_\_\_  
Date of Purchase: \_\_\_\_\_  
Dealer's name and address: \_\_\_\_\_  
\_\_\_\_\_

**NOTE:** Translation may sometimes cause variations in meaning. In all cases where meaning varies, the most accurate meaning will be the English version of this document.

## Proper Earthing and Polarization of 230 Volts / 50 Hz Wall Outlets

For the safety of our customers and the service technician ALL appliances have a three-prong power cord and **MUST** be connected to a properly polarized AND earthed wall outlet.

## Explanation


**Polarization**—This means that the larger slot must be neutral and the small slot must be hot (live).

**Mispolarized**—The outlet is miswired so that the larger slot is hot (live) and the smaller slot is neutral.

**Earthed**—This means the round hole connection is connected to earth through a connection to the main power panel.

**Unearthed**—The round hole connection is not complete to earth and/or the main power panel.

## Earthing Instructions

 <b>WARNING</b>
<ul style="list-style-type: none"><li>• To avoid risk of electrical shock or death, do not alter the power cord plug in anyway.</li><li>• Do not remove earthing prong when installing earthed appliance in a home that does not have three-wire earthing receptacle. Under no condition is earthing prong to be cut off or removed. It is the personal responsibility of the consumer to contact a qualified electrician and have properly earthed three-prong wall receptacle installed in accordance with appropriate electrical codes</li><li>• To avoid risk of electrical shock or death, this equipment must be earthed.</li></ul>

This equipment **MUST** be earthed. In the event of an electrical short circuit, earthing reduces the risk of electric shock by providing an escape wire for the electric current. This unit is equipped with a cord having a earthing wire with a earthing plug. The plug must be plugged into an outlet that is properly installed and earthed.

Consult a qualified electrician or servicer if earthing instructions are not completely understood, or if doubt exists as to whether the equipment is properly earthed.

Do not use an extension cord. If the product power cord is too short, have a qualified electrician install a three-slot receptacle. This unit should be plugged into a separate 50 hertz circuit with the electrical rating as shown in the appropriate drawing. Models operate with a 120 supply voltage.

# General Information

## General Operation Definition

The cycle begins with a wash fill. The water temperature is determined by the temperature selector. While water fills the washtub, a column of air is trapped in the pressure bulb and hose. Air pressure continues to increase as the washtub fills with water until the pressure is enough to activate the pressure switch. Pressure switch then causes the wash fill to stop and agitation to begin. However, the loading door must be closed for the washer to agitate or spin.

The washer uses a reversing type motor, a special drive belt and an idler assembly. Idler assembly applies tension to the outside of the drive belt.

During agitation, the motor runs in a counterclockwise direction. The spring tension on the idler pulley applies tension required to reduce the slack on the drive belt and maintain maximum belt to motor pulley contact. This eliminates belt slippage and ensures an efficient wash action, even with extra large loads.

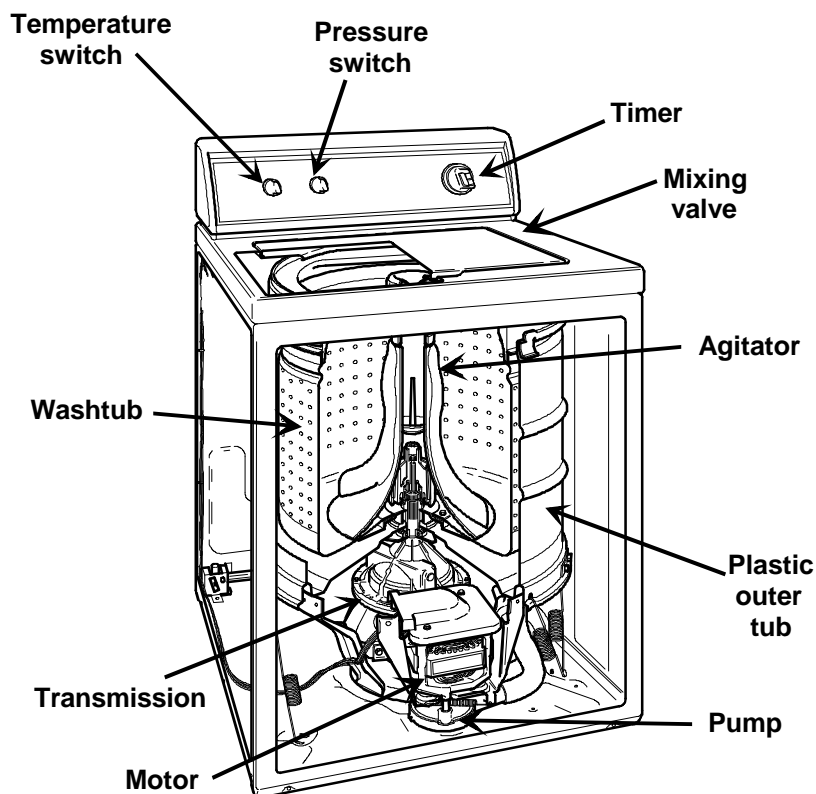
The belt drives the transmission drive pulley in a counterclockwise direction. The pulley drives the helix which is attached to the input shaft of the transmission. This causes the input shaft to turn inside of a roller clutch which is pressed into the transmission cover. This roller clutch acts as a bearing in a counterclockwise direction allowing the transmission gears to operate. The transmission's rack and pinion gear design produces a 210° agitation stroke at the output shaft of the transmission which drives the agitator. The brake assembly remains locked during the agitation mode since no pressure is applied to it by the transmission drive pulley.

After the wash agitation is completed, the timer advances into the first spin. During spin, the motor reverses turning in a clockwise direction to spin the water out of the washtub. The combination of water, washtub and load weight cause the drive belt tension on the idler side of the belt to overtake the idler spring pressure allowing the belt to slack on the opposite side. This reduces the belt to pulley contact and allows slipping between the belt and pulley.

As water is removed by the direct drive pump and the momentum of the washtub increases, the idler spring tension gradually overcomes the belt tension removing the belt slack. This eventually increases the belt to pulley contact until maximum spin speed is achieved.

The drive pulley turns clockwise riding up the ramps of the helix, exerting pressure on the brake and forcing it to release from brake pads. The helix drives the input shaft of the transmission, and when the input shaft turns in a clockwise direction the roller clutch locks onto the shaft causing the entire transmission assembly to turn. None of the gears in the transmission are operating at this time. The hub of the washtub is attached to the transmission tube and rotates with the transmission assembly. The centrifugal force created by the spinning washtub causes water to be extracted from the clothes.

Water is introduced during the first spin to "SPRAY" the garments and remove suds from them. The initial spin is followed by rinse agitation to rinse away any detergent residue. The washer fills and then agitates like the wash portion of the cycle. Following rinse agitation, a final spin extracts the rinse water from the clothes preparing them for the dryer.

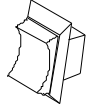
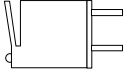
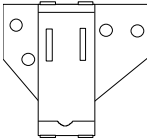
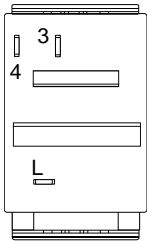
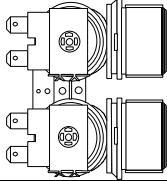
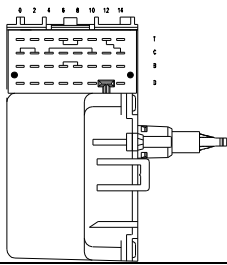
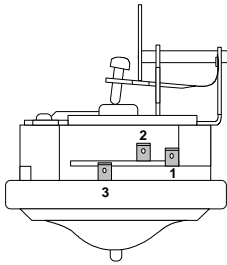


# Component Testing Information



## WARNING

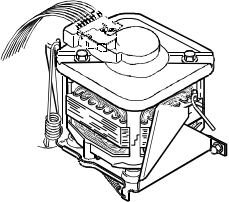
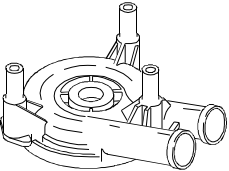
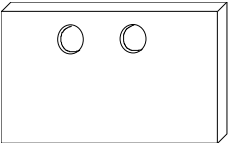
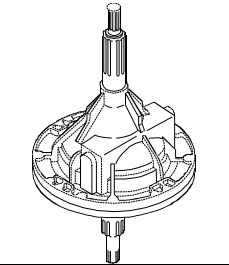
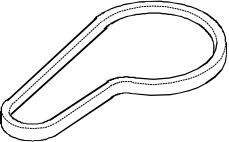
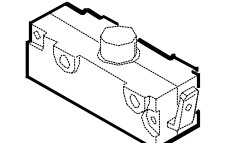
To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.

Illustration	Component	Test Procedure	Results
	Rocker switch (Extra Rinse)	Measure resistance of switch positions: Closed (ON position) Open (OFF position)	Continuity >1 Ω Infinite 1 MΩ
	Indicator light	Measure voltage at indicator light.	If line voltage is present and light does not work replace light. If no voltage is present at indicator light check wiring.
	Signal switch	Measure resistance of the switch turned to LOUD position.	Nominal 1155 Ω ± 5%
	Temperature switch	Disconnect wires from component to properly measure the resistance of the component. Place switch in the following positions and measure across the terminals below:  Hot / Cold L-3 _____ Warm / Cold L-3-4 _____ Cold / Cold L-4 _____	>1 Ω >1 Ω >1 Ω
	Mixing valve	Measure resistance of terminals on each valve. Resistance across each valve.	Approximately 3400 Ω ± 10%
	Timer	Verify input and output voltage is present.	Refer to specific model Technical Sheet for timing sequence chart and functional description of the component.
	Pressure switch	Do not disconnect the pressure hose from pressure switch to perform measurements. Measure resistance across the following terminals on the pressure switch: Terminal 1 to 2 Terminal 1 to 3	<b>Refer to wiring diagram/schematic for correct contacts.</b>  Continuity (no pressure) Continuity (pressure)

# Component Testing Information

## ⚠ **WARNING**

To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.

Illustration	Component	Test Procedure	Results
	Motor	Three types of motors One speed Two speed Three speed	<b>See following section “Internal Motor Diagram and Schematic” for correct wiring contacts.</b>
	Drain pump	Verify drain pump is not clogged or damaged.	Remove clog and verify proper operation.  Replace drain pump if damaged.
	Brake pad	If washtub does not stop spinning within seven second after opening loading door (no load).  If brake pads makes noises.	Replace all three brake pads.  Apply a thin layer of silicone on pads, see Service Bulletin “ASQ-213-B”
	Transmission assembly	Two type of transmissions: 640 rpm 710 rpm	Externally identical, must be identified by part number.  If transmission locks-up during agitate cycle, replace.
	Drive belt	Two type of drive belts: 640 rpm 710 rpm  There are two different types of pulley sizes as well.	Refer to “Parts Manual”, to verify which drive belt and pulley is required.
	Lid switch-SPST	Disconnect wire terminals from switch. Test terminals with switch closed. Test terminals with switch open.	Continuity >1 Ω Infinite 1 MΩ

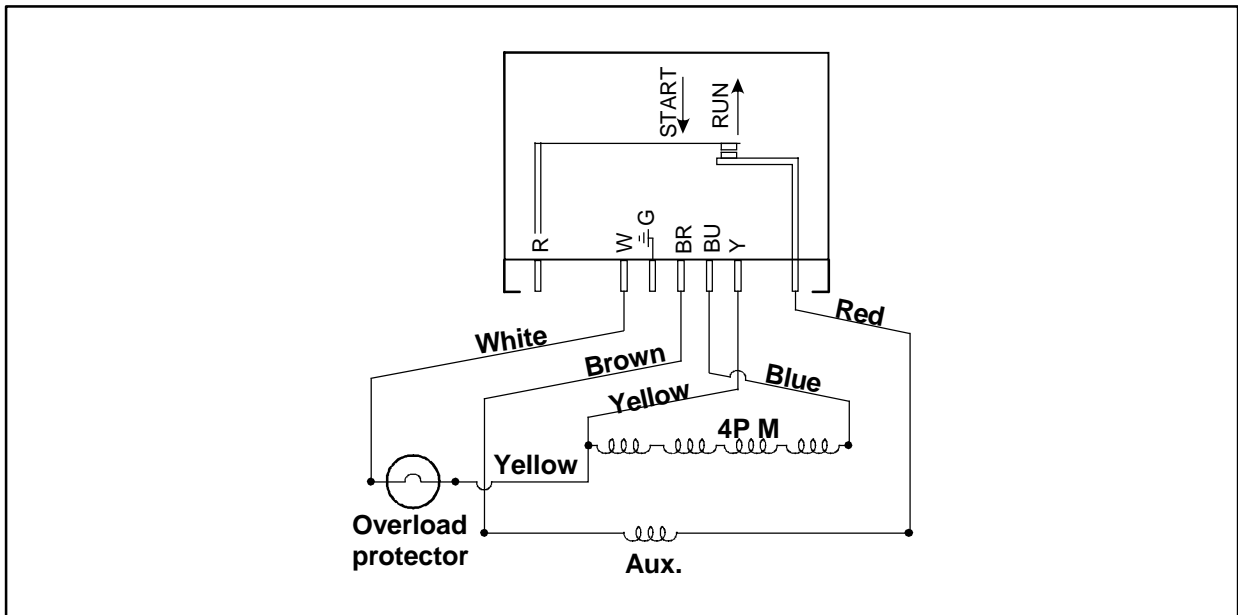
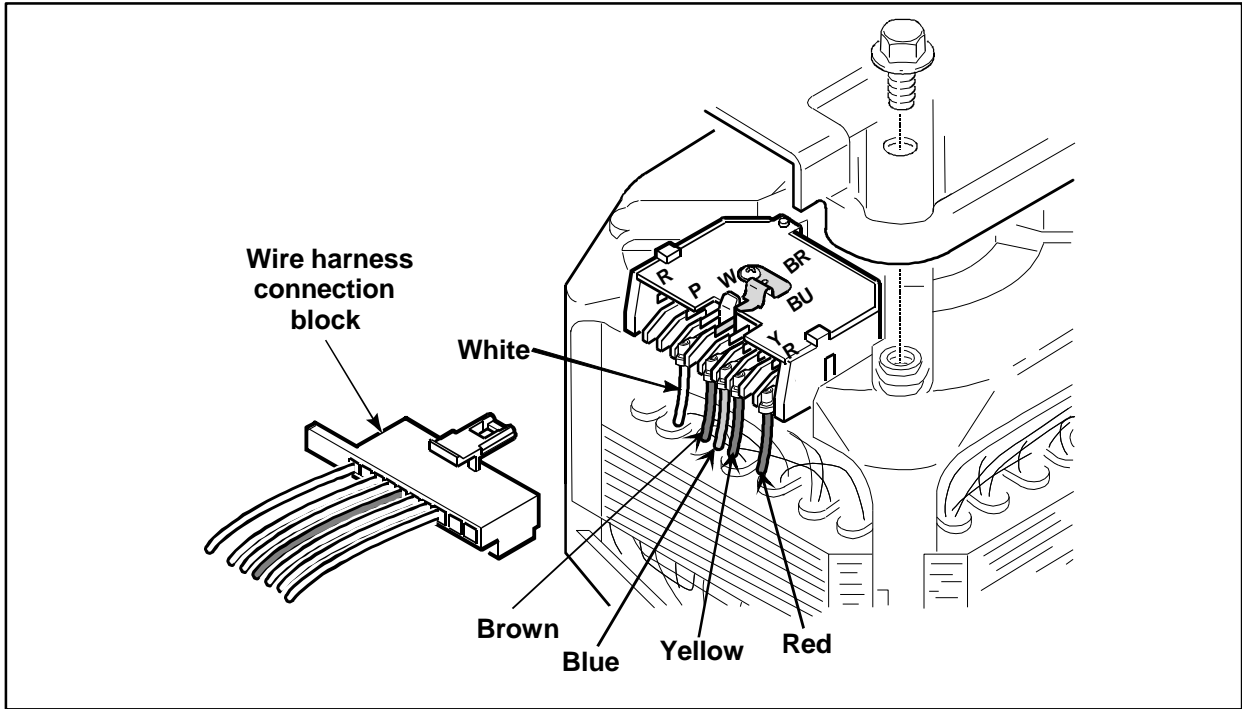


# Internal Motor Diagram and Schematic



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.



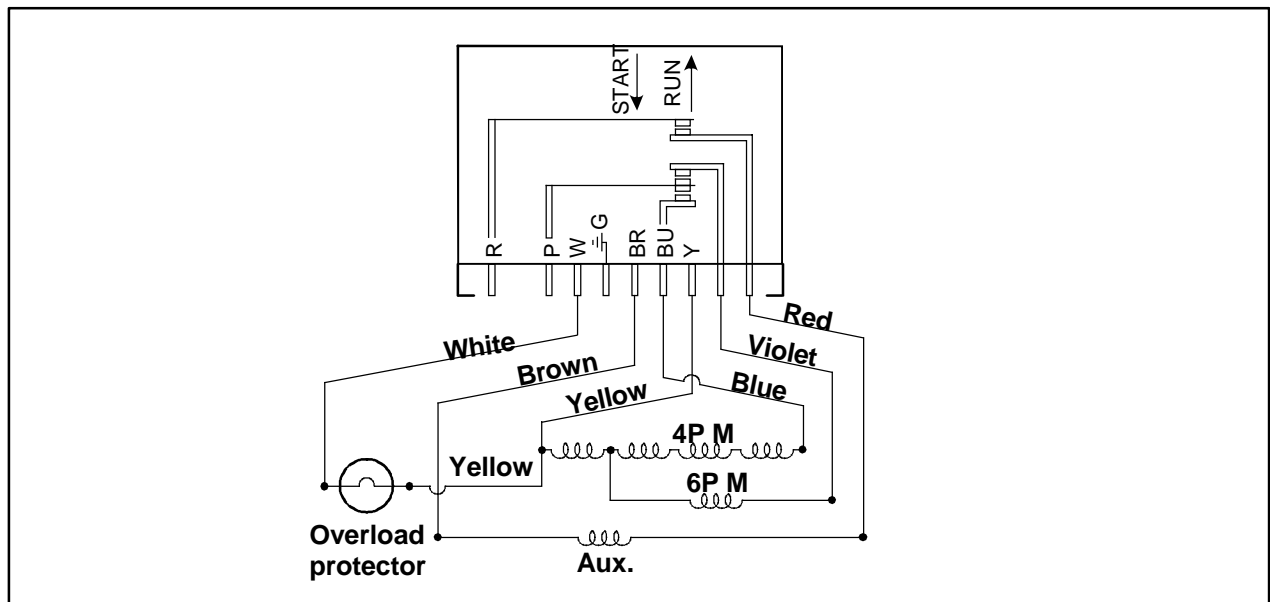
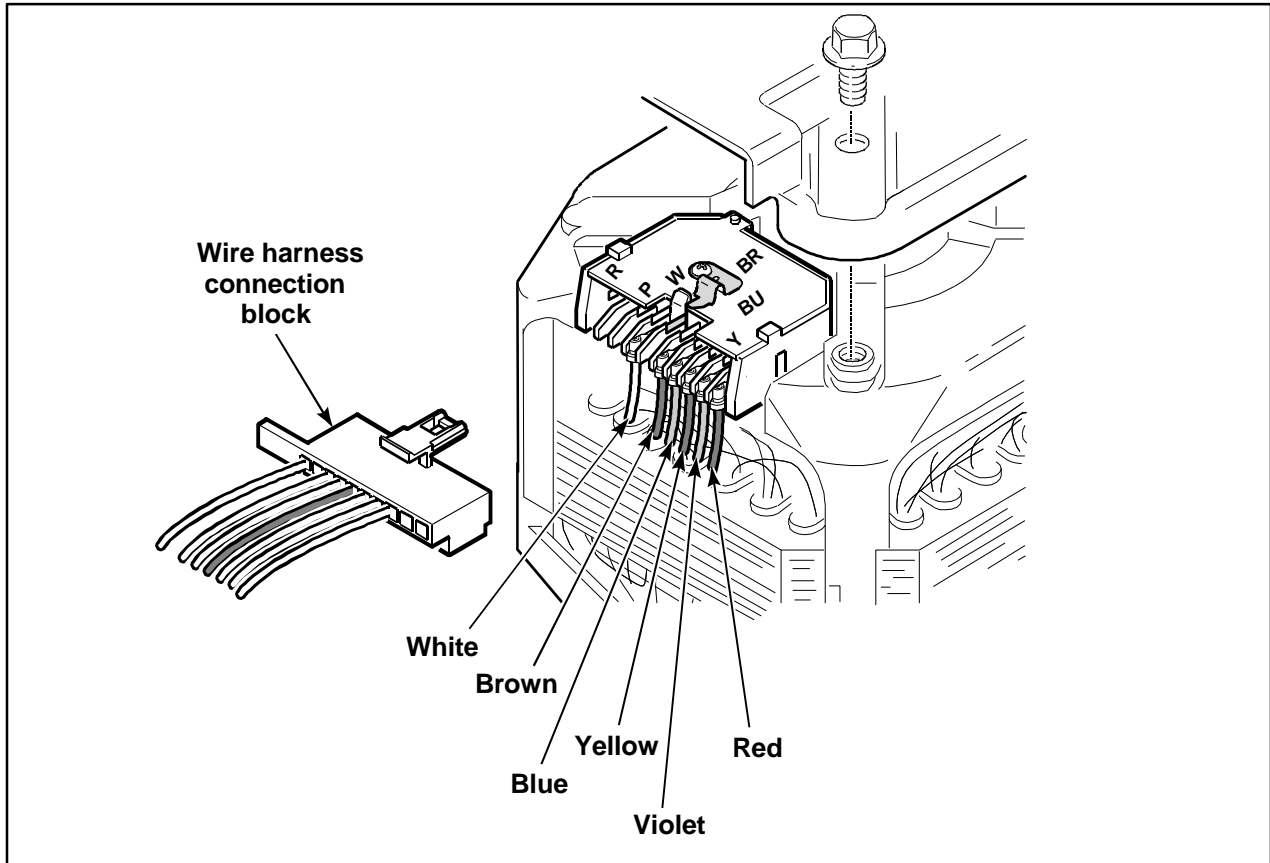
**Motor Assembly  
(one speed motor)**

# Internal Motor Diagram and Schematic



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.



Motor Assembly  
(two speed motor)

# Troubleshooting Procedures



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.

### 1. No hot water.

Possible Cause	Result
Hot water supply faucet is closed.	Open faucet.
Water supply is cold.	Check water heater Verify hot water hose is connected to hot side of inlet valve.
Kinked hot water inlet hose.	Straighten or replace hose.
Clogged mixing valve screens, or screens in inlet hose closes to supply faucet.	Disconnect inlet hose and clean or replace screen.
Clogged pressure hose.	Remove and clean or replace hose
Failed pressure switch.	Test switch and replace if failed.
Failed temperature switch.	Test switch and replace if failed.
Failed hot water side of mixing valve solenoid.	Test solenoid and replace if failed.
Failed timer.	Test timer and replace if failed.
Failed electronic control.	Test electronic control and replace if failed.
Broken, loose, shorted or incorrect wiring.	Refer to appropriate wiring diagram.

### 2. No cold water.

Possible Cause	Result
Cold water supply faucet is closed.	Open faucet.
Kinked hot water inlet hose.	Straighten or replace hose.
Clogged mixing valve screens, or screens in inlet hose closes to supply faucet.	Disconnect inlet hose and clean or replace screen.
Clogged pressure hose.	Remove and clean or replace hose
Failed pressure switch.	Test switch and replace if failed.
Failed temperature switch.	Test switch and replace if failed.
Failed cold water side of mixing valve solenoid.	Test solenoid and replace if failed.
Failed timer.	Test timer and replace if failed.
Failed electronic control.	Test electronic control and replace if failed.
Broken, loose, shorted or incorrect wiring.	Refer to appropriate wiring diagram.

### 3. No warm water.

Possible Cause	Result
No hot water.	See "No Hot Water" chart.
No cold water.	See "No Cold Water" chart.
Failed mixing valve.	Test mixing valve and replace if failed.

# Troubleshooting Procedures



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.

### 4. Water fill does not stop at proper level.

Possible Cause	Result
Failed pressure switch.	Test switch and replace if failed.
Air leak in pressure hose	Replace pressure hose.
Water in pressure hose.	Blow air through hose to remove water.
Broken, weak, or missing mixing valve armature spring.	Replace mixing valve.
Sediment on or under mixing valve diaphragm, failed diaphragm, or armature binding in armature guide.	Replace mixing valve.
A siphoning action started in washer will cause water to be siphoned from washer during cycle. Caused by drain hose being lower than washer cabinet top.	Install No. 526P3 Siphon Break Kit. Provide an air gap around drain hose and drain receptacle. Install No. 36878 Standpipe Adapter.
Failed electronic control.	Test electronic control and replace if failed.
Broken, loose, shorted or incorrect wiring.	Refer to appropriate wiring diagram.

### 5. Timer does not advance.

Possible Cause	Result
Timer is designed to pause during fill periods. Some cycles have pause (delicate cycle).	Allow completion of fill period.
Loading door is open.	Close loading door. Loading door MUST be closed anytime the washer is set to agitate or spin.
Washer will not fill.	Timer pauses until pressure switch is satisfied.
Verify washer is not siphoning during rinse cycle.	Install No. 526P3 Siphon Break Kit.
Failed timer.	Test timer and replace if failed.
Broken, loose, shorted, or incorrect wiring.	Refer to appropriate wiring diagram.

### 6. Motor does not operate.

Possible Cause	Result
Power cord not plugged in, blown fuse or tripped circuit breaker at circuit panel.	Verify electrical power is present at outlet and unit is plugged in. There is no internal fuse in the washer.
Loading door not closed or failed switch.	Close door or test switch and replace if failed.
Motor overload protector has cycled.	Wait two to three minutes for overload protector to reset. If overload protector cycles repeatedly, see following chart.
Binding in upper or lower motor bearings.	Remove belt and determine if motor shaft will spin. Replace motor if shaft is locked up.
Motor is dead, electrical power is present.	Test motor switch and windings.
Motor start functions fail or motor only hums.	Test motor start switch and start windings.
Timer improperly set.	Reset timer or try another cycle.
Failed timer.	Test timer and replace if failed.
Failed electronic control.	Test electronic control and replace if failed.
Broken, loose, shorted or incorrect wiring.	Refer to appropriate wiring diagram.

# Troubleshooting Procedures



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.

### 7. Washer smokes, overheats, and cycles on overload protector or switch actuator kicks in and out.

Possible Cause	Result
Belt is tacky and does not allow proper slipping.	Check belt and replace if failed.
Belt tension is too tight and does not allow proper slipping.	Verify idler spring is properly connected. Verify proper belt and pulley are installed.
Motor start functions fail.	Test switch functions.
Bind in water pump.	Replace pump.
Brake pads are binding.	Free binding pads or replace pads.
Brake, transmission or motor have locked up and will not turn.	Verify all components move freely. Correct binding component.
Failed timer.	Test timer and replace if failed.
Incorrect voltage.	Contact local utility company, or have a qualified electrician check power supply voltage.

### 8. No agitation.

Possible Cause	Result
Failed timer. Timer is designed to pause (SOAK) during DELICATE cycle.	Test timer and replace if failed.
Failed pressure switch.	Test switch and replace if failed.
Loose or broken drive belt.	Adjust or replace drive belt.
Failed transmission assembly.	Replace failed transmission assembly.
Sheared motor pulley roll pin.	Remove drive motor and replace roll pin and any other damaged components.
Motor overload protector has cycled.	Wait two to three minutes for overload protector to reset. If overload protector cycles repeatedly, see following chart.
Bind in water pump.	Replace pump.
Loading door not closed or failed switch.	Close door or test switch and replace if failed.
Failed timer.	Test timer and replace if failed.
Failed electronic control.	Test electronic control and replace if failed.
Broken, loose, shorted or incorrect wiring.	Refer to appropriate wiring diagram.

### 9. Constant agitation.

Possible Cause	Result
Failed timer.	Test timer and replace if failed.
Failed electronic control.	Test electronic control and replace if failed.
Shorted or incorrect wiring.	Refer to appropriate wiring diagram.

# Troubleshooting Procedures



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.

### 10. Slow spin or no spin.

Possible Cause	Result
Some model washers, timer is programmed for SLOW spin in DELICATE cycle regardless of action switch setting.	Use a different cycle.
Loading door not closed or failed switch.	Close door or test switch and replace if failed.
Bind in water pump.	Replace pump.
Loose or broken drive belt.	Adjust or replace drive belt.
Oil on drive belt.	Replace drive belt
Sheared motor pulley roll pin.	Remove drive motor and replace roll pin and any other damaged components.
Motor overload protector has cycled.	Wait two to three minutes for overload protector to reset. If overload protector cycles repeatedly, see following chart.
No clearance or stuck brake pads.	Free sticky brake pads or replace brake pads.
Failed transmission assembly.	Replace failed transmission assembly.
Failed timer.	Test timer and replace if failed.
Failed electronic control.	Test electronic control and replace if failed.
Broken, loose, shorted or incorrect wiring.	Refer to appropriate wiring diagram.

### 11. Constant spin.

Possible Cause	Result
Washtub does not stop spinning within seven seconds after loading door is open.	Replace brake pads. Tighten Helix Bolt if loose.
Excessive wear on brake pads, or missing brake pads.	Replace brake pads.
Failed timer.	Test timer and replace if failed.
Failed electronic control.	Test electronic control and replace if failed.
Broken, loose, shorted or incorrect wiring.	Refer to appropriate wiring diagram.

### 12. Washer stops in middle of cycle or quits after a couple loads $\frac{3}{4}$ intermittent.

Possible Cause	Result
Belt is tacky and does not allow proper slipping.	Check belt and replace if failed.
Belt tension is too tight and does not allow proper slipping.	Verify idler spring is properly connected. Verify proper belt and pulley are installed.
Motor overload protector has cycled.	Wait two to three minutes for overload protector to reset. If overload protector cycles repeatedly, see following chart.
Brake, transmission or motor have locked up and will not turn.	Verify all components move freely. Correct binding component.
Motor switch functions fail.	Test switch functions.
Failed timer.	Test timer and replace if failed.
Broken, loose, shorted or incorrect wiring.	Refer to appropriate wiring diagram.

# Troubleshooting Procedures



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to washer before servicing, unless testing requires it.

### 13. Washer locks-up or binding.

Possible Cause	Result
Excessive drive belt tension.	Replace drive belt and/or idler spring.
Bind in upper or lower bearing.	Replace bearing.
Bind in water pump.	Replace pump.
Bind in transmission.	Replace transmission.
Brake pads are binding.	Free binding pads or replace pads.
Incorrect voltage.	Contact local utility company, or have a qualified electrician check power supply voltage.

### 14. Outer tub does not empty.

Possible Cause	Result
Kinked drain hose.	Straighten drain hose.
Failed water pump.	Replace water pump.
Obstruction in outer tub outlet hose.	Remove obstruction.

### 15. Excessive vibration.

Possible Cause	Result
Washer is not properly leveled.	Adjust leveling legs for proper leveling.
Unbalance load in the tub.	Stop washer, redistribute load and restart the washer.
Broken or disconnected centering springs.	Connect or replace centering springs.
Washer is installed on weak, "spongy", carpeted or built-up floor.	Relocate washer, or support floor to eliminate weak or "spongy" condition.
Loose or damaged leveling legs.	Tighten or replace leveling legs.
Damage base (wash was dropped).	Replace base assembly.
Lubricant on pivot dome or broken friction ring.	Remove lubricant and replace damage components.
Liquid filled balance ring leaking.	Replace balance ring.
Shipping plug not removed.	Remove shipping plug.
Rubber feet not installed.	Install rubber feet.

### 16. Water leaking from outer tub.

Possible Cause	Result
Water seal leaking on outer tub.	Replace hub and seal kit assembly.
Hole in outer tub.	Replace outer tub.
Pressure hose or accumulator leaking.	Replace hose and/or accumulator.
Outer tub cover gasket leaking.	Replace gasket.
Tub-to-pump hose leaking at clamp.	Tighten hose clamp.
Obstruction in drain causing water to overflow over tub cover.	Remove obstruction in drain hose.

# Disassembly Procedures

## WARNING

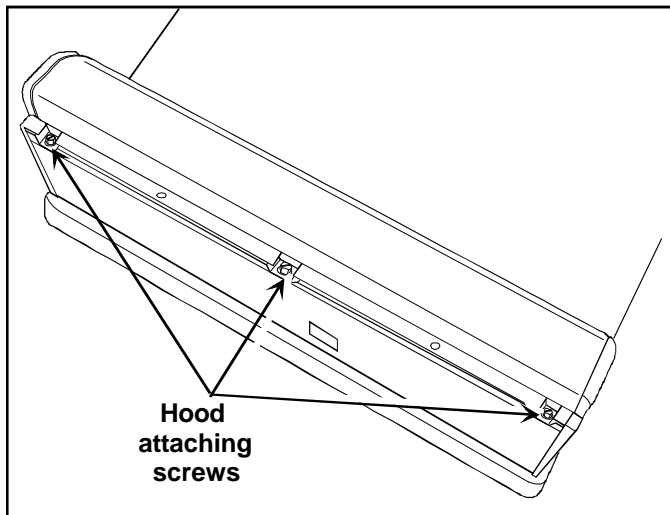
To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

**NOTE:** When reference is made to directions (right or left) in this manual, it is from operator's position facing front of washer.

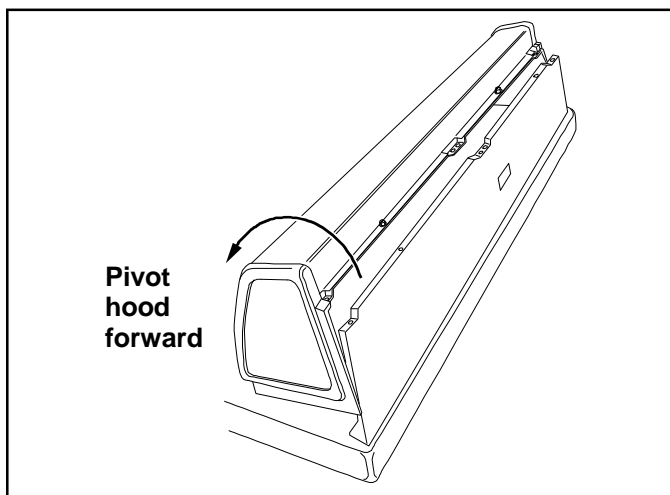
**NOTE:** To avoid damaging or scratching the surface a soft cloth should be placed over the top of the unit.

### Control Hood Assembly

1. Remove screws securing control hood assembly to control hood rear panel.



2. Rotate hood assembly forward.



3. Remove bottom of control hood from clips located on cabinet top.
4. Disconnect wires from components and carefully remove components from control hood assembly.
5. Reverse procedure to reassemble.

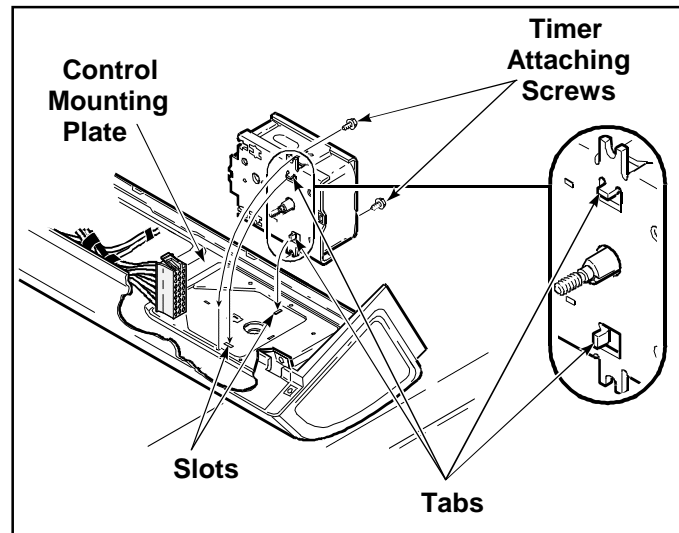
**NOTE:** See appropriate wiring diagram when rewiring components.

### Control Hood End Panels

- Remove screws securing end panels to control mounting plate.

### Timer

1. Loosen control hood assembly, see "Control Hood Assembly" procedure steps 1 and 2.
2. Remove timer knob from timer shaft by unscrewing timer knob from timer shaft (right hand thread), then remove timer knob skirt.



3. Remove screws securing timer to control hood mounting plate.
4. Disconnect wire harness terminal plug from timer by lifting locking tab and pulling terminal plug away from timer.
5. Reverse procedure to reassemble.

**NOTE:** To avoid an open circuit, DO NOT pull on terminal block wires when removing blocks from timer as this could damage wires or terminal crimping.

Before attaching wire harness terminal blocks to timer, verify all male terminals on timer are straight and are capable of accepting terminals from wire harness terminal blocks.

**NOTE:** When installing timer, verify timer is installed correctly and is securely mounted to control mounting plate.

## CAUTION

To avoid risk of timer damage, do not allow timer to be struck on the corners, edges of frame, or on timer shaft.



# Disassembly Procedures

## **WARNING**

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### Temperature and Speed Switch

1. Loosen control hood assembly, see "Control Hood Assembly" procedure steps 1 and 2.
2. Slide a soft cloth under the knob, wrapping the entire knob and pull gently away from the control panel.
3. Disconnect wires from switch terminals.
4. From the front, press inward on black plastic tabs next to the switch shaft and rotate switch to release switch from control hood mounting plate.
5. Reverse procedure to reassemble.

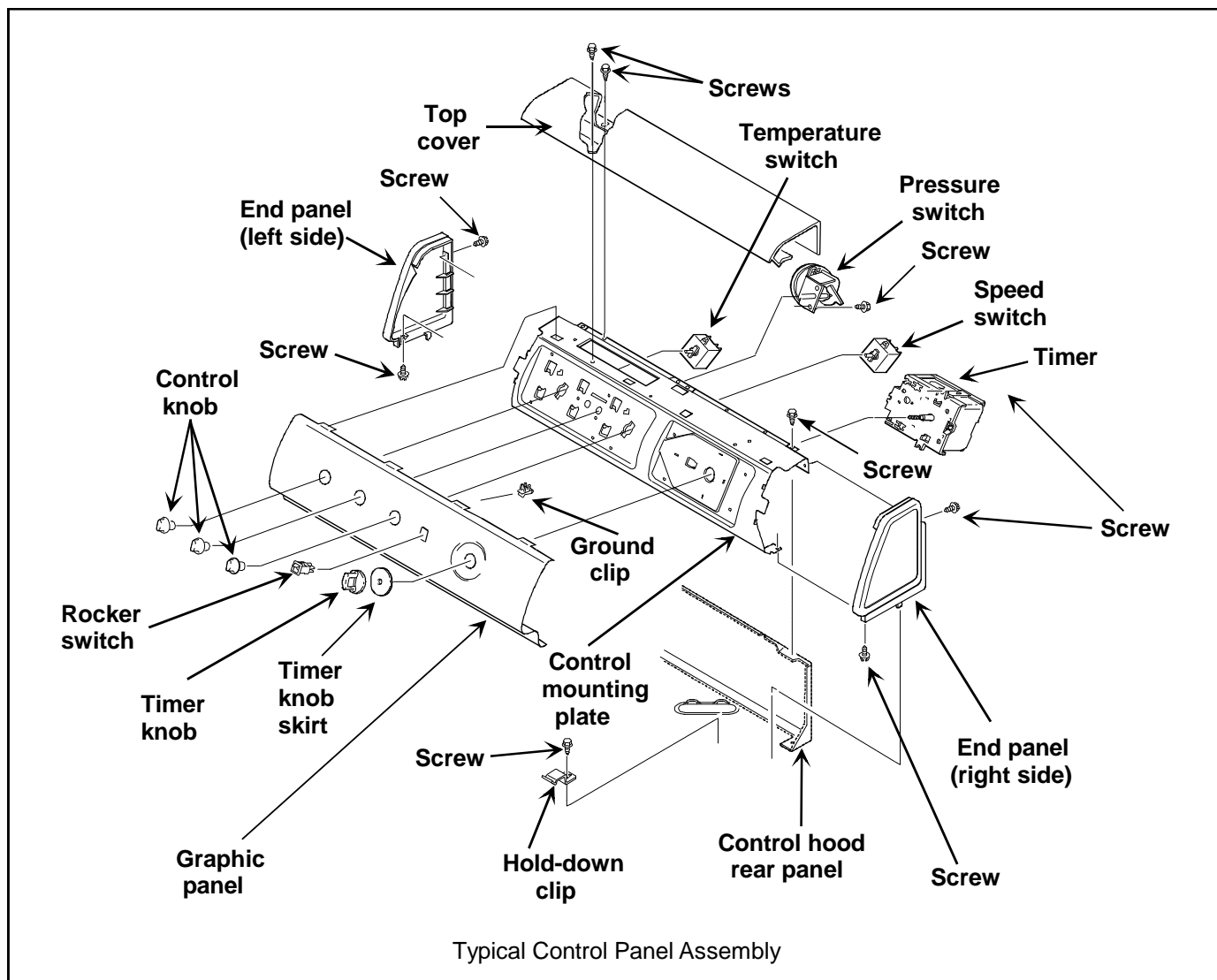
**NOTE:** See appropriate wiring diagram when rewiring components.

### Pressure Switch

1. Loosen control hood assembly, see "Control Hood Assembly" procedure steps 1 and 2.
2. Disconnect wires and plastic hose from pressure switch.
3. Remove screws securing pressure switch to control hood mounting plate.
4. Reverse procedure to reassemble.

**NOTE:** See appropriate wiring diagram when rewiring components.

**NOTE:** Before connecting hose to pressure switch, blow air through pressure hose to remove any condensation that may have accumulated in the hose.



# Disassembly Procedures



## WARNING

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### Rocker Switch

1. Loosen control hood assembly, see "Control Hood Assembly" procedure steps 1 and 2.
2. Disconnect wire terminals from switch.
3. Squeeze plastic tabs located on top and bottom of switch and push switch out through the front of control panel.
4. Reverse procedure to reassemble.

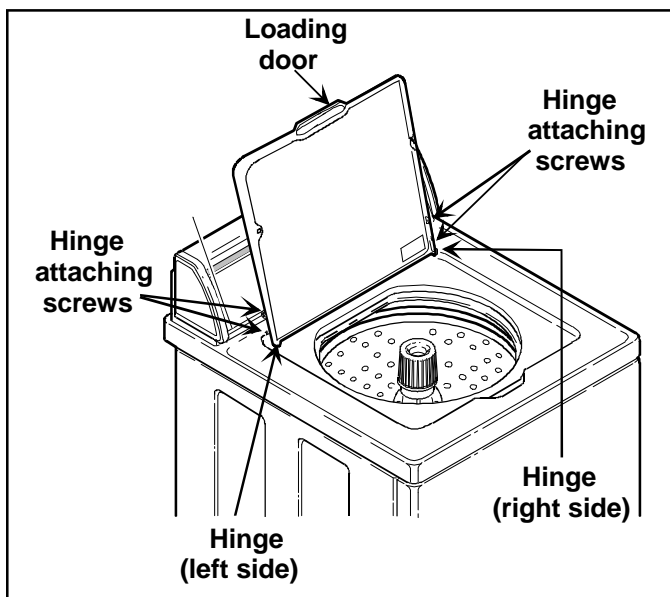
### Graphic Panel

1. Remove all knobs from switches.
2. Loosen control hood assembly, see "Control Hood Assembly" procedure steps 1 and 2.
3. Disconnect wires from components and carefully remove components from control hood assembly, see component removal procedure listed earlier.
4. Remove screws securing top cover to control mounting plate and remove top cover.
5. Remove screws securing end panels (each side) and remove end panels.
6. Remove grounding clip secured to metal tab on graphic panel.
7. Bend tabs on graphic panel (located inside of control hood) straight out towards the rear.
8. Remove graphic panel from front of control mounting plate.
9. Reverse procedure to reassemble.

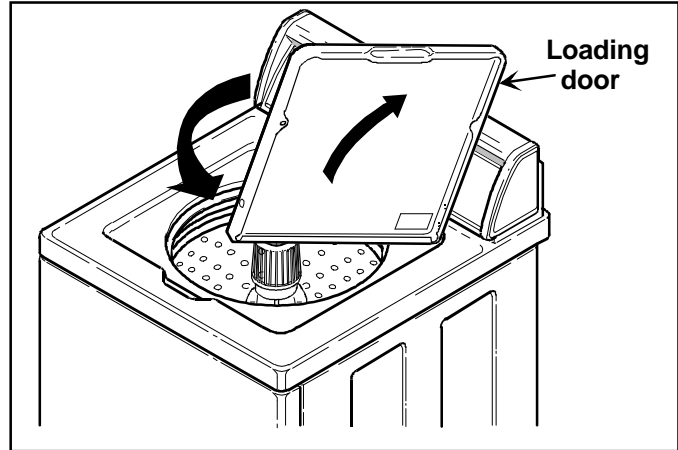
**NOTE:** See appropriate wiring diagram when rewiring components.

### Loading Door

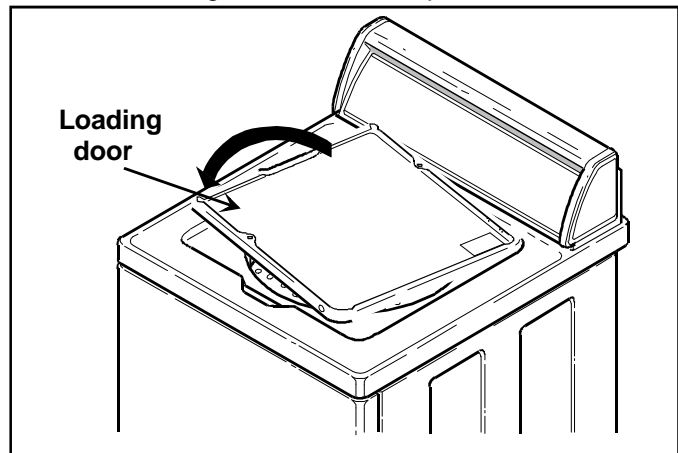
1. Open loading door.
2. Remove screws securing left hinge to door and remove hinge.



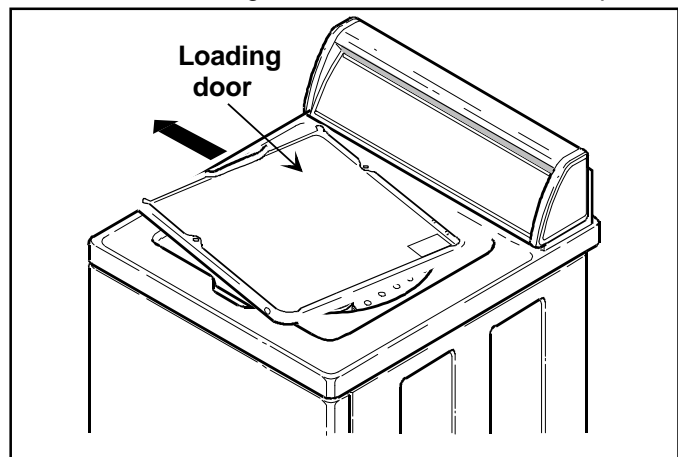
3. Raise loading door to a vertical position, disengage loading door from loading door clip by swing left side of door toward front of washer.



4. Rotate loading door so door is upside down.



5. Maneuver loading door from washer cabinet top.



6. Remove screws securing right hinge and remove loading door.
7. Reverse procedure to reassemble.

# Disassembly Procedures

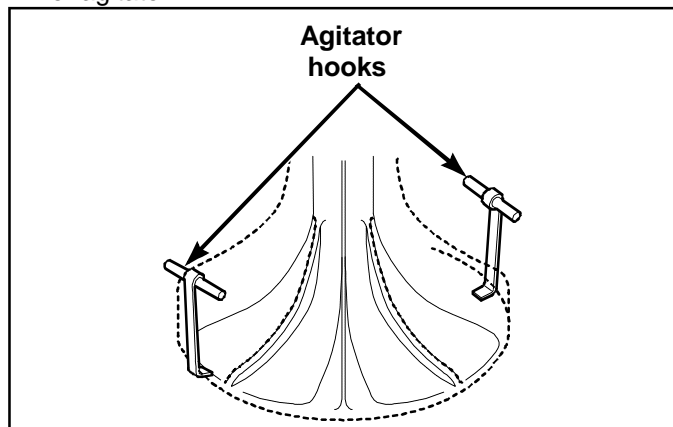


## WARNING

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### Agitator

1. Open loading door.
2. Remove agitator by placing hands under agitator lip and pull upward, if agitator is stuck or stubborn use two agitator hooks, No. 254P4P, under bottom edge of agitator.



**NOTE:** Hooks must be positioned 180° from each other, and must be placed under base of agitator near agitator vane for greater stability. If hooks are placed between the vane area, agitator damage may occur.

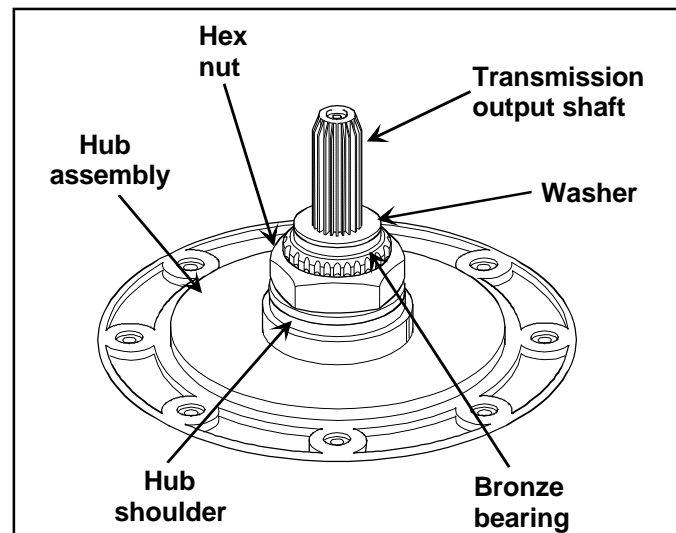
3. Using a rocking motion (side-to-side) carefully lift agitator up off drive bell.
4. To reassemble place agitator on top of drive bell. Slowly rotate agitator until fingers on underside of agitator line up with large slots on drive bell.
5. A sharp blow on top of agitator, with the palm of your hand, will force agitator down onto drive bell, allowing fingers on underside of agitator to lock under bottom edge of drive bell.

**NOTE:** Do not push agitator onto drive bell any further than necessary.

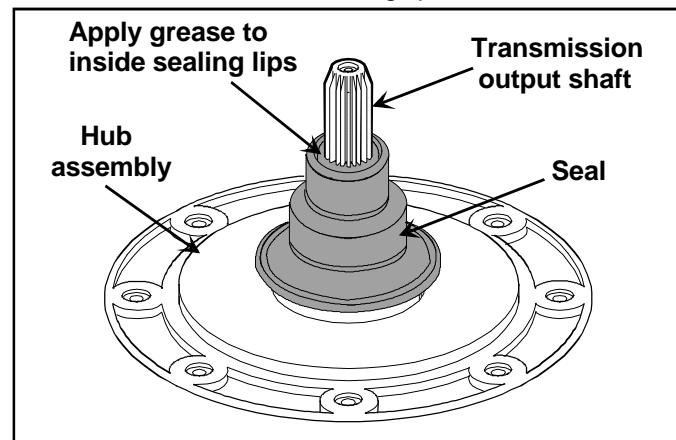
### Agitator, Drive Bell and Seal Assembly

**NOTE:** If water is present in washtub, remove water before attempting to remove drive bell.

1. Remove agitator, see "Agitator" procedure.
2. Remove plug and  $\frac{7}{16}$ " bolt from top of drive bell.
3. Using care pry drive bell upward off transmission shaft.
4. Remove old seal from hub assembly by:
  - a. Placing a flat bladed screwdriver between bottom edge of seal and hub.
  - b. Using washtub bolts as a pry area, pop off lower seal bead.
  - c. Grasping bottom of seal and pulling straight up freeing upper seal bead.



5. Clean all foreign material from seal mounting area of hub assembly, bronze bearing and washer.
6. Lubricate new seal with liquid soap or soapy water to aid in assembly of seal onto hub.
7. Apply a small amount of supplied grease, No. 36765P, to inside sealing lips of seal.



**NOTE:** DO NOT allow any lubricants to come in contact with outside surface of seal

8. Apply remainder of supplied grease, No. 36765P, to exposed surface of washer between transmission output shaft and seal.
9. Place new drive bell seal onto hub and push into position using large end of No. 293P4 Seal Tool.

**NOTE:** Using a small pocket mirror, check entire circumference of bottom seal flange to verify seal is pressed down against shoulder on hub; there should be no gap!

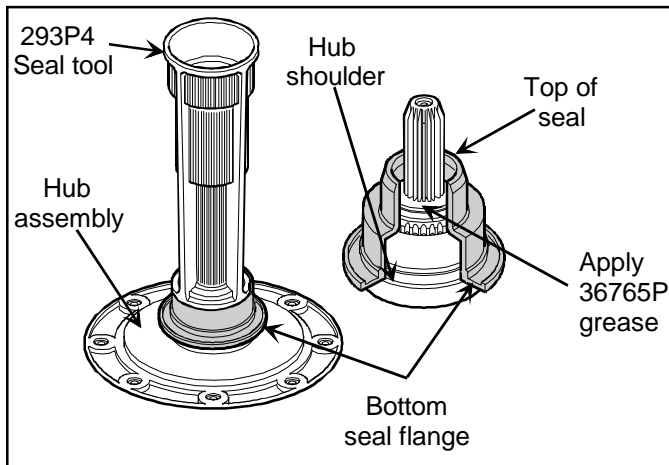
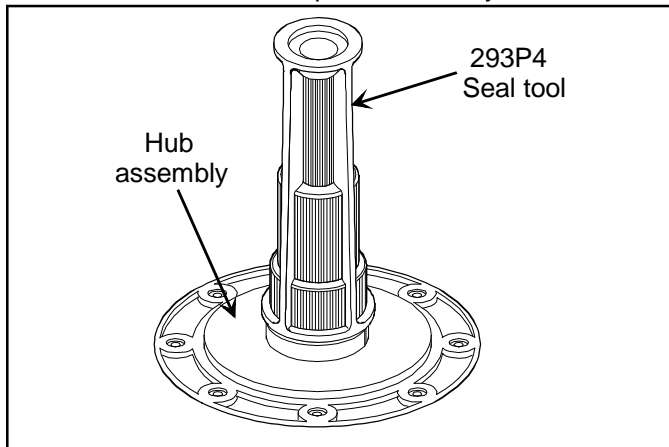
10. Turn No. 293P4 Seal Tool upside-down and place the small end over transmission output shaft and onto the seal.
11. Push down on tool with a quick motion until it

# Disassembly Procedures

## **WARNING**

To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

bottoms out and the top of seal is fully seated.



5. Place agitator on top of drive bell. Slowly rotate agitator until fingers on underside of agitator line up with large slots on drive bell.
6. A sharp blow on top of agitator, with the palm of your hand, will force agitator down onto drive bell, allowing fingers on underside of agitator to lock under bottom edge of drive bell.

**NOTE:** Do not push agitator onto drive bell any further than necessary.

## Front Panel

**NOTE:** Top edge of front panel is held in place by two spring clips located on bottom flange of the cabinet top.

1. Remove screws securing bottom of front panel.
2. Lift the bottom of front panel outward to release the spring clips and set panel aside.
3. Reverse procedure to reassemble.

## Panel Locators

- Remove screws securing panel locators to side flanges of front panel.

## Brace

- Remove screws securing brace to side flanges of front panel (if so equipped). Remove brace from front panel by swinging one end towards bottom of front panel and remove brace.

## Installing Drive Bell

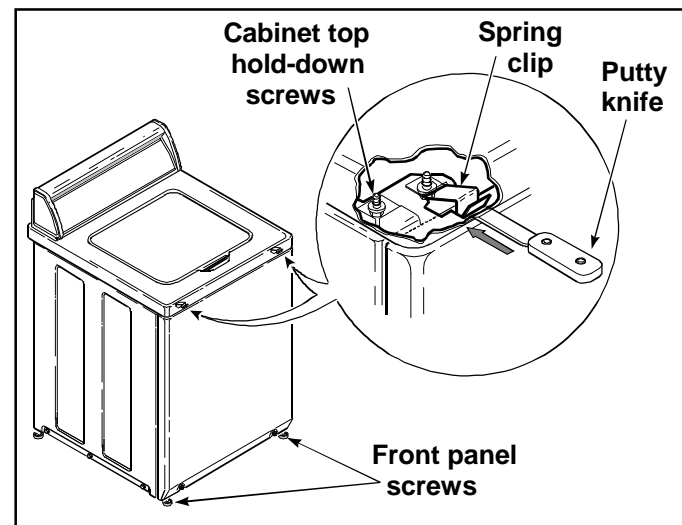
1. Position new drive bell over transmission output shaft. Rotate drive bell until splines in drive bell line up with splines on transmission output shaft.
2. Screw  $\frac{7}{16}$ " bolt into transmission output shaft until it bottoms out.
3. Using a wrench or socket, tighten bolt **CLOCKWISE** to force drive bell down onto transmission shaft until drive bell bottoms out on shaft.

**NOTE:** Tighten new shoulder screw between 60 to 80 inch-pounds.

4. Place new plug over hole in drive bell and firmly press into place using the palm of your hand.

**NOTE:** It may be necessary to insert the end of a paper clip or thin blade screwdriver along side of plug as it is pressed into drive bell to release entrapped air.

**NOTE:** When fully seated plug should not extend above drive bell more than 1/8 inch (3.2 mm).



# Disassembly Procedures

## **WARNING**

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### Motor and Mounting Bracket

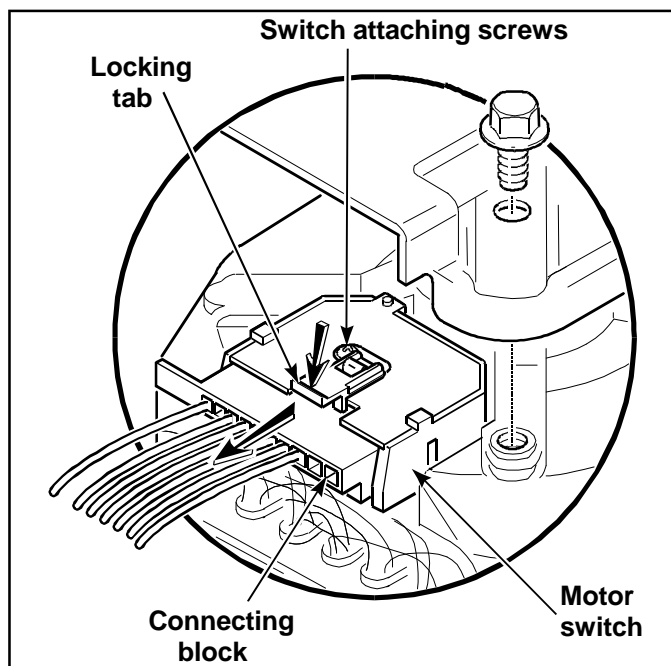
1. Remove service access panel, see "Service Access Panel" procedure.

**NOTE:** There will always be some water that will remain in outer tub, before removing hoses from pump, hoses must be pinched off or drained to prevent water spillage.

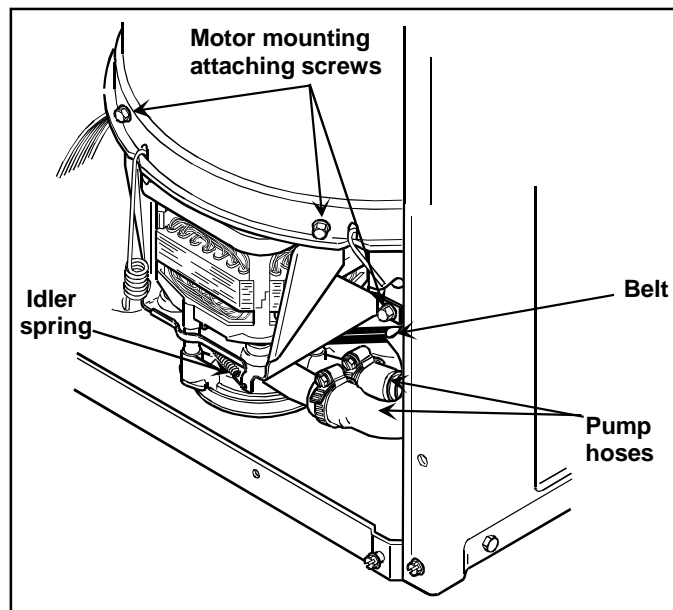
2. Loosen hose clamps and remove hoses from pump assembly.
3. Unhook idler spring from clip on front of the motor mounting bracket.

**NOTE:** Use care when releasing idler lever tension. If idler spring is overstretched, washer operation will be affected.

4. Reach in and around left side of motor and remove belt off large drive pulley.
5. Disconnect wire harness from motor switch by pressing down on locking tab on top of connection block and at the same time, pull connection block away from motor switch.



6. Remove bolts securing motor and mounting bracket to lower outer tub flange and to weldment assembly.



7. Lift complete assembly out of washer.

**NOTE:** Lay motor on its side. Observe belt configuration around rear pump leg. Belt **MUST** encircle rear pump leg when reassembling.

8. Reverse procedure to reassemble.

### Pump and Belt Removal

1. Remove motor, see "Motor and Mounting Bracket" procedure.
2. Remove screws securing pump assembly to motor.

### Reassembly of Pump and Belt

**NOTE:** Install pump and belt together. Drive belt **MUST** be replaced with belt No. 40053602 for one and two speed models; or 40053601 for some two speed models and three speed models (special clutch-type belt) for proper washer operation. Refer to Parts Manual for proper belt part number.

1. Remove any corrosion or foreign material from motor shaft.
2. Apply a thin film of No. 03637P lubricant to the end and sides of motor shaft.

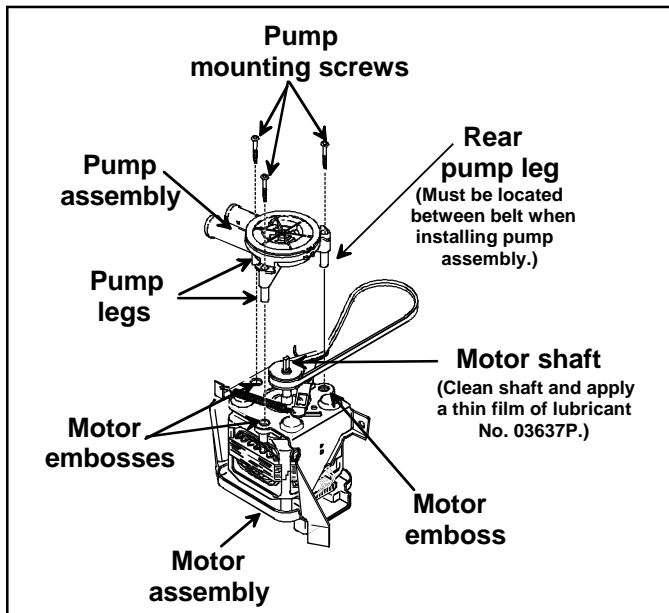
**NOTE:** This lubricant helps keep moisture out of the hub area and prevents corrosion.

3. Align belt on motor pulley and tension pulley as illustrated.

# Disassembly Procedures

**WARNING**

To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.



4. Align pump impeller hub with motor shaft. Verify belt encircles rear pump leg. Slide pump onto motor shaft until legs touch the embosses on the motor housing before securing.

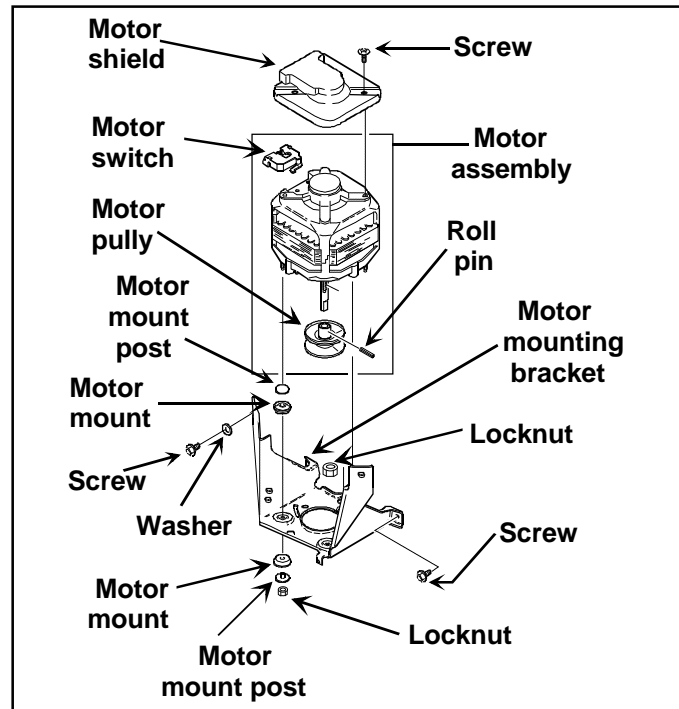
**NOTE:** Tighten screws to 35 inch-pounds maximum. DO NOT overtighten screws!

5. Install motor and pump assembly into washer, see "Motor and Mounting Bracket" procedure.

**NOTE:** After installing motor and pump assembly in the washer and all hoses have been secured, along with reconnecting idler spring. Add at least one quart of water to washtub to lubricate pump seals. Running a pump without water will damage the seals.

## Motor Disassembly

1. Remove nuts, steel washers, spacers and rubber mounts securing motor to mounting bracket.



2. Lift motor off mounting bracket and remove remaining rubber mounts and steel washers from motor mounting studs.

**NOTE:** When installing motor on mounting bracket, position motor with switch facing toward left side of mounting bracket.

**NOTE:** When assembling motor to motor bracket, it is extremely important to make sure the motor is centered on isolator pads and all fasteners are evenly torqued.

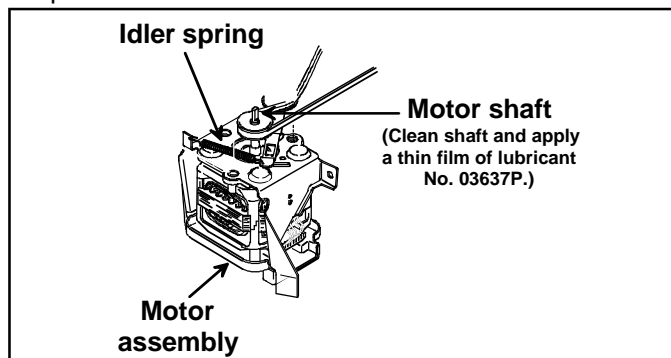
# Disassembly Procedures

## **WARNING**

To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

### Idler Lever and Pulley

1. Remove motor, see "Motor and Mounting Bracket" procedure.



**NOTE:** Lay motor on its side. Observe belt configuration around rear pump leg. Belt **MUST** encircle rear pump leg when reassembling.

2. Remove nut, washer, and bolt securing idler lever and pulley to motor mounting bracket.
3. Apply a light film of No. 03637P Lubricant to area of idler lever that makes contact with motor mounting bracket.

**NOTE: DO NOT OVER LUBRICATE!** Excess lubricant can be thrown into pivot dome area during normal washer operation. Any lubricant on the pivot dome, base or friction ring will affect washer operation.

4. Reverse procedure to reassemble.

### Motor Drive Pulley

1. Remove idler lever and pulley steps 1–3, see "Idler Lever and Pulley" procedure.
2. Lay motor assembly on its side.

**NOTE:** To remove pulley, support motor shaft (to prevent bending shaft) and drive out pulley roll pin.

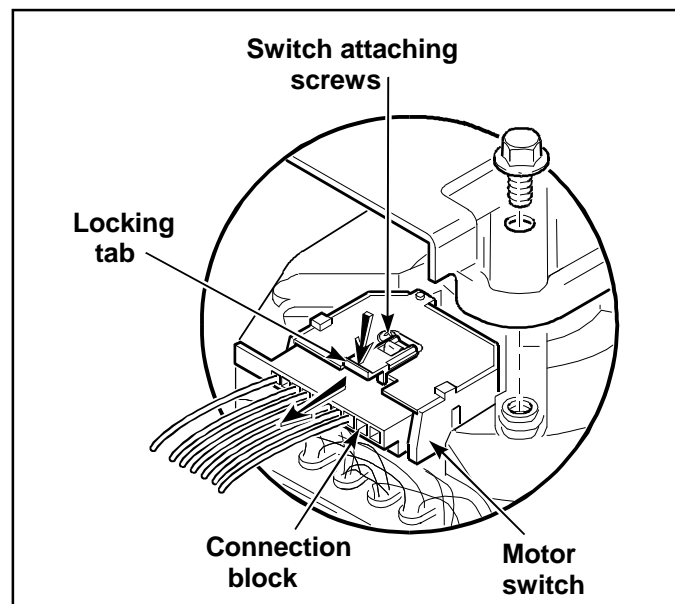
3. Reverse procedure to reassemble.

### Motor Switch

1. Remove front panel, see "Front Panel" procedure.
2. Remove screws securing motor shield to motor.
3. Disconnect wire harness from motor switch. Press down on locking tab connection block and at the same time, pull connection block away from motor switch.

## **CAUTION**

To avoid risk of an open circuit, **DO NOT** pull on terminal block wires when removing block from motor switch as this could damage wires or connection crimpings. Before attaching wire harness connection block to motor switch, verify all male terminals on motor switch are straight and are capable of accepting terminals from wire harness connection block.



4. Remove screw securing motor switch to motor and remove switch.
5. Disconnect internal motor leads from motor switch terminals.

**NOTE:** See appropriate wiring diagram when rewiring components.

# Disassembly Procedures



## WARNING

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### Cabinet Top

1. Remove control hood assembly, see “Control Hood Assembly” procedure.
2. Remove front panel, see “Front Panel” procedure.
3. Remove screws securing cabinet top.
4. Tape loading door closed.
5. Lift front of cabinet top slightly and pull forward to disengage from rear hold-down brackets.
6. Pull cabinet top forward far enough to permit disconnecting ground wires from top left rear corner gusset of washer cabinet.
7. Disconnect wire terminals from door switch.

**NOTE:** See appropriate wiring diagram when rewiring components.

8. Lift cabinet top off washer and set along side the washer cabinet on a protective padding.

**NOTE:** DO NOT lay cabinet top flat because it will damage the door switch lever.

9. Reverse procedure to reassemble.

### Door Switch

1. Remove front panel, see “Front Panel” procedure.
2. Remove screws securing cabinet top.
3. Tape loading door closed and lift cabinet top to a vertical position by hinging it on the rear hinges.

**NOTE:** Cabinet top is self supporting, a small chain may be used for additional support.

4. Disconnect wires from door switch.
5. Remove screw securing door switch assembly to underside of cabinet top.

**NOTE:** See appropriate wiring diagram when rewiring components.

6. Remove screws securing switch to switch holder.
7. Remove switch from switch holder.
8. Reverse procedure to reassemble.

### Mixing Valve

1. Disconnect water inlet hoses.
2. Remove screw securing mixing valve bracket.
3. Pull mixing valve bracket and valve out the back of washer.
4. Disconnect quick disconnect terminals from mixing valve solenoid terminals.

**NOTE:** See appropriate wiring diagram when rewiring components.

5. Reverse procedure to reassemble.

### Tub Cover and Gasket

1. There are eight tub cover hold-down tabs which snap over the outer tub flange. Push downward on tub cover, this will release the tension on the hold-down tab on the tub cover. Pull out on the flap and at the same time lift upward on cover to unsnap hold-down tabs from outer tub flange. One by one, disengage each of the eight hold-down tabs from outer tub flange and remove cover.
2. Remove tub cover from outer tub and remove old gasket from tub cover.

**NOTE:** When installing outer tub cover, always use a new cover gasket.

**NOTE:** Clean and remove any foreign material in gasket groove of outer tub cover and outer tub flange.

3. Press gasket down into gasket groove of tub cover. Avoid pressing gasket past ends of hold-down tabs.

**NOTE:** Care must be taken not to twist or bunch gasket in any one area to avoid leaks after assembly.

4. Install gasket past ends of hold-down tabs to bottom of gasket groove using semi-curved end of tub cover gasket tool Part No. 273P4.

**NOTE:** Tub cover gasket tool, Part No. 273P4, is designed to spread open hold-down tabs to prevent tearing of gasket during installation.

5. Lower cover and press down firmly on top of tub cover until tabs snap over edge of outer tub flange.
6. Cross over to opposite side of tub cover and press down firmly on top of hold-down tabs until tabs snap over edge of outer tub flange. Continue with this crisscross pattern, until tub cover is fully seated. Visually check each tab area again to ensure cover is seated.



# Disassembly Procedures



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

### Washtub and Balance Ring

1. Open loading door.
2. Remove agitator, see "Agitator" procedure.
3. Loosen cabinet top, see "Cabinet Top" procedure steps 2 through 4.
4. Hinge cabinet top open to gain access.
5. Loosen and remove hose clamp and fill hose from outer tub cover.
6. Remove tub cover, see "Tub Cover and Gasket" procedure, steps 1 through 2.
7. Remove bolts and washers securing washtub to hub.
8. Lift washtub and balance ring out of outer tub.

**NOTE:** When removing washtub and balance ring, DO NOT lift up on balance ring damage may occur. Grasp top flange of washtub and remove from outer tub.

9. Reverse procedure to reassemble.

**NOTE:** When installing washtub, verify lint filter is between underside of washtub and hub.

### Outer Tub

1. Remove agitator, see "Agitator" procedure.
2. Loosen cabinet top, see "Cabinet Top" procedure steps 2 through 4.
3. Remove tub cover and gasket, see "Tub Cover and Gasket" procedure.
4. Loosen and remove hose clamp securing pump hose to pump. This will allow water to be drained from the unit.
5. Remove washtub and balance ring, see "Washtub and Balance Ring" procedure.
6. Remove large hex nut using No. 306P4 Hex Wrench. Then remove spline insert from transmission tube.

**NOTE:** Use new spline insert each time the hex nut is removed. DO NOT reuse the old insert as hex nut may loosen during the washer operation.

7. Remove hub from splines on transmission shaft.

**NOTE:** It may be necessary to use a gear puller to remove hub.

8. Remove old water seal from outer tub.

**NOTE:** Use care when removing old seal so as not to damage tub flange.

**NOTE:** When reinstalling or replacing outer tub, always install a new Hub and Seal Kit.

9. Using No. 289P4 Spring Hook Tool, unhook six springs from lower edge of outer tub.

**NOTE:** When installing springs, verify spring hook is fully seated in hole in tub skirt. Mark the word "FRONT" on front side of outer tub so complete tub module can be reinstalled in same position.

10. Grasp outer tub and lift complete tub module assembly up and out of washer cabinet.
11. Turn outer tub upside-down and set on a protective padding.
12. Loosen hose clamp and remove hose from bottom of outer tub.
13. Loosen hose clamp and remove pressure hose from pressure bulb.
14. Remove screws and lockwashers securing counterweight and each support leg to outer tub weldment. Lift transmission, weldment assembly and counterweight off tub.
15. Remove screws securing outer tub bottom to outer tub.
16. Turn outer tub upright and remove pressure bulb and grommet.
17. Reverse procedure to reassemble.

**NOTE:** When installing grommet into outer tub, thicker lip of grommet must be installed to outside of tub. Lubricate outer surface of large opening of pressure bulb with liquid soap to aid when assembling pressure bulb into grommet.

### Drive Pulley, Helix and Brake

1. Remove outer tub, see "Outer Tub" procedure, steps 1 through 11.
2. Remove screw, washer and helix securing drive pulley to input shaft and transmission assembly.

**NOTE:** On tall tub models, the weldment assembly must be removed or loosened and raised enough to get pulley off and on the input shaft.

3. Lift drive pulley up and off input shaft of transmission assembly.

**NOTE:** When reinstalling pulley, place a small amount of No. 03200P Lubricant on top side of the drive pulley that will be contacting large flat washers. Lubricate helix ramps and bore with a small amount of No. 03200P Lubricant.

**DO NOT OVER LUBRICATE!** Excess lubricant can be thrown into pivot dome area during normal washer operation. Any lubricant on pivot dome, base or friction ring will affect washer operation. This condition will persist until lubricant is removed.

# Disassembly Procedures



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

4. Remove bolts securing brake pads and brake assembly to weldment assembly. Remove brake assembly and pads off bottom of weldment assembly.

**NOTE:** When reinstalling brake assembly, replace all three brake pads. DO NOT replace worn pads only. Apply a small amount of No. 26594P Silicone Lubricant to both sides of each brake pad where it will contact brake assembly.

DO NOT OVER LUBRICATE! Excess lubricant can be thrown into pivot dome area during normal washer operation. Any lubricant on pivot dome, base or friction ring will affect washer operation. This condition will persist until lubricant is removed.

5. After brake is installed, put washer through the following check to verify brake is operating properly.
  - a. Turn off electrical power to washer.
  - b. Turn drive pulley one complete revolution in agitation directly, then push drive pulley up against brake.
  - c. Check for a .030 (.76 mm) minimum gap between drive pulley and helix **ramp** surfaces.

**NOTE:** If gap is less than .030 (.76 mm), brake may not stop washtub from spinning in required seven seconds because brake will not close properly.

- d. Turn on electrical power to washer and start washer in the final spin operation.

**NOTE:** After installing complete tub module in washer and all hoses have been reconnected, add at least one quart of water to washtub to lubricate pump seals. **Running a pump without water will ruin the seals.**

After washtub has been spinning for two minutes, normal spin speed should be  $427 \pm 25$  RPM SLOW speed and  $640 \pm 25$  RPM FAST speed on one and two speed models; or  $473 \pm 25$  RPM on SLOW speed and  $710 \pm 25$  RPM on FAST speed on some two speed models and all three speed models. Three speed models never spin on the lowest speeds. If not, the cause could be dragging brake pads. If problems occur with steps (c) or (d), remove brake assembly and correct problem.

## Weldment and Bearing Assembly

1. Remove outer tub, see "Outer Tub" procedure, steps 1 through 11.
2. Remove screw, washer and helix holding drive pulley to input shaft and transmission assembly.
3. Lift drive pulley up and off input shaft of transmission assembly.

**NOTE:** When reinstalling pulley, place a small amount of No. 03200P Lubricant on top side of the drive pulley that will be contacting large flat washers. Lubricate helix ramps and bore with a small amount of No. 03200P Lubricant.

DO NOT OVER LUBRICATE! Excess lubricant can be thrown into pivot dome area during normal washer operation. Any lubricant on pivot dome, hose or friction ring will affect washer operation. This condition will persist until lubricant is removed.

4. Remove bolts securing brake pads and brake assembly to weldment assembly. Remove brake assembly and pads off bottom of weldment assembly.

**NOTE:** When reinstalling brake assembly, replace all three brake pads. DO NOT replace worn pads only. Apply a small amount of No. 265494P Silicone Lubricant to both sides of each brake pad where it will contact brake assembly.

DO NOT OVER LUBRICATE! Excess lubricant can be thrown into pivot dome area during normal washer operation. Any lubricant on pivot dome, base or friction ring will offset washer operation. This condition will persist until lubricant is removed.

5. After brake is installed, put washer through the following check to verify brake is operating properly.
  - a. Turn off electrical power to washer.
  - b. Turn drive pulley one complete revolution in agitation direction, then push drive pulley up against brake.
  - c. Check for a .030 (.76 mm) minimum gap between drive pulley and helix **ramp** surfaces.

**NOTE:** If gap is less than .030 (.76 mm), brake may not stop washtub from spinning in required seven seconds because brake will not close properly.

- d. Turn on electrical power to washer and start washer in the final spin.

# Disassembly Procedures



## WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to unit before servicing.

**NOTE:** After installing complete tub module in washer and all hoses have been reconnected, add at least a quart of water to washtub to lubricate pump seals. Running a pump without water will ruin the seals.

After washtub has been spinning for two minutes, normal spin speed should be  $427 \pm 25$  RPM SLOW speed and  $640 \pm 25$  RPM FAST speed on one and two speed models; or  $473 \pm 25$  RPM on SLOW speed and  $710 \pm 25$  RPM on FAST speed on some two speed models and all three speed models. Three speed models never spin on the lowest speeds. If not, the cause could be dragging brake pads. If problems occur with steps (c) or (d), remove brake assembly and correct problem.

6. Remove bolts securing counterweight and each support leg to outer tub. Lift transmission, weldment assembly and counterweight off tub.

**NOTE:** It may be necessary to tap lightly on the weldment assembly to loosen it from transmission tube.

Torque screws between 100 to 150 inch-pounds.

7. Remove screws and washers securing counterweight to leg on weldment assembly.
8. Reverse procedure to reassemble.

## Transmission Assembly

1. Remove outer tub, see "Outer Tub" procedure, steps 1 through 11.
2. Remove screws securing each support leg to outer tub. Lift weldment assembly, and brake assembly off transmission tube.

**NOTE:** It may be necessary to tap lightly on weldment assembly to loosen it from transmission tube.

When installing lower bearing, weldment assembly and brake assembly, apply No. 27604P Anti-Seize Compound to area of transmission tube that will be contacting bearing.

Do not overtighten screws as this could cause stripping or damage. Torque screws between 100 to 150 inch-pounds.

**NOTE:** When replacing or reinstalling transmission assembly, it is important that No. 27604P Anti-Seize Compound be applied to area of the transmission tubes where they will be contacting upper and lower bearings.

Carefully lower transmission through upper bearing. DO NOT DROP OR LOWER TRANSMISSION ASSEMBLY INTO POSITION TOO HARD. This can cause bearing to move which will cause vibration, noise, wear or no spin.

## Upper Bearing Assembly

1. Remove transmission assembly, see "Disassembly of Transmission Assembly" procedure.
2. Remove screws securing each support leg to outer tub.
3. Lift complete weldment assembly (with drive pulley, brake assembly, lower bearing, and transmission assembly attached) off outer tub.

**NOTE:** Do not overtighten screws as this could cause stripping or damage.

4. Remove screws securing upper bearing and housing to bottom of outer tub.

**NOTE:** Replace bearing and housing as an assembly. When upper bearing assembly is reinstalled, threads of cap screws must be secured with a retaining compound.

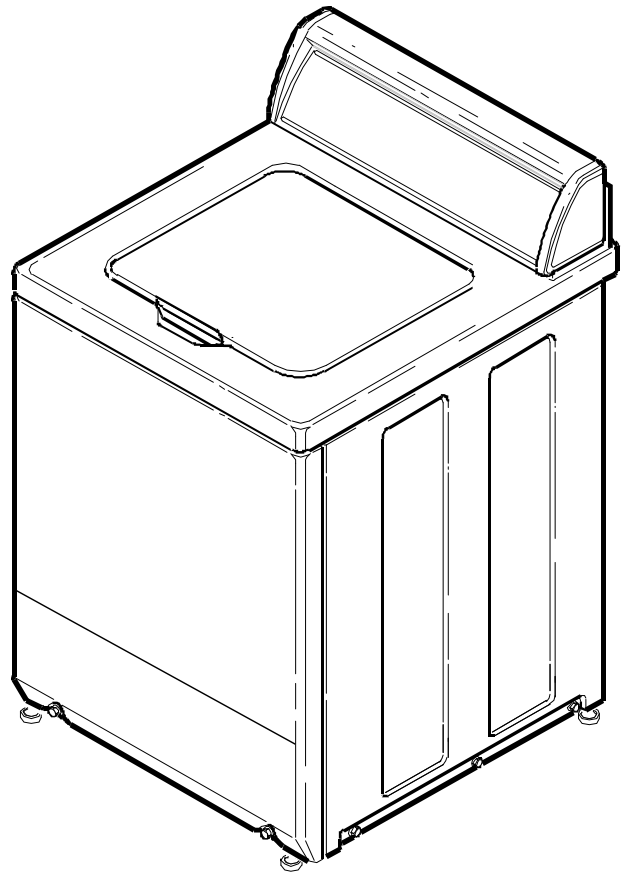
## Friction Ring

1. Remove outer tub, see "Outer Tub" procedure steps 1 through 11.
2. Remove friction ring and replace with new friction ring.
3. Reverse procedure to reassemble.

**NOTE:** When installing module springs, make sure spring hooks are fully seated in the holes.

# Appendix A

# Amana



## Owner's Manual Top Loading Washer

Keep instructions for future reference.  
Be sure manual stays with washer.

### Contents

Important Safety Information .....	C-3
Product Registration and Service .....	C-4
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Helpful Hints and Features .....	C-9
Care and Cleaning .....	C-10
Operating Instructions .....	C-11
Troubleshooting/Before Calling Service .....	C-13
Warranty .....	C-15
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# Important Safety Information

## Recognize Safety Symbols, Words, Labels



### DANGER

**DANGER**—Immediate hazards which **WILL** result in severe personal injury or death.



### WARNING

**WARNING**—Hazards or unsafe practices which **COULD** result in severe personal injury or death.



### CAUTION

**CAUTION**—Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.



### WARNING

To reduce risk of fire, electric shock, serious injury, or death when using your washer, follow these basic precautions:

1. Read all instructions before using washer.
2. Be sure washer is properly grounded.
3. Do not wash articles that have been cleaned in, washed in, soaked in, or spotted with gasoline, dry-cleaning solvents, or other flammable or explosive substances. Vapors could ignite or explode.
4. Do not add gasoline, dry-cleaning solvents, or other flammable or explosive substances to wash water. Vapors could ignite or explode.
5. Do not store or use gasoline or other flammable vapors and liquids near this or any other appliance.
6. Do not allow children to play on or in washer. Close supervision of children is necessary when washer is used near children, a safety rule for all appliances.
7. Before washer is removed from service or discarded, remove door to washing compartment.
8. Do not reach into washer if wash tub is moving.
9. Do not install or store washer where it will be exposed to water and/or weather.
10. Do not tamper with washer controls.
11. Do not repair or replace any part of washer or attempt any service, unless specifically recommended in user-maintenance instructions or in published user-repair instructions that you understand and have skills to carry out.
12. To reduce risk of electric shock or fire, do not use extension cords or adapters to connect washer to electrical power source.

13. Use your washer only for its intended purpose: non-commercial clothes washing.
14. Always disconnect washer from electrical supply before attempting any service. Disconnect power cord by grasping the plug, not the cord.
15. Install washer according to Installation Instructions. All connections for water, drain, electrical power, and grounding must comply with local codes and be made by licensed personnel when required.
16. To reduce risk of fire, do not use washer to launder clothes which have traces of any flammable substance, such as vegetable oil, cooking oil, machine oil, flammable chemicals, thinner, etc., or anything containing wax or chemicals, such as mops and cleaning cloths. Flammable substances may cause fabric to catch fire by itself.
17. Use only fabric softeners or products to eliminate static that are appropriate for automatic washers.
18. Keep your washer in good condition. Bumping or dropping washer can damage safety features. If damage occurs, have washer checked by qualified service technician.
19. Replace worn power cords and/or loose plugs.
20. Loading door must be closed whenever washer is filling, agitating, or spinning. Do not bypass loading door switch by permitting washer to operate with loading door open.
21. Always read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed all warnings or precautions. To reduce risk of poisoning or chemical burns, keep products away from children at all times, preferably, in a locked cabinet.
22. Never operate washer with guards and/or panels removed.
23. Do not operate washer with missing or broken parts.
24. Do not bypass safety devices.
25. Failure to install, maintain, and/or operate washer according to manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

**NOTE:** Warning and Important Safety Instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution, and care must be exercised when installing, maintaining, or operating washer.

Always contact your dealer, distributor, service agent, or manufacturer about problems or conditions you do not understand.

### Thank you for buying an Amana washer!

Please take the time to complete the registration card and return promptly. If registration card is missing, call Amana Consumer Affairs Department. When contacting Amana, provide product information from serial plate found on lower right hand corner of inner lid:

Model Number \_\_\_\_\_  
Manufacturing (P) Number \_\_\_\_\_  
Serial Number (S/N) \_\_\_\_\_  
Purchase Date \_\_\_\_\_  
Dealer Name \_\_\_\_\_  
Dealer Address \_\_\_\_\_  
Dealer Phone \_\_\_\_\_

**Keep this manual and your sales receipt together in a safe place** for future reference or if warranty service is required.

For answers to questions or to locate an authorized servicer, call 1-800-NAT-LSVC (1-800-628-5782) inside USA or 319-622-5511 outside USA. Warranty service must be performed by an authorized servicer. Amana Appliances also recommends contacting an authorized servicer if service is required after warranty expires.

### Asure™ Extended Service Plan

Amana Appliances offers long-term service protection for this new washer. Asure™ Extended Service Plan, covering functional parts, labor, and travel charges, is specially designed to supplement a strong warranty. Call 1-800-528-2682 for information.

### Parts and Accessories

Purchase replacement parts and additional accessories by phone. To order accessories for your Amana product, call 1-800-843-0304 inside USA or 319-622-5511 outside USA.

### Save Time and Money

If something seems unusual, please check "Before Calling Service" on pages 12 and 13, which is designed to help you solve problems before calling service. If you have a question, write us (include model number and phone number) at Consumer Affairs Department, Amana Appliances, 2800 - 220th Trail, Amana, Iowa 52204-0001.

For more information on this and other Amana products, visit our Web site

**www.amana.com**

or

call Consumer Affairs Department at

**1-319-622-5511**

Monday – Friday 8:00 a.m. – 4:30 p.m. Central Time

## SAVE THESE INSTRUCTIONS

## Before You Install

### Electrical Requirements

Washer requires 120 volt, 15 amp, 60Hz power supply and 3-prong grounding plug. Refer to serial plate for specific requirements. Wiring diagram is located in control hood.

#### **WARNING**

To avoid risk of personal injury or death due to electrical shock:

- **Observe all local codes and ordinances.**
- Disconnect electrical power to unit before servicing.
- Ground appliance properly.
- Check with a qualified electrician if you are not sure this appliance is properly grounded.
- DO NOT ground to gas line.
- DO NOT ground to cold water pipe if pipe is interrupted by plastic, non-metallic gaskets, or other insulating (non-conducting) materials.
- DO NOT modify plug on power cord. If plug does not fit electrical outlet, have proper outlet installed by qualified electrician.
- DO NOT have a fuse in the neutral or ground circuit. A fuse in the neutral or ground circuit could result in an electrical shock.
- DO NOT use an extension cord with this appliance.
- DO NOT use an adapter plug with this appliance.
- DO NOT pinch power cord.

### Grounding Instructions

For safety, washer must be grounded. All washer power supply cords are equipped with 3-prong grounding plug. Plug on cord must be plugged into appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify plug on washer cord. If plug will not fit outlet, have qualified electrician install proper outlet.

Do not remove warning tag from power cord.

#### **WARNING**

To avoid risk of personal injury or death due to electrical shock:

- Grounding wires and wires colored like grounding wires are **NOT** to be used as current carrying conductors.
- Standard accepted color coding for ground wires is **green** or **green with a yellow stripe**.

### Motor Overload Protector

Internal overload protector automatically stops motor in event of overload. Overload protector resets in approximately 3 minutes and motor automatically restarts. If overload protector stops motor again, quit using washer and call service technician.

Loading wash tub too full may result in motor overload. See *Washing Guide* for proper load size information.

### Water Supply Requirements

#### **WARNING**

Explosive hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. Before using washer, if hot water system has not been used for such a period, turn on all hot water faucets and let water flow for several minutes to release accumulated hydrogen gas. Hydrogen gas is flammable: do not smoke or use an open flame when flushing water lines.

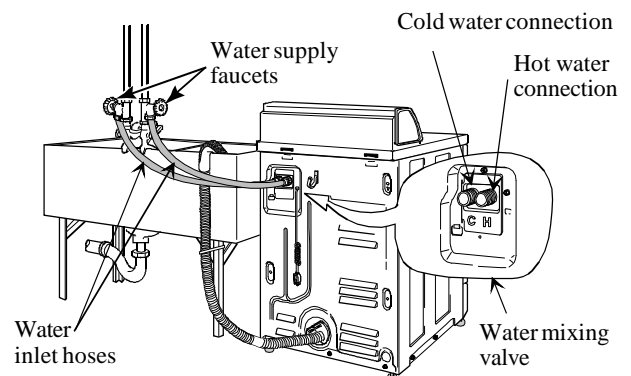
Water supply faucets must fit standard  $\frac{3}{4}$ " (19.05 mm) female garden hose couplings. **Do not use slip-on or clamp-on connections.**

**NOTE:** Water supply faucets should be easily accessible and turned off after extended use.

Optional longer inlet hoses are available at extra cost, if hoses supplied with washer are not long enough for installation. Order hoses as follows:

No. 20617 Inlet Hose, 8 feet (2.44 m)

No. 20618 Inlet Hose, 10 feet (3.05 m)



### Water Pressure

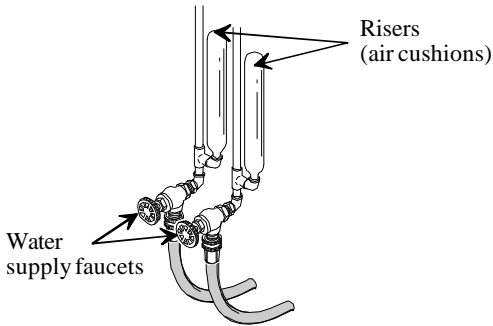
Static pressure measured at faucet must be 20–120 pounds per square inch (138 to 827 kPa). Water pressure under 20 pounds per square inch (138 kPa) results in extended washer fill time.



# Before You Install

## Risers

Risers or air cushions may be installed if pipes knock or pound when flow of water stops. Risers are more efficient when installed as close as possible to water supply faucets.



## Drain

Drain receptacle must be able to handle hose with at least 1¼" (32cm) outside diameter. End of drain hose must be 36" (91.44 cm) above floor, or water may run out of washer before end of cycle.

## Low Standpipe Installation

For standpipe installation below 36" (91.44 cm), install Siphon Break Kit (part #562P3).

## Location

*Install washer on a solid floor.*

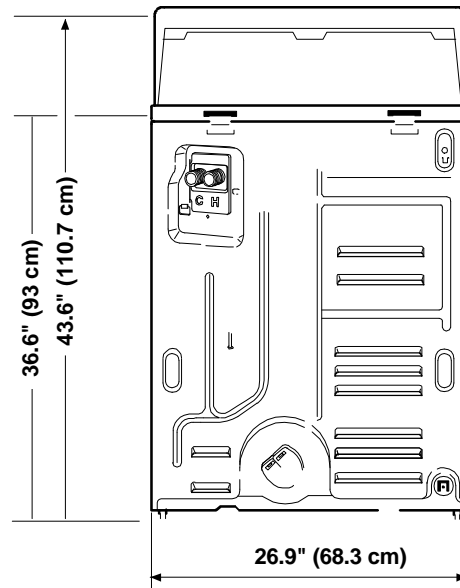
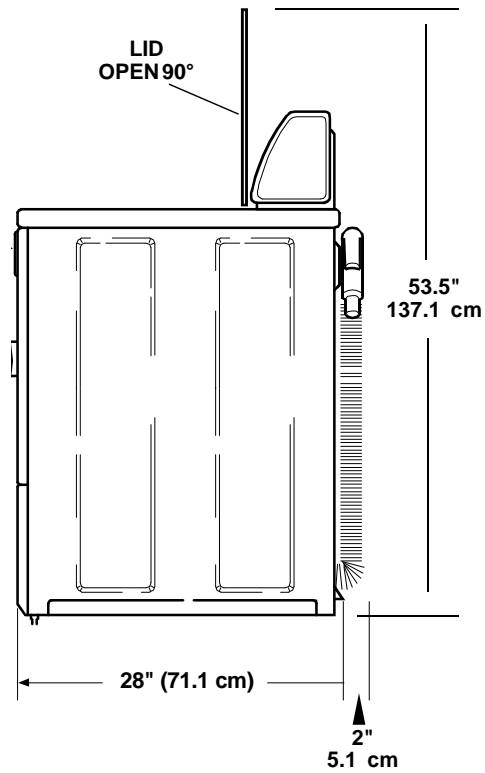
Wood floor constructions may sometimes need to be reinforced to minimize vibration from unbalanced loads. Carpet and soft tile surfaces also contribute to vibration and/or tendency for washer to move slightly during spin cycle.

**Never install washer on a platform or weak support structure.**

DO NOT install washer on carpeted floor.

Use dimensions shown at right to determine space needed for easy installation and servicing.

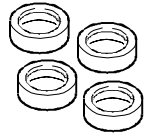
## Washer Dimensions



## Parts Supplied



2 water fill hoses



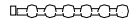
4 rubber leveling foot pads



2 flat rubber washers

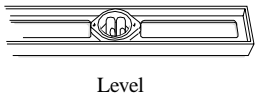


2 screened hose filters

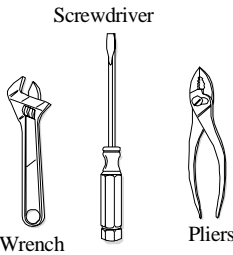


beaded tie-down strap

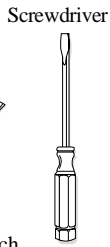
## Tools Required



Level



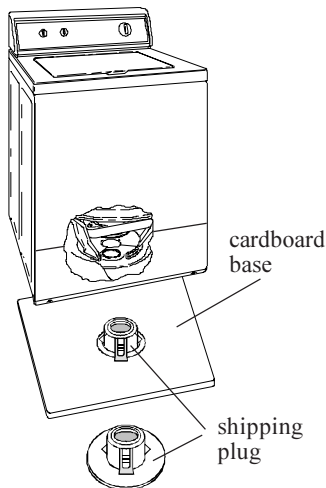
Wrench



Pliers

## STEP 1 Move washer to final area

### Remove shipping plug and save for reuse



## 1 MOVE WASHER TO FINAL AREA; REMOVE SHIPPING PLUG

Washer must be within 4 feet of desired area before beginning installation. Open washer lid to remove styrofoam shipping brace from agitator. Remove installation parts from shipping brace for use.

**NOTE: Save shipping plug; reinstall whenever washer is moved more than 4 feet.** Do not lift or move washer without shipping materials in place.

When removing cardboard base panel under washer, plastic shipping plug is released from washer. Remove plug from cardboard base and save for reuse when moving washer.

## 2 CONNECT WATER FILL HOSES TO WASHER

Tightly push one flat rubber washer into one end of each water fill hose and attach this end of hose to washer. HOT and COLD connections are identified by letters H and C stamped into washer cabinet and by HOT and COLD printed on water fill hoses.

Tighten hose connections by hand until snug, then another ¼ turn with pliers. DO NOT cross-thread or over-tighten couplings.

## 3 CONNECT WATER FILL HOSES TO FAUCETS

Before connecting hoses to water supply, turn on faucets and flush lines for approximately 2 minutes to remove foreign matter that could clog filter screens in water mixing valve or fill hoses.

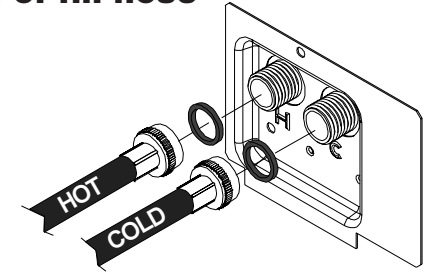
Tightly push one screened filter washer onto remaining end of each water fill hose. Attach water hoses to HOT and COLD faucets. **BE SURE HOT WATER HOSE IS CONNECTED TO HOT WATER FAUCET.**

Tighten hose connections by hand until snug, then another ¼ turn with pliers. DO NOT cross-thread or over-tighten couplings. Turn on water and check for leaks. If leaks are found, retighten hose couplings. Continue tightening and rechecking until no leaks are found.

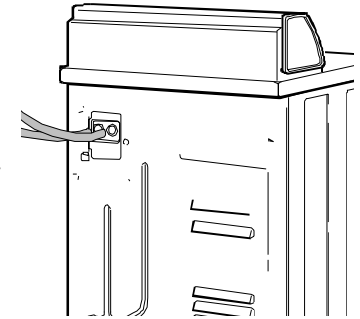
## 4 SECURE DRAIN HOSE TO DRAIN

Remove drain hose from shipping position on rear of washer by unhooking hose from retainer clamp. Use beaded tie-down strap to secure "hook" end of drain hose to standpipe, wall inlet hoses, or laundry tub (must hold at least 20 gallons).

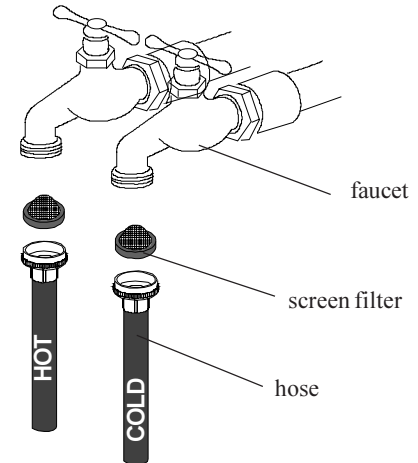
## STEP 2 Push rubber washer into end of fill hose



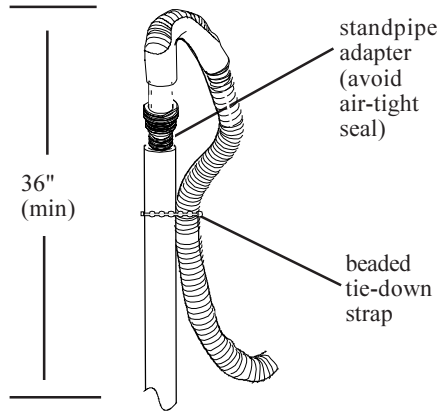
## Connect water fill hoses to washer



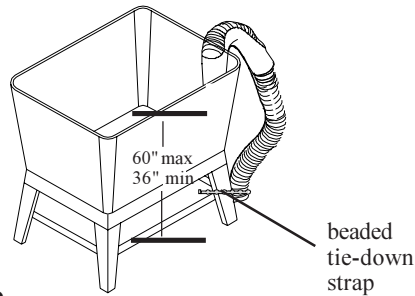
## STEP 3 Connect water fill hoses to faucets



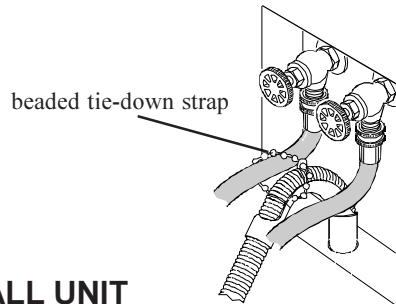
**STEP 4**  
**Connect drain hose to drain**



**STANDPIPE**



**TUB**



**WALL UNIT**

**IMPORTANT:** To prevent siphoning, do not place ribbed portion of drain hose into standpipe. Avoid air-tight seal around standpipe adapter.

**5 POSITION AND LEVEL WASHER**

Position washer on clean, dry, firm, and level floor. Place rubber foot pads on all four leveling legs.

**NOTE:** To avoid damage to legs and base, do not slide washer across floor if leveling legs have been extended.

Loosen <sup>7</sup>/<sub>8</sub>" locknuts and adjust front 2 leveling legs until machine is level front-to-back and side-to-side. Be sure machine does not rock. Tighten locknuts up to washer base, or washer will move out of position during operation.

Once front legs are adjusted, gently tilt washer forward on front legs and lower into place to correctly set rear self-leveling legs. **WASHER MUST NOT ROCK.**

**6 CONNECT POWER CORD TO ELECTRICITY**

See *Electrical Requirements* on page 4. Plug washer into 3-prong grounded outlet.

**7 BEFORE FIRST USE TO WASH CLOTHES, add water and detergent to washtub. Run through one wash cycle.**

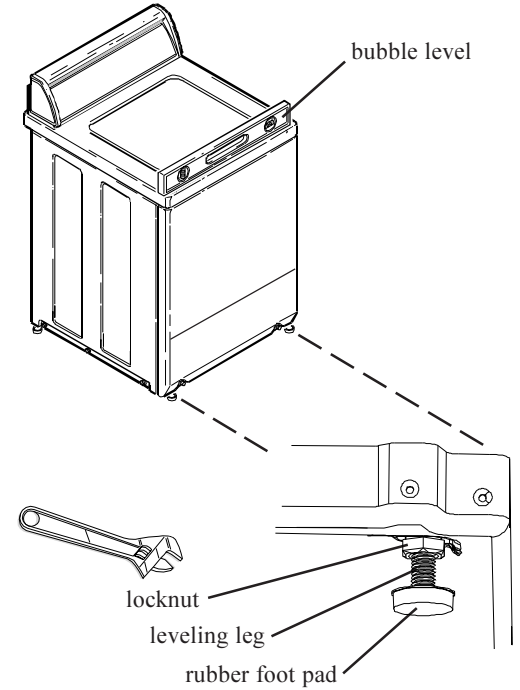
To prevent damage to pump, add at least 1 quart of water to tub before first use. Pump seal may overheat and leak if washer is used before water is added. Small amount of water from first use stays in drain system to cool pump and prevent seal damage.

**Questions?**

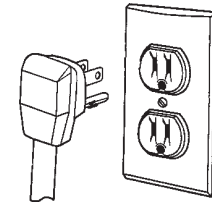
See *Washing Guide* or call Amana Consumer Affairs Department

**1-800-843-0304**

**STEP 5**  
**Position and level washer**



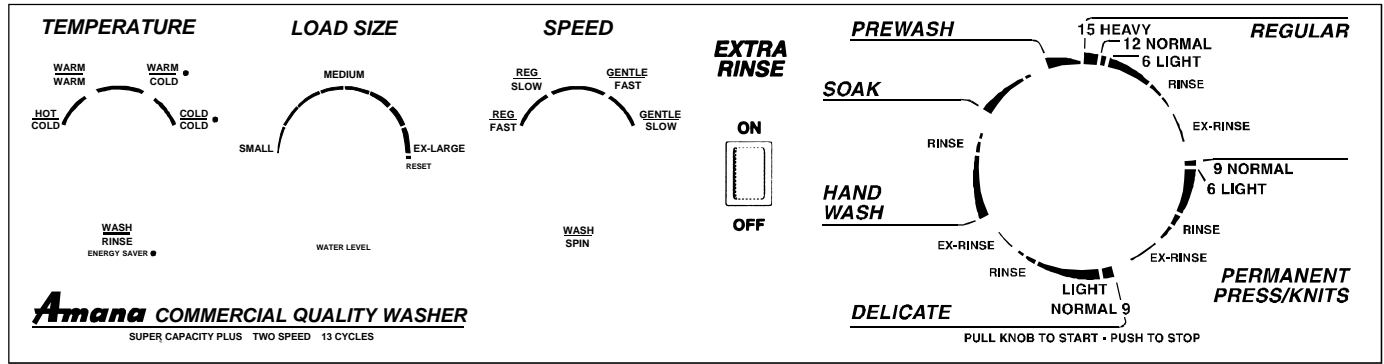
**STEP 6**  
**Connect power cord to electricity**



**STEP 7**  
**Before first use to wash clothes, add water and detergent to tub**  
**Run through one wash cycle**

# Operating Instructions

## Washer Control Panel



Recheck installation procedures before operating washer.

### To Wash Clothes

Clean clothes are the result of proper load preparation, water temperature selection, detergent, and amount of water in wash cycle. See *Washing Guide* in literature packet for additional wash preparation instructions.

#### 1. Prepare clothes for washing

For best wash results:

- Remove items from pockets and cuffs
- Close zippers and fasteners; mend rips and tears
- Sort items into separate loads
- Pre-treat stains and heavily soiled areas

#### 2. Select LOAD SIZE / WATER LEVEL

Variable control allows you to select the most appropriate setting for each wash load. Use Water Level chart below to determine setting. See *Washing Guide* for more details.

**IMPORTANT:** Do not hold knob at RESET for extended periods or washer flooding may result.

LOAD SIZE	WATER LEVEL
Ex-Large	3/4 – Full
Medium	1/2 – 3/4 Full
Small	1/2 Full

3. Select WASH/RINSE temperature  
Always follow garment manufacturer's care labels for each fabric. See chart below.

WASH / RINSE	TYPE OF CLOTHING
Hot/Cold	Sturdy whites and colorfast items Work clothes Soiled items Diapers
Warm/Warm	Delicate or colorfast items
Warm/Cold •	Moderately soiled permanent press Silks, woolens, nylon, acrylic Rinsing of some items
Cold/Cold •	Non-colorfast items Extra-delicate clothing Rinsing of most items

**NOTE:** Energy Saver settings, marked with a dot (•), show temperature settings that use the least energy.

4. Select WASH/SPIN speed  
Select wash/spin speed most appropriate to type of fabric in wash load. See chart below.

# Operating Instructions

WASH/SPIN SPEED	LOAD TYPE
<b>Regular/Fast</b>	Sturdy fabrics needing maximum water extraction
<b>Regular/Slow</b>	Sturdy fabrics needing slower spin speed to reduce wrinkling
<b>Gentle/Fast</b>	Heavy loads of delicate fabrics needing fast spin for better water extraction
<b>Gentle/Slow</b>	Delicate fabrics needing slower spin to protect fabric and clothing

## 5. Select wash cycle and time

Push timer knob in and turn to desired cycle and wash time. Wash cycle and time selection depends upon type of fabric and amount of soil. For best results when cleaning heavily soiled items, use longer wash time, up to 15 minute maximum. Lightly soiled items require less wash time.

### Prewash

Use to wash heavily soiled clothes twice with detergent in each cycle. To deliver extra detergent:

- **LIQUID DETERGENT:** place in fabric softener dispenser for use in second wash.  
*DO NOT use dispenser for fabric softener.*
- **POWDER DETERGENT:** place extra detergent in tub for use in first wash; recommend approximately 1½ times normal amount.

### Regular

Use for sturdy items, like play or work clothes, towels, T-shirts, etc. Number next to cycle setting shows total wash time, including periods of agitation and periods of soaking:

SOIL	WASH/AGITATION TIME
<b>Heavy</b>	15 minutes
<b>Normal</b>	12 minutes
<b>Light</b>	6 minutes

### Permanent Press/Knits

Use for permanent press items and synthetics.

### Delicate

Use to pretreat delicate items often washed by hand. Even with small loads, full tub of water is recommended for more complete cleaning, so items can move freely. More water also helps reduce fabric wear

and wrinkling. To protect delicate fabrics, washer speed automatically runs at Gentle/Slow, regardless of position of speed selector switch.

### Soak

Use for heavily soiled or stained items. Washtub fills with water, pauses approximately 12 minutes for soaking, and spins water out to complete cycle.

### Hand Wash

Use for fine fabrics normally washed by hand. To protect fragile fabrics, washer speed automatically runs at Gentle/Slow, regardless of position of speed selector switch.

## 6. Select EXTRA RINSE, if desired

Useful for people with detergent sensitive skin. Provides second rinse to more completely remove laundry additives, suds, and perfumes in REGULAR, PERMANENT PRESS/KNITS, and DELICATE cycles. To select, set switch to ON. When not wanted, set switch to OFF. Extra Rinse adds between 10 and 15 minutes to total cycle time.

## 7. Pull OUT timer knob to start

Water fill begins, and wash tub starts agitation. Stop washer by pushing knob in.

## 8. Measure and add detergent to washtub

Use only detergent recommended for top-loading washers. See *Washing Guide* for information on water hardness and detergent.

## 9. Add clothing to water in washtub

- Clothes should fill wash tub but should not be packed. Loosely fill tub with clothes no higher than top of agitator vanes. For best results, items must move freely through wash/rinse water.
- Bulky fabrics may need more water added after agitation begins. Turn Load Size control to RESET and back to desired setting.

## 10. Close washer lid

Washer will not operate when lid is open.

## Helpful Hints and Features

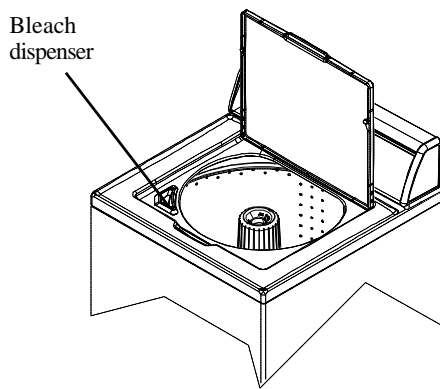
Following are general suggestions for using your top-load washer. See Amana's *Washing Guide* for detailed information about preparing your wash loads, effect of water hardness, water temperature settings, load sizes, laundry aids, special care items, and stain removal.

### Pauses

Wash action consists of periods of agitation, with pauses or periods of soaking. Do not turn timer through pauses, which are normal part of wash cycles.

### Bleach Dispenser

Bleach dispenser is located in left front corner under loading door.



Use only liquid bleach in dispenser. To use powdered bleach, add to wash tub with detergent.

Carefully pour recommended amount of bleach into dispenser during first washer fill, as indicated below:

LOAD SIZE	BLEACH (Max Amt)
Large	1 cup
Medium	3/4 cup
Small	1/2 cup

Be careful not to spill undiluted bleach. It is a strong chemical and can damage cabinet finishes and some fabrics if not properly diluted. Follow bleach manufacturer's label for proper use.

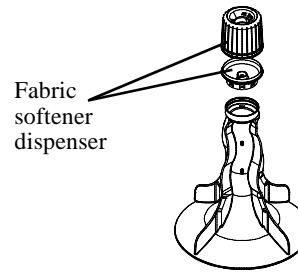
### Resetting Timer

Although wash cycles are automatic, timer may be reset to lengthen, shorten, or repeat a portion of a cycle.

To set or reset timer, push in timer knob to stop washer. Hold in timer knob firmly while slowly turning it to desired setting. Pull out timer knob to start washer.

### Fabric Softener Dispenser

Fabric softener dispenser is located on top of agitator. Dispenser automatically releases liquid fabric softener at proper time during rinse cycle.



To use dispenser, follow these steps:

1. Pour liquid fabric softener into dispenser using amount recommended on package.
2. Add water up to fill level, but do not exceed tip of fill arrow indicator. **FABRIC SOFTENER MUST BE DILUTED FOR USE.**
  - Do not stop washer during first spin or dispenser will empty too soon.
  - Never pour fabric softener directly onto clothes or spots and stains may result. To remove softener stains, soak in soapy solution of Sard™ Wonder Soap or Ivory™ soap, or rub stain with bar of Sard™ and wash garment as usual.
  - For best softener performance, set water level to medium or higher.
3. **Clean softener dispenser after each use.** Remove dispenser housing from agitator by squeezing lower part of dispenser and pulling up on housing while tilting slightly to expose dispenser cup. Rinse dispenser housing and cup in hot soapy water.

Clean funnel shape in top of agitator and inside of agitator. Use small brush on hole and slots in two funnel rings for thorough cleaning.

After cleaning, re-install dispenser cup. Push dispenser housing directly down onto top of agitator until firmly snapped together.

To prevent build-up, fill dispenser with clean water in wash cycles when not using softener.

### Fabric Softener Use Tips

- Liquid fabric softeners are dispensed during final rinse. Do not combine with bleach, bluing, starch, detergents, soaps, or packaged water conditioners during rinse.
- Do not use fabric softener in dispenser during Prewash cycle.
- Do not mix powdered detergent with liquid softener in dispenser or softener will become gummy.

## Care and Cleaning

### Automatic Balance System

Your new washer will automatically adjust to unbalanced loads without shutting down or interrupting the cycle. The cycle will automatically complete at the fastest spin speed possible.

In a severe out-of-balance condition, clothes may contain excessive moisture. If this should happen, simply redistribute the clothes, and reset the control to the spin mark after the rinse setting in the regular cycle.

### Safety Spin

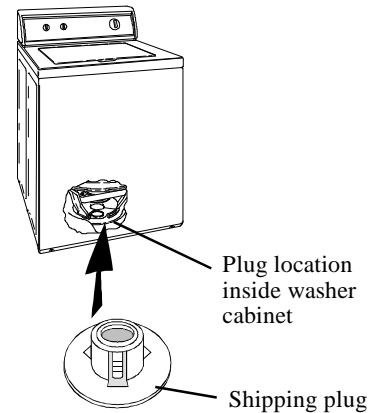
The washer will not spin when the lid is open for any reason. This is for your personal safety. If the lid is opened mid-cycle, operation will automatically start when lid is closed.

### General Washer Care

- Use only damp or sudsy cloth for cleaning control panel. Some cleaning product sprays may harm control panel finish or may damage interior of hood.
- Wipe washer cabinet as needed. If detergent, bleach, or other washing products are spilled on cabinet, wipe immediately. Some products will cause permanent damage if spilled on cabinet.
- Top of washer should not be used for removing garment stains. Some stain removers, such as rust remover, may damage cabinet finish.
- Do not use scouring pads or abrasive cleansers.
- Do not lay sharp or rough objects on or against washer. Finish could be damaged.
- Remove pins, buckles, or other sharp objects from clothes to prevent scratching interior parts.
- Leave lid open after use to allow inside of washer to dry, and to help prevent musty odors from developing.
- Do not allow small children to play on or around washer.
- **Do not move washer without reinstalling shipping brace (Part #38039) and shipping plug (Part #38149).** See instructions below for reinstallation procedures.

### Moving Washer to New Location

Replace shipping plug under motor. See illustration.



Refer to *Installation Instructions* for proper procedures whenever washer is moved.

## Before Calling Service

You may save time and money by checking items below before calling for service. List includes common concerns that are not the result of defective workmanship or materials. If your question is not explained below, contact Amana Consumer Affairs Department at **800-843-0304**.

TOPIC	POSSIBLE CAUSE	SOLUTION
<b>NOISE</b>		
<b>“Clunking” or gear sounds</b>	Normal mechanical sounds in commercial-quality washer	Normal operation.
<b>Rattling and clanking noise</b>	Loose objects, such as coins or pins, in tub or pump	Stop washer and check tub. Remove loose objects. If noise continues after washer is restarted, objects may be in pump: call your authorized servicer.
	Belt buckles, metal fasteners hitting wash tub	Close zippers, buttons, and fasteners. Clothing with buckles must be turned inside out.
<b>Squealing sound or hot rubber odor</b>	Overloaded wash tub	Do not overload washer. Stop washer and reduce size of load. See <i>Washing Guide</i> for proper load level information.
<b>Thumping sound</b>	Heavy wash loads; unbalanced loads	Usually normal, but unbalanced loads should be redistributed. Stop washer and rearrange load.
<b>Vibrating noise</b>	Washer not resting firmly on floor	Make sure floor is strong enough for washer. Adjust leveling legs so washer rests firmly on floor. See <i>Installation Instructions</i> for leveling details.
	Wash load distributed unevenly in tub	Stop washer and rearrange load.
	Shipping plug not removed during installation	See <i>Installation Instructions</i> for details on removing shipping plug.
<b>Spray/whistling noise</b>	Spray rinse	Normal operation. Washer sprays water inside tub while running at high speed during rinse and spin.
<b>OPERATION</b>		
<b>Washer does not start</b>	Electrical power cord may not be plugged in, or connection may be loose	Make sure plug from power cord fits tightly into wall outlet.
	Fuse blown, circuit breaker tripped, or power outage occurred	Replace fuse or reset circuit breaker. Do NOT increase fuse capacity. Call qualified electrician to correct circuit overload problem. Call local utility company to correct power outage.
	Water supply faucets not turned on	Turn on water supply faucets.
	Timer knob/cycle selector set incorrectly	Move indicator slightly clockwise. Pull out on timer knob.
	Motor overheated	Internal overload protector automatically stops motor in event of overload. Protector resets in approximately 3 minutes and motor automatically restarts. If overload protector stops motor again, quit using washer and call service technician.  Do not overload washer. Largest dry load level should not be higher than bottom of fabric softener dispenser or top of agitator.
<b>Washer won't spin</b>	Lid partially open	Close lid completely.
<b>Residue left in tub</b>	Heavily soiled items	Wipe tub with non-abrasive household cleaner and rinse. Before washing, shake or brush excess dirt and sand from items.



## TOPIC

## POSSIBLE CAUSE

## SOLUTION

### WATER

**Wash load too wet after spin**

Overloaded wash tub

Do not overload washer. See *Washing Guide* for details.

Unbalanced load

Rearrange load to allow proper spin.

Kinked drain hose

Straighten drain hose.

**Water enters slowly or does not enter washer**

Inadequate main water supply

Check water pressure at another faucet in house. Wait for water supply and pressure to increase.

Water supply faucets partly closed

Fully open hot and cold water supply faucets.

Water being used elsewhere in house

Water pressure must be at least 20 psi (138 kPa). Avoid running water elsewhere when washer is filling.

Clogged water inlet filters

Disconnect water fill hoses from faucet. Clean and reposition screen filters. Reconnect water fill hoses.

Kinked water inlet hoses

Straighten hoses.

**Water level does not cover clothes**

Incorrect water level/load size selection

Select higher water level/load size. Add water by turning selector to RESET and back to larger load size.

Overloaded wash tub

Do not overload washer. Largest dry load level should not be higher than bottom of fabric softener dispenser or top of agitator.

**Warm or hot water not hot enough**

Water heater temperature set too low; water heater too far from washer

Use candy/meat thermometer to measure hot water temperature at nearby faucet. Water temperature should be at least 140°F (60°C). Adjust water heater as necessary.

Hot water being used elsewhere in house

Avoid using hot water elsewhere before or during washer use, or there may not be enough hot water for proper cleaning. If problem continues, enlarge capacity of hot water system, or use for only one application at a time.

**Water drains slowly or does not drain**

Drain hose kinked or clogged

Clean and straighten drain hose.

**Water leaks**

Loose fill hose connections

Check and tighten all hose/faucet connections. Install rubber sealing washers provided.

Clogged drain pipes

Unclog drain pipes. Call plumber if necessary.

Changed water levels during fill

Always use RESET on water level switch when changing water level. Do not hold switch at RESET; return switch to desired load size.

Oversudsing

Use less detergent.

**Incorrect wash and rinse temperatures**

Hot and cold water hoses connected to wrong supply faucets

Check hose connections. Connect hot water hose to hot water faucet; connect cold water hose to cold water faucet.

**Water enters washer, but tub does not fill**

Incorrect standpipe height for drain hose

Recommended standpipe height is 36" (91.44 cm); for low standpipes, install Siphon Break Kit (part #562P3). See *Installation Instructions* for details.

## Cold Storage and Non-Use Periods

### Cold Weather Care

If washer is delivered when outside temperature is below freezing, or if washer is stored in unheated room or area during cold months, **do not operate until washer has warmed to room temperature. Do not install or operate washer where temperatures will drop below freezing.**

### Cold Weather Storage

If washer must be stored in seasonal home or storage building, use one of the following storage methods.

#### METHOD 1

1. Turn off water supply faucets and disconnect hoses. Drain water from both hoses.
2. Add one gallon of non-toxic RV antifreeze (available from hardware or recreational vehicle dealers) to washer tub.
3. Push in cycle selector knob and turn to SPIN.
4. Pull knob out and let washer spin for 1–2 minutes to drain water. Some antifreeze will also be lost. (If you have a septic system, contact antifreeze manufacturer and make sure it will not harm system.)
5. Push in cycle selector knob to stop washer. Dry inner wash tub, disconnect electrical plug, and close washer lid. If moving washer, disconnect drain hose. Move and store washer **ONLY** in upright position.

To remove antifreeze after storage, run washer through a complete cycle using  $\frac{1}{2}$  cup of detergent. **DO NOT ADD CLOTHES TO CYCLE.**

#### METHOD 2

1. Push in cycle selector knob and turn to SPIN. Run through complete spin cycle to remove excess water.
2. When spin cycle is complete, push in cycle selector knob to stop washer.
3. Turn off water supply faucets and disconnect hoses. Drain water from both hoses.
4. Dry inner wash tub, disconnect electrical plug, and close washer lid. If moving washer, disconnect drain hose. Move and store washer **ONLY** in upright position.
5. It is normal for some water to remain inside pump. To prevent damage to washer and pump if remaining water freezes, allow washer to warm to 24 to 48 hours after removing from storage, so water can thaw before use.

### Vacations and Extended Non-Use

**IMPORTANT:** To avoid possible property damage from flooding, turn off water supply to washer during extended periods of non-use.

To prevent mold or mildew, leave lid open so moisture inside machine can evaporate.

When closing your home for extended periods, have service technician drain washer to avoid stagnant water. Unplug cord from electrical outlet. Disconnect hoses from faucets.

**Home Laundry Automatic Washer Product  
Full Two Year Warranty  
Five Year Full Warranty on Transmission  
Limited Five Year Warranty on Cabinet  
Limited Ten Year Warranty on Transmission  
Limited Twenty Year Warranty on Stainless Steel Inner Wash Tub**

**Warranty Provides For:**

FIRST TWO YEARS Amana Appliances will repair or replace any defective part free of charge.

THIRD THROUGH FIFTH YEARS Amana Appliances will replace any defective transmission assembly free of charge.

THIRD THROUGH FIFTH YEARS Amana Appliances will provide a free replacement part only, f.o.b. Amana, Iowa for any cabinet which proves defective from rust.

SIXTH THROUGH TENTH YEARS Amana Appliances will provide a free replacement part only, f.o.b. Amana, Iowa, for any defective transmission assembly.

THIRD THROUGH TWENTIETH YEAR Amana Appliances will provide a free replacement part only, f.o.b. Amana, Iowa for any defective stainless steel inner wash tub.

**WARRANTY LIMITATIONS**

- Warranty begins at date of original purchase.
- Applies only to product used within the United States or in Canada.
- Products used on a commercial, rental, or leased basis are not covered by this warranty.
- Service must be performed by an authorized Amana service.
- Adjustments covered during the first year only.

**WARRANTY IS VOID IF:**

- Serial plate is defaced
- Product has defect or damage due to product alteration, connection to an improper electrical supply, shipping and handling, accident, fire, floods, lightning or other conditions beyond the control of Amana.
- Product is improperly installed or applied.

**Owner's Responsibilities**

- Provide proof of purchase (sales receipt).
- Normal care and maintenance
- Having the product reasonably accessible for service.
- Pay for service calls related to product installation or usage instructions.
- Pay for premium service costs, over normal service charges, if servicer is requested to perform service outside servicer's normal business hours.

**IN NO EVENT SHALL AMANA BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES\***

\*This warranty gives you specific legal rights, and you may have others which vary from state to state. For example, some states do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion may not apply to you.

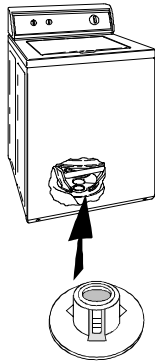
For warranty service, contact an authorized Amana servicer. Should you have a service problem that is not resolved locally,

Write: Amana Appliances  
2800 - 220th Trail  
Amana, IA 52204-0001  
Or phone in USA: 1-800-843-0304  
If outside USA, call: 319-622-5511

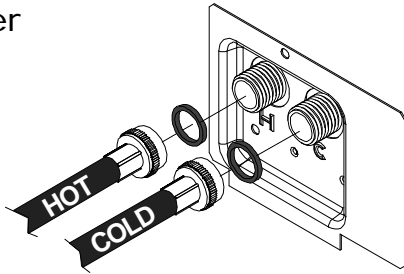
# Fast Track for Installing Washer

See manual for details

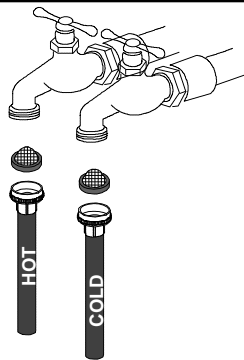
- 1** Move washer to final installation area
- Remove shipping brace and shipping plug



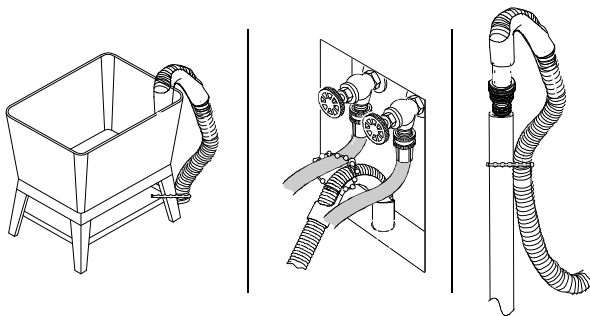
- 2** Push rubber washer into end of fill hose
- Connect water fill hoses to washer



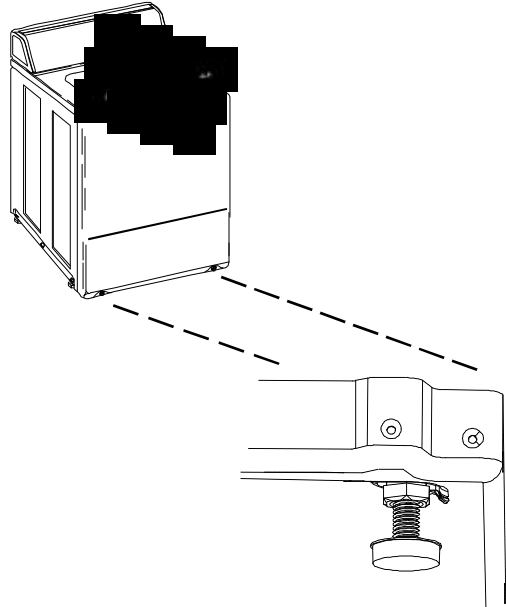
- 3** Connect water fill hoses to faucets



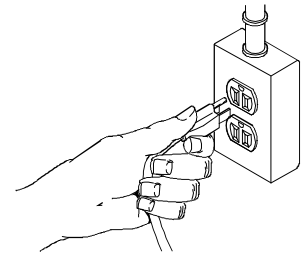
- 4** Secure drain hose to drain



- 5** Position and level washer



- 6** Connect power cord to electricity



- 7** Before first use to wash clothes, add water and detergent to tub
- Pull out timer knob to start
- Run through one wash cycle and check for leaks

