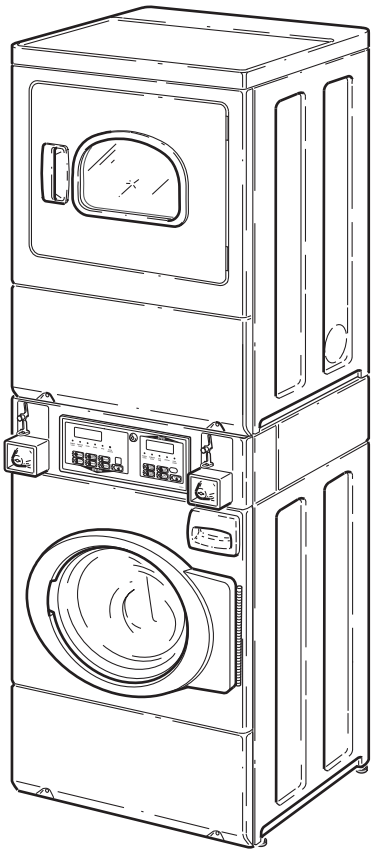
Commercial Stacked Washer/ Dryers

Refer to Page 6 for Model Numbers



SWD447C

Troubleshooting

Alliance Laundry Systems

www.comlaundry.com

Part No. 802748R3
June 2011

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 machine 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 machine or attempt any servicing unless specifically recommended or published in this Service Manual and that you understand and have the skills to carry out.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded and to reduce the risk of fire, electric shock, serious injury, or death.**

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WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

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 machine, 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.

W286

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 machine.

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.

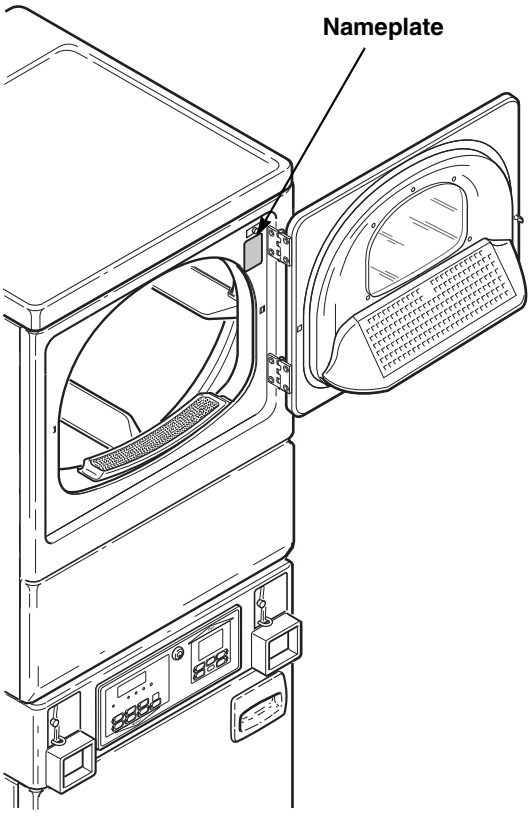
For technical assistance, call either of the numbers listed below:

(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.



SWD1165P

Model Identification

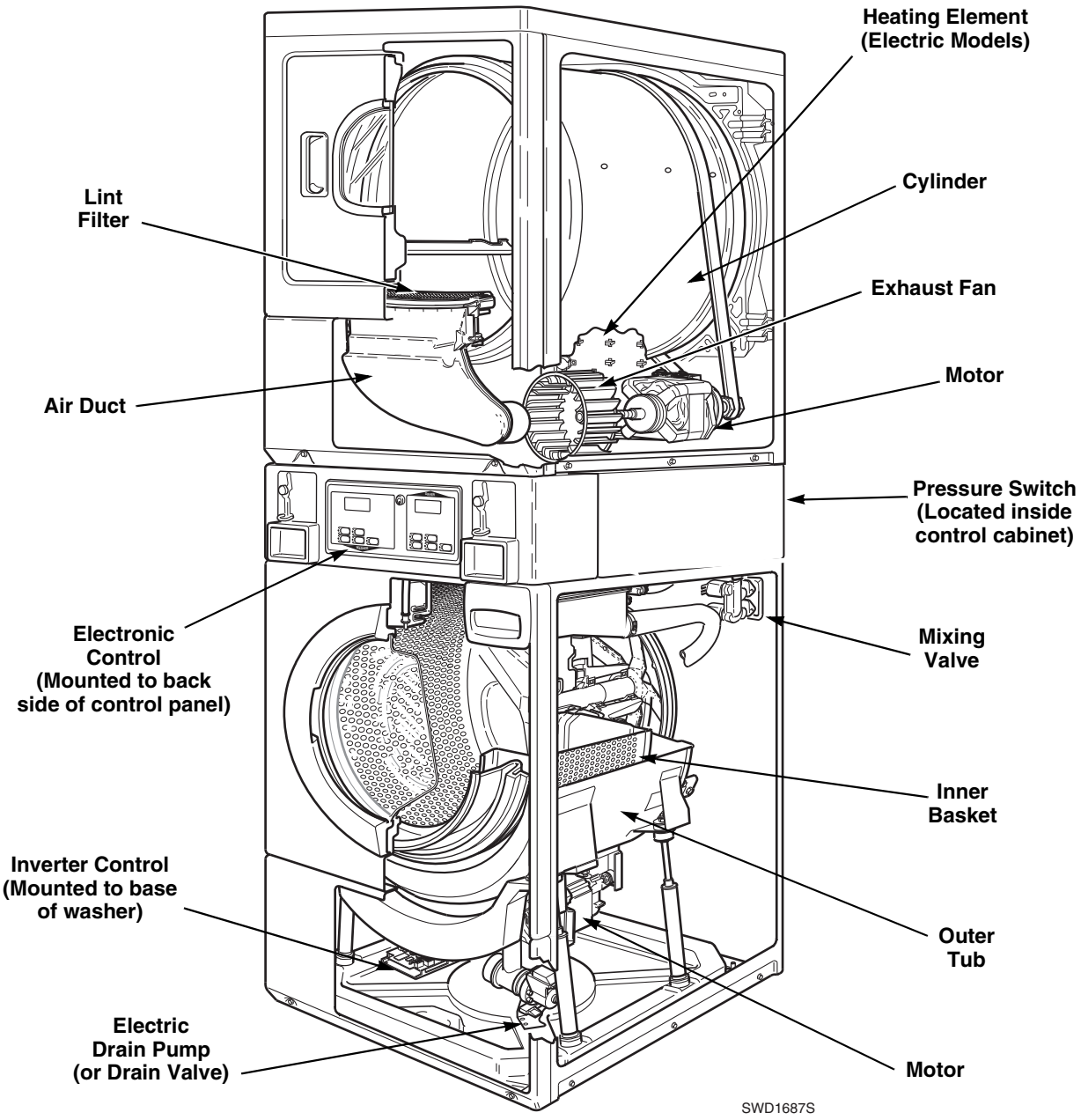
Information in this manual is applicable to these washers.

Model Number	MDC	NetMaster	Heat
BTEBCFSP171TW01	X		Electric
BTEBEFSP171TW01	X		Electric
BTEBEFSP281CW01	X		Electric
BTEBLFSP431AW01	X		Electric
BTEL75*N4065	X		Electric
BTEL77*N4065	X		Electric
BTEX75*N4065	X		Electric
BTEX77*N1727	X		Electric
BTEX77*N4065	X		Electric
BTEX77*N4350	X		Electric
BTGBCFSP111TW01	X		Gas
BTGBEFSP091CW01	X		Gas
BTGBEFSP111TW01	X		Gas
BTGBLFSP301AW01	X		Gas
BTGX79*N1127	X		Gas
BTGX79*N3060	X		Gas
HTEB77*N2802		X	Electric
HTET77*N	X		Electric
HTET77*N2802	X		Electric
HTEX77*N2802	X		Electric
HTEX77*N2902	X		Electric
HTEY77*N	X		Electric
HTEY77*N2802	X		Electric
HTGB79*N0902		X	Gas
HTGT79*N	X		Gas
HTGT79*N0902	X		Gas
HTGX79*N0902	X		Gas
HTGY79*N	X		Gas
HTGY79*N0902	X		Gas
NTEL77*N4064	X		Electric
NTEX77*N3000	X		Electric
NTEX77*N4064	X		Electric
NTEX77*N4067	X		Electric
NTEX77*N5400	X		Electric
NTGL79*N4067	X		Gas
NTGX79*N3000	X		Gas
NTGX79*N4067	X		Gas
STEA77*N		X	Electric

Model Number	MDC	NetMaster	Heat
STEA77*N3069		X	Electric
STEB77*N		X	Electric
STEBXFSP301NW22	X		Electric
STEF77*N		X	Electric
STEF77*N4350		X	Electric
STET77*N	X		Electric
STEX77*N	X		Electric
STEX77*N2827	X		Electric
STEX77*N3000	X		Electric
STEX77*N4064	X		Electric
STEX77*N4350	X		Electric
STEX77*N5400	X		Electric
STEX77*N5754	X		Electric
STEY77*N	X		Electric
STEY77*N4064	X		Electric
STEY77*N5754	X		Electric
STGA73*N		X	Gas
STGA79*N		X	Gas
STGB79*N		X	Gas
STGBXFSP301NW22	X		Gas
STGF79*N		X	Gas
STGT79*N	X		Gas
STGX73*N	X		Gas
STGX79*N	X		Gas
STGX79*N3000	X		Gas
STGX79*N3060	X		Gas
STGY79*N	X		Gas

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

Theory of Operation



General (Dryer)

The dryer uses heated air to dry loads of laundry. When the motor is started, the exhaust fan pulls fresh air in through louvers at the rear of the dryer and over the heat source (burner flame for gas and heating element for electric). The heated air moves through the heater duct and into the cylinder, where it circulates through the wet load. The air then passes through the lint filter, air duct and exhaust fan, where it is vented to the outdoors.

General (Washer)

This frontload washer provides some of the same principles of operation as the typical topload washers. It senses water level, it dispenses the desired laundry detergent, agitates the clothes for good cleaning action, removes the water out of the washer and spins the clothing in preparation for the dryer.

The difference in operation is primarily the rotational washing agitation created for the horizontal basket and drum. This agitation tumbles the clothes in a clockwise, pause, and counter-clockwise direction.

This reversing tumbling action provides an efficient washing process and requires less laundry detergent and less water.

The cycle begins by locking the loading door after the vend is satisfied. The type of cycle and water temperature are determined by the appropriate pads on the electronic control.

The inner basket starts agitating during the wash water fill. A column of air is trapped in a pressure bulb and hose. The air pressure continues to increase as the inner basket fills with water until it is great enough to activate the pressure switch, which then causes the wash fill to stop.

The agitate cycle tumbles the clothing in a clockwise direction for a period of 15 seconds, pauses for nine seconds and then tumbles the clothing in a counterclockwise direction for 15 seconds. This agitation continues until the wash cycle. The machine stops agitating and turns on the pump or drain valve which removes the wash water.

Upon completion of the wash cycle, the machine goes into a rinse cycle. Fresh cold water is brought into the inner basket via the mixing valve until the pressure switch shuts off the water while agitating. The rinse cycle consists of agitation for a predetermined amount of time then a spin mode with the pump running where the machine goes into a series of 4 short 500 RPM spins. Two of these rinse cycles will normally take place with a third extra rinse cycle being optional. After all the rinse cycles have been completed, the washer goes into a final high spin cycle to extract as much water as possible from the clothing to prepare them for the dryer. The spin speeds and duration of this final high spin cycle are determined by the type of wash cycle selected (refer to *Table 1* or *Table 2*).

NOTE: Washer may not reach 1000 RPM because of an out-of-balance condition. Control may limit speed to 850, 650 or 500 RPM depending on severity of out-of-balance condition.

Models Through Serial No. 0911014602

	Regular	Perm Press	Delicate
650 RPM	3 minutes	4 minutes	4 minutes
1000 RPM	3 minutes	2 minutes	0 minutes

Table 1

Models Starting Serial No. 0911014603

	Regular	Perm Press	Delicate
500 RPM	0 minutes	0 minutes	4 minutes
650 RPM	3 minutes	6 minutes	0 minutes
1000 RPM	3 minutes	0 minutes	0 minutes

Table 2

Technical (Washer)

The basic operational system of this washer consists of the electronic control, the inverter control, pressure switch, water valves, electric pump (or drain valve) and A.C. motor.

The electronic control performs all control and timing functions like the timer in a topload washer. The electronic control sends simple speed and output commands to the inverter control via serial communication. The electronic control powers the door lock, pump (or drain valve) and the inverter control.

The inverter control powers the A.C. motor and performs all motor control functions. The inverter control also powers the water and dispenser valves and passes the pressure switch status to the electronic control. The inverter control is powered through the door switch, door lock switch and electronic control. The inverter control also alerts the electronic control to any errors in the motor.

The inverter control uses a speed sensor on the motor to measure the drum RPM. Before entering any spin step the inverter control measures the RPM of the drum to sense out-of-balance. The inverter control will try to redistribute the clothes if an out-of-balance condition exists. The inverter control will limit the spin speed to several speeds depending on the severity of the out-of-balance condition. If the out-of-balance condition is severe enough the inverter control will limit speed to 90 RPM and will not spin.

NOTE: An additional out-of-balance switch is used to detect any out-of-balance condition during spins. If this switch opens during a spin step, the inverter control immediately stops and then restarts the spin.

Section 3
General Troubleshooting

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

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1. 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 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.

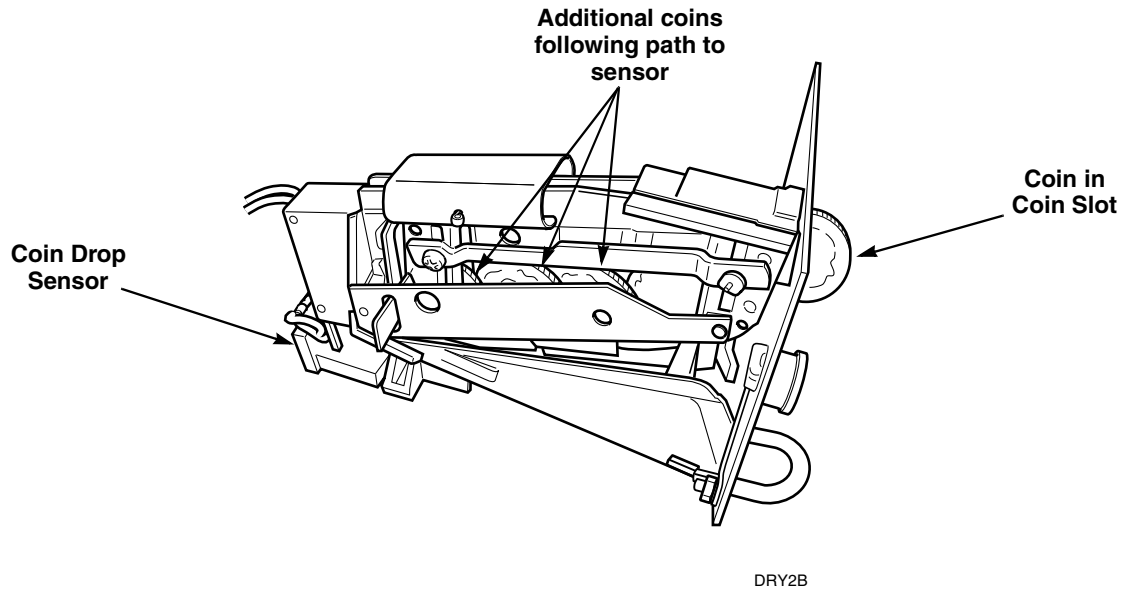


Figure 1

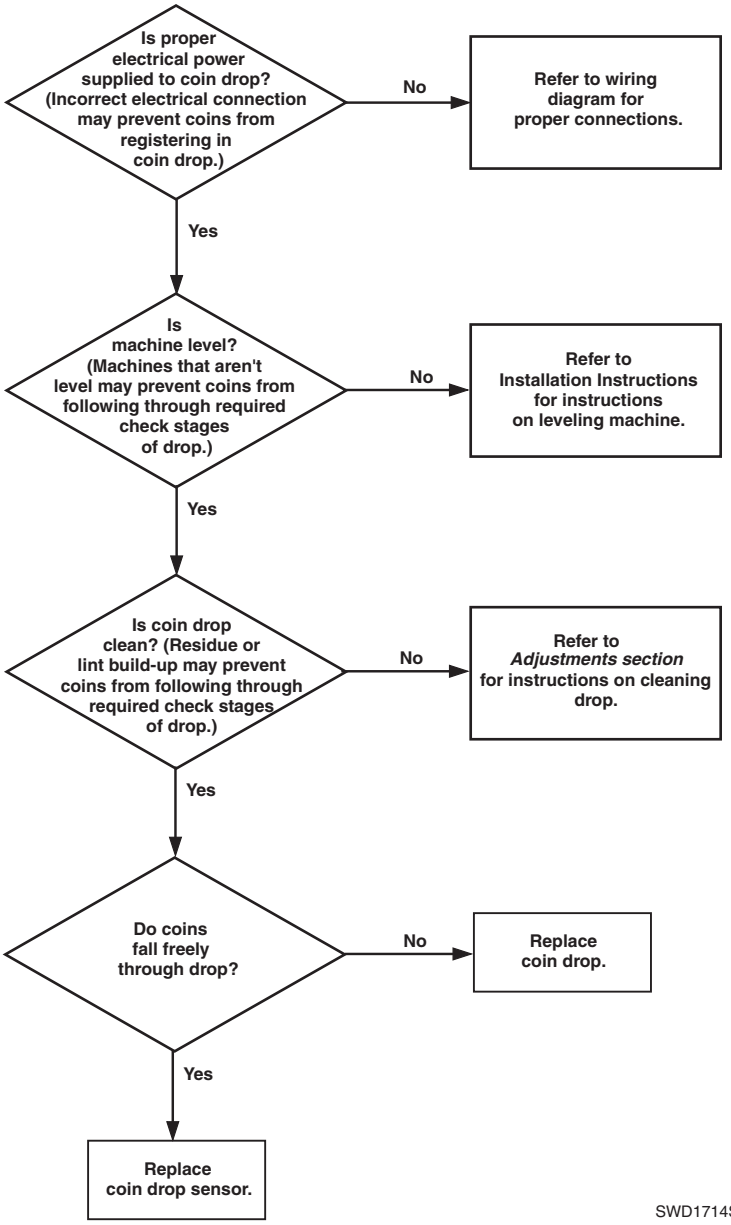
WARNING

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

- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

Troubleshooting Coin Drop



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WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
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- **Never start machine with any guards/panels removed.**
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- **Washer motor not grounded! Disconnect electric power before servicing motor.**

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b. Electronic Coin Drops:

If coin drop is not accepting coins, perform the following:

(1) Clean coin drop. Refer to *Paragraph 55.*

(2) On electronic coin drops with an old-style tension spring (shown in *Figure 2* and *Figure 4*), test and replace tension spring using the following instructions.

Remove Coin Drop From Machine

(1) Disconnect electrical power to machine and drop.

(2) Remove coin drop from machine.

Test Tension Spring

(1) Push coin return button to open and close coin drop cover to clear possible coin jams. Refer to *Figure 2*.

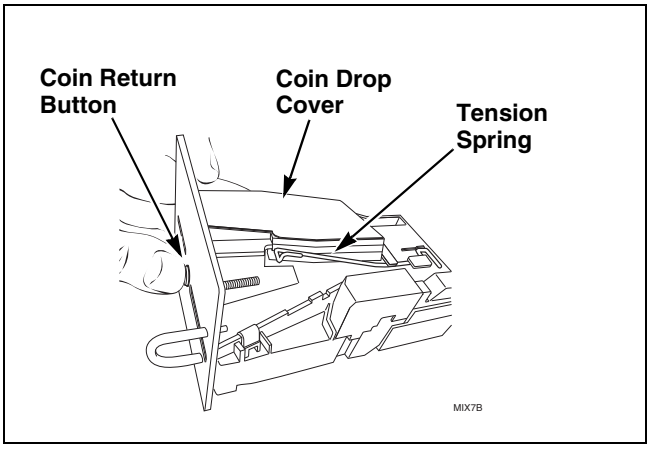

Figure 2

(2) Manually hold down coin drop cover and insert coin. Refer to *Figure 3*.

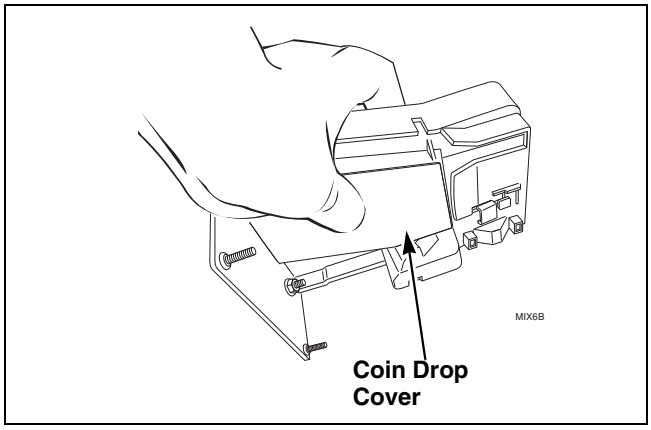

Figure 3

(3) If coin drop now operates properly, replace tension spring using instructions on following pages.

Replace Tension Spring

(1) Move tension spring downward until cover catch is free. Refer to *Figure 4*.

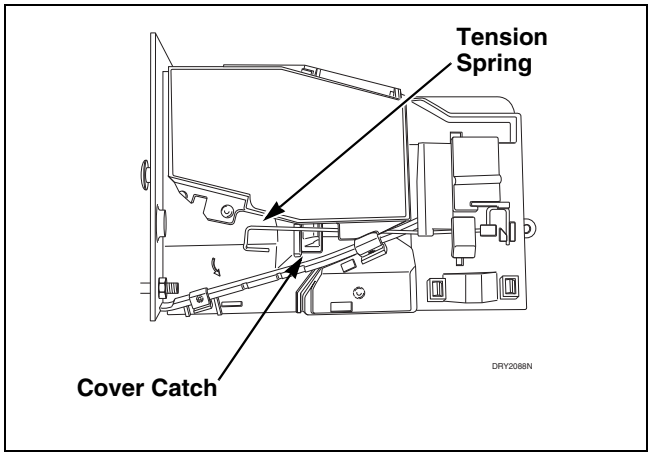

Figure 4

(2) Open cover for coin drop.

WARNING

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- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

(3) Place a small flathead screwdriver under right side of tension spring and lift up. Refer to *Figure 5*.

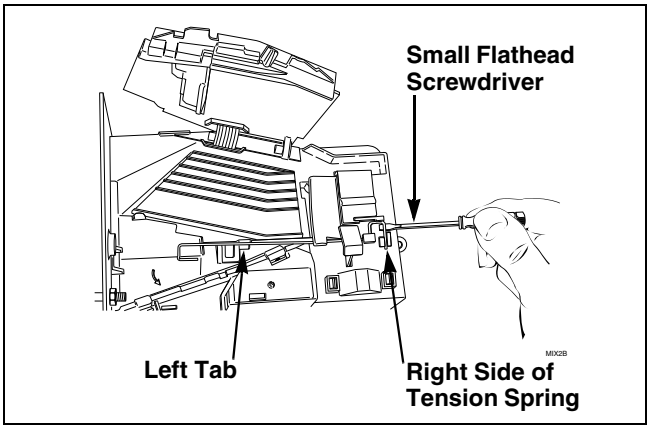

Figure 5

(4) Use screwdriver to move spring approximately 3 mm to left.
(5) Lift spring over left tab. Refer to *Figure 5*.
(6) Rotate spring clockwise, 40 to 60 degrees, until it is free from right tabs. Refer to *Figure 6*.

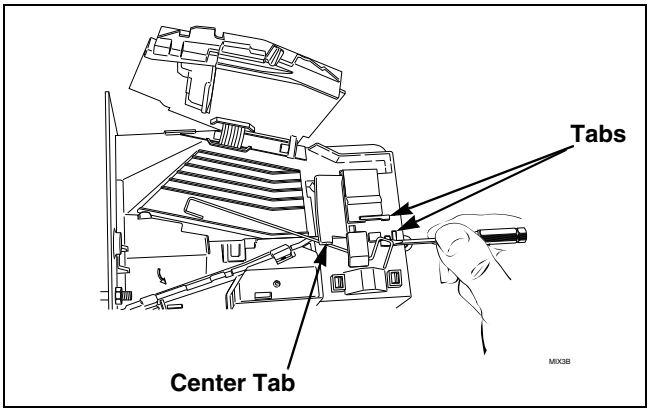

Figure 6

(7) Use screwdriver to remove spring from center tab. Refer to *Figure 6*.
(8) Lift spring, with attached clip, off drop.

(9) Remove clip from spring. Refer to *Figure 7*.

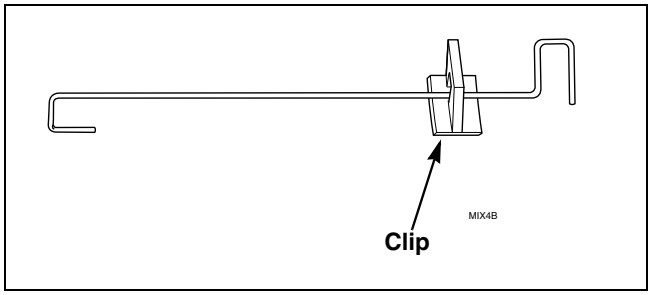

Figure 7

(10) Attach clip to new tension spring, Part No. 209/00598/02.
(11) Place clip, installed on spring, in slot on coin drop. Refer to *Figure 8*.

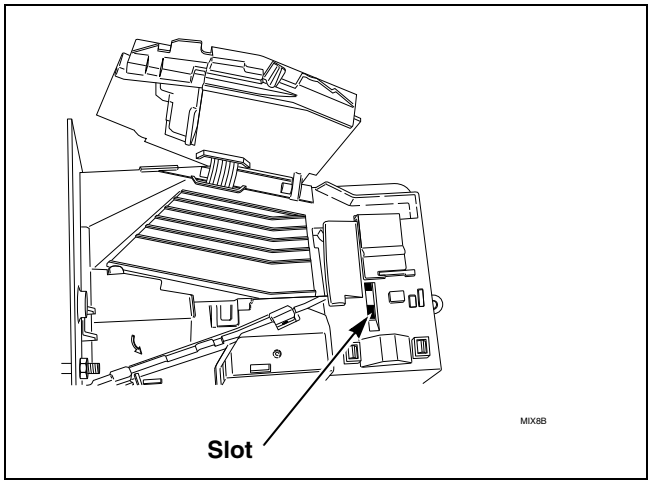

Figure 8

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

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(12) Use a small flathead screwdriver to push spring under center tab. Refer to *Figure 9*.

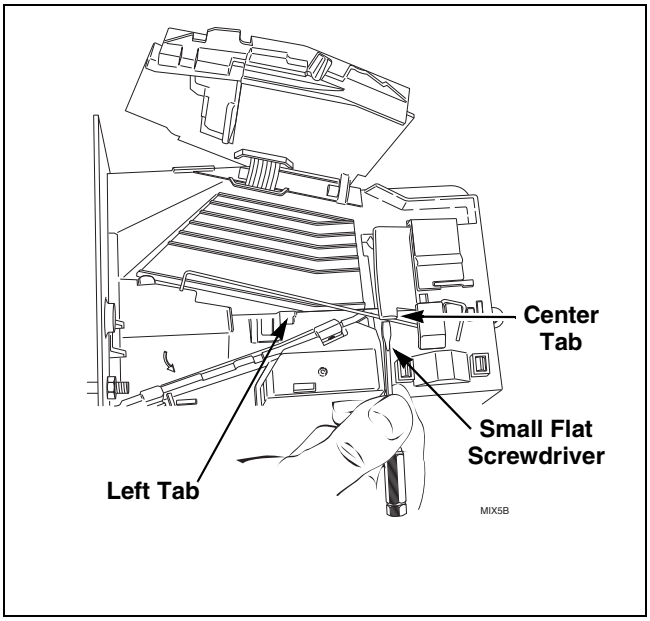

Figure 9

(13) Lift spring gently to place in position under left tab.
(14) Push spring to right until it snaps into position. Refer to *Figure 5*.
(15) Close coin drop cover.
(16) Move tension spring over cover catch. Refer to *Figure 4*.

Reinstall Coin Drop Into Machine

(1) Reinstall coin drop into machine.
(2) Reconnect electrical power to machine and drop.
(3) Add a coin to drop to verify that coin drop is operating properly and that electrical connection is working properly.

WARNING

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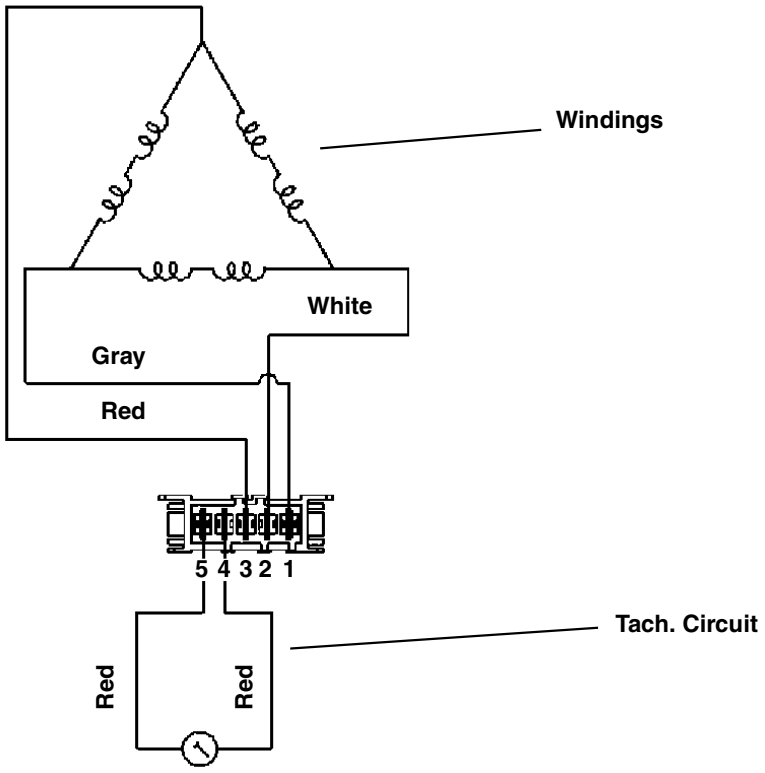
2. Washer Motor Circuit



Resistance Values:

Tachometer Circuit:
Terminals 4–5
Approx. **115** ohms

Windings:

Terminals 1–2, 2–3, 1-3
Approx. **4.5** ohms

3. Troubleshooting Knocking Noise

If a frontload washer produces a noise similar to a knock on a door, it might be due to a flat spot on the belt. The knocking sound is made when the flat spot hits the pulley. The knocking may occur during a pulse spin and fade after reaching a higher RPM.

To correct this condition, replace the belt.

WARNING

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4. No Spin Due to Out-of-Balance Switch Wiring Problem Starting Serial Nos. Beginning 0307

A “no spin” condition could be the result of an open circuit in the wire harness or out-of-balance switch. First, check that the harness is still connected to the out-of-balance switch. The out-of-balance switch is a **normally closed switch**. (continued)

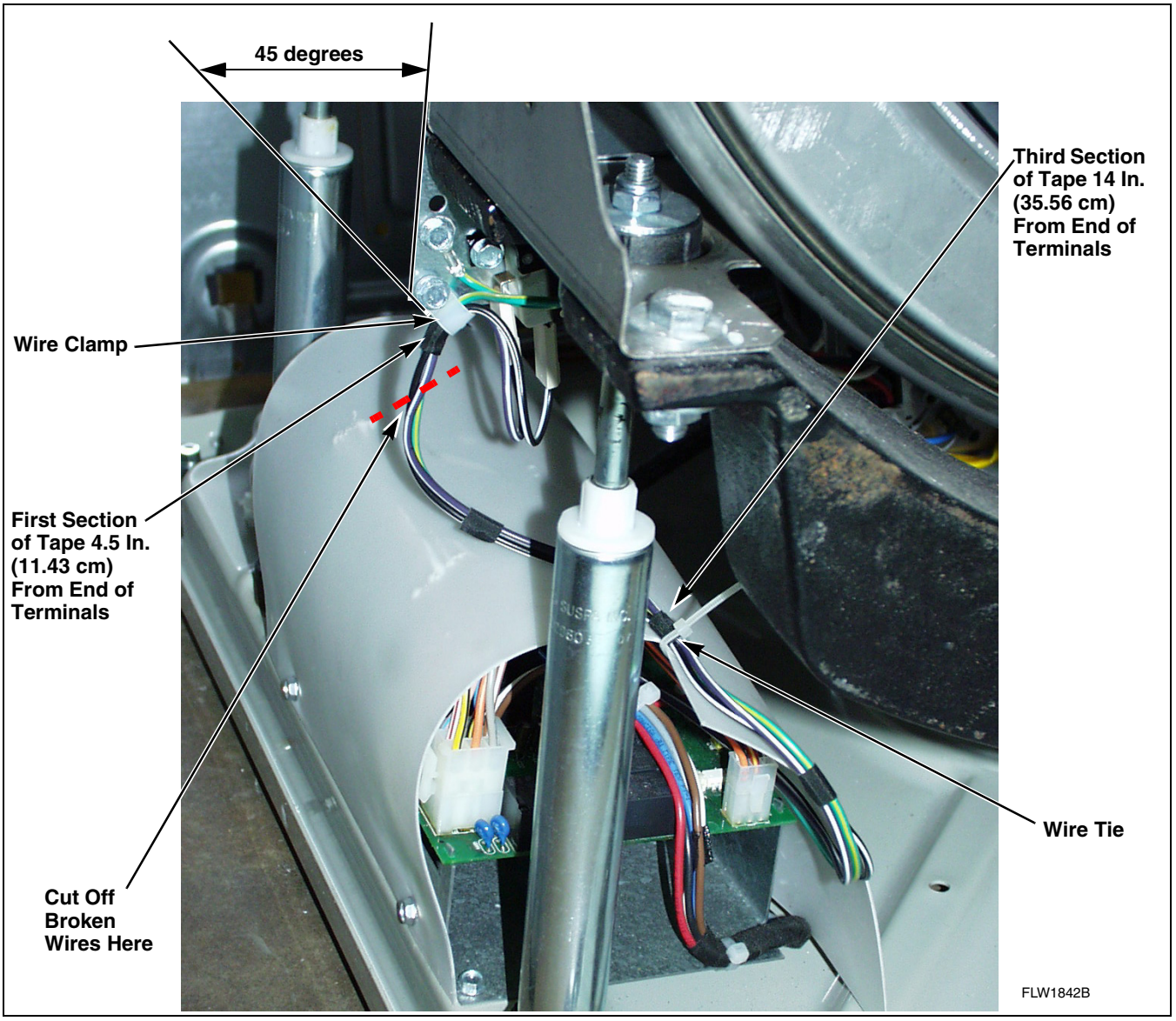

Figure 10

WARNING

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If broken wires are found at the out-of-balance switch wire support, cut off portion of wires as shown in *Figure 10* and add new UL approved terminals.

a. To test the electrical circuit, disconnect electrical power to the washer.
b. Remove the "H1" connector from the inverter control assembly.
c. Use an Ohm meter to check the black/white to violet/white wires. Circuit should read closed. An open reading indicates a bad switch or wire harness problem.
d. Flex the harness at the plastic wire clamp and test continuity. If the base wire harness has an open circuit it MUST be replaced or the broken wires must be repaired with UL approved terminals.
e. After replacing or repairing the wire harness, wrap electrical tape around wires in two locations as indicated below and in *Figure 10*. Then secure the harness wires to the original factory locations using clamp and wire tie. Refer to *Figure 10*.
   (1) The plastic wire clamp should be angled toward the switch at 45 degrees.
   (2) The clamp should wrap around the first section of tape on the harness, which should be placed approximately 4.5 inches (11.43 cm) from end of terminals.
   (3) The harness should be secured to the inverter control shield with a wire tie.
   (4) The tie should wrap around the third section of tape on the harness, which should be placed approximately 14 inches (35.56 cm) from end of terminals. Refer to *Figure 10*.

5. Troubleshooting LEDs on Washer Inverter Controls Starting Machine Serial No. 0911014603

There are three LEDs on the control to assist with troubleshooting (refer to *Figure 11*):

- Green LED on constant = 5VDC power supply present
- Green LED flashing one second on/one second off = inverter control power up
- Red LED flashing four times/second = inverter control is communicating with front end control

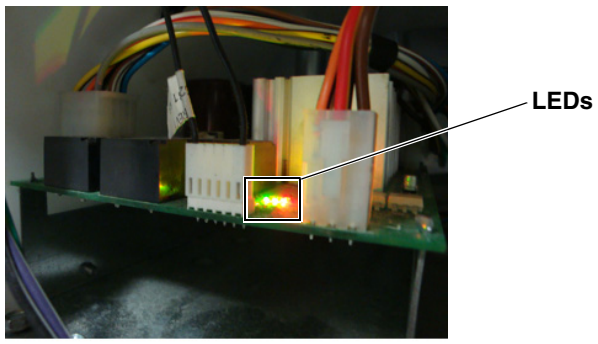

Figure 11

6. No Spin (Washer)

A no spin condition is not caused by intermittent operation of the motor or motor control (inverter assembly). **DO NOT** replace these components for no spin complaints if the unit passes the following procedure:

WARNING

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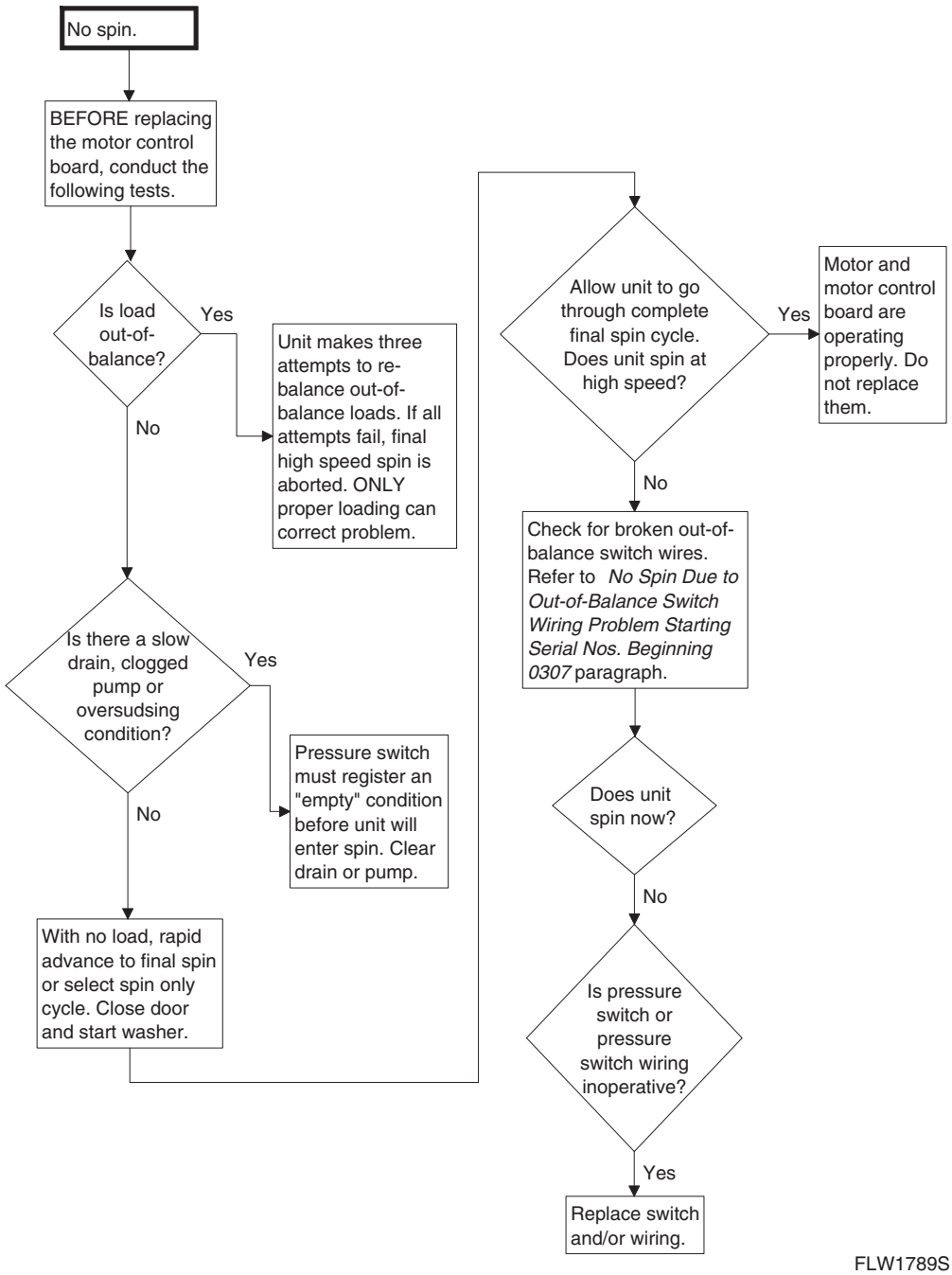
W502

6. No Spin (continued)



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WARNING

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7. Troubleshooting Shock Absorbers

A squeaking noise, oil seen on the base of the washer, or an out-of-balance condition may mean one or more shock absorbers need to be replaced.

To determine if there is an inoperative shock:

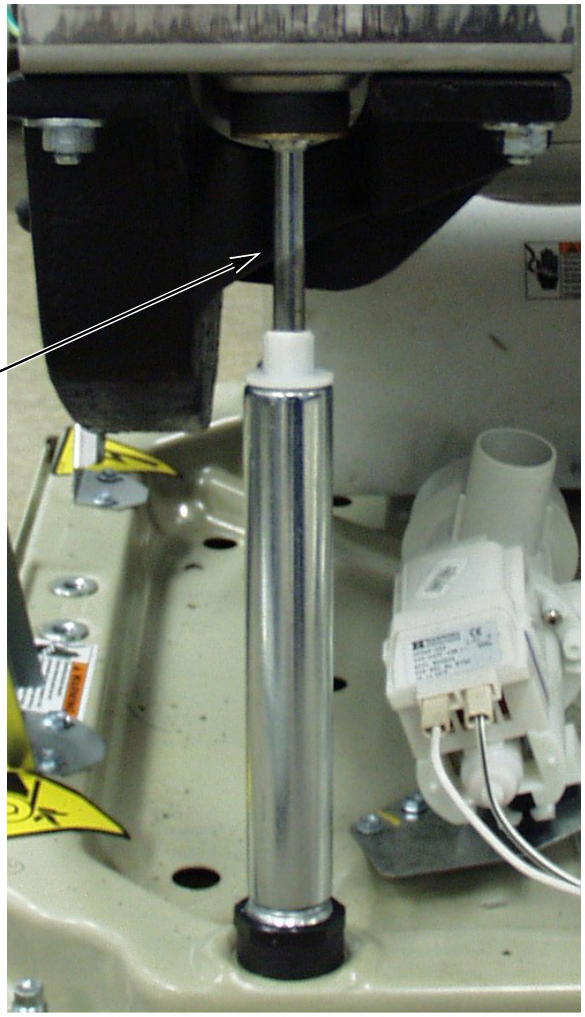
1. Remove front access panel.
2. Check height of rod or rod spacing above shock. If all four shocks are uniform and have about two inches of rod showing when basket is empty, shocks don't need replacing. Refer to *Figure 1*2. If one or more shocks is showing less than two inches of rod, then an internal spring has broken and all four shocks should be replaced.
3. Check base of washer below shock absorbers for grease or oil. Shocks are not oil filled. Any oil is from grease used internally to lubricate damper of shock. A small amount of grease/oil on base is normal and doesn't indicate failure. A large amount of grease/oil indicates a shock that might fail soon. Do not replace shock until the internal spring has broken as described in Step 2.

WARNING

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

- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502



FLW1845B

Figure 12

Section 4
Dryer Troubleshooting

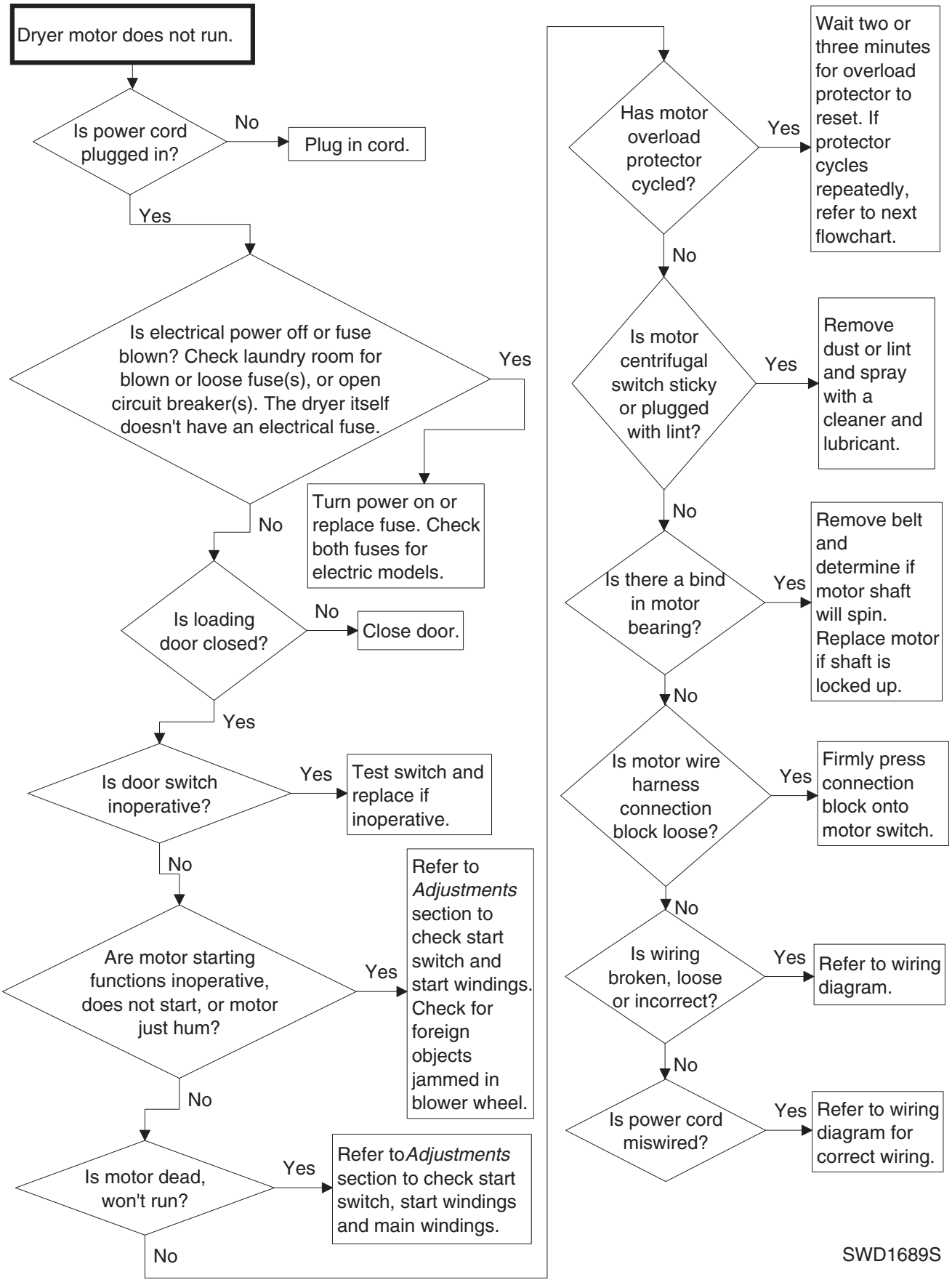
WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

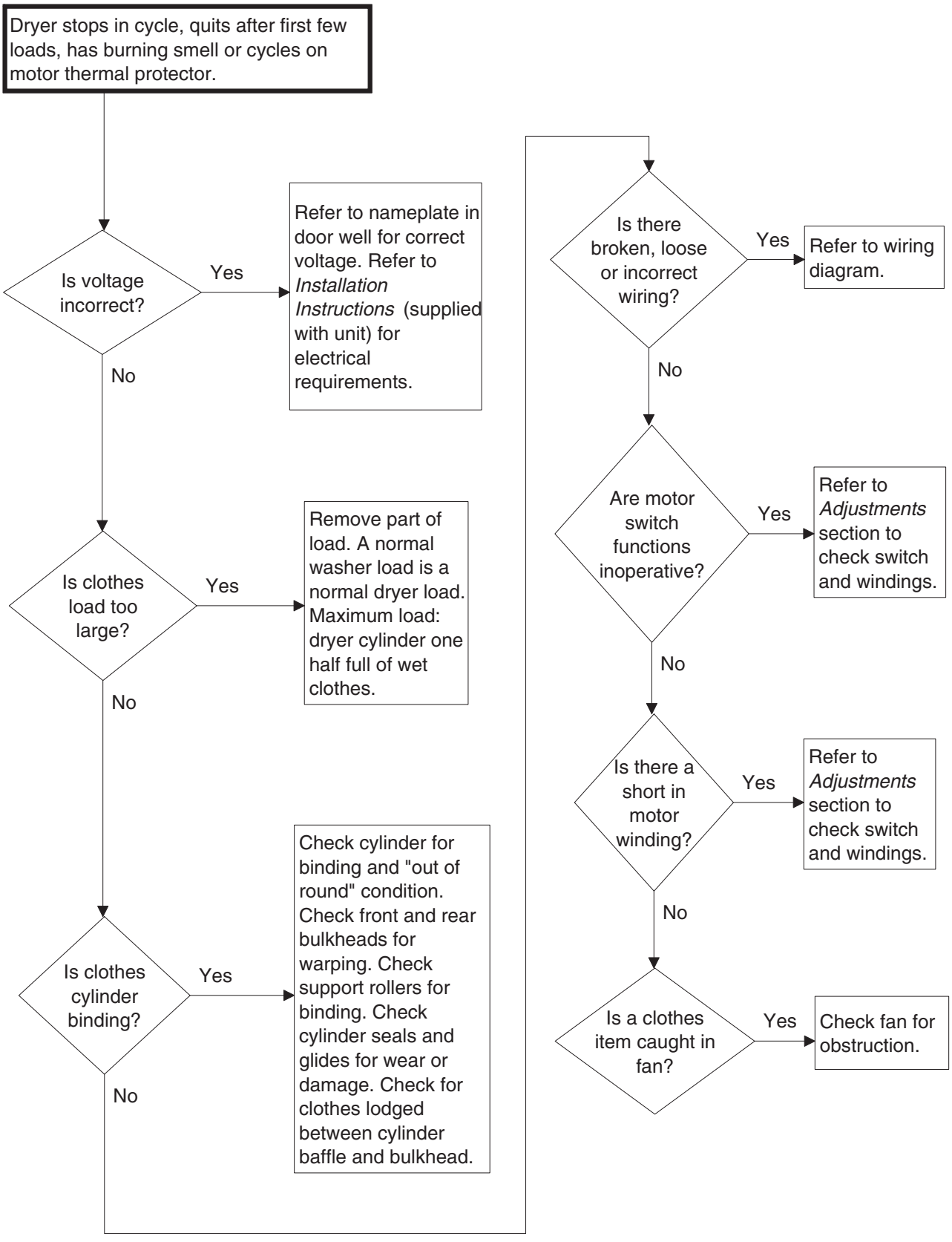
W502

IMPORTANT: Refer to wiring diagram for aid in testing dryer components.

4. Dryer Motor Does Not Run

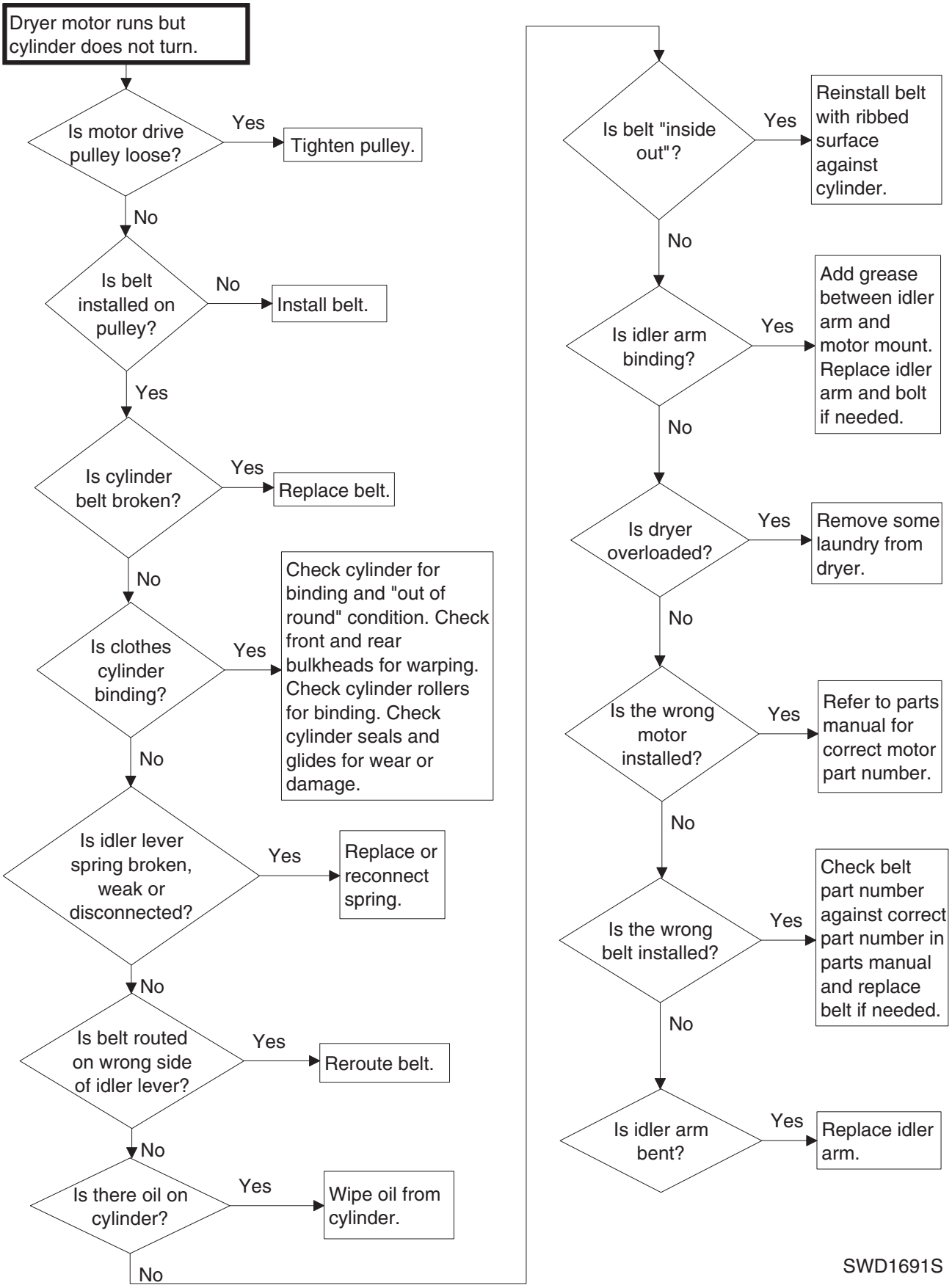


5. Dryer Stops In Cycle; Quits After The First Few Loads; Has A Burning Smell; Cycles On Motor Thermal Protector

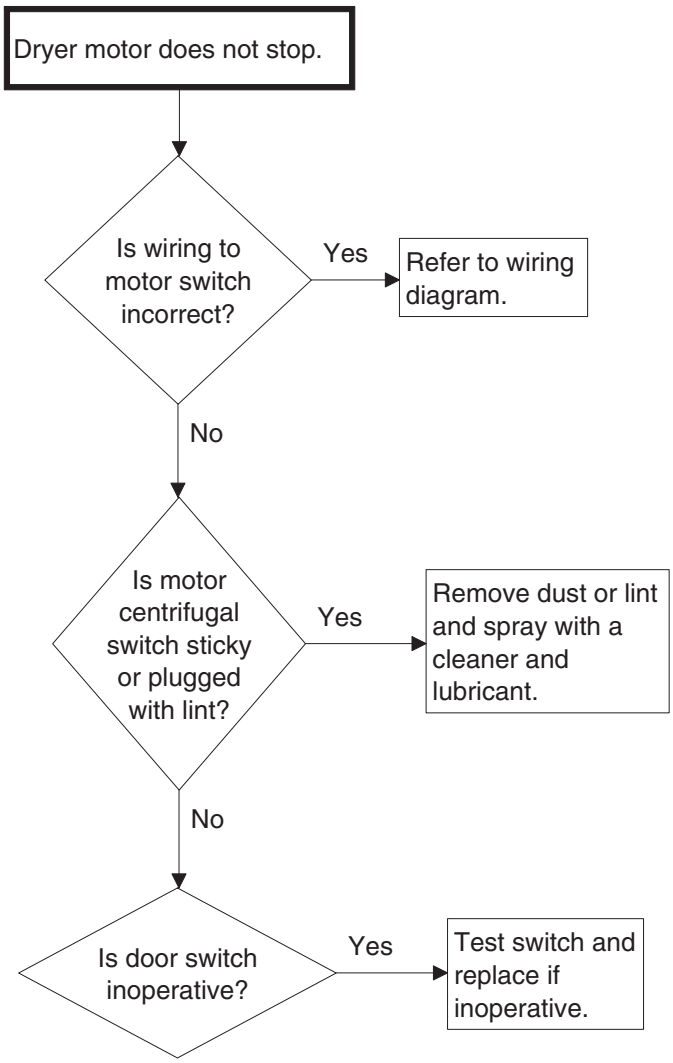


SWD1690S

6. Dryer Motor Runs But Cylinder Does Not Turn

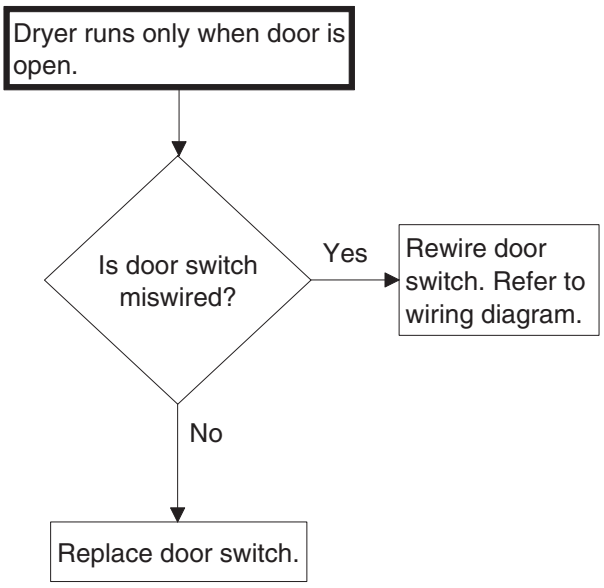


7. Dryer Motor Does Not Stop



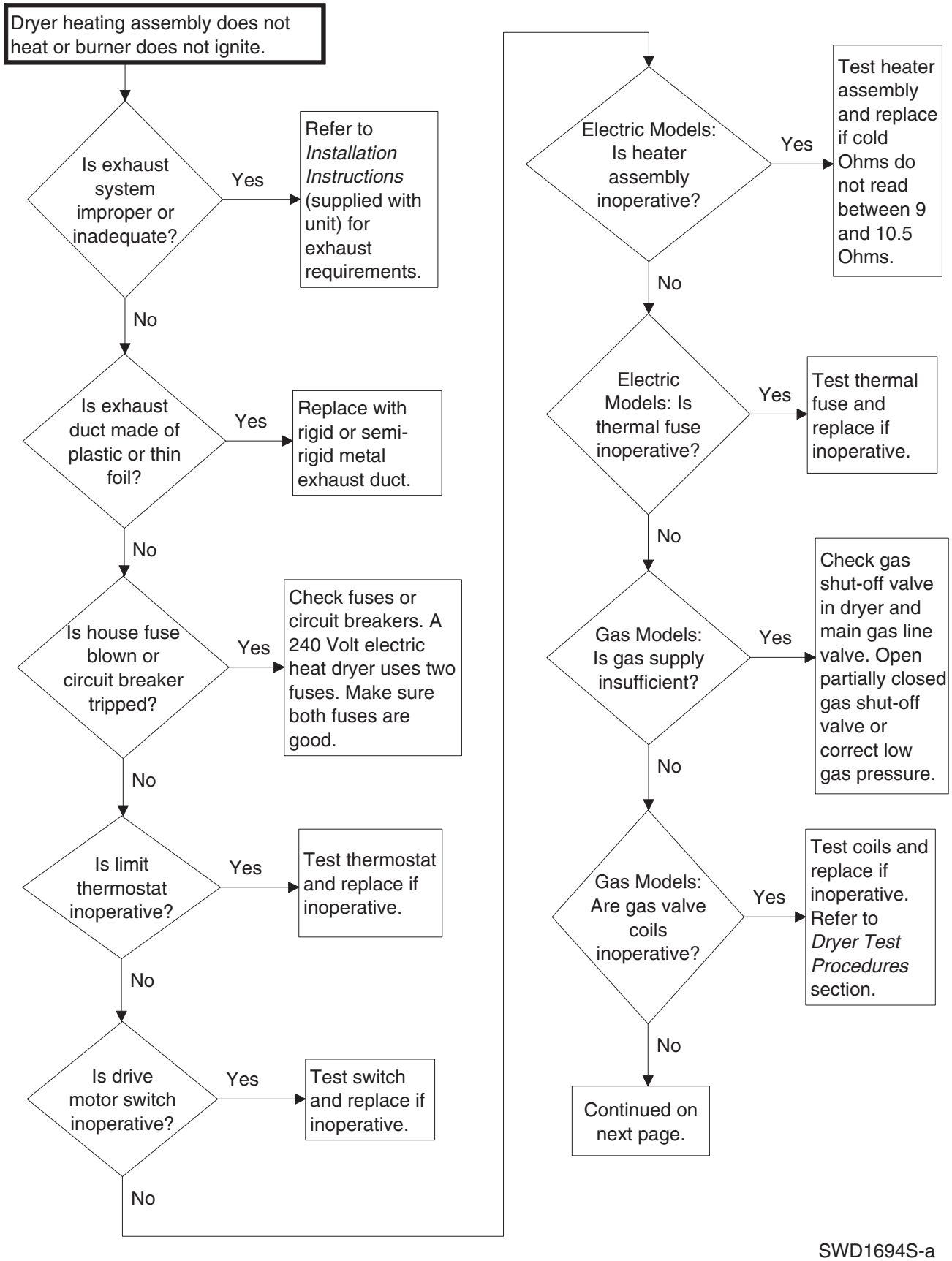
SWD1692S

8. Dryer Runs Only When Door is Open



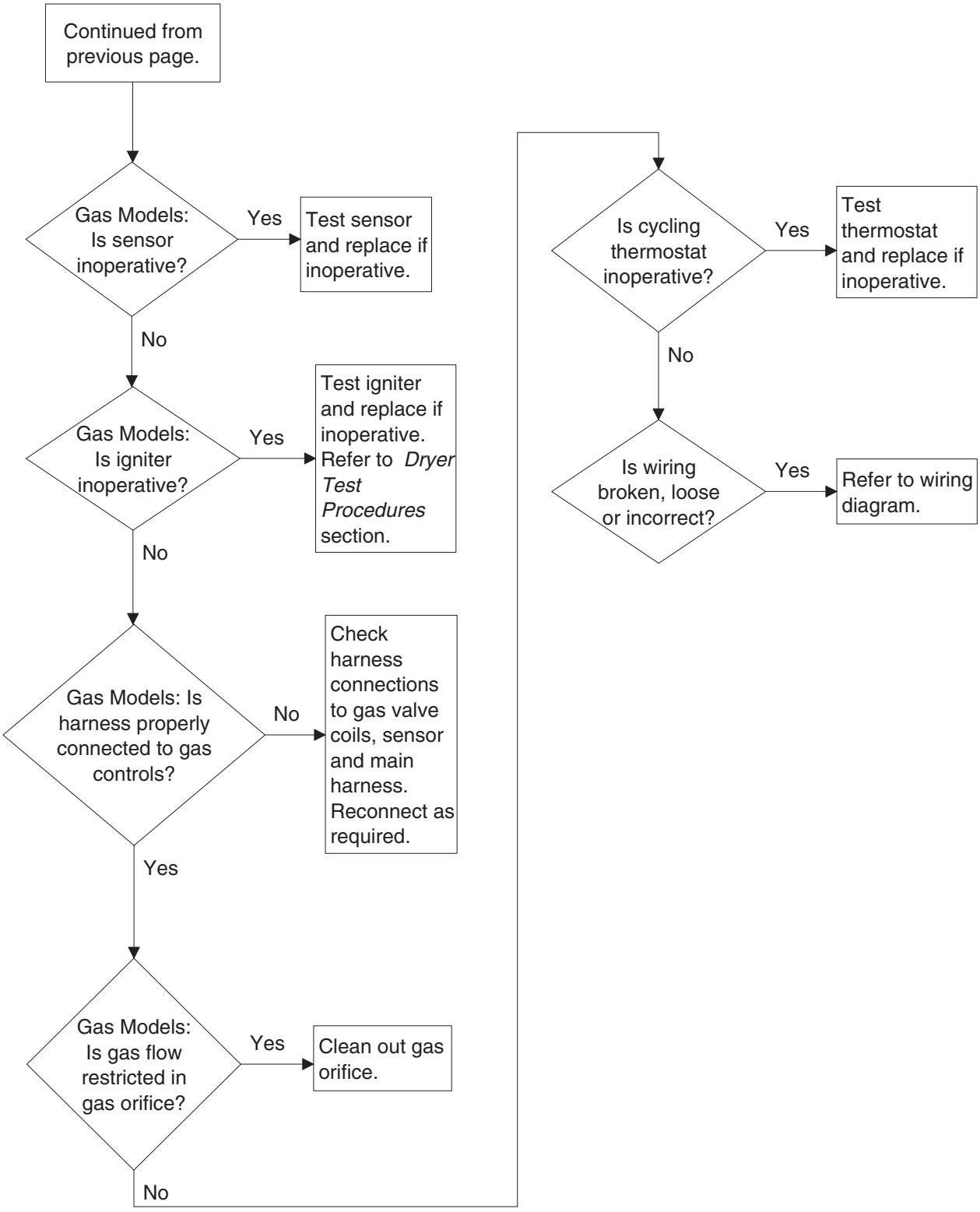
SWD1693S

9. Dryer Heating Assembly Does Not Heat or Burner Does Not Ignite



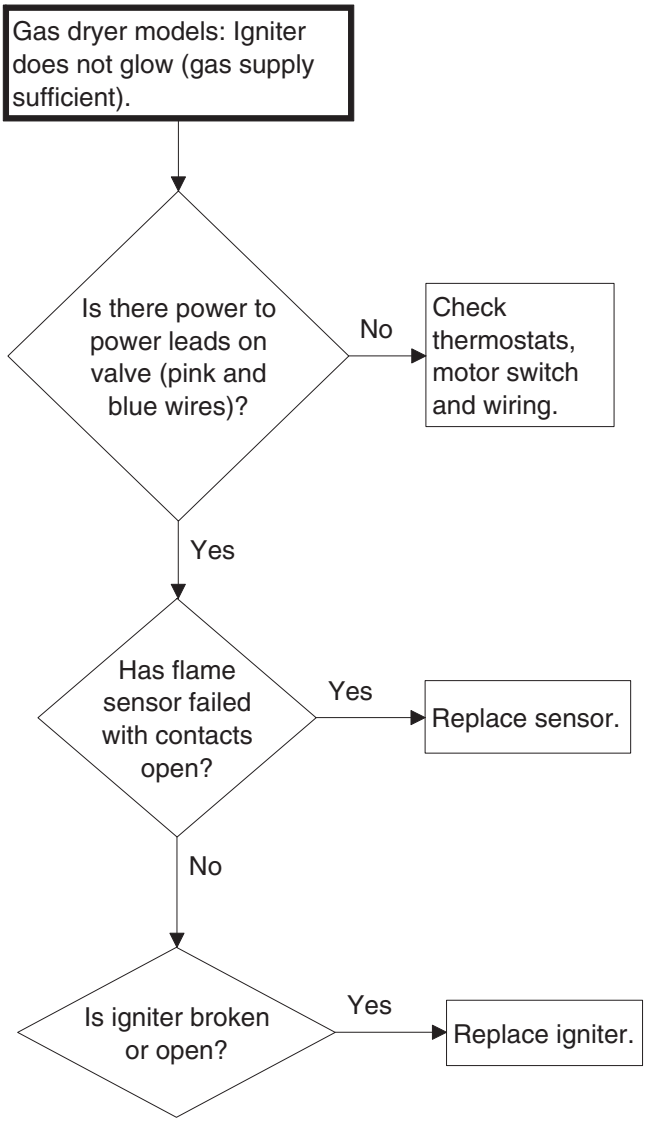
SWD1694S-a

9. Dryer Heating Assembly Does Not Heat or Burner Does Not Ignite (continued)



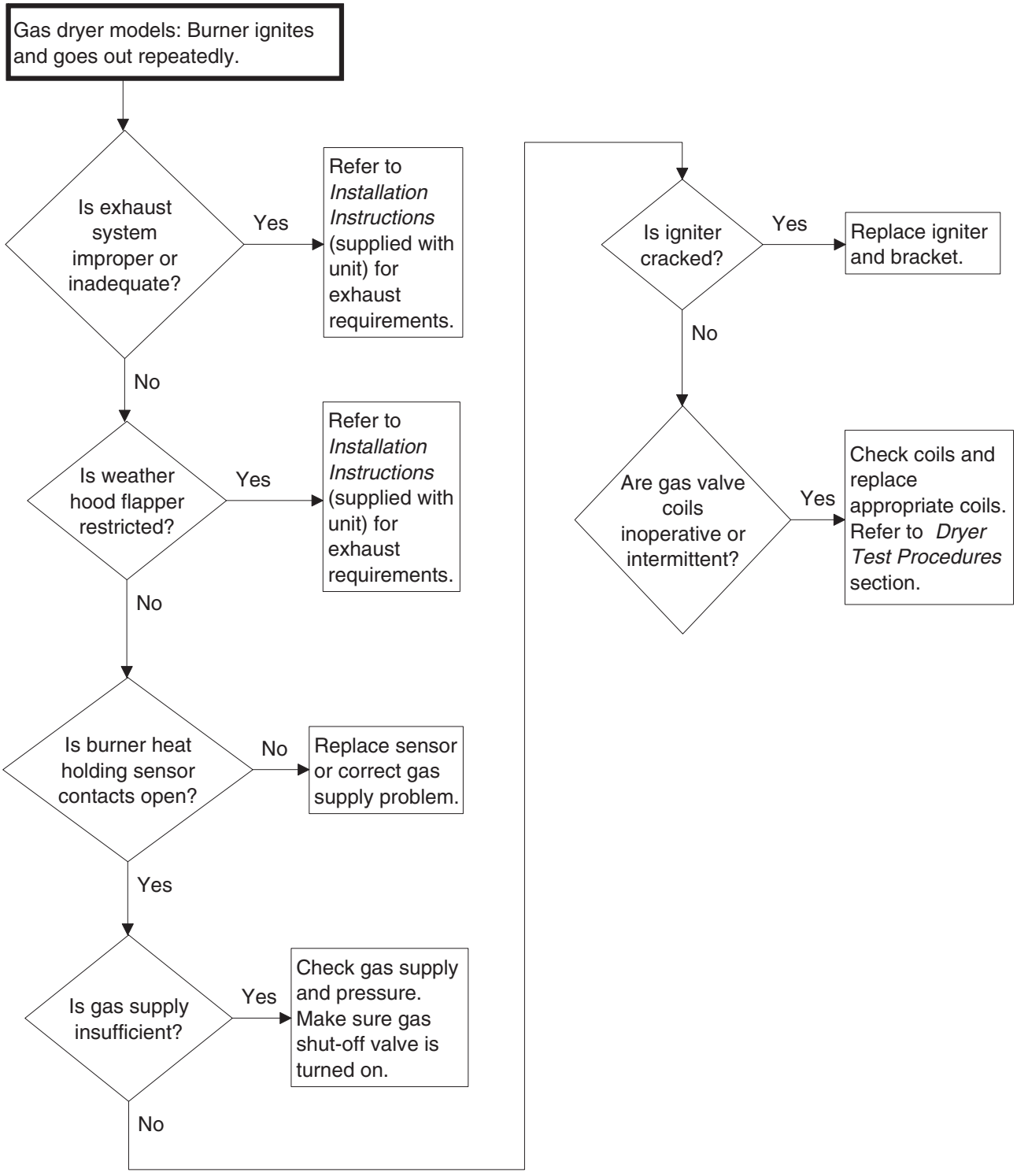
SWD1694S-b

10. Igniter Does Not Glow (Gas Supply Sufficient) – Gas Dryer Models



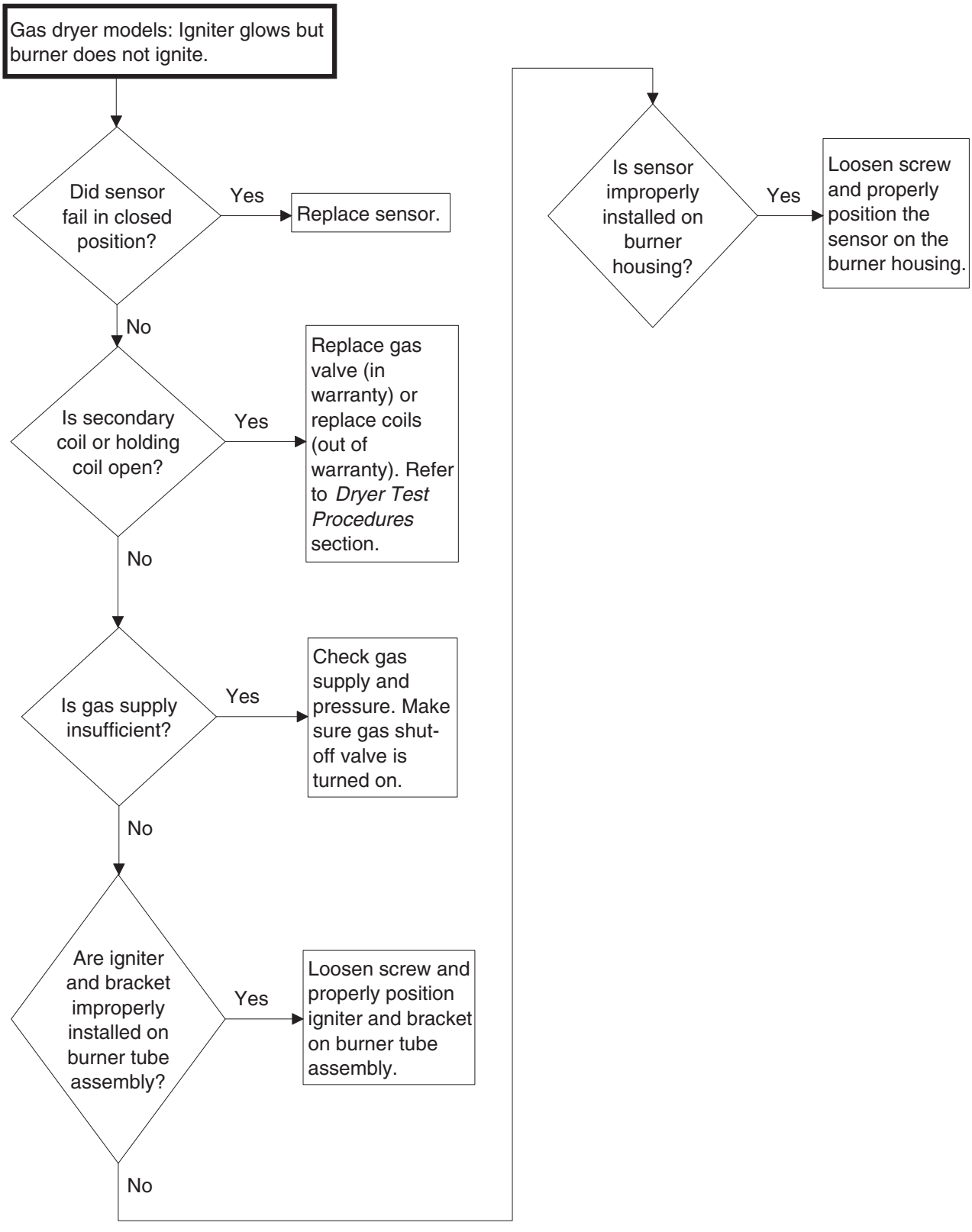
SWD1695S

11. Burner Ignites and Goes Out Repeatedly – Gas Dryer Models



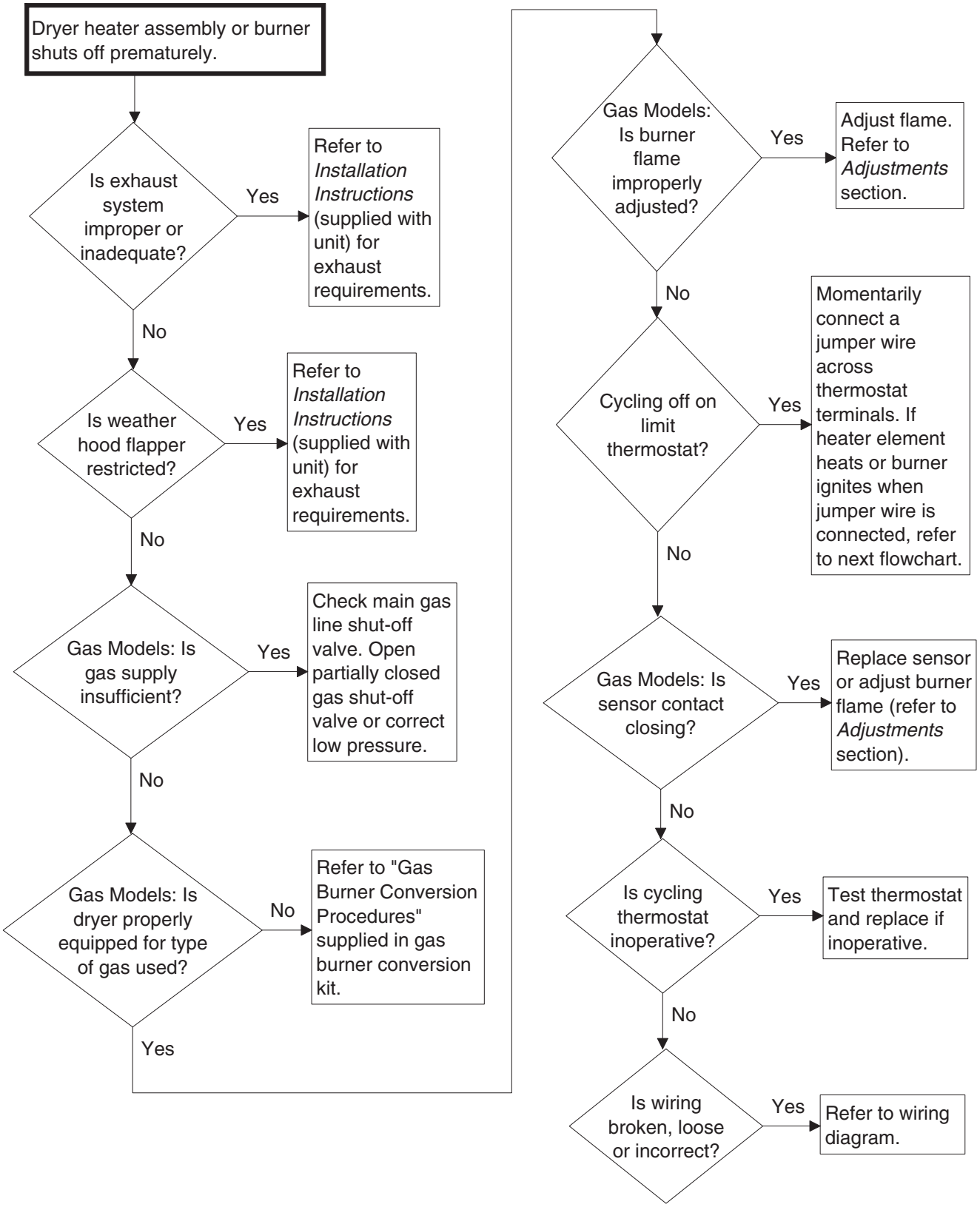
SWD1696S

12. Igniter Glows But Burner Does Not Ignite – Gas Dryer Models



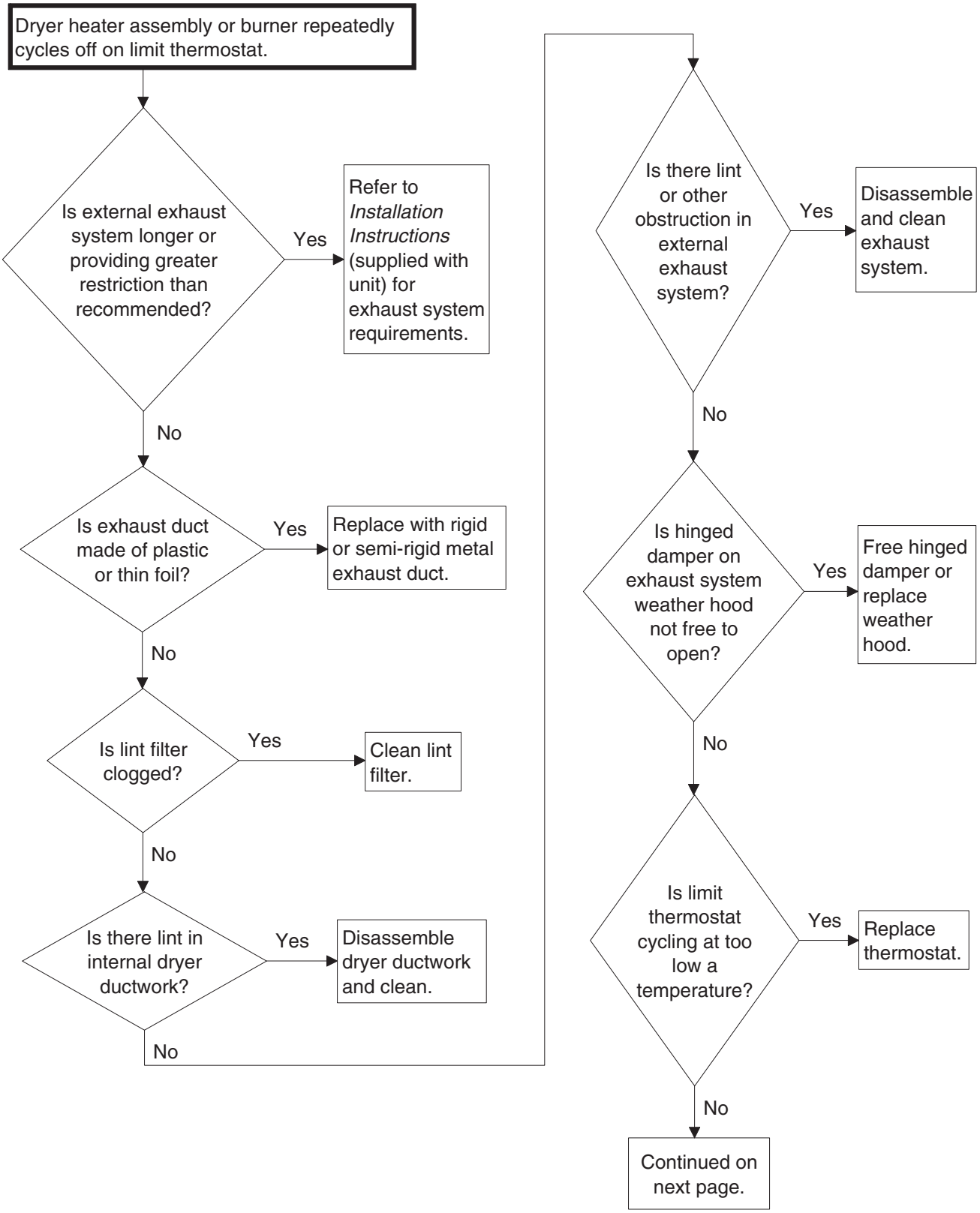
SWD1697S

13. Dryer Heater Assembly Or Burner Shuts Off Prematurely



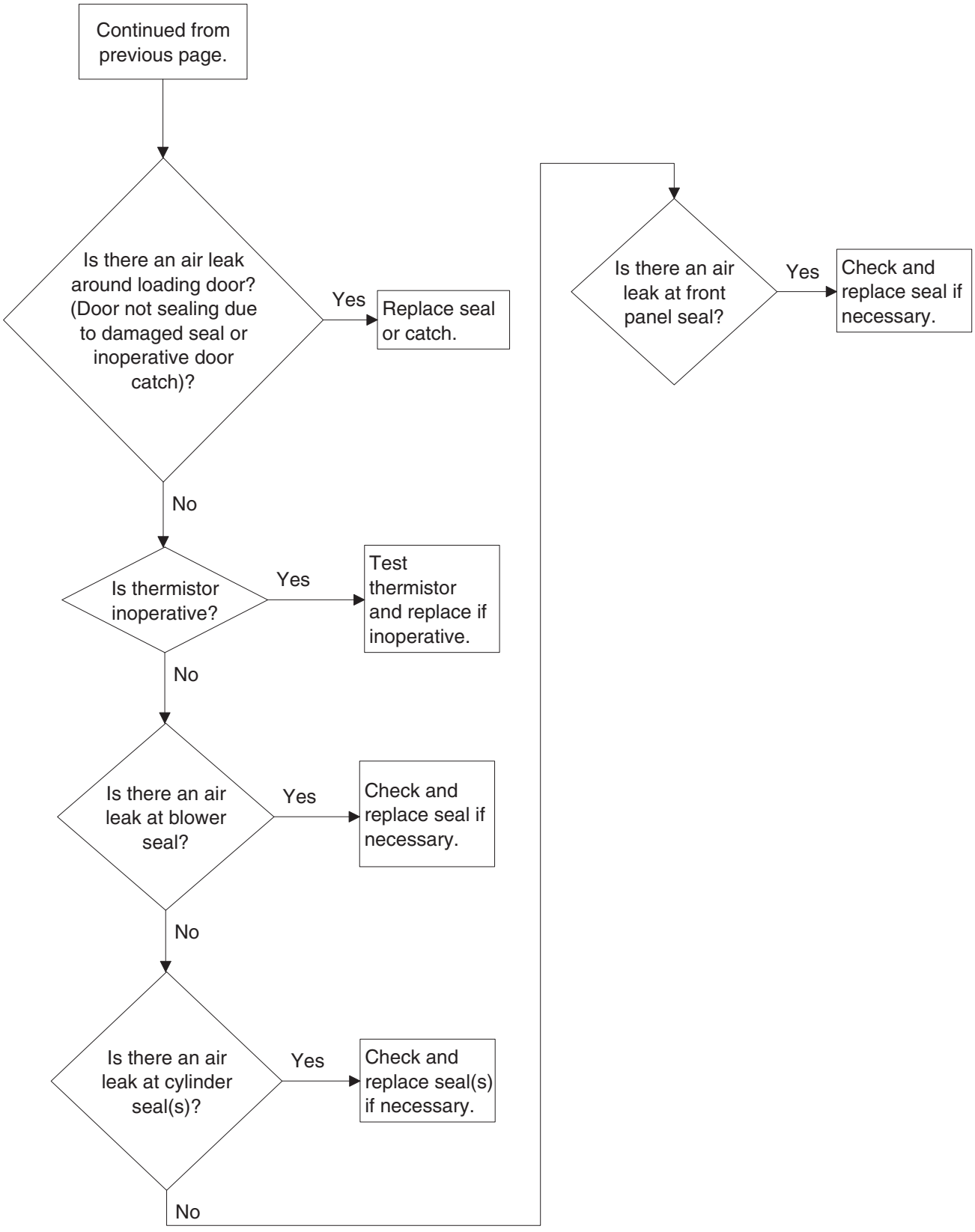
SWD1698S

14. Dryer Heater Assembly or Burner Repeatedly Cycles Off On Limit Thermostat



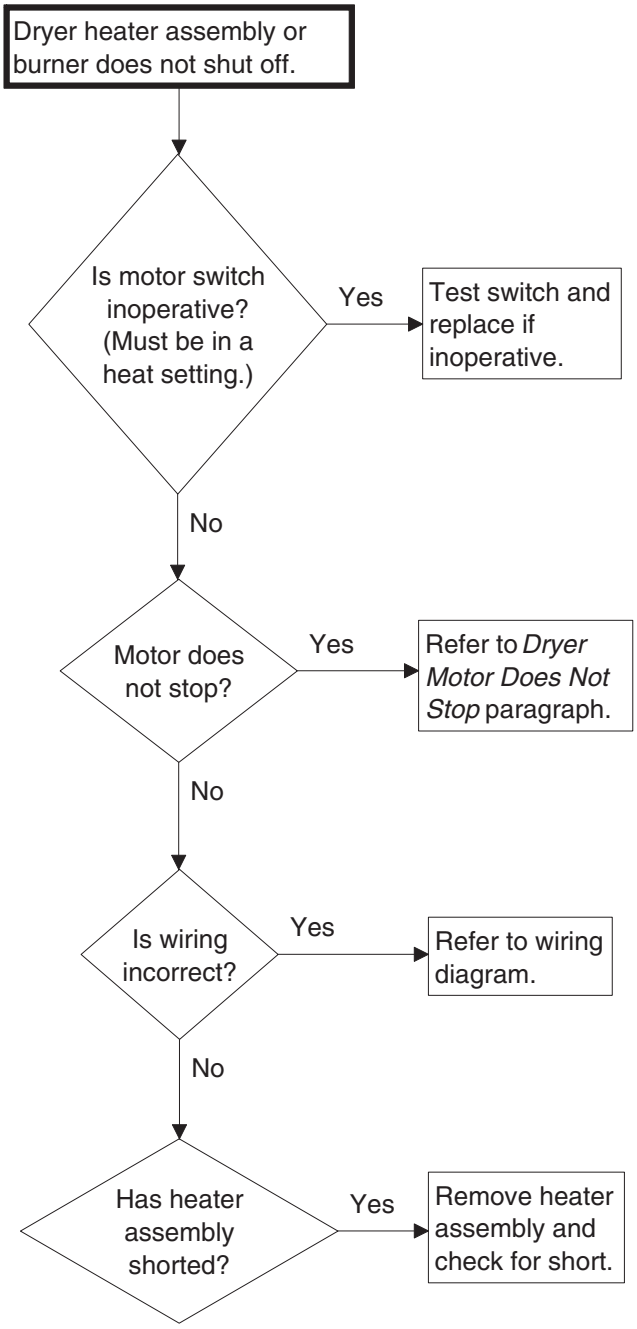
SWD1699S-a

14. Dryer Heater Assembly or Burner Repeatedly Cycles Off On Limit Thermostat (continued)



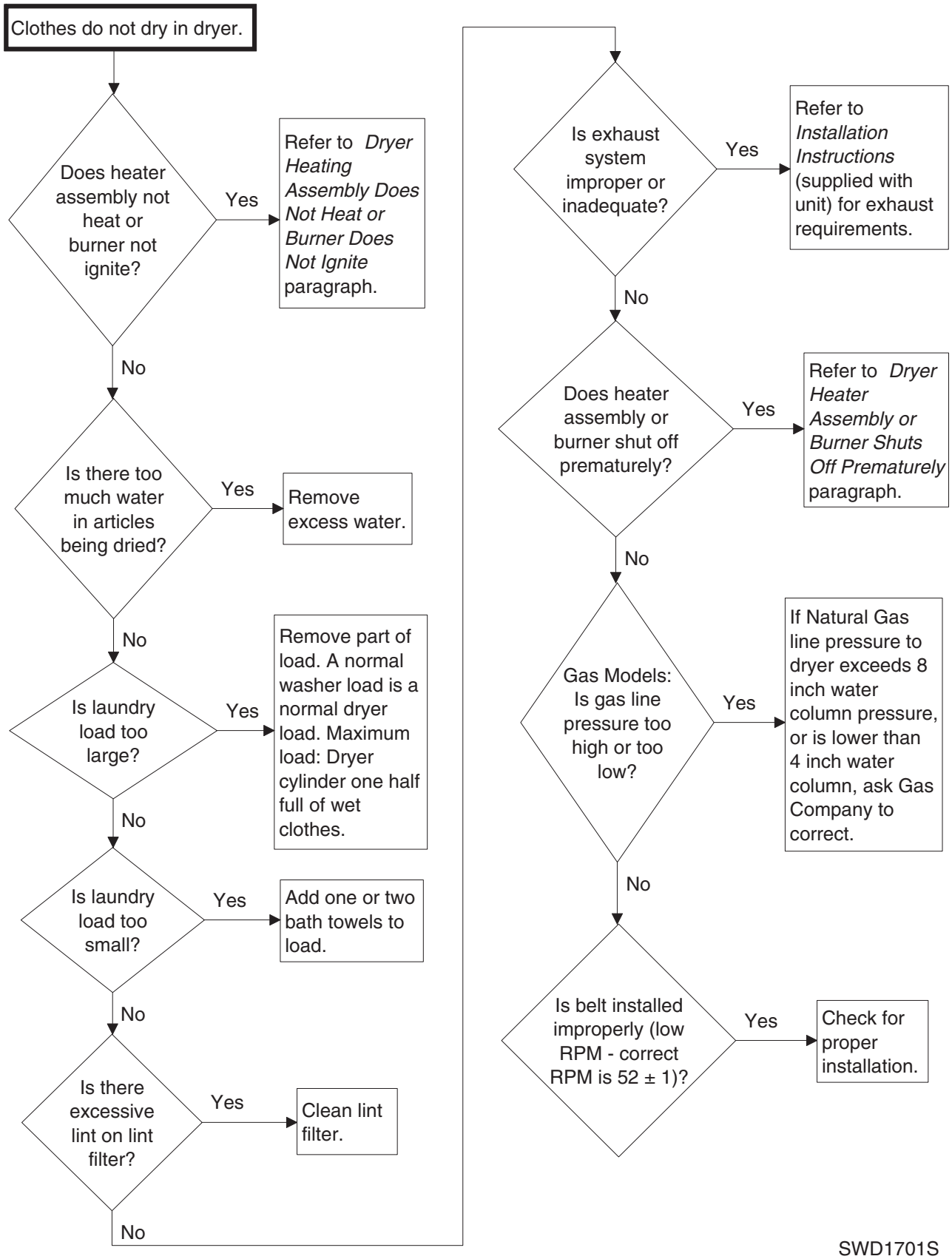
SWD1699S-b

15. Dryer Heater Assembly or Burner Does Not Shut Off



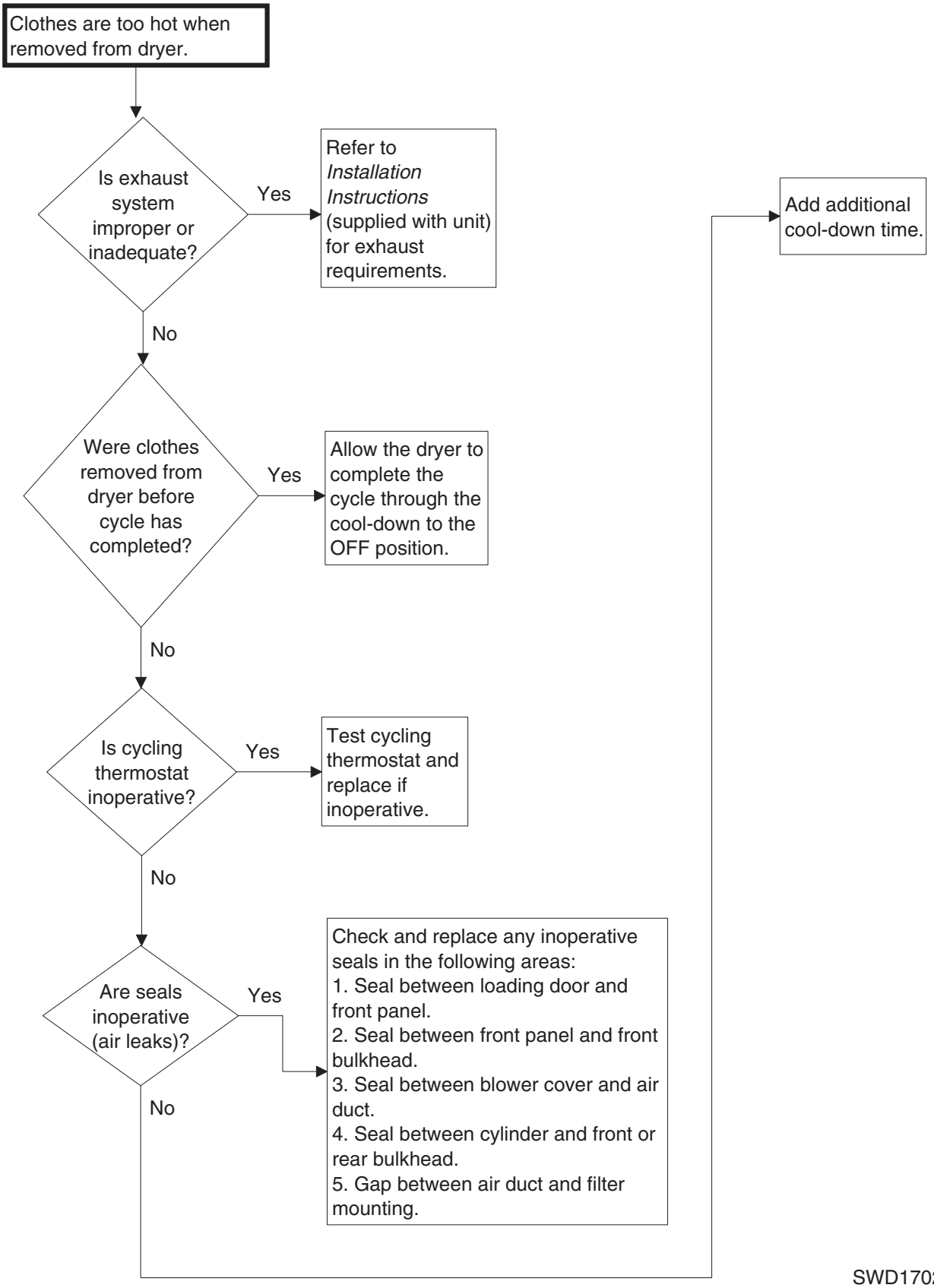
SWD1700S

16. Clothes Do Not Dry in Dryer



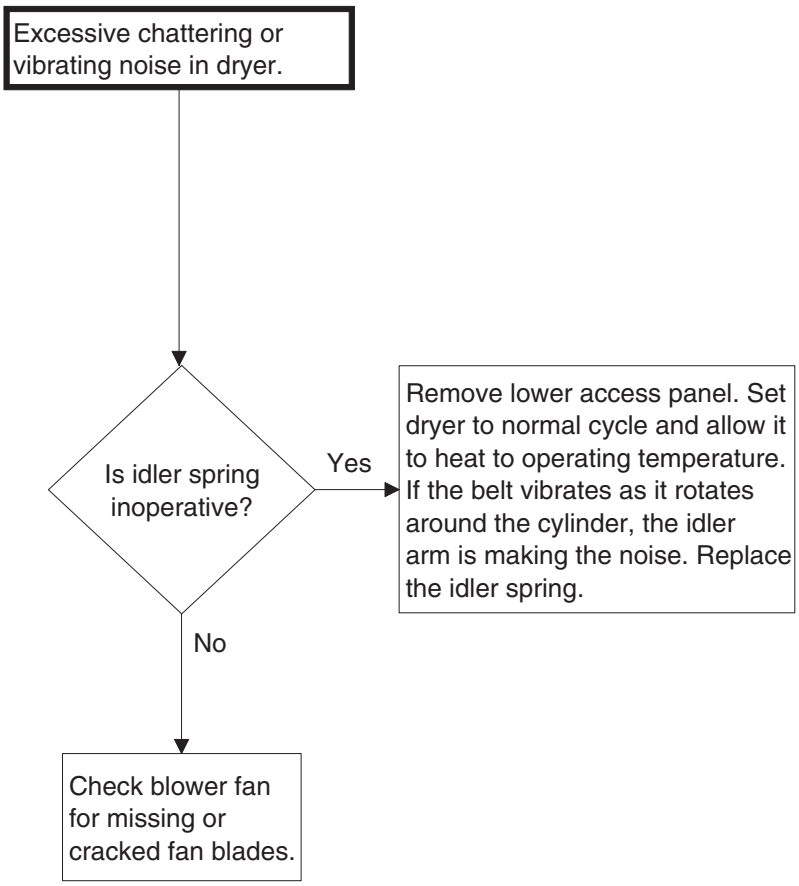
SWD1701S

17. Clothes Are Too Hot When Removed From Dryer



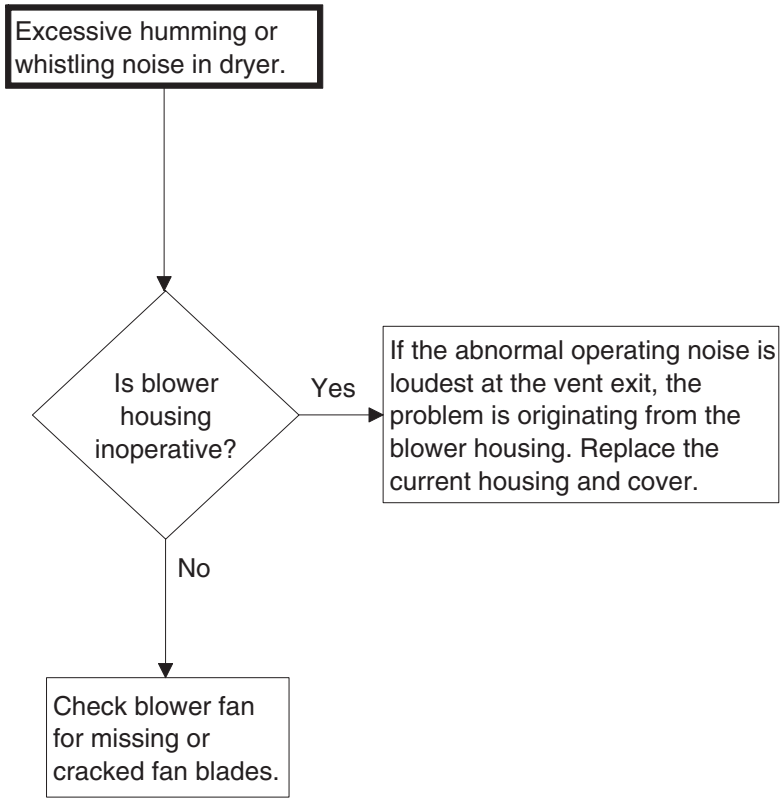
SWD1702S

18. Excessive Chattering Or Vibrating Noise in Dryer



SWD1703S

19. Excessive Humming Or Whistling Noise in Dryer



SWD1704S

Section 5
NetMaster and MDC Troubleshooting – Washer Control

WARNING

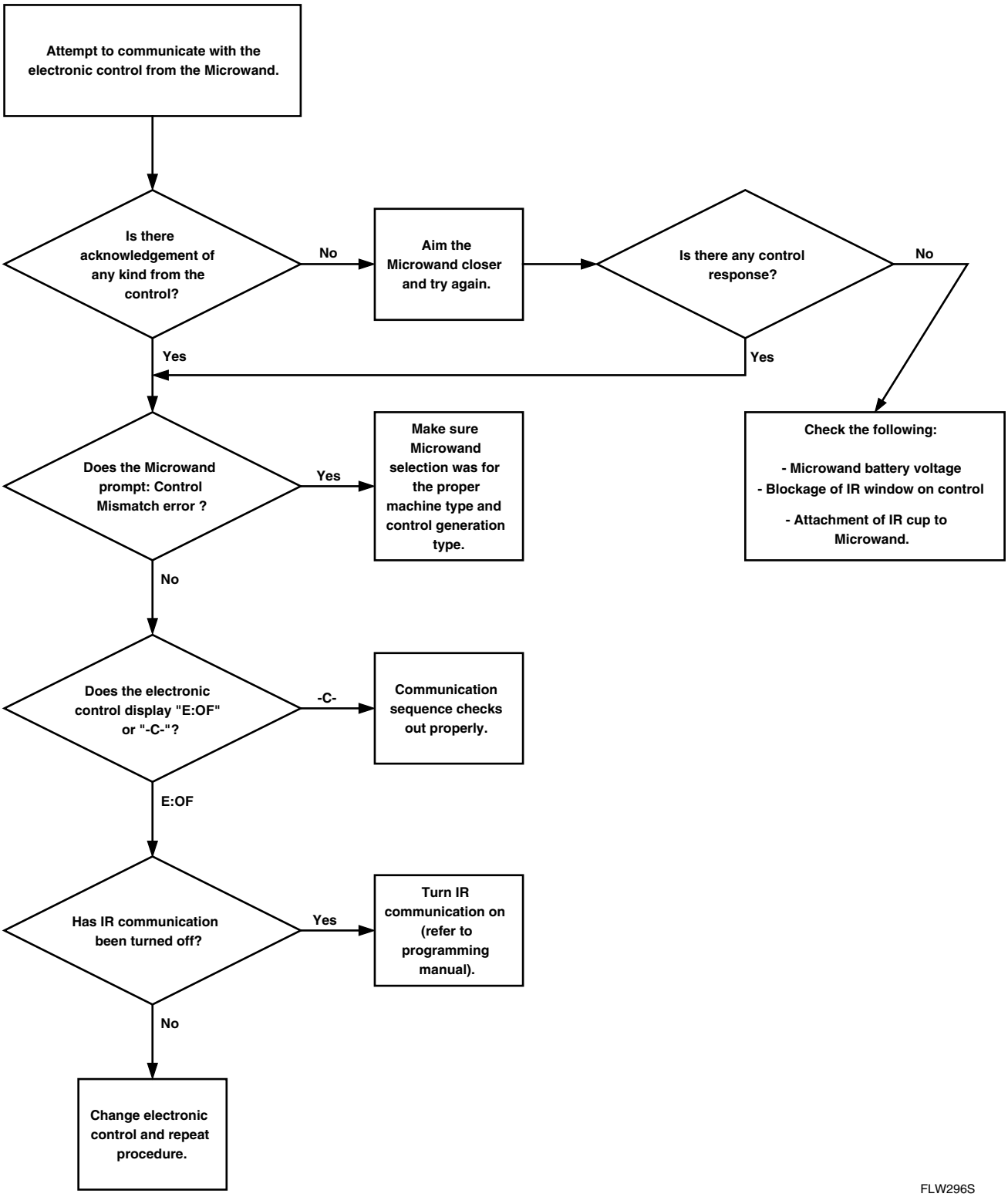
To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

20. Error Code Listing

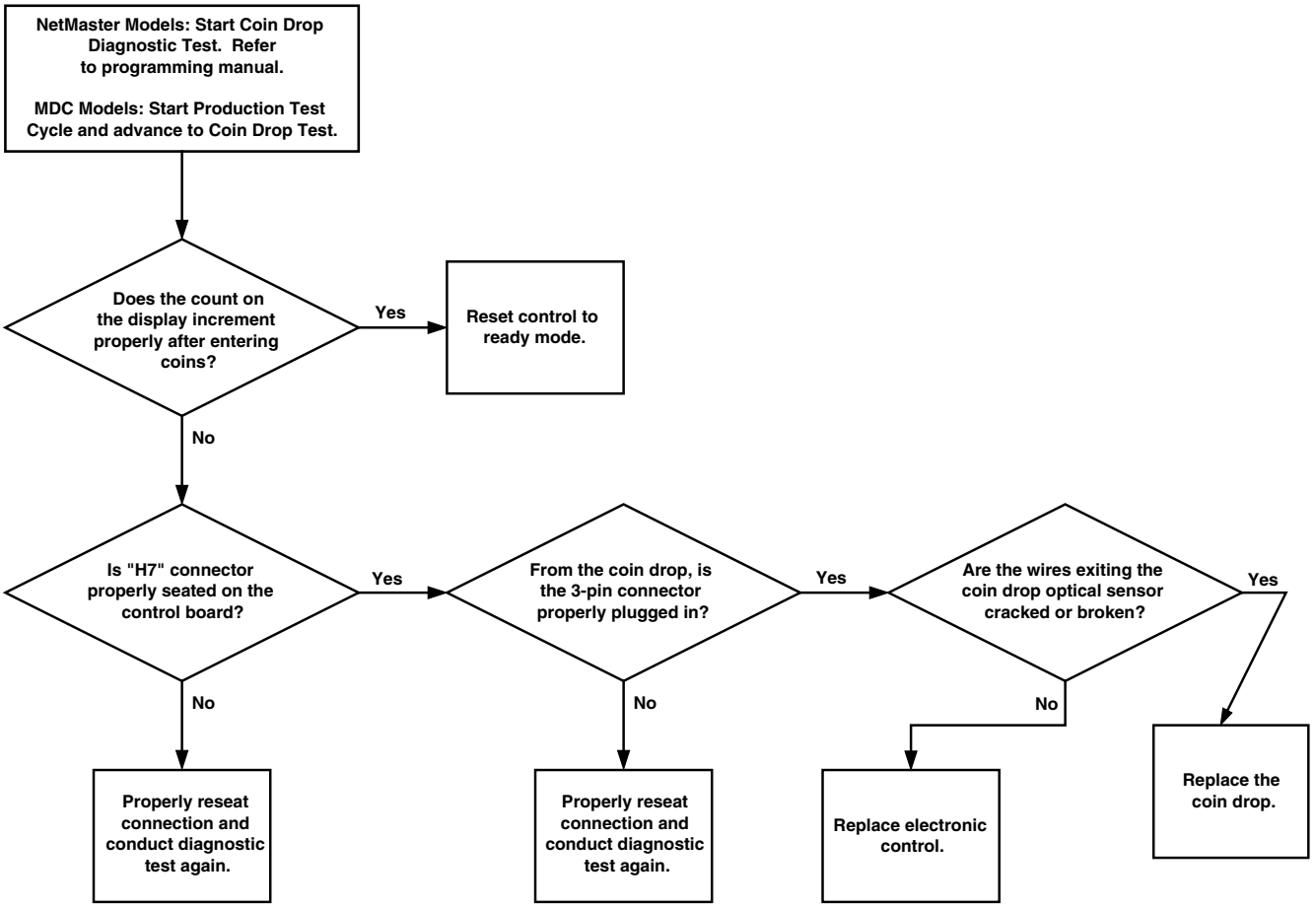
E:df	Drive failure.	This error code is generated by the motor control and transmitted to the master control. Several conditions can cause this code: motor unplugged, motor failure, tachometer circuit open, inner basket locked up. This is a fatal error. Machine must be unpowered to reset.
E:SP	Serial communication error.	This error code occurs when the master control cannot communicate with the motor control. The master control will try to reset the motor control by powering it down. It will try resetting three times before setting the error code. Common causes: fuse blown on motor control board, wiring to motor control incorrect. This is a fatal error.
E:FL	Fill error.	This error code occurs if the pressure switch fails to open in 30 minutes in any fill/agitate cycle. This is a fatal error.
door	Door open indicator.	This error code occurs when the door is not closed at the start of an active cycle. If the door is closed, check for wiring or door switches.
E:do	Door open error.	This error code occurs if the control detects the door open and door locked inputs high at the same time. You can get this error if you jerk on the door when it is locked or as it is about to lock. This is a fatal error.
E:dL	Door lock error.	This error code occurs if the door does not lock in 15 seconds or unlock in 3 minutes at the end of the cycle. This is a non-fatal error. If the door locks or unlocks while E:dL is displayed, it will clear the error condition. If the door is opened after failing to lock, it will clear the display.
E:Ht (Models equipped with heater)	Heater error.	This error code occurs if it takes more than two hours to heat water to the programmed temperature. The cycle will continue. The code will clear when control exits End of Cycle mode.
OP (Models equipped with heater)	Open thermistor error.	This error code occurs if the thermistor circuit opens while heating.
SH (Models equipped with heater)	Shorted thermistor error.	This error code occurs if the thermistor circuit is shorted while heating.

21. Microwand Does Not Communicate With Washer Control – NetMaster Models Only



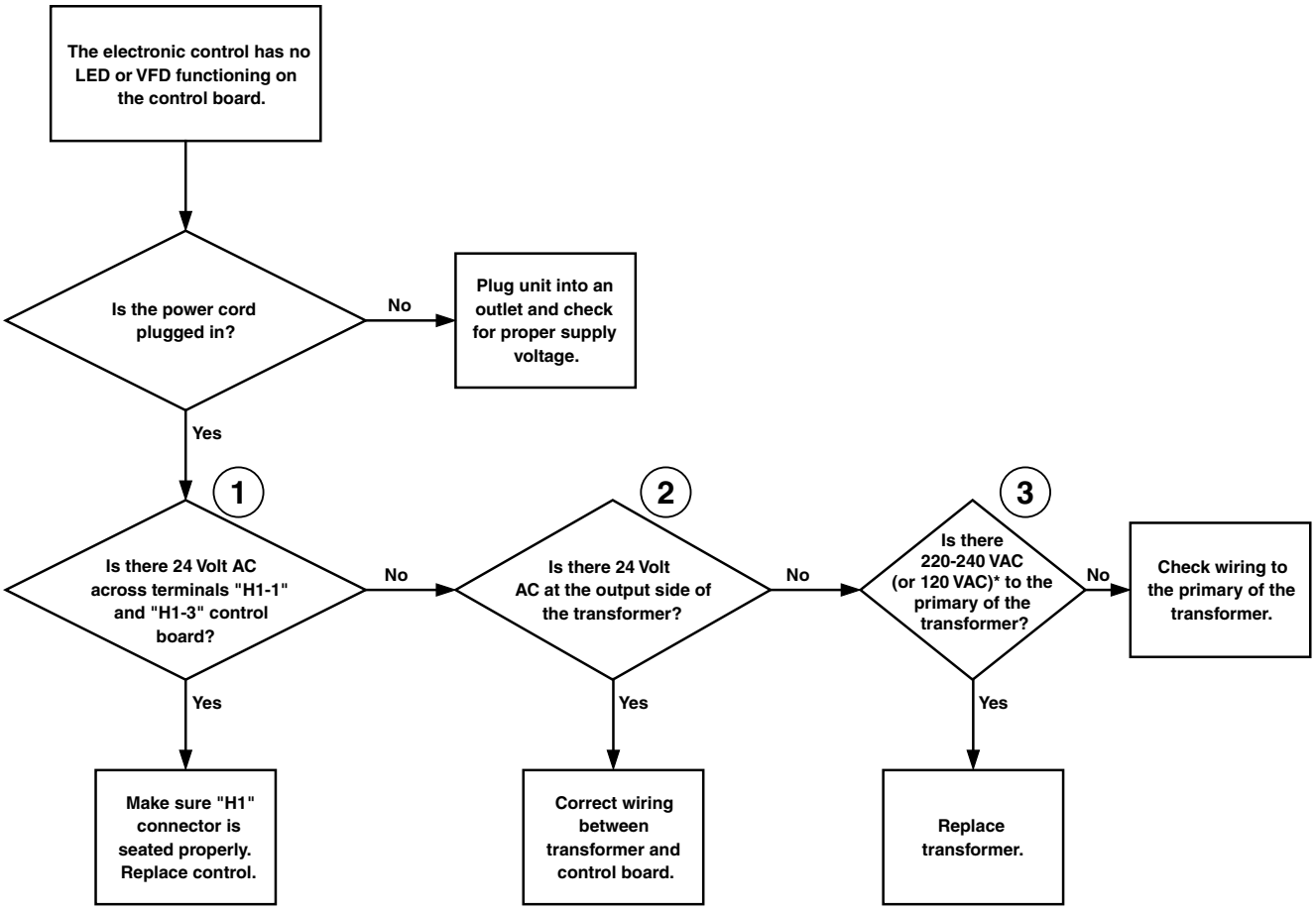
FLW296S

22. Coins Ignored When Entered in Washer Coin Drop



FLW1715S

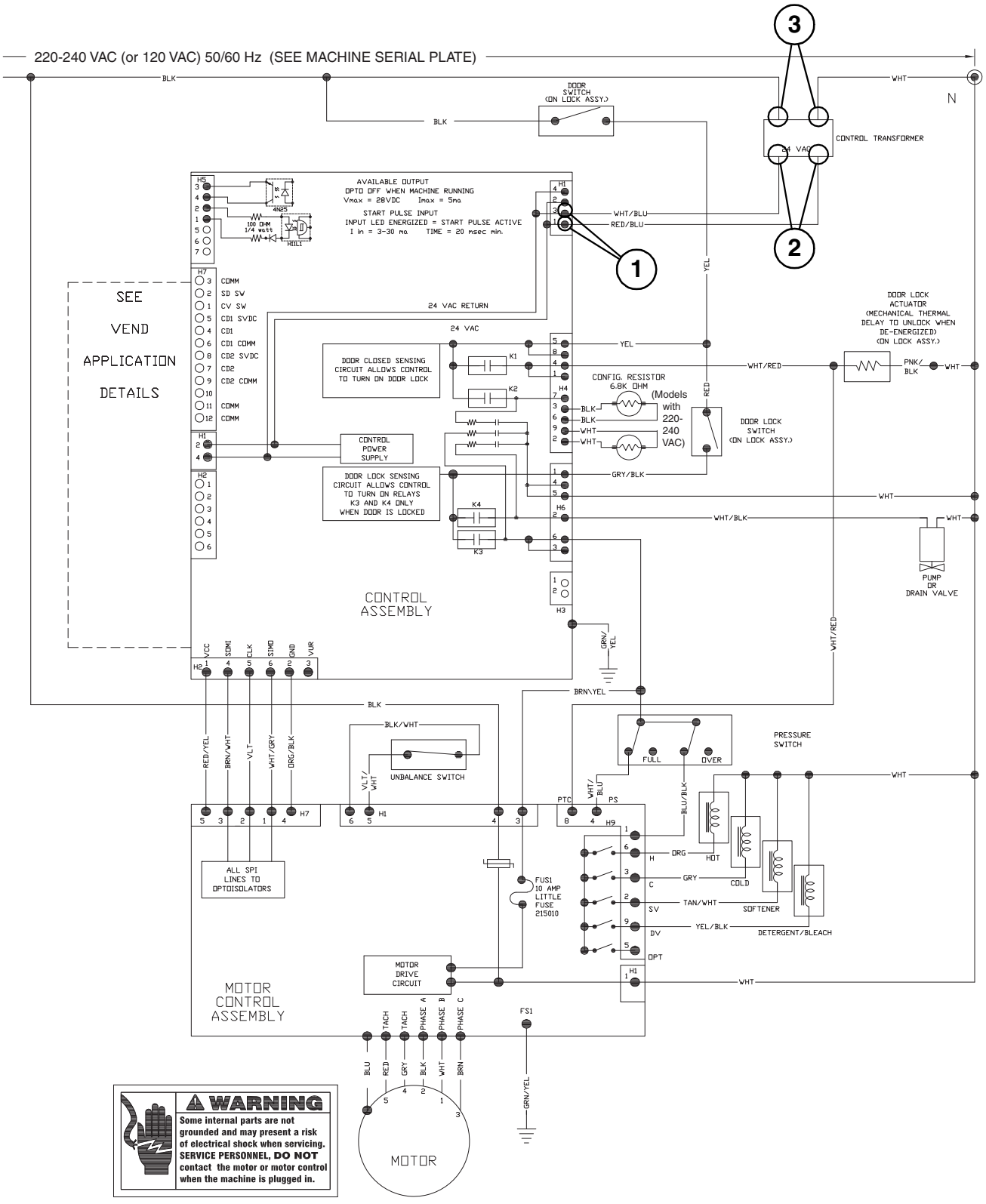
23. No Visible Display on Washer Control



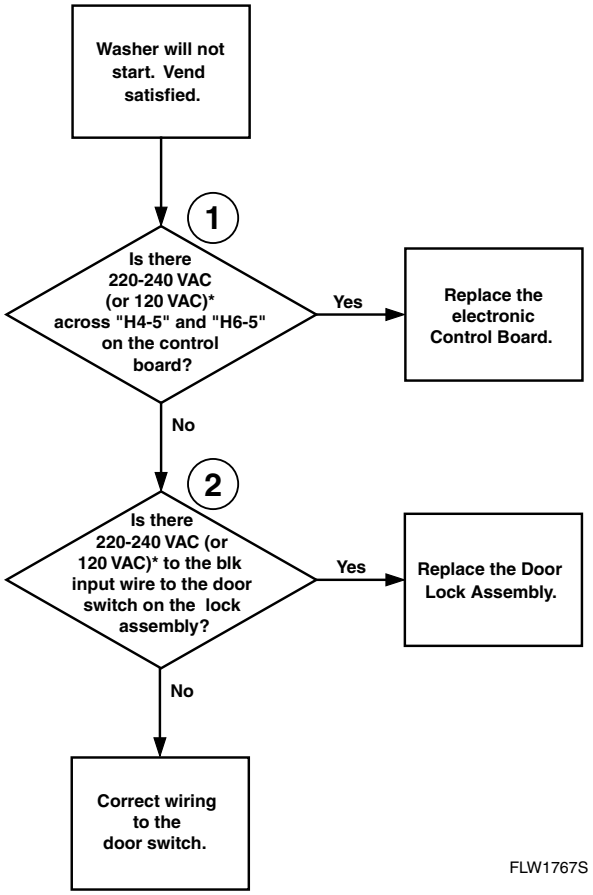
FLW1695S

*Refer to machine serial plate for correct voltage.

No Visible Display on Washer Control

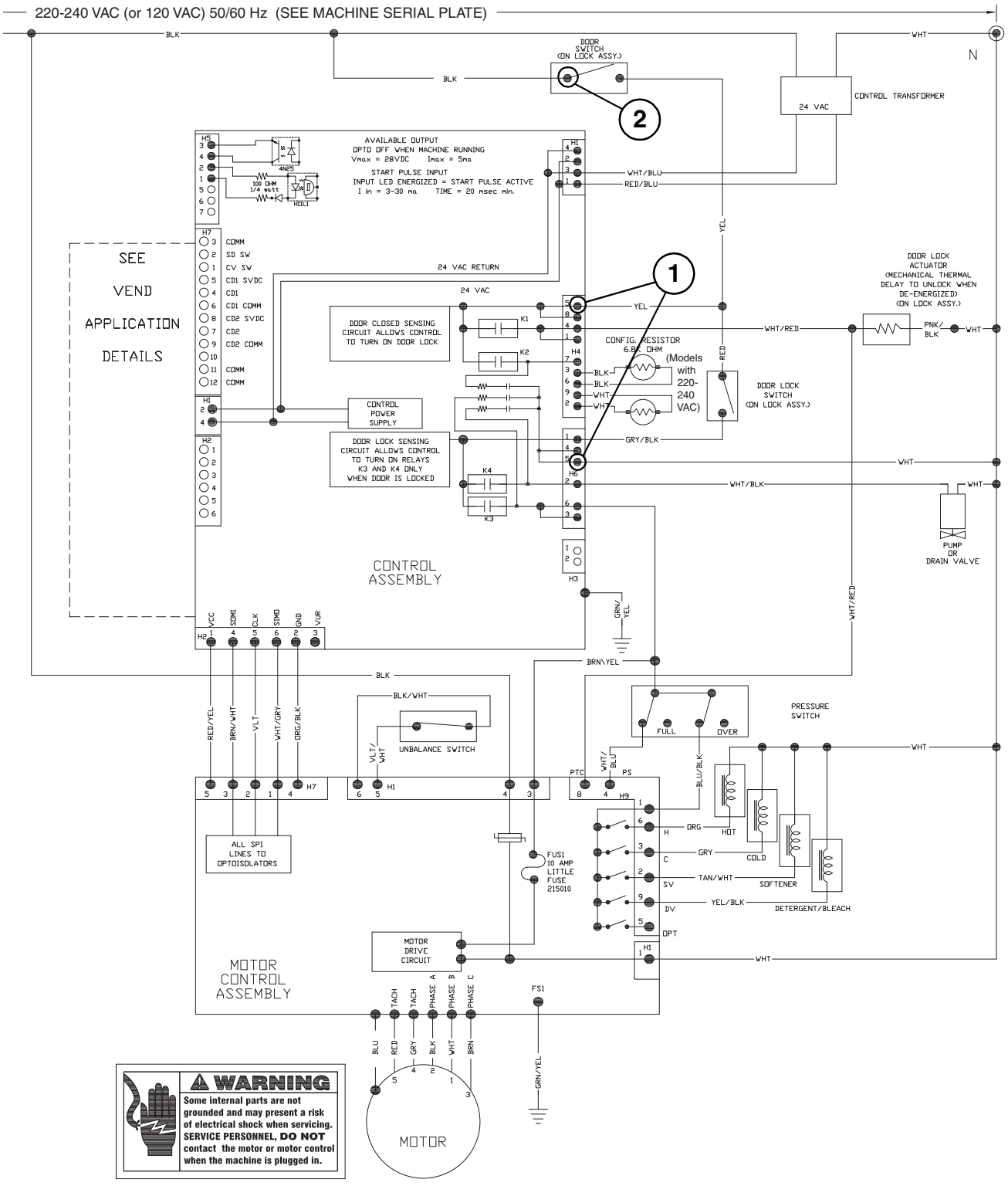


24. Washer Will Not Start – “door” Displayed (Door must be closed and attempting to lock)

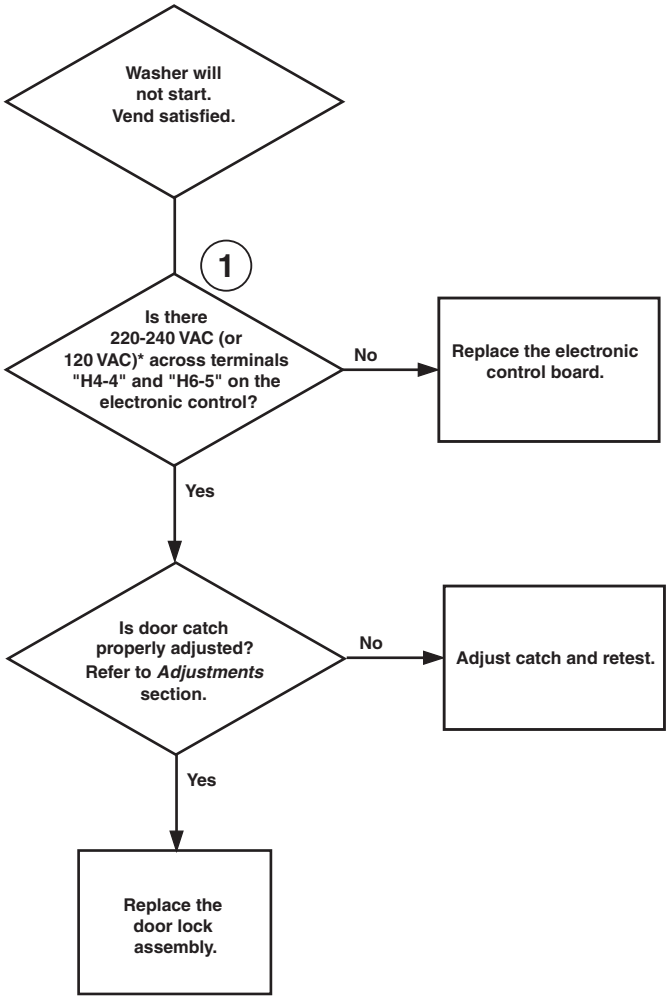


*Refer to machine serial plate for correct voltage.

Washer Will Not Start – “door” Displayed



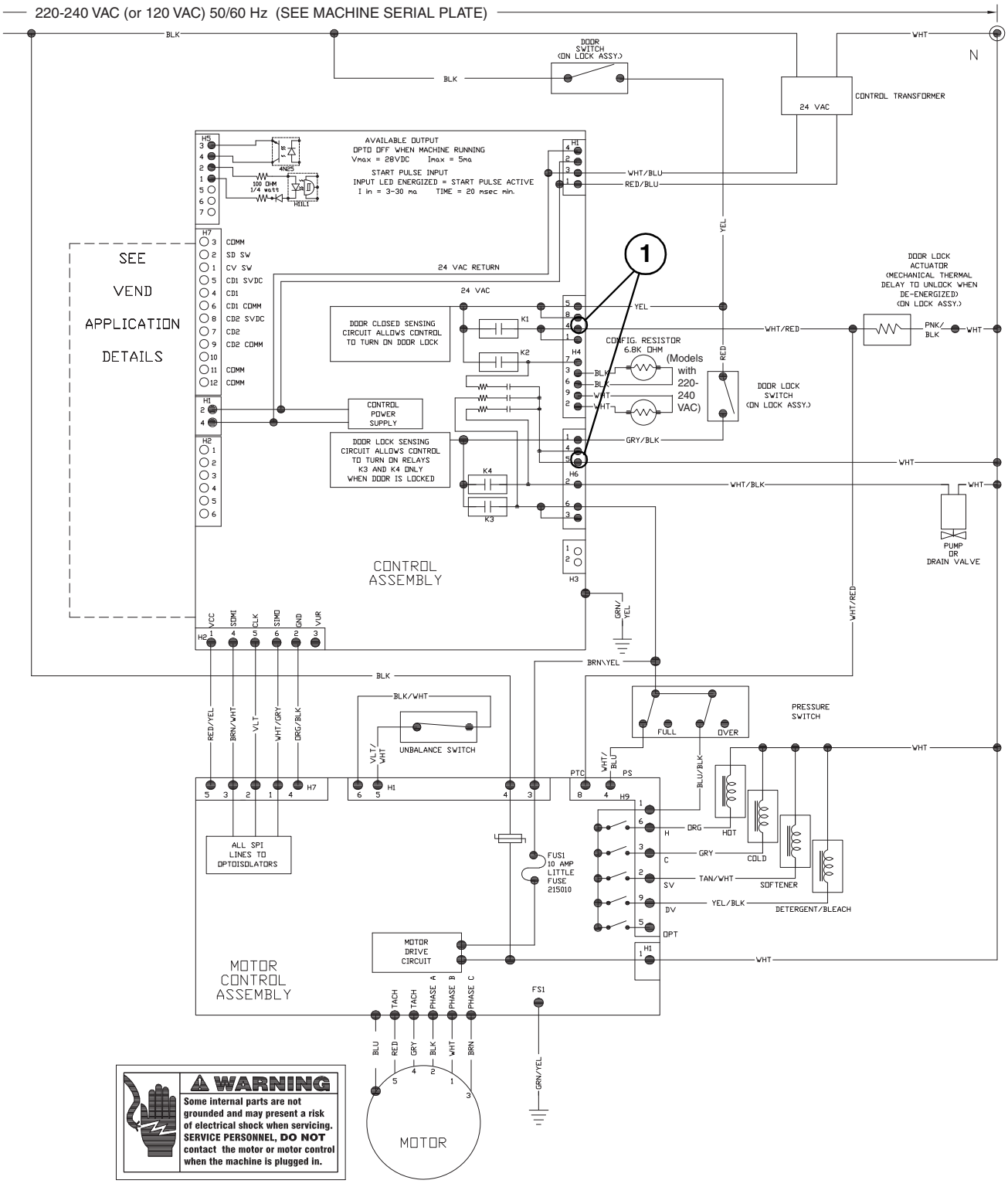
25. Washer Will Not Start – “E:dL” on Display



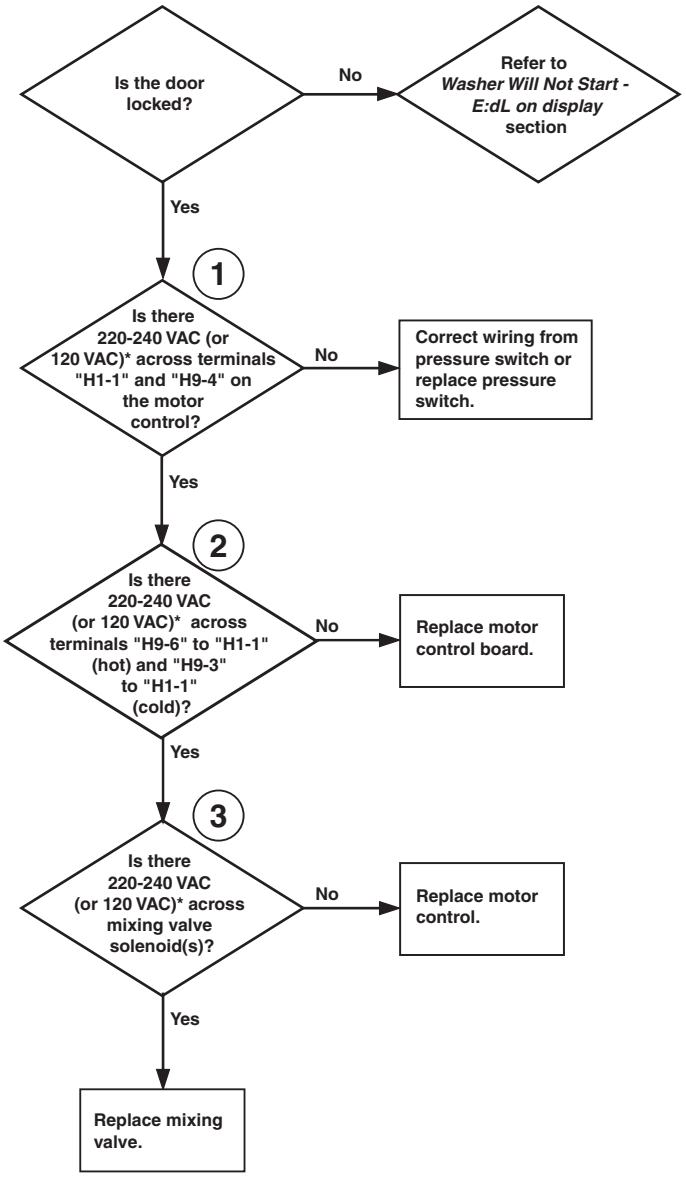
*Refer to machine serial plate for correct voltage.

FLW1773S

Washer Will Not Start – “E:dL” on Display



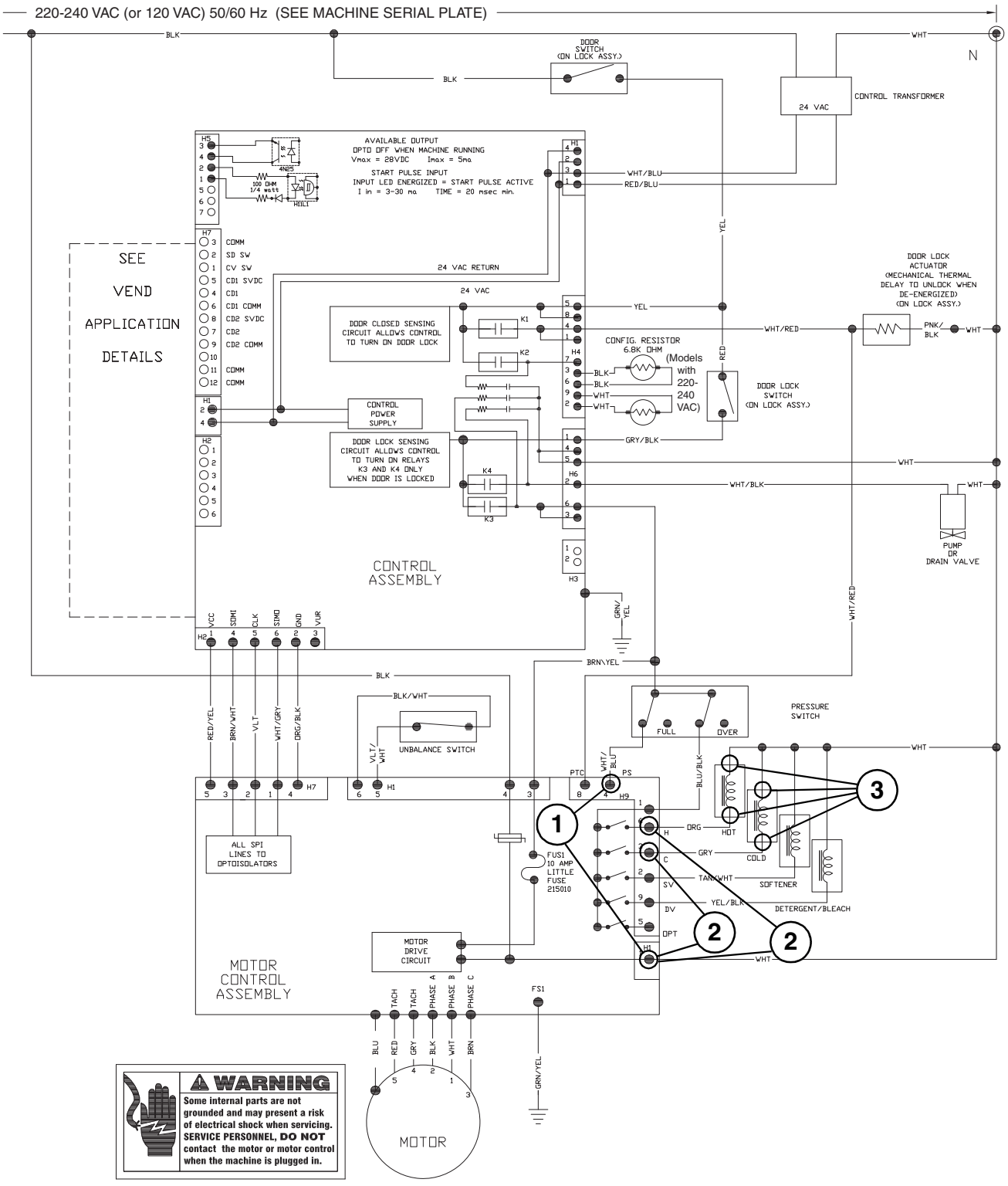
26. Washer Will Not Fill (Machine empty, no “E:SP” on display)



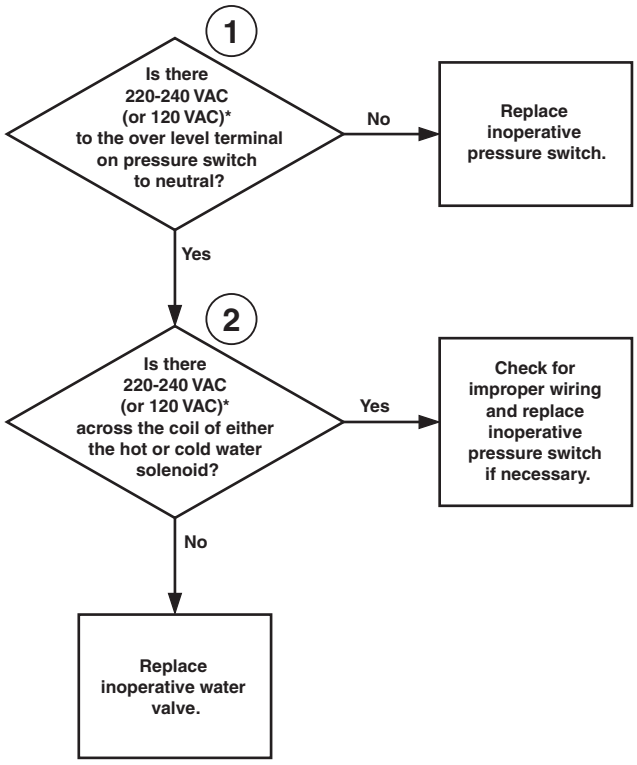
***Refer to machine serial plate for correct voltage.**

FLW1698S

Washer Will Not Fill (Machine empty, no “E:SP” on display)



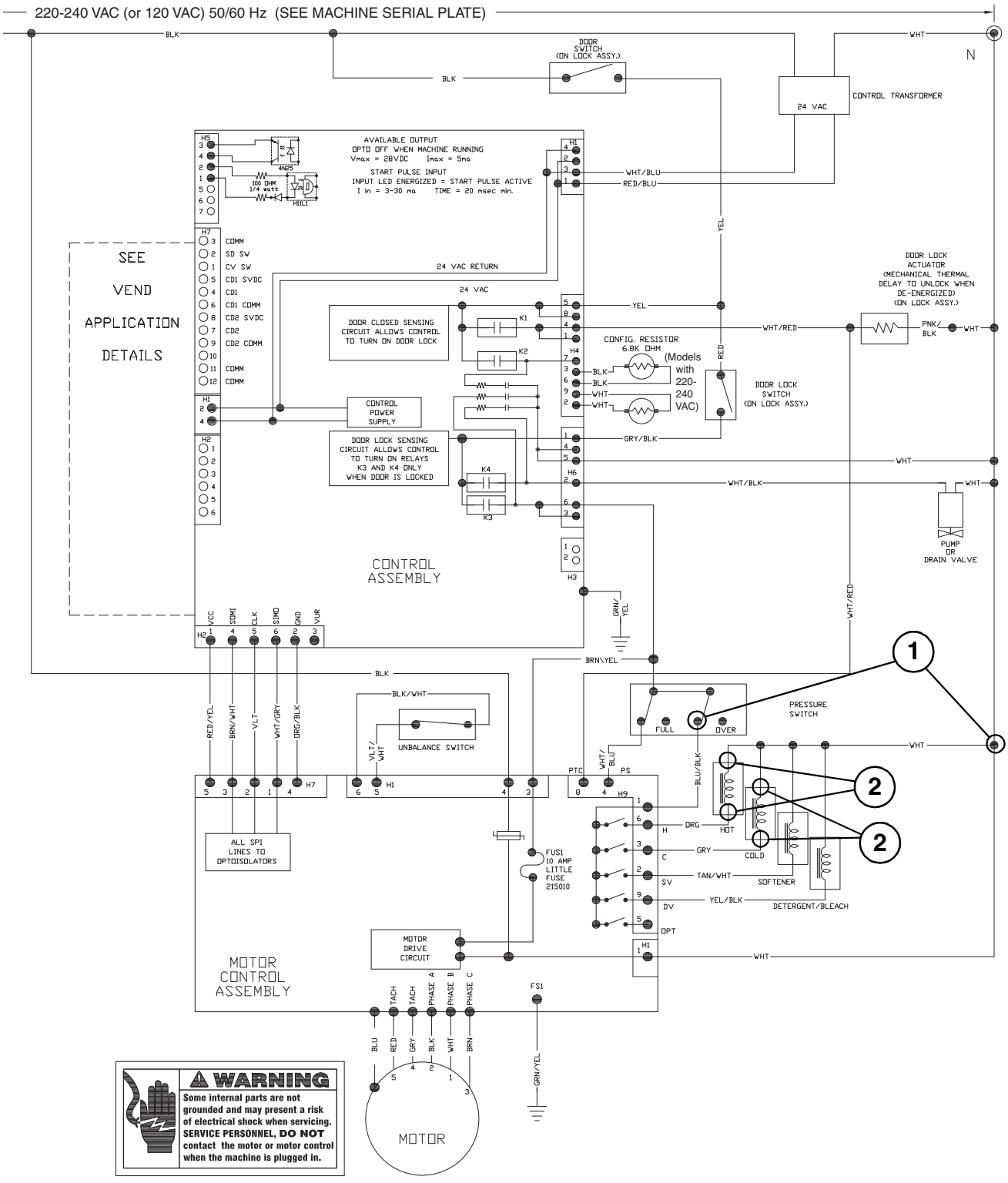
27. Washer Overflows



*Refer to machine serial plate for correct voltage.

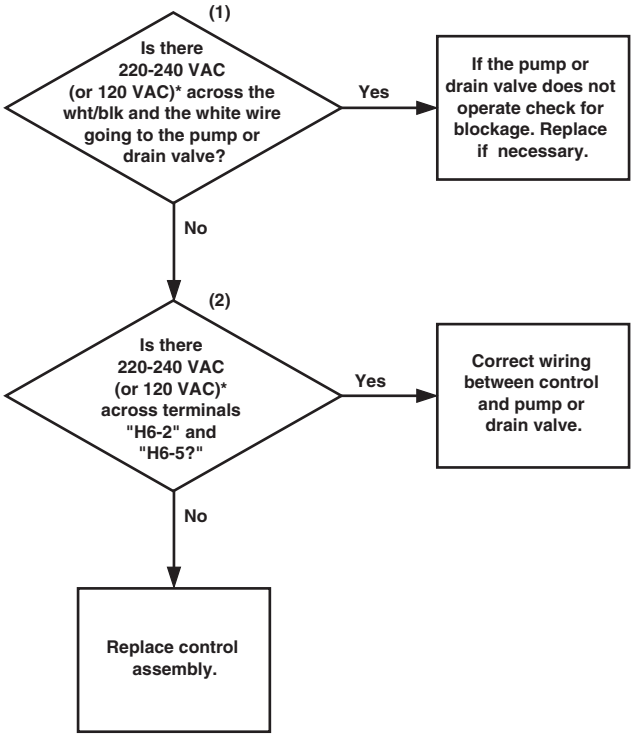
FLW1699S

Washer Overflows



28. Washer Pump or Drain Valve Does Not Operate

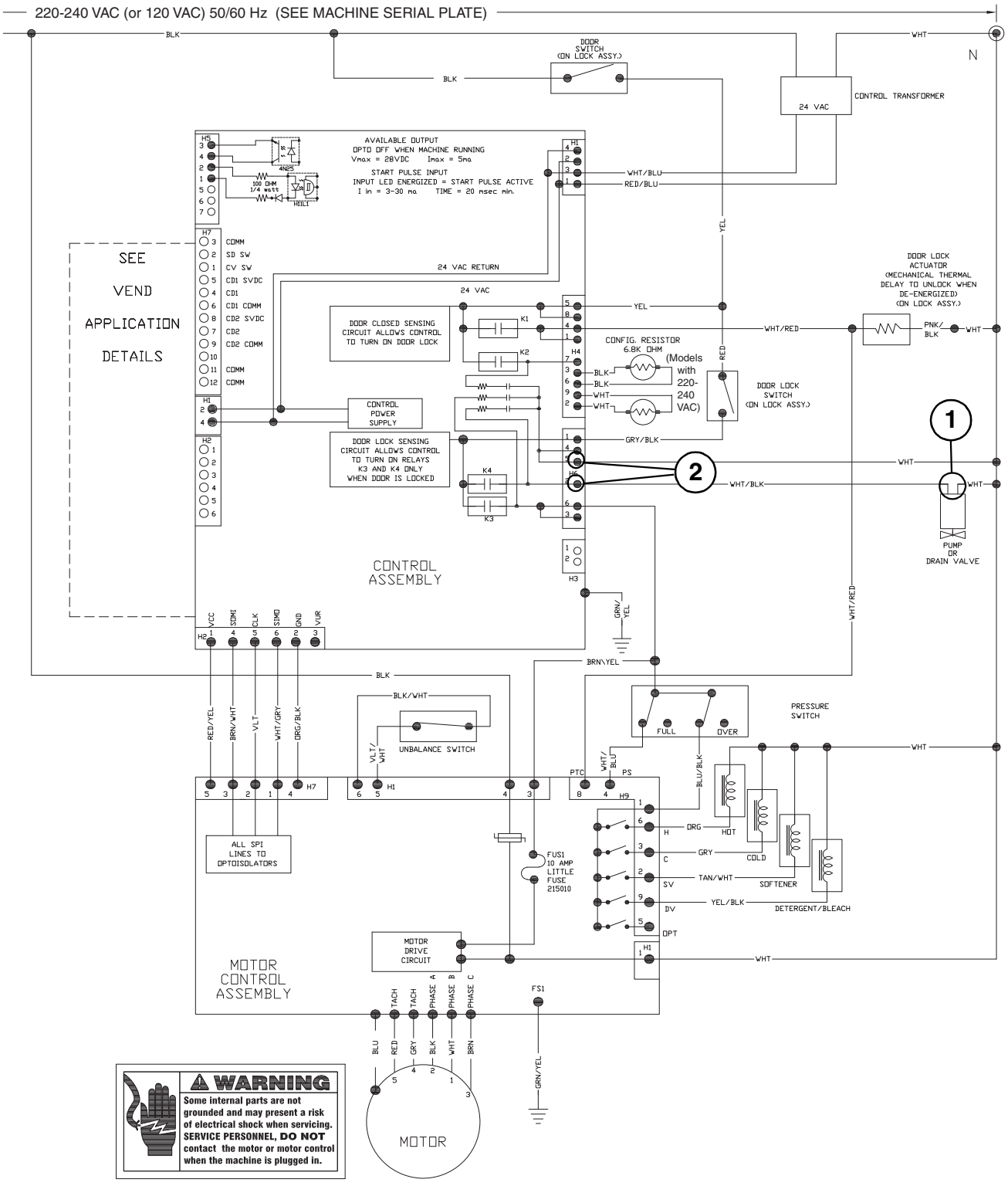
NOTE: Check at beginning of spin/drain portion of cycle.



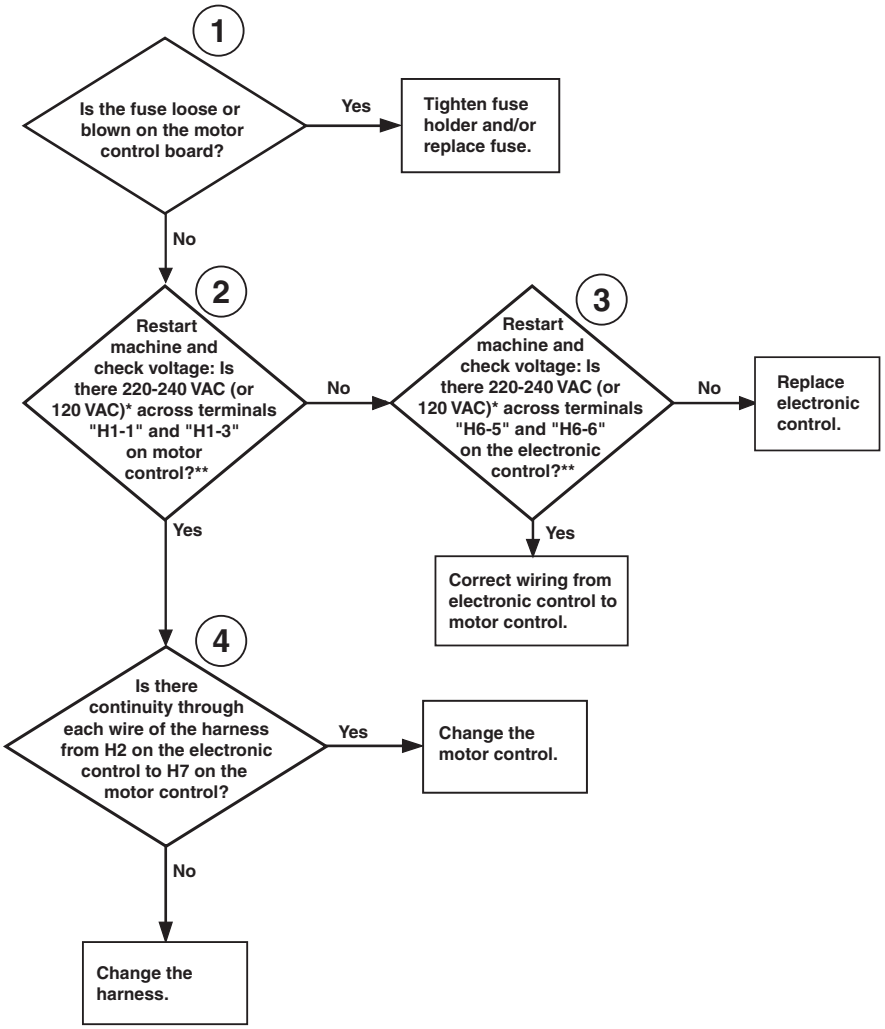
*Refer to machine serial plate for correct voltage.

FLW1700S

Washer Pump or Drain Valve Does Not Operate



29. Serial Communication Error (“E:SP” on washer display)

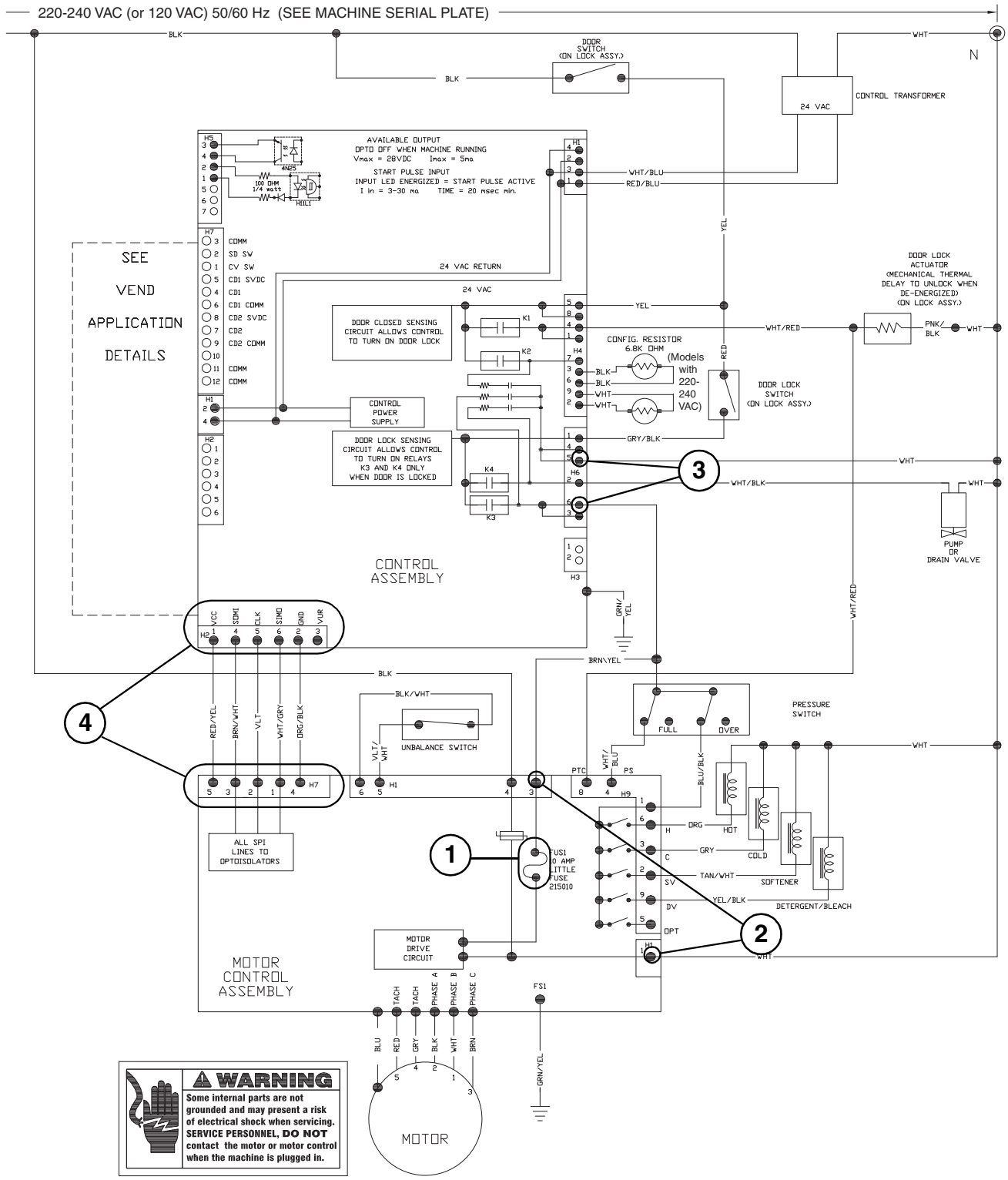


***Refer to machine serial plate for correct voltage.**

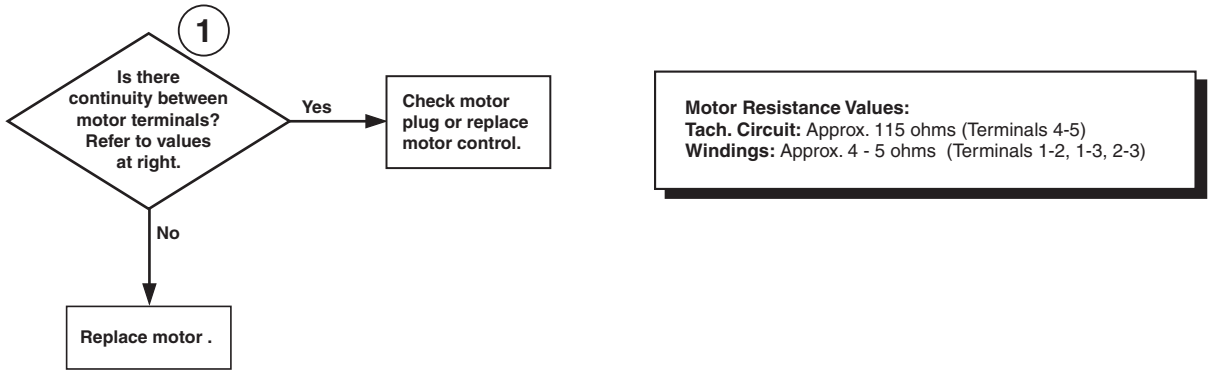
****NOTE: Machine must be restarted to check voltage. Voltage will be intermittently present during first 15 seconds until E:SP is displayed.**

FLW1701S

Serial Communication Error (“E:SP” on washer display)

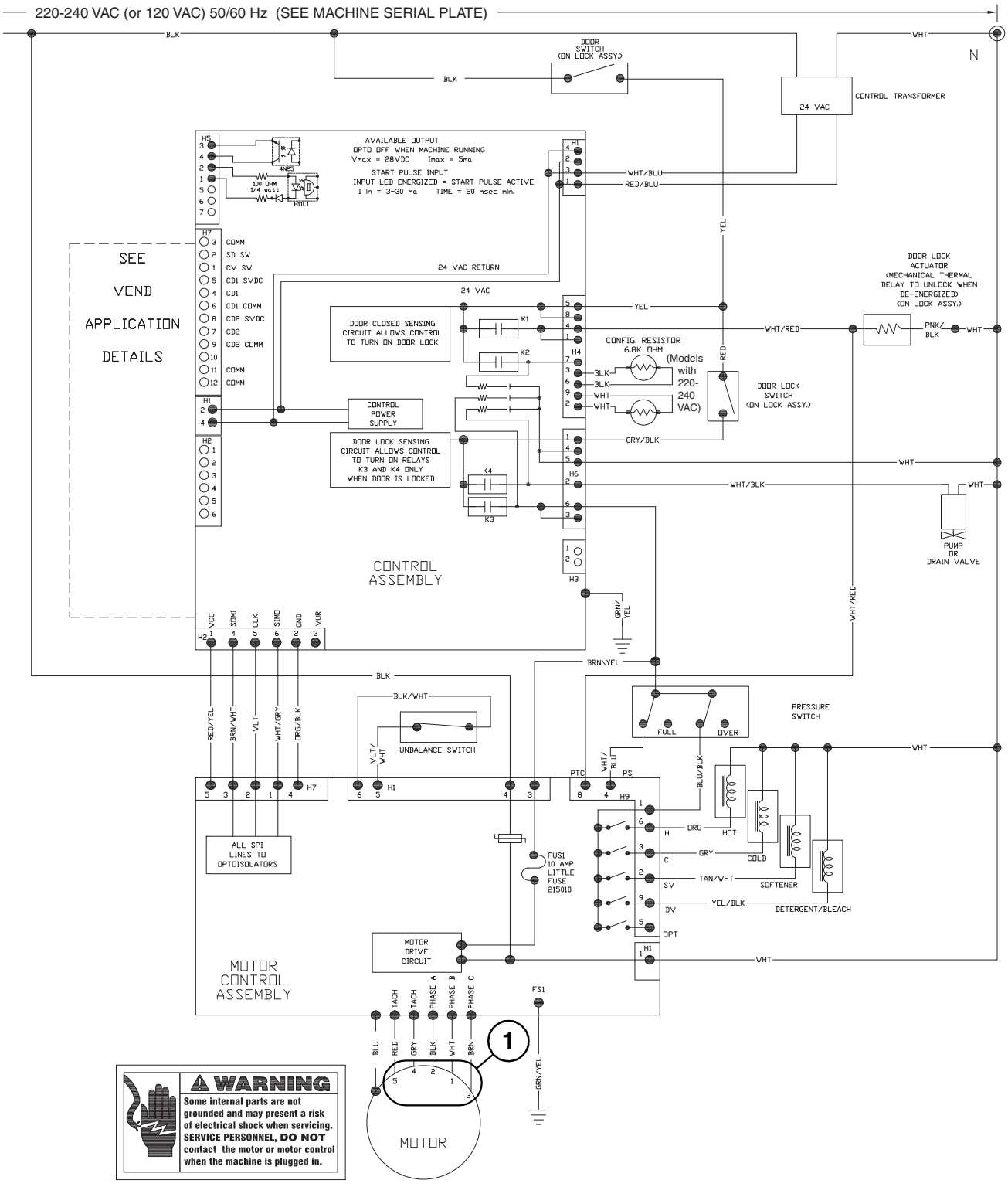


30. Washer Motor Does Not Run (“E:df” on display)

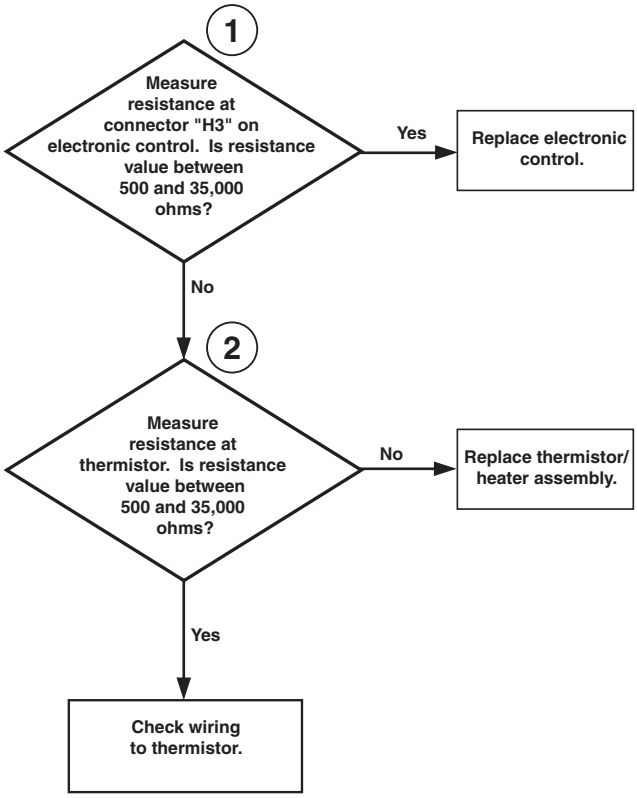


FLW1702S

Washer Motor Does Not Run (“E:df” on display)

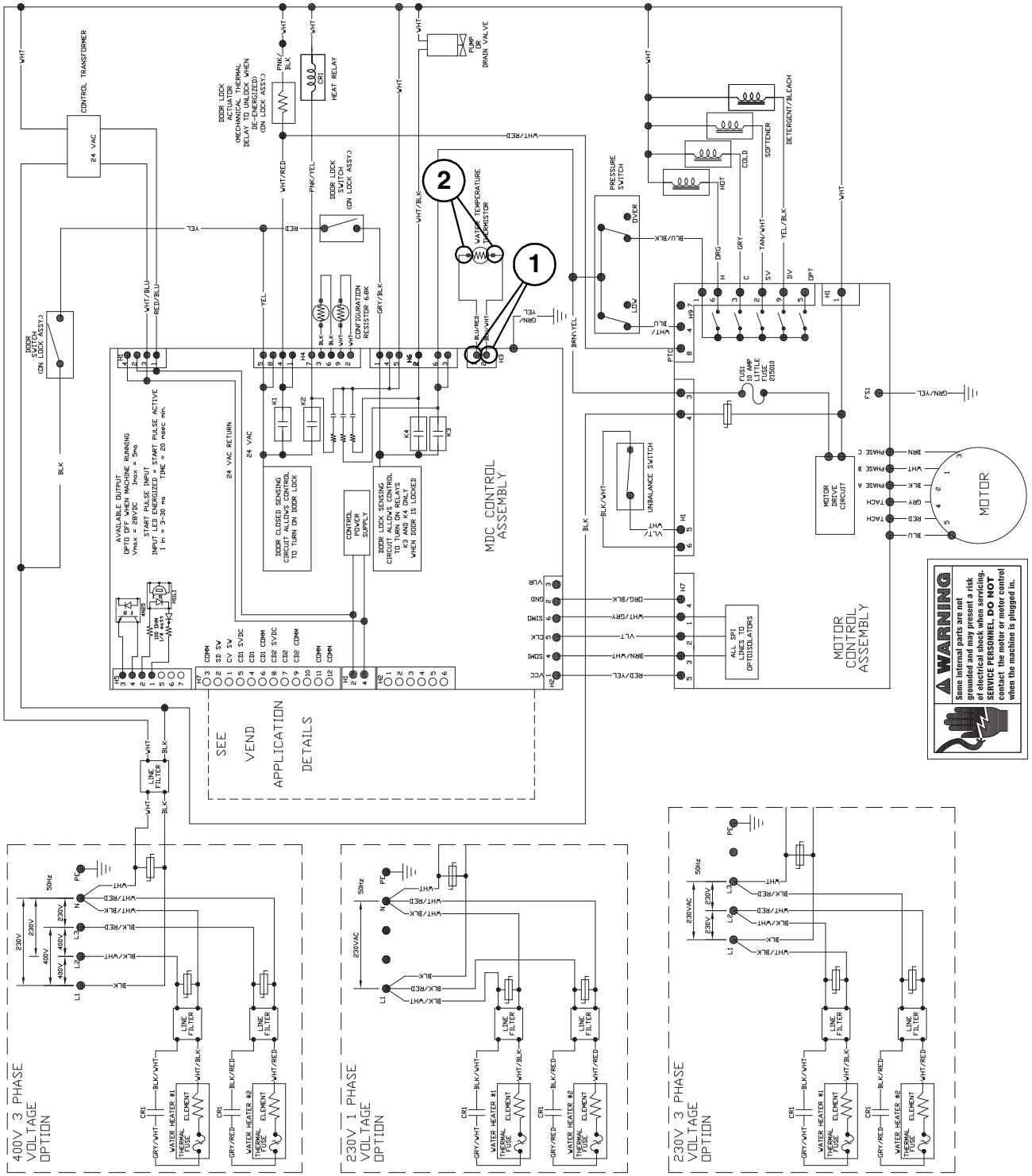


31. Washer Will Not Heat (“OP” or “SH” displayed) (Models equipped with heater)

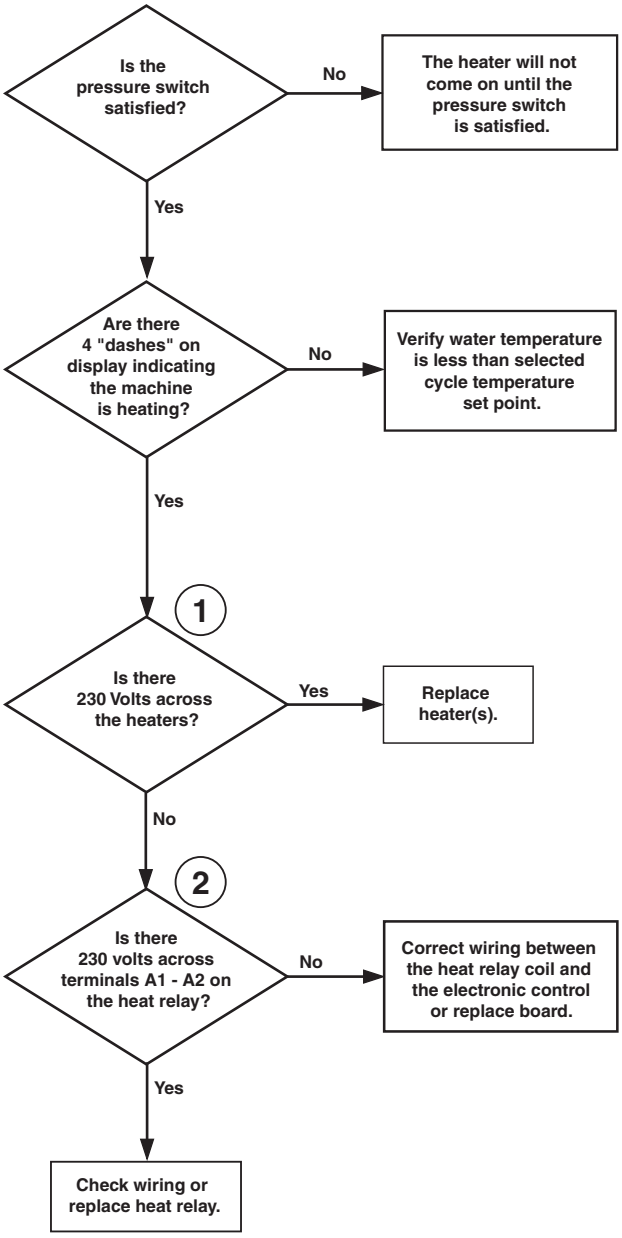


FLW1705S

Washer Will Not Heat (“OP” or “SH” displayed)

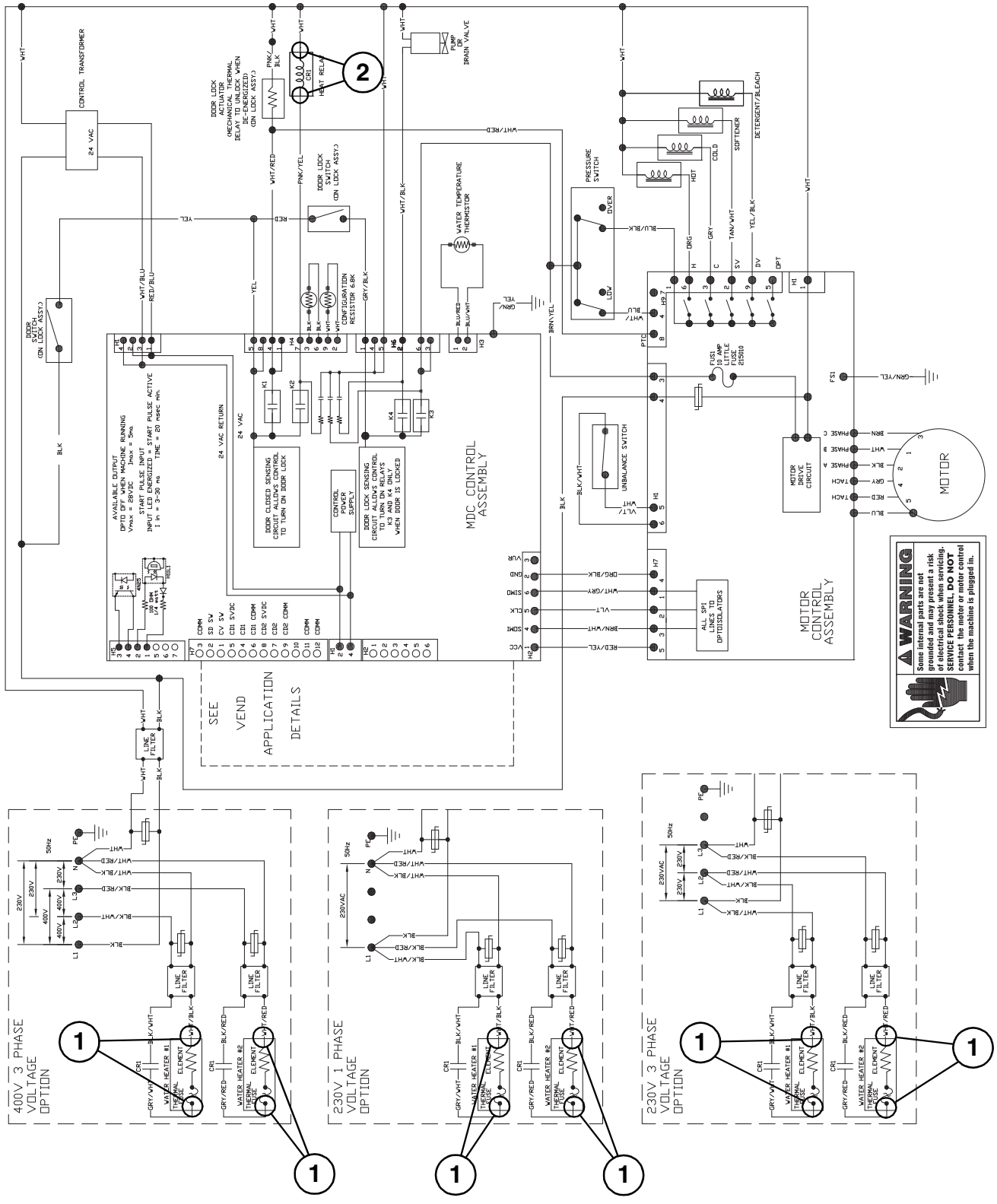


32. Washer Will Not Heat (Models equipped with heater)



FLW1703S

Washer Will Not Heat (Models equipped with heater)



Section 6
NetMaster Troubleshooting – Dryer Control

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

33. Error Code Listing

Display	Description	Cause/ Corrective Action
EI:00	General Communications Error	Communication problem. Re-aim Micro-wand and try again.
EI:01	Bad Transmission	Communication problem. Re-aim Micro-wand and try again.
EI:02	Device Timeout	Communication problem. Re-aim Micro-wand and try again.
EI:03	Invalid Command Code	Wrong machine type. Before downloading, ensure data is for current machine type.
EI:04	Expecting Upload Request	Communication problem. Re-aim Micro-wand and try again.
EI:05	Invalid or Out-of-Range Data	Wrong machine type. Before downloading, ensure data is for current machine type.
EI:06	Invalid Data Code	Wrong machine type. Before downloading, ensure data is for current machine type.
EI:07	Error Writing to RTC	Control failure. Control may need to be replaced.
EI:08	Error Writing to EEPROM	Control failure. Control may need to be replaced.
EI:09	CRC-16 Error	Communication problem. Re-aim Micro-wand and try again.
EI:0A	Invalid Machine Type	Wrong machine type. Before downloading, ensure data is for current machine type.
EI:0F	Invalid Wakeup or IR Disabled	Communication problem or IR is disabled. Manually enable IR on control/Re-aim Micro-wand and try again.
EC:00	General Communication Error	Communication problem. Try card again.
EC:02	Timeout Error	Communication problem. Try card again.
EC:03	Invalid Command Code	Wrong machine type. Before downloading, ensure data is for current machine type.
EC:05	Invalid or Out-of-Range Data	Wrong machine type. Before downloading, ensure data is for current machine type.
EC:06	Invalid Data Code	Wrong machine type. Before downloading, ensure data is for current machine type.
EC:09	Corrupted Data Error	Communication error. Try card again.
EC:0A	Invalid Machine Type	Wrong machine type. Before downloading, ensure data is for current machine type.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

Display	Description	Cause/ Corrective Action
EC:19	No Card Reader Communication	Communication problem. Power down, power up and try again. If error persists, control or reader is bad.
EC:20	Unreadable Card	Bad card/ dirty contact. Clean chip on card or card reader contacts. Try card again. If error persists, card may be bad.
EC:21	Security ID Mismatch	Wrong card. Use card with correct security code.
EC:22	Site Code Mismatch	Wrong card. Use card with correct site code.
EC:23	Card Maximum Value Exceeded	Value on card over max. Use a card which does not exceed maximum value.
EC:24	Insufficient Memory on Card	Card memory is full. Download card contents to PC and clear card for re-use.
EC:25	Card Reader Malfunction	Bad Card Reader. Card Reader may need to be replaced.
EC:26	Card Write Error	Try card again. If error persists, card may be bad.
EC:27	Diagnostic Test Card Write Failure	Bad Card Reader. Card Reader may need to be replaced.
EC:28	Diagnostic Test Card Read Failure	Bad Card Reader. Card Reader may need to be replaced.
EC:29	Diagnostic Test Memory Test Failure	Bad Card Reader. Card Reader may need to be replaced.
EC:2A	Diagnostic Test Card Interface Failure	Bad Card Reader. Card Reader may need to be replaced.
EC:2b	Diagnostic Test Flash Checksum Failure	Bad Card Reader. Card Reader may need to be replaced.
EC:2C	Bad Biberon or Non-biberon Device	Bad Card Reader. Card Reader may need to be replaced.
EC:2d	Firmware Update Failed, S/W (Software) Intact	Firmware load failed. Card Reader may need to be replaced.
EC:2E	Firmware Update Failed, S/W Not Intact	Bad firmware in reader. Card Reader may need to be replaced.
EC:2F	Firmware Updated, S/W Not Intact	Bad firmware in reader. Card Reader may need to be replaced.
EC:30	Timeout Error	Card Reader may need to be replaced.
EC:31	Hotlisted Card Inserted Into Reader	Card hotlisted. Control will destroy card.
EC:50	Loyalty Purse Read Error	Try card again. If error persists, card may be bad.
EC:56	Loyalty Purse Write Error	Try card again. If error persists, card may be bad.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

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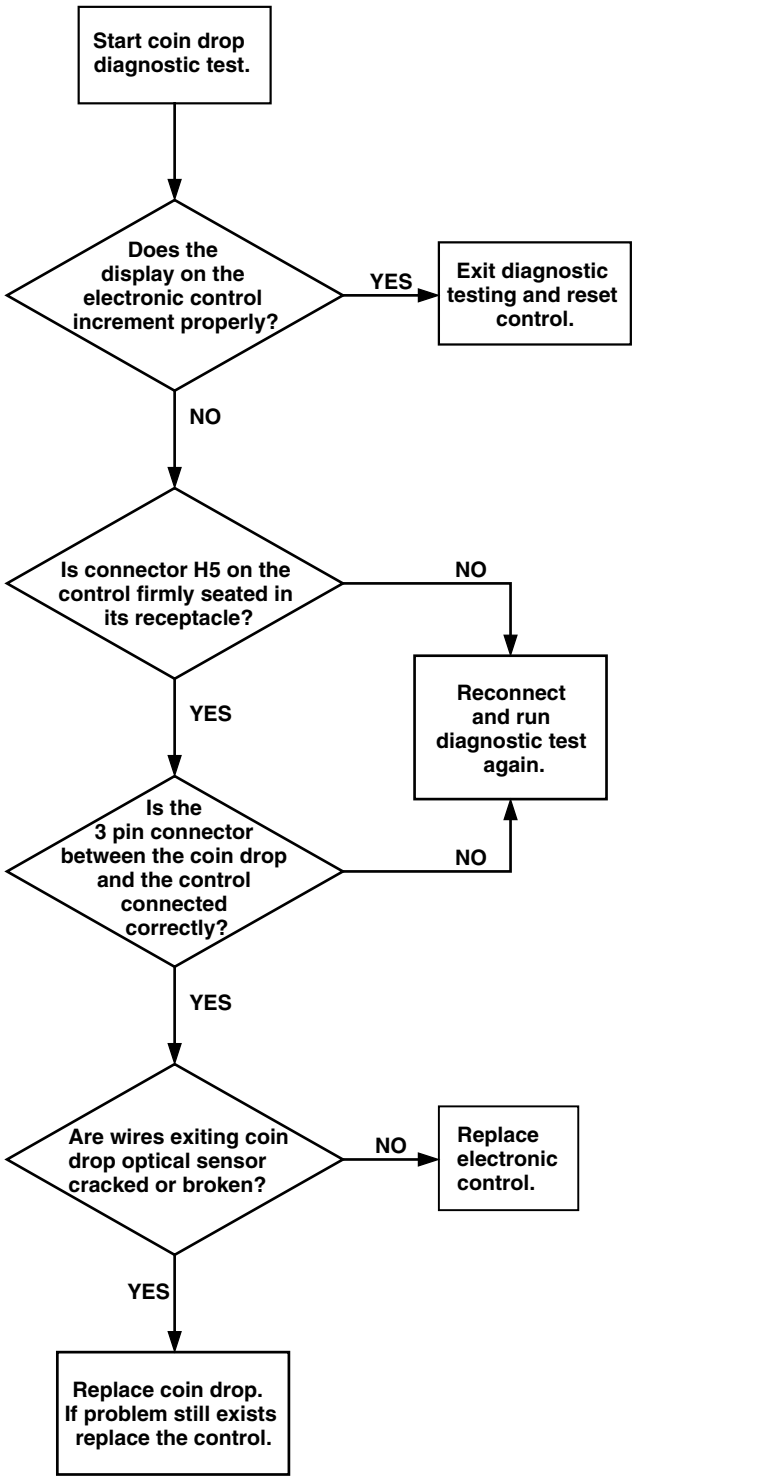
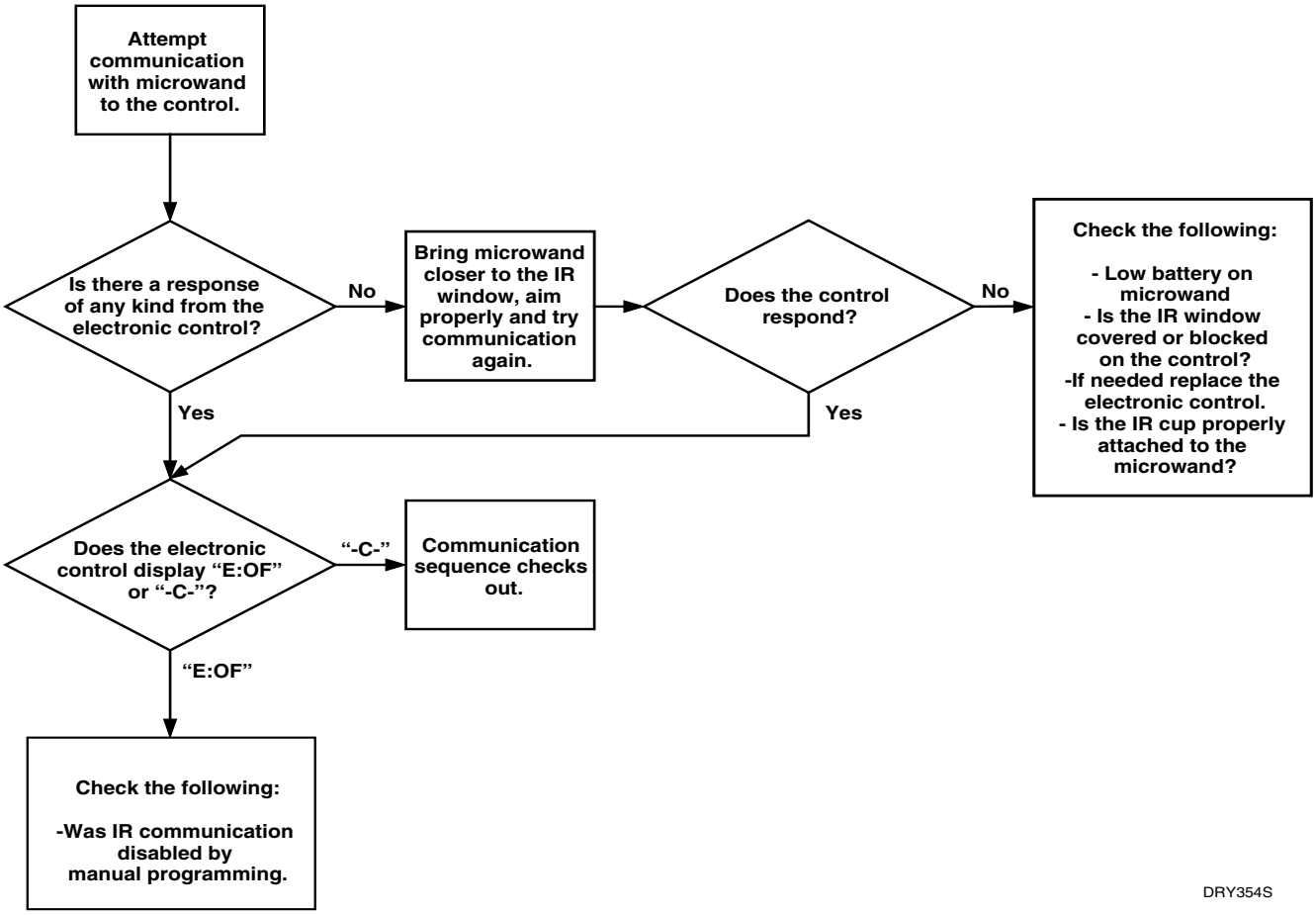
Display	Description	Cause/ Corrective Action
Right most DP (decimal point) Lit	Network Communication Error	Communication problem. Wait for 1.5 minutes for error to clear. If it doesn't, power-down and power-up the machine. If error persists, control or Network Board may need to be replaced.
Err	Coin Error	Invalid coin pulse.
Alrm	Breakin Alarm Error	Service door or coin vault switches.
OFF	Breakin Alarm Shutdown Error	Service door or coin vault switches.
E:OP	Open Thermistor Error	Physical "open" in thermistor circuit. Possible causes are thermistor, wiring between control and thermistor, or control.
E:SH	Shorted Thermistor Error	"Short" in thermistor circuit. Possible causes are shorted thermistor, short in wiring between control and thermistor, or control.
E:00	General Error	Re-aim Micro-wand and try again.
E:01	Proximity Error	Micro-wand is improperly aimed at infrared communicator (angle or distance). Re-aim Micro-wand and try again.
E:02	IR Communication Disconnection	Micro-wand removed before communication complete. Re-aim micro-wand and try again.
E:05	Invalid Value Communication	Invalid code downloaded from Micro-wand to Electronic Control. Before downloading, ensure data is for current machine type.
E:07	Inoperative Control	Replace control.
E:08	Inoperative Control	Replace control.
E:09	Proximity Error	Micro-wand is improperly aimed at infrared communicator (angle or distance). Re-aim Micro-wand and try again.
EI:0A	Proximity Error	Micro-wand is improperly aimed at infrared communicator (angle or distance). Re-aim Micro-wand and try again.
E:0B	IR Communication Disconnection	Micro-wand removed before communication complete. Re-aim Micro-wand and try again.
E:0C	IR Communication Disconnection	Micro-wand removed before communication complete. Re-aim Micro-wand and try again.
E:0F	IR Communicator Programmed Off	Reprogram infrared communicator on. Manually enable IR on control/Re-aim micro-wand and try again.
Err	Coin Error	Inoperative coin sensor. Check coin drop area and remove obstructions. Possible tampering. Evaluate security procedures.

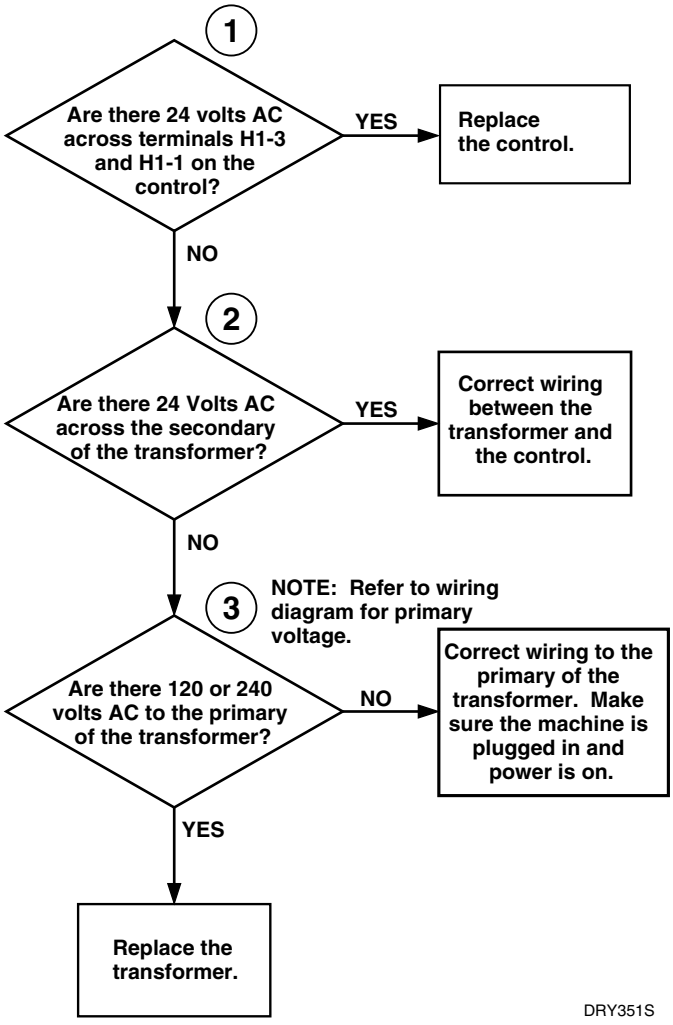
34. Coins Ignored When Entered in Dryer Coin Drop



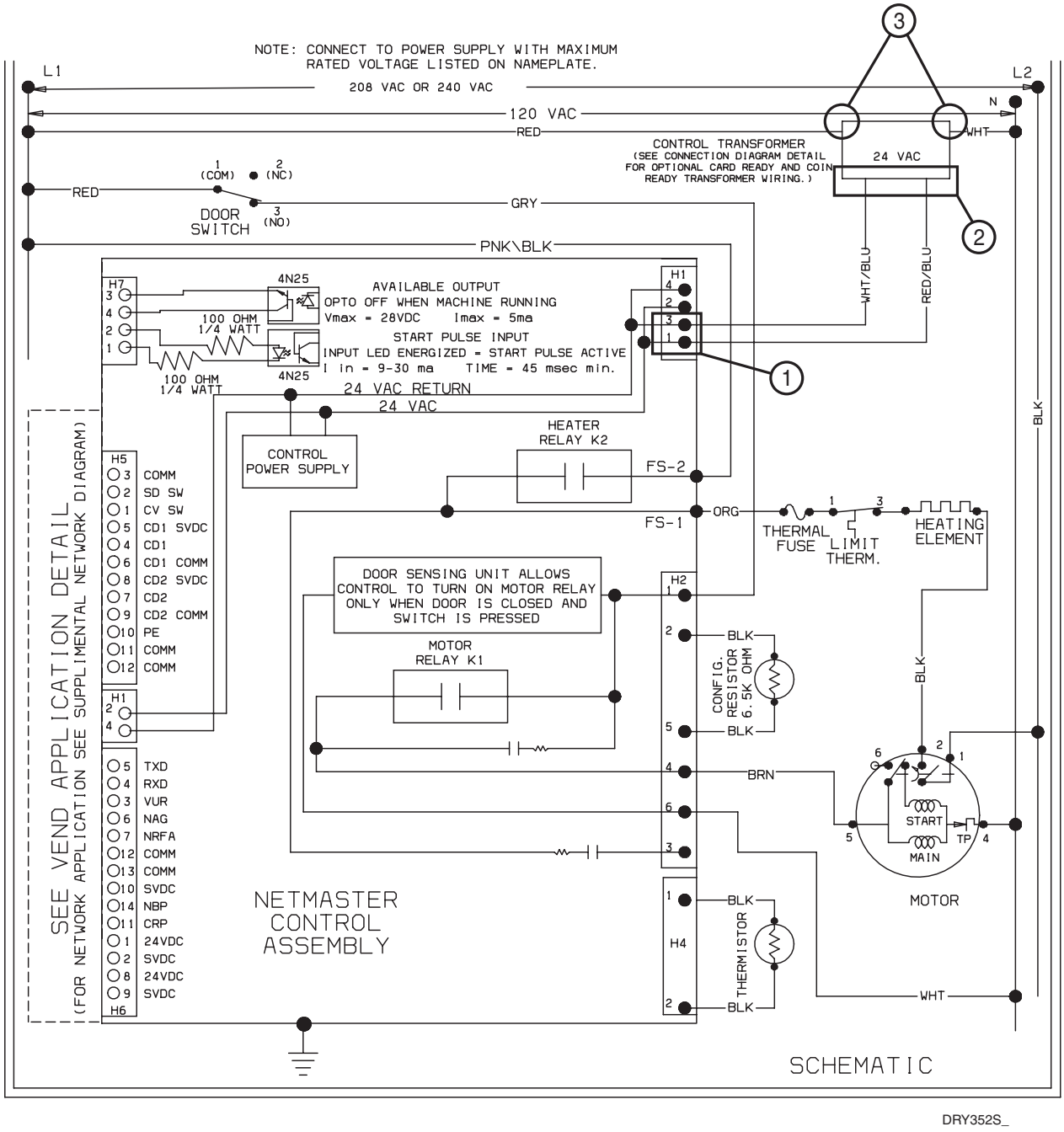
35. No IR Communication with Dryer Control



36. No Display on Dryer Control

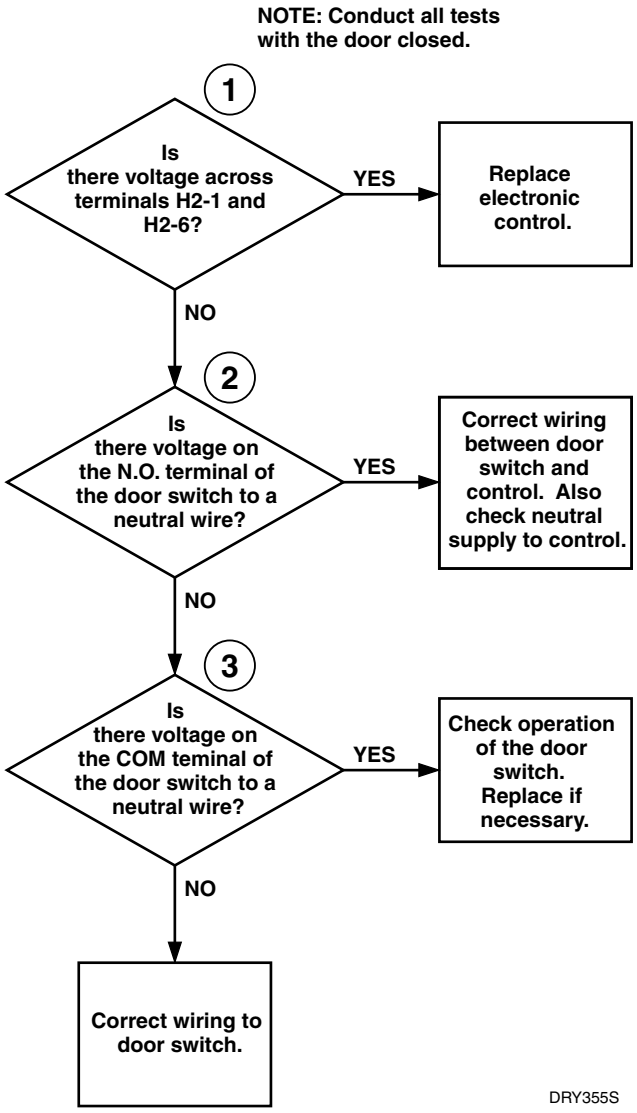


No Display on Dryer Control

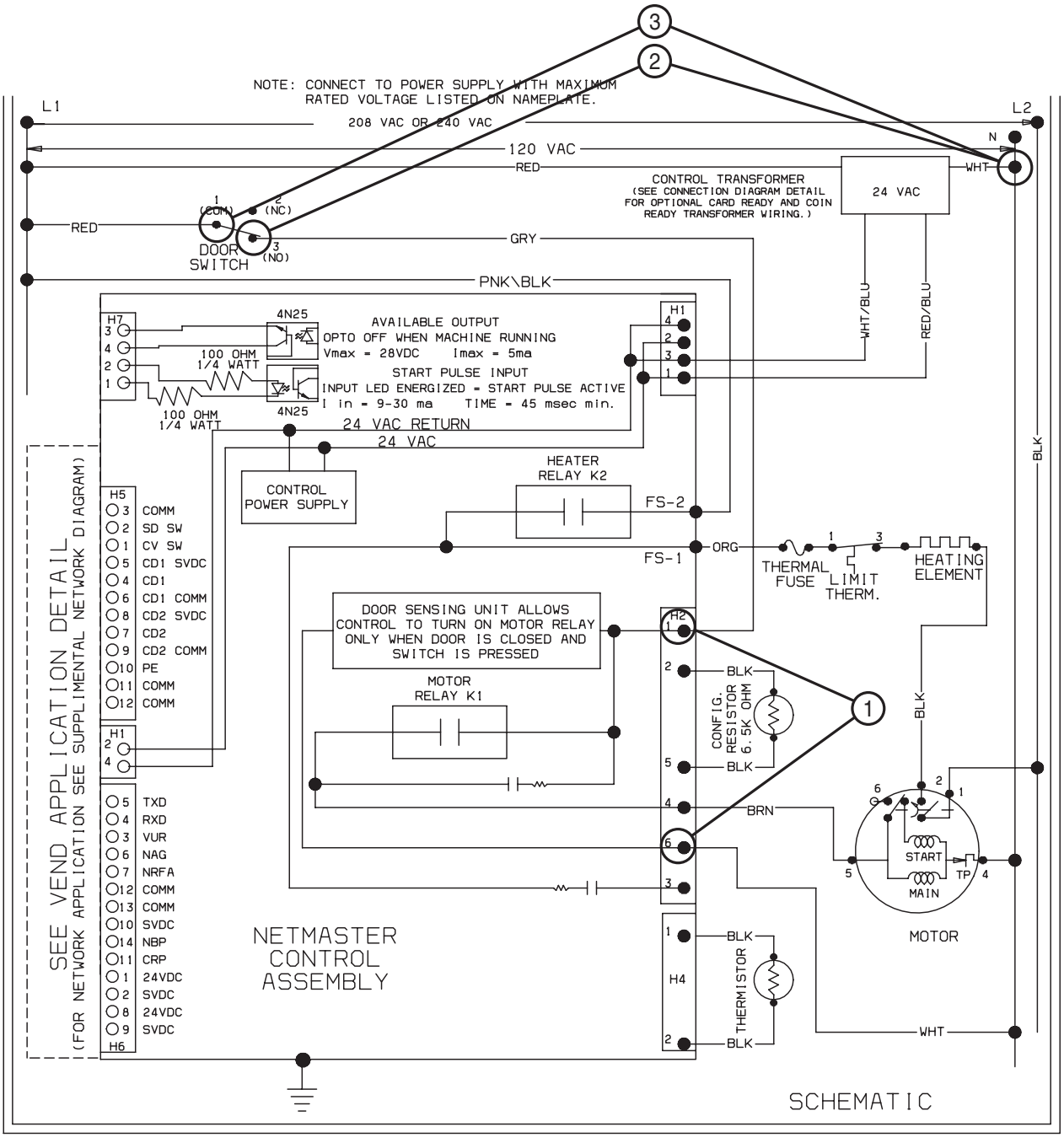


DRY352S_

37. Dryer Door Open

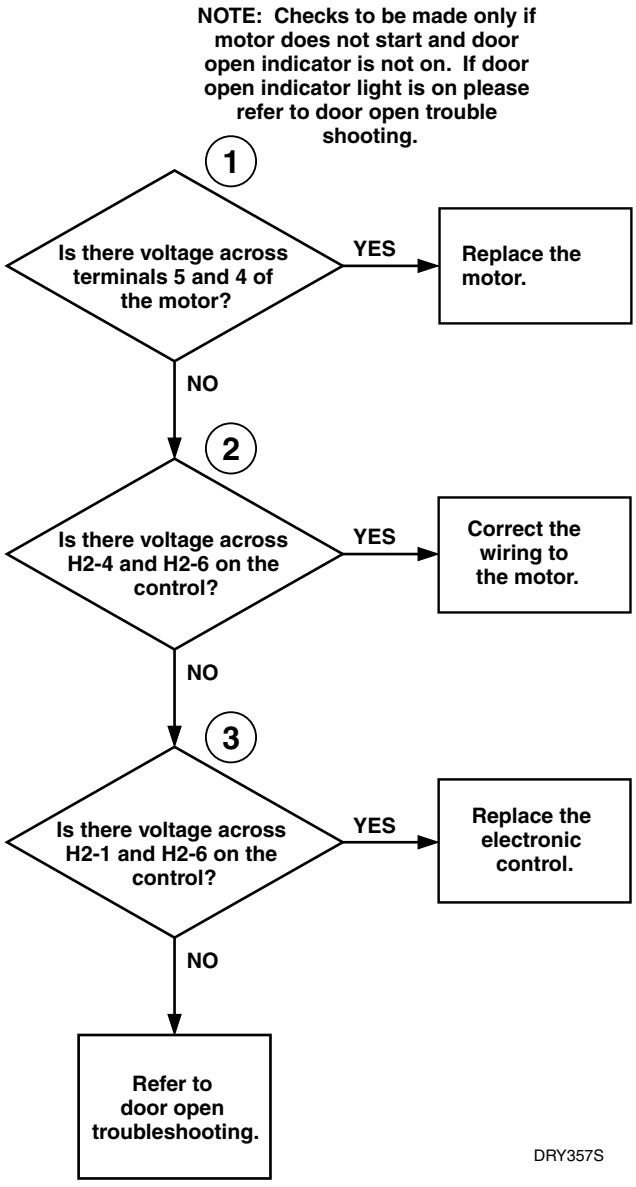


Dryer Door Open

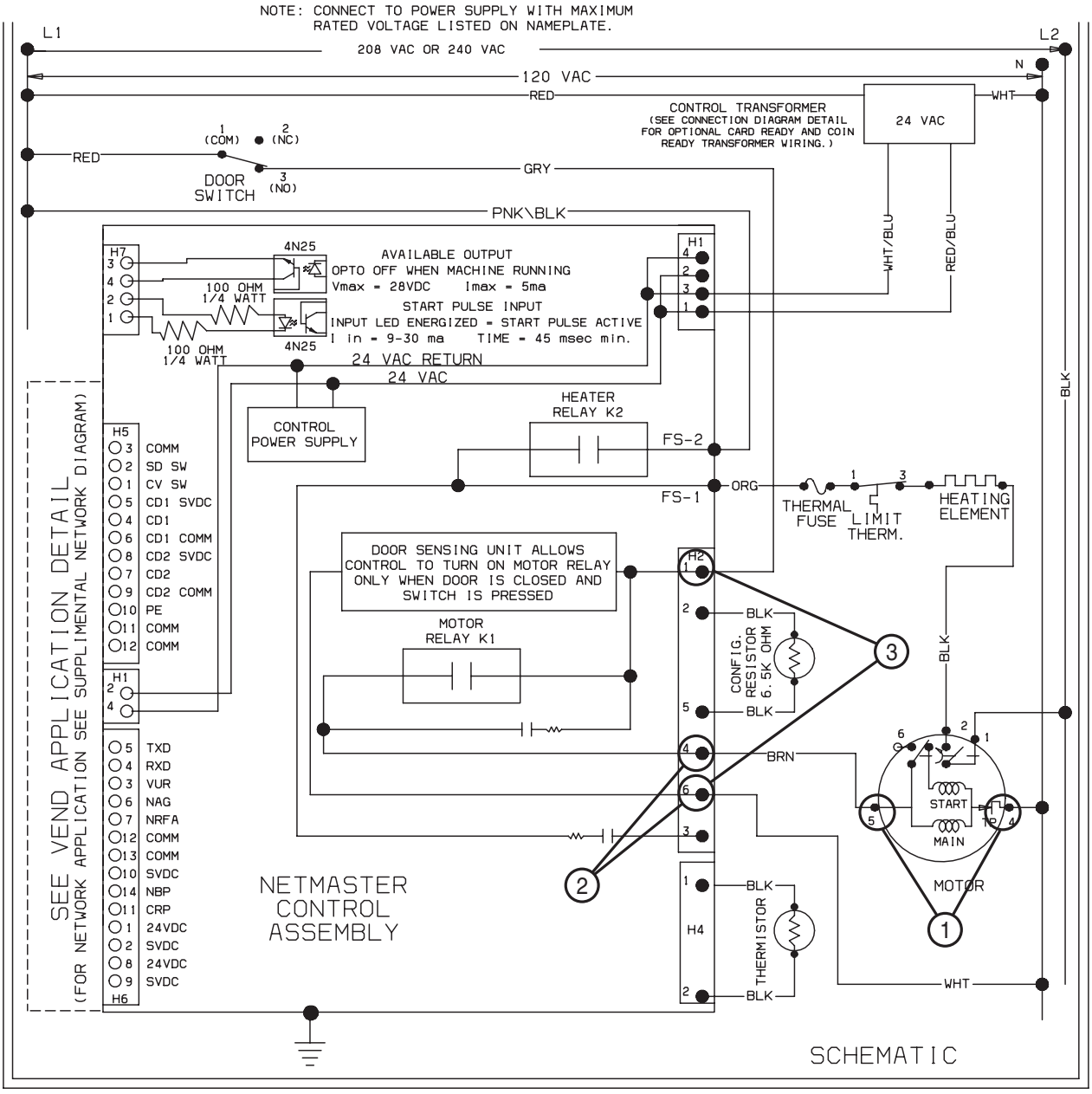


DRY356S_

38. Dryer Motor Will Not Start

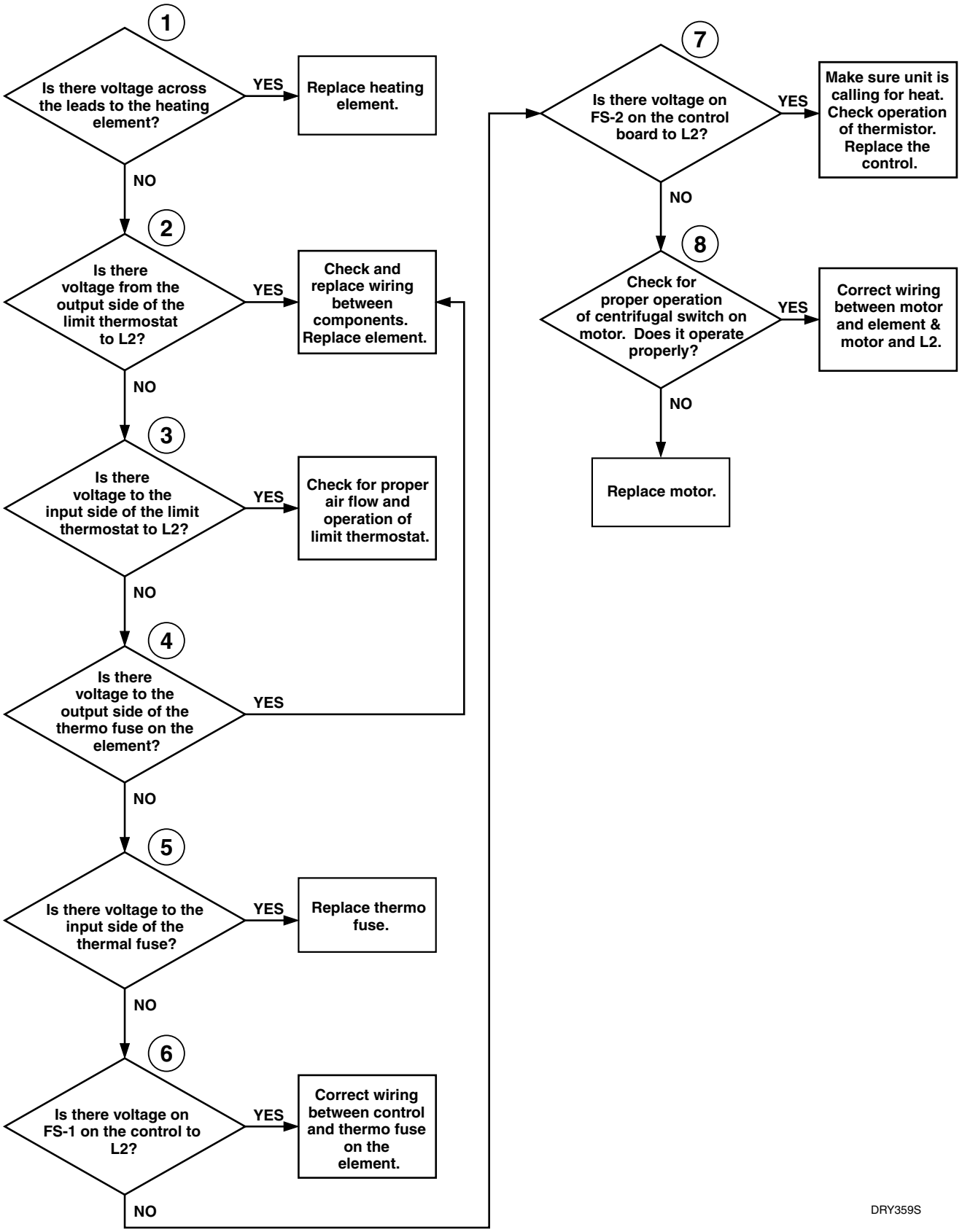


Dryer Motor Will Not Start

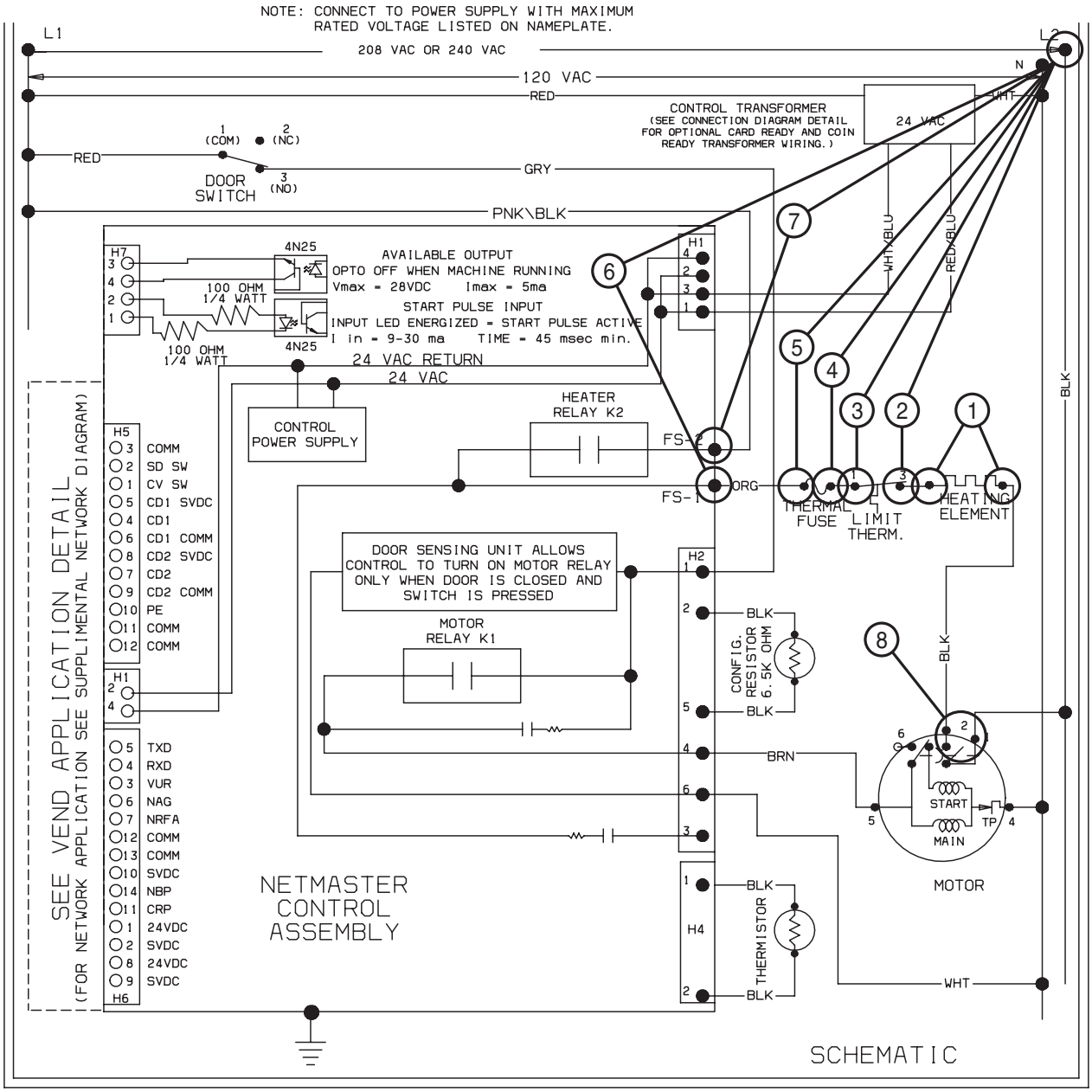


DRY358S_

39. No Heat (Electric Dryer Models)

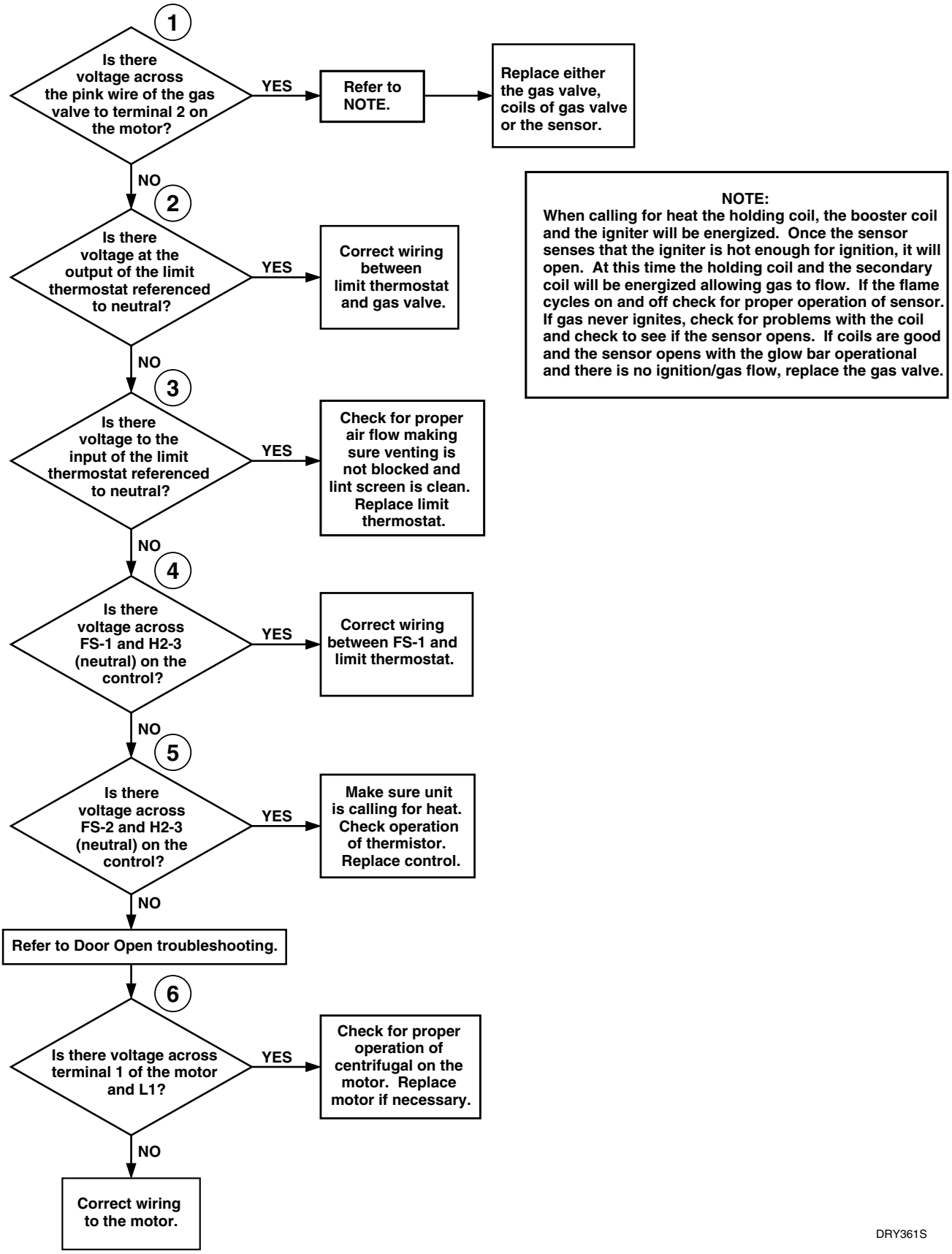


No Heat (Electric Dryer Models)

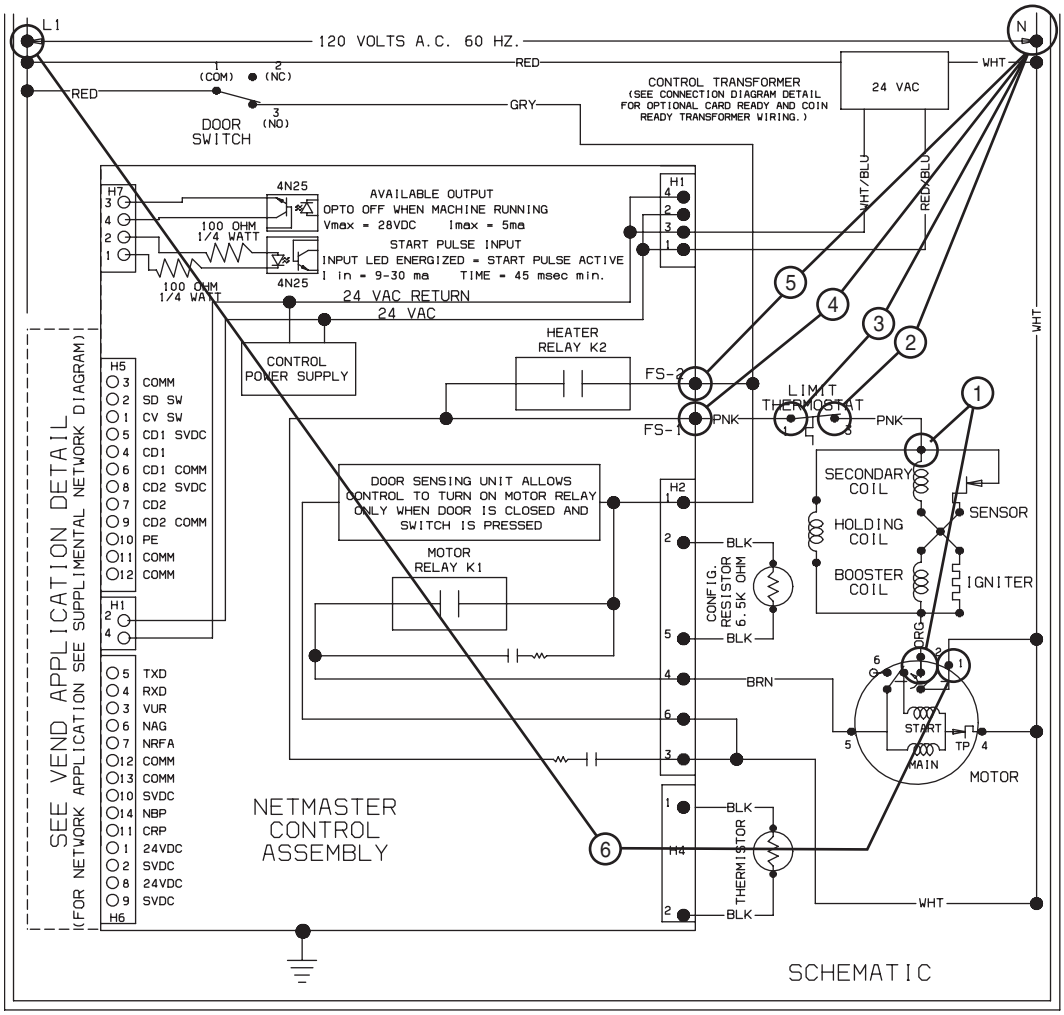


DRY360S_

40. No Heat (Gas Dryer Models)



No Heat (Gas Dryer Models)



DRY362S_

Section 7
MDC Troubleshooting – Dryer Control

WARNING

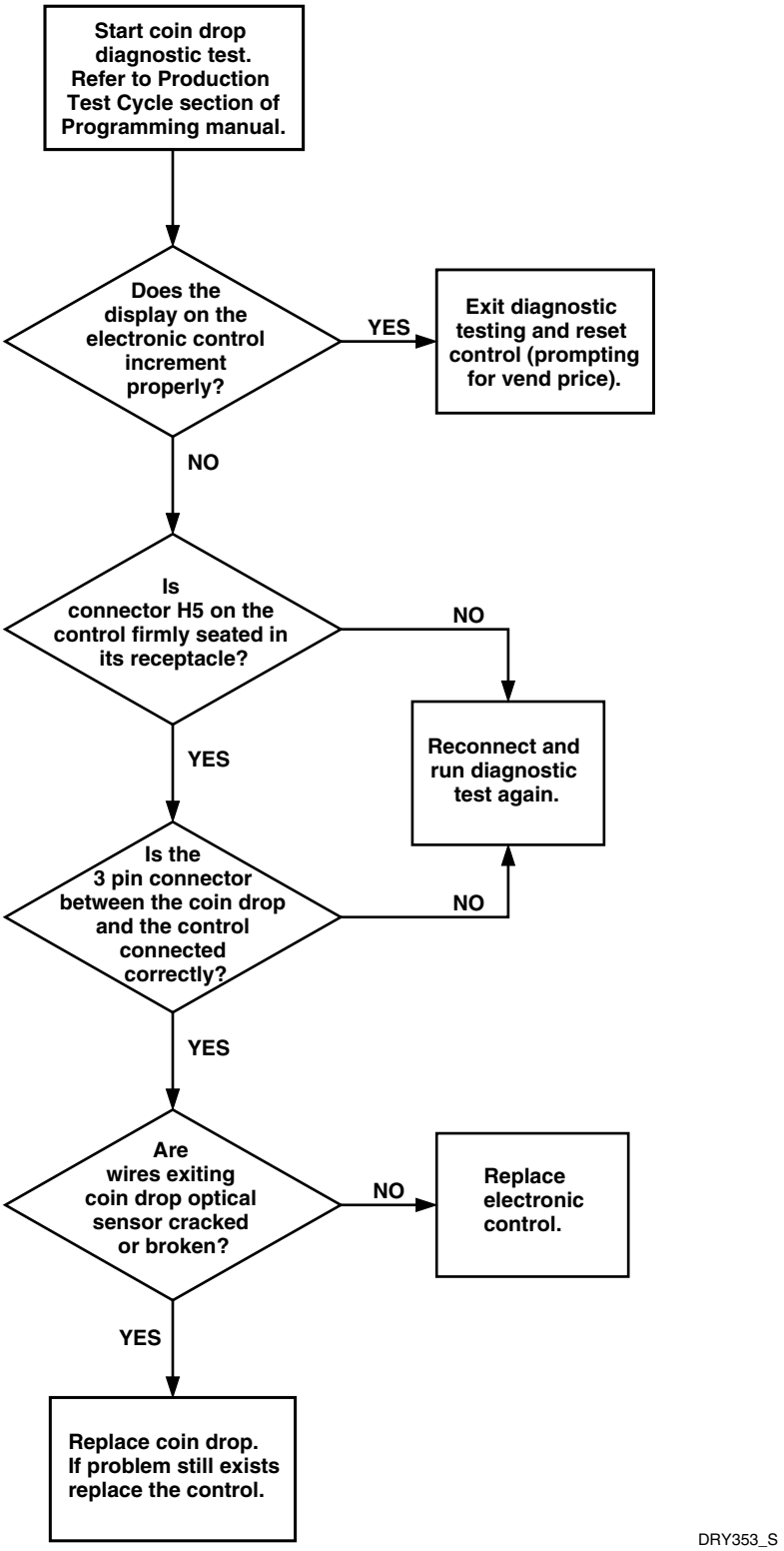
To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

41. Error Code Listing

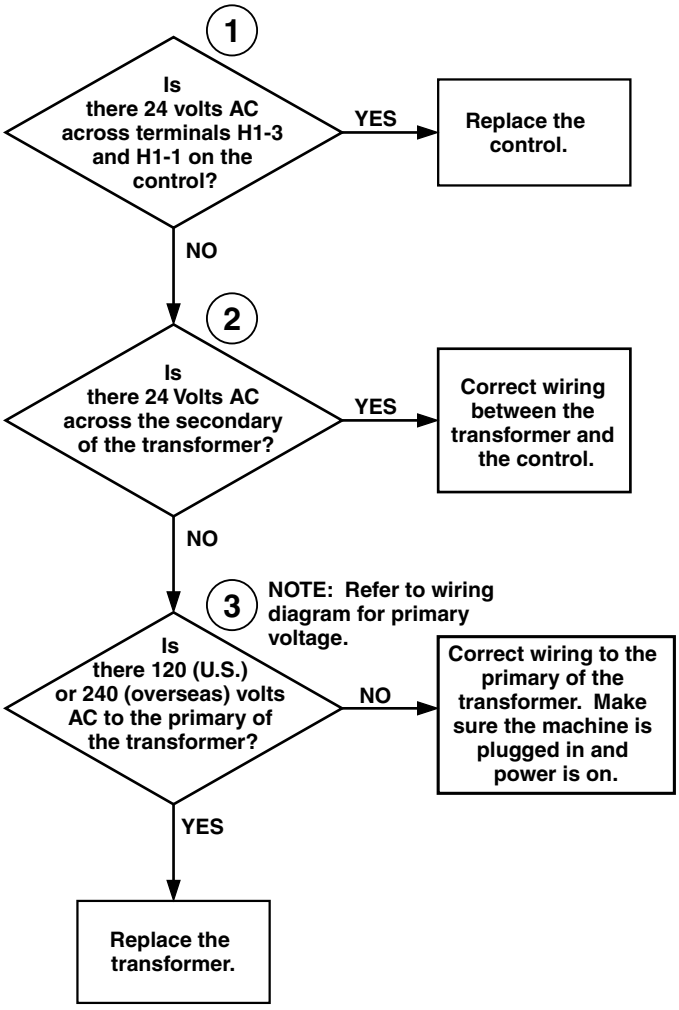
OP	Open Thermistor Error.	This error code indicates a physical "open" in the thermistor circuit. Possible causes are: 1) thermistor, 2) wiring between control and thermistor, or 3) control.
SH	Shorted Thermistor Error	This error code indicates a "short" in the thermistor circuit. Possible causes are: 1) shorted thermistor, 2) a short in the wiring between control and thermistor, or 3) control.
EC:19 (Card Reader Machines)	No Card Reader Communication	This error code indicates there is no card reader communication. The control and the reader cannot communicate. Check reader, control and harness. **NOTE: For all other Card Reader errors, consult the Card Reader manufacturer.**

42. Coins Ignored When Entered in Dryer Coin Drop

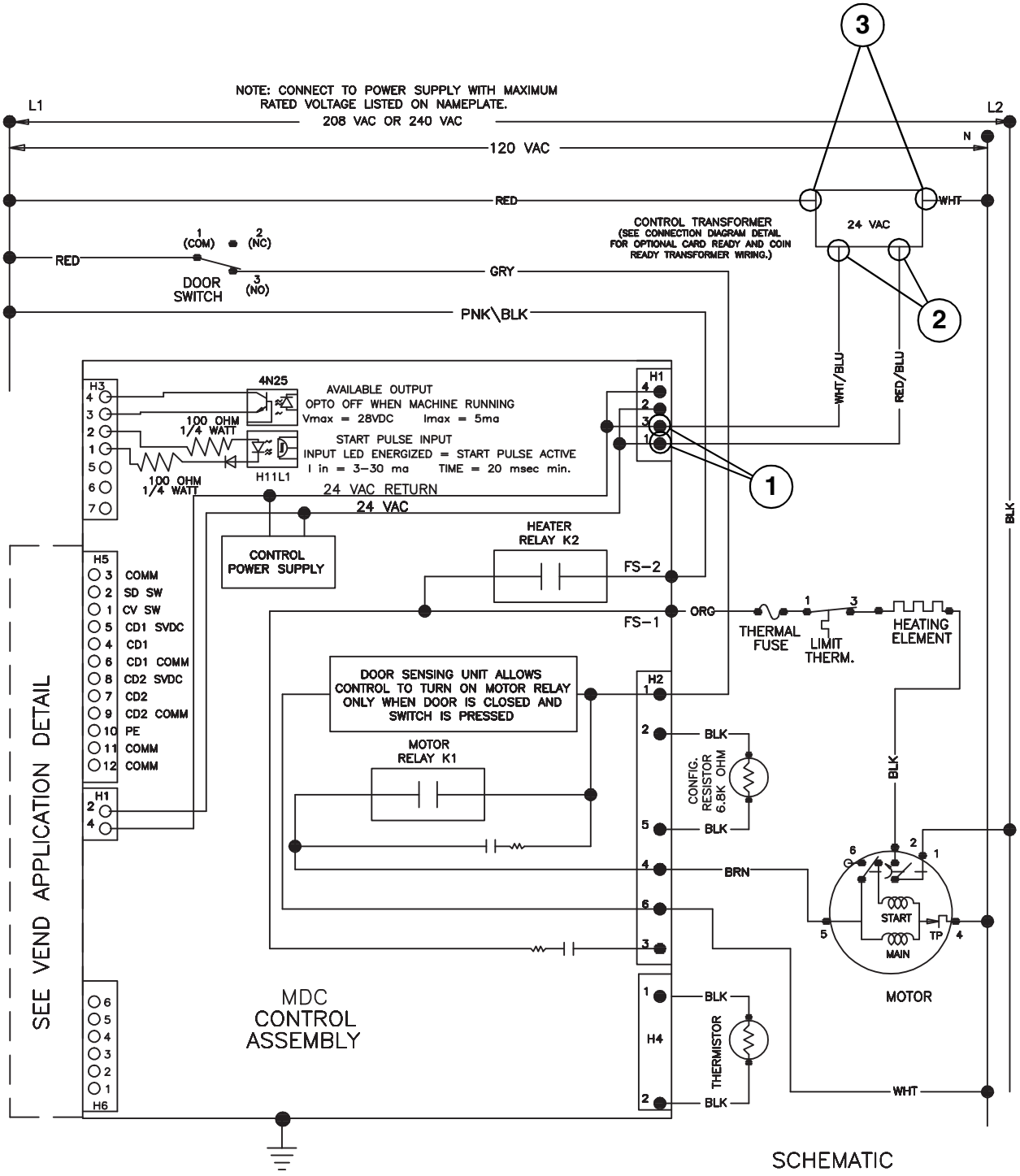


Notes

43. No Visible Display on Dryer Control

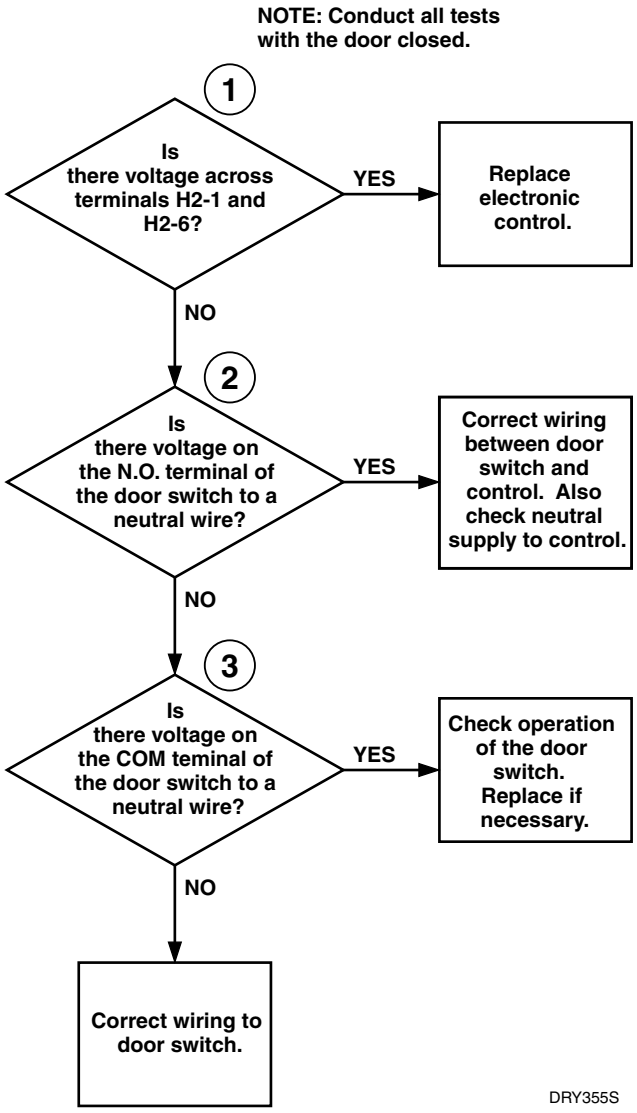


No Visible Display on Dryer Control

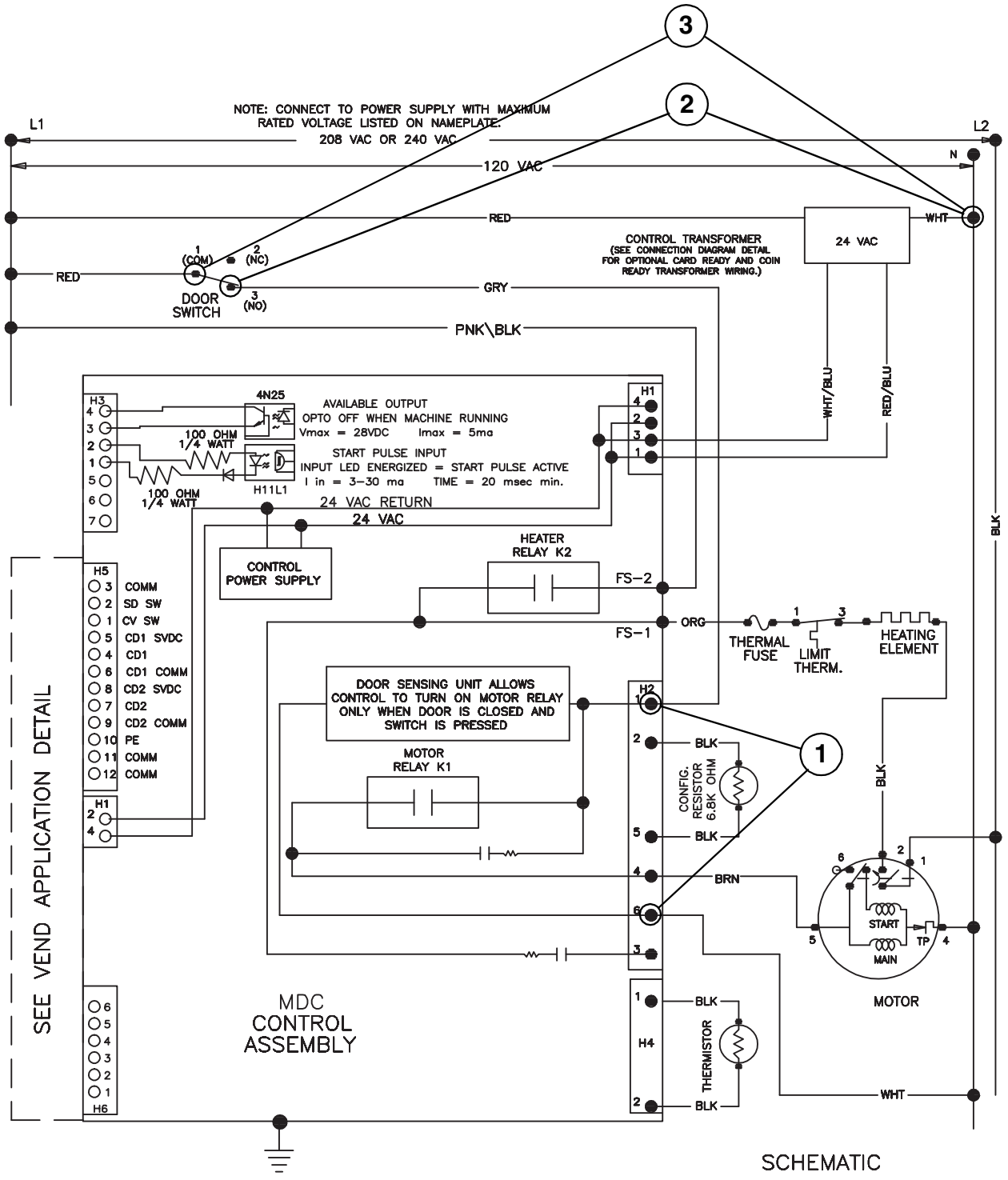


SCHEMATIC

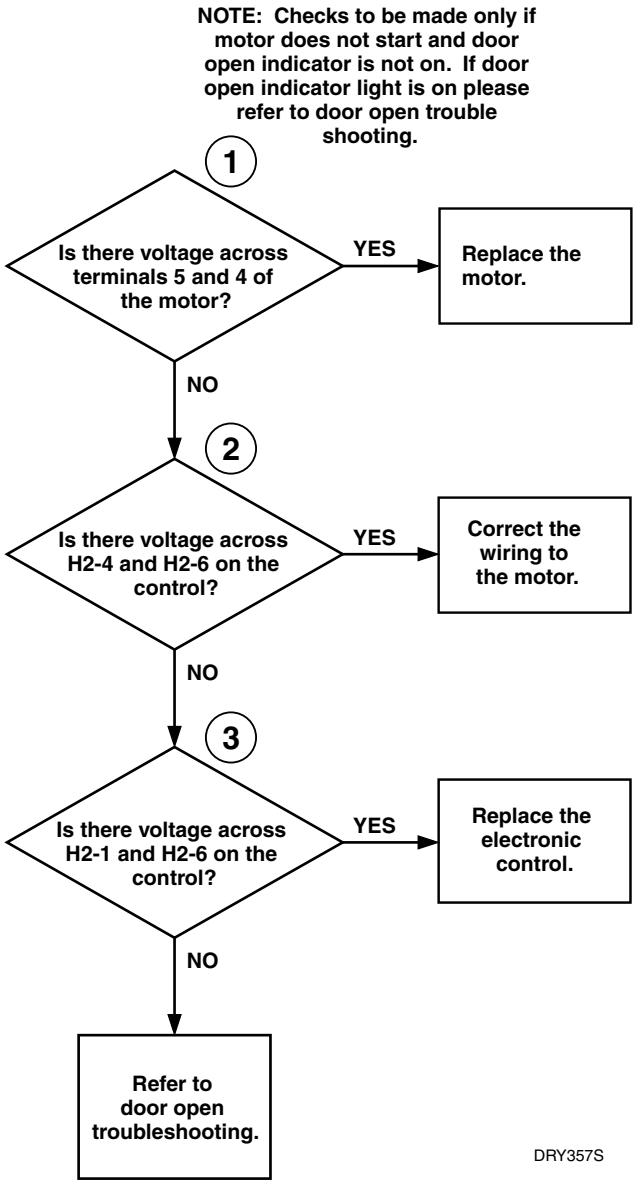
44. Dryer Door Open



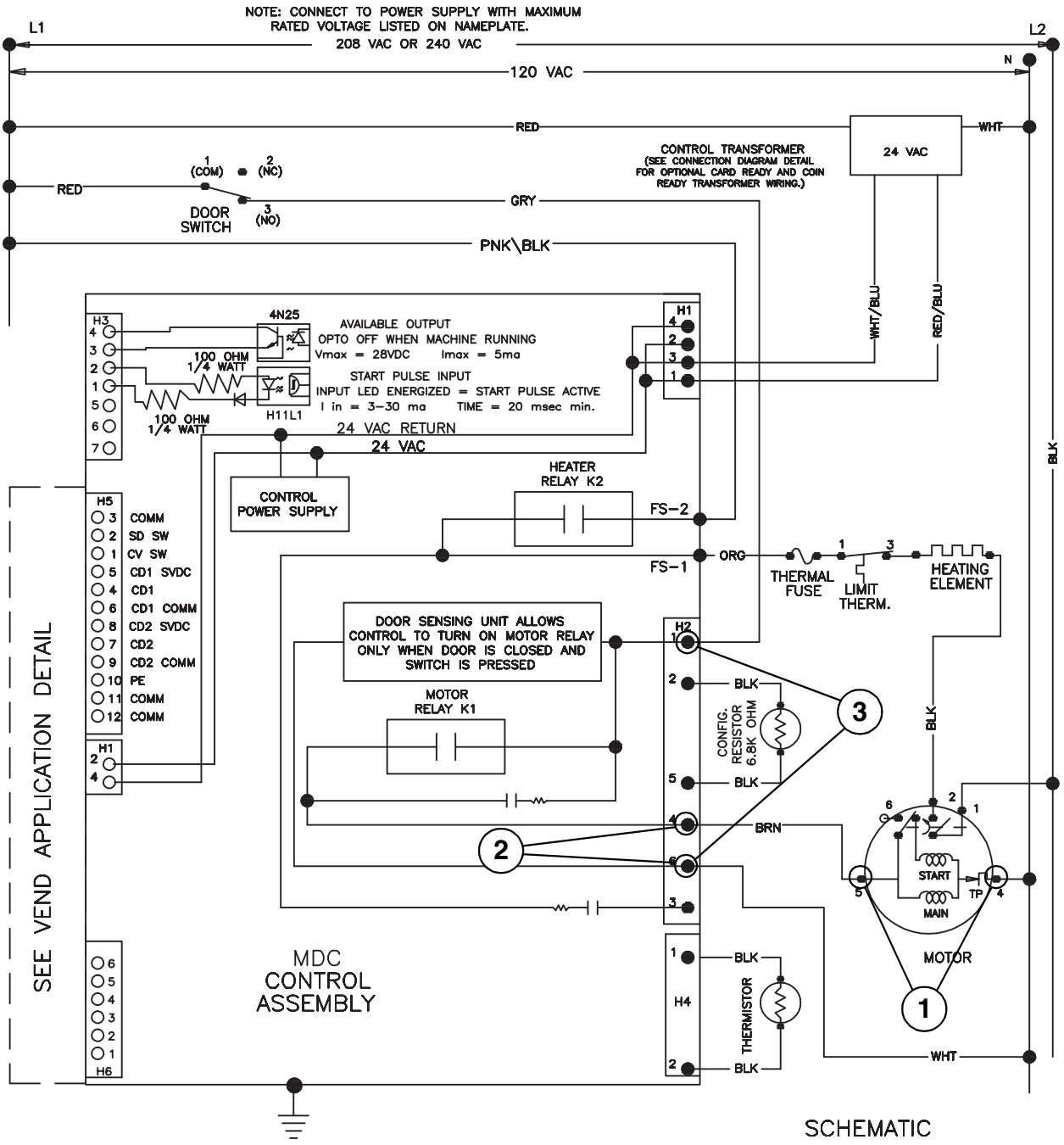
Dryer Door Open



45. Dryer Motor Will Not Start

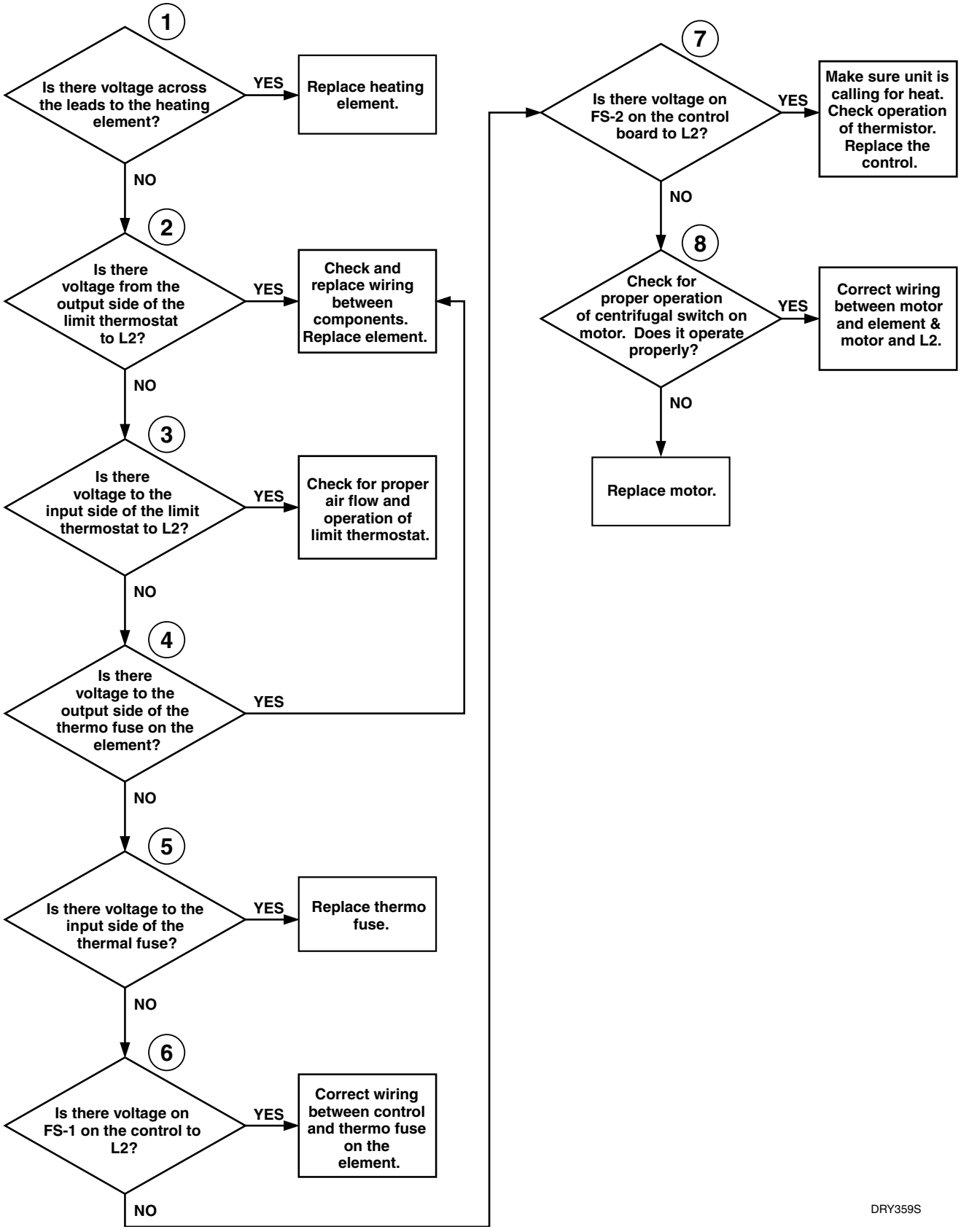


Dryer Motor Will Not Start

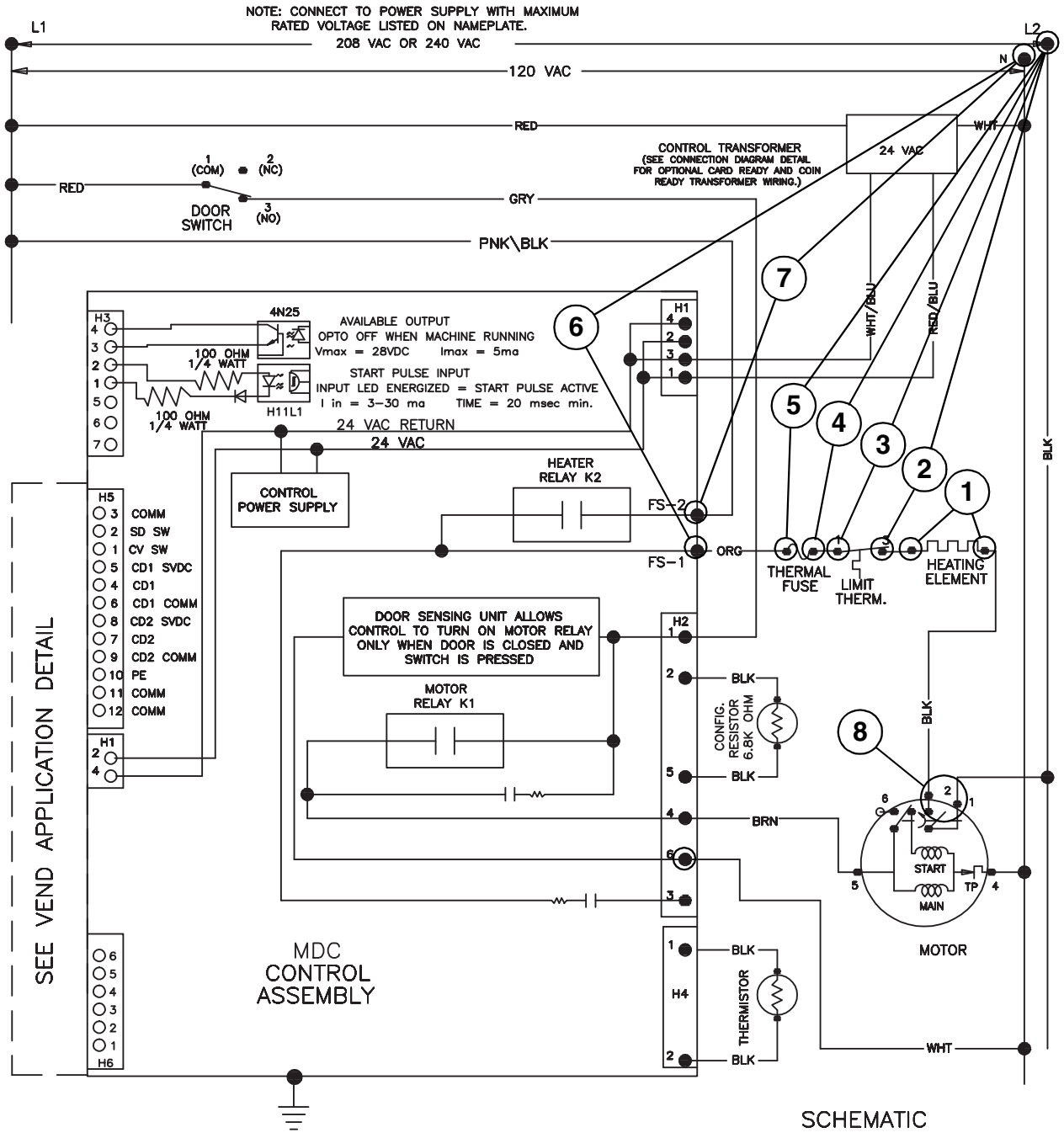


SCHEMATIC

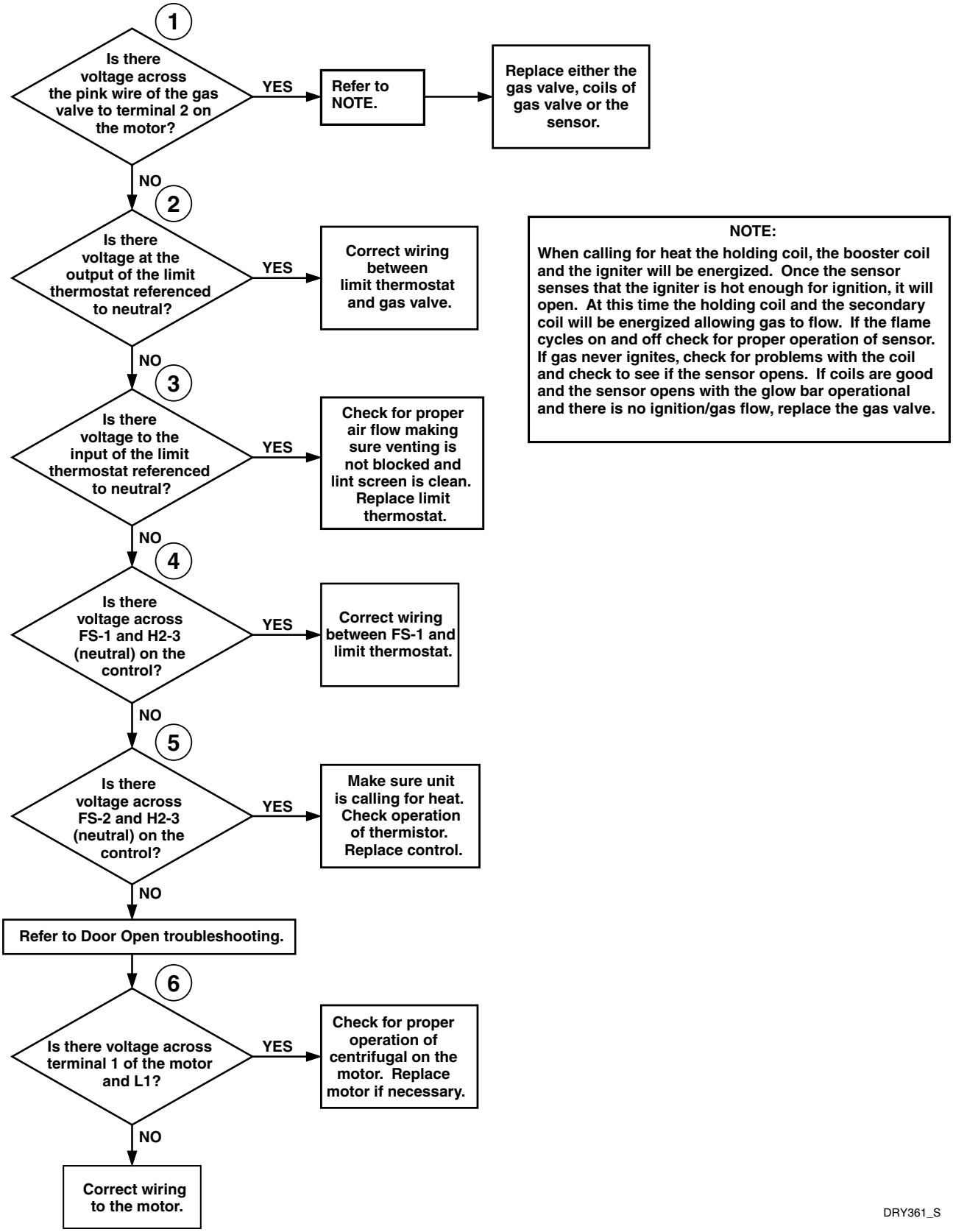
46. No Heat (Electric Dryer Models)



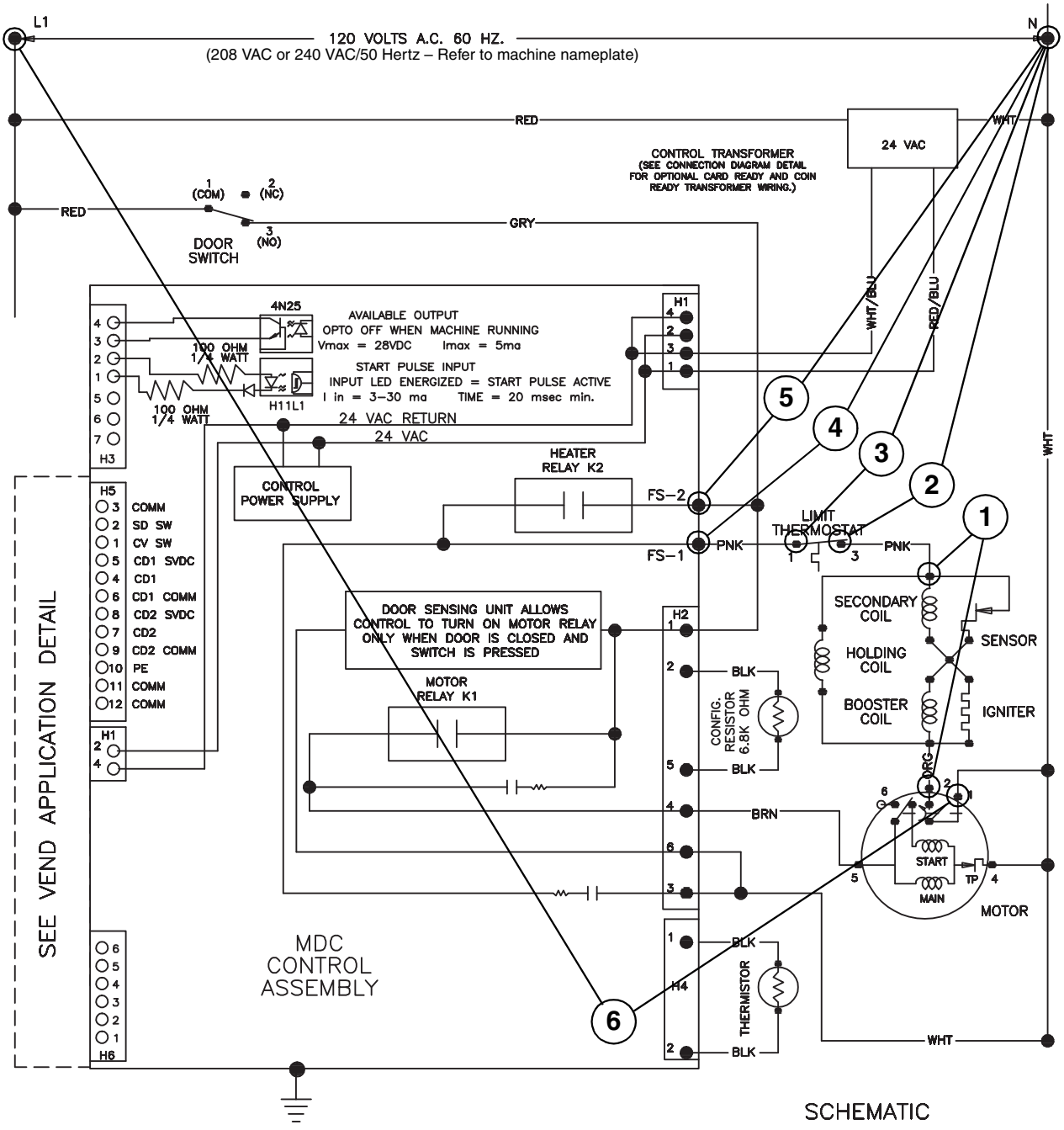
No Heat (Electric Dryer Models)



47. No Heat (Gas Dryer Models)



No Heat (Gas Dryer Models)



Section 8
Adjustments

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

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

48. Cabinet Leveling Legs

a. Place unit in position on a solid, sturdy and level floor. Installing the unit on any type of carpeting, soft tile, a platform or other weakly supported structures is not recommended.

b. Place a level on the cabinet top and check if unit is level from side to side and front to back.

NOTE: Level must be on a raised portion of top panel. Refer to *Figure 13*.

c. If unit is not level, tilt unit to access front and rear leveling legs. For easier access to leveling legs, prop up unit with wooden block.

d. Loosen locknuts and adjust the leveling legs until the unit is level from side to side and front to back (using a level). Make sure unit **does not rock**. Refer to *Figure 13*.

e. Tighten the locknuts securely against the washer base. If the locknuts are not tight, washer will move out of position during operation.

CAUTION

DO NOT slide washer across floor if the leveling legs have been extended, as legs and base could become damaged.

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CAUTION

Use of the dispenser drawer or washer door as a handle in the transportation of the washer may cause damage to the dispenser or door.

W185

f. Place rubber feet on all four leveling legs. Refer to *Figure 13*.

g. Verify unit doesn't rock.

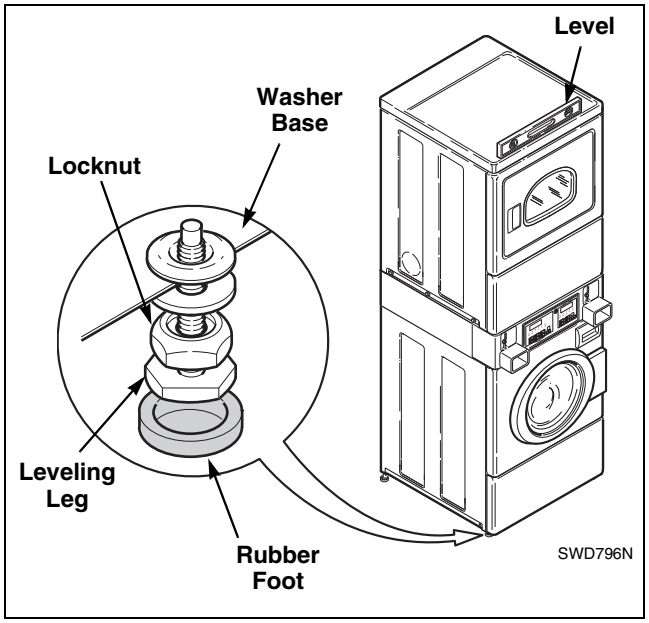


Figure 13

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

49. Washer Loading Door

a. Open loading door.

b. The loading door can be adjusted up or down somewhat by loosening screws holding door hinge to front panel, then raising or lowering door before retightening screws. Refer to *Figure 14*.

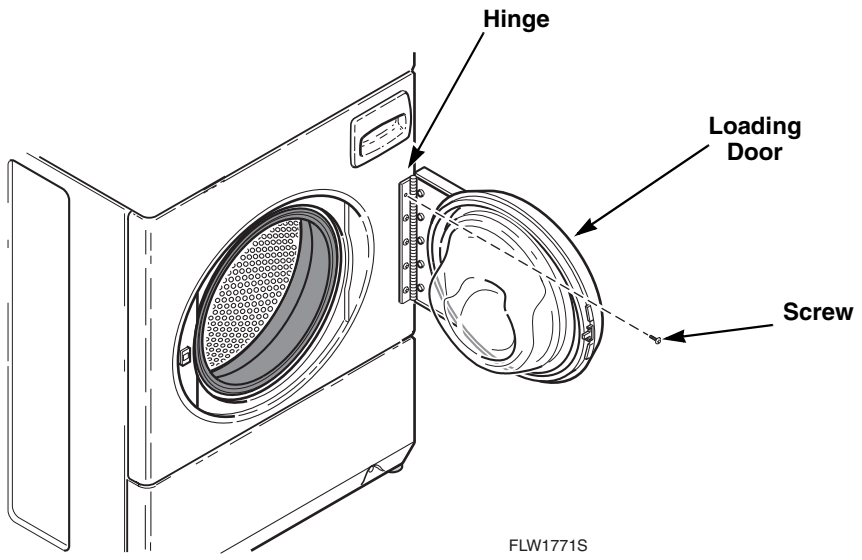


Figure 14

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

50. Washer Motor Belt Tension

NOTE: Belt adjustment procedures are done through front of washer, however, as an option, washer can be moved from its location and belt adjustment can be done through lower access panel opening on rear panel.

a. While supporting lower front access panel, remove two screws from bottom edge of access panel and remove panel.
b. Working through the access door opening, place a locking pliers on the metal rod and loosen the two adjusting bolts. Refer to *Figure 15*. Repeat procedure to loosen the two pivot bolts. Refer to *Figure 15*.
c. Pull down on motor to increase belt tension. Use a Burroughs belt gauge to obtain proper tension. Proper belt tension is obtained when belt can be deflected approximately 1/4 inch (6.35 mm) from normal position when moderate pressure 50 to 60 pounds (22.68 to 27.22 Kg) is applied to a point midway between pulleys. Refer to *Figure 15*.
d. After proper belt tension has been obtained, tighten belt adjusting bolts firmly, then tighten pivot bolts. Refer to *Figure 15*.

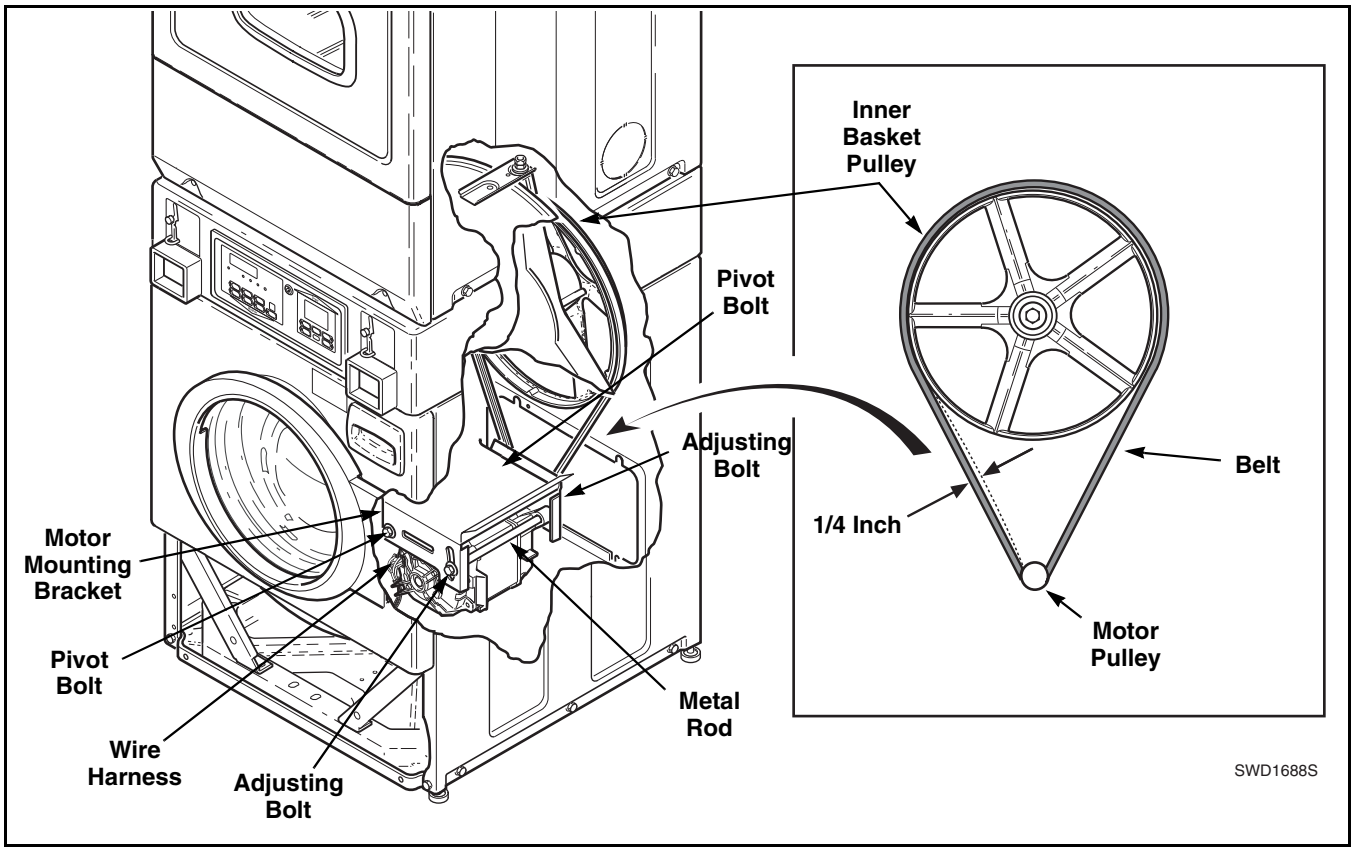


Figure 15

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

51. Washer Door Catch

NOTE: When repairing a broken or inoperative No. 802803 Door Catch, proceed as follows:

a. Open loading door.
b. Remove 11 T-20 Torx head screws holding outer door bezel to inner door bezel. Refer to *Figure 16*.
c. Pull hinge side of outer bezel away from door and slide forward. Refer to *Figure 16*.
d. Remove two screws and nuts holding door catch to door and remove door catch.
e. Install new door catch and tighten screws and nuts to the point of being snug.
f. Adjust door catch so the outside edge is aligned with the edge of the lock. Refer to *Figure 17*.
g. Visually check that the door catch properly engages the funnel of the door latch/switch assembly. Refer to *Figure 17*.
h. Recheck the alignment in Step “f”. Adjust if needed.
i. Torque the two nuts to approximately 20 inch pounds (2.25 Nm).
j. Reinstall outer door bezel by aligning outer bezel tabs with cut aways on inner bezel and sliding outer bezel into position. Refer to *Figure 16*.
k. Replace 11 screws holding outer door bezel to inner door bezel.

IMPORTANT: Do not overtighten screws or bezel holes will strip.

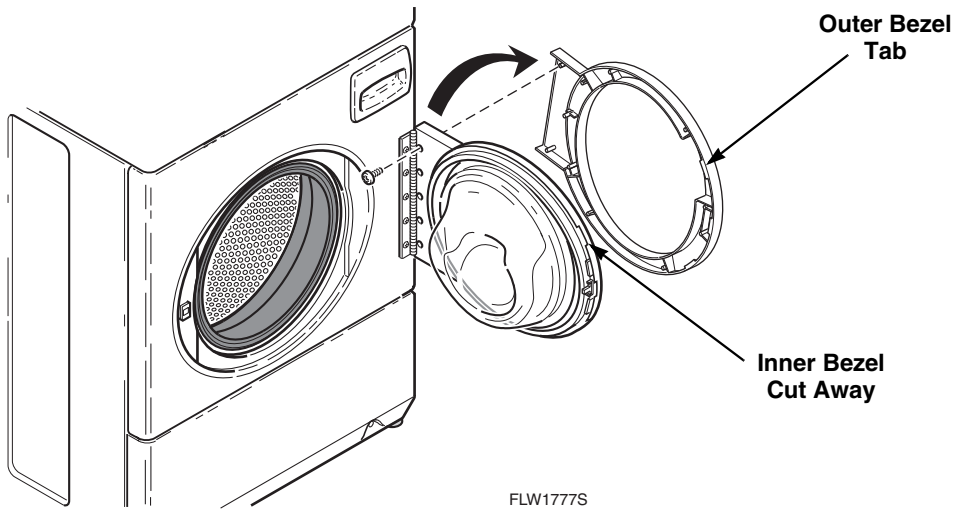


Figure 16

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

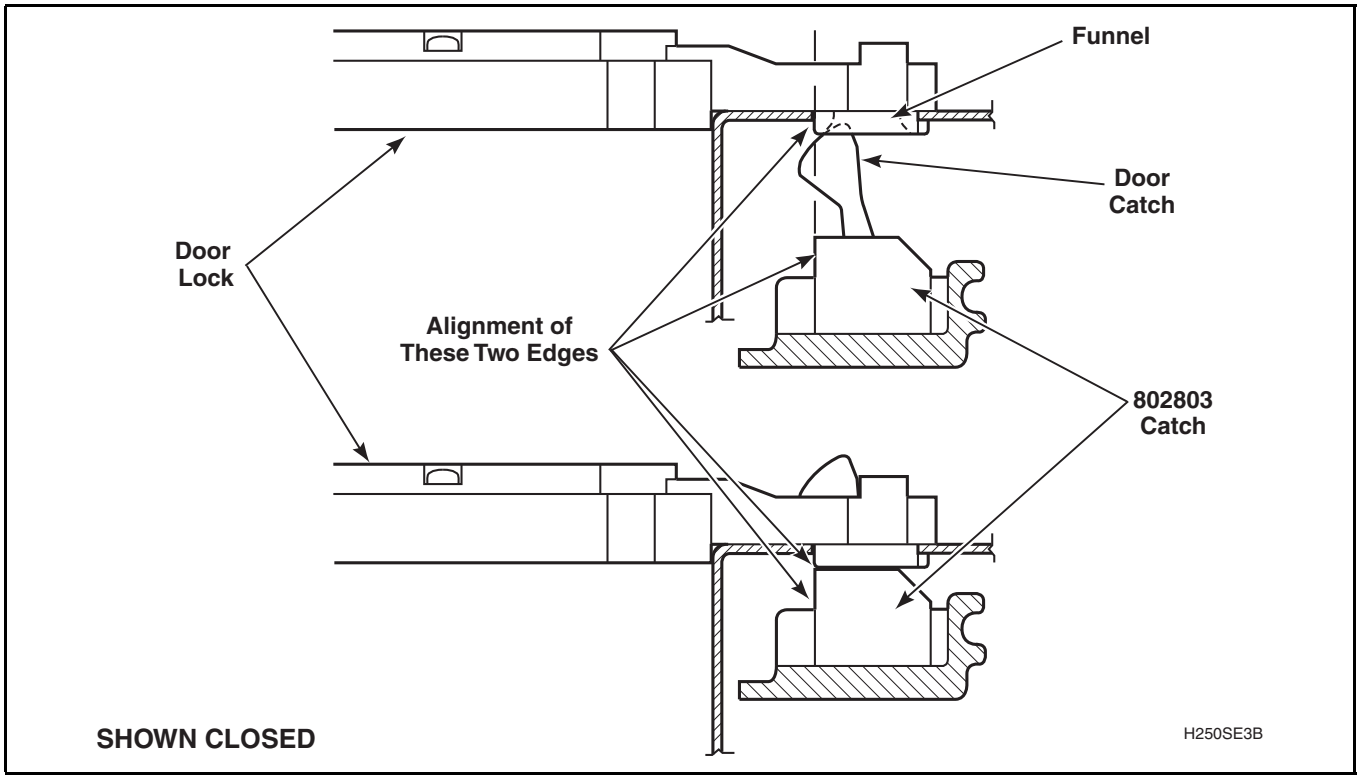


Figure 17

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

52. Shipping Braces

All stacked washer/dryers, when shipped from the factory are equipped with two factory-installed shipping supports. DO NOT remove this shipping material until after machine is placed in its final installed position. Refer to *Figure 18*.

IMPORTANT: DO NOT tip or move washer once these supports have been removed. Removal of supports prior to final installation may cause damage to the shock absorbers and will VOID the product warranty.

NOTE: Shipping supports MUST be kept for future re-positioning or moving of the machine.

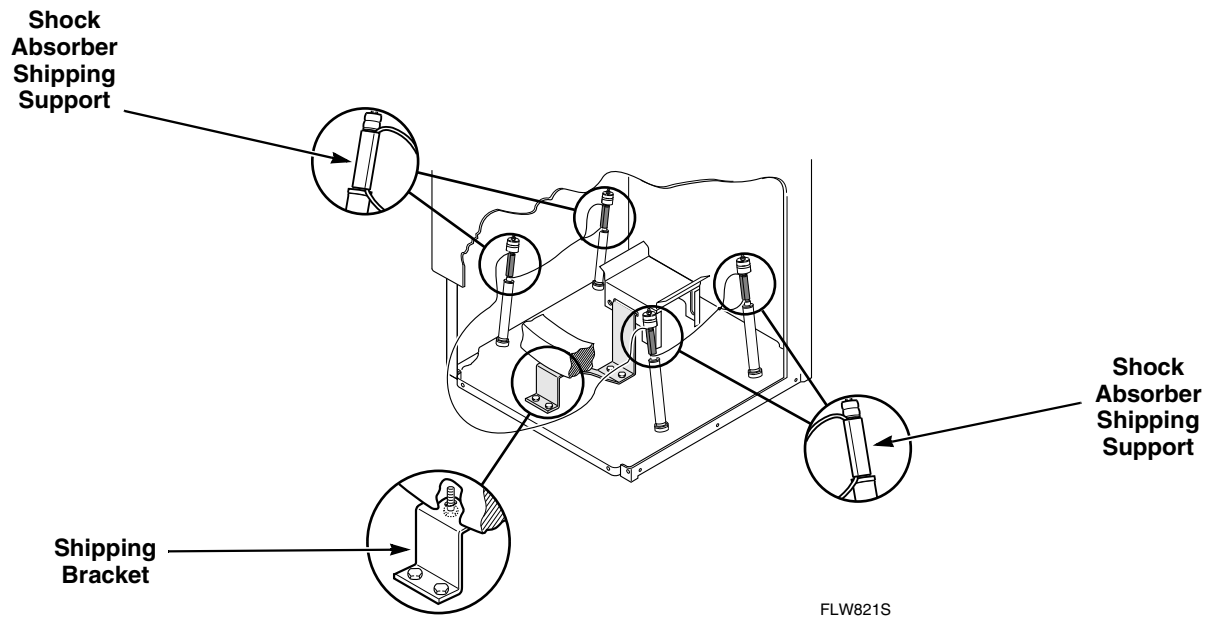


Figure 18

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

53. Burner Flame (Gas Models)

a. While supporting the access panel, remove two screws from bottom edge of access panel.
b. Gently lower the access panel to disengage locators from bottom edge of front panel.
c. Add coins or card to satisfy vend.
d. Close the loading door. Start the dryer in a heat setting (refer to Operating Instructions supplied with the dryer). The dryer will start, the igniter will glow red, and the main burner will ignite.
e. Allow the dryer to operate for approximately five minutes, then loosen the air shutter lockscrew. Refer to *Figure 19*.
f. Turn the air shutter to the left to get a luminous yellow-tipped flame, then turn it back slowly to the right to obtain a steady blue flame.
g. After proper flame is obtained, tighten air shutter lockscrew firmly. Refer to *Figure 19*.
h. Reinstall access panel and screws.

WARNING

To reduce the risk of fire or serious injury, the access panel must be in place during normal operation.

W262

NOTE: After the dryer has operated for approximately three minutes, exhaust air or exhaust pipe should be warm.

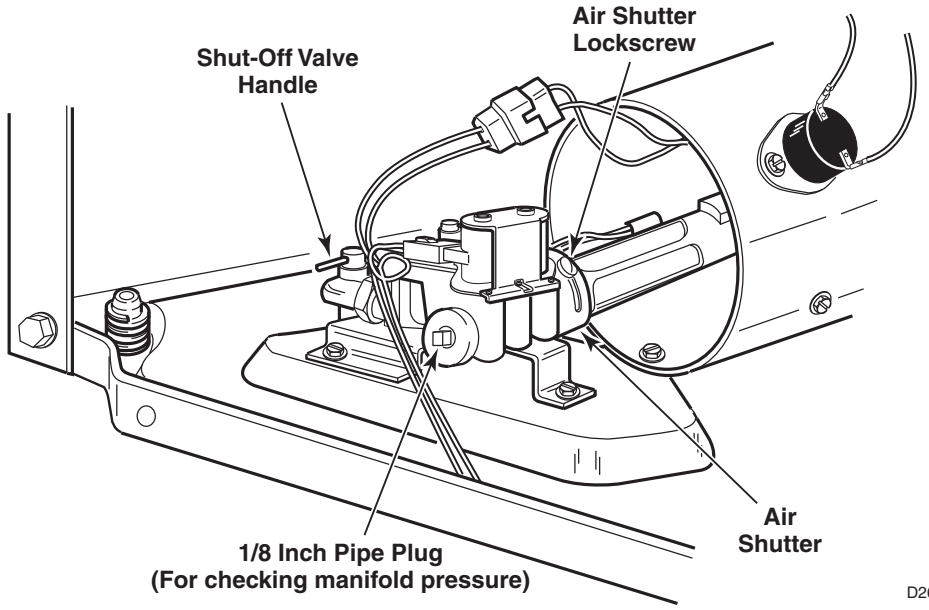


Figure 19

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

54. 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 through coin entry and along the side of the coin drop. Refer to *Figure 20***.**

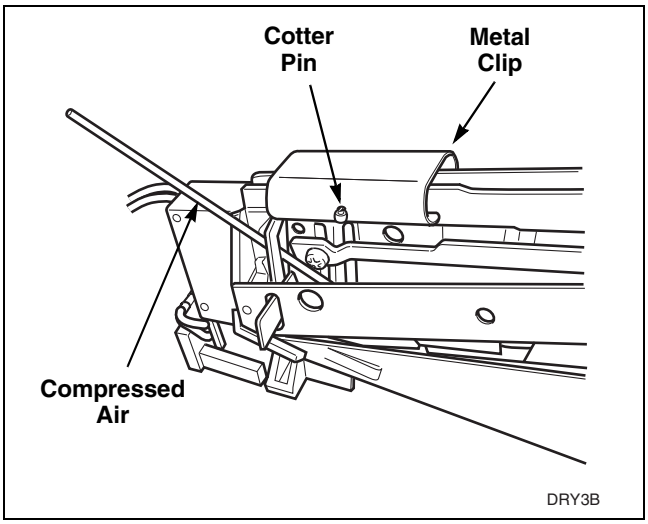


Figure 20

d. Insert a coin through the coin drop. If coin does not roll through drop, continue with the following.
e. Remove cotter pin from top of drop. Refer to *Figure 20***.** Save pin for reinstallation when cleaning is complete.
f. Move metal clip closer to sensor so that it comes off frame. Refer to *Figure 20***.**
g. Remove coin return from coin drop frame. Refer to *Figure 21***.**

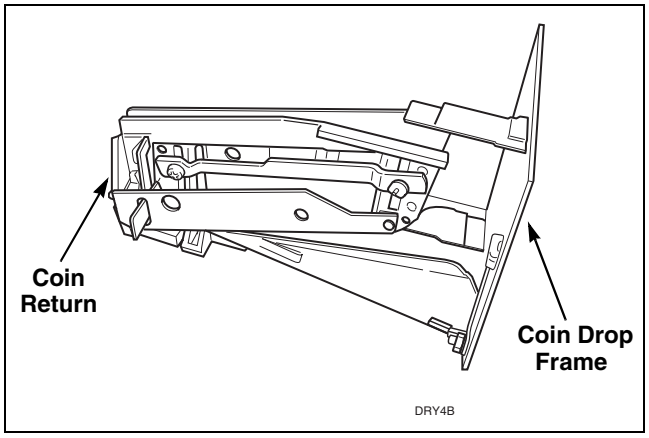


Figure 21

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 22***.**

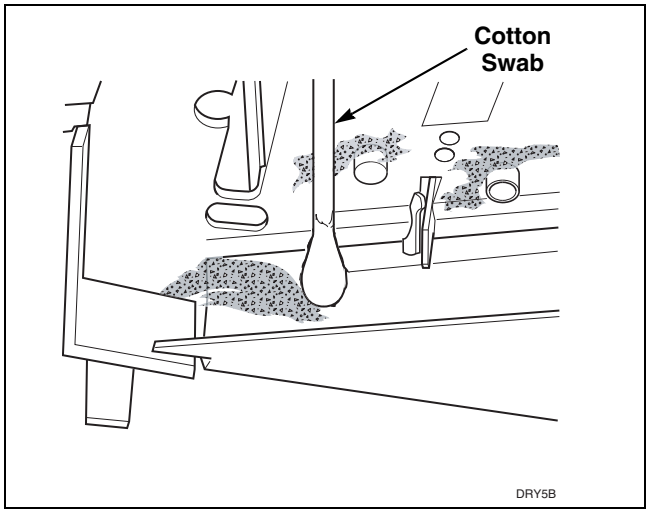


Figure 22

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

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 23*.

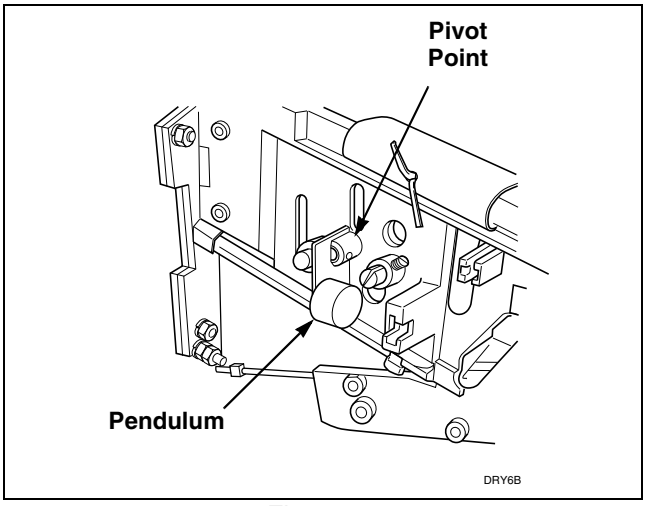


Figure 23

j. Check coin drop sensor for dust or dirt on eyes. Wipe eyes with dry cotton swab. Refer to *Figure 24*.

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

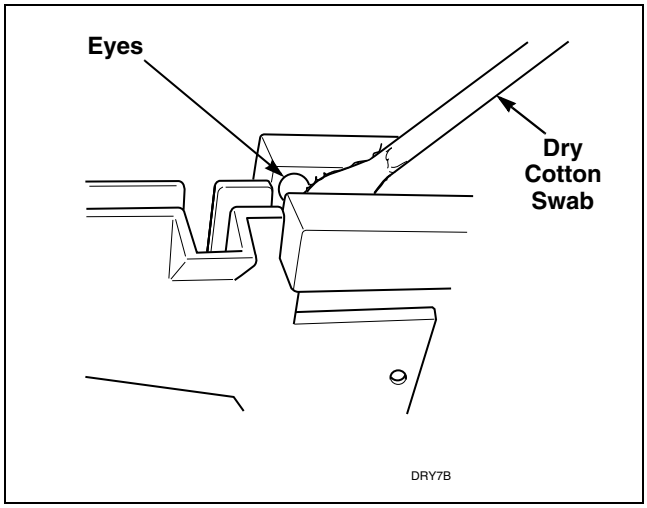


Figure 24

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.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

55. 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. Check the spring style of coin drop.
Coin Drops with Old-Style Spring (refer to *Figure 25*):
(1) Move spring downward until cover catch is free. Refer to *Figure 25*.

NOTE: Do not lift or overbend the spring in any direction.

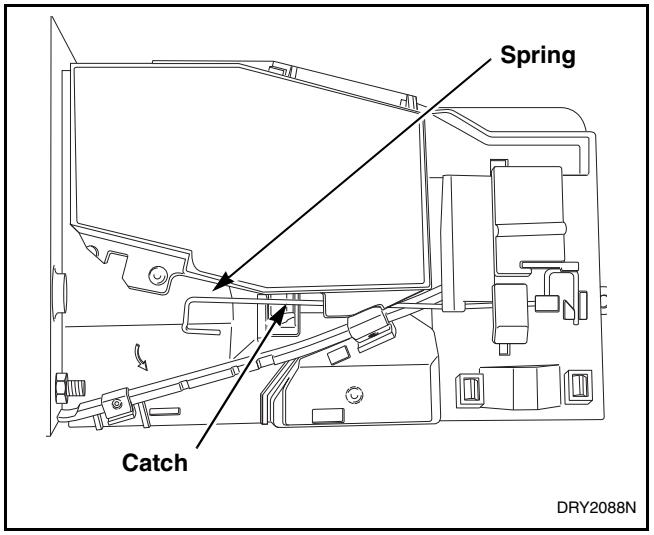


Figure 25

(2) Open cover for coin drop. Refer to *Figure 26*.

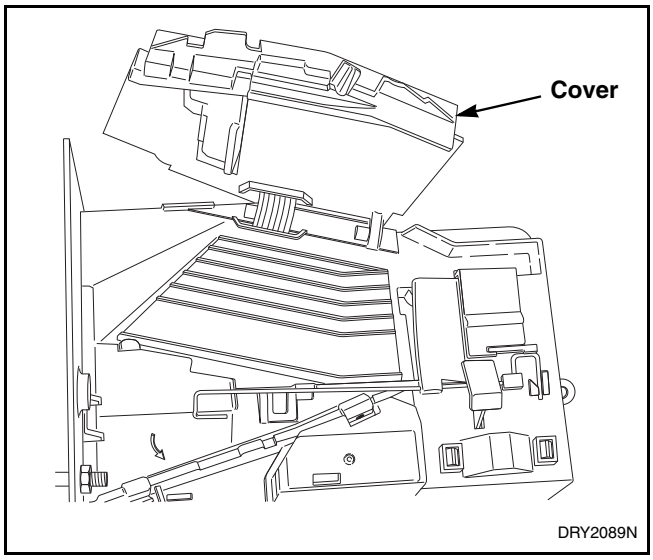


Figure 26

Coin Drops with New-Style Spring (refer to *Figure 27*):

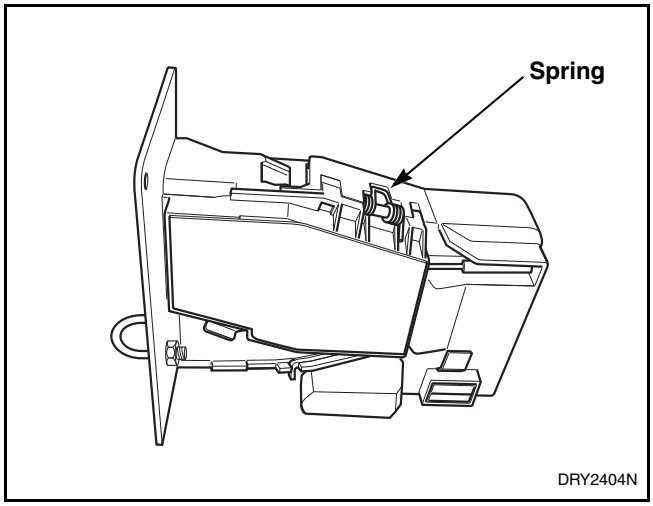


Figure 27

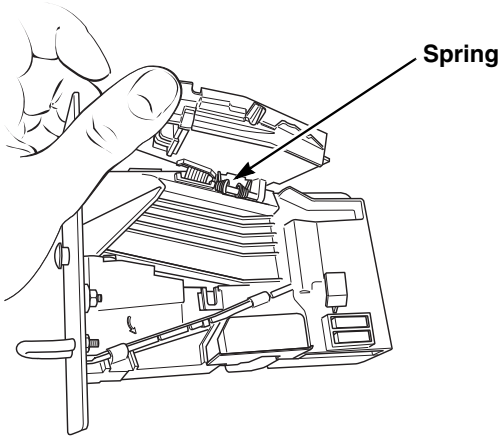
(3) Open cover of coin drop. Refer to *Figure 28*.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

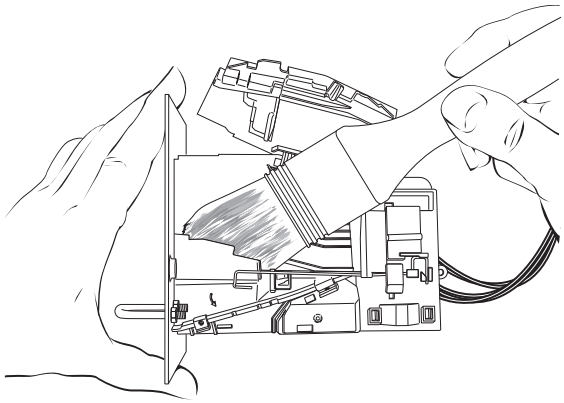
NOTE: Do not overbend the spring by opening cover too far.



DRY2408N

Figure 28

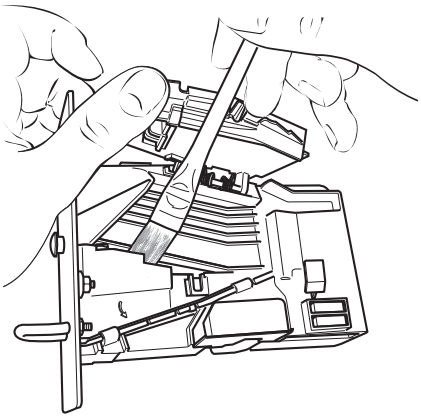
d. Clean the coin path with a soft brush and wipe exposed surfaces with an alcohol moistened cloth. Refer to *Figure 29* or *Figure 30*.



Old-Style Spring Coin Drop

DRY2090N

Figure 29

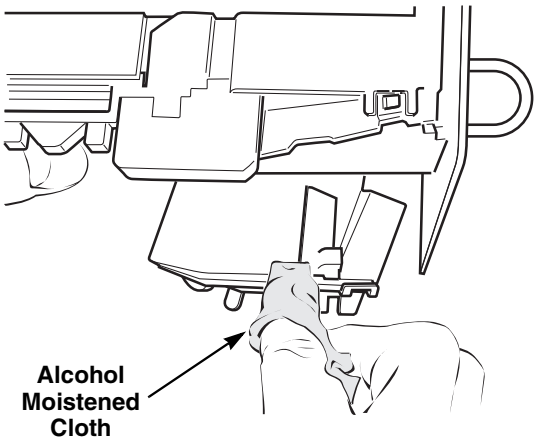


New-Style Spring Coin

DRY2405N

Figure 30

e. Clean residue from coin rail with an alcohol moistened cloth. Refer to *Figure 31*.



DRY2406N

Figure 31

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

f. Clean light sensors with a soft brush or air spray duster. Refer to *Figure 32*.

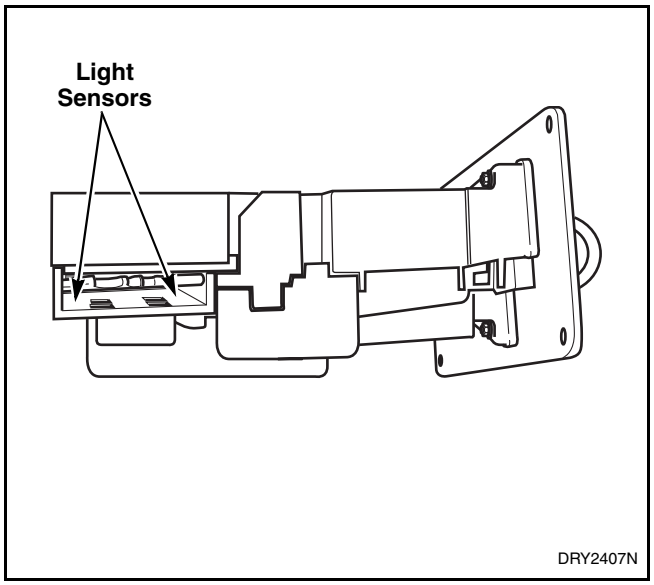


Figure 32

g. Close cover for coin drop.
h. **Coin Drops with OLD-Style Spring** - Move spring back over cover catch.
i. Reinstall coin drop into machine.
j. Reconnect electrical power to machine and drop.
k. Add a coin to drop to verify that coin drop is operating properly and that electrical connection is working properly.

Notes

Section 9
Dryer Test Procedures

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

IMPORTANT: Electrical test procedures in this service manual are performed by using a Volt-Ohm meter. Tests can also be performed using a multi-meter or any other electrical testing equipment with which the service person is familiar.

56. Drive Motor

Refer to *Figure 33*.

a. Remove motor and exhaust assembly.

b. Disconnect motor wire harness at motor disconnect block.

NOTE: Refer to wiring diagram for internal motor switch wires.

NOTE: Drive Motor Resistance

120 Volt	**2,460 – 3,100 Ohms**
240 Volt	**10,000 - 13,000 Ohms**

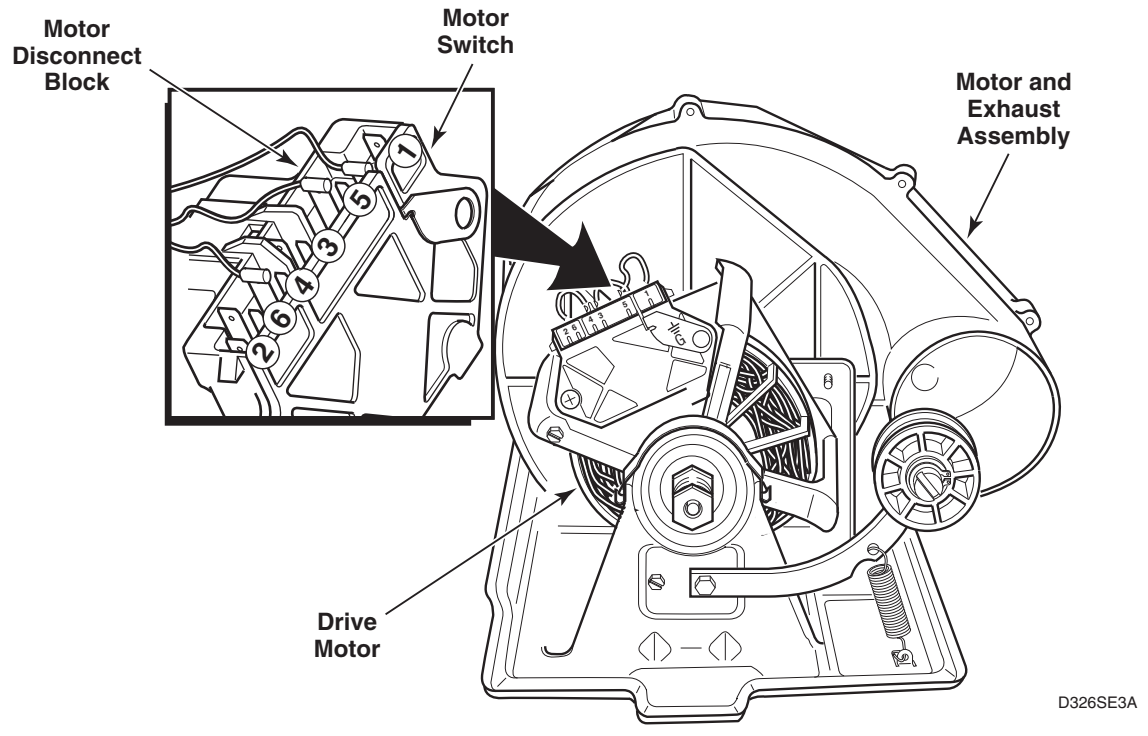


Figure 33

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

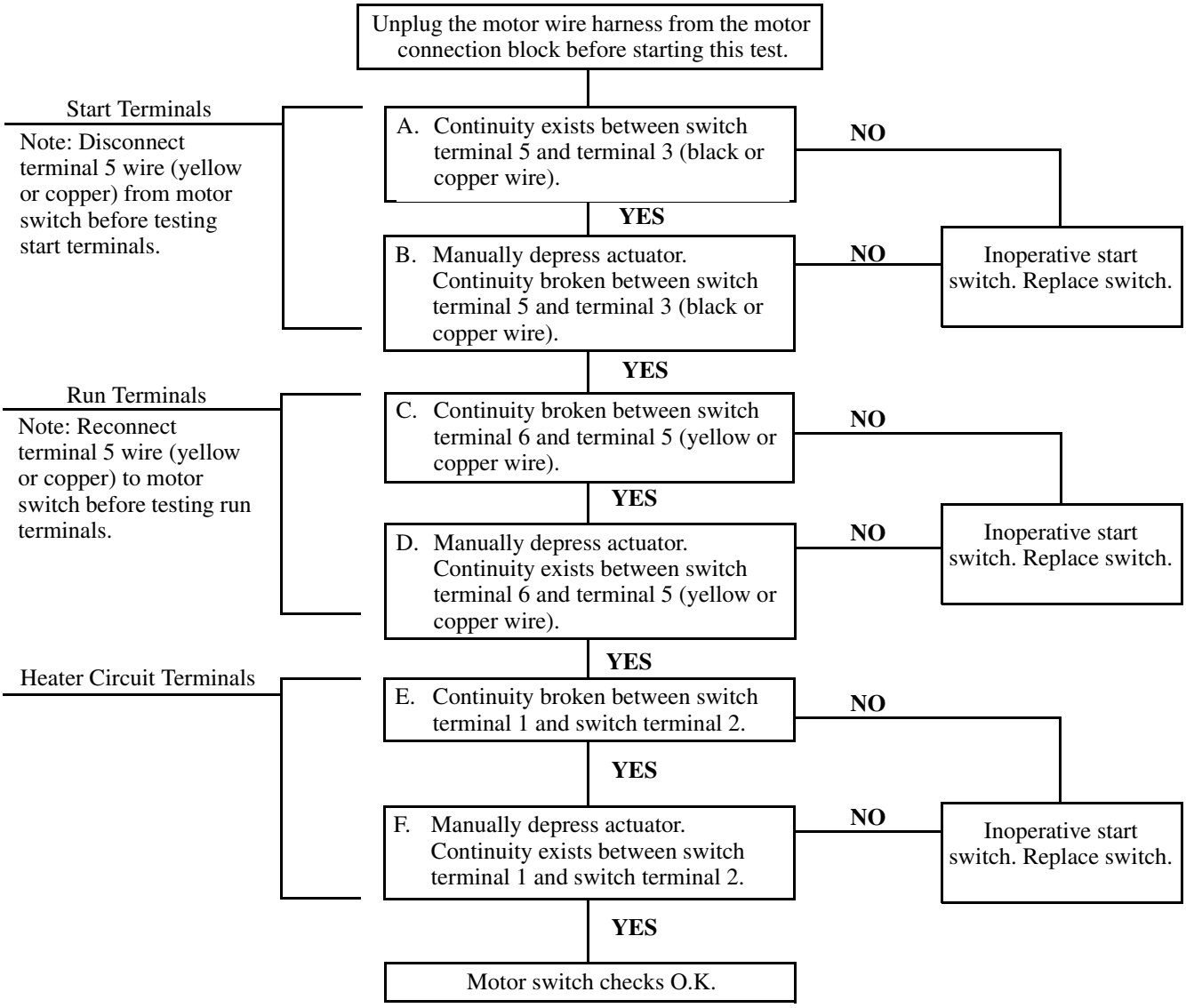
W502

c. **Motor Switch** (Refer to SECTION 10 for Internal Wiring of the Dryer Motor Switch.)

WARNING

Disconnect electric power to dryer before performing any of the following steps or when replacing inoperative motor switch.

W290



WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

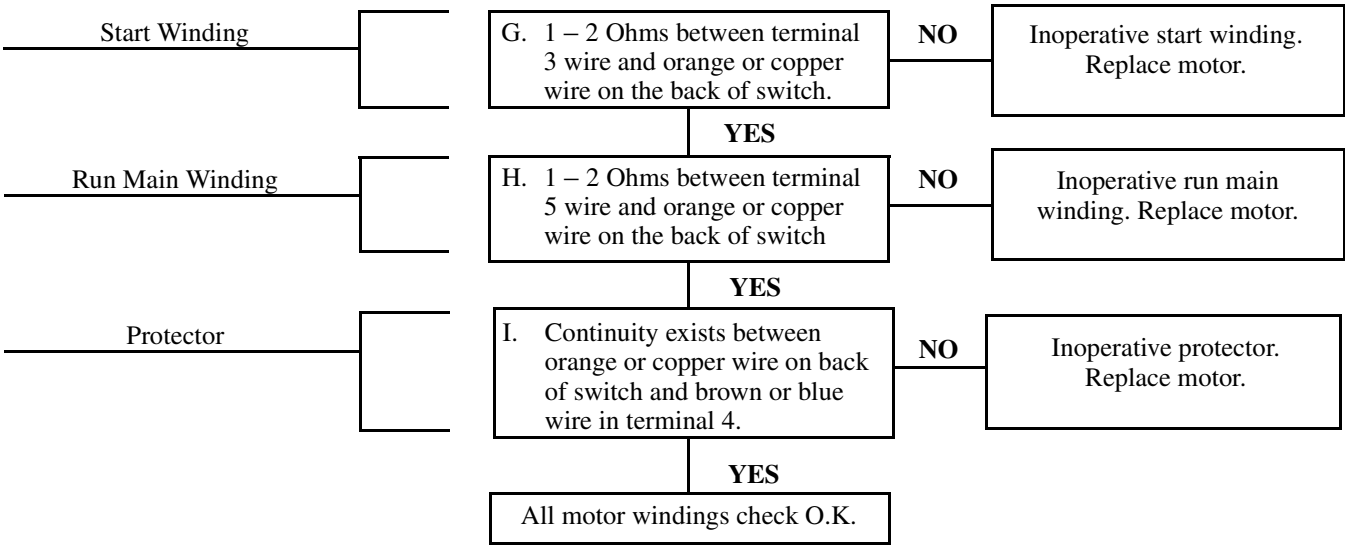
W502

d. **Motor Windings** (Refer to SECTION 10 for Internal Wiring of the Dryer Motor Switch.)

WARNING

Disconnect electric power to dryer before performing any of the following steps or when replacing inoperative motor switch.

W290



WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

57. Motor Switch

a. Remove motor and exhaust fan assembly.
b. Remove the two motor switch attaching screws. Refer to *Figure 39*. Disconnect switch leads. Remove motor switch.
c. Remove thermal overload protector.

NOTE: The thermal overload protector is unique to the motor from which it was removed and should only be used on that motor. To reduce the risk of overheating the motor, do not use any thermal overload protector other than the one taken from the inoperative motor switch in step 3.

(1) **Motor with Switch on Blower End**
Using a small bladed screwdriver, press the thermal overload protector mounting tab downward and remove the thermal overload protector from the inoperative motor switch. Refer to *Figure 34*.

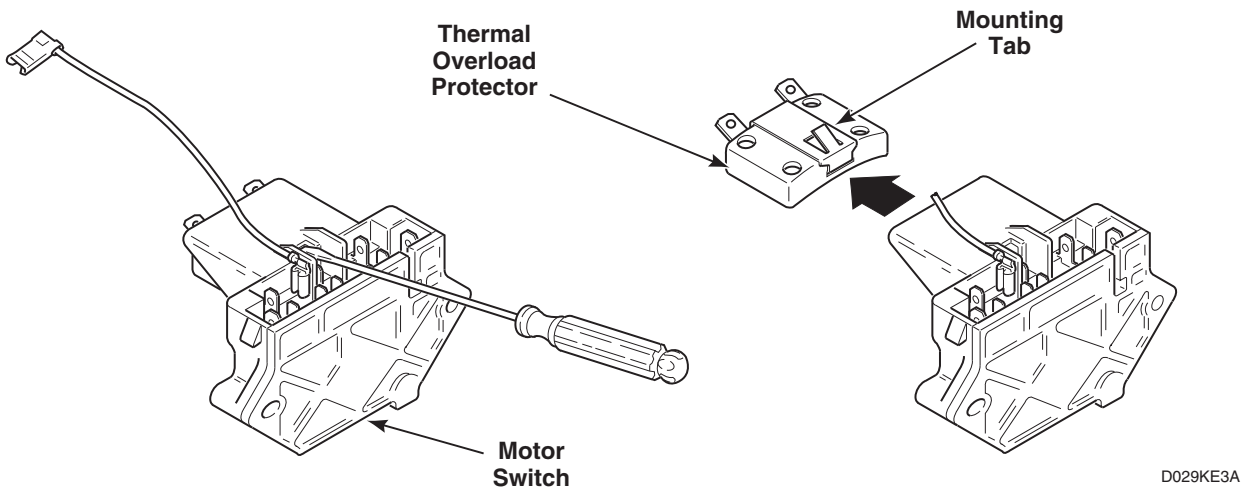


Figure 34

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

(2) **Motor with Switch on Pulley End**
Press the tip of a small bladed screwdriver into the slot located between top of motor switch and plastic clip. Lift up on handle of screwdriver until both clip and thermal overload protector detach from motor switch. Refer to *Figure 35*.

d. Attach the thermal overload protector removed in Step "c" to the new motor switch.
e. Install new motor switch onto motor and reconnect motor switch leads removed in Step "b". Refer to *Figure 39*.
f. Test motor switch by following the step-by-step procedures included in *Paragraph 56*.
g. Before reinstalling the motor assembly, apply power (120, 208 or 240 VAC – refer to machine serial plate) directly to motor terminals 4 and 5. Then start and run the motor at least 6 times, making sure the motor and switch are operating properly.

NOTE: The dryer manufacturer and parts suppliers are not liable for improper switch installation.

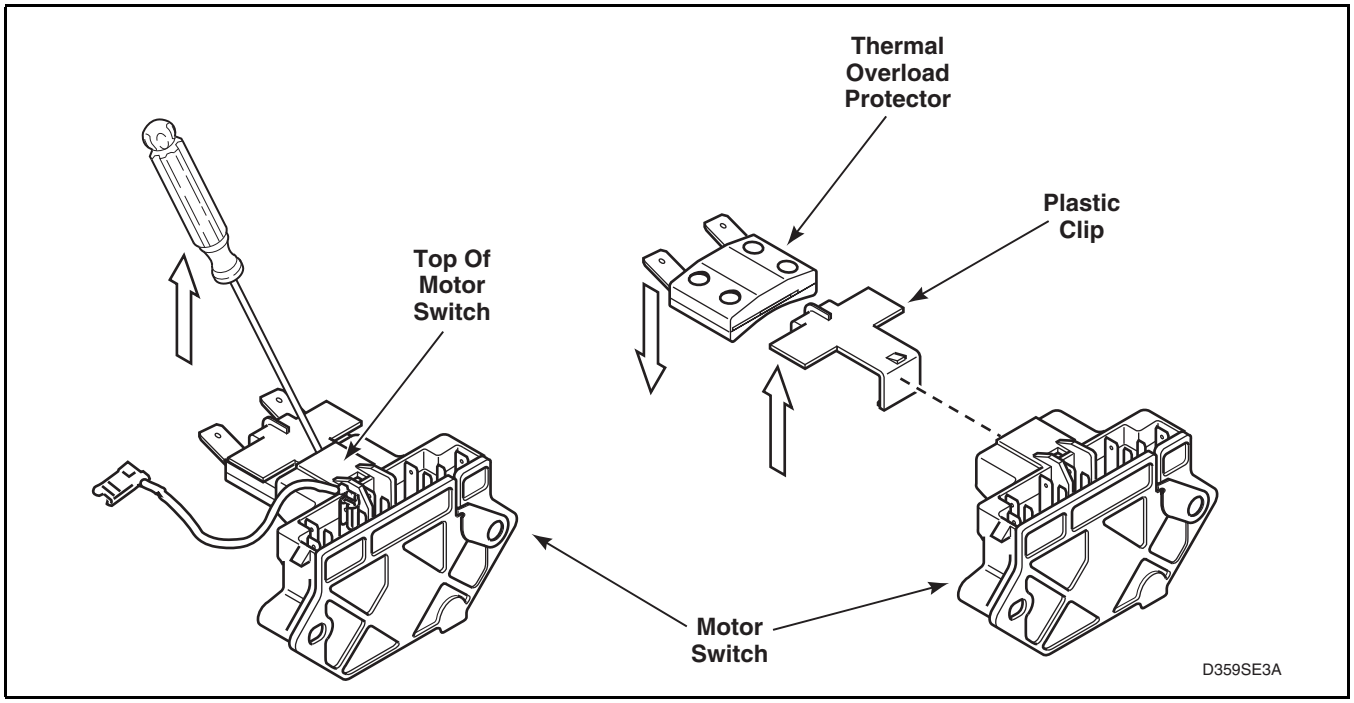


Figure 35

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

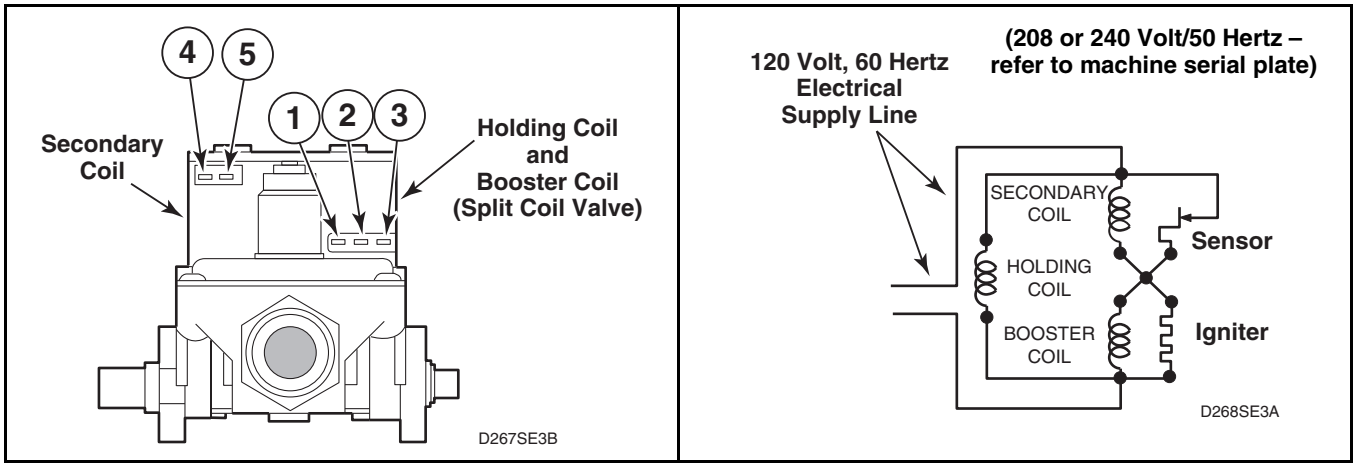


Figure 36

58. Burner System Operation

(Gas Models – Refer to *Figure 36*.)

a. **Components**
This burner has four basic components: a silicon carbide (glow bar) igniter, burner tube, sensor, and a two-stage gas valve consisting of a split-coil valve and a secondary coil valve. The split-coil valve is opened when the dryer thermostat calls for heat, while the secondary valve does not open until the igniter has attained ignition temperature.

b. **Pre-Ignition Circuits**
When the dryer thermostat calls for heat, circuits are completed through the holding coil, sensor, booster coil and igniter. Both coils must be energized to open the split-coil valve. Once opened, the holding coil can hold the valve open without assistance from the booster coil. The sensor triggers the current to travel around the secondary coil and through the igniter, causing the igniter to get hot.

c. **Burner Circuit**
In approximately 30 seconds, the igniter attains ignition temperature and ignition is made. The heat from the burner flame causes the sensor contacts (located on burner housing beside the igniter) to open. A circuit is then completed through the secondary valve coil, opening the valve and allowing gas to flow.

d. **Momentary Power Interruption**
Upon resumption of power, sensor contacts will still be open, permitting secondary valve to open. However, with the secondary coil in the circuit, the booster coil cannot draw enough current to open the split-coil valve. When sensor contacts do reclose, the secondary valve will close, and the burner system will be in the normal pre-ignition circuit.

e. **Flame Failure**
In case of flame failure, the sensor contacts will re-close in about 45 seconds. This will close the secondary valve and the burner system will be in the normal pre-ignition circuit.

f. **Ignition Failure**
If flame is not established as sensor contacts open, secondary valve will remain open until sensor contacts re-close. Sensor will continue to recycle the igniter and secondary valve (about once per minute) until ignition is made or dryer is turned off.

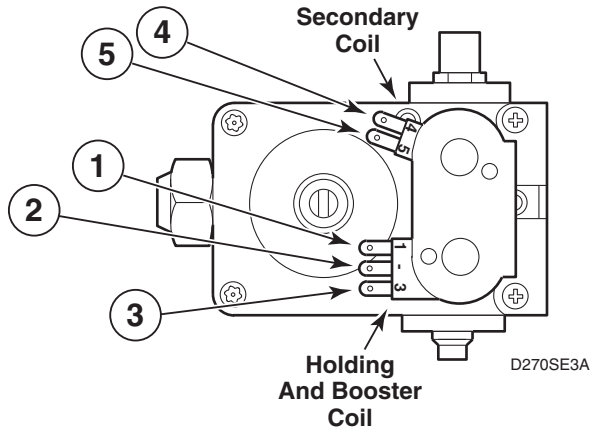
WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

59. Electrical Circuit To Ignition System (Gas Models)

a. While supporting the access panel, remove two screws from bottom edge of access panel.
b. Gently lower the access panel to disengage locators from bottom edge of front panel.
c. Close main gas shut-off valve. Refer to *Figure 19*.
d. Remove valve wire harness disconnect block from the holding and booster coil. Refer to *Figure 37*.
e. Plug dryer power cord into wall receptacle, and start the dryer in a heat setting (refer to the Operating Instructions supplied with dryer).
f. Set test meter to read AC voltage and apply meter probes into terminals on the dryer harness plug that would correspond to terminals "1" and "2" on the coil. *Figure 36*. Meter should register line voltage in all Fabric settings, except FLUFF which should read “zero” VAC.
g. If meter does not read line voltage in Step “f”, check motor switch, thermostats, fabric switch, accumulator, or timer.



GAS VALVE FOR SILICON CARBIDE IGNITION

Figure 37

WARNING

To reduce the risk of fire, explosion and electric shock, close the valve in the gas supply line to the gas dryer and disconnect the electrical power unless gas or power supplies are required to perform test procedure.

W263

60. Gas Valve Coils Check (Gas Models)

a. While supporting the access panel, remove two screws from bottom edge of access panel.
b. Gently lower the access panel to disengage locators from bottom edge of front panel.
c. Close main gas shut-off valve. Refer to *Figure 19*.
d. Remove disconnect blocks from gas valve coils.
e. Set test meter to read Ohms and put meter probes to terminals shown in *Figure 37*, and in the following chart.

COIL TOLERANCE READINGS

Meter probes to terminals:	Meter should read:
Holding Coil – Terminals 1 & 2	1365 ± 25 Ohms
Booster Coil – Terminals 1 & 3	560 ± 25 Ohms
Secondary Coil – Terminals 4 & 5	1220 ± 50 Ohms

NOTE: If meter registers any other readings than those listed above, the respective coil(s) should be replaced.

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

61. Sensor Check (Gas Models)

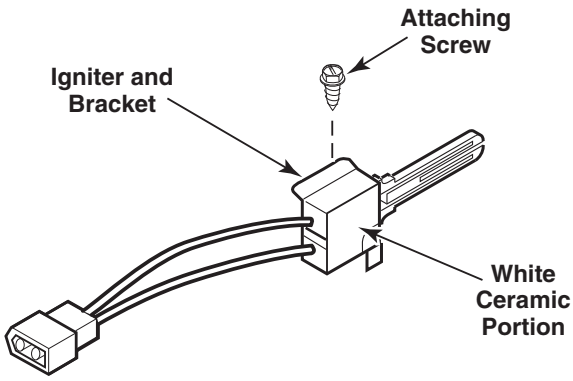
a. While supporting the access panel, remove two screws from bottom edge of access panel.
b. Gently lower the access panel to disengage locators from bottom edge of front panel.
c. Close main gas shut-off valve. Refer to *Figure 19*.
d. Remove wires from sensor terminals.
e. Set test meter to read Ohms and put meter probes on sensor terminals. Meter should read "zero" Ohms. If meter registers an Ohm reading of any amount, replace sensor.

62. Igniter Check (Gas Models)

a. While supporting the access panel, remove two screws from bottom edge of access panel.
b. Gently lower the access panel to disengage locators from bottom edge of front panel.
c. Close main gas shut-off valve. Refer to *Figure 19*.
d. Disconnect igniter wires at disconnect block.
e. Set test meter to read Ohms and put meter probes on terminals of igniter wires.
f. **Silicon Carbide Igniter –** meter should read between 45 – 200 Ohms. Refer to *Figure 38*.

NOTE: If meter does not read appropriate Ohms, then replace the igniter.

IMPORTANT: Always examine all wires, terminals and connectors to be sure wiring is correct before replacing any components.



SILICON CARBIDE IGNITER AND BRACKET ASSEMBLY

D337SE3A

Figure 38

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

63. Thermal Fuse (Electric Models)

a. While supporting the access panel, remove two screws from bottom edge of front access panel.
b. Gently lower the access panel to disengage panel locators from bottom edge of front panel.
c. Label and disconnect wires from thermal fuse.

NOTE: Refer to wiring diagram when rewiring thermal fuse.

d. Set multimeter to read Ohms. Apply meter probes to thermal fuse terminals. Multimeter should read 0 Ohms. If the meter does not show any reading (infinite Ohms), then the fuse is open. If the fuse is open, then replace BOTH the thermal fuse and the limit thermostat.

64. Heater Assembly (Electric Models)

a. While supporting the access panel, remove two screws from bottom edge of access panel.
b. Gently lower the access panel to disengage panel locators from bottom edge of front panel.
c. Disconnect wires from heater assembly.

NOTE: Refer to wiring diagram when rewiring heater assembly.

d. Set meter to read Ohms. Apply meter probes to the heater assembly terminals. Meter should read as follows: (Cold Ohms).

Element Color Code	KW	Voltage/Hz.	Resistance Reading
Red	5	240 V 60 Hz.	10.39 ± .31 Ohms Cold
White	4.75	208 V 60 Hz.	8.2 ± .5 Ohms Cold
Green	4.8	240 V 50 Hz.	10.75 ± .32 Ohms Cold
Yellow	4	240 V 50 Hz.	13.03 ± .39 Ohms Cold
Blue	3.1	240 V 50 Hz.	16.7 ± .5 Ohms Cold
Orange	5.35	240 V 60 Hz.	9.72 ± .3 Ohms Cold
Purple	4.25	208 V 60 Hz.	9.27 ± .3 Ohms Cold

65. Cycling or Limit Thermostat

a. While supporting the access panel, remove two screws from bottom edge of access panel.
b. Gently lower the access panel to disengage panel locators from bottom edge of front panel.
c. Label and disconnect wires from thermostat.

NOTE: Refer to wiring diagram when rewiring thermostat.

Cycling Thermostat (S.P.S.T. – 2 Terminals) or Limit Thermostat

d. Set meter to read Ohms.
   (1) Apply meter probes to the thermostat terminals.
   (2) Meter should read “zero.”

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

66. Door Switch

a. While supporting the access panel, remove two screws from bottom edge of access panel.
b. Gently lower the access panel to disengage locators from bottom edge of front panel.
c. Remove two screws holding bottom tabs on front panel to dryer side panels. Swing bottom of front panel away from dryer far enough to disengage hold-down clips and locators from cabinet top.
d. Disconnect wires from door switch.

NOTE: Refer to model wiring diagram when rewiring door switch.

e. Set meter to read Ohms and apply meter probes on switch terminals 1 and 3 with door closed. You should get “zero” reading.
f. Apply probes to terminals 1 and 2 with door closed. The meter should read “infinite”.
g. Open door. Meter should read “infinite” between 1 and 3 and “zero” between 1 and 2.

Section 10
Internal Wiring of Dryer Motor Switch

WARNING

To reduce the risk of electric shock, fire, explosion, serious injury or death:
- **Disconnect all electric power to the machine and accessories before servicing.**
- **Close gas shut-off valve to gas dryer before servicing.**
- **Never start machine with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the machine is properly grounded.**
- **Washer motor not grounded! Disconnect electric power before servicing motor.**

W502

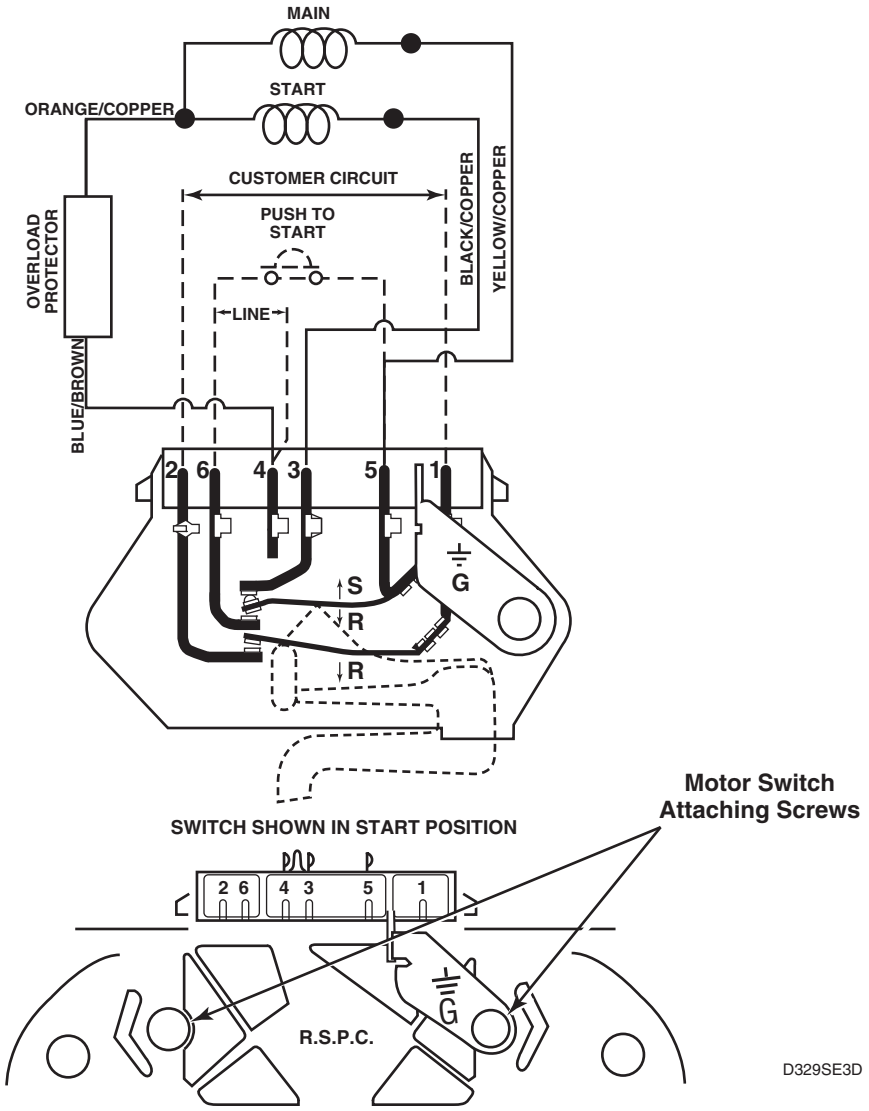


Figure 39