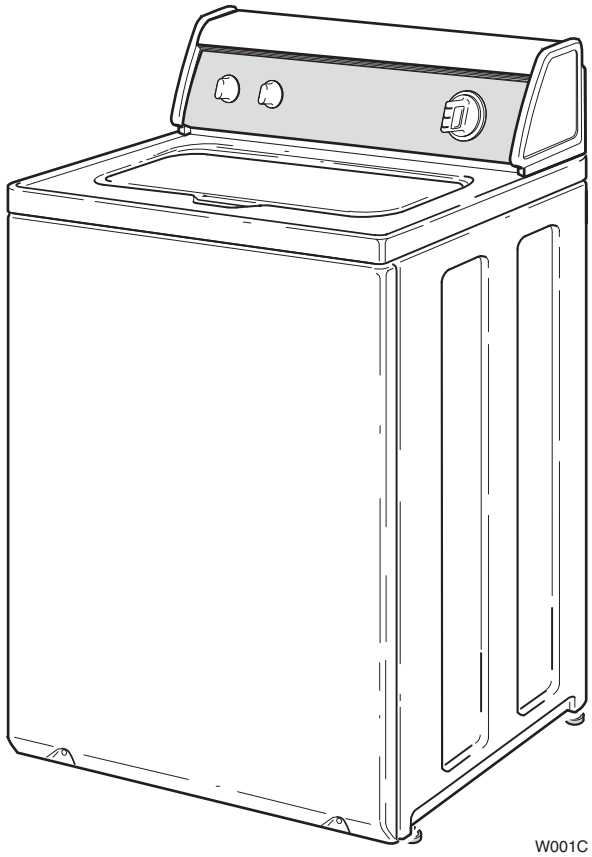
Home Automatic Washers

Service

Refer to Page 5 for Model Numbers



W001C

Alliance Laundry Systems

www.comlaundry.com

Part No. 201143R1
October 2005

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Section 8 – Cycle Sequence Charts

Section 9 – Internal Wiring of Washer Motor Switch

Section 1
Safety Information

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION," "WARNING," and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of the operator, user, servicer and those maintaining the machine.

⚠ DANGER

Danger indicates an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.

⚠ WARNING

Warning indicates a hazardous situation that, if not avoided, could cause severe personal injury or death.

⚠ CAUTION

Caution indicates a hazardous situation that, if not avoided, may cause minor or moderate personal injury or property damage.

Additional precautionary statements ("IMPORTANT" and "NOTE") are followed by specific instructions.

IMPORTANT

The word "IMPORTANT" is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

NOTE

The word "NOTE" is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.

In the interest of safety, some general precautions relating to the operation of this machine follow.

WARNING

- **Failure to install, maintain and/or operate this product according to the manufacturer's instructions may result in conditions which can produce serious injury, death and/or property damage.**
- **Do not repair or replace any part of the product or attempt any servicing unless specifically recommended or published in this Service Manual and unless you understand and have the skills to carry out the servicing.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the product is properly grounded and to reduce the risk of fire, electric shock, serious injury or death.**

W006R2

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

WARNING

Repairs that are made to your products by unqualified persons can result in hazards due to improper assembly or adjustments subjecting you or the inexperienced person making such repairs to the risk of serious injury, electrical shock or death.

W007

WARNING

If you or an unqualified person perform service on your product, you must assume the responsibility for any personal injury or property damage which may result. The manufacturer will not be responsible for any injury or property damage arising from improper service and/or service procedures.

W008

NOTE: The WARNINGS and IMPORTANT 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 the manufacturer about any problems or conditions you do not understand.

Locating an Authorized Servicer

Alliance Laundry Systems is not responsible for personal injury or property damage resulting from improper service. Review all service information before beginning repairs.

Warranty service must be performed by an authorized technician, using authorized factory parts. If service is required after the warranty expires, Alliance Laundry Systems also recommends contacting an authorized technician and using authorized factory parts.

Section 2
Introduction

Model Identification

Information in this manual is applicable to these washer models.

Model Number	1 Speed Motor	2 Speed Motor	3 Speed Motor	Porcelain Washtub (cu. ft.)	Stainless Steel Washtub (cu. ft.)
AWZ45N*-1102		X			3.3
AWZ52N*-1102		X			3.3
AWZ53N*-1102		X			3.3
LWB19A*-1109		X		3.3	
LWB19B*-1109		X		3.3	
LWB19M*-1109		X		3.3	
LWD52M*-1100		X			3.3
LWD52N*-1100		X			3.3
LWG74A*-3050		X			3.3
LWH18A*-3322	X				3.3
LWH18N*-3322	X				3.3
LWK23A*-3050	X				3.3
LWK24A*-3050	X				3.3
LWK24N*-3050	X				3.3
LWK73A*-3050		X			3.3
LWK74A*-3050		X			3.3
LWK74N*-3050		X			3.3
LWS01A*-1000	X			2.9	
LWS01A*-1088	X			2.9	
LWS01A*-3088	X			2.9	
LWS01A*-3300	X			2.9	
LWS01M*-1000	X			2.9	
LWS01M*-3088	X			2.9	
LWS01M*-3300	X			2.9	
LWS01N*-3088	X			2.9	
LWS01N*-3300	X			2.9	
LWS11A*-3062	X			3.3	
LWS11N*-3062	X			3.3	
LWS16A*K	X			3.3	
LWS16A*-1000	X			3.3	
LWS16A*-3000	X			3.3	
LWS16A*-3022	X			3.3	
LWS16A*-3300	X			3.3	
LWS16A*-3322	X			3.3	
LWS16B*K	X			3.3	

*** Add Letter To Designate Color. L – Almond W – White Q – Bisque**

(continued)

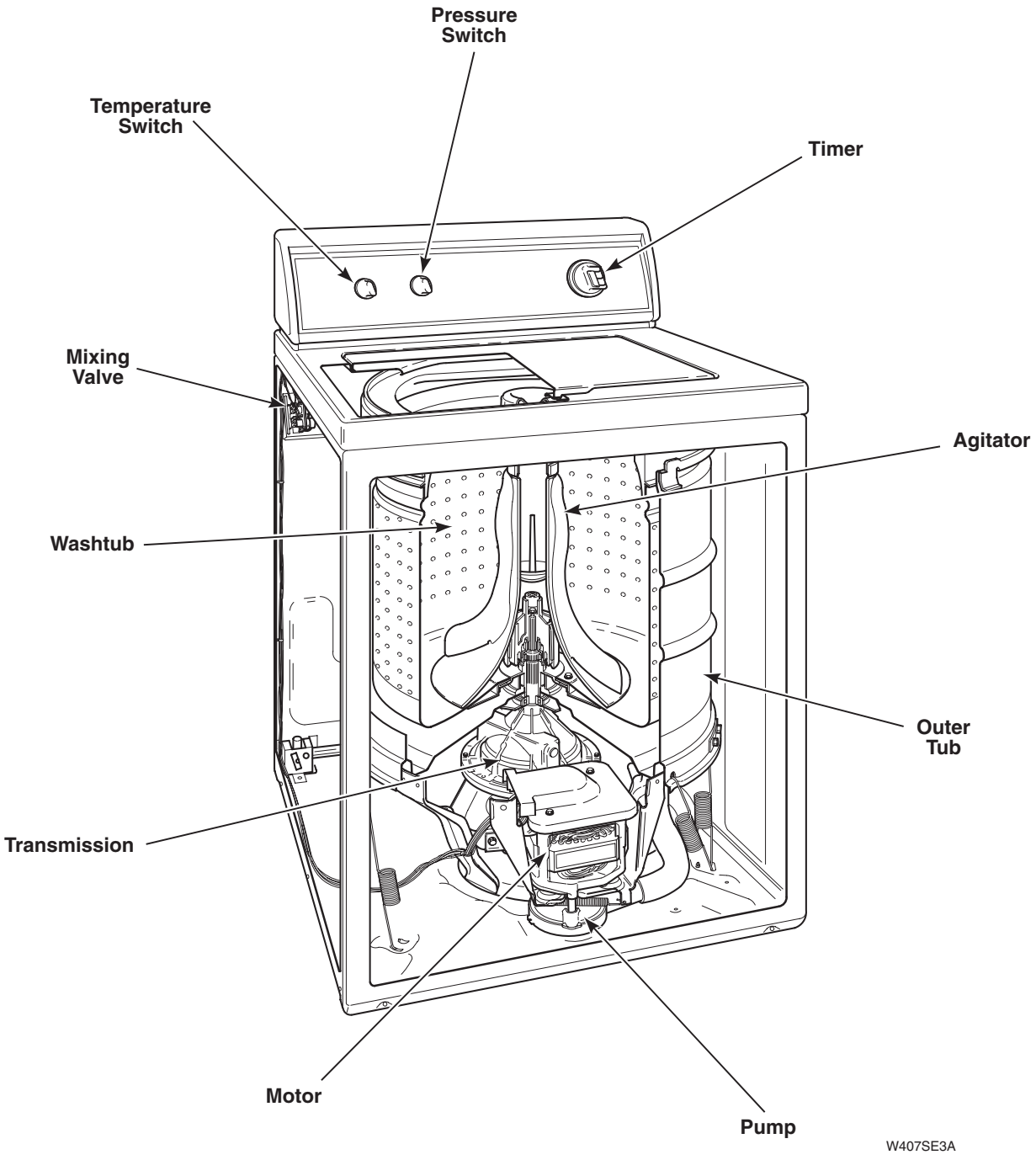
Model Number	1 Speed Motor	2 Speed Motor	3 Speed Motor	Porcelain Washtub (cu. ft.)	Stainless Steel Washtub (cu. ft.)
LWS16M*K	X			3.3	
LWS16M*-1000	X			3.3	
LWS16M*-3000	X			3.3	
LWS16M*-3022	X			3.3	
LWS16M*-3300	X			3.3	
LWS16M*-3322	X			3.3	
LWS16N*-1000	X			3.3	
LWS16N*-3022	X			3.3	
LWS16N*-3322	X			3.3	
LWS16N*K	X			3.3	
LWS17A*K	X				3.3
LWS17A*-1000	X				3.3
LWS17A*-3000	X				3.3
LWS17A*-3022	X				3.3
LWS17A*-3028	X				3.3
LWS17A*-3050	X				3.3
LWS17A*-3300	X				3.3
LWS17A*-3322	X				3.3
LWS17A*B3020	X				3.3
LWS17A*B3069	X				3.3
LWS17B*K	X				3.3
LWS17M*K	X				3.3
LWS17M*-1000	X				3.3
LWS17M*-1127	X				3.3
LWS17M*-3000	X				3.3
LWS17M*-3022	X				3.3
LWS17M*-3050	X				3.3
LWS17M*-3300	X				3.3
LWS17M*-3322	X				3.3
LWS17M*B3020	X				3.3
LWS17M*B3069	X				3.3
LWS17N*-1000	X				3.3
LWS17N*-1127	X				3.3
LWS17N*-3000	X				3.3
LWS17N*-3022	X				3.3
LWS17N*-3028	X				3.3
LWS17N*-3300	X				3.3
LWS17N*-3322	X				3.3
LWS17N*B3020	X				3.3
LWS17N*B3069	X				3.3
LWS17N*K	X				3.3
LWS21A*-3062	X				3.3

*** Add Letter To Designate Color. L – Almond W – White Q – Bisque**

Model Number	1 Speed Motor	2 Speed Motor	3 Speed Motor	Porcelain Washtub (cu. ft.)	Stainless Steel Washtub (cu. ft.)
LWS21N*-3062	X				3.3
LWS42M*-3050		X			3.3
LWS42N*-3050		X			3.3
LWS45M*-1127		X			3.3
LWS45N*-1127		X			3.3
LWS52N*-1127		X			3.3
LWT42N*-1100		X			3.3
LWT52N*-1100		X			3.3
LWY17A*-1109	X				3.3
LWY17B*-1109	X				3.3
LWY17M*-1109	X				3.3
LWY45A*-1109		X			3.3
LWY45B*-1109		X			3.3
LWY45M*-1109		X			3.3
LWZ01M*-1102	X			2.9	
LWZ01N*-1102	X			2.9	
LWZ16A*-1000	X			3.3	
LWZ16M*-1000	X			3.3	
LWZ16N*-1000	X			3.3	
LWZ17A*-3000	X				3.3
LWZ17A*B3020	X				3.3
LWZ17A*B3069	X				3.3
LWZ17M*-3000	X				3.3
LWZ17M*B3020	X				3.3
LWZ17M*B3069	X				3.3
LWZ17N*-3022	X				3.3
LWZ17N*B3020	X				3.3
LWZ17N*B3069	X				3.3
LWZ20M*-3300	X				3.3
LWZ20N*-3300	X				3.3
LWZ22M*-1102		X		3.3	
LWZ22N*-1102		X		3.3	
LWZ42M*-1102		X			3.3
LWZ42N*-1102		X			3.3
LWZ52M*-1102		X			3.3
LWZ52N*-1102		X			3.3
LWZ77M*-1102			X		3.3
LWZ77N*-1102			X		3.3

*** Add Letter To Designate Color. L – Almond W – White Q – Bisque**

How Your Washer Works



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 a pressure bulb and hose. The air pressure continues to increase as the washtub fills with water until it is great enough to activate the pressure switch. The pressure switch then causes the wash fill to stop and wash 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. The idler assembly applies tension to the outside of the drive belt.

During agitation, the motor runs in the counterclockwise direction. The spring tension on the idler pulley applies the 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 the counterclockwise direction. The pulley drives the helix which is splined 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 the counterclockwise direction allowing the transmission gears to operate. The transmission's rack and pinion gear design produces a 210 degree 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 the 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 become 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 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 the 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 splined 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.

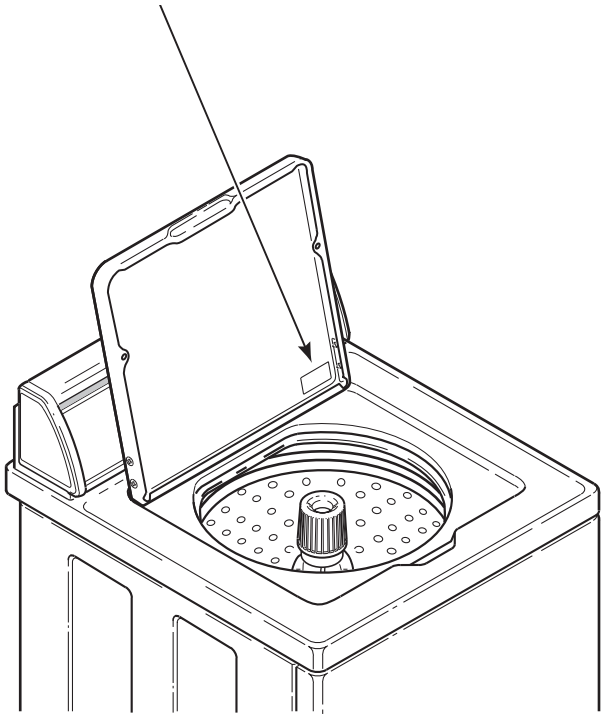
Customer Service

If literature or replacement parts are required, contact the source from whom the machine was purchased or contact Alliance Laundry Systems at (920) 748-3950 for the name and address of the nearest authorized parts distributor.

For technical assistance, call (920) 748-3121.

Nameplate Location

When calling or writing about your product, be sure to mention model and serial numbers. Model and serial numbers are located on nameplate(s) as shown.



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Section 3
Troubleshooting

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

IMPORTANT: Refer to Wiring Diagram for aid in testing washer components.

1. NO HOT WATER

POSSIBLE CAUSE	TO CORRECT
Hot water supply faucet is closed.	Open faucet.
Water supply is cold.	Check water heater.
Kinked hot water inlet hose.	Straighten or replace hose.
Clogged mixing valve screen, or screen in outer end of inlet hose nearest water supply faucet.	Disconnect hot water inlet hose, and clean or replace screen.
Inoperative hot water mixing valve solenoid.	Test solenoid. Refer to *Paragraph 50*. Replace valve if solenoid is inoperative.
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Inoperative temperature switch.	Test switch. Refer to *Paragraph 51*. Replace if inoperative.
Inoperative pressure switch.	Test switch. Must have continuity from terminal 1 to 2 when empty or 1-3 when full. Replace if inoperative.
Clogged pressure hose.	Remove and clean or replace hose.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

2. NO COLD WATER

POSSIBLE CAUSE	TO CORRECT
Cold water supply faucet is closed.	Open faucet.
Kinked cold water inlet hose.	Straighten or replace hose.
Clogged mixing valve screen, or clogged screens in outer end of inlet hose nearest water supply faucet.	Disconnect cold water inlet hose, and clean or replace screen.
Inoperative cold water mixing valve solenoid.	Test solenoid. Refer to *Paragraph 50*. Replace valve if solenoid is inoperative.
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Inoperative temperature switch.	Test switch. Refer to *Paragraph 51*. Replace if inoperative.
Inoperative pressure switch.	Test switch. Must have continuity from terminal 1 to 2 when empty or 1-3 when full. Replace if inoperative.
Clogged pressure hose.	Remove and clean or replace hose.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
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W003

3. NO WARM WATER

POSSIBLE CAUSE	TO CORRECT
No hot water.	Refer to *Paragraph 1*.
No cold water.	Refer to *Paragraph 2*.

4. WATER FILL DOES NOT STOP AT PROPER LEVEL

POSSIBLE CAUSE	TO CORRECT
Inoperative pressure switch.	Test switch. Refer to *Paragraph 47*. Replace if inoperative.
Air leak in pressure hose.	Replace hose.
Sediment on or under mixing valve diaphragm, defective diaphragm, or armature binding in armature guide.	Replace valve.
Broken, weak or missing mixing valve armature spring.	Replace valve.
A siphoning action started in washer will cause water to be siphoned from washer during cycle due to end of drain hose being lower than cabinet top of washer. Drain hose fits tight in standpipe or drain.	Install No. 562P3 Siphon Break Kit. Provide an air gap around drain hose and drain receptacle. Install No. 36878 Standpipe Adapter (optional on some models).
Water in pressure hose.	Blow air through hose to remove water or replace hose.
Broken, loose, shorted or incorrect wiring.	Refer to wiring diagram.

WARNING

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W003

5. TIMER DOES NOT ADVANCE

POSSIBLE CAUSE	TO CORRECT
Timer is designed to pause during fill periods. Some cycles have pauses (delicate cycles).	Allow completion of fill period.
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Loading door is open.	Close loading door. Loading door MUST be closed any time the washer is set to agitate or spin.
Washer will not fill.	Timer pauses until pressure switch is satisfied. Refer to *Paragraphs 1* and *2*.
Timer motor lead wire is off timer terminal.	Refer to wiring diagram and reattach wire.
Broken, loose or incorrect wiring.	Refer to wiring diagram.
Make sure washer is not siphoning during rinse fill.	Install siphon break kit, Part No. 562P3.
Timer is designed to pause when going from agitate to spin.	Allow time for timer to go through that step. Refer to diagram for information on time required.
Timer is designed to stop if washer drive motor has been overloaded and motor thermal overload has tripped.	Motor thermal protector reset time may vary depending upon the reason for the washer overload, however, it should reset within 15 minutes. Check to ensure that washer was not overloaded with clothes.
Is circuit breaker to washer tripped, disconnecting power to washer.	Reset circuit breaker.
Washer will not fill.	Timer is designed to pause when going from spin into rinse to allow the washtub to stop spinning before filling, make sure that timer has advanced into fill portion of rinse cycle.

WARNING

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- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

6. MOTOR DOES NOT RUN

POSSIBLE CAUSE	TO CORRECT
Electrical power off, fuse blown or power cord not plugged in.	Check laundry room for blown or loose fuse(s) or open circuit breakers. (Washer itself does not have an electrical fuse.)
Loading door not closed or inoperative switch.	Close door or test switch and replace if inoperative.
Timer improperly set.	Reset timer, or try another cycle.
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Motor starting functions inoperative. No start; or motor only hums.	Refer to *Paragraph 49* to check start switch and start windings.
Motor is dead, or will not run.	Refer to *Paragraph 49* to check switch and windings.
Motor overload protector has cycled.	Wait two or three minutes for overload protector to reset. If protector cycles repeatedly. Refer to *Paragraph 9*.
Bind in upper or lower motor bearing.	Remove belt and determine if motor shaft will spin. Replace motor if shaft is locked up.
Bind in pump (direct drive pump models).	Replace pump.
Broken, loose or incorrect wiring.	Refer to wiring diagram.
Power cord is wired incorrectly.	Refer to wiring diagram for correct wiring.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
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- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

7. NO AGITATION

POSSIBLE CAUSE	TO CORRECT
Timer is designed to pause (SOAK) during DELICATE cycle. Allow completion of SOAK period.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Motor will not run.	Refer to *Paragraph 49* to check switch and windings.
No Delicate cycle agitate.	Refer to *Paragraph 49* to check low speed switch and windings.
Inoperative pressure switch.	Test switch. Must have continuity from terminal 1 to 3. Replace if inoperative.
Broken, loose or incorrect wiring.	Refer to wiring diagram.
Loose or broken drive belt.	Replace belt.
Inoperative transmission assembly.	Repair or replace transmission assembly.
Sheared motor pulley roll pin. (Through Serial No. 001113645)	Remove drive motor and replace roll pin and any other damaged parts.
Motor overload protector has cycled.	Wait two or three minutes for overload protector to reset. If protector cycles repeatedly. Refer to *Paragraph 9*.
Bind in pump.	Replace pump.
Loading door is open or door switch is inoperative.	Close door or test switch and replace if inoperative.

8. CONSTANT AGITATION

POSSIBLE CAUSE	TO CORRECT
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Shorted or incorrect wiring.	Refer to wiring diagram.
Inoperative transmission assembly	Repair or replace transmission assembly.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

9. WASHER OVERHEATS, CYCLES ON MOTOR THERMAL PROTECTOR, SWITCH ACTUATOR KICKS IN AND OUT

POSSIBLE CAUSE	TO CORRECT
Belt is tacky and does not allow proper slip.	Check belt and replace if defective.
Belt tension is too great and does not allow proper slip.	Make sure idler spring is properly connected.
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Motor switch functions inoperative.	Refer to *Paragraph 49* to check switch functions.
Bind in water pump.	Replace pump.
Brake pads or brake assembly binding.	Free binding pads, or replace pads and brake assembly.
Bearings, transmission or motor has locked up and will not turn.	Check that all these components are able to move freely. Correct binding component.
Incorrect voltage.	Contact local utility company, or have a qualified electrician check power supply.

10. SLOW SPIN OR NO SPIN

POSSIBLE CAUSE	TO CORRECT
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Loading door is open or door safety switch is inoperative.	Close loading door, or test switch and replace if inoperative.
Bind in water pump.	Replace pump.
Loose or broken drive belt.	Replace belt.
Motor will not run.	Refer to *Paragraph 49* to check switch and windings.
Sheared motor pulley roll pin. (Through Serial No. 001113645)	Remove drive motor and appropriately replace roll pin and any other damaged parts.
Motor overload protector has cycled.	Wait two or three minutes for overload protector to reset. If protector cycles repeatedly, refer to *Paragraph 9*.
No clearance between brake pads and discs.	Replace pads and brake assembly.
Broken, loose or incorrect wiring.	Refer to wiring diagram.
Inoperative transmission assembly.	Repair or replace the transmission assembly.
Oil on belt.	Replace belt.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

11. CONSTANT SPIN

POSSIBLE CAUSE	TO CORRECT
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Washtub does not stop spinning within seven seconds after loading door is opened.	Replace brake pads and brake assembly.
Excessive wear on brake pads, or missing brake pads.	Replace brake pads and brake assembly.
Shorted or incorrect wiring.	Refer to wiring diagram.
Inoperative lid switch.	Replace lid switch.

12. WASHER STOPS IN CYCLE; QUITS AFTER A COUPLE LOADS; IS INTERMITTENT

POSSIBLE CAUSE	TO CORRECT
Belt is tacky and does not allow proper slip.	Check belt and replace if defective.
Belt tension is too great and does not allow proper slip.	Make sure idler spring is properly connected.
Inoperative timer.	Test for continuity through timer circuits. Refer to wiring diagram. Replace if inoperative.
Broken, loose or incorrect wiring.	Refer to wiring diagram.
Motor overload protector has cycled.	Wait two or three minutes for overload protector to reset. If protector cycles repeatedly. Refer to *Paragraph 9*.
Motor switch functions inoperative.	Refer to *Paragraph 49* to check switch functions.
Brake, transmission or motor has locked up and will not turn.	Check that all these components are able to move freely.

13. WASHER IS LOCKED UP OR BINDING

POSSIBLE CAUSE	TO CORRECT
Excessive belt tension.	Replace belt and/or idler spring.
Bind in upper or lower bearing.	Replace bearing.
Bind in water pump.	Replace pump.
Bind in transmission.	Repair or replace transmission.
Brake pads binding.	Free binding pads, or replace pads.
Incorrect voltage.	Contact local utility company, or have a qualified electrician check power supply.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
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W003

14. OUTER TUB DOES NOT EMPTY

POSSIBLE CAUSE	TO CORRECT
Kinked drain hose.	Straighten hose.
Drain hose out of hose retainer clip in back of cabinet.	Remove washer front panel and install drain hose into hose retainer clip in back of cabinet.
Inoperative water pump.	Replace pump.
Obstruction in outer tub outlet hose.	Remove obstruction.

15. EXCESSIVE VIBRATION

POSSIBLE CAUSE	TO CORRECT
Washer is not properly leveled.	Adjust leveling legs.
Unbalanced load in tub.	Stop washer, redistribute load, then restart washer.
Broken or disconnected centering spring(s).	Connect or replace centering spring(s).
Washer is installed on weak, “spongy”, carpeted or built-up floor.	Relocate washer, or support floor to eliminate weak or “spongy” condition.
Incorrect or loose cabinet screws.	Replace with correct screws or tighten.
Base damaged (washer was dropped).	Replace base assembly.
Lubricant on pivot dome and/or base friction ring.	Remove lubricant or replace parts.
Partial liquid filled balance ring leaking.	Replace balance ring.
Broken friction ring.	Replace friction ring.

16. WATER LEAKING FROM OUTER TUB

POSSIBLE CAUSE	TO CORRECT
Leaking water seal in outer tub.	Replace hub and seal kit assembly. Refer to *Paragraph 39*.
Hole in outer tub.	Replace outer tub.
Pressure hose or accumulator leaking.	Replace pressure hose and/or accumulator.
Tub cover gasket leaking.	Replace gasket.
Obstruction in drain causing water to come over top of outer drain tub cover.	Remove obstruction.
Tub-to-pump hose leaking at clamp.	Tighten clamp.

Section 4
Grounding

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

17. WALL RECEPTACLE POLARITY CHECK

Refer to *Figure 1*.

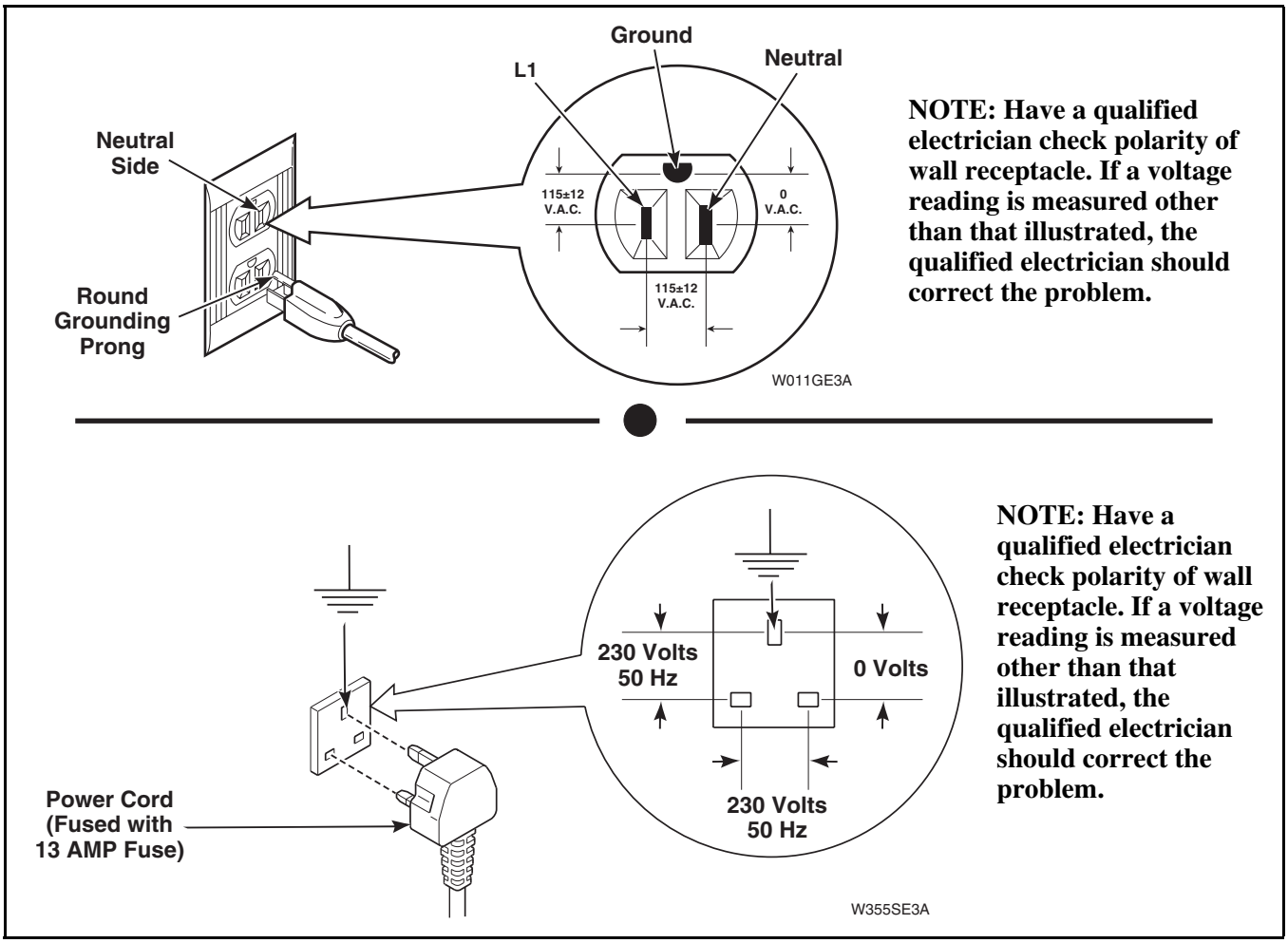


Figure 1

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

18. POWER CORD TO CONNECTION BLOCK, CONNECTION BLOCK TO CONTROL HOOD REAR PANEL; Models LWS17M*B3020 and LWZ17M*3020 starting Serial No. 0204008036 and Models with Suffixes B3069, 3028, 3050 and 3062 and Models LWS17N*B3020 and LWZ17N*B3020
Refer to *Figure 2*.

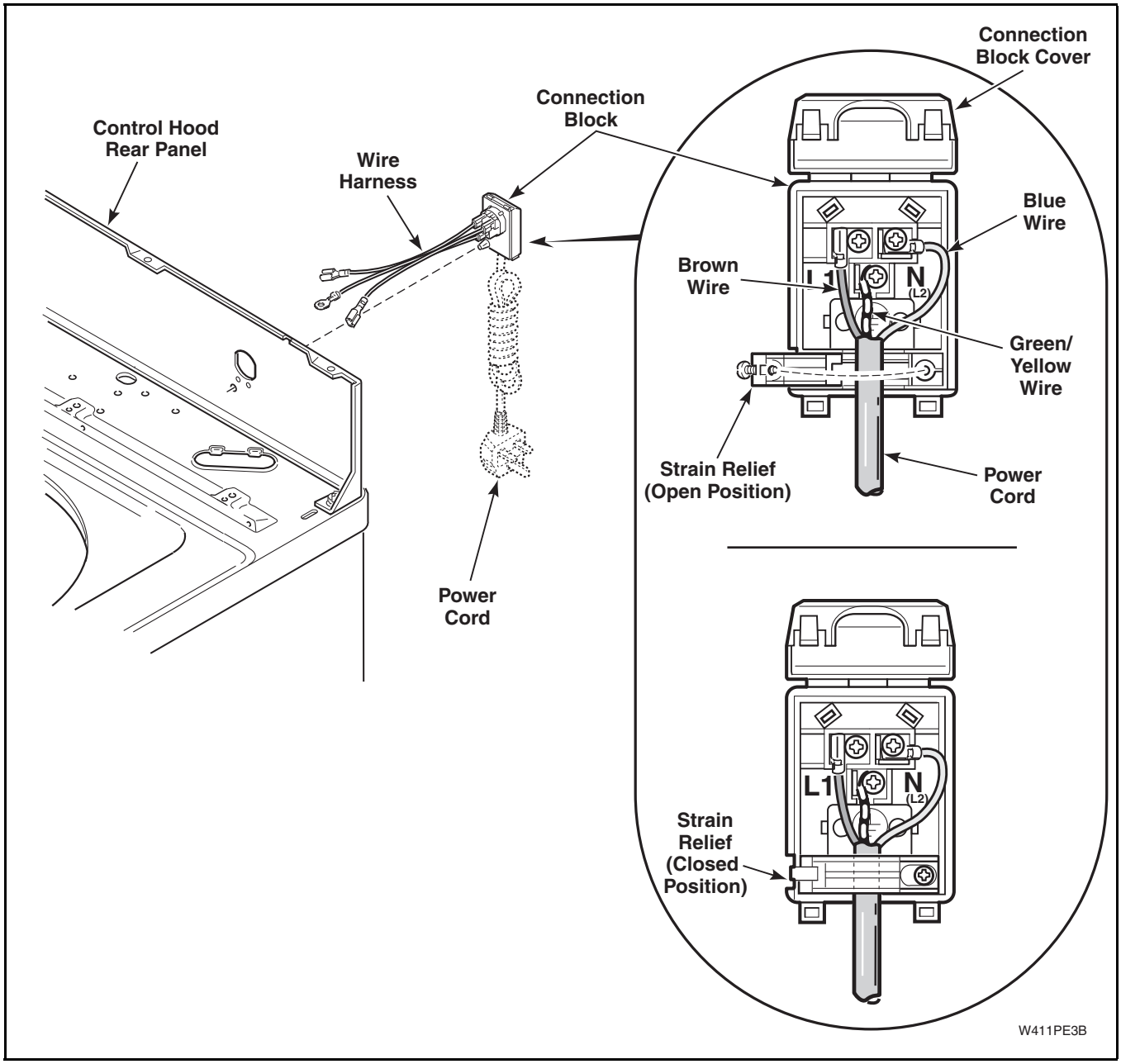


Figure 2

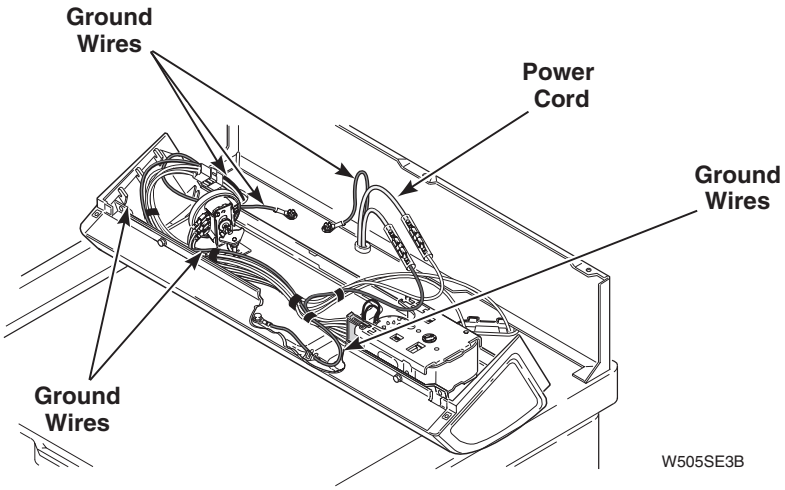
WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

19. POWER CORD TO CABINET TOP, CABINET TOP TO CONTROL HOOD MOUNTING BRACKET, PRESSURE SWITCH MOUNTING BRACKET AND GROUND TAB ON GRAPHIC PANEL

Refer to *Figure 3*.



POWER CORD TO CONTROL HOOD REAR PANEL, CONTROL HOOD REAR PANEL TO CONTROL HOOD MOUNTING BRACKET, PRESSURE SWITCH MOUNTING BRACKET AND GROUND TAB ON GRAPHIC PANEL

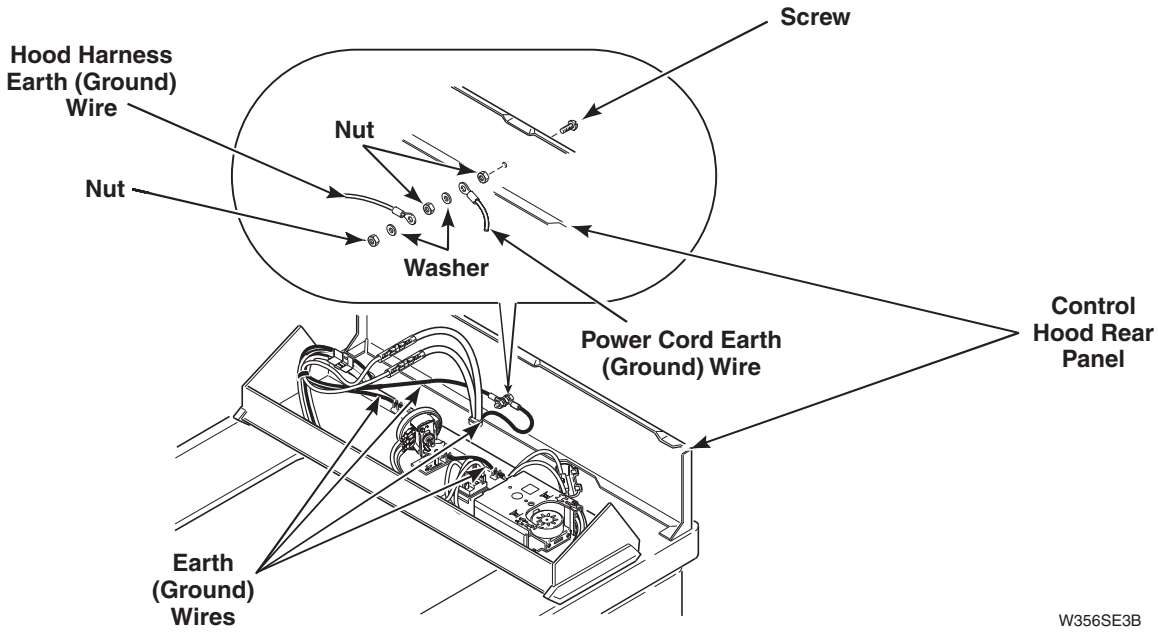


Figure 3

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

20. CONTROL HOOD WIRE HARNESS TO TOP LEFT REAR CORNER GUSSET OF CABINET

Refer to *Figure 4*.

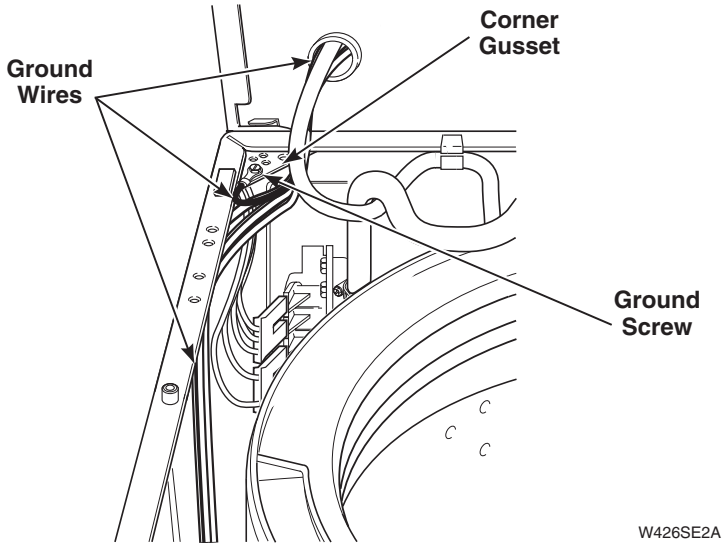


Figure 4

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

21. WIRE HARNESS TO MOTOR

Refer to *Figures 5* and *6*.

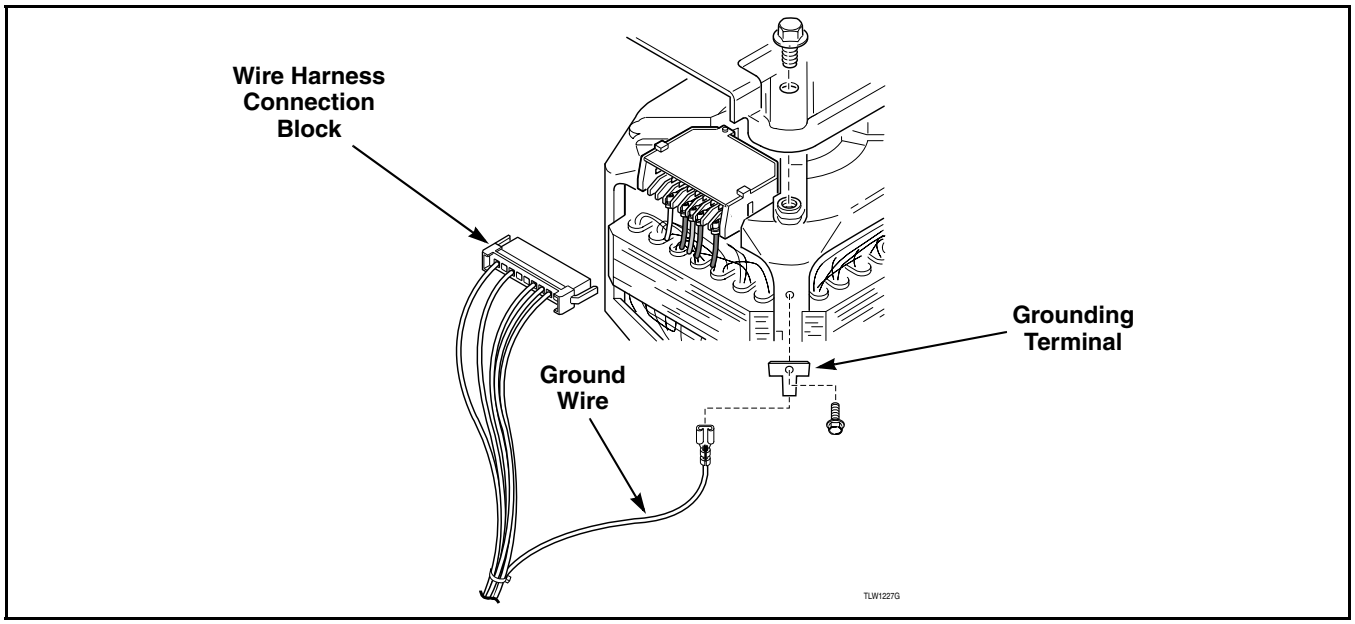


Figure 5
Model LWS11A*-3062 starting Serial No. 0210012292, Model LWS21A*-3062 starting Serial No. 0210014993, Models with suffixes ending 3050 starting Serial No. beginning 0002, Models LWS16M*-3000,LWS16M*-3022 and LWS17M*-3022 starting Serial Nos. beginning 0302, and Models LWS16N*-3022, LWS17N*-3022 and LWZ17N*-3022

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

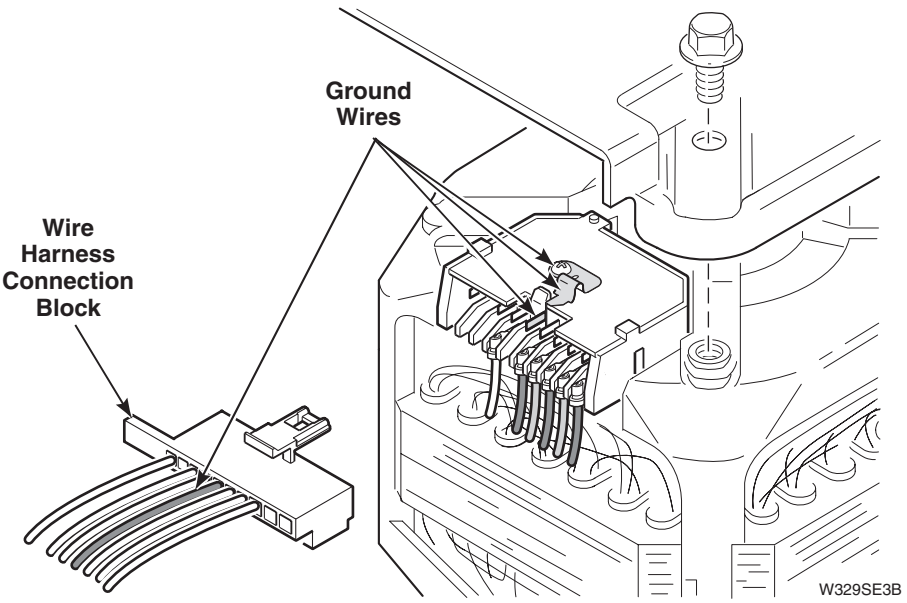


Figure 6
All other Models

Section 5
Service Procedures

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

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

22. CONTROL HOOD ASSEMBLY

a. Remove three screws holding rear of hood assembly to control hood rear panel. Refer to *Figure 7*.
b. Pivot hood assembly forward on cabinet top. Refer to *Figure 7*.
c. Carefully remove bottom front of hood from clips on cabinet top.
d. Disconnect wires from component parts and carefully remove components from hood assembly.

NOTE: Refer to wiring diagram when rewiring component parts.

TO REMOVE CONTROL HOOD END PANELS

Remove four screws holding end panels to control mounting plate. Refer to *Figures 8-14*.

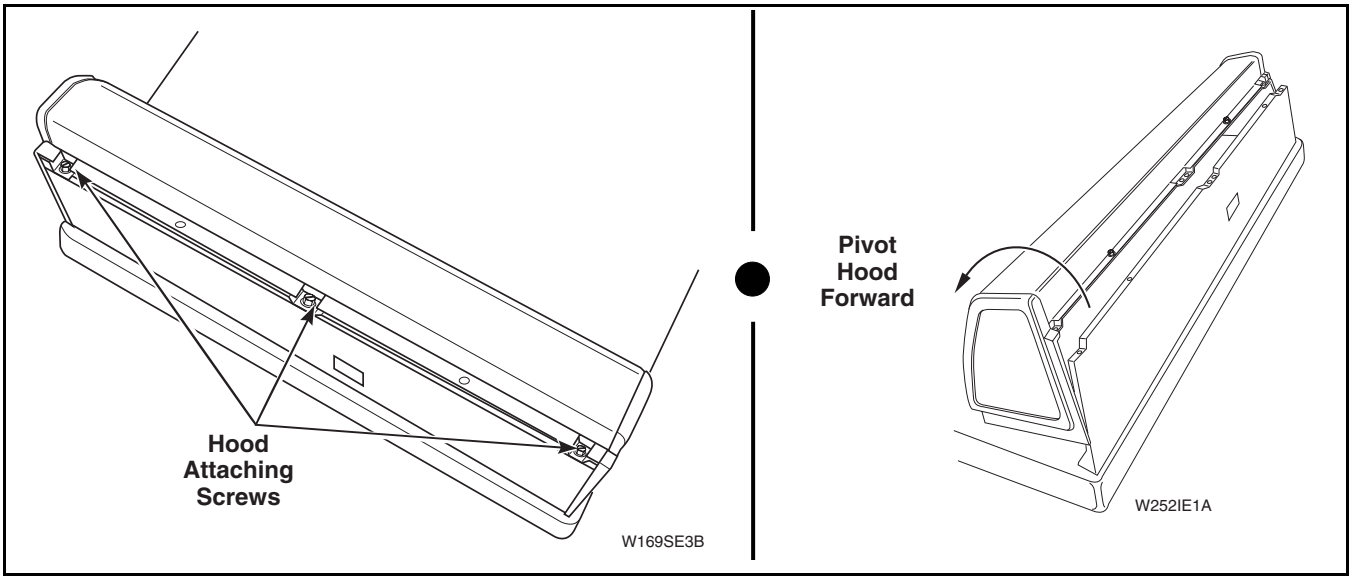


Figure 7

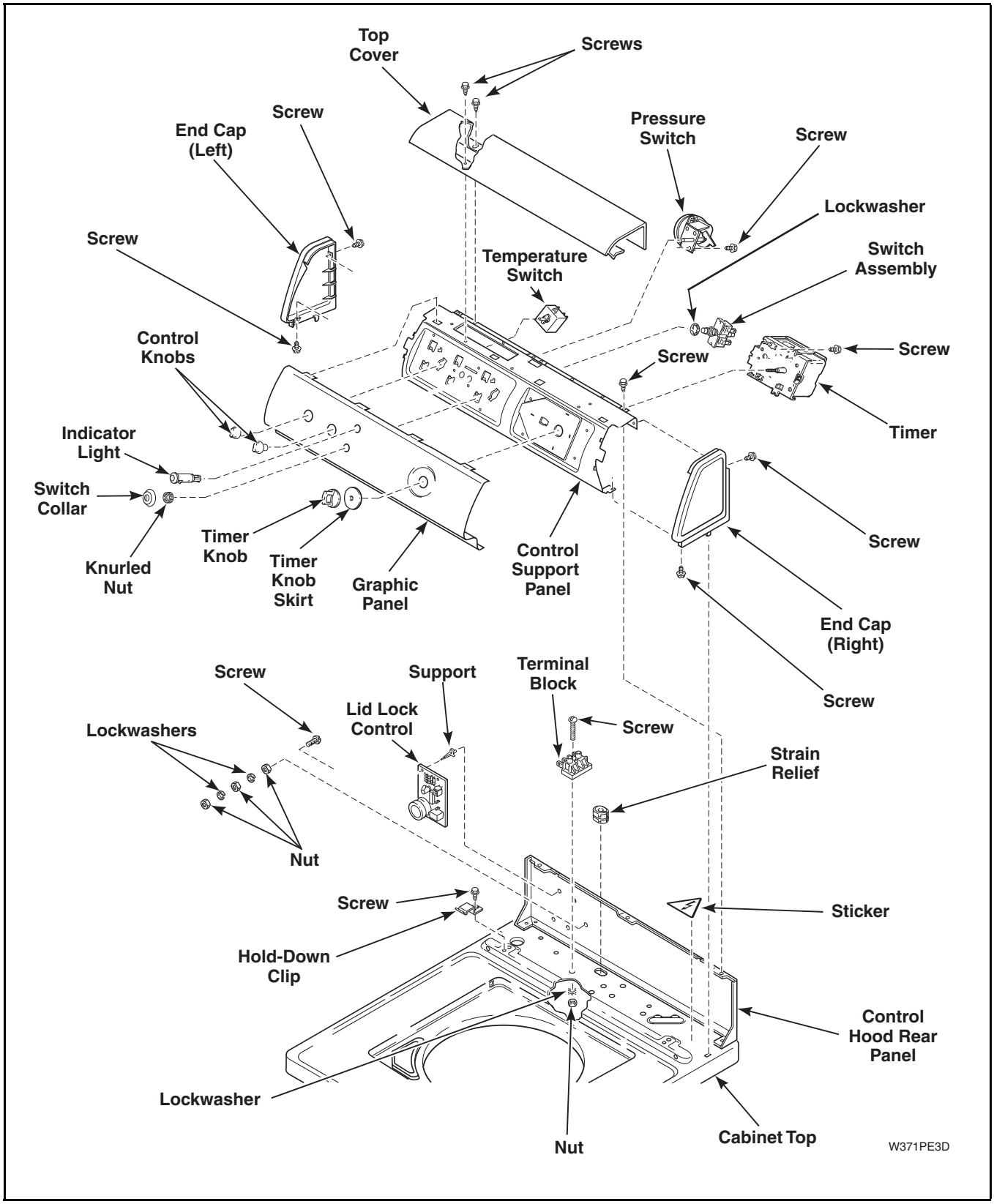


Figure 8

GRAPHIC PANEL, CONTROL SUPPORT PANEL AND CONTROLS
Models LWS17A*B3069, LWZ17A*B3069, LWS17M*B3069 and LWZ17M*B3069
through Serial No. 00061999

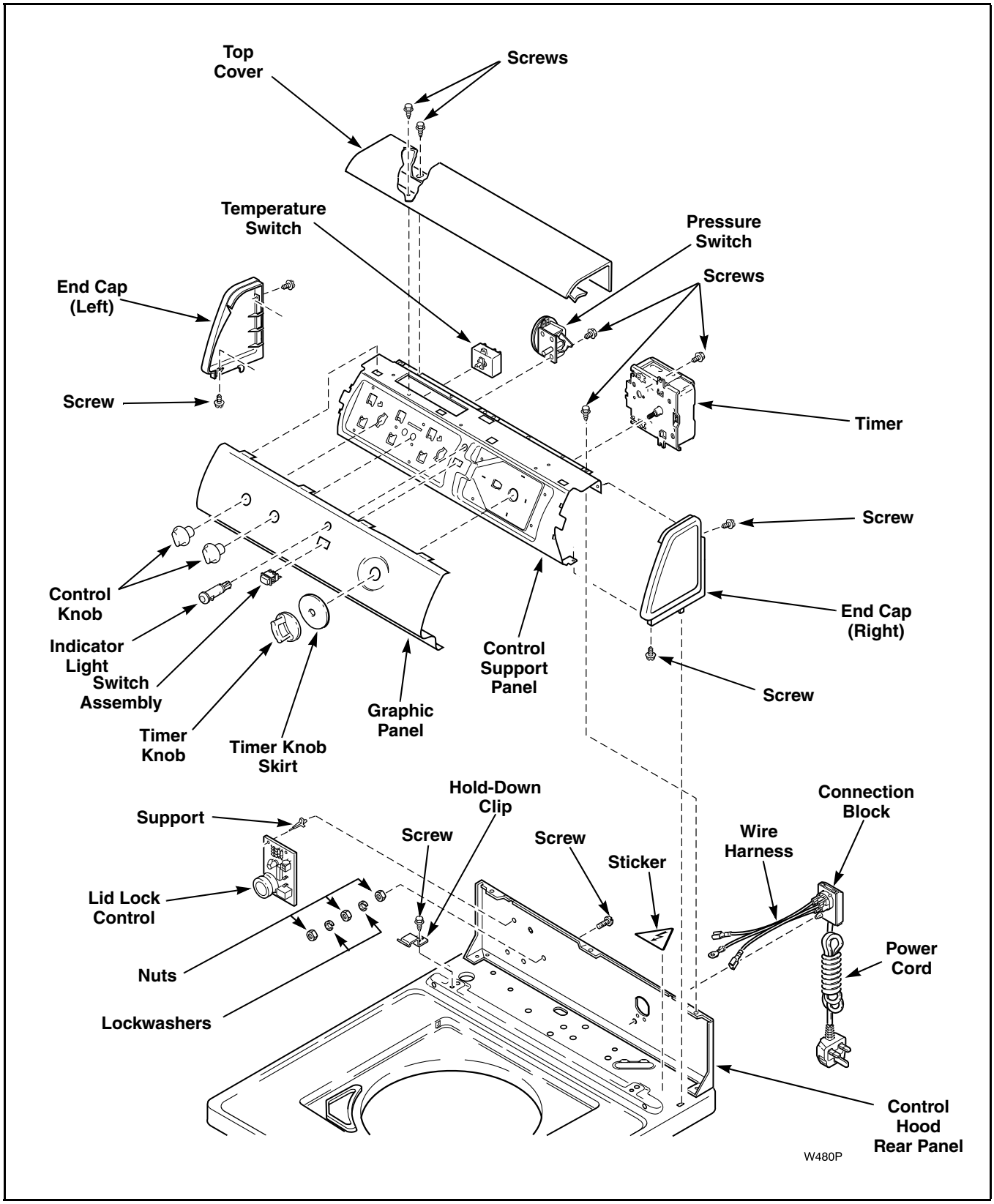


Figure 9

GRAPHIC PANEL, CONTROL SUPPORT PANEL AND CONTROLS
Models LWS17A*B3069, LWZ17A*B3069, LWS17M*B3069 and LWZ17M*B3069
starting Serial No. 00062000

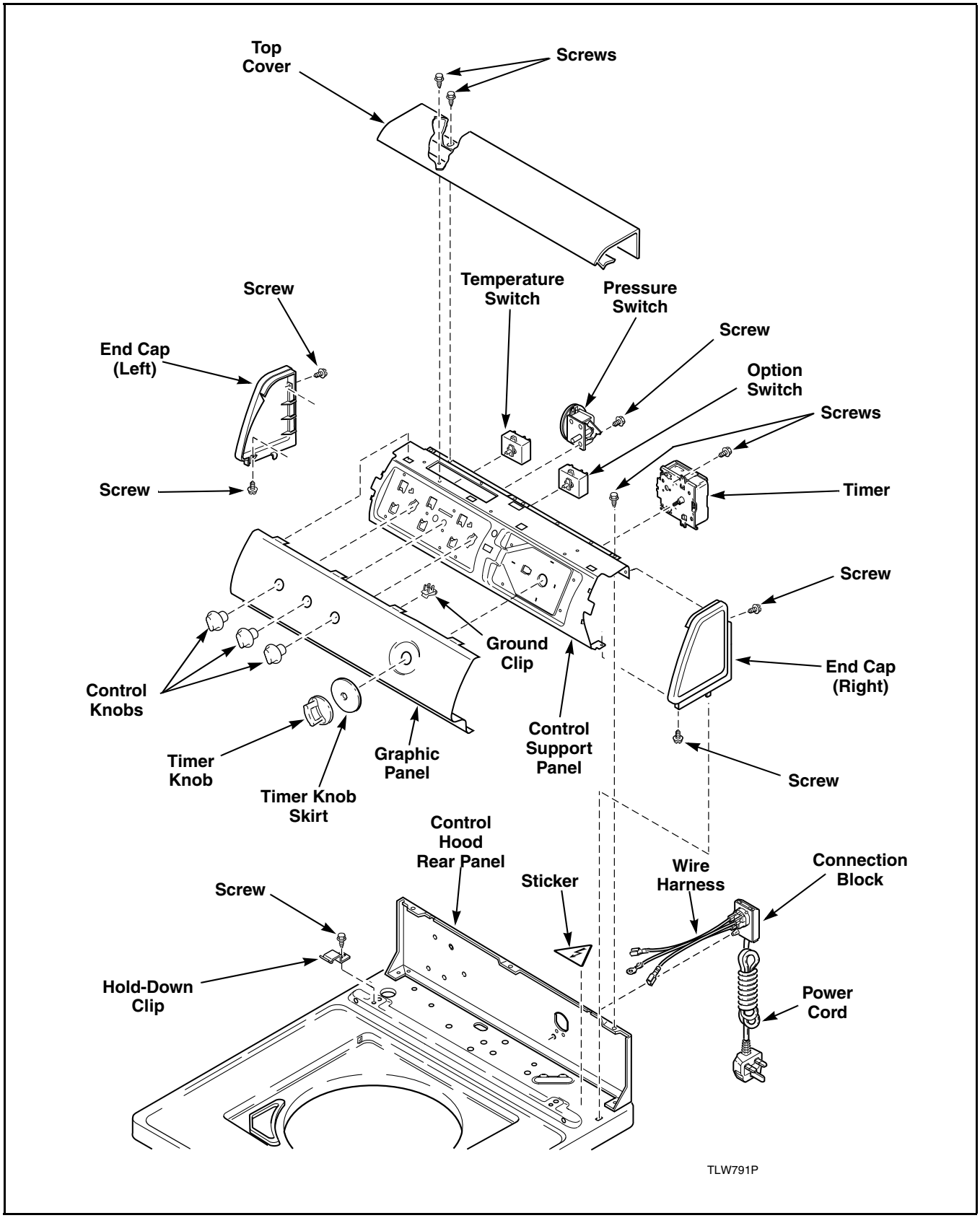


Figure 10

GRAPHIC PANEL, CONTROL SUPPORT PANEL AND CONTROLS
Models with suffixes 3050 and 3062

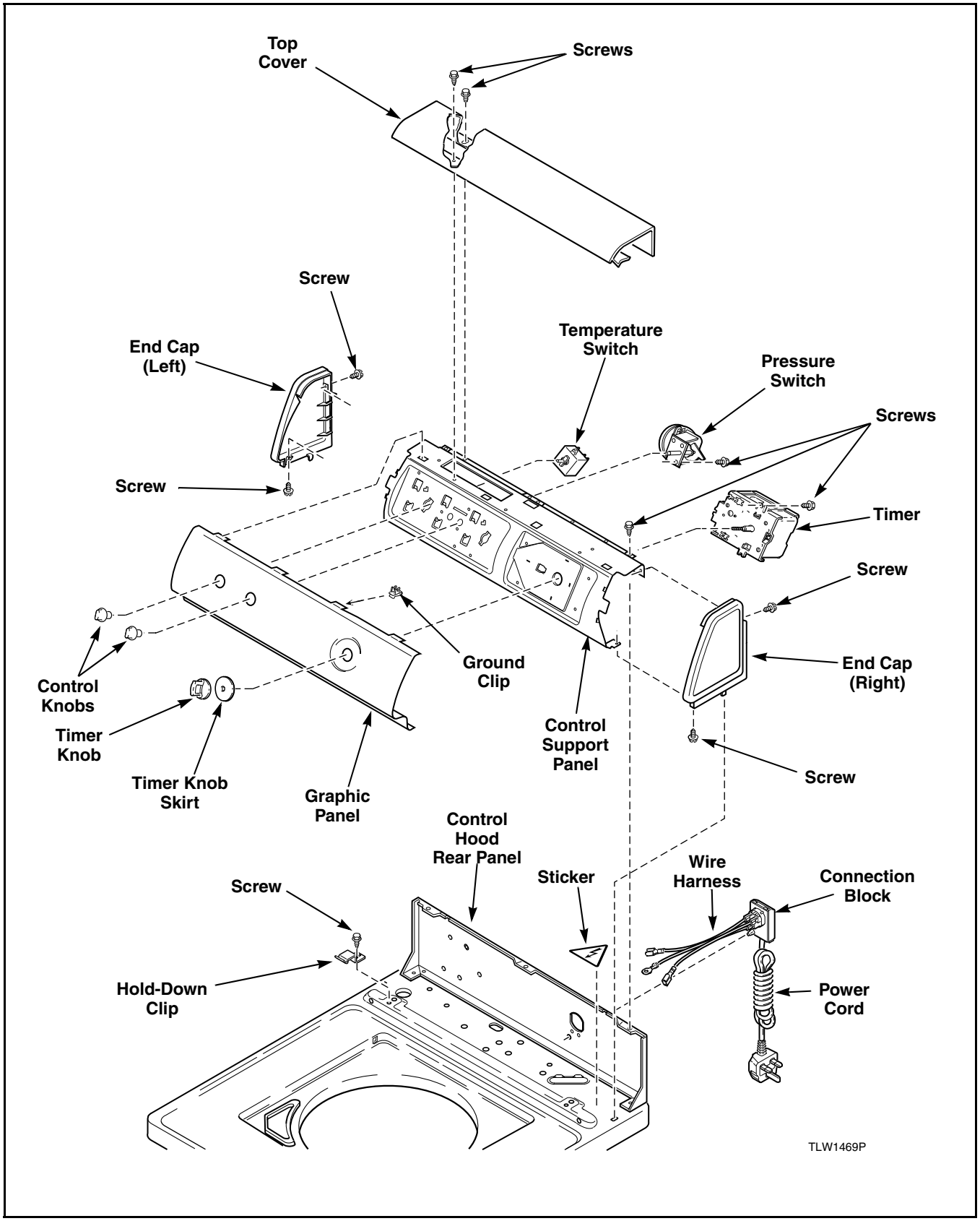


Figure 11

GRAPHIC PANEL, CONTROL SUPPORT PANEL AND CONTROLS
Models LWS17M*B3020 and LWZ17M*B3020 starting Serial No. 0204008036

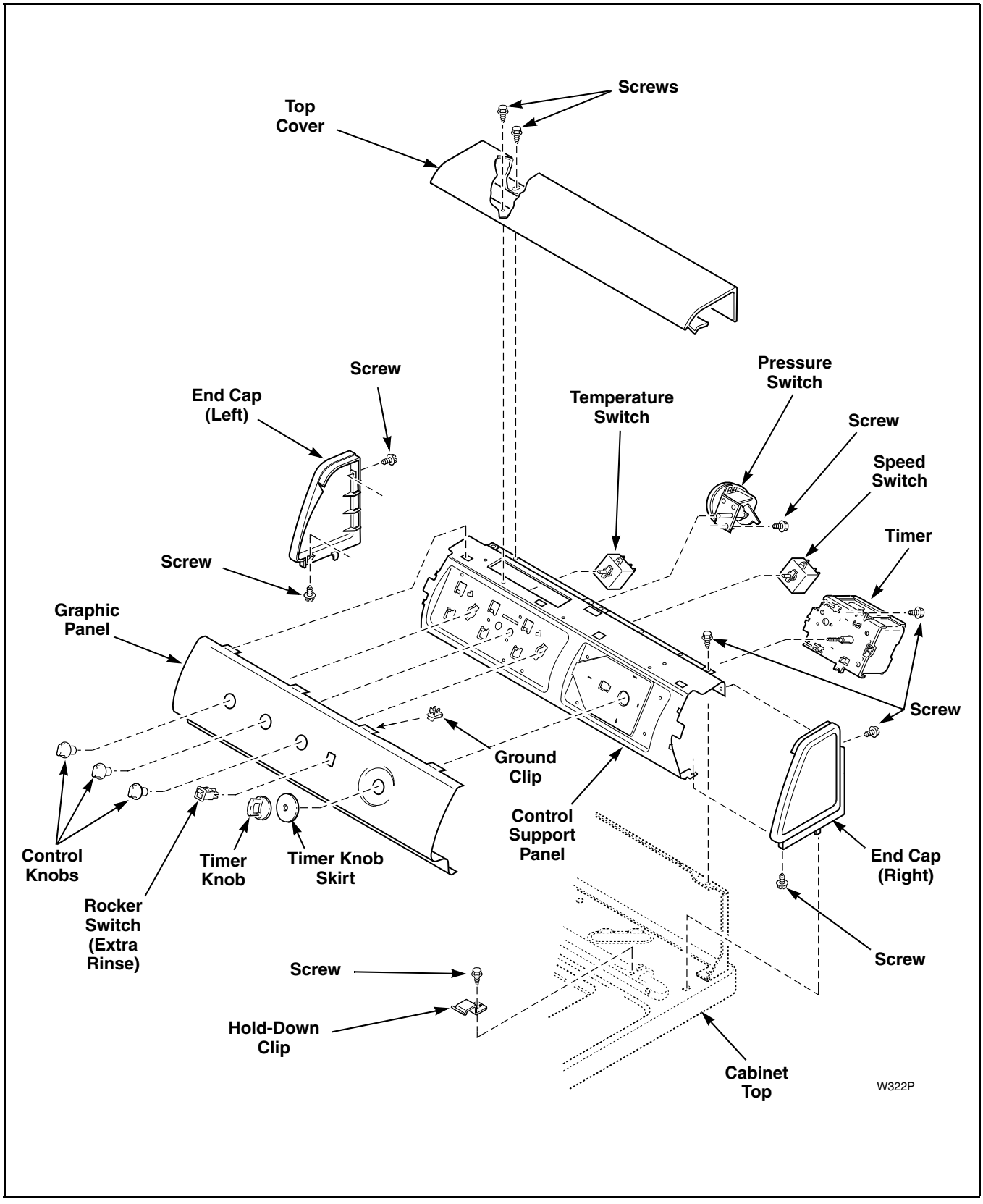


Figure 12

GRAPHIC PANEL, CONTROL SUPPORT PANEL AND CONTROLS
Models AWZ52N*-1102, LWD52M*-1100, LWD52N*-1100, LWS52N*-1127, LWT52N*-1100, LWZ52M*-1102, LWZ52N*-1102, LWZ77M*-1102 and LWZ77N*-1102

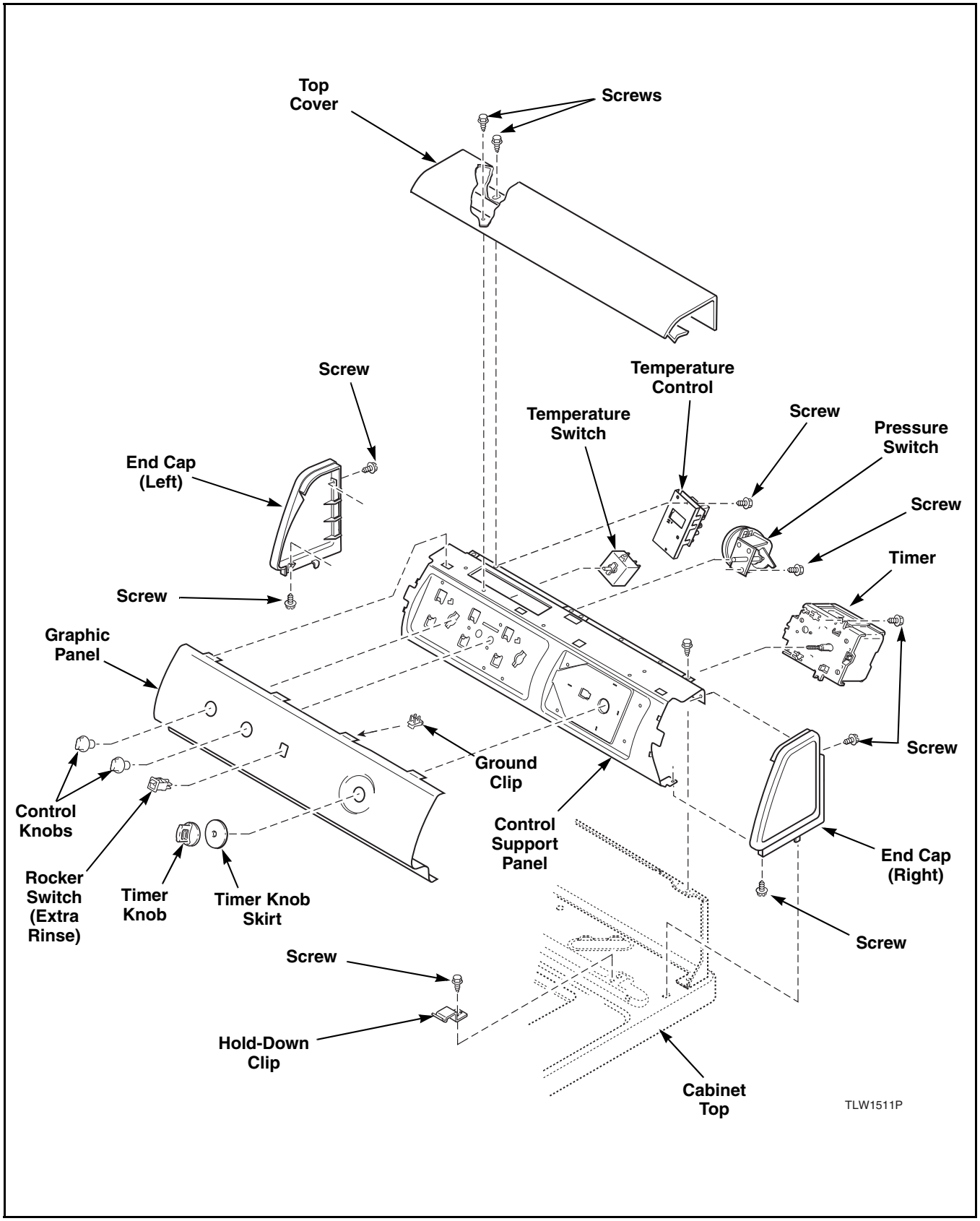


Figure 13

GRAPHIC PANEL, CONTROL SUPPORT PANEL AND CONTROLS
Model AWZ53N*-1102

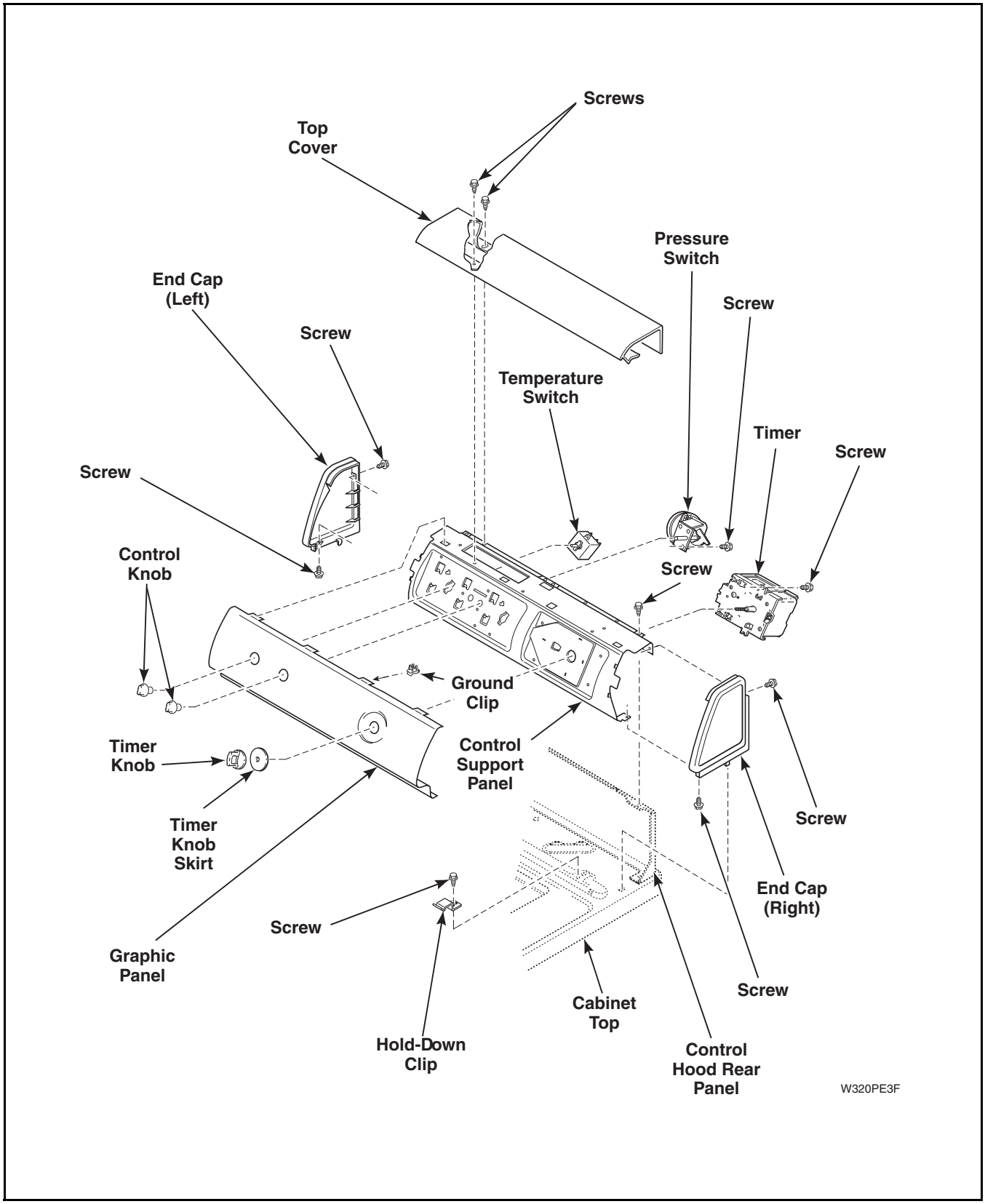


Figure 14

GRAPHIC PANEL, CONTROL SUPPORT PANEL AND CONTROLS (All Other Models)

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

23. TIMER

a. Unscrew timer knob from timer shaft (right hand thread), then remove timer knob skirt.
b. Remove three screws holding rear of hood assembly to control hood rear panel. Refer to *Figure 7*.
c. Pivot hood assembly forward on cabinet top. Refer to *Figure 7*.
d. Refer to *Figures 8-14* for timer removal.
e. Remove two screws holding timer to control hood mounting plate. Refer to *Figure 15*.

NOTE: DO NOT attempt to repair timer.

f. Disengage wire harness terminal block plugs from timer by pressing in on movable locking tabs (located on each side of terminal block plug) and pulling away from timer. Refer to *Figure 15*.

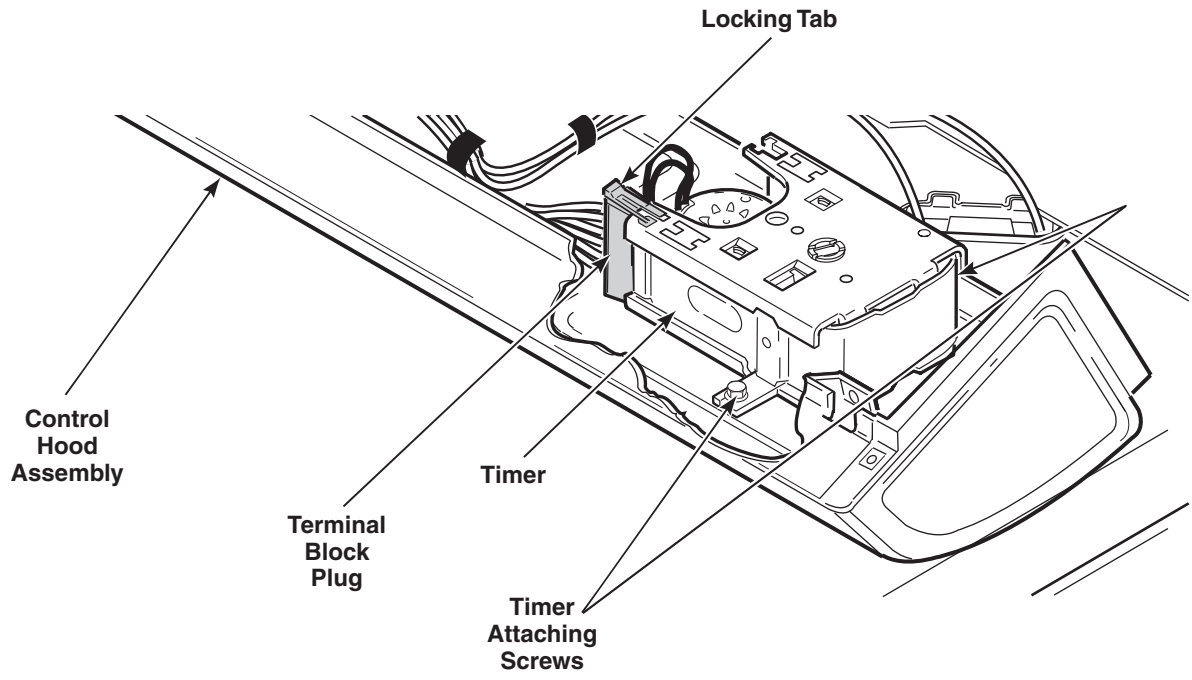


Figure 15

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

IMPORTANT: 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.

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

NOTE: When installing timer, make sure timer is installed correctly and is securely mounted to control mounting plate. Refer to *Figure 16*.

g. Seat horizontal and vertical tabs on front plate of timer completely into slots on control mounting plate. Refer to *Figure 16*.
h. Tighten attaching screws between 12 to 18 inch pounds (1.6 to 2.4 Nm).

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

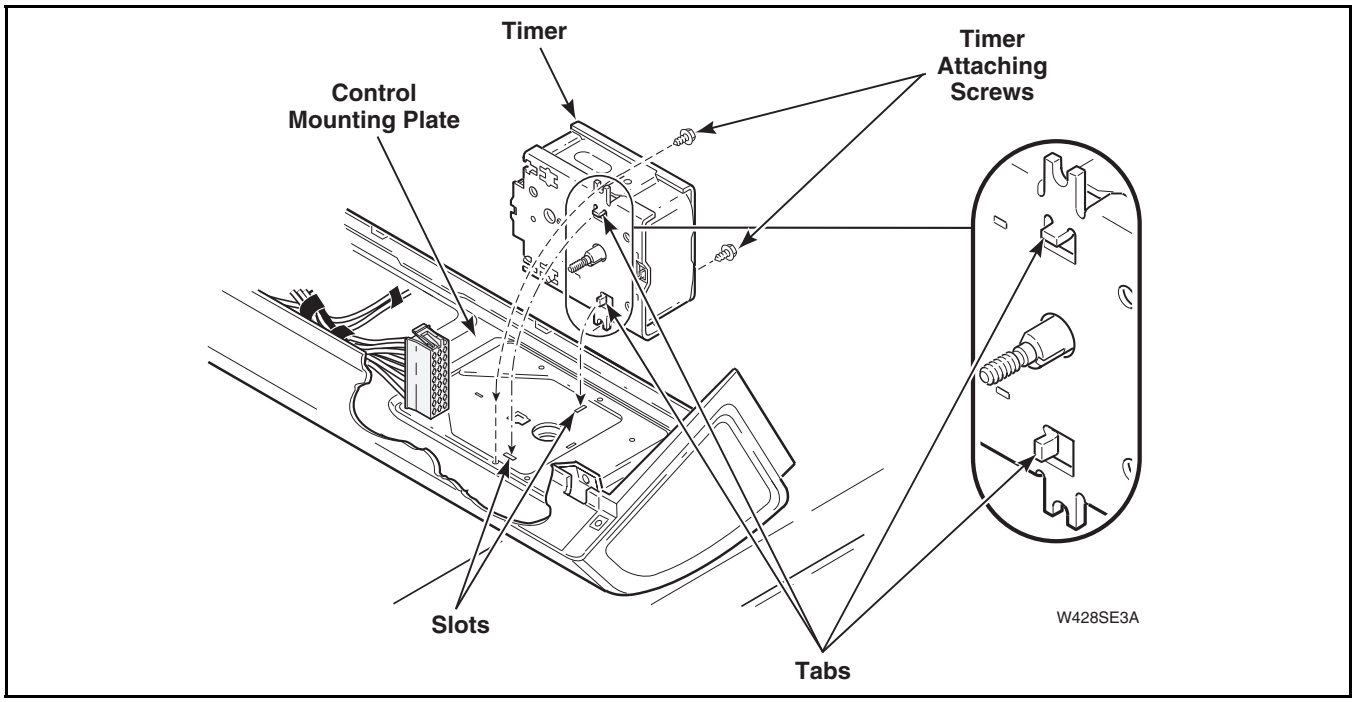


Figure 16

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

24. TEMPERATURE SWITCH

a. Remove three screws holding rear of hood assembly to control hood rear panel. Refer to *Figure 7*.
b. Pivot hood assembly forward on cabinet top. Refer to *Figure 7*.
c. Disconnect wires from switch terminals.

NOTE: Refer to wiring diagram when rewiring switch.

d. Press in on two locking tabs and at the same time turn the switch 1/4 turn counterclockwise to remove switch from control hood mounting plate. Refer to *Figure 17*.

IMPORTANT: Before removing switch, note the switch position in relation to control hood mounting plate so switch can be reinstalled in same position.

NOTE: When installing switch, place switch tabs into cutout in mounting plate and turn switch clockwise to its full limit of travel, within the mounting plate opening, until both locking tabs snap into place.

25. PRESSURE SWITCH

a. Remove three screws holding rear of hood assembly to control hood rear panel. Refer to *Figure 7*.
b. Pivot hood assembly forward on cabinet top. Refer to *Figure 7*.
c. Disconnect wires from pressure switch.
d. Refer to *Figures 8-14* for switch removal.

NOTE: Refer to wiring diagram when rewiring switch.

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

26. GRAPHIC PANEL

a. Unscrew timer knob from timer shaft (right hand thread), then remove timer knob skirt.
b. Pull knob off switch shaft.

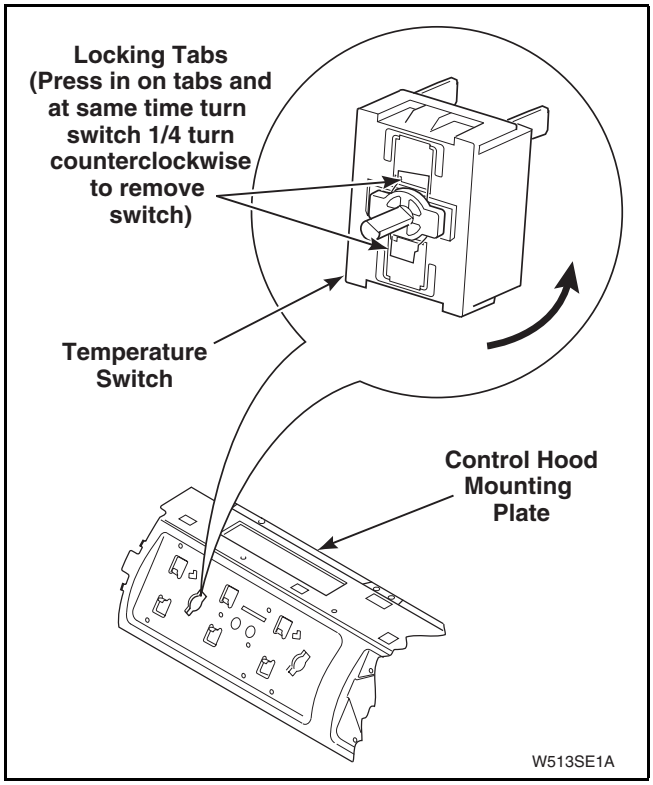


Figure 17

c. Remove three screws holding rear of hood assembly to control hood rear panel. Refer to *Figure 7*.
d. Pivot hood assembly forward on cabinet top. Refer to *Figure 7*.
e. Disconnect wires from component parts and carefully remove components from control hood assembly.

NOTE: Refer to wiring diagram when rewiring component parts.

f. Bend tabs on graphic panel (located inside of control hood) straight out toward rear of hood. Refer to *Figures 8-14*.
g. Carefully remove graphic panel off front of control mounting plate.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

27. LOADING DOOR

a. Open loading door. Refer to *Figure 18*.
b. Remove two screws holding left hinge to door and remove hinge. Refer to *Figure 18*.
c. Raise loading door to a nearly vertical position, to disengage loading door from loading door clip, swing left side of door toward front of washer. Refer to *Figure 19*, **procedure one.**
d. Rotate loading door so door is upside down. Refer to *Figure 19*, **procedure two.**
e. Carefully remove loading door, right hinge and bushing from cabinet top. Refer to *Figure 19*, **procedure three.**

NOTE: Reverse procedure when installing door.

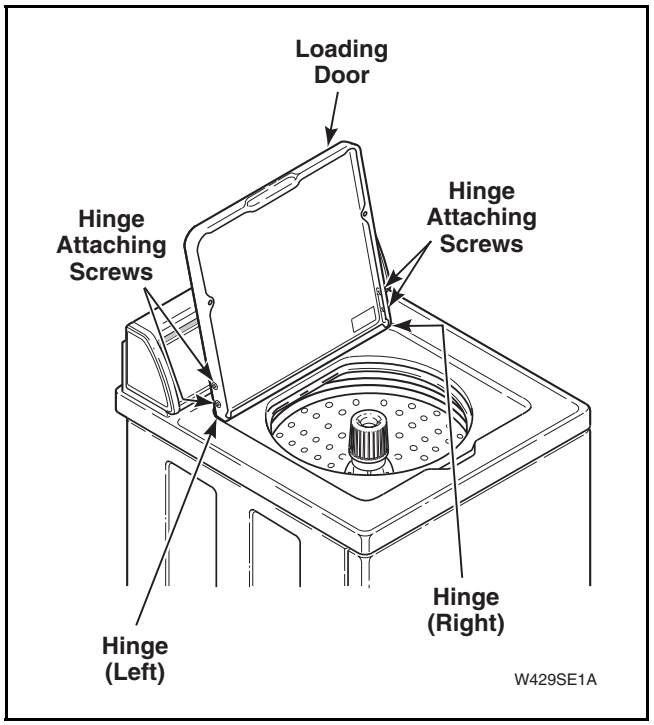


Figure 18

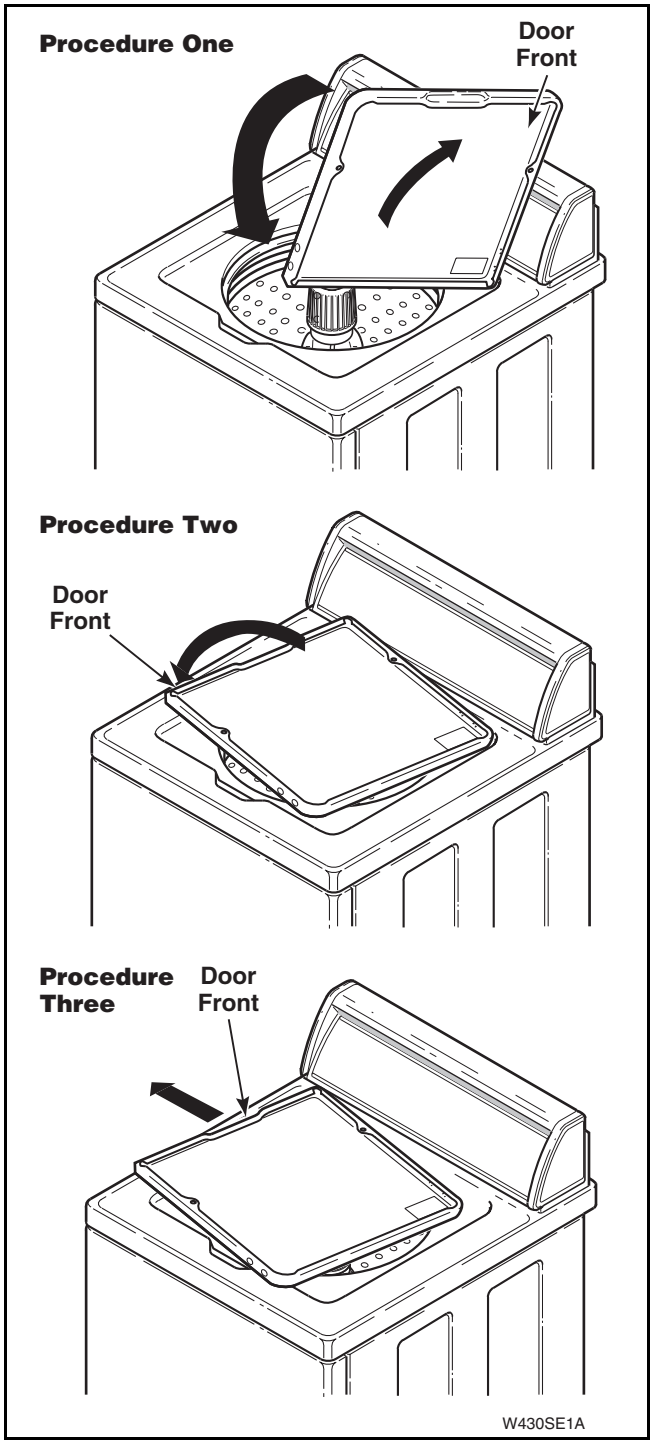


Figure 19

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

28. AGITATOR

a. Open loading door.
b. Remove agitator by placing two agitator hooks, No. 254P4P, under bottom edge of agitator. Refer to *Figure 20*.

IMPORTANT: Hooks should be positioned 180 degrees 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.

c. Using a rocking motion (back and forth) carefully lift agitator off drive bell.

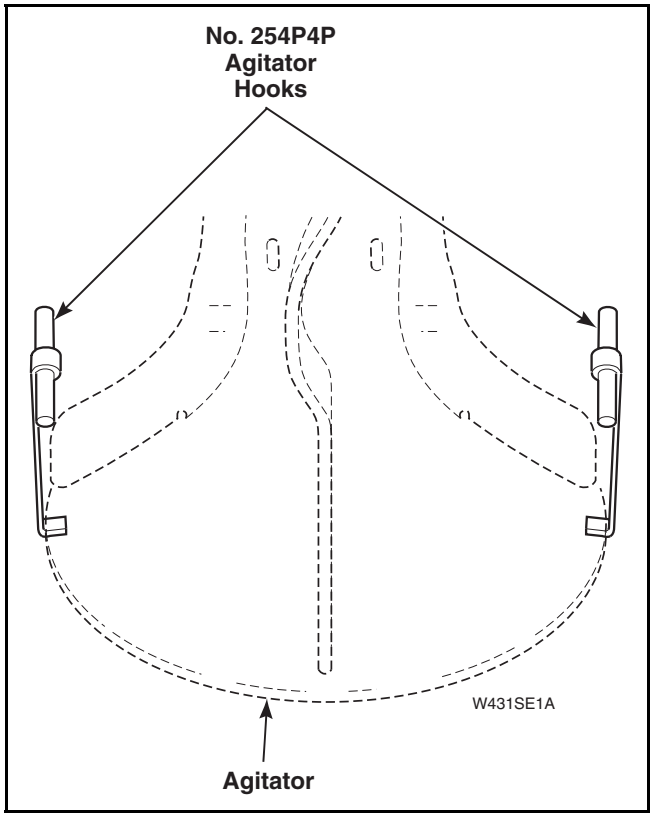


Figure 20

29. AGITATOR, DRIVE BELL AND SEAL ASSEMBLY

IMPORTANT: If water is present in washtub, spin and pump out before attempting to remove drive bell.

a. Remove agitator, *Paragraph 28*.
b. Remove plug, screw (and o-ring if present) from top of drive bell.

NOTE: Use No. 294P4 Drive Bell Tool to remove drive bell from transmission shaft.

NOTE: Drive Bell Tool, No. 294P4, must be updated with Jaws, No. 294P4A, and Bolt, No. 294P4B, to remove the 39508P Drive Bell.

c. Back bolt out of 294P4 Drive Bell Tool approximately three quarters of the way. Refer to *Figure 21*.
d. Place tool over drive bell, making sure indent on jaws line up with wide slots on drive bell. Refer to *Figure 22*.

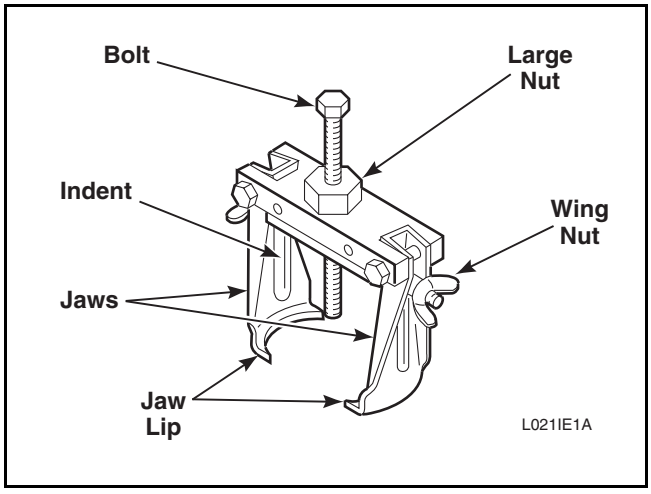


Figure 21

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

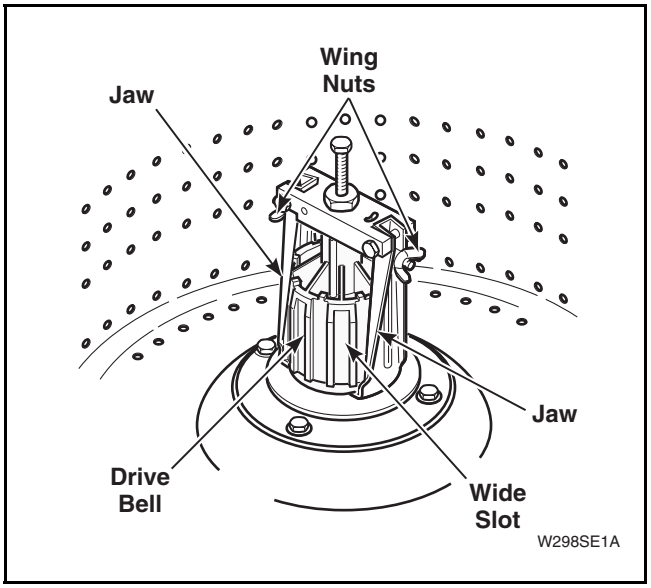


Figure 22

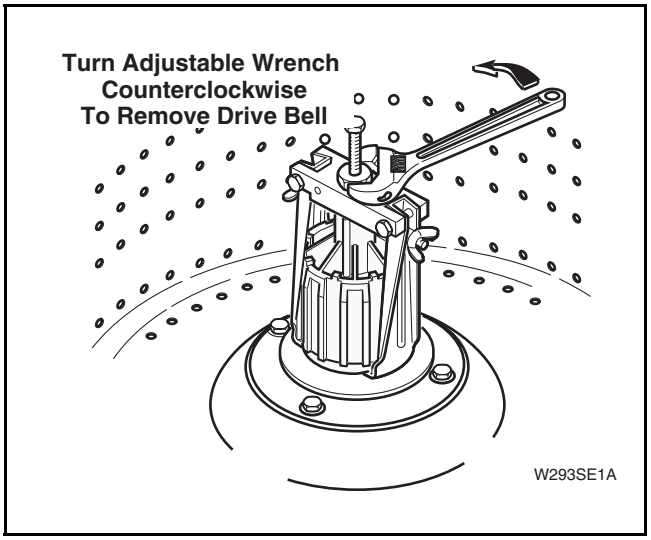


Figure 23

e. Thread bolt down through hole in top of drive bell until it bottoms out.
f. Place lip of each jaw under bottom edge of drive bell, making sure indent on jaws line up with wide slots on drive bell. Tighten wing nuts on tool to hold jaws firmly against drive bell. Refer to *Figure 22*.
g. Using an adjustable wrench, turn large nut on tool **COUNTERCLOCKWISE** to pull drive bell from transmission output shaft. Refer to *Figure 23*.

IMPORTANT: If large nut is turned clockwise when pulling drive bell, you will twist off the quarter inch bolt.

h. After drive bell has been pulled, remove tool and drive bell by turning quarter inch bolt out of transmission output shaft.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

i. Loosen wing nuts and remove drive bell from tool.
j. Remove old seal from hub assembly by:
   (1) Placing a flat bladed screwdriver between bottom edge of seal and hub.
   (2) Using washtub bolts as a pry area, pop off lower seal bead.
   (3) Grasping bottom of seal pull straight up freeing upper seal bead.

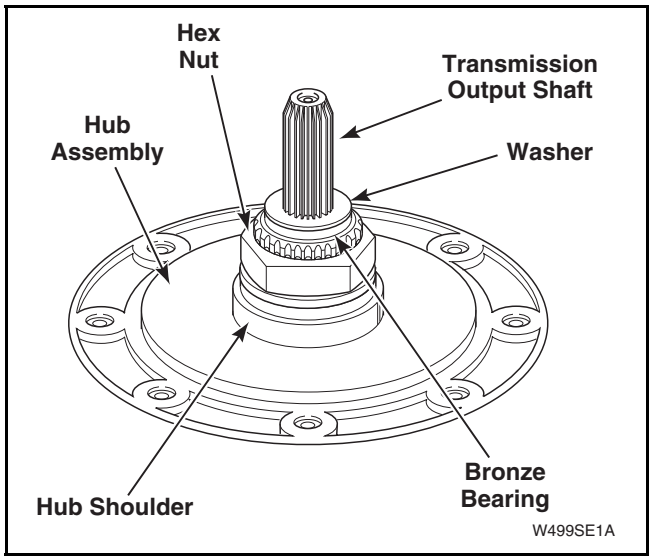


Figure 24

k. Thoroughly clean all foreign material from seal mounting area of hub assembly, bronze bearing and washer. Refer to *Figure 24*.
l. Lubricate new seal with liquid soap or soapy water to aid in assembly of seal onto hub. Refer to *Figure 25*.
m. Apply a small amount of supplied grease, No. 36765P, to inside sealing lips of seal. Refer to *Figure 25*.

IMPORTANT: DO NOT allow any lubricants to come in contact with outside surface of seal.

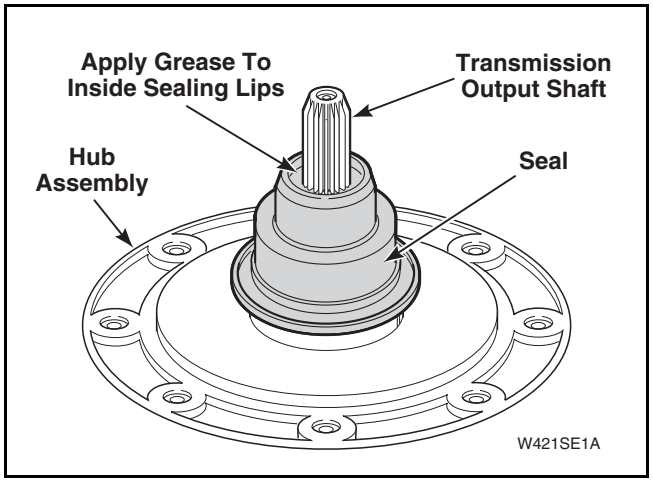


Figure 25

n. Apply remainder of supplied grease, No. 36765P, to exposed surface of washer between transmission output shaft and seal. Refer to *Figure 27*.
o. Place new drive bell seal onto hub and carefully push into position using large end of No. 293P4 Seal Tool. Refer to *Figure 26*.

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

p. Turn the No. 293P4 Seal Tool upside-down and place the small end over transmission output shaft and onto the seal. Refer to *Figure 27*.
q. Push down on tool with a quick motion until it bottoms out and the top of seal is fully seated. Refer to *Figure 27*.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

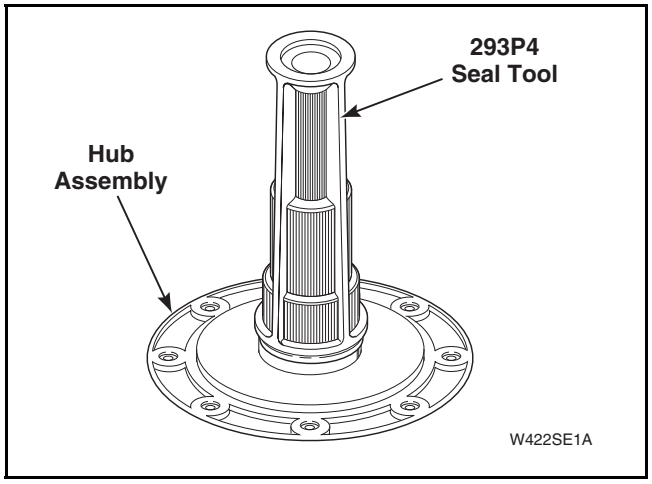


Figure 26

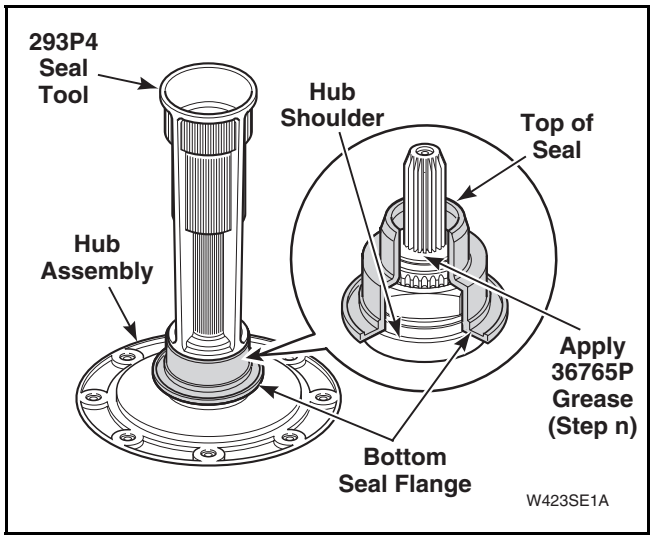


Figure 27

INSTALLING DRIVE BELL

a. Position new drive bell over transmission output shaft. Rotate drive bell until splines in drive bell line up with splines on transmission output shaft.
b. Place No. 294P4 Bell Tool over top of drive bell. Screw bolt into transmission output shaft until it bottoms out.

NOTE: It is not necessary to clamp tool jaws on drive bell during this operation.

c. Using an adjustable wrench, turn large nut on tool **CLOCKWISE** to force drive bell down onto transmission shaft until drive bell bottoms out on shaft.
d. Turn quarter inch bolt out of transmission shaft and remove tool.
e. Thread new shoulder screw down through hole in top of drive bell and into transmission shaft.

NOTE: Tighten new shoulder screw to approximately 60 to 80 inch-pounds (6.86 to 9.15 Nm).

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

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

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

g. Place agitator on top of drive bell. Slowly rotate agitator until fingers on underside of agitator line up with large slots on drive bell.
h. A sharp blow on top of agitator, with 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.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

30. FRONT PANEL

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (approximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.

Panel Locators

Remove screws holding panel locators to side flanges of front panel.

Brace

Remove screws holding brace to side flanges of front panel. Remove brace from front panel by swinging one end toward bottom of front panel and remove brace.

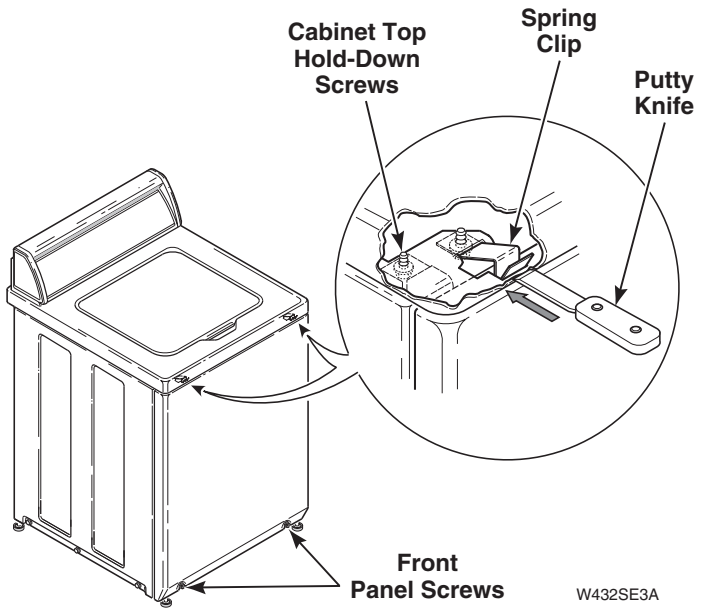


Figure 28

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

31. MOTOR, PUMP AND MOUNTING BRACKET

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (approximately three inches in from side). Refer to *Figure 29*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Life front panel off two screws and set panel aside.

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

d. **Direct Drive Pump Models —** Loosen hose clamps and remove hoses from pump assembly. Refer to *Figure 29*.
e. Unhook idler spring from clip on front of motor mounting bracket. Refer to *Figure 29*.

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

f. Reach in and around right side of motor and run belt off right side of large drive pulley. Refer to *Figure 29*.
g. 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. Refer to *Figure 29*.
h. Remove four screws holding motor and mounting bracket to lower outer tub flange and to weldment assembly. Refer to *Figure 29*. Then lift complete assembly out of washer.

IMPORTANT: Carefully lay motor on its side. Observe belt configuration around rear pump leg. Belt MUST encircle rear pump leg when reassembling. Refer to *Figure 29*.

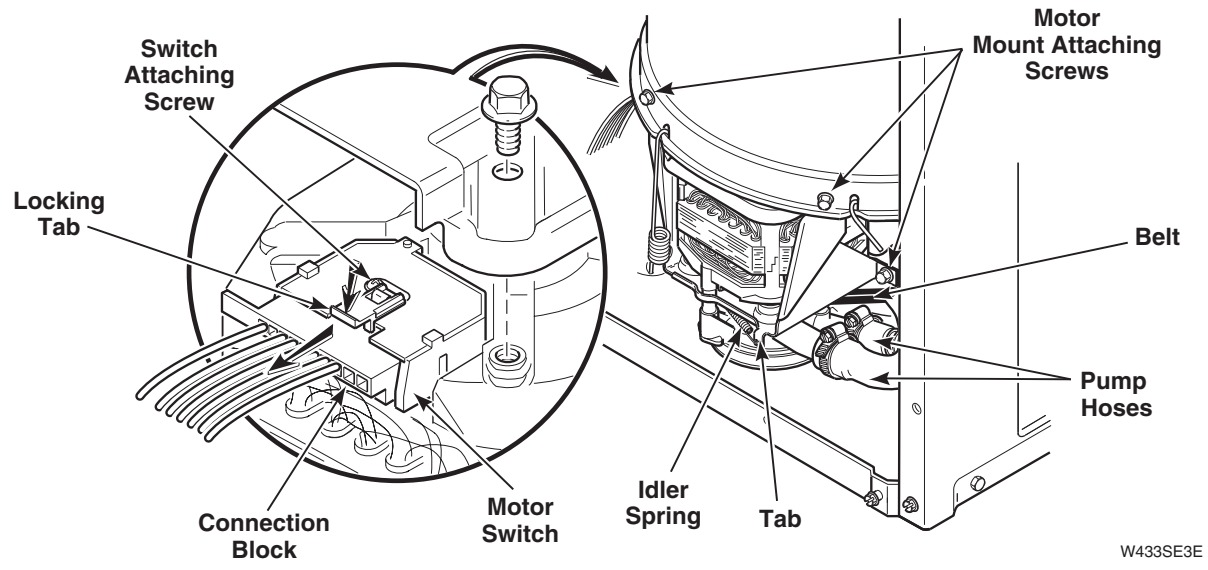


Figure 29

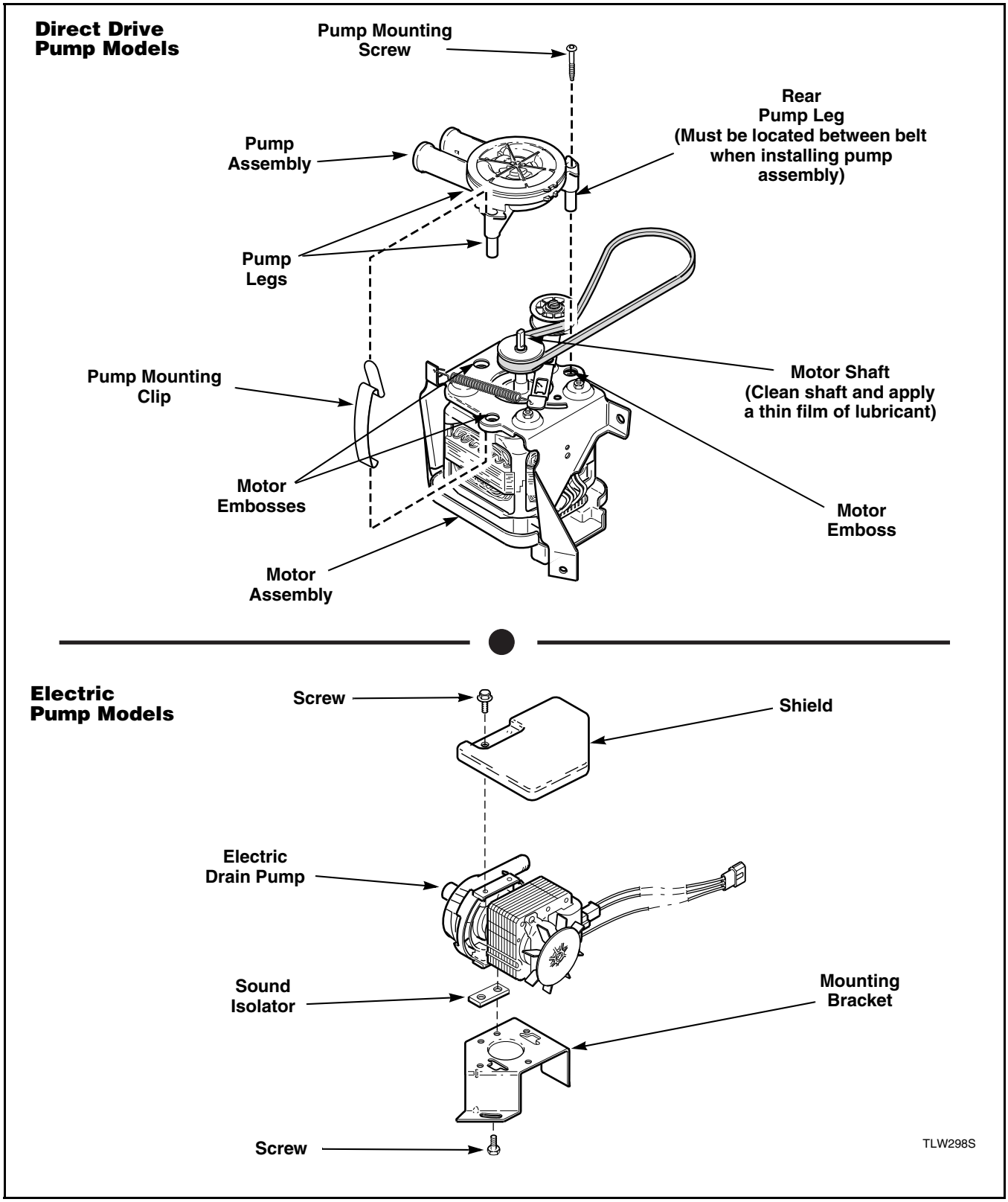


Figure 30

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

PUMP AND BELT REMOVAL—(Direct Drive Pump Models)

a. Remove three screws holding pump assembly to motor. Or, for models with clips, grasp tab of clip, pull up and away from pump until clip unsnaps. Refer to *Figure 30*.

REASSEMBLY OF PUMP AND BELT

IMPORTANT: Install pump and belt together. Drive belt MUST be replaced with special clutch-type belt for proper washer operation. Refer to parts manual for correct part number of belt.

a. Clean any corrosion or foreign material from motor shaft that will be contacting the double "D" slot in pump impeller.
b. Apply a thin film of lubricant to end and sides of motor shaft. This lubricant helps keep moisture out of the hub area and retards corrosion.
c. Align pump impeller hub with motor shaft. Make sure belt encircles rear pump leg, carefully push pump onto motor shaft so three pump legs bottom out in the embosses on motor housing before screws are tightened/clips are installed. Refer to *Figure 30*.
d. Tighten three screws to 35 inch-pounds (4.0 Nm) maximum. DO NOT overtighten screws! If using clips, hook top of clip onto bracket. While holding top of clip in place, push middle of clip toward pump until clip snaps into leg openings on pump.

NOTE: Install clip with tab end farthest from motor. Refer to *Figure 30*.

e. Reinstall motor and pump assembly into washer.

IMPORTANT: After installing motor and pump assembly 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.

MOTOR REMOVAL

Remove nuts, steel washers, spacers and rubber mounts holding motor to mounting bracket. Refer to *Figure 31*. Lift motor off mounting bracket and remove balance of rubber mounts and steel washers from motor mounting studs.

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

NOTE: Refer to *Figure 31* for motor and mounting bracket assembly sequence.

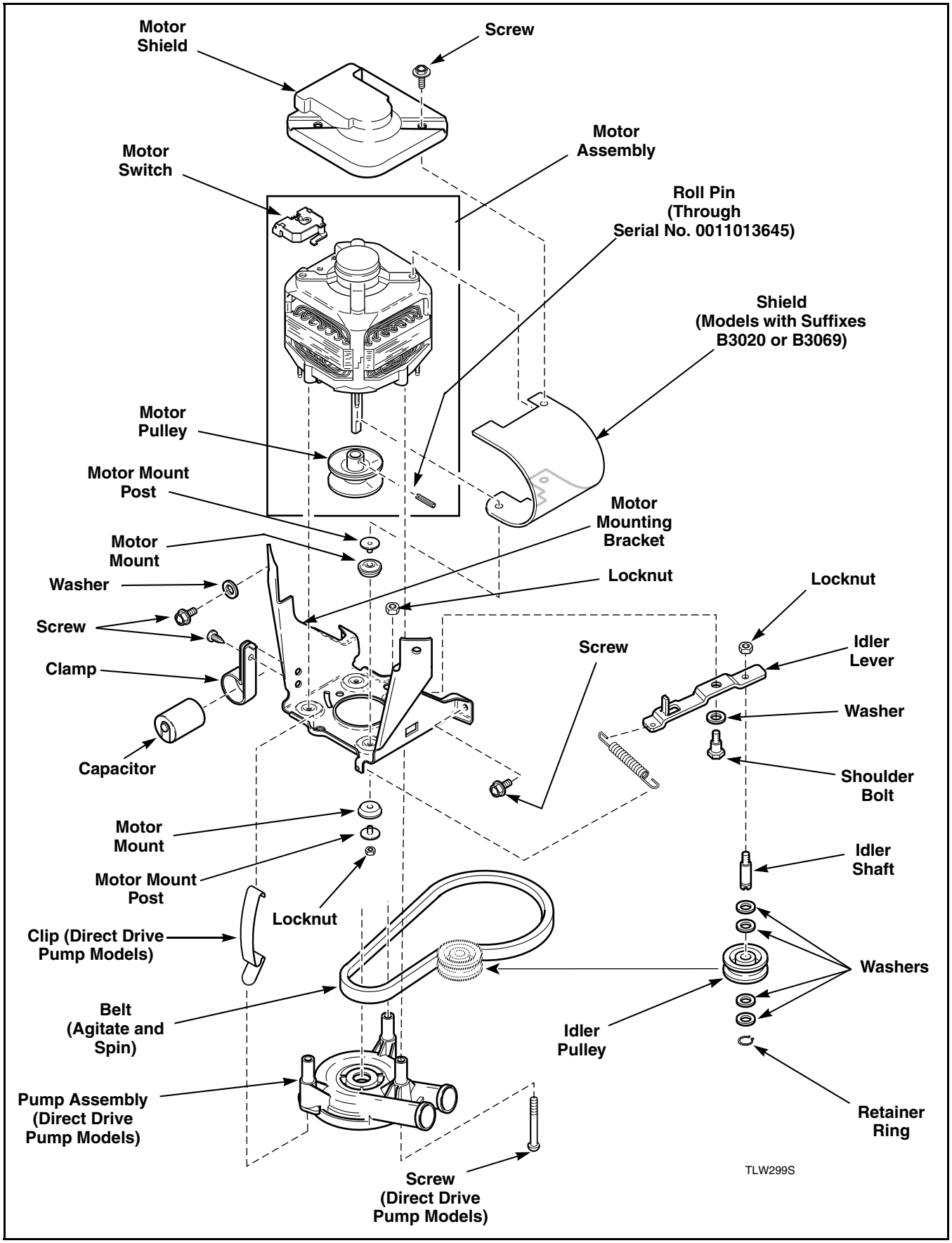


Figure 31

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

32. IDLER LEVER AND PULLEY

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (approximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.

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

d. **Direct Drive Pump Models —** Loosen hose clamps and remove hoses from pump assembly. Refer to *Figure 29*.
e. Unhook idler spring from idler lever. Refer to *Figure 29*.

IMPORTANT: Use care when removing idler spring. If idler spring is overstretched, washer operation will be affected.

f. Reach in and around right side of motor and run belt off right side of large drive pulley. Refer to *Figure 29*.
g. 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. Refer to *Figure 29*.
h. Remove four screws holding motor mounting bracket to lower flange of outer tub and to weldment assembly. Refer to *Figure 29*. Then remove complete assembly out of washer.

NOTE: For ease of idler lever removal, remove pump assembly from motor, then remove motor from mounting bracket.

i. Remove locknut, washer and shoulder bolt holding idler lever and pulley to motor mounting bracket. Refer to *Figure 31*.

NOTE: Refer to *Figure 31* for idler lever and pulley assembly sequence.

j. Apply a light film of lubricant to area of idler lever that makes contact with motor mounting bracket.

IMPORTANT: 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.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

33. MOTOR SWITCH

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (approximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.
d. Remove two screws holding motor shield to motor. Refer to *Figure 29*.
e. 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. Refer to *Figure 29*.

IMPORTANT: To avoid 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, make sure all male terminals on motor switch are straight and are capable of accepting terminals from wire harness connection block.

f. Remove screw holding motor switch to motor. Refer to *Figure 29*.
g. Disconnect internal motor leads from motor switch terminals. Then remove switch.

NOTE: Refer to Wiring Schematics, *SECTION 9* for rewiring internal motor switch wires.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

34. PUMP ASSEMBLY (Electric Pump Models)

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (approximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.
d. Remove two screws holding pump assembly to washer base. Refer to *Figure 32*.
e. Disconnect pump wire harness from base wire harness at quick disconnect blocks. Refer to *Figure 32*.
f. Pull pump out of washer as far as hoses permit.

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

g. Loosen hose clamps and remove hoses from pump.

NOTE: Refer to *Figure 33* for assembly sequence.

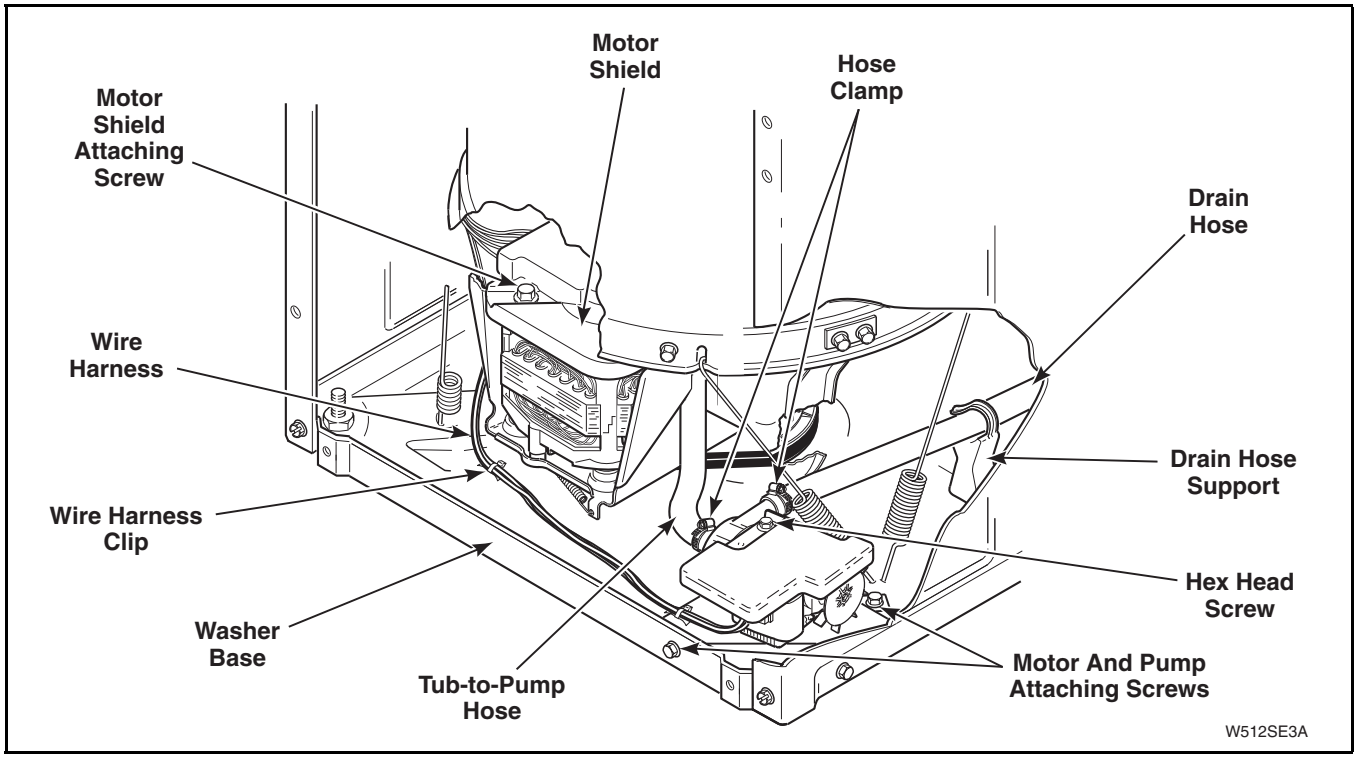


Figure 32

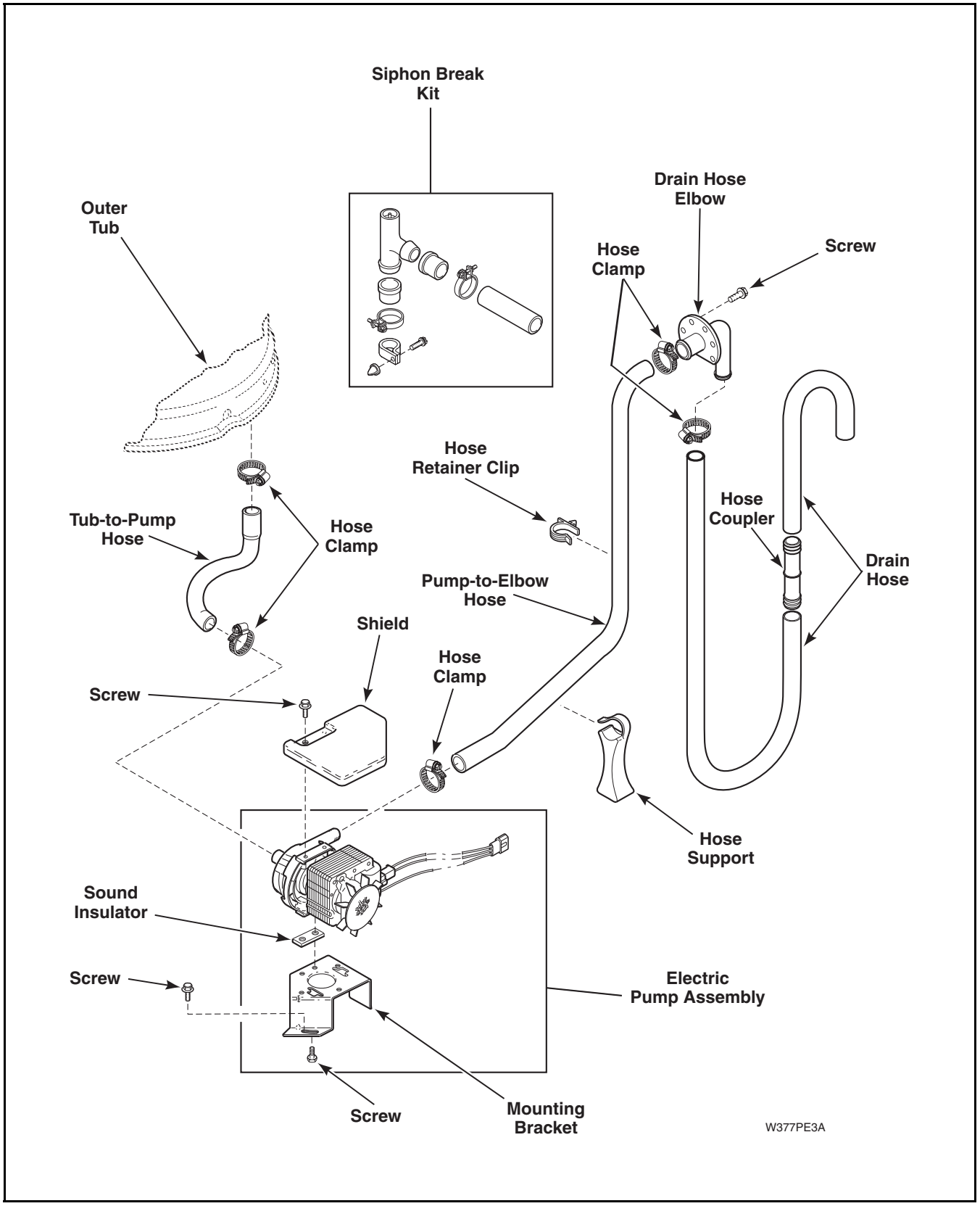


Figure 33

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

35. CABINET TOP ASSEMBLY

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.
d. Remove two cabinet top hold-down screws. Refer to *Figure 28*.
e. If area or space permits, tape loading door closed and lift cabinet top to a vertical position by hinging it on the rear hold-down hinges.

NOTE: Cabinet top is self-supporting, however, a small chain may be used for additional support. Refer to *Figure 34*.

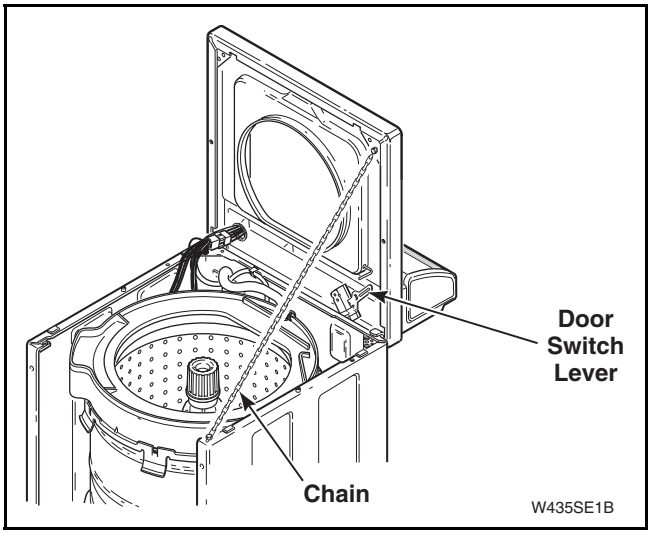


Figure 34

TO REMOVE CABINET TOP FROM WASHER

a. Repeat previous steps “a” through “d”.
b. Remove three screws holding rear of hood assembly to control hood rear panel. Refer to *Figure 7*. Pivot hood assembly forward on cabinet top. Refer to *Figure 7*.
c. Loosen hose clamp and remove pressure hose from pressure bulb.
d. Then remove pressure hose from clips located on mixing valve cabinet flange and the top flange at rear of cabinet. Refer to *Figure 36*.
e. Disconnect wire harness at disconnect blocks.
f. Tape loading door closed.
g. Lift front of cabinet top slightly and pull forward to disengage from rear hold-down brackets.
h. Pull top forward far enough to permit disconnecting earth (ground) wires from top left rear corner gusset of washer cabinet. Refer to *Figure 36*.
i. Disconnect wires from mixing valve solenoids at quick disconnect blocks. Refer to *Figure 36*.

IMPORTANT: Refer to wiring diagram when rewiring mixing valve solenoids.

j. Carefully lift cabinet top off washer and set alongside the washer cabinet on protective padding.

IMPORTANT: DO NOT lay cabinet top flat because it will damage door switch lever.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

36. DOOR SWITCH

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.
d. Remove two cabinet top hold-down screws. Refer to *Figure 28*.
e. If area or space permits, tape loading door closed and lift cabinet top to a vertical position by hinging it on the rear hold-down hinges.

NOTE: Cabinet top is self-supporting, however, a small chain may be used for additional support. Refer to *Figure 34*.

f. Remove screw holding door switch assembly to underside of cabinet top. Refer to *Figure 35*.
g. Disconnect wires from door switch.

NOTE: Refer to wiring diagram when rewiring switch.

h. Remove two screws holding switch to switch holder. Refer to *Figure 35*.
i. Remove switch from switch holder.

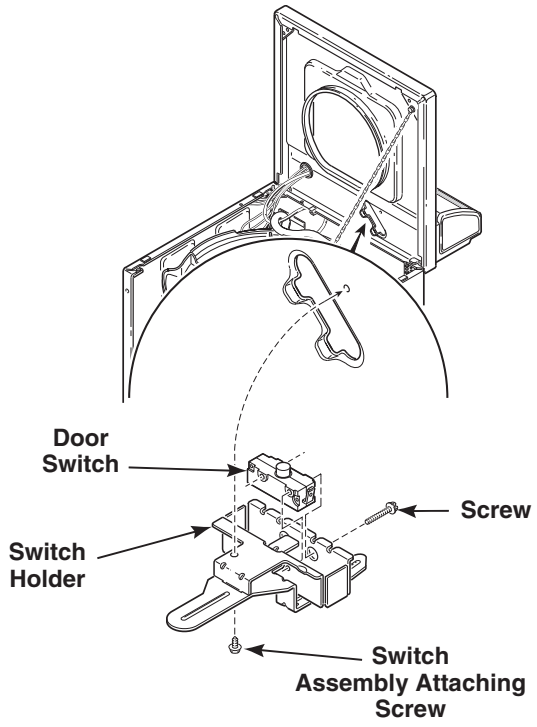


Figure 35

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

37. MIXING VALVE ASSEMBLY

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.
d. Remove two cabinet top hold-down screws. Refer to *Figure 28*.
e. If area or space permits, tape loading door closed and lift cabinet top to a vertical position by hinging it on the rear hold-down hinges.

NOTE: Cabinet top is self-supporting, however, a small chain may be used for additional support. Refer to *Figure 35*.

f. Remove screw(s) holding mixing valve to mounting bracket at rear of washer cabinet. Refer to *Figure 36*.

NOTE: When installing mixing valve, tab on bottom flange must be placed in positioning hole in mounting bracket.

g. Pull mixing valve out toward front of washer far enough to permit disconnecting water inlet and fill hoses from mixing valve. Refer to *Figure 36*.
h. Remove wires and quick disconnect blocks from mixing valve solenoid terminals. Refer to *Figure 36*.

NOTE: Refer to wiring diagram when rewiring solenoids.

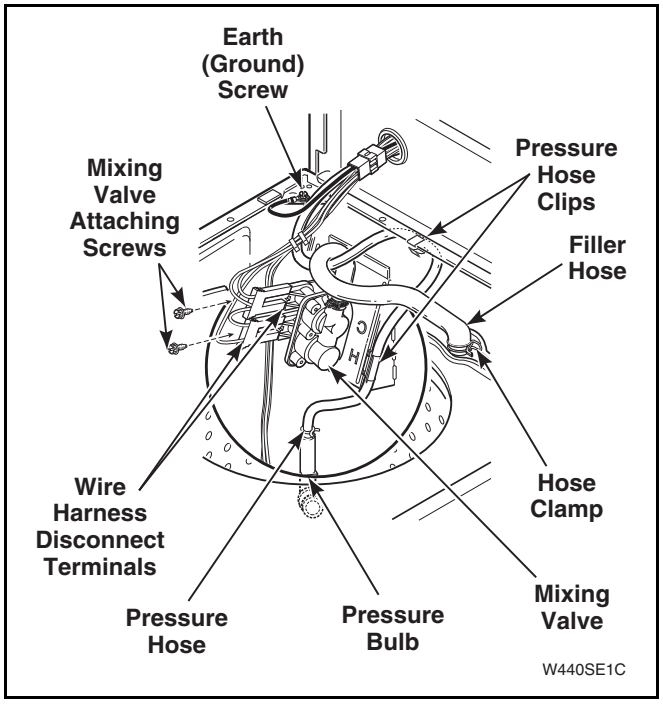


Figure 36

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

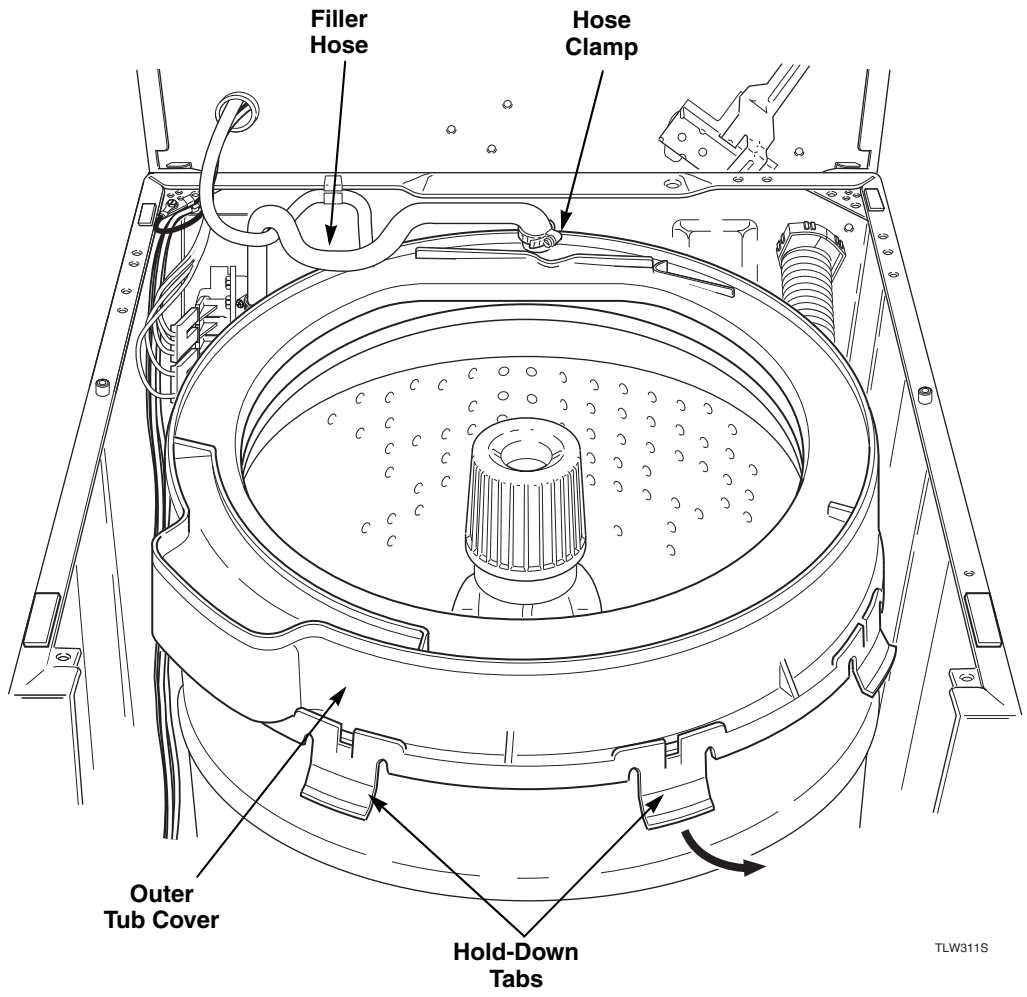


Figure 37

38. WASHTUB AND BALANCE RING

a. Open loading door.
b. Remove agitator by placing two agitator hooks, No. 254P4P, under bottom edge of agitator. Refer to *Figure 20*.

IMPORTANT: Hooks should be positioned 180 degrees from each other, and must be placed under agitator vane for greater stability. If hooks are placed between vane area, agitator damage may occur.

c. Using a rocking motion (back and forth) carefully lift agitator off drive bell.
d. Hinge cabinet top or remove, *Paragraph 35*.
e. Loosen hose clamp and remove filler hose from outer tub cover. Refer to *Figure 37*.

NOTE: When installing filler hose, white line on hose must point toward front of washer. Refer to *Figure 37*.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

f. There are eight tub cover hold-down tabs which snap over outer tub flange. Place your fingers under the flap of the hold-down tab of the tub cover and pull out on 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.

IMPORTANT: 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.

g. Starting at positioning pin located at the bleach funnel area, lay gasket into gasket groove of tub cover. Refer to *Figure 38*.
h. Using your fingers, press gasket down into gasket groove of tub cover. Avoid pressing gasket past ends of hold-down tabs.

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

i. Install gasket past ends of hold-down tabs to bottom of gasket groove using semi-circled end of tool Part No. 273P4. Refer to *Figure 38*.

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

j. With tub cover tilted at approximately a 45 degree angle, insert the positioning pin into notch on outer tub flange.
k. Lower cover and push down firmly on top of hold- down tabs next to positioning pin until tabs snap over edge of outer tub flange.
l. Cross over to opposite side of tub cover and push down firmly on top of hold-down tabs until tabs snap over edge of outer tub flange. Continue with this criss-cross pattern, until tub cover is fully seated. Visually check each tab area again to ensure cover is seated.

(continued on page 56)

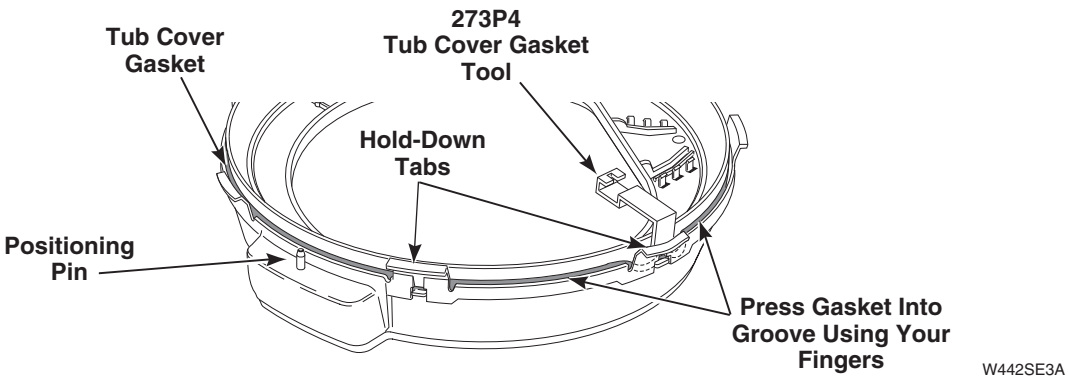


Figure 38

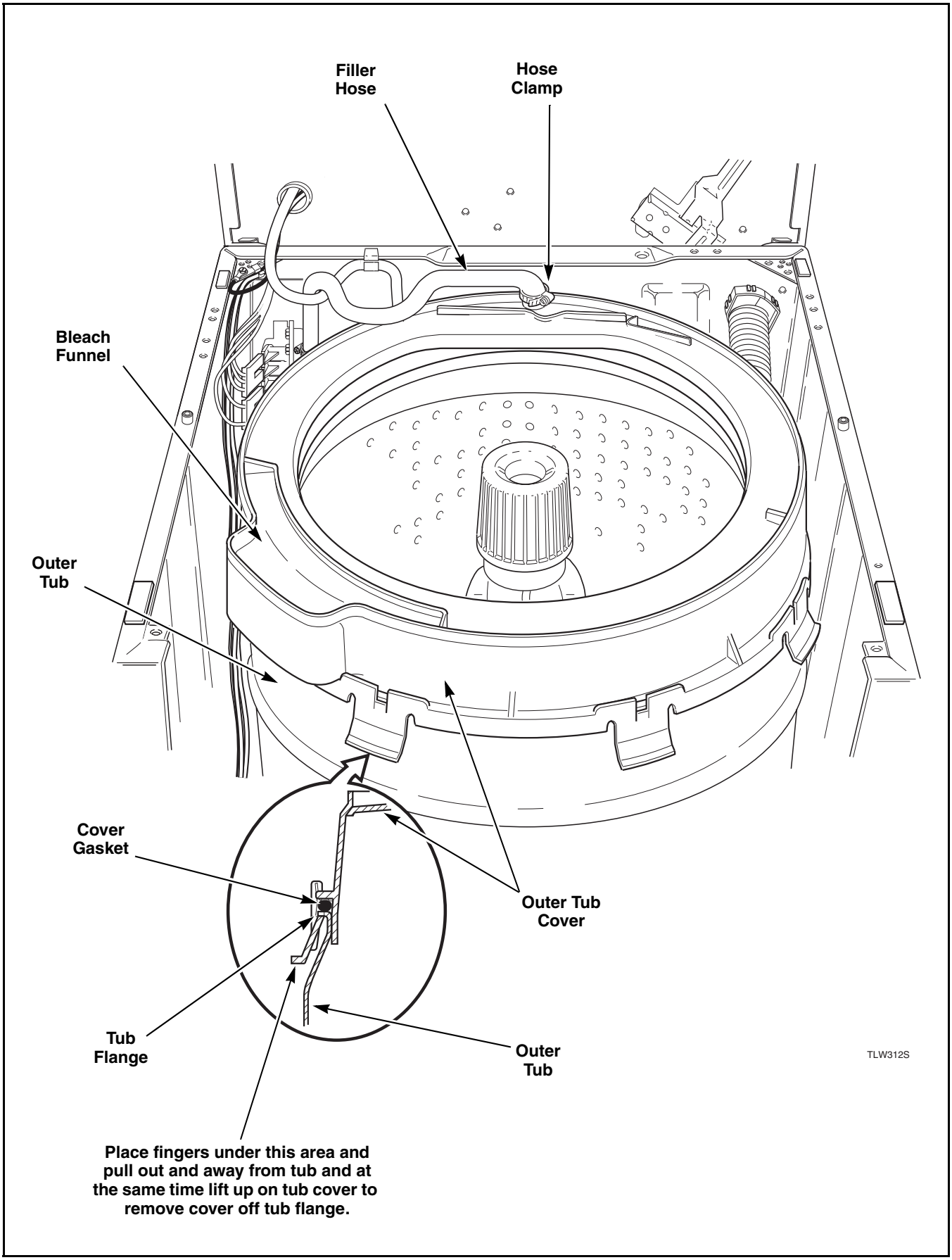


Figure 39

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

m. Remove screws (and gaskets if present) holding washtub to hub. Refer to *Figure 40*.

NOTE: Gaskets are used with porcelain washtubs only.

IMPORTANT: Porcelain Washtub Models — Use care when tightening screws to avoid chipping porcelain on washtub.

n. Lift washtub and balance ring out of outer tub.

IMPORTANT: When removing washtub and balance ring, grasp top flange of washtub and remove from outer tub.

NOTE: When installing washtub, make sure lint filter is between underside of washtub and hub. Some models are equipped with a gasket. On these models, make sure all traces of old gasket are removed from bottom of washtub. When installing washtub in these models, always use a new gasket between washtub and hub.

TO REMOVE BALANCE RING FROM WASHTUB

a. Place blade of a small screwdriver into slots between balance ring and washtub. Refer to *Figure 40*.
b. Carefully pry pins of balance ring out of holes in washtub. Refer to *Figure 40*.

NOTE: As you are prying out pins, lift up on balance ring.

c. Pry at least 7 of the 8 pins out of washtub holes before balance ring can be removed.

TO INSTALL BALANCE RING IN WASHTUB

Place balance ring on top of washtub, making sure balance ring pins line up with holes in washtub. Then carefully push balance ring down into washtub until all pins snap into their respective holes.

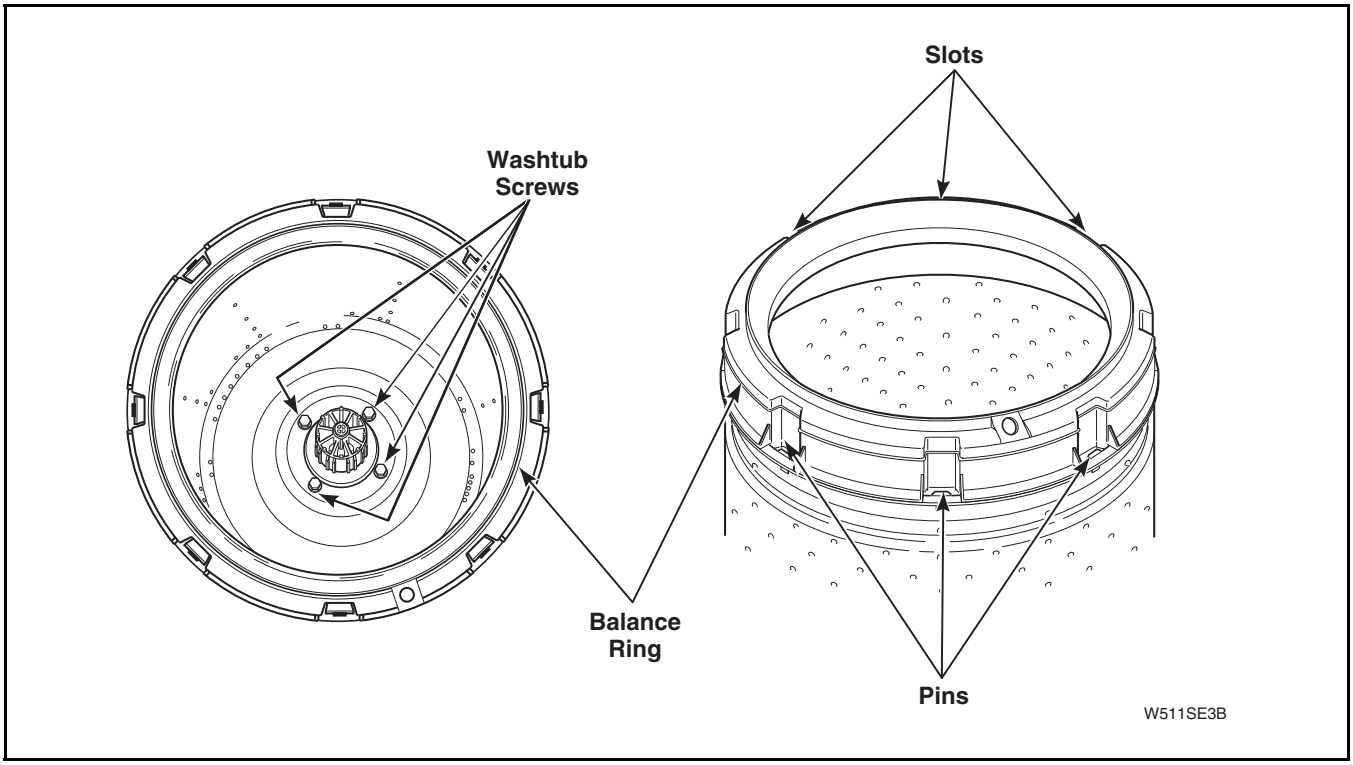


Figure 40

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

39. HUB AND SEAL KIT ASSEMBLY

IMPORTANT: If water is present in washtub, spin and pump out before removing drive bell.

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.
d. Open loading door.
e. Remove agitator by placing two agitator hooks, No. 254P4P, under bottom edge of agitator. Refer to *Figure 20*.

IMPORTANT: Hooks should be positioned 180 degrees from each other, and must be placed under agitator vanes for greater stability. If hooks are placed between vane area, damage to agitator may occur.

f. Using a rocking motion (back and forth) carefully lift agitator off drive bell.
g. Hinge cabinet top or remove, *Paragraph 35*.
h. Loosen hose clamp and remove filler hose from outer tub cover. Refer to *Figure 39*.

NOTE: When reinstalling filler hose, white line on hose must point toward front of washer. Refer to *Figure 39*.

TUB COVER AND GASKET

(1) There are eight tub cover hold-down tabs which snap over the outer tub flange. Place your fingers under the flap of the hold-down tab of the tub cover. Pull out on 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) Lift cover off outer tub and set beside washer cabinet.

IMPORTANT: 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) Starting at the positioning pin located at the bleach funnel area, lay gasket into gasket groove of tub cover. Refer to *Figure 38*.
(4) Using your fingers, press gasket down into gasket groove of tub cover. Avoid pressing gasket past ends of hold-down tabs.

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

(5) Install gasket past ends of hold-down tabs to bottom of gasket groove using semi-curled end of tub cover gasket tool Part No. 273P4. Refer to *Figure 38*.

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

(6) With tub cover tilted at approximately 45 degree angle, insert the positioning pin into notch on outer tub flange.
(7) Lower cover and push down firmly on top of hold-down tabs next to positioning pin until tabs snap over edge of outer tub flange.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

(8) Cross over to opposite side of tub cover and push down firmly on top of hold-down tabs until tabs snap over edge of outer tub flange. Continue with this criss-cross pattern, until tub cover is fully seated. Visually check each tab area again to ensure cover is seated.

a. Remove screws holding washtub to hub. Refer to *Figure 40*. Then lift washtub (with balance ring attached) out of outer tub.

IMPORTANT: When removing washtub, grasp top flange of washtub and remove from outer tub.

NOTE: When installing washtub, make sure lint filter or gasket is between underside of washtub and hub.

TO REMOVE AGITATOR DRIVE BELL

a. Remove plug, screw (and o-ring if present) from top side of drive bell.

NOTE: No 294P4 Drive Bell Tool may be required to remove drive bell from transmission shaft, if not, proceed to step i.

NOTE: Drive Bell Tool, No. 294P4, must be updated with Jaws, No. 294P4A, and Bolt, No. 294P4B, to remove drive bell.

b. Back bolt out of tool approximately three quarters of the way. Refer to *Figure 21*.
c. Place tool over bell, making sure indent on jaw lines up with the wide slots on bell. Refer to *Figure 21*.
d. Screw bolt down through hole in top of bell until bolt bottoms out in hole in transmission shaft.
e. Place lip of each jaw under bottom edge of drive bell, making sure indent on jaw lines up with wide slots on bell. Then tighten two wing nuts to hold jaws firmly against drive bell. Refer to *Figure 22*.
f. Use an adjustable wrench and turn large nut on tool **COUNTERCLOCKWISE** to pull drive bell from transmission shaft. Refer to *Figure 23*.

IMPORTANT: If large nut is turned clockwise when pulling drive bell, you will twist off quarter inch bolt.

g. Turn quarter inch bolt out of transmission shaft, and remove tool and drive bell from washer.
h. Loosen two wing nuts and remove drive bell from tool.
i. Remove old seal from hub by placing a flat blade screwdriver between bottom edge of seal and hub using washtub bolts as a pry area to pop off lower seal bead. Then grasp seal and pull straight up freeing the upper seal bead.
j. Remove large hex nut using a No. 306P4 Hex Wrench. Refer to *Figure 41*.
k. Remove spline insert from transmission tube and discard insert.

IMPORTANT: Use a new spline insert each time hex nut is removed. DO NOT reuse old insert because hex nut may loosen during washer operation.

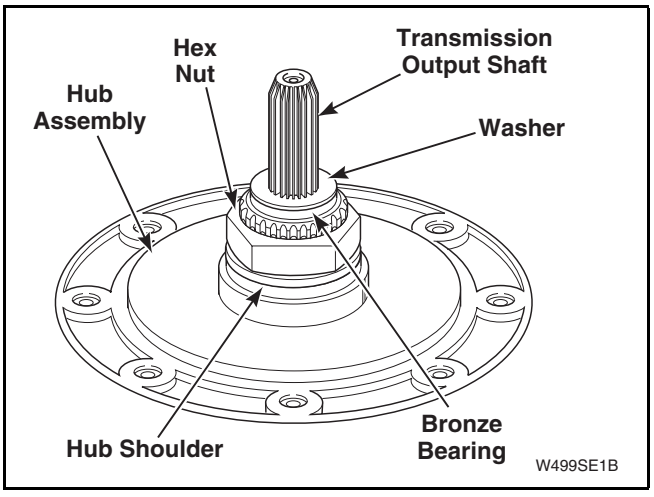


Figure 41

l. Remove hub from splines on transmission tube.

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

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

INSTALLING NO. 646P3 HUB AND SEAL KIT

a. Remove old water seal from outer tub.

IMPORTANT: Use care when removing old seal so as not to damage tub flange or porcelain.

b. Thoroughly clean all foreign material from inner surface of outer tub flange.

IMPORTANT: All foreign material must be removed from inner surface of outer tub flange before installing No. 646P3 Hub and Seal Kit.

c. Apply a small amount of No. 27615P Sealant (3M800) (obtain from local Parts Distributor) around outer surface of tub flange. Refer to *Figure 42*.

d. Apply a light film of nonstaining petroleum jelly (such as Vaseline®) to bronze portion of water seal and to outer surface of stainless steel sleeve. Refer to *Figure 43*.

IMPORTANT: DO NOT over lubricate!

e. Insert stainless steel sleeve into water seal from bottom of water seal. Refer to *Figure 43*, until stainless steel sleeve is flush with bronze portion of water seal.

f. Leaving garter spring on water seal, place new water seal over outer tub flange (with seal lip on outside of tub flange). Then press seal into tub flange opening using moderate finger pressure.

g. Carefully apply a small amount of No. 27615P Sealant (3M800) (obtain from local Parts Distributor) around outer edge of water seal and tub (area located just below garter spring). Refer to *Figure 43*.

IMPORTANT: DO NOT allow sealant to contact sealing surface of water seal because it will cause a water leak.

h. Lubricate inner splines of new hub assembly (supplied in kit) with No. 27604P Anti-Seize Compound.

i. Carefully place new hub assembly on splined transmission tube.

IMPORTANT: Firmly push hub assembly down against outer tub seal and hold in this position during the next three steps.

j. While holding down hub assembly, place new spline insert (with fingers pointing upward) over transmission tube until it bottoms out on hub assembly.

k. Place large hex nut over transmission tube (with larger inside bevel toward spline insert) then finger tighten large hex nut.

l. Torque large hex nut between 40 to 70 foot-pounds (5.56 to 13.21 Kgm).

NOTE: If torque wrench is not available, place No. 306P4 Hex Wrench over large hex nut then tap hex wrench with a hammer until hub assembly turns or until large hex nut will no longer tighten.

NOTE: If a lint filter was originally installed between washtub and hub assembly, then it must be reinstalled before installing washtub in washer. Proceed to step n.

NOTE: If a gasket was originally installed between washtub and hub assembly, then No. 39122 Gasket (supplied in kit) must be installed before installing washtub in washer. Proceed to step m.

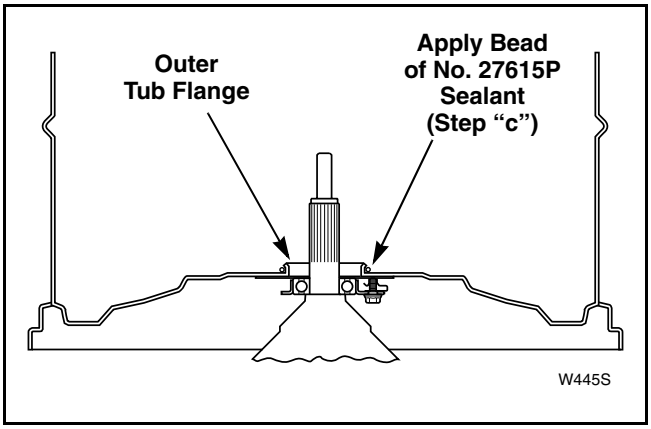


Figure 42

(continued)

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

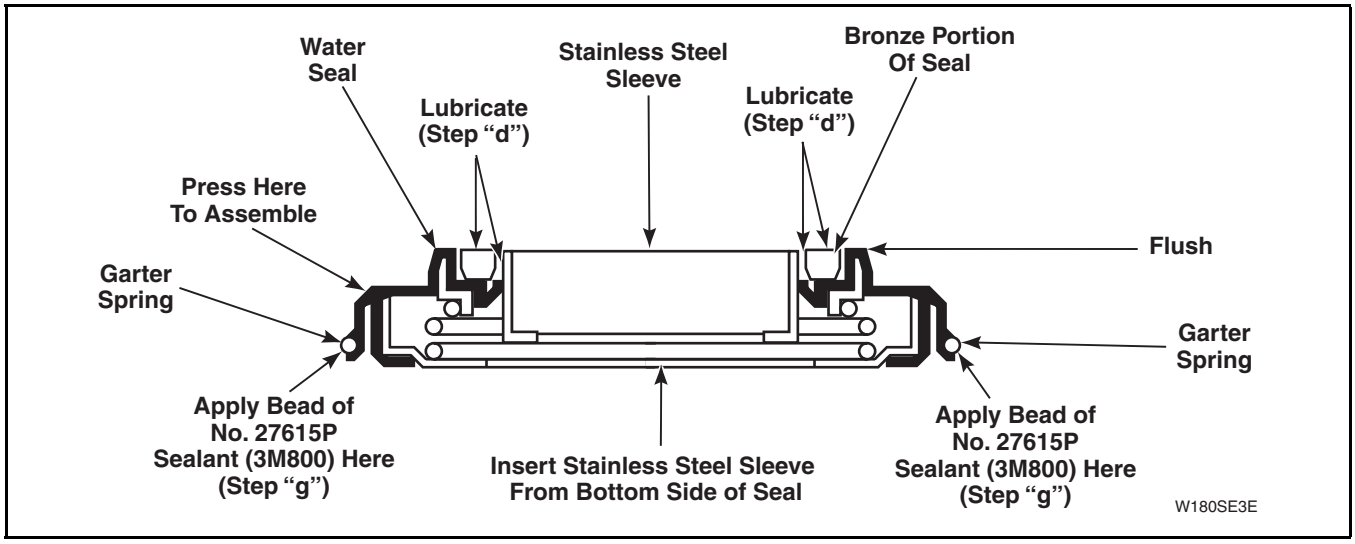


Figure 43

m. To install No. 39122 Gasket, follow these steps:
   (1) Thoroughly clean all foreign material from seal surface area of hub and bronze bearing.
   (2) Apply a small amount of nonstaining petroleum jelly (such as Vaseline®) to both surfaces where gasket will contact hub assembly and bottom of washtub.
   (3) Carefully place No. 39122 Gasket (supplied in kit) on hub assembly.

NOTE: Ensure holes in gasket are aligned with holes in hub assembly and all traces of original washtub gasket are removed from bottom of washtub.

n. Grasp top flange of washtub and carefully lower washtub down onto lint filter (or gasket) and hub assembly.

IMPORTANT: Before setting washtub into place, make sure holes in hub assembly are aligned with holes in lint filter (or gasket).

o. Secure washtub to hub assembly, using cap screws and gaskets from 27202P Screw and Gasket Kit (supplied in kit).

NOTE: Gaskets are used with screws on washers equipped with a porcelain washtub.

IMPORTANT: Porcelain Washtub Models — Use care when tightening cap screws to avoid chipping or damaging porcelain finish.

p. Install No. 38359 Tub Cover Gasket (supplied in kit) into outer tub cover, *Paragraph 38*.

IMPORTANT: When installing outer tub cover always use a new tub cover gasket.

q. Reassemble washtub, *Paragraph 38*.
r. Install seal, drive bell and agitator following the instructions supplied in No. 39508P Drive Bell and Seal Kit, or refer to *Paragraph 29*.
s. Reinstall cabinet top and front panel.
t. Close loading door, set washer timer to final spin, start washer and allow empty washtub to spin for 30 seconds.

IMPORTANT: Setting washer to spin allows petroleum jelly (applied to bronze portion of water seal) a chance to cover seal surface before water is added to washer.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

INSTALLING NO. 766P3A HUB AND SEAL KIT (Models with the letter "N" in the sixth character of model number ONLY)

IMPORTANT: DO NOT use any sealant other than No. 200996 Sealant (3M-560). If another sealant is used, washer WILL NOT operate properly and damage will result.

a. Remove old lip seal from outer tub.

NOTE: Use care when removing old seal so as not to damge tub flange or porcelain.

b. Using a retractable knife, cut through old sealant. Refer to *Figure 44*.

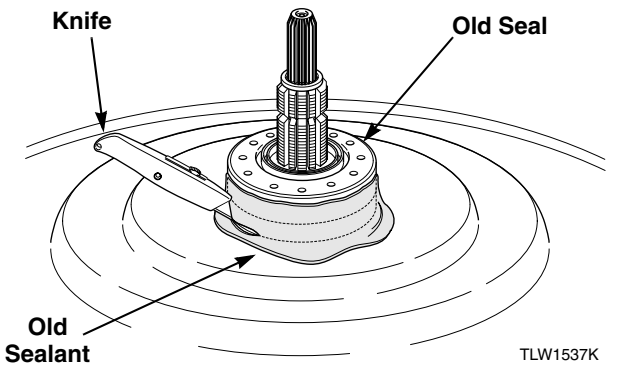


Figure 44

c. Make two incisions on either side of inner tub lip seal. Refer to *Figure 45*.

NOTE: Make incisions below metal ring inside seal.

d. Insert a flat bladed screwdriver in the incision. Refer to *Figure 45*.
e. Lay down a cloth to prevent damage to tub. Refer to *Figure 45*.
f. Using a wrench as a fulcrum, pry off seal on both sides. Refer to *Figure 45*.
g. Remove old lip seal from transmission shaft.
h. Using a putty knife, remove remaining sealant from tub surface. Refer to *Figure 46*.
i. Loosen hose clamp and remove drain hose from pump outlet. Refer to *Figure 47*.

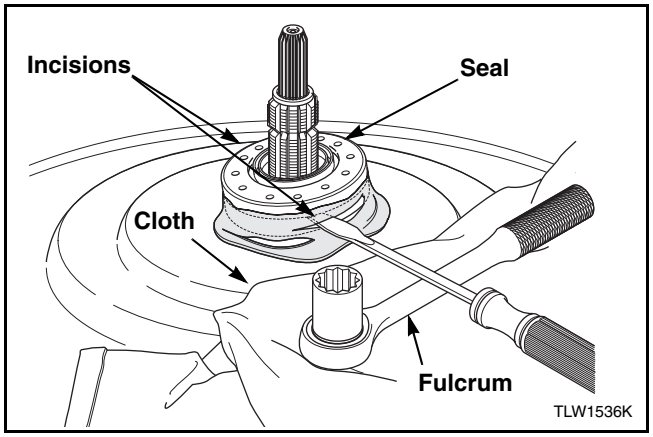


Figure 45

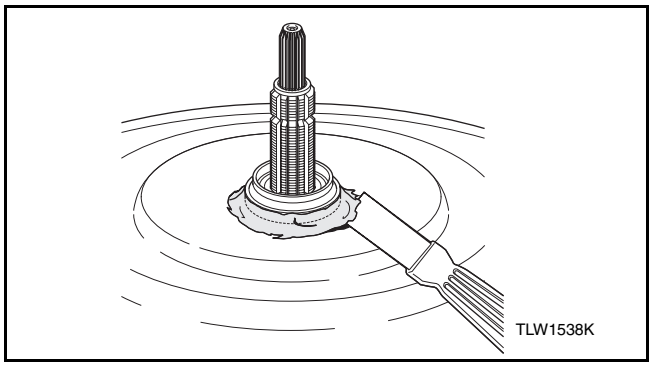


Figure 46

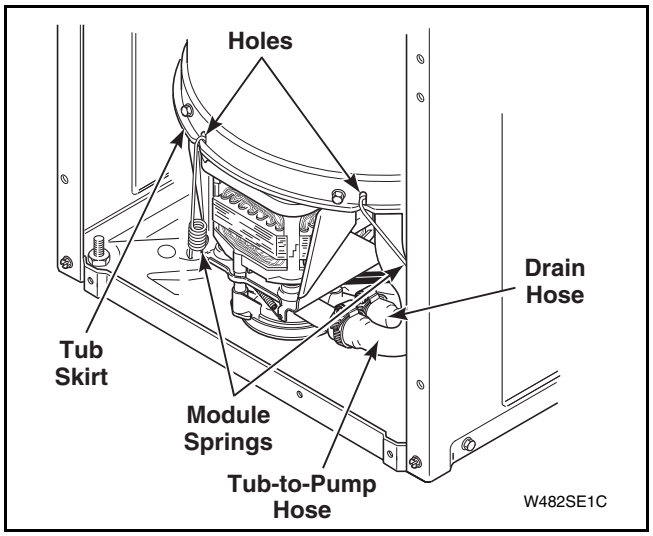


Figure 47

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

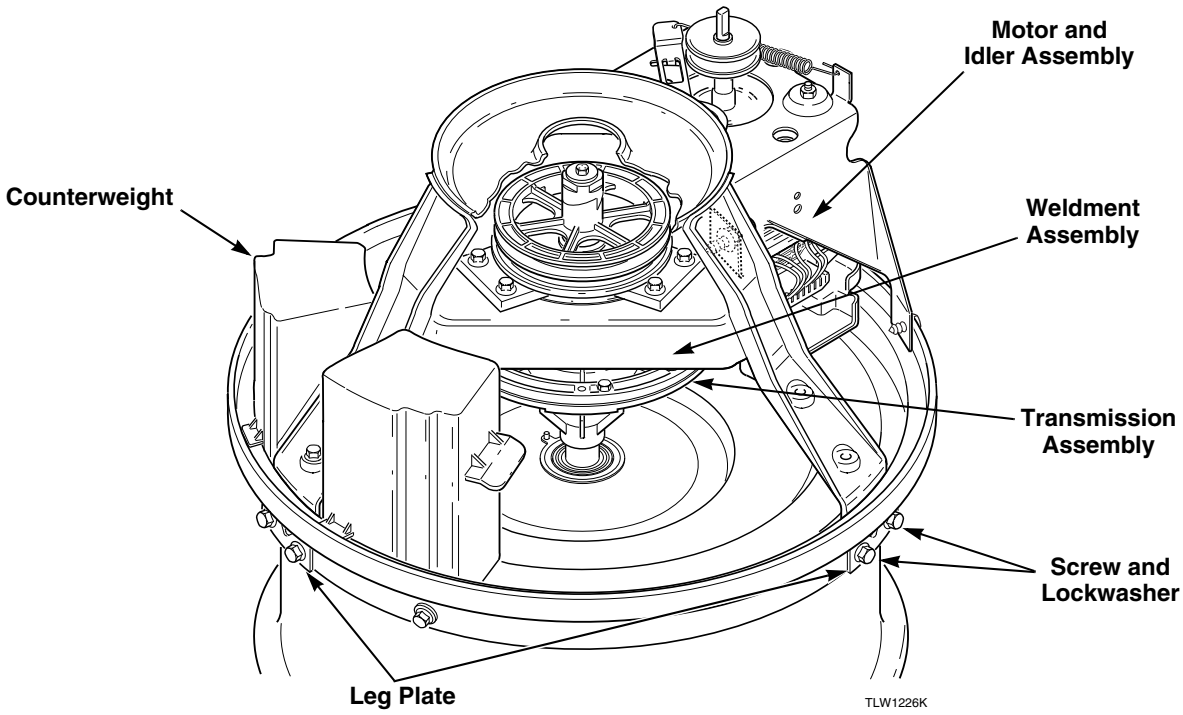


Figure 48

j. Loosen hose clamp and remove pressure hose from pressure bulb.
k. Remove wire tie holding motor wire harness to support leg.
l. Motors with capacitor start: Remove screw from capacitor clamp and remove capacitor.
m. Unplug motor wire harness.
n. Using No. 321P4 Spring Hook Tool, unhook six module springs from lower edge of outer tub. Refer to *Figure 47*.

IMPORTANT: When installing module springs, make sure spring hook is fully seated in hole and in formed depressions in tub skirt.

o. Grasp outer tub and lift complete tub module assembly straight up and out of washer cabinet.
p. Turn outer tub upside-down and set on protective padding.
q. Remove screws and washers holding transmission assembly and weldment assembly to outer tub, counterweight and motor. Refer to *Figure 48*.
r. Remove belt from motor and transmission and remove idler spring from motor.
s. Lift transmission and weldment assembly off tub.
t. Remove bearing housing and seal assembly by grasping bearing through hole and pulling bearing and seal out through bottom of outer tub. Refer to *Figure 49*.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

IMPORTANT: Use care when removing old bearing housing and seal so not to damage tub flange or porcelain.

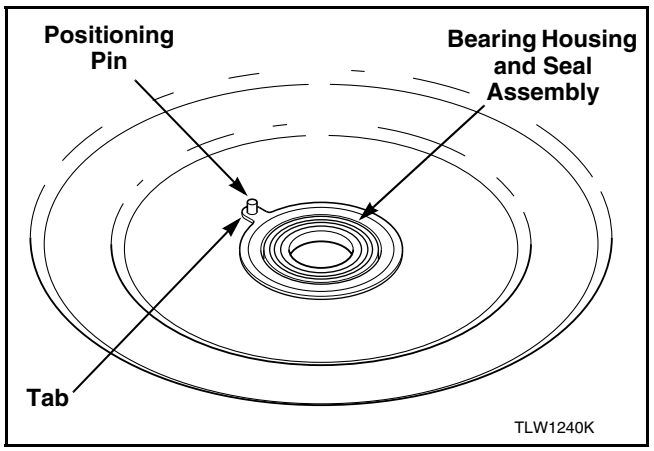


Figure 49

u. Thoroughly clean all foreign material from outer tub surfaces that contact the bearing housing and seal assembly. Wipe clean with a cloth and isopropyl alcohol (rubbing alcohol). Refer to *Figure 50*.

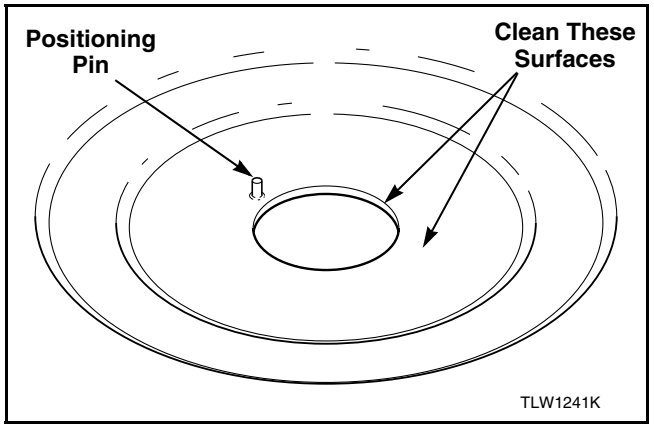


Figure 50

v. Make sure all sealant and other foreign material has been removed from the inside of tub. Use a wire brush or lacquer thinner to remove any remaining material from around tub lip. Refer to *Figure 51*.

w. Wipe tub lip and bottom with isopropyl alcohol wipe.

IMPORTANT: All foreign material must be removed from outer tub surfaces before installing No. 200512 Bearing Housing and Seal Assembly. Refer to *Figures 50* and *51*.

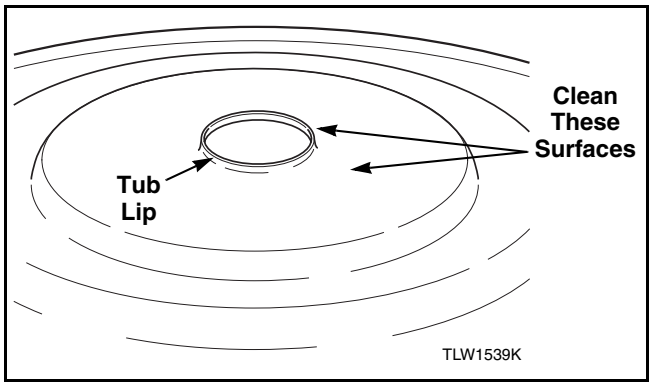


Figure 51

INSTALLATION OF NO. 766P3 HUB AND LIP SEAL KIT

a. Place the new bearing housing and seal assembly over opening in outer tub with the tab over the positioning pin. Refer to *Figure 49*.
b. Using your fingers, firmly press bearing housing and seal assembly into tub opening.

IMPORTANT: Make sure spacer collar is on transmission shaft if using 38165P Transmission Assembly. If using 201181 Transmission Assembly, spacer collar is not required. Refer to *Figure 52*.

NOTE: Apply No. 27604P Anti-Seize compound to the area of transmission shaft that will be contacting the upper bearing and washtub hub. Refer to *Figure 53*.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

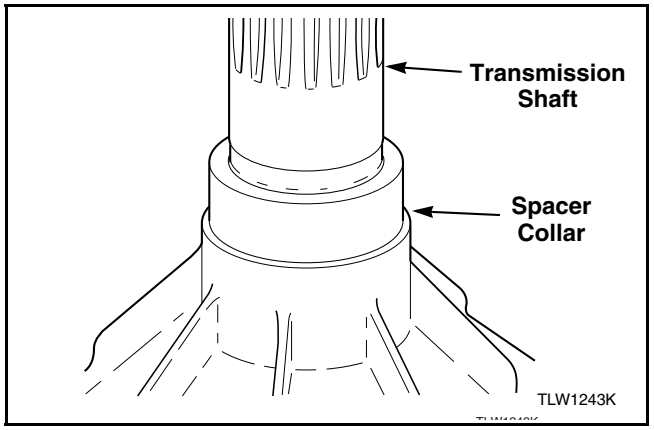


Figure 52

c. Carefully place the transmission shaft through bearing housing and seal assembly into outer tub. Refer to *Figure 53*.
d. Once the assembly is in position, install screw, lockwashers and leg plates to hold each support leg to outer tub.
e. Install screws to assemble motor and counterweight to weldment assembly.

IMPORTANT: To prevent porcelain damage, leg plates must be installed on outside of outer tub flange when reinstalling support legs of weldment assembly. Refer to *Figure 48*. Torque screws holding outer tub and motor to weldment assembly between 90 and 130 inch-pounds (10.30 to 14.87 Nm). Torque screws holding counterweight to weldment assembly between 60 and 100 inch-pounds (6.86 to 11.44 Nm).

f. Install belt and idler spring.
g. Turn outer tub and weldment upright and carefully place complete tub module into washer.

IMPORTANT: When reinstalling complete tub module, carefully set tub module pivot dome on top of friction ring.

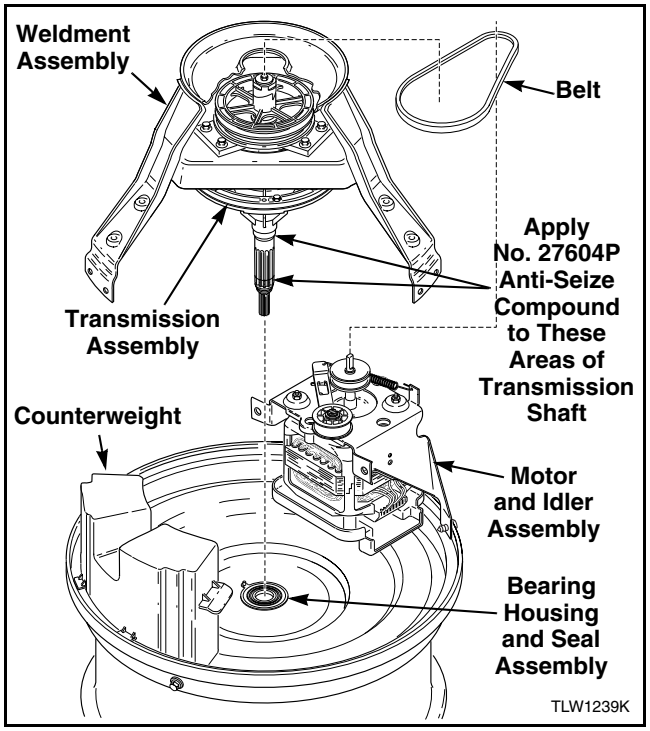


Figure 53

IMPORTANT: DO NOT ALLOW TUB MODULE TO BE DROPPED OR LOWERED INTO POSITION TOO HARD! This can damage or crack the friction ring.

h. Using No. 321P4 Spring Hook Tool, hook six module springs to lower edge of outer tub.

IMPORTANT: When installing module springs, make sure spring hook is fully seated in hole and in formed depressions in tub skirt.

i. Apply a small amount of liquid soap or soapy water to the vertical wall of the bearing housing and seal assembly above bearing. Refer to *Figure 54*.

IMPORTANT: Do not allow any lubricants to come in contact with surfaces of the outer tub that contact the bearing housing and seal assembly. Refer to *Figure 54*.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

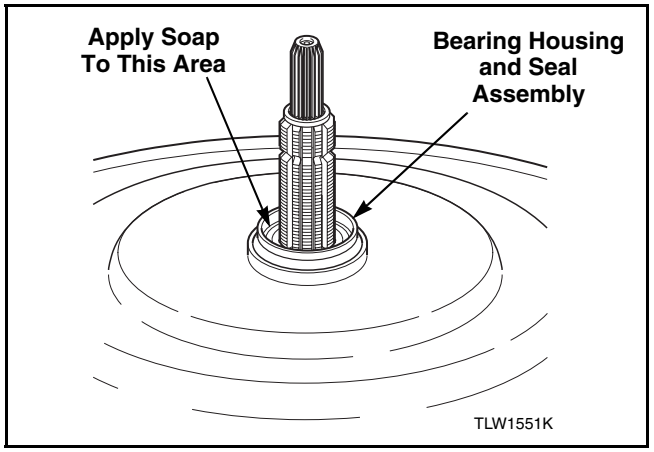


Figure 54

j. Remove bottom foil from No. 200996 Sealant (3M-560). Refer to *Figure 55*.

k. When putting sealant tube in caulking gun, take plastic plunger found in sealant tube and place upright in center of tube making sure caulking gun pushes on plunger. Refer to *Figure 55*.

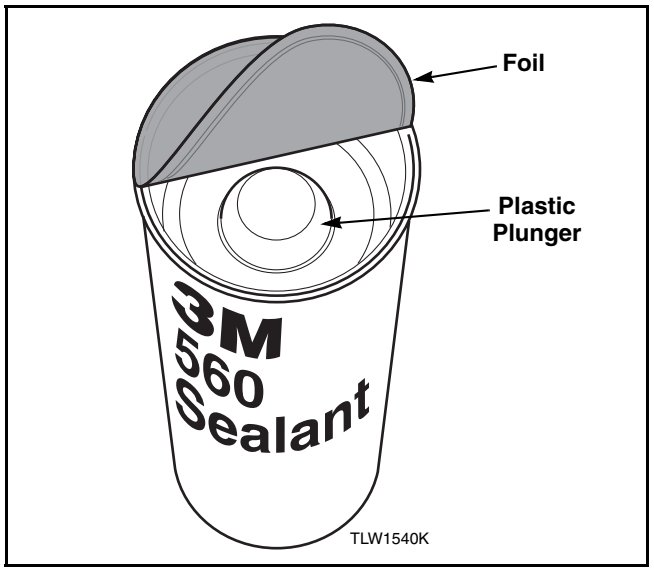


Figure 55

l. Using the caulking gun, apply a 3/8 to 1/2-inch (9.5 to 12.7 mm) bead of No. 200996 Sealant (3M-560) around top and edge of tub lip. Refer to *Figure 56*.

IMPORTANT: DO NOT use any sealant other than No. 200996 Sealant (3M-560). If another sealant is used, washer WILL NOT operate properly and damage will result.

IMPORTANT: DO NOT allow sealant to contact sealing surface of outer tub lip seal as it will cause a water leak.

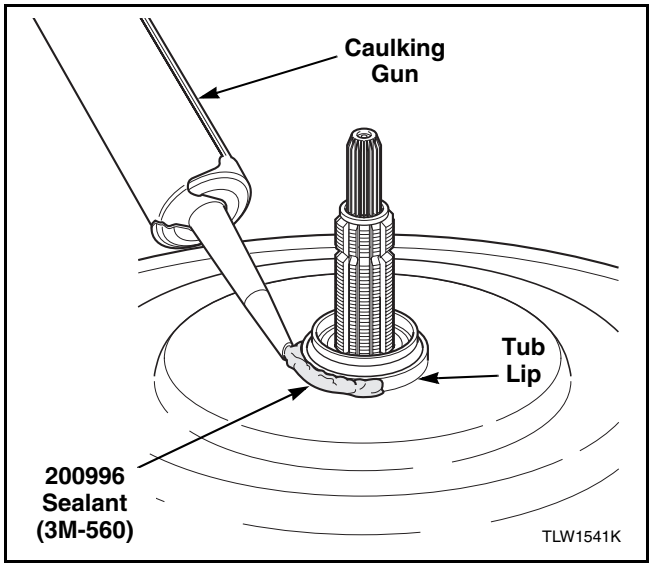


Figure 56

m. Inspect outer tub lip seal for grease. Refer to *Figure 57*. Wipe clean with a cloth and isopropyl alcohol (rubbing alcohol).

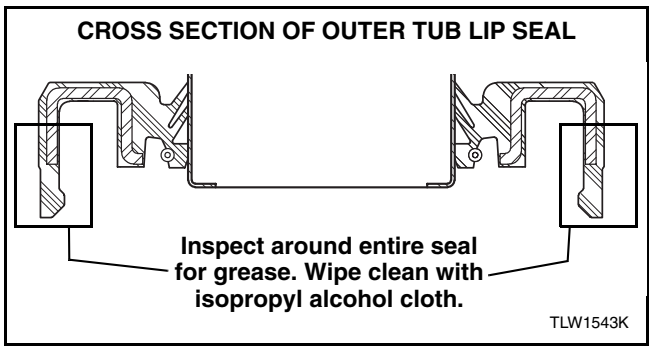


Figure 57

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

n. Place outer tub lip seal over upper half of transmission shaft. Refer to *Figure 58*.

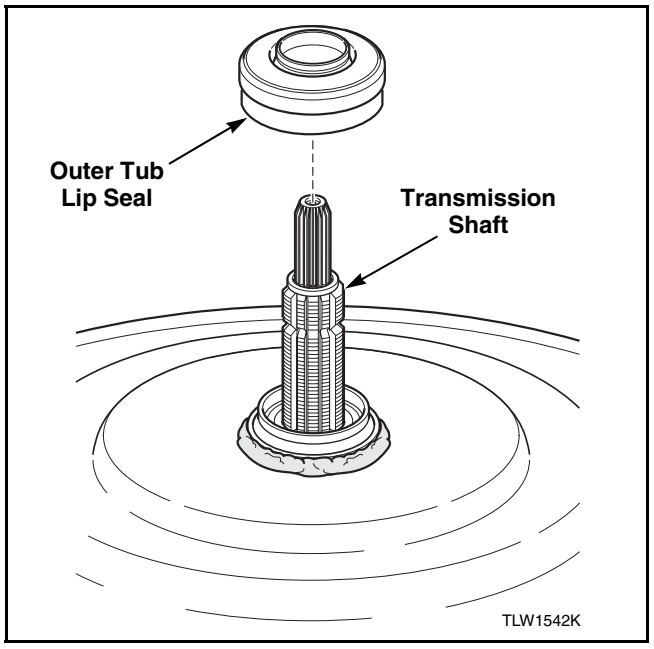


Figure 58

o. Place 356P4 Ring Tool (included in this kit) on top of seal. Refer to *Figure 59*.

NOTE: Make sure tool is centered evenly on seal.

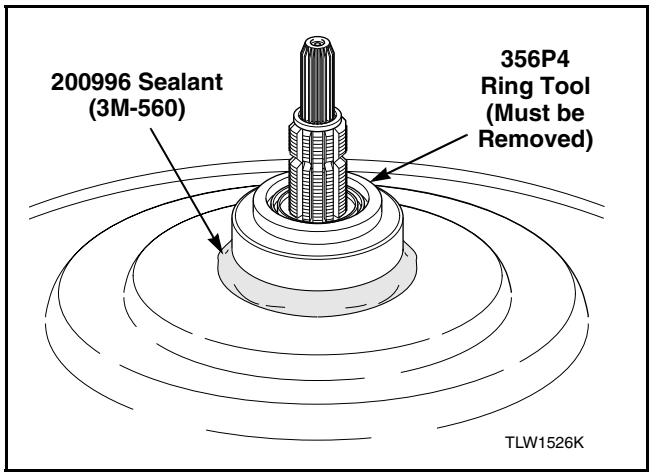


Figure 59

p. Place hub assembly and locknut over transmission shaft. Refer to *Figure 60*.

q. Tighten locknut using 306P4 Hex Wrench Tool. After hand tightening, tap tool with hammer to force the upper half of the inner tub seal down until it bottoms against lower half of seal. Refer to *Figure 60*.

r. Unscrew and remove locknut and hub assembly.

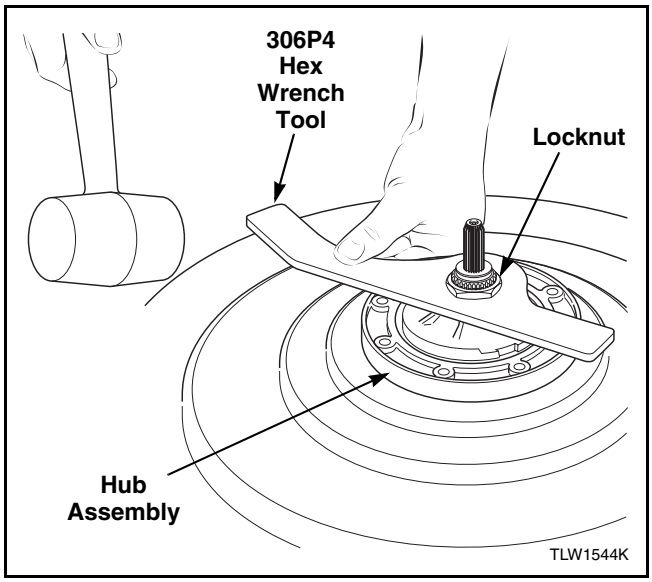


Figure 60

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

s. **Remove ring tool.** Refer to *Figure 61*.

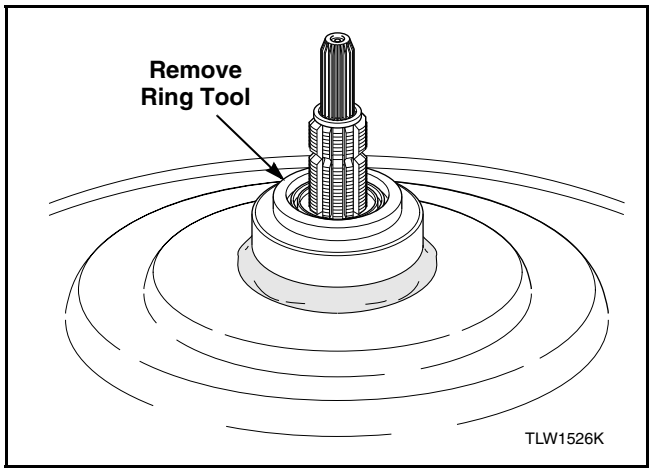


Figure 61

NOTE: The metal shroud of outer lip seal should rise at least 1/16 inch (1.6 mm) above the inner lip seal. Refer to *Figure 62*.

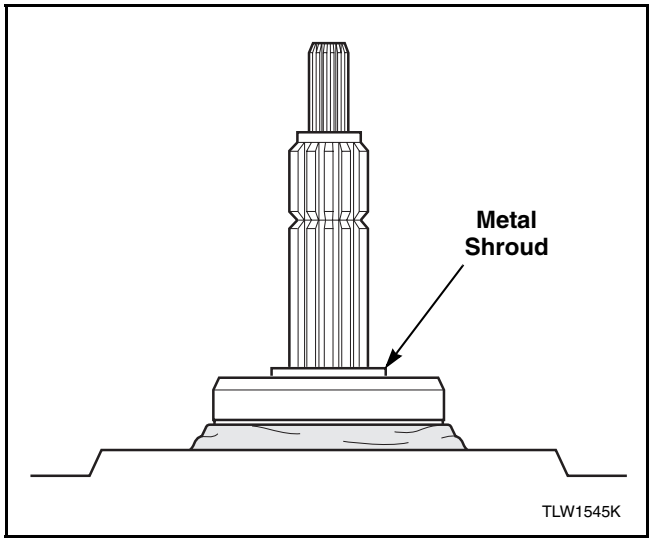


Figure 62

t. Insert a flat bladed screwdriver between tub bottom and under lip seal. Twist to release any air trapped between lip seal and bearing. Refer to *Figure 63*.

u. Make sure metal shroud still rises above seal. Refer to *Figure 62*. If it doesn't, repeat steps o through s.

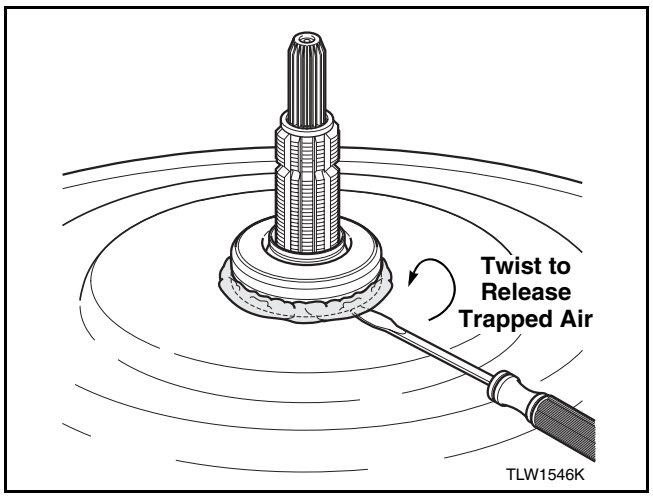


Figure 63

v. Using your finger, wipe sealant around seal to continuously cover 1/2 the side of seal. Refer to *Figure 64*.

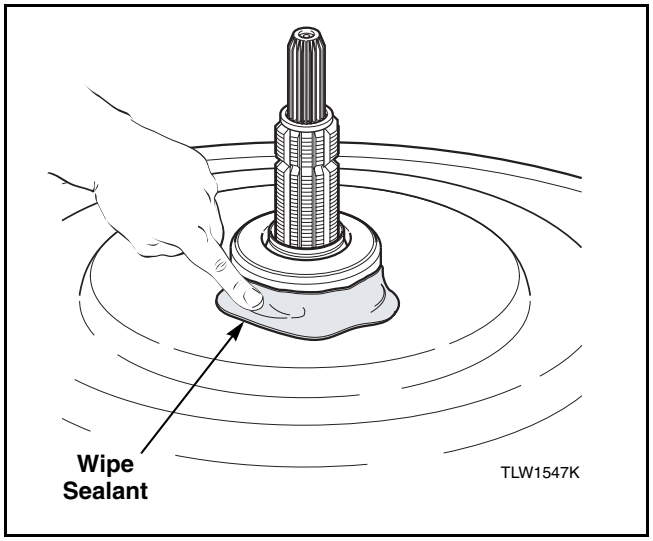


Figure 64

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

w. It is important to ensure that there are no leaks in the bead of No. 200996 Sealant (3M-560). Refer to *Figure 66*. To ensure seal is complete check for the following:
   (1) After wiping sealant around seal, look for air bubbles forming through the sealant. In most cases bubbles will form where sealant application was started and ended. However, if sealant was not applied smoothly, air bubbles might appear in other areas. Refer to *Figure 65*.
   (2) Wait approximately 30 seconds and carefully look for bubbles sticking out of sealant.
   (3) Add more sealant over bubbles and wipe over additional sealant.
   (4) Look for air bubbles again and repeat procedure if necessary.

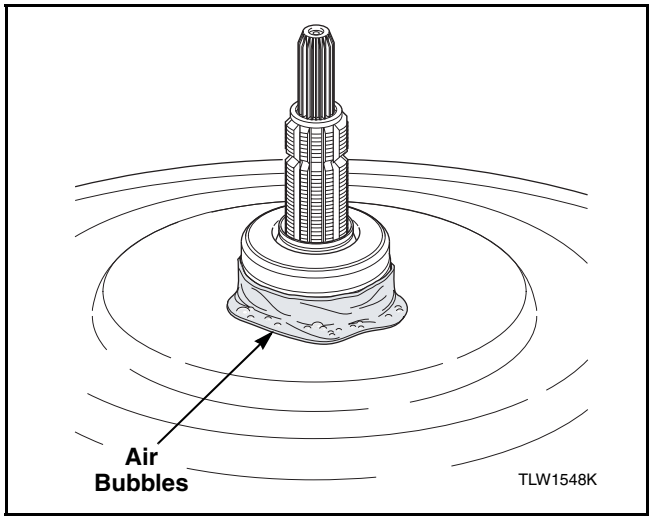


Figure 65

x. Let sealant cure a minimum of 3 hours before operating washer.

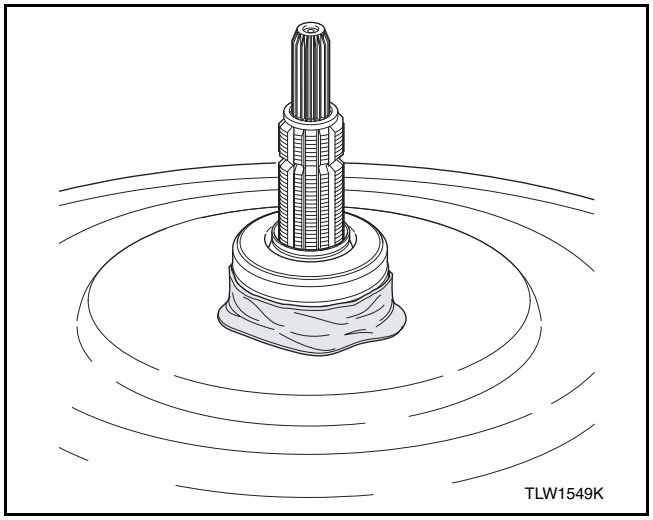


Figure 66

y. Inspect washtub hub diameter for grease. Clean with a cloth and isopropyl alcohol (rubbing alcohol). Refer to *Figure 67*.
z. Apply a small, continuous bead of Loctite 680 (supplied in kit) all the way around the washtub hub diameter that contacts the metal shroud of the outer tub lip seal. Refer to *Figure 67*.

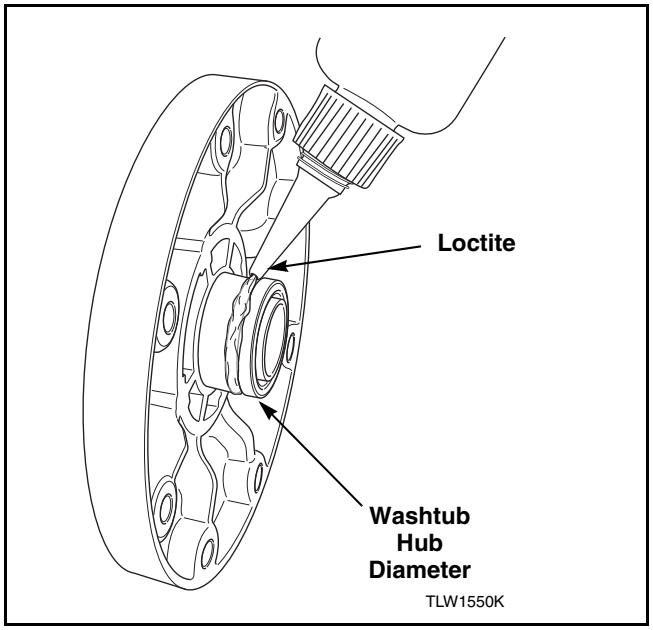


Figure 67

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

aa. Carefully place new hub on splines of transmission shaft.
ab. Place new spline insert (with fingers pointing upward) over transmission shaft until it bottoms out on hub.

IMPORTANT: NEVER reuse the old splined insert because the hex nut may loosen during washer operation.

ac. Place large hex nut over transmission shaft (with flat side facing up) then finger tighten large hex nut.
ad. Torque large hex nut between 40 to 70 foot pounds (5.56 to 13.21 Kgm).

NOTE: If torque wrench is not available, place No. 306P4 Hex Wrench over large hex nut then tap hex wrench with a hammer until hub assembly turns or until large hex nut will no longer tighten.

ae. Install drive bell seal and drive bell following the instructions supplied in No. 39508P Drive Bell and Seal Kit.
af. Install washtub (using gasket on porcelain models) and bolts (using rubber washers on porcelain models).
ag. Install agitator onto drive bell.
ah. Reinstall tub cover.

IMPORTANT: 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.

(1) Starting at positioning pin, lay gasket into gasket groove of tub cover. Refer to *Figure 38*.
(2) Using your fingers, press gasket down into gasket groove of tub cover. Avoid pressing gasket past ends of hold-down tabs.

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

(3) Install gasket past ends of hold-down tabs to bottom of gasket groove using semi-circled end of tool Part No. 273P4. Refer to *Figure 38*.

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

(4) With tub cover tilted at approximately a 45 degree angle, insert the positioning pin into notch on outer tub flange. Refer to *Figure 37*.
(5) Lower cover and push down firmly on top of hold-down tabs next to positioning pin until tabs snap over edge of outer tub flange.
(6) Cross over to opposite side of tub cover and push down firmly on top of hold-down tabs until tabs snap over edge of outer tub flange. Continue with this criss-cross pattern, until tub cover is fully seated. Visually check each tab area again to ensure cover is seated.

ai. Reinstall motor wire harness, wire tie, pressure hose and drain hose.
aj. Reinstall cabinet top and washer front panel.
ak. Reconnect washer power cord and open water supply faucets.

IMPORTANT: To prevent damage to pump, do not run washer before adding at least one quart water to the tub. If the washer is run before any water is added, the pump seal may overheat causing the pump to leak. Once installed, the water retained in the drain system from the previous cycle will provide sufficient cooling to prevent pump seal damage.

NOTE: Washer must be run through a complete cycle to make sure it is operating properly.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

40. OUTER TUB

a. Open loading door.
b. Remove agitator by placing two agitator hooks, No. 254P4P, under bottom edge of agitator. Refer to *Figure 20*.

IMPORTANT: Hooks should be positioned 180 degrees from each other, and must be placed under agitator vane for greater stability. If hooks are placed between vane area, agitator damage may occur.

c. Using a rocking motion (back and forth) carefully lift agitator off drive bell.

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

d. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
e. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
f. Lift front panel off two screws and set panel aside.
g. Hinge cabinet top or remove, *Paragraph 35*.
h. Loosen hose clamp, and disconnect filler hose from outer tub cover. Refer to *Figure 40*.

NOTE: When reinstalling filler hose, white line on hose must point toward front of washer. Refer to *Figure 39*.

TUB COVER AND GASKET

(1) There are eight tub cover hold-down tabs which snap over the outer tub flange. Place your fingers under the flaps of the hold-down tab of 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 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) Starting at positioning pin located at the bleach funnel area, lay gasket into gasket groove of tub cover. Refer to *Figure 38*.
(4) Using your fingers, press gasket down into gasket groove of tub cover. Avoid pressing gasket past ends of hold-down tabs.

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

(5) **Early Models –** Install gasket past ends of hold-down tabs to bottom of gasket groove using semi-curled end of tub cover gasket tool Part No. 273P4. Refer to *Figure 38*.

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

(6) With tub cover tilted at approximately a 45 degree angle, insert the positioning pin into notch on outer tub flange.
(7) Lower cover and push down firmly on top of hold-down tabs next to positioning pin until tabs snap over edge of outer tub flange.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

(8) Cross over to opposite side of tub cover and push down firmly on top of hold-down tabs until tabs snap over edge of outer tub flange. Continue with this criss-cross pattern, until tub cover is fully seated. Visually check each tab area again to ensure cover is seated. Refer to *Figure 39*.

i. Remove screws (and gaskets if present) holding washtub to hub. Refer to *Figure 40*.

NOTE: Gaskets are used with porcelain washtubs only.

IMPORTANT: Porcelain Washtub Models — Use care when tightening cap screws to avoid chipping porcelain on washtub.

j. Lift washtub (with balance ring attached) out of outer tub.

IMPORTANT: When removing washtub and balance ring, grasp top flange of washtub and remove from outer tub.

k. Remove agitator drive bell, *Paragraph 29*.
l. Remove large hex nut using No. 306P4 Hex Wrench. Then remove spline insert from transmission tube.

IMPORTANT: Use a 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.

m. Remove hub from splines on transmission tube.

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

n. Remove old water seal from outer tub.

IMPORTANT: Use care when removing old seal so as not to damage tub flange or porcelain.

NOTE: When reinstalling or replacing outer tub, always install a new No. 646P3 Hub and Seal Kit, or 766P3 Hub and Seal Kit for models with the letter "N" in the sixth character of the model number. Refer to *Paragraph 39*.

o. Reach in through front of motor mounting bracket and move idler lever to left to release tension on belt.

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

p. While holding idler lever, reach in and around right side of motor and run belt off right side of pulley.
q. Using No. 321P4 Spring Hook Tool, unhook six module springs from lower edge of outer tub. Refer to *Figure 47*.

IMPORTANT: When installing module springs, make sure spring hook is fully seated in hole and in formed depression in tub skirt.

r. Loosen hose clamp and remove hose from pump outlet. Refer to *Figure 47*.
s. Loosen hose clamp and remove pressure hose from pressure bulb. Refer to *Figure 36*.
t. Remove wire tie holding motor wire harness to support leg.
u. Grasp outer tub and lift complete tub module assembly straight up and out of washer cabinet.
v. Turn outer tub upside-down and set on protective padding.
w. Remove motor and mounting bracket, *Paragraph 31*.
x. Remove screws and lockwashers holding counterweight and each support leg to outer tub. Refer to *Figure 68*. Then lift transmission, weldment assembly and counterweight off tub.
y. Loosen hose clamp and remove tub-to-pump hose from bottom of outer tub. Refer to *Figure 69*.

NOTE: To prevent porcelain damage, leg plates must be installed on outside of outer tub flange when reinstalling support legs of weldment assembly. Do not overtighten screws as this could cause stripping or porcelain damage. Torque screws between 90 to 130 inch-pounds (10.30 to 14.87 Nm).

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

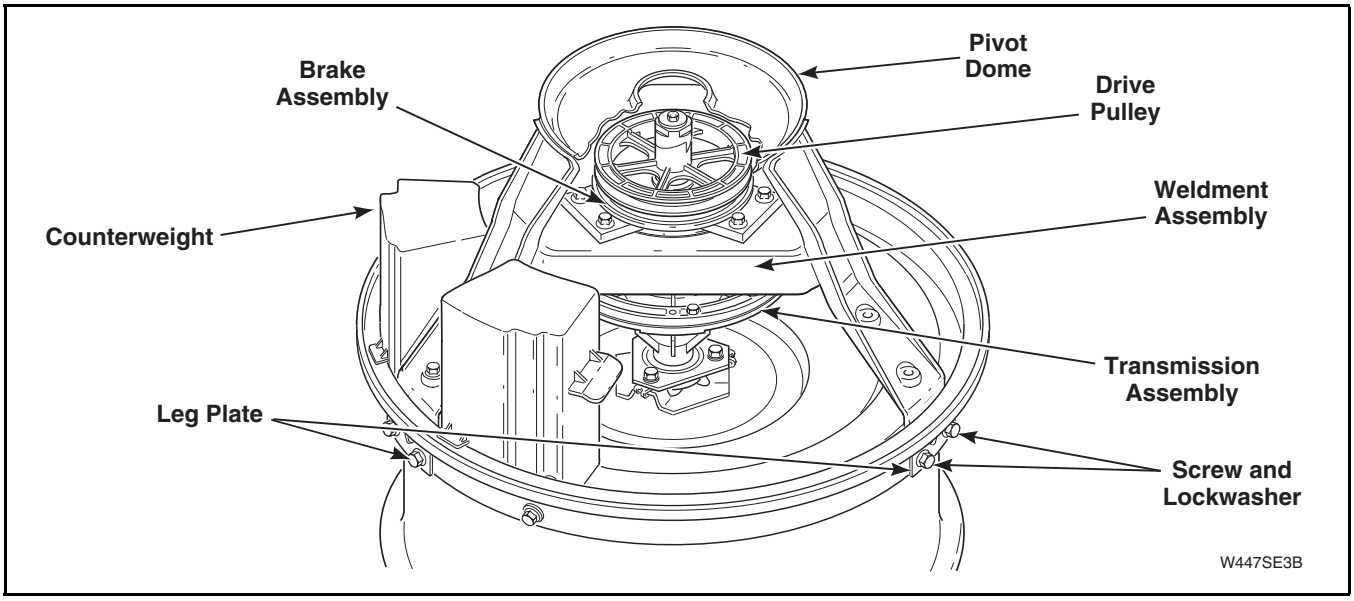


Figure 68

z. Turn outer tub upright and remove pressure bulb and grommet.

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.

IMPORTANT: When reinstalling complete tub modules, carefully set the tub module pivot dome on top of friction ring. DO NOT ALLOW TUB MODULE TO BE DROPPED OR LOWERED INTO POSITION TOO HARD! This can damage or crack the friction ring.

41. DRIVE PULLEY, HELIX AND BRAKE

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife. At the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside. Refer to *Figure 28*.
d. Hinge cabinet top or remove, *Paragraph 35*.
e. While holding idler lever, reach in and around right side of motor and run belt off right side of pulley.
f. Using No. 321P4 Spring Hook Tool, unhook six module springs from lower edge of outer tub. Refer to *Figure 47*.

IMPORTANT: When installing module springs, make sure spring hook is fully seated in hole and in formed depression in tub skirt.

g. Loosen hose clamp and remove drain hose from pump outlet. Refer to *Figure 47*.
h. Loosen hose clamp and remove pressure hose from pressure bulb. Refer to *Figure 36*.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

i. Remove motor harness from support leg. Then disconnect wire harness from motor switch by pressing down on top of connection block and at the same time pull connection block away from motor switch.
j. Grasp outer tub and lift complete tub module assembly (with transmission and weldment assembly attached) straight up and out of washer cabinet.
k. Turn complete tub module upside-down and set on protective padding.
l. Remove screw, washer and helix holding drive pulley to input shaft and transmission assembly. Refer to *Figure 69*.

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

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

NOTE: When reinstalling pulley, place a small amount of lubricant on top side of the drive pulley that will be contacting large flat washers. Refer to *Figure 70* for assembly sequence. Lubricate helix ramps and bore with a small amount of lubricant. Refer to *Figure 70*.

IMPORTANT: 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.

(continued on page 75)

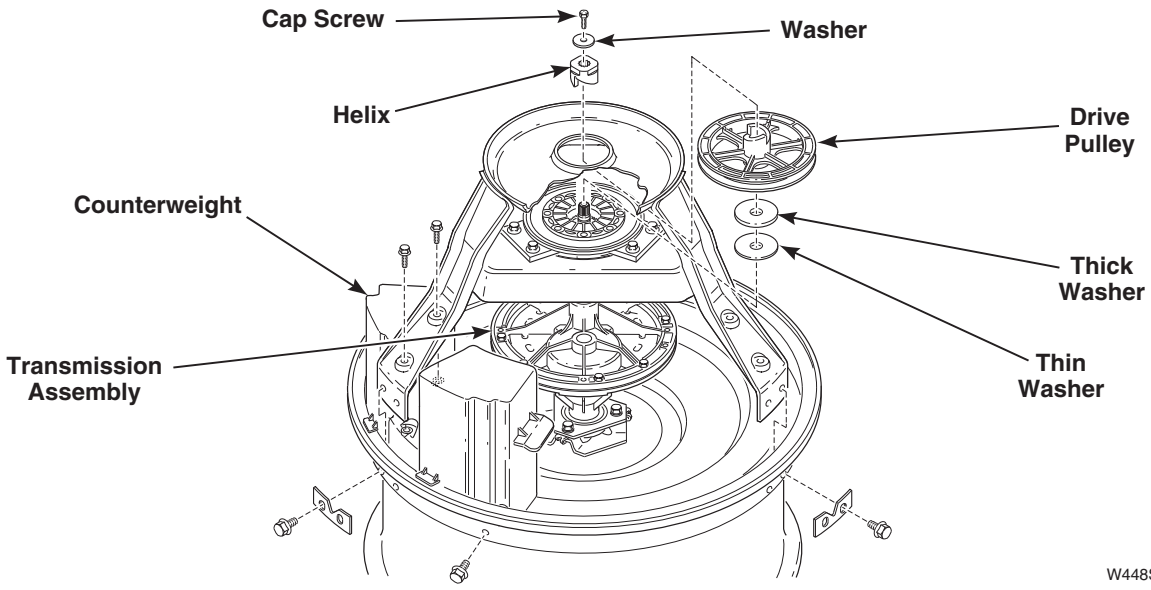


Figure 69

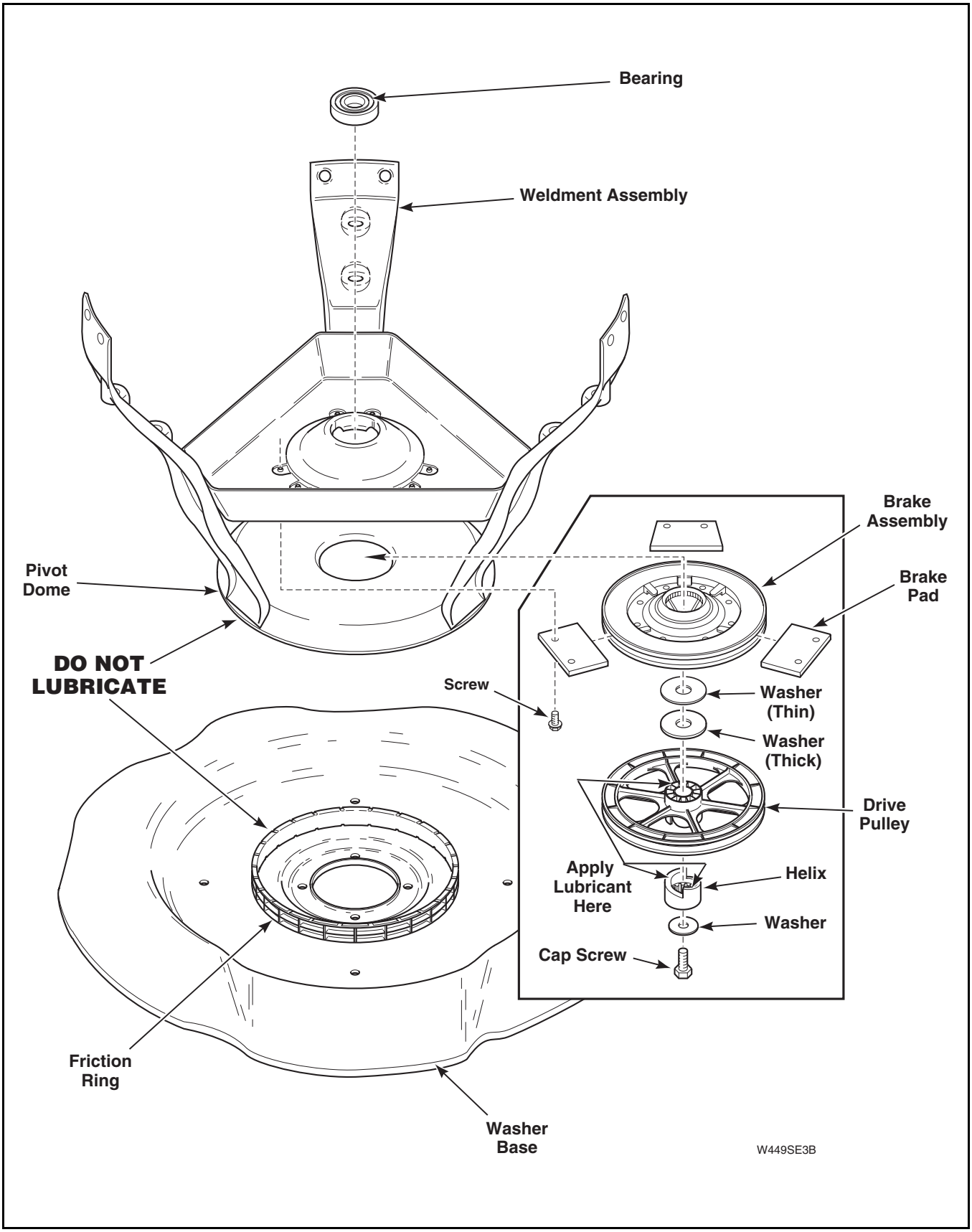


Figure 70

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

n. Remove screws holding three brake pads and brake assembly to weldment assembly. Refer to *Figure 70*. Then remove brake assembly and pads off bottom of weldment assembly.

IMPORTANT: When reinstalling brake assembly, we recommend replacing 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.

IMPORTANT: 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.

IMPORTANT: 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.

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

IMPORTANT: 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.

   (4) Turn on electrical power to washer and start washer in the final spin.

NOTE: All models WITHOUT the letter "M" or "N" in the sixth character of the model number — After washtub has been spinning for two minutes, normal spin speed should be 640 ± 20 RPM one speed models; 640 ± 20 RPM FAST speed, or 427 ± 20 RPM SLOW speed on two speed models. If not, the cause could be dragging brake pads. If problems occur with steps three or four, remove brake assembly and correct problem.

NOTE: All models WITH the letter "M" or "N" in the sixth character of the model number — After washtub has been spinning for two minutes, normal spin speed should be 710 ± 20 RPM one speed models; 710 ± 20 RPM FAST speed or 473 ± 20 RPM SLOW speed on two speed models. If not, the cause could be dragging brake pads. If problems occur with steps three or four, remove brake assembly and correct problem.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

42. WELDMENT AND BEARING ASSEMBLY

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside. Refer to *Figure 28*.
d. Hinge cabinet top or remove, *Paragraph 35*.
e. Loosen hose clamp and disconnect filler hose from outer tub cover. Refer to *Figure 37*.

NOTE: When reinstalling filler hose, the white line on hose that connects to tub cover must point toward front of washer. Refer to *Figure 37*.

f. Reach in through front of motor mounting bracket and move idler lever to left to release tension on belt.

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

g. While holding idler lever, reach in and around right side of motor and run belt off right side of pulley.
h. Using No. 321P4 Spring Hook Tool, unhook six module springs from lower edge of outer tub. Refer to *Figure 47*.

IMPORTANT: When installing module springs, make sure spring hook is fully seated in hole in tub skirt.

i. **Direct Drive Pump Models —** Loosen hose clamp and remove hoses from pump outlets. Refer to *Figure 47*.

Electric Pump Models — Loosen hose clamp and remove hose from bottom of outer tub.

j. Loosen hose clamp and remove pressure hose from pressure bulb. Refer to *Figure 36*.
k. Grasp outer tub and lift complete tub module assembly (with transmission and weldment assembly attached) straight up and out of washer cabinet.
l. Turn complete tub module upside-down and set on protective padding.
m. Remove screw, washer and helix holding drive pulley to input shaft and transmission assembly. Refer to *Figure 69*.

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

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

NOTE: When reinstalling pulley, place a small amount of lubricant on top side of the drive pulley that will be contacting large flat washers. Refer to *Figure 69* for assembly sequence. Lubricate helix ramps and bore with a small amount of lubricant. Refer to *Figure 70*.

IMPORTANT: 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.

o. Remove screws holding three brake pads and brake assembly to weldment assembly. Refer to *Figure 70*. Then remove brake assembly and pads off bottom of weldment assembly.

IMPORTANT: When reinstalling brake assembly, we recommend replacing 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.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

IMPORTANT: 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.

IMPORTANT: 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.

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

IMPORTANT: 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.

   (4) Turn on electrical power to washer and start washer in the final spin.

NOTE: All models WITHOUT the letter "M" or "N" in the sixth character of the model number — After washtub has been spinning for two minutes, normal spin speed should be 640 ± 20 RPM one speed models; 640 ± 20 RPM FAST speed, or 427 ± 20 RPM SLOW speed on two speed models. If not, the cause could be dragging brake pads. If problems occur with steps three or four, remove brake assembly and correct problem.

NOTE: All models WITH the letter "M" or "N" in the sixth character of the model number — After washtub has been spinning for two minutes, normal spin speed should be 710 ± 20 RPM one speed models; 710 ± 20 RPM FAST speed or 473 ± 20 RPM SLOW speed on two speed models. If not, the cause could be dragging brake pads. If problems occur with steps three or four, remove brake assembly and correct problem.

q. Remove screws and lockwashers holding counterweight and each support leg to outer tub. Refer to *Figure 69*. Then 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.

NOTE: To prevent porcelain damage, leg plates must be installed on outside of outer tub flange when reinstalling support legs of weldment assembly. Do not overtighten screws as this could cause stripping or porcelain damage. Torque screws between 90 to 130 inch-pounds (10.30 to 14.87 Nm).

r. Remove screws and washers holding counterweight to leg on weldment assembly.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

43. TRANSMISSION ASSEMBLY

a. Open loading door.
b. Remove agitator by placing two agitator hooks, No. 254P4P, under bottom edge of agitator. Refer to *Figure 20*.

IMPORTANT: Hooks should be positioned 180 degrees from each other, and must be placed under base of agitator near an agitator vane for greater stability. If hooks are placed between vane area, damage to agitator may occur.

c. Using a rocking motion (back and forth) carefully lift agitator off drive bell.

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

d. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
e. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
f. Lift front panel off two screws and set panel aside. Refer to *Figure 28*.
g. Remove two cabinet top hold-down screws, and hinge cabinet top or remove, *Paragraph 35*.
h. Loosen hose clamp and disconnect filler hose from tub cover. Refer to *Figure 37*.

NOTE: When reinstalling filler hose, the white line or hose that connects to tub cover must point toward front of washer. Refer to *Figure 37*.

TUB COVER AND GASKET

(1) There are eight tub cover hold-down tabs which snap over the outer tub flange. Place your fingers under the flaps of the hold-down tab of the tub cover and 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 cover from outer tub and remove old gasket from tub cover.

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

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

(3) Starting at positioning pin located at the bleach funnel area, lay gasket into gasket groove of tub cover. Refer to *Figure 38*.
(4) Using your fingers, press gasket down into gasket groove of tub cover. Avoid pressing gasket past ends of hold-down tabs.

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

(5) **Early Models –** Install gasket past ends of hold-down tabs to bottom of gasket groove using semi-curled end of tub cover gasket tool part No. 273P4.

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

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

i. Remove screws and washers holding washtub to hub. Refer to *Figure 40*.

IMPORTANT: Porcelain Washtub Models — Use care when tightening cap screws to avoid chipping porcelain on washtub.

j. Lift washtub (with balance ring attached) out of outer tub

IMPORTANT: When removing washtub and balance ring, grasp top flange of washtub and remove from outer tub.

k. Remove agitator drive bell, *Paragraph 29*.
l. Remove large hex nut using No. 306P4 Hex Wrench. Then remove spline insert from transmission tube.
m. Remove hub from splines on transmission tube.

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

n. Remove old water seal from outer tub.

IMPORTANT: Use care when removing old seal so as not to damage tub flange or porcelain.

NOTE: When reinstalling or replacing outer tub, always install a new No. 646P3 Hub and Seal Kit or 766P3 Hub and Seal Kit for models with the letter "N" in the sixth character of the model number, *Paragraph 39*.

o. Using No. 289P4 Spring Hook Tool, unhook six module springs from lower edge of outer tub. Refer to *Figure 47*.

IMPORTANT: When installing module springs, make sure spring hook is fully seated in hole in tub skirt.

p. **Direct Drive Pump Models —** Loosen hose clamps and remove hose from pump. **Electric Pump Models —** Loosen hose clamp and remove hose from bottom of outer tub.

IMPORTANT: Some water will always remain in outer tub. Therefore, before removing hose from pump, pinch off or drain hose to prevent water spillage.

q. Loosen hose clamp and remove pressure hose from pressure bulb.
r. Remove wire tie holding motor wire harness to support leg.
s. Grasp outer tub and lift complete tub module assembly straight up and out of washer cabinet.
t. Turn outer tub upside-down and set on protective padding.
u. Remove screw, washer and helix holding drive pulley to input shaft of transmission assembly. Refer to *Figure 69*.

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

v. Lift drive pulley up and out from between support legs.

NOTE: When reinstalling pulley, place a small amount of lubricant to top side of drive pulley that will be contacting the large flat washer. Lubricate helix ramps with a small amount of lubricant. Refer to *Figure 70*.

IMPORTANT: 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.

w. Remove screws and lockwashers holding each support leg to outer tub. Refer to *Figure 70*. Then lift weldment assembly off transmission tube.

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

x. Lift transmission assembly out of upper bearing.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

NOTE: 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, washtub hub and brake assembly. Refer to *Figure 71*.

To prevent porcelain damage, leg plates must be installed on outside of outer tub flange when reinstalling support legs of weldment assembly. Refer to *Figure 68*. Do not overtighten screws as this could cause stripping or porcelain damage. Torque screws between 90 to 130 inch-pounds (10.30 to 14.87 Nm).

IMPORTANT: 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. Refer to *Figure 71*.

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.

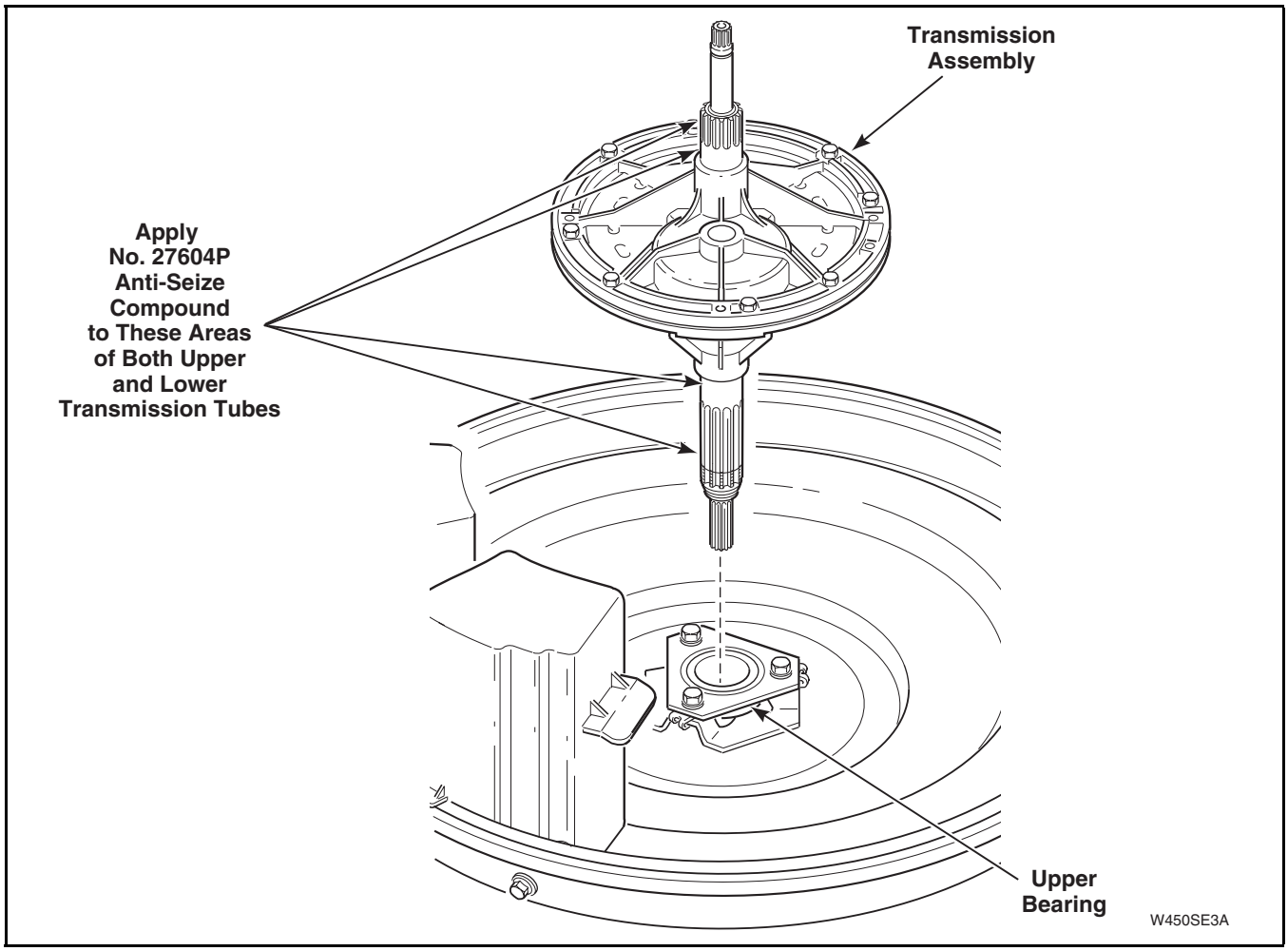


Figure 71

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

TO DISASSEMBLE TRANSMISSION ASSEMBLY

(Refer to *Figure 72* for assembly sequence.)

a. Place transmission in a vise with input shaft end up. Clamp only the case, not the shaft.

NOTE: Supporting transmission in this manner will allow oil to collect in the transmission case.

b. Before disassembling transmission halves, mark outer edge of transmission case and cover so two can be reassembled in the same position.
c. Place transmission in vise so three of the eight screws holding transmission case and cover together are in the twelve, four and seven o'clock positions.
d. Loosen three screws, mentioned in step "c", approximately two turns. DO NOT remove these three screws at this time. Remove remaining five screws and lockwashers completely.
e. Remove transmission assembly from vise.
f. While holding transmission by cover end, gently tap each of the three remaining screws until two halves separate. Place assembly back into vise (cover end up) and remove three screws and lockwashers.
g. Remove screw and washer holding reduction gear to transmission cover and remove gear.
h. Remove special screw, lockwasher and flat washer holding drive pinion to input shaft.

NOTE: To prevent input shaft from turning during removal of special screw, place an old helix onto shaft and hold helix with a locking pliers.

i. Remove drive pinion from input shaft using a hammer and punch to drive shaft out of pinion.
j. Remove input shaft from transmission cover.

IMPORTANT: Carefully examine area inside cover tube (seals, bearing, roller clutch, etc.). If oil is present between seals and bearing, or roller clutch is bad, it will require replacing complete transmission cover assembly. These components are not available separately.

k. Remove internal gear, slide and rack from transmission case.
l. Remove transmission case from vise and drain oil.
m. Remove retainer ring from output shaft.
n. Using a hammer and punch, carefully drive shaft out of agitator pinion.
o. Carefully remove output shaft and washer from transmission case.

IMPORTANT: Carefully examine area inside transmission case tube (seals, bearings, etc.). If oil is present between seals and bearings, it will require replacing complete transmission case. Seals and bearings are not available separately.

IMPORTANT: Transmissions produced after 5/95 may be difficult to disassemble. Take extra care not to damage sealing surfaces of transmission case and cover.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

TO REASSEMBLE TRANSMISSION ASSEMBLY

IMPORTANT: Wash all components in a cleaning solution (mineral spirits). Wipe inside of transmission case and cover with a clean cloth, dampened with cleaning solution, to remove any impurities. DO NOT allow cleaning solution to come in contact with bearings and seals in transmission case and/or cover.

a. Carefully insert output shaft and washer into transmission case.
b. Place agitator pinion on splines of output shaft and press onto shaft.
c. Install retainer ring on output shaft.
d. Place transmission case into a vise. Clamp only the case, not the shaft.
e. Place rack inside transmission case with rack resting on bar in case. Agitator pinion must engage the rack.

NOTE: Put a light film of transmission oil on bar where rack will slide back and forth.

f. Position slide in slot in rack.

NOTE: Put a light film of transmission oil in slot on rack, and also the transmission case where internal gear will ride.

g. Place internal gear into transmission case. Make sure guide pin on internal gear fits in hole in slide.

IMPORTANT: Never install a used internal gear in a new transmission case. If transmission case and internal gear are to be reused, be sure they are used as the original set.

h. Refill transmission case with new No. 27243P Transmission Oil (one fill).
i. To prevent seal damage, insert input shaft into cover starting at outer end of cover tube.

IMPORTANT: End of shaft with identification groove must be facing outward. Refer to *Figure 72*. This is the end that will mate with the helix.

j. Install drive pinion, flat washer, lockwasher and special screw onto input shaft.

NOTE: Use a thread locking compound on threads of special screw to prevent screw from loosening on shaft.

IMPORTANT: Make sure mating surfaces of transmission cover and case are free of oil or any other foreign material.

k. Place reduction gear on stub shaft of cover and install screw and washer.
l. Apply a bead of No. 37577P Sealant on mating surface of transmission case.

IMPORTANT: Bead of sealant should be no more than one sixteenth inch in diameter. DO NOT allow any sealant to contact edges of internal gear (sealant may damage moving parts).

NOTE: A transmission pin tool, Part No. 305P4, must be used to align the cover and case when reassembling the transmission after repair. The transmission pin tool must be used in sets of two and placed in the same holes shown in *Figure 72*. Both transmission pin tools must be left in place until all eight screws and nuts have been installed and tightened firmly, then remove the two pins.

m. Carefully place transmission cover over top of transmission case. Make sure holes in cover line up with holes in case, and marked edges of two halves are aligned.
n. Carefully lower cover onto case.
o. Secure two transmission halves together, using eight screws removed during disassembly. Tighten eight screws evenly.
p. Remove complete transmission assembly from vise.
q. Apply Anti-Seize Compound, No. 27604P, to smooth area of both transmission tubes that will be contacting upper and lower bearings. Refer to *Figure 71*.

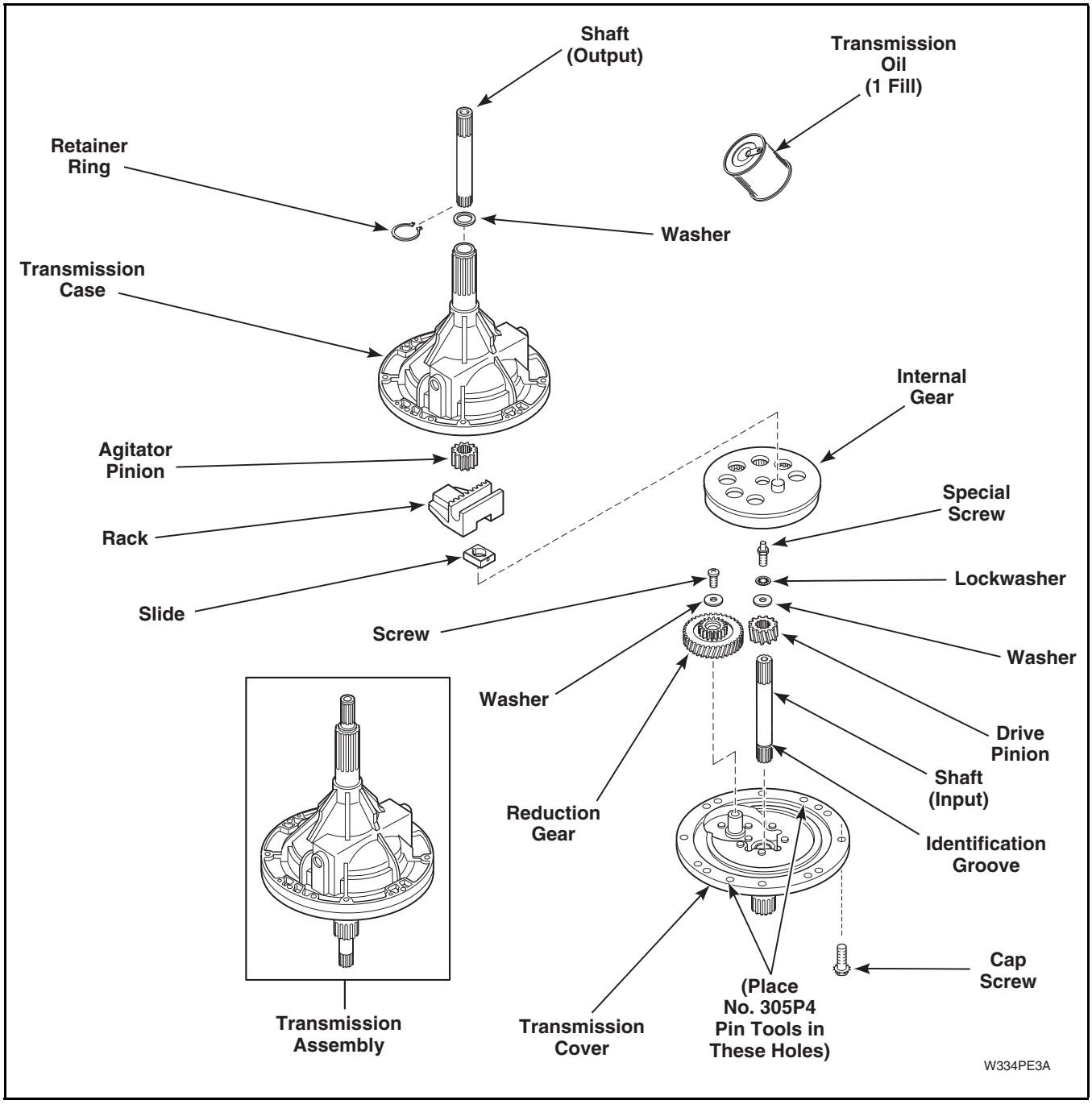


Figure 72

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

44. UPPER BEARING ASSEMBLY

ALL MODELS WITH THE LETTER "N" IN THE SIXTH CHARACTER OF THE MODEL NUMBER

a. Remove transmission assembly, *Paragraph 43*, steps "a" through "t".
b. Remove screws and lockwashers holding each support leg to outer tub. Refer to *Figure 68*.
c. Lift complete weldment assembly (with drive pulley, brake assembly, lower bearing, and transmission assembly attached) off outer tub.

IMPORTANT: To prevent porcelain damage, leg plates must be installed on outer tub flange when reinstalling support legs. (Plate must be installed on outside of tub flange). Do not overtighten screws as this could cause stripping or porcelain damage.

d. Remove seal and bearing assembly by grasping bearing through hole and pulling bearing and seal out through bottom of outer tub. Refer to *Figure 49*.

IMPORTANT: Use care when removing old seal so not to damage tub flange or porcelain.

e. Thoroughly clean all foreign material from outer tub surfaces that contact the bearing housing and seal assembly.

IMPORTANT: All foreign material must be removed from outer tub surface before installing No. 200512 Bearing Housing and Seal Assembly. Refer to *Figure 50*.

f. Place the new bearing housing and seal assembly over opening in outer tub with the tab over the positioning pin. Refer to *Figure 49*.
g. Using your fingers, firmly press bearing housing and seal assembly into tub opening.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

ALL MODELS WITHOUT THE LETTER "N" IN THE SIXTH CHARACTER OF THE MODEL NUMBER

a. Remove transmission assembly, *Paragraph 43*, steps "a" through "t".
b. Remove screws and lockwashers holding each support leg to outer tub. Refer to *Figure 68*.
c. Lift complete weldment assembly (with drive pulley, brake assembly, lower bearing, and transmission assembly attached) off outer tub.

IMPORTANT: To prevent porcelain damage, leg plates must be installed on outer tub flange when reinstalling support legs. (Plate must be installed on outside of tub flange). Do not overtighten screws as this could cause stripping or porcelain damage.

d. Remove three screws holding upper bearing and housing to bottom of outer tub. Refer to *Figure 73*.

NOTE: Replace bearing and housing as an assembly. Refer to *Figure 73*.

NOTE: When upper bearing assembly is reinstalled, threads of cap screws must be secured with a retaining compound.

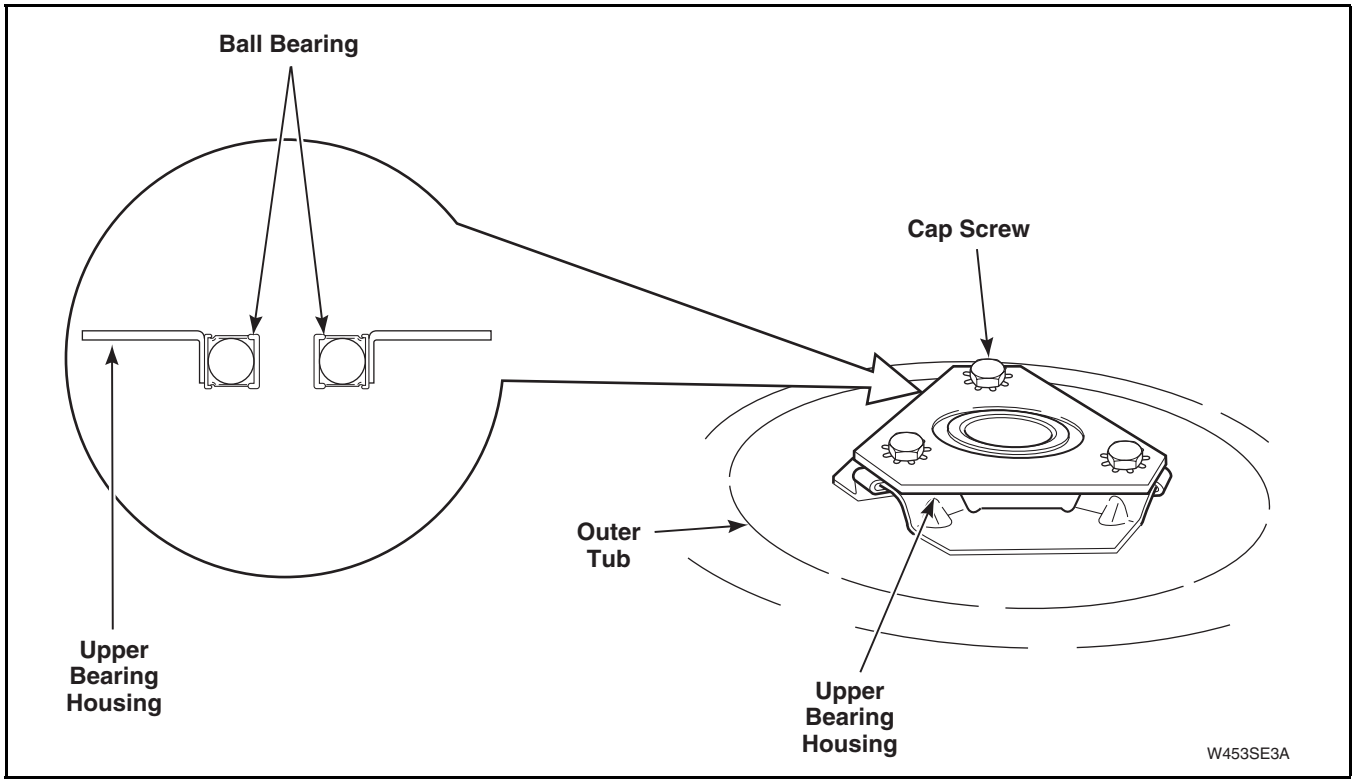


Figure 73

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

45. FRICTION RING

NOTE: Screws at bottom edge of front panel do not have to be removed as the holes in front panel are slotted.

NOTE: Top edge of front panel is held in place by two spring clips located on bottom flange of cabinet top. Refer to *Figure 28*.

a. Insert putty knife between cabinet top and top edge of front panel (aproximately three inches in from side). Refer to *Figure 28*.
b. Push in on putty knife and at the same time, pull top edge of front panel away from front of washer. Repeat for opposite side.
c. Lift front panel off two screws and set panel aside.
d. Remove two cabinet top hold-down screws. Refer to *Figure 28*.
e. If area or space permits, 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, however, a small chain may be used for additional support. Refer to *Figure 34*.

f. Loosen hose clamps and remove pressure hose from pressure bulb and filler hose from tub cover.
g. Loosen hose clamp and remove drain hose from pump.
h. 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. Refer to *Figure 29*. Disconnect harness from leg by squeezing tabs on cable tie together and push it back through hole in leg.

IMPORTANT: To avoid 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, make sure all male terminals on motor switch are straight and are capable of accepting terminals from wire harness connection block.

i. Using No. 321P4 Spring Hook Tool, unhook six module springs from lower edge of outer tub. Refer to *Figure 47*.

IMPORTANT: When installing module springs, make sure spring hook is fully seated in hole in tub skirt.

j. Grasp outer tub and lift complete tub module assembly (with transmission and weldment assembly attached) straight up and out of washer cabinet and set out of the way.
k. Remove old friction ring from washer base. Refer to *Figure 74*.
l. Use a dry cloth or a cloth dampened with water and clean the surface of the base where new friction ring will be installed.
m. Carefully place complete tub module back into washer making sure the weldment assembly is positioned properly over the friction ring and the recess area of washer base. Refer to *Figure 74*.

IMPORTANT: When reinstalling complete tub module, carefully set the tub module pivot dome on top of friction ring. DO NOT ALLOW TUB MODULE TO BE DROPPED OR LOWERED INTO POSITION TOO HARD! This can damage or crack the friction ring.

NOTE: Be sure motor is facing toward front of washer.

n. Use the No. 321P4 Spring Hook Tool and starting with the rear springs, hook six module springs into lower edge of outer tub. Refer to *Figure 47*.

IMPORTANT: When installing module springs, make sure spring hook is fully seated in hole in tub skirt. Refer to *Figure 47*.

o. **Direct Drive Pump Models —** Reconnect hose to pump outlet and tighten hose clamp.
Electric Pump Models —Reconnect hose to bottom of outer tub and tighten hose clamp.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

p. Reconnect the connection block to motor switch. Refer to *Figure 29*. Reinstall cable tie in leg making sure it is secure.
q. Reconnect pressure hose to pressure bulb. Refer to *Figure 75*. Then connect filler hose to tub cover. Refer to *Figure 75*.

NOTE: When reinstalling filler hose, white line on hose that connects to tub cover must point toward front of washer. Refer to *Figure 75*. Make sure hose is in its natural position (not kinked or twisted). If hose is not, loosen hose clamp and straighten hose.

r. Reinstall cabinet top and washer front panel.
s. Reconnect washer power cord and open water supply faucets.

NOTE: Washer must be run through a complete cycle to make sure it is operating properly.

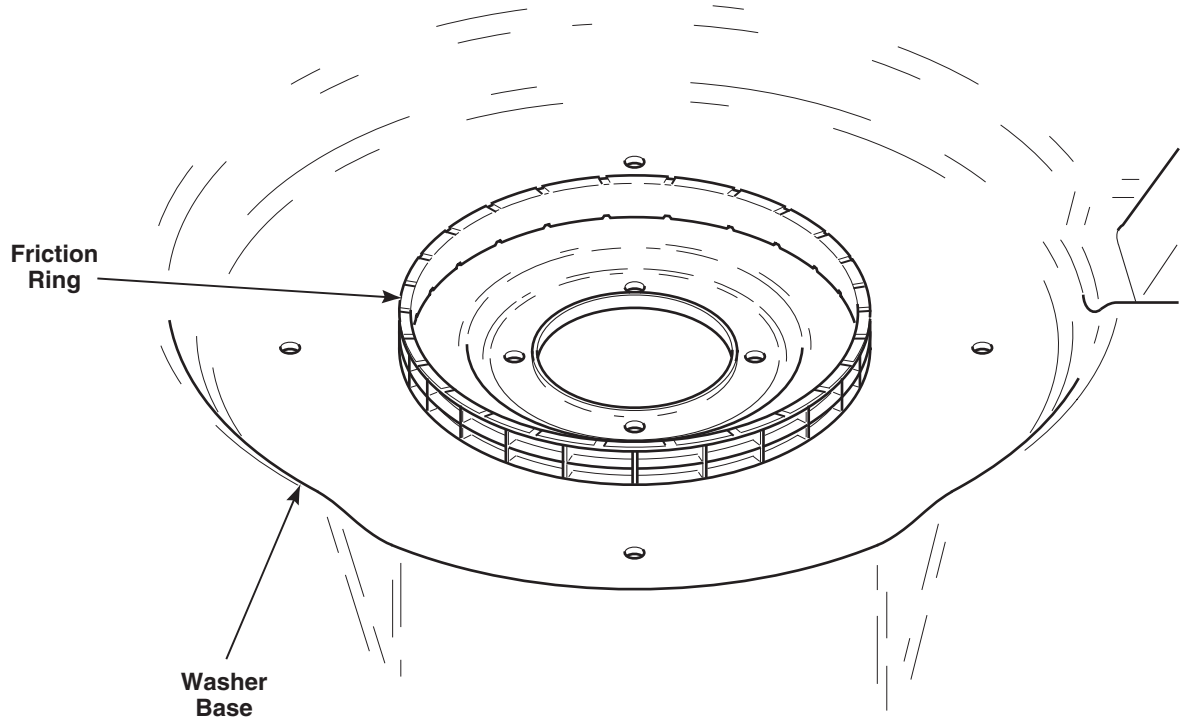


Figure 74

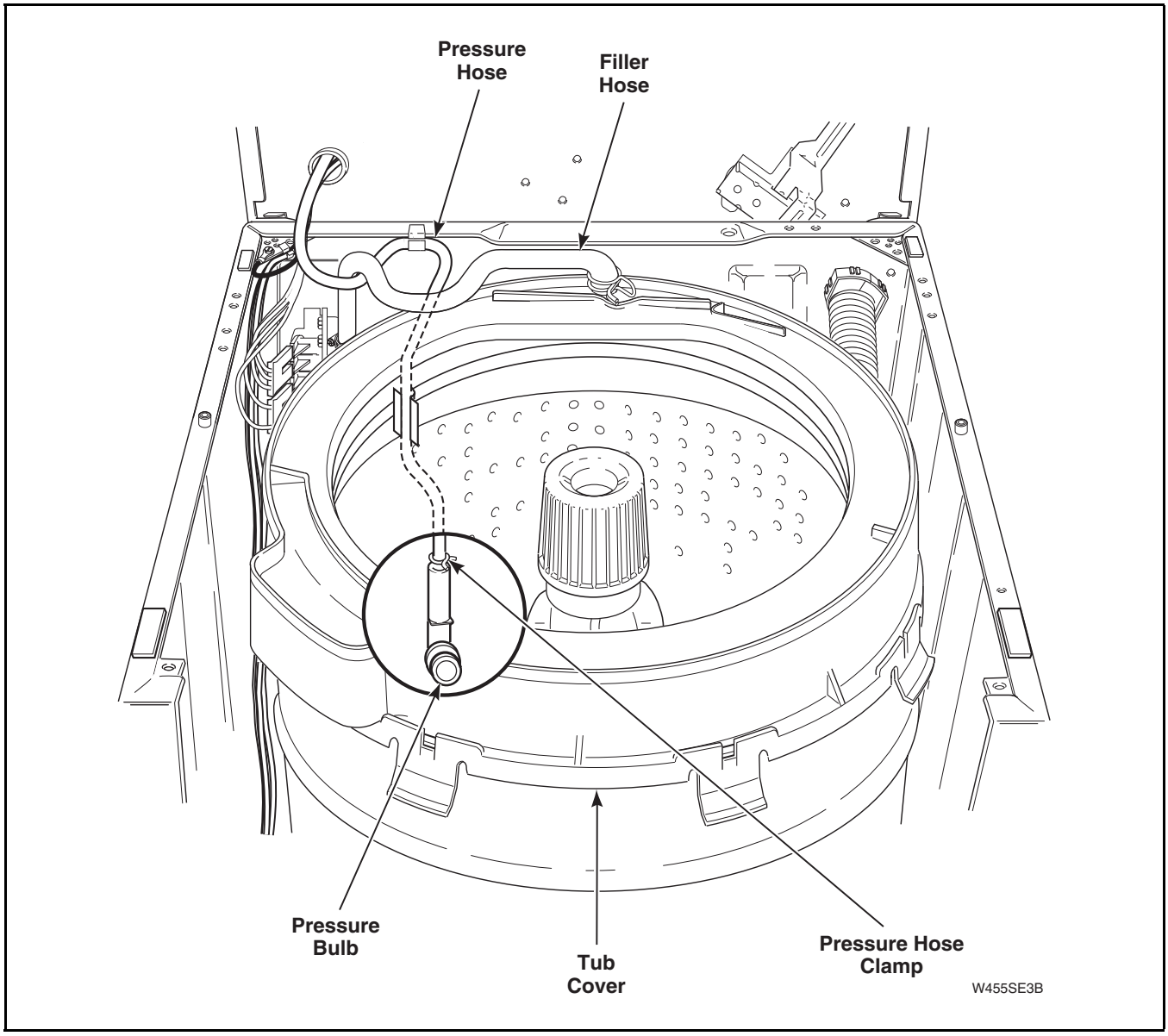


Figure 75

Section 6
Adjustments

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

46. LEVELING LEGS

Refer to *Figure 76*.

a. Place rubber feet on all four leveling legs.

b. Place washer in position on a clean, dry, and reasonably firm floor.

c. Loosen locknuts and adjust two front leveling legs. Once adjusted, tilt washer forward on front legs and lower back down into position to set the rear self-leveling legs.

d. Washer must not rock. After washer is at desired height, tighten locknuts securely against bottom of washer base. If these locknuts are not tight, washer will not remain stationary during operation.

NOTE: Improper installation, installation on carpet or flexing of a weak floor will cause excessive vibration.

IMPORTANT: Do not slide washer across floor once leveling legs have been extended, as legs and base could become damaged.

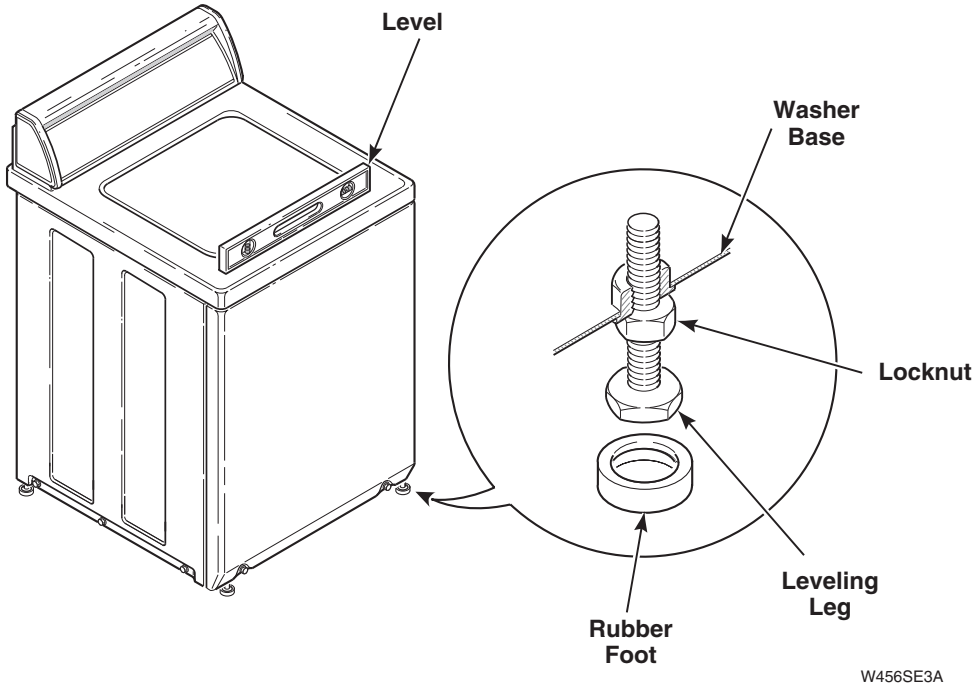


Figure 76

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

47. PRESSURE SWITCH
Refer to *Figure 77*.

NOTE: DO NOT ADJUST PRESSURE SWITCH IF WASHER IS WITHIN THE WARRANTY PERIOD.

Pressure switch is set at the factory for proper water fill levels. However, if there is a problem of overfilling or underfilling, pressure switch can be adjusted.

Maximum water fill level can be increased by turning adjusting screw CLOCKWISE, and decreased by turning screw COUNTERCLOCKWISE.

One quarter turn of the adjusting screw represents approximately one inch (25.4 mm) increase or decrease of water level in washtub.

IMPORTANT: DO NOT turn adjusting screw more than 3/4 of a turn in either direction as the switch may be damaged and flooding could result.

When testing, pressure switch has continuity from terminal 1 to 2 when empty and 1 to 3 when full.

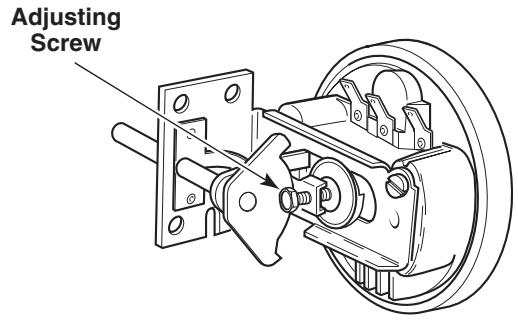


Figure 77

48. BELT (Agitate And Spin)
No belt adjustment is required.

Section 7
Test Procedures

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

49. MOTOR TEST PROCEDURE

IMPORTANT: Disconnect base wire harness plug from motor.

WARNING

Disconnect electric power to washer before performing the following steps:

W188

Motor test procedures using an Ohm meter.

NOTE: Resistance readings slightly out of given ranges may be due to meter conditions. These readings DO NOT necessarily indicate motor failure.

Meter Connections		Reading Should Be	If Not
1.	Ground to Each Other Terminal	Open	Terminal shorted to ground.
2.	White to Yellow	Closed	Open thermal overload.
3.	Red to Brown	2-8 Ohms	Start winding open or resistance too high or too low.
4.	Blue to White	1-2 Ohms	High speed winding (4 pole) open or resistance too high or too low.
5.	Violet to White (2-speed motor)	2.5 Ohms (Approximate)	Low winding opening; High speed winding open; or resistance too high or too low.
6.	“R” to Red	Closed	Open start (auxiliary) switch.
7.	“P” to Blue (2-speed motor)	Closed	Open start switch 4 pole winding.

NOTE: Steps 8, 9 and 10 are with motor centrifugal mechanism in the run position.

8.	“R” to Red	Open	Start auxiliary switch.
9.	“P” to Blue (2-speed motor)	3 Ohms (approximate)	Refer to Blue to White and Violet to White.
10.	“P” to Blue (2-speed motor)	Closed	Open low (6 pole) winding run switch.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003

50. MIXING VALVE SOLENOID TEST PROCEDURE

Mixing valve test procedures using an Ohm meter.

NOTE: Resistance readings slightly out of given ranges may be due to meter conditions. These readings DO NOT necessarily indicate mixing valve failure.

120 Volt coils	900 - 1100 Ohms
240 Volt coils	3200 - 4000 Ohms

51. TEMPERATURE SWITCH TEST PROCEDURE

Check for continuity between the following terminal connections:

3 Position Switches

Temperature		Connection
Wash	**Rinse**	
Hot	Cold	L - 3
Warm	Cold	L - 3- 4
Cold	Cold	L - 4

4 Position Switches

Temperature		Connection
Wash	**Rinse**	
Hot	Cold	L1 - 2
Warm	Warm	L1 - 1, L1 - 2, L2 - 2, L2 - 1, L2 - L1, 1 - 2
Warm	Cold	L1 - 2, L1 - 1, 1 - 2
Cold	Cold	L1 - 1

5 Position Switches

Temperature		Connection
Wash	**Rinse**	
Hot	Cold	L1 - 2
Hot	Warm	L1 - 2, L2 - 2
Warm	Cold	L1 - 1, L1 - 2
Warm	Warm	L1 - 1, L1 - 2, L2 - 2
Cold	Cold	L1 - 1

Section 8
Cycle Sequence Charts

**CYCLE SEQUENCE CHARTS
FOUND ON THE FOLLOWING PAGES
ARE FOR TIMERS COVERED IN THIS MANUAL.**

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:47
	PAUSE			2:17
	DRAIN			:30
	FILL & PAUSE	C		2:27
	DRAIN			2:00
	DRAIN & SPIN		SLOW	2:11
	RINSE FILL & AGITATE	W,C	FAST	4:00
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		SLOW	1:51
	DRAIN/SPIN/SPRAY	C	SLOW	:47
	DRAIN & SPIN		SLOW	4:31
OFF				2:30
DELICATE & WOOLENS	WASH, FILL & AGITATE	H,W,C	SLOW	1:56
	PAUSE			2:05
	AGITATE	H,W,C	SLOW	:47
	PAUSE			1:43
	AGITATE	H,W,C	SLOW	:35
	PAUSE			2:07
	DRAIN			:30
	FILL & PAUSE	W,C		2:27
	DRAIN			2:00
	DRAIN & SPIN		SLOW	2:11
	PAUSE			:40
	RINSE FILL & AGITATE	W,C	SLOW	1:40
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		SLOW	1:51
	DRAIN/SPIN/SPRAY	W,C	SLOW	:47
	DRAIN & SPIN		SLOW	4:31
OFF				2:30
SOAK/PREWASH	WASH, FILL & AGITATE	H,W,C	FAST	2:26
	PAUSE			5:13
	AGITATE	H,W,C	FAST	1:49
	PAUSE			5:41
	AGITATE	H,W,C	FAST	1:49
	INFINITE PAUSE UNLESS L-T CONNECTED EXTERNALLY			2:30
	DRAIN			2:20
	INTERVAL DRAIN & SPIN		FAST	1:51
OFF	UNLESS L-T CONNECTED EXTERNALLY			2:30
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	14:55
	PAUSE (:40) & DRAIN			2:40
	DRAIN & SPIN			2:11
	PAUSE			:40
	RINSE FILL & AGITATE	W,C	FAST	4:07
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		FAST	1:51
	DRAIN/SPIN/SPRAY	COLD	FAST	:47
	DRAIN & SPIN		FAST	4:31

(continued on next page)

TIMER NO. 37004 CYCLE SEQUENCE

OFF	UNLESS L-T CONNECTED EXTERNALLY			2:30
EXTRA RINSE	RINSE FILL & AGITATE	W,C	FAST	4:27
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		FAST	1:51
	DRAIN & SPIN		FAST	2:30
OFF				2:30

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 37004 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
SOAK	SOAK, FILL & AGITATE	H,W,C	SELECT	3:00
	SOAK, FILL	H,W,C		12:00
	SPIN		SELECT	3:00
OFF				3:00
PRE-WASH	WASH, FILL & AGITATE	H,W,C	SELECT	6:00
	SPIN		SELECT	3:00
REGULAR	WASH, FILL & AGITATE	H,W,C	SELECT	15:00
	SPIN		SELECT	3:00
	SPIN & SPRAY	C	SELECT	:25
	SPIN		SELECT	2:35
	RINSE FILL & AGITATE	W,C	SELECT	3:00
	SPIN		SELECT	6:00
OFF/PAUSE	CYCLE END OR PAUSE FOR EXTRA RINSE			3:00
EXTRA RINSE	RINSE, FILL & AGITATE	W,C	SELECT	3:00
	SPIN		SELECT	6:00
OFF				OFF
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	SELECT	9:00
	SPIN		MEDIUM	3:00
	SPIN & SPRAY	C	MEDIUM	:25
	SPIN		MEDIUM	2:35
	RINSE FILL & AGITATE	W,C	SELECT	3:00
	SPIN		SELECT	6:00
OFF/PAUSE	CYCLE END OR PAUSE FOR EXTRA RINSE			3:00
EXTRA RINSE	RINSE, FILL & AGITATE	W,C	SELECT	3:00
	SPIN		SELECT	6:00
OFF				3:00
DELICATE	WASH, FILL & SOAK	H,W,C		3:00
	WASH, FILL & AGITATE	H,W,C	MEDIUM	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	MEDIUM	:25
	WASH FILL & SOAK	H,W,C		2:35
	SPIN		MEDIUM	3:00
	SPIN & SPRAY	C	MEDIUM	:25
	SPIN		MEDIUM	2:40
	RINSE FILL & AGITATE	C	MEDIUM	3:00
	SPIN		MEDIUM	3:00
OFF/PAUSE	CYCLE END OR PAUSE FOR EXTRA RINSE			3:00

(continued on next page)

TIMER NO. 37922 CYCLE SEQUENCE

EXTRA RINSE	RINSE, FILL & AGITATE	C	MEDIUM	3:00
	SPIN		MEDIUM	3:00
OFF				3:00
HANDWASH	WASH, FILL & SOAK	H,W,C		3:00
	WASH, FILL & AGITATE	H,W,C	SLOW	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		2:35
	SPIN		MEDIUM	3:00
	SPIN & SPRAY	C	MEDIUM	:25
	SPIN		MEDIUM	2:40
	RINSE FILL & AGITATE	C	SLOW	3:00
	SPIN		MEDIUM	3:00
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 37922 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	7:05
OFF				3:00
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:00
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	7:05
OFF				3:00
DELICATE	WASH, FILL & SOAK	H,W,C		1:30
	WASH, FILL & AGITATE	H,W,C	SLOW	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		1:05
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	C	SLOW	3:00
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	4:05
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 37925 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
SOAK	SOAK, FILL & AGITATE	H,W,C	SLOW	4:00
	SOAK, FILL	H,W,C		12:00
	SPIN		SLOW	4:00
OFF				4:00
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:30
	SPIN		FAST	2:00
	SPIN & SPRAY	C	FAST	:30
	SPIN		FAST	1:30
	RINSE FILL & AGITATE	W,C	FAST	4:00
	SPIN		FAST	6:00
OFF				4:00
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:30
	SPIN		SLOW	2:00
	SPIN & SPRAY	C	SLOW	:30
	SPIN		SLOW	1:30
	RINSE FILL & AGITATE	W,C	FAST	4:00
	SPIN		FAST	6:00
OFF				4:00
DELICATE	WASH, FILL & SOAK	H,W,C		3:00
	WASH, FILL & AGITATE	H,W,C	SLOW	:30
	WASH, FILL & SOAK	H,W,C		1:30
	WASH FILL & AGITATE	H,W,C	SLOW	:30
	WASH FILL & SOAK	H,W,C		1:30
	WASH FILL & AGITATE	H,W,C	SLOW	:30
	WASH FILL & SOAK	H,W,C		1:30
	WASH FILL & AGITATE	H,W,C	SLOW	:30
	WASH FILL & SOAK	H,W,C		1:30
	SPIN		SLOW	2:00
	SPIN & SPRAY	C	SLOW	:30
	SPIN		SLOW	1:30
	RINSE FILL & AGITATE	C	SLOW	4:00
	SPIN		SLOW	4:00
OFF				4:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 37927 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:00
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
DELICATE	WASH, FILL & SOAK	H,W,C		1:30
	WASH, FILL & AGITATE	H,W,C	SLOW	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		1:05
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	C	SLOW	3:00
	SPIN		SLOW	3:00
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 37928 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:00
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
DELICATE	WASH, FILL & SOAK	H,W,C		1:30
	WASH, FILL & AGITATE	H,W,C	SLOW	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		1:05
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	C	SLOW	3:00
	SPIN		SLOW	3:00
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 37929 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:00
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
DELICATE	WASH, FILL & SOAK	H,W,C		1:30
	WASH, FILL & AGITATE	H,W,C	SLOW	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		1:05
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	C	SLOW	3:00
	SPIN		SLOW	3:00
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 37930 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:35
	PAUSE (:23) & DRAIN			1:13
	FILL AND PAUSE	C		2:25
	DRAIN			2:00
	DRAIN & SPIN		SLOW	2:23
	RINSE FILL & AGITATE	W,C	FAST	4:23
	PAUSE (:23) & DRAIN			2:23
	INTERVAL DRAIN & SPIN		FAST	1:34
	DRAIN/SPIN/SPRAY	C	FAST	:52
	DRAIN & SPIN		FAST	4:45
OFF				3:36
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	14:23
	PAUSE (:23) & DRAIN			2:23
	DRAIN & SPIN			2:23
	PAUSE			:23
	RINSE FILL & AGITATE	W,C	FAST	4:23
	PAUSE (:23) & DRAIN			2:23
	INTERVAL DRAIN & SPIN		FAST	1:34
	DRAIN/SPIN/SPRAY	C	FAST	:52
	DRAIN & SPIN		FAST	4:45
OFF				3:36

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 37995P CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
SOAK	SOAK, FILL & AGITATE	H,W,C	SLOW	3:00
	SOAK, FILL	H,W,C		12:00
	SPIN		SLOW	3:00
OFF				3:00
PRE-WASH	WASH, FILL & AGITATE	H,W,C	FAST	6:00
	SPIN		FAST	3:00
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:30
	SPIN		FAST	3:00
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF/PAUSE	CYCLE END OR PAUSE FOR EXTRA RINSE			3:00
EXTRA RINSE	RINSE, FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				OFF
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:30
	SPIN		SLOW	3:00
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF/PAUSE	CYCLE END OR PAUSE FOR EXTRA RINSE			3:00
EXTRA RINSE	RINSE, FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
DELICATE	WASH, FILL & SOAK	H,W,C		3:00
	WASH, FILL & AGITATE	H,W,C	SLOW	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		2:35
	SPIN		SLOW	3:00
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	C	SLOW	3:00
	SPIN		SLOW	3:00

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TIMER NO. 38881 CYCLE SEQUENCE

OFF/PAUSE	CYCLE END OR PAUSE FOR EXTRA RINSE			3:00
EXTRA RINSE	RINSE, FILL & AGITATE	C	SLOW	3:00
	SPIN		SLOW	3:00
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 38881 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:41
	PAUSE			2:23
	DRAIN			:30
	FILL & PAUSE	C		2:06
	DRAIN			2:00
	DRAIN & SPIN		SLOW	2:00
	RINSE FILL & AGITATE	W,C	FAST	4:07
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		FAST	1:40
	DRAIN/SPIN/SPRAY	C	FAST	:47
	DRAIN & SPIN		FAST	4:13
OFF				7:30
DELICATE	WASH, FILL & PAUSE			1:24
	AGITATE	H,W,C	SLOW	:47
	PAUSE			1:36
	AGITATE	H,W,C	SLOW	:47
	PAUSE			1:36
	AGITATE	H,W,C	SLOW	:35
	PAUSE			1:55
	DRAIN			:30
	FILL & PAUSE	W,C		2:06
	DRAIN			2:00
	DRAIN & SPIN		SLOW	2:00
	PAUSE			:40
	RINSE FILL & AGITATE	W,C	SLOW	1:40
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		SLOW	1:40
	DRAIN/SPIN/SPRAY	W,C	SLOW	:47
	DRAIN & SPIN		SLOW	4:13
OFF				7:30
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	14:55
	PAUSE (:40) & DRAIN			2:40
	DRAIN & SPIN			2:00
	PAUSE			:40
	RINSE FILL & AGITATE	W,C	FAST	4:07
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		FAST	1:40
	DRAIN/SPIN/SPRAY	COLD	FAST	:47
	DRAIN & SPIN		FAST	4:13
OFF				7:30

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 39445 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:00
	SPIN		SLOW	1:12
	SPIN & SPRAY	C	SLOW	:15
	SPIN		SLOW	:45
	SPIN & SPRAY	C	SLOW	:15
	SPIN		SLOW	2:48
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:00
	SPIN		FAST	1:12
	SPIN & SPRAY	C	FAST	:15
	SPIN		FAST	:45
	SPIN & SPRAY	C	FAST	:15
	SPIN		FAST	2:48
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 200604 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:00
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
DELICATE	WASH, FILL & SOAK	H,W,C		1:30
	WASH, FILL & AGITATE	H,W,C	SLOW	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	SLOW	:25
	WASH FILL & SOAK	H,W,C		1:05
	SPIN		SLOW	1:30
	SPIN & SPRAY	C	SLOW	:25
	SPIN		SLOW	2:35
	RINSE FILL & AGITATE	C	SLOW	3:00
	SPIN		SLOW	3:00
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 200885P CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	15:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:00
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	W,C	FAST	3:00
	SPIN		FAST	6:00
OFF				3:00
DELICATE	WASH, FILL & SOAK	H,W,C		1:30
	WASH, FILL & AGITATE	H,W,C	FAST	:25
	WASH, FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	FAST	:25
	WASH FILL & SOAK	H,W,C		2:35
	WASH FILL & AGITATE	H,W,C	FAST	:25
	WASH FILL & SOAK	H,W,C		1:05
	SPIN		FAST	1:30
	SPIN & SPRAY	C	FAST	:25
	SPIN		FAST	2:35
	RINSE FILL & AGITATE	C	FAST	3:00
	SPIN		FAST	3:00
OFF				3:00

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

TIMER NO. 200927 CYCLE SEQUENCE

NOTE: Times listed are approximate.

CYCLE	FUNCTION	WATER TEMP. SELECT	*MOTOR SPEED	TIME (Min. & Sec.)
PERMANENT PRESS	WASH, FILL & AGITATE	H,W,C	FAST	9:41
	PAUSE			2:23
	DRAIN			:30
	FILL & PAUSE	C		2:06
	DRAIN			2:00
	DRAIN & SPIN		SLOW	2:00
	RINSE FILL & AGITATE	W,C	FAST	4:07
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		FAST	1:40
	DRAIN/SPIN/SPRAY	C	FAST	:47
	DRAIN & SPIN		FAST	4:13
OFF				7:30
DELICATE	WASH, FILL & PAUSE			1:24
	AGITATE	H,W,C	SLOW	:47
	PAUSE			1:36
	AGITATE	H,W,C	SLOW	:47
	PAUSE			1:36
	AGITATE	H,W,C	SLOW	:35
	PAUSE			1:55
	DRAIN			:30
	FILL & PAUSE	W,C		2:06
	DRAIN			2:00
	DRAIN & SPIN		SLOW	2:00
	PAUSE			:40
	RINSE FILL & AGITATE	W,C	SLOW	1:40
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		SLOW	1:40
	DRAIN/SPIN/SPRAY	W,C	SLOW	:47
	DRAIN & SPIN		SLOW	4:13
OFF				7:30
REGULAR	WASH, FILL & AGITATE	H,W,C	FAST	14:55
	PAUSE (:40) & DRAIN			2:40
	DRAIN & SPIN			2:00
	PAUSE			:40
	RINSE FILL & AGITATE	W,C	FAST	4:07
	PAUSE (:40) & DRAIN			3:00
	INTERVAL DRAIN & SPIN		FAST	1:40
	DRAIN/SPIN/SPRAY	COLD	FAST	:47
	DRAIN & SPIN		FAST	4:13
OFF				7:30

***On Single Speed Model Washers, All Speeds are Fast.**

KEY:

H = HOT W = WARM C = COLD

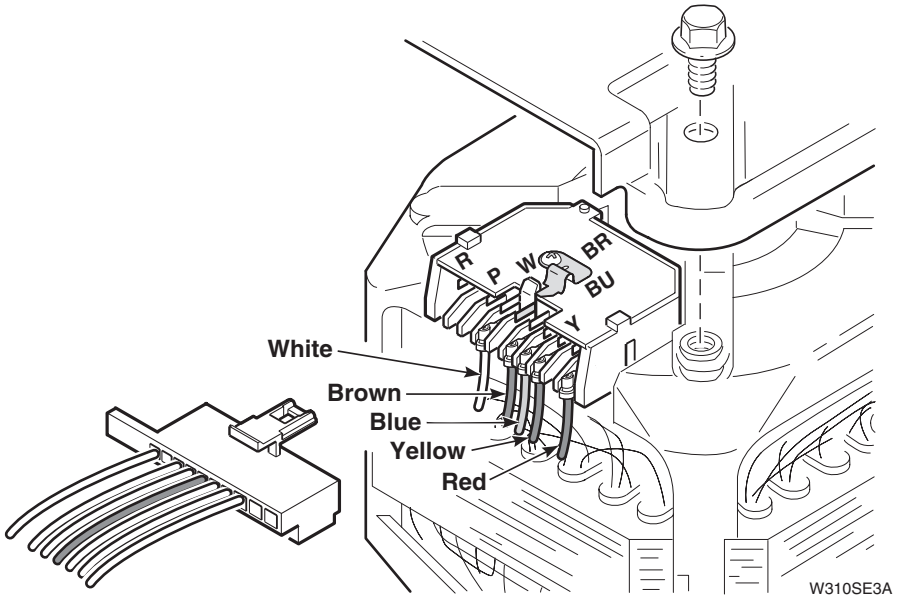
TIMER NO. 201013 CYCLE SEQUENCE

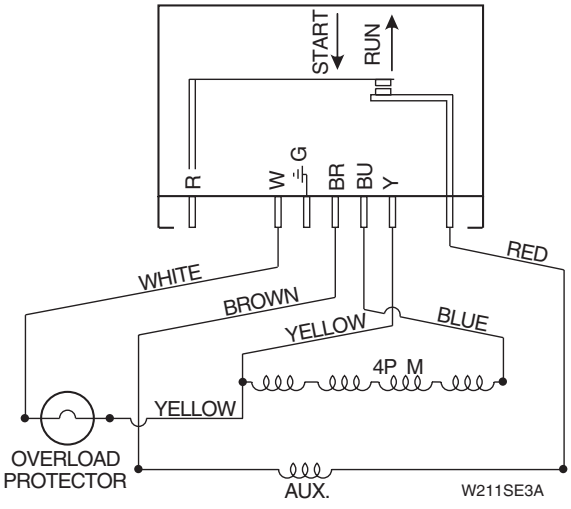
Section 9
Internal Wiring of Washer Motor Switch

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003



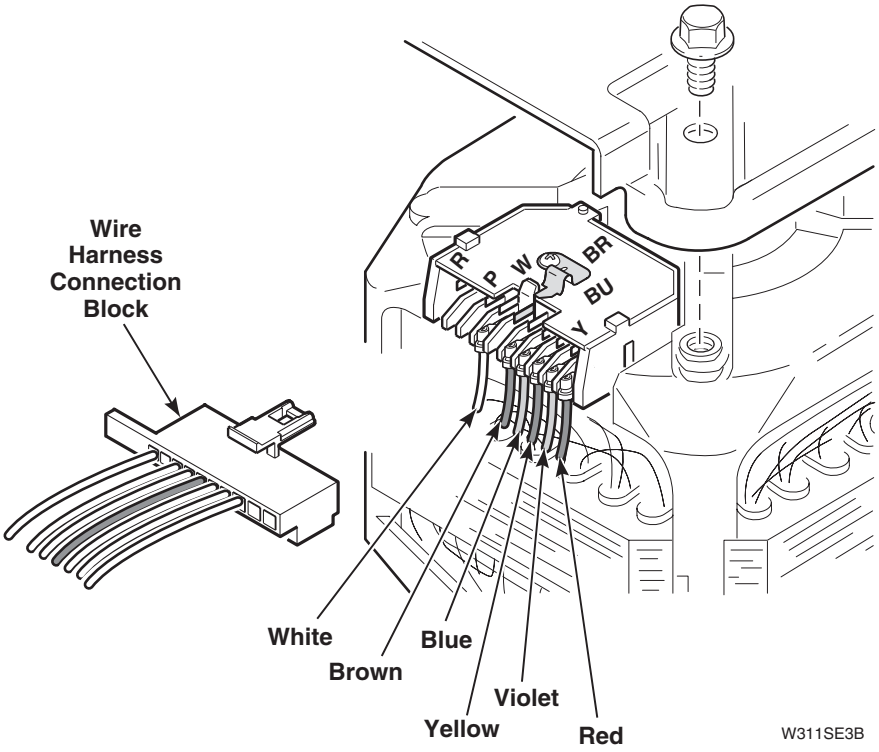


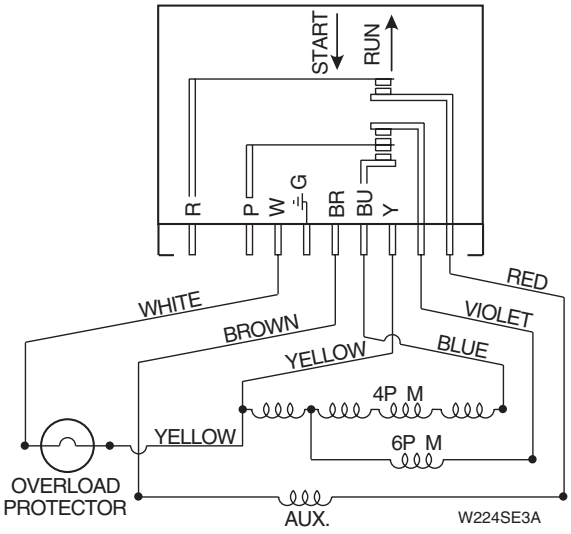
MOTOR ASSEMBLY
(1 Speed Motors)

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

W003





MOTOR ASSEMBLY
(2 Speed Motors)