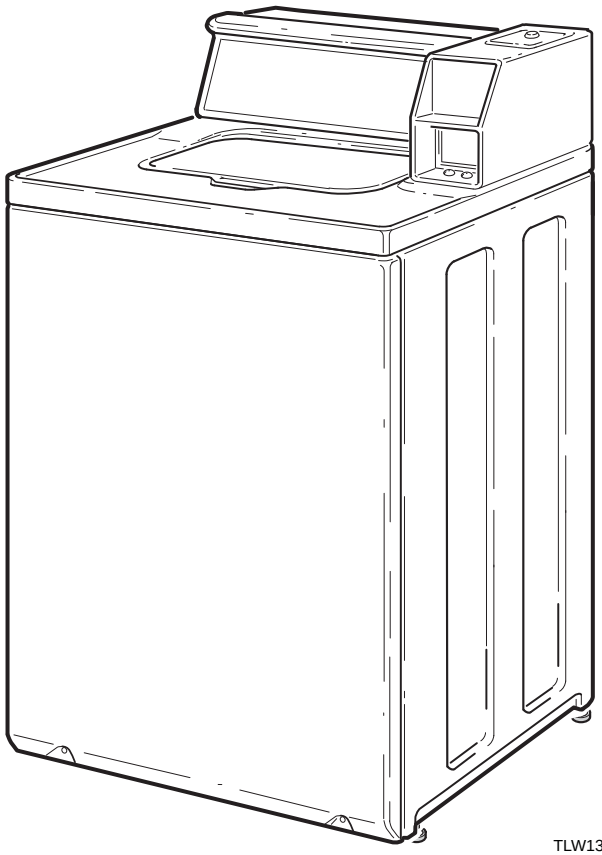
Commercial Toploading Washers

Metered and Nonmetered

Refer to Page 6 for Model Numbers



TLW13C

Troubleshooting

Alliance Laundry Systems

www.alliancelaundry.com

Part No. 202732R1
October 2016

Table of Contents

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

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.

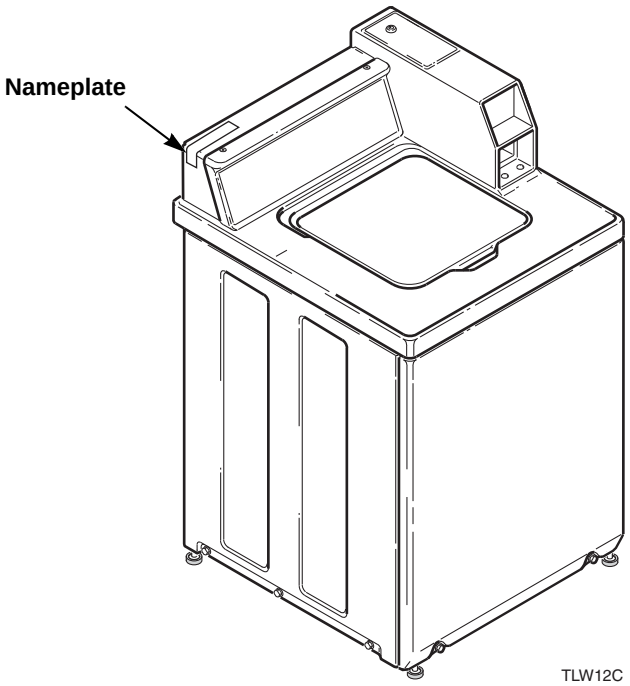
For technical assistance, call either of the numbers listed below:

(920) 748-3121 Ripon, Wisconsin

+32 56 41 20 54 Wevelgem, Belgium

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.



Model Identification

Information in this manual is applicable to these washers.

BWNBC2PP112TW01
BWNBX2PP112TW01
BWNBX2PP302AW01
BWNBY2PP112TW01
BWNMN2PP112CW01
BWNMN2PP302AW01
BWNSX2PP112CW01
GWNMN1PP302AW01
GWNMN2PP112TW01
GWNMN2PP302AW01
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HWNBD2SP112CW01
HWNBE2SP112CW01
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HWNBX1SP542DW01
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HWNBX2SP112FW28
HWNBX2SP122DW01
HWNBY2PP112TW01
HWNBY2SP112CW01
HWNMN2PP112TW01
HWNMN2SP112CW01
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HWNSX2SP112CW01
NWNBX2SP302NW22
NWNMN1SP542NW22
NWNMN2SP302NW22
NWNSX2SP302NW22
PWNBC2PP112TG02
PWNBX2PP112TG02
PWNBX2PP302AG02
SWNBC2PP112TQ01
SWNBC2PP112TW01
SWNBC2PP112TW02
SWNBC2SP112TQ01
SWNBC2SP112TW01
SWNBX1SP122DW01
SWNBX1SP542DW01
SWNBX2PP112TW02
SWNBX2SP082JW01
SWNBX2SP112FW27
SWNBX2SP112TQ01
SWNBX2SP112TW01
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SWNBX2SP302NW22
SWNBY2PP112TW01
SWNBY2SP112TW01
SWNMN1SP302AW01
SWNMN1SP302NW22
SWNMN1SP302SW01
SWNMN2PP112TW01
SWNMN2SP112CW01
SWNMN2SP112TW01
SWNMN2SP112TW08
SWNSX1PP112TQ01
SWNSX1PP112TW01
SWNSX1PP302AW01
SWNSX1SP112TQ01
SWNSX1SP112TW01
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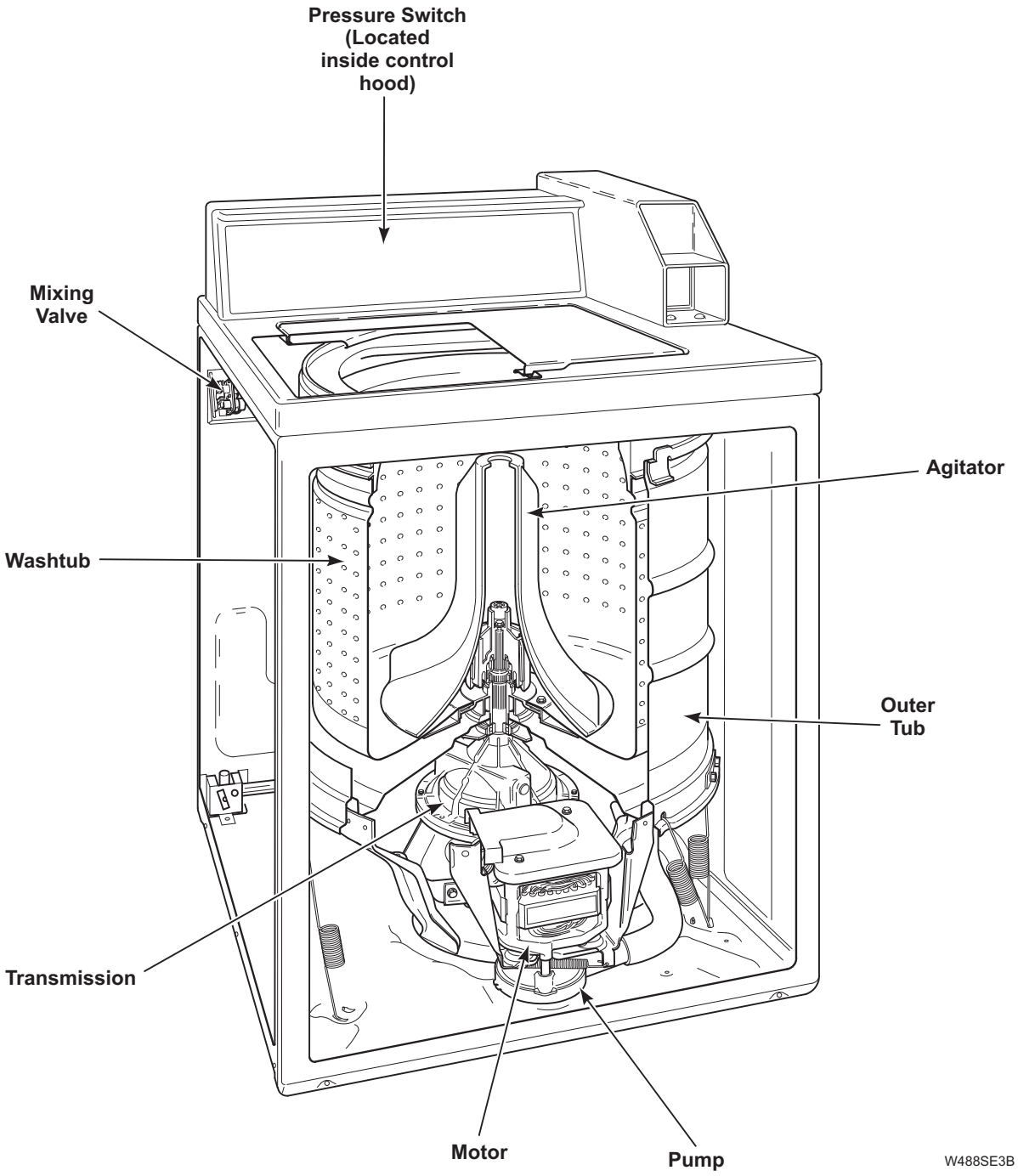
SWNSX1SP302BW01
SWNSX1SP302EW09
SWNSX1SP302NW22
SWNSX1SP302SQ01
SWNSX1SP302SW01
SWNSX1SP302UW01
SWNSX1SP542NW22
SWNSX2PP112TQ01
SWNSX2PP112TW01
SWNSX2PP112TW02
SWNSX2SP112CW02
SWNSX2SP112TQ01
SWNSX2SP112TW01
SWNSX2SP112TW02
TWNBX2SP302NW22
UWNMN2SP112CW01

Theory of Operation



The cycle begins with a wash fill. The water temperature is determined by the temperature selected. 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 lid 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.

The clothes are then rinsed by water spraying onto them while the load is spinning. This water is forced through the clothes by the centrifugal force. The resulting rinse water is immediately extracted. Following rinse spray, a final spin extracts the remaining rinse water from the clothes preparing them for the dryer.

Section 3
General 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 appropriate model wiring diagram for aid in testing washer components.

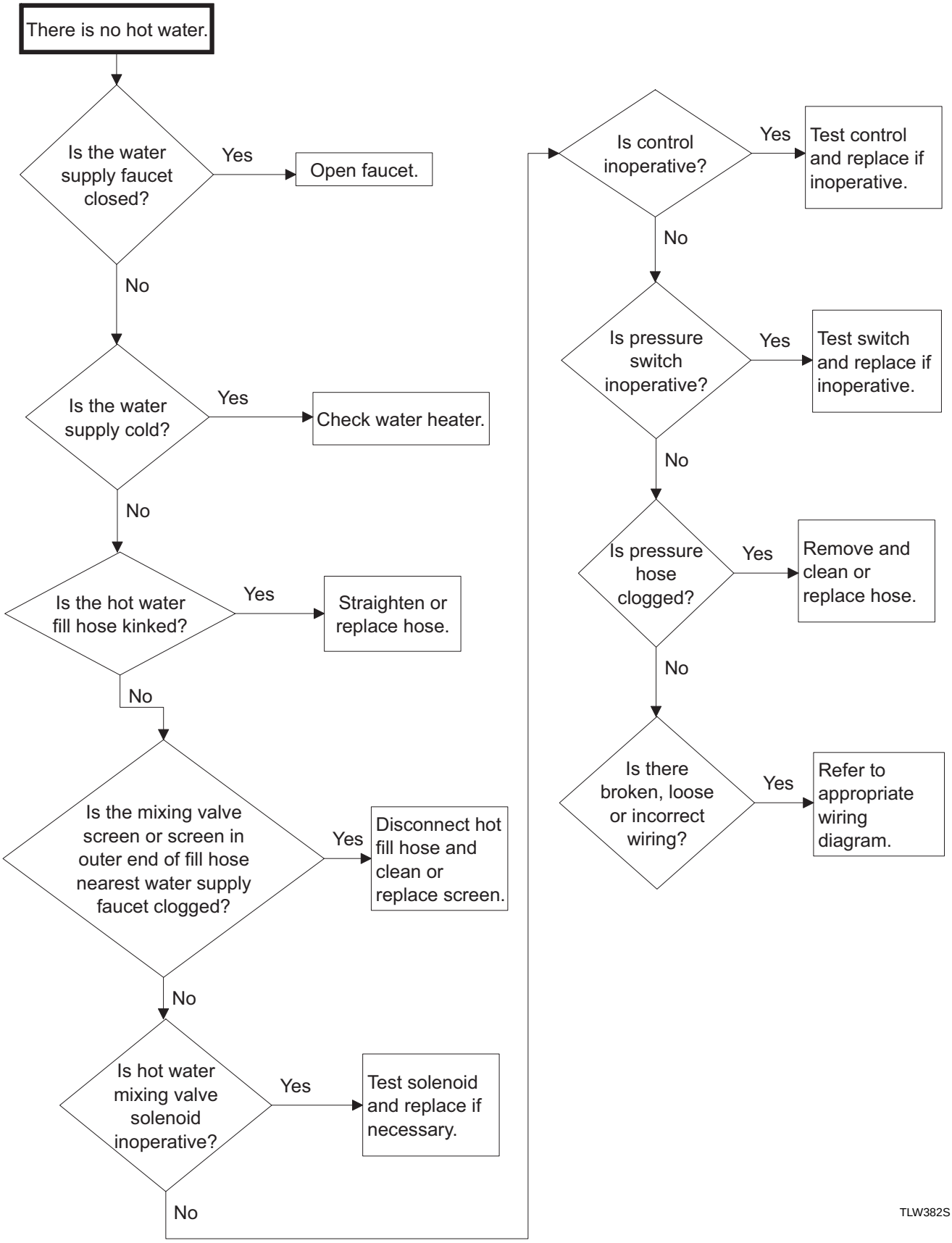
1. Clicking Noise During Operation on NEWLY Installed Units

If a clicking noise is heard when first starting up a new topload washer, the noise is related to the belt taking a temporary “set” around the idler pulley. The set causes a slight bump in the belt which in turn causes the idler lever to tap the motor bracket making the clicking noise. THE BELT DOES NOT NEED TO BE REPLACED.

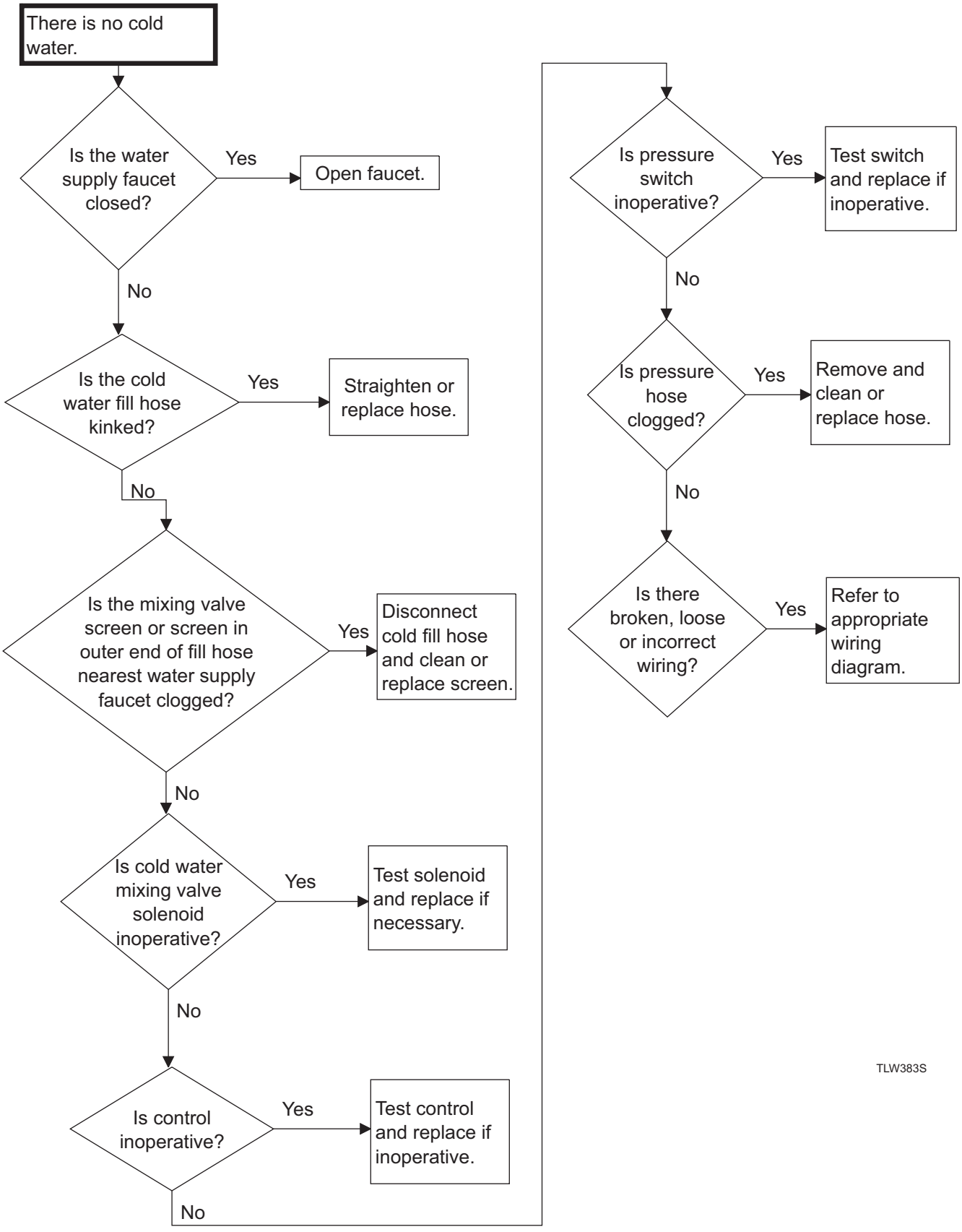
To correct this condition please perform the following break-in procedure:

1. After installing the unit start a fill cycle to make sure the seals have been lubricated.
2. Stop the fill cycle and place the unit into a spin cycle.
3. Run the cycle for several minutes until the belt has warmed up. This will remove the “set.”
4. Normal use will keep the belt from resetting.
5. For extended periods of non-use (three to four weeks), this procedure might need to be repeated.

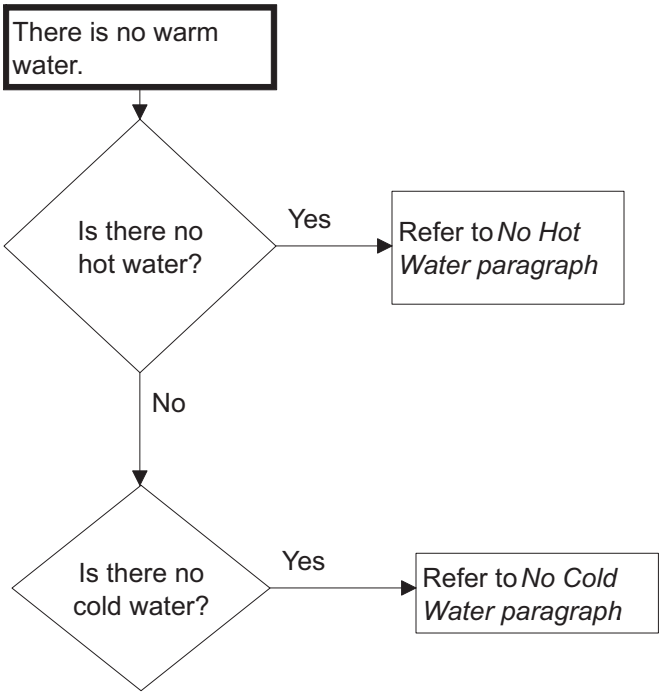
2. No Hot Water



3. No Cold Water

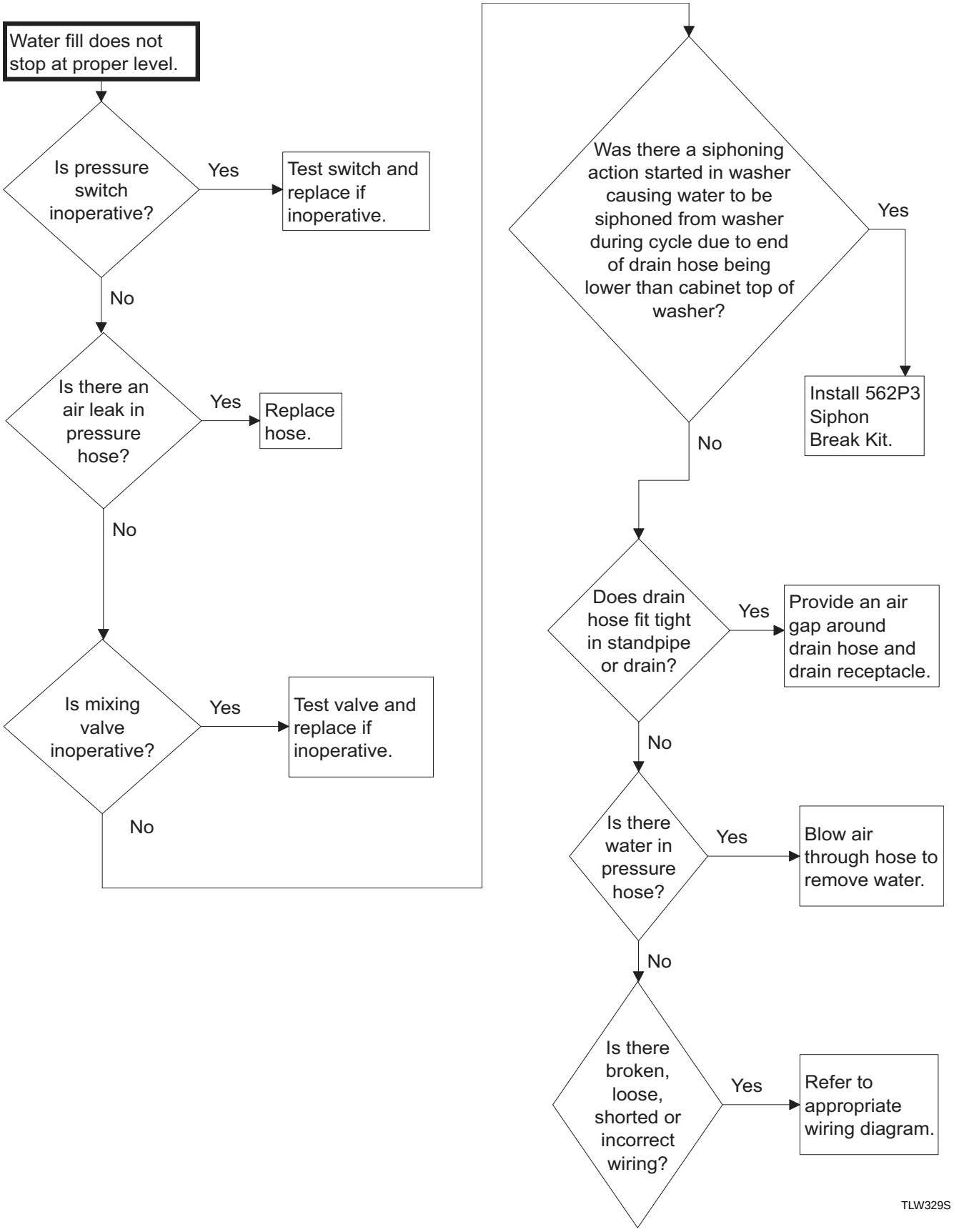


4. No Warm Water

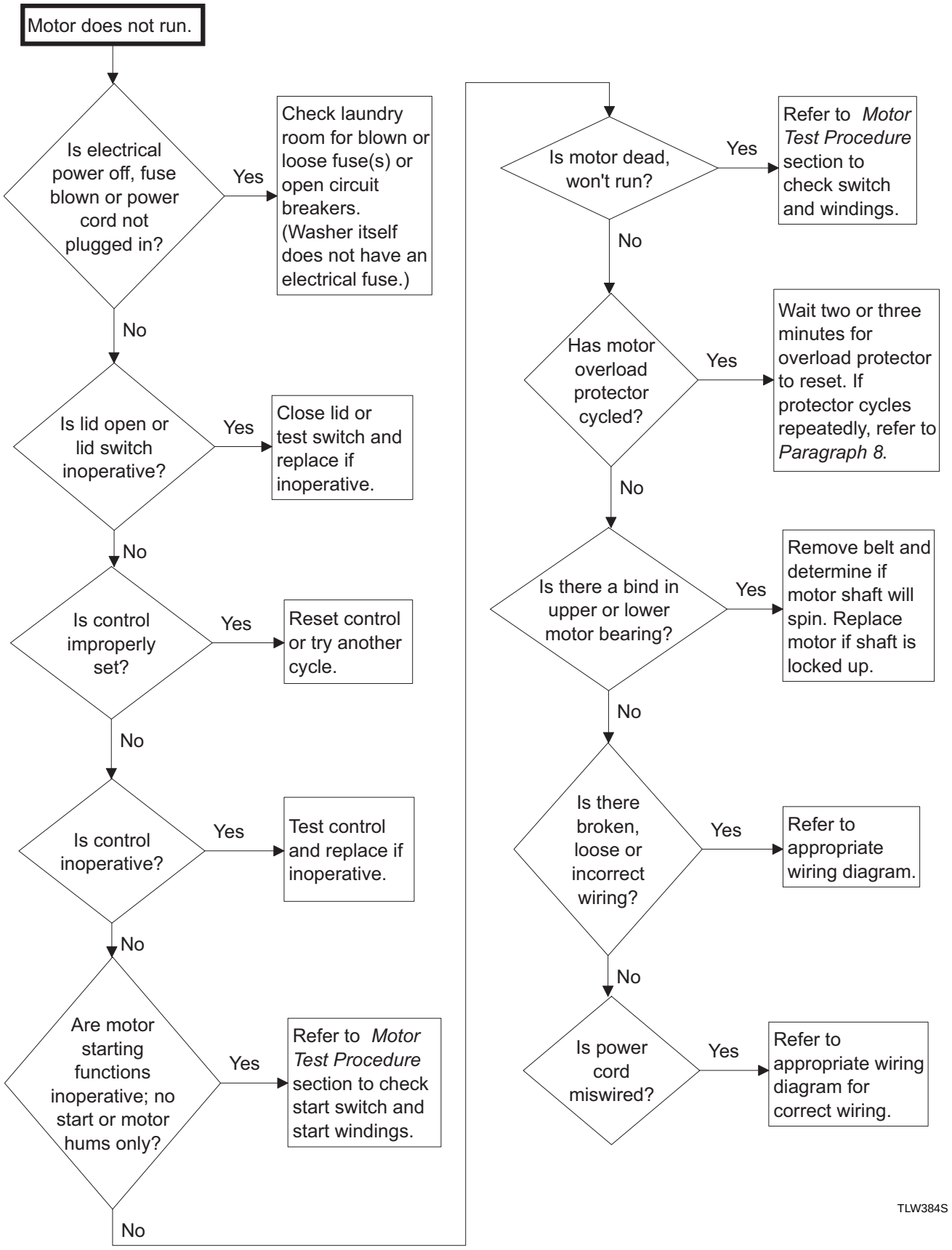


TLW362S

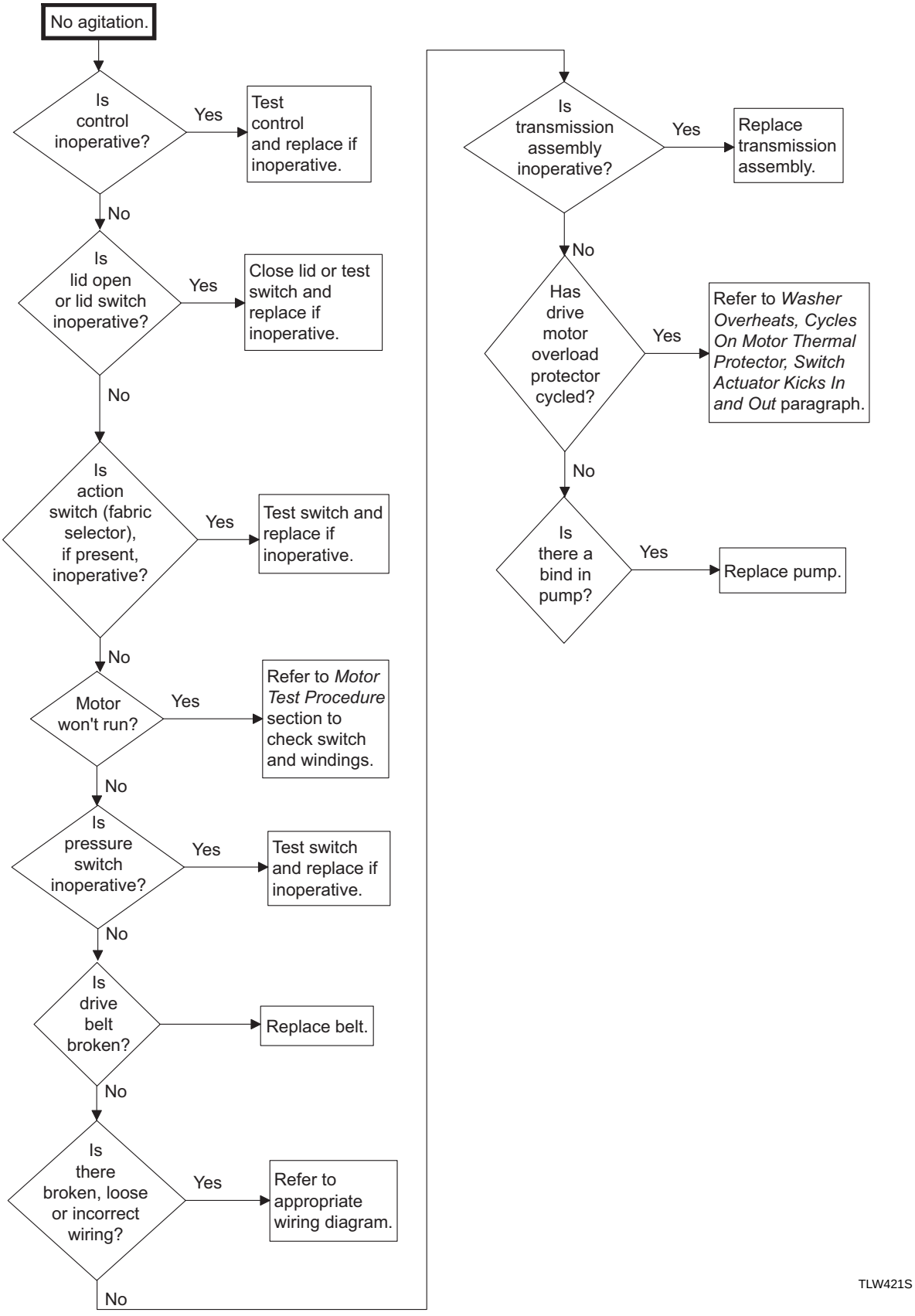
5. Water Fill Does Not Stop At Proper Level



6. Motor Does Not Run

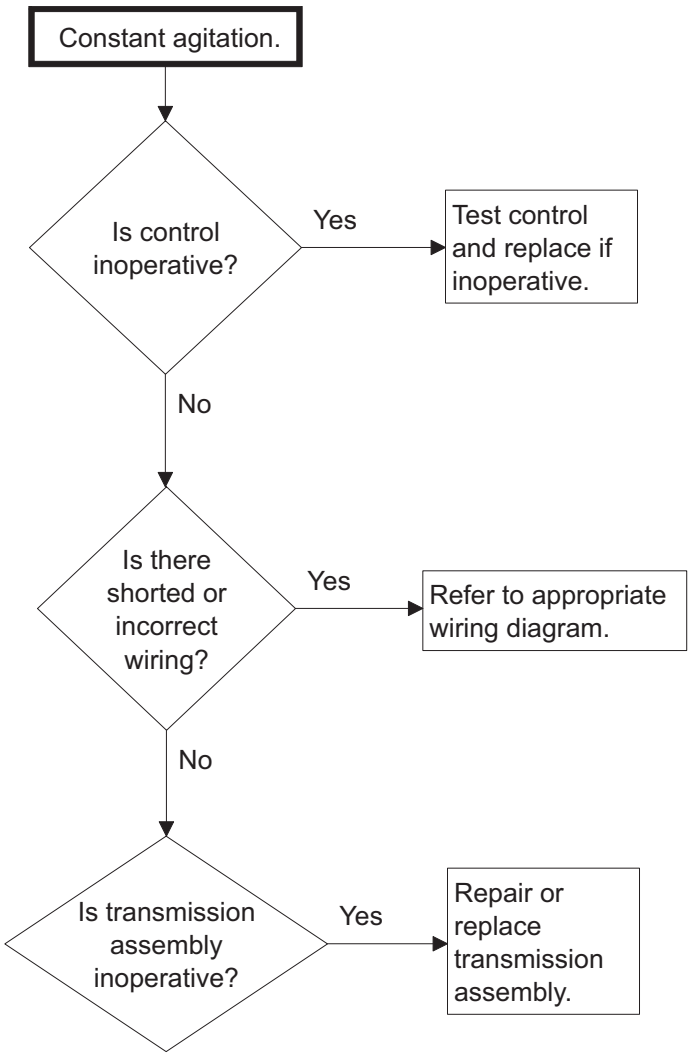


7. No Agitation



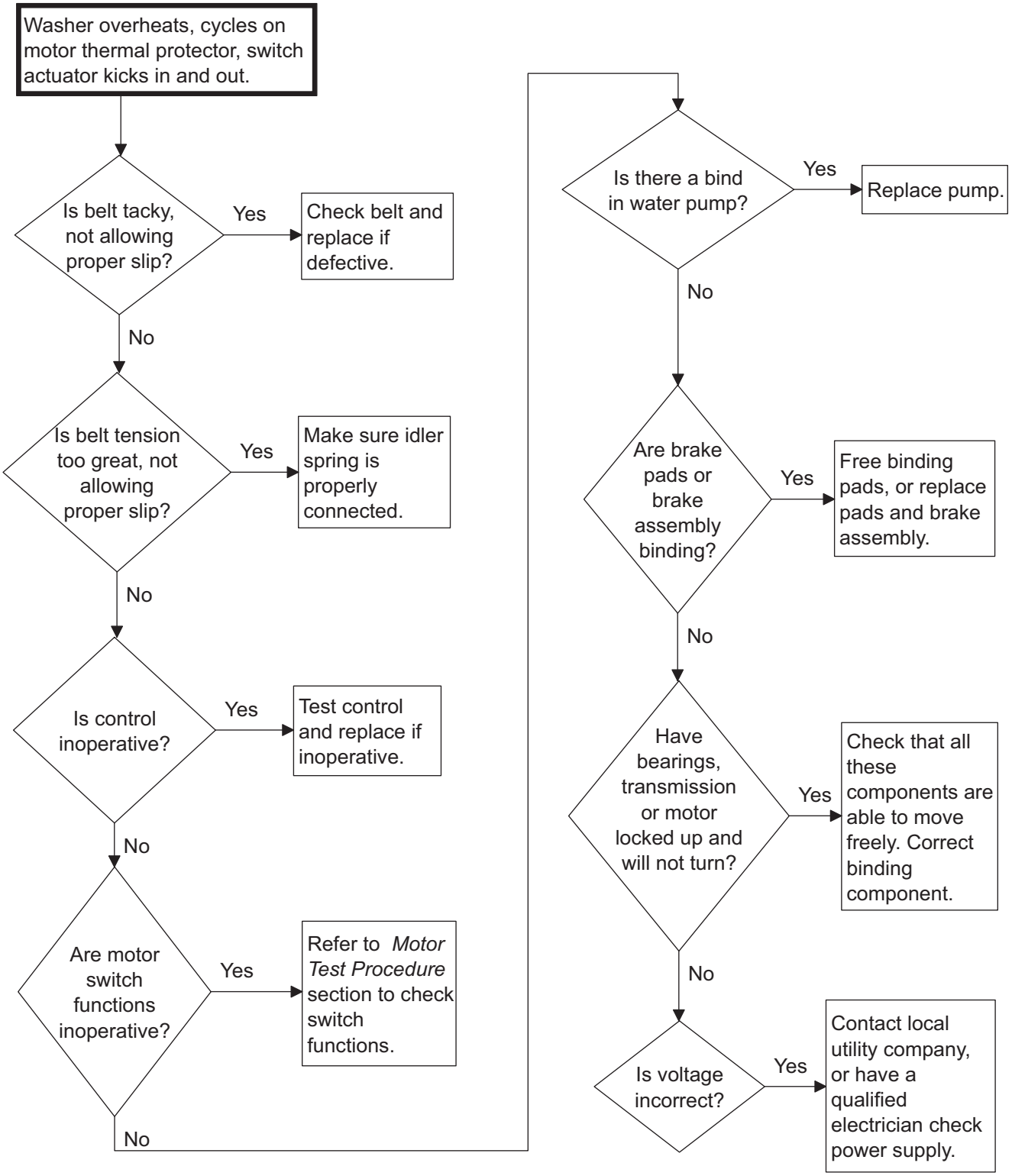
TLW421S

8. Constant Agitation



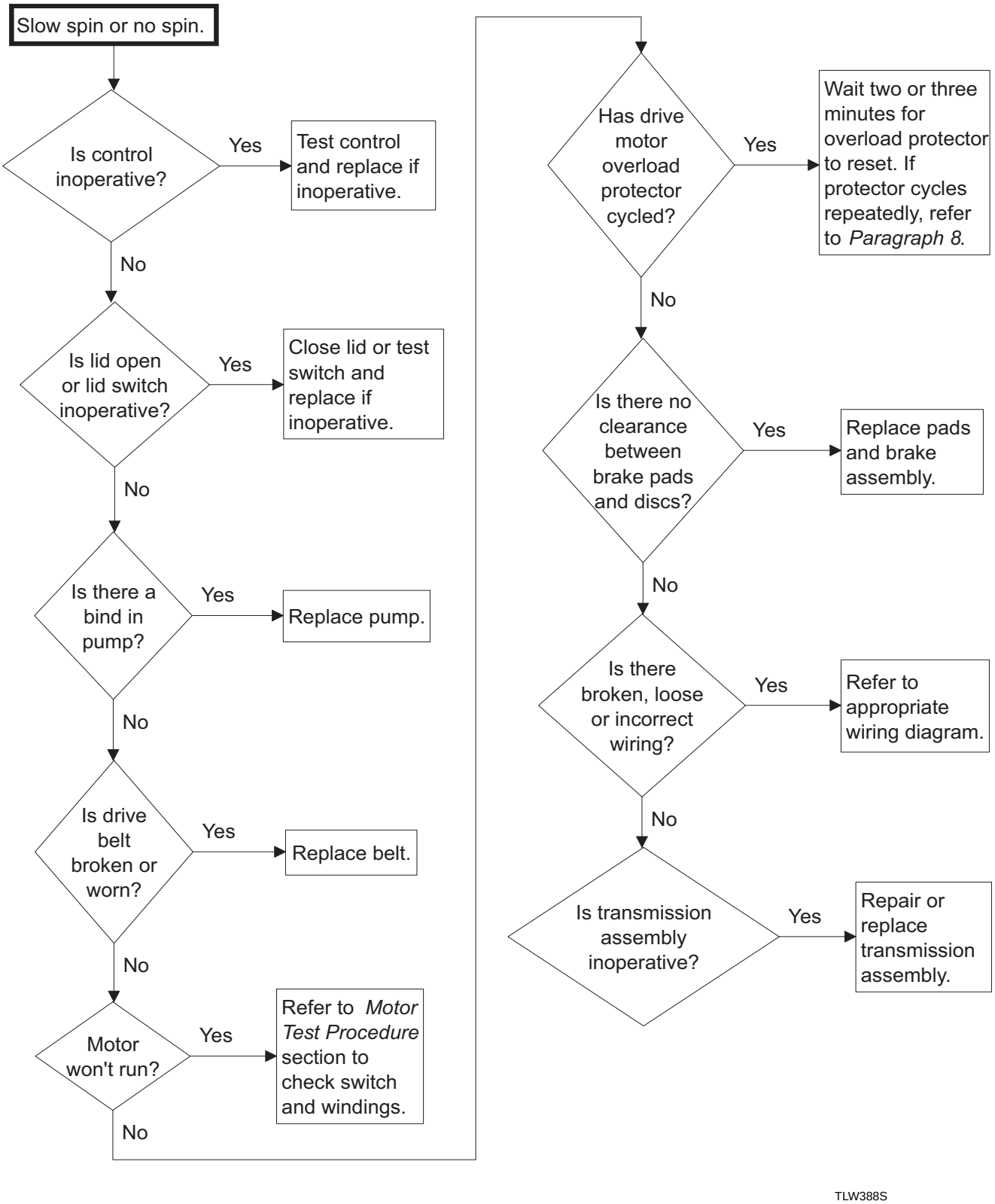
TLW386S

9. Washer Overheats, Cycles On Motor Thermal Protector, Switch Actuator Kicks In and Out

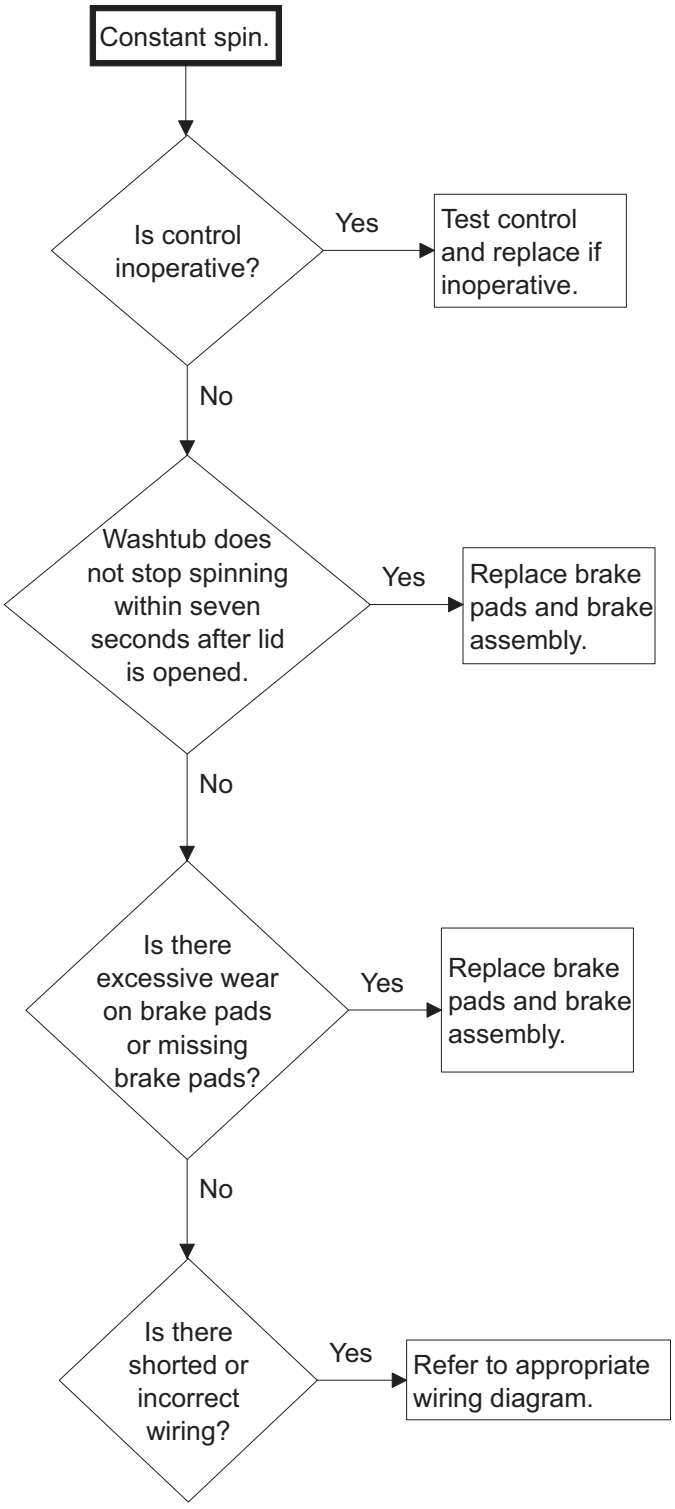


TLW387S

10. Slow Spin Or No Spin

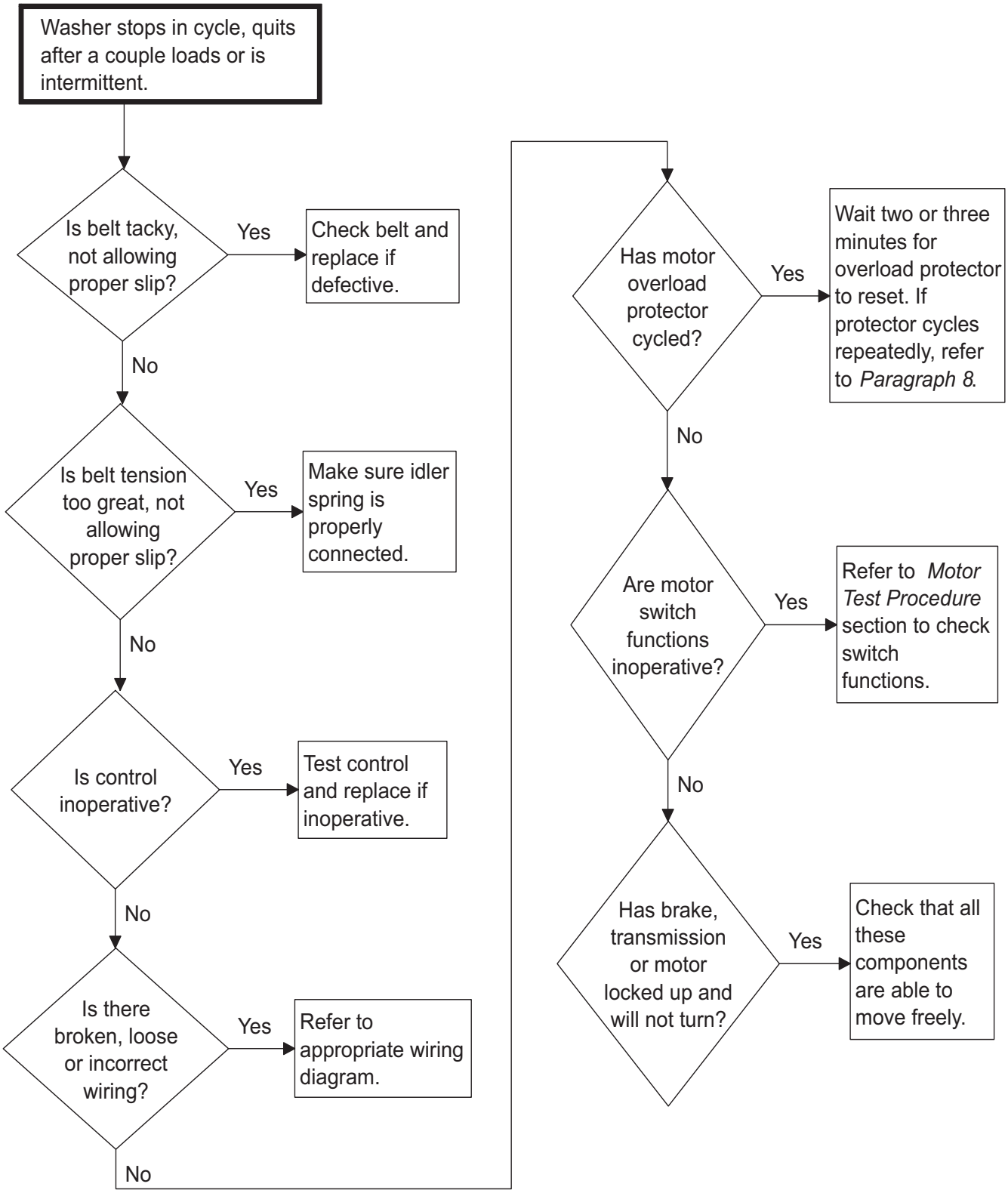


11. Constant Spin



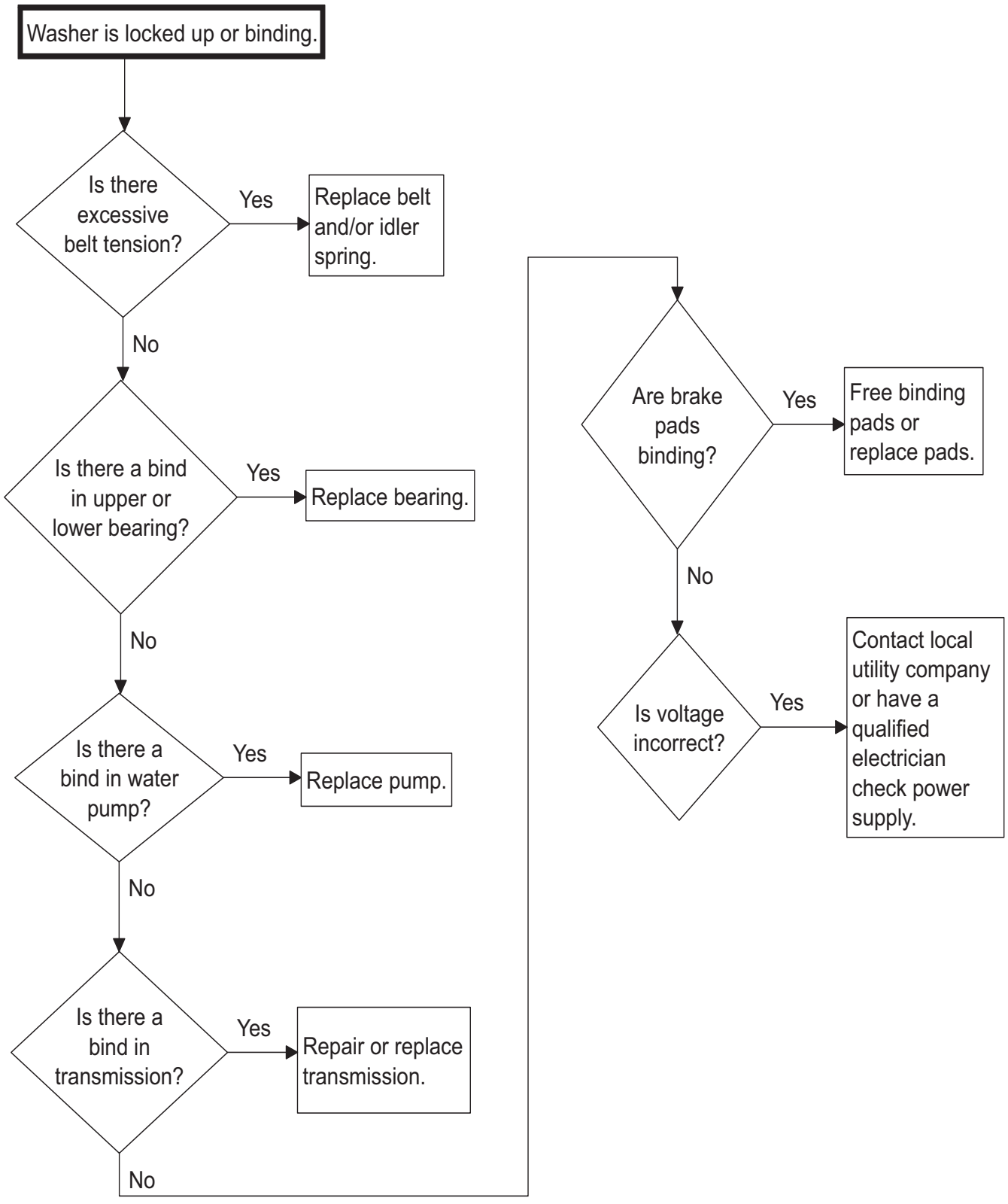
TLW389S

12. Washer Stops In Cycle; Quits After A Couple Loads; Is Intermittent



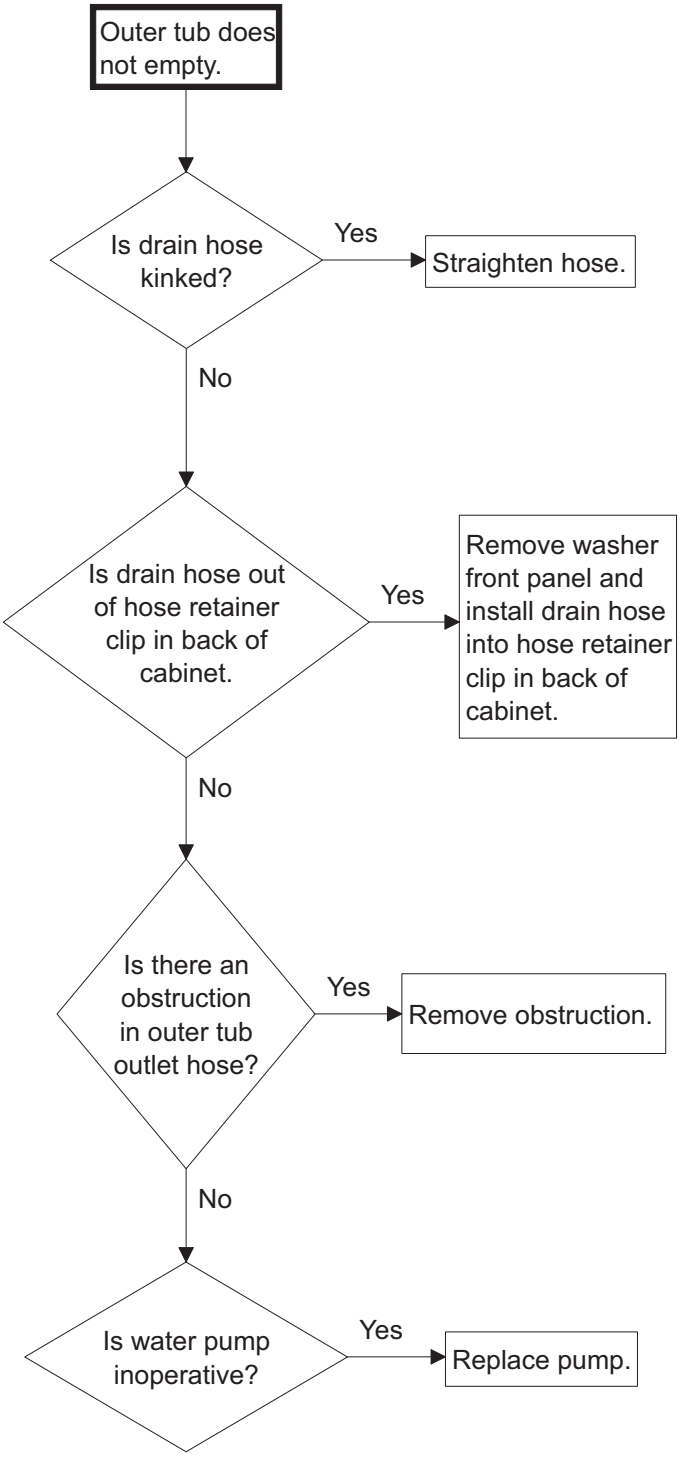
TLW390S

13. Washer Is Locked Up Or Binding



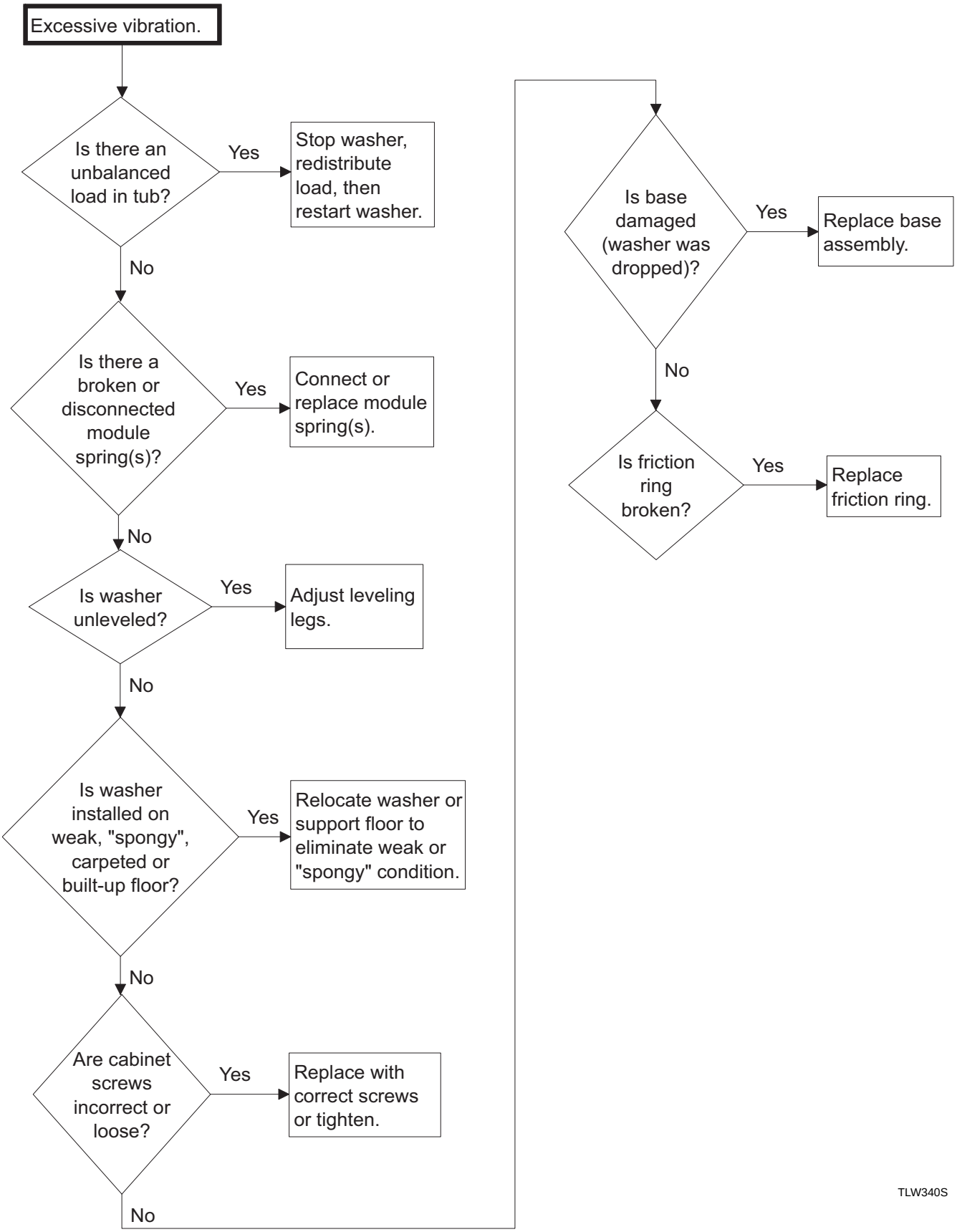
TLW338S

14. Outer Tub Does Not Empty

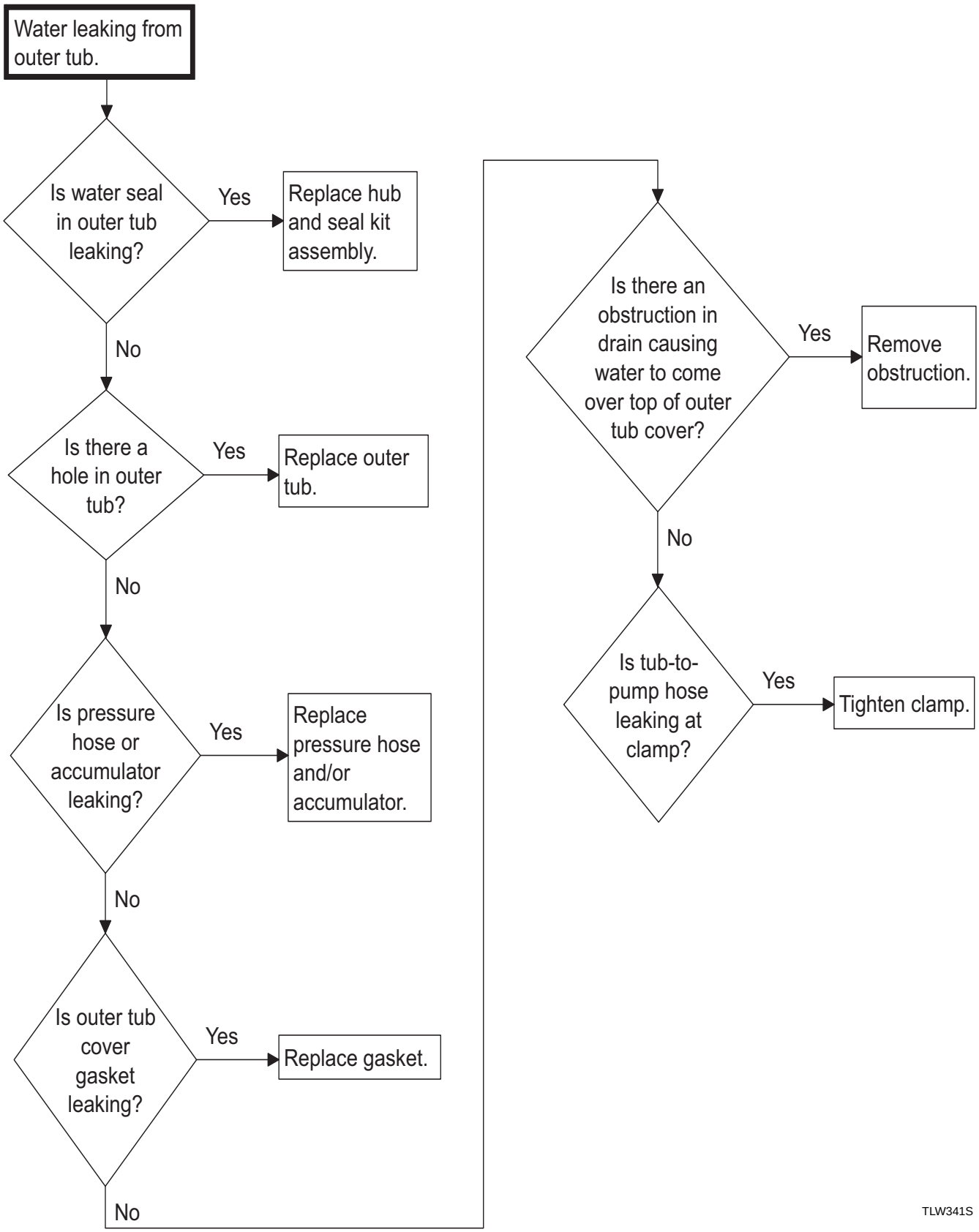


TLW420S

15. Excessive Vibration



16. Water Leaking From Outer Tub



17. Troubleshooting Coin Drop

a. Non-Electronic Coin Drops:

When coin is placed into coin slot, the coin should roll down drop and be heard dropping into coin vault. If coin does not fall into coin vault or if coin drop sensor does not register that coin has been entered, follow troubleshooting instructions on the following page. Refer to *Figure 1* for path that coin follows when working properly.

IMPORTANT: Never use oil to correct coin drop problems. Oil residue will prevent coins from rolling properly.

IMPORTANT: Do not bend or damage mechanical parts within coin drop.

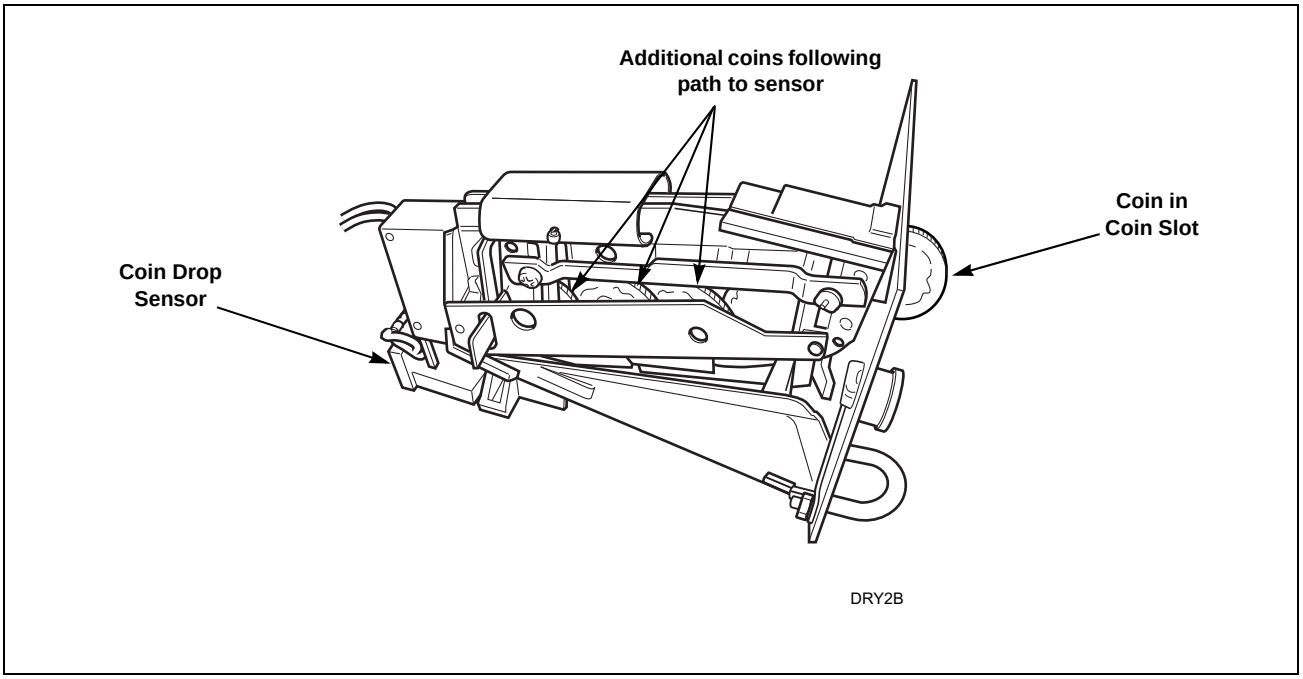
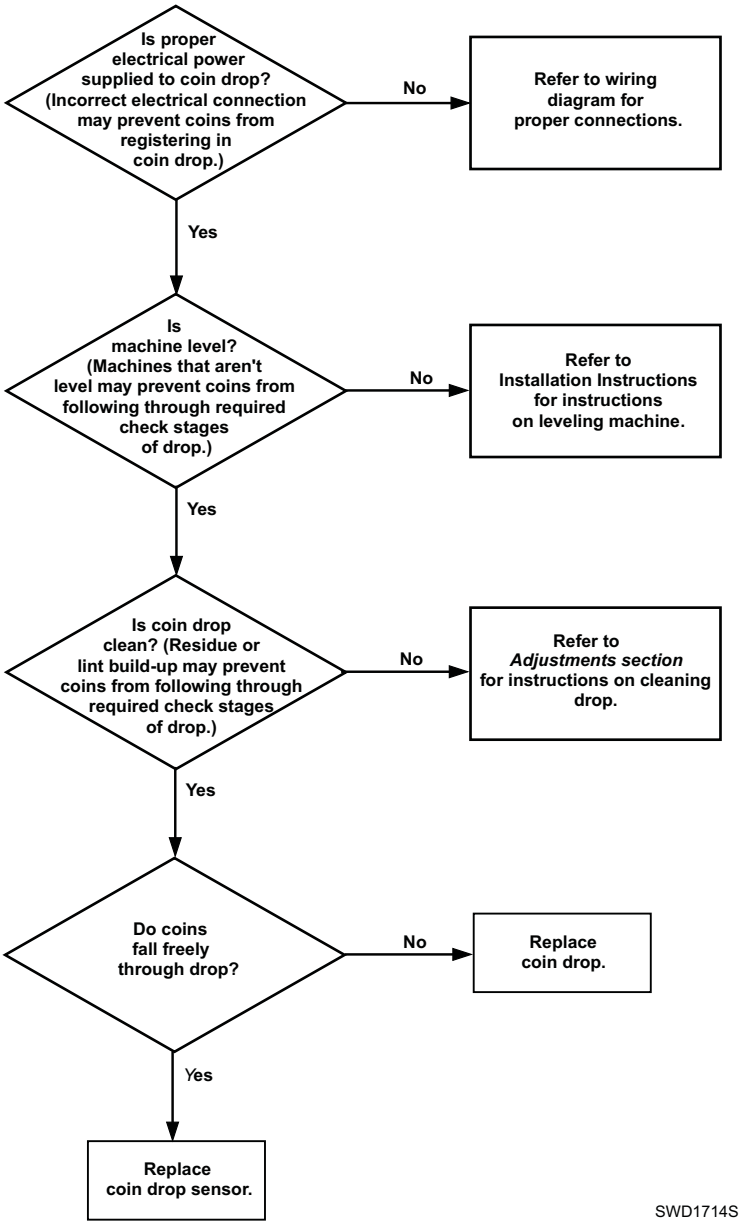


Figure 1

b. Electronic Coin Drops: If coin drop is not accepting coins, clean coin drop. Refer to *Paragraph 42.*

Troubleshooting Coin Drop



Troubleshooting

Coin Slide Operated and Non-Metered 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

18. Error Mode

In Error Mode, the *IN USE* LED flashes to display fill and drain errors (refer to paragraphs below). Error Mode can only be exited by powering down washer.

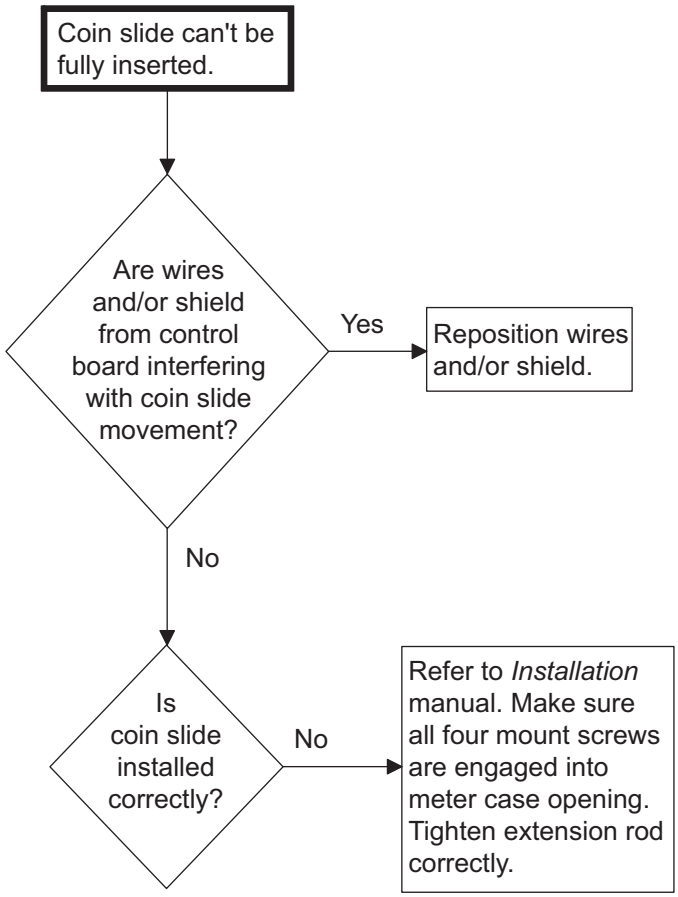
Fill Error

A Fill Error will occur if the tub does not fill within 62 minutes of the start of the cycle. A Fill Error is indicated by the control repeatedly flashing the *IN USE* LED twice separated by a one and a half second pause until the control is powered down. If Error Mode is turned off, the fill error will not occur and the control will continue to wait for the fill level to be reached.

Drain Error

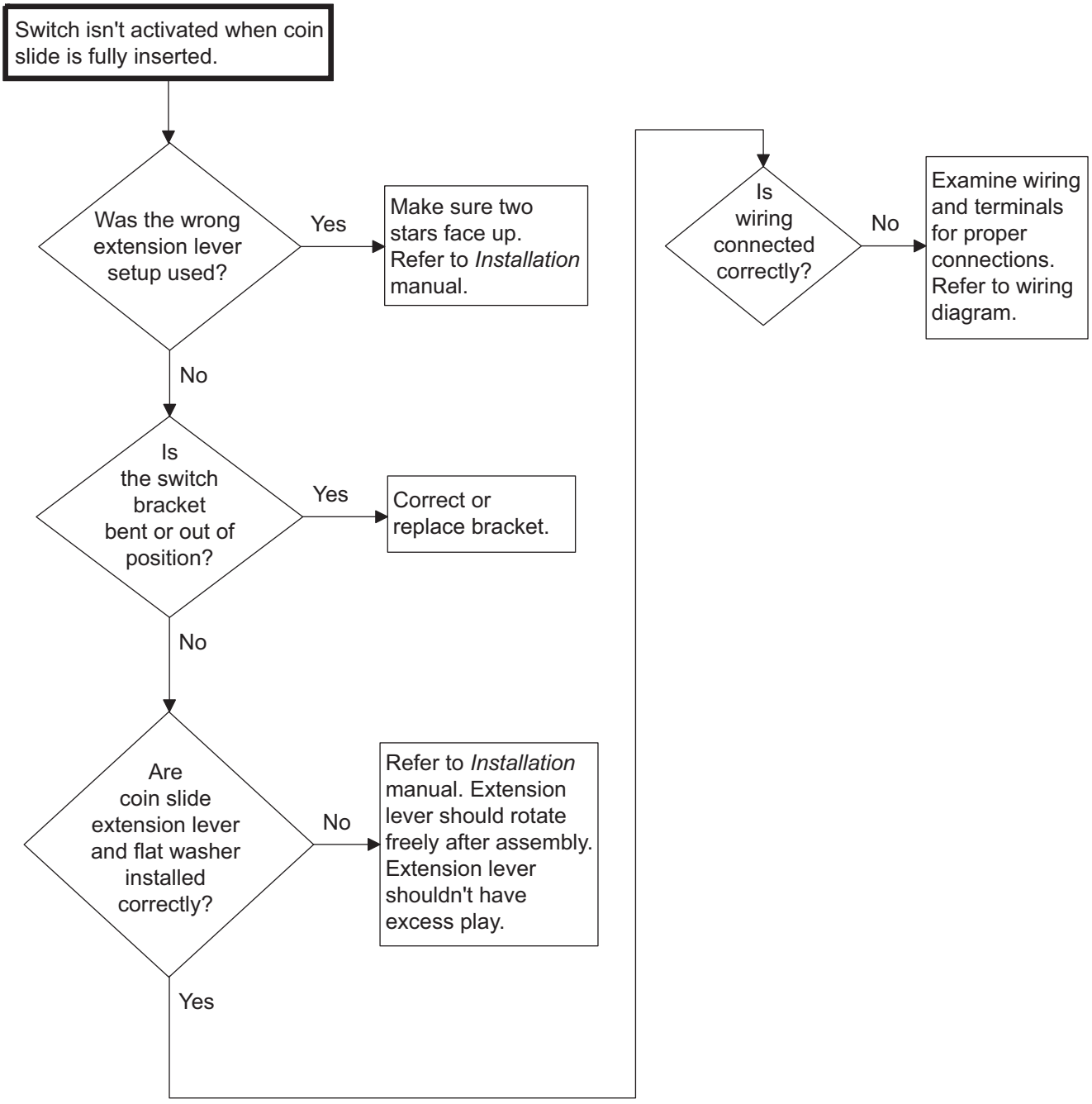
A Drain Error will occur if the tub is not empty after a spin cycle. A Drain Error is indicated by the control repeatedly flashing the *IN USE* LED three times separated by a one and a half second pause until the control is powered down. If Error Mode is turned off, the drain error will not occur and the machine cycle will advance to the next cycle step as though the water had been pumped out.

19. Coin Slide Can Not Fully Insert



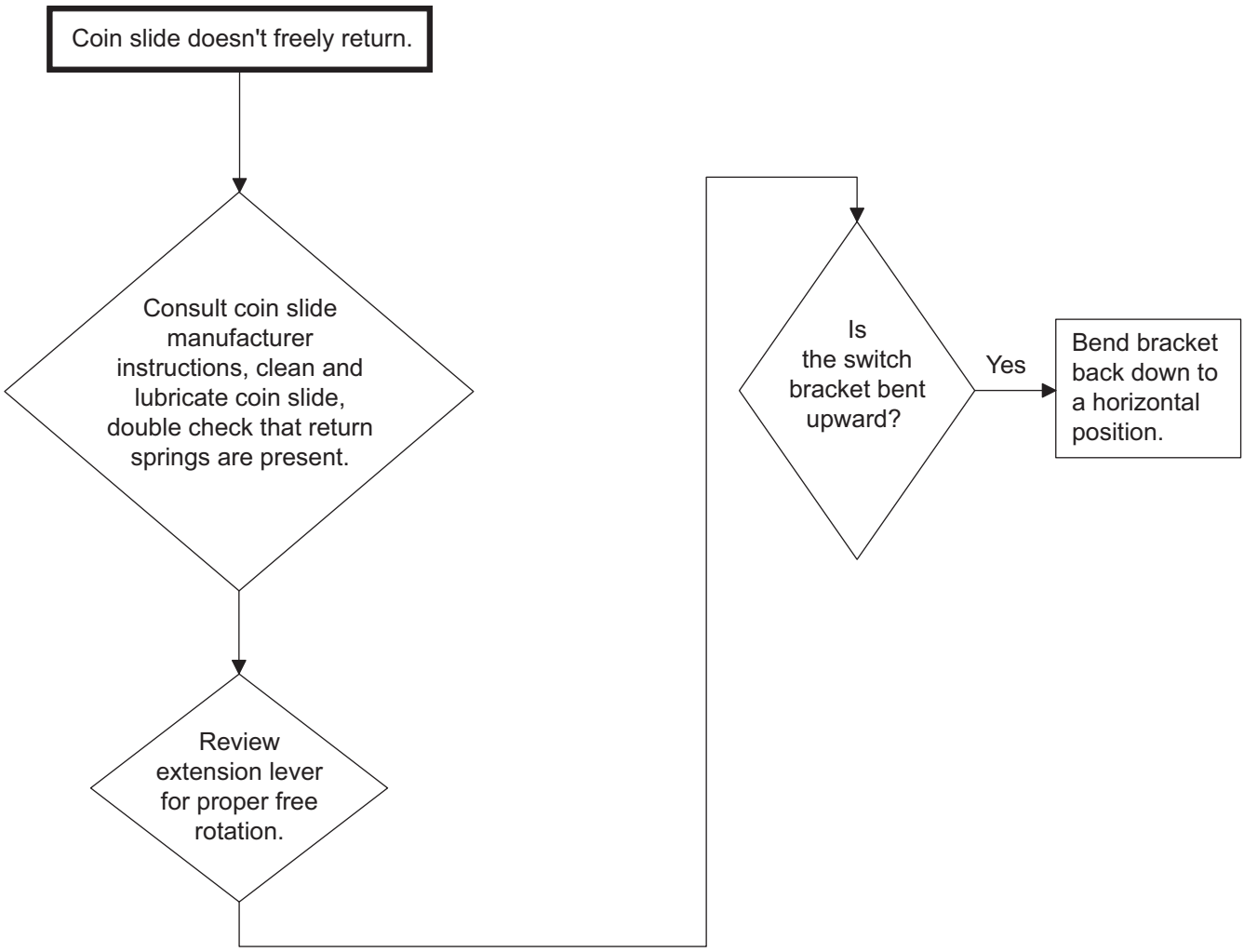
TLW405S

20. Coin Slide Fully Inserts, Switch Does Not Activate



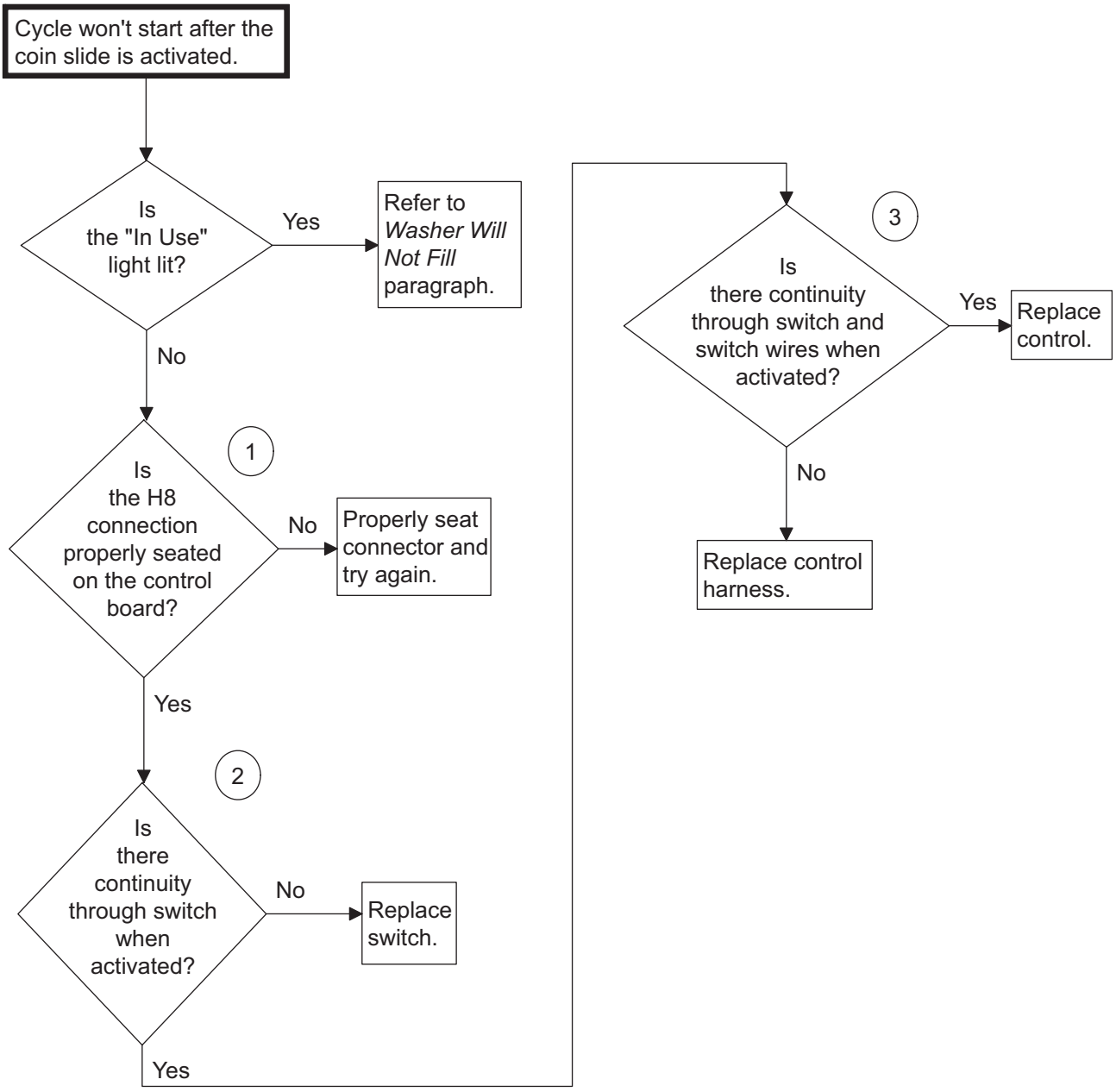
TLW406S

21. Coin Slide Does Not Return Freely



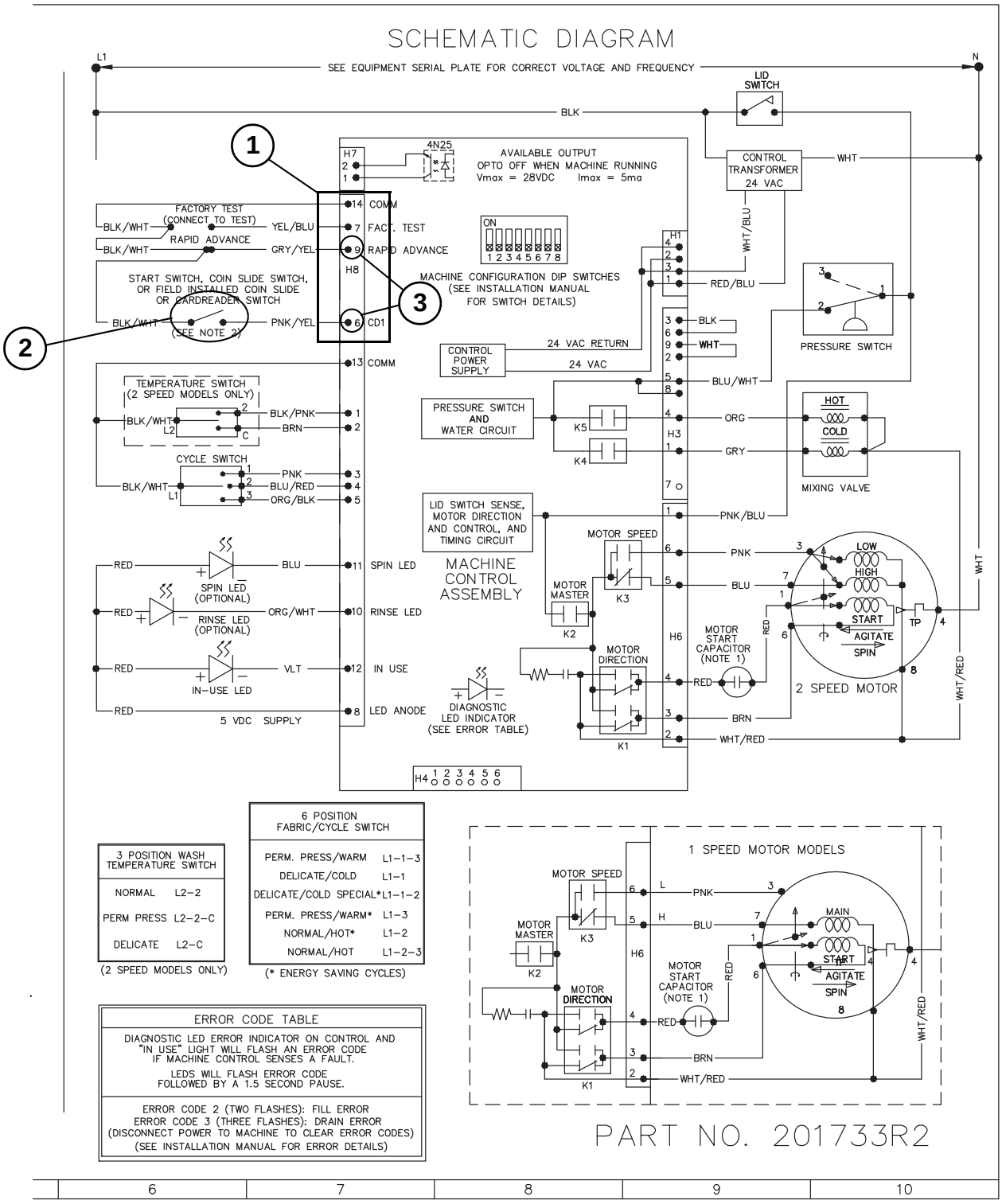
TLW407S

22. No Cycle Start When the Coin Slide is Activated

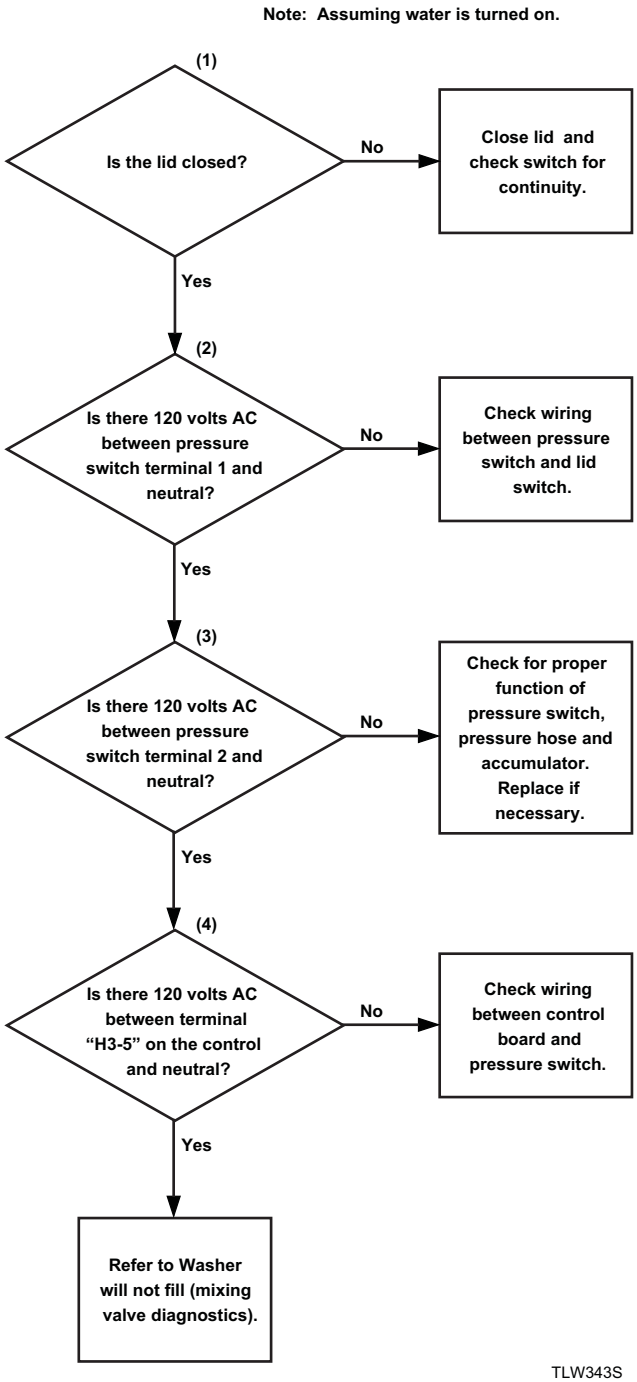


TLW408S

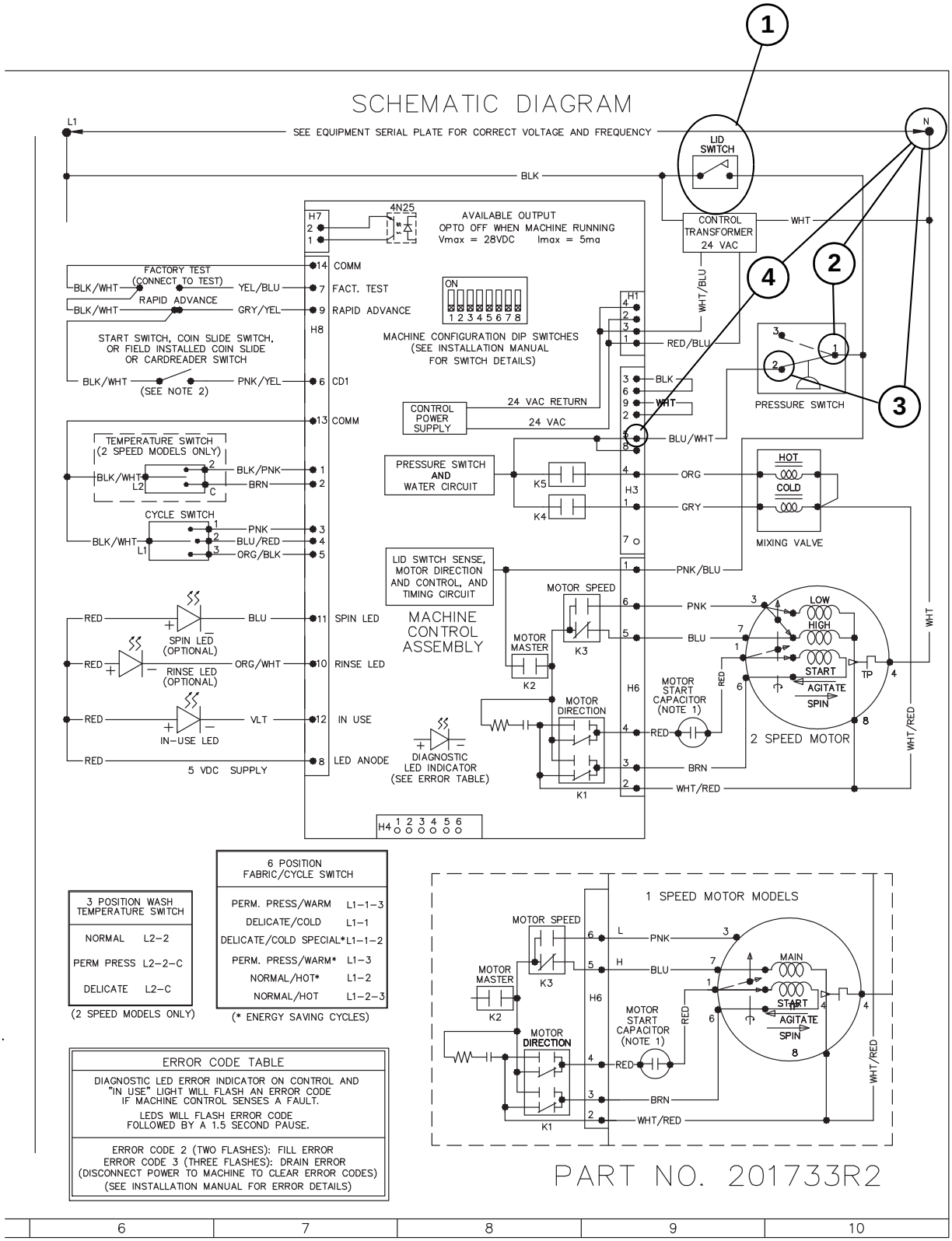
No Cycle Start When the Coin Slide is Activated



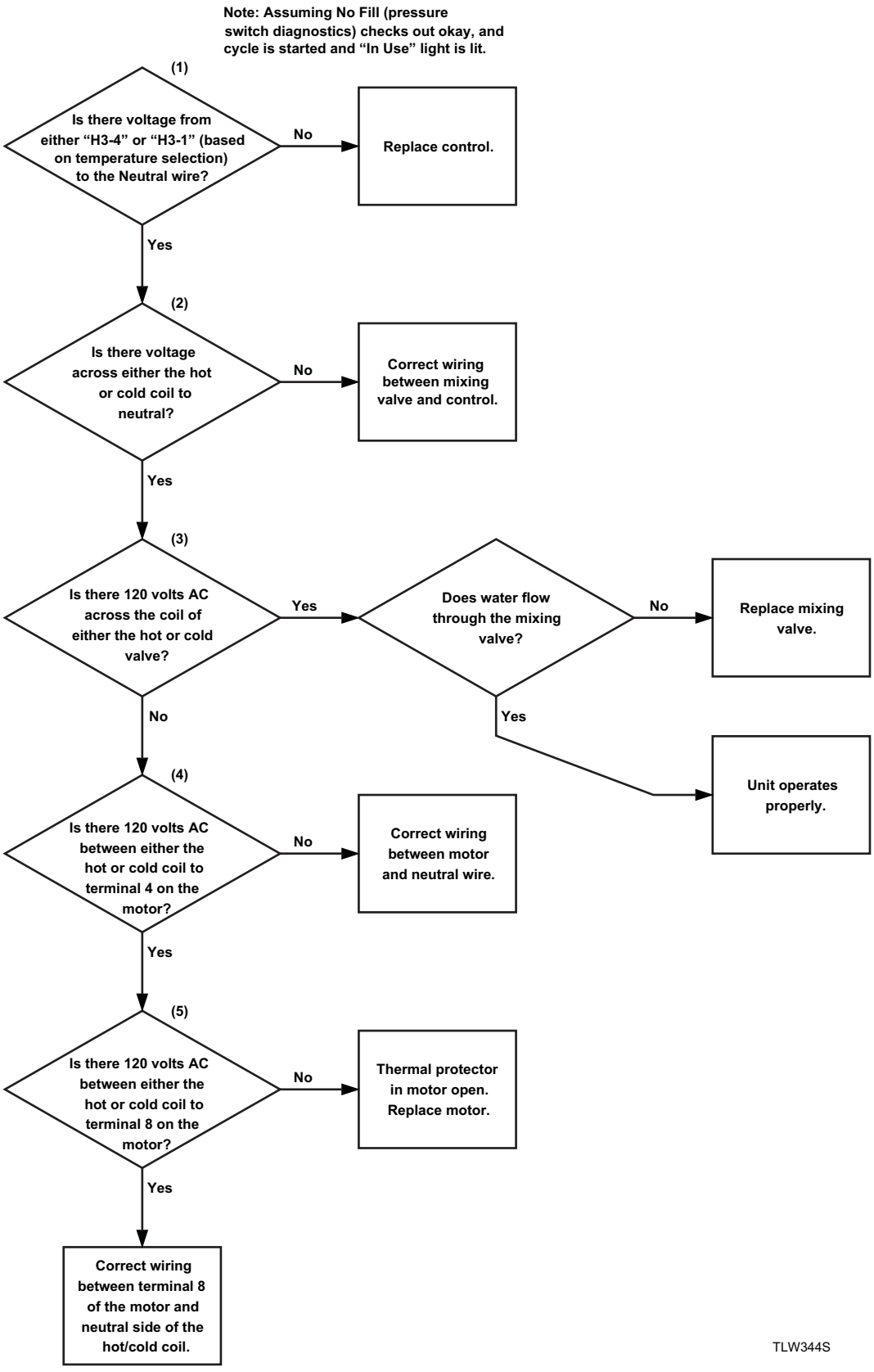
23. Washer Will Not Fill (Pressure Switch Diagnostic)



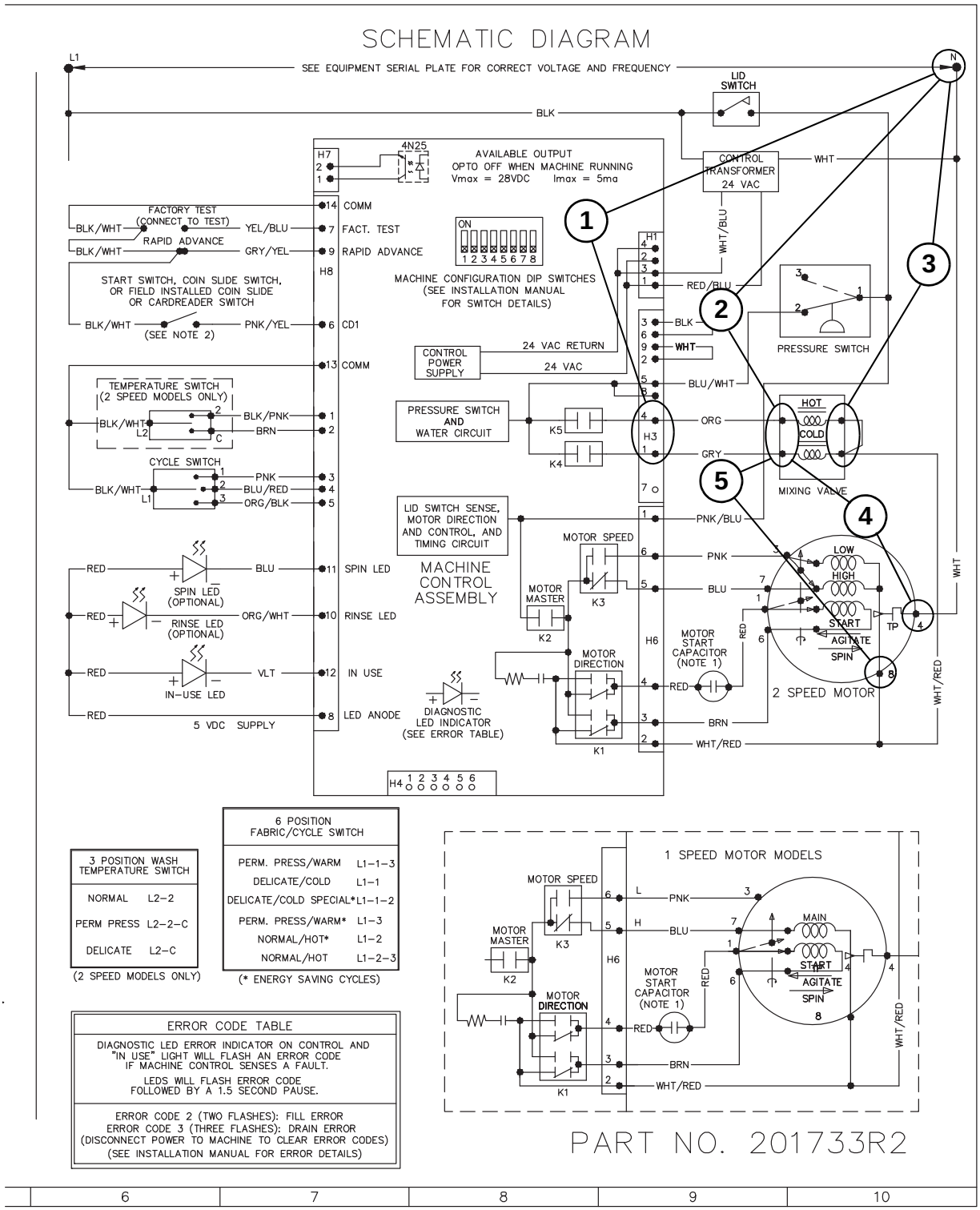
Washer Will Not Fill (Pressure Switch Diagnostic)



24. Washer Will Not Fill (Mixing Valve Diagnostic)

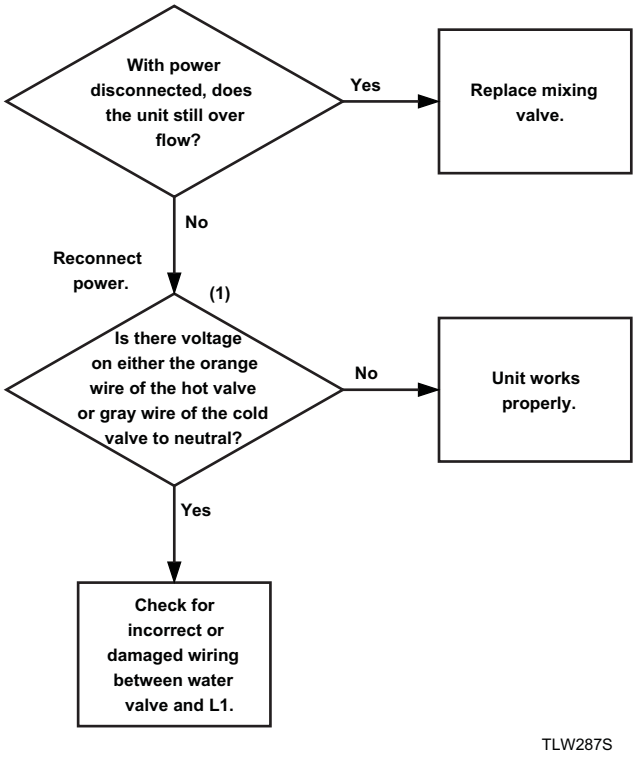


Washer Will Not Fill (Mixing Valve Diagnostic)

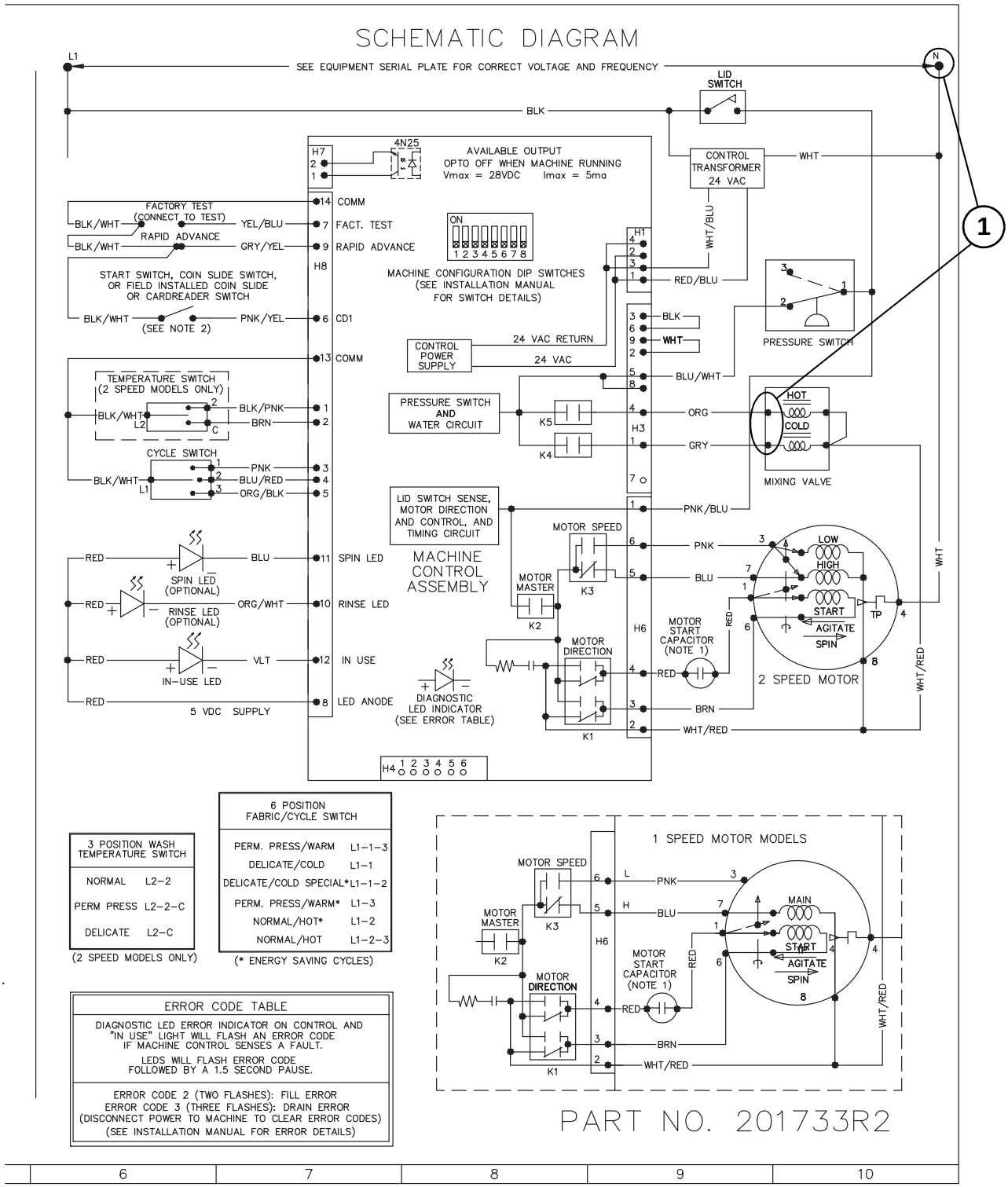


25. Washer Over Fills (Pressure Switch Open)

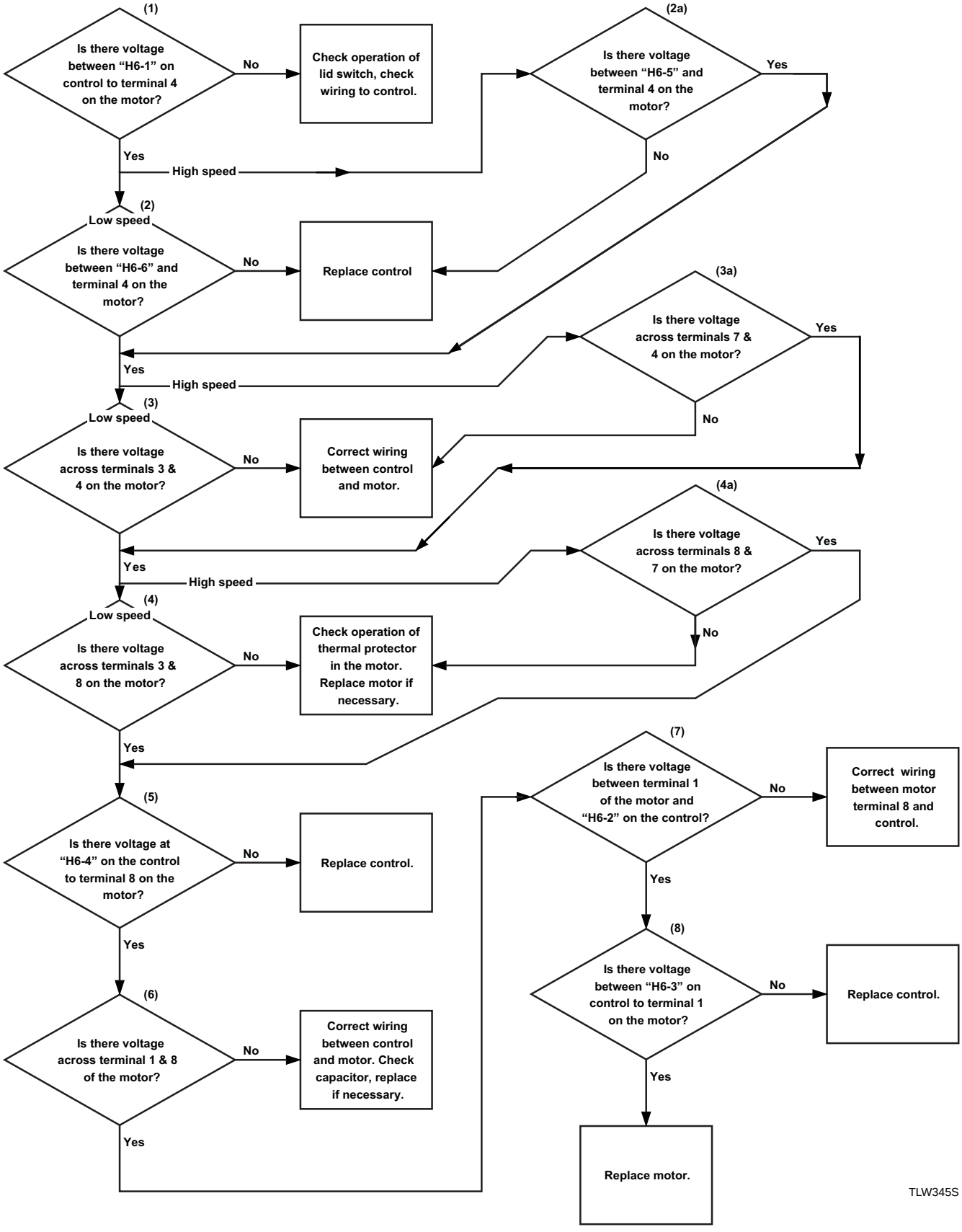
Washer Over Fills.



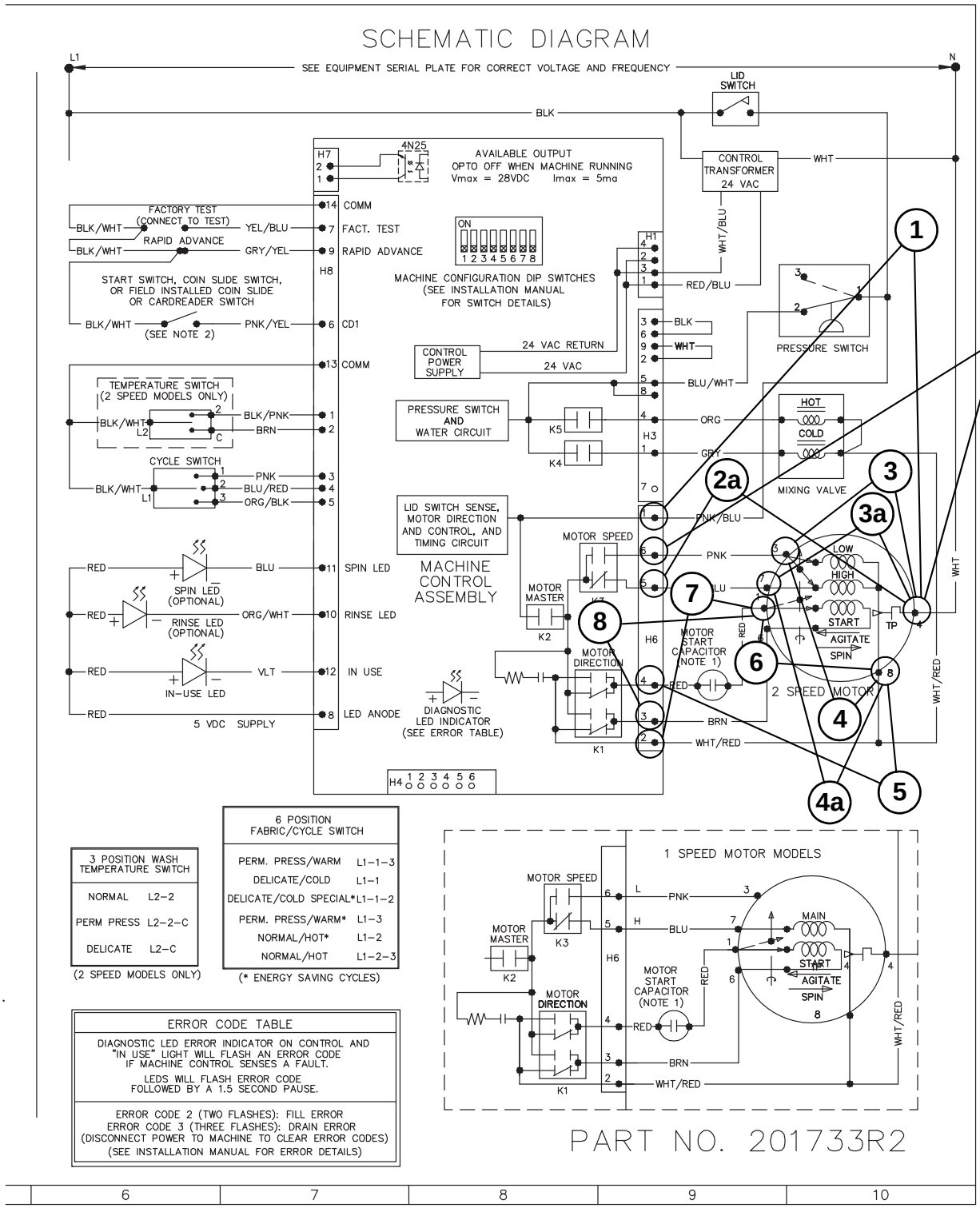
Washer Over Fills (Pressure Switch Open)



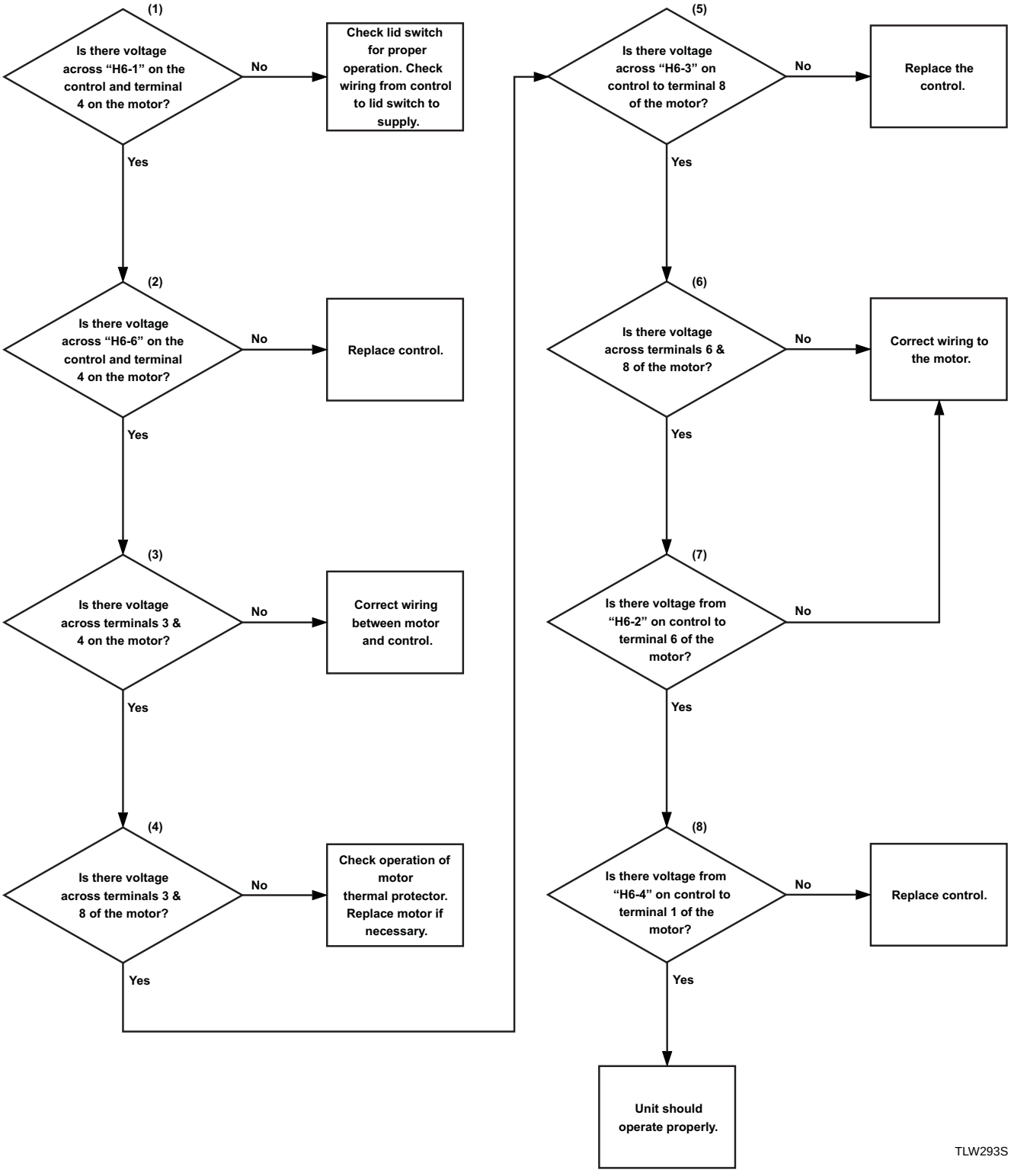
26. No Agitation – Low and High Speed



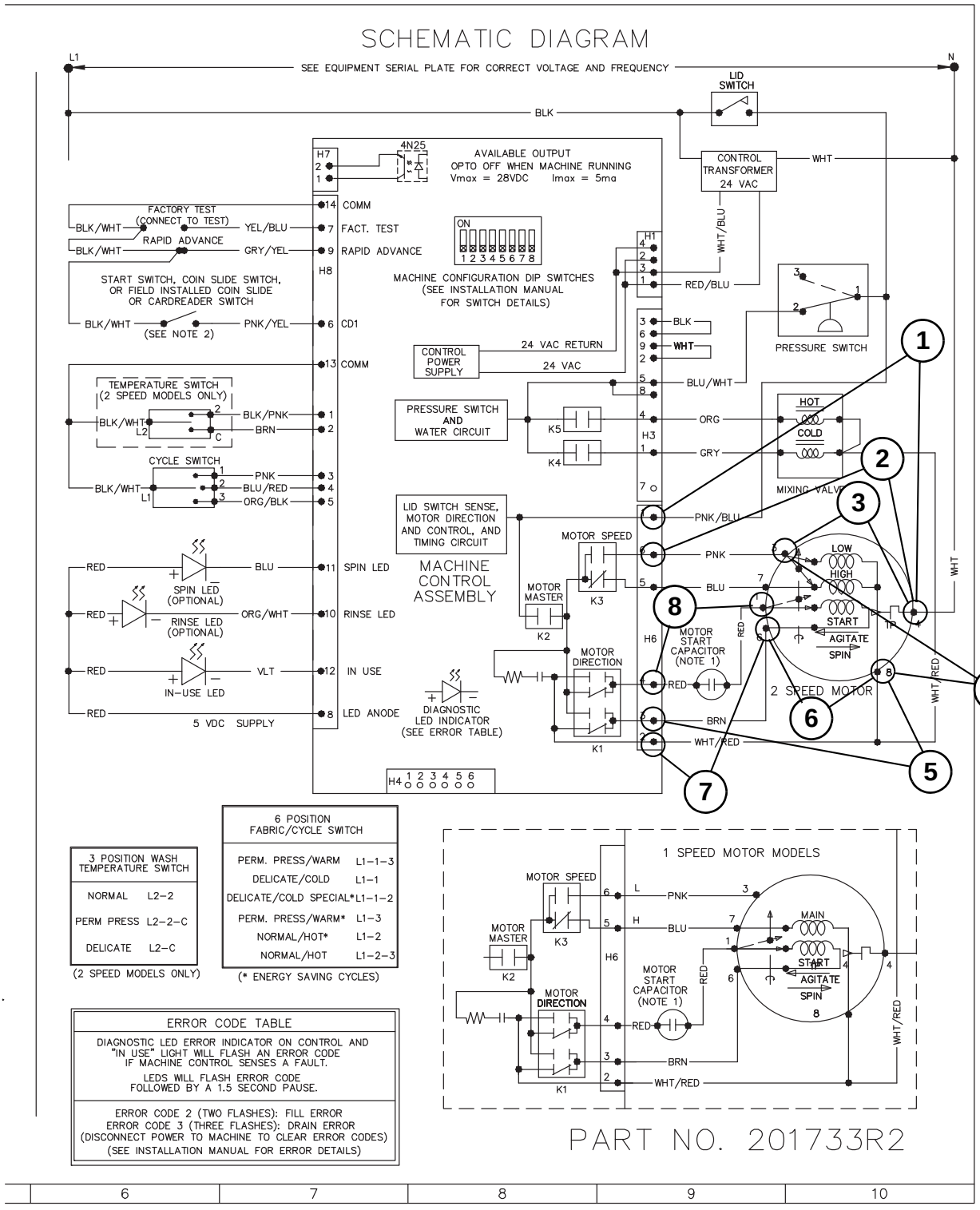
No Agitation – Low and High Speed



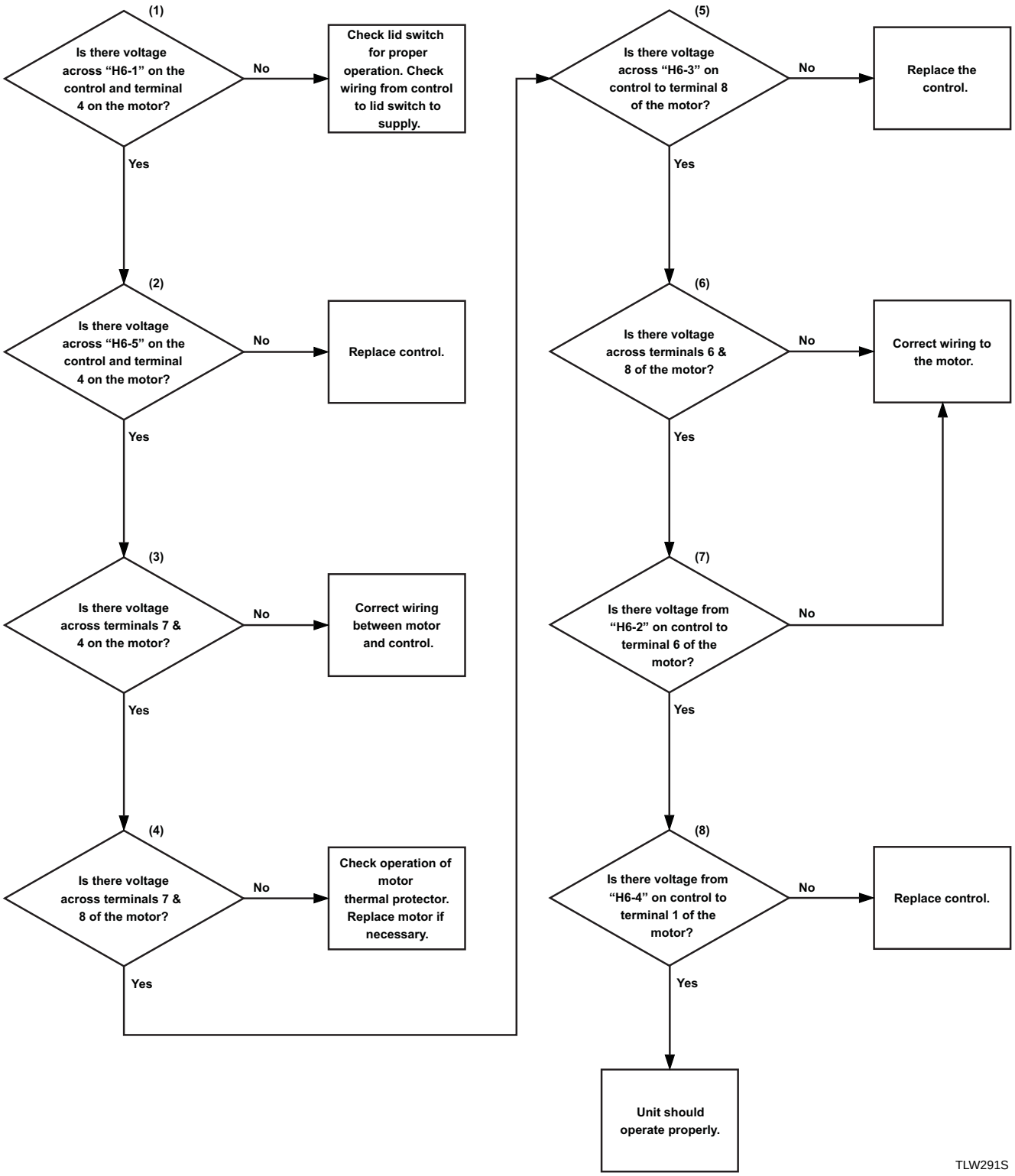
27. Washer Will Not Spin – Low Speed



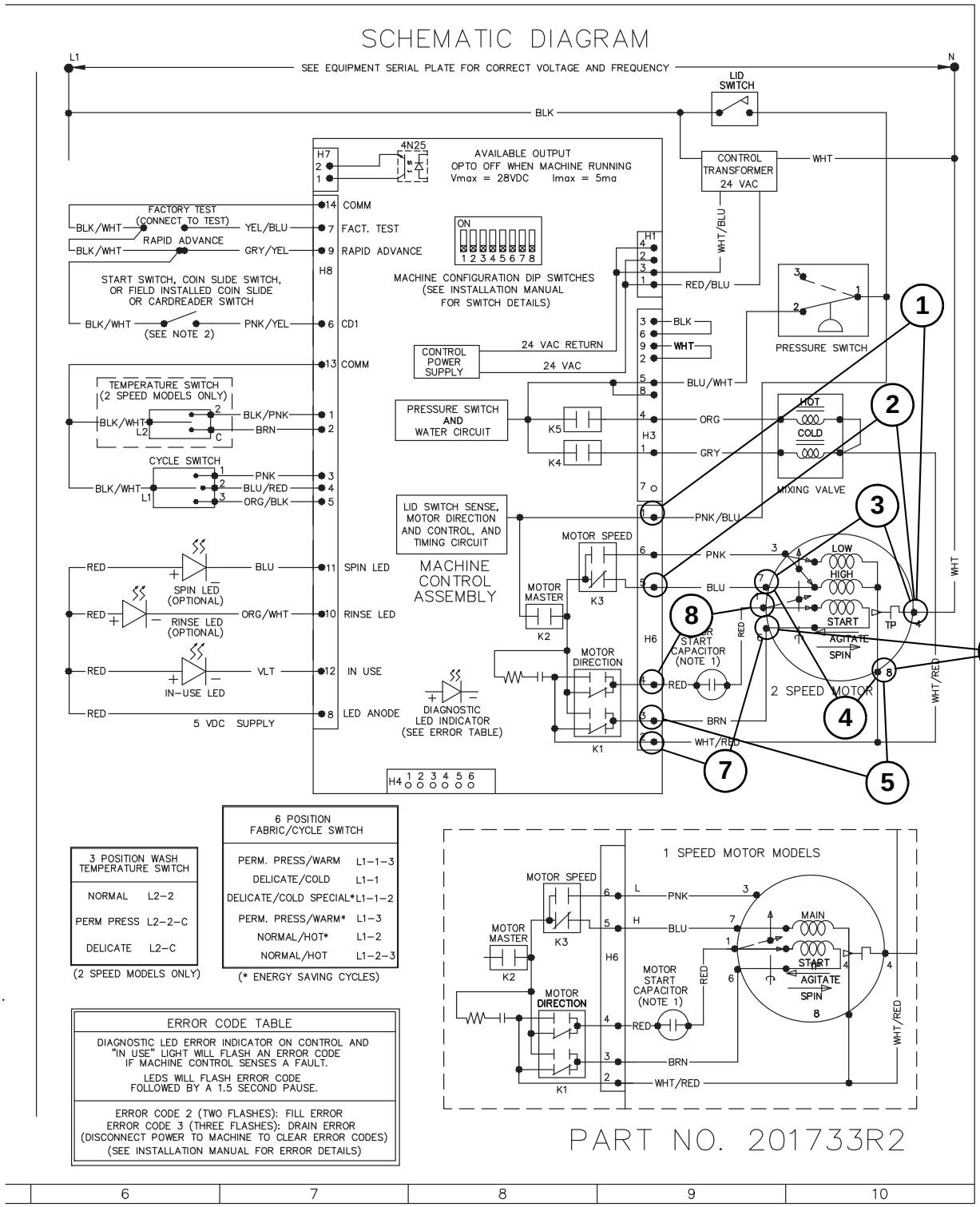
Washer Will Not Spin – Low Speed



28. Washer Will Not Spin – High Speed



Washer Will Not Spin – High Speed



Troubleshooting

MDC 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.**

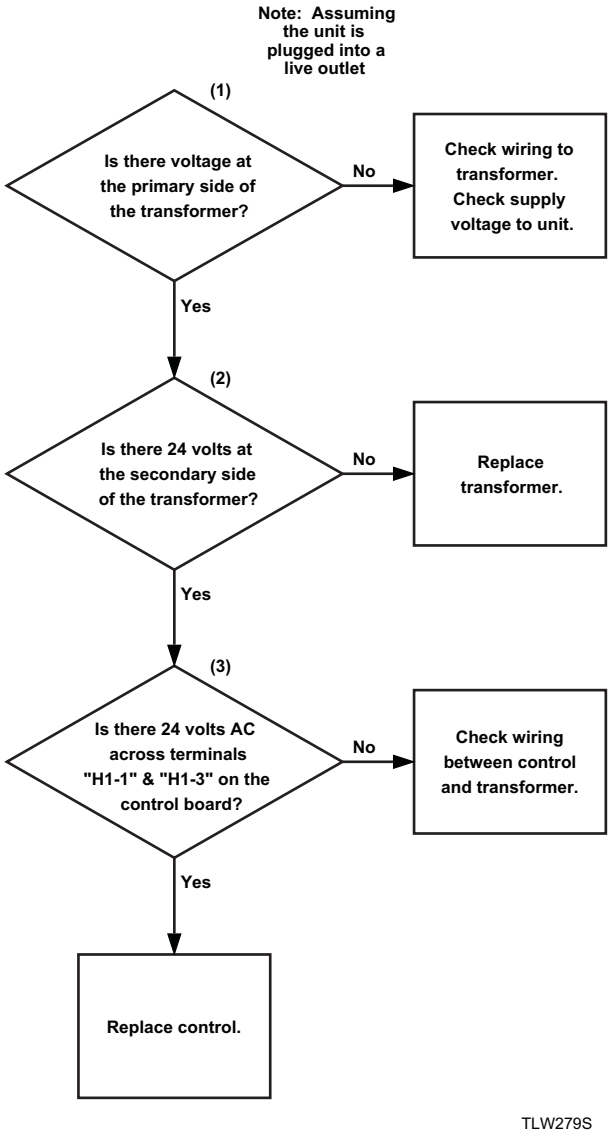
W003

29. MDC Error Code Listing

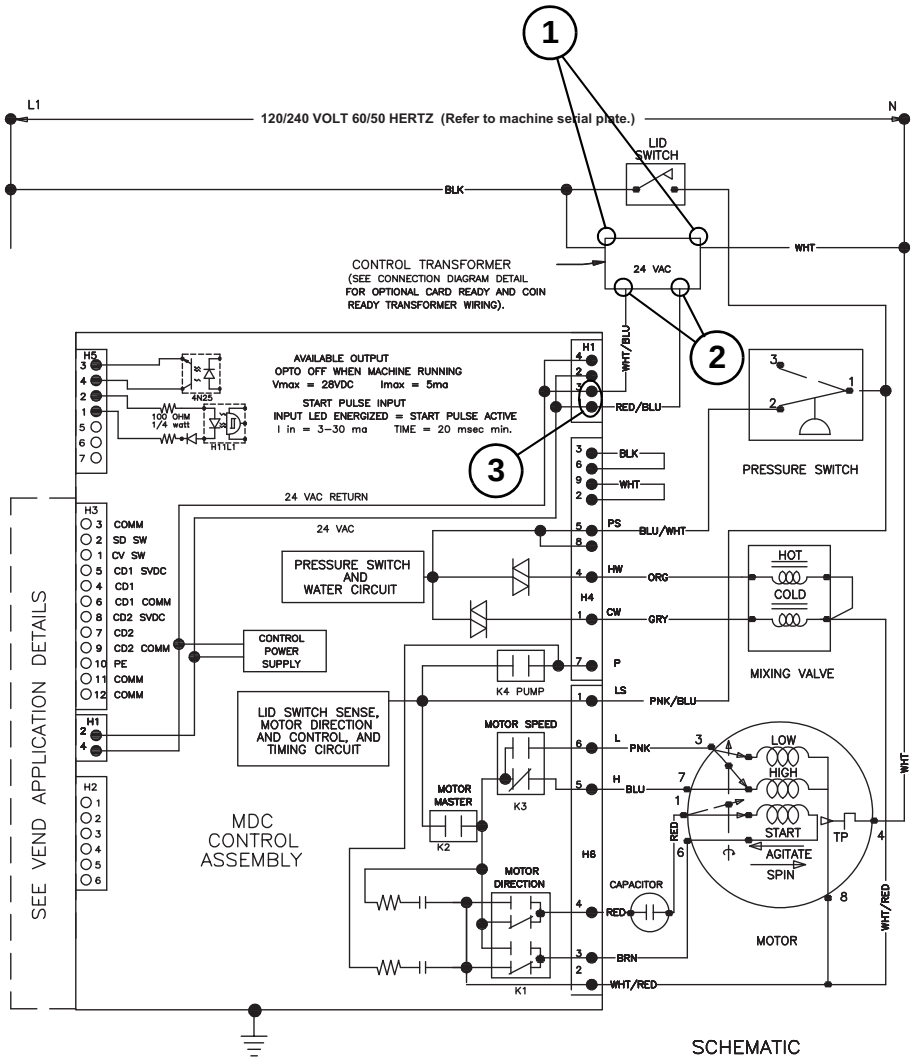
E:dr	Maximum drain time exceeded or water sensed at the end of a spin step.
E:FL	Maximum fill time exceeded.
Card Reader Machines: (In addition to the above errors)	
EC:19	Indicates no card reader communication. The control and the card reader cannot communicate. Check card reader, control and harness.

NOTE: For all other card reader errors, consult the card reader manufacturer.

30. No Visible Display on Control

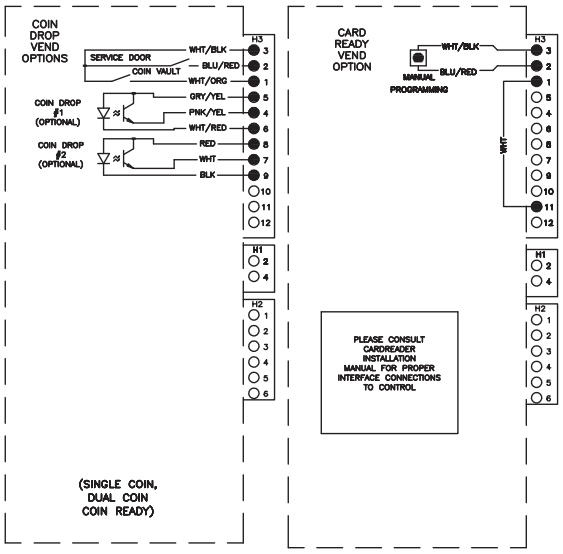


No Visible Display on Control

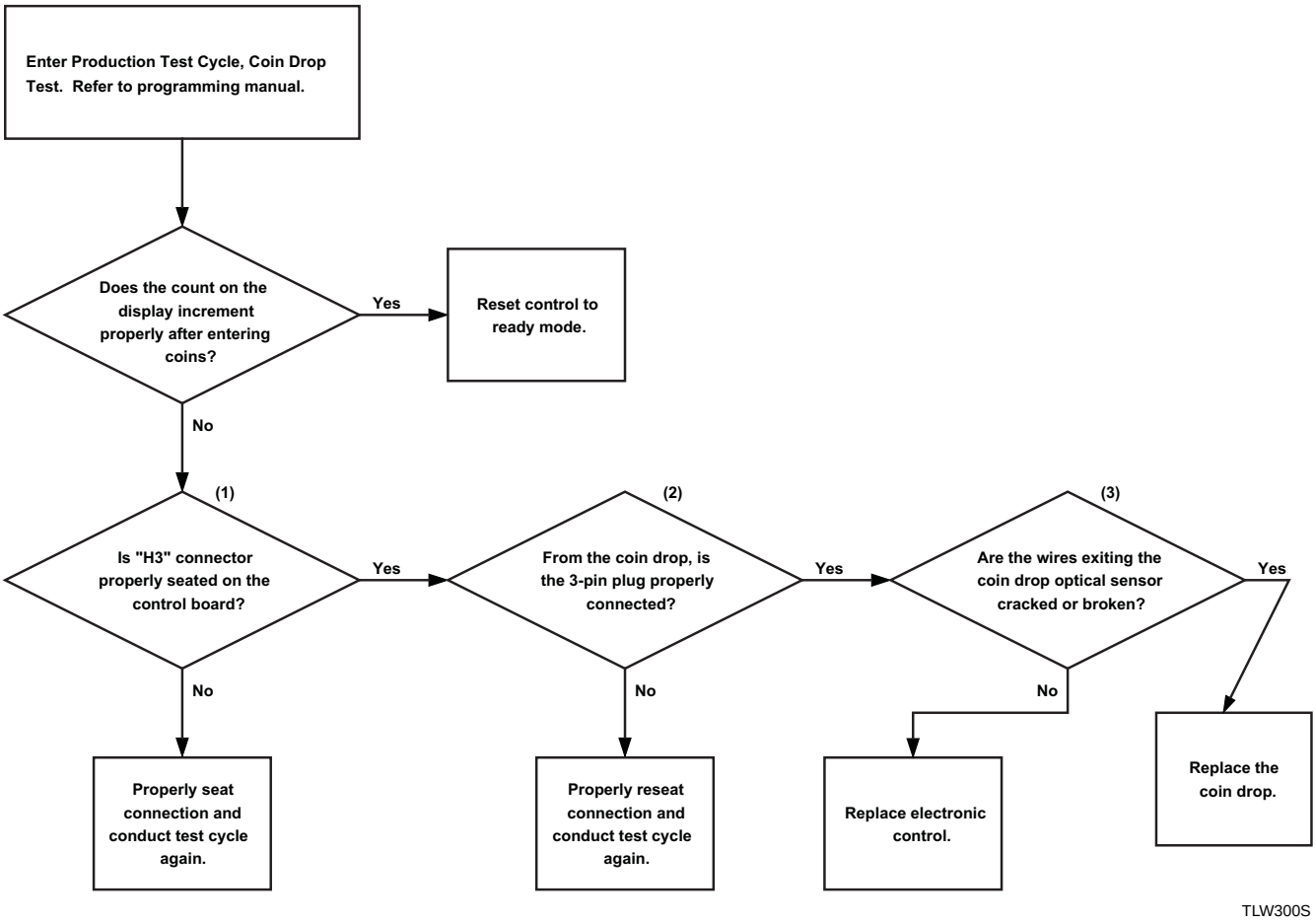


SCHEMATIC

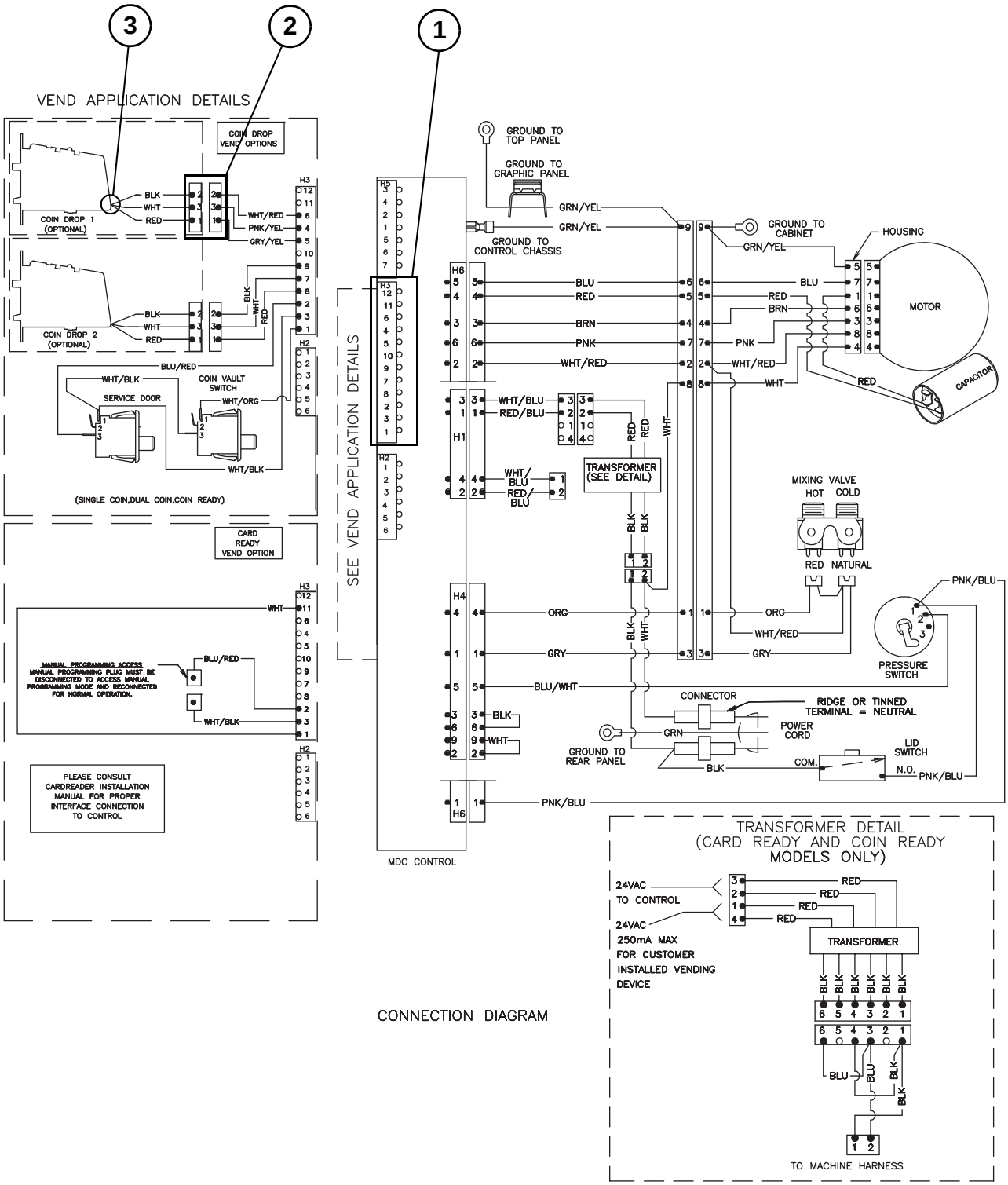
VEND APPLICATIONS DETAILS



31. Coins Ignored When Entered



Coins Ignored When Entered



WARNING

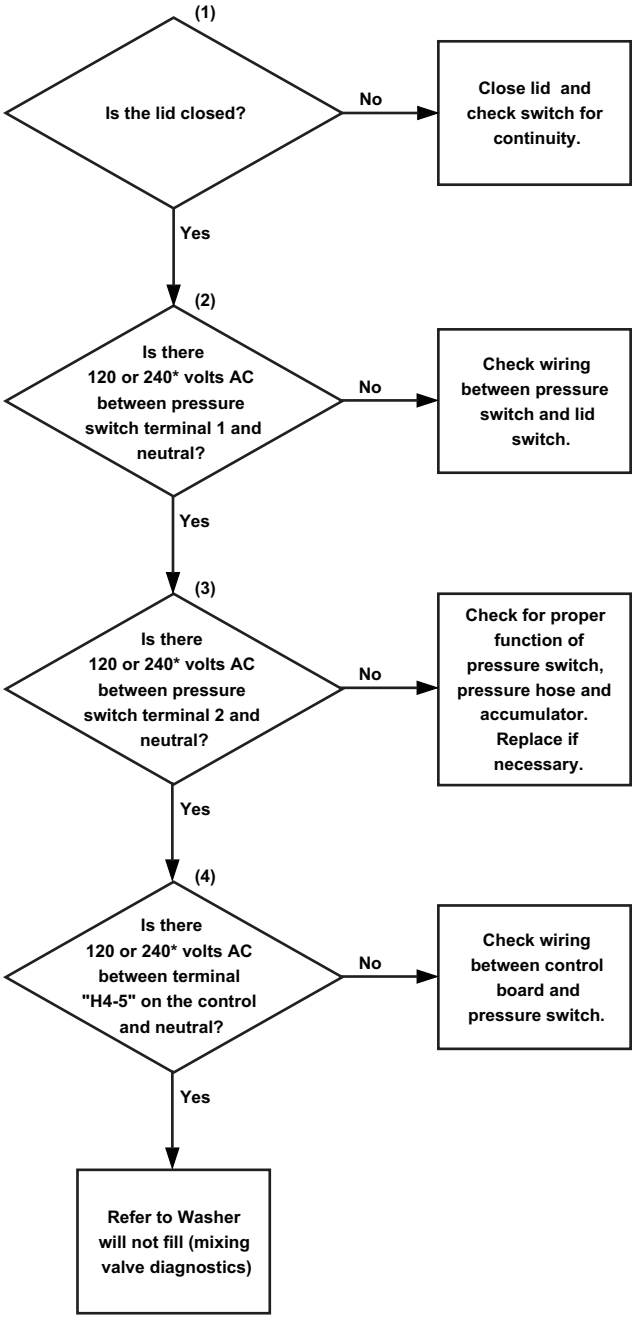
FAILURE TO INSTALL, MAINTAIN, AND/OR OPERATE THIS MACHINE ACCORDING TO MANUFACTURER'S INSTRUCTIONS MAY RESULT IN CONDITIONS WHICH CAN PRODUCE BODILY INJURY AND/OR PROPERTY DAMAGE.

THIS MACHINE MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING PATENTS:
UNITED STATES NO: 3,253,874; 3,838,755; 3,845,642
CANADIAN NO: 1,008,265; 994,685
OTHER PATENTS PENDING

NOTE

POWER SUPPLY WIRING MUST HAVE CORRECT POLARITY AND GROUNDING FOR THE UNIT TO OPERATE CORRECTLY.

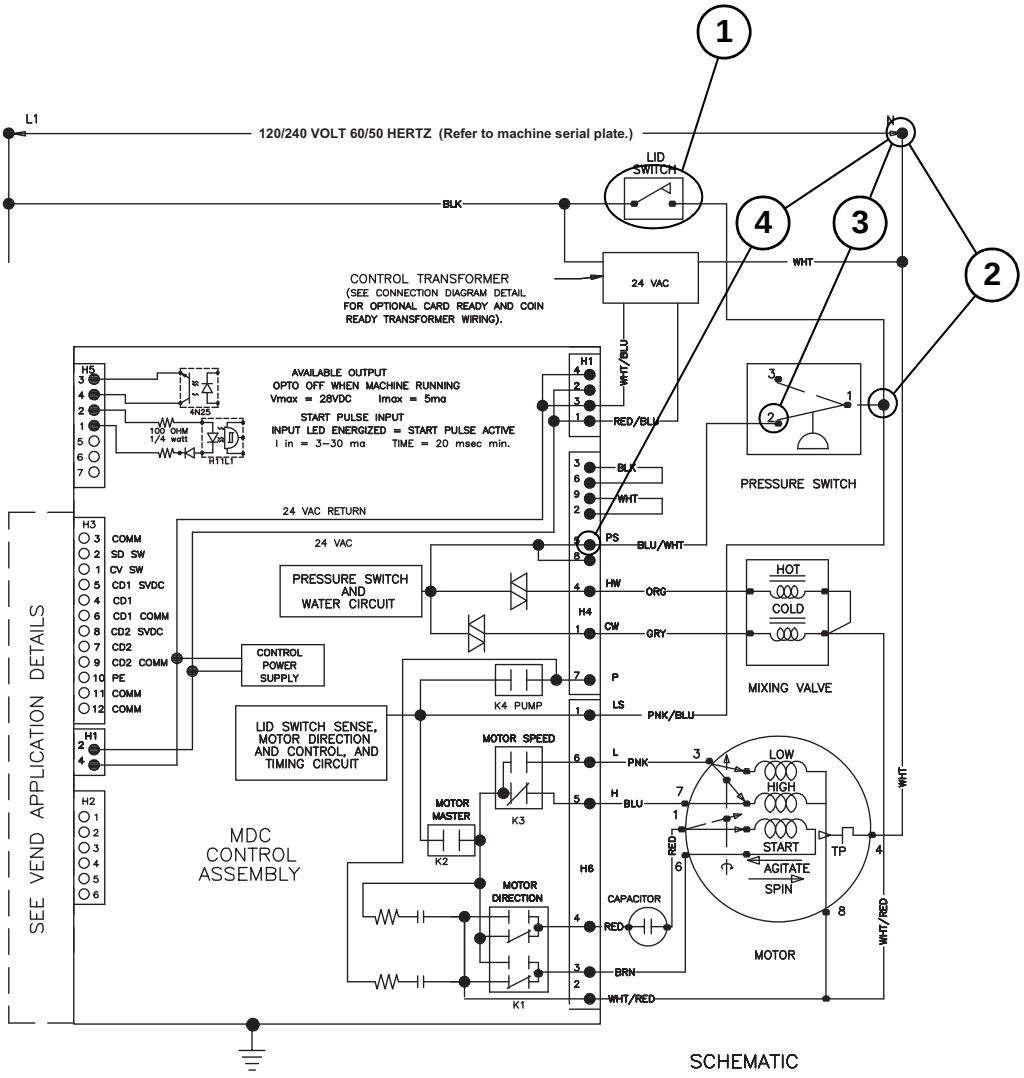
32. Washer Will Not Fill (Pressure Switch Diagnostic)



***Refer to machine serial plate for correct voltage.**

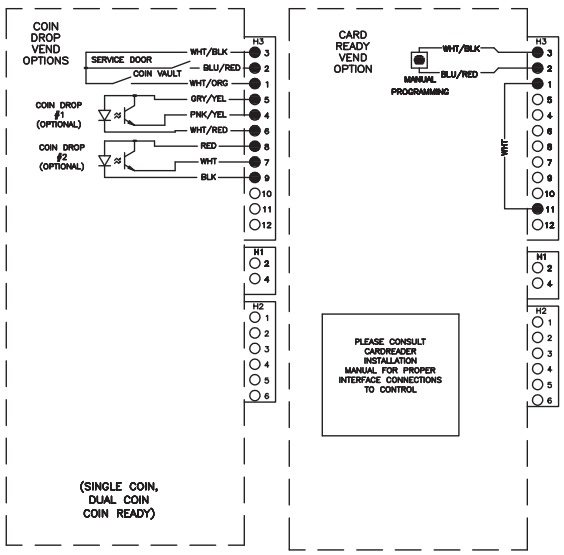
TLW303S

Washer Will Not Fill (Pressure Switch Diagnostic)

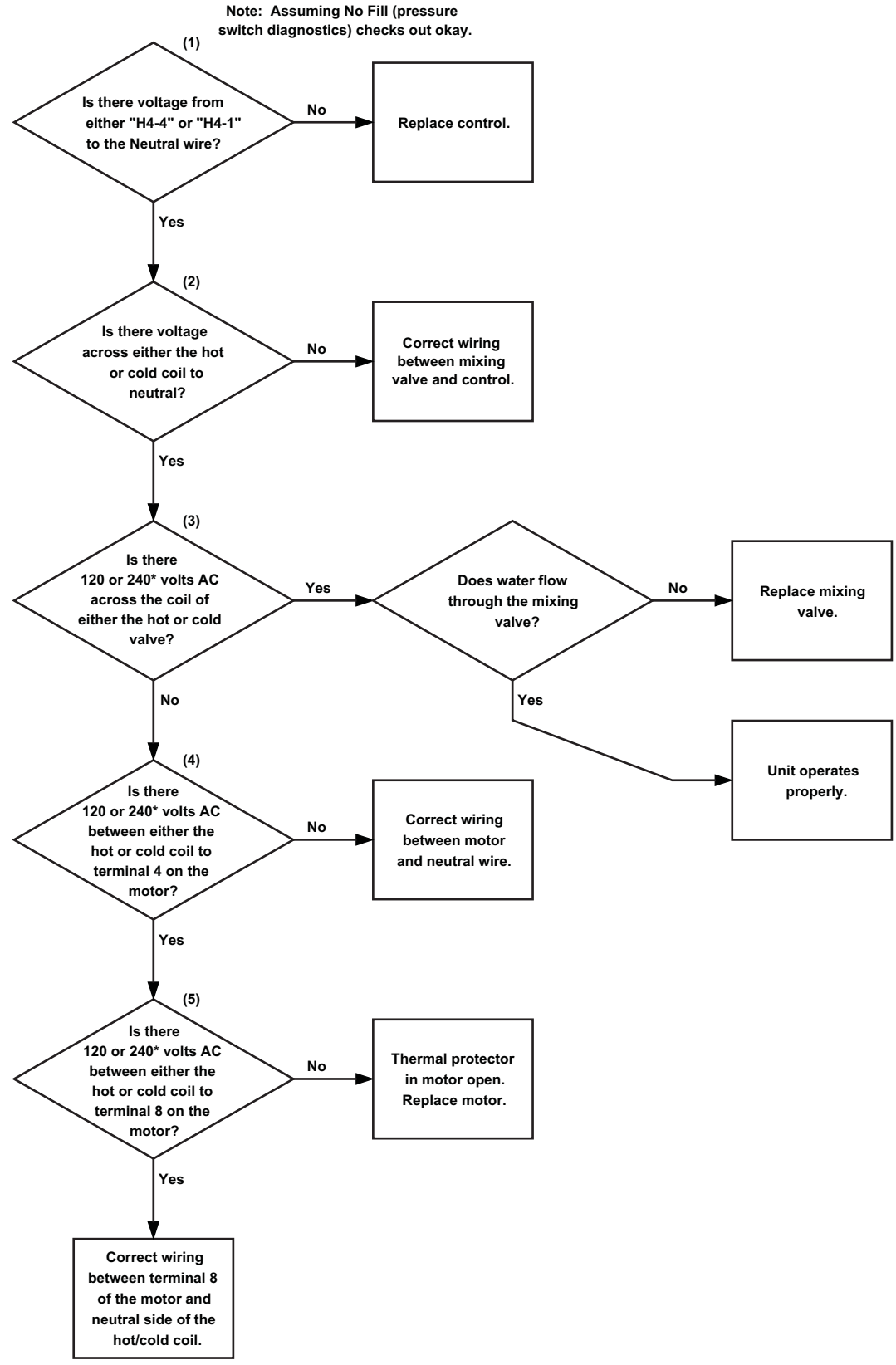


SCHEMATIC

VEND APPLICATIONS DETAILS



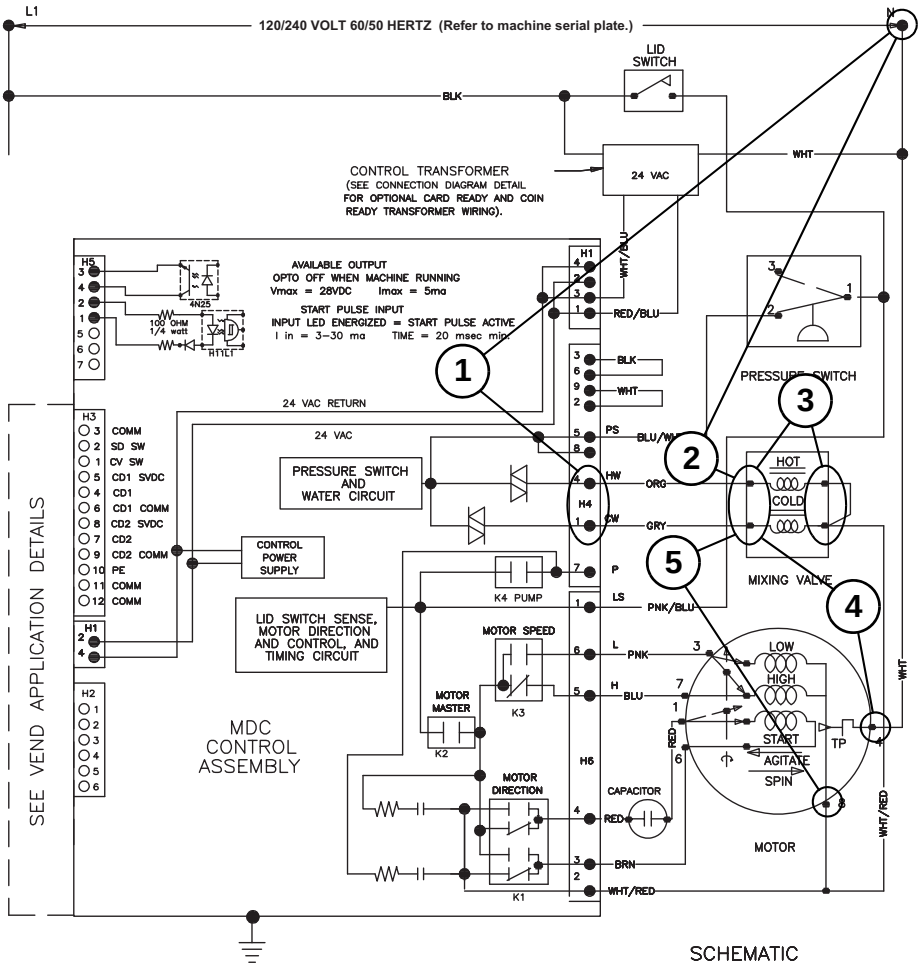
33. Washer Will Not Fill (Mixing Valve Diagnostic)



*Refer to machine serial plate for correct voltage.

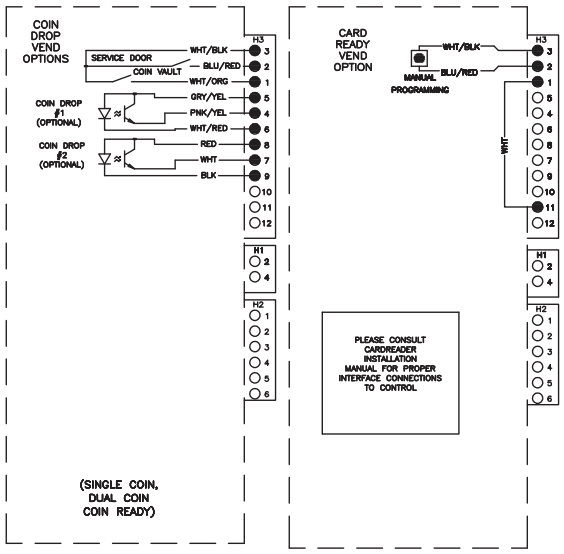
TLW304S

Washer Will Not Fill (Mixing Valve Diagnostic)



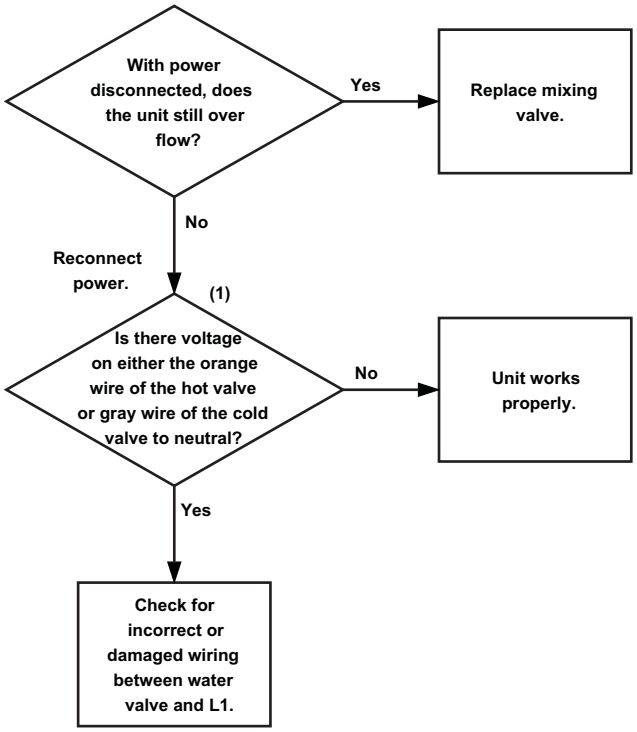
SCHEMATIC

VEND APPLICATIONS DETAILS



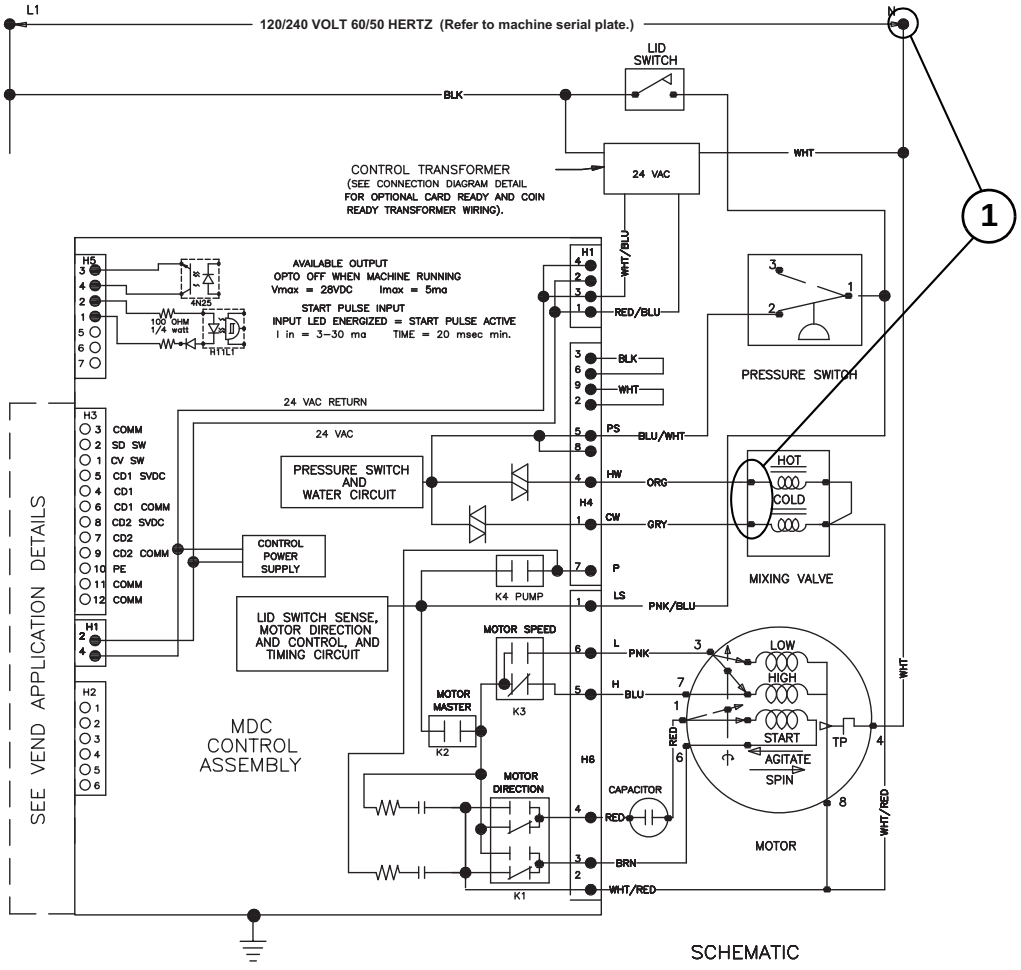
34. Washer Over Fills (Pressure Switch Open)

Washer Over Fills.



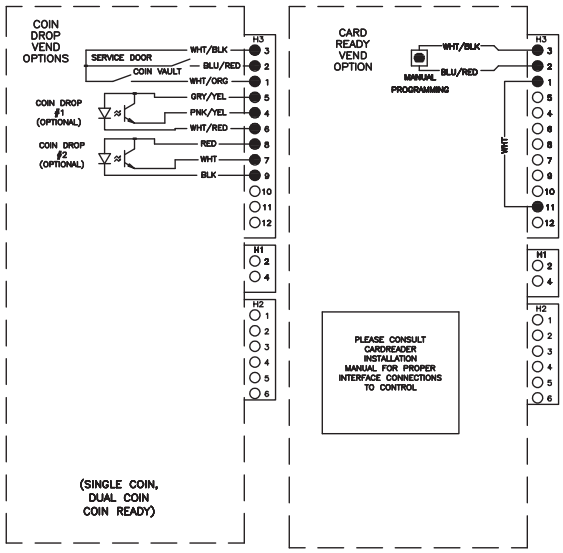
TLW287S

Washer Over Fills (Pressure Switch Open)

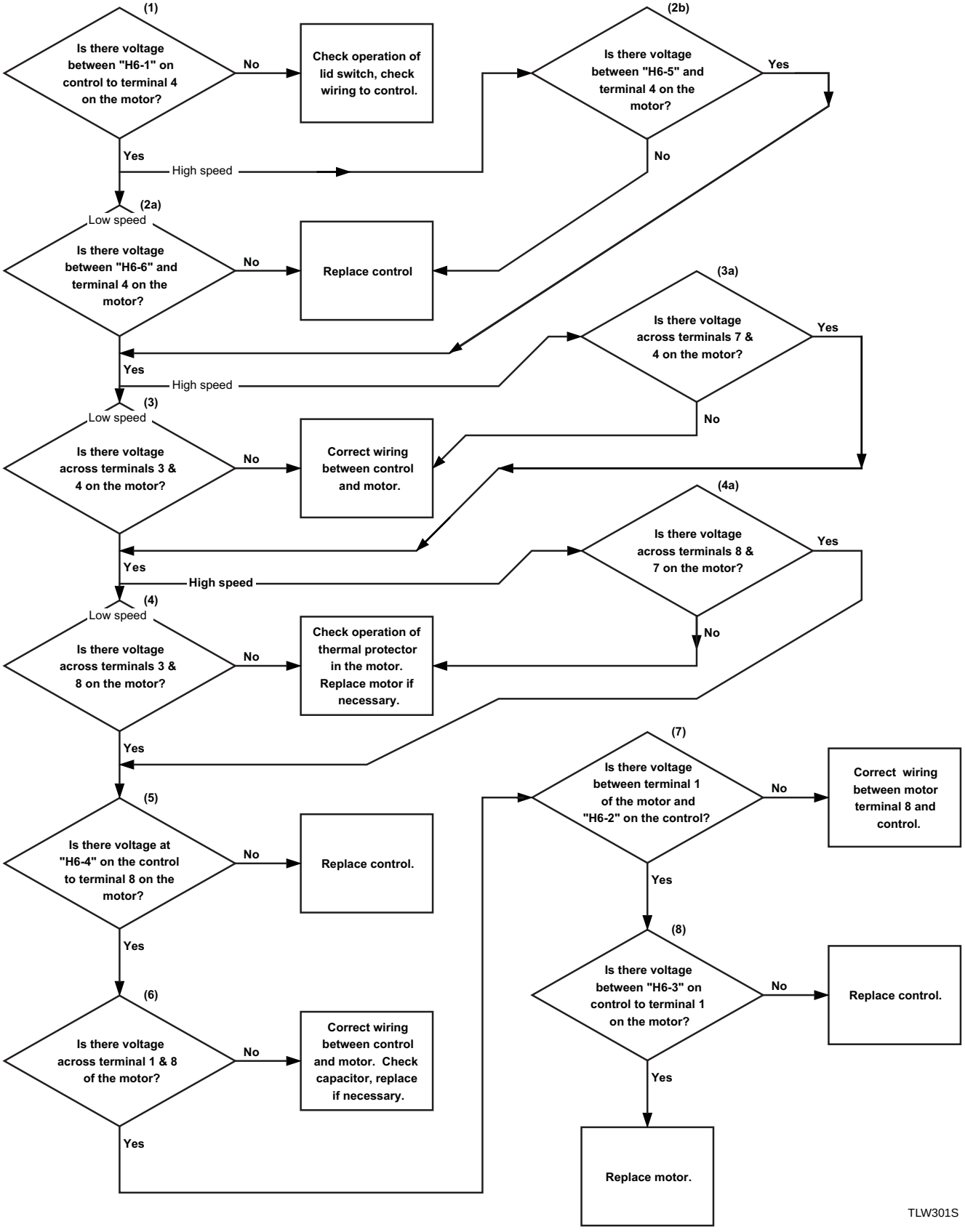


SCHEMATIC

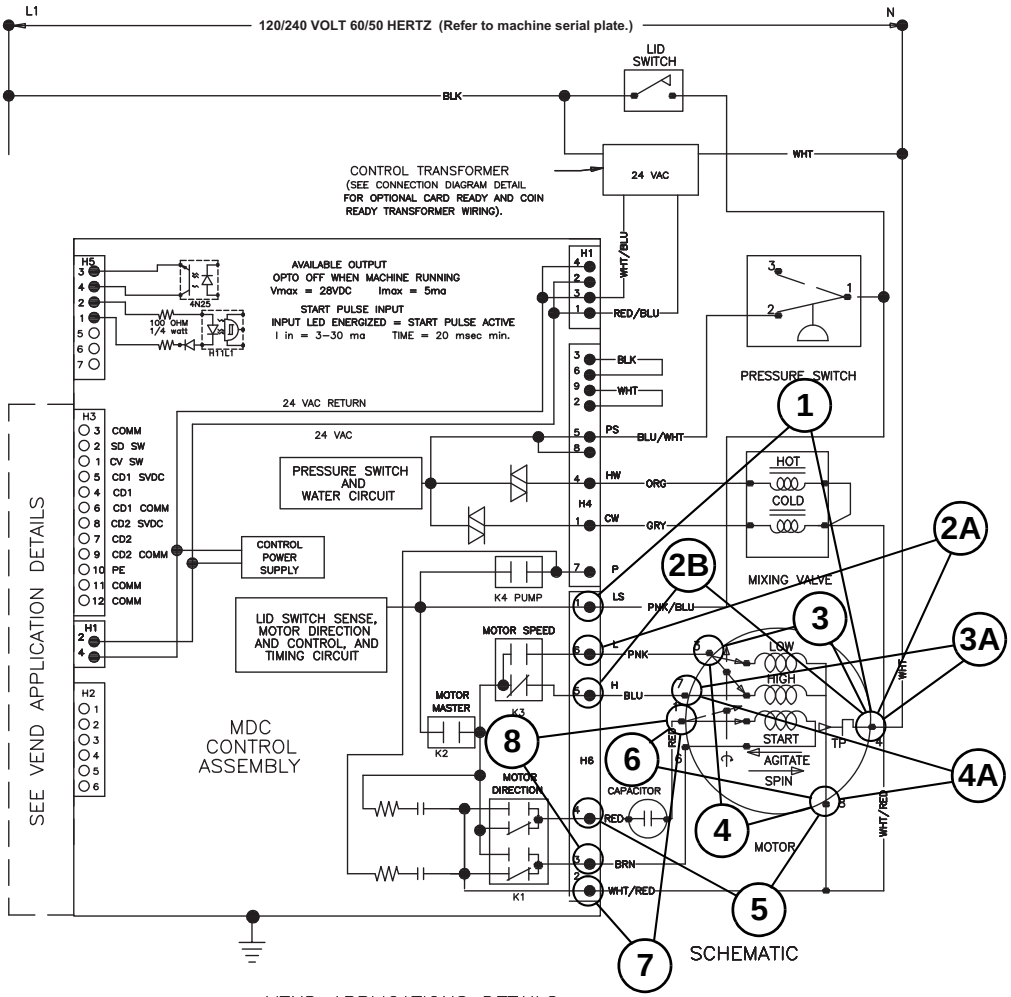
VEND APPLICATIONS DETAILS



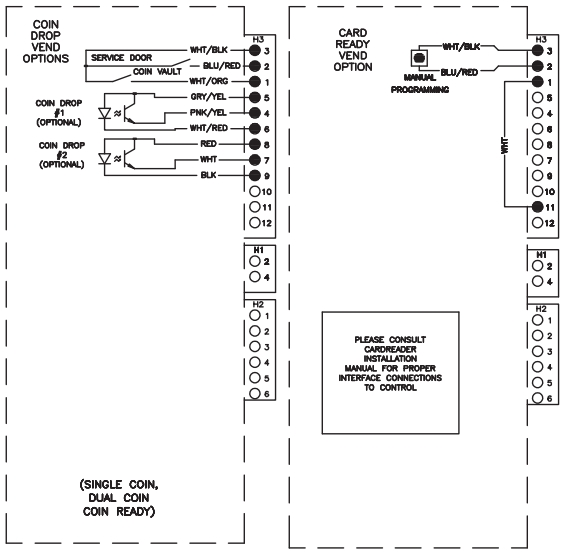
35. No Agitation – Low and High Speed



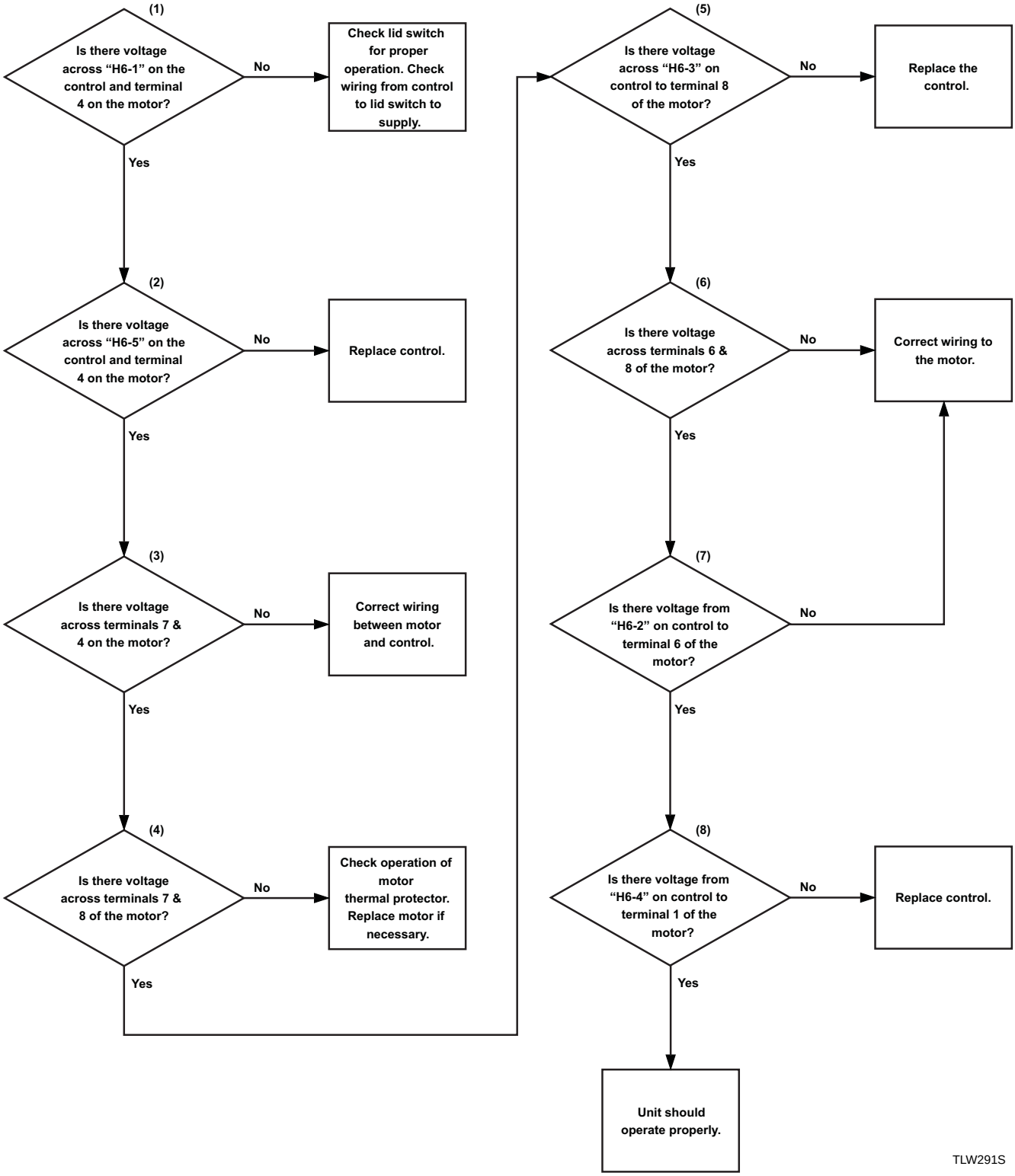
No Agitation – Low and High Speed



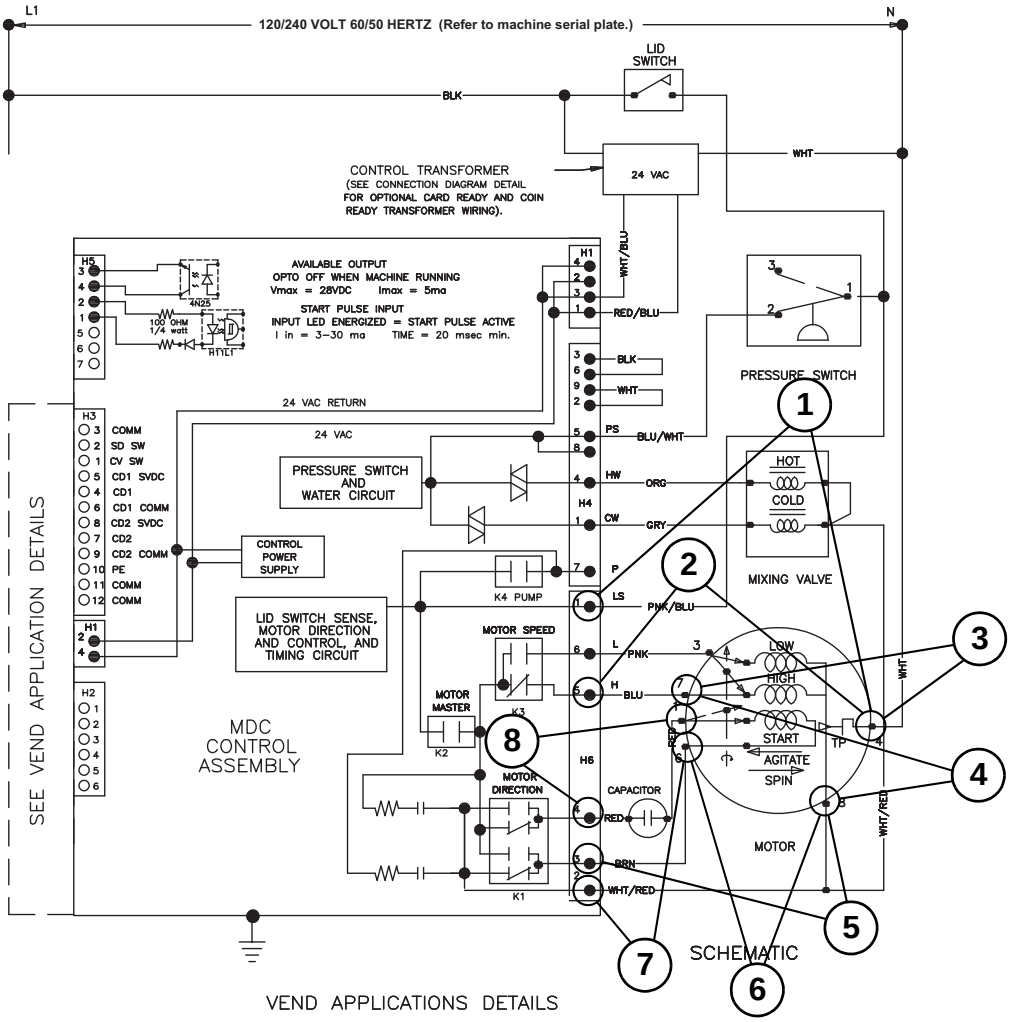
VEND APPLICATIONS DETAILS



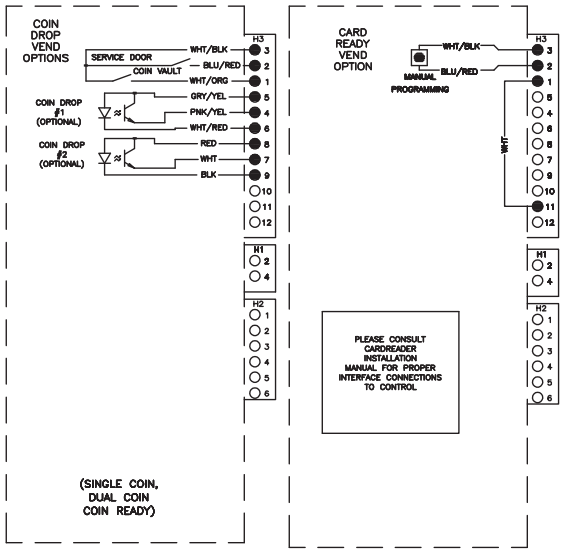
36. Washer Will Not Spin – High Speed



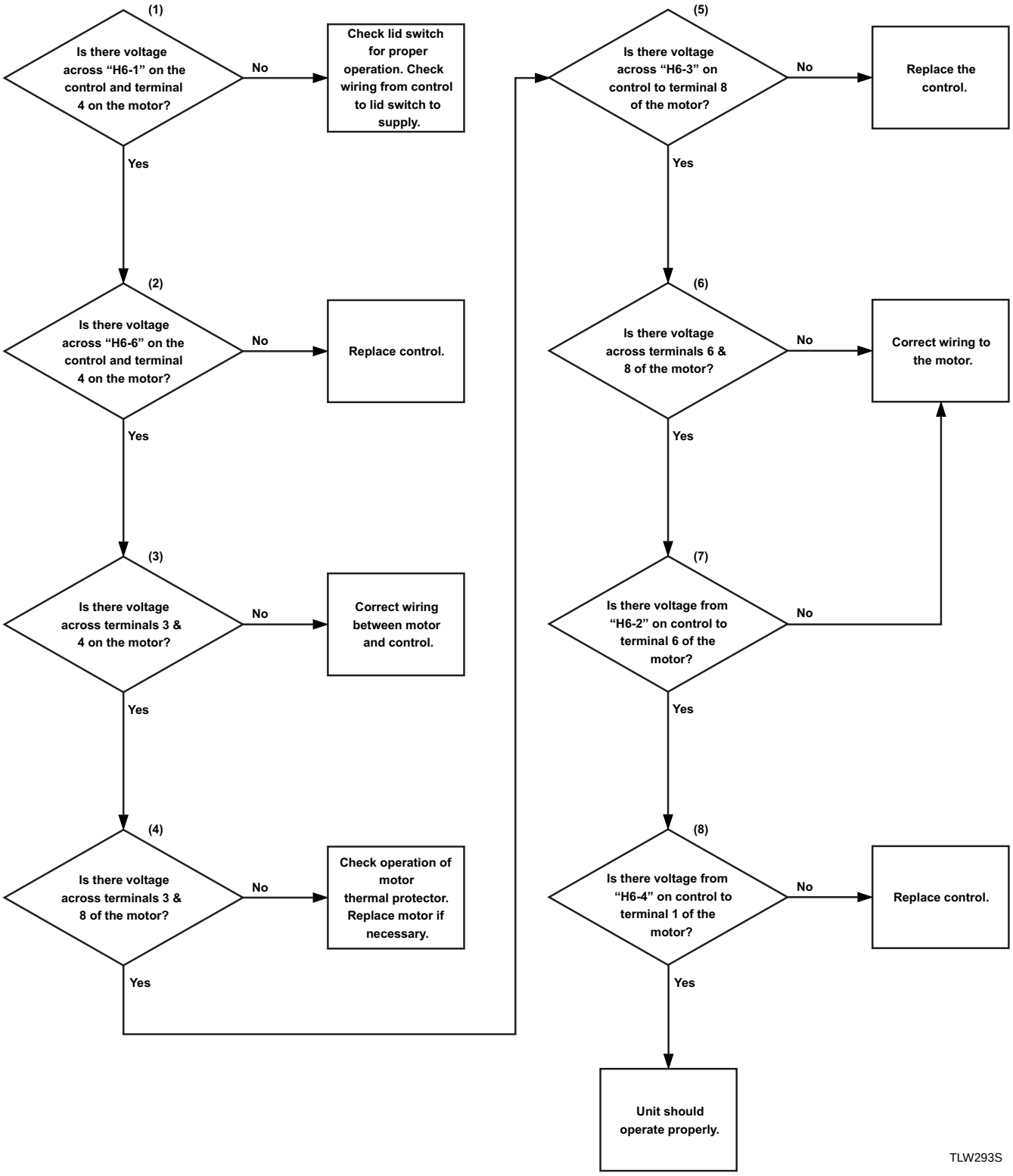
Washer Will Not Spin – High Speed



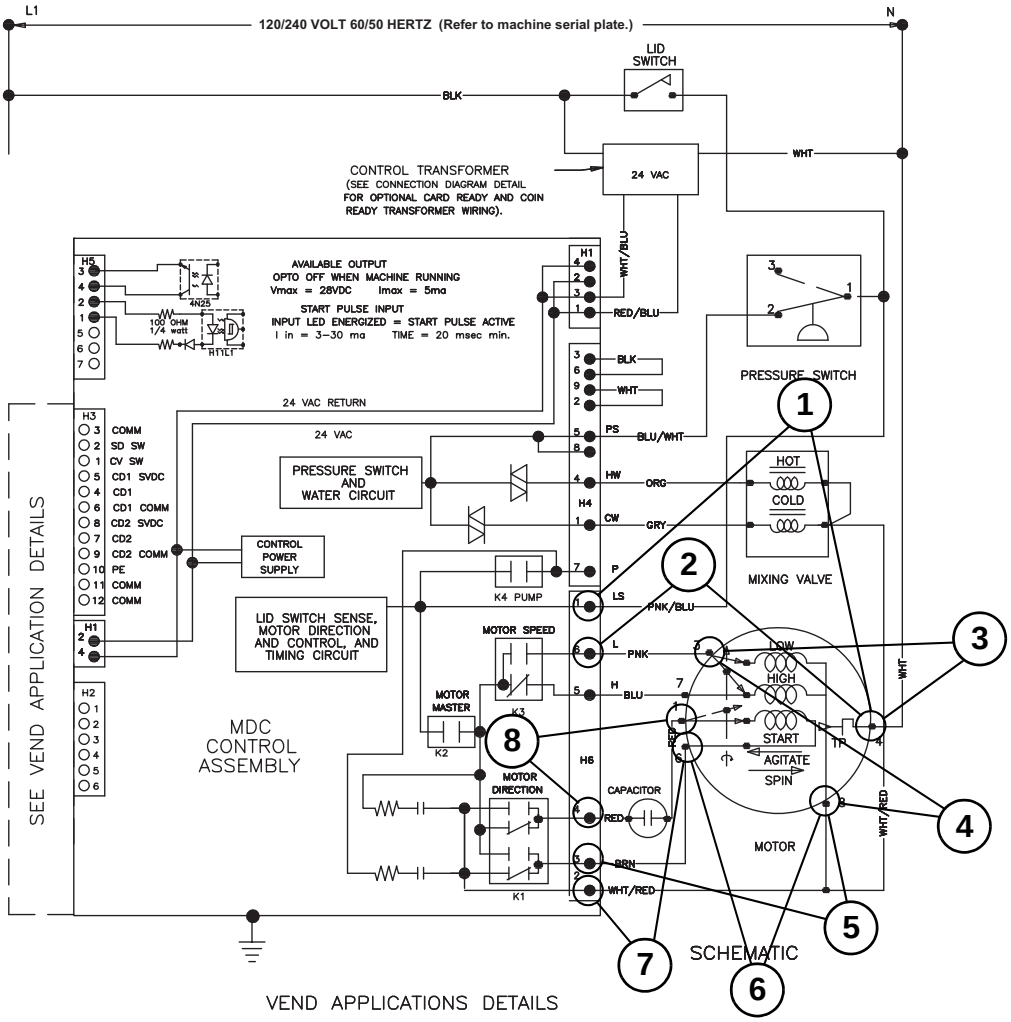
VEND APPLICATIONS DETAILS



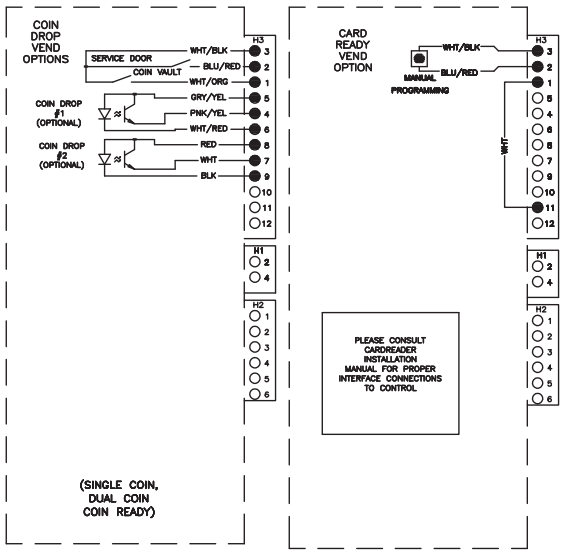
37. Washer Will Not Spin – Low Speed



Washer Will Not Spin – Low Speed



VEND APPLICATIONS DETAILS



Section 4
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

38. Leveling Legs

Refer to *Figure 2*.

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: Install rear extension leg kit, No. 566P3, (optional equipment at extra cost) to raise height of washer.

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.

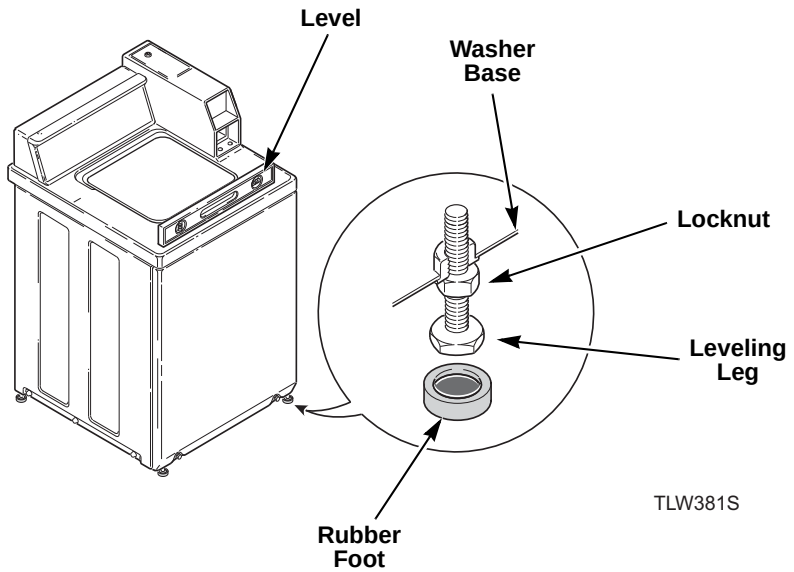


Figure 2

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

39. Pressure Switch

Refer to *Figure 3*.

Most washers are equipped with a variable water level pressure switch (located inside the control hood) which allows the owner to adjust the water fill level height in the washtub from 10, 11 or 13 inches.

IMPORTANT: Water fill heights less than 10 inches are not recommended. When average to large size clothes loads are expected, damage to the clothes and/or the washer may result.

When the washer leaves the factory, the pressure switch is set for approximately 11 inches of water.

To adjust the pressure switch, proceed as follows:

WARNING

To reduce the risk of electric shock, disconnect the electrical power to the washer before attempting to service.

W094

a. Remove the two control panel attaching screws and lift the assembly up and out of the slots in the cabinet top.
b. Lay the control panel face down (on protective padding) on top of the washer.
c. Rotate the cam on the pressure switch **clockwise to lower** the water fill height, or **counterclockwise to raise** the height. Refer to *Figure 3*.

IMPORTANT: The cam has three settings. The setting on the left raises the water level to 10 inches. Middle setting raises the water level to 11 inches. The setting on the right raises the water level to 13 inches.

d. Carefully reinstall the control panel.
e. Reconnect the electrical power to the washer.
f. Run the washer through a cycle and observe the water fill level.

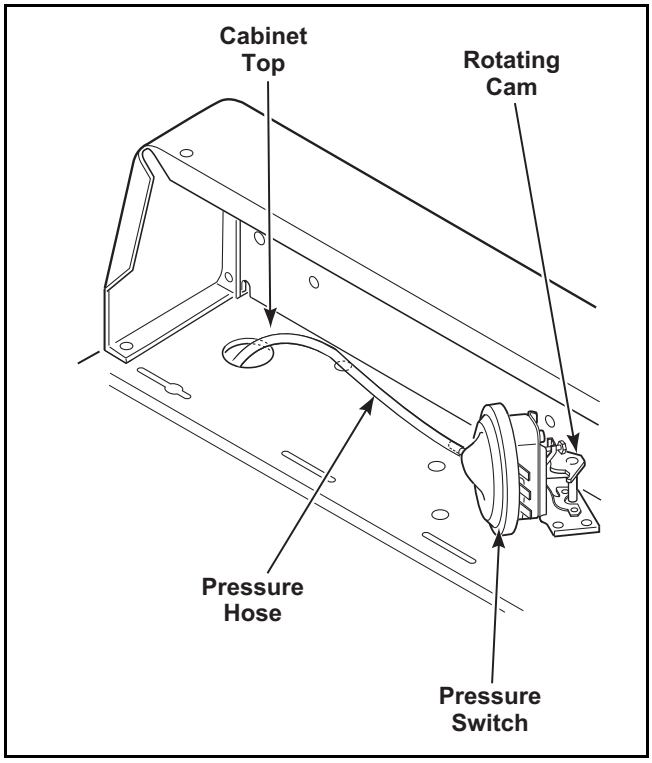


Figure 3

40. Belt (Agitate and Spin)

No belt adjustment is required.

41. Cleaning Non-Electronic Coin Drop

a. Disconnect electrical power to machine and drop.
b. Remove coin drop from machine.
c. If lint is preventing coins from rolling through coin drop, blow compressed air though coin entry and along the side of the coin drop. Refer to *Figure 4*.
d. Insert a coin through the coin drop. If coin does not roll through drop, continue with the following.

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

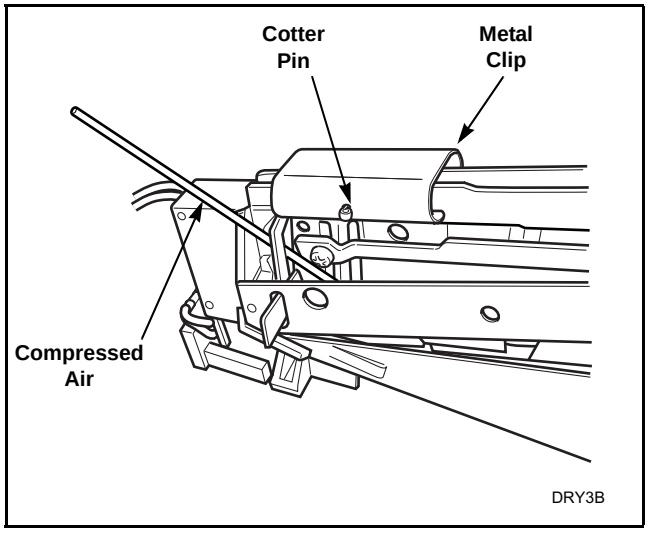


Figure 4

e. Remove cotter pin from top of drop. Refer to *Figure 4*. Save pin for reinstallation when cleaning is complete.

f. Move metal clip closer to sensor so that it comes off frame. Refer to *Figure 4*.

g. Remove coin return from coin drop frame. Refer to *Figure 5*.

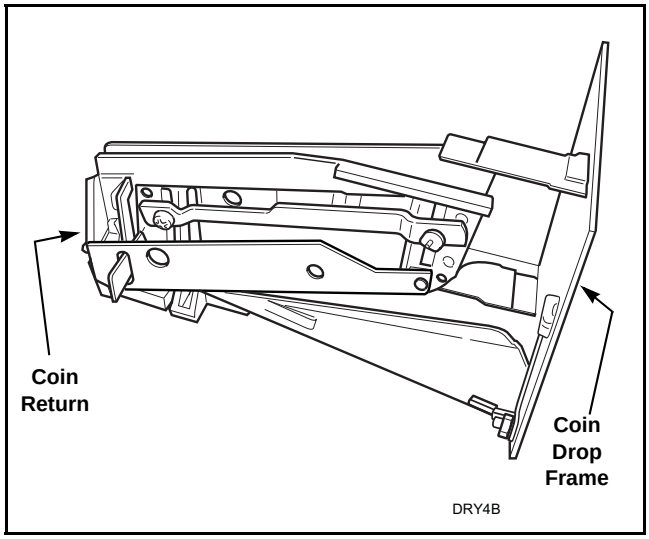


Figure 5

h. Check coin path in coin drop for lint and residue. If lint or light residues are present, use a cotton swab to remove. If heavy residue is present, it may be necessary to first scrape off excessive residue and then use a cotton swab dipped in water or isopropyl alcohol (rubbing alcohol) to remove remainder of residue. Refer to *Figure 6*.

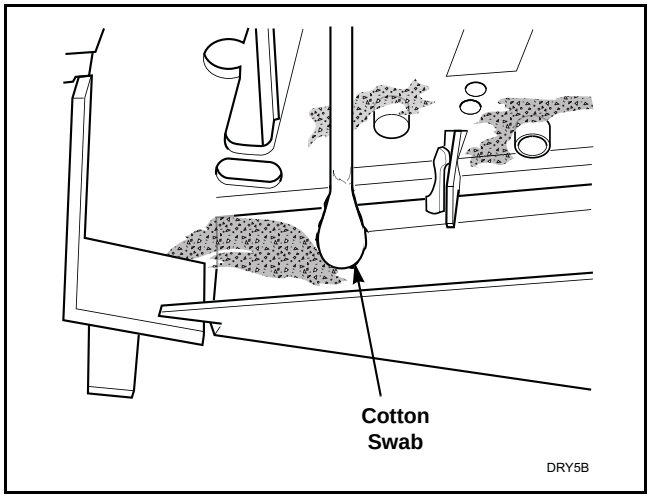


Figure 6

i. Check coin return pendulum to verify it swings freely. If pendulum does not swing freely, spray pendulum pivot point with Teflon based lubricant and move pendulum back and forth two to three times. An additional application of Teflon based lubricant may be necessary to ensure that pendulum swings freely. Refer to *Figure 7*.

j. Check coin drop sensor for dust or dirt on eyes. Wipe eyes with dry cotton swab. Refer to *Figure 8*.

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

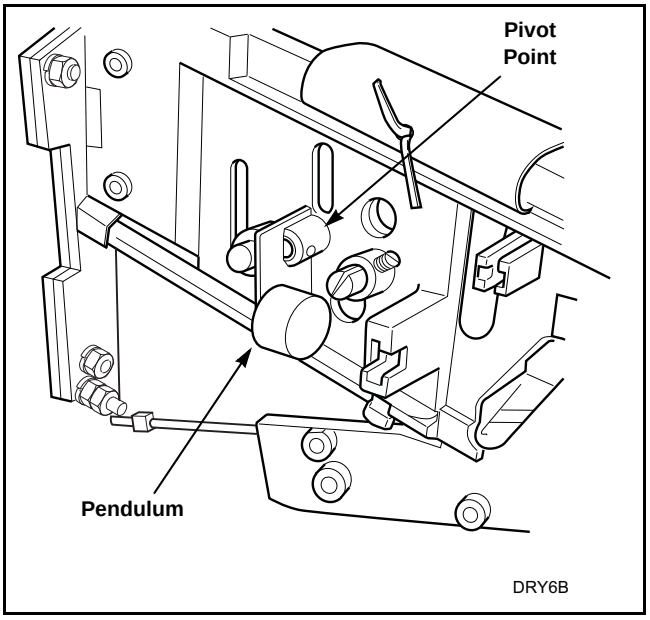


Figure 7

IMPORTANT: DO NOT use isopropyl alcohol to clean electronic sensor or eyes.

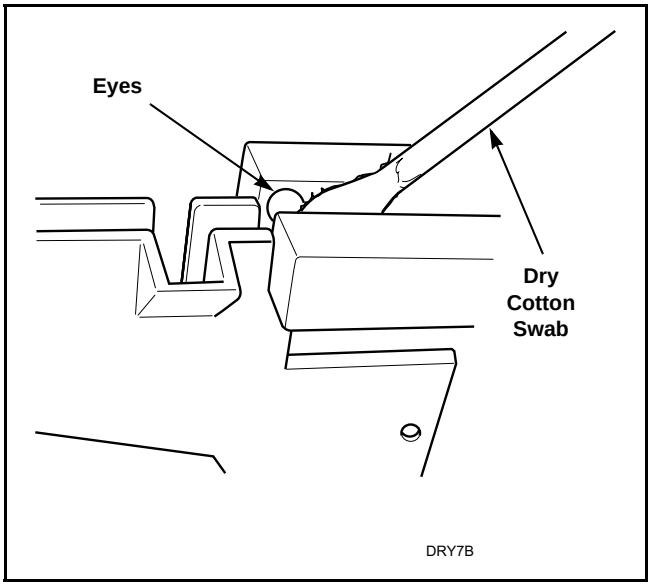


Figure 8

k. Reinstall coin return on to coin drop frame.
l. Reinstall metal clip and slide towards coin insert slot. All cotter pin holes must line up.
m. Reinstall cotter pin.
n. Place drop on level surface to verify that coins follow correct path in drop. It may be necessary to lift drop to allow coin to follow through sensor.
o. Reinstall coin drop into machine.
p. Reconnect electrical power to machine and drop.
q. Add a coin to drop to verify that coin drop is operating properly and that electrical connection is working properly.

NOTE: If coin drop does not operate properly after above steps have been completed, corrosion of metal or vandalized components within coin drop may be preventing the coin drop from functioning correctly. Replace coin drop.

42. Cleaning Electronic Coin Drop

NOTE: The electronic coin drop should be cleaned once a year. Clean the drop more often if it is exposed to high levels of residue or lint build-up.

a. Disconnect electrical power to machine and drop.
b. Remove coin drop from machine.
c. Open cover of coin drop. Refer to *Figure 9*.

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: Do not overbend the spring by opening cover too far.

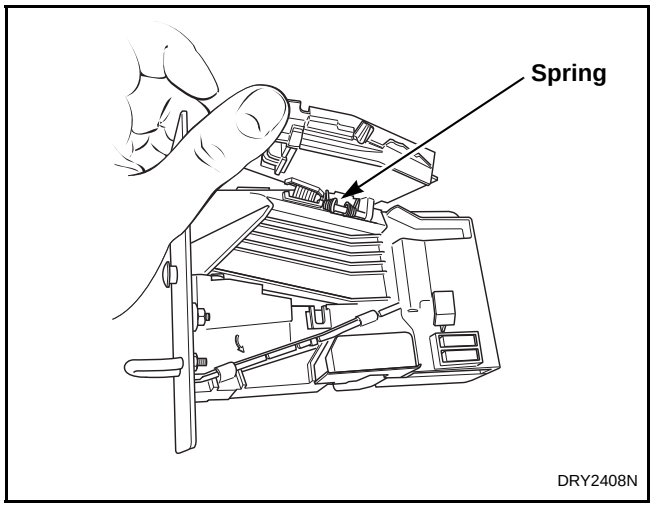


Figure 9

d. Clean the coin path with a soft brush and wipe exposed surfaces with an alcohol moistened cloth. Refer to *Figure 10*.

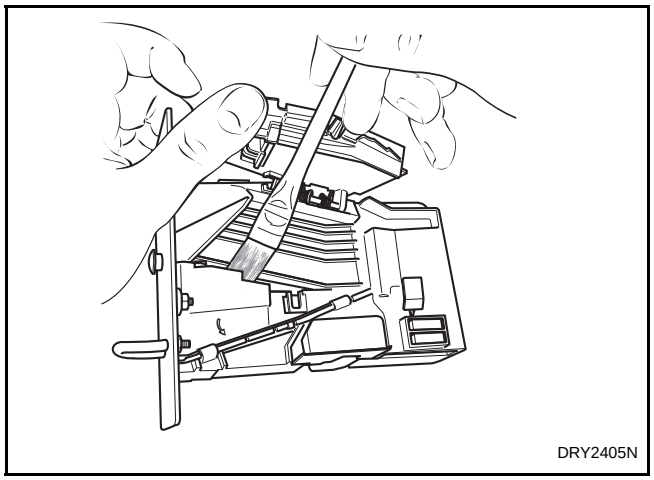


Figure 10

e. Clean residue from coin rail with an alcohol moistened cloth. Refer to *Figure 11*.

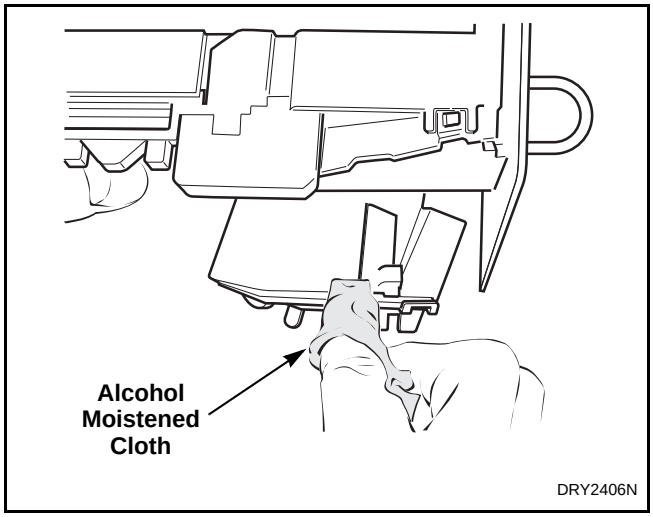


Figure 11

f. Clean light sensors with a soft brush or air spray duster. Refer to *Figure 12*.

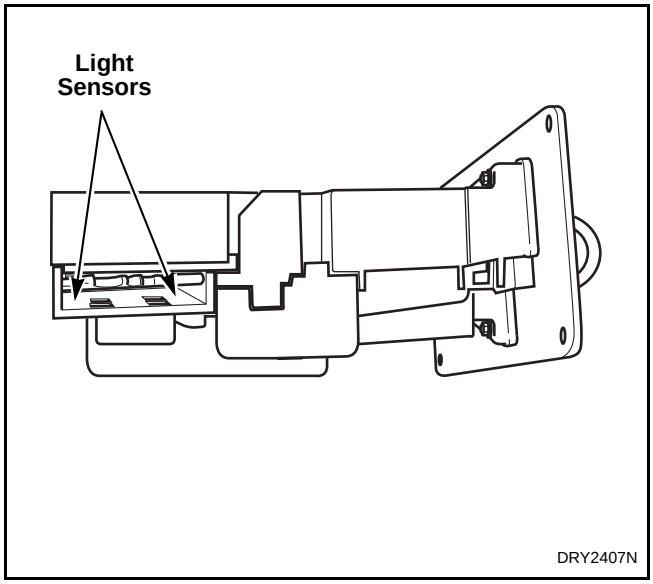


Figure 12

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

g. Close cover for coin drop.
h. Reinstall coin drop into machine.
i. Reconnect electrical power to machine and drop.
j. Add a coin to drop to verify that coin drop is operating properly and that electrical connection is working properly.

Section 5
Motor Test Procedure

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: 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 open; 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 Violet (2-speed motor)	Closed	Open low (6 pole) winding run switch.

Section 6
Cycle Sequence Charts

FUNCTION		LIGHTS: IN USE	LIGHTS: RINSE	LIGHTS: SPIN	WATER TEMP.	CYCLE & MOTOR SPEED *	TIME (Minutes and Seconds): LONG CYCLE (Energy Saving)	TIME: LONG CYCLE (Normal)	TIME: SHORT CYCLE (Energy Saving)	TIME: SHORT CYCLE (Normal)
WASH	FILL	X			H, W, C		4:00	4:00	4:00	4:00
WASH	AGITATE	X				N = HIGH PP = HIGH D = LOW	N = 10:00 PP = 9:00 D = 8:00	N = 11:00 PP = 10:00 D = 9:00	N = 5:00 PP = 4:00 D = 3:00	N = 6:00 PP = 5:00 D = 4:00
PAUSE		X					:10	:10	:10	:10
SPIN	SPIN	X				HIGH	3:00	3:00	3:00	3:00
SPIN	SPIN AND SPRAY	X			C	HIGH	:30	:30	:30	:30
SPIN	SPIN	X				HIGH	:45	:45	:45	:45
RINSE	SPIN AND SPRAY	X	X			HIGH	1:52	1:52	1:52	1:52
SPIN	SPIN	X		X		HIGH	1:50	1:50	1:50	1:50
SPIN	FINAL SPIN	X		X		HIGH	7:00	7:00	5:00	5:00
						TOTAL	N = 29:07 PP = 28:07 D = 27:07	N = 30:07 PP = 29:07 D = 28:07	N = 22:07 PP = 21:07 D = 20:07	N = 23:07 PP = 22:07 D = 21:07

*On single speed models, all speeds are high.

KEY:

H = HOT
W = WARM
C = COLD
N = NORMAL CYCLE
PP = PERMANENT PRESS CYCLE
D = DELICATE CYCLE
X = INDICATOR LIGHT GLOWS

Cycle Sequence For Coin Slide Operated and Non-Metered Models

		LIGHTS					TIME (Minutes and Seconds)	
FUNCTION		WASH	RINSE	SPIN	WATER TEMP.	CYCLE & MOTOR SPEED	LONG CYCLE	SHORT CYCLE
WASH	FILL	X			W		4:00	4:00
WASH	AGITATE	X				NH, NW, PP = HIGH D = LOW	NH, NW = 10:00 PP = 9:00 D = 8:00	NH, NW = 5:00 PP = 4:00 D = 3:00
PAUSE		X					:10	:10
SPIN	SPIN	X		X		HIGH	3:00	3:00
SPIN	SPIN AND SPRAY	X		X	C	HIGH	:30	:30
SPIN	SPIN	X		X		HIGH	:45	:45
RINSE	SPIN AND SPRAY		X	X	C	HIGH	1:52	1:52
RINSE	SPIN		X	X		HIGH	1:50	1:50
SPIN	FINAL SPIN			X		HIGH	7:00	5:00
						TOTAL	NH, NW = 29:07 PP = 28:07 D = 27:07	NH, NW = 22:07 PP = 21:07 D = 20:07

KEY:

H = HOT
W = WARM
C = COLD
NH = NORMAL HOT (HEAVY) CYCLE
NW = NORMAL WARM (NORMAL) CYCLE
PP = PERMANENT PRESS CYCLE
D = DELICATE CYCLE
X = INDICATOR LIGHT IS LIT

Cycle Sequence For MDC