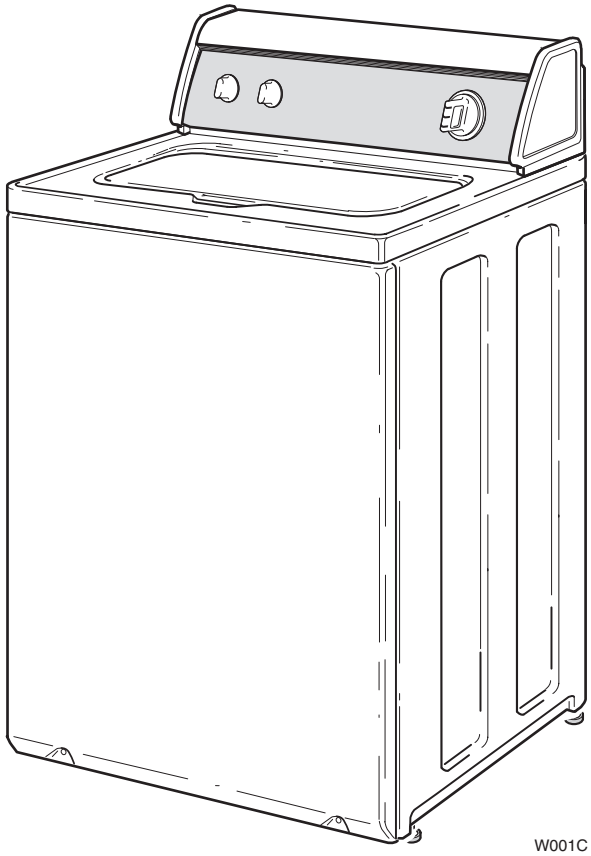
Automatic Washers

Refer to Page 6 for Model Numbers

Service



W001C

Alliance Laundry Systems

www.comlaundry.com

Part No. 32283R2
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Section 1
Safety Information

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

⚠ DANGER

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

⚠ WARNING

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

⚠ CAUTION

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

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

IMPORTANT

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

NOTE

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

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

WARNING

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

W006R2

WARNING

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

W003

WARNING

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

W007

WARNING

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

W008

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

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

Locating an Authorized Servicer

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

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

Section 2
Introduction

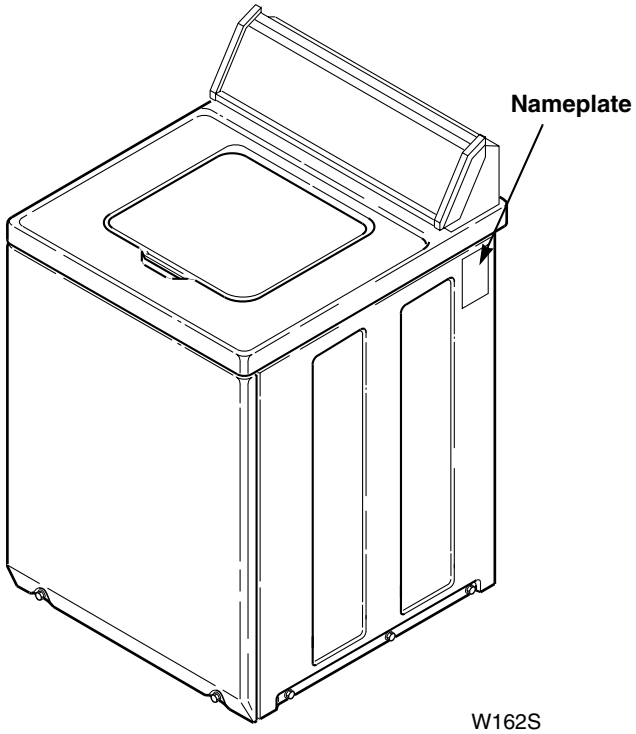
Customer Service

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

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

Nameplate Location

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



W162S

Model Identification

Information in this manual is applicable to these washer models:

AA9231	NA6621	AA6221	NA5320	AA4211	NA3312
AA9131	NA6532	AA6121	AA5221	AA4210	NA3311
NA8631	NA6531	NA5721	AA5220	AA4111	NA3310
NA8531	NA6530	NA5531	AA5121	AA4110	AA3210
NA8331	NA6522	NA5530	NA4621	NA3612	AA3111
AA8231	NA6521	NA5521	NA4522	NA3520	AA3110
NA7521	NA6520	NA5520	NA4521	NA3512	NA2510
NA7321	NA6332	NA5331	NA4520	NA3511	NA2310
AA7231	NA6331	NA5330	NA4321	NA3510	NA2110
AA7131	NA6321	NA5321	NA4320	NA3320	

Section 3
Troubleshooting

WARNING

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

W003

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

1. NO HOT WATER

POSSIBLE CAUSE	TO CORRECT
Hot water supply faucet is closed.	• Open faucet.
Water supply is cold.	• Check water heater.
Kinked hot water inlet hose.	• Straighten or replace hose.
Clogged mixing valve screen, or clogged screen in outer end of inlet hose nearest water supply faucet.	• Disconnect hot water inlet hose, and clean or replace screen(s).
Inoperative hot water mixing valve solenoid.	• Test solenoid and replace if inoperative.
*Inoperative timer.	• Test timer and replace if inoperative.
*Inoperative temperature switch.	• Test switch and replace if inoperative.
Inoperative pressure switch.	• Test switch and replace if inoperative.
Clogged pressure hose.	• Remove and clean or replace hose.
Broken, loose or incorrect wiring.	• Refer to appropriate wiring diagram.
†Inoperative electronic control.	• Refer to *Section 8* to check out the electronic control.

2. NO COLD WATER

POSSIBLE CAUSE	TO CORRECT
Cold water supply faucet is closed.	• Open faucet.
Kinked cold water inlet hose.	• Straighten or replace hose.
Clogged mixing valve screen, or clogged screen in outer end of inlet hose nearest water supply faucet.	• Disconnect cold water inlet hose, and clean or replace screen(s).
Inoperative cold water mixing valve solenoid.	• Test solenoid and replace if inoperative.
*Inoperative timer.	• Test timer and replace if inoperative.
*Inoperative temperature switch.	• Test switch and replace if inoperative.
Inoperative pressure switch.	• Test switch and replace if inoperative.
Clogged pressure hose.	• Remove and clean or replace hose.
Broken, loose or incorrect wiring.	• Refer to appropriate wiring diagram.
†Inoperative electronic control.	• Refer to *Section 8* to check out the electronic control operation.

* Mechanical Timer Models only
† Electronic Control Models only

WARNING

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

W003

3. NO WARM WATER

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

4. WATER FILL DOES NOT STOP AT PROPER LEVEL

POSSIBLE CAUSE	TO CORRECT
Inoperative pressure switch.	• Test switch and replace if inoperative.
Air leak in pressure hose.	• Replace hose.
Sediment on or under mixing valve diaphragm, defective diaphragm, or armature binding in armature guide.	• Disassemble and clean mixing valve. Replace deteriorated or not-easily-cleaned components. Refer to parts manual for assembly sequence of valve.
Broken, weak or missing mixing valve armature spring.	• Disassemble valve and replace spring. Refer to parts manual for assembly sequence of valve.
Siphoning action started in washer which will cause water to be siphoned from washer during cycle due to end of drain hose being lower than cabinet top of washer. Drain hose fits tight in stand pipe or drain.	• Install No. 562P3 Siphon Break Kit. Provide an air gap around drain hose and drain receptacle.
Water in pressure hose.	• Blow air through hose to remove water.
Broken, loose, shorted or incorrect wiring.	• Refer to appropriate wiring diagram.
†Inoperative electronic control	• Refer to *Section 8* to check out the electronic control operation.

5. TIMER DOES NOT ADVANCE (Mechanical Timer Models only)

POSSIBLE CAUSE	TO CORRECT
*Timer is designed to pause during fill periods.	• Allow for completion of fill period.
*Inoperative timer.	• Test timer and replace if inoperative.
Loading door is open.	• Close loading door.
Washer will not fill.	• Timer pauses until pressure switch is satisfied. Refer to *Paragraphs 1* and *2*.
Timer motor lead wire off timer terminal.	• Refer to appropriate wiring diagram and reattach wire.
Broken, loose or incorrect wiring.	• Refer to appropriate wiring diagram.

* Mechanical Timer Models only
† Electronic Control Models only

WARNING

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

W003

6. NO AGITATION

POSSIBLE CAUSE	TO CORRECT
*Inoperative timer. Timer is designed to pause (SOAK) during the DELICATE cycle.	• Test timer and replace if inoperative.
Inoperative motor.	• Test motor and replace if inoperative.
Inoperative pressure switch.	• Test switch and replace if inoperative.
Broken, loose or incorrect wiring.	• Refer to appropriate wiring diagram.
Loose or broken drive belt.	• Adjust or replace belt.
Inoperative transmission assembly.	• Repair or replace transmission assembly.
Sheared motor pulley roll pin.	• Remove drive motor and replace roll pin and any other damaged parts.
Drive motor overload protector has cycled.	• Refer to *Paragraph 10.*
Bind in pump.	• Replace pump.
Loading door is open or door switch is inoperative.	• Close door or test switch and replace if inoperative.
†Inoperative electronic control.	• Refer to *Section 8* to check out the electronic control operation.

7. CONSTANT AGITATION

POSSIBLE CAUSE	TO CORRECT
*Inoperative timer.	• Test timer and replace if inoperative.
Inoperative drive motor.	• Test motor and replace if inoperative.
Shorted or incorrect wiring.	• Refer to appropriate wiring diagram.
Inoperative transmission assembly.	• Repair or replace transmission assembly.
†Inoperative electronic control.	• Refer to *Section 8* to check out the electronic control operation.

* Mechanical Timer Models only
† Electronic Control Models only

WARNING

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

W003

8. SLOW SPIN OR NO SPIN

POSSIBLE CAUSE	TO CORRECT
*Inoperative timer.	• Test timer and replace if inoperative.
*Some model washers, the timer is programmed for SLOW spin in the DELICATE cycle regardless of the action switch setting.	• Use a different cycle.
Loading door is open or door safety switch is inoperative.	• Close loading door, or test switch and replace if inoperative.
Bind in water pump.	• Replace pump.
Inoperative drive motor.	• Test motor and replace if inoperative.
Loose or broken drive belt.	• Adjust or replace spin belt.
Washer has gone out of balance. †LED (light emitting diode) is flashing on electronic control.	• Open loading door to reset out-of-balance switch. Rearrange load in washtub.
No clearance or stuck brake pads.	• Free sticky brake pads or replace pads.
Broken, loose or incorrect wiring.	• Refer to appropriate wiring diagram.
Inoperative transmission assembly.	• Repair or replace transmission assembly.
†Inoperative electronic control.	• Refer to *Section 8* to check out the electronic control operation.

9. CONSTANT SPIN

POSSIBLE CAUSE	TO CORRECT
*Inoperative timer.	• Test timer and replace if inoperative.
Inoperative drive motor.	• Test motor and replace if inoperative.
Washtub does not stop spinning within seven seconds after the loading door is opened.	• Replace brake pads.
Excessive wear on brake pads, or missing brake pads.	• Replace brake pads.
Shorted or incorrect wiring.	• Refer to appropriate wiring diagram.
†Inoperative electronic control.	• Refer to *Section 8* to check out the electronic control operation.

* Mechanical Timer Models only
† Electronic Control Models only

WARNING

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

W003

10. DRIVE MOTOR OVERLOAD PROTECTOR CYCLES REPEATEDLY

POSSIBLE CAUSE	TO CORRECT
Excessive belt tension.	• Adjust belts.
Inoperative motor overload protector.	• Replace motor.
Bind in upper or lower bearing.	• Replace bearing.
Bind in water pump.	• Replace pump.
Bind in transmission.	• Repair or replace transmission.
Brake pads binding.	• Free binding pads, or replace pads.
Incorrect voltage.	• Contact local utility company or have a qualified electrician check power supply.

11. OUTER TUB DOES NOT EMPTY

POSSIBLE CAUSE	TO CORRECT
Kinked drain hose.	• Straighten hose.
Drain hose off drain hose support.	• Remove washer front panel and install drain hose on hose support.
Obstruction in outer tub outlet hose.	• Remove obstruction.
Inoperative water pump.	• Replace pump.
Loosen or broken pump belt.	• Adjust or replace belt.

12. EXCESSIVE VIBRATION

POSSIBLE CAUSE	TO CORRECT
Unbalanced load in tub.	• Stop washer, redistribute load, then restart washer.
Broken, disconnected or centering spring(s) out of adjustment.	• Connect or replace centering spring(s). Spring should be located in center notch. Refer to *Figure 49*.
Washer is not properly leveled.	• Adjust leveling legs.
Washer is installed on weak, “spongy”, carpeted or built-up floor.	• Relocate washer, or support floor to eliminate weak or “spongy” condition.
Incorrect or loose cabinet screws.	• Replace with correct screws or tighten.
Base damaged (washer was dropped).	• Replace base assembly.
Balance ring not positioned properly on transmission assembly.	• Refer to *Paragraph 45*.

WARNING

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

W003

13. WATER LEAKING FROM OUTER TUB

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

Section 4
Grounding

WARNING

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

W003

14. WALL RECEPTACLE POLARITY CHECK
Refer to *Figure 1*.

NOTE: Have a qualified electrician check polarity of wall receptacle. If a voltage reading is measured other than that illustrated, the qualified electrician should correct the problem.

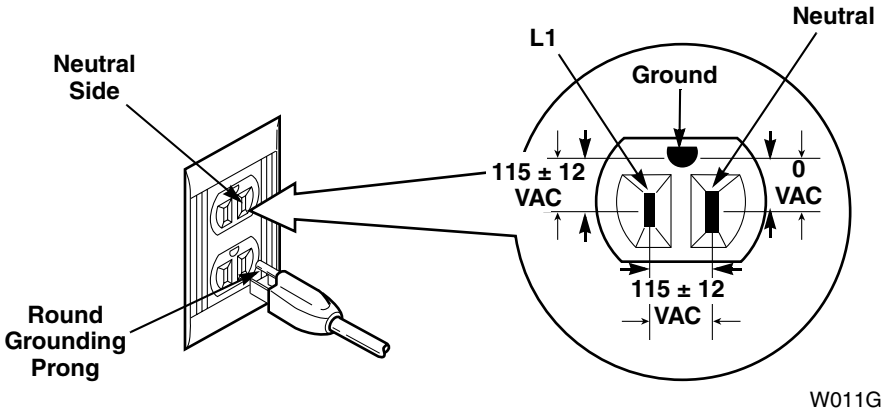


Figure 1

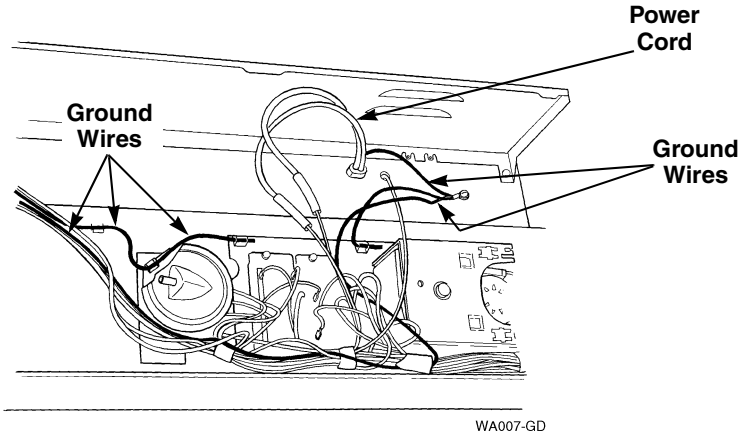
WARNING

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

W003

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

Mechanical Timer Models



Electronic Control Models

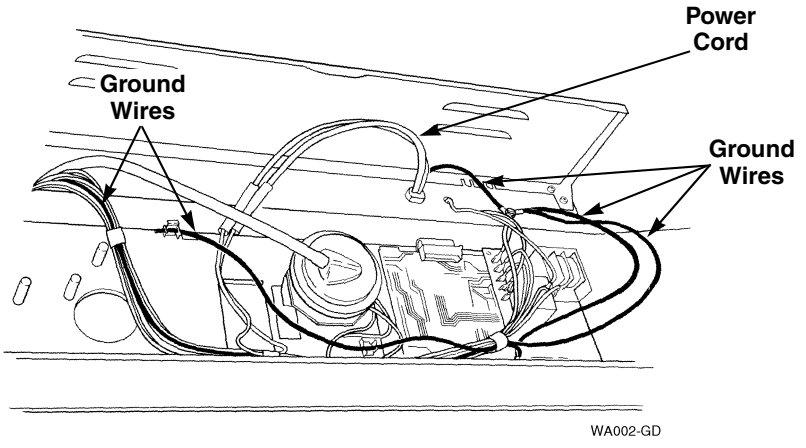


Figure 2

WARNING

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

W003

16. MAIN WIRE HARNESS TO TOP LEFT REAR CORNER GUSSET OF CABINET

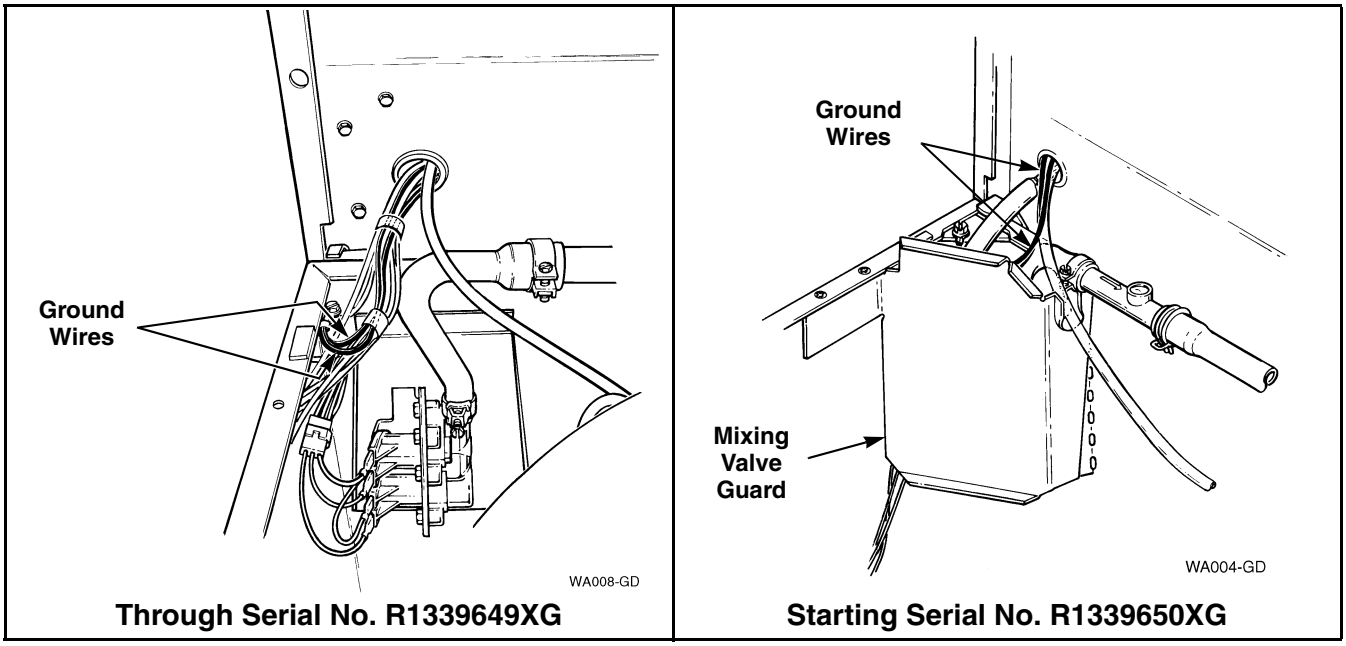


Figure 3

WARNING

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

W003

17. MOTOR TO MOUNTING BRACKET TO BASE (if present).

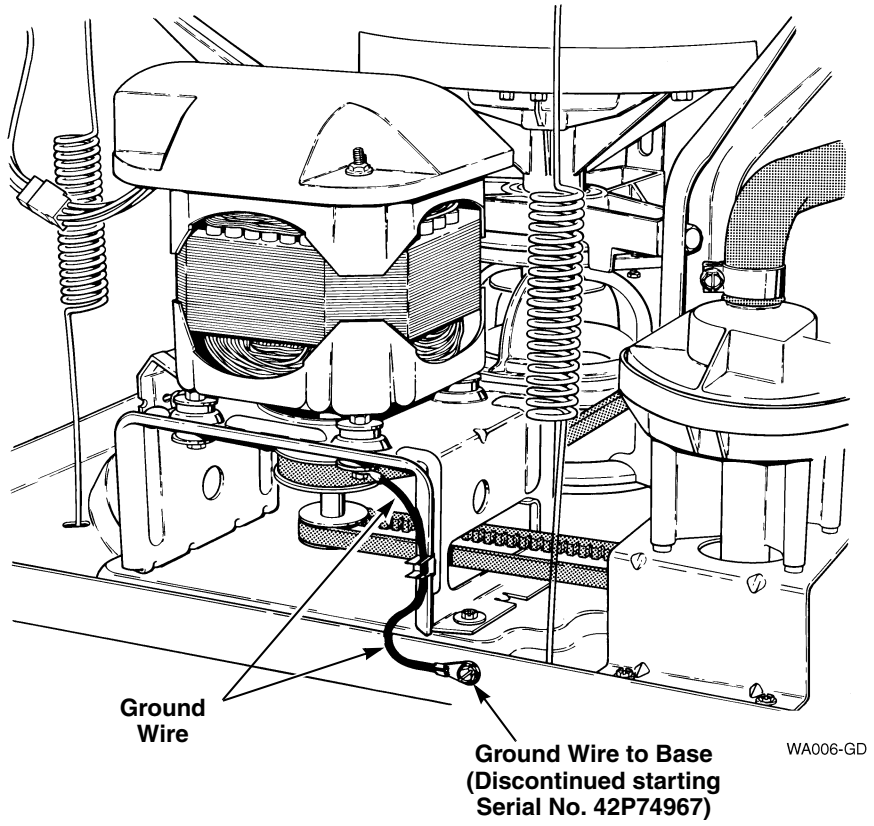


Figure 4

Section 5
Service Procedures

WARNING

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

W003

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

18. CONTROL HOOD ASSEMBLY

Refer to *Figure 5*, *6*, *7* or *8*.

a. Remove six screws (3 on top and 3 at lower front) holding hood assembly to control hood rear panel and cabinet top.

b. Disconnect wires from component parts and carefully remove components from control hood assembly.

NOTE: Refer to appropriate wiring diagram when rewiring component parts.

TO REMOVE CONTROL HOOD END CAPS

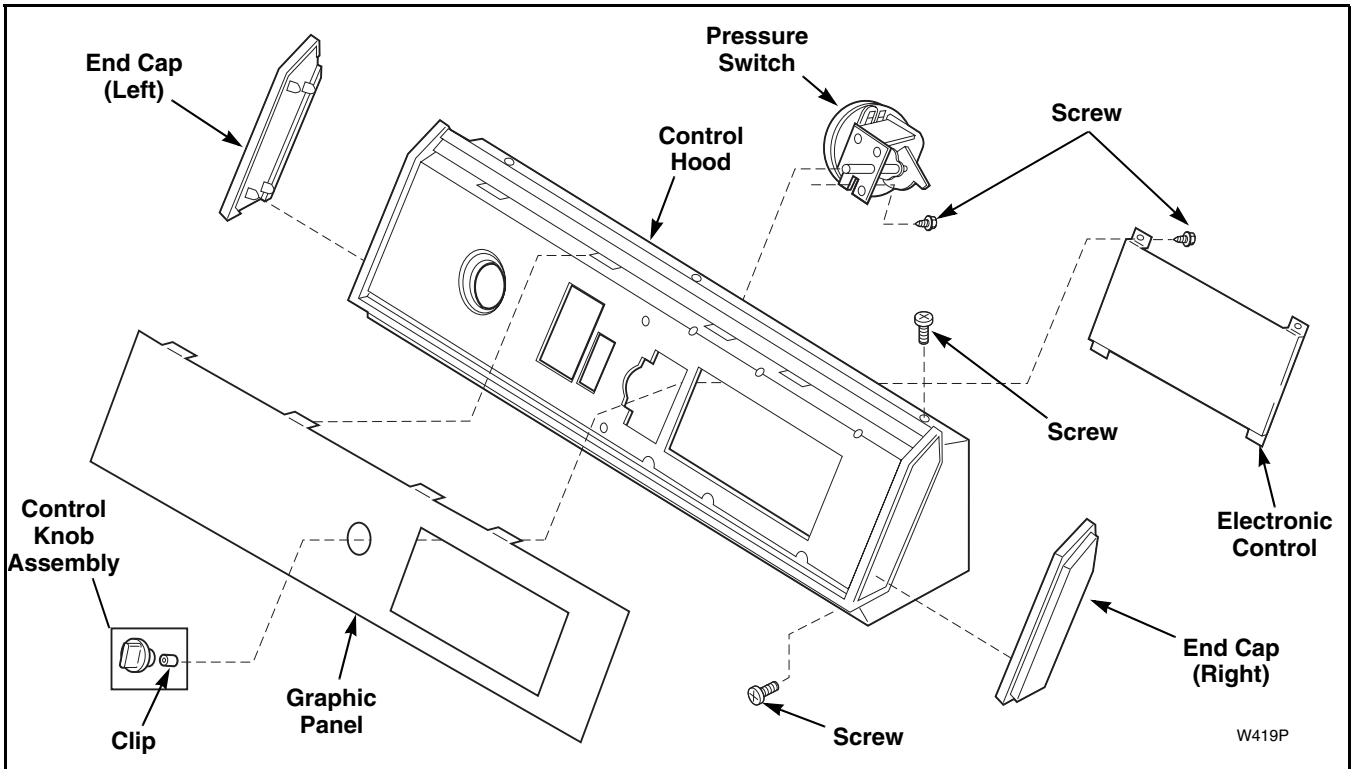
Remove end caps by carefully prying caps out of slots in ends of hood.

19. ELECTRONIC CONTROL

Refer to *Figure 5* or *6*.

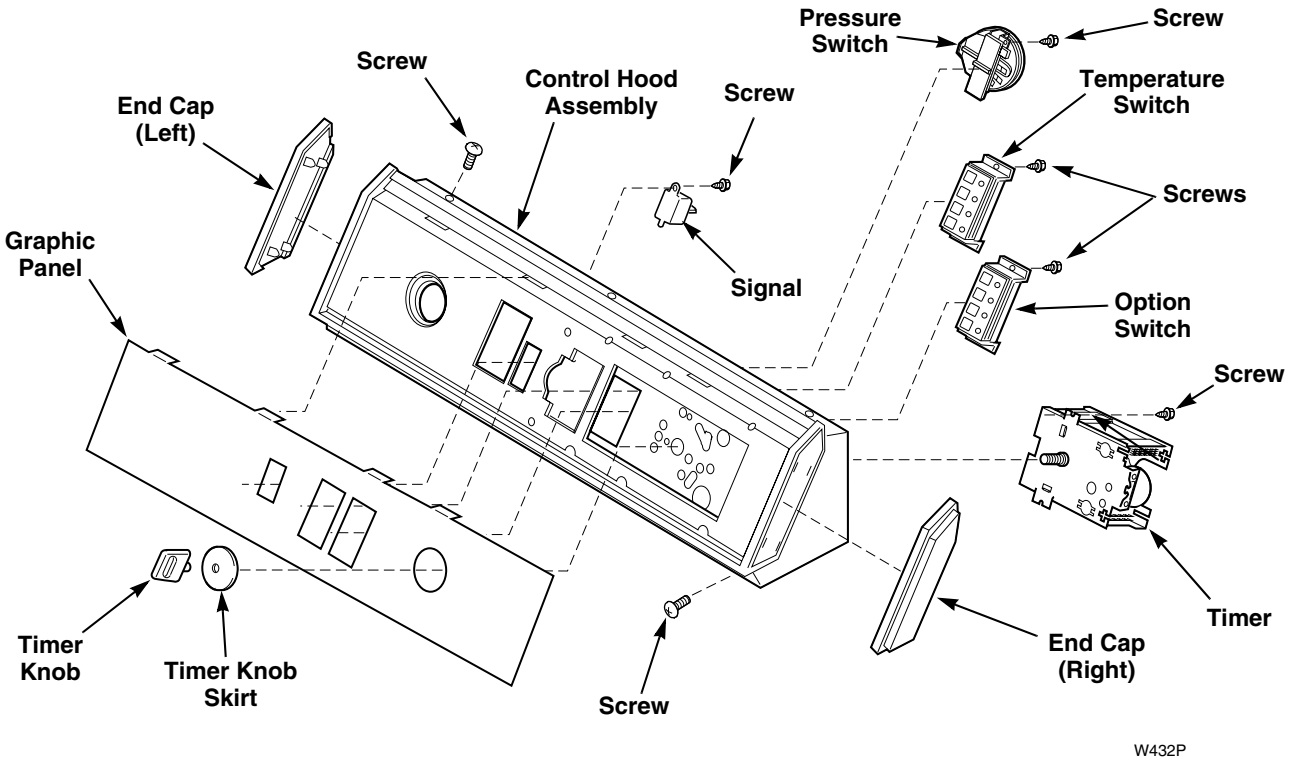
IMPORTANT: When removing or installing an electronic control, handle the control by the edges or the control could become damaged.

NOTE: Refer to appropriate wiring diagram when rewiring electronic control.

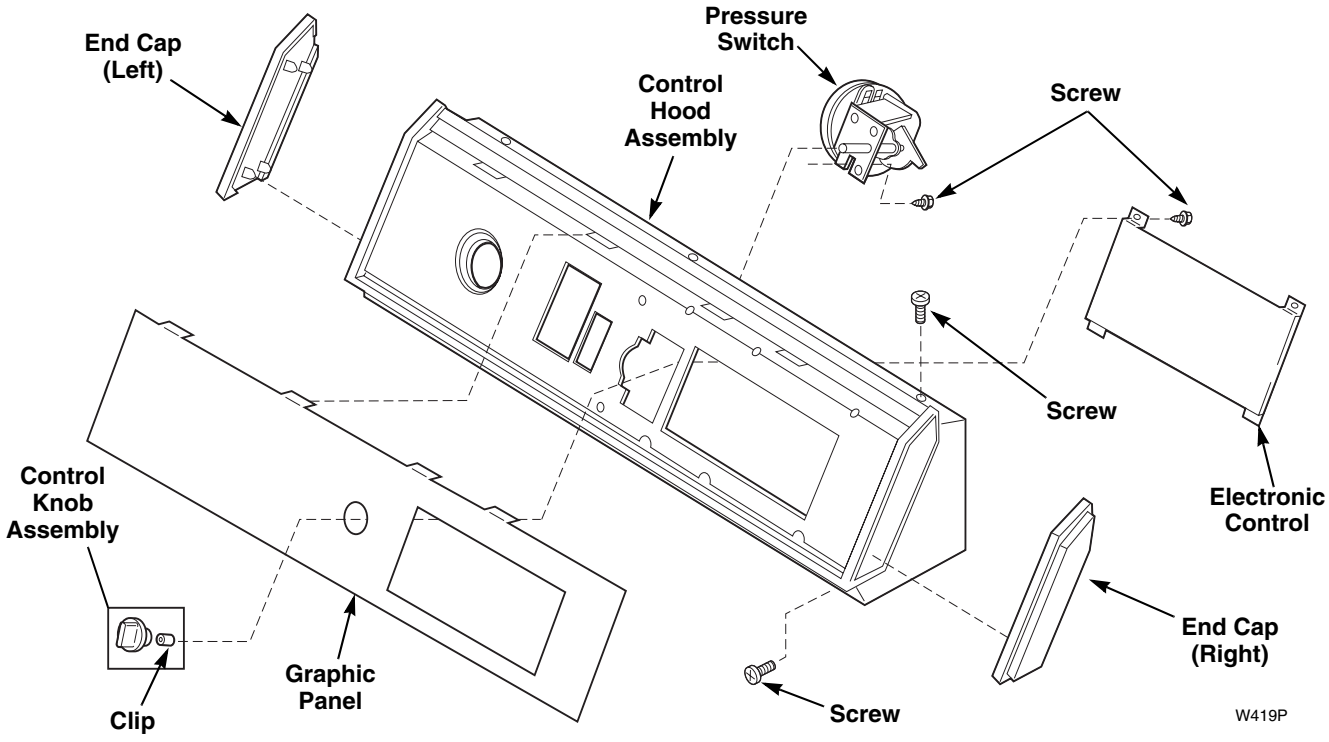


GRAPHIC PANEL, CONTROL HOOD AND CONTROLS
(Models AA9131, NA8631, NA8531, NA8331, NA6532, NA6531, NA6530, NA6332 and NA6331)

Figure 5

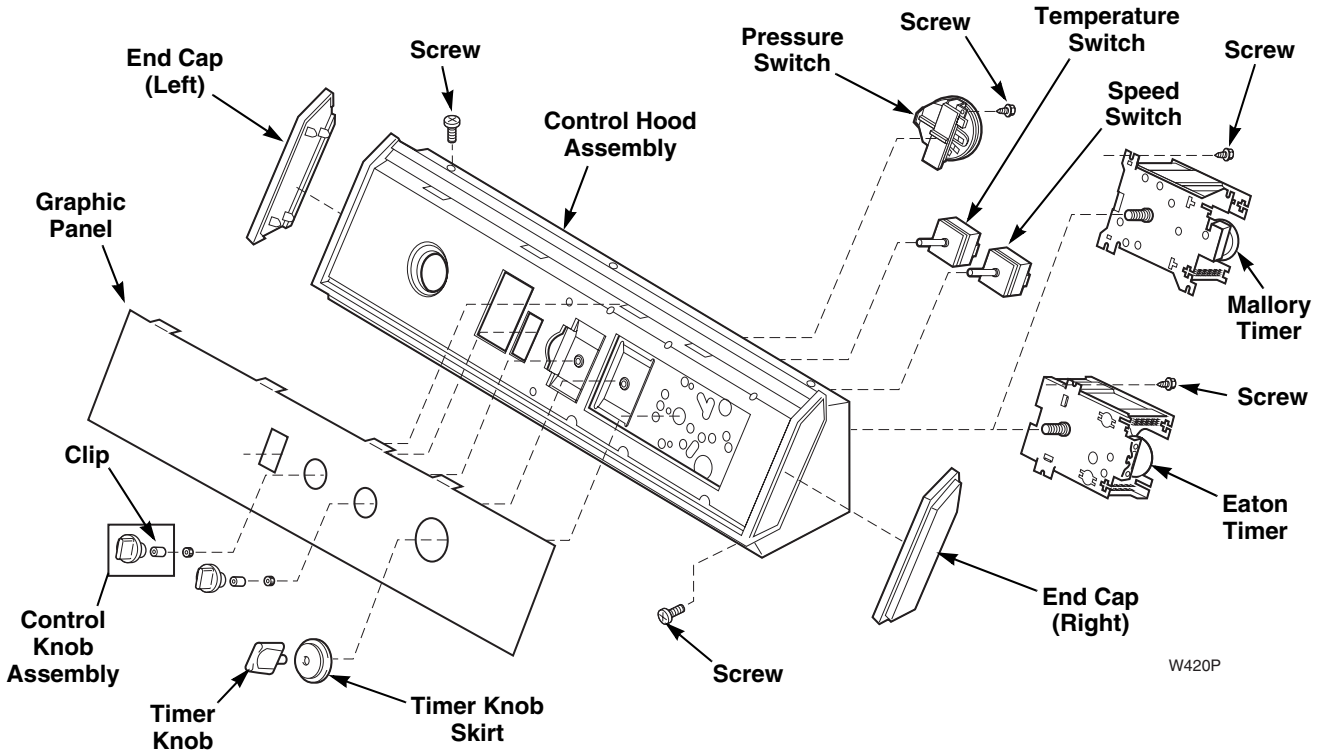


GRAPHIC PANEL, CONTROL HOOD AND CONTROLS (Models NA7512 and NA7321)

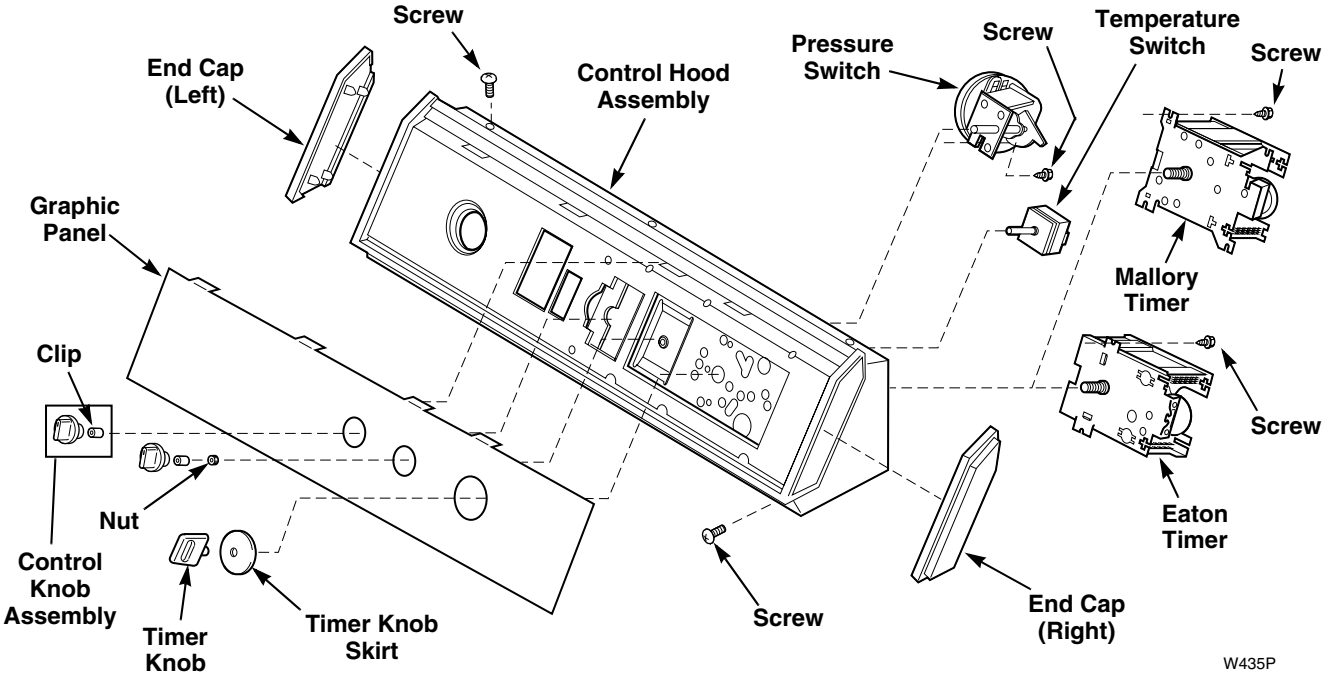


GRAPHIC PANEL, CONTROL HOOD AND CONTROLS (Models AA7131, NA5531, NA5530, NA5331 and NA5330)

Figure 6

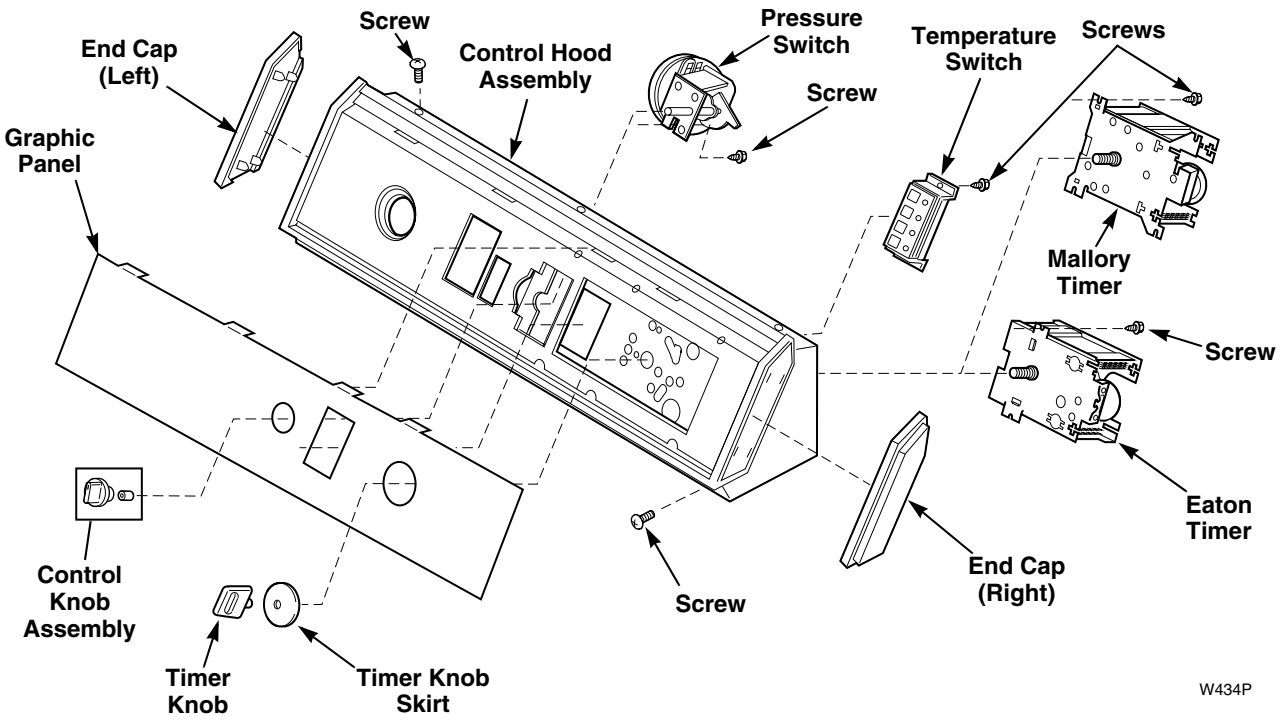


GRAPHIC PANEL, CONTROL HOOD AND CONTROLS
(Models NA6621, NA6522, NA6521, NA6520, NA6321 and AA6121)

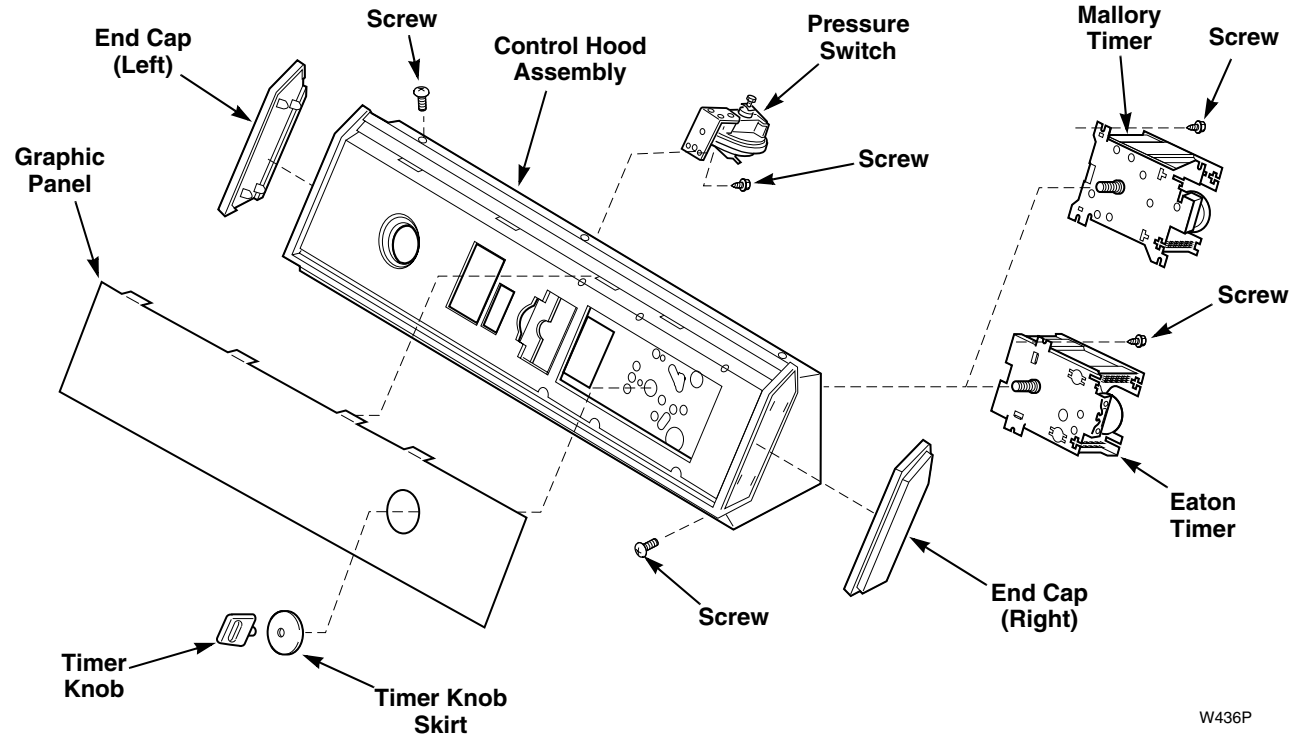


GRAPHIC PANEL, CONTROL HOOD AND CONTROLS
(Models NA5721, AA5121, NA4621, NA4522, NA4521, NA4520, NA4321, NA4320, AA4111, AA4110, NA3612, NA3520, NA3512, NA3511, NA3510, NA3320, NA3312, NA3311, NA3310, AA3111, AA3110, NA2510 and NA2310)

Figure 7



GRAPHIC PANEL, CONTROL HOOD AND CONTROLS (Models NA5521, NA5520, NA5321 and NA5320)



GRAPHIC PANEL, CONTROL HOOD AND CONTROLS (Model NA2110)

Figure 8

WARNING

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

W003

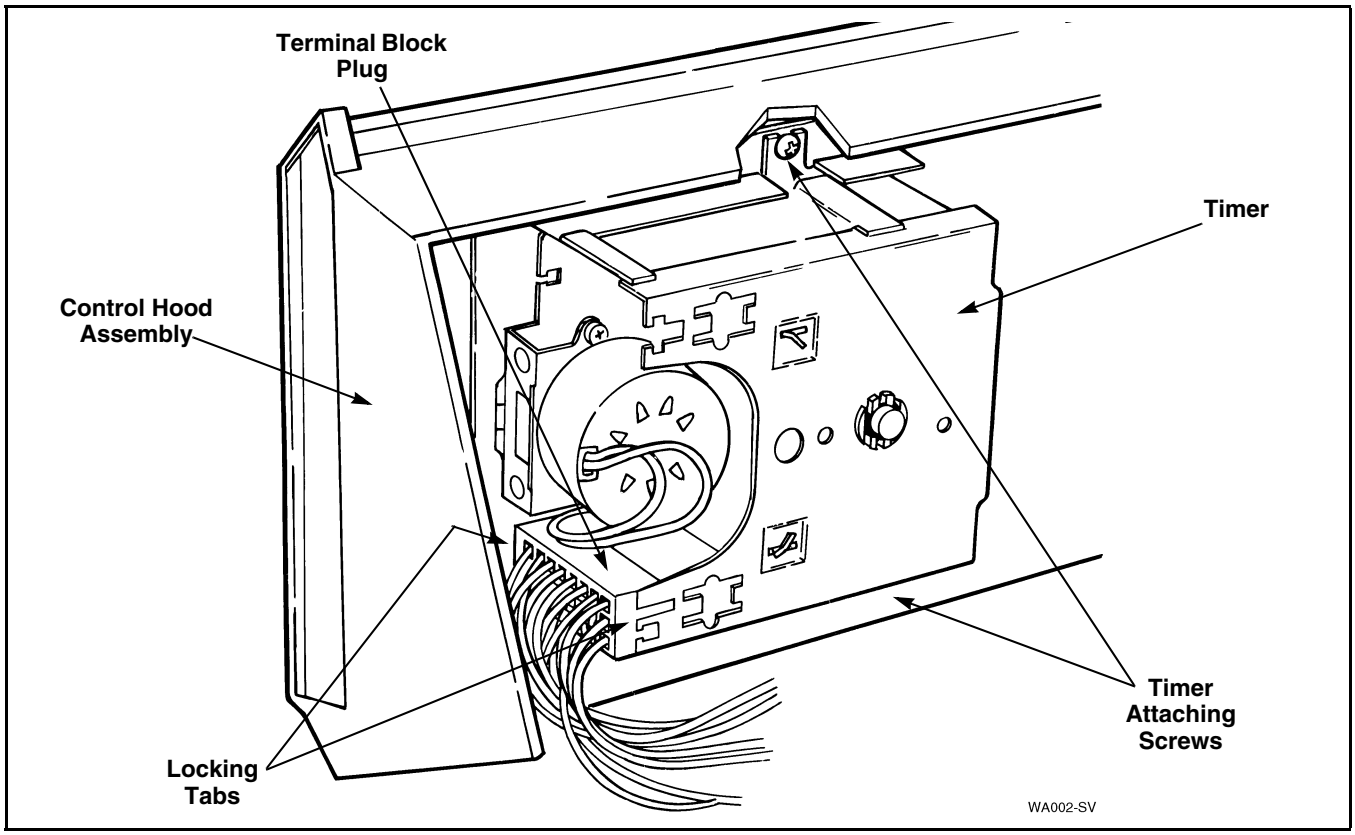


Figure 9

20. TIMER

Refer to *Figure 6*, *7* or *8*.

a. Remove six screws (3 on top and 3 at lower front) holding hood assembly to control hood rear panel and cabinet top.

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

c. Remove two screws holding timer to control hood mounting plate. Refer to *Figure 9*.

NOTE: DO NOT attempt to repair timer.

d. Disengage wire harness terminal block plug(s) from timer by pressing in on movable locking tabs (located on each side of terminal block plug) and pulling away from timer. Refer to *Figure 9*.

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

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

NOTE: When installing timer, be sure timer is installed correctly and is securely mounted to bracket on control hood. Refer to *Figure 10*.

e. The horizontal and vertical tabs on front plate of timer must seat completely into the slots on the control hood mounting bracket, and that the two screws are torqued down between 12 to 18 inch pounds (14 to 21 cm-kg).

WARNING

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

W003

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

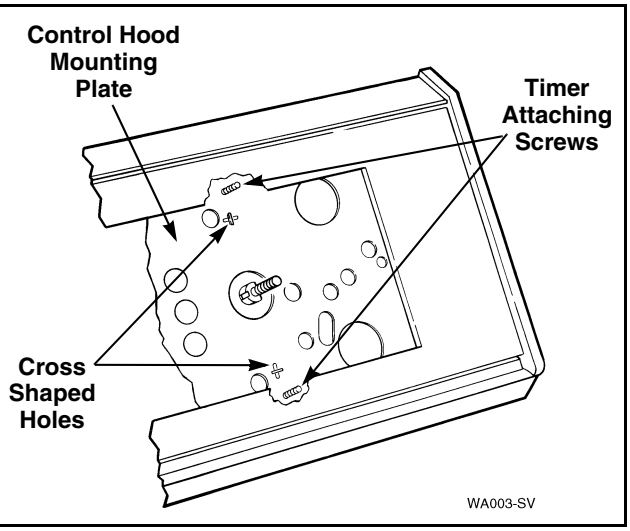


Figure 10

21. TEMPERATURE SWITCH

Refer to *Figure 6*, *7* or *8* for switch removal.

NOTE: Refer to appropriate wiring diagram when rewiring switch.

22. PRESSURE SWITCH

Refer to *Figure 5*, *6*, *7* or *8* for switch removal.

NOTE: Refer to appropriate wiring diagram when rewiring switch.

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

23. GRAPHIC PANEL

Refer to *Figure 5*, *6*, *7* or *8*.

a. Remove six screws (3 on top and 3 at lower front) holding hood assembly to control hood rear panel and cabinet top.

b. Disconnect wires from component parts and carefully remove components from control hood assembly.

NOTE: Refer to appropriate wiring diagram when rewiring component parts.

c. Bend tabs on graphic panel (located inside of control hood) straight out toward rear of hood.

d. Carefully remove graphic panel off front of control hood.

24. LOADING DOOR

Refer to *Figure 11*.

a. Depress tab on either hinge, then slide hinge out of loading door and bushing in cabinet.

b. Tilt loading door slightly and slide door and hinge out of opposite bushing.

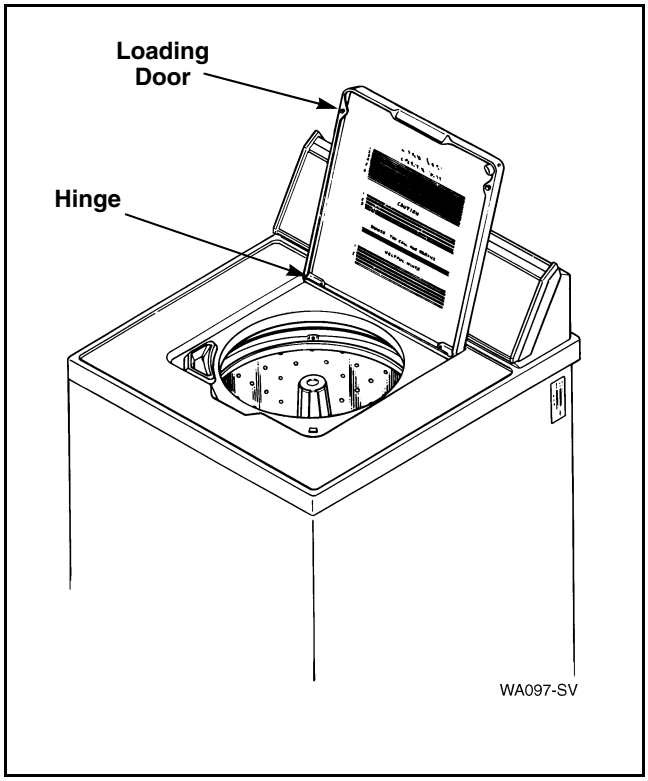


Figure 11

WARNING

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

W003

25. AGITATOR

a. Open loading door.

b. To remove agitator by hand, place two agitator hooks, No. 254P4P, under bottom edge of agitator. Refer to *Figure 12*.

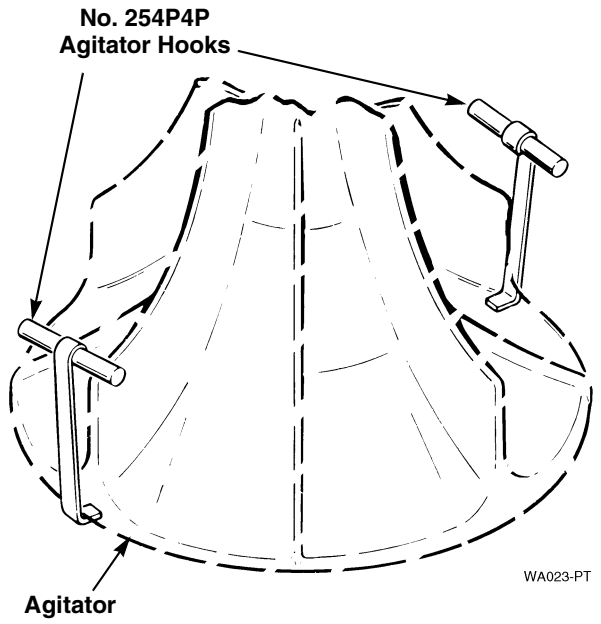


Figure 12

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

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

26. AGITATOR, DRIVE BELL AND SEAL KIT ASSEMBLY

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

a. Open loading door.

b. To remove agitator by hand, place two agitator hooks, No. 254P4P, under bottom edge of agitator. Refer to *Figure 12*.

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

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

d. Remove the screw and o-ring washer from the top side of the drive bell.

NOTE: To remove the drive bell from the transmission shaft will require using the No. 294P4 Drive Bell Tool.

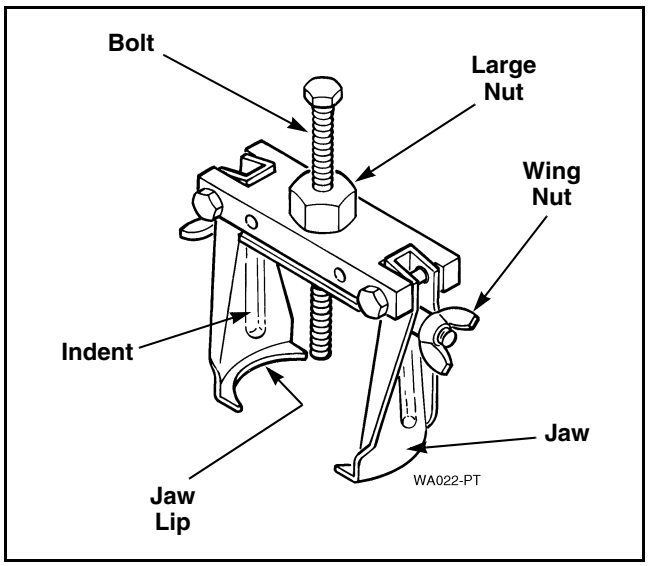


Figure 13

WARNING

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

W003

e. Back bolt out of tool approximately three quarters of the way.
f. Place tool over the bell, making sure indent on jaw lines up with wide slots on the bell. Refer to *Figure 14*.

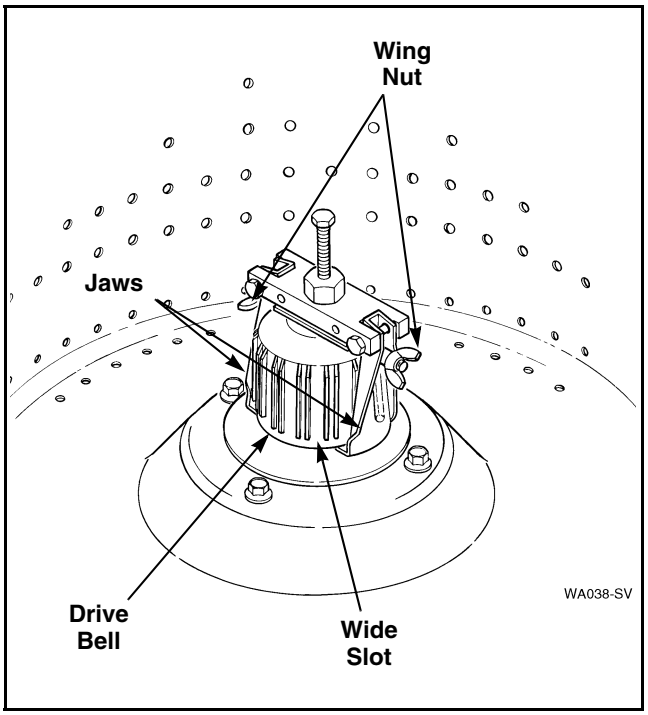


Figure 14

g. Screw the bolt down through hole in top of bell until bolt bottoms out in the hole in the transmission shaft.
h. Place lip of each jaw under bottom edge of drive bell, making sure indent on jaw lines up with wide slots on bell. Then tighten the two wing nuts to hold jaws firmly against drive bell. Refer to *Figure 14*.
i. Using an adjustable wrench, turn large nut on tool **COUNTERCLOCKWISE** to pull drive bell from transmission output shaft. Refer to *Figure 15*.

IMPORTANT: If large nut is turned clockwise when pulling drive bell, you will twist off the 1/4 inch bolt.

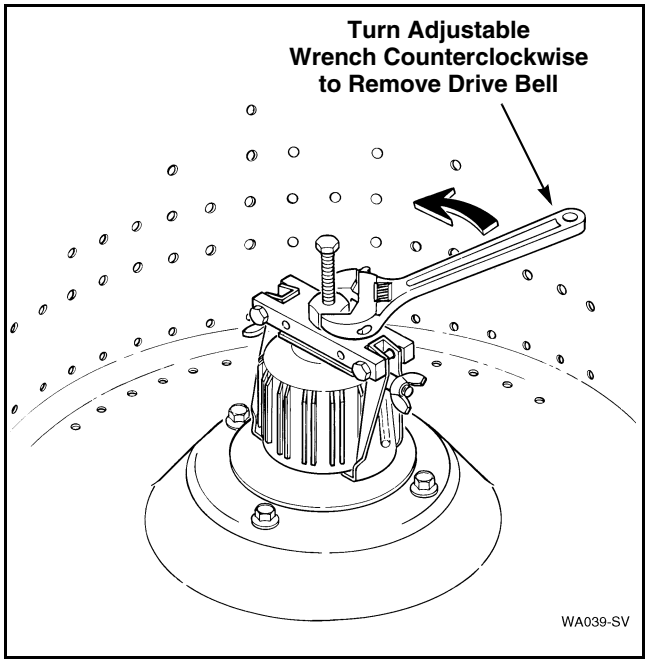


Figure 15

j. Turn the 1/4 inch bolt out of transmission shaft and remove tool and drive bell from washer.
k. Loosen the two wing nuts and remove drive bell from tool.
l. Carefully pry the old seal out of the drive bell and clean any foreign materials from the bell.

IMPORTANT: We recommend that both the seal seat and the seal head be replaced together in pairs. DO NOT replace only one of the two.

m. Install the new seal into the drive bell.
n. Remove the seal head from the hub and clean any foreign material from the hub seal mounting area.
o. Place the new seal head on hub and carefully push the seal head into position.

IMPORTANT: Make sure the seal is pressed down against the shoulder on the hub.

NOTE: Soapy water will aid in the assembly of the seal onto the hub.

WARNING

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

W003

IMPORTANT: DO NOT apply any type of lubricants to the sealing surfaces of either the seal seat or seal head as you will damage the seals.

TO REINSTALL DRIVE BELL

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

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

c. Use an adjustable wrench and turn large nut on tool **CLOCKWISE** to force drive bell down onto transmission shaft until bell bottoms out on shaft.
d. Turn bolt out of transmission shaft and remove tool.
e. Place new o-ring gasket onto new screw. Thread the new screw down through hole in top of drive bell and into transmission shaft. **DO NOT reuse the old screw and o-ring gasket!**

NOTE: Torque new screw down between 45 to 55 inch pounds (5 to 6.2 Nm). Over torque will mushroom the plastic bell.

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

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

27. FRONT PANEL

Refer to *Figure 16*.

a. Remove two screws from bottom edge of front panel.
b. Pull bottom of panel away from washer until hold-down clips (located on top flange of panel) disengage from slots in cabinet top.

Hold-Down Clips

Compress hold-down clips enough to remove them from slots in top flange of panel.

Guide Lugs

Remove screws holding guide lugs to side flanges of front panel.

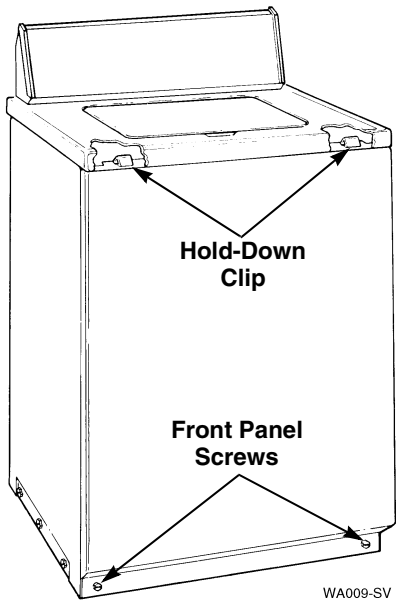


Figure 16

WARNING

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

W003

28. PUMP BELT

a. Remove two screws from bottom edge of front panel. Refer to *Figure 16*.

b. Pull bottom of panel away from washer until hold-down clips (located on top flange of panel) disengage from slots in cabinet top. Refer to *Figure 16*.

c. Loosen two front mounting screws and one rear mounting screw holding pump and bracket to washer base. Refer to *Figure 17*. Pivot entire assembly toward motor to loosen belt tension.

d. Run belt off motor pulley, then remove belt from pump pulley.

NOTE: After installing pump belt, adjust belt. Refer to *Paragraph 51*.

29. DRIVE BELT

a. Remove two screws from bottom edge of front panel. Refer to *Figure 16*.

b. Pull bottom of panel away from washer until hold-down clips (located on top flange of panel) disengage from slots in cabinet top. Refer to *Figure 16*.

c. Loosen two front mounting screws and one rear mounting screw holding pump and bracket to washer base. Refer to *Figure 17*. Pivot entire assembly toward motor to loosen belt tension.

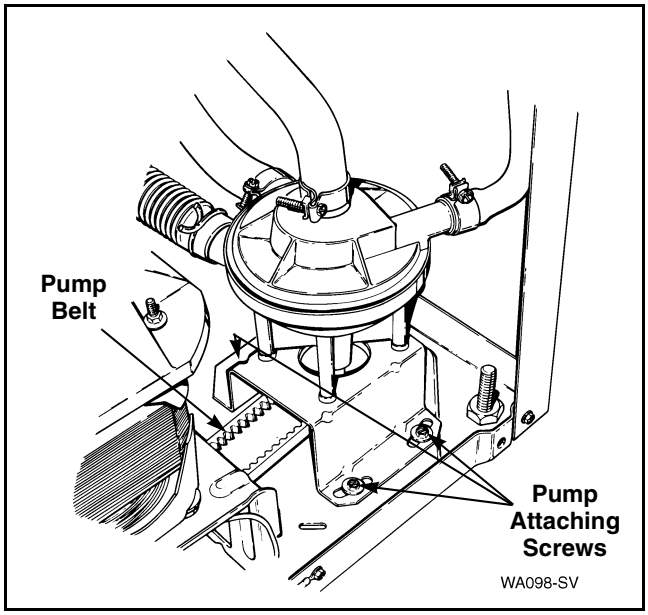


Figure 17

d. Run belt off motor pulley, then remove belt from pump pulley.

NOTE: After installing pump belt, adjust belt. Refer to *Paragraph 51*.

e. Reach in through front of motor mount and move idler lever to the left to release tension on belt.

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

f. While holding idler lever, reach in and around right side of motor and run belt off right side of large drive pulley. Refer to *Figure 18*.

g. Remove belt from motor pulley and pull belt out through front of motor mount.

IMPORTANT: Drive belt MUST be replaced with belt No. 28808 (special clutch-type belt) for proper washer operation.

WARNING

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

W003

TO INSTALL NO. 28808 DRIVE BELT

NOTE: If the new belt is replacing a burned belt, the motor pulley "V" groove must be polished with a fine (320 grit) emery cloth to remove the rubber residue. The residue will affect the washer spin operation.

a. Push belt in through front of motor mount and place belt on motor pulley.
b. Reach in and around right side of motor, starting with belt on right side of large drive pulley, run belt onto pulley.
c. Reach in through front of motor mount and move idler lever to the left.

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

d. While holding idler lever, reach around right side of motor and place belt on idler pulley. IDLER PULLEY MUST RIDE ON OUTSIDE OF BELT.

NOTE: There is no belt adjustment after installing new drive belt. Check to be sure motor and mounting bracket have been shifted toward rear of washer to its limit of travel within the mounting bracket attaching screws. If the motor and mounting bracket must be repositioned, loosen the four motor attaching screws and shift motor and mounting bracket toward rear of washer to its limit of travel. Retighten the four attaching screws. Refer to *Figure 18*.

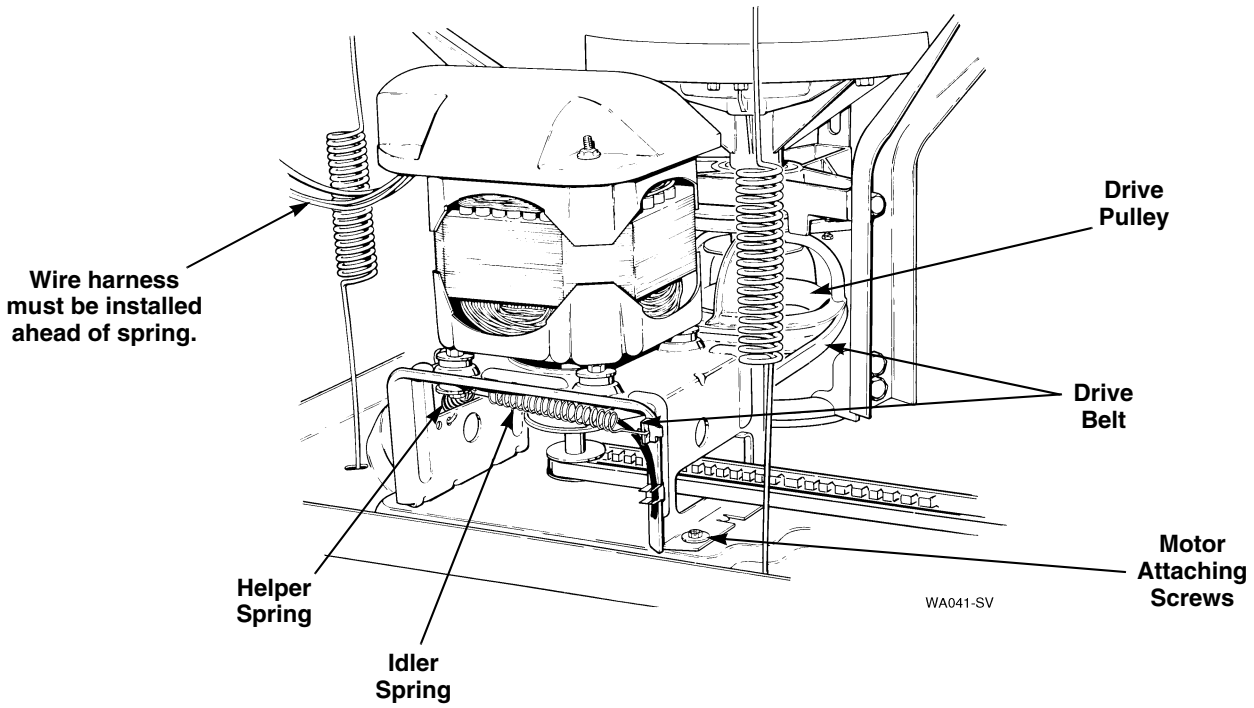


Figure 18

WARNING

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

W003

30. MOTOR AND MOUNTING BRACKET

a. Remove front panel. Refer to *Paragraph 27*.

b. Disconnect motor wire harness from base wire harness at disconnect blocks. Refer to *Figure 23*.

NOTE: Starting with serial No. R1339650XG and continuing through R1566483YG, the motor wire harness and base wire harness disconnect blocks are attached to the inside of the left side of the washer cabinet with double sided tape. If the disconnect blocks are removed during service, a new piece of tape will be needed to hold the harness disconnect blocks to the side of the washer cabinet.

c. Remove pump belt. Refer to *Paragraph 28*. Then remove drive belt. Refer to *Paragraph 29*.

NOTE: When installing belts, adjust pump belt. Refer to *Paragraph 51*. There is no drive belt adjustment.

d. If present, remove screw holding ground wire to washer base.

e. Remove four screws holding motor and mounting bracket to washer base. Refer to *Figure 19*. Then lift complete assembly out of washer.

NOTE: When installing motor and mounting bracket, tab on right bottom flange of mounting bracket must be placed in position hole in base. Mounting bracket must be shifted toward rear of washer to its limit of travel within the mounting bracket attaching screws.

f. Remove nuts, steel washers, spacers and rubber mounts holding motor to mounting bracket. Refer to *Figure 20*. Lift motor off mounting bracket and remove balance of rubber mounts and steel washers from motor mounting studs.

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

NOTE: Refer to *Figure 20* for motor and mounting bracket assembly sequence.

WARNING

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

W003

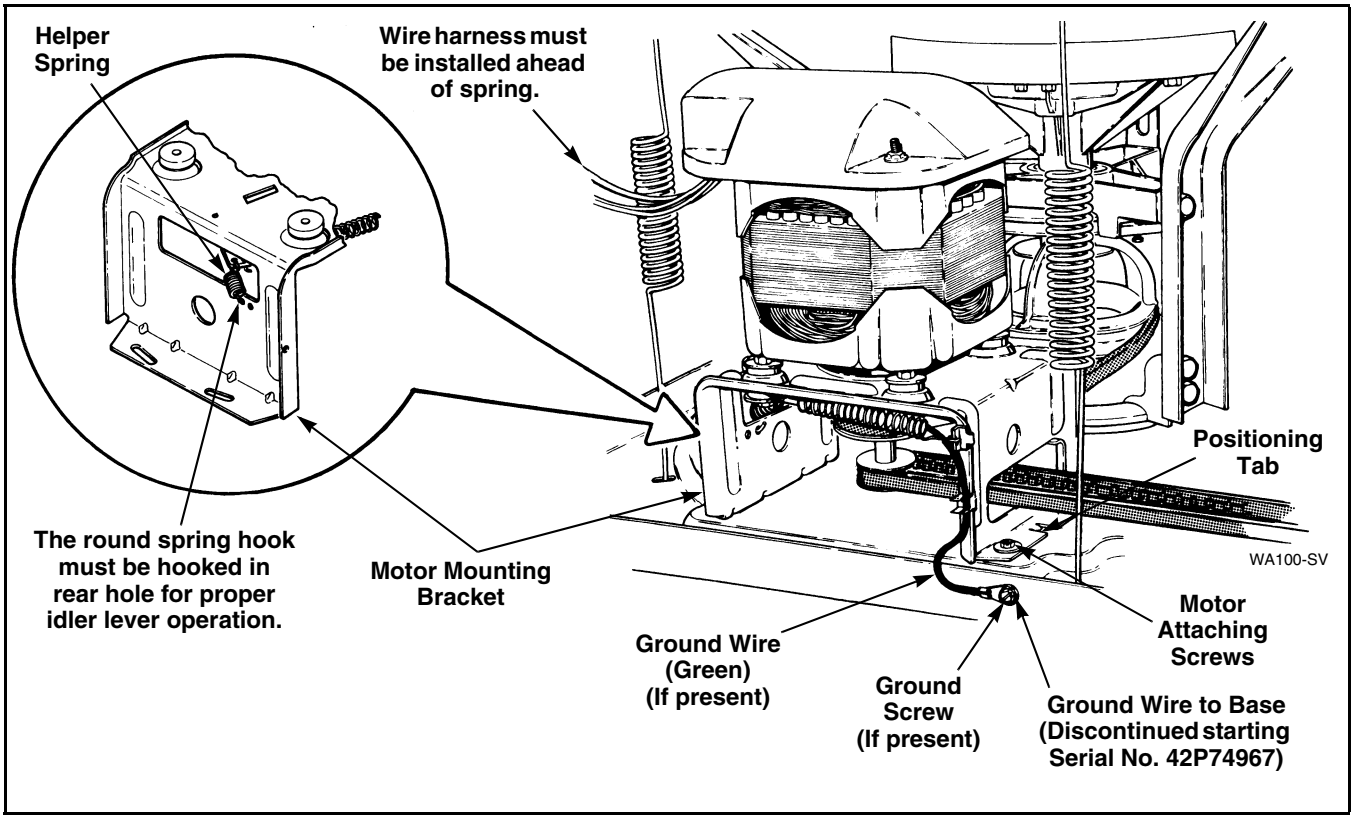


Figure 19

31. IDLER LEVER AND PULLEY

a. Remove motor and mounting bracket. Refer to *Paragraph 30*, steps “a” through “e”.

b. Remove nut, washer and bolt holding idler lever and pulley to motor mounting bracket.

NOTE: Refer to *Figure 20* for idler lever and pulley assembly sequence.

c. Apply No. 03637 Lubricant to the area of idler lever making contact with motor mounting bracket.

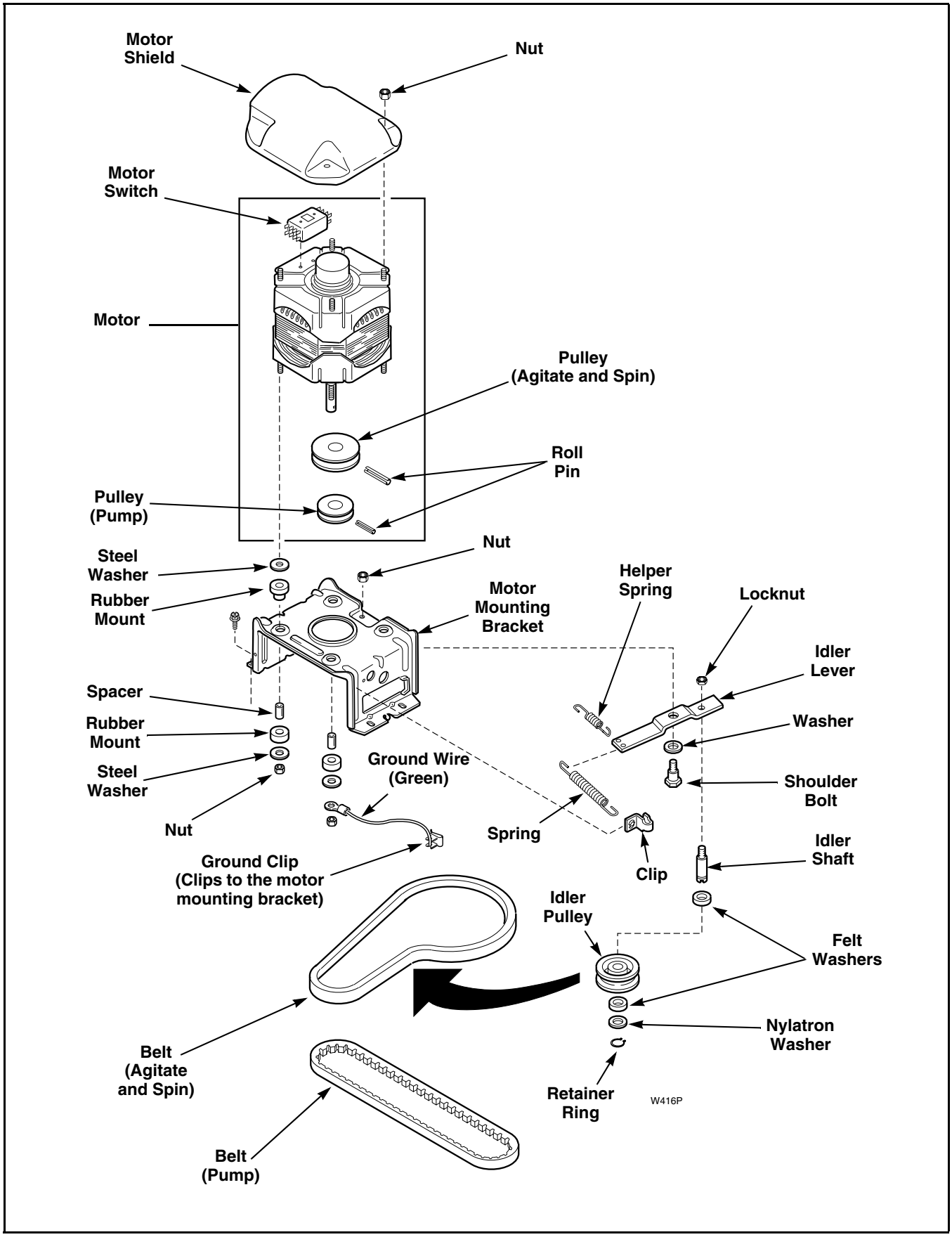


Figure 20

WARNING

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

W003

32. MOTOR DRIVE PULLEY OR PUMP PULLEY

a. Remove motor and mounting bracket. Refer to *Paragraph 30*, steps "a" through "e".
b. Lay motor and mounting bracket on its side.

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

33. MOTOR SWITCH

a. Remove front panel. Refer to *Paragraph 27*.
b. Remove nut holding motor shield to motor. Refer to *Figure 20*.
c. Disconnect external wires from motor switch terminals.

NOTE: Refer to appropriate wiring diagram when rewiring external switch wires.

d. Remove two screws holding switch to motor. Refer to *Figure 20*.
e. Disconnect internal motor leads from switch terminals.

NOTE: Refer to *Section 10* for rewiring internal switch wires.

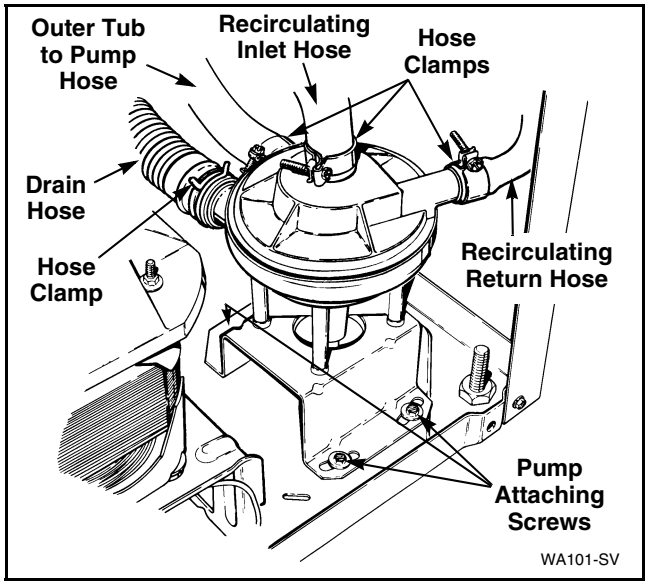


Figure 21

34. PUMP ASSEMBLY

a. Remove front panel. Refer to *Paragraph 27*.
b. Remove pump belt. Refer to *Paragraph 28*.

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

c. Remove the two front mounting screws, and loosen the rear screw. Refer to *Figure 21*.

NOTE: Rear screw hole in pump mounting bracket is keyhole shaped; therefore, it is not necessary to remove the rear screw.

d. Slide pump and mounting bracket toward rear of washer and lift assembly out of washer.
e. Loosen hose clamps and remove all hoses from pump assembly. Refer to *Figure 21*.

Pump Mounting Bracket

Remove four screws holding pump to mounting bracket.

NOTE: Refer to *Figure 22* for pump and mounting bracket assembly sequence.

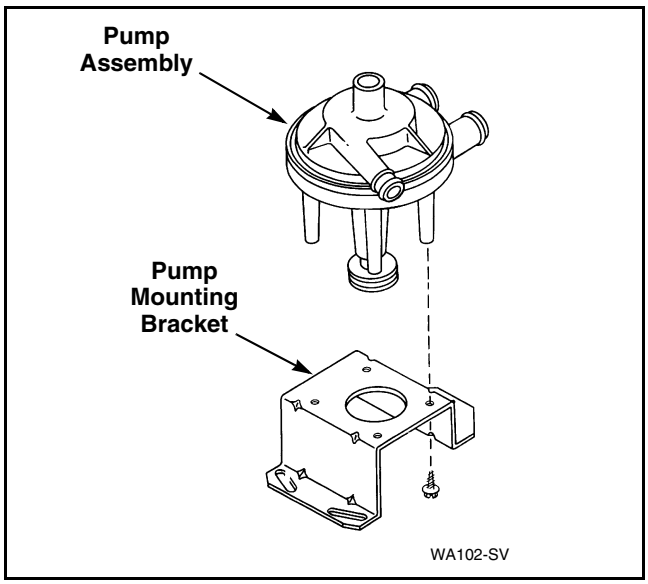


Figure 22

WARNING

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

W003

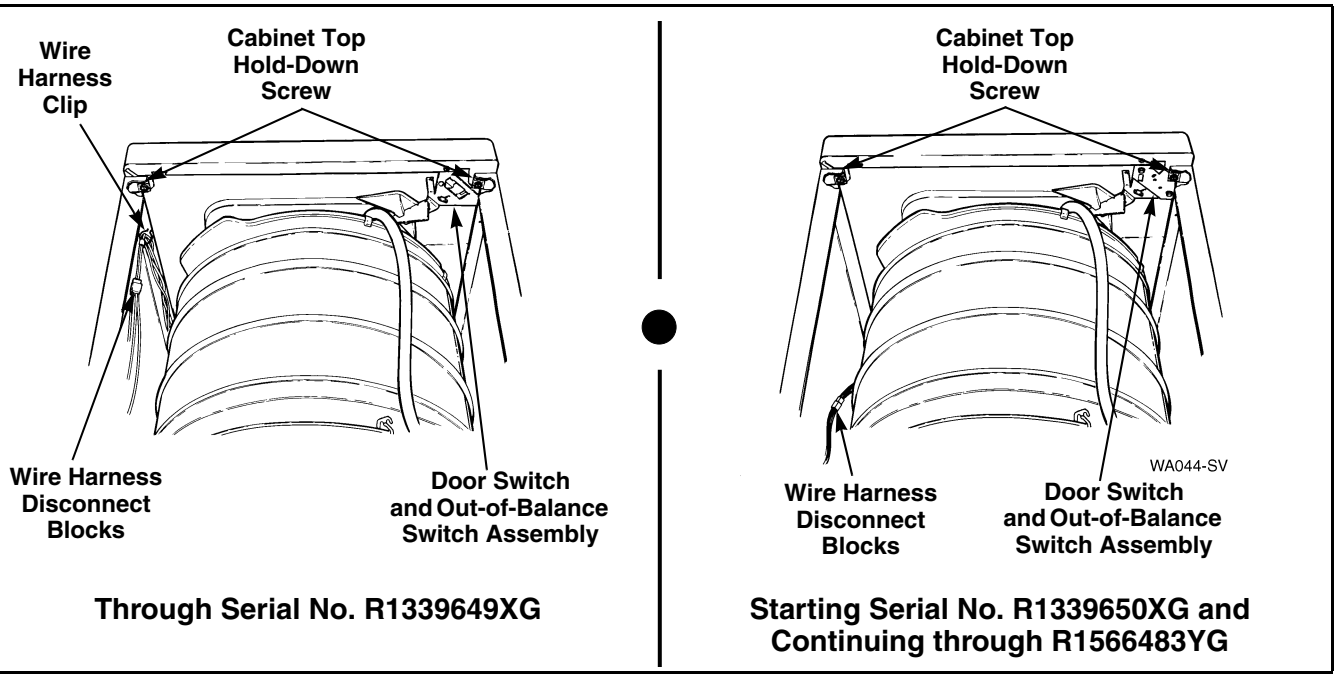


Figure 23

35. CABINET TOP ASSEMBLY

a. Remove two screws from bottom edge of front panel. Refer to *Figure 16*.
b. Pull bottom of panel away from washer until hold-down clips (located on top flange of panel) disengage from slots in cabinet top. Refer to *Figure 16*.
c. Remove two cabinet top hold-down screws. Refer to *Figure 23*.
d. If area or space permits, tape loading door closed and lift cabinet top to a vertical position by hinging it on the rear hold-down bracket.

NOTE: Cabinet top is self-supporting, however, a small chain may be used for additional support. Refer to *Figure 24*.

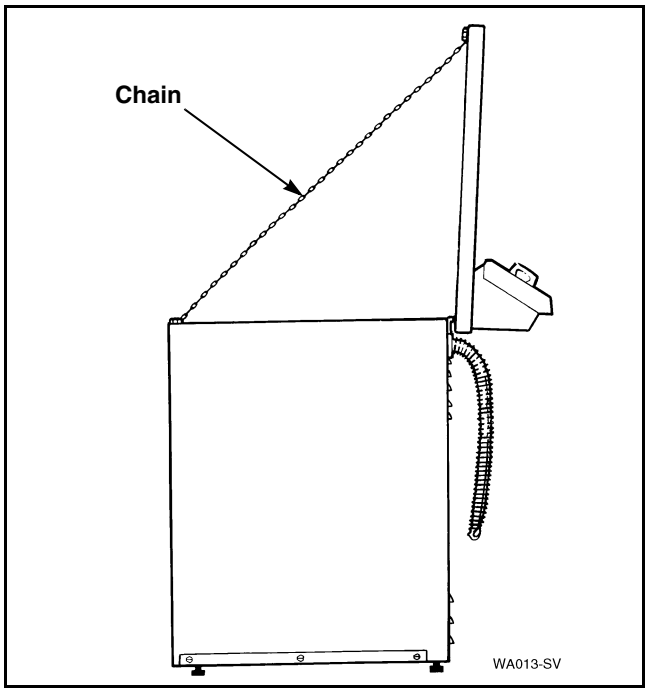


Figure 24

WARNING

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

W003

TO REMOVE CABINET TOP FROM WASHER

a. Repeat steps “a”, “b” and “c” of *Paragraph 35*.
b. Remove six screws (3 on top and 3 at lower front) holding control hood assembly to control hood rear panel and cabinet top. Disconnect hose from pressure switch and push hose down through hole in cabinet top. Reinstall control hood assembly.
c. Disconnect wire harness at disconnect blocks. Refer to *Figure 23*.

NOTE: Starting with serial No. R1339650XG and continuing through R1566483YG, the motor wire harness and base wire harness disconnect blocks are attached to the inside of the left side of the washer cabinet with double sided tape. If the disconnect blocks are removed during service, a new piece of tape will be needed to hold the harness disconnect blocks to the side of the washer cabinet.

d. Through Serial No. R1339649XG, remove wire clips holding wire harness and pressure hose to top flange of left side of washer cabinet. Refer to *Figure 23*.
e. Tape loading door closed.
f. Lift front of cabinet top slightly and pull forward to disengage from rear hold-down brackets.
g. Pull top forward far enough to permit disconnecting green ground wires from top rear corner of washer cabinet. Disconnect wires from mixing valve solenoids at rear of washer.

NOTE: Starting with Serial No. R1339650XG and continuing through R1566483YG, a guard was added to the mixing valve area. Refer to *Figure 3*. This guard must be removed before disconnecting the wires from the mixing valve solenoids.

NOTE: Refer to appropriate wiring diagram when rewiring mixing valve solenoids.

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

WARNING

To reduce the risk of personal injury, be careful not to damage door switch and out-of-balance switch lever when removing the cabinet top.

WARNING

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

W003

36. DOOR AND OUT-OF-BALANCE SWITCH AND BRACKET ASSEMBLY
Refer to *Figure 25*.

NOTE: Starting with Serial No. R1339650XG and continuing through R1566483YG, a guard was added to the lid switch and bracket assembly, *Figure 25*. If the lid switch and bracket assembly are removed for service and the guard is removed, the guard MUST be reinstalled on the lid switch and bracket assembly to reduce the risk of an electric shock.

a. Hinge cabinet top or remove. Refer to *Paragraph 35*.
b. Remove screw holding switch and bracket assembly to underside of the right front corner flange of the cabinet top.
c. Disconnect wires from switch.

NOTE: Refer to appropriate wiring diagram when rewiring switch.

d. Remove two screws holding switch to bracket.

NOTE: After installing switch and bracket assembly, adjust per *Paragraph 52*.

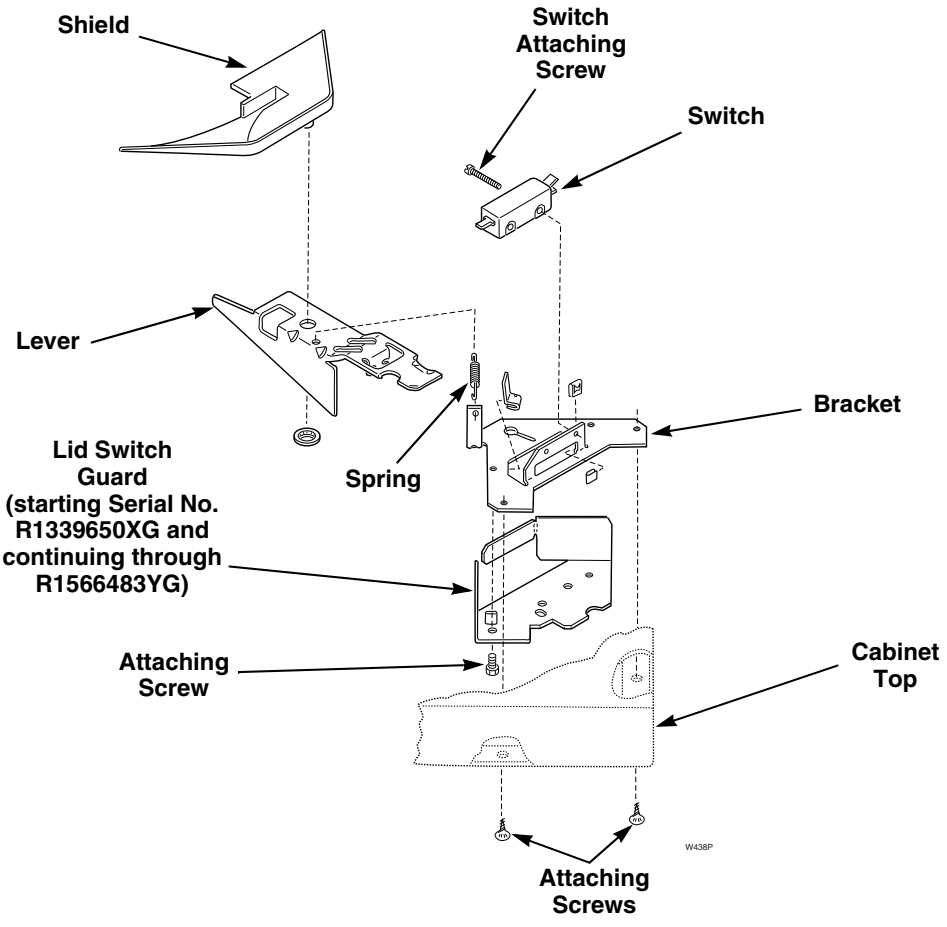


Figure 25

WARNING

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

W003

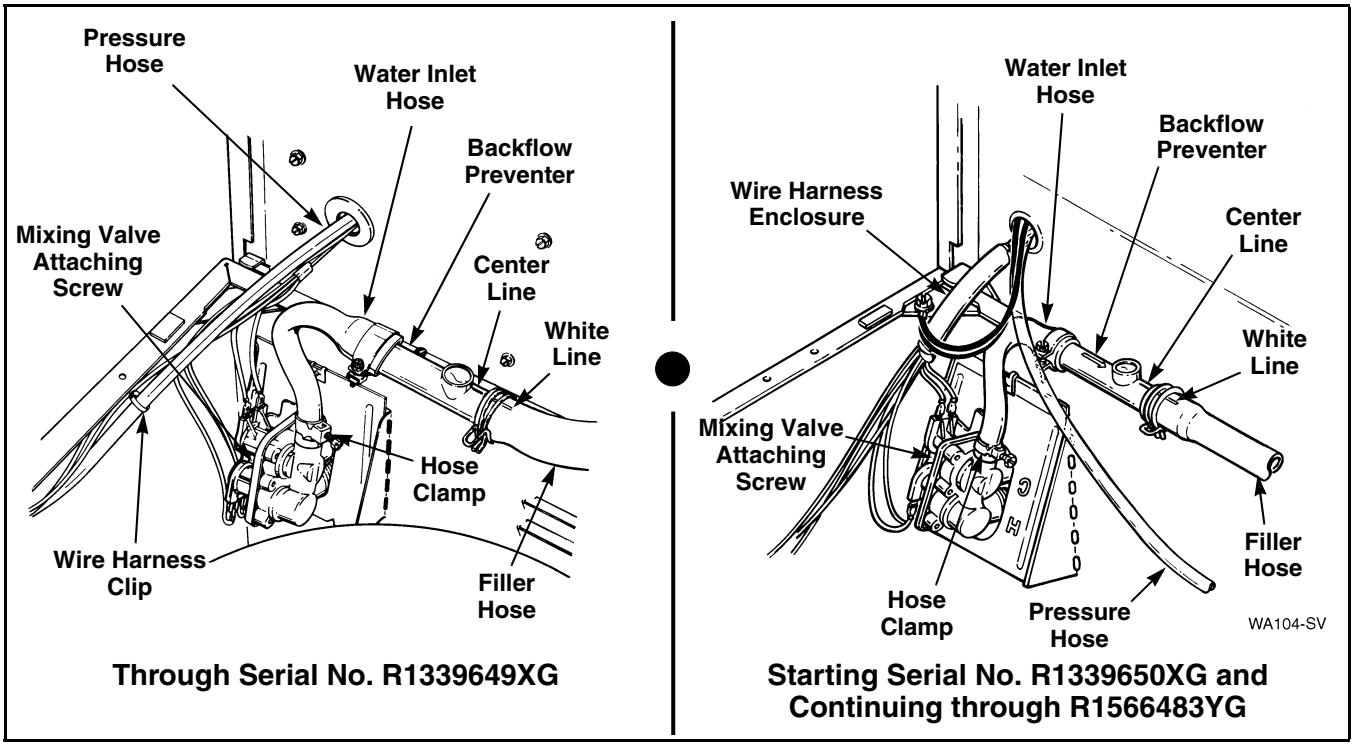


Figure 26

37. MIXING VALVE ASSEMBLY

NOTE: Starting with Serial No. R1339650XG and continuing through R1566483YG, a guard was added to the mixing valve area. The guard must be removed before the mixing valve can be serviced.

a. Hinge cabinet top or remove. Refer to *Paragraph 35*.
b. Remove screw holding mixing valve to mounting bracket at rear of washer cabinet. Refer to *Figure 26*.

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

c. Pull mixing valve out toward front of washer far enough to permit disconnecting water inlet hoses from mixing valve. Refer to *Figure 26*.
d. Disconnect wires from mixing valve solenoids.

NOTE: Refer to appropriate wiring diagram when rewiring solenoids.

38. WASHTUB AND LINT FILTER

a. Remove agitator. Refer to *Paragraph 25*.
b. Hinge cabinet top or remove. Refer to *Paragraph 35*.
c. Disconnect filler hose from backflow preventer. Refer to *Figure 26*.

NOTE: When installing filler hose, white line on hose must be aligned with center line of backflow preventer. Refer to *Figure 26*. A 1/8 inch clearance is necessary to prevent the hose from rubbing on the flange of the tub cover. Refer to *Figure 27*. Loosen hose clamp and move hose to obtain the proper clearance.

WARNING

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

W003

d. Remove eight clips holding outer tub cover to tub, lift cover off tub and set beside washer cabinet. Refer to *Figure 27*.

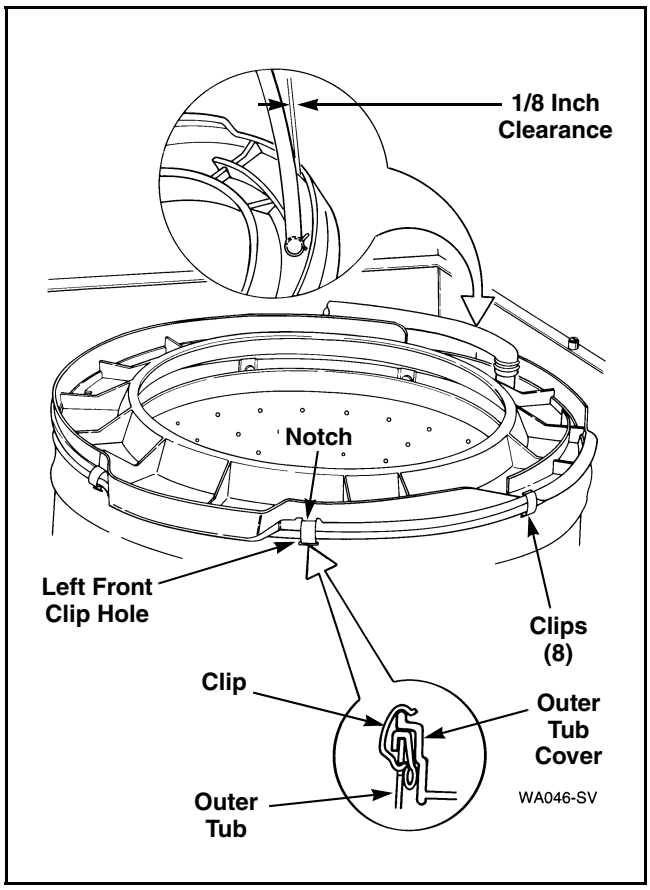


Figure 27

NOTE: When installing outer tub cover, always use a new cover gasket. Lubricate the gasket with liquid soap to aid in assembly. Cover must be placed on outer tub so notch on top edge of outer tub cover is directly over left front clip hole in tub. Refer to *Figure 27*. Starting with this hole, place each spring clip in its respective hole and snap in place. Refer to *Figure 27* for proper clip installation.

e. Remove four screws and washers holding washtub to hub. Refer to *Figure 28*.

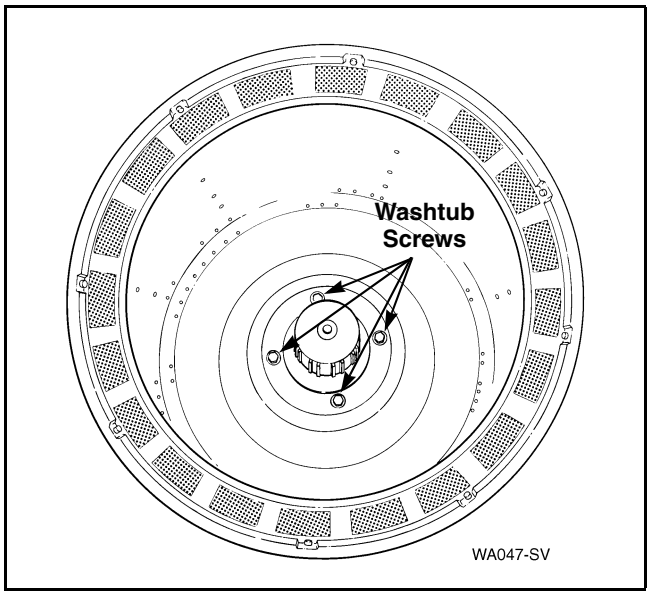


Figure 28

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

f. Lift washtub and lint filter out of outer tub.

IMPORTANT: When removing the washtub and lint filter, DO NOT lift up on the lint filter as you could damage the filter. Grasp the top flange of the washtub and remove from outer tub.

NOTE: When installing washtub, always use a new gasket between the tub and hub.

WARNING

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

W003

TO REMOVE LINT FILTER FROM WASHTUB

a. Place a small screwdriver in behind the slots provided in the lint filter. Refer to *Figure 29*.

b. Carefully pry the pins of the lint filter out of the holes in the washtub. Refer to *Figure 29*.

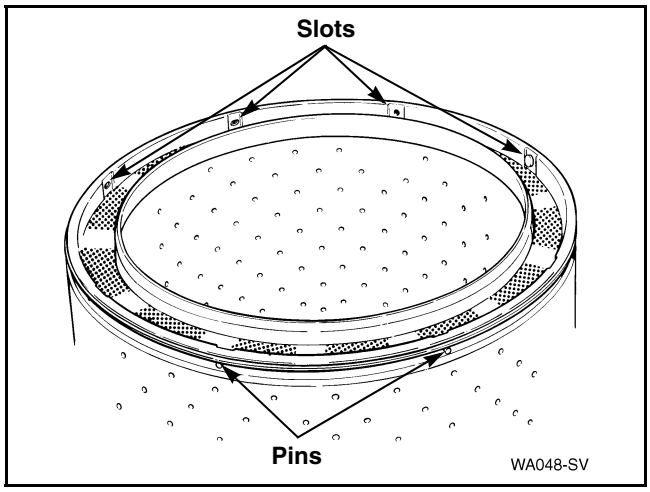


Figure 29

NOTE: As you are prying out the pins, lift up on the filter.

c. Pry the filter pins out of the washtub holes approximately half way around the tub before the filter can be removed.

TO INSTALL LINT FILTER IN WASHTUB

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

39. WATER SEAL AND HUB ASSEMBLY

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

a. Remove two screws from bottom edge of front panel. Refer to *Figure 16.*

b. Pull bottom of panel away from washer until hold-down clips (located on top flange of panel) disengage from slots in cabinet top. Refer to *Figure 16*.

c. Remove two cabinet top hold-down screws. Refer to *Figure 23*.

d. Remove agitator. Refer to *Paragraph 25*.

e. Disconnect filler hose from backflow preventer. Then remove the eight clips holding cover to outer tub. Refer to *Figure 27*.

NOTE: When reinstalling filler hose, white line on hose must be aligned with center line of backflow preventer. Refer to *Figure 26*. A 1/8 inch clearance is necessary to prevent the hose from rubbing on the flange of the tub cover. Refer to *Figure 27*. Loosen hose clamp and move hose to obtain the proper clearance.

f. Lift cover off outer tub and set beside washer cabinet. Remove old cover gasket.

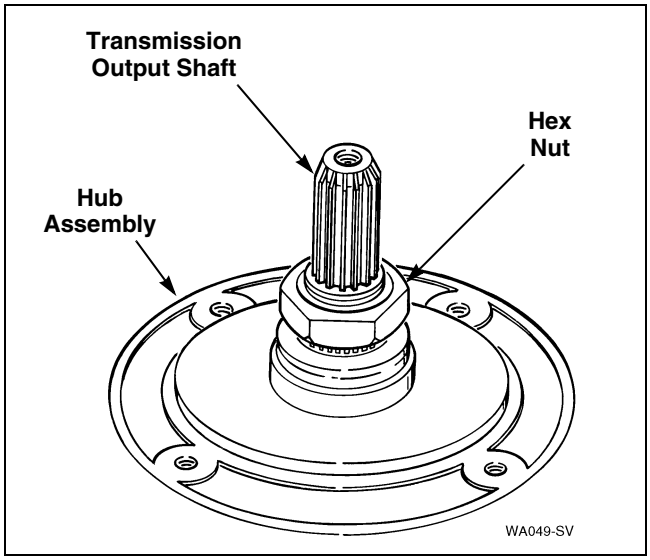


Figure 30

WARNING

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

W003

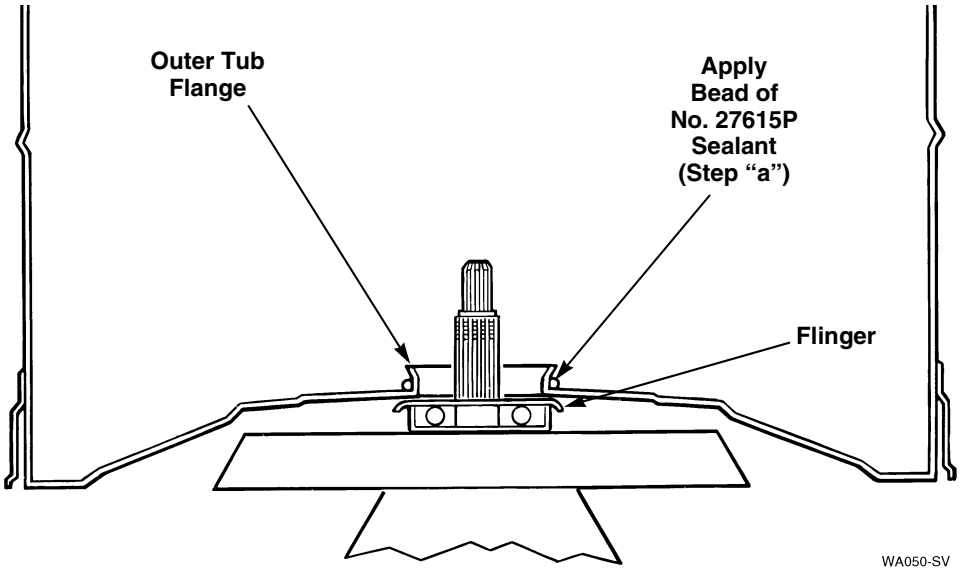


Figure 31

g. Remove four screws holding washtub to hub. Refer to *Figure 28*. Then lift washtub out of outer tub.

IMPORTANT: When removing washtub, DO NOT lift up on lint filter as you could damage it. Grasp top flange of washtub and remove from outer tub.

NOTE: Be sure all traces of old gasket are removed from bottom of washtub.

h. Remove agitator drive bell. Refer to *Paragraph 26*.

i. Remove the seal head from the hub.

IMPORTANT: We recommend that both the seal seat and the seal head be replaced together in pairs. DO NOT replace only one of the two seals.

j. Remove large hex nut using a No. 306P4 Hex Wrench. Refer to *Figure 30*.

k. Remove spline insert from transmission tube.

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

l. Remove hub from splines on transmission tube.

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

m. Remove old water seal from outer tub.

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

WARNING

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

W003

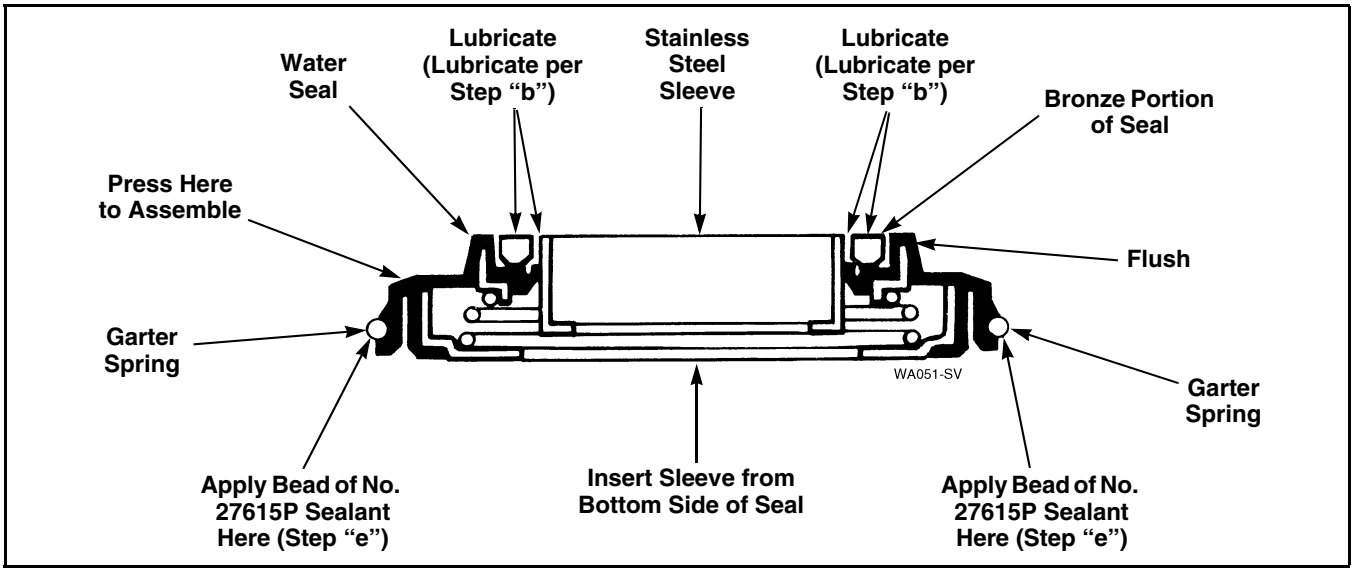


Figure 32

TO INSTALL NO. 495P3 HUB AND SEAL KIT

IMPORTANT: Be sure inner surface of tub flange is clean of all foreign material before installing new seal.

a. Apply a small amount of 27615P Sealant, (supplied in kit) around outer surface of tub flange. Refer to *Figure 31*.

IMPORTANT: DO NOT allow sealant to get in contact with the flinger, because this could prevent flinger from keeping moisture out of upper bearing. Refer to *Figure 31*.

b. Apply a light film of nonstaining petroleum jelly (such as Vaseline®) to bronze portion of water seal and to outer surface of stainless steel sleeve. Refer to *Figure 32*.

IMPORTANT: DO NOT over lubricate!

c. Insert stainless steel sleeve into water seal from bottom side of the seal until the sleeve is flush with bronze portion of the seal. Refer to *Figure 32*.

d. Leave the garter spring on seal. Place new seal over outer tub flange (with seal lip on outside of tub flange). Then press seal into tub flange opening using moderate finger pressure.

e. Carefully apply a small amount of No. 27615P Sealant (supplied with kit) around outer edge of seal and tub (area located just below garter spring). Refer to *Figure 32*.

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

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

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

IMPORTANT: Firmly push hub down against outer tub seal and hold in this position.

h. While holding hub down, place spline insert onto the transmission tube until it bottoms against the hub. Then place the hex nut on the transmission tube (with the larger inside bevel on the nut toward the spline insert). Tighten the

WARNING

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

W003

nut using a torque wrench or the No. 306P4 Hex Wrench.

IMPORTANT: Torque hex nut down between 40 to 70 foot pounds (54.23 to 94.91 Nm). If torque wrench is not available, tap hex wrench with a hammer until hub turns or until nut will no longer tighten.

i. **Through Serial No. R1438801XN –** Apply a small amount of non-staining petroleum jelly (such as Vaseline) to each of the sealing surfaces where washtub gasket will contact hub and the bottom of washtub. Carefully place the new washtub gasket (supplied in kit) on hub.

NOTE: Be sure all traces of the old gasket are removed from the bottom of the washtub.

Starting Serial No. R1438802XN – Place the lint filter on hub.

j. Install washtub by grasping the top flange of the washtub and carefully lowering washtub down onto the gasket or lint filter and hub.

IMPORTANT: Before setting tub into place, be sure holes in washtub line up with holes in gasket or lint filter and hub.

k. Secure washtub to hub using four screws previously removed.

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

l. Carefully place the new outer tub cover gasket (supplied in kit) around top rim of outer tub.

NOTE: When installing outer tub cover, lubricate the cover gasket with liquid soap to aid assembly. Cover must be placed on outer tub so notch on top edge of outer tub cover is directly over left front clip hole in tub. Refer to *Figure 27*. Starting with this hole, place each spring clip in its respective hole and snap into place. Refer to *Figure 27* for proper clip installation.

m. Reinstall filler hose on backflow preventer.

NOTE: When reinstalling filler hose, white line on hose must be aligned with center line of backflow preventer. Refer to *Figure 26*. A 1/8 inch clearance is necessary to prevent the hose from rubbing on the flange of the tub cover. Refer to *Figure 27*. Loosen hose clamp and move hose to obtain the proper clearance.

TO INSTALL DRIVE BELL AND NO. 39508P SEAL KIT

a. Place the new seal head (supplied in kit) onto hub then carefully push seal head into position using the large end of 293P4 seal tool. Make sure the seal is pressed down against the shoulder on the hub.

NOTE: Soapy water will aid in the assembly of the seal onto the hub.

b. Install the new seal seat (supplied in kit) into the drive bell using small end of 293P4 seal tool.
c. Position drive bell over transmission shaft. Rotate drive bell until splines in drive bell line up with splines on transmission shaft.
d. Place the No. 294P4 Bell Tool over top of bell. Screw bolt into transmission shaft until it bottoms out.

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

e. Use an adjustable wrench and turn large nut on tool **CLOCKWISE** to force drive bell down onto transmission shaft until bell bottoms out on shaft.
f. Turn bolt out of transmission shaft and remove tool.
g. Install the new screw and o-ring washer (supplied in kit) in top of drive bell.

NOTE: Torque the new screw down between 45 to 55 inch pounds (5 to 6.2 Nm). Over torque will mushroom the plastic bell.

h. Place the agitator on top of the drive bell. Slowly rotate the agitator until the fingers on the underside of agitator line up with the large slots on drive bell.

WARNING

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

W003

i. A sharp blow on top of the agitator, with the palm of your hand, will force the agitator down onto the drive bell, allowing the fingers on the underside of the agitator to lock under the bottom edge of the drive bell.

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

j. Carefully reinstall cabinet top and secure to washer cabinet using screws previously removed.
k. Reinstall front panel.
l. Place washer into the final spin, close loading door, start washer and let washtub spin for approximately 30 seconds to one minute.

IMPORTANT: Step "l" is necessary to allow the petroleum jelly, applied to the water seal, a chance to run in on the seal surfaces before water is added to the washer.

40. OUTER TUB

a. Remove agitator. Refer to *Paragraph 25*.
b. Remove front panel. Refer to *Paragraph 27*.
c. Remove two cabinet top hold-down screws and hinge cabinet top or remove. Refer to *Paragraph 35*.
d. Loosen hose clamp and disconnect filler hose from backflow preventer. Then remove eight clips holding cover to outer tub. Refer to *Figure 27*.

NOTE: When reinstalling filler hose, white line on hose must be aligned with center line of backflow preventer. Refer to *Figure 26*. A 1/8 inch clearance is necessary to prevent the hose from rubbing on the flange of the tub cover. Refer to *Figure 27*. Loosen hose clamp and move hose to obtain the proper clearance.

e. Remove cover from outer tub and set off to the side to avoid damage, then remove old gasket.

NOTE: When installing outer tub cover, always use a new cover gasket. Lubricate the gasket with liquid soap to aid in assembly. Cover must be placed on outer tub so notch on top edge of outer tub cover is directly over left front clip hole in tub. Refer to *Figure 27*. Starting with this hole, place each spring clip in its respective hole and snap in place. Refer to *Figure 27* for proper clip installation.

f. Remove four screws and washers holding washtub to hub. Refer to *Figure 28*.

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

g. Lift washtub (with lint filter attached) out of outer tub.

IMPORTANT: When removing washtub and lint filter, DO NOT lift up on filter as you could damage it. Grasp top flange of washtub and remove from outer tub.

h. Remove agitator drive bell. Refer to *Paragraph 26*.
i. Remove large hex nut using a No. 306P4 Hex Wrench. Then remove spline insert from transmission tube.

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

j. Remove hub from splines on transmission tube.

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

k. Remove old water seal from outer tub.

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

NOTE: When reinstalling or replacing outer tub, always install a new No. 495P3 Hub and Seal Kit. Refer to *Paragraph 39*.

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

WARNING

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

W003

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

m. While holding idler lever, reach in and around right side of motor and run belt off right side of pulley.

IMPORTANT: When removing or reinstalling complete outer tub into washer (with transmission, balance ring and pivot dome attached), damage could occur to idler lever if idler spring and helper spring are left hooked to motor mounting bracket.

With idler spring and helper spring hooked to motor mounting bracket, idler lever extends out through rear of bracket. When removing or reinstalling complete tub assembly, idler lever is in the way and could be damaged (bent), or idler pulley could be chipped. A bent idler lever will cause misalignment of idler pulley with the drive belt, and a chipped idler pulley will damage belt.

We recommend that before removing or reinstalling the complete assembly, you unhook idler spring and helper spring and move idler lever out of the way. This will prevent the possibility of idler lever or pulley damage.

n. Using No. 321P4 Spring Hook Tool, unhook five centering springs from lower edge of outer tub. Refer to *Figure 33*.

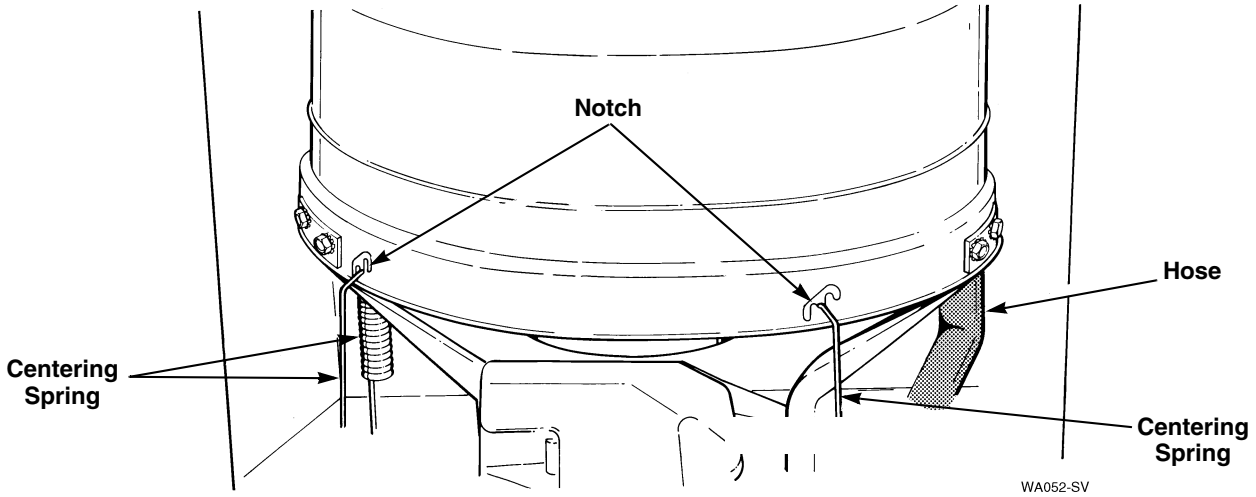


Figure 33

WARNING

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

W003

IMPORTANT: When removing the centering springs, mark on the side of the outer tub what notch the spring was hooked into. Springs must be placed in the same notch when reinstalling. Do not overstretch the springs. Mark the word "FRONT" on the front side of the outer tub so the complete tub module can be reinstalled in the same position.

o. Disconnect hoses between outer tub and pump assembly.

p. Remove hose clamp holding pressure hose to pressure switch accumulator. Then remove tape holding pressure hose to outer tub.

q. Grasp outer tub and lift complete tub assembly (with transmission, balance ring and pivot dome attached) straight up and out of washer cabinet.

r. Turn outer tub upside-down and set on protective padding.

s. Remove screws and lockwashers holding each support leg to outer tub. Refer to *Figure 34*. Then lift transmission, balance ring and pivot dome off tub.

NOTE: To prevent porcelain damage, leg plates must be installed on both sides of outer tub flange when reinstalling support legs. (The thinner plate must be installed between leg and tub flange and the thicker plate must be installed on outside of tub flange.) Do not overtighten the screws as this could cause stripping or porcelain damage.

t. Turn outer tub upright and remove pressure accumulator and grommet.

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

WARNING

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

W003

41. DRIVE PULLEY AND HELIX

a. Remove two screws from bottom edge of front panel. Refer to *Figure 16*.

b. Pull bottom of panel away from washer until hold-down clips (located on top flange of panel) disengage from slots in cabinet top. Refer to *Figure 16*.

c. Loosen two front mounting screws and loosen one rear mounting screw holding pump and bracket to washer base. Refer to *Figure 17*. Pivot entire pump assembly toward motor to loosen belt tension.

d. Run belt off motor pulley, then remove belt from pump assembly.

NOTE: After installing belt, adjust belt. Refer to *Paragraph 51*.

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

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

f. While holding idler lever, reach in and around right side of motor and run belt off right side of large drive pulley. Refer to *Figure 18*.

g. Remove belt from motor pulley and pull belt out through front of motor mounting bracket.

IMPORTANT: When reinstalling belt, no drive belt adjustment is necessary.

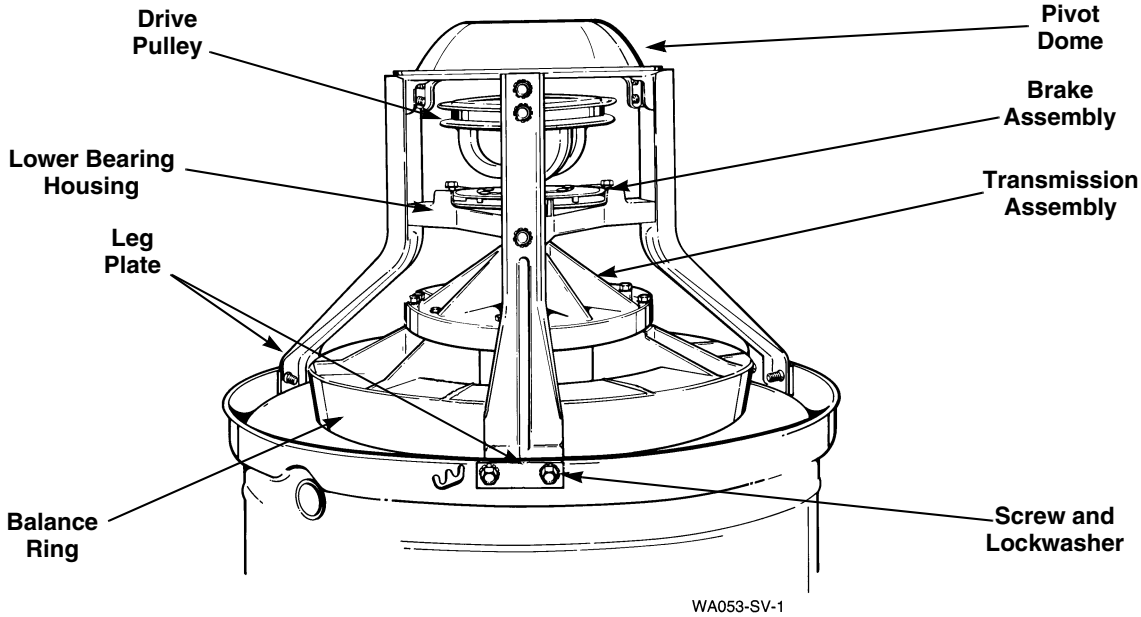


Figure 34

WARNING

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

W003

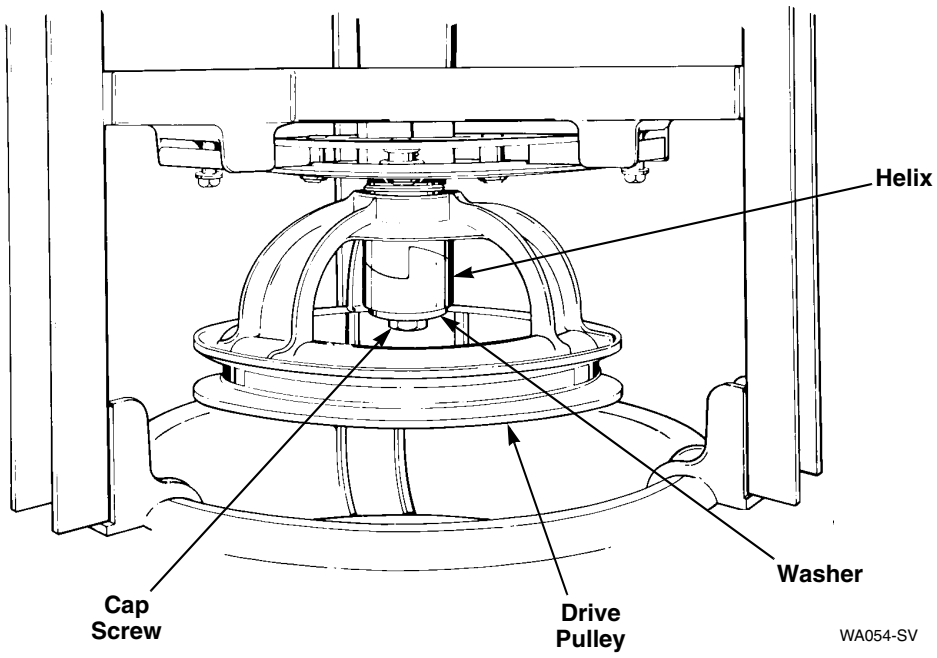


Figure 35

h. Disconnect motor wire harness from base wire harness at disconnect blocks. Refer to *Figure 23*.

NOTE: Starting with serial No. R1339650XG and continuing through R1566483YG, the motor wire harness and base wire harness disconnect blocks are attached to the inside of the left side of the washer cabinet with double sided tape. If the disconnect blocks are removed during service, a new piece of tape will be needed to hold the harness disconnect blocks to the side of the washer cabinet.

i. If present, remove screw holding ground wire to washer base. Refer to *Figure 19*.

j. Remove four screws holding motor and mounting bracket to washer base, then lift complete assembly out of washer. Refer to *Figure 19*.

NOTE: When reinstalling motor and mounting bracket, positioning tab on right side of mounting bracket must be placed in positioning hole in base. Mounting bracket must be shifted toward rear of washer to its limit of travel within the mounting bracket attaching screws.

k. Remove screw, washer and helix holding drive pulley to the input shaft of the transmission assembly. Refer to *Figure 35*.

l. Remove drive pulley by tilting right side up and slide pulley out between right front and rear tub support legs.

IMPORTANT: The two large flat washers must be in place between the spring and drive pulley when reassembling. Refer to *Figure 36* for assembly sequence.

NOTE: When reinstalling pulley, place a small amount of lubricant to the top side of the drive pulley that will be contacting large flat washers. Lubricate helix ramps also. Refer to *Figure 36.*

WARNING

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

W003

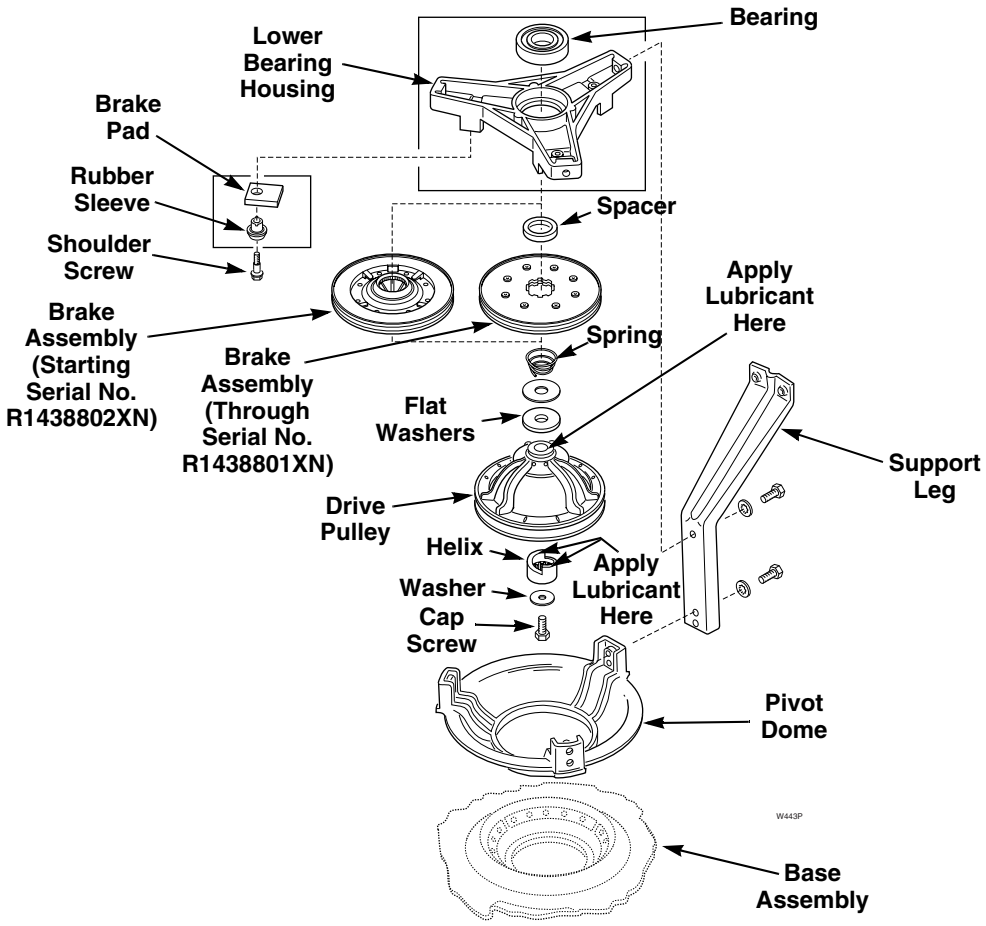


Figure 36

42. BRAKE ASSEMBLY

a. Remove drive pulley and helix. Refer to *Paragraph 41*.

b. Using a right angle needle nose pliers, remove spring from around lower transmission tube (located inside the brake assembly). Refer to *Figure 36*.

NOTE: Remove spring by turning in a COUNTERCLOCKWISE direction (looking from lower end of input shaft of transmission assembly).

c. Remove three screws holding brake pads, rubber sleeves and brake assembly to lower bearing housing, then remove brake assembly, pads and spacer off bottom of transmission assembly. Refer to *Figure 36*.

IMPORTANT: When reinstalling brake assembly, we recommend replacing the three brake pads. DO NOT replace just the worn pads. Apply a small amount of No. 26594P Silicone Lubricant to both sides of each brake pad where it will contact the brake assembly.

NOTE: Refer to *Figure 36* for assembly sequence.

WARNING

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

W003

IMPORTANT: When installing spring, be sure it is inserted into groove in large splines of lower transmission tube. Use tool, No. 242P4, for installing the spring.

43. LOWER BEARING HOUSING

a. Remove two screws from bottom edge of front panel. Refer to *Figure 16*.
b. Pull bottom of panel away from washer until hold-down clips (located on top flange of panel) disengage from slots in cabinet top. Refer to *Figure 16*.
c. Remove two cabinet top hold-down screws and hinge cabinet top or remove. Refer to *Paragraph 35*.
d. Remove agitator. Refer to *Paragraph 25*.
e. Disconnect filler hose from backflow preventer. Refer to *Figure 26*.

NOTE: When reinstalling filler hose, white line on hose must be aligned with center line of backflow preventer. Refer to *Figure 26*. A 1/8 inch clearance is necessary to prevent the hose from rubbing on the flange of the tub cover. Refer to *Figure 27*. Loosen hose clamp and move hose to obtain the proper clearance.

f. Remove cover from outer tub and set off to the side to avoid damage, then remove old cover gasket.

NOTE: When installing outer tub cover, always use a new cover gasket. Lubricate the gasket with liquid soap to aid in assembly. Cover must be placed on outer tub so notch on top edge of outer tub cover is directly over left front clip hole in tub. Refer to *Figure 27*. Starting with this hole, place each spring clip in its respective hole and snap in place. Refer to *Figure 27* for proper clip installation.

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

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

h. While holding idler lever, reach in and around right side of motor and run belt off right side of large drive pulley. Refer to *Figure 18*.
i. Pull belt out toward front of washer.

IMPORTANT: When removing or reinstalling complete outer tub into washer (with washtub, transmission, balance ring and pivot dome attached), damage could occur to idler lever if idler spring and helper spring are left hooked to motor mounting bracket.

With idler spring and helper spring hooked to motor mounting bracket, idler lever extends out through rear of bracket. When removing or reinstalling complete tub assembly, idler lever is in the way and could be damaged (bent), or idler pulley could be chipped. A bent idler lever will cause misalignment of idler pulley with the drive belt, and a chipped idler pulley will damage belt.

We recommend that before removing or reinstalling the complete tub assembly, you unhook idler spring and helper spring and move idler lever out of the way. This will prevent the possibility of idler lever or pulley damage.

j. Using No. 321P4 Spring Hook Tool, unhook five centering springs from lower edge of outer tub. Refer to *Figure 33*.

IMPORTANT: When removing the centering springs, mark on the side of the outer tub what notch the spring was hooked into. Springs must be placed in the same notch when reinstalling. Do not overstretch the springs. Mark the word "FRONT" on the front side of the outer tub so the complete tub module can be reinstalled in the same position.

k. Disconnect hoses between outer tub and pump assembly.

IMPORTANT: There will always be some water that will remain in the outer tub, therefore, before removing the hoses from the pump, the hoses will have to be drained to prevent spillage on the floor.

WARNING

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

W003

l. Remove hose clamp holding pressure hose to pressure accumulator and remove hose. Then remove tape holding pressure hose to outer tub.
m. Grasp outer tub and lift tub (with washtub, transmission, balance ring and pivot dome attached) straight up and out of washer cabinet.
n. Turn complete tub assembly upside-down on protective padding.
o. Remove screw, washer and helix holding drive pulley to transmission shaft. Refer to *Figure 35*.
p. Remove drive pulley from transmission shaft. Refer to *Figure 35*.
q. Remove large, flat washer from transmission shaft. Refer to *Figure 35*.
r. Use a right angle needle nose pliers and remove spring from around lower transmission tube (located inside brake assembly).

NOTE: Remove spring by turning in a COUNTERCLOCKWISE direction (looking at bottom end of shaft).

IMPORTANT: When installing spring, be sure it is inserted into groove in large splines of lower transmission tube. Use spring tool, No. 242P4, for installing spring.

s. Remove three screws and rubber sleeves holding brake pads to lower bearing housing. Refer to *Figure 36.*
t. Lift brake assembly, pads and spacer off transmission tube.
u. Remove three screws holding lower bearing housing to tub support legs. Refer to *Figure 36.*
v. Rotate bearing housing past legs, then carefully lift bearing housing off transmission tube.

NOTE: It may be necessary to loosen one leg from pivot dome to rotate housing. It may require tapping lightly on housing to loosen it from the transmission tube.

IMPORTANT: When installing lower bearing housing, apply No. 27604P Anti-Seize compound to the area of transmission tube that will be contacting bearing. Refer to *Figure 37.*

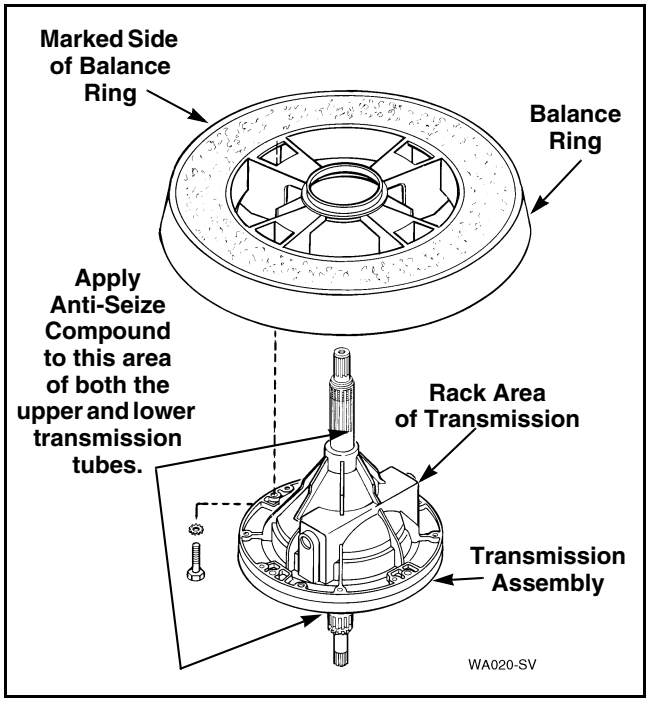


Figure 37

TO REMOVE BEARING

a. Support bearing housing around outside diameter of bearing opening and carefully press bearing out of the housing.
b. Clean all foreign material from inside diameter of bearing opening.
c. Clean any foreign material from outside diameter of new bearing.
d. Apply a retaining compound (such as Loctite) to outside diameter of new bearing and carefully press new bearing into housing (with sealed side facing up).

IMPORTANT: Press new bearing into housing by pressing on outer race of bearing only, and press until bearing bottoms out in housing.

WARNING

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

W003

44. TRANSMISSION ASSEMBLY

a. Remove two screws from bottom edge of front panel. Refer to *Figure 16*.

b. Pull bottom of panel away from washer until hold-down clips (located on top flange of panel) disengage from slots in cabinet top. Refer to *Figure 16*.

c. Remove two cabinet top hold-down screws and hinge cabinet top or remove. Refer to *Paragraph 35*.

d. Loosen hose clamp and disconnect filler hose from backflow preventer. Refer to *Figure 26*. Then remove eight clips holding cover to outer tub. Refer to *Figure 27*.

NOTE: When reinstalling filler hose, white line on hose must be aligned with center line of backflow preventer. Refer to *Figure 26*. A 1/8 inch clearance is necessary to prevent the hose from rubbing on the flange of the tub cover. Refer to *Figure 27*. Loosen hose clamp and move hose to obtain the proper clearance.

e. Remove cover from outer tub and set off to the side to avoid damage, then remove old gasket.

NOTE: When installing outer tub cover, always use a new cover gasket. Lubricate the gasket with liquid soap to aid in assembly. Cover must be placed on outer tub so notch on top edge of outer tub cover is directly over left front clip hole in tub. Refer to *Figure 27*. Starting with this hole, place each spring clip in its respective hole and snap in place. Refer to *Figure 27* for proper clip installation.

f. Remove four screws and washers holding washtub to hub. Refer to *Figure 28*.

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

g. Lift washtub and lint filter out of outer tub.

IMPORTANT: When removing washtub and lint filter, DO NOT lift up on lint filter as you could damage it. Grasp top flange of washtub and remove from outer tub.

h. Remove drive bell. Refer to *Paragraph 26*, steps “a” through “k”.

i. Remove hex nut using No. 306P4 Hex Wrench.

j. Remove hub from splines on transmission tube.

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

k. Remove the old water seal from the outer tub.

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

NOTE: When reinstalling or replacing outer tub, we recommend installing a new No. 495P3 Hub and Seal Kit. Refer to *Paragraph 39*.

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

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

m. While holding idler lever, reach in and around right side of motor and run belt off right side of large drive pulley.

IMPORTANT: When removing or reinstalling complete outer tub into washer (with transmission, balance ring and pivot dome attached), damage could occur to idler lever if idler spring and helper spring are left hooked to motor mounting bracket.

With idler spring and helper spring hooked to motor mounting bracket, idler lever extends out through rear of bracket. When removing or reinstalling complete tub assembly, idler lever is in the way and could be damaged (bent), or idler pulley could be chipped. A bent idler lever will cause misalignment of idler pulley with the drive belt, and a chipped idler pulley will damage belt.

We recommend that before removing or reinstalling the complete assembly, you unhook idler spring and helper spring and move idler lever out of the way. This will prevent the possibility of idler lever or pulley damage.

WARNING

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

W003

n. Using No. 321P4 Spring Hook Tool, unhook five centering springs from lower edge of outer tub. Refer to *Figure 33*.

IMPORTANT: When removing the centering springs, mark on the side of the outer tub what notch the spring was hooked into. Springs must be placed in the same notch when reinstalling. Do not overstretch the springs. Mark the word "FRONT" on the front side of the outer tub so the complete tub module can be reinstalled in the same position.

o. Disconnect hoses between outer tub and pump assembly.

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

p. Loosen hose clamp holding pressure hose to pressure accumulator and remove hose. Then remove tape holding pressure hose to outer tub.
q. Grasp outer tub and lift complete tub assembly (with transmission, balance ring and pivot dome attached) straight up and out of washer cabinet.
r. Turn outer tub upside-down and set on protective padding.
s. Remove screw, washer and helix holding drive pulley to transmission shaft. Then remove drive pulley, needle bearing and bearing races (if present) and large flat washer(s) from transmission.
t. Using a right angle needle nose pliers, remove spring from around lower transmission tube (located inside the brake assembly).

NOTE: Remove spring by turning in a COUNTERCLOCKWISE direction (looking at bottom end of shaft).

IMPORTANT: When reinstalling spring, be sure it is inserted into groove in large spline of transmission tube. Use spring tool, No. 242P4, when installing spring.

u. Remove screws and lockwashers holding each support leg to outer tub, then lift pivot dome, brake assembly and lower bearing housing off transmission tube. Refer to *Figure 34*.

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

IMPORTANT: When installing lower bearing housing pivot dome and brake assembly, apply No. 27604P Anti-Seize Compound to area of transmission tube that will be contacting bearing. Refer to *Figure 37*.

To prevent porcelain damage, leg plates must be installed on both sides of outer tub flange when reinstalling support legs. (The thinner plate must be installed between leg and tub flange and the thicker plate must be installed on outside of tub flange.) Do not overtighten screws as this could cause stripping or porcelain damage.

v. Remove four screws and lockwashers holding transmission assembly to balance ring.
w. Lift transmission assembly straight up and out of balance ring and upper bearing.

IMPORTANT: When replacing or reinstalling transmission assembly, it is important that No. 27604P Anti-Seize Compound be applied to area of the transmission tubes where they will be contacting upper and lower bearings. Refer to *Figure 37*.

When reinstalling transmission assembly, note there is a mark located on outer edge of balance ring. This mark indicates the heavy side of ring. This heavy side must be installed opposite the rack of the transmission assembly. Refer to *Figure 37*. Carefully lower transmission through balance ring and upper bearing. DO NOT DROP OR LOWER TRANSMISSION ASSEMBLY INTO POSITION TOO HARD as this can cause bearing to move within bearing housing which will cause vibration, noise, wear or no spin.

WARNING

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

W003

TO DISASSEMBLE TRANSMISSION ASSEMBLY

Refer to *Figure 38* for assembly sequence.

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

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

b. Before disassembling transmission halves, mark outer edge of transmission case and cover so the two can be reassembled in the same position.
c. Place transmission in vise so three of the eight screws holding transmission case and cover together are in the 12, 4, and 7 o'clock positions.
d. Loosen three screws, mentioned in step “c”, approximately two turns. DO NOT remove these three screws at this time. Remove remaining five screws and lockwashers completely.
e. Remove transmission assembly from vise.
f. While holding transmission by cover end, gently tap each of the three remaining screws until two halves separate. Place assembly back into vise (cover end up) and remove three screws and lockwashers.
g. Remove screw and washer holding reduction gear to transmission cover and remove gear.
h. Remove special screw, lockwasher and flat washer holding drive pinion to input shaft.

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

i. Remove drive pinion from input shaft using a hammer and punch to drive shaft out of pinion.
j. Remove input shaft (and square washer if present) from transmission cover.

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

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

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

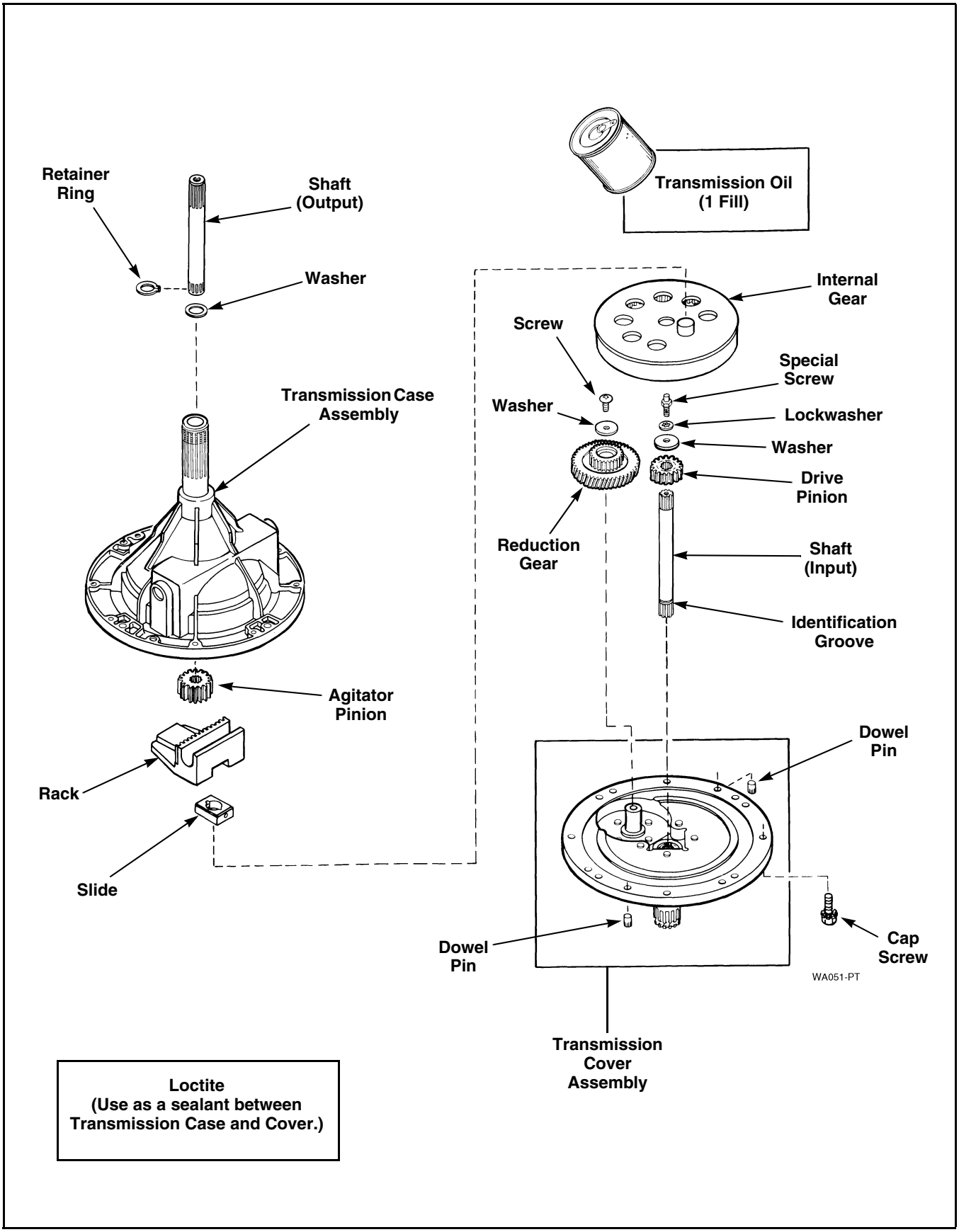


Figure 38

WARNING

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

W003

TO REASSEMBLE TRANSMISSION ASSEMBLY

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

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

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

f. Position slide in slot on rack.

NOTE: Put a light film of transmission oil in slot on rack. Also, transmission oil should be put in the track of the transmission case where internal gear will ride.

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

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

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

IMPORTANT: End of shaft with identification groove, refer to *Figure 38,* must be facing outward. This is the end that will mate with the helix.

j. Place square washer (if present) over shaft and into position in the cover.
k. Install drive pinion, flat washer, lockwasher and special screw onto input shaft.

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

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

l. Place reduction gear on stub shaft of cover and install screw and washer.

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

m. Apply a bead of sealant, No. 37577P Loctite, on mating surface of transmission case.

IMPORTANT: The bead of sealant should be no more than 1/16 inch in diameter. DO NOT allow any sealant to contact edges of internal gear (sealer may damage moving parts).

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

WARNING

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

W003

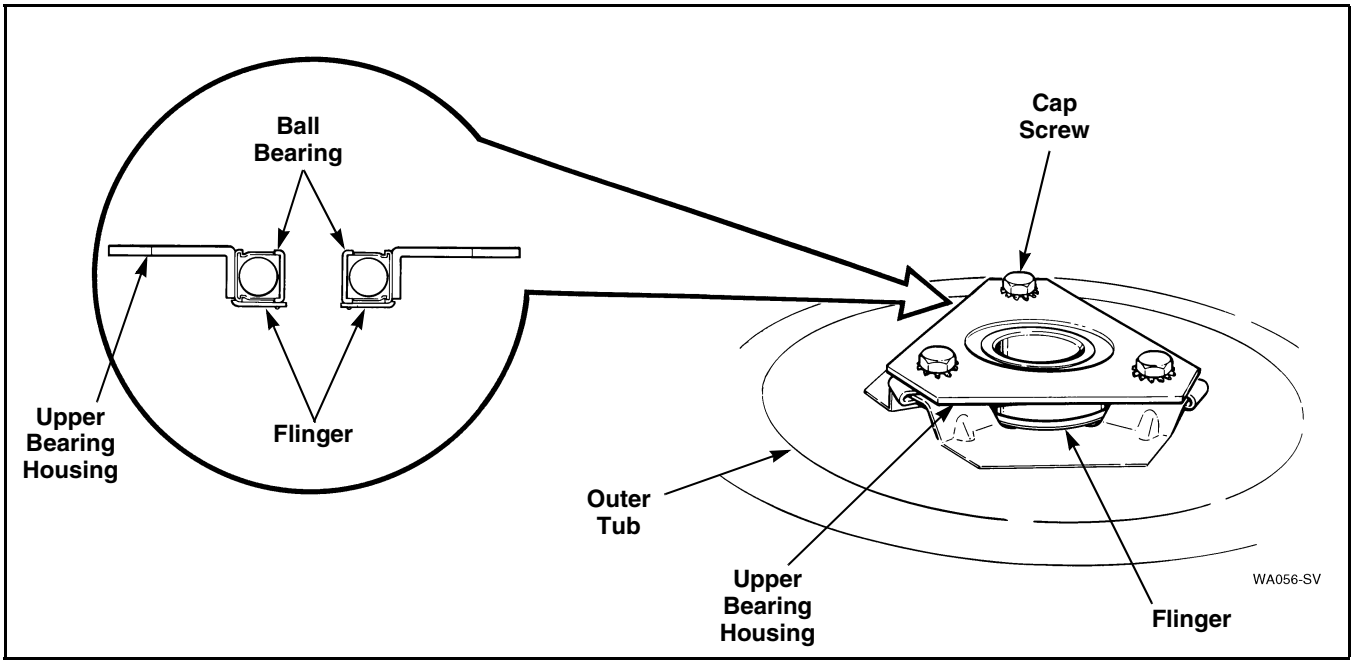


Figure 39

45. BALANCE RING

a. Remove transmission assembly, *Paragraph 44*, steps "a" through "w".

b. Lift balance ring off outer tub.

IMPORTANT: When reinstalling balance ring, note if there is a mark located on outer edge of balance ring. This mark indicates the heavy side of ring. This heavy side must be installed opposite the rack of the transmission assembly. Refer to *Figure 37*.

46. UPPER BEARING ASSEMBLY

a. Remove transmission assembly. Refer to *Paragraph 44*, steps "a" through "w".

b. Remove screws and lockwashers holding each support leg to outer tub. Refer to *Figure 34*.

c. Lift complete pivot dome (with drive pulley, brake assembly, lower bearing housing, transmission assembly, and balance ring attached) off outer tub.

NOTE: To prevent porcelain damage, leg plates must be installed on both sides of outer tub flange when reinstalling support legs. (The thinner plate must be installed between leg and tub flange and the thicker plate must be installed on outside of tub flange. Do not overtighten the screws as this could cause stripping or porcelain damage.

d. Remove three screws holding upper bearing and housing to bottom of outer tub. Refer to *Figure 39*.

NOTE: Replace bearing and housing as an assembly, and make sure flinger is properly positioned between outer tub and bearing assembly. Refer to *Figure 39*.

WARNING

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

W003

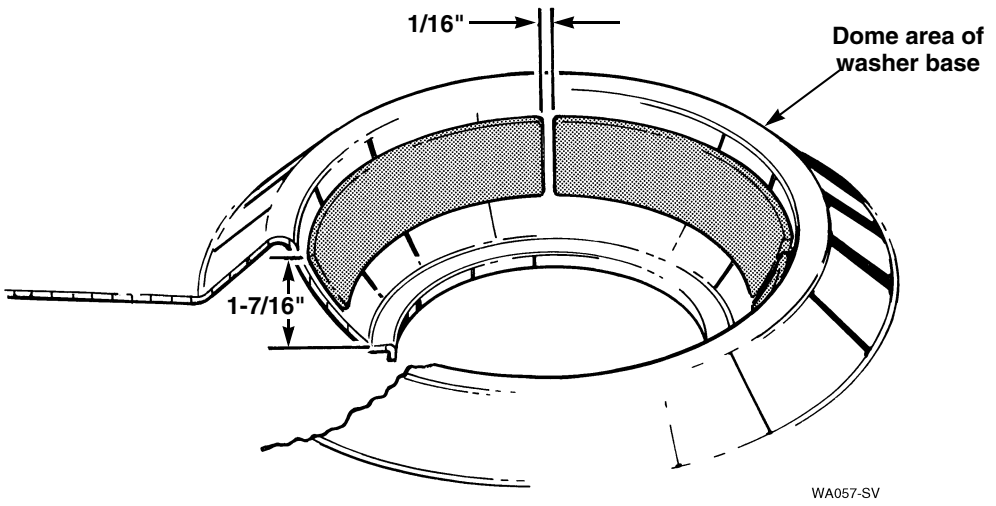


Figure 40

47. SNUBBER PADS

a. Remove transmission assembly. Refer to *Paragraph 44*, steps "a" through "r".
b. Scrape the old snubber pads from the washer base.
c. Thoroughly clean the area of the base where the new snubber pads will be installed.

NOTE: Use a cleaning agent, such as lacquer thinner, for removing grease, old adhesive or any foreign materials from the washer base.

TO INSTALL NO. 434P3 SNUBBER PAD KIT

a. Brush approximately 3/4 inch wide strip of No. 510704P Adhesive to the dome area of the base where the new pads will be applied.

IMPORTANT: Do not allow any adhesive to get on the surface of the new pads that will be contacting the pivot dome of the tub module.

b. Carefully align and apply the new snubber pad with fluffed side against the base dome and make sure pads are equally spaced. Refer to *Figure 40*.

IMPORTANT: The top edge of the snubber pads should be 1-7/16 inches from the lower part of the dome with a distance of 1/16 inch between the pads. Refer to *Figure 40*.

IMPORTANT: Before proceeding, allow the pads to adhere to the base for approximately 30 minutes.

c. Apply a liberal amount of No. 26594P Silicone Lubricant to the surface of the new pads that will contact the pivot dome.
d. Carefully place the tub module back into washer making sure the pivot dome is positioned properly in dome recess of the washer base. Refer to *Figure 41*.

NOTE: Be sure the word "FRONT" (on outer tub) is facing toward the front of the washer.

e. Use the No. 321P4 Spring Hook Tool and hook the five centering springs into the lower edge of the outer tub, starting with the rear springs.

NOTE: Springs must be hooked into the center of the three notches. Refer to *Figure 42*.

WARNING

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

W003

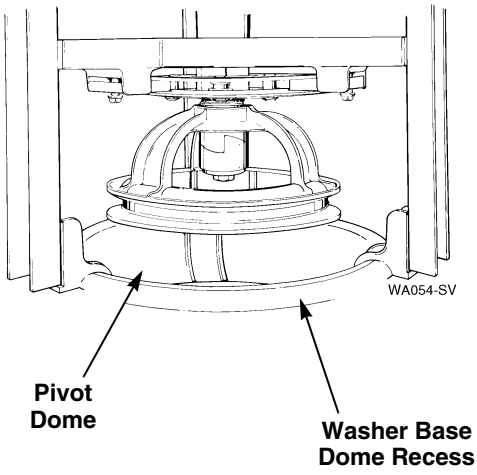


Figure 41

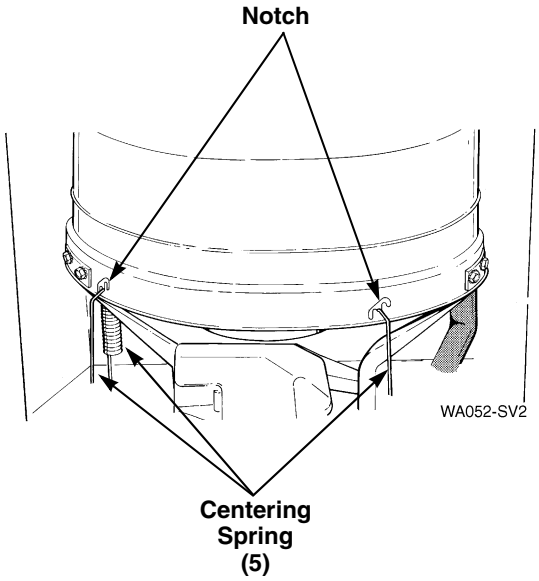


Figure 42

f. Connect the hose(s) from the outer tub to the pump and tighten hose clamp(s).
g. Reconnect idler spring to clip on motor mounting bracket and helper spring into the back hole in the mounting bracket. Refer to *Figure 43*.
h. Place drive belt on motor pulley, reach around right side of motor, starting with belt on right side of large pulley, run belt onto large pulley.
i. Route the pressure hose as shown in *Figure 26*. Then route pressure hose back up through hole in cabinet top.
j. Reconnect the filler hose to the backflow preventer. Refer to *Figure 26*.

NOTE: When reinstalling filler hose, white line on hose must be aligned with center line of backflow preventer. Refer to *Figure 26*. A 1/8 inch clearance is necessary to prevent the hose from rubbing on the flange of the tub cover. Refer to *Figure 27*. Loosen hose clamp and move hose to obtain the proper clearance. Hose clamp must be positioned as shown in *Figure 26* so it will not interfere with the cabinet top.

k. Reinstall cabinet top.
l. Remove control hood, reconnect pressure hose to pressure switch. Then reinstall control hood.
m. Reinstall washer front panel.
n. Reconnect washer power cord and open water supply valves.

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

WARNING

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

W003

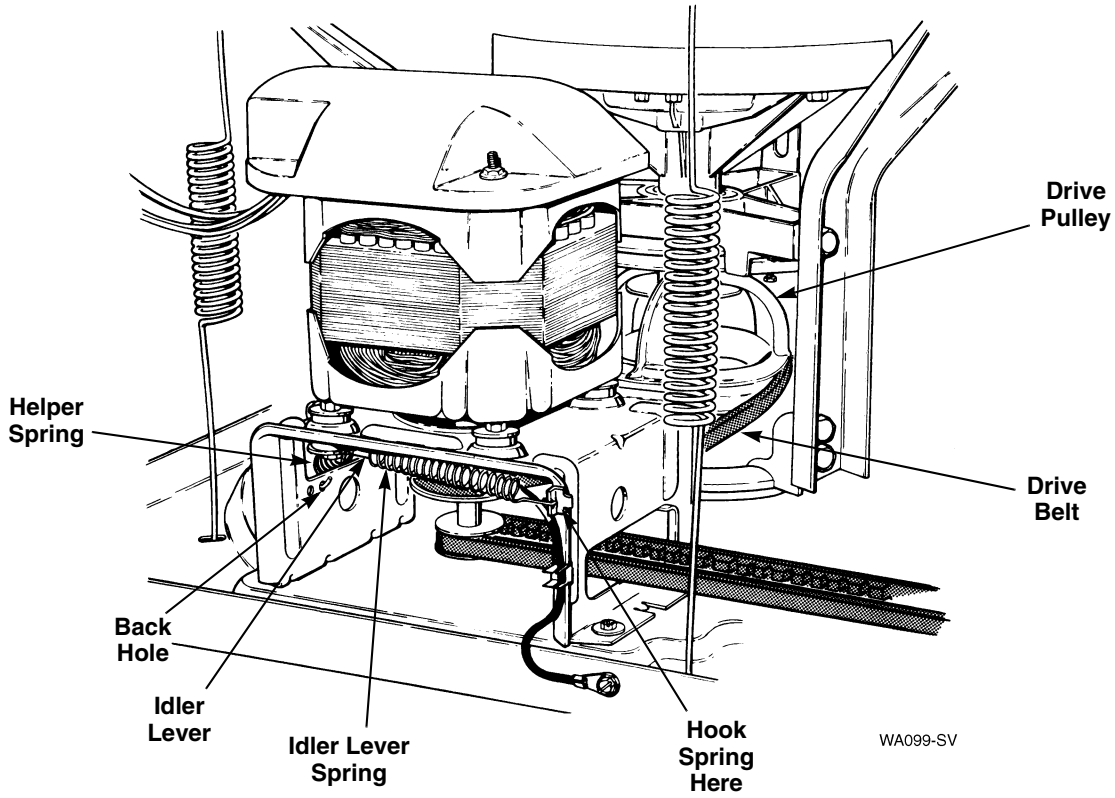


Figure 43

Notes

Section 6
Adjustments

WARNING

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

W003

48. LEVELING LEGS

Refer to *Figure 44*.

IMPORTANT: Select a location, where the washer is to be installed, with a solid and level floor. DO NOT install the washer on a weak or spongy floor. The flexing of a weak floor may cause excessive vibration. Vibration can also be caused if washer is installed on carpeting or cushioned vinyl floor.

a. Loosen locknuts and thread leveling legs into washer base as far as possible.
b. Turn appropriate leveling leg(s) out of base only until washer is level. Keep washer as close to floor as possible.

IMPORTANT: All four legs must rest firmly on floor so weight of washer is evenly distributed. Washer must not rock. A good test is to place an out-of-balance load in the washtub, then start washer in the spin cycle. While washtub is spinning, adjust the leveling legs accordingly for minimum washer movement.

c. After the washer has been leveled, tighten locknuts securely against bottom of washer base. If locknuts are not tight, the washer will not stay level during operation.
d. Install rubber cups over leveling legs.

IMPORTANT: DO NOT move washer at any time unless locknuts are securely tightened and the shipping brace is in place over the agitator (to prevent damage to washer components). DO NOT slide washer across floor once the leveling legs have been extended, as legs and base could become damaged.

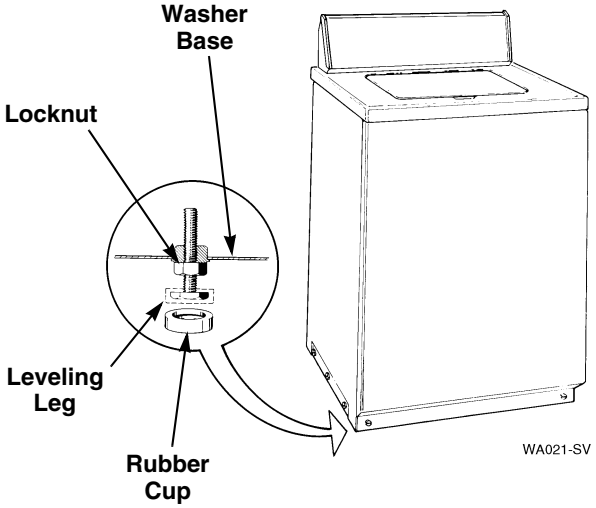


Figure 44

WARNING

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

W003

49. PRESSURE SWITCH
Refer to *Figure 45*.

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

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

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

One quarter turn of the adjusting screw represents approximately one inch (2.54 cm) increase or decrease of water level in washtub.

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

50. BELT (Agitate and Spin)
No belt adjustment is required.

NOTE: After placing the motor and mounting bracket in the washer, start the four hold-down screws, but do not tighten them at this time. Pivot the left side of the mounting bracket as far back as it will go, then tighten the four screws. This mounting bracket adjustment is necessary to ensure the proper belt drive action.

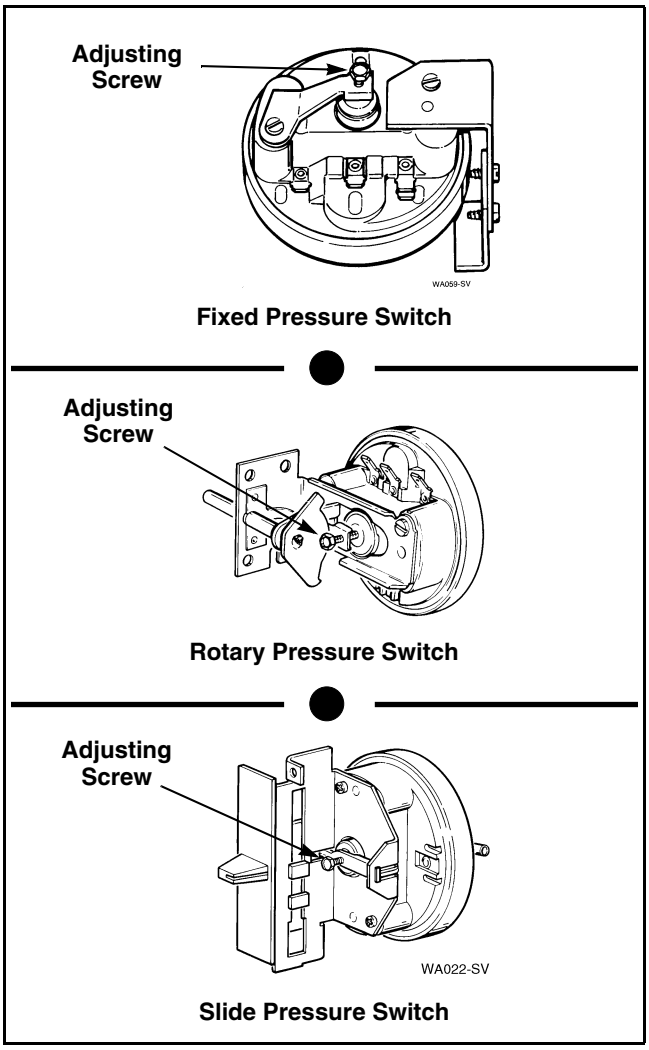


Figure 45

WARNING

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

W003

51. BELT (Pump)

NOTE: Adjustment must be made after motor has been properly positioned. Refer to *Paragraph 50*.

a. Remove front panel. Refer to *Paragraph 27*.
b. Loosen the two front mounting screws, then loosen the rear screw. Refer to *Figure 46*.

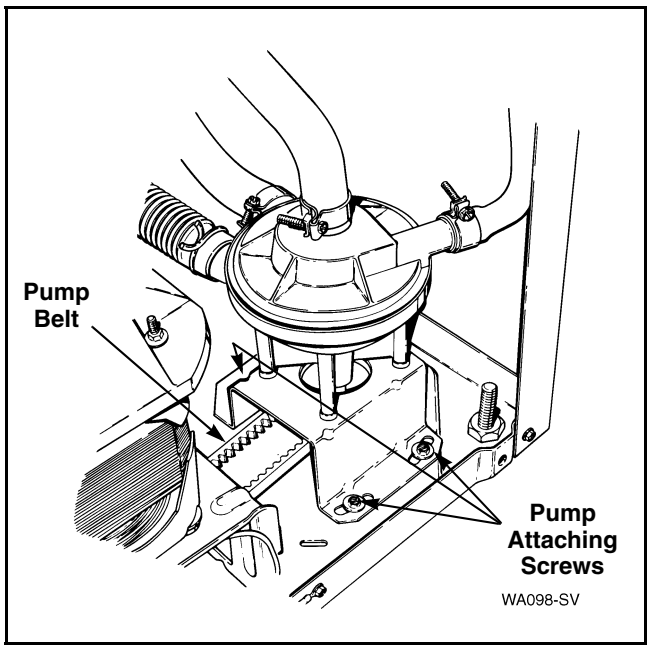


Figure 46

c. Shift front of pump mounting bracket to the right or left to obtain proper belt tension. Proper tension is when belt can be deflected approximately 1/2 inch (12.7 mm) from its normal position by applying moderate pressure (1-1/2 pounds – .675 kg) to a point midway between pulleys. Refer to *Figure 47*.
d. After belt tension is obtained, tighten the three pump mounting bracket screws.

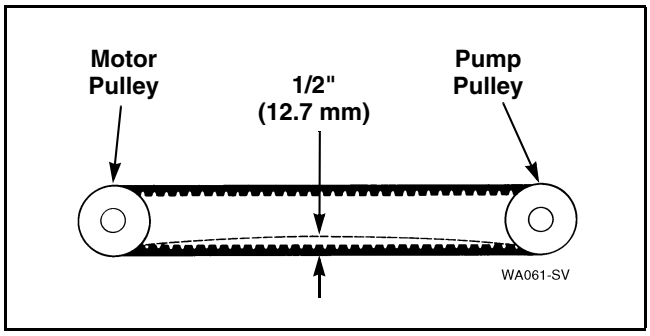


Figure 47

WARNING

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

W003

52. OUT-OF-BALANCE SWITCH TRIGGER

NOTE: The trigger is centered on the mounting screw at the factory. Refer to *Figure 48*.

a. Remove front panel. Refer to *Paragraph 27*.
b. Raise or remove cabinet top. Refer to *Paragraph 35*.
c. Loosen screw holding trigger to tub cover. Refer to *Figure 48*. Move trigger to the right (increases sensitivity) or to the left (decreases sensitivity).

IMPORTANT: If the switch lever repeatedly trips the out-of-balance switch, check the centering of the agitator within the loading door opening. Centering springs may have to be positioned in the upper or lower notch of the lower edge of the outer tub to center the agitator within the door opening. The springs are positioned in the center notch at the factory. Refer to *Figure 49*.

Example: If the springs are placed in the upper notch then the trigger must be moved to the extreme right for proper trigger operation.

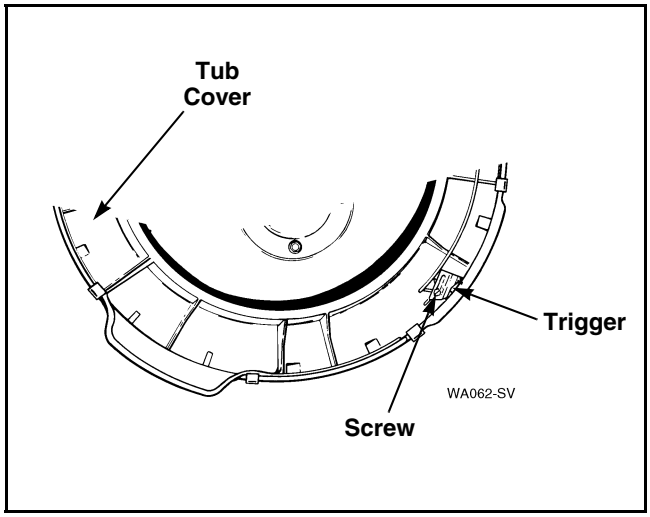


Figure 48

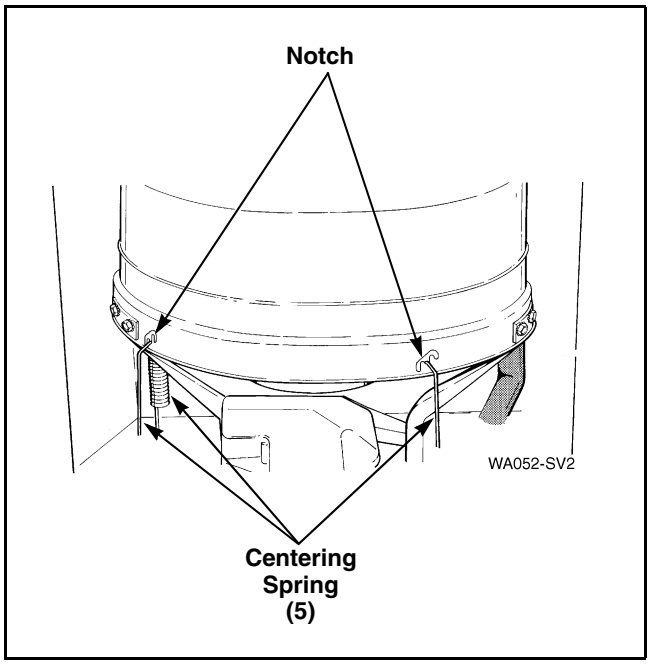


Figure 49

Section 7
Test Procedures

WARNING

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

W003

53. TO CHECK CONTINUITY THROUGH MOTOR HARNESS AND MOTOR
The items within the parentheses are also being checked along with the wires.

TP – Thermal Protector, MS – Motor Switch, SW – Start Winding, HW – High Winding, LW – Low Winding.

Wires	Motor Switch Normal	Ohm Readings	Motor Switch Operated Manually	Ohm Readings
Yellow to White	Continuity (TP)	0	Continuity (TP)	0
Red to Brown	Continuity (MS, SW)	4-5	OPEN	Infinite
Pink to White	Continuity (MS, HW, TP)	1-2	Continuity (MS, LW, TP)	3-4
Blue to White	Continuity (HW, TP)	1-2	Continuity (HW, TP)	1-2

54. TO CHECK CONTINUITY THROUGH BASE HARNESS, CONTROL HARNESS AND TIMER FOR MOTOR START CIRCUIT
Timer terminals involved are shown within the parentheses.

Wires	Timer Set for Spin	Timer Set for Agitation
Blue to Brown	Continuity (K & G)	OPEN
Blue to Red	OPEN	Continuity (K & F)
Red to Yellow	Continuity (F & L)	OPEN
Brown to Yellow	OPEN	Continuity (G & L)

Notes

Section 8
Service Procedures Unique to the Electronic Control Model Washers

WARNING

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

W003

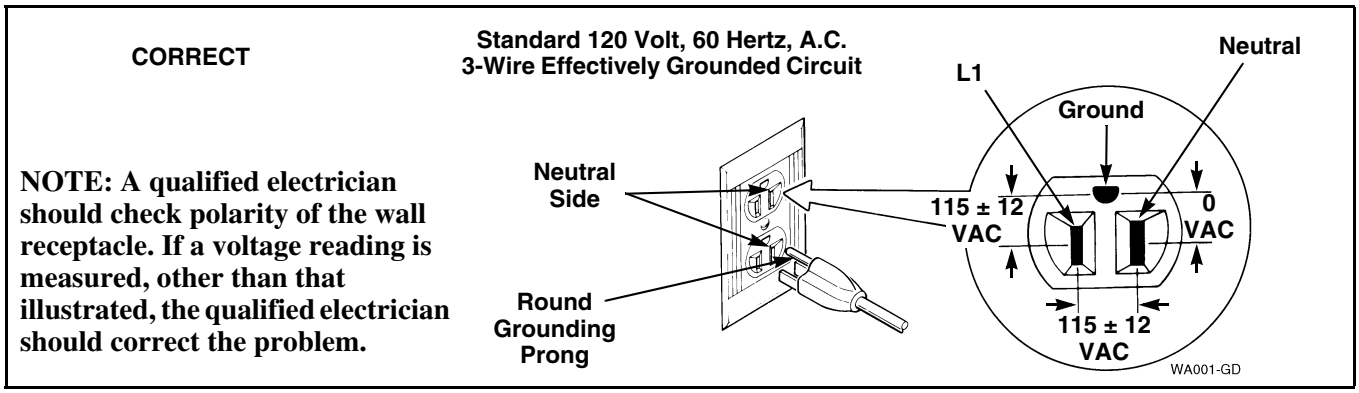


Figure 50

55. ELECTRICAL REQUIREMENTS (120 Volt, 60 Hertz, With 3-Prong Grounding Plug)

NOTE: The wiring diagram is located in the control hood or on the back side of the washer front panel.

WARNING

To reduce the risk of fire, electric shock or personal injury, all wiring and grounding MUST conform with the latest edition of the National Electrical Code, ANSI/NFPA 70, and such local regulations as might apply. It is the customer's responsibility to have the wiring and fuses checked by a qualified electrician to make sure your home has adequate electrical power to operate the washer.

W028

- Washer is designed to be operated on a separate branch, polarized, three-wire, effectively grounded, 120 Volt, 60 Hertz, AC (alternating current), single phase electrical circuit protected by a **15 or 20 ampere** fuse, equivalent fusetron or circuit breaker.
- Three-prong grounding plug on power cord should be plugged directly into a polarized three-slot effectively grounded receptacle rated 110/120 Volts AC (alternating current). Refer to *Figure 50*.
- **Do not operate other appliances on the same circuit. Do not overload circuits!** Refer to *Figure 51*.

WARNING

To reduce the risk of an electric shock, serious injury, death or fire, DO NOT use an extension cord or an adapter to connect washer to electrical power source.

W169

WARNING

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

W003

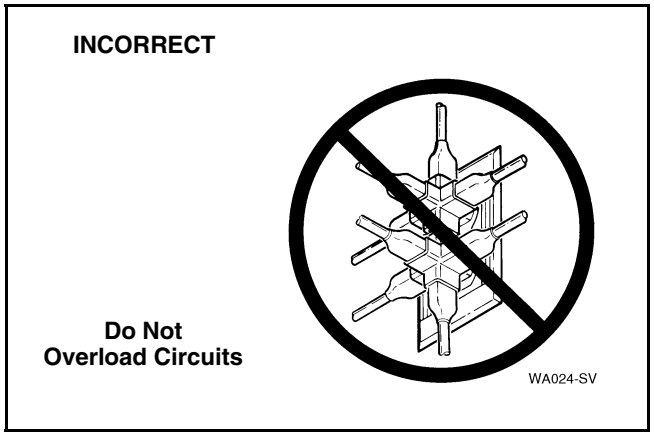


Figure 51

56. GROUNDING INSTRUCTIONS

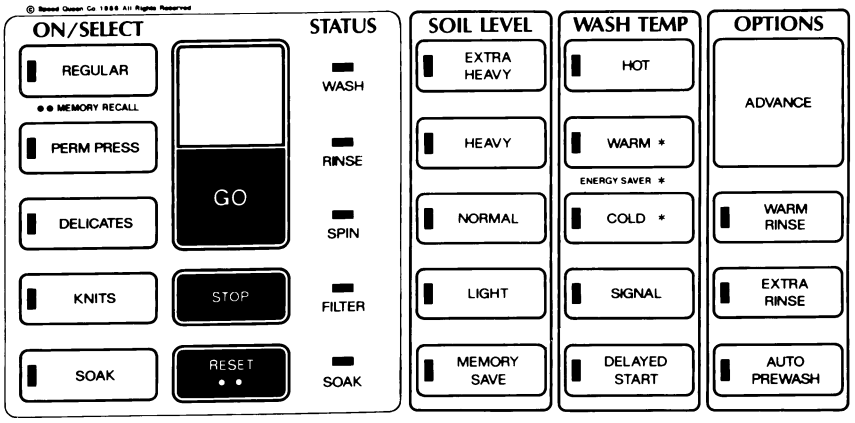
- The washer must be grounded. In the event of malfunction or breakdown, grounding will reduce risk of electric shock by providing a path of least resistance for electric current. The washer is equipped with a cord having an equipment-grounding conductor and a three-prong grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the dryer is properly grounded.

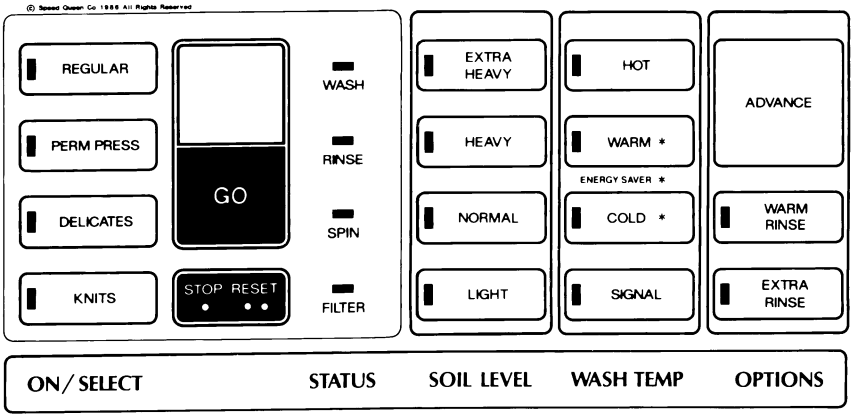
W038

- Do not modify the plug provided with the washer – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.
- If a positive ground cannot be established through the power cord and **local code permits** its use, connect an external ground wire (18 gauge minimum–available at your local hardware store). Connect one end of the wire under any screw (located at rear of washer) and other end to a known effective electrical ground.
- If your home's electrical supply does not meet the above specifications and/or if you are not sure your home has an effective ground, have a qualified electrician, or your local electrical utility company check it and correct any problems.
- After connecting the washer to the electrical supply, start the washer (refer to OPERATING INSTRUCTIONS supplied with the washer). If the electronic control flashes, (with the loading door closed) it could mean the polarity or grounding of the outlet is incorrect. Have a qualified electrician check out the polarity and grounding and correct the problem. Refer to *Paragraph 55*.



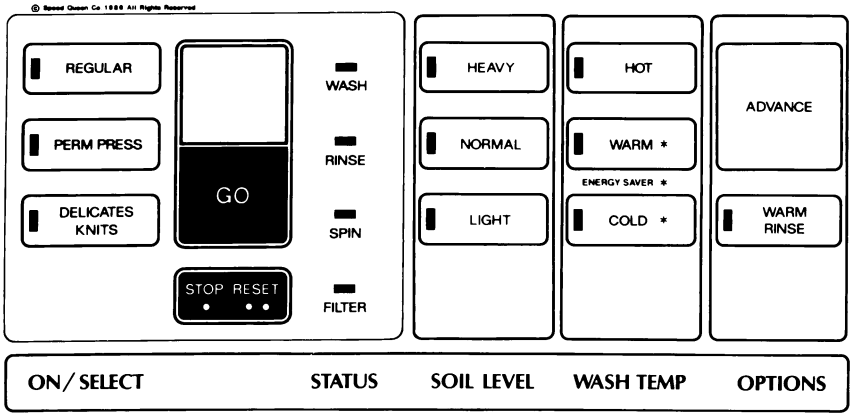
WA105-SV-1

LEVEL I



WA106-SV-1

LEVEL II



WA107-SV-1

LEVEL III

Model No.	Level	Electronic Control Part No.
AA9131, NA8631 and NA8531	I	No longer available
NA8331	I	31307
NA6532, NA6531, NA6530	II	31305
NA6332, NA6331	II	31308
AA7131, AN5531, NA5530	III	No longer available
NA5331, NA5330	III	31309

Figure 52

WARNING

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

W003

57. WASHER OPERATION

Close the loading door. The washer will not agitate or spin with the loading door open.

NOTE: If the loading door is opened while the washer is filling with water, the water flow will stop for about three seconds, then the water fill will continue.

Select the LOAD SIZE WATER LEVEL. If agitation has started and a higher water level is desired, move the control to RESET, then make your water level selection.

NOTE: When the control is released, it should not remain at the RESET position.

IMPORTANT: Holding the LOAD SIZE WATER LEVEL control lever in the RESET position can cause flooding of the washer.

Press one of the cycle selection pads to select a cycle which is appropriate for the type of fabric being washed: REGULAR, PERM PRESS, DELICATES, KNITS or SOAK. These are automatic, preprogrammed cycles.

Select desired cycle options by pressing the various pads to the right of the STATUS LIGHTS. Refer to "***Customizing Preprogrammed Cycles***" for detailed information.

Press the GO pad. Washer will start immediately and stop automatically when the cycle has completed. Washer will not start until the GO pad is pressed.

The washer will stop (pause) for a brief period of time before the wash and rinse spins.

WARNING

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

W003

58. AUTOMATIC PREPROGRAMMED CYCLES

By selecting the appropriate ON/SELECT pad, Automatic, Preprogrammed cycles are available in REGULAR, PERM PRESS, DELICATES, KNITS and SOAK. In these cycles, warm water wash, cold water rinse and a normal amount of agitation time are automatically selected for you. Refer to *Figure 53*. The model of your washer will determine which of these cycles are available.

NOTE: When you have selected a cycle, you will see a number light up in the display area. This number indicates the length of the wash cycle. When the GO pad is pressed, you will see the display change to a higher number. This higher number tells you the length of the entire cycle, excluding water fills. When the SOAK cycle is selected, the number in the display area represents the total soak time. When the GO pad is pressed, this number increases to include agitation and spin times representing the total cycle time.

IMPORTANT: The DELICATES and KNITS cycles are comprised of a series of intermittent pause and agitation periods which vary in length of time. Refer to the Cycle Sequence chart for exact pause and agitation times.

AUTOMATIC CYCLE TIMES (IN MINUTES)

	Soil	Wash Temperature	Wash Time		Rinse/Spin Time	Total Time
Regular	Normal	Warm	10	+	17	27
Perm Press	Normal	Warm	8	+	14	22
Delicates	Normal	Warm	7	+	10	17
Knit	Normal	Warm	8	+	11	19
Soak	Normal	Warm	30 (Soak)	+	10 (Agitate & Spin)	40

Figure 53

WARNING

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

W003

59. STATUS LIGHTS

The STATUS lights illuminate to show you at a glance what is happing inside the washer.

WASH Lights up during the wash portion of the cycle.

RINSE Lights up during the rinse portion of the cycle

SPIN Lights up during the final spin.

FILTER Flashes whenever the lint filtering system is activated.

SOAK Lights up whenever the load is soaking. Also, lights up during the soak portion of the SOAK cycle.

WASH and SOAK Both light up during the wash portion of the DELICATES and KNITS cycles and during periods of soaking.

60. OTHER FEATURES

Digital Display Shows you the length of the wash cycle you have selected and counts down the number of minutes (excluding water fills) remaining in the cycle. The display also shows the number of hours remaining during the DELAYED START countdown on those models equipped with DELAYED START.

Flashing Digital Display Light Tells you the GO pad must be pressed in order to continue the cycle. Close the washer loading door. The washer will not run with the loading door open.

Flashing Digital Display Light and Signal Load is out-of-balance. Open the loading door, redistribute load and close loading door. Press the GO pad. Washer will continue with the cycle.

GO Press the GO pad to start washer. Washer will not run until the GO pad is pressed.

STOP Press the STOP pad to stop washer at any point in the cycle. Washer will stop and remain at that portion of the cycle until the GO pad is pressed. At that time, the cycle will continue where it left off.

Pressing the STOP pad two times in succession will cancel the cycle.

RESET The RESET pad functions the same as the STOP pad. Pressing it once stops the washer, pressing it two times in succession cancels the cycle.

WARNING

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

W003

PROGRAMMED SOIL LEVEL TIMES				
	LIGHT	**NORMAL**	**HEAVY**	**EXTRA HEAVY**
Regular	6-9	10-12	13-15	16-18
Perm Press	4-7	8-10	11-13	14-16
Delicates	5-6	7-8	9-10	11-12
Knits	6-7	8-9	10-11	12-13
Soak	15-25	30-40	45-55	60-85

Figure 54

61. CUSTOMIZING PREPROGRAMMED CYCLES

Your washer may or may not have all of the following selections. The model of washer you own will determine which features are available.

All preprogrammed cycles can be customized to fit your laundering needs. First select a cycle, then customize. The control "wakes up" only after a cycle has been selected.

WASH TIME When a cycle is selected, the NORMAL SOIL LEVEL is automatically provided. The number of minutes in the wash portion of the cycle on the NORMAL SOIL LEVEL setting appears in the digital display area. This wash time can be increased or decreased by using the SOIL LEVEL pads.

SOIL LEVEL Pads EXTRA HEAVY, HEAVY, NORMAL or LIGHT pads will control the length of the wash cycle.

Each SOIL LEVEL pad provides a range of several minutes. For instance, press the HEAVY pad and a number will appear in the display area. Press HEAVY again and the time will increase by one minute. Refer to *Figure 54*.

WASH Temperatures When a cycle is selected, a warm wash and a cold rinse is automatically provided.

To select a hot wash, press the HOT WASH TEMP pad. Not all fabrics can be washed safely in hot water.

You WILL NOT be able to program a hot wash on either the DELICATES or KNITS cycles.

A warm wash cycle can be selected by pressing the WARM WASH TEMP pad.

A cold wash can be selected by pressing the COLD WASH TEMP pad.

WARM RINSE A warm rinse can be selected by pressing the WARM RINSE pad. A warm rinse can cause wrinkling in some garments; a warm rinse can be selected only when the REGULAR cycle is used. Your washer will not accept a warm rinse in any other cycle.

WARNING

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

W003

EXTRA RINSE An extra rinse can be obtained by pressing the EXTRA RINSE pad. If a warm rinse has been selected, both rinses will be warm. An extra rinse is not available in the SOAK cycle.

NOTE: When EXTRA RINSE is selected, the final spin of the NORMAL cycle will be three minutes. After the three-minute spin, a deep rinse will begin, followed by the normal final spin time for the cycle selected. Refer to the Cycle Sequence chart for total cycle times. Refer to *Figure 53*.

SIGNAL A signal is provided to let you know when the cycle has been completed. The signal has three distinctive tone levels. Pressing the SIGNAL pad once will produce the softest tone. Press the pad again and the tone will get louder. Pressing the pad a third time will result in setting the loudest tone. To turn the signal off, press the pad repeatedly until the SIGNAL light goes off. The signal will not sound if the light is off.

MEMORY SAVE You can create and save your favorite cycles by using the MEMORY SAVE option. Each programmed cycle—REGULAR, PERM PRESS, DELICATES, KNITS and SOAK can have one memory cycle for a total of five memory or favorite cycles in addition to the preprogrammed cycles.

To save a favorite cycle, first select a program cycle, then customize that cycle. When all selections have been made, press the MEMORY SAVE pad. Your favorite cycle is now saved. This cycle will be stored until you either change the cycle or until there is a power outage of several seconds or longer. Your customized cycle can be recalled from memory by pressing the appropriate ON/SELECT pad for the cycle twice in succession.

The light on the MEMORY SAVE pad will light up when the memory cycle is on.

To change a memory cycle, press the programmed cycle selection pad twice to recall the memory cycle. Change the cycle, then press the MEMORY SAVE pad. The old memory cycle will be deleted and the new cycle will be memorized in its place.

NOTE: The SIGNAL and DELAYED START cannot be saved in memory.

WARNING

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

W003

DELAYED START When using DELAYED START, make sure the water faucets have been turned on or the washer will not start after the time has counted down.

You can set your washer to delay starting from one to nine hours.

Select a programmed or memory cycle.

Press the DELAYED START pad. At this point you will see a number and an “h” appear in the display area. This tells you in how many hours the washer will start. Press the DELAYED START pad until the desired number of hours appears.

Press the GO pad.

The “hours to go” number will remain lit while the “h” flashes. The flashing “h” tells you the washer has started to count down the time.

When the selected number of hours has passed, the washer will start and perform the cycle you selected.

Pressing ADVANCE will cancel the DELAYED START option.

Pressing the RESET or STOP pad twice will cancel the DELAYED START option. It will also cancel the entire cycle.

AUTO PREWASH Prewash items which are heavily soiled or stained. Add detergent. Put clothes in washer. Place the dispenser on the agitator. Add liquid detergent diluted with water (no more than one cup total volume) to the dispenser.

After the PREWASH cycle has finished, the washer will automatically continue to the selected cycle (either REGULAR or PERM PRESS). The detergent added to the washtub is used during the PREWASH cycle. The detergent in the dispenser is automatically released for use in the REGULAR or PERM PRESS cycle. Your washer knows that longer periods of agitation could damage delicates and some knits, so it WILL NOT allow AUTO PREWASH to be programmed with the KNITS or DELICATES cycles.

Wash Temperature Selected	HOT	WARM	COLD
Prewash Temperature Will Be	WARM	WARM	COLD

NOTE: Rinse the dispenser thoroughly after it has been used to dispense detergent.

WARNING

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

W003

ADVANCE The ADVANCE option removes the time from a cycle, starting at the beginning of the cycle. The ADVANCE pad moves you quickly through a selected cycle in one or five minute increments. By watching the STATUS lights while using ADVANCE, you can see to which area in the cycle you have advanced.

To use ADVANCE, select a cycle. Press the ADVANCE pad. You will notice the total cycle time will be displayed when the ADVANCE pad is pushed. Pressing the pad momentarily will advance the cycle one minute at a time. Holding the pad down will advance the time in five-minute increments.

If the washer is running and ADVANCE is pressed, the washer will stop and allow you to advance through the cycle. The GO pad must then be pressed to start or continue the cycle.

62. TROUBLESHOOTING ELECTRONIC CONTROL

IMPORTANT: This procedure is intended to be used as an aid in diagnosing potential problems with electronic control. Refer to SECTION 3, "Troubleshooting" for diagnosing problems with components other than electronic control. Refer to *Figure 55* for terminal numbers, connections and color coding.

63. DIAGNOSTIC CYCLE

A diagnostic cycle is built into the electronic control to detect internal problems on printed circuit board of control.

IMPORTANT: The diagnostic cycle is not intended to diagnose any components built into the control (i.e. relays, transformer or capacitors).

The diagnostic cycle is used in conjunction with a self-diagnostic routine chart located on the wiring diagram sticker. Refer to *Figure 56*. To begin the diagnostic cycle, follow the flow chart in *Figure 56*.

NOTE: If the symptom or problem corresponds to one of the symptoms detailed on the following pages, proceed to that flow chart. (The diagnostic cycle chart check does not have to be made.)

Self-Diagnostic Routine

Entry: Follow the sequence given below.

1. Make sure loading door is closed.
2. Start in idle mode, all LEDs off.
3. Press COLD pad down and hold.
4. Now press PERM PRESS pad down and release all pads when sequence starts.
5. If unable to start routine, check loading door switch.

Exit: Do any of the following.

1. Press any pad.
2. Open loading door for four seconds.
3. Unplug washer.

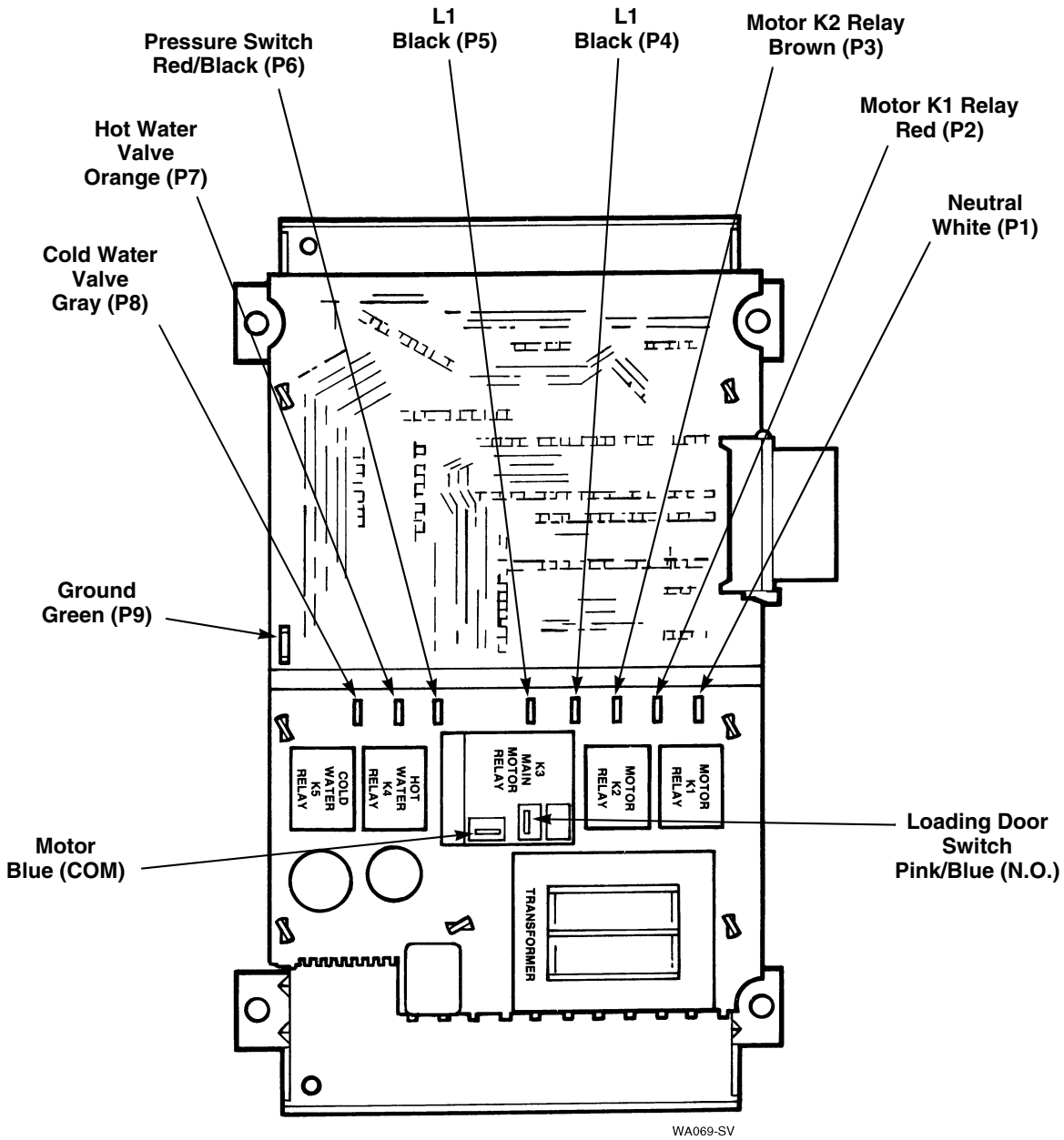
NOTE:
1. **This test routine will only light LEDs pertaining to hardware model selected.**
2. **When last step in table is finished, routine sequence will repeat.**
3. **Each output is on for two seconds.**

Exit: Do any of the following.

1. Press any pad.
2. Open loading door for four seconds.
3. Unplug washer.

NOTE:

1. **This test routine will only light LEDs pertaining to hardware model selected.**
2. **When last step in table is finished, routing sequence will repeat.**
3. **Each output is on for two seconds.**



CONNECTION RELAY AND TRANSFORMER DIAGRAM (ELECTRONIC CONTROL)

Figure 55

WARNING

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

W003

DIAGNOSTIC ROUTINE

Time Display	Active LEDs	Motor Direction	Motor Relay	Hot Water	Cold Water	Signal
99	Wash	Agitate	Off	Off	Off	Off
88	Rinse	Agitate	Off	Off	Off	Off
77	Soak	Agitate	Off	Off	Off	Off
66	Spin	Agitate	Off	Off	Off	Off
55	Delay Start	Agitate	Off	Off	Off	Off
44	Memory	Agitate	Off	Off	Off	Off
33	Prewash	Agitate	Off	Off	Off	Off
22	Extra Rinse	Agitate	Off	Off	Off	Off
11	Signal	Agitate	Off	Off	Off	Off
00	Filter	Agitate	On	On	Off	Off
99	Light	Agitate	Off	Off	Off	Off
88	Normal	Agitate	Off	Off	Off	Off
77	Heavy	Agitate	Off	Off	Off	Off
66	Extra Heavy	Agitate	Off	Off	Off	Off
55	Warm	Agitate	Off	Off	Off	Off
44	Hot	Agitate	Off	Off	Off	Off
33	Cold	Agitate	Off	Off	Off	Off
22	*	Agitate	Off	Off	Off	Off
11	*	Agitate	Off	Off	Off	Off
00	*	Agitate	Off	Off	Off	Off
99	Warm Rinse	Agitate	Off	Off	Off	Off
88	Soak Hold	Agitate	Off	Off	Off	Off
77	Knits	Agitate	Off	Off	Off	Off
66	Delicates	Agitate	Off	Off	Off	Off
55	Perm Press	Agitate	Off	Off	Off	Off
44	Regular	Agitate	Off	Off	Off	Off
33	*	Spin	Off	Off	On	Off
22	*	Spin	On	Off	Off	Off
11	*	Spin	Off	Off	Off	On

* None (All off)

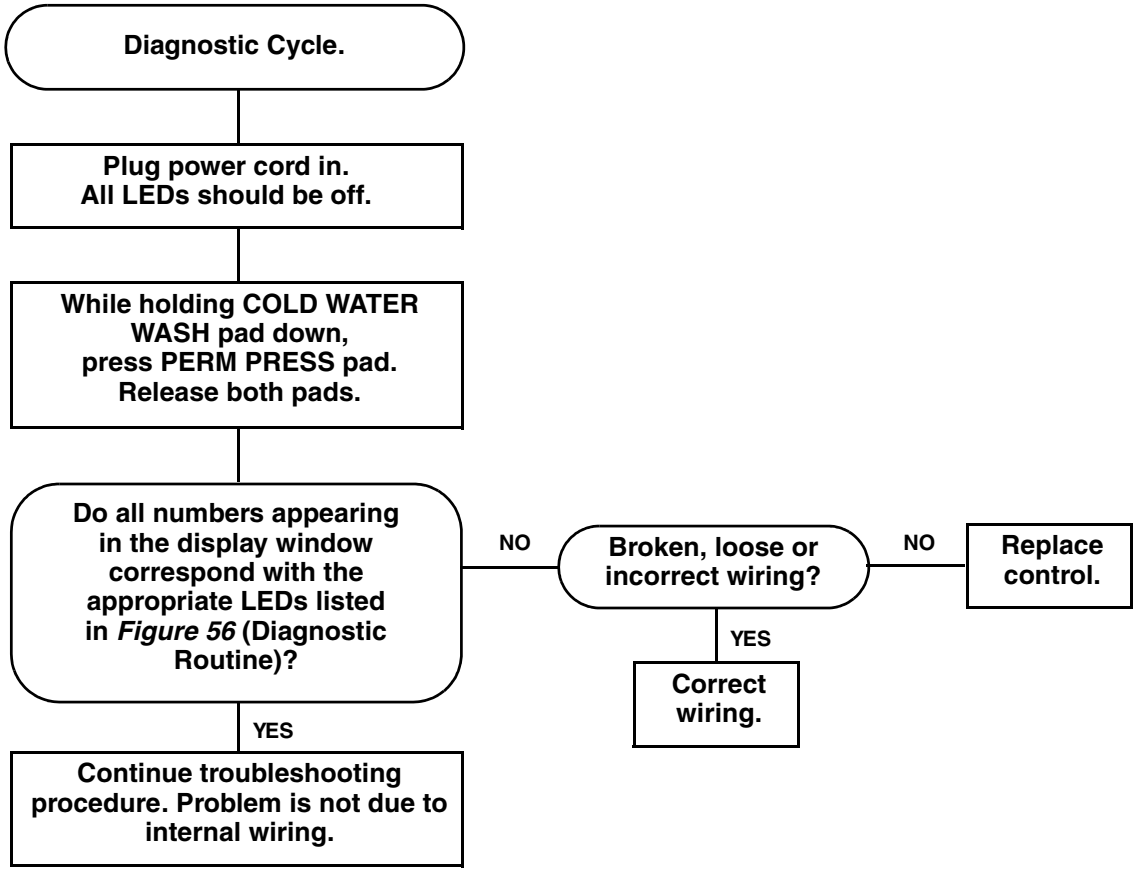
Figure 56

WARNING

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

W003

64. FAILURE SYMPTOMS



NOTE: If, when trying to start Diagnostic Cycle, LED display flashes but does not start, check the following:

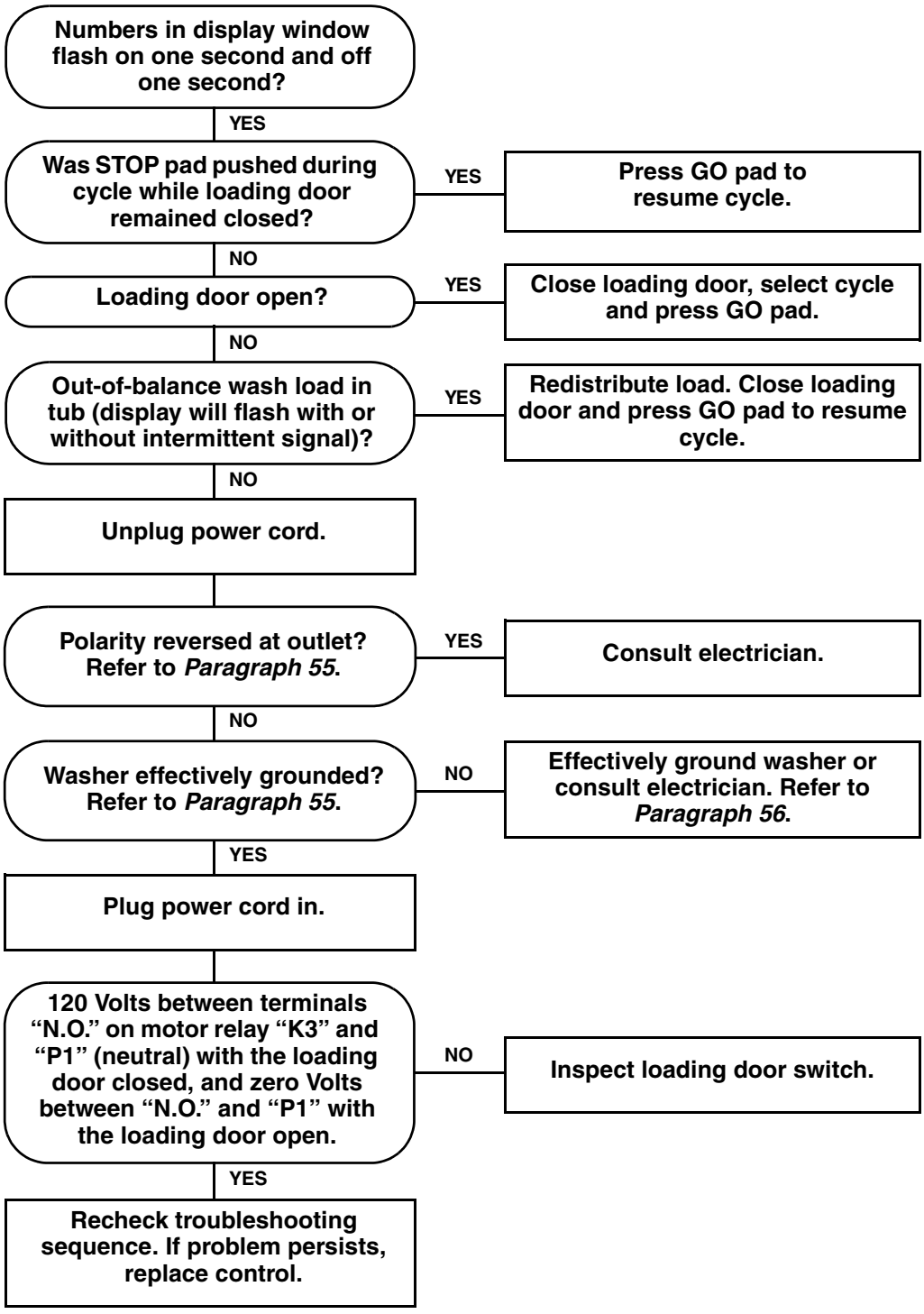
1. Is loading door closed?
2. Loading door switch operating properly?
3. Is washer plugged into properly polarized outlet and washer effectively grounded? Refer to *Paragraph 55*.

WARNING

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

W003

65. SYMPTOM: FLASHING DISPLAY

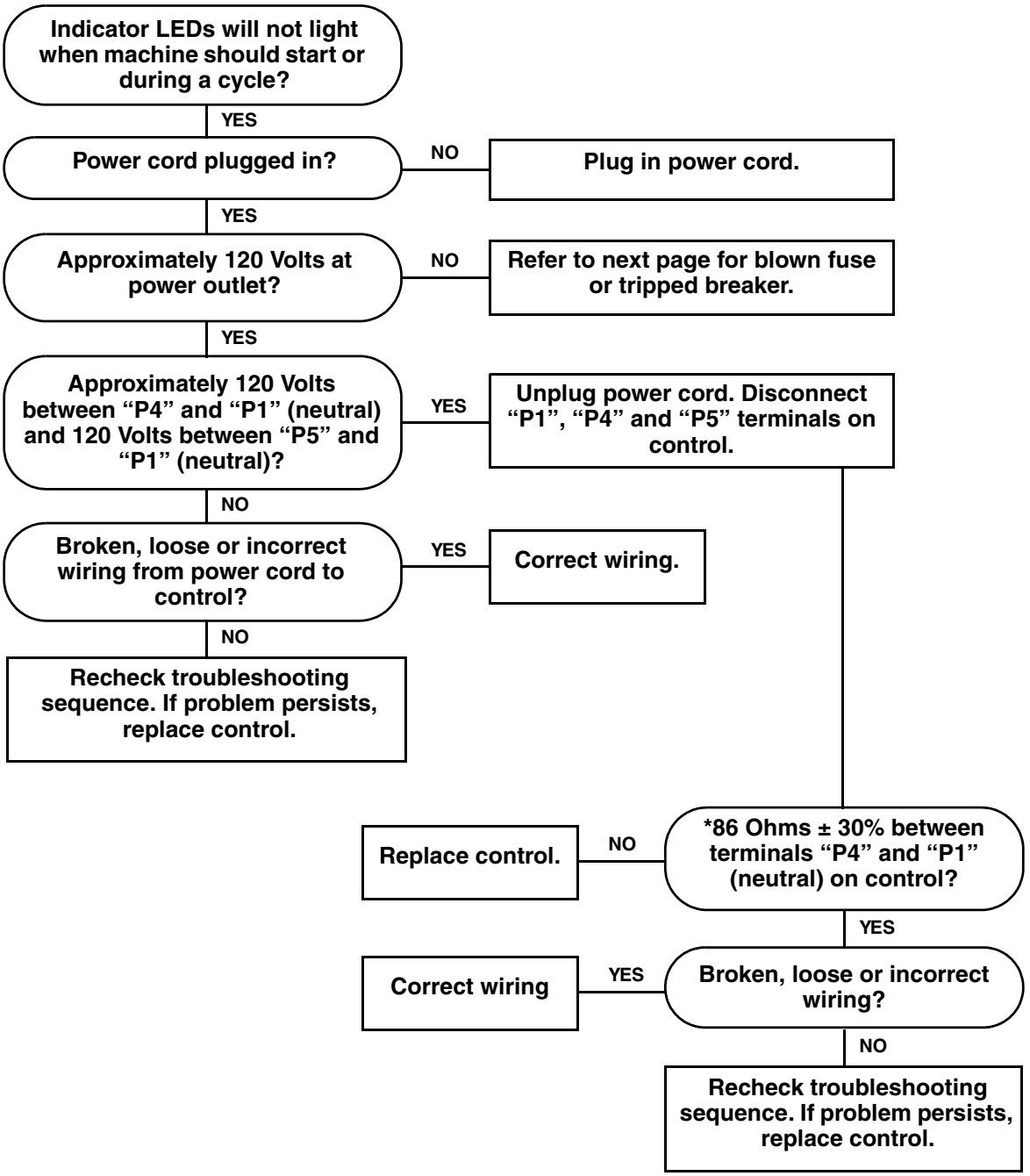


WARNING

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

W003

66. SYMPTOM: INDICATOR LEDS (i.e. Wash, Rinse, Spin, Unbalanced) DO NOT LIGHT



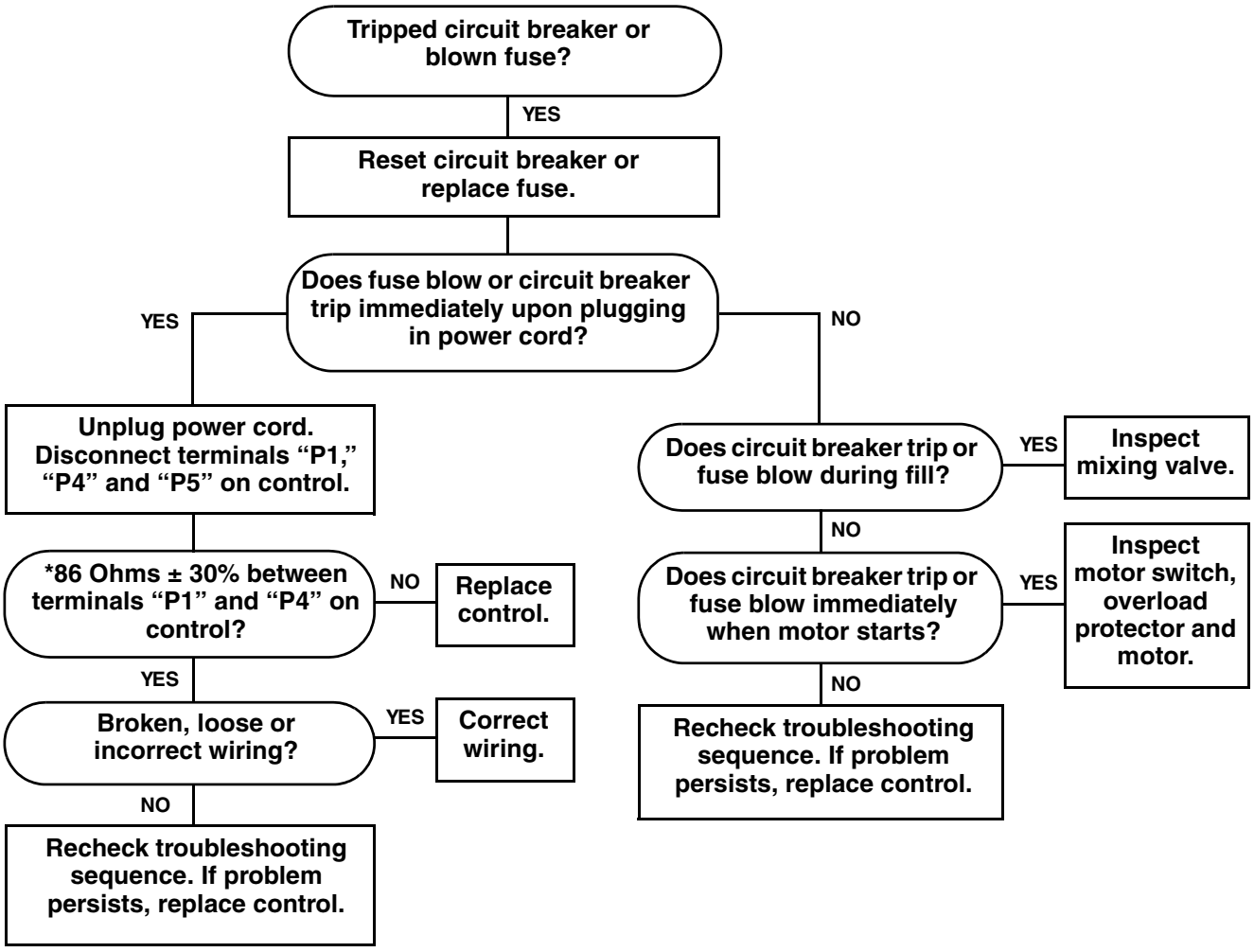
*** For precision, this measurement must be taken with a digital multi-meter set on 200 Ohm scale.**

WARNING

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

W003

67. SYMPTOM: TRIPPED CIRCUIT BREAKER OR BLOWN FUSE



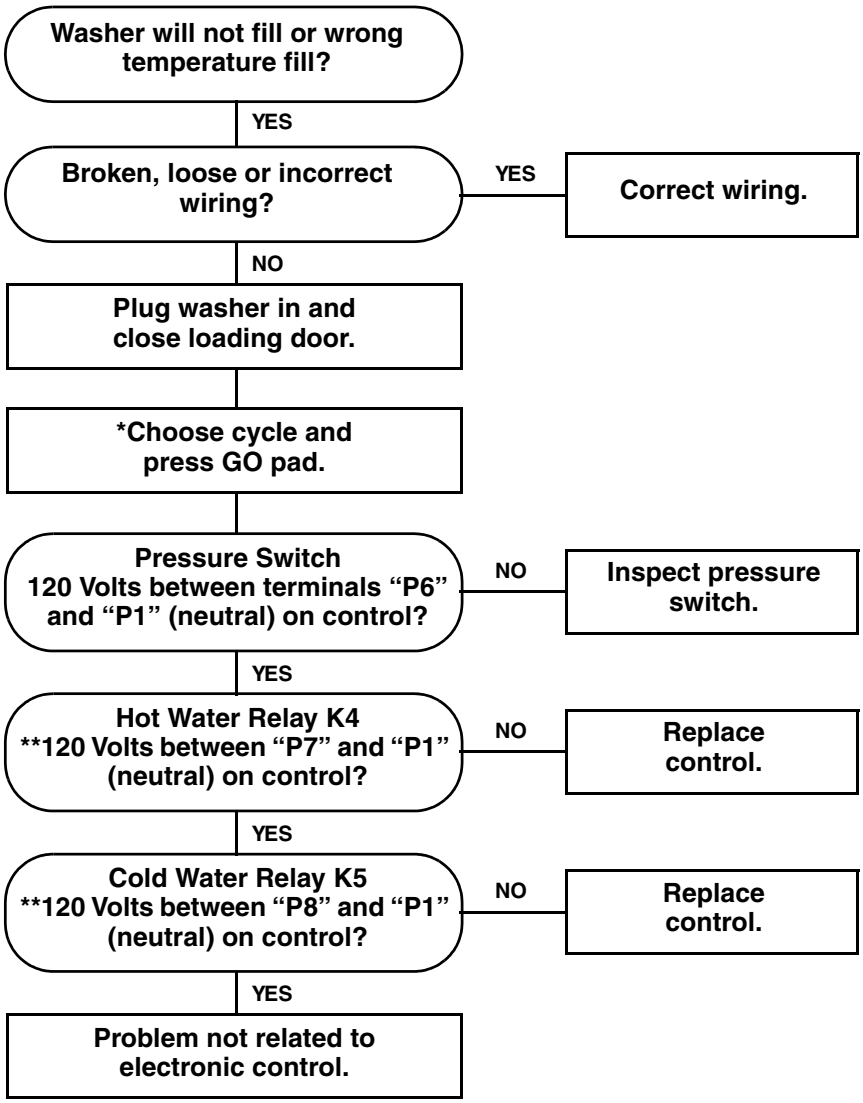
*** For precision, this measurement must be taken with a digital multi-meter set on 200 Ohm scale.**

WARNING

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

W003

68. SYMPTOM: WASHER WILL NOT FILL OR WRONG TEMPERATURE FILL



Select Extra-Large load size.

***Make sure washtub is empty when choosing cycle to ensure that pressure switch has reset. Use ADVANCE pad to advance cycle to SPIN if necessary.**

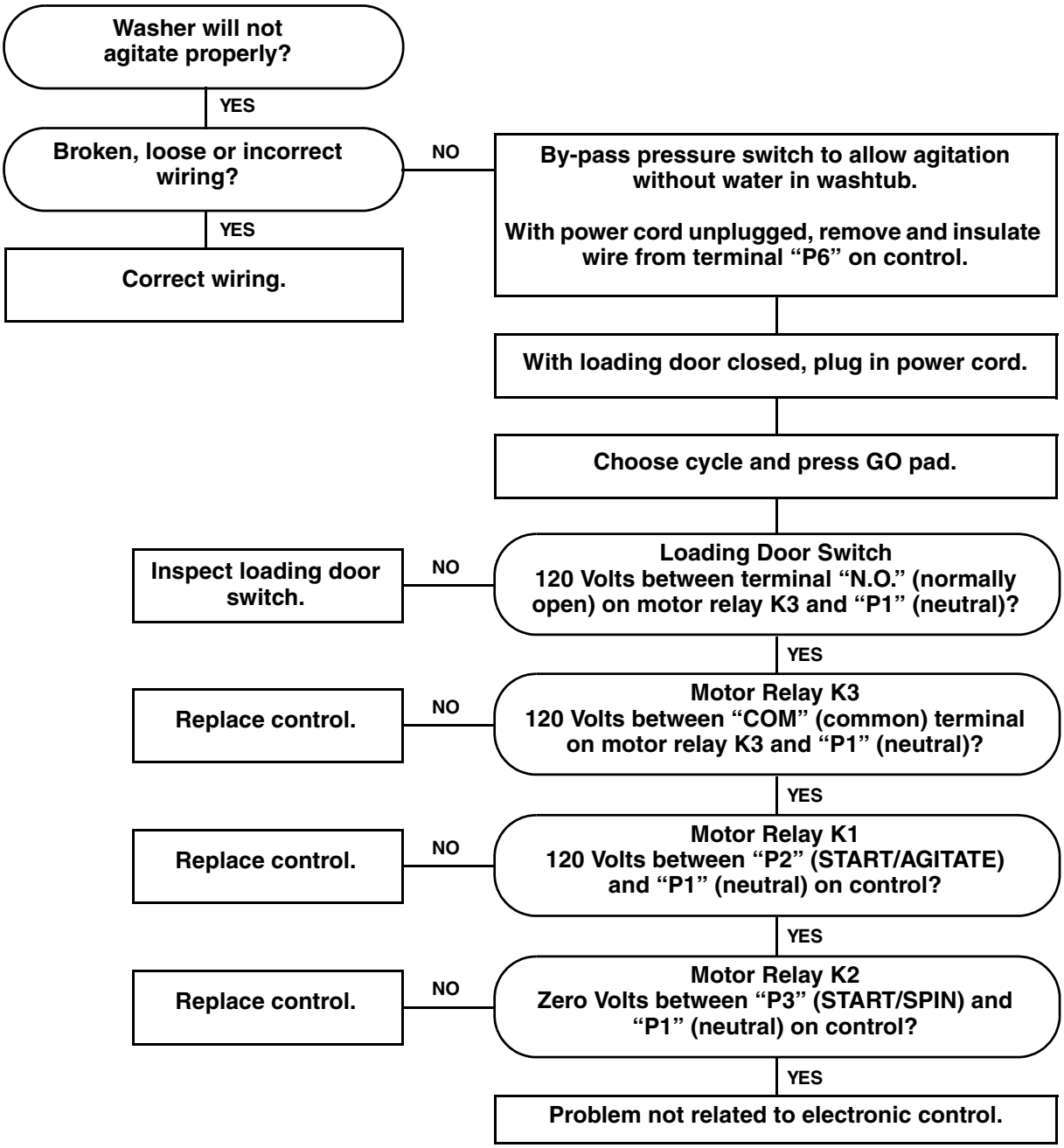
****NOTE: Both hot water relay "K4" and cold water relay "K5" are energized for warm water fill. Only hot water relay "K4" will be energized for hot water fill and only cold water relay "K5" will be energized for cold water fill.**

WARNING

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

W003

69. SYMPTOM: WASHER WILL NOT AGITATE PROPERLY

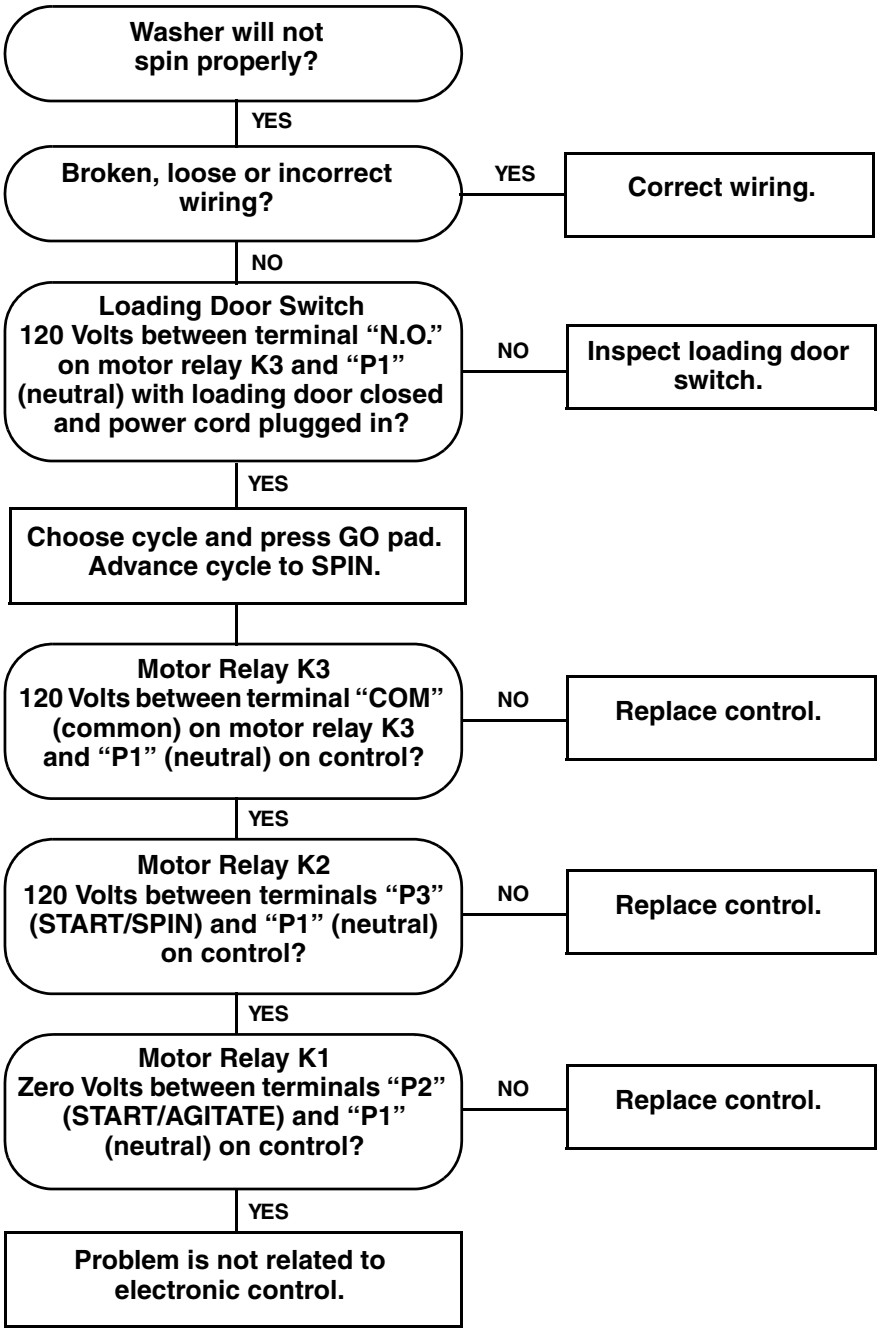


WARNING

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

W003

70. SYMPTOM: WASHER WILL NOT SPIN PROPERLY



WARNING

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

W003

71. CONTROL REPLACEMENT

When a problem with the electronic control is detected during the diagnostic cycle or while making the electrical tests discussed, the control should be replaced. Due to the sensitivity of the electronic control, careful handling is required. As a precautionary measure, the use of a grounded wrist strap when handling the control is recommended. The wrist strap, cord and alligator clip are designed to carry away any electrostatic charge from your body and direct the charge to an available ground. By using this static protection device, potential electrostatic discharge problems associated with the handling of the electronic control will be minimized. Always handle the electronic control by the metal edges. If a wrist strap is not available, touch the washer while it is plugged in before handling the control to dissipate any charge.

To replace the control, first unplug the washer. Remove all of the wires connected to the control and take out four screws securing control to control hood. When removing wires from the control, hold down on the board near the appropriate terminal and disconnect the wires using a pliers. **Do not pull on wires.**

The new control is supplied in a special anti-static wrapping, and protected by anti-static foam. While holding the metal edges, remove the control from the foam and wrapping. Place the inoperative control on the anti-static wrapping. Before positioning the new control in the control hood, peel off protective plastic coating from the front side of the control, then fasten control with four screws. Following the wiring diagram, reconnect the wires to the new control. Replace hood.

It is important to take care when handling the original control. It must be carefully placed in the anti-static wrapping and foam. A copy of the checklist, shown on the following page, must be completely filled out and returned with the control. Warranty credit will be issued only if the control is handled and packaged properly.

Electronic Control Board Replacement Report

Installation Date: _____ Date Failed: _____

Model No. _____ Serial No.: _____

Service Company Identification No.: _____

1. What was the complaint?

2. Mark the cause of the complaint in the appropriate box below:

Washer Control Failure

❑ **Failure in Diagnostic Cycle**

Transformer:
❑ Resistance not in 60 – 112 Ohm range between P4 and P1?

Hot Water Relay K4:
❑ 120 Volts not found between P7 and P1 in hot fill?

Cold Water Relay K5:
❑ 120 Volts not found between P8 and P1 in cold fill?

Main Motor Relay K3:
❑ 120 Volts not found between "Com" and P1 in agitation?
❑ 120 Volts not found between "Com" and P1 in spin?

Agitation Relay K1:
❑ 120 Volts not found between P2 and P1 in agitation?
❑ 120 Volts found between P2 and P1 in spin?

Spin Relay K2:
❑ 120 Volts not found between P3 and P1 during spin?
❑ 120 Volts found between P3 and P1 during agitation?

Additional Comments:

Both copies of this form must be completed and returned with the control board.

Warranty is void if control board is returned improperly packed or damaged.

Form No. 8027R1

Notes

Section 9
Cycle Sequence Charts

NOTE: Times listed are approximate.

Cycle	Function		Water Temp.	*Motor Speed	Eaton Timer Time (Min. & Sec.)	Eaton Timer Degrees	Mallory Timer Time (Min. & Sec.)	Mallory Timer Degrees
REGULAR 33:58 PLUS FILL	WASH, FILL or AGITATE		H, W, C	FAST	15:00	82.25	15:00	82.91
	PAUSE			FAST	1:14	6.76	1:13	6.72
	SPIN			FAST	1:30	8.23	1:30	8.29
	SPIN and SPRAY		COLD	FAST	1:00	5.48	1:00	5.53
	SPIN			FAST	1:30	8.23	1:30	8.29
	PAUSE			FAST	:18	1.65	:17	1.57
	RINSE FILL (Timer Motor Runs)		W or C	FAST	:44	4.02	:44	4.05
	PAUSE or FILL		W or C	FAST	:12	1.10	:12	1.11
	RINSE FILL or AGITATE		W or C	FAST	5:00	27.42	5:00	27.63
	PAUSE			FAST	1:14	6.76	1:13	6.72
	SPIN			FAST	7:00	38.39	6:47	37.49
OFF					2:00	10.97	2:09	10.96
PERMANENT PRESS 26:13 PLUS FILL	WASH, FILL or AGITATE		H, W, C	FAST	9:00	49.35	9:00	49.74
	PAUSE			FAST	1:14	6.76	1:13	6.72
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	:45	4.11	:45	4.15
		FILL	COLD		Variable		Variable	
	PAUSE				:55	5.03	:50	4.61
	SPIN			SLOW	1:25	7.77	1:25	7.83
	SPIN and SPRAY		COLD	SLOW	:45	4.11	:45	4.15
	SPIN			SLOW	1:30	8.23	1:30	8.29
	PAUSE				:18	1.65	:17	1.57
	RINSE FILL (Timer Motor Runs)		W or C		:44	4.02	:44	4.05
	PAUSE or FILL		W or C		:12	1.10	:12	1.11
	RINSE FILL or AGITATE		W or C	FAST	3:00	16.45	3:00	16.58
	PAUSE				1:14	6.76	1:13	6.72
	SPIN			FAST	5:55	32.44	5:50	32.24
OFF					2:00	10.97	1:59	10.96
	TOTALS				65:39	360.00	65:08	360.00

*ON SINGLE SPEED MODEL WASHERS, ALL SPEEDS ARE FAST.

KEY:
H = HOT
W = WARM
C = COLD

TIMER NO. 31238 CYCLE SEQUENCE
(TWO CYCLE)

NOTE: Times listed are approximate.

Cycle	Function		Water Temp.	*Motor Speed	Eaton Timer Time (Min. & Sec.)	Eaton Timer Degrees	Mallory Timer Time (Min. & Sec.)	Mallory Timer Degrees
PERMANENT PRESS 28:13 PLUS FILL	WASH, FILL or AGITATE		H, W, C	FAST	9:00	32.79	9:00	33.16
	PAUSE				1:50	6.68	1:49	6.69
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	:45	2.73	:45	2.76
		FILL	COLD		Variable		Variable	
	PAUSE				1:23	5.04	1:13	4.48
	SPIN			SLOW	1:25	5.16	1:25	5.22
	SPIN and SPRAY		COLD	SLOW	:40	2.43	:40	2.46
	SPIN			SLOW	1:40	6.07	1:40	6.14
	PAUSE				:27	1.64	:22	1.35
	RINSE FILL (Timer Motor Runs)		W or C		1:02	3.76	1:12	4.42
	PAUSE or FILL		W or C		:22	1.34	:15	.92
	RINSE FILL or AGITATE		W or C	FAST	3:00	10.93	3:00	11.05
	PAUSE				1:50	6.68	1:49	6.69
	SPIN			FAST	5:51	21.31	5:45	21.18
OFF					1:88	8.99	1:86	8.97
DELICATE 24:37 PLUS FILL	WASH, FILL or SOAK		H, W, C		1:09	4.19	1:00	3.68
	WASH, FILL or AGITATE		H, W, C	SLOW	:45	2.73	:45	2.76
	WASH, FILL or SOAK		H, W, C		2:00	7.29	2:00	7.37
	WASH, FILL or AGITATE		H, W, C	SLOW	:45	2.73	:45	2.76
	WASH, FILL or SOAK		H, W, C		2:00	7.29	2:00	7.37
	WASH, FILL or AGITATE		H, W, C	SLOW	:45	2.73	:45	2.73
	PAUSE (Soak)				1:50	6.68	1:49	6.69
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	:45	2.79	:45	2.76
		FILL	COLD		Variable		Variable	
	PAUSE				1:23	5.04	1:13	4.48
	SPIN			SLOW	1:30	5.46	1.30	5.53
	SPIN and SPRAY		COLD	SLOW	:40	2.43	:40	2.46
	SPIN			SLOW	1:35	5.77	1:35	5.83
	PAUSE				:27	1.64	:22	1.35
	RINSE FILL (Timer Motor Runs)		COLD		1:02	3.76	1:13	4.48
	PAUSE or FILL		COLD		:22	1.34	:15	.92
	RINSE FILL or AGITATE		COLD	SLOW	2:30	9.11	2:30	9.21
	PAUSE				1:50	6.68	1:49	6.69
	SPIN			SLOW	4:21	15.84	4:26	16.33
OFF					1:88	8.99	1:86	8.97
REGULAR 35:29 PLUS FILL	WASH, FILL or AGITATE		H, W, C	FAST	15:00	54.65	15:00	55.26
	PAUSE				1:50	6.68	1:49	6.69
	SPIN			FAST	1:30	5.46	1:30	5.53
	SPIN and SPRAY		COLD	FAST	1:00	3.64	1:00	3.68
	SPIN			FAST	1:30	5.46	1:30	5.53
	PAUSE				:27	1.64	:22	1.35
	RINSE FILL (Timer Motor Runs)		W or C		1:02	3.76	1:12	4.42
	PAUSE or FILL		W or C		:22	1.34	:15	.92
	RINSE FILL or AGITATE		W or C	FAST	5:00	18.22	4:50	17.81
	PAUSE				1:50	6.68	1:49	6.69
	SPIN			FAST	7:00	25.50	6:50	25.17
OFF					1:88	8.99	1:85	8.91
	TOTALS				98:49	360.00	97:43	360.00

*ON SINGLE SPEED MODEL WASHERS, ALL SPEEDS ARE FAST.

KEY:
H = HOT
W = WARM
C = COLD

TIMER NO. 31239 CYCLE SEQUENCE (THREE CYCLE)

NOTE: Times listed are approximate.

Cycle	Function		Water Temp.	*Motor Speed	Time (Min. & Sec.)	Degrees
PERMANENT PRESS 30:56 PLUS FILL	WASH, FILL or AGITATE		H,W,C	FAST	9:00	20.49
	PAUSE				2:19	5.27
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	1:00	2.28
		FILL	COLD		Variable	
	PAUSE				2:16	5.16
	SPIN			SLOW	1:25	3.23
	SPIN and SPRAY		COLD	SLOW	1:00	2.28
	SPIN			SLOW	1:40	3.79
	PAUSE				:29	1.10
	RINSE FILL (Timer Motor Runs)		W or C		1:22	3.11
	PAUSE or FILL		W or C		:28	1.06
	RINSE FILL or AGITATE		W or C	FAST	3:00	6.83
	PAUSE				2:19	5.27
	SPIN			FAST	5:57	13.55
	SPIN and BUZZER				:03	.11
OFF	BUZZER (Timer Motor Runs) Timer Motor Runs				1:00 :30 2:30	2.28 1.14 5.69
DELICATE 28:05 PLUS FILL	WASH FILL or SOAK		H, W, C		1:09	2.62
	WASH FILL or AGITATE		H, W, C	SLOW	1:00	2.28
	WASH FILL or SOAK		H, W, C		2:00	4.55
	WASH FILL or AGITATE		H, W, C	SLOW	1:00	2.28
	WASH FILL or SOAK		H, W, C		2:00	4.55
	WASH FILL or AGITATE			SLOW	1:00	2.28
	PAUSE (Soak)				2:19	5.27
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	1:00	2.28
		FILL	COLD		Variable	
	PAUSE				2:16	5.16
	SPIN			SLOW	1:30	3.41
	SPIN and SPRAY		COLD	SLOW	1:00	2.28
	SPIN			SLOW	1:35	3.60
	PAUSE				:29	1.10
	RINSE FILL (Timer Motor Runs)		COLD		1:22	3.11
	PAUSE or FILL		COLD		:28	1.06
	RINSE FILL or AGITATE		COLD	SLOW	2:30	5.69
	PAUSE				2:19	5.27
	SPIN			SLOW	4:27	10.13
	SPIN and BUZZER				:03	.11
OFF	BUZZER (Timer Motor Runs) Timer Motor Runs				1:00 :30 2:30	2.28 1.14 5.69

Cycle	Function	Water Temp.	*Motor Speed	Time (Min. & Sec.)	Degrees
†SOAK/PREWASH	WASH FILL or AGITATE	H,W,C	FAST	3:00	6.83
	SOAK			6:09	14.01
	WASH FILL or AGITATE	H,W,C	FAST	1:30	3.41
	SOAK			6:09	14.01
	WASH FILL or AGITATE	H,W,C		1:30	3.41
	SOAK (Infinite Unless Prewash Option Selected)			2:19	5.27
	SPIN		FAST	3.53	8.84
	SPIN and BUZZER			:07	.27
OFF	**If Prewash Not Selected:**				
	BUZZER (Timer Motor Runs)			1:00 3:00	2.29 6.83
OFF	**If Prewash Selected:**				
	PAUSE			2.20	3.87
	WASH FILL (Timer Motor Runs)	H, W, C		1:08	4.02
	PAUSE or FILL			:32	1.21
REGULAR 36:35 PLUS FILL	WASH, FILL or AGITATE	H, W, C	FAST	15:00	34.15
	PAUSE			2:19	5.27
	SPIN		FAST	1:30	3.41
	SPIN and SPRAY	COLD	FAST	1:00	2.28
	SPIN		FAST	1:30	3.41
	PAUSE			:29	1.10
	RINSE FILL (Timer Motor Runs)	W or C		1.22	3.11
	PAUSE or FILL	W or C		:28	1.06
	RINSE FILL or AGITATE	W or C	FAST	5:00	11.38
	PAUSE			2:19	5.27
	SPIN		FAST	6:50	15.56
	SPIN and BUZZER		FAST	:10	.38
OFF	**If Extra Rinse Not Selected:**				
	BUZZER (Timer Motor Runs)			1:00 2:30	2.28 5.69
OFF	**If Extra Rinse Selected:**				
	PAUSE			2:20	3.87
	RINSE FILL (Timer Motor Runs)			:38	2.88
	PAUSE or FILL			:32	1.21
EXTRA RINSE	RINSE FILL OR AGITATE		FAST	5:00	11.38
	PAUSE			2:19	5.27
	SPIN		FAST	6:57	15.82
	SPIN and BUZZER			:03	.11
OFF 14:19 Plus Fill	BUZZER (Timer Motor Runs) Timer Motor Runs			1:00 :30 2:30	2.28 1.14 5.69
	TOTALS			158:08	360.00

*ON SINGLE SPEED MODEL WASHERS, ALL SPEEDS ARE FAST.
†SOAK IS "INFINITE." PREWASH IS 24:37 PLUS FILL.

KEY:
H = HOT
W = WARM
C = COLD

TIMER NO. 31240 CYCLE SEQUENCE (FIVE CYCLE)

NOTE: Times listed are approximate.

Cycle	Function		Water Temp.	*Motor Speed	Time (Min. & Sec.)	Degrees
PERMANENT PRESS 29:15 PLUS FILL	WASH, FILL or AGITATE		H,W,C	FAST	9:00	24.84
	PAUSE				2:06	5.80
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	:50	2.29
		FILL	COLD		Variable	
	PAUSE				1:32	4.22
	SPIN			SLOW	1:25	3.92
	SPIN and SPRAY		COLD	SLOW	:50	2.29
	SPIN			SLOW	1:40	4.61
	PAUSE				:30	1.38
	RINSE FILL (Timer Motor Runs)		W or C		1:20	3.67
	PAUSE or FILL		W or C		:21	.97
	RINSE FILL or AGITATE		W or C	FAST	3:00	8.28
	PAUSE				2:06	5.80
	SPIN			FAST	5:55	16.34
OFF	Timer Motor Runs				1:05	3.01
					2:10	5.96
DELICATE 25:48 PLUS FILL	WASH FILL or SOAK		H,W,C		1:00	2.76
	WASH FILL or AGITATE		H,W,C	SLOW	:50	2.29
	WASH FILL or SOAK		H,W,C		2:00	5.52
	WASH FILL or AGITATE		H,W,C	SLOW	:50	2.29
	WASH FILL or SOAK		H,W,C		2:00	5.52
	WASH FILL or AGITATE		H,W,C	SLOW	:50	2.29
	PAUSE (Soak)				2:06	5.80
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	:50	2.29
		FILL	COLD		Variable	
	PAUSE				1:32	4.22
	SPIN			SLOW	1:30	4.14
	SPIN and SPRAY		COLD	SLOW	:50	2.29
	SPIN			SLOW	1:35	4.36
	PAUSE				:30	1.38
	RINSE FILL (Timer Motor Runs)		COLD		1:20	3.67
	PAUSE or FILL		COLD		:21	.97
	RINSE FILL or AGITATE		COLD	SLOW	2:30	6.90
	PAUSE				2:06	5.80
	SPIN			SLOW	4:30	12.42
OFF	Timer Motor Runs				1:05	3.01
					2:10	5.96

Cycle	Function	Water Temp.	*Motor Speed	Time (Min. & Sec.)	Degrees
PREWASH 22:10 PLUS FILL	WASH FILL or AGITATE	H,W,C	SLOW	3:00	8.28
	WASH FILL or SOAK	H,W,C		5:00	13.80
	WASH FILL or AGITATE	H,W,C	SLOW	1:30	4.14
	SOAK	H,W,C		4:04	11.21
	WASH FILL or AGITATE	H,W,C	SLOW	1:30	4.14
	SOAK (Infinite Unless Prewash Option Selected)			2:06	5.80
	SPIN		SLOW	5:00	13.80
OFF	Timer Motor Runs			1:05	3.01
				2:10	5.96
REGULAR 36:13 PLUS FILL	WASH, FILL or AGITATE	H,W,C	FAST	15:00	41.40
	PAUSE			2:06	5.80
	SPIN		FAST	1:30	4.14
	SPIN and SPRAY	COLD	FAST	1:00	2.76
	SPIN		FAST	1:30	4.14
	PAUSE			:30	1.38
	RINSE FILL (Timer Motor Runs)	W or C		1:20	3.67
	PAUSE or FILL	W or C		:21	.97
	RINSE FILL or AGITATE	W or C	FAST	5:10	14.27
	PAUSE			2:06	5.80
	SPIN		FAST	7:00	19.32
OFF	Timer Motor Runs			1:05	2.98
				2:10	5.99
	TOTALS			130:26	360.00

*ON SINGLE SPEED MODEL WASHERS, ALL SPEEDS ARE FAST.

KEY:
H = HOT
W = WARM
C = COLD

TIMER NO. 32039 CYCLE SEQUENCE (FOUR CYCLE)

NOTE: Times listed are approximate.

Cycle	Function		Water Temp.	*Motor Speed	Time (Min. & Sec.)	Degrees
PERMANENT PRESS 30:56 PLUS FILL	WASH, FILL or AGITATE		H,W,C	FAST	9:00	24.84
	PAUSE				2:06	5.80
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	:50	2.29
		FILL	COLD		Variable	
	PAUSE				1:32	4.22
	SPIN			SLOW	1:25	3.92
	SPIN and SPRAY		COLD	SLOW	:50	2.29
	SPIN			SLOW	1:40	4.61
	PAUSE				:30	1.38
	RINSE FILL (Timer Motor Runs)		W or C		1:20	3.67
	PAUSE or FILL		W or C		:21	.97
	RINSE FILL or AGITATE		W or C	FAST	3:00	8.28
	PAUSE				2:06	5.80
	SPIN			FAST	5:55	16.34
OFF	Timer Motor Runs				1:05	3.01
					2:10	5.96
DELICATE 28:05 PLUS FILL	WASH FILL or SOAK		H,W,C		1:00	2.76
	WASH FILL or AGITATE		H,W,C	SLOW	:50	2.29
	WASH FILL or SOAK		H,W,C		2:00	5.52
	WASH FILL or AGITATE		H,W,C	SLOW	:50	2.29
	WASH FILL or SOAK		H,W,C		2:00	5.52
	WASH FILL or AGITATE		H,W,C	SLOW	:50	2.29
	PAUSE (Soak)				2:06	5.80
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	:50	2.29
		FILL	COLD		Variable	
	PAUSE				1:32	4.22
	SPIN			SLOW	1:30	4.14
	SPIN and SPRAY		COLD	SLOW	:50	2.29
	SPIN			SLOW	1:35	4.36
	PAUSE				:30	1.38
	RINSE FILL (Timer Motor Runs)		COLD		1:20	3.67
	PAUSE or FILL		COLD		:21	.97
	RINSE FILL or AGITATE		COLD	SLOW	2:30	6.90
	PAUSE				2:06	5.80
	SPIN			SLOW	4:30	12.42
OFF	Timer Motor Runs				1:05	3.01
					2:10	5.96

Cycle	Function	Water Temp.	*Motor Speed	Time (Min. & Sec.)	Degrees
PREWASH 22:10 PLUS FILL	WASH FILL or AGITATE	H,W,C	SLOW	3:00	8.28
	WASH FILL or SOAK	H,W,C		5:00	13.80
	WASH FILL or AGITATE	H,W,C	SLOW	1:30	4.14
	SOAK	H,W,C		4:04	11.21
	WASH FILL or AGITATE	H,W,C	SLOW	1:30	4.14
	SOAK (Infinite Unless Prewash Option Selected)			2:06	5.80
	SPIN		SLOW	5:00	13.80
OFF	Timer Motor Runs			1:05	3.01
				2:10	5.96
REGULAR 36:35 PLUS FILL	WASH, FILL or AGITATE	H,W,C	FAST	15:00	41.40
	PAUSE			2:06	5.80
	SPIN		FAST	1:30	4.14
	SPIN and SPRAY	COLD	FAST	1:00	2.76
	SPIN		FAST	1:30	4.14
	PAUSE			:30	1.38
	RINSE FILL (Timer Motor Runs)	W or C		1:20	3.67
	PAUSE or FILL	W or C		:21	.97
	RINSE FILL or AGITATE	W or C	FAST	5:10	14.27
	PAUSE			2:06	5.80
	SPIN		FAST	7:00	19.32
OFF	Timer Motor Runs			1:05	2.98
				2:10	5.99
	TOTALS			130:26	360.00

*ON SINGLE SPEED MODEL WASHERS, ALL SPEEDS ARE FAST.

KEY:
H = HOT
W = WARM
C = COLD

TIMER NO. 32039 CYCLE SEQUENCE (FOUR CYCLE)

NOTE: Times listed are approximate.

Cycle	Function		Water Temp.	*Motor Speed	Time (Min. & Sec.)	Degrees
PERMANENT PRESS 30:56 PLUS FILL	WASH FILL or AGITATE		H,W,C	CHOICE	9:00	20.49
	PAUSE				2:19	5.28
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	1:00	2.28
		FILL	COLD		Variable	
	PAUSE				2:16	5.15
	SPIN			CHOICE	1:25	3.23
	SPIN and SPRAY		COLD	CHOICE	1:00	2.28
	SPIN			CHOICE	1:40	3.80
	PAUSE				:29	1.09
	RINSE FILL (Timer Motor Runs)		W or C		1:22	3.12
	PAUSE or FILL		W or C		:28	1.07
	RINSE FILL or AGITATE		W or C	CHOICE	3:00	6.83
	PAUSE				2:19	5.26
	SPIN			CHOICE	6:00	13.66
OFF	Timer Motor Runs				1:20	3.04
					2:40	6.07
DELICATE 28:05 PLUS FILL	WASH FILL or SOAK		H,W,C		1:09	2.62
	WASH FILL or AGITATE		H, W, C	SLOW	1:00	2.28
	WASH FILL or SOAK		H, W, C		2:00	4.55
	WASH FILL or AGITATE		H, W, C	SLOW	1:00	2.28
	WASH FILL or SOAK		H, W, C		2:00	4.55
	WASH FILL or AGITATE			SLOW	1:00	2.28
	PAUSE (Soak)				2:19	5.28
	COOL DOWN (Press Sw. Controlled)	SPIN (Partial Drain)		SLOW	1:00	2.28
		FILL	COLD		Variable	
	PAUSE				2:16	5.15
	SPIN			CHOICE	1:30	3.42
	SPIN and SPRAY		COLD	CHOICE	1:00	2.28
	SPIN			CHOICE	1:35	3.62
	PAUSE				:29	1.09
	RINSE FILL (Timer Motor Runs)		COLD		1:22	3.12
	PAUSE or FILL		COLD		:28	1.05
	RINSE FILL or AGITATE		COLD	SLOW	2:30	5.69
	PAUSE				2:19	5.28
	SPIN			CHOICE	4:30	10.25
OFF	Timer Motor Runs				1:20	3.04
					2:40	6.07

Cycle	Function	Water Temp.	*Motor Speed	Time (Min. & Sec.)	Degrees
†SOAK/PREWASH 24:37 PLUS FILL	WASH FILL or AGITATE	H,W,C	CHOICE	3:00	6.83
	SOAK	H,W,C		6:09	14.00
	WASH FILL or AGITATE	H,W,C	CHOICE	1:30	3.42
	SOAK			6:09	14.00
	WASH FILL or AGITATE	H,W,C	CHOICE	1:30	3.42
	SOAK (Infinite Unless Prewash Option Selected)			1:19	3.01
	SPIN		CHOICE	5:00	11.38
OFF	Timer Motor Runs			1:20	3.04
				2:40	6.07
REGULAR 36:35 PLUS FILL	WASH FILL or AGITATE	H, W, C	CHOICE	15:00	34.15
	PAUSE			2:19	5.28
	SPIN		CHOICE	1:30	3.42
	SPIN and SPRAY	COLD	CHOICE	1:00	2.28
	SPIN		CHOICE	1:30	3.42
	PAUSE			:29	1.09
	RINSE FILL (Timer Motor Runs)	W or C		1.22	3.12
	PAUSE or FILL	W or C		:28	1.05
	RINSE FILL or AGITATE	W or C	CHOICE	5:00	11.38
	PAUSE			2:19	5.28
	SPIN		CHOICE	7:00	15.94
OFF	Timer Motor Runs			1:10	2.66
				2:20	5.31
RINSE & SPIN 14:18 PLUS FILL	RINSE FILL or AGITATE	W or C	CHOICE	5:00	11.38
	PAUSE			2:19	5.26
	SPIN		CHOICE	6:59	15.92
OFF	Timer Motor Runs			1:20	3.04
				2:40	6.07
	TOTALS			158:07	360.00

*ON SINGLE SPEED MODEL WASHERS, ALL SPEEDS ARE FAST.
†SOAK IS “INFINITE”. PREWASH IS 34:37 PLUS FILL.

KEY:
H = HOT
W = WARM
C = COLD

TIMER NO. 32228 CYCLE SEQUENCE (FIVE CYCLE)

Times listed are approximate.

Cycle	Function		Water Temp.	Time
REGULAR	FILL		H, W, C	Variable
	AGITATE			†6:00 - 15:00
	PAUSE			:10
	SPIN			1:30
	SPRAY and SPIN		C	2:00
	SPIN			2:00
	RINSE FILL		W, C	Variable
	AGITATE			4:00
	PAUSE			:10
	SPIN			7:00
PERMANENT PRESS	FILL		H,W,C	Variable
	AGITATE			†4:00 - 13:00
	PAUSE			:10
	COOL DOWN	SPIN		Variable
		FILL	C	Variable
		AGITATE		:30
		PAUSE		:10
		SPIN		1:30
		SPRAY and SPIN	C	1:00
		SPIN		1:20
	FILL		C	Variable
	AGITATE			3:00
	PAUSE			:10
	SPIN			6:00
DELICATE/KNITS	FILL		W,C	Variable
	PAUSE			1:00
	AGITATE			:30
	PAUSE			†:30 - 5:30
	AGITATE			:30
	PAUSE			1:30
	AGITATE			:40
	PAUSE			:20
	SPIN			:40
	SPRAY and SPIN		C	:40
	SPIN			1:20
	RINSE FILL		C	Variable
	AGITATE			:20
	PAUSE			:40
	AGITATE			:20
	PAUSE			:40
	SPIN			5:00

†TIME WILL VARY DEPENDING ON SELECTION.

KEY:
H = HOT
W = WARM
C = COLD

ELECTRONIC CONTROL NOS. 31306 OR 31309 CYCLE SEQUENCE (THREE CYCLE)

Cycle	Function		Water Temp.	Time
REGULAR	FILL		H, W, C	Variable
	AGITATE			†6:00 - 18:00
	PAUSE			:10
	SPIN			1:30
	SPRAY and SPIN		C	2:00
	SPIN			2:00
	RINSE FILL		W, C	Variable
	AGITATE			4:00
	PAUSE			:10
	SPIN			**7:00
	*EXTRA RINSE	RINSE FILL	W, C	Variable
		AGITATE		4:00
		PAUSE		:10
		SPIN		7:00
PERMANENT PRESS	FILL		H,W,C	Variable
	AGITATE			†4:00 - 16:00
	PAUSE			:10
	COOL DOWN	SPIN		Variable
		FILL	C	Variable
		AGITATE		:30
		PAUSE		:10
		SPIN		1:30
		SPRAY and SPIN	C	1:00
		SPIN		1:20
	FILL		C	Variable
	AGITATE			3:10
	PAUSE			:10
	SPIN			**6:00
	*EXTRA RINSE	RINSE FILL	C	Variable
		AGITATE		3:10
		PAUSE		:10
		SPIN		6:00

*FUNCTION ONLY ENTERS CYCLE WHEN SELECTED - IF AVAILABLE.
†TIME WILL VARY DEPENDING ON SELECTION.
** THIS TIME WILL BE 3:00 WHEN EXTRA RINSE IS SELECTED.

KEY:
H = HOT
W = WARM
C = COLD

Cycle	Function		Water Temp.	Time
DELICATE	FILL		W,C	Variable
	INTERMITTENT AGITATION			†5:00 - 12:00
	SPIN			:40
	SPRAY and SPIN		C	:40
	SPIN			1:20
	RINSE FILL		C	Variable
	AGITATE			:20
	PAUSE			:40
	AGITATE			:20
	PAUSE			:40
	SPIN			**5:00
	*EXTRA RINSE	RINSE FILL	W,C	Variable
		AGITATE		:20
		PAUSE		:40
		AGITATE		:20
		PAUSE		:40
		SPIN		5:00
KNITS	FILL		W,C	Variable
	INTERMITTENT AGITATION			†6:00 - 13:00
	COOL DOWN	SPIN		Variable
		FILL	C	Variable
		AGITATE		:30
		PAUSE		:10
		SPIN		:40
		SPRAY and SPIN	C	1:00
		SPIN		1:20
	FILL		C	Variable
	AGITATE			:20
	PAUSE			:40
	AGITATE			:20
	PAUSE			:40
	SPIN			**5:00
	*EXTRA RINSE	FILL	C	Variable
		AGITATE		:20
		PAUSE		:40
		AGITATE		:20
		PAUSE		:40
		SPIN		5:00

ELECTRONIC CONTROL NOS. 31305 OR 31308
CYCLE SEQUENCE (FOUR CYCLE)

Cycle	Function		Water Temp.	Time
REGULAR	*DELAY			† 0 TO 9 hours
	* PREWASH	FILL	W,C	Variable
		AGITATE		5.00
		PAUSE		:10
		SPIN		1:30
		SPRAY and SPIN	C	:30
		SPIN		1:30
	FILL		H,W,C	Variable
	AGITATE			†6:00 - 18:00
	PAUSE			:10
	SPIN			1:30
	SPRAY and SPIN		C	2:00
	SPIN			2:00
	RINSE FILL		W,C	Variable
	AGITATE			4:00
	PAUSE			:10
	SPIN			**7:00
	* EXTRA RINSE	RINSE FILL	W,C	Variable
		AGITATE		4:00
		PAUSE		:10
		SPIN		7:00
PERMANENT PRESS	*DELAY			† 0 TO 9 hours
	* PREWASH	FILL	W,C	Variable
		AGITATE		5:00
		PAUSE		:10
		SPIN		1:30
		SPRAY and SPIN	C	:30
		SPIN		1:30
	FILL		H,W,C	Variable
	AGITATE			4:00 - 16:00
	PAUSE			:10
	COOL DOWN	SPIN		Variable
		FILL	C	Variable
		AGITATE		:30
		PAUSE		:10
		SPIN		1:30
		SPRAY and SPIN	C	1:00
		SPIN		1:20
	FILL		C	Variable
	AGITATE			3:00
	PAUSE			:10
	SPIN			**6:00
	*EXTRA RINSE	RINSE FILL	C	Variable
		AGITATE		3:00
		PAUSE		:10
		SPIN		6:00

* FUNCTION ONLY ENTERS CYCLE WHEN SELECTED - IF AVAILABLE.
† TIME WILL VARY DEPENDING ON SELECTION.
** THIS TIME WILL BE 3:00 WHEN EXTRA RINSE IS SELECTED.

KEY:
H = HOT
W = WARM
C = COLD

Cycle	Function		Water Temp.	Time
DELICATE	*DELAY			† 0 TO 9 hours
	FILL		W,C	Variable
	PAUSE			1:00
	AGITATE			:30
	PAUSE			† :30 - 7:30
	AGITATE			:30
	PAUSE			1:30
	AGITATE			:40
	PAUSE			:20
	SPIN			:40
	SPIN and SPRAY		C	:40
	SPIN			1:20
	RINSE FILL		C	Variable
	AGITATE			:20
	PAUSE			:40
	AGITATE			:20
	PAUSE			:40
	SPIN			**5:00
	*EXTRA RINSE	RINSE FILL	C	Variable
		AGITATE		:20
		PAUSE		:40
		AGITATE		:20
		PAUSE		:40
		SPIN		5:00
KNITS	*DELAY			† 0 TO 9 hours
	FILL		W,C	Variable
	PAUSE			1:00
	AGITATE			:20
	PAUSE			† :30 - 7:30
	AGITATE			:10
	PAUSE			1:00
	AGITATE			:10
	PAUSE			1:00
	AGITATE			:10
	PAUSE			:30
	AGITATE			:10
	PAUSE			1:00
	COOL DOWN	SPIN		Variable
		FILL	C	Variable
		AGITATE		:30
		PAUSE		:10
		SPIN		:40
		SPIN and SPRAY	C	1:00
		SPIN		1:20
	FILL		C	Variable
	AGITATE			:20
	PAUSE			:40
	AGITATE			:20
	PAUSE			:40
	SPIN			**5:00
	*EXTRA RINSE	FILL	C	Variable
		AGITATE		:20
		PAUSE		:40
		AGITATE		:20
		PAUSE		:40
		SPIN		5:00
SOAK	*DELAY			† 0 to 9 hours
	FILL		H,W,C	Variable
	AGITATE			5:00
	PAUSE (SOAK)			† 15:00 - 85:00
	SPIN			4:00

ELECTRONIC CONTROL NOS. 31304P OR 31307
CYCLE SEQUENCE (FIVE CYCLE)

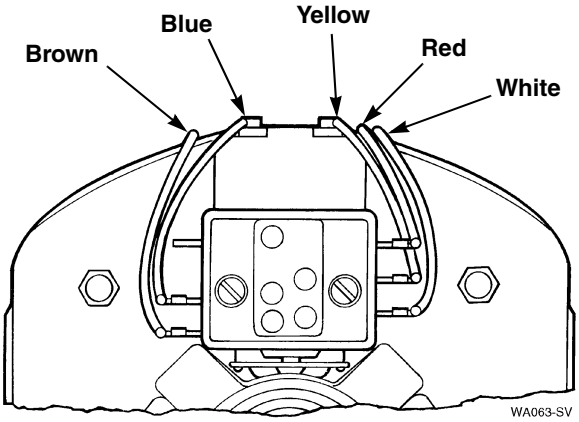
Notes

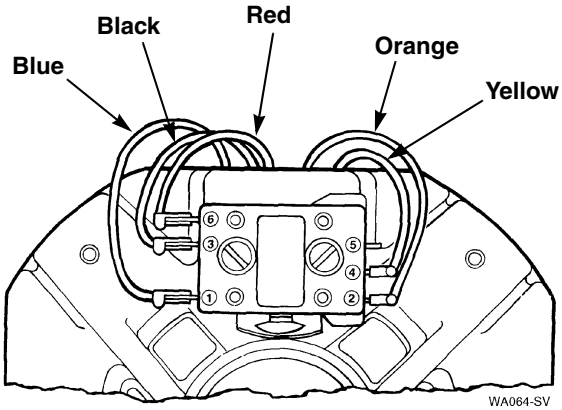
Section 10
Internal Wiring of Washer Motor Switch

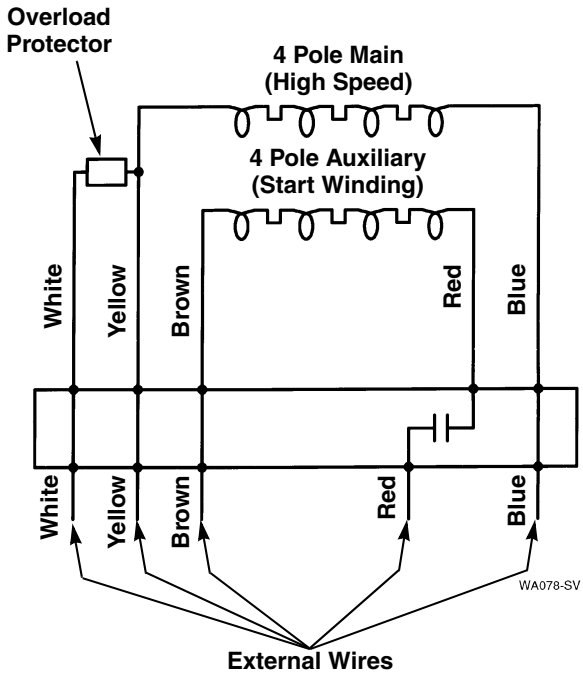
WARNING

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

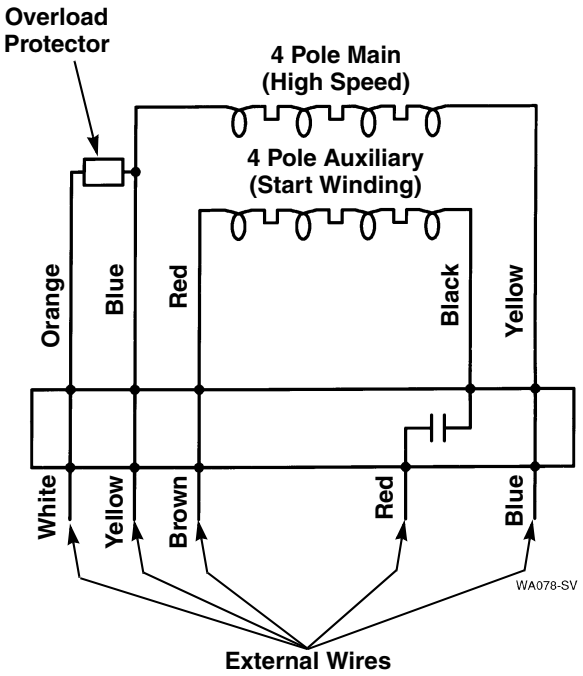
W003







Emerson



General Electric

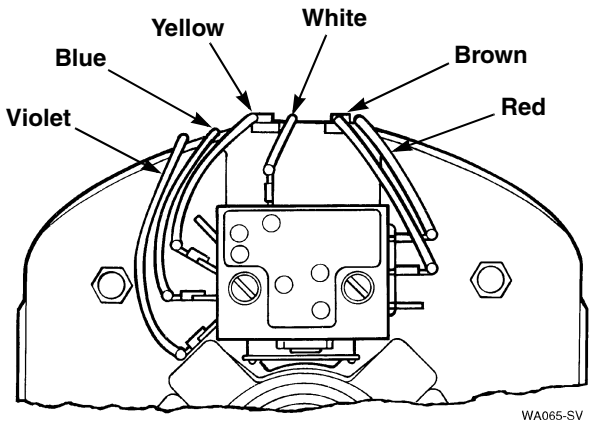
27658P MOTOR ASSEMBLY (1 SPEED MOTORS)

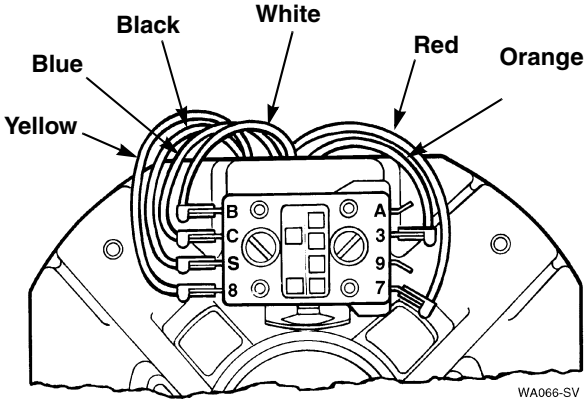
WARNING

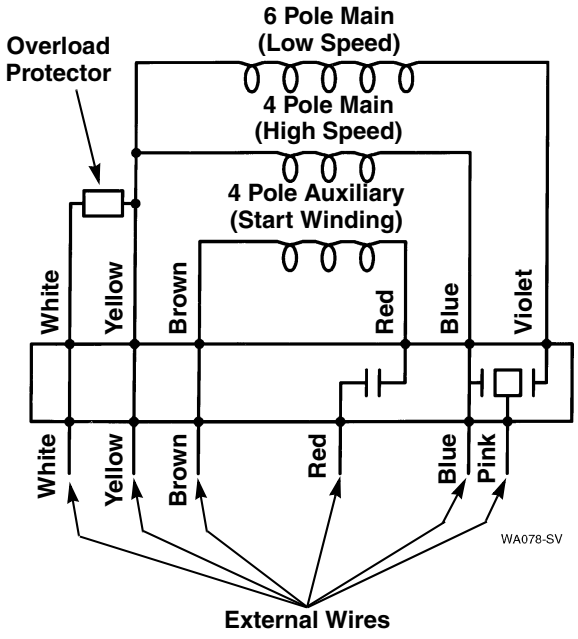
To reduce the risk of electric shock, fire, explosion, serious injury or death:

- **Disconnect electric power to the washer before servicing.**
- **Never start the washer with any guards/panels removed.**
- **Whenever ground wires are removed during servicing, these ground wires must be reconnected to ensure that the washer is properly grounded.**

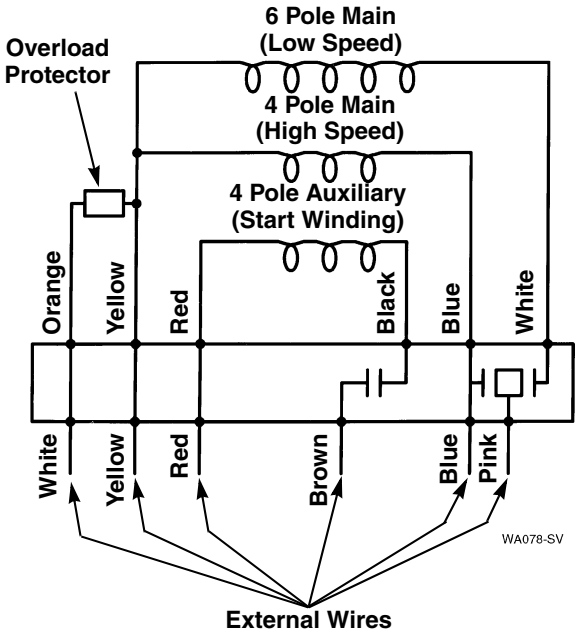
W003







General Electric



Emerson

27179P MOTOR ASSEMBLY (2 SPEED MOTORS)

Section 11
Wiring Diagrams

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

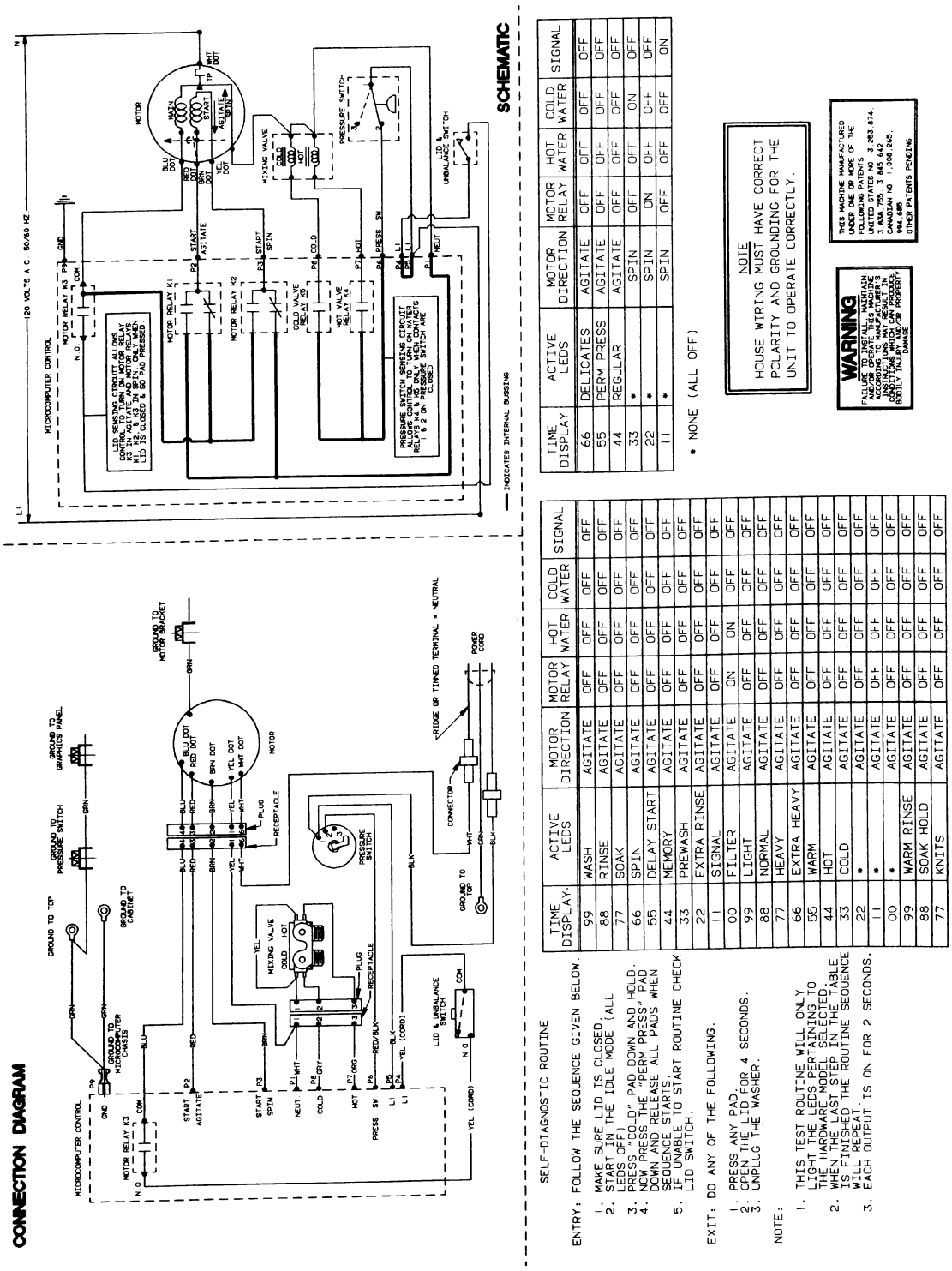
W030

**WIRING DIAGRAMS AND SCHEMATICS
FOUND ON THE FOLLOWING PAGES
ARE FOR MODELS COVERED IN THIS MANUAL.**

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030



TIME DISPLAY	ACTIVE LEDS	MOTOR DIRECTION	MOTOR RELAY	HOT WATER	COLD WATER	SIGNAL
99	WASH	AGITATE	OFF	OFF	OFF	OFF
88	RINSE	AGITATE	OFF	OFF	OFF	OFF
77	SOAK	AGITATE	OFF	OFF	OFF	OFF
66	SPIN	AGITATE	OFF	OFF	OFF	OFF
55	DELAY START	AGITATE	OFF	OFF	OFF	OFF
44	MEMORY	AGITATE	OFF	OFF	OFF	OFF
33	PREWASH	AGITATE	OFF	OFF	OFF	OFF
22	EXTRA RINSE	AGITATE	OFF	OFF	OFF	OFF
11	SIGNAL	AGITATE	OFF	OFF	OFF	OFF
00	FILTER	AGITATE	ON	ON	OFF	OFF
99	LIGHT	AGITATE	OFF	OFF	OFF	OFF
88	NORMAL	AGITATE	OFF	OFF	OFF	OFF
77	HEAVY	AGITATE	OFF	OFF	OFF	OFF
66	EXTRA HEAVY	AGITATE	OFF	OFF	OFF	OFF
55	WARM	AGITATE	OFF	OFF	OFF	OFF
44	HOT	AGITATE	OFF	OFF	OFF	OFF
33	COLD	AGITATE	OFF	OFF	OFF	OFF
22	*	AGITATE	OFF	OFF	OFF	OFF
11	*	AGITATE	OFF	OFF	OFF	OFF
00	*	AGITATE	OFF	OFF	OFF	OFF
99	WARM RINSE	AGITATE	OFF	OFF	OFF	OFF
88	SOAK HOLD	AGITATE	OFF	OFF	OFF	OFF
77	KNITS	AGITATE	OFF	OFF	OFF	OFF

TIME DISPLAY	ACTIVE LEDS	MOTOR DIRECTION	MOTOR RELAY	HOT WATER	COLD WATER	SIGNAL
66	DELICATES	AGITATE	OFF	OFF	OFF	OFF
55	PERM PRESS	AGITATE	OFF	OFF	OFF	OFF
44	REGULAR	AGITATE	OFF	OFF	OFF	OFF
33	*	SPIN	OFF	OFF	ON	OFF
22	*	SPIN	ON	OFF	OFF	OFF
11	*	SPIN	OFF	OFF	OFF	ON

* NONE (ALL OFF)

ENTRY: FOLLOW THE SEQUENCE GIVEN BELOW.
1. MAKE SURE LID IS CLOSED.
2. START IN THE IDLE MODE (ALL LEDS OFF).
3. PRESS "COLD" PAD DOWN AND HOLD.
4. NOW PRESS THE "PERM PRESS" PAD DOWN AND RELEASE ALL PADS WHEN SEQUENCE STARTS.
5. IF UNABLE TO START ROUTINE CHECK LID SWITCH.

EXIT: DO ANY OF THE FOLLOWING.
1. PRESS ANY PAD.
2. OPEN THE LID FOR 4 SECONDS.
3. UNPLUG THE WASHER.

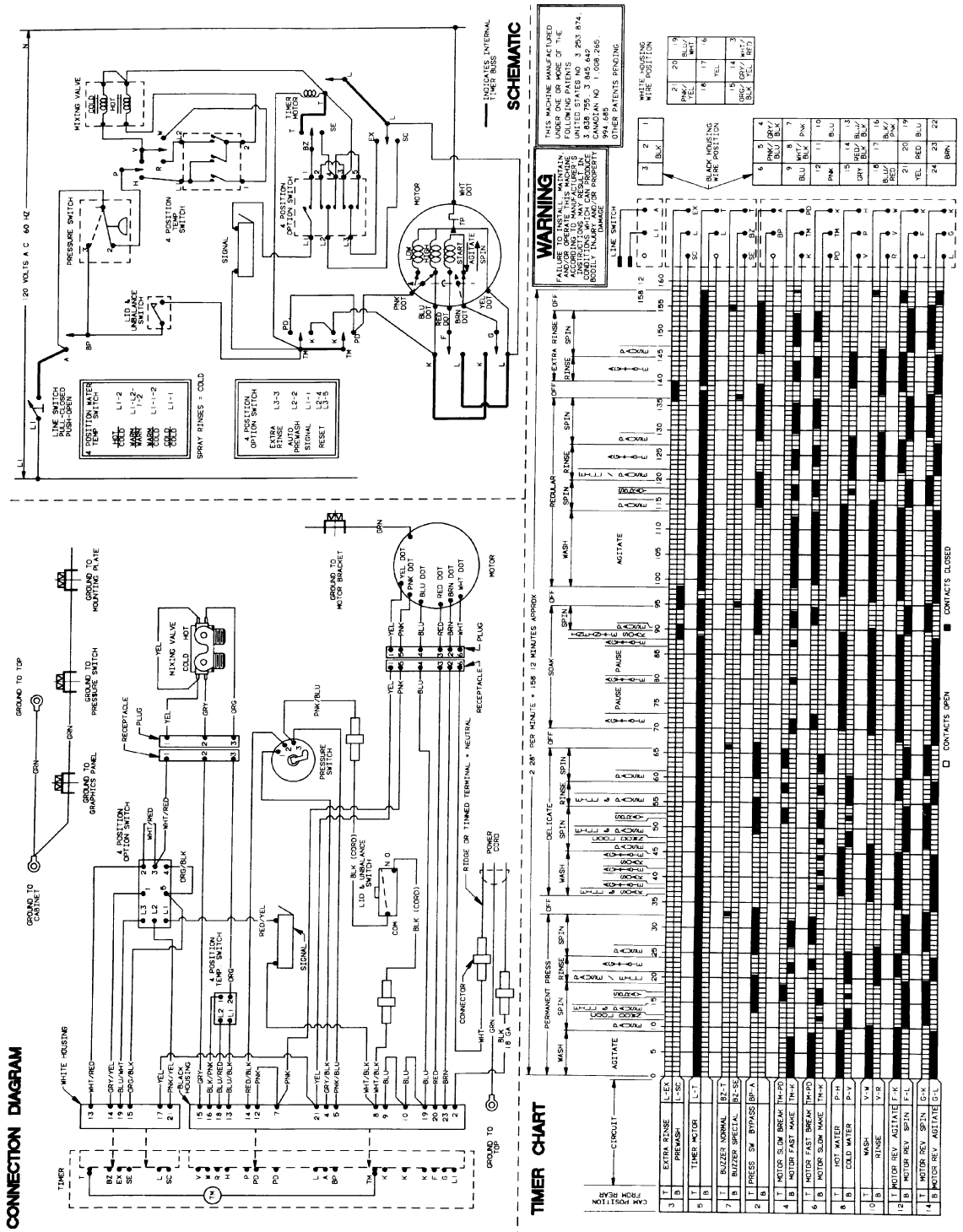
NOTE:
1. THIS TEST ROUTINE WILL ONLY LIGHT THE LEDS PERTAINING TO THE HARDWARE MODEL SELECTED.
2. WHEN THE LAST STEP IN THE TABLE IS FINISHED THE ROUTINE SEQUENCE WILL REPEAT.
3. EACH OUTPUT IS ON FOR 2 SECONDS.

MODELS AA9131, NA8631, NA8531, NA8331, AA7131, NA6532, NA6531, NA6530, NA6332, NA6331, NA5531, NA5530, NA5531 AND NA5330

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030

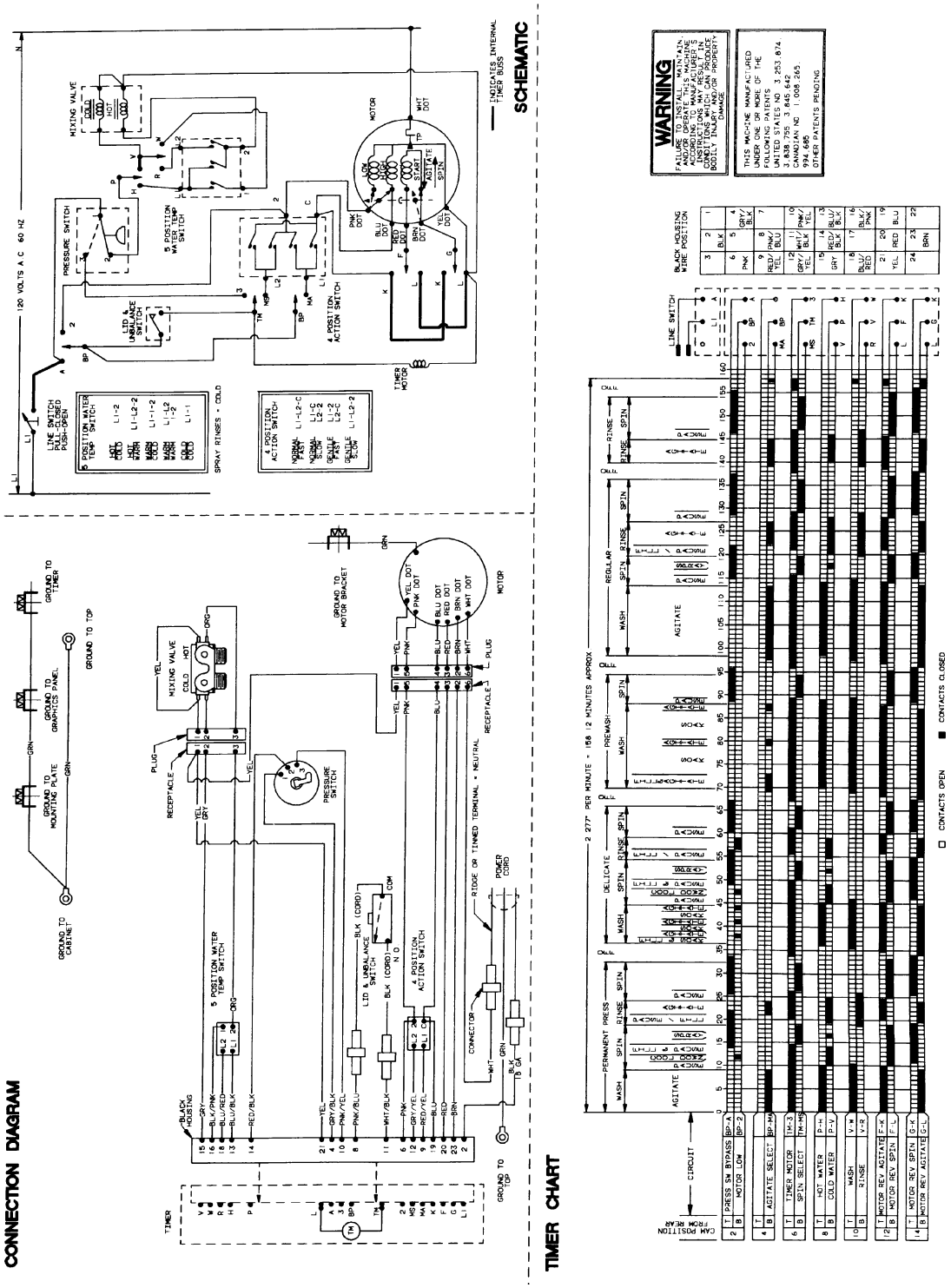


MODELS NA7521 AND NA7321

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030

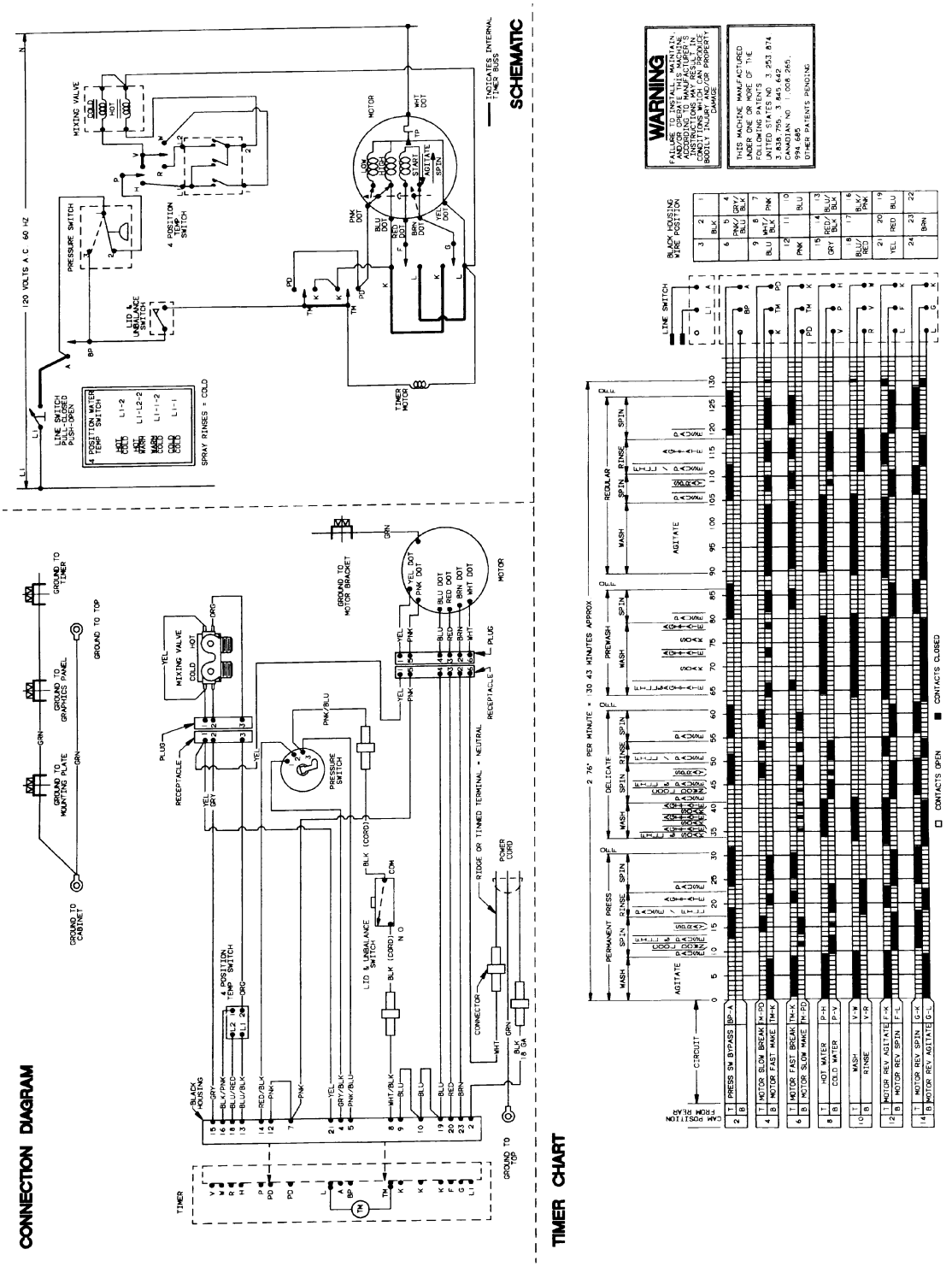


MODELS NA6621, NA6522, NA6521, NA6520, NG6321 AND AA6121

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

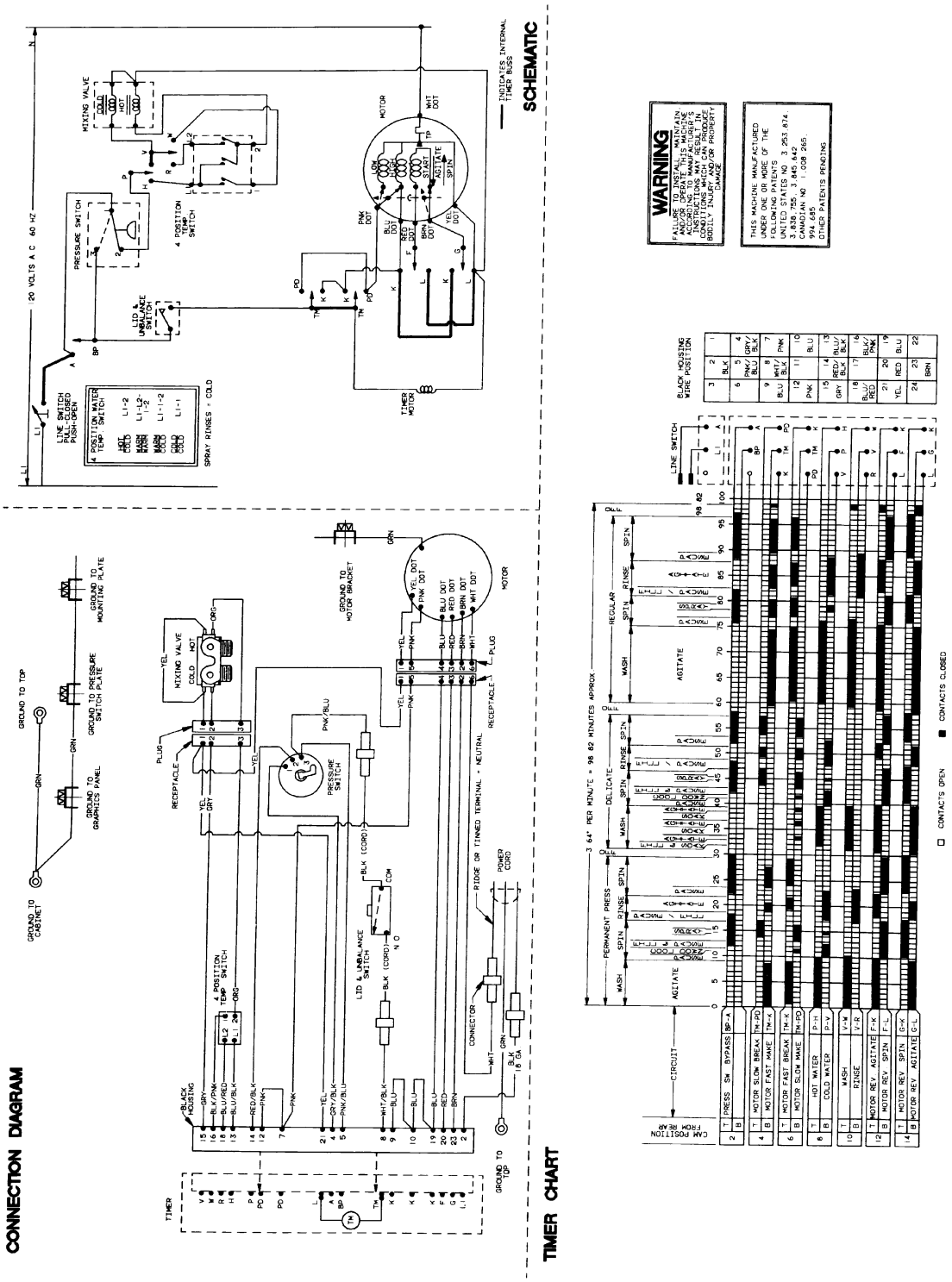
W030



WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030

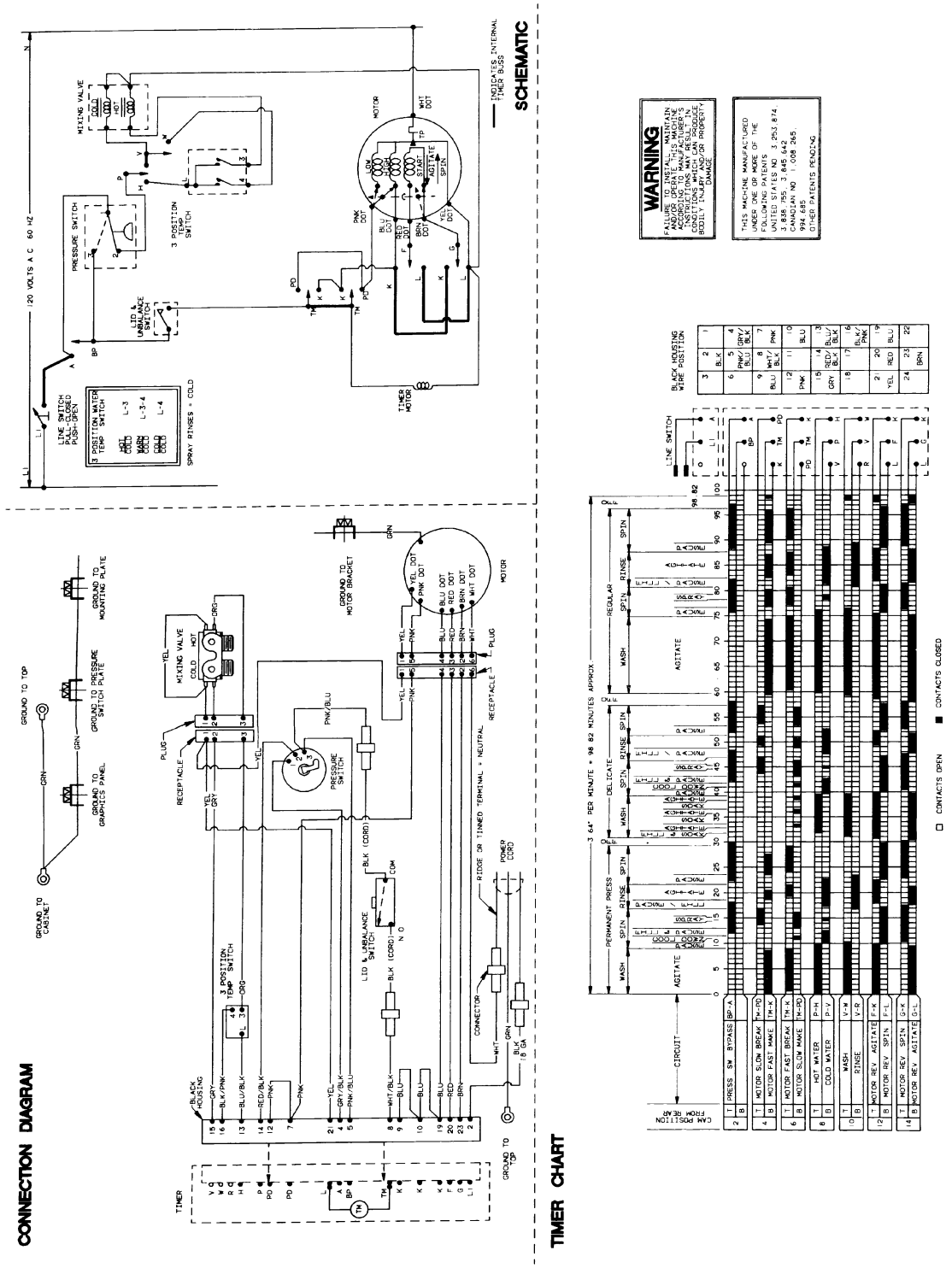


MODELS NA5521, NA5520, NA5321 AND NA5320

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030

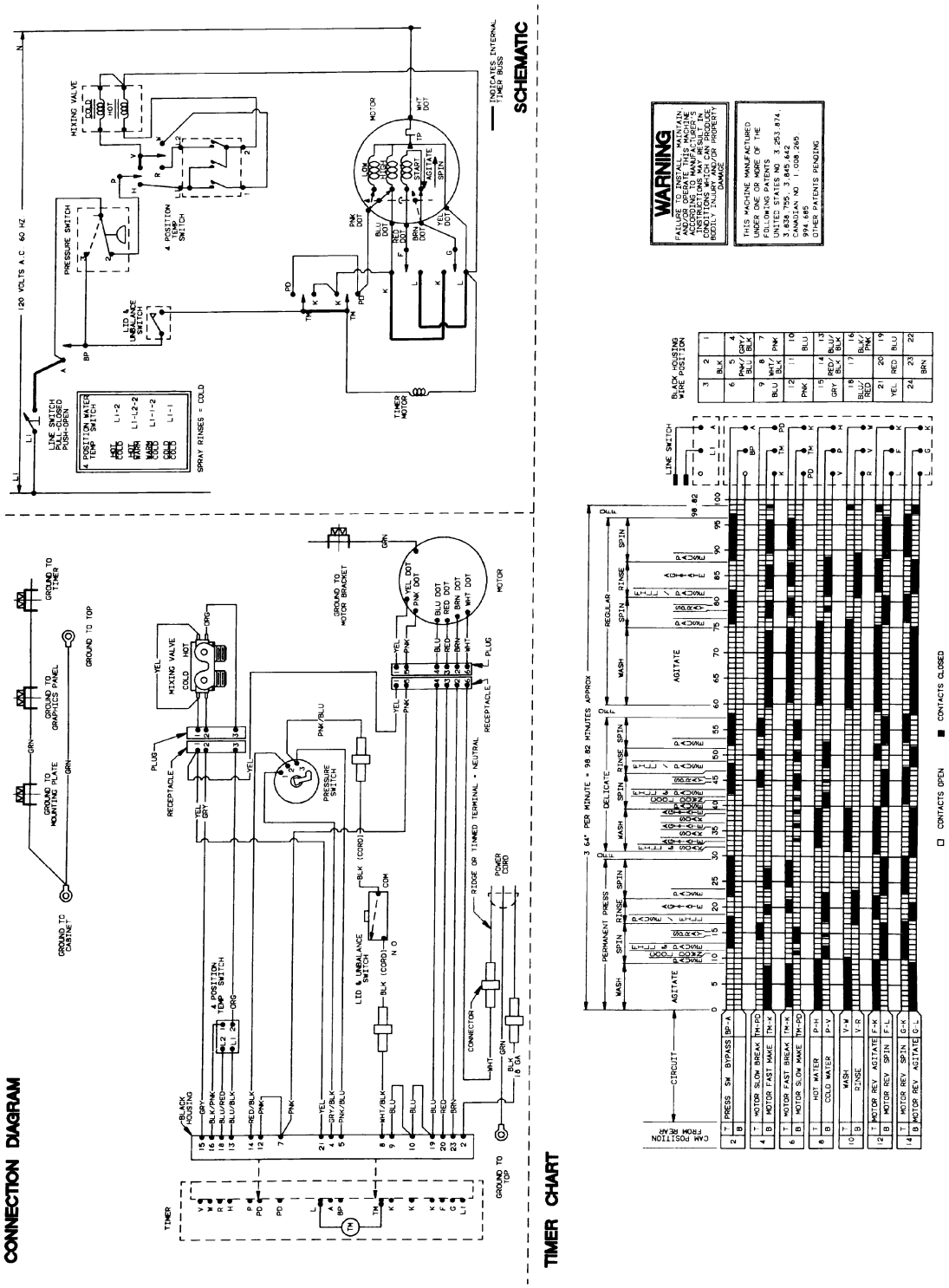


MODELS NA4521, NA4520, NA4321 AND NA4320 (THROUGH SERIAL NO. 43R19503) AND NA3520 AND NA3320

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030

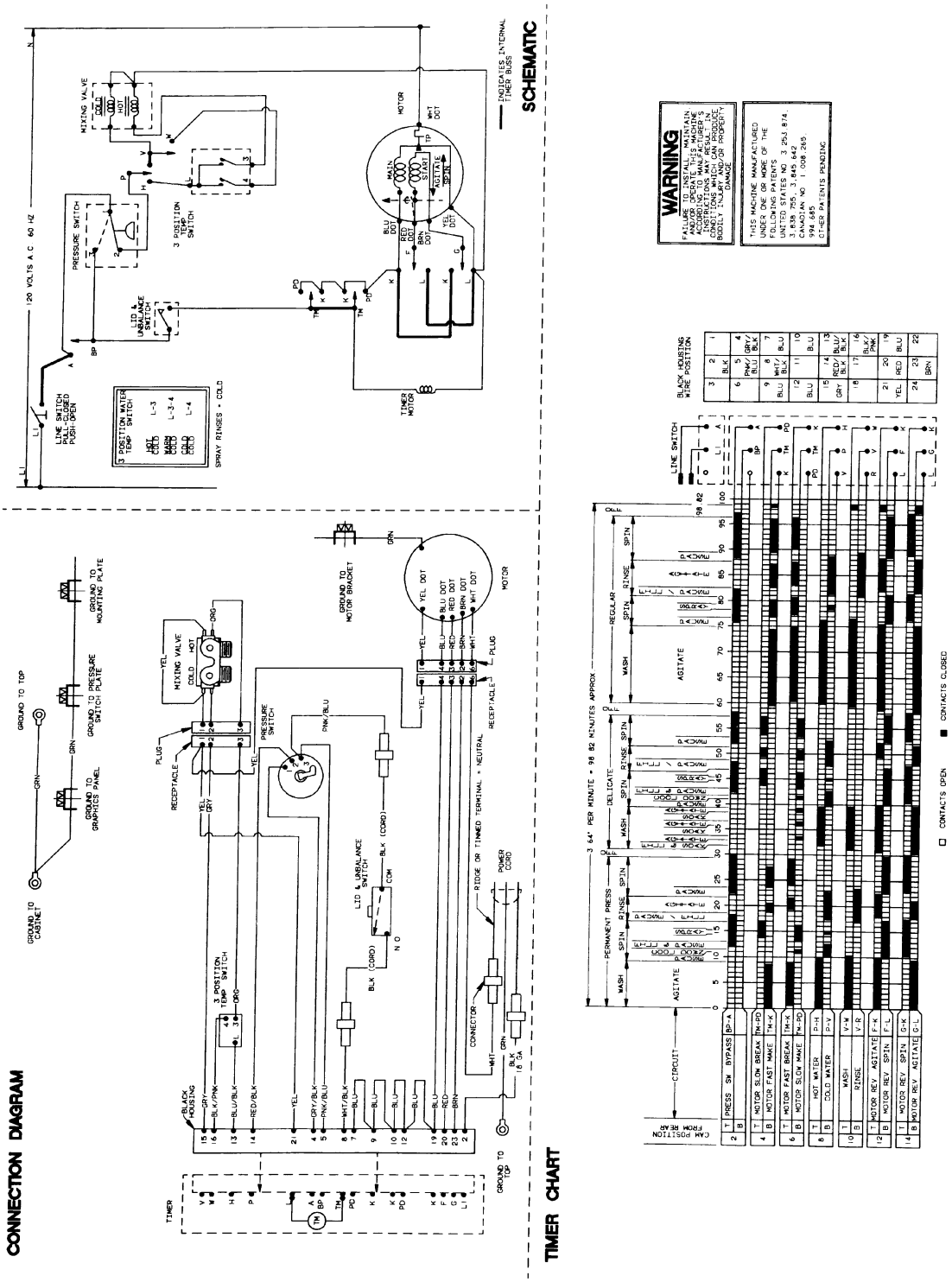


MODELS NA4521, NA4520, NA4321 AND NA4320 (STARTING SERIAL NO. 43R19504) AND AA5121, NA4621, NA4522, NA3520 AND NA3320

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030

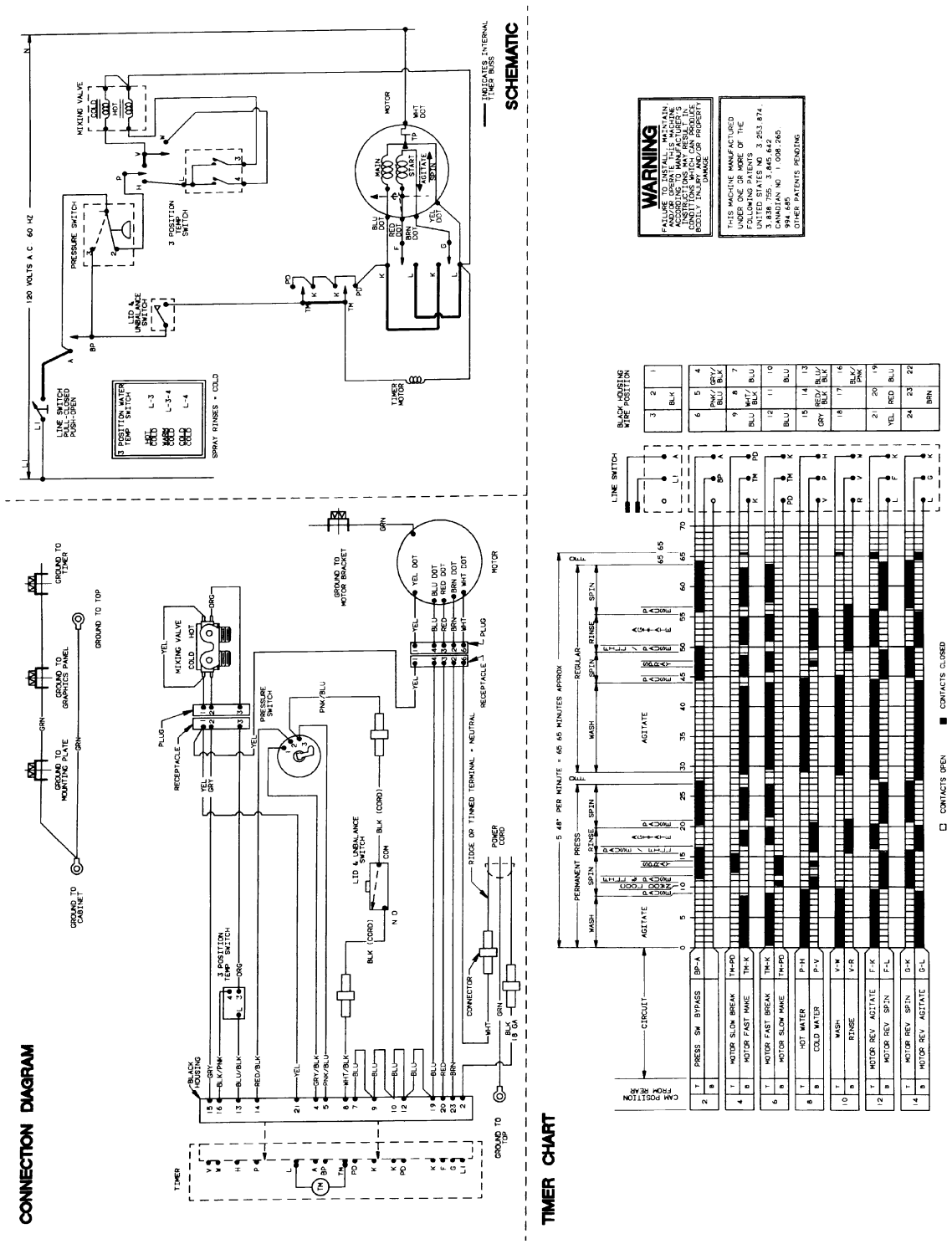


MODELS AA4111, AA4110, NA3612, NA3512, NA3511, NA3510, NA3312, NA3311, NA3310, AA3111 AND AA3110

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030

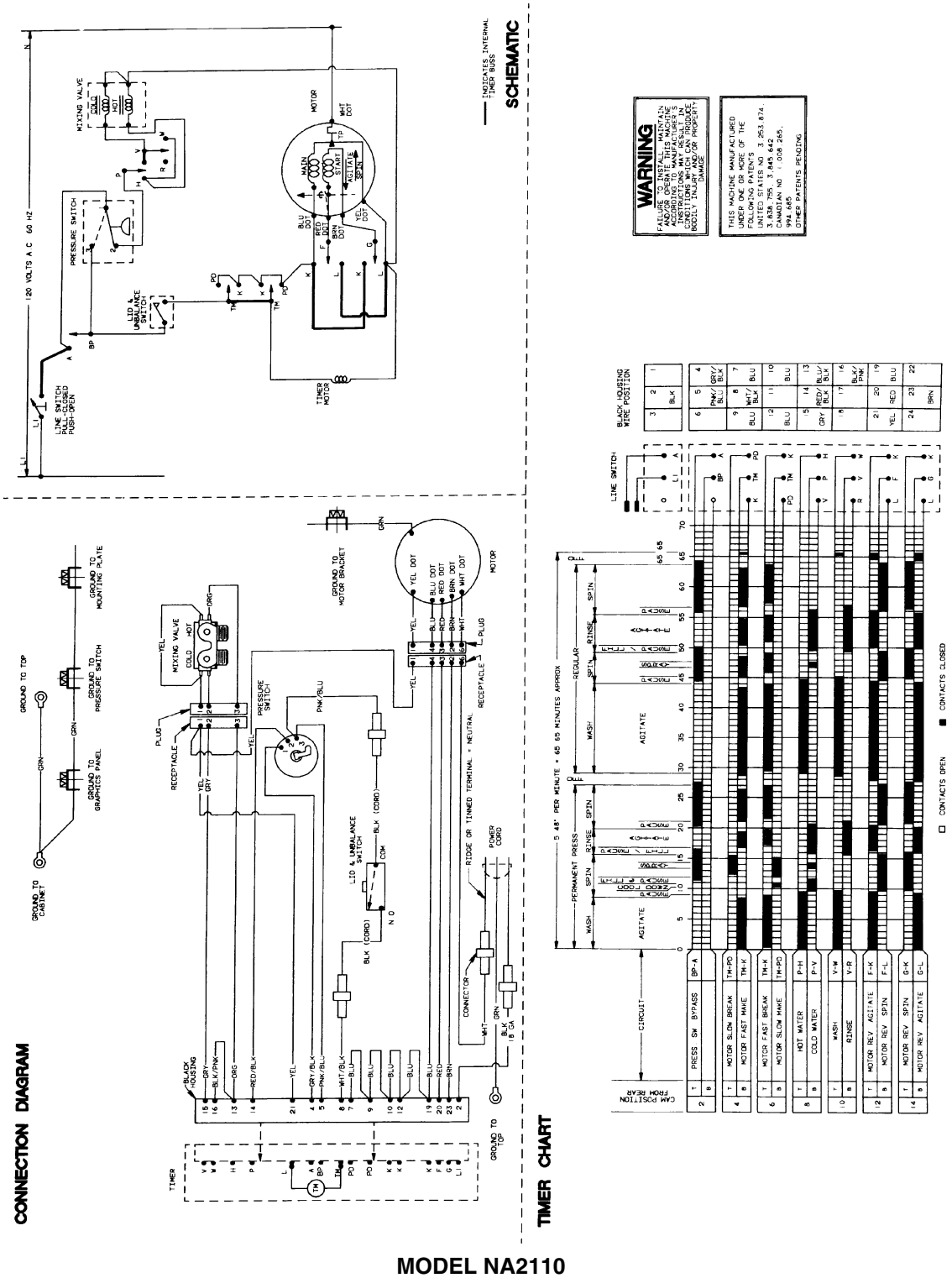


MODELS NA2510 AND NA2310

WARNING

Failure to install, maintain, and/or operate this machine according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.

W030



Notes