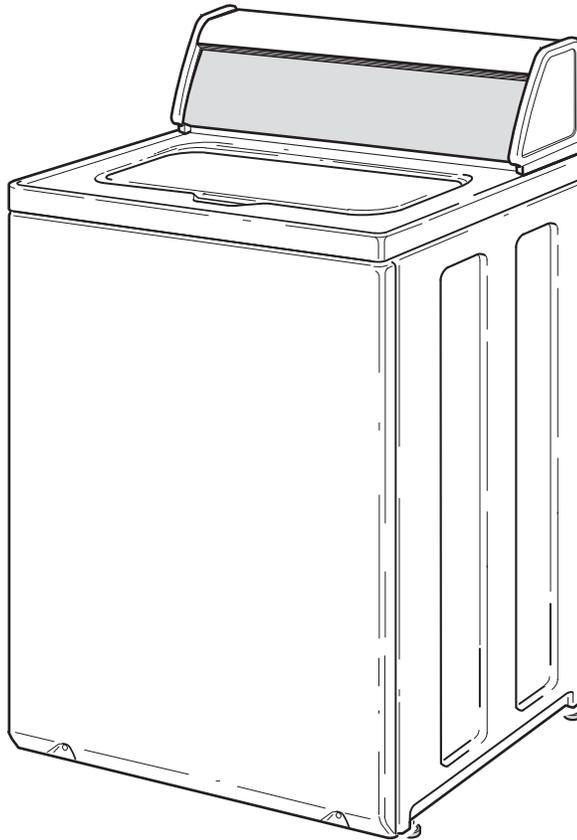


Home Topload Washers

Refer to page 5 for Model Numbers



TLW23C

— Troubleshooting —

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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.

	<h2>WARNING</h2>
<ul style="list-style-type: none">• 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.	
<small>W006R2</small>	



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

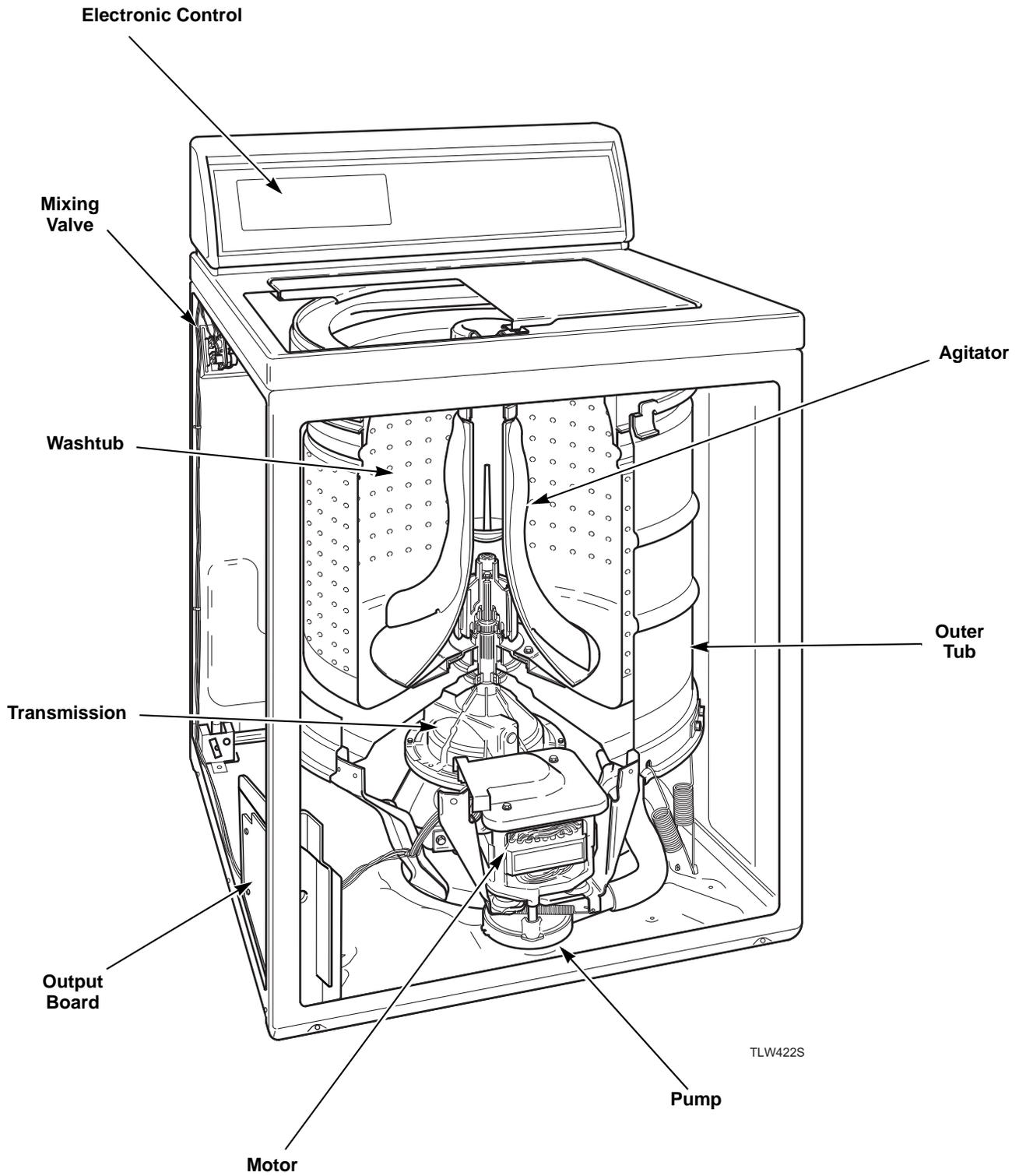
Introduction

Model Identification

Information in this manual is applicable to these washer models.

AWNE82SP113CW01	LWNE52SP113FQ01	LWNE52WP303ZW01
AWNE82SP113FW01	LWNE52SP113CW01	LWNE52WP543RW01
AWNE92SP123DW01	LWNE52SP113FW01	LWNE52WP543ZW01
AWNE82SN303AW01	LWNE52SP113TW01	PWNE32PP113TG01
AWNE92SP113FW01	LWNE52SP113ZW01	PWNE32PP303AG01
AWNE92SP303XW26	LWNE52SP303AW01	YWNE52PP113CW01
AWNE92SP303XW34	LWNE52SP303BW01	YWNE52PP113TW01
AWNE92SP543DW01	LWNE52SP303EW01	YWNE52PP303EW01
AWNE92SN303AW01	LWNE52SP303NW26	YWNE52SP303NW26
FWNE52SP303NW26	LWNE52SP303NW35	YWNE52SP303UW01
FWNE52SP303WW01	LWNE52SP303SW01	YWNE52SP303WW01
FWNE52SP303ZW01	LWNE52SP303UW01	YWNE52SP543RW01
FWNE52SP303ZW14	LWNE52SP303WW01	YWNE52SP543ZW01
LWNA52SP113TW01	LWNE52SP303ZW01	ZWNE82SP113CW01
LWNE52PP113TW01	LWNE52SP543RW01	ZWNE82SP113FW01
LWNE52PP113ZW01	LWNE52SP543ZW01	ZWNE92SP113FW01
LWNE52PP303SW01	LWNE52WP113FW01	
LWNE52SP103ZW01	LWNE52WP113TW01	

How Your Washer Works



The cycle begins with a wash fill. The water temperature is determined by the temperature selected on the control. 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 trip the pressure sensor at the selected water level (load size). The pressure sensor trip then causes the wash fill to stop and wash agitation to begin. However, the lid must be closed for any washer operation to occur.

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 and a short pause occurs, the control 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 acceleration 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 a rinse step to rinse away any detergent residue.

During the rinse step in the Normal Eco cycle there is a spray rinse. Water is sprayed into the washtub while it is spinning. In all other cycles, the washer fills and then agitates like the wash portion of the cycle.

Following the rinse step a final spin extracts the rinse water from the clothes preparing them for the dryer.

Refer to Cycle Sequence Charts section for a detailed breakdown of each cycle.

Introduction

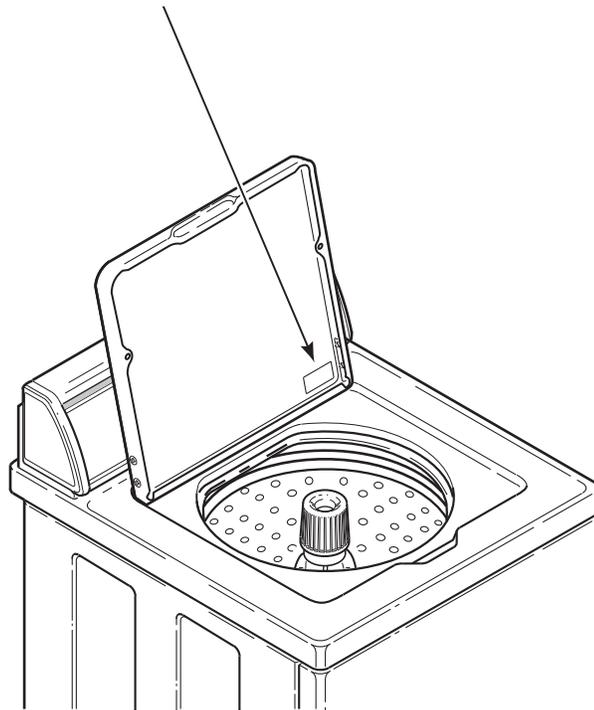
Customer Service

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.



W429SE1B

Section 3

Troubleshooting

	WARNING
<p>To reduce the risk of electric shock, fire, explosion, serious injury or death:</p> <ul style="list-style-type: none"> • 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. Production Test Summary

To enter Production Test Mode, disconnect machine from electrical power and reconnect. Within five minutes press keypads 2 and 7 (Refer to Figure 1) at the same time.

Press the Start/Pause keypad to advance through the steps.

Test Name	Display	LEDs	Motor	Water Valves	Audio Tone	Auxilliary Output
Control Type	“tL”	All Off	None	Off	Off	Off
Control Firmware Major	“XX”*	All Off	None	Off	Off	Off
Output Board	“ob”	All Off	None	Off	Off	Off
Control Level	“XX”*	All Off	None	Off	Off	Off
CCB Region Display Cycle Confirm	“XX”*	All Off	None	Off	Off	Off
Control Dip Switches	“XX”*	All Off	None	Off	Off	Off
Keypad Test	“PX” or “XX”*	All Off	None	Off	Off	Off
Display Test	“8.8”	All On	None	Off	On	Off
High Speed Spin Test	“01”	Spin On	High Speed	Off	Off	Off
Hot Water Test	“02”	All Off	None	Hot	Off	Off
Cold Water Test	“03”	All Off	None	Cold	Off	Off
Warm Water/ Pressure Sensor Test**	“04”	All Off	None	Hot, Cold	Off	Off
High Speed Agitate	“05”	Rinse On	High Agitate	Off	Off	Off
Low Speed Agitate	“06”	Rinse On	Low Agitate	Off	Off	Off
Low Speed Spin	“07”	Spin On	Low Spin	Off	Off	Off
High Speed Spin	“08”	Spin On	High Spin	Off	Off	Off
Warm Water Test	“09”	All Off	None	Hot, Cold	Off	Off
High Speed Spin/ Tub Empty Test	“10”	Spin On	High Spin	Off	Off	Off

*“XX” displays number relating to test.

**This step will only advance automatically once specified water levels are reached.

Table 1 (Continued)

Troubleshooting

Table 1 (Continued)

Test Name	Display	LEDs	Motor	Water Valves	Audio Tone	Auxilliary Output
Auxilliary 1	“11”	All Off	None	Off	Off	Aux 1
Auxilliary 2	“12”	All Off	None	Off	Off	Aux 2
Auxilliary 3	“13”	All Off	None	Off	Off	Aux 3
Auxilliary 4	“14”	All Off	None	Off	Off	Aux 4
Power Down	“Pd”	All Off	None	Off	Off	Off

*“XX” displays number relating to test.

**This step will only advance automatically once specified water levels are reached.

Table 1

2. Keypad Combinations

Refer to *Figure 1*.

Function	Keys	Entry state
Enter/Exit Software Version Display Mode	7+8	Start Mode
Enter Output Board Version Display	3+14	Start Mode
Rapid Advance	7+13	Run Mode
Enter/Exit Audit Display Mode	3+9	Start Mode
Enter Motor Thermal Protect Counter	7+9	Start Mode
Enter Production Test Mode	2+7	Start Mode under 5 min
Enter/Exit Production Test Counter	2+9	Start Mode
Toggle Keypad Acknowledgement	13+14	Start Mode
Turn On/Off Rainbow Pizzazz display	9+10	Start Mode
Enter/Exit Show Mode	3+8	Start Mode
Pressure Sensor Display	4+14	Any Mode Except Errors

Table 2

3. Rapid Advance

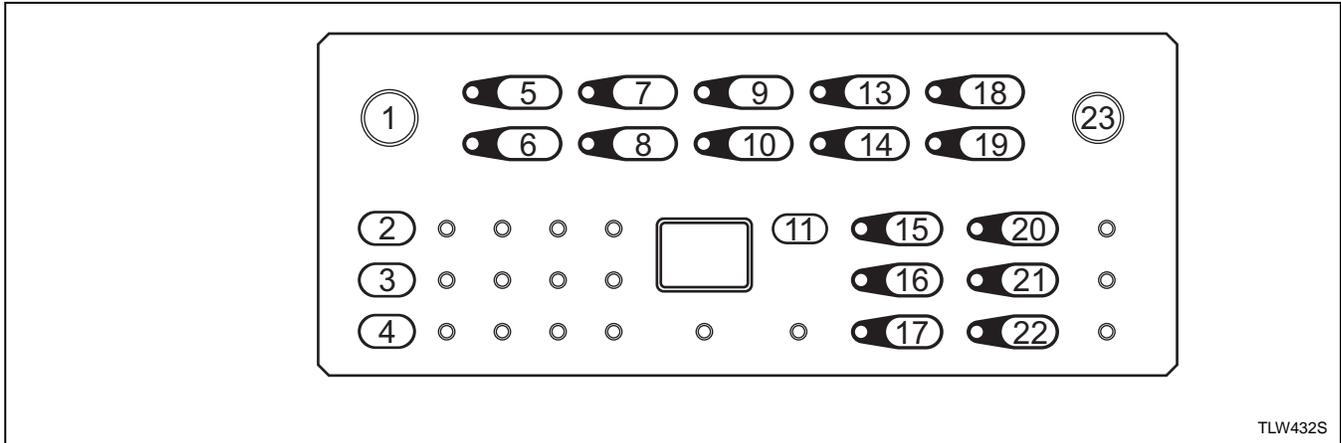


Figure 1

For Rapid Advance press keypads 7 and 13 at the same time to advance to the next step of the cycle. Each time these keypads are pressed the cycle will advance to the next step. Then press them both again to advance through the cycle. Refer to Cycle Sequence Charts section for each cycle step. Fill/Agitate cycle steps count as one Rapid Advance step.

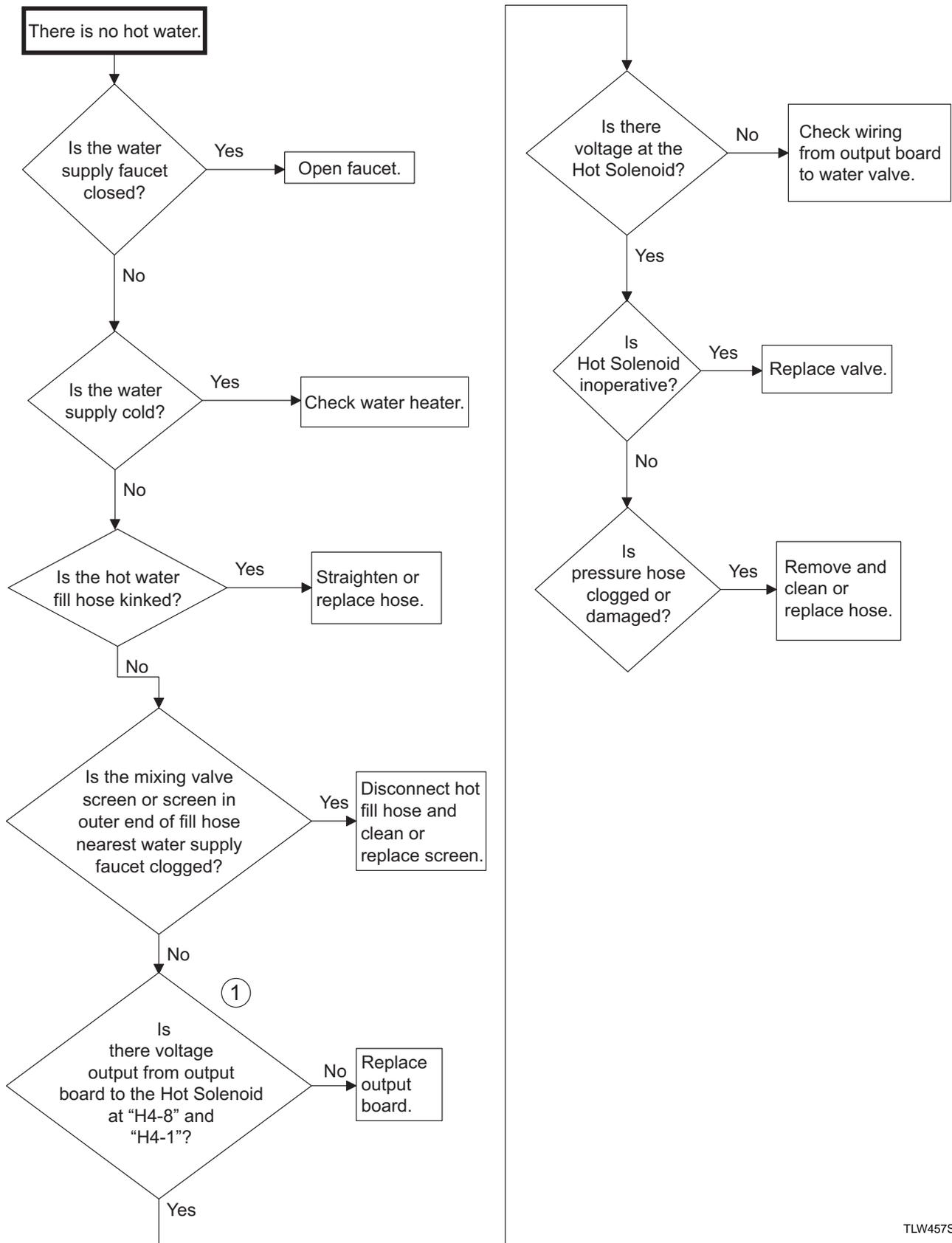
4. Control Version Display

- a. To display the software version, press keypads 7 and 8 at the same time.
- b. To display the output board version, press keypads 3 and 14 at the same time.

5. Low Water Level on High Fill Setting

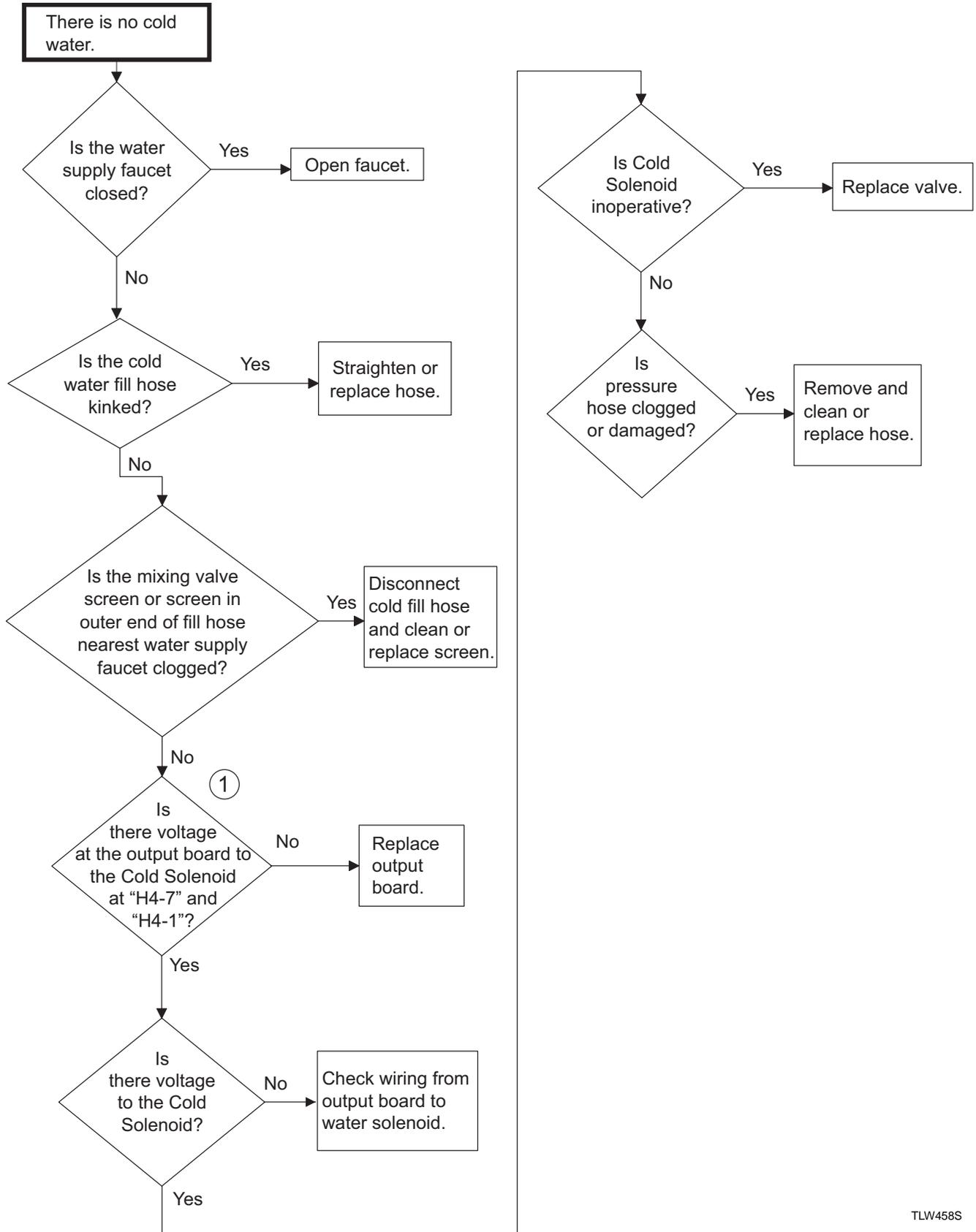
- a. If there is an instance of a low water level on the highest fill setting, check that the high setting water level is between 12 and 13.5 inches.
- b. If the water level is within .5 inch of this level without clothes, it is performing as designed.

6. No Hot Water - "Er", "FL"



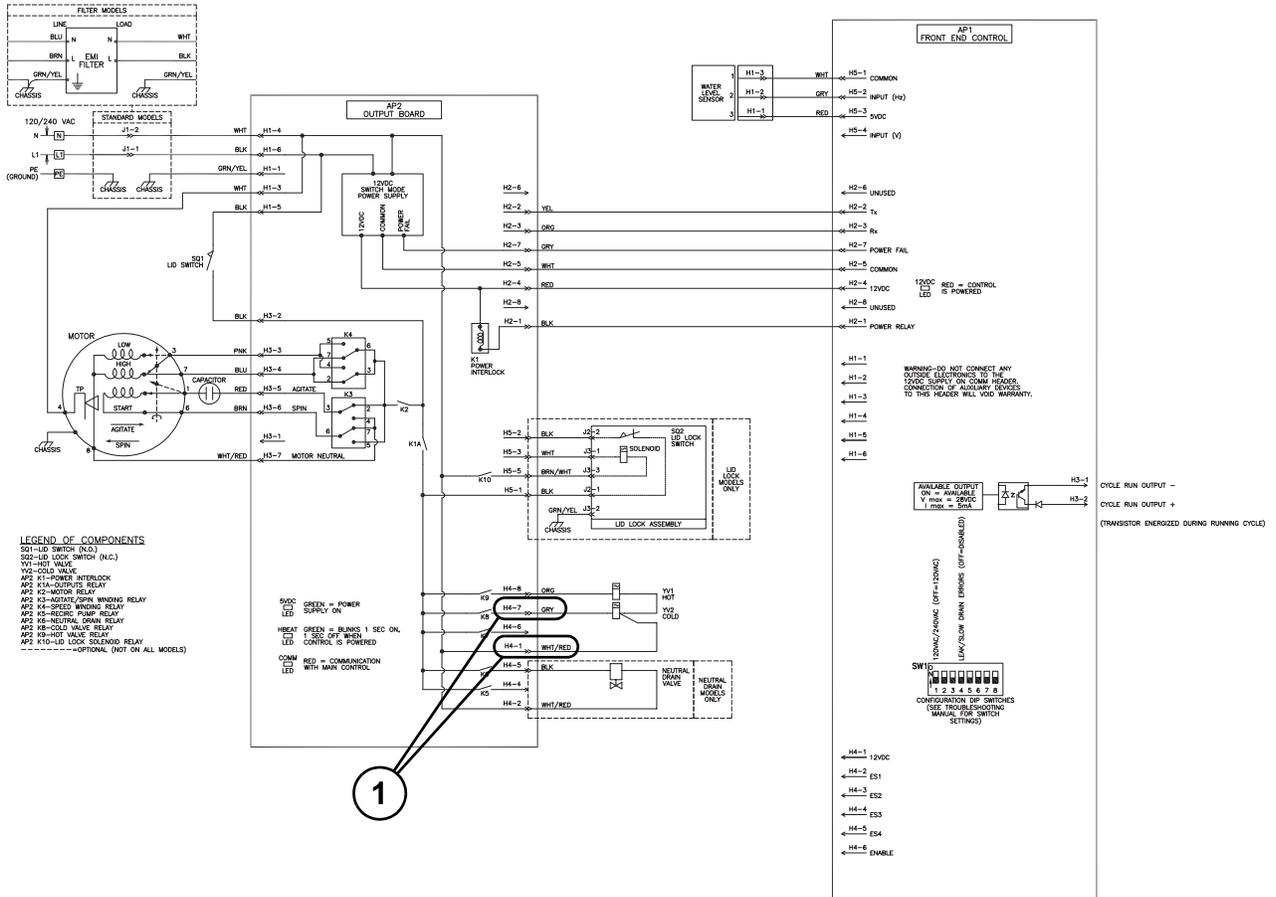
TLW457S

7. No Cold Water - "Er", "FL"



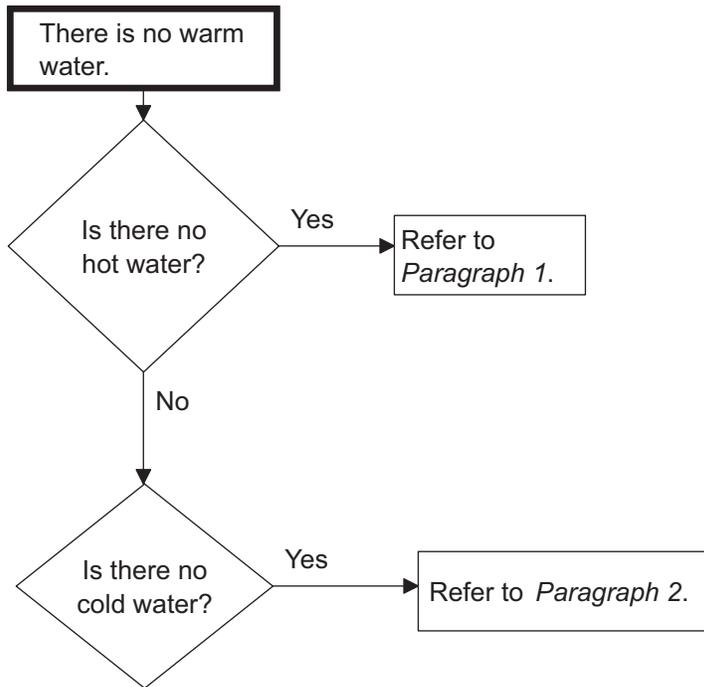
TLW458S

No Cold Water - "Er", "FL"



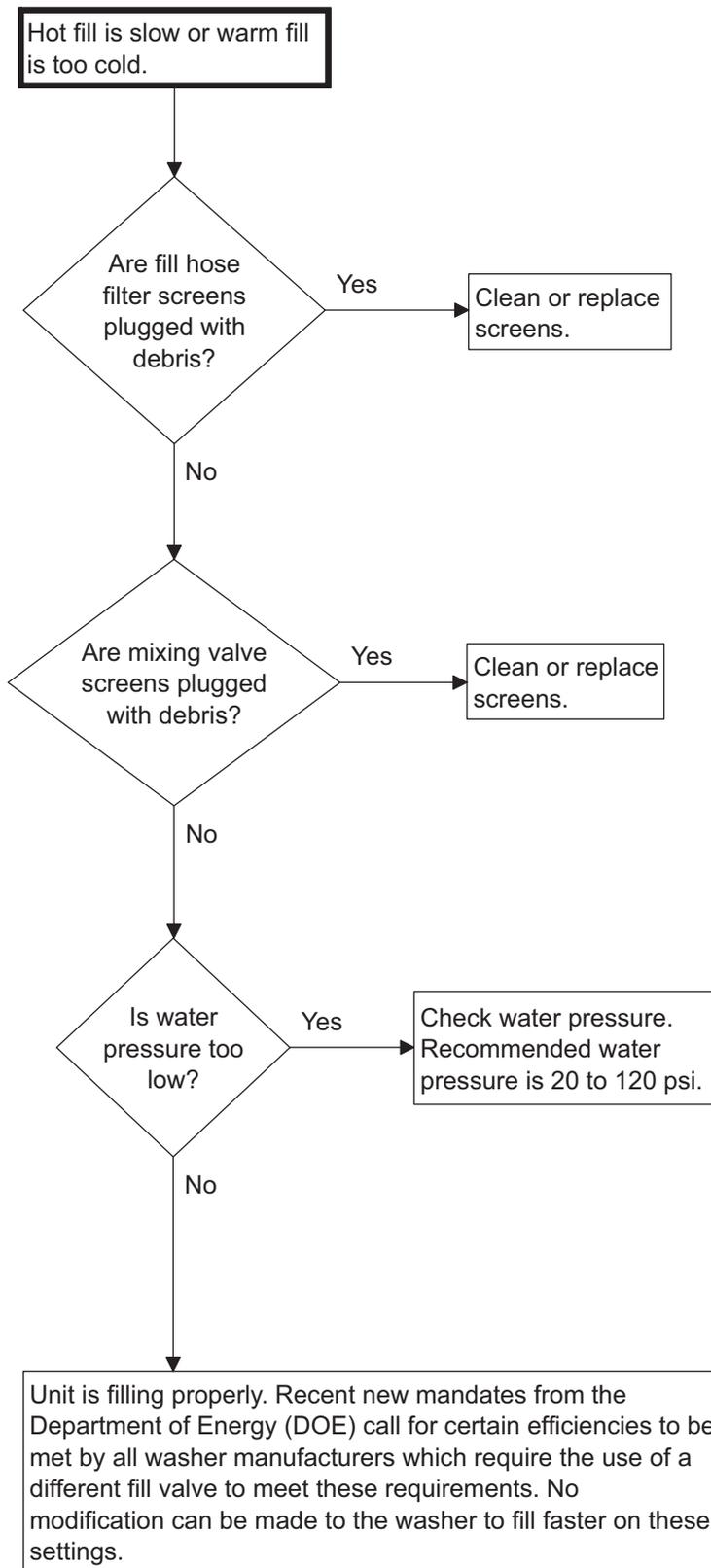
TLW456S

8. No Warm Water - “Er”, “FL”



TLW328S

9. Slow Hot Fill or Warm Fill is Too Cold

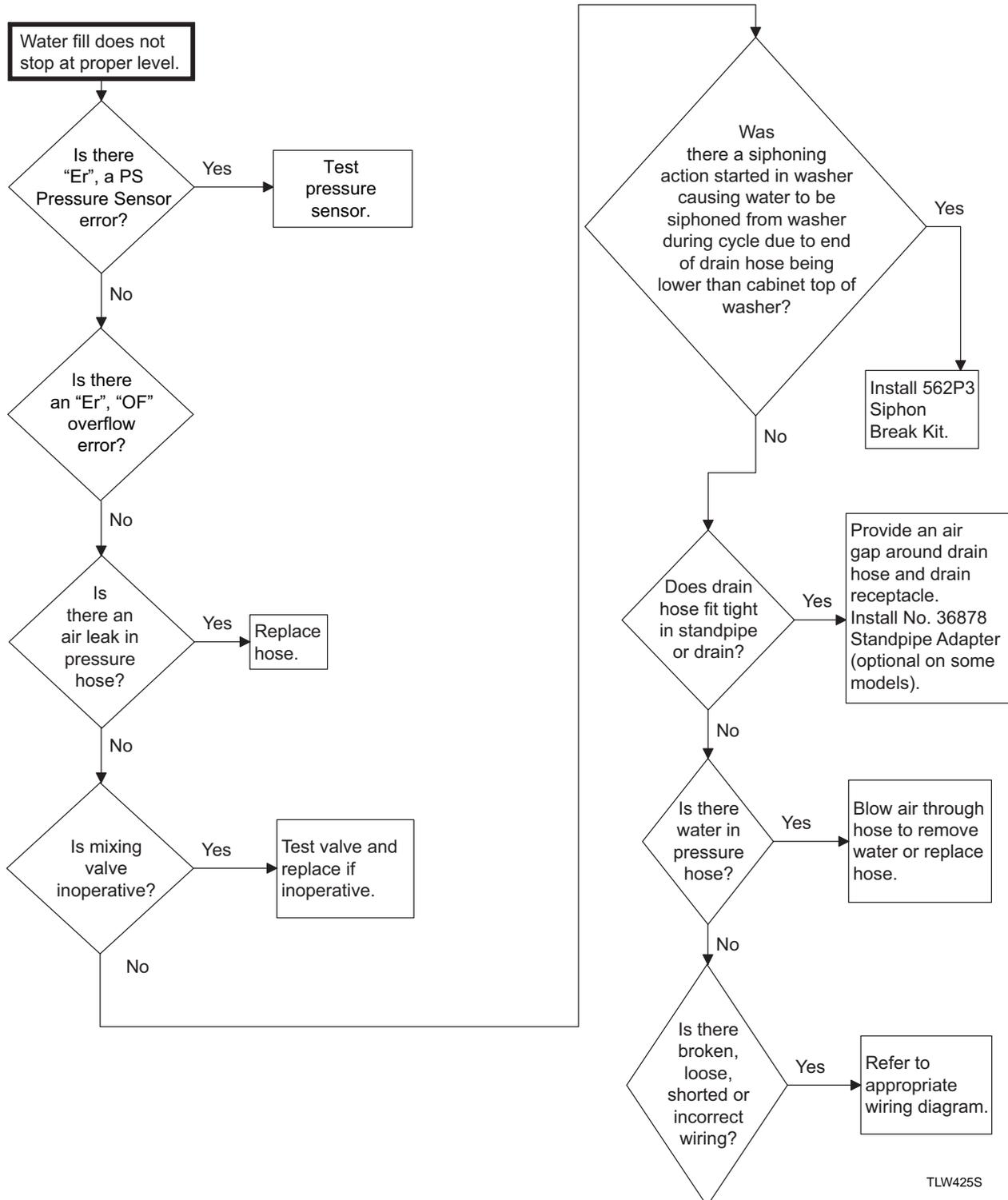


TLW378S

10. Water Fill Does Not Stop At Proper Level, Fill Error “Er”, “FL”, Overflow Error “Er”, “OF”

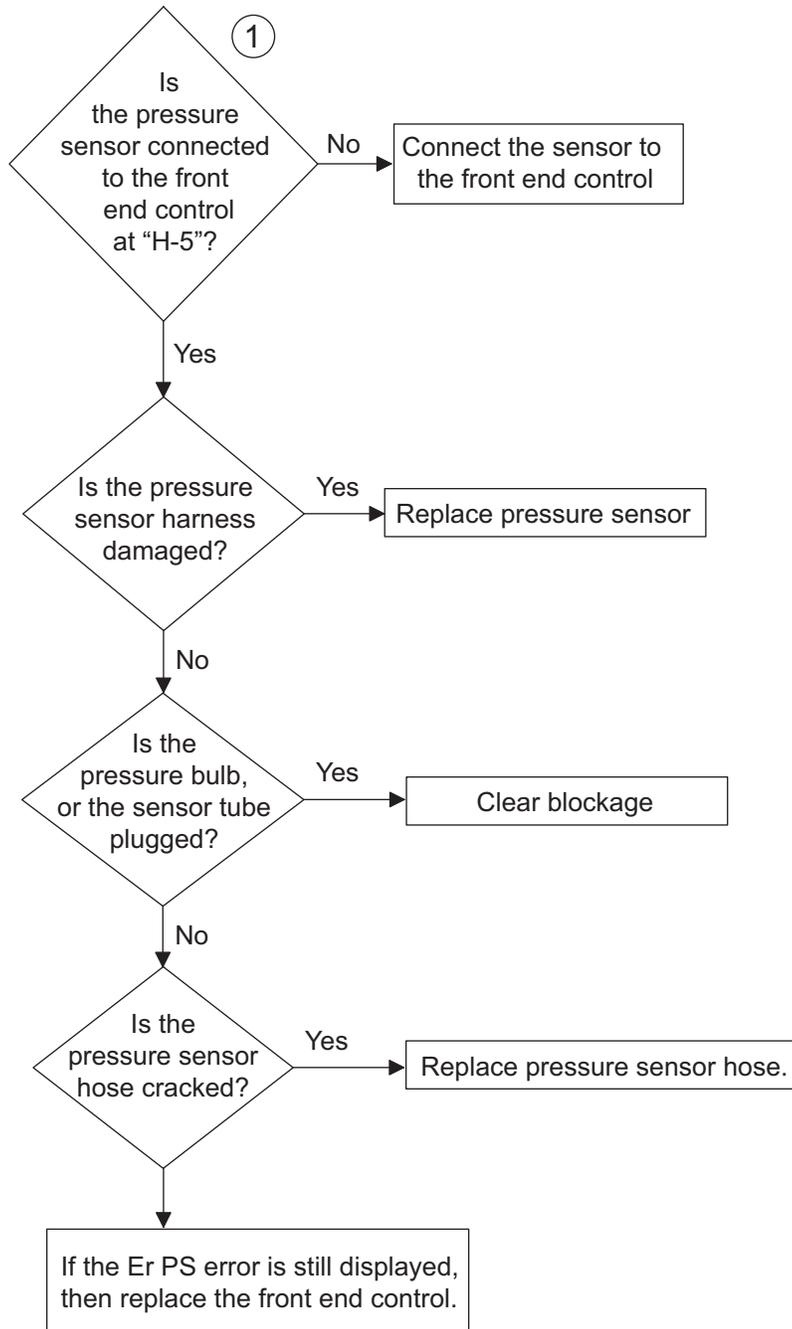
Note: To test the pressure sensor

1. Ensure sensor is connected to the front end control and there is no damage to the harness.
2. Press the 4 and 14 key pads (refer to Figure 1) at the same time while water is filling. If no change is viewed on the display, first check pressure hose for damage. If hose is ok, replace pressure sensor.



TLW425S

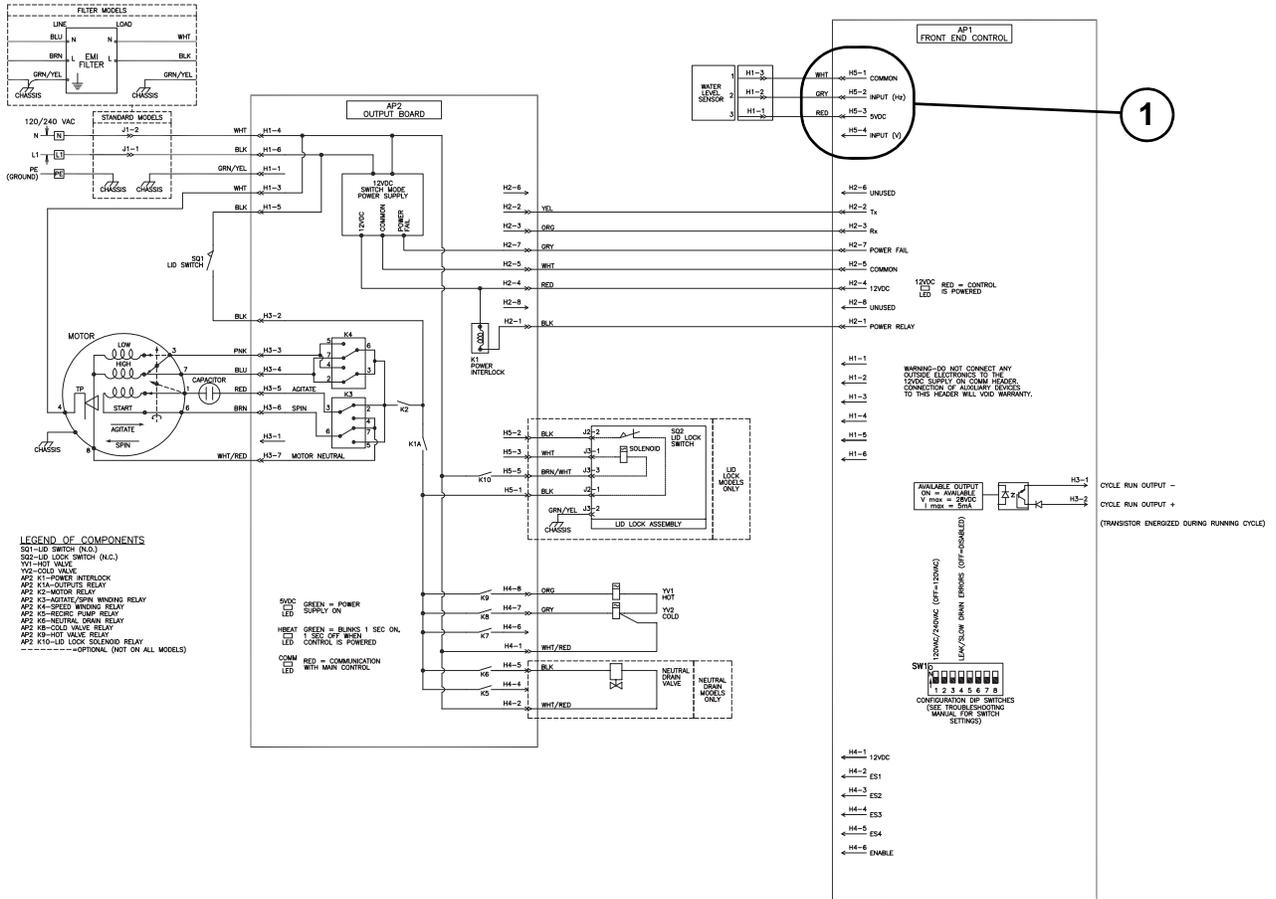
11. “Er”, “PS” on the display, Pressure sensor error



NOTE: The pressure sensor can be tested by pressing both the 4 and 14 keypads (refer to Figure 1) at the same time while the machine is filling. The sensor can also be tested by performing the production test.

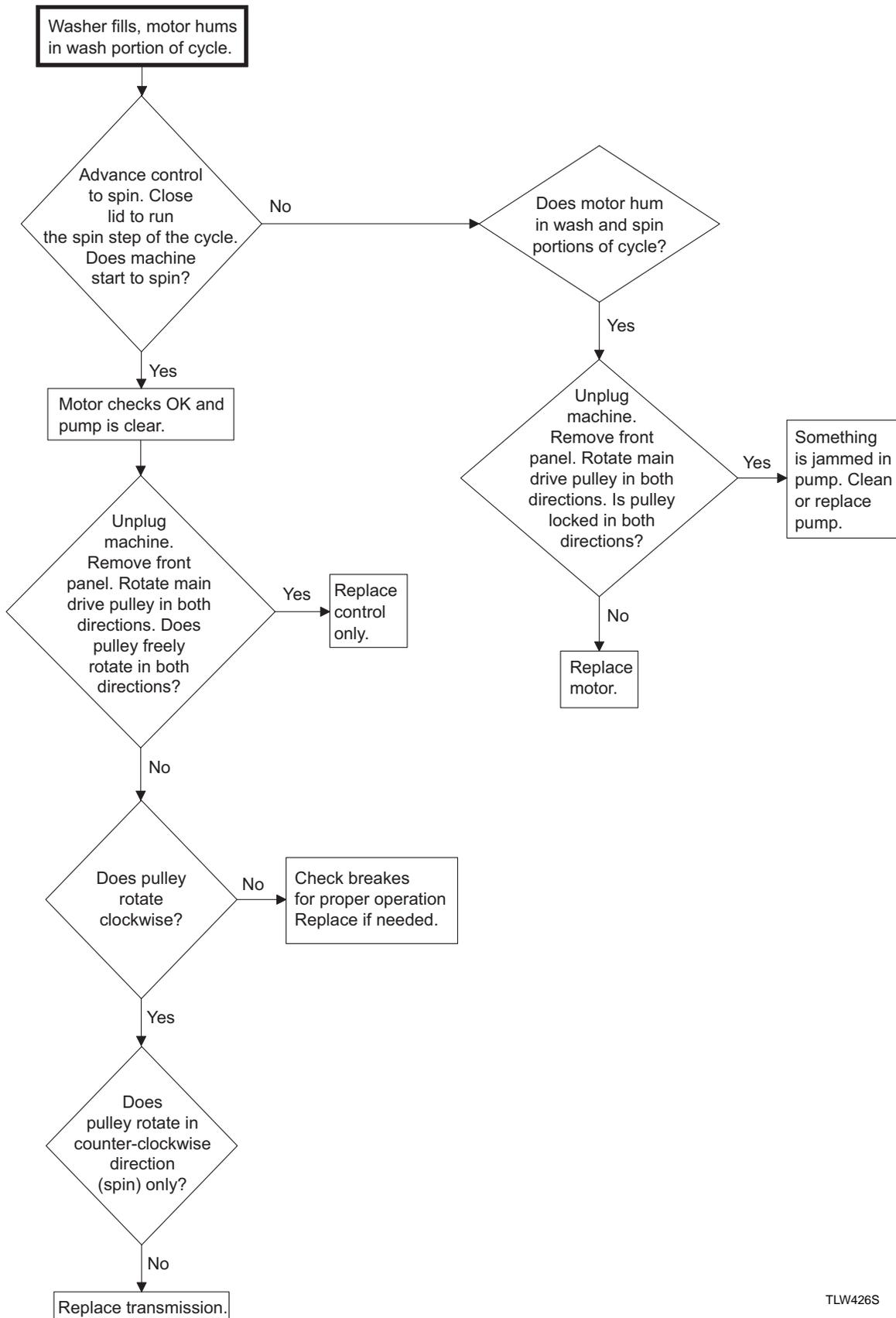
TLW459S

“Er”, “PS” on the display, Pressure sensor error



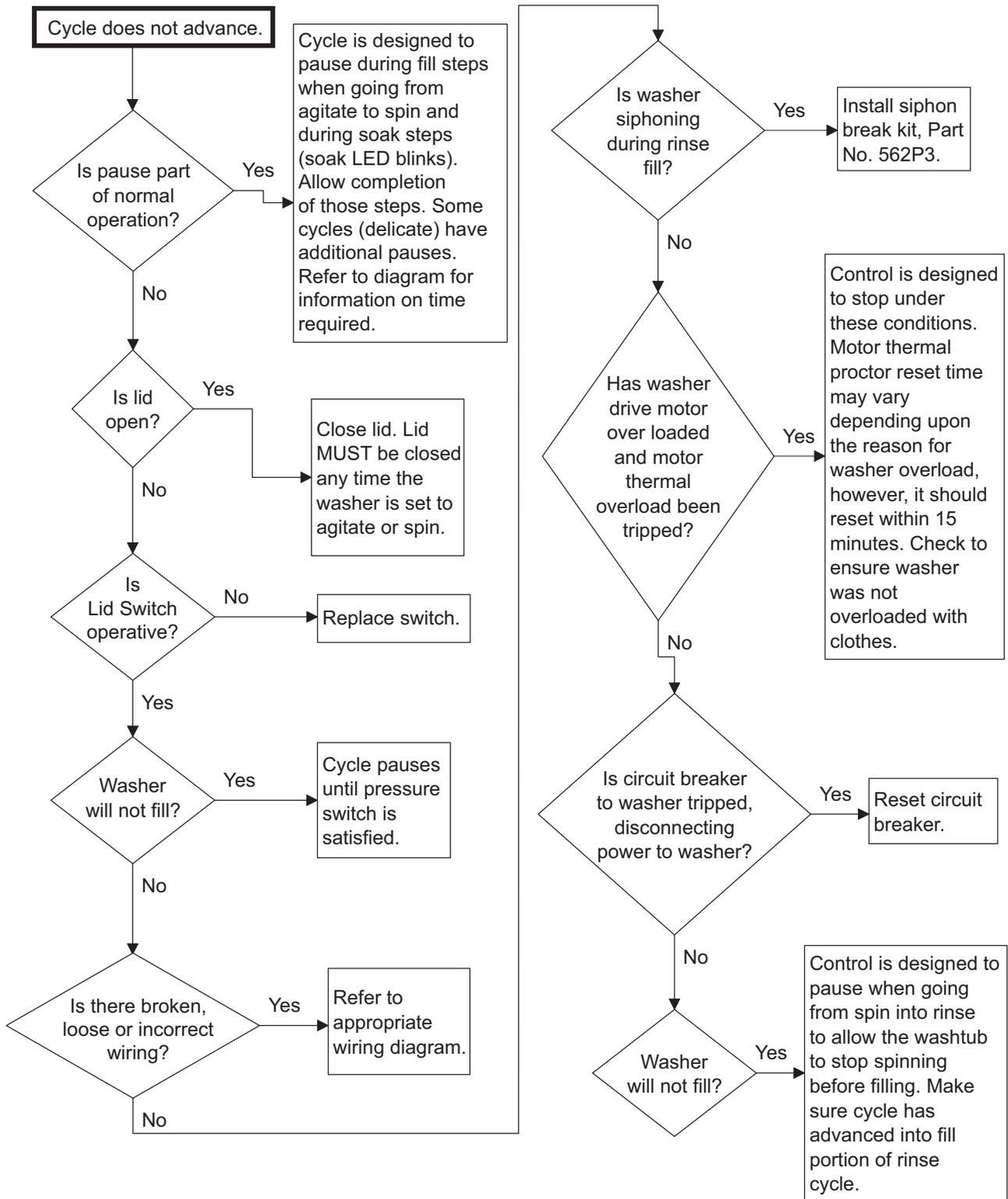
TLW456S

12. Washer Fills, Motor Hums



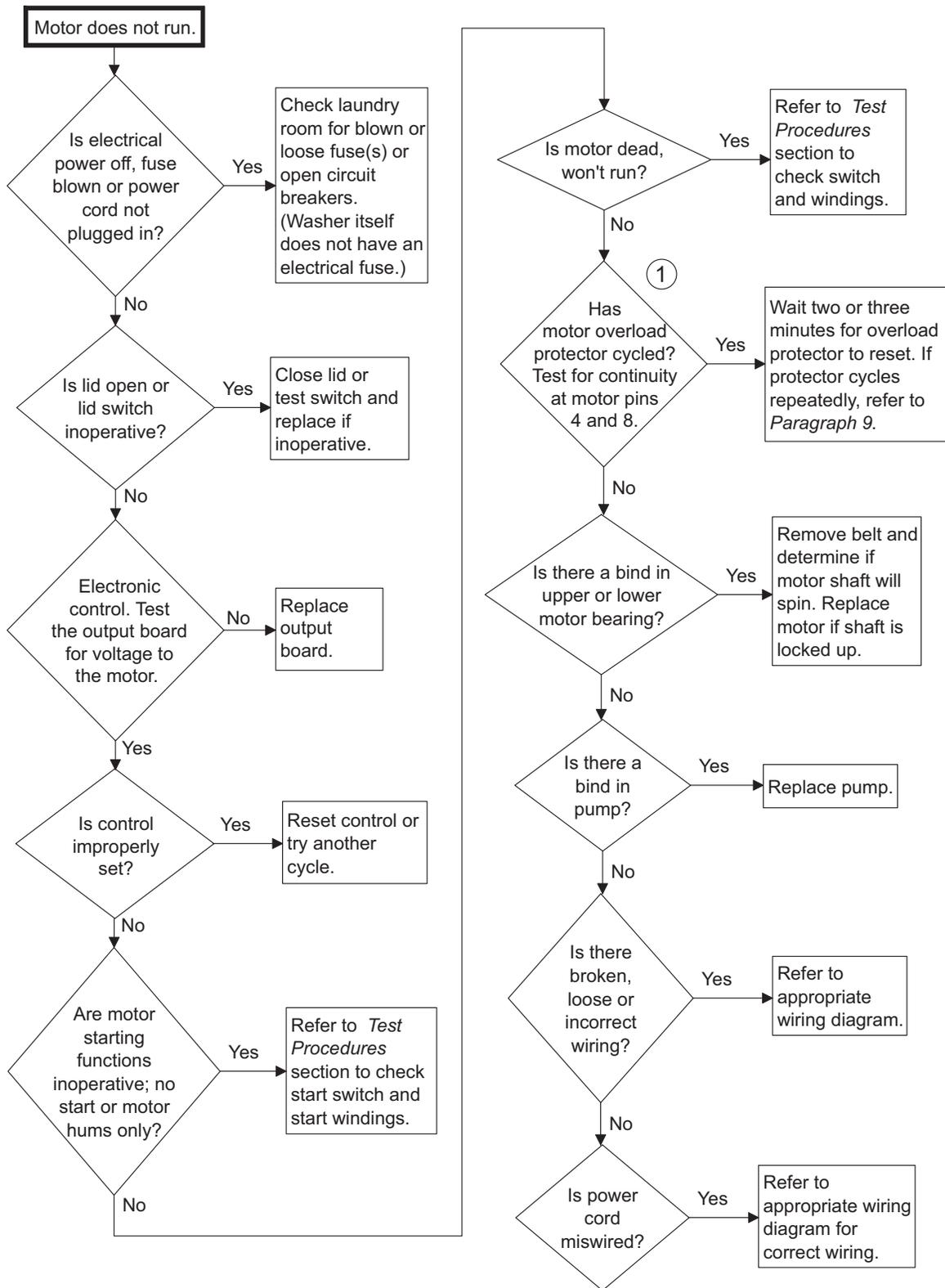
TLW426S

13. Cycle Does Not Advance



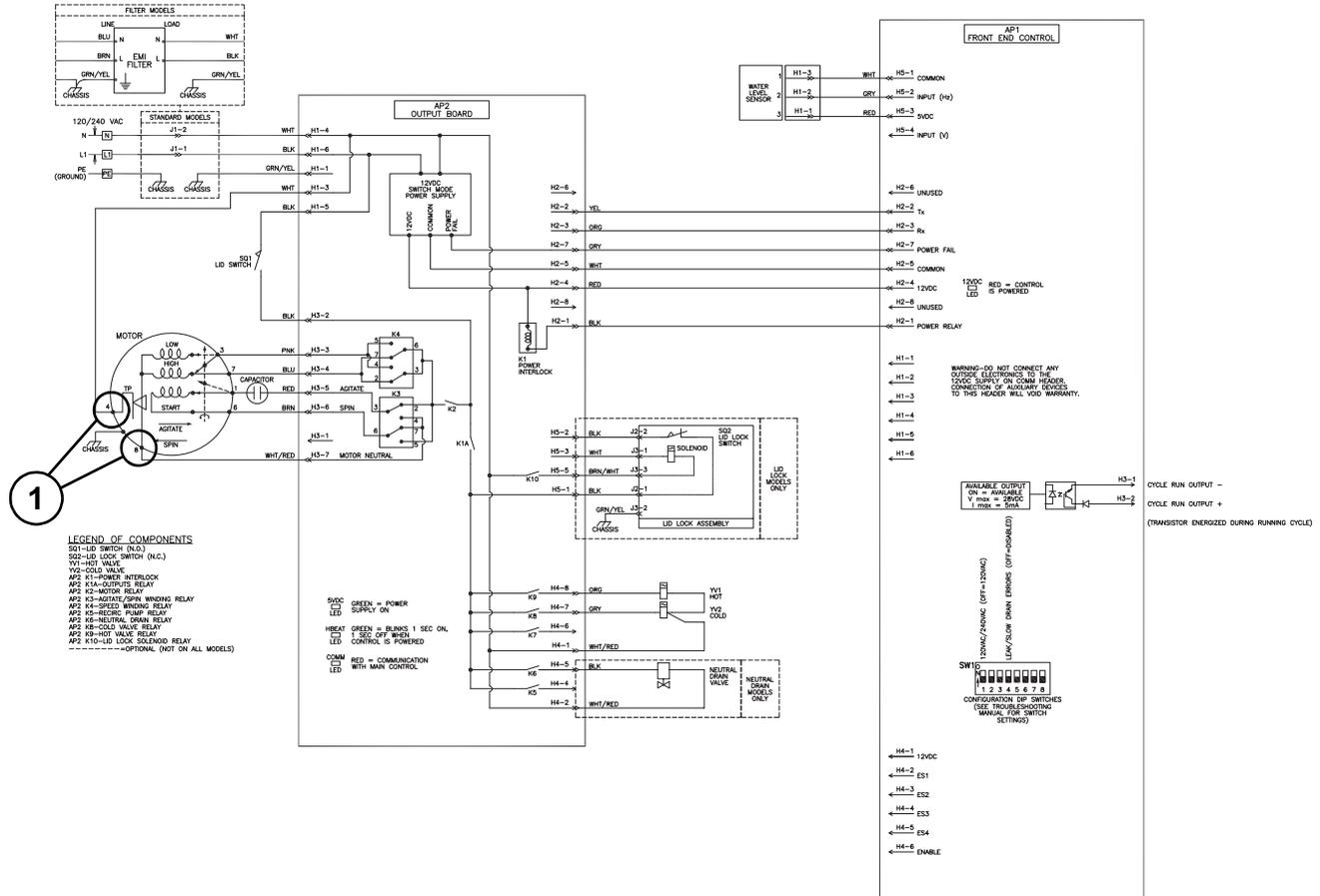
TLW460S

14. Motor Does Not Run - "tP"



TLW461S

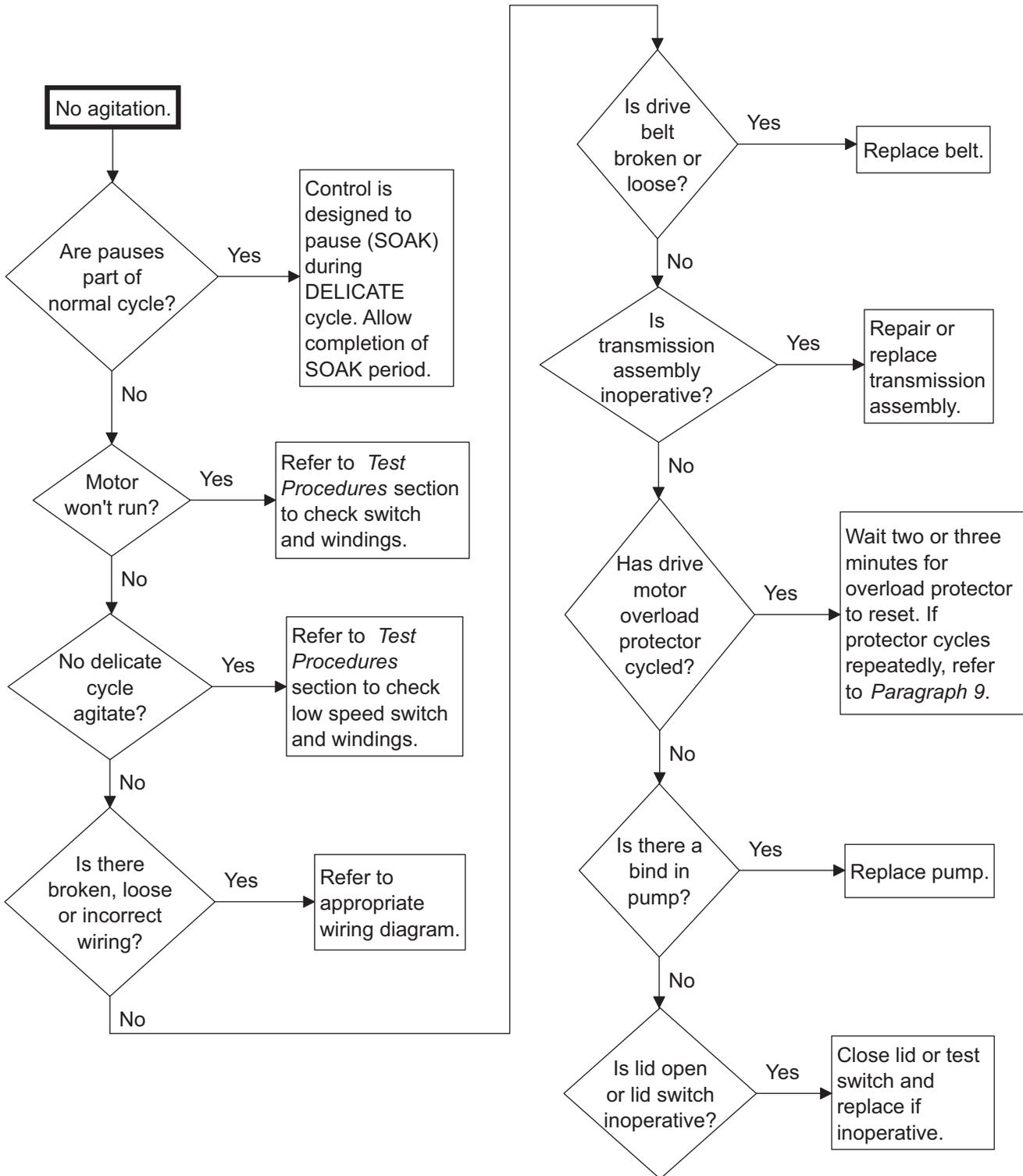
Motor Does Not Run - "tP"



TLW456S

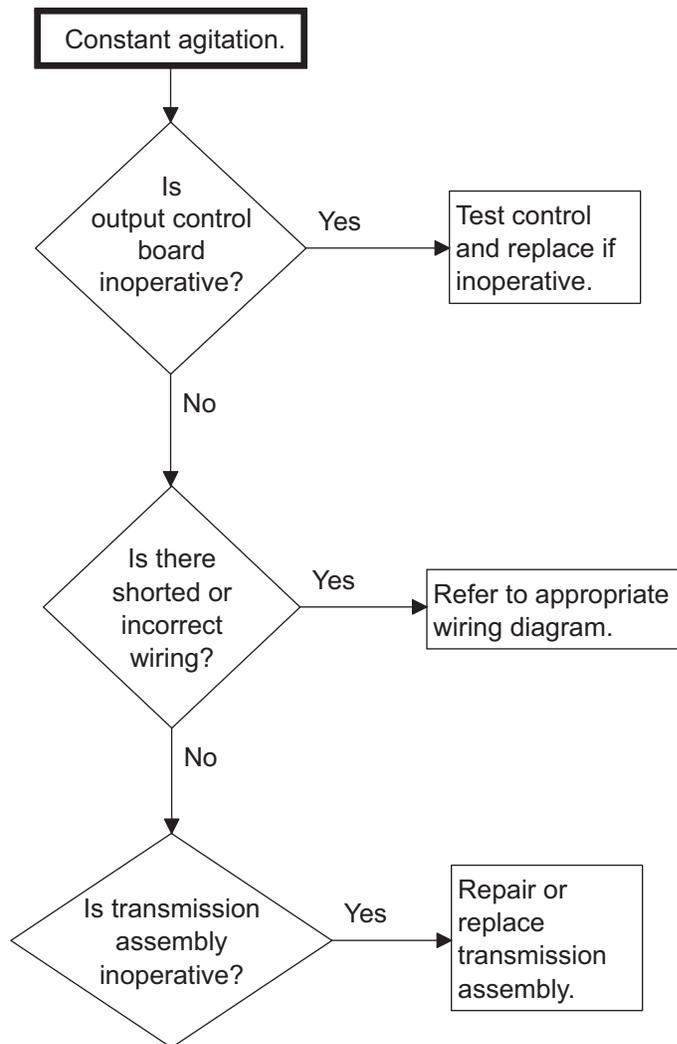
15. No Agitation

NOTE: Use the production test mode to help diagnose this issue. Refer to Production Test Summary paragraph.



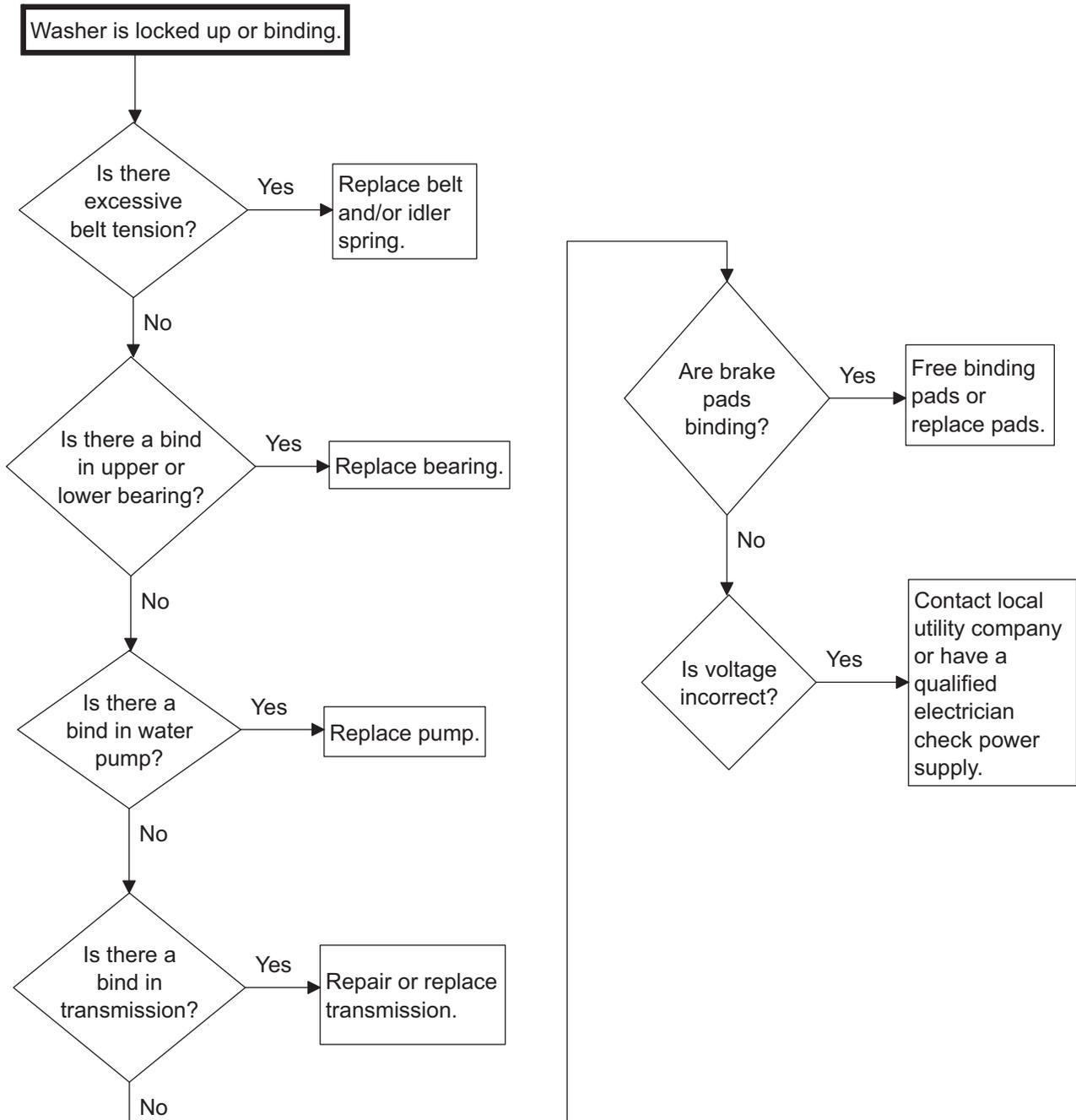
TLW462S

16. Constant Agitation



TLW450S

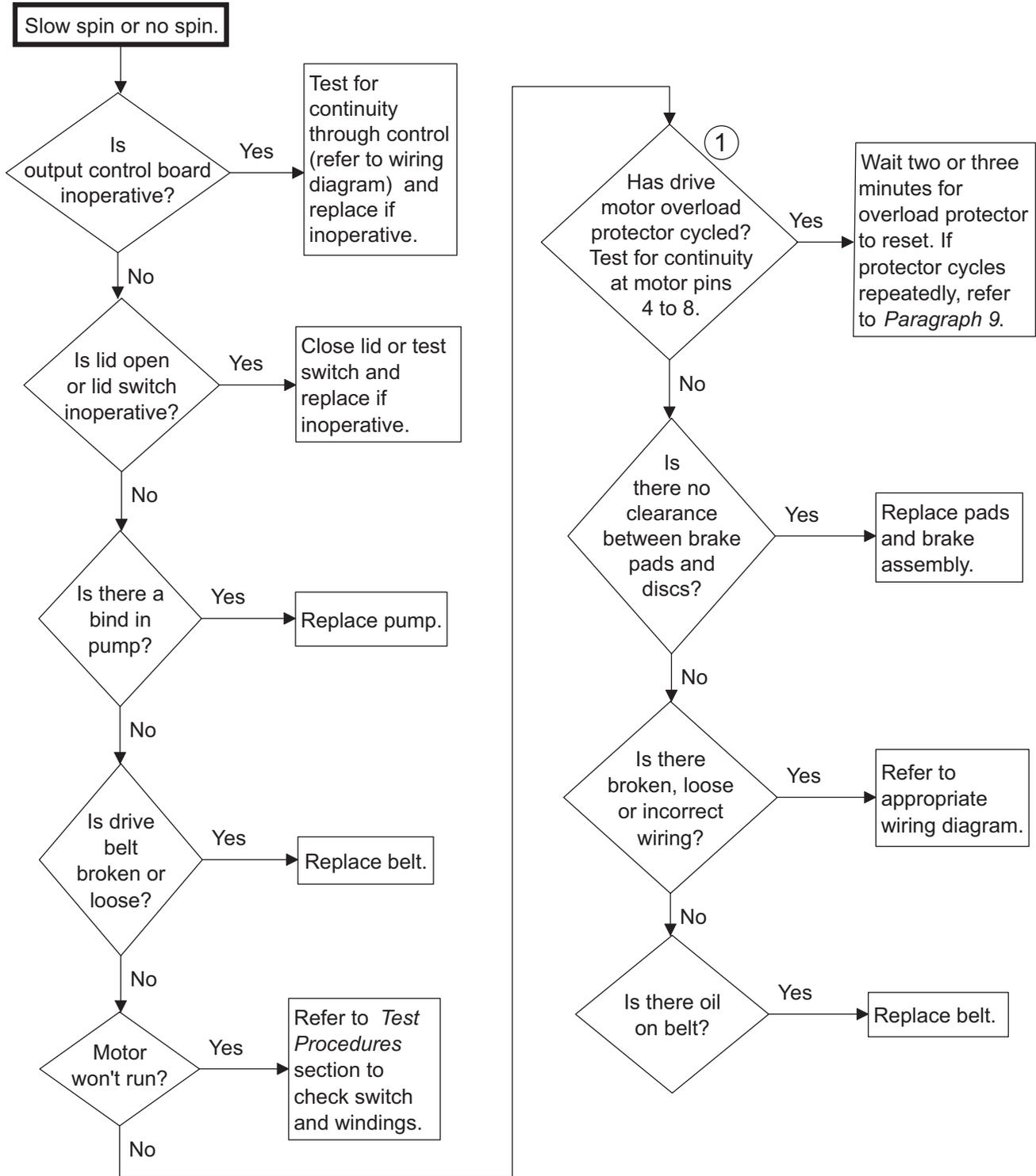
17. Washer Overheats, Cycles On Motor Thermal Protector, Switch Actuator Kicks In And Out, "tP"



TLW338S

18. Slow Spin Or No Spin

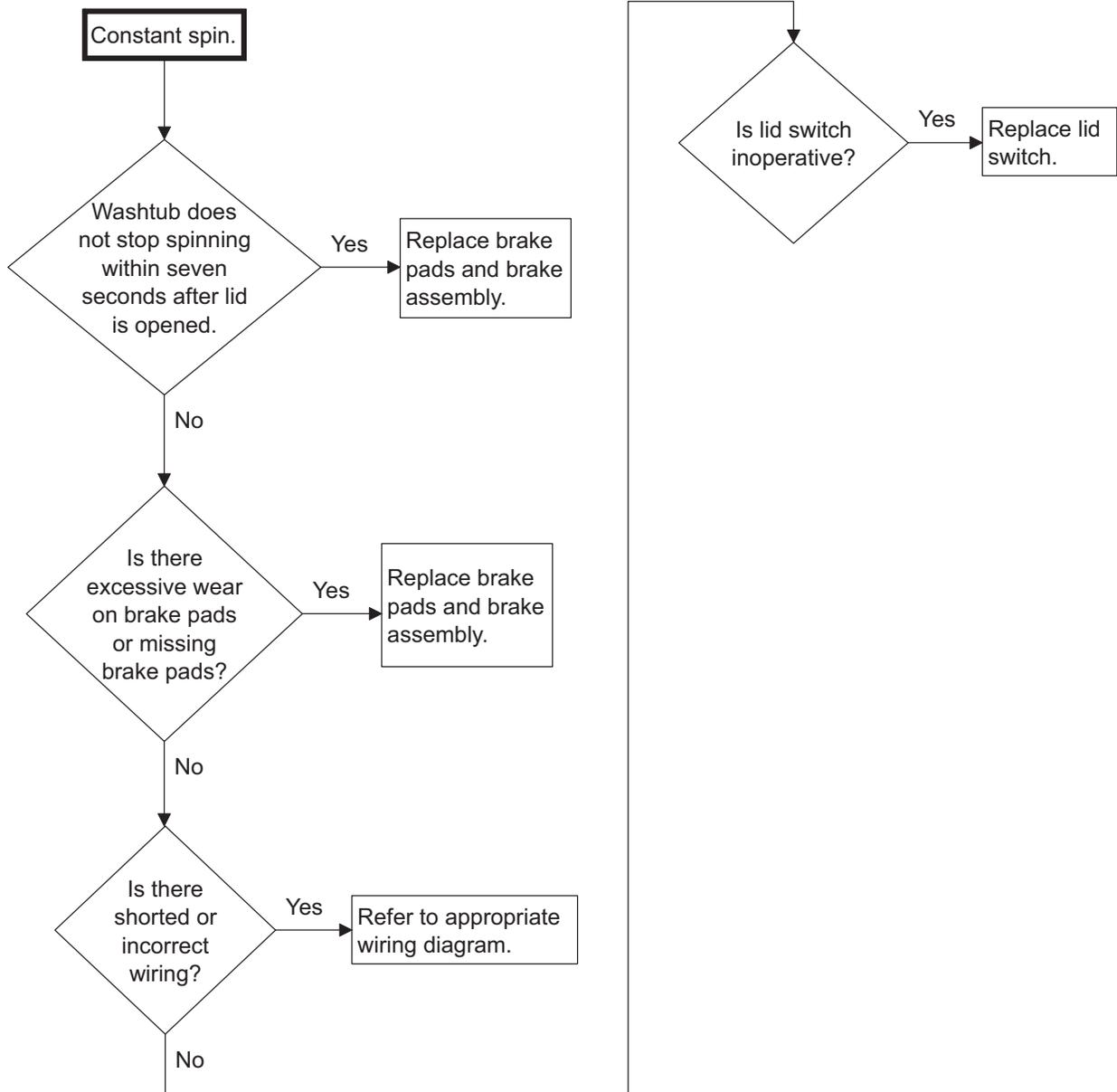
NOTE: Use the production test mode to help diagnose this issue. Refer to Production Test Summary paragraph.



TLW463S

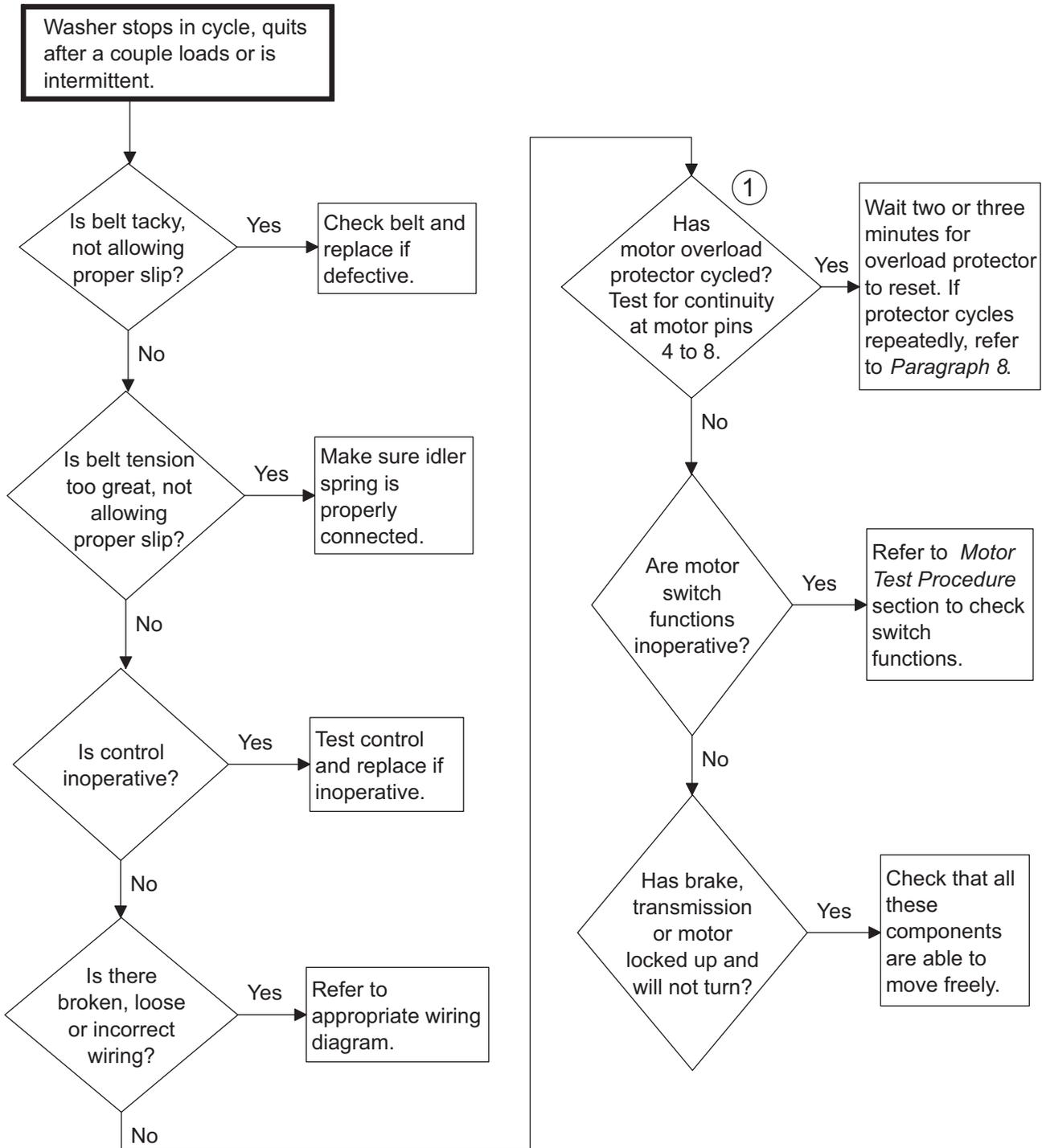
19. Constant Spin

NOTE: Use the production test mode to help diagnose this issue. Refer to Production Test Summary paragraph.



TLW464S

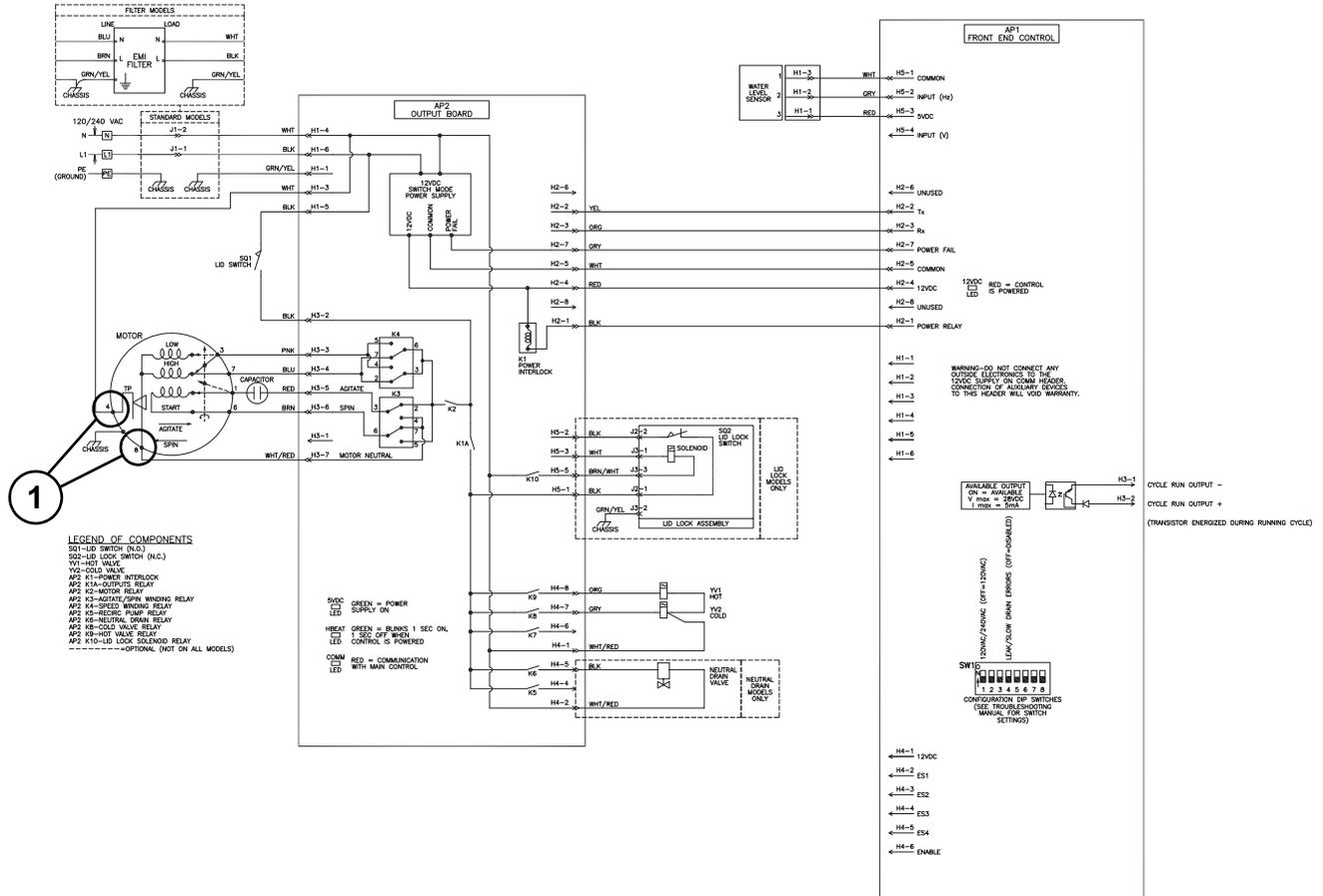
20. Washer Stops In Cycle; Quits After A Couple Loads; Is Intermittent - "tP"



TLW465S

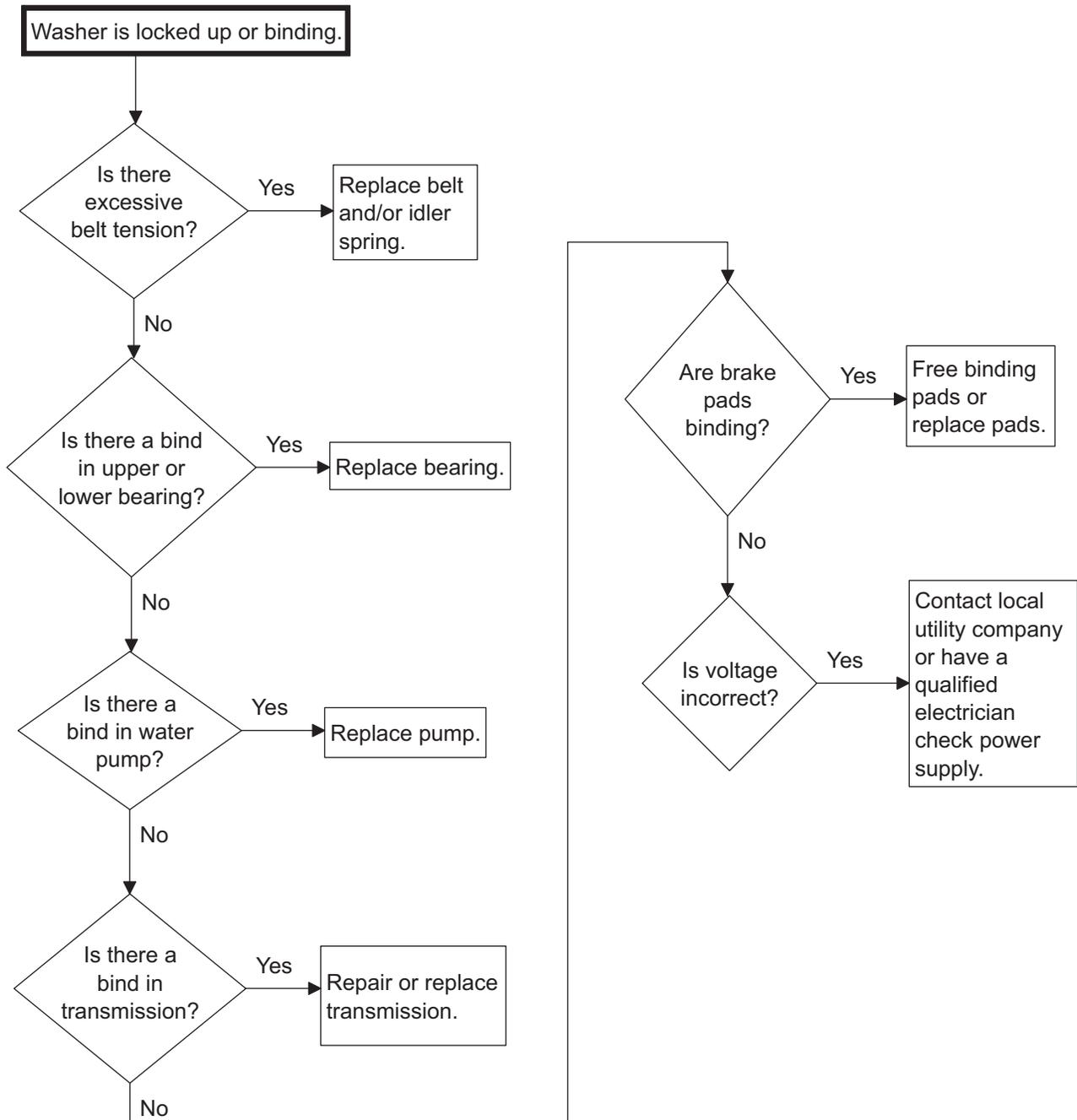
Troubleshooting

Washer Stops In Cycle; Quits After A Couple Loads; Is Intermittent - "tP"



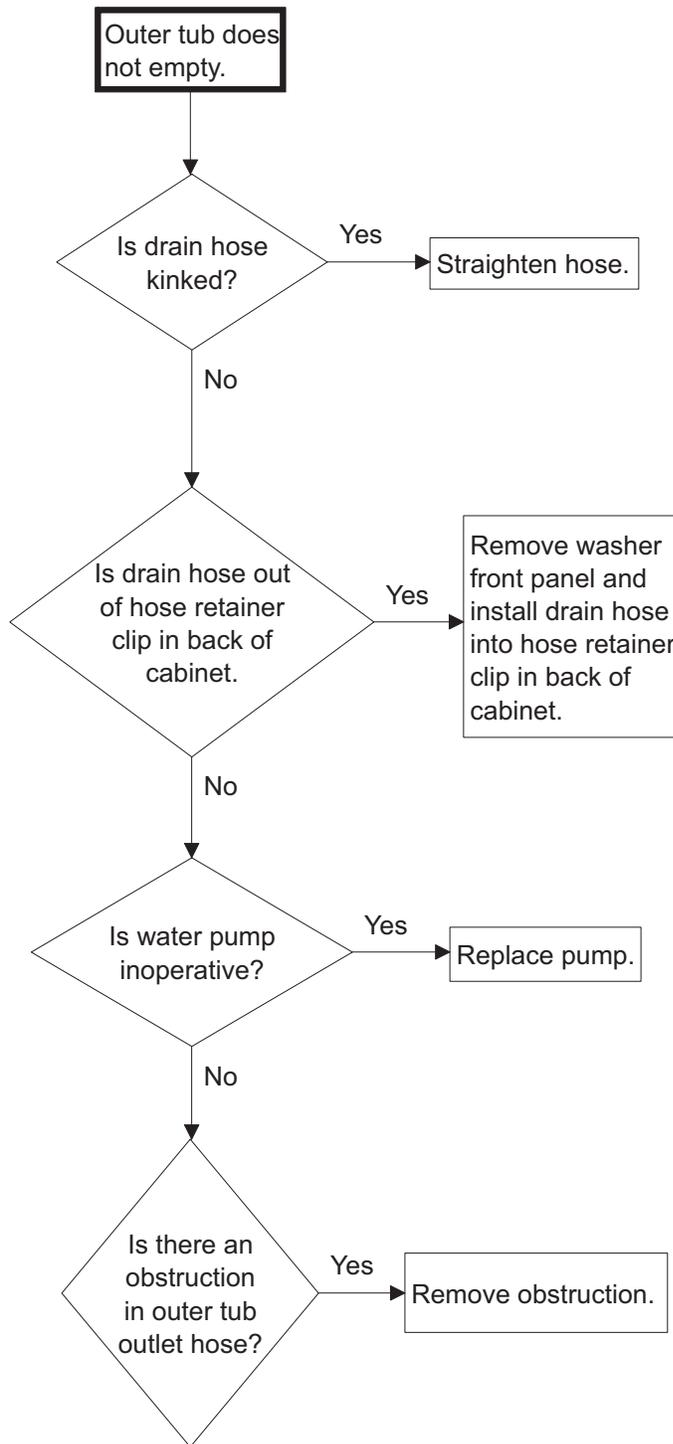
TLW456S

21. Washer Is Locked Up Or Binding



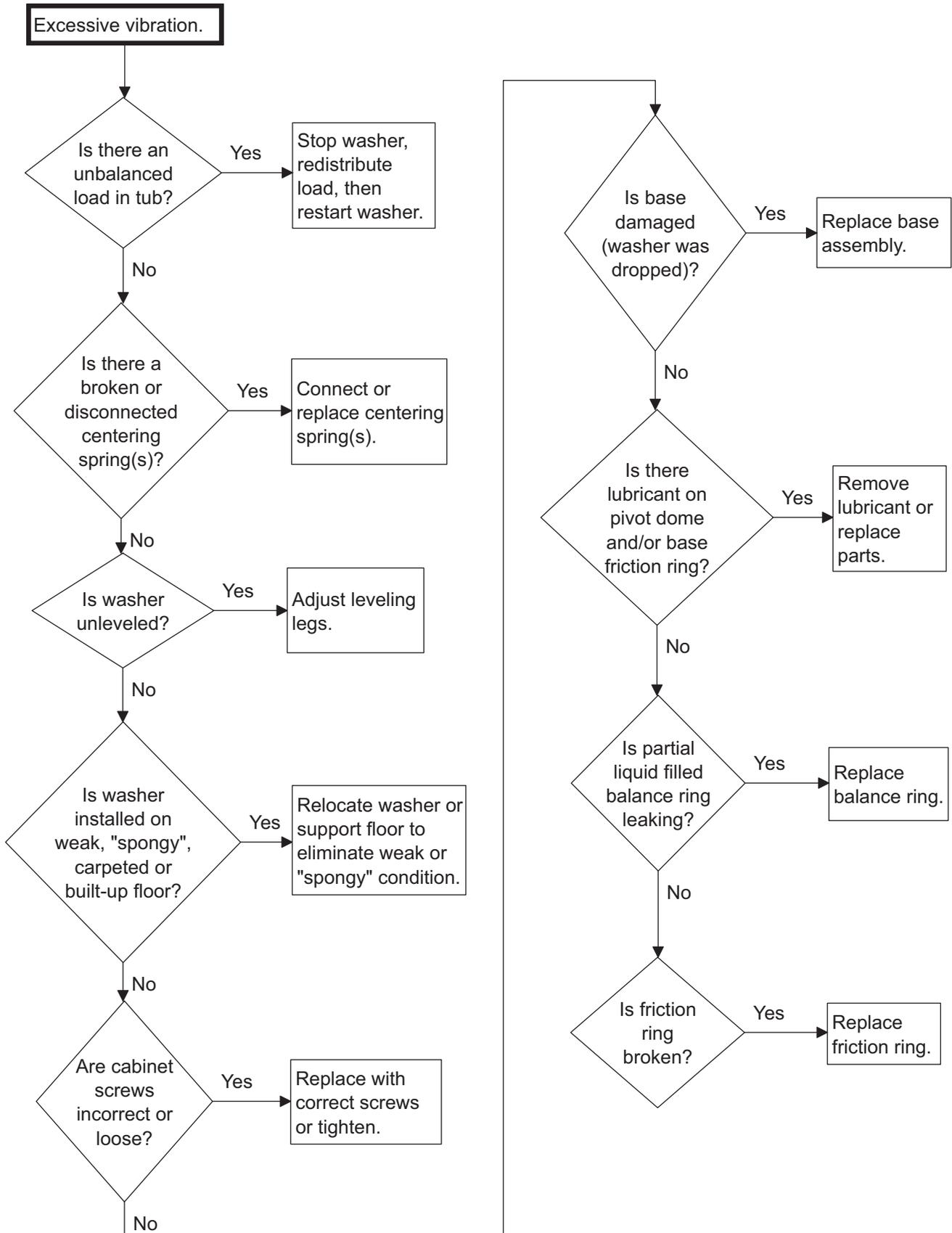
TLW338S

22. Outer Tub Does Not Empty “Er”, “dr” Drain Error, “Er”, “Sd” Slow Drain



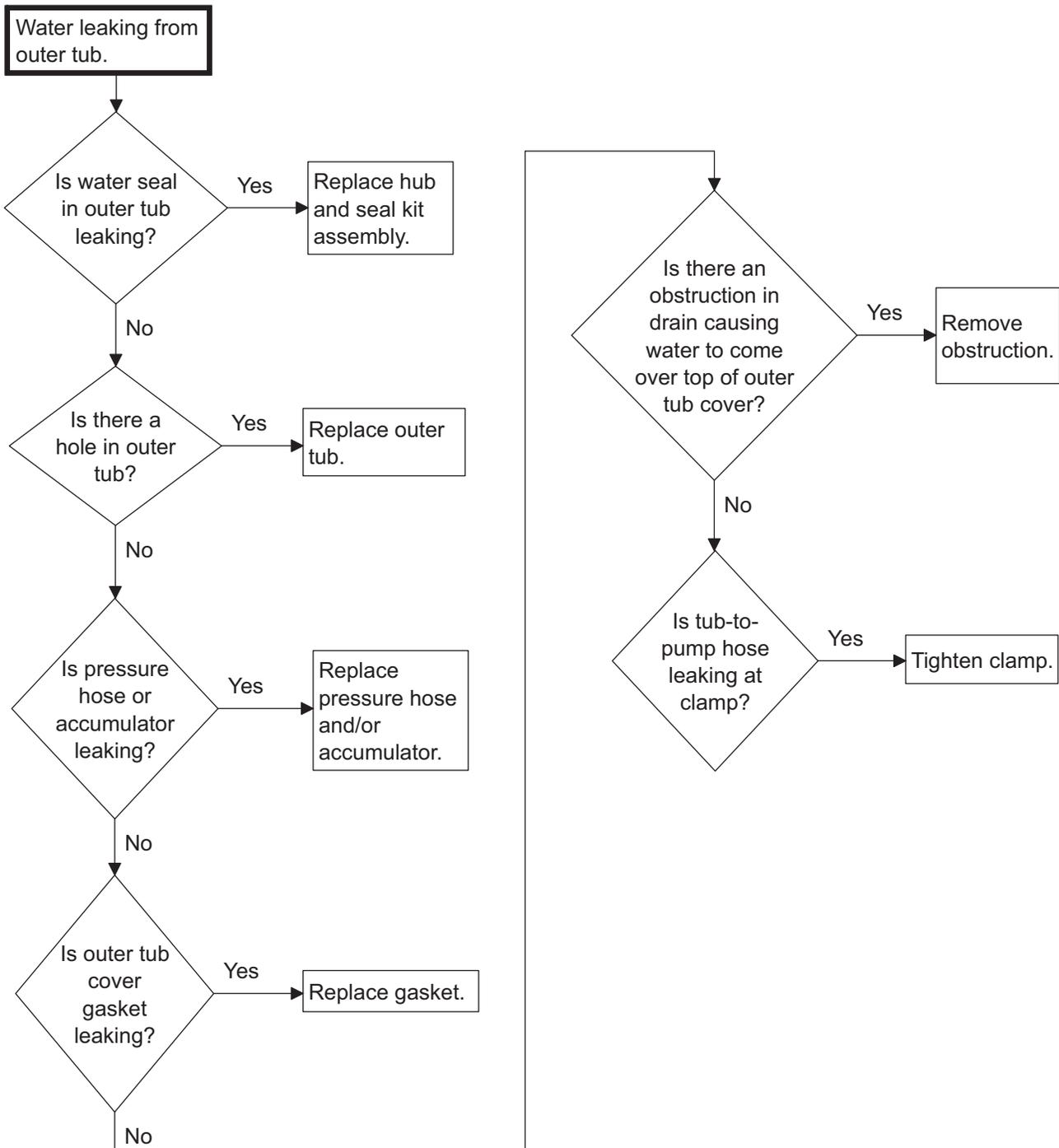
TLW339S

23. Excessive Vibration



TLW357S

24. Water Leaking From Outer Tub



TLW341S

Section 4

Error Codes

	WARNING
<p>To reduce the risk of electric shock, fire, explosion, serious injury or death:</p> <ul style="list-style-type: none"> • 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	

25. Error Codes

Error Code	Possible Causes	Corrective Action
<p>“Er”, “dS”: Voltage configuration error</p>	<p>The control has the incorrect voltage dipswitch setting.</p> <p>There is a disconnect power fail signal at H2 connection on output control board.</p>	<p>The dipswitch setting must be corrected</p> <p>To clear this error the machine must be powered down. Reset dipswitch to the correct voltage. Correct wiring issues.</p>
<p>“Er”, “dr”: Drain Error, control sensed water in the tub at the end of the cycle</p>	<p>Restriction in the tub to pump hose, drain hose blockage in the pump</p>	<p>Clear restriction from hoses</p> <p>Replace the pump</p> <p>To clear this error the machine must be powered down.</p>
<p>“Er”, “FL”: Fill Error, the desired fill level was not reached within 30 minutes</p>	<p>Water supply faucet closed</p> <p>Kinked or twisted fill hoses</p> <p>Filter screens plugged</p> <p>No voltage from output board to the water valve (refer to appropriate schematic)</p> <p>Low water pressure</p>	<p>Open Faucet</p> <p>Straighten fill hoses</p> <p>Clean or replace filter screens</p> <p>Check for voltage (refer to serial plate) from the output board to the water valves, and if voltage is present at output board, then check for voltage (refer to serial plate) at the water valve. If there is voltage (refer to serial plate) at the water valve, then replace the mixing valve.</p> <p>Correct water pressure to 20-120 psi (138-827 kPa).</p> <p>To clear this error the machine must be powered down.</p>
<p>“Er”, “oF”: Overflow error, the control was not able to lower the water level within 5 minutes.</p>	<p>Leaky water valve</p> <p>Possible Blockage in the pressure hose</p> <p>Possible air leak in the pressure hose</p>	<p>Check the inlet valve</p> <p>Clear blockage in pressure hose</p> <p>Replace Hose if leak is found</p> <p>To clear this error the machine must be powered down.</p>
<p>“Er”, “PS”: The control did not detect a valid water level input from the pressure sensor for 30 seconds</p>	<p>The sensor harness is not connected to the front end control</p> <p>The sensor harness is damaged, or has a break in the wire.</p> <p>The pressure tube, or hose has a blockage</p>	<p>Ensure that the sensor harness is plugged into the front end control</p> <p>Replace the sensor if the harness is damaged</p> <p>Clear any blockage to the pressure tube or bulb</p> <p>To clear this error the machine must be powered down.</p>

Error Codes

Error Code	Possible Causes	Corrective Action
<p>“tP”: The thermal protection on the motor is open</p>	<p>Machine is possibly overloaded The brakes not functioning properly Transmission not functioning properly</p>	<p>Properly load the machine Check the function of the brakes Check the function of the transmission</p> <p>To clear this error wait for “tP” to clear. The control will then prompt user to press Start.</p>
<p>“Er” and “Co”: SCI Comm Error</p>	<p>Error in the communication between the front end control and the output board. There is a break or disconnect in the main harness to the two controls.</p>	<p>Check for any burnt pins in the connectors or any disconnections in the harness. To clear this error the machine must be powered down.</p>
<p>“Er” and “LE”: Water Leak Detection Error</p>	<p>Water level is dropping during the leak detection step, if enabled.</p>	<p>Check mixing valve for leaks.</p>
<p>“Er” and “Sd”: Slow Drain Detection Error</p>	<p>The machine is taking longer to drain than a preset time, if enabled.</p>	<p>Check the tub and drain for leaks.</p>
<p>“Er” and “nr”: Drive Not Ready Error</p>	<p>Output board is not ready within one minute.</p>	<p>Replace the output board. To clear this error the machine must be powered down.</p>
<p>“Ed” and “XX”: Output Board Error</p>	<p>Error received from the output board.</p>	<p>Inspecting wire harnesses to output board. Replace output board if wiring is not damaged. To clear this error the machine must be powered down.</p>
<p>“Er” and “bS”: Board Shorted Error</p>	<p>Output board enable relay is shorted.</p>	<p>Replace the output board. To clear this error the machine must be powered down.</p>
<p>“PF”: Delay Start Power Fail Error</p>	<p>Machine experienced a long power fail or has been unplugged during Delay Start Mode.</p>	<p>No service should be needed. Press Power/cancel to continue normal operation.</p>

Section 5 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

26. Leveling Legs

Refer to *Figure 2*.

- Place rubber feet on all four leveling legs.
- Place washer in position on a clean, dry, and reasonably firm floor.
- 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.
- 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.

27. Belt (Agitate And Spin)

No belt adjustment is required.

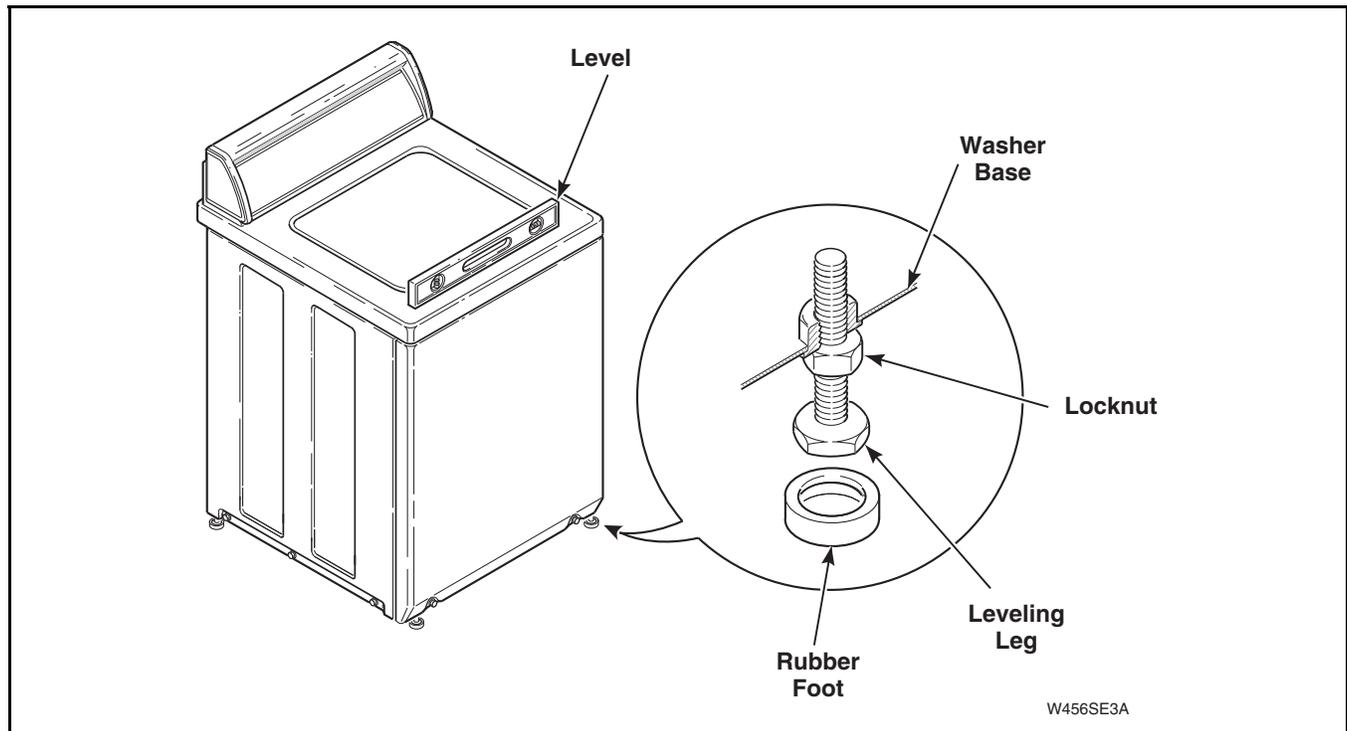


Figure 2

Section 6

Test Procedures

	WARNING
<p>To reduce the risk of electric shock, fire, explosion, serious injury or death:</p> <ul style="list-style-type: none"> • 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. Motor Test Procedure

IMPORTANT: Disconnect base wire harness plug from motor.

	WARNING
<p>Disconnect electric power to washer before performing the following steps:</p>	
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

29. 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

Section 7

Cycle Sequence Charts – Models AWNE82SN303AW01 and AWNE92SN303AW01

30. Normal ECO Cycle

Stage	Step	Time	Motor	Water Valve Temperature
<i>Soak</i> <i>(Select Models)</i>	Fill	4:00	Off	H,W,C*,TC
	Agitate	3:00	L	
	Soak	27:00	Off	
	Drain	2:00	Off	
	Spin	3:00	H	
<i>Prewash</i>	Fill	4:00	Off	H,W,C*,TC
	Agitate	6:00	H	
	Pause	0:10	Off	
	Drain	2:00	Off	
	Spin	3:00	H	
Wash	Fill	4:00	Off	H,W,C*,TC
	Low Spin and Spray		L	
	Agitate	16:00	H	
		14:00	H	
		12:00**	H	
		10:00	H	
	Soak	30:00	Off	
	Agitate	16:00	H	
		14:00	H	
		12:00**	H	
		10:00	H	
	Soak	30:00	Off	
	Agitate	16:00	H	
		14:00	H	
		12:00**	H	
		10:00	H	
	Soak	30:00	Off	
	Agitate	16:00	H	
		14:00	H	
		12:00**	H	
	10:00	H		
Soak	10:00	Off		
Drain	2:00	Off		
Spin	1:00	L		
Spray	0:46	L		
Spin	2:45	L		
Rinse**	Pause	0:10	OFF	TC
	Spin	0:05	L	
	Spray	0:46	L	
	Spin	1:00	L	
	Spray	0:46	L	
	Spin	1:00	L	
	Pause	0:10	OFF	
Second Rinse	Fill	4:00	Off	TC
	Agitate	3:00	H	
	Pause	0:10	Off	
	Drain	2:00	Off	
	Spin	3:00	H	

* Available on Select Models

** Default

*** Rinse will become a full tub rinse if either Second Rinse or Third Rinse is selected

Continued

Cycle Sequence Charts – Models AWNE82SN303AW01 and AWNE92SN303AW01

Continued

Stage	Step	Time	Motor	Water Valve Temperature	
Third Rinse (Select Models)	Fill	4:00	Off	TC	
	Agitate	3:00	H		
	Pause	0:10	Off		
	Drain	2:00	Off		
	Spin	3:00	H		
	Fill	4:00	Off		TC
	Agitate	3:00	H		
	Pause	0:10	Off		
	Drain	2:00	Off		
	Spin	3:00	H		
	Final Spin	Spin	7:00	H	
	Default Time		2:50:00		

* Available on Select Models

** Default

*** Rinse will become a full tub rinse if either Second Rinse or Third Rinse is selected

31. Delicate Cycle

Stage	Step	Time	Motor	Water Valve Temperature	
<i>Soak</i> <i>(Select Models)</i>	Fill	4:00	Off	H,W,C*,TC	
	Agitate	3:00	L		
	Soak	27:00	Off		
	Drain	2:00	Off		
	Spin	3:00	L		
<i>Prewash</i>	Fill	4:00	Off	H,W,C*,TC	
	Agitate	6:00	L		
	Pause	0:10	Off		
	Drain	2:00	Off		
	Spin	3:00	L		
Wash	Fill	4:00	Off	H,W,C*,TC	
	Agitate	0:40	L		
		0:30	L		
		0:20**	L		
		0:10	L		
	Soak	3:20	Off		
		2:20	L		
		1:20**	L		
		0:50	L		
	Agitate	0:40	L		
		0:30	L		
		0:20**	L		
		0:10	L		
	Soak	3:20	Off		
		2:20	L		
		1:20**	L		
		0:50	L		
	Agitate	0:40	L		
		0:30	L		
		0:20**	L		
		0:10	L		
	Soak	3:20	Off		
		2:20	L		
	1:20**	L			
	0:50	L			
Drain	2:00	Off	TC		
Spin	1:00	L			
Spray	0:50	L			
Spin	2:45	L			
Rinse	Fill	4:00	Off	TC	
	Agitate	3:00	L		
	Pause	0:10	Off		
	Drain	2:00	Off		
	Spin	3:00	L		
Second Rinse	Fill	4:00	Off	TC	
	Agitate	3:00	L		
	Pause	0:10	Off		
	Drain	2:00	Off		
	Spin	3:00	L		
Third Rinse <i>(Select Models)</i>	Fill	4:00	Off	TC	
	Agitate	3:00	L		
	Pause	0:10	Off		
	Drain	2:00	Off		
	Spin	3:00	L		
	Fill	4:00	Off		TC
	Agitate	3:00	L		
	Pause	0:10	Off		
	Drain	2:00	Off		
	Spin	3:00	L		
Final Spin	Spin	5:00	L		
Default Time		32:00			

* Available on Select Models

** Default

32. All Other Cycles

Stage	Step	Time	Heavy Duty		Whites (Select Models)		Perm Press		Quick Wash (Select Models)		Bulky (Select Models)		Water Valves Temp
			Time	Motor	Time	Motor	Time	Motor	Time	Motor	Time	Motor	
Soak (Select Models)	Fill	4:00		Off		Off		Off		Off		Off	H,W,C*,TC
	Agitate	3:00		L		L		L		L		L	
	Soak	27:00		Off		Off		Off		Off		Off	
	Drain	2:00		Off		Off		Off		Off		Off	
	Spin	3:00		H		H		L		H		H	
Prewash	Fill	4:00		Off		Off		Off		Off		Off	H,W,C*,TC
	Agitate	6:00		H		H		H		H		H	
	Pause	0:10		Off		Off		Off		Off		Off	
	Drain	2:00		Off		Off		Off		Off		Off	
	Spin	3:00		H		H		L		H		H	
Wash	Fill	4:00		Off		Off		Off		Off		Off	H,W,C*,TC
	Agitate		11:00	H	13:00	H	8:00	H	6:00	H	13:00	L	
			9:00	H	11:00	H	6:00	H	5:00	H	11:00	L	
			7:00**	H	9:00**	H	5:00**	H	4:00**	H	9:00**	L	
			5:00	H	7:00	H	4:00	H	3:00	H	7:00	L	
	Pause	0:10		Off		Off		Off		Off		Off	
	Drain	2:00		Off		Off		Off		Off		Off	
Spin	1:00		L		L		L		L		L		
Rinse	Spray	0:50		L		L		L		L		L	TC
	Spin	2:45		L		L		L		L		L	
	Fill	4:00		Off		Off		Off		Off		Off	
	Agitate	3:00		H		H		H		H		H	
	Pause	0:10		Off		Off		Off		Off		Off	
Second Rinse	Drain	2:00		Off		Off		Off		Off		Off	TC
	Spin	3:00		H		H		L		H		H	
	Fill	4:00		Off		Off		Off		Off		Off	
	Agitate	3:00		H		H		H		H		H	
	Pause	0:10		Off		Off		Off		Off		Off	
Third Rinse (Select Models)	Drain	2:00		Off		Off		Off		Off		Off	TC
	Spin	3:00		H		H		L		H		H	
	Fill	4:00		Off		Off		Off		Off		Off	
	Agitate	3:00		H		H		H		H		H	
	Pause	0:10		Off		Off		Off		Off		Off	
	Drain	2:00		Off		Off		Off		Off		Off	
	Spin	3:00		H		H		L		H		H	
Final	Spin	5:00		H		H		L		H		H	
*Default													
			35		37		33		32		37		

* Available on Select Models

** Default

Section 8

Cycle Sequence Charts – Models LWNE52SP543RW01, LWNE52WP543RW01 and YWNE52SP543RW01

33. Normal ECO Cycle

Stage	Step	Time	Motor	Water Valve Temperature	
<i>Prewash</i>	Fill	4:00	Off	H,W,TC	
	Agitate	6:00	H		
	Pause	0:10	Off		
	Spin	3:00	H		
Wash	Fill	4:00	Off	H,W,TC	
	Agitate	13:00	H		
		12:00	H		
		11:00*	H		
		3:00	H		
	Soak	25:00	Off		
	Agitate	13:00	H		
		12:00	H		
		11:00*	H		
		3:00	H		
	Soak	25:00	Off		
	Agitate	13:00	H		
		12:00	H		
		11:00*	H		
		3:00	H		
	Pause	0:10	Off		
	Spin	1:00	L		
	Spray	0:50	L		
	Spin	2:45	L		TC
	Rinse**	Fill	4:00		Off
Agitate		3:00	H		
Pause		0:10	Off		
Spin		3:00	H		
Second Rinse	Fill	4:00	Off	TC	
	Agitate	3:00	H		
	Pause	0:10	Off		
	Spin	3:00	H		
Final Spin	Spin	7:00	H		
Default Time		1:49:00			

* Default

** Rinse will become a full tub rinse if Second Rinse is selected

34. Delicate Cycle

Stage	Step	Time	Motor	Water Valve Temperature
<i>Prewash</i>	Fill	4:00	Off	H,W,TC
	Agitate	6:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Wash	Fill	4:00	Off	H,W,TC
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
		0:10	L	
	Soak	3:20	Off	
		2:20	L	
		1:20*	L	
		0:50	L	
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
		0:10	L	
	Soak	3:20	Off	
		2:20	L	
		1:20*	L	
		0:50	L	
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
	0:10	L		
Soak	3:20	Off		
	2:20	L		
	1:20*	L		
	0:50	L		
Spin	1:00	L	TC	
Spray	0:50	L		
Spin	2:45	L		
Rinse	Fill	4:00	Off	TC
	Agitate	3:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Second Rinse	Fill	4:00	Off	TC
	Agitate	3:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Final Spin	Spin	5:00	L	
Default Time		28:45		

*Default

35. All Other Cycles

Stage	Step	Time	Heavy Duty		Perm Press		Water Valves
			Time	Motor	Time		Temp
Prewash	Fill	4:00		Off		Off	H,W,TC
	Agitate	6:00		H		H	
	Pause	0:10		Off		Off	
	Spin	3:00		H		L	
Wash	Fill	4:00		Off		Off	H,W,TC
	Agitate		11:00	H	8:00	H	
			9:00	H	6:00	H	
			7:00*	H	5:00*	H	
			5:00	H	4:00	H	
	Pause	0:10		Off		Off	
	Spin	1:00		L		L	
	Spray	0:50		L		L	
Spin	2:45		L		L		
Rinse	Fill	4:00		Off		Off	TC
	Agitate	3:00		H		H	
	Pause	0:10		Off		Off	
	Spin	3:00		H		L	
Second Rinse	Fill	4:00		Off		Off	TC
	Agitate	3:00		H		H	
	Pause	0:10		Off		Off	
	Spin	3:00		H		L	
Final	Spin	5:00		H		L	
*Default			31		29		

* Default

Section 9

Cycle Sequence Charts – Model LWNA52SP113TW01

36. Normal ECO Cycle

Stage	Step	Time	Motor	Water Valve Temperature	
<i>Prewash</i>	Fill	4:00	Off	H,W,TC	
	Agitate	4:00	H		
	Pause	0:10	Off		
	Spin	3:00	H		
Wash	Fill	4:00	Off	H,W,TC	
	Agitate	11:00	H		
		9:00	H		
		7:00*	H		
		5:00	H		
		0:10	Off		
		Spin	1:00	L	TC
		Spray	0:44	L	
		Spin	2:45	L	
		Pause	0:10	Off	
Second Rinse	Fill	4:00	Off	TC	
	Agitate	3:00	L		
	Pause	0:10	Off		
	Spin	3:00	H		
Final Spin	Spin	9:00	H		
Default Time		25:00			

* Default

37. Delicate Cycle

Stage	Step	Time	Motor	Water Valve Temperature
<i>Prewash</i>	Fill	4:00	Off	H,W,TC
	Agitate	6:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Wash	Fill	4:00	Off	H,W,TC
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
		0:10	L	
	Soak	3:20	Off	
		2:20	L	
		1:20*	L	
		0:50	L	
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
		0:10	L	
	Soak	3:20	Off	
		2:20	L	
		1:20*	L	
		0:50	L	
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
		0:10	L	
	Soak	3:20	Off	
		2:20	L	
	1:20*	L		
	0:50	L		
Spin	1:00	L	TC	
Spray	0:50	L		
Spin	2:45	L		
Rinse	Fill	4:00	Off	TC
	Agitate	3:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Second Rinse	Fill	4:00	Off	TC
	Agitate	3:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Final Spin	Spin	5:00	L	
Default Time		29:00		

*Default

38. All Other Cycles

Stage	Step	Time	Heavy Duty		Perm Press		Water Valves
			Time	Motor	Time	Motor	Temp
Prewash	Fill	4:00		Off		Off	H,W,TC
	Agitate	6:00		L		L	
	Pause	0:10		Off		Off	
	Spin	3:00		H		L	
Wash	Fill	4:00		Off		Off	H,W,TC
	Agitate		11:00	L	8:00	L	
			9:00	L	6:00	L	
			7:00*	L	5:00*	L	
			5:00	L	4:00	L	
	Pause	0:10		Off		Off	
	Spin	1:00		L		L	
	Spray Spin	0:50 2:45		L L		L L	
Rinse	Fill	4:00		Off		Off	TC
	Agitate	3:00		L		L	
	Pause	0:10		Off		Off	
	Spin	3:00		H		L	
Second Rinse	Fill	4:00		Off		Off	TC
	Agitate	3:00		L		L	
	Pause	0:10		Off		Off	
	Spin	3:00		H		L	
Final	Spin	5:00		H		L	
*Default			31		29		

* Default

Section 10

Cycle Sequence Charts – All Other Models

39. Normal ECO Cycle

Stage	Step	Time	Motor	Water Valve Temperature	
<i>Soak</i> (<i>Select Models</i>)	Fill	4:00	Off	H,W,C*,TC	
	Agitate	3:00	L		
	Soak	27:00	Off		
	Spin	3:00	H		
<i>Prewash</i>	Fill	4:00	Off	H,W,C*,TC	
	Agitate	6:00	H		
	Pause	0:10	Off		
	Spin	3:00	H		
Wash	Fill	4:00	Off	H,W,C*,TC	
	Agitate	11:00	H		
		9:00	H		
		7:00**	H		
		5:00	H		
	Pause	0:10	Off		
	Spin	1:00	L		TC
	Spray	0:44	L		
	Spin	2:45	L		
Rinse***	Pause	0:10	OFF	TC	
	Spin	0:05	L		
	Spray	0:30	L		
	Spin	1:00	L		
	Spray	0:30	L		TC
	Spin	1:00	L		
	Pause	0:10	OFF		
Second Rinse	Fill	4:00	Off	TC	
	Agitate	3:00	H		
	Pause	0:10	Off		
	Spin	3:00	H		
Third Rinse (<i>Select Models</i>)	Fill	4:00	Off	TC	
	Agitate	3:00	H		
	Pause	0:10	Off		
	Spin	3:00	H		
	Fill	4:00	Off		TC
	Agitate	3:00	H		
	Pause	0:10	Off		
	Spin	3:00	H		
	Final Spin	Spin	9:00		
Default Time		29:00			

* Available on Select Models

** Default

*** Rinse will become a full tub rinse if either Second Rinse is selected

40. Delicate Cycle

Stage	Step	Time	Motor	Water Valve Temperature
<i>Soak</i> <i>(Select Models)</i>	Fill	4:00	Off	H,W,C,TC
	Agitate	3:00	L	
	Soak	27:00	Off	
	Spin	3:00	H	
<i>Prewash</i>	Fill	4:00	Off	H,W,C,TC
	Agitate	6:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Wash	Fill	4:00	Off	H,W,C,TC
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
		0:10	L	
	Soak	3:20	Off	
		2:20	L	
		1:20*	L	
		0:50	L	
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
		0:10	L	
	Soak	3:20	Off	
		2:20	L	
		1:20*	L	
		0:50	L	
	Agitate	0:40	L	
		0:30	L	
		0:20*	L	
		0:10	L	
	Soak	3:20	Off	
		2:20	L	
	1:20*	L		
	0:50	L		
Spin	1:00	L	TC	
Spray	0:50	L		
Spin	2:45	L		
Rinse	Fill	4:00	Off	TC
	Agitate	3:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Second Rinse	Fill	4:00	Off	TC
	Agitate	3:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Third Rinse <i>(Select Models)</i>	Fill	4:00	Off	TC
	Agitate	3:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
	Fill	4:00	Off	
	Agitate	3:00	L	
	Pause	0:10	Off	
	Spin	3:00	L	
Final Spin	Spin	5:00	L	
Default Time		29:00		

*Default

41. All Other Cycles

Stage	Step	Heavy Duty		Whites (Select Models)		Perm Press		Quick Wash (Select Models)		Bulky (Select Models)		Water Valves Temp
		Time	Motor	Time	Motor	Time	Motor	Time	Motor	Time	Motor	
Soak (Select Models)	Fill	4:00	Off		Off		Off		Off		Off	H,W,C,TC
	Agitate	3:00	L		L		L		L		L	
	Soak	27:00	Off		Off		Off		Off		Off	
	Spin	3:00	H		H		H		H		H	
Prewash	Fill	4:00	Off		Off		Off		Off		Off	H,W,C,TC
	Agitate	6:00	H		H		H		H		H	
	Pause	0:10	Off		Off		Off		Off		Off	
	Spin	3:00	H		H		H		H		H	
Wash	Fill	4:00	Off		Off		Off		Off		Off	H,W,C,TC
	Agitate		H	13:00	H	8:00	H	6:00	H	13:00	L	
			H	11:00	H	6:00	H	5:00	H	11:00	L	
			H	9:00*	H	5:00*	H	4:00*	H	9:00*	L	
			H	7:00	H	4:00	H	3:00	H	7:00	L	
			Off	Off		Off		Off		Off		
Rinse	Fill	4:00	Off		Off		Off		Off		Off	TC
	Agitate	3:00	H		H		H		H		L	
	Pause	0:10	Off		Off		Off		Off		Off	
	Spin	3:00	H		H		H		H		H	
Second Rinse	Fill	4:00	Off		Off		Off		Off		Off	TC
	Agitate	3:00	H		H		H		H		L	
	Pause	0:10	Off		Off		Off		Off		Off	
	Spin	3:00	H		H		H		H		H	
Third Rinse (Select Models)	Fill	4:00	Off		Off		Off		Off		Off	TC
	Agitate	3:00	H		H		H		H		L	
	Pause	0:10	Off		Off		Off		Off		Off	
	Spin	3:00	H		H		H		H		H	
	Agitate	3:00	H		H		H		H		L	
	Pause	0:10	Off		Off		Off		Off		Off	
Final *Default	Spin	3:00	H		H		L		H		H	
	Spin	5:00	H		H		L		H		H	
*Default			31		33		29		28		33	

Section 11

Internal Wiring of Washer Motor Switch

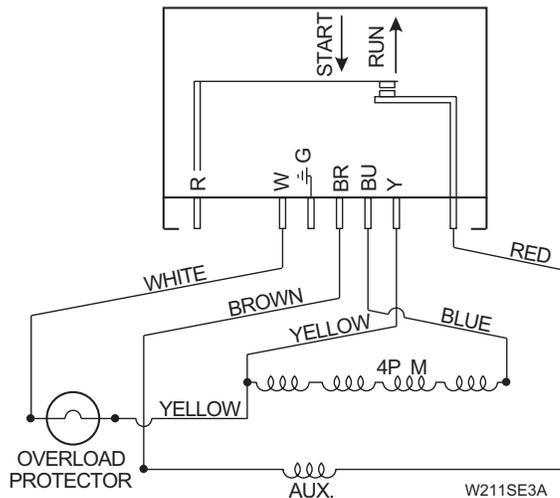
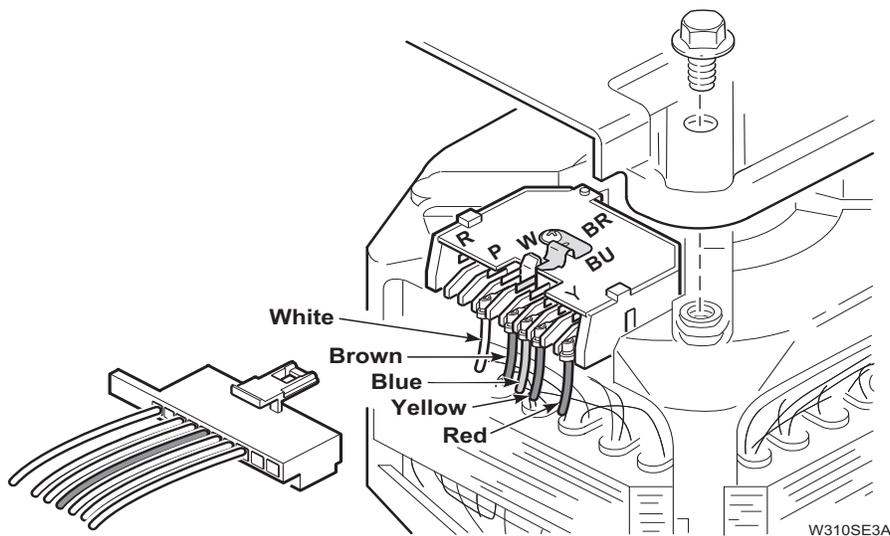


WARNING

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)

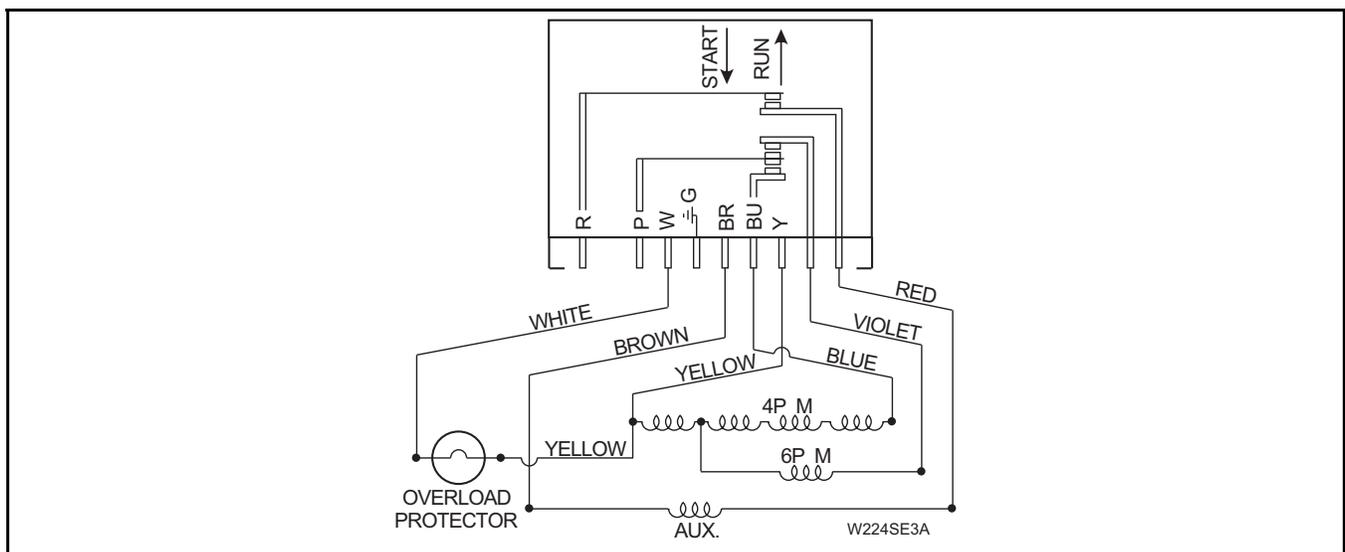
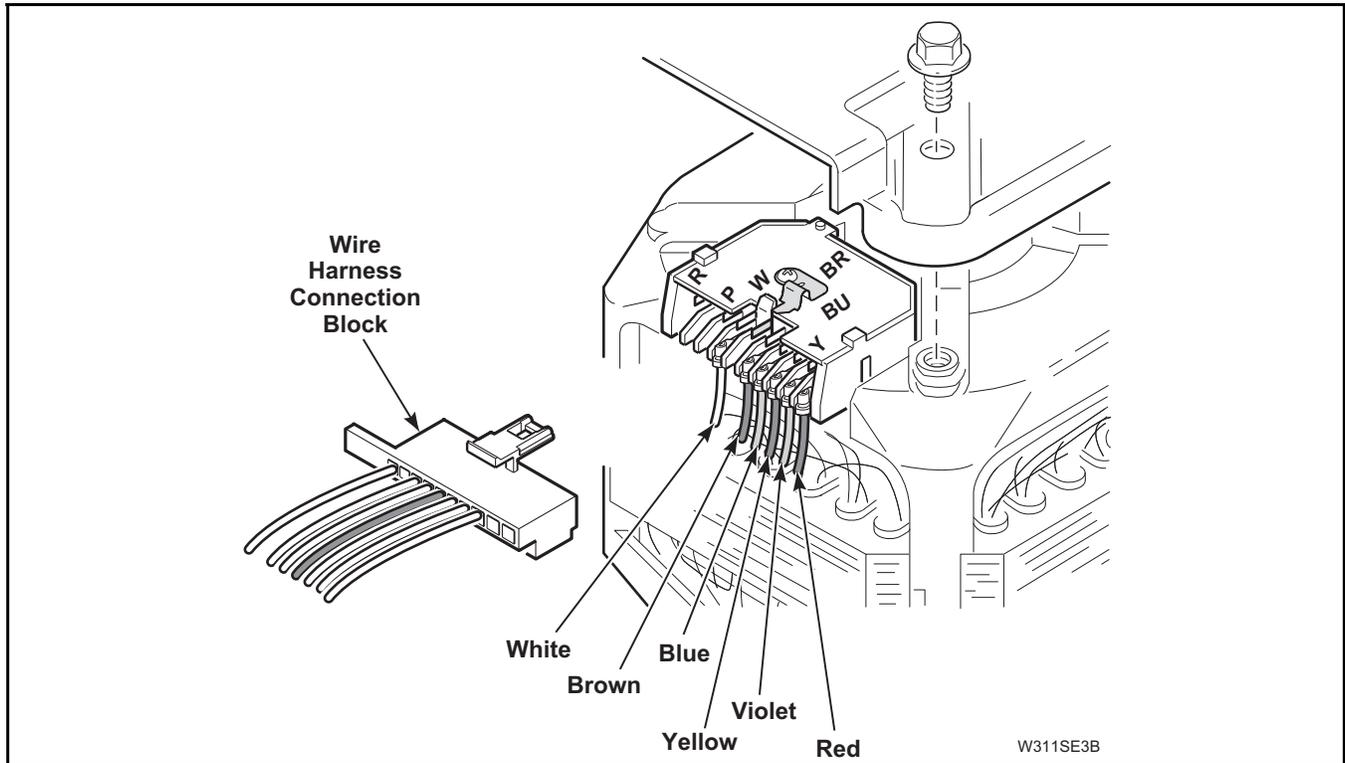


WARNING

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

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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



MOTOR ASSEMBLY (2 Speed Motors)

