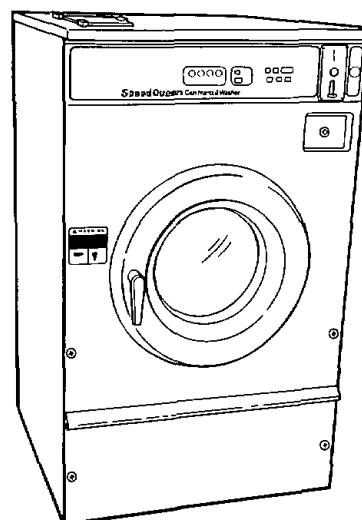


Speed Queen

A **Raytheon** Company

Parts and Service Manual for Washer-Extractors

**Models:
EX325
and EX440**



DX024-PT

Speed Queen
Shepard Street
P.O. Box 990
Ripon, Wisconsin 54971-0990

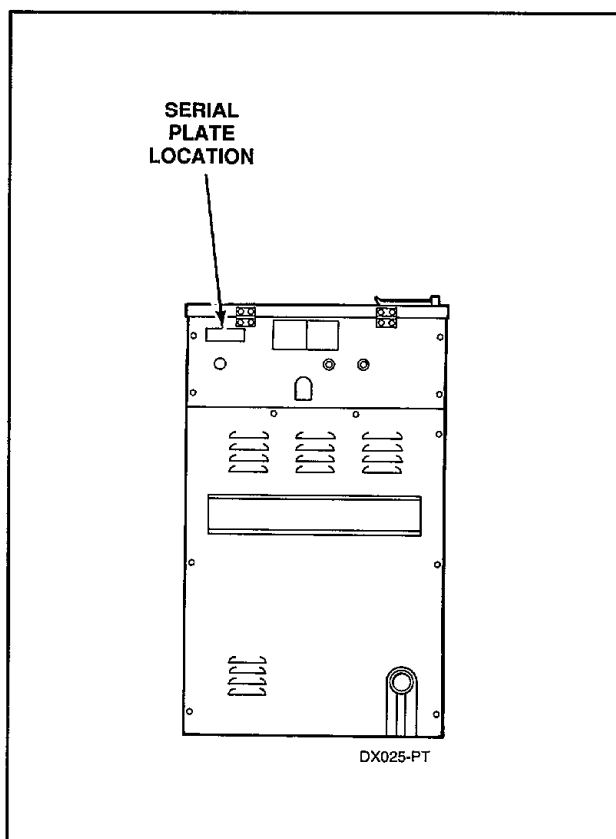
Part No. 93505R1
7/92

▲ WARNING

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

Serial Plate Location

When writing for information on the Washer-Extractor, be sure to mention model and serial numbers. The model and serial numbers will be found as shown below.



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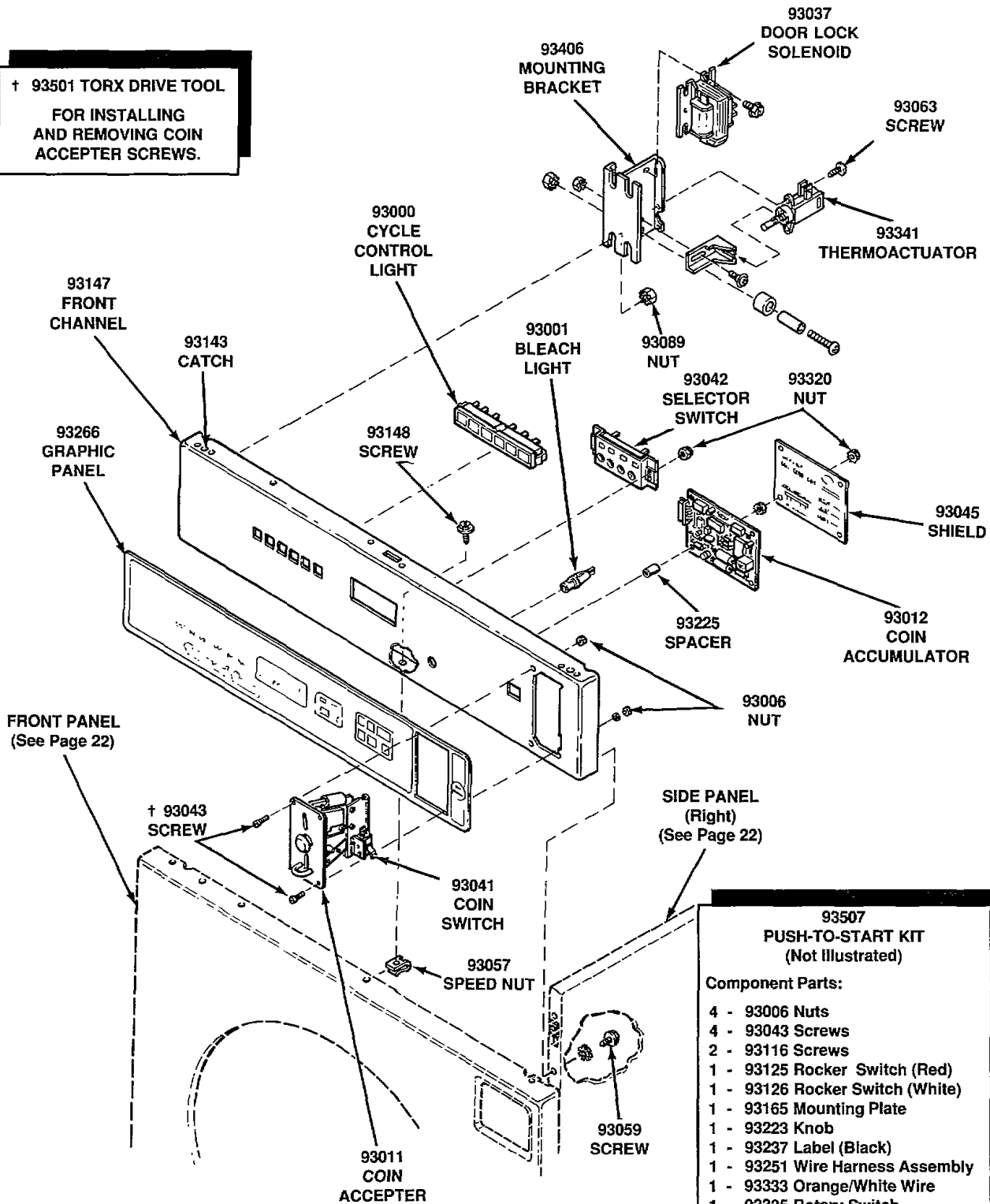
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SECTION I

Parts

† 93501 TORX DRIVE TOOL
FOR INSTALLING
AND REMOVING COIN
ACCEPTER SCREWS.



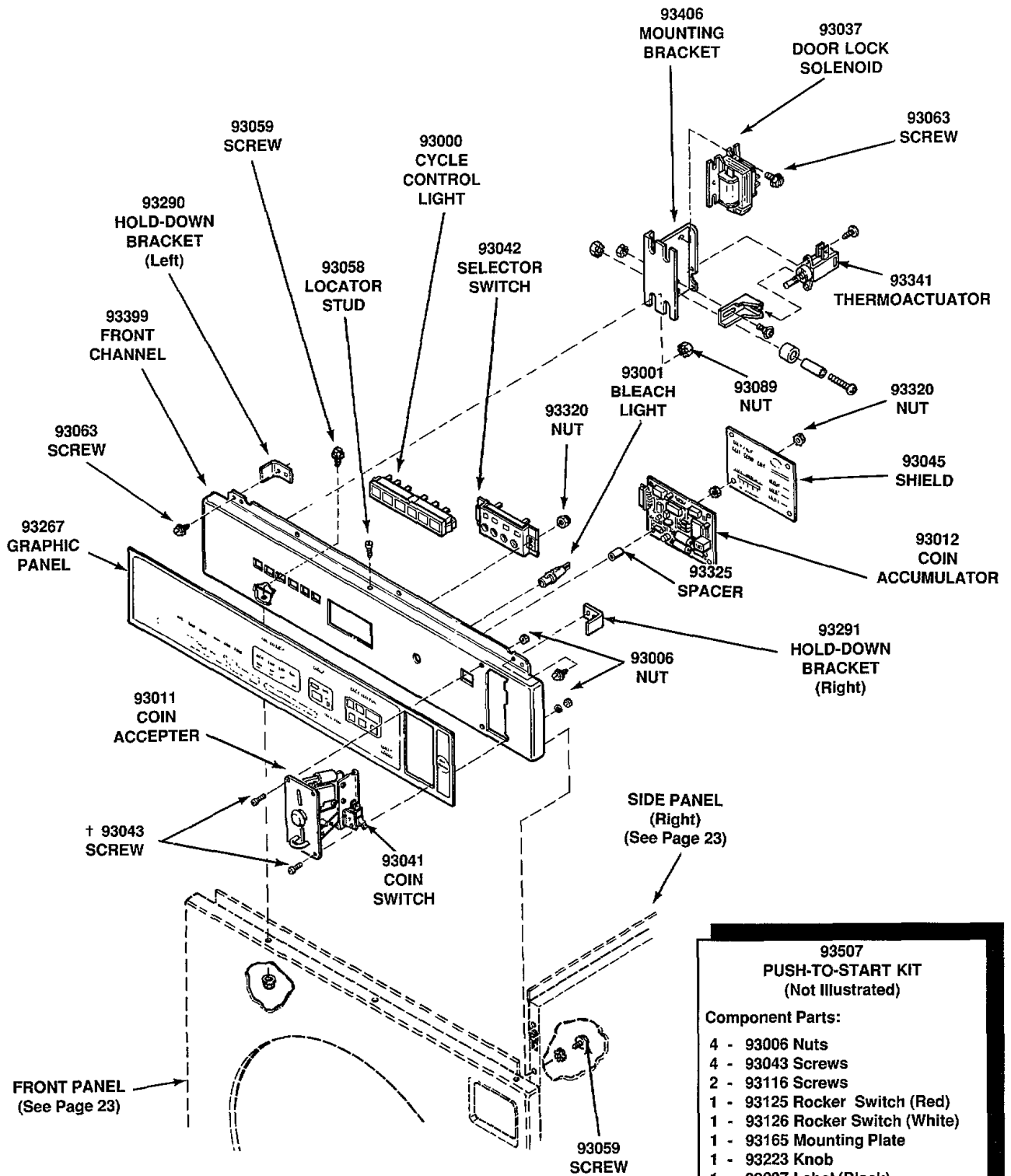
**93507
PUSH-TO-START KIT
(Not Illustrated)**

Component Parts:

- 4 - 93006 Nuts
- 4 - 93043 Screws
- 2 - 93116 Screws
- 1 - 93125 Rocker Switch (Red)
- 1 - 93126 Rocker Switch (White)
- 1 - 93165 Mounting Plate
- 1 - 93223 Knob
- 1 - 93237 Label (Black)
- 1 - 93251 Wire Harness Assembly
- 1 - 93333 Orange/White Wire
- 1 - 93335 Rotary Switch
- 1 - 93389 Label (Cocoa)

**GRAPHIC PANEL AND CONTROLS
(Model EX325)**

DX027-PT

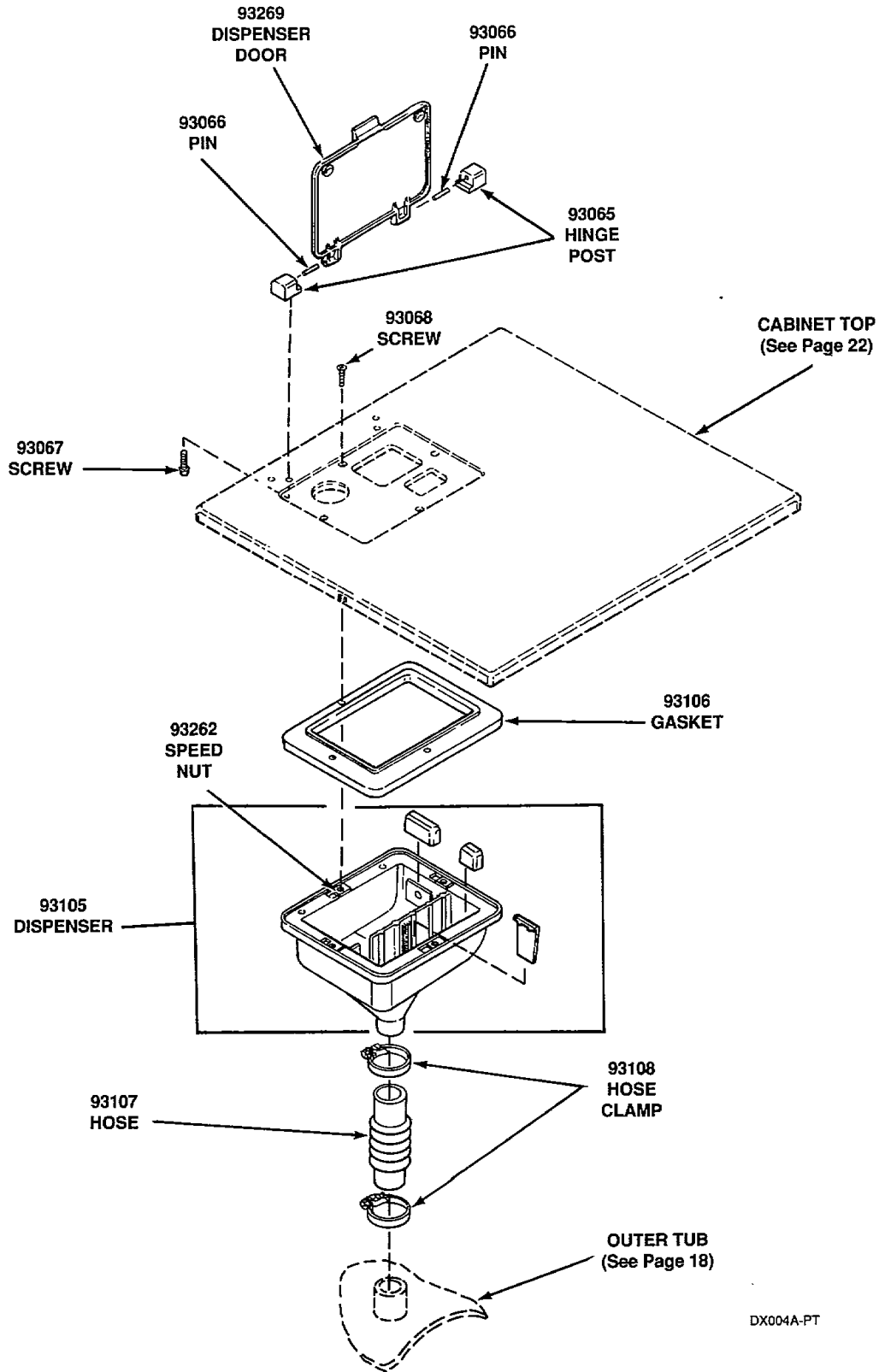


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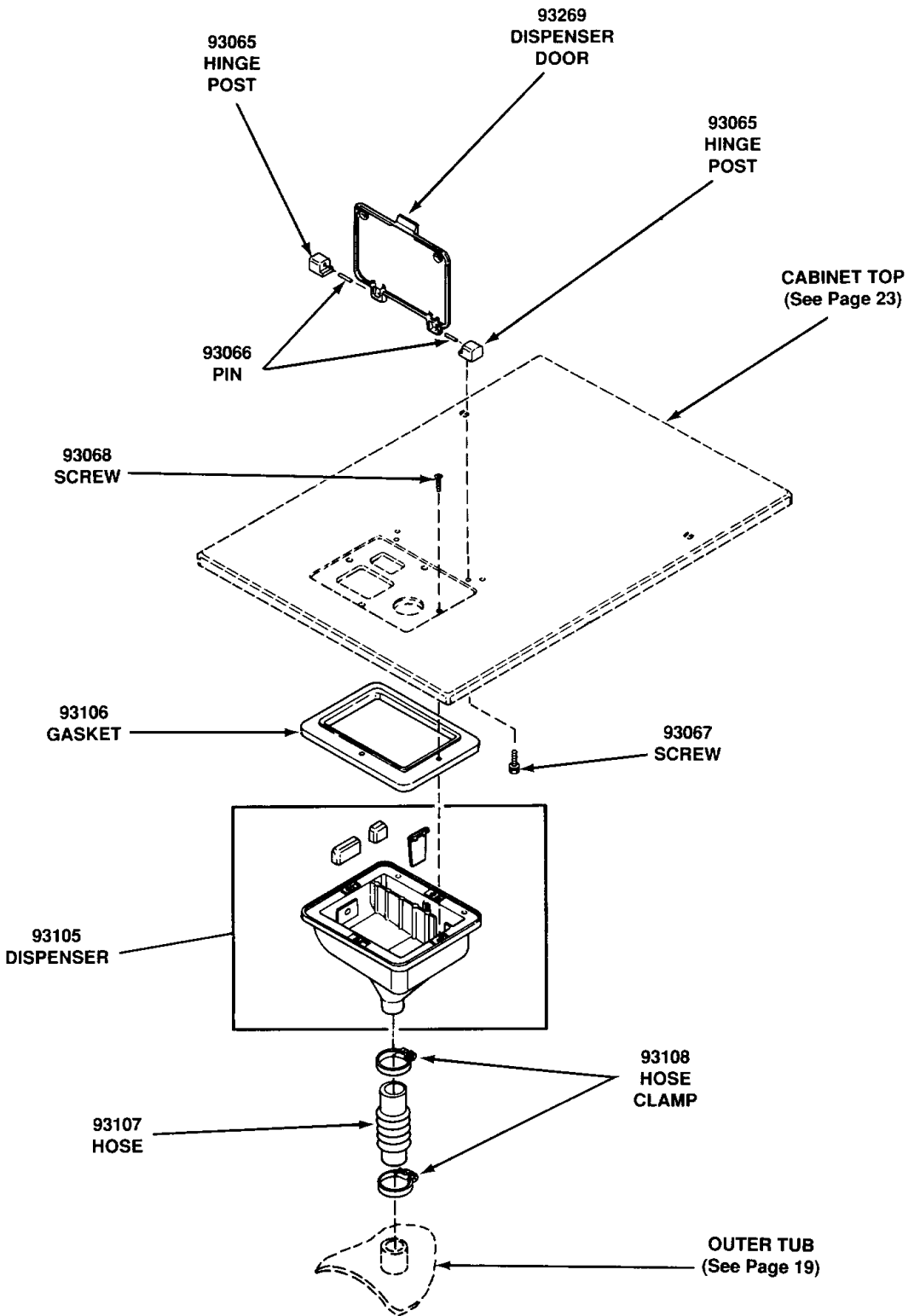
**GRAPHIC PANEL AND CONTROLS
(Model EX440)**

DX028-PT



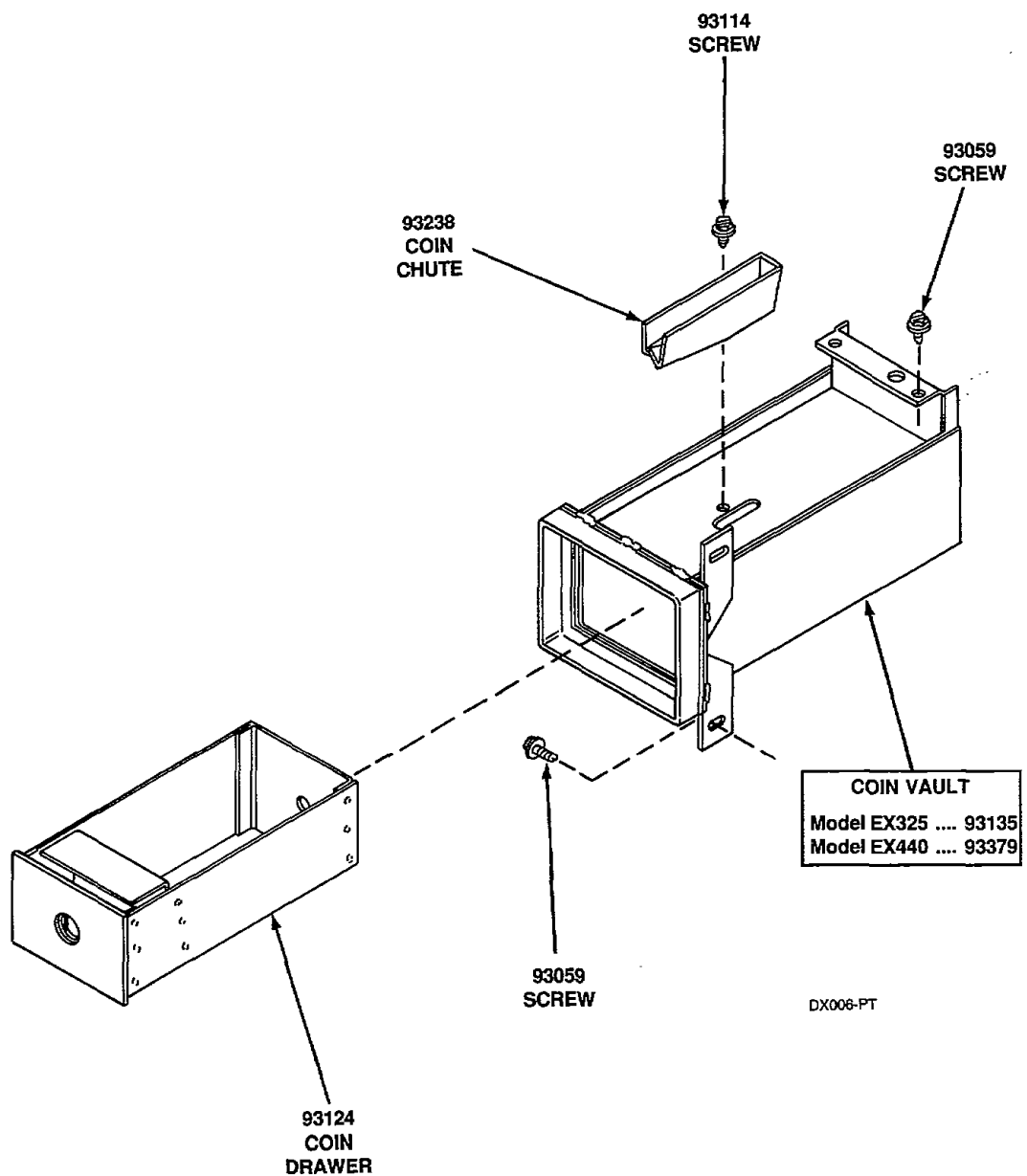
DX004A-PT

**DISPENSER
(Model EX325)**

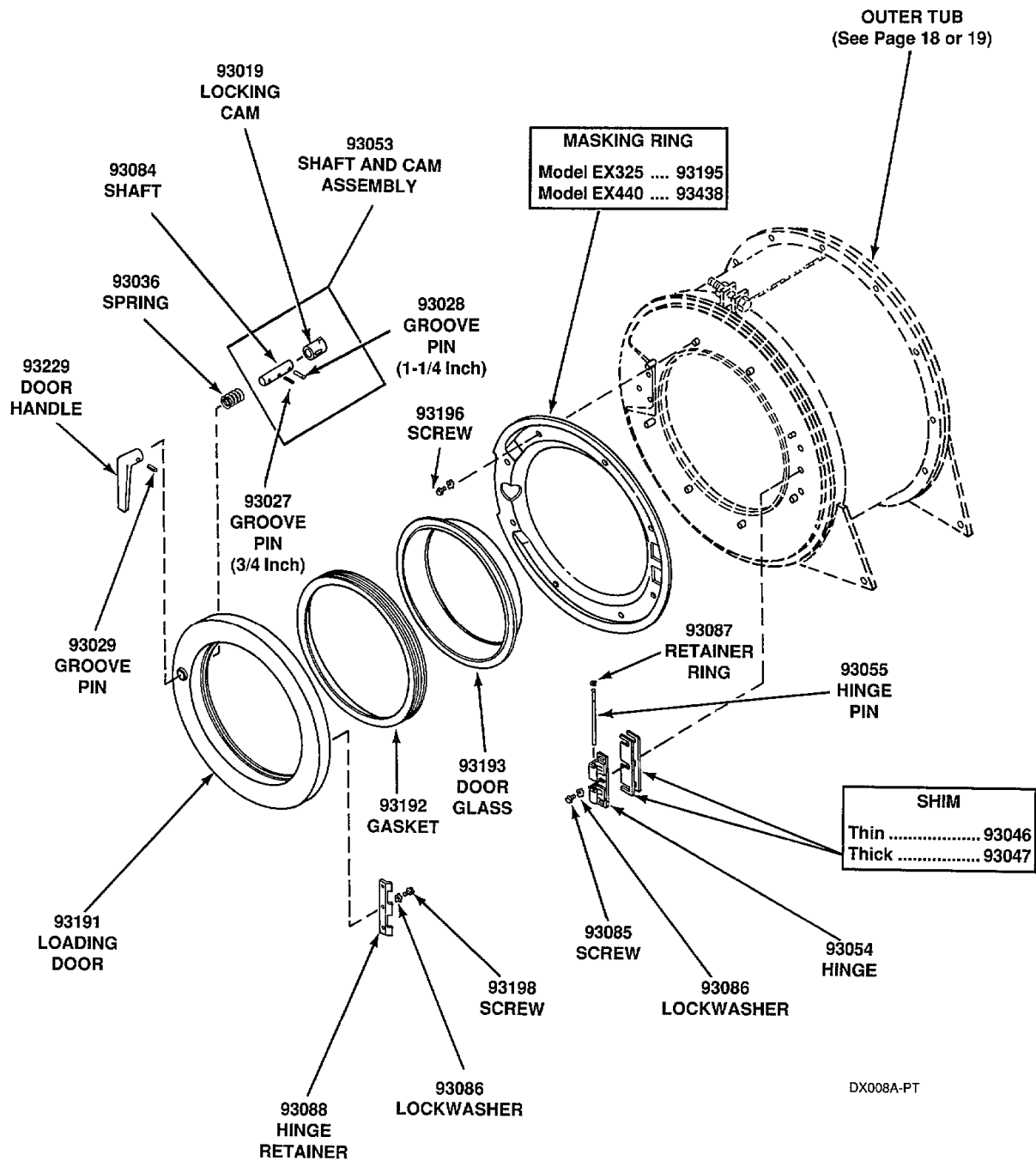


DX029-PT

**DISPENSER
(Model EX440)**

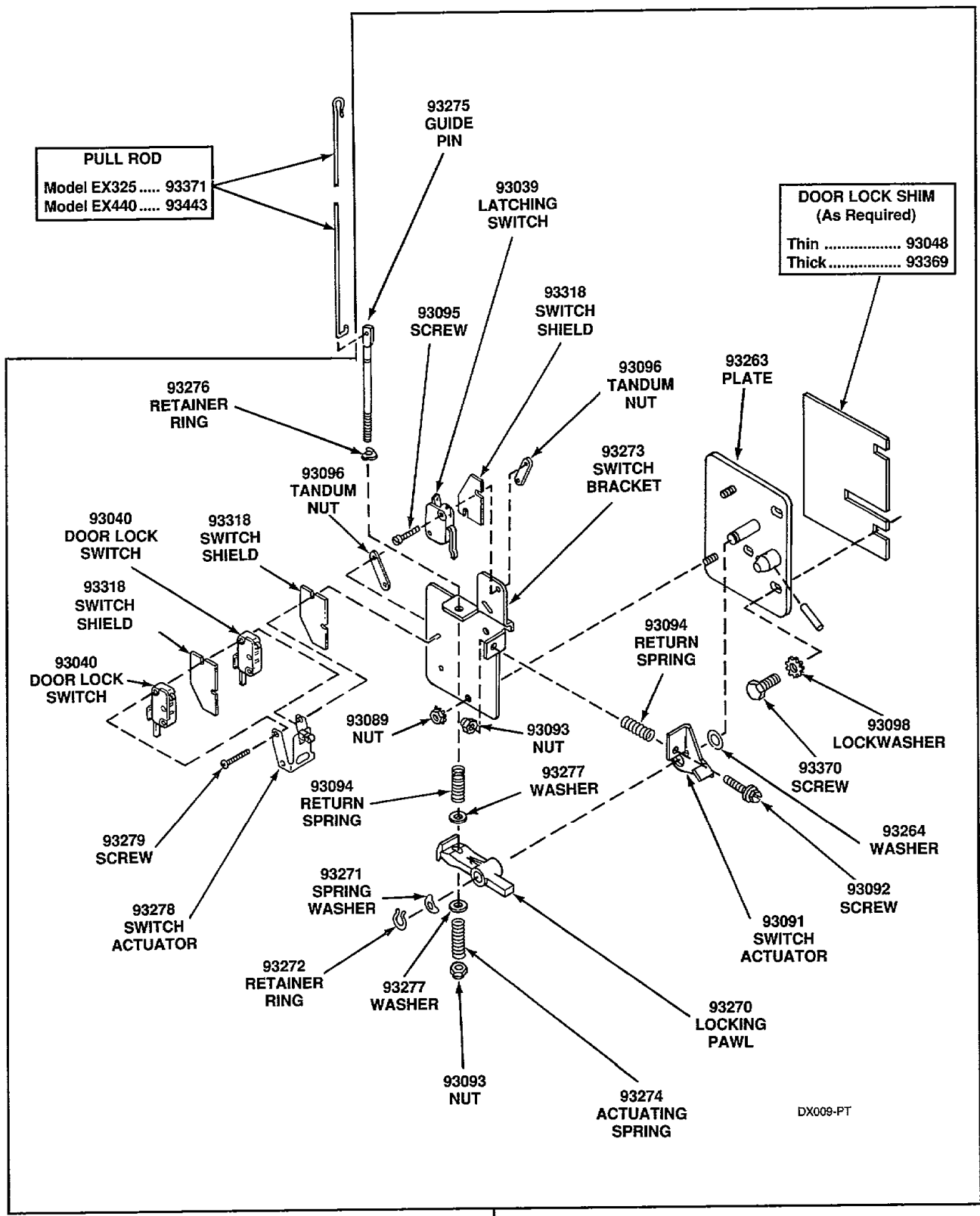


COIN VAULT AND DRAWER



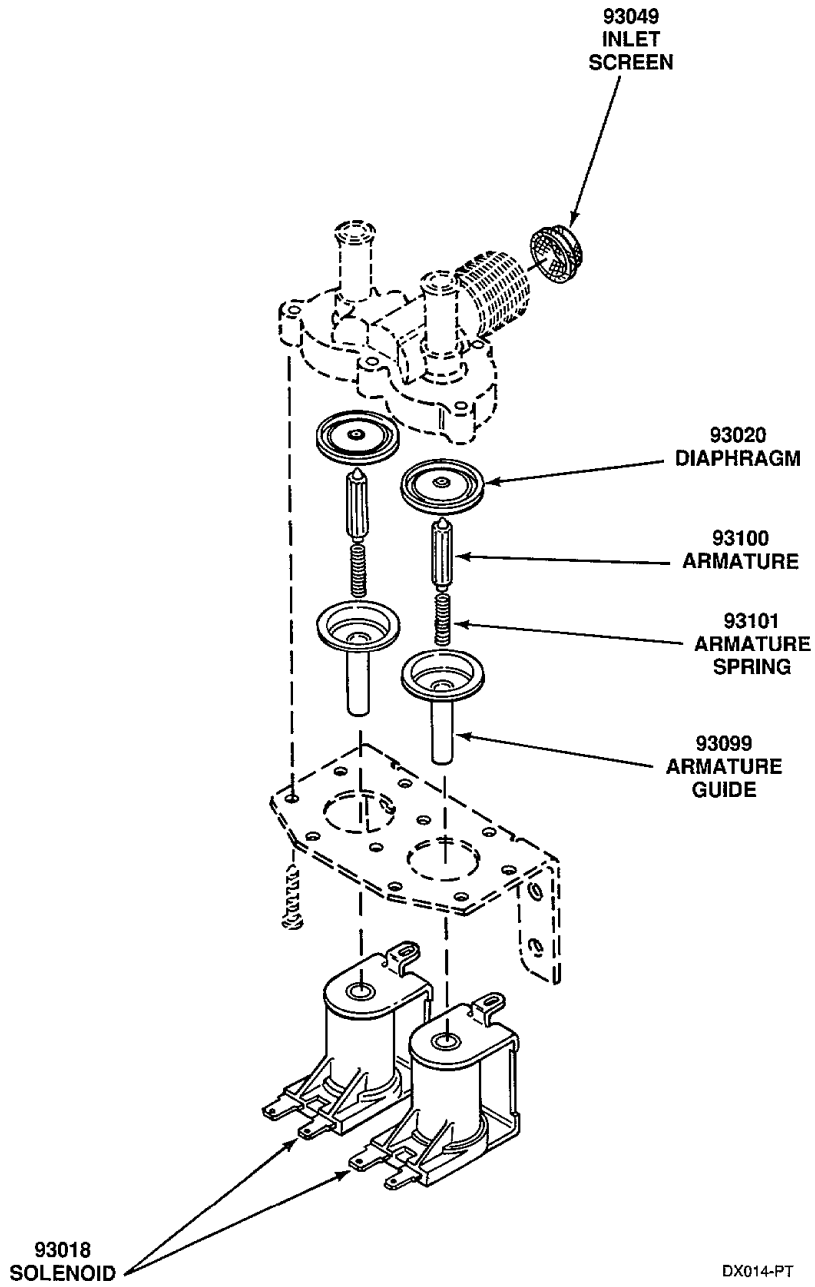
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93343 LOADING DOOR ASSEMBLY

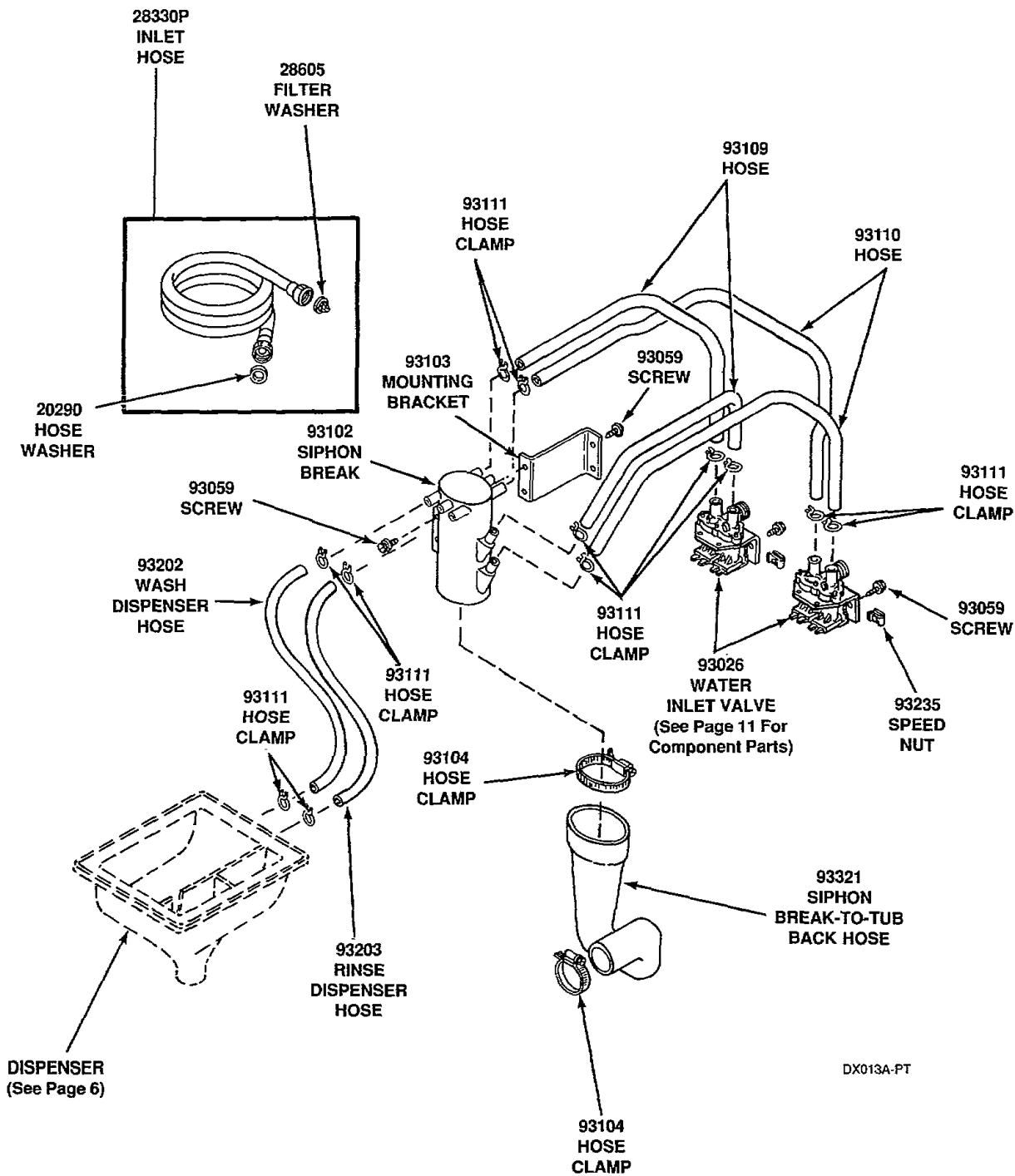


93090
 DOOR LOCK
 ASSEMBLY

DOOR LOCK ASSEMBLY

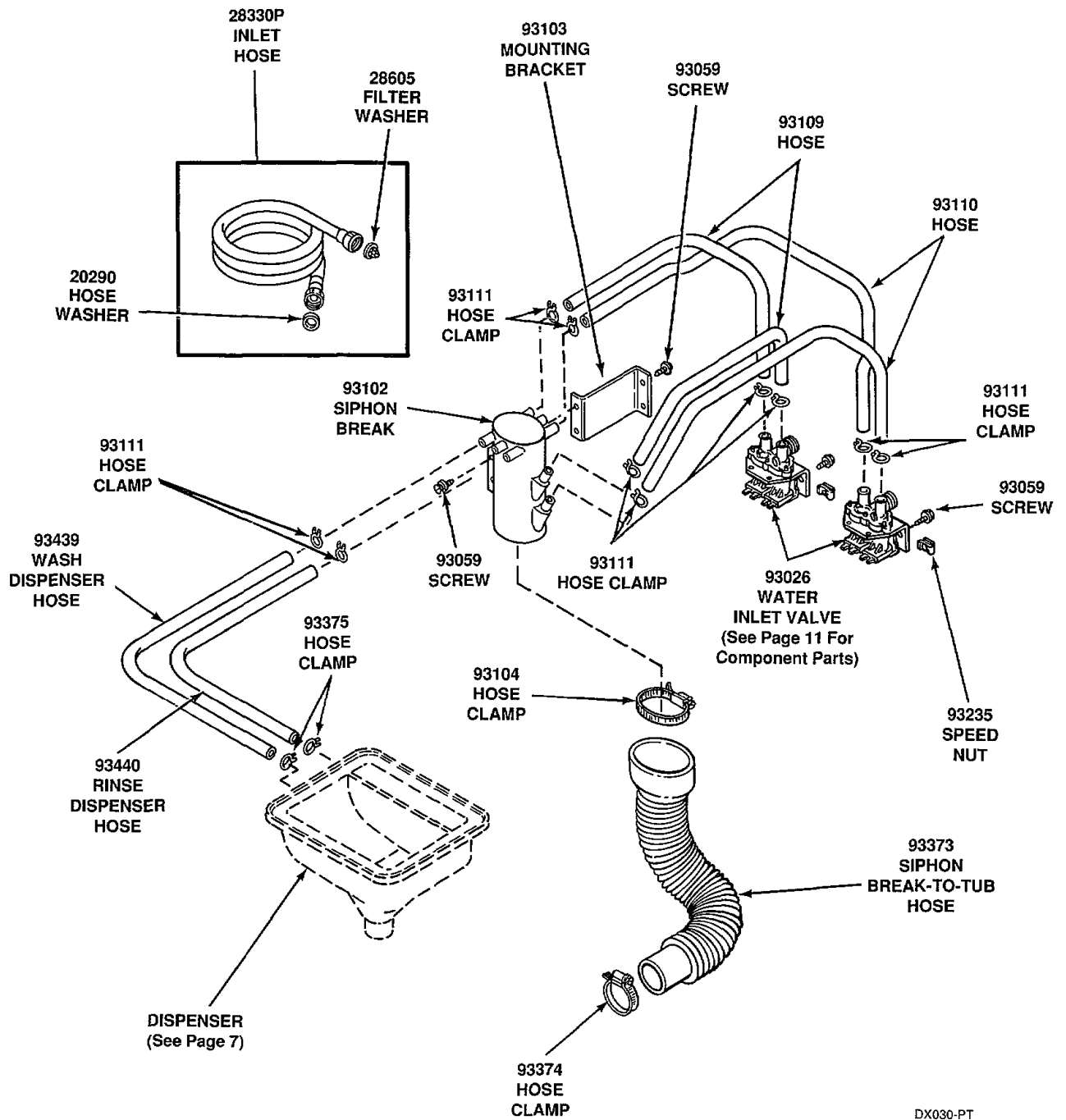


93026 WATER INLET VALVE



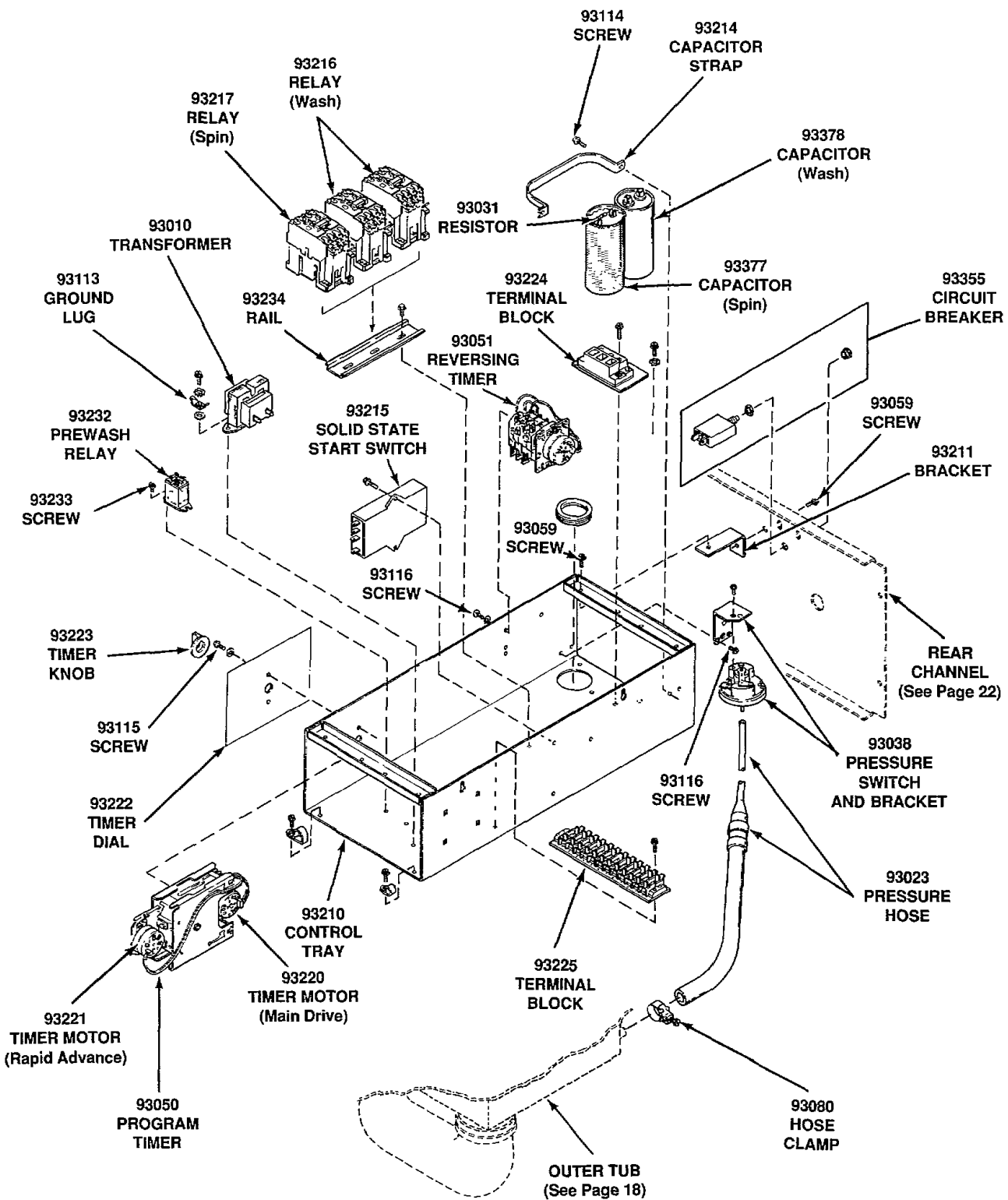
DX013A-PT

**WATER INLET VALVES, SIPHON BREAK AND HOSES
(Model EX325)**



DX030-PT

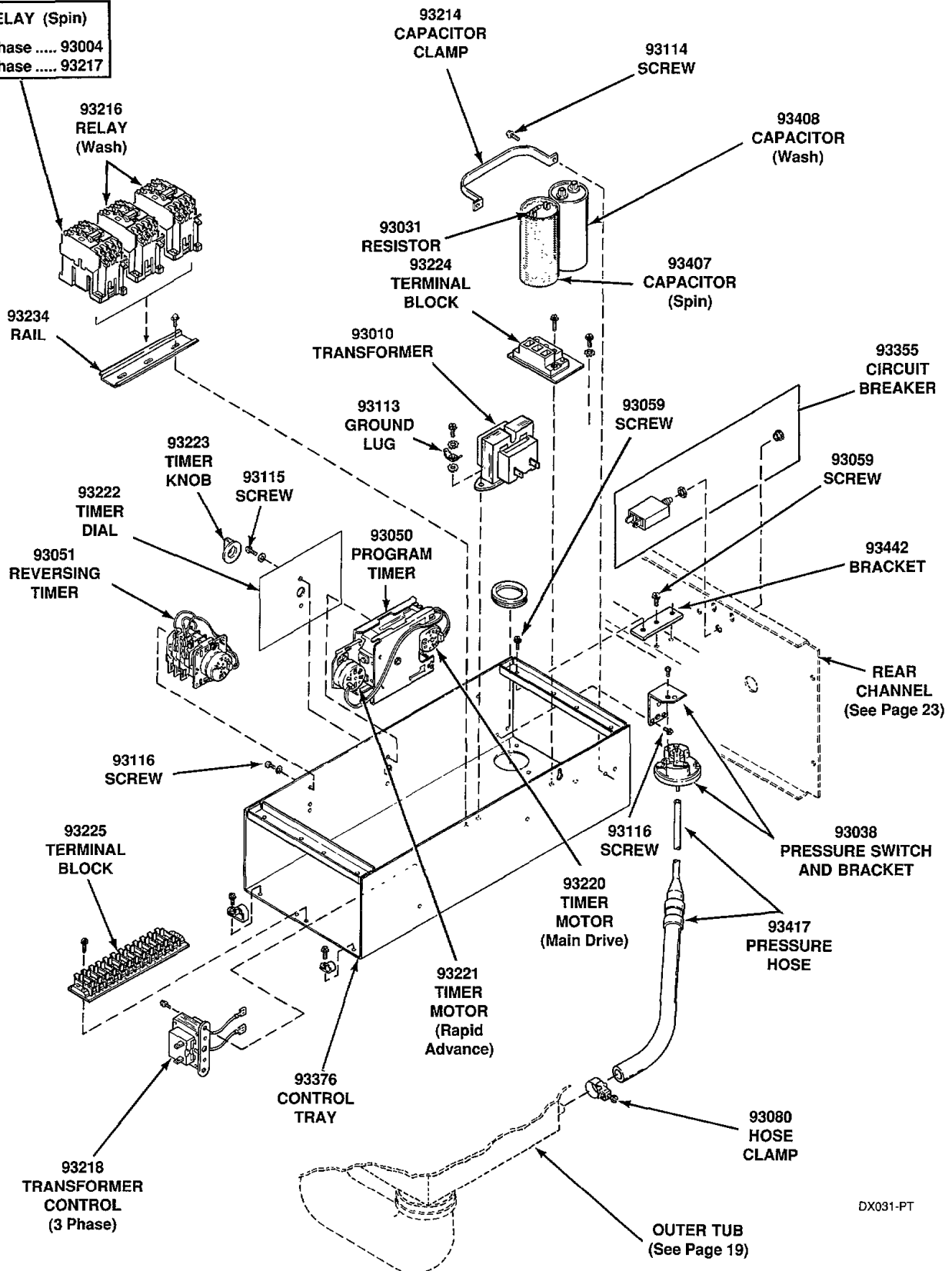
**WATER INLET VALVES, SIPHON BREAK AND HOSES
(Model EX440)**



DX011A-PT

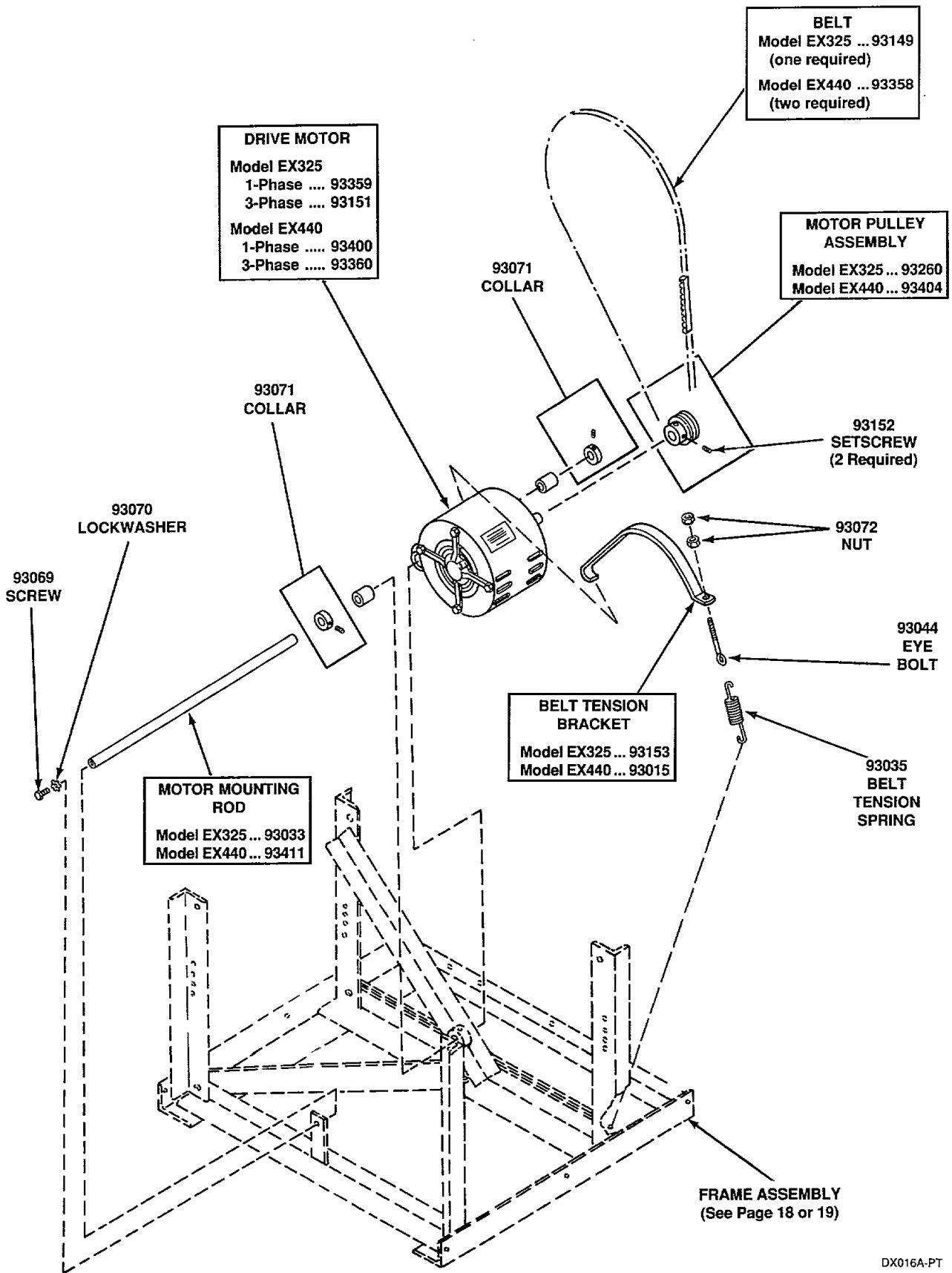
**CAPACITORS, TIMERS, RELAYS AND PRESSURE SWITCH
(Model EX325)**

RELAY (Spin)
 1-Phase 93004
 3-Phase 93217



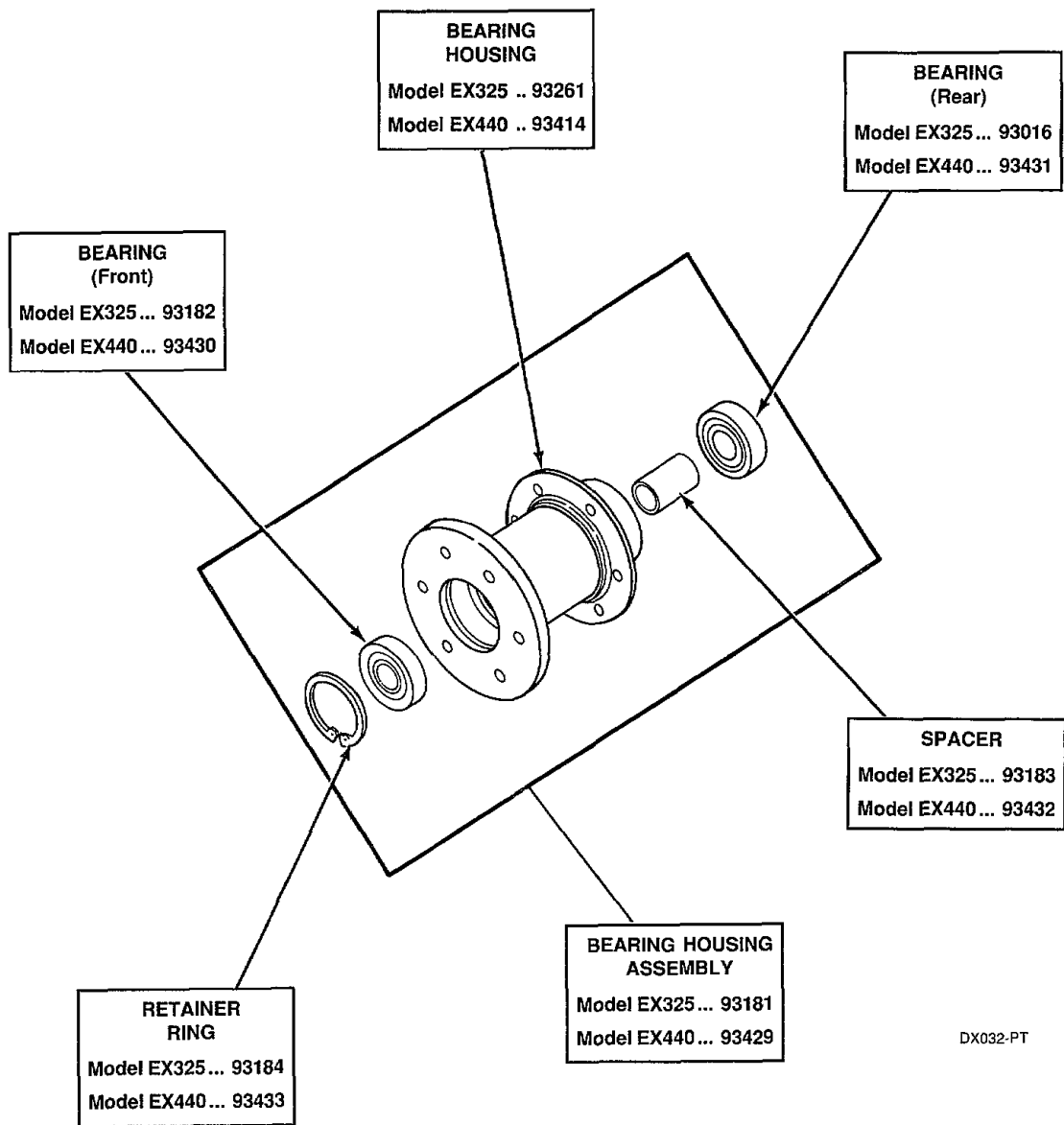
**CAPACITORS, TIMERS, RELAYS AND PRESSURE SWITCH
 (Model EX440)**

DX031-PT



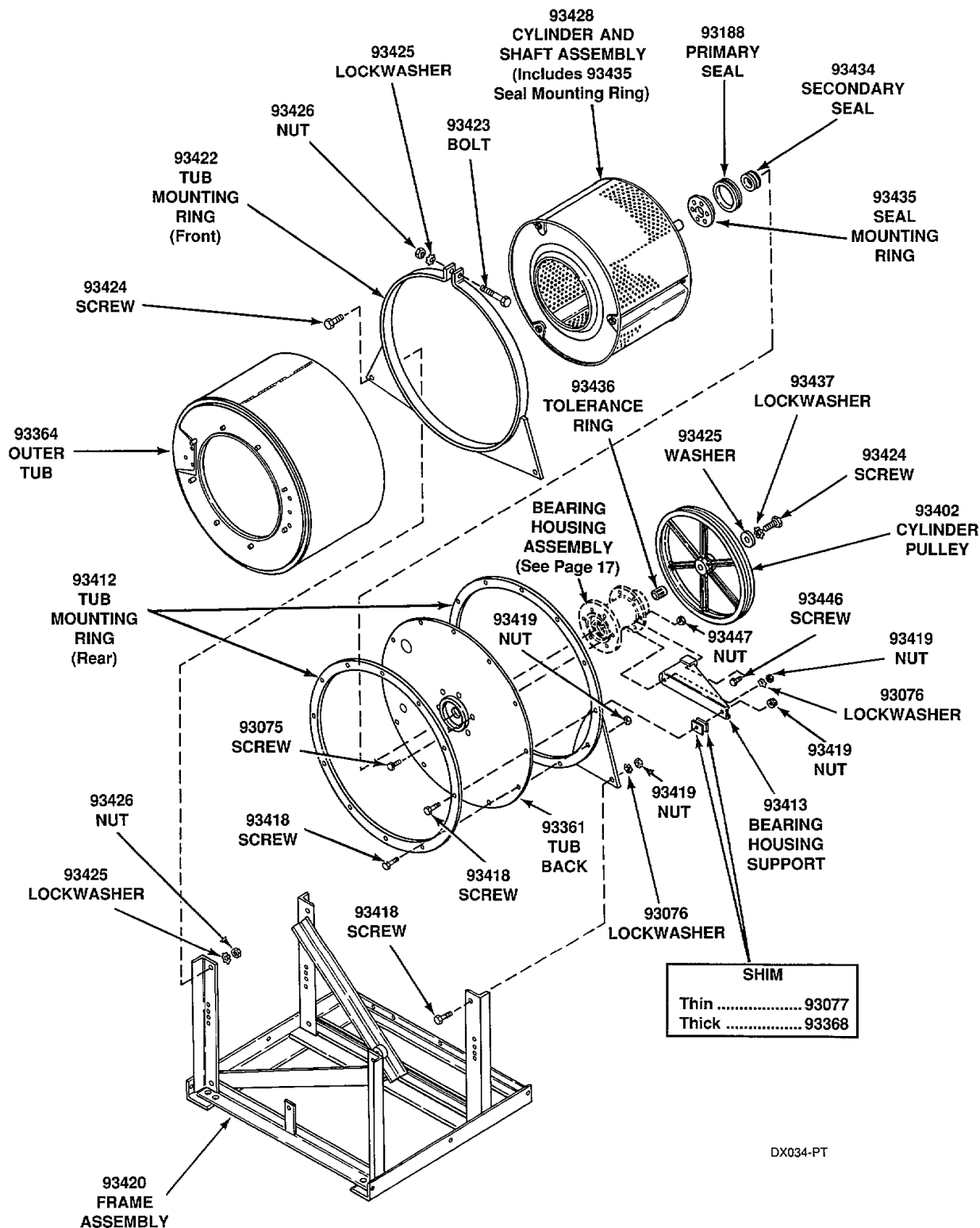
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DRIVE MOTOR AND BELT



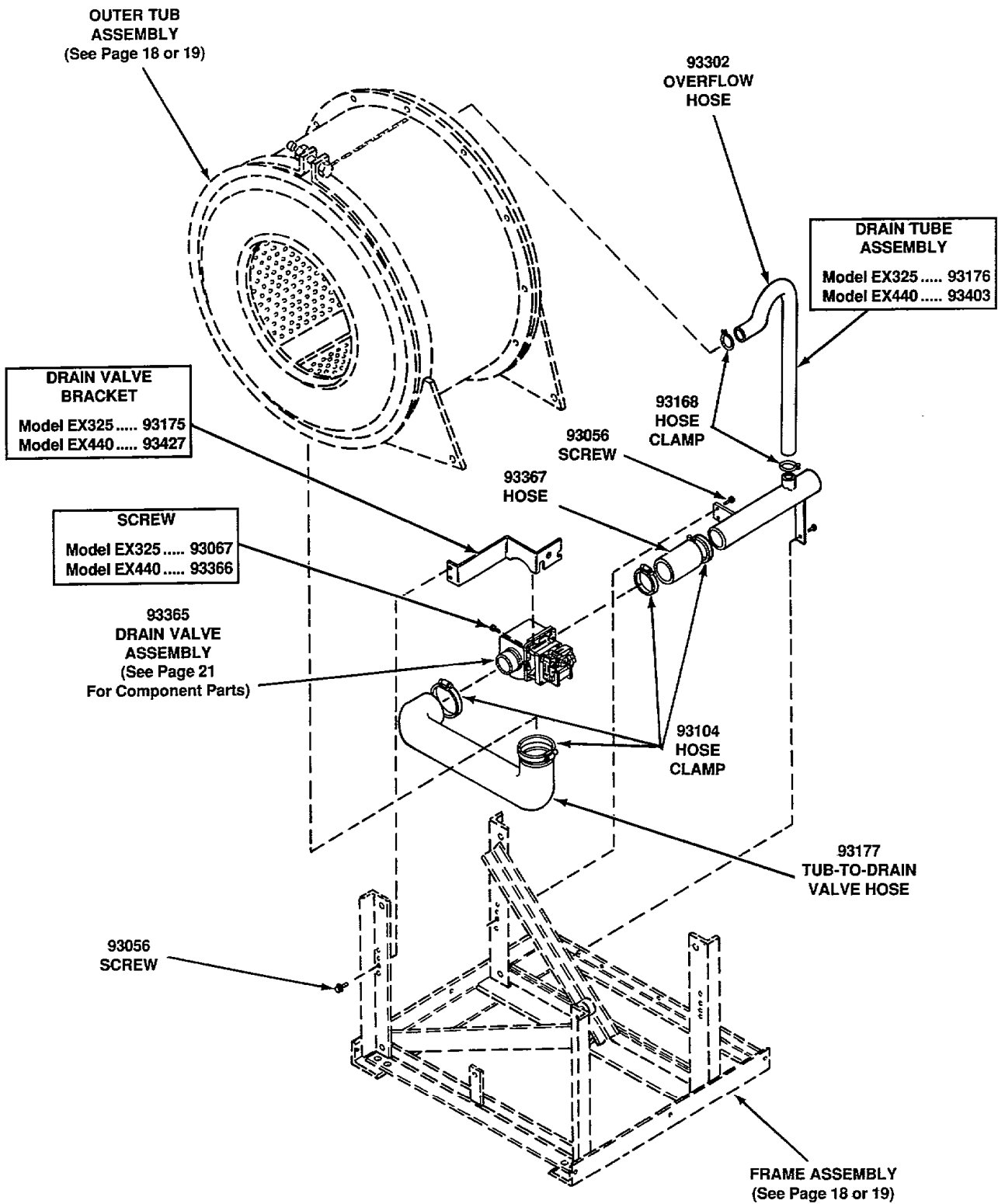
DX032-PT

BEARING HOUSING ASSEMBLY



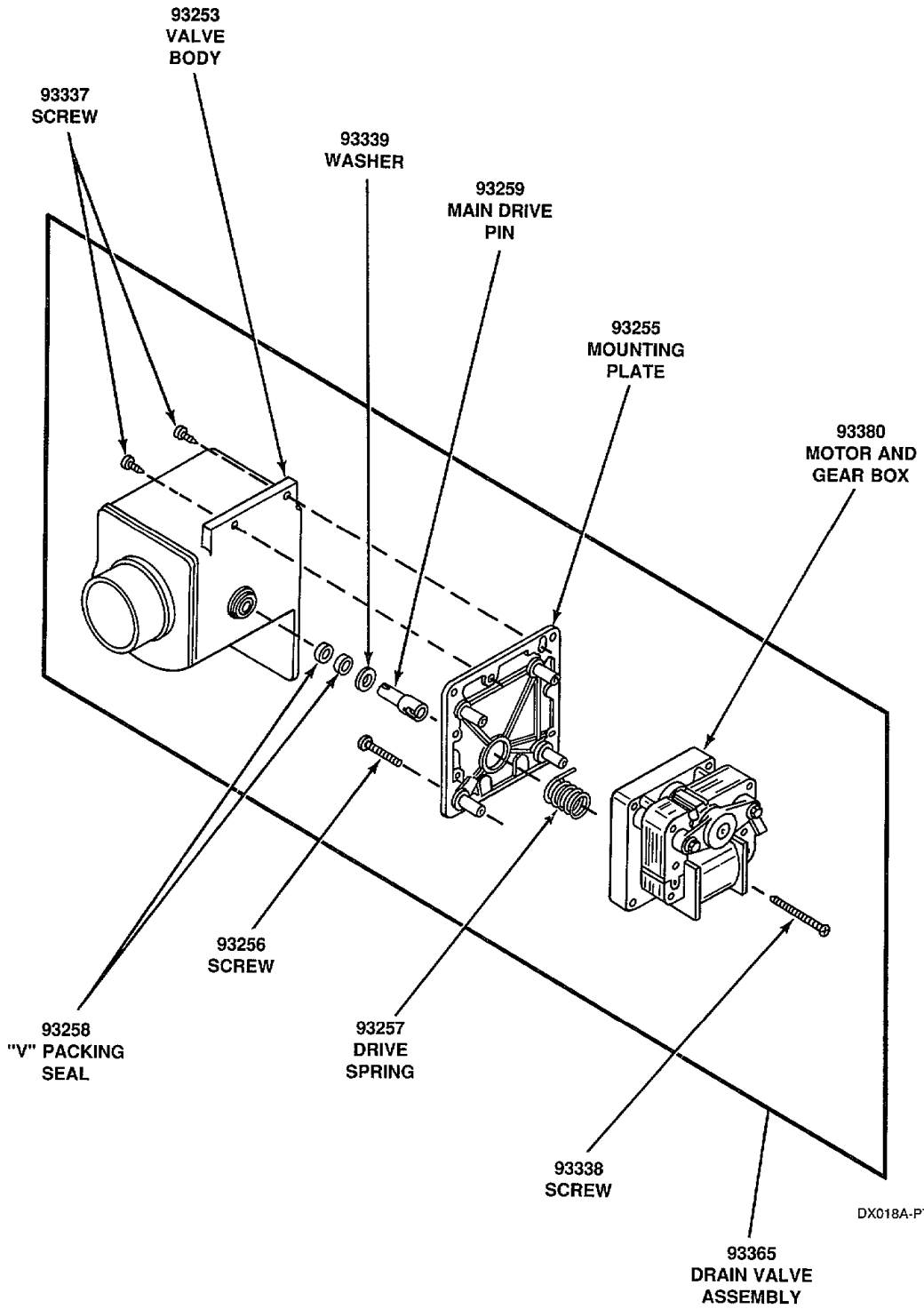
DX034-PT

**OUTER TUB, CYLINDER, TUB BACK, PULLEY AND FRAME ASSEMBLY
(Model EX440)**



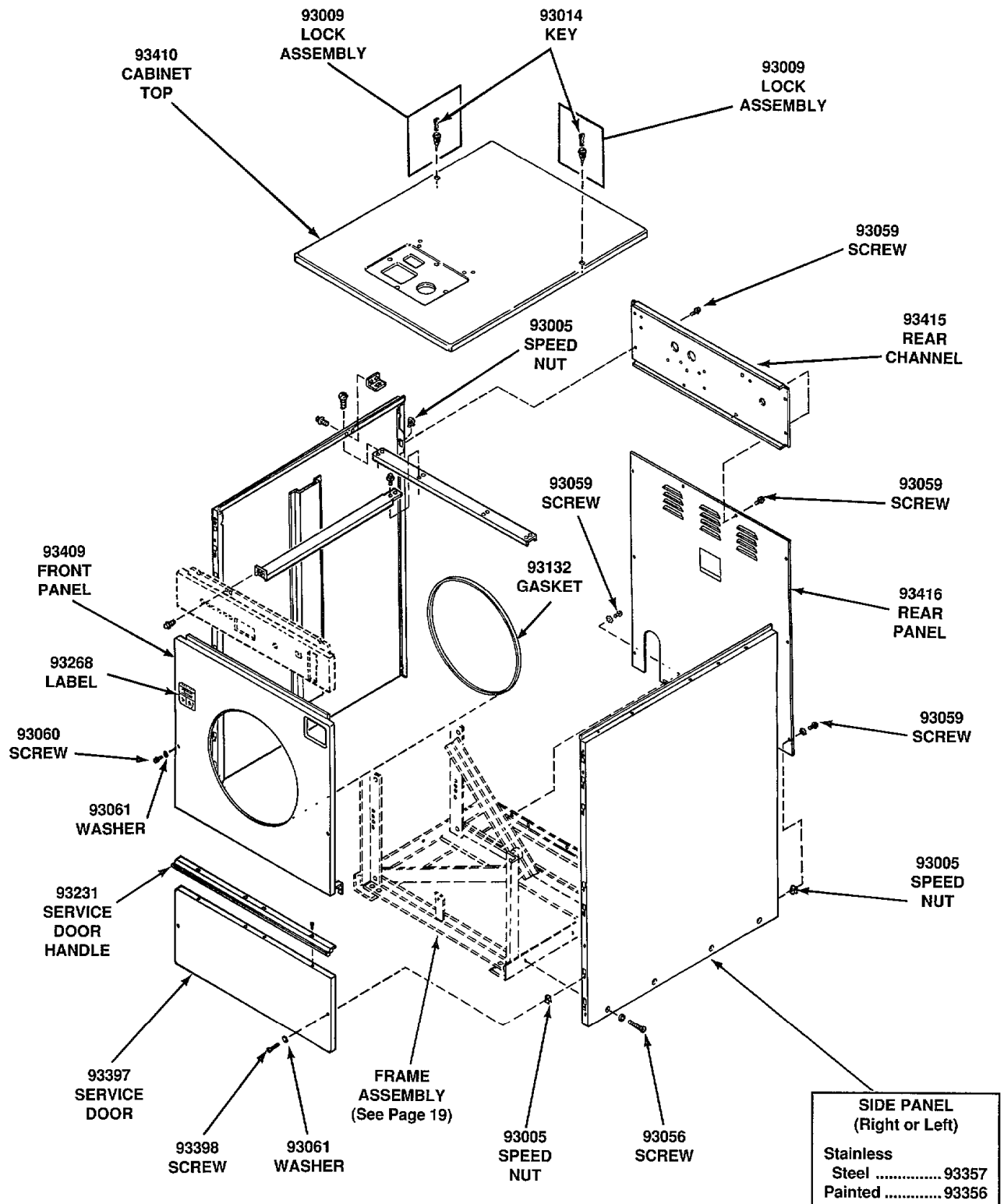
DX017A-PT

DRAIN VALVE ASSEMBLY AND HOSES



DX018A-PT

DRAIN VALVE ASSEMBLY

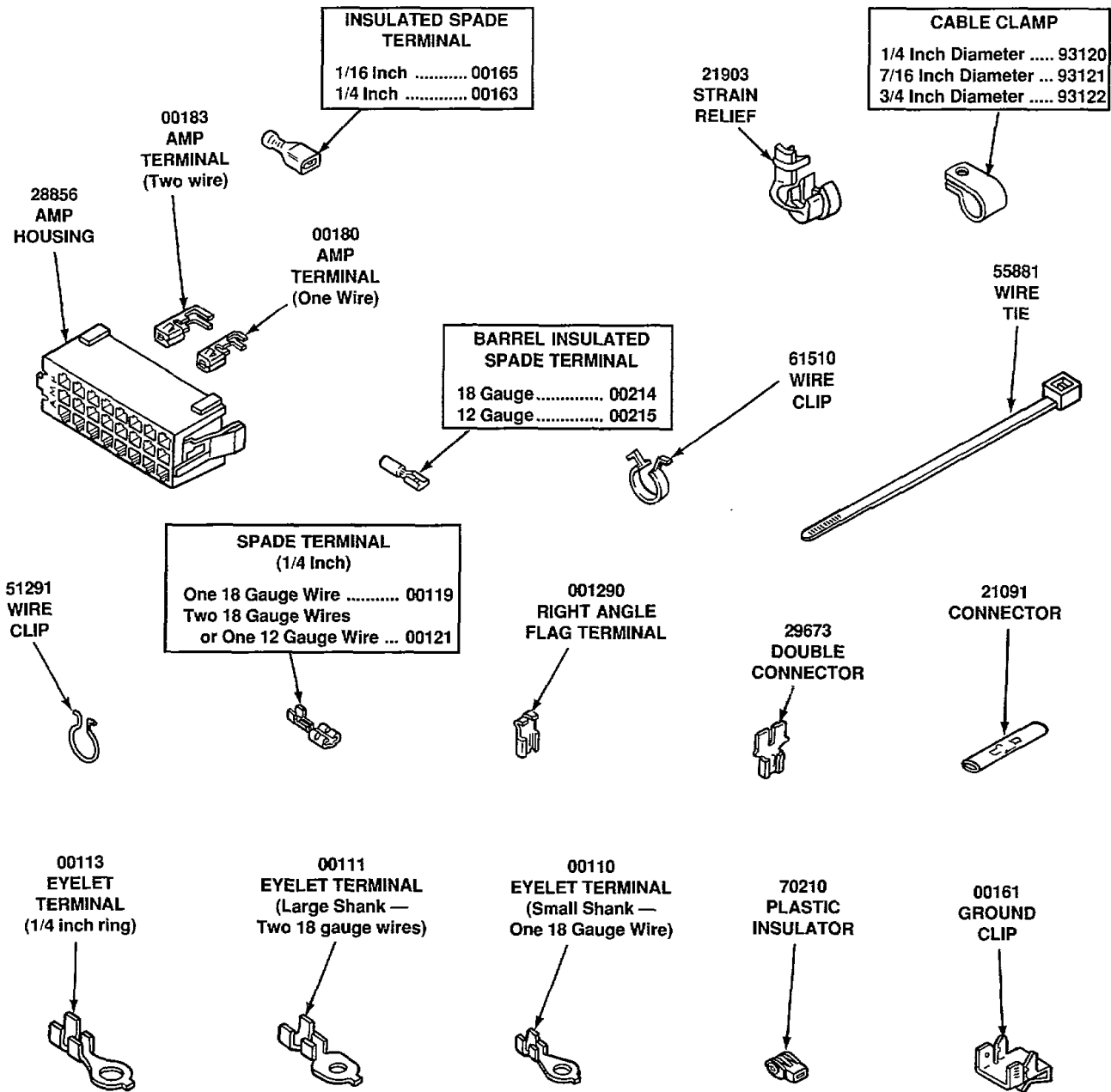


▲ WARNING

All guards and/or panels MUST be installed before operating the washer.

**PANELS
(Model EX440)**

DX036-PT



DX037-PT

INDIVIDUAL WIRES NOT AVAILABLE SEPARATELY. ORDER COMPLETE WIRE HARNESSES LISTED BELOW OR ORDER WIRE BY THE FOOT. SEE PAGE 25.

MAIN WIRE HARNESS	93381
CONTROL WIRE HARNESS	93382
COIN ACCUMULATOR WIRE HARNESS	93383
DRAIN VALVE WIRE HARNESS	93384

WIRE HARNESSES AND TERMINALS

Order the individual wire color and gauge by the part number listed below. Order wire by the foot and terminals and connectors as required. It is recommended when applying terminals to wires that the terminals be soldered to the wires.

IMPORTANT: Always replace wires with proper gauge.

Part Number	Wire Gauge	Wire Color
45000	18 Gauge Wire	White
45001	18 Gauge Wire	Black
45002	18 Gauge Wire	Red
45003	18 Gauge Wire	Brown
45004	18 Gauge Wire	Pink
45006	18 Gauge Wire	Blue
45007	18 Gauge Wire	Gray
45008	18 Gauge Wire	Yellow
45010	18 Gauge Wire	White / Black
45011	18 Gauge Wire	White / Red
45015	18 Gauge Wire	White / Blue
45022	18 Gauge Wire	Black / Pink
45035	18 Gauge Wire	Red / Yellow
45060	18 Gauge Wire	Orange / Blue
45065	18 Gauge Wire	Blue / Black
45074	18 Gauge Wire	Gray / Black
45080	18 Gauge Wire	Gray / Yellow
45088	18 Gauge Wire	Yellow / Blue
45100	18 Gauge Wire	Green
45250	14 Gauge Wire	White
45333	14 Gauge Wire	Yellow / Black
45376	12 Gauge Wire	Black
45378	12 Gauge Wire	Brown
45380	12 Gauge Wire	Orange
45381	12 Gauge Wire	Blue
45383	12 Gauge Wire	Yellow
45431	12 Gauge Wire	Orange / Black

SECTION II

Service Procedures

▲ WARNING

To reduce the risk of an electric shock and/or severe personal injury, disconnect electrical power and close water supply valves before servicing washer.

▲ WARNING

To reduce the risk of severe personal injury, never energize the electrical power to the washer with any guards and/or panels removed.

▲ WARNING

Do not repair or replace any part of the washer or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that you understand and have the skills to carry out.

Whenever ground wires are removed during servicing, those ground wires must be reconnected to ensure that the washer is properly grounded and to reduce the risk of fire, electric shock, or severe personal injury.

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

1. CABINET TOP

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.

Model EX440 — Insert key into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide forward far enough to release top from the two front hold-down brackets. Set top out of the way.

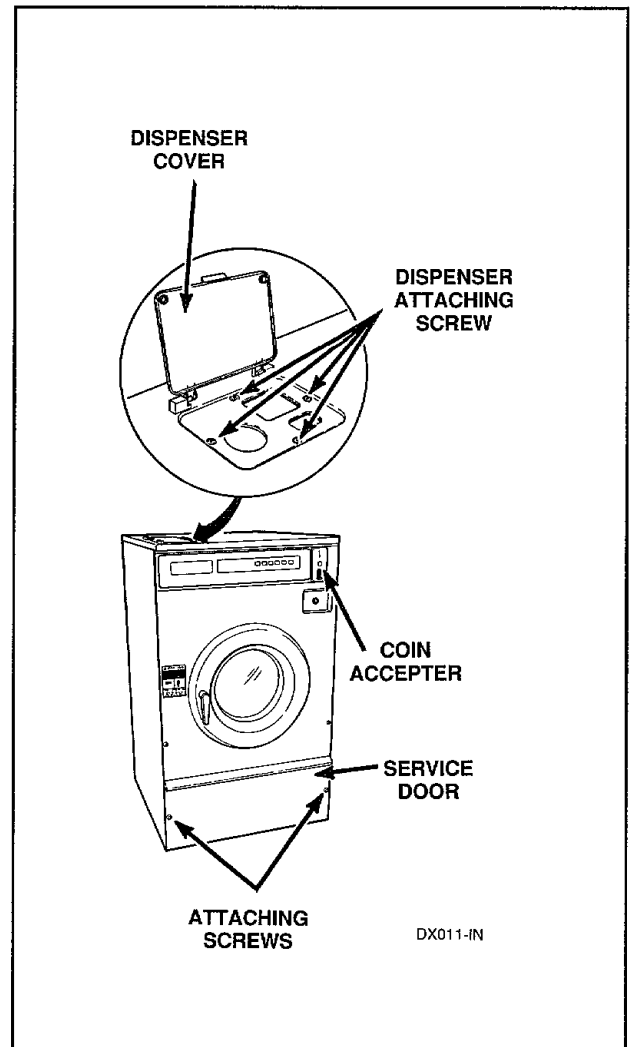


Figure 1

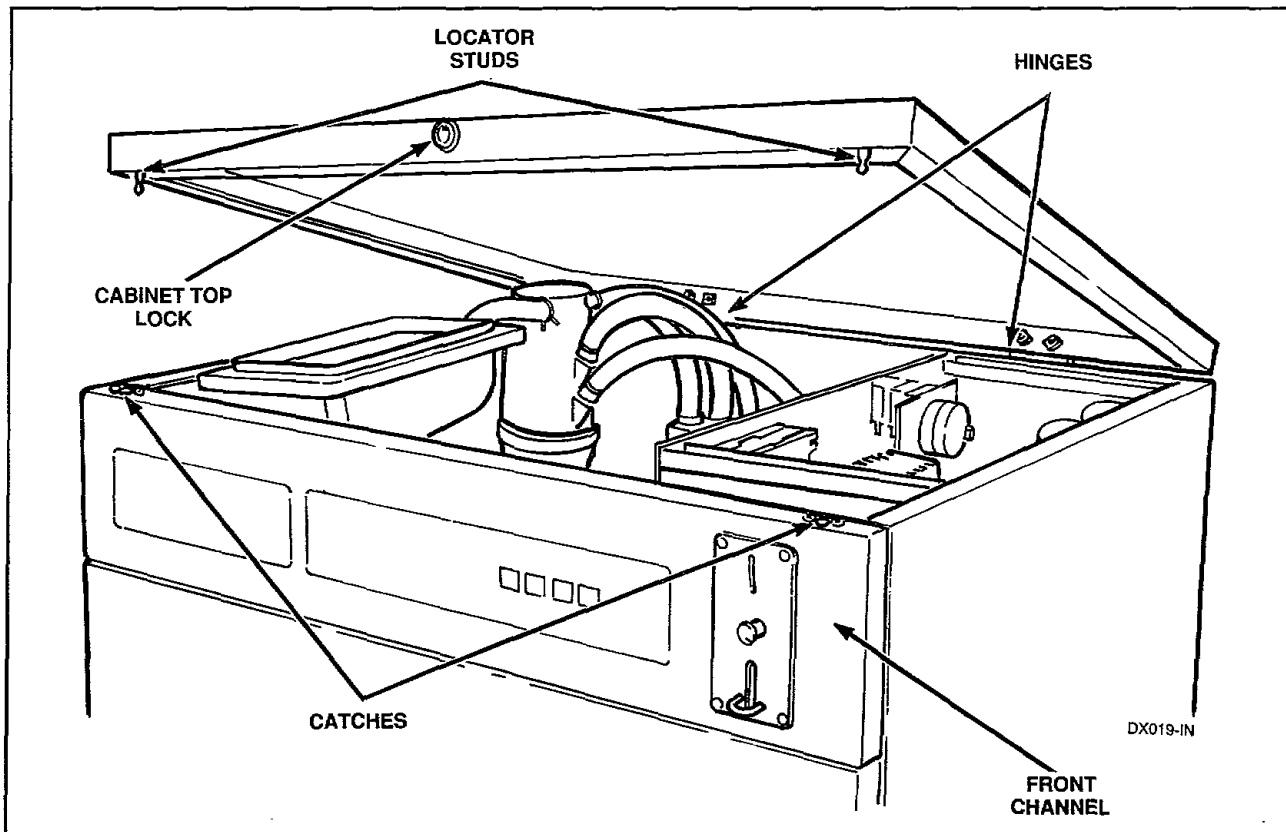


Figure 2

**REMOVE CABINET TOP FROM WASHER —
Model EX325 Only**

- a. Support cabinet top and disconnect the retainer cable from left rear corner of top.
- b. Remove two screws holding one hinge to rear of cabinet top flange, *Figure 2*.
- c. Slide cabinet top sideways to disengage top from the opposite hinge and set top out of the way.

2. SERVICE DOOR

Remove two screws and cupped washers holding service door to the washer side panels and remove door, *Figure 1*.

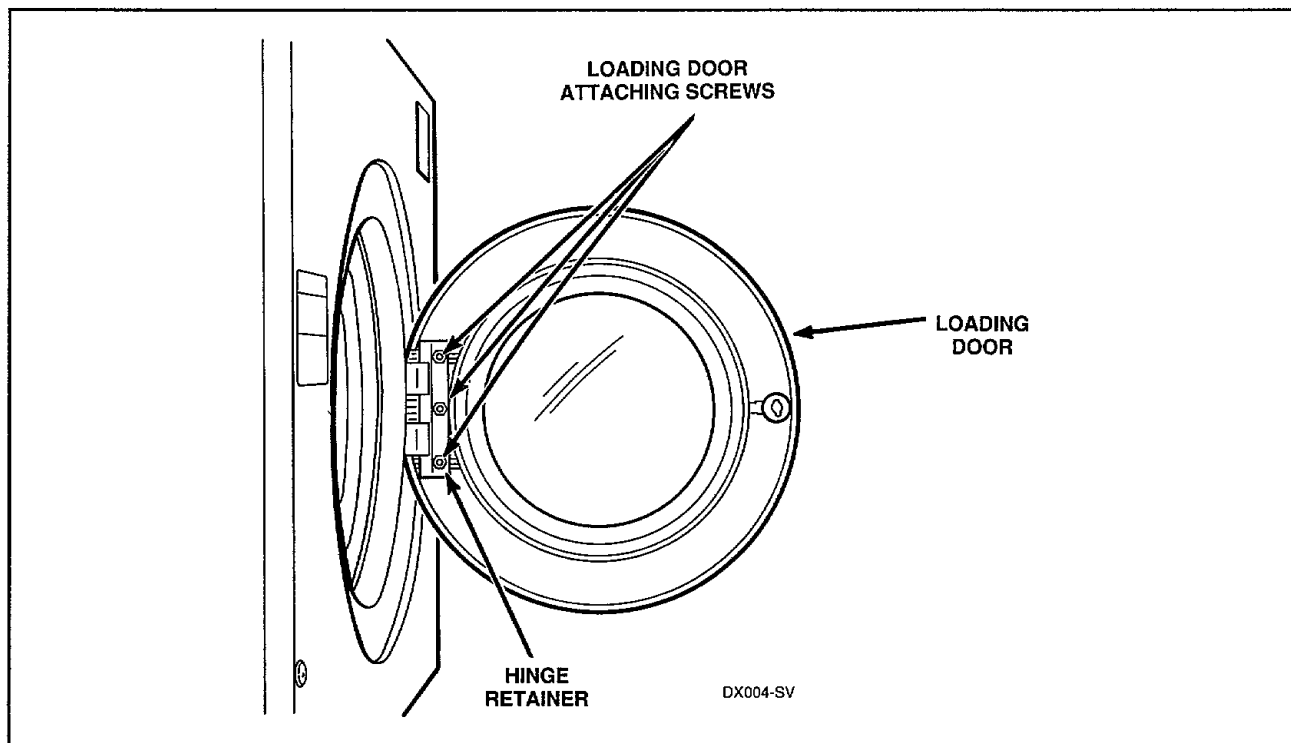


Figure 3

3. GRAPHIC PANEL OVERLAY

NOTE: The graphic panel overlay has an adhesive backing. Remove panel by peeling it from the front channel.

INSTALLING GRAPHIC PANEL OVERLAY

NOTE: Before removing the protecting backing from the new overlay, check the fit of the overlay to the washer front channel. The selector switch buttons and the coin acceptor areas are the locating guides.

- a. Once the panel overlay is fitted to the front channel, carefully peel the protective backing from the right end of the panel overlay and press into place.
- b. Remove the rest of the protective backing from the panel overlay and press overlay into place.

4. LOADING DOOR

- a. Unlatch and open loading door.
- b. While supporting the loading door, remove the three screws and lockwashers holding loading door to hinge retainer and remove door, *Figure 3*.

NOTE: Refer to *Figure 4* for loading door assembly sequence.

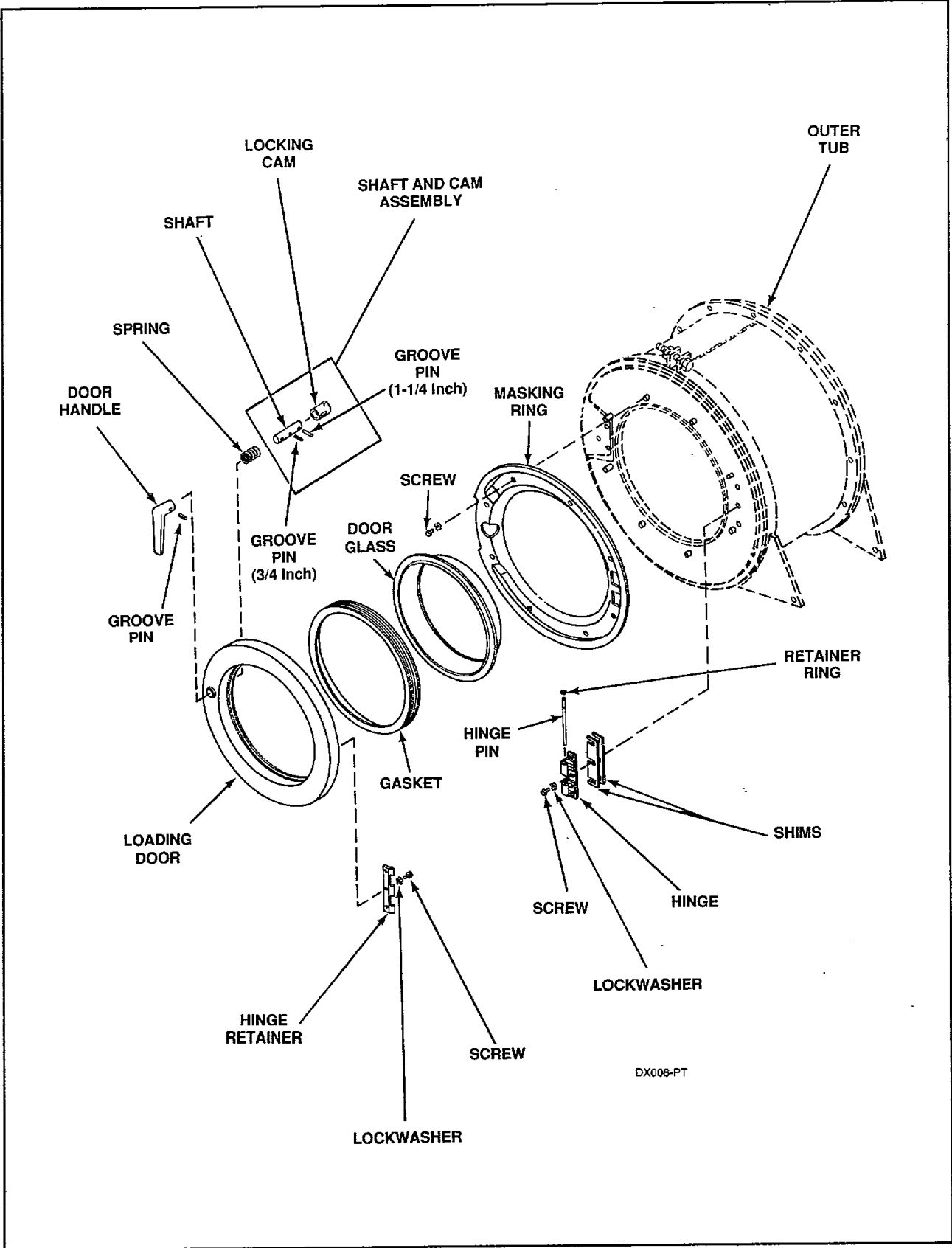


Figure 4

5. LOADING DOOR GASKET

NOTE: For best results, the loading door should be removed from the washer for ease of gasket removal and installation.

- a. While supporting the loading door, remove the three screws and lockwashers holding the loading door to the hinge retainer and remove door, *Figure 3*.
- b. While holding the door glass, peel the gasket away from the door glass all the way around inside of door and remove door glass, *Figure 4*.
- c. Remove gasket from door ring.

INSTALL DOOR GASKET

Assemble the new gasket onto the door glass, then work the door gasket onto the door ring. No adhesive is necessary.

6. LOADING DOOR SHAFT AND CAM ASSEMBLY

- a. If water is present in the cylinder, disconnect the electrical power to the washer to allow the water to drain from the cylinder before proceeding:
- b. While supporting loading door, remove three screws and lockwashers holding loading door to the hinge retainer and remove door, *Figure 3*.

NOTE: Refer to *Figure 4* for loading door assembly sequence.

7. DOOR LOCK ASSEMBLY

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key $\frac{1}{4}$ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Remove two screws and cupped washers holding front panel to side panel, *Figure 5*.

- d. While supporting front panel, remove three screws, holding top flange of front panel to lower flange of front channel, *Figure 5*, and remove front panel and gasket from washer.
- e. Remove eight screws and washers holding masking ring to front of outer tub, *Figure 6*.
- f. Disconnect wires from door lock assembly.
- g. Remove three screws and lockwashers holding door lock assembly to front of outer tub, *Figure 7*.

NOTE: Shims may be present between door lock assembly and front of outer tub. The number may be increased or decreased to adjust left side door pressure.

- h. Unhook door lock assembly from pull rod, *Figure 7*.

NOTE: See *Figure 8* for assembly sequence of door lock assembly.

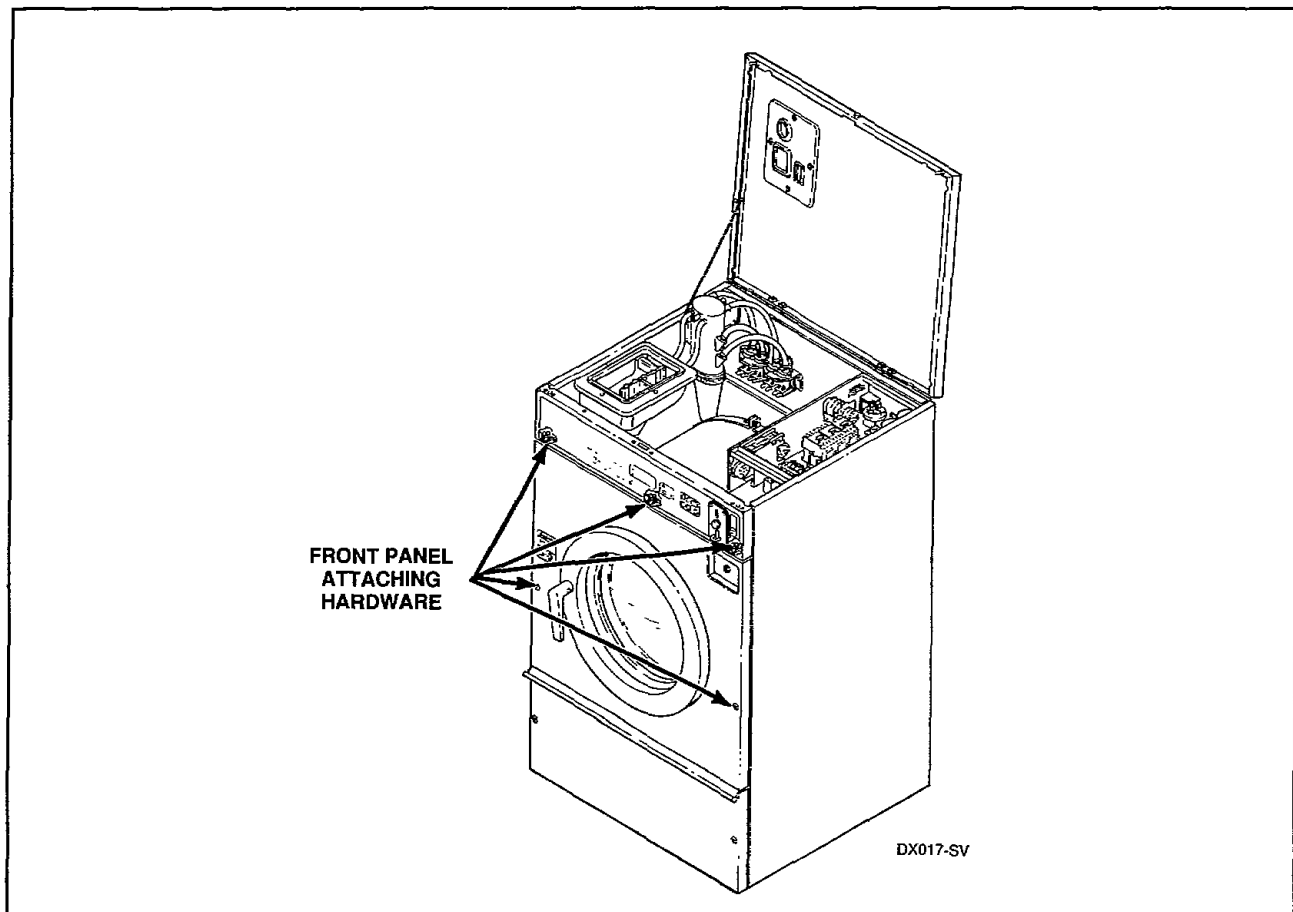


Figure 5

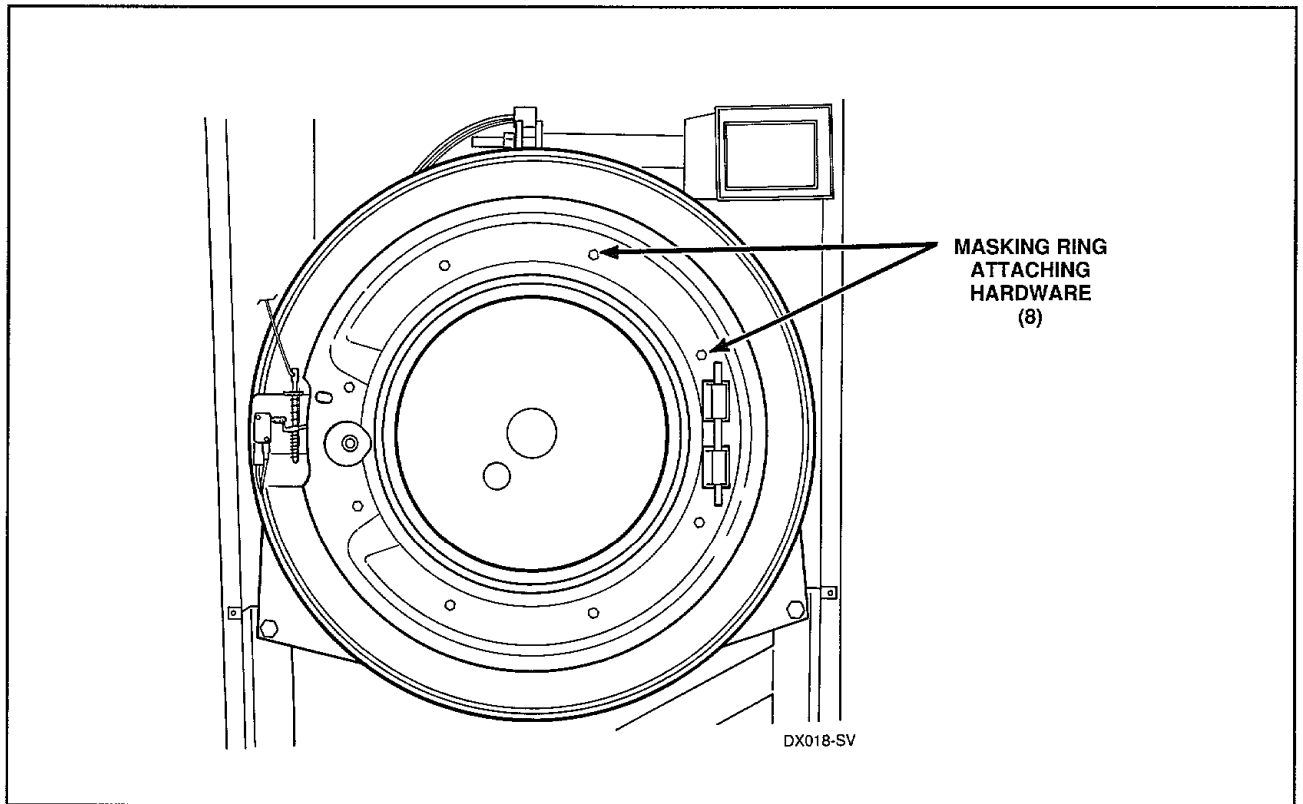


Figure 6

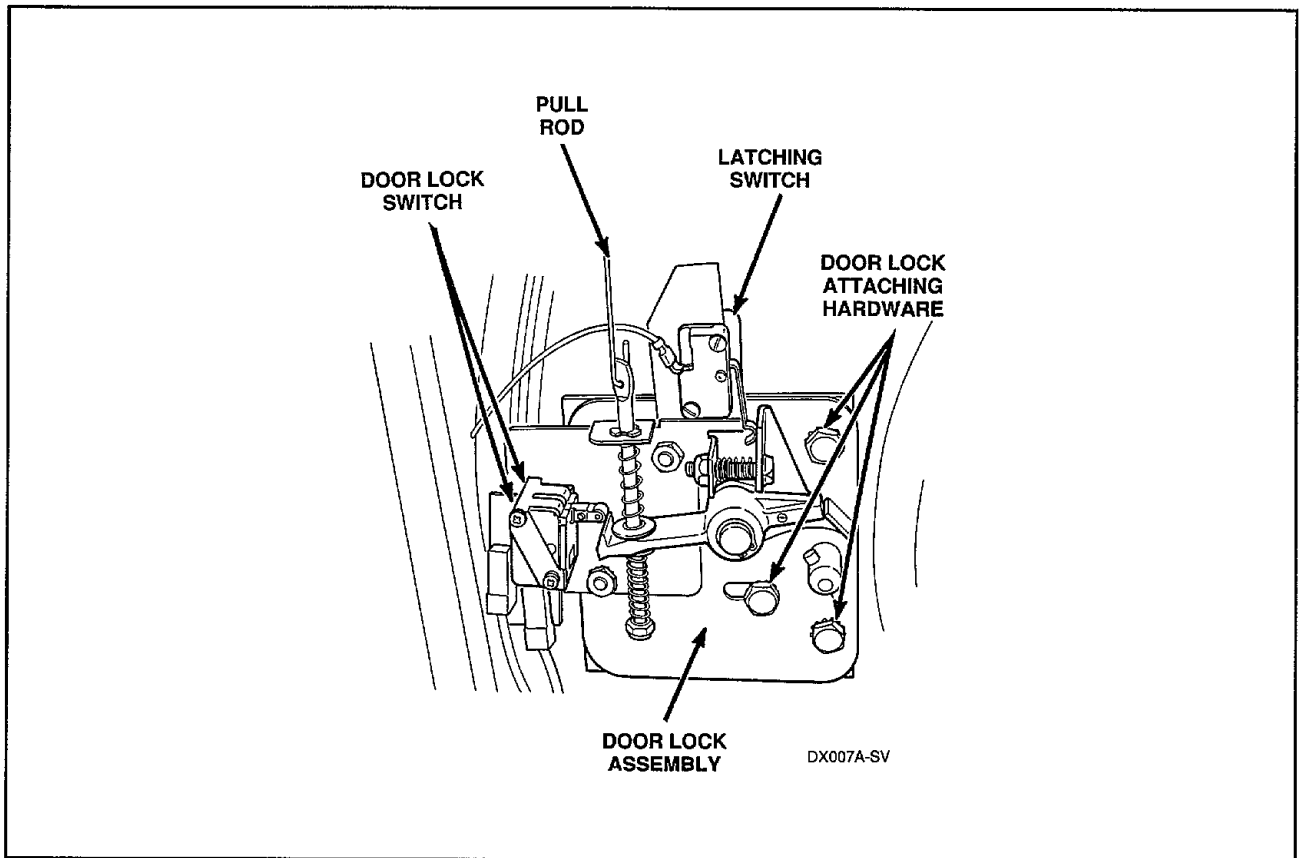
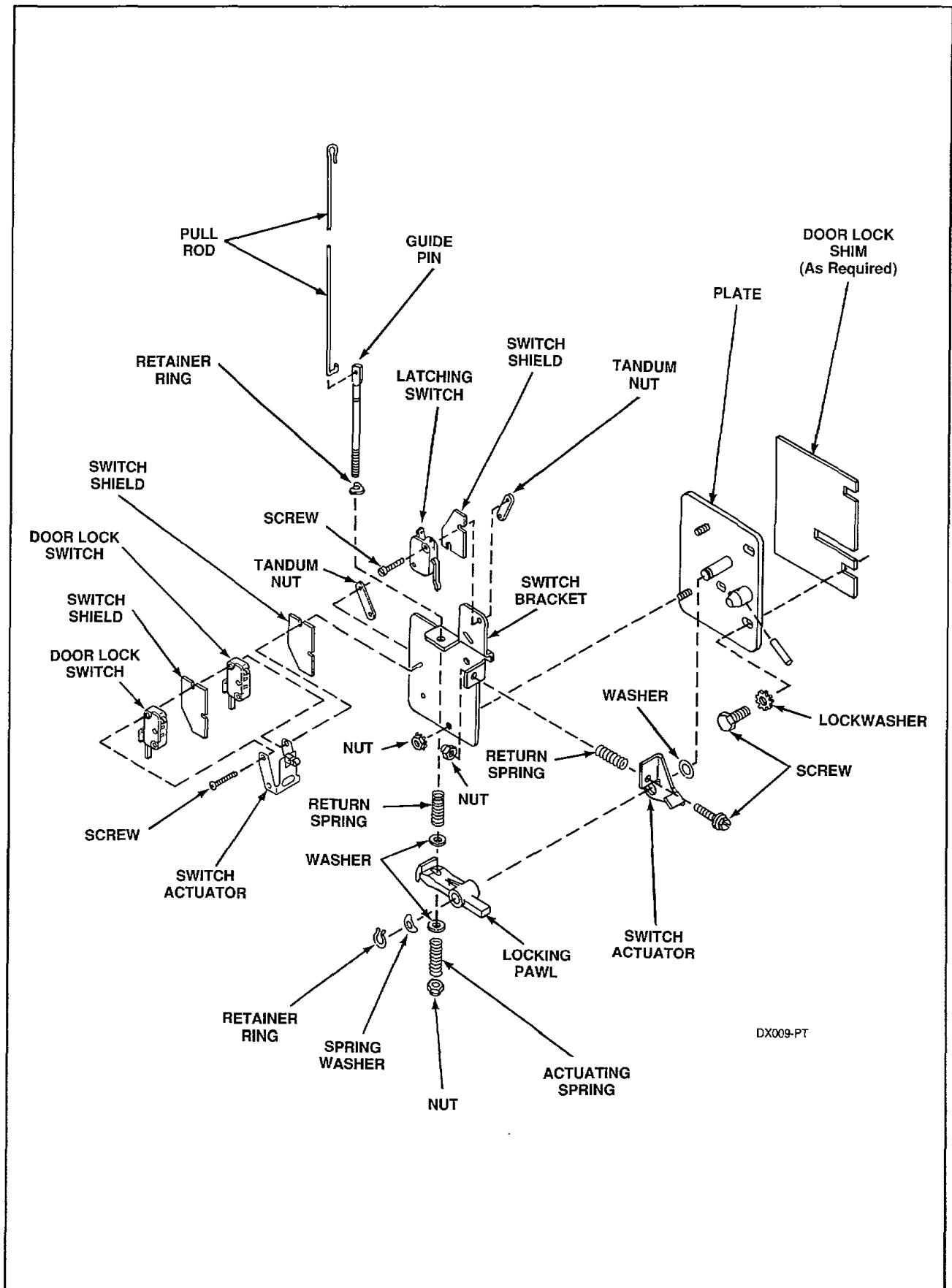


Figure 7



DX009-PT

Figure 8

8. FRONT PANEL

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Remove two screws and cupped washers holding front panel to side panels, *Figure 5*.
- d. While supporting front panel, remove three screws holding top flange of front panel to lower flange of front channel, *Figure 5*, and remove front panel and gasket from washer.

9. REAR PANEL

▲ WARNING

To reduce the risk of severe personal injury, all guards and/or panels MUST be installed before operating the washer. The rear panel keeps dust and dirt from accumulating on the motor and adds rigidity to the structure of the washer, and provides safety protection.

- a. Remove screws holding the rear panel to the washer side panels and to the rear cross channel, *Figure 9*.

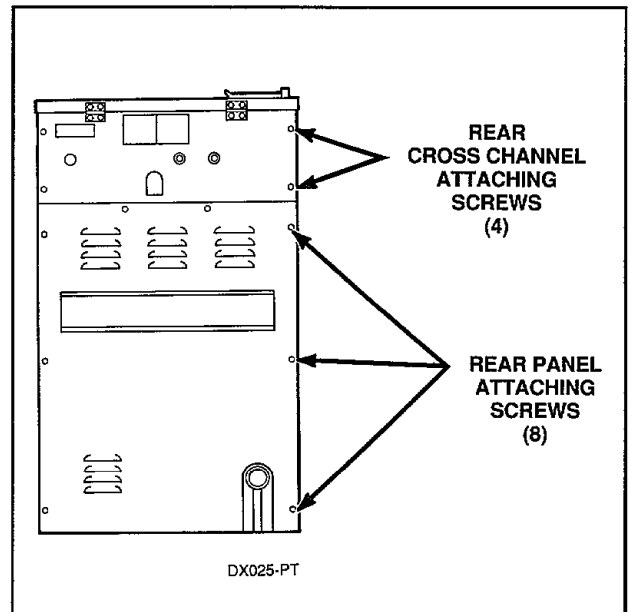


Figure 9

10. BELT(S)

▲ WARNING

To reduce the risk of severe personal injury, all guards and/or panels **MUST** be installed before operating the washer. The rear panel keeps dust and dirt from accumulating on the motor, adds rigidity to the structure of the washer, and provides safety protection.

NOTE: Model EX325 is equipped with one belt and Model EX440 is equipped with two belts.

- Remove screws holding the rear panel to the washer, *Figure 9*.
- Run belt(s) off cylinder pulley while slowly turning pulley, *Figure 10*.

NOTE: Block the motor in a way that will support itself when the belt(s) are removed.

NOTE: There is no belt adjustment necessary, the motor is spring loaded.

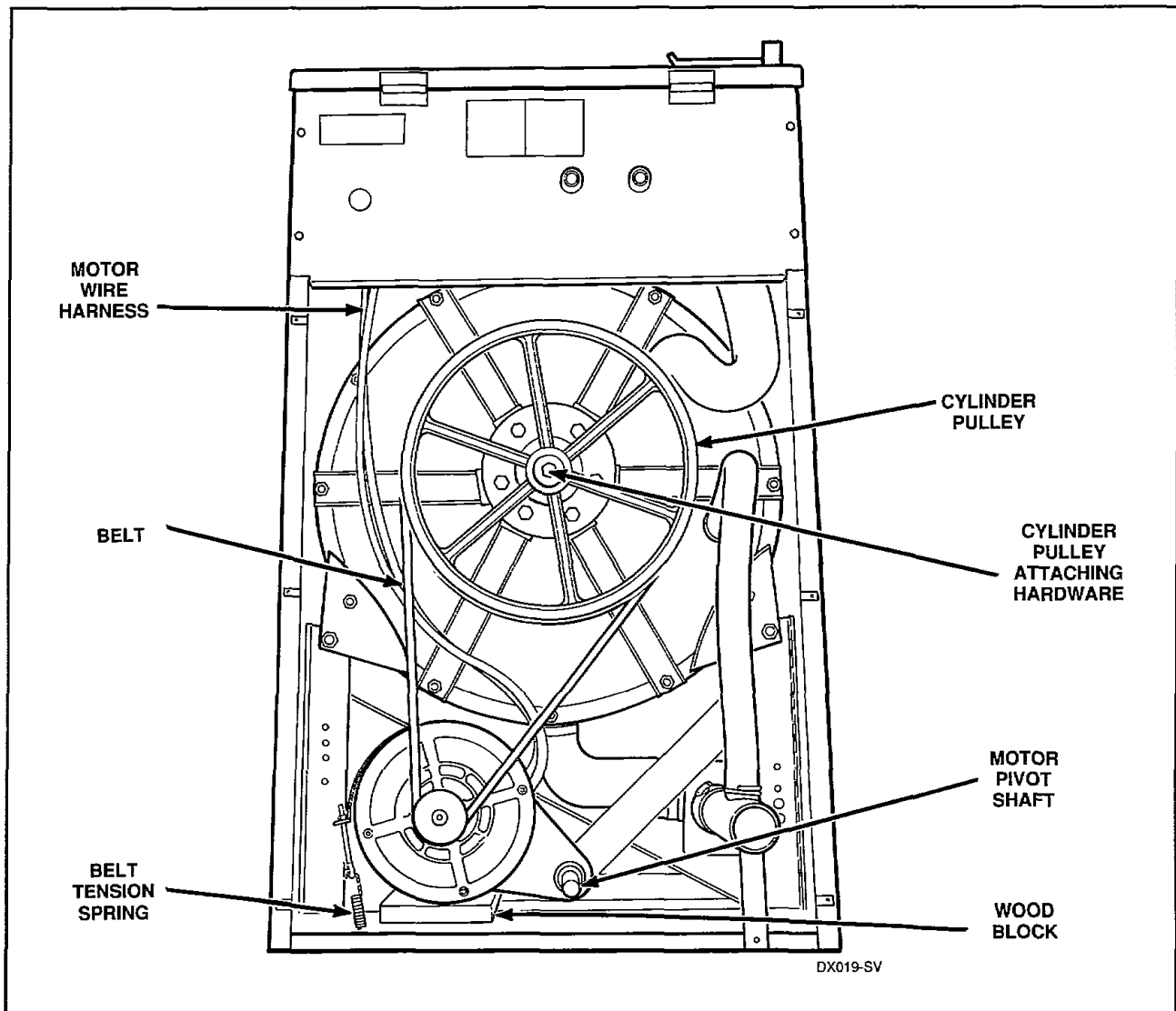


Figure 10

11. MOTOR

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Disconnect the motor wire harness terminal block plug from the control tray connection block by pressing in on the movable locking tabs (located on each side of terminal block plug).

IMPORTANT: To avoid an open circuit, **DO NOT** pull on the terminal block wires when removing the plug from the control tray as this could damage the wires or terminal crimpings.

- d. Remove screw holding green ground wire to control tray.

▲ WARNING

Whenever ground wires are removed during servicing, those ground wires must be reconnected to ensure the washer is properly grounded and to reduce the risk of fire, electric shock or severe personal injury.

- e. Remove two screws and washers holding service door to washer side panels and remove door, *Figure 1*.
- f. Remove screws holding rear panel to washer side panels and rear cross channel and remove rear panel, *Figure 9*.

▲ WARNING

To reduce the risk of severe personal injury, all guards and/or panels MUST be installed before operating the washer. The rear panel keeps dust and dirt from accumulating on the motor and adds rigidity to the structure of the washer, and provides safety protection.

- g. Run belt(s) off cylinder pulley while slowly turning pulley, *Figure 10*.

NOTE: Block the motor in a way that will support itself when the motor support rod is removed, *Figure 10*.

- h. Loosen setscrew in shaft collar closest to front of washer and in the collar welded to washer base, *Figure 11*. The setscrew located in the collar at the rear of the washer need not be loosened.
- i. Remove front bolt and lockwasher from motor support rod, *Figure 11*, and slide rod out through rear of washer.
- j. Carefully remove motor out through rear of washer.

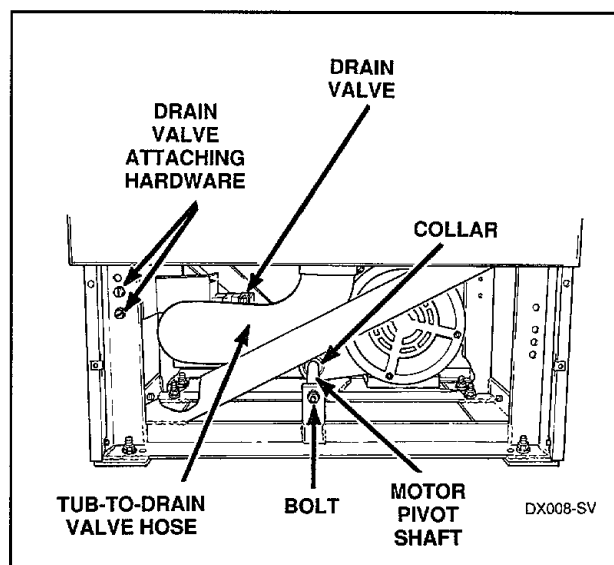


Figure 11

12. DRAIN VALVE

- a. Remove two screws and cupped washers holding service door to washer side panels and remove door, *Figure 1*.
- b. If water is present in cylinder, disconnect electrical power to washer to allow water to drain from cylinder before proceeding.
- c. Loosen hose clamp and remove hose from drain valve, *Figure 11*.
- d. Disconnect wires from drain valve.

NOTE: Refer to wiring diagram when rewiring the drain valve.

- e. Remove attaching hardware holding drain valve and bracket to left side of washer frame, *Figure 11*.
- f. Loosen hose clamp on drain valve-to-tube hose and remove drain valve from hose, *Figure 11*, then remove drain valve out through front of washer.

13. SIDE PANEL (Right or Left)

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Remove two screws and washers holding service door to washer side panels and remove door, *Figure 1*.
- d. Remove screws holding rear panel and cross channel to the side panel, *Figure 9*.
- e. Remove screw and cupped washer holding front panel to side panel, *Figure 5*.
- f. Remove attaching hardware holding front channel to side panel, *Figure 13*.
- g. **RIGHT SIDE PANEL ONLY** — Remove screws holding control tray to top flange of side panel, *Figure 12*.
- h. While supporting side panel, remove screws holding side panel to washer base, *Figure 12*.

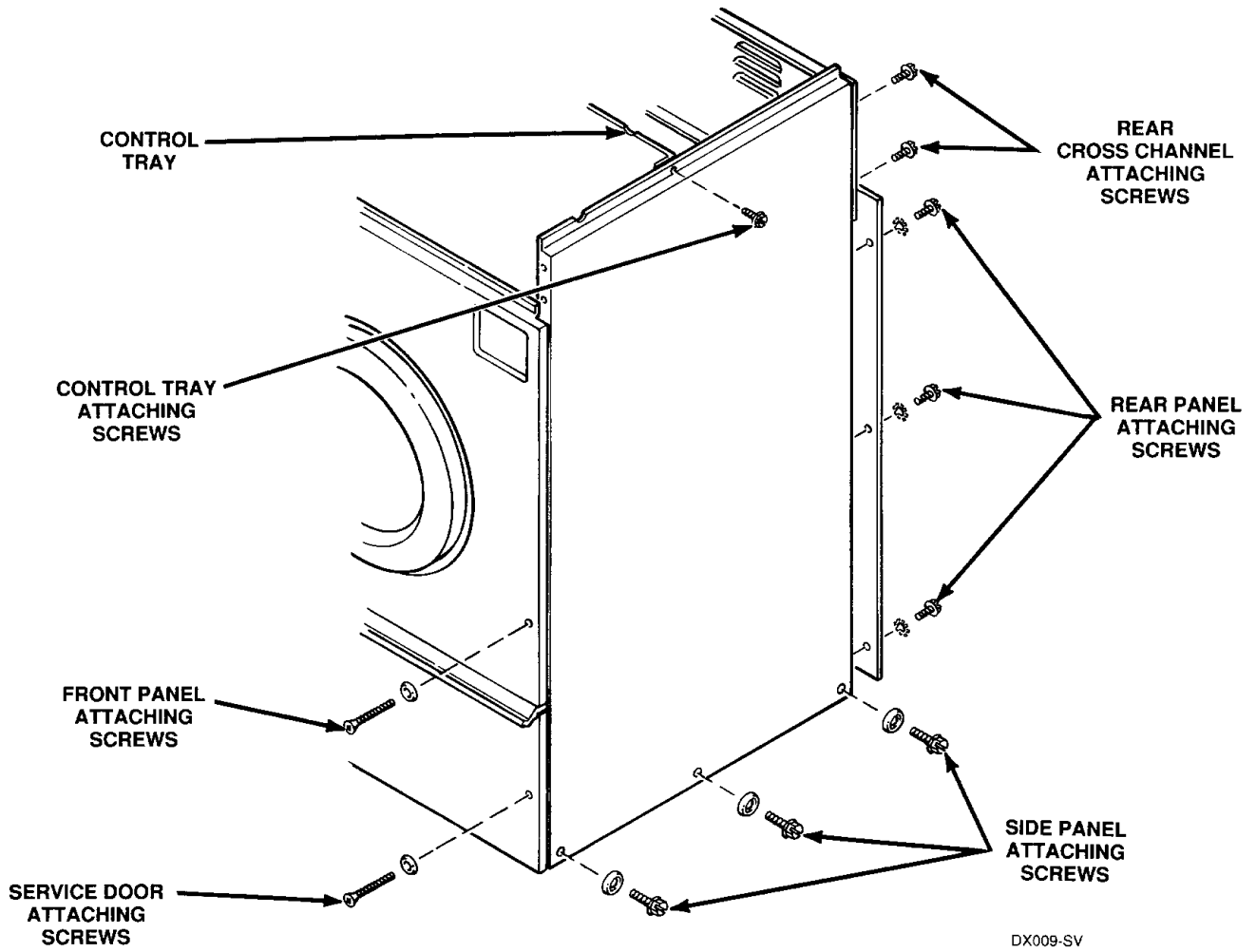


Figure 12

14. SELECTOR SWITCH

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.

Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.

- c. Disconnect wires from selector switch.

NOTE: Refer to appropriate wiring diagram when rewiring selector switch.

- d. Remove two nuts holding selector switch to backside of front channel, *Figure 13*.

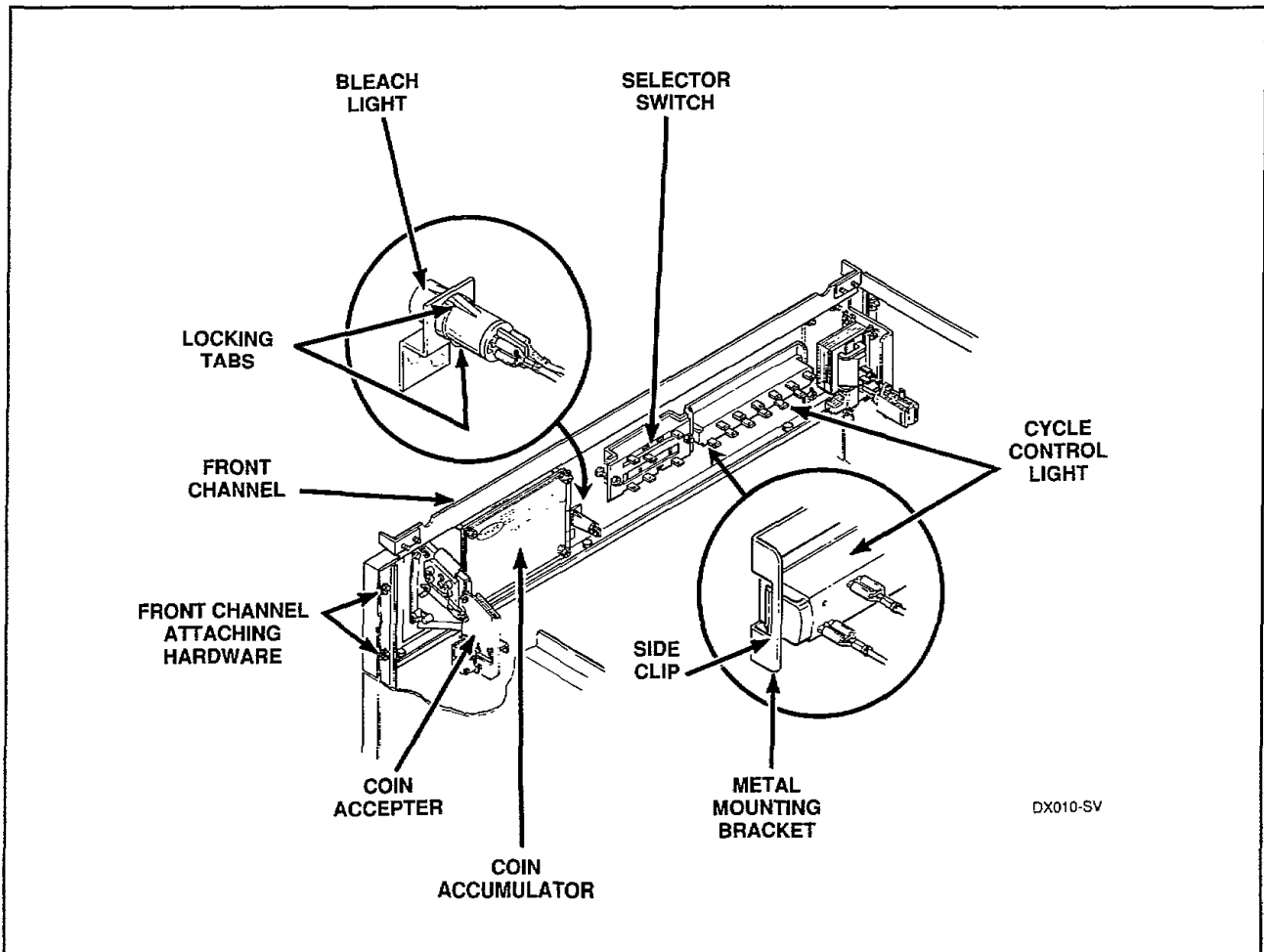


Figure 13

15. COIN ACCEPTER

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Using number 93501 Torx Drive Tool, remove the four Torx screws, lockwashers and nuts holding coin acceptor to front channel, *Figure 13*.
- d. Remove coin acceptor out through opening in front channel as far as wires permit.
- e. Disconnect wires from coin acceptor.

NOTE: Refer to wiring diagram when rewiring coin acceptor.

16. COIN ACCUMULATOR

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Remove nuts holding plastic shield to backside of coin accumulator and remove shield, *Figure 13*. Then remove nuts holding coin accumulator to backside of front channel, *Figure 13*.
- d. Carefully remove coin accumulator out of washer as far as wires permit, then disconnect wires from coin accumulator at quick disconnect block.

17. CYCLE CONTROL LIGHT

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.

NOTE: Lights are contained in a bank and are replaced as a group.

- c. Release side clips on metal mounting bracket and remove light bank, *Figure 13*.
- d. Disconnect wires from light group.

NOTE: Refer to wiring diagram when rewiring light group.

18. BLEACH LIGHT

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Disconnect wires from bleach light.

NOTE: Refer to wiring diagram when rewiring bleach light.

- d. Squeeze locking tabs in on light housing and remove light from backside of front channel, *Figure 13*.

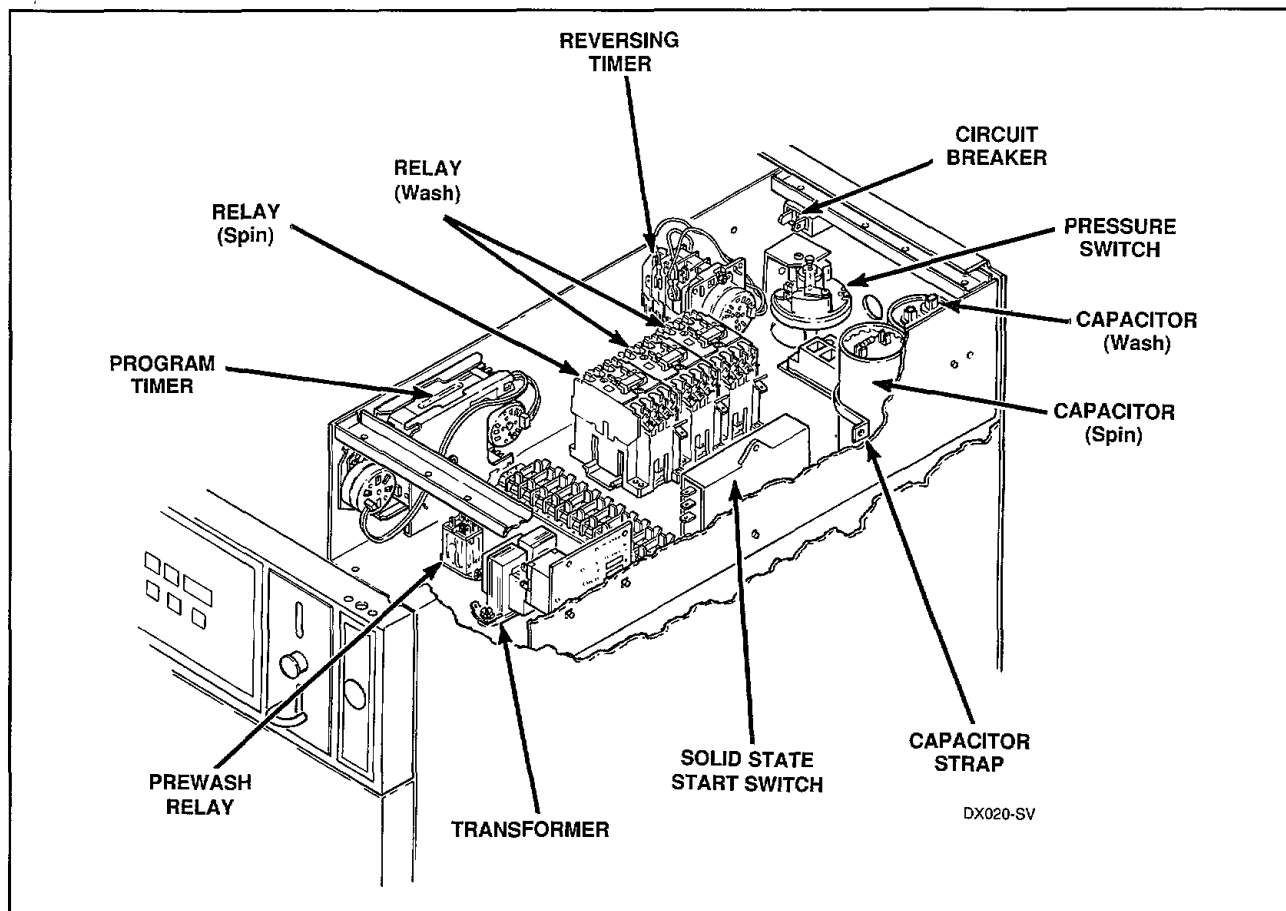


Figure 14

19. PROGRAM TIMER

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key $\frac{1}{4}$ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Loosen setscrew in timer knob and remove knob from timer shaft.
- d. Remove two screws and washers holding timer to control tray, *Figure 14*.
- e. Disengage wire harness terminal block plugs from timer by pressing in on the movable locking tabs (located on each side of terminal block plug) and pull plug away from timer.

IMPORTANT: To avoid an open circuit, **DO NOT pull on the terminal block wires** when removing block from the timer as this could damage the wires or terminal crimpings. Before attaching wire harness terminal blocks to timer, be sure all the male terminals on timer are straight and are capable of accepting the terminals from the wire harness terminal blocks.

NOTE: When installing timer, be sure timer is installed correctly and is mounted firmly to the control tray, *Figure 14*.

(continued)

TO REMOVE TIMER MOTOR

- a. Remove timer assembly.
- b. Remove two nuts holding timer motor to timer assembly.
- c. Disconnect timer motor lead wires from timer.

NOTE: Refer to wiring diagram when rewiring timer motor lead wires.

20. REVERSING TIMER

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Remove two screws and lockwashers holding timer to mounting bracket (located inside control tray), *Figure 14*.
- d. Disconnect wires from timer.

NOTE: Refer to wiring diagram when rewiring timer.

TO REMOVE TIMER MOTOR

- a. Remove timer assembly.
- b. Remove two nuts holding timer motor to timer assembly.
- c. Disconnect timer motor lead wires from timer.

NOTE: Refer to wiring diagram when rewiring timer motor lead wires.

21. CIRCUIT BREAKER

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Remove nut holding circuit breaker to rear cross channel, *Figure 14*.
- d. Pull circuit breaker out of rear cross channel as far as wires permit, then disconnect wires from circuit breaker.

NOTE: Refer to wiring diagram when rewiring circuit breaker.

22. PRESSURE SWITCH

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Remove Phillips head screw holding pressure switch to mounting bracket on control tray, *Figure 14*.
- d. Disconnect wires from pressure switch.

NOTE: Wires must be reconnected to terminals "1" and "2" when rewiring pressure switch.

- e. Lift pressure switch off control tray far enough to permit disconnecting pressure hose from underside of pressure switch.
- f. Tape pressure hose to top side of control tray to prevent hose from falling to washer base.

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

23. RELAY (Spin)

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Disconnect wires from relay.

NOTE: Refer to wiring diagram when rewiring relay.

- d. Remove two screws holding relay to control tray, *Figure 14*.

24. ACCUMULATOR TRANSFORMER

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Remove two screws holding transformer to control tray, *Figure 14*.
- d. Lift transformer off control tray as far as wires permit, then disconnect wires from transformer.

NOTE: Refer to wiring diagram when rewiring transformer.

25. CAPACITOR (Spin or Wash)

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.

▲ WARNING

To reduce the risk of an electric shock, touch capacitor terminals with ends of insulated wire to discharge capacitor.

- c. Disconnect wires from capacitor.

NOTE: Refer to wiring diagram when rewiring capacitor.

- d. Remove screw holding capacitor strap to side of control tray and remove capacitor, *Figure 14*.

26. DISPENSER

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Loosen hose clamps and remove hoses from nozzles on dispenser, *Figure 15*.
- d. Loosen hose clamp and remove hose from underside of dispenser and remove dispenser, *Figure 15*.

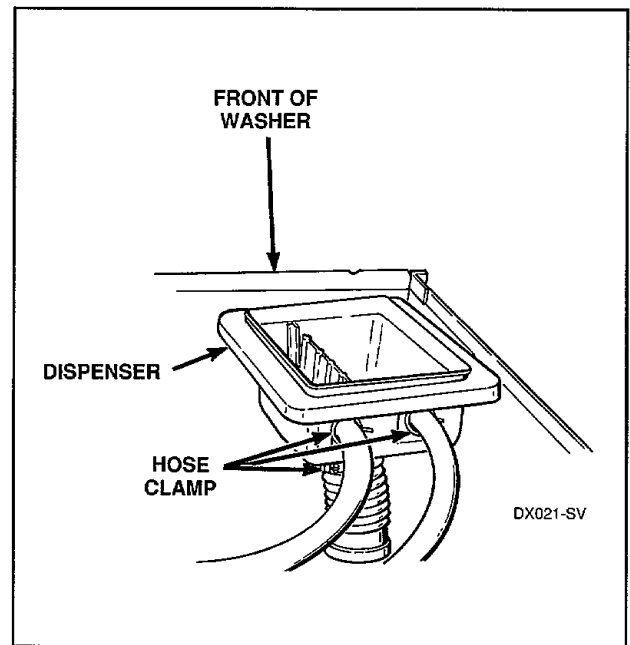


Figure 15

27. DOOR LOCK SOLENOID AND THERMOACTUATOR ASSEMBLY

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key $\frac{1}{4}$ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Disconnect wires from solenoid and thermoactuator, *Figure 16*.
- d. Remove nuts holding solenoid and mounting bracket assembly to backside of front channel, *Figure 16*; then release pull rod from solenoid plunger and remove solenoid and mounting bracket assembly from washer.

NOTE: When reinstalling door lock solenoid and mounting bracket assembly, adjust per paragraph 41.

NOTE: Refer to wiring diagram when rewiring solenoid on thermoactuator.

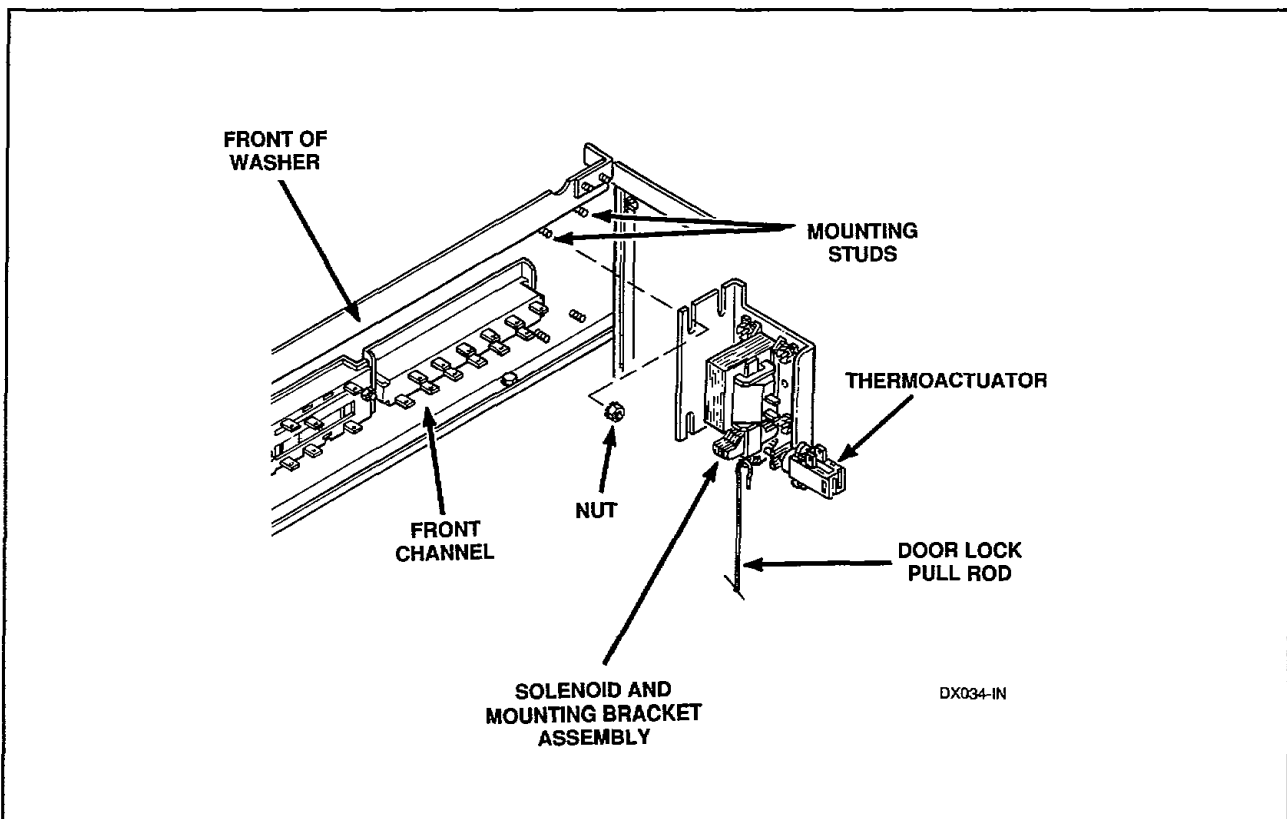


Figure 16

28. WATER INLET VALVE (Hot or Cold)

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.

- c. Disconnect wires from inlet valve solenoid, *Figure 17*.

NOTE: Refer to wiring diagram when rewiring inlet valve solenoids.

- d. Loosen hose clamps and remove hoses from the water inlet valve, *Figure 17*.

IMPORTANT: Mark hoses so they can be reinstalled on the correct valve outlet.

- e. Go to rear of washer and disconnect inlet hose from inlet valve.
- f. While supporting inlet valve, remove two screws and washers holding inlet valve to rear cross channel and remove valve from inside of washer.

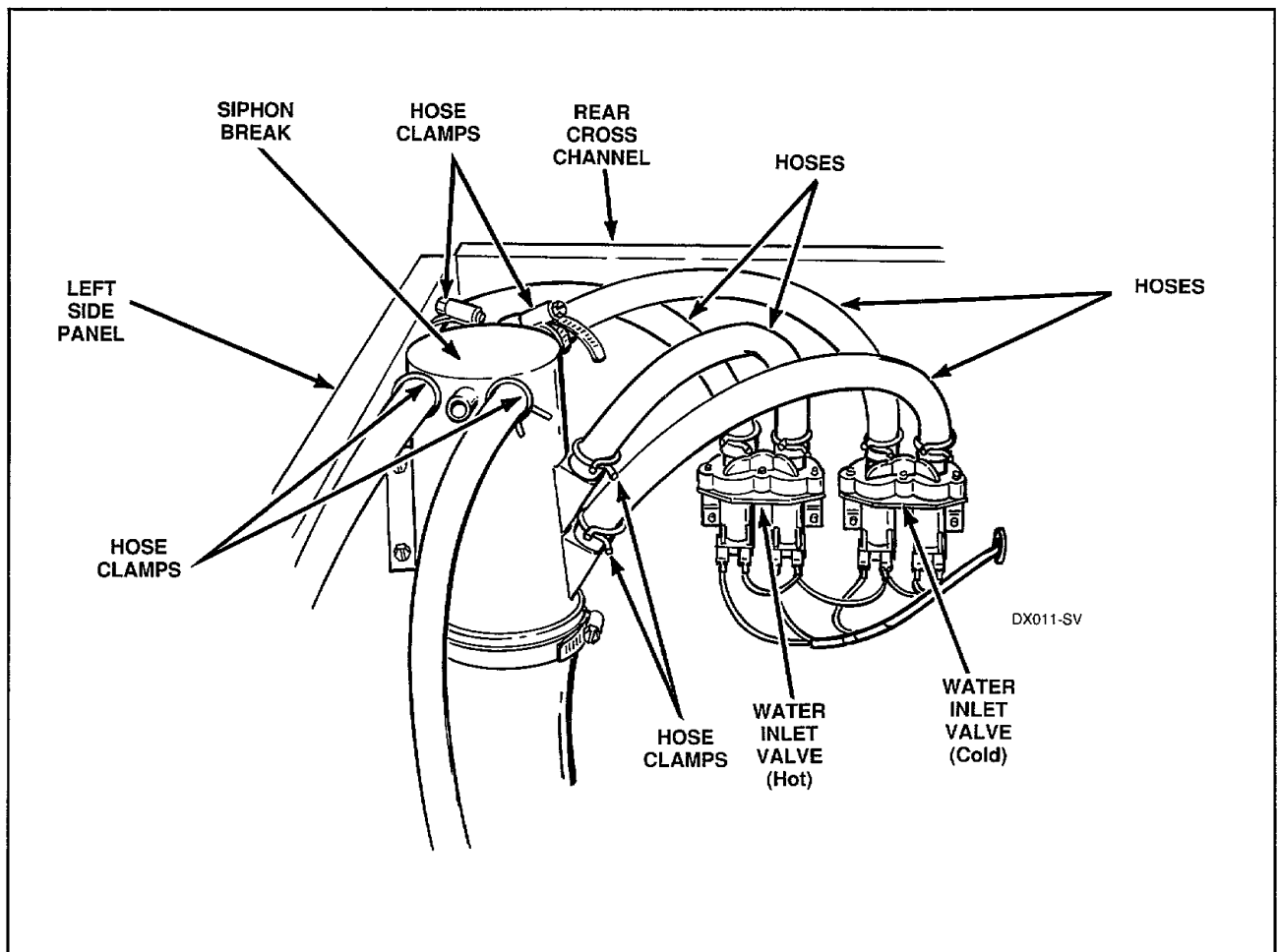


Figure 17

29. SIPHON BREAK

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.

- c. Loosen hose clamps and disconnect hoses from siphon break, *Figure 18*.

IMPORTANT: Before removing hoses, mark each hose so all hoses can be reinstalled correctly on siphon break.

- d. Remove two screws holding siphon break and bracket to rear cross channel, *Figure 18*, and remove siphon break out through top of washer.

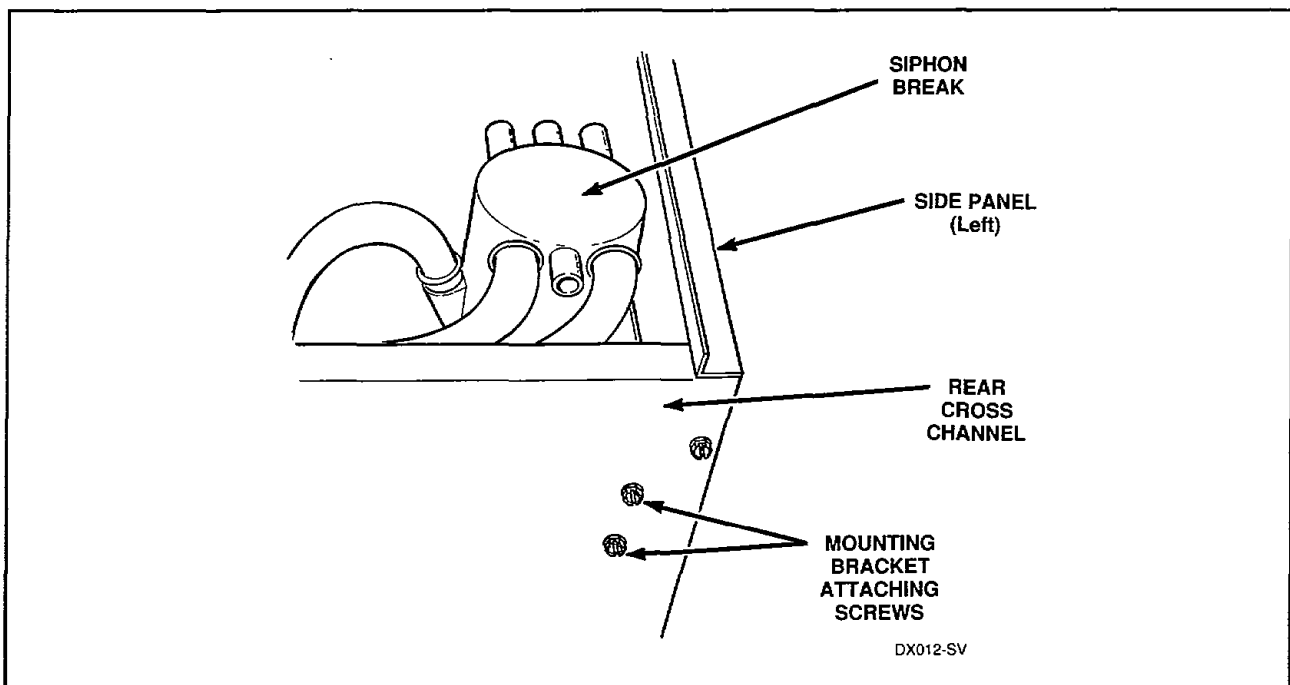


Figure 18

30. CYLINDER ASSEMBLY

IMPORTANT: Before attempting to remove the cylinder assembly from the rear of the washer, the washer will first have to be removed from its

- a. Disconnect electrical power, drain hose and water inlet hoses at rear of washer.
- b. Remove cabinet top as follows:
 1. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.

2. **Model EX325** — Insert key into cabinet top lock, turn key $\frac{1}{4}$ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.

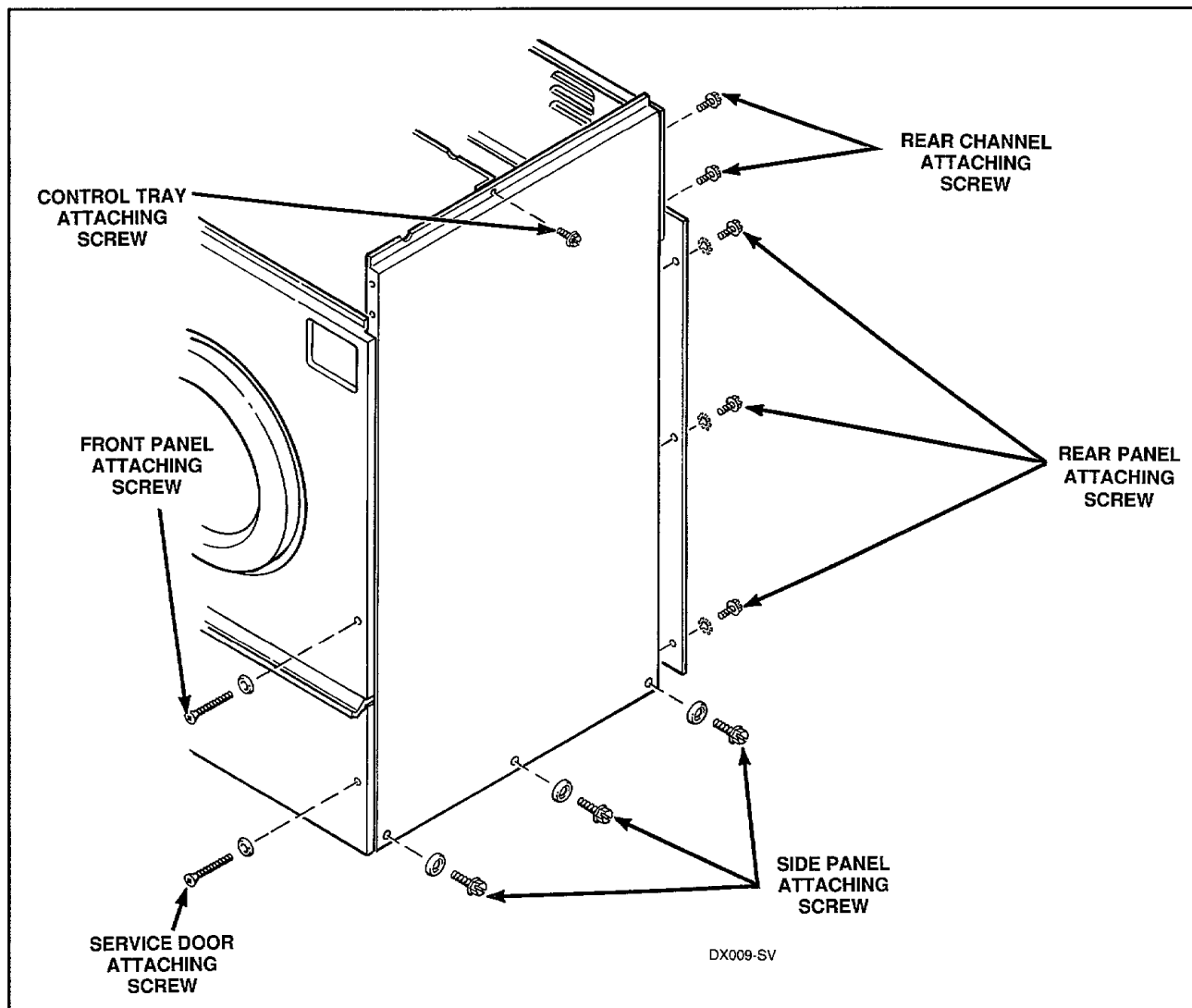


Figure 19

- c. Remove cabinet top from washer — Model EX325 Only.
 1. Support cabinet top and disconnect the retainer cable from left rear corner of top.
 2. Remove two screws holding one hinge to rear of cabinet top flange, *Figure 2*.
 3. Slide cabinet top sideways to disengage top from the opposite hinge and set top out of the way.
- d. Remove two screws and washers holding service door to washer side panels and remove door, *Figure 19*.
- e. Remove screws holding rear panel to washer side panels and remove rear panel, *Figure 19*.
- f. Reach in through front of washer and remove the mounting hardware holding washer to concrete or base, *Figure 20*.
- g. Carefully lift washer off its mounting and move washer to an area where it will be serviced.
- h. Loosen hose clamp and remove dispenser hose where it attaches to the inlet on the outer tub, *Figure 15*.
- i. Remove two front panel attaching screws, *Figure 5*, while supporting front panel remove three screws holding top flange of front panel to the lower flange of the front channel, *Figure 5*, and remove front panel and gasket from washer.
- j. Disconnect harness wires from door lock assembly. The separate jumper wires should remain attached to the door lock assembly.

IMPORTANT: Before disconnecting wires from door lock assembly, mark the terminal connections and wire colors so wires can be reinstalled correctly.

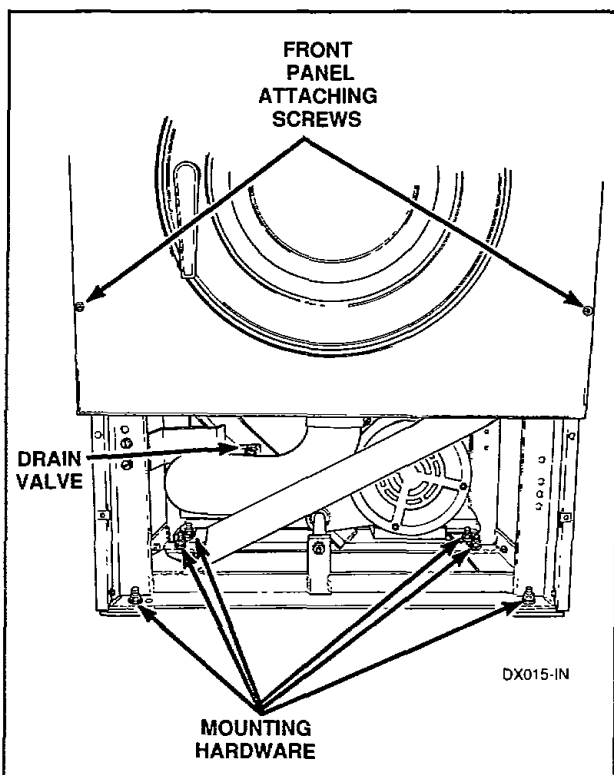


Figure 20

- k. Remove nuts holding door lock solenoid and mounting bracket to backside of front channel and release pull rod from solenoid, *Figure 16*.
- l. While supporting loading door, remove three screws and lockwashers holding loading door to hinge retainer and remove door, *Figure 21*.
- m. Remove screws holding both side panels to washer base, *Figure 19*.
- n. Run belt(s) off cylinder pulley while slowly turning pulley, *Figure 10*. Then disconnect wires from drain valve, *Figure 20*.
- o. Disconnect motor wire harness at the disconnect blocks located on the control tray. Then disconnect green ground wire from control tray.

▲ WARNING

Whenever ground wires are removed during servicing, those ground wires MUST be reconnected to ensure washer is properly grounded and to reduce the risk of fire, electric shock, or severe personal injury.

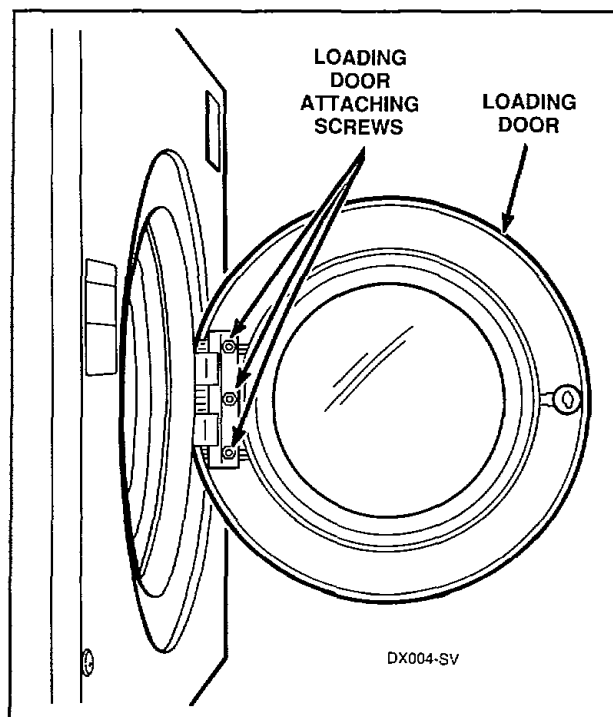


Figure 21

- p. Loosen hose clamp and remove the siphon break hose from tub back.
- q. Disconnect the pressure hose from underside of pressure switch, *Figure 14*.

- r. Two people should now be able to lift the complete cabinet up and off the washer. Set cabinet aside to prevent damage.
- s. Tip washer forward and place blocking and protective padding under the top of the tub front to prevent damage to the masking ring and door lock assembly.

IMPORTANT: Before removing the cylinder assembly, tub back and bearing housing assembly, mark the tub back, both clamp rings, bearing housing and bearing housing supports so all these parts can be reinstalled in the same position.

- t. Remove the 12 bolts, lockwashers and nuts from the tub back clamp rings, *Figure 22*.

NOTE: When removing the 12 bolts, you may find shims on some of the bolts. These shims are used to center the cylinder with the front opening of the outer tub and to move the cylinder forward and back. Mark on the tub back or clamp ring where these shims are located and how many shims there are so they can be reinstalled in the same location.

- u. Remove two bolts, lockwashers and nuts holding clamp rings to the two rear frame legs, *Figure 22*.
- v. Carefully lift complete bearing housing assembly with cylinder pulley, tub back and cylinder assembly attached straight up and out of the outer tub.

NOTE: You may have to break the silicone seal between the tub back and flange on outer tub before removing the tub back, cylinder and bearing housing assembly.

- w. Place the complete tub back, cylinder assembly and bearing housing assembly face down on a couple of 2" x 4" wood blocks.

IMPORTANT: Be careful not to damage the front flange on the cylinder assembly when placing the cylinder assembly on the wood blocks.

- x. Remove cylinder pulley, paragraph 31.

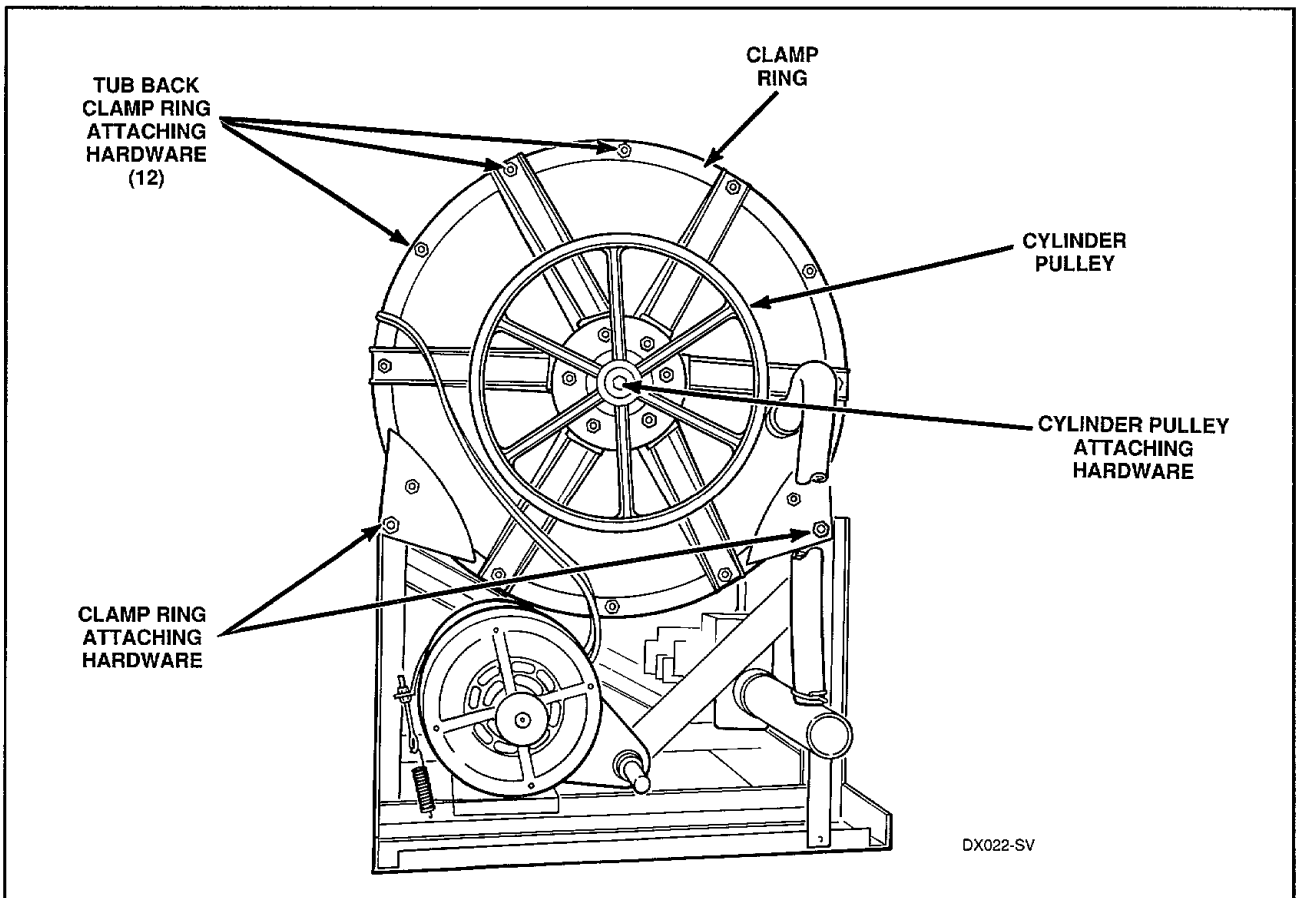


Figure 22

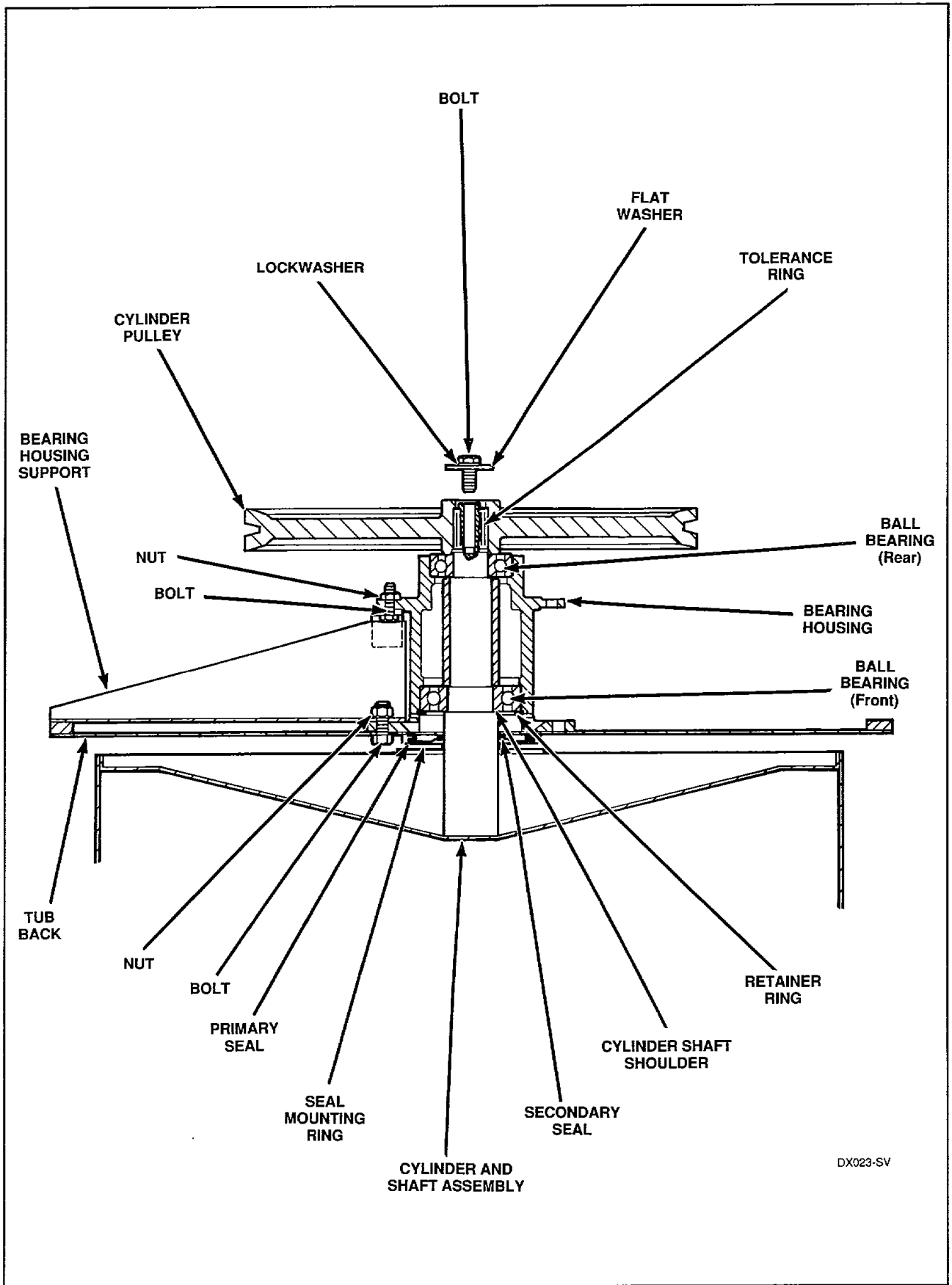


Figure 23

31. CYLINDER PULLEY REMOVAL

NOTE: A tool kit, Part No. 93508, is available for removing the cylinder pulley; proceed as follows:

- a. Remove bolt, lockwasher and flat washer holding pulley to cylinder shaft, *Figure 23*.
- b. Screw the $\frac{3}{4}$ x 2 inch bolt through center hole in large plate, *Figure 24*.
- c. Place the $1\frac{1}{4}$ inch spacer on the end of the cylinder shaft, *Figure 24*.
- d. Pivot the large plate, with the $\frac{3}{4}$ x 2 inch bolt, on top of spacer, *Figure 24*.
- e. Place one each of the three small bars behind two spokes each on the cylinder pulley. Insert the three $\frac{1}{2}$ x 6 inch bolts through the three center holes in the large plate and screw bolts into the three bars and snug up bolts, *Figure 24*.
- f. Alternately tighten the three bolts; pulling the pulley from the cylinder shaft, *Figure 24*.

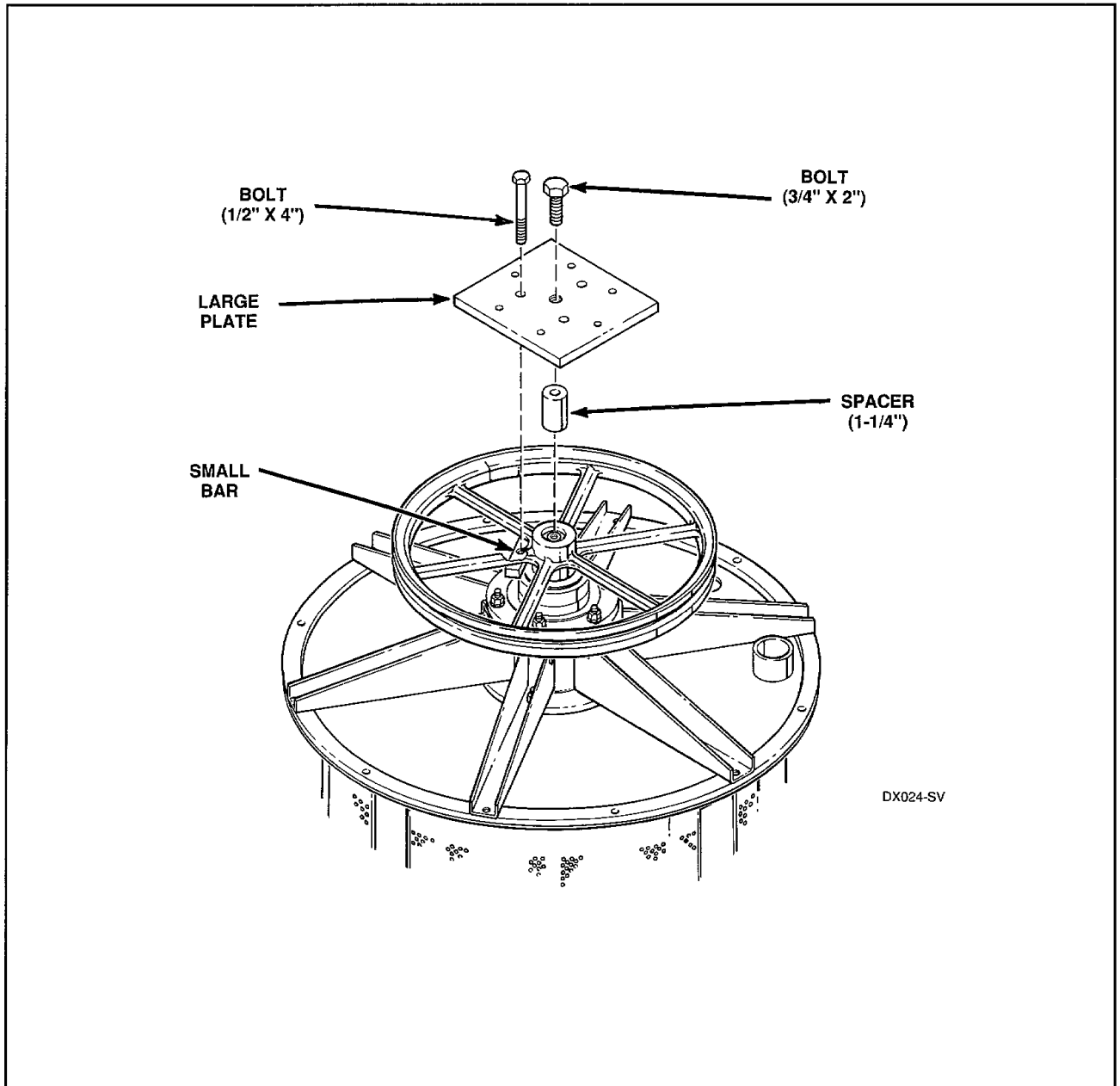


Figure 24

CYLINDER PULLEY INSTALLATION

NOTE: A tool kit, Part No. 93508, is available for installing the cylinder pulley; proceed as follows:

- a. Screw the $\frac{1}{2}$ x 7 inch threaded rod into end of cylinder shaft, *Figure 25*.
- b. Place the $1\frac{1}{4}$ inch spacer over the threaded rod, *Figure 25*, so it rests against end of cylinder shaft.
- c. Insert the tolerance ring into the pulley hub before starting pulley on cylinder shaft, *Figure 25*.
- d. Place the 3 inch disc over the threaded rod with the small hole in the disc at the top, *Figure 25*.
- e. Place the $\frac{1}{2}$ inch flat washer and the $\frac{1}{2}$ inch special nut on the threaded rod; snug nut against the washer and top of disc, *Figure 25*.
- f. Turn the special nut clockwise, forcing the pulley on the cylinder shaft until pulley bottoms against the rear bearing in the bearing housing, *Figure 25*.

- g. Remove the threaded rod, disc and spacer from cylinder shaft and install the flat washer, lockwasher and bolt in end of cylinder shaft, *Figure 23*.

NOTE: Torque bolt to 45 foot pounds.

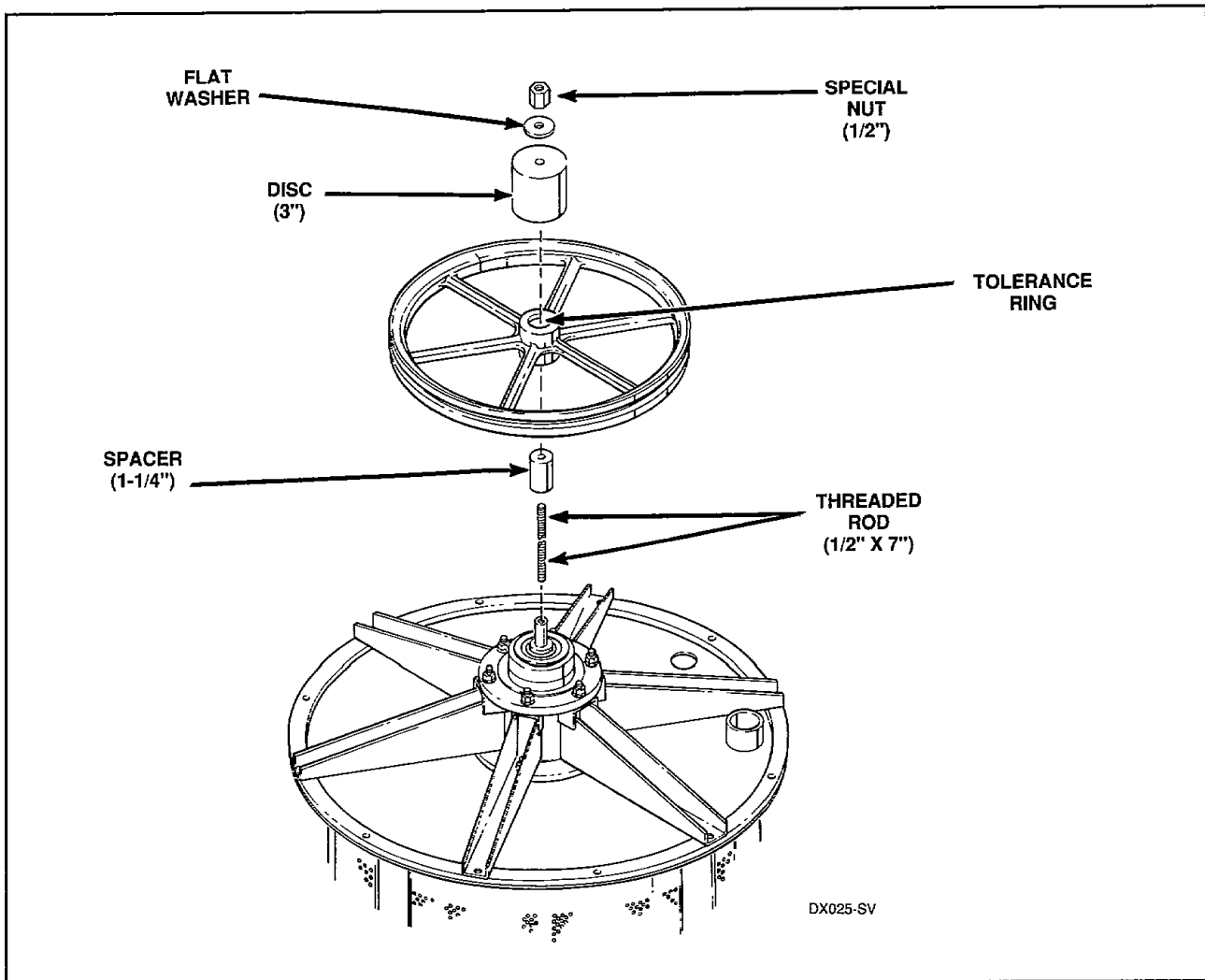


Figure 25

32. BEARING HOUSING AND TUB BACK REMOVAL

NOTE: A tool kit, Part No. 93508, is available for removing the bearing housing and tub back; proceed as follows:

- a. Remove cylinder pulley, paragraph 31.
- b. Remove six bolts and nuts holding the bearing housing supports to the rear flange of the bearing housing, *Figure 23*.

NOTE: Leave the bearing housing supports and tub back assembled to the front flange of the bearing housing, *Figure 23*.

- c. Screw the $\frac{3}{4}$ x 2 inch bolt through center hold in large plate and pivot bolt and plate on end of cylinder shaft, *Figure 26*.
- d. Insert the $\frac{1}{2}$ x 6 inch bolts through the six outer holes in the large plate and down through the six holes in the rear flange of the bearing housing. Then install the six $\frac{3}{8}$ inch nuts on the six bolts and snug up bolts, *Figure 26*.
- e. Alternately turn each bolt, pulling the bearing housing, supports and tub back off the cylinder shaft, *Figure 26*.
- f. Remove six bolts and nuts holding the bearing housing supports and tub back to the front flange of the bearing housing, *Figure 23*.

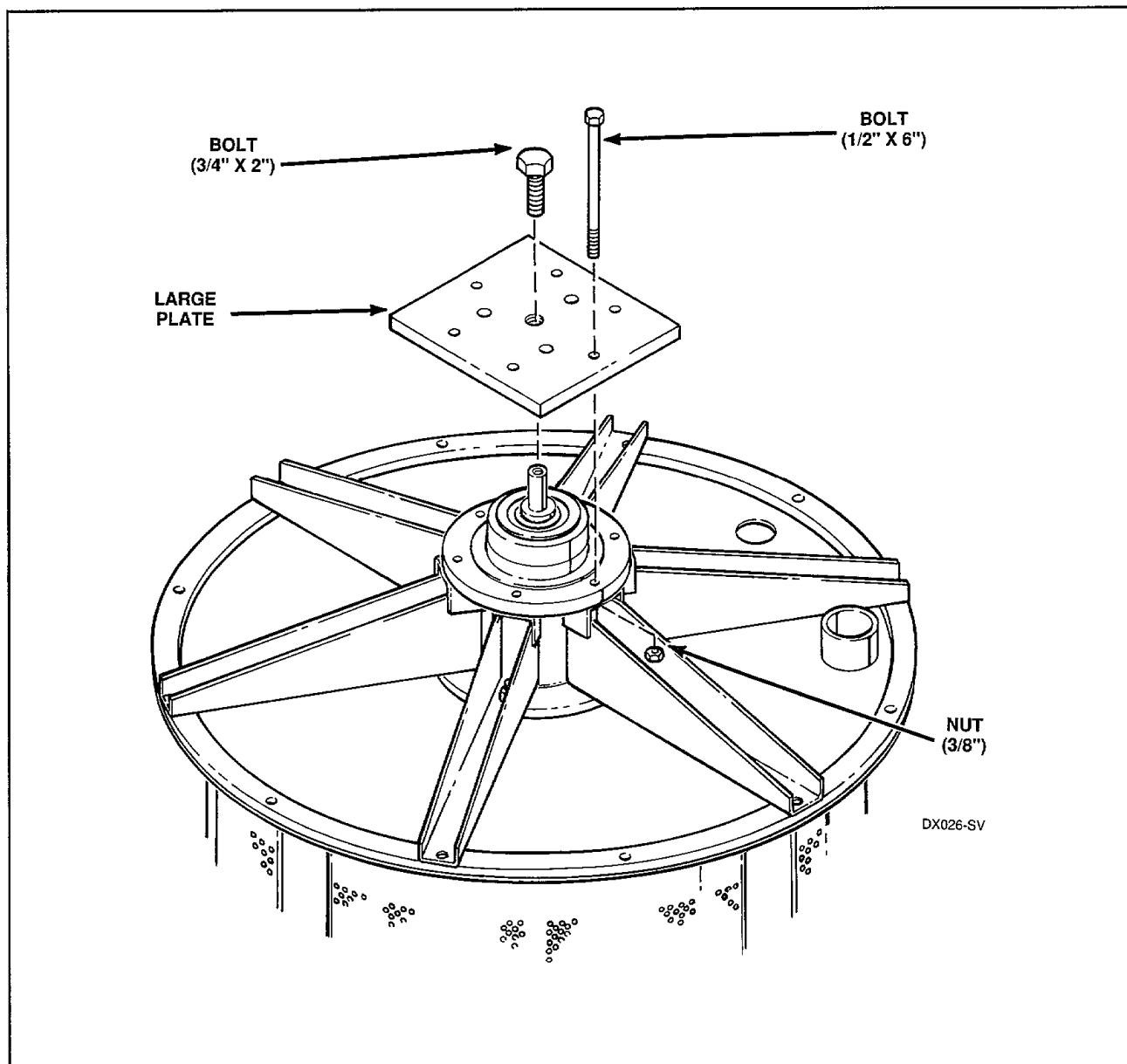


Figure 26

33. BEARING REMOVAL

a. Remove bearing housing and tub back, paragraph 32.

b. Remove the rear bearing first (pulley end) to provide more room for driving out the front bearing.

NOTE: Bearings are a press fit in the bearing housing and can be driven out of the housing using a hammer and a piece of hardwood dowel or a punch. The front bearing is held in place by a retainer ring which must be removed first before attempting to remove the front bearing, *Figure 27*.

IMPORTANT: NEVER re-use bearings once they have been removed from the bearing housing.

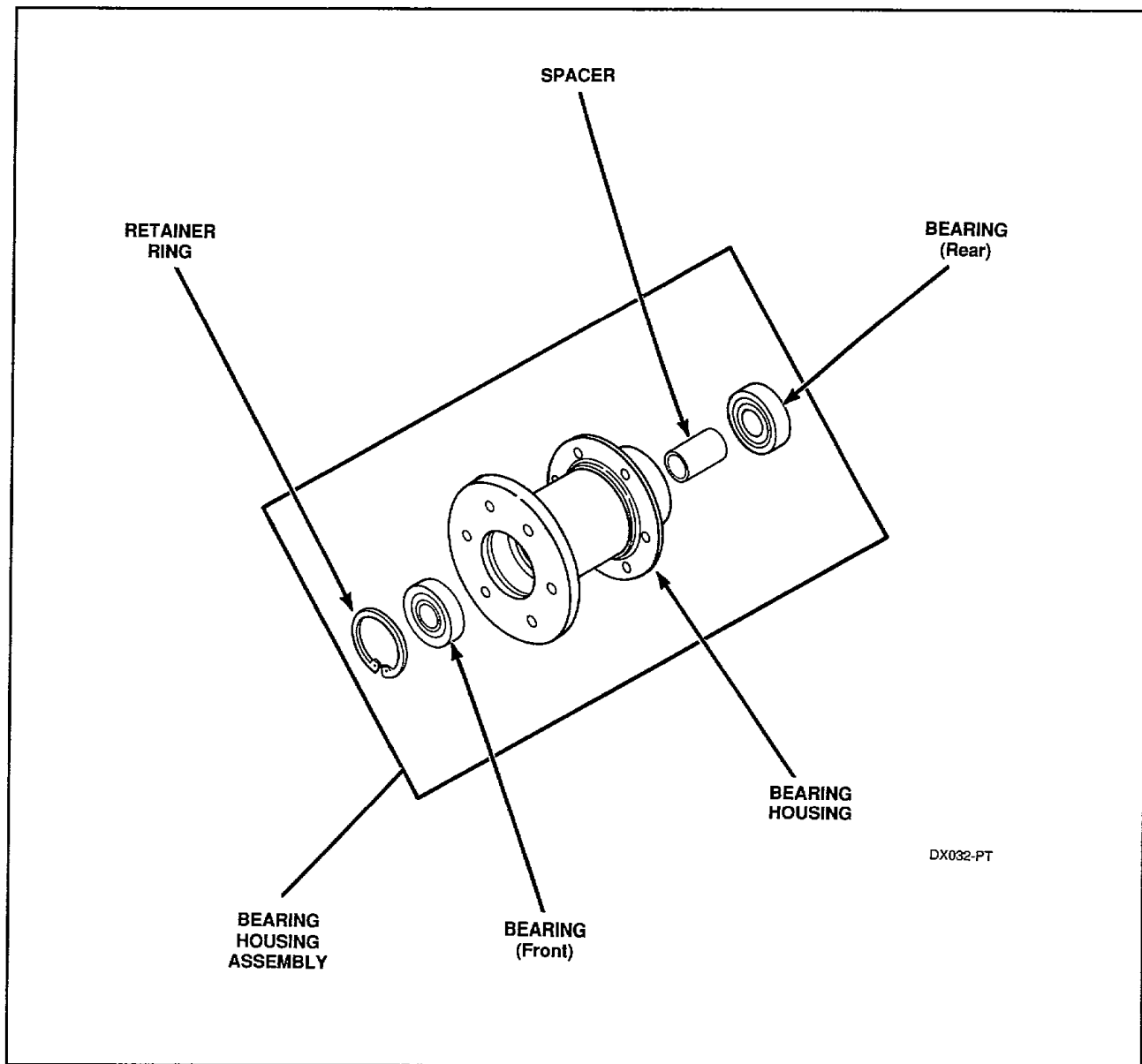


Figure 27

34. BEARING INSTALLATION

NOTE: A tool kit, Part No. 93508, is available for installing bearings in the bearing housing; proceed as follows:

- Clean all foreign material from inside diameter of the bearing housing.
- Place one each $\frac{3}{4}$ inch flat washer and nut on end of the $\frac{3}{4}$ x 12 inch threaded rod, *Figure 28*.
- Place the large bearing disc and front bearing on the threaded rod, *Figure 28*.
- Insert the threaded rod through the bearing housing and install the small bearing disc and the second $\frac{3}{4}$ inch flat washer and nut on threaded rod, *Figure 28*.
- Tighten nuts on threaded rod; pulling the front bearing into the bearing housing until it bottoms against the shoulder in the housing, *Figure 28*.

- Remove nut, flat washer and small bearing disc from threaded rod, *Figure 28*.
- Install bearing spacer and rear bearing on threaded rod. Reinstall small bearing disc, flat washer and nut on threaded rod, *Figure 29*.
- Tighten nuts on threaded rod; pulling rear bearing into bearing housing until it is snug against the bearing spacer, *Figure 29*.
- Remove tools from bearing housing and install the retainer ring in front of the front bearing in the bearing housing, *Figure 27*.

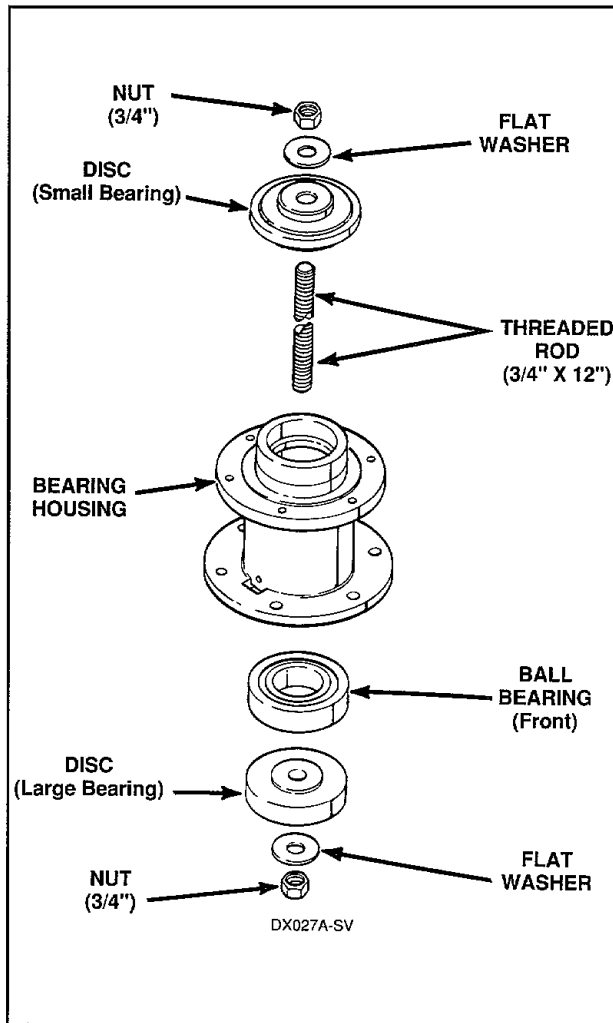


Figure 28

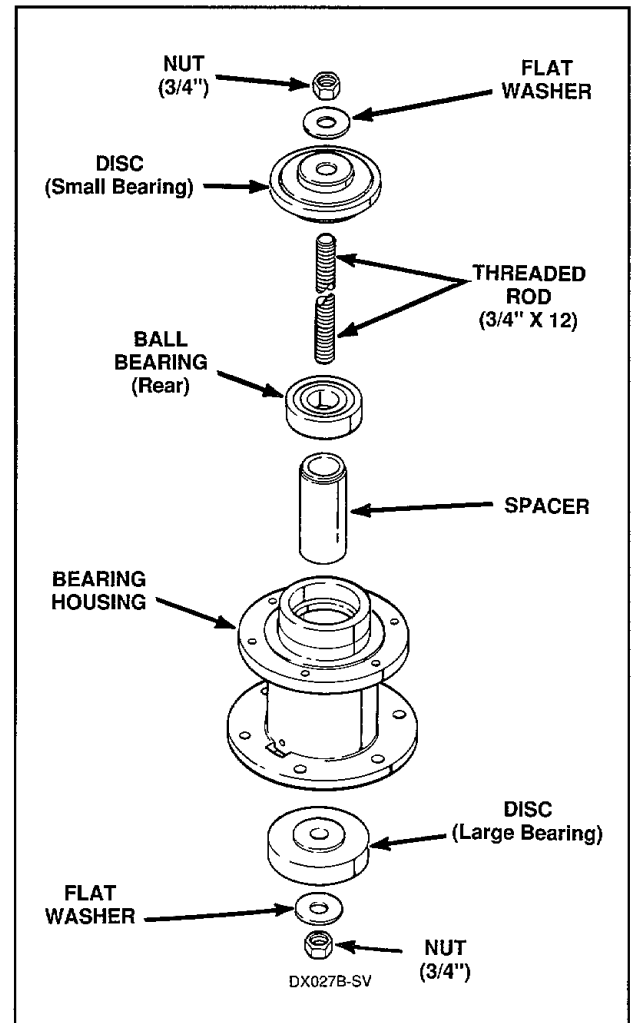


Figure 29

35. REASSEMBLY OF BEARING HOUSING, SUPPORTS AND TUB BACK

IMPORTANT: Apply a bead of sealant, such as Dow Corning Silastic® 732RTV or equivalent (these are clear silicone sealants) under the heads of the front bolts that hold the tub back and supports to front flange on bearing housing. These bolt heads are located inside the tub and will be exposed to water.

- a. Bolt the tub back and six bearing housing supports to the front and rear flanges on the bearing housing, *Figure 23*.

NOTE: For 25 pound washers — Torque the front bolts and nuts from 50 to 75 foot pounds and the rear bolts and nuts from 35 to 50 foot pounds.

For 40 pound washers — Torque the front bolts and nuts from 120 to 150 foot pounds and the rear bolts and nuts from 100 to 125 foot pounds.

- b. Apply a light coating of No. 26594P Silicone Lubricant to the area of the tub back where the primary and secondary seals will be contacting it.

36. REASSEMBLY OF BEARING HOUSING AND TUB BACK ONTO CYLINDER SHAFT

IMPORTANT: A new primary and secondary seal should be installed on the seal mounting ring (located on the cylinder shaft) whenever the cylinder has been removed. It is important to seat these two seals over the full circumference of the seal area on the mounting ring. *Figure 30.* When installing the seals, be careful not to move the seal mounting ring on the cylinder shaft. The location of this seal mounting ring is critical and must not be moved. *Figure 31* shows the proper location of the seal mounting ring for the 25 pound washer. The 40 pound washer mounting ring is located against a stop on the shaft.

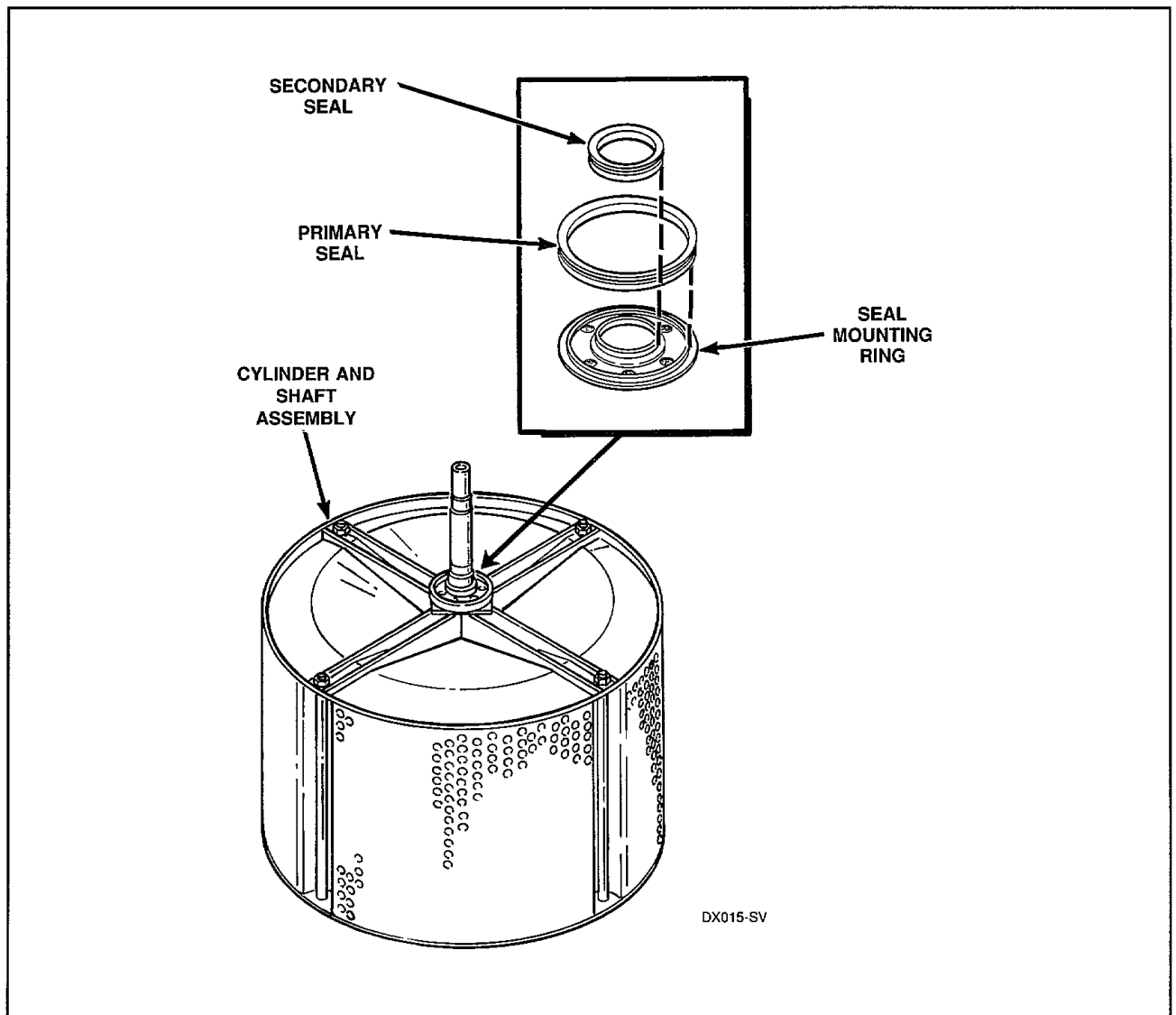


Figure 30

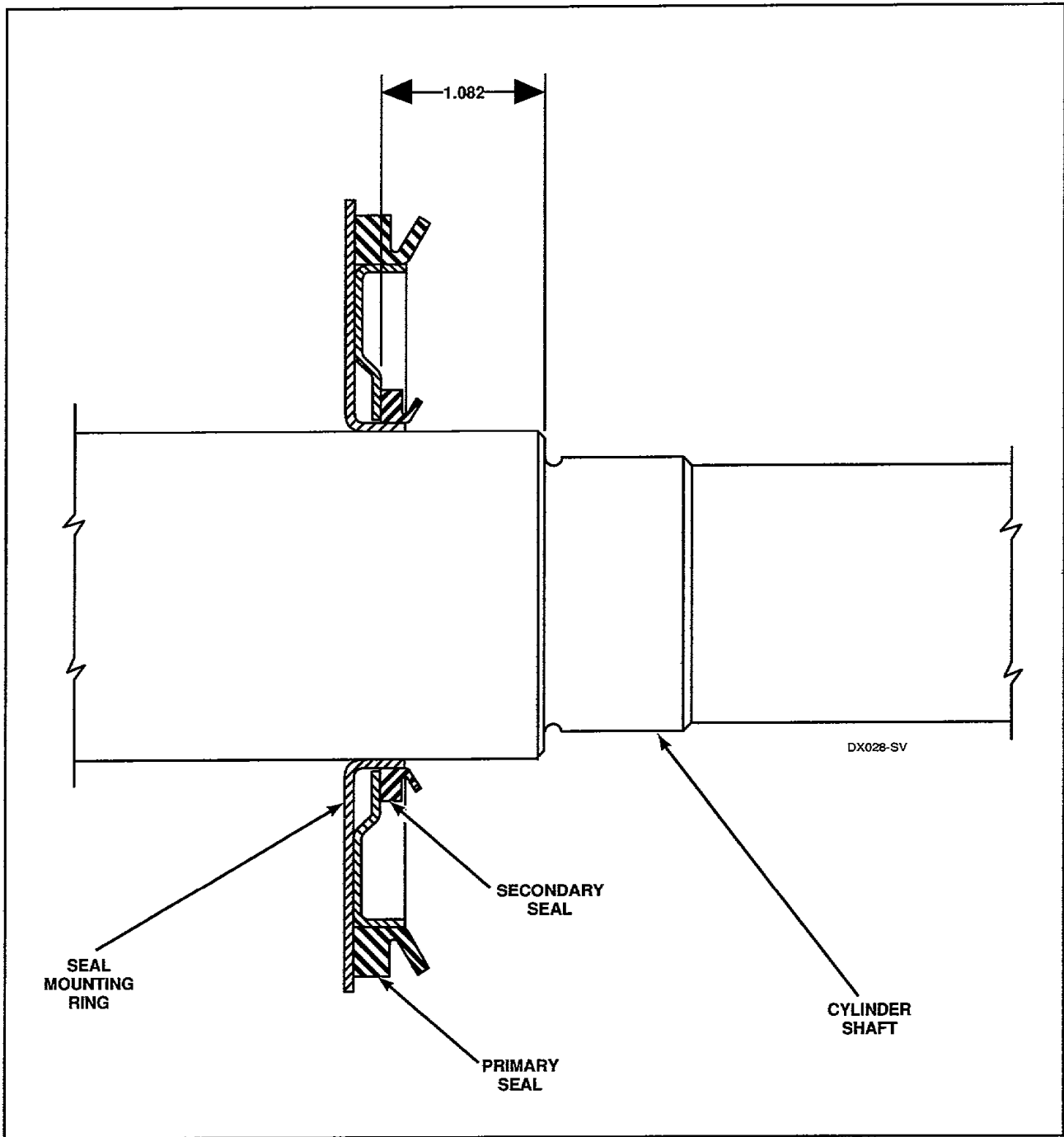


Figure 31

NOTE: A tool kit, Part No. 93508, is available for reassembling bearing housing and tub back onto cylinder shaft; proceed as follows:

- a. Carefully place the complete tub back, bearing housing and supports onto cylinder shaft, *Figure 32*.
- b. Screw the $\frac{1}{2}$ x 7 inch threaded rod into end of cylinder shaft, *Figure 32*.
- c. Place the 3 inch disc over the threaded rod with the small hole in the disc at the top, *Figure 32*.
- d. Place the $\frac{1}{2}$ inch flat washer and special nut on the threaded rod and snug nut against the flat washer on top of the 3 inch disc, *Figure 32*.

- e. Turn the special nut clockwise forcing the complete tub back, bearing housing and supports onto the cylinder shaft until the front bearing is against the shoulder on the shaft, *Figure 32*.

NOTE: It requires considerable force to drive the complete tub back, bearing housing and supports on the cylinder shaft.

- f. Reinstall the cylinder pulley, paragraph 31.

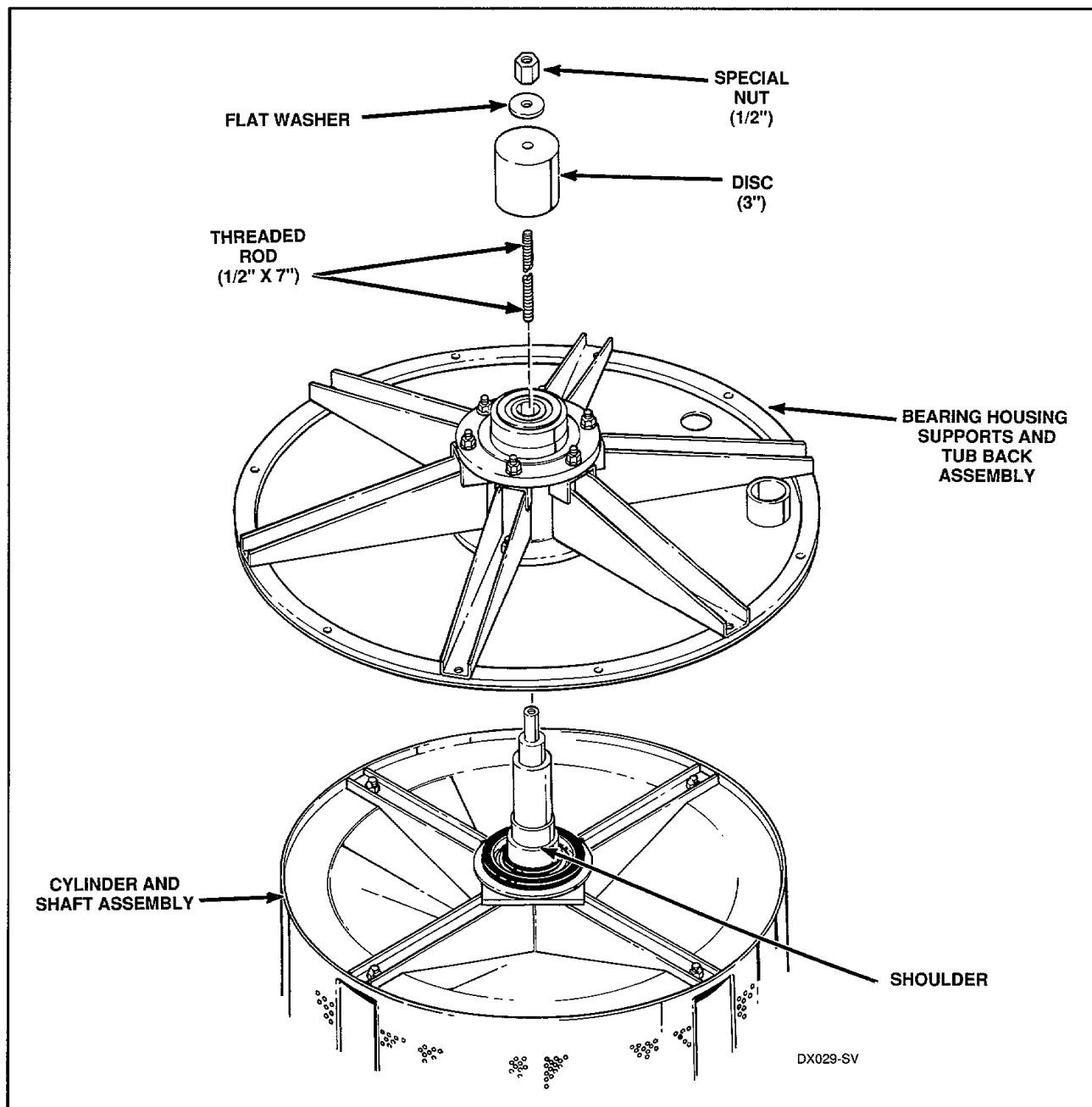


Figure 32

**37. REASSEMBLY OF BEARING HOUSING, TUB
BACK AND CYLINDER ASSEMBLY TO OUTER
TUB**

NOTE: The reassembling of the bearing housing, tub back and cylinder assembly to the outer tub is basically the reverse procedure of the disassembly, however, the following operations must be performed.

- a. The tub back and the outer tub contact area has no gasket and is sealed with a silicone sealant such as Dow Corning Silastic® 732RTV or equivalent (these are clear silicone sealants).

NOTE: Before reassembling, remove all of the old sealer and apply a new bead of sealant in its place. Have the tub back in its correct orientation before it contacts the sealant in order not to rub the sealant away from any given area.

- b. All bolts, shims, lockwashers and nuts around the perimeter of the tub back must be reinstalled as they were originally and torqued between 35 to 50 foot pounds for the 25 pound washer; and between 50 to 75 foot pounds for the 40 pound washer.

SECTION III

Adjustments

38. PRESSURE SWITCH

▲ WARNING

To reduce the risk of an electric shock and/or severe personal injury, disconnect electrical power and close water supply valves before servicing washer.

The pressure switch 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 as follows:

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key ¼ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.

Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.

The maximum water fill level can be increased by turning the adjusting screw **clockwise** or decreased by turning the screw **counterclockwise**, *Figure 33*.

⅓ turn of the adjusting screw represents approximately ¼ inch increase or decrease of water level in cylinder.

IMPORTANT: DO NOT turn adjusting screw more than three-quarter turn in either direction.

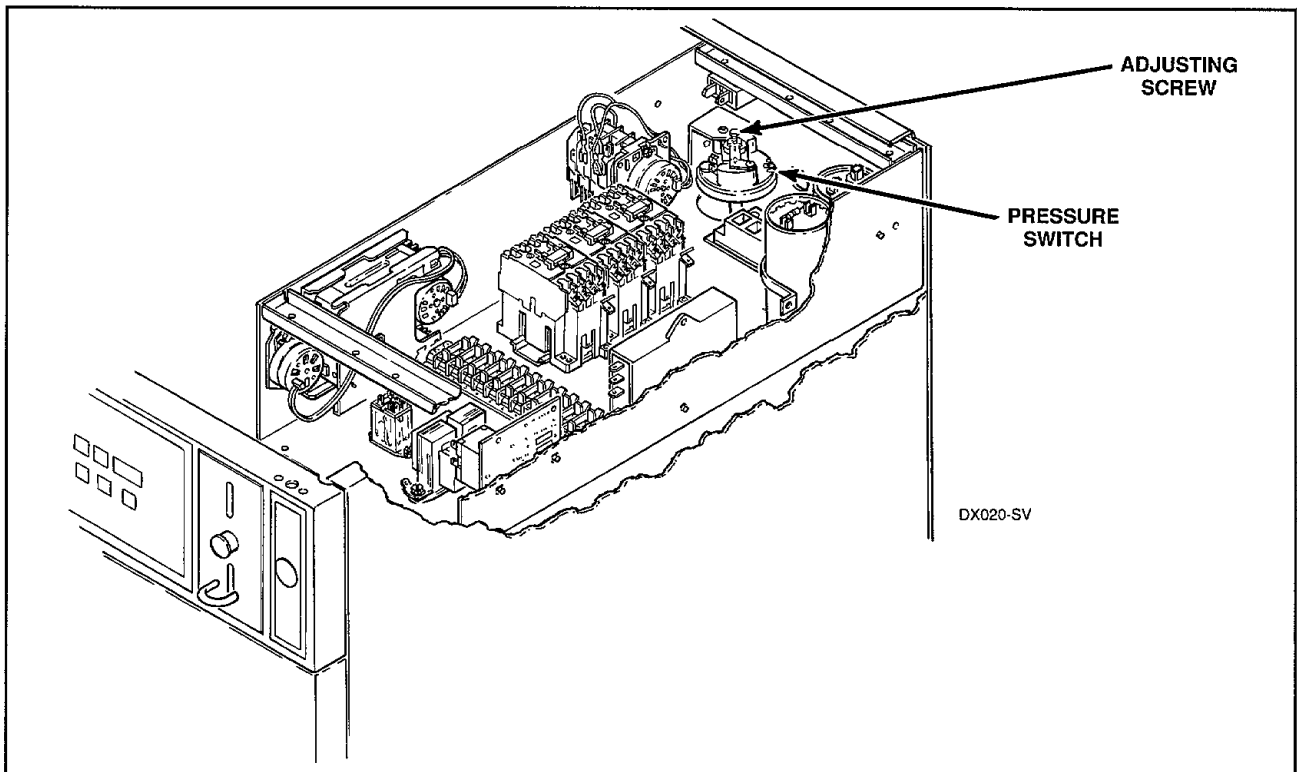


Figure 33

39. LOADING DOOR

Loading door can be adjusted up or down somewhat by loosening the screws holding door to hinge, then raise or lower the door before tightening the screws.

Pressure on door can be varied by adding or removing shims behind the door hinge and/or door lock plate.

40. DOOR LATCH SWITCH (Figure 34)

The latch switch should "click" to the closed position when the tip of the door handle is $\frac{1}{4}$ to $\frac{1}{2}$ inch from its fully closed position.

The switch mounting has slotted holes to allow for large adjustments.

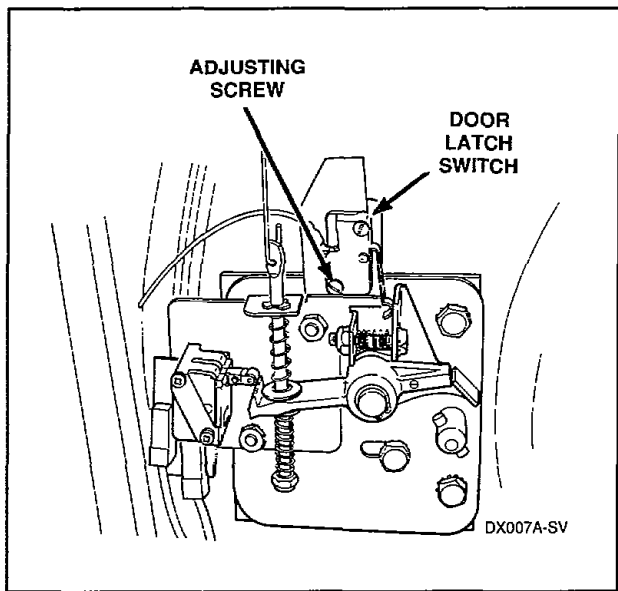


Figure 34

41. DOOR LOCK SWITCHES, SOLENOID AND MOUNTING BRACKET ASSEMBLY

- a. Open dispenser door and remove four screws holding dispenser to cabinet top, *Figure 1*.
- b. **Model EX325** — Insert key into cabinet top lock, turn key $\frac{1}{4}$ turn to the right (clockwise). Lift up on front of cabinet top and raise top to a vertical position by hinging top on rear hinges. Top is self-supporting by the retainer cable located at left rear corner.
Model EX440 — Insert keys into the left and right side cabinet top locks and unlock. Locks are threaded and will require several counterclockwise turns to unlock. Lift up on rear of top and slide top forward far enough to release top from the two front hold-down brackets. Set top out of the way.
- c. Loosen lower hose clamp holding soap dispenser to outer tub and move dispenser aside.
- d. Close the loading door firmly and latch handle.
- e. Loosen the $\frac{1}{32}$ inch nuts holding solenoid and mounting bracket to backside of front channel, *Figure 35*.
- f. Manually hold the solenoid in the closed position.
- g. Move the solenoid and bracket assembly up until you hear the door switch click.
- h. Check door handle to see if door is locked.
- i. Release solenoid, you should be able to unlock and open door.
- j. Once the door locks and opens correctly, tighten the $\frac{1}{32}$ inch nuts firmly.
- k. Reconnect soap dispenser to the outer tub and tighten hose clamp.
- l. Reconnect electrical power to the washer.
- m. Close loading door firmly and turn the door handle clockwise (vertical position).
- n. Select a wash cycle.
- o. Insert the required number of coins into the accumulator coin drop. After proper number of coins have been inserted, the red "ON" light will come on indicating start of cycle.
- p. Allow washer to operate for approximately five minutes.
- q. Check to see if door is locked.
- r. Disconnect electrical power to the washer.
- s. Loading door should remain locked.

NOTE: This adjustment moves the locking pawl up allowing the wheel on the switch actuating arm to contact the flat surface on the locking pawl, *Figure 36*. Over adjustment will allow the locking pawl to move above the wheel on the switch actuating arm, *Figure 36*.

NOTE: With a power interruption, allow two to three minutes before attempting to open door.

- t. If the door delay mechanism is functioning properly, then manually advance timer to the end of cycle.
- u. Reinstall cabinet top and dispenser screws.
- v. Reconnect electrical power to washer.

NOTE: Refer to *Figure 37* for the door delay mechanism assembly sequence.

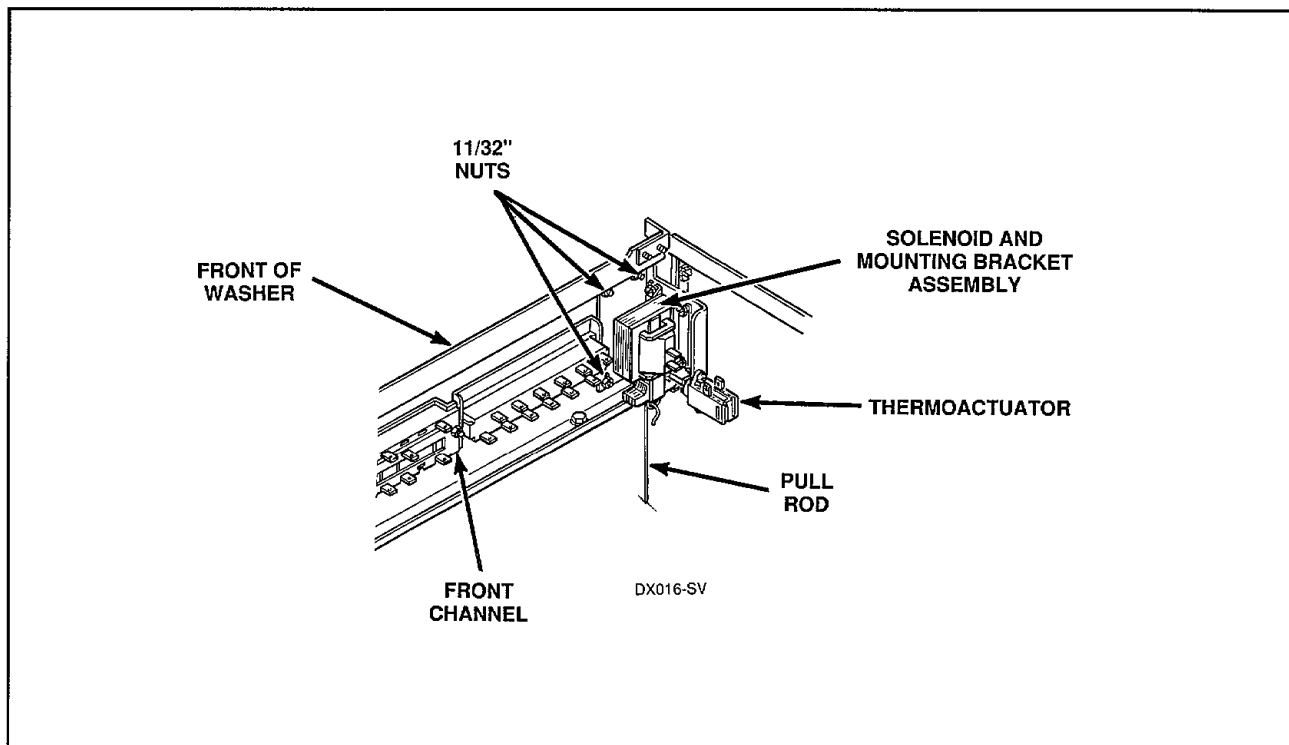


Figure 35
67

(continued)

For clarity, illustration shown with front panel removed.

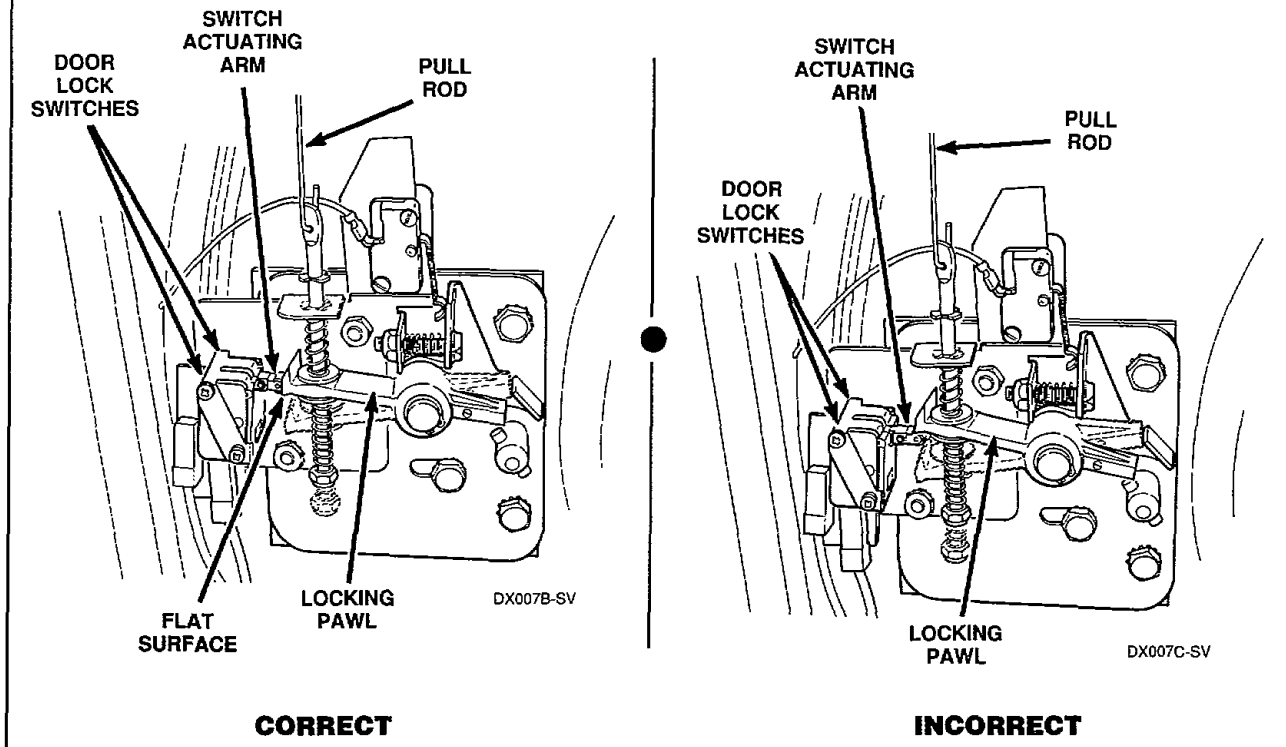


Figure 36

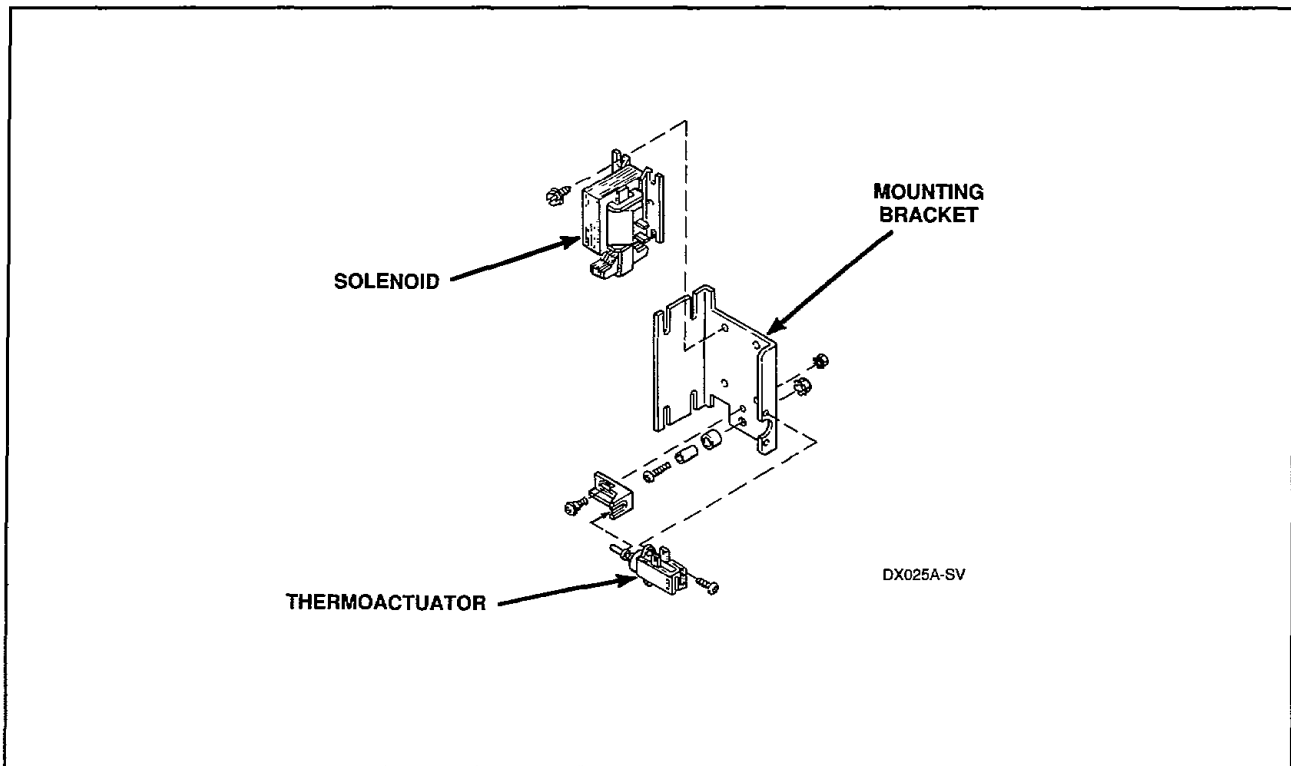


Figure 37

SECTION IV

Service Helps

42. WASHER DOES NOT DISPLAY PRICE

POSSIBLE CAUSE	TO CORRECT
Electric power disconnected or fuse blown.	Check incoming electrical power supply voltage or replace fuse.
Inoperative circuit breaker.	Check 1.5 Amp circuit breaker (located on rear cross channel).
Inoperative transformer.	Check for 12 Volt output from accumulator transformer.
Inoperative accumulator.	Try an accumulator known to be good.
Inoperative timer.	Timer has not completed cycle triggering reset through White/Yellow wire to accumulator.
Broken, loose or incorrect wiring.	Refer to the wiring diagram.

43. WASHER DOES NOT COUNT COINS

POSSIBLE CAUSE	TO CORRECT
Inoperative coin accumulator.	Check accumulator for short output signal at the Orange/White wire when preset number of coins is reached. Replace accumulator if necessary.
Electrical power disconnect or fuse blown.	Connect electrical power supply or replace fuse.
Inoperative accumulator transformer.	Check accumulator transformer for 12 Volt required by accumulator.
Inoperative coin acceptor.	Check coin switch to make sure coins trip switch and makes continuity across switch when closed.
Inoperative circuit breaker.	Check the 1.5 Amp circuit breaker (located on rear cross channel) to be sure it has not tripped or blown.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

44. WASHER WILL NOT START AFTER COINS COUNTED

POSSIBLE CAUSE	TO CORRECT
Inoperative program timer.	Rapid advance motor on program timer is not advancing timer into cycle. Check motor and check power to timer from accumulator.
Door does not lock.	<p>The door must be locked for the washer to continue the cycle.</p> <p>The following sequence must have taken place to advance timer before door locks:</p> <ul style="list-style-type: none">• Loading door closed.• Proper number of coins inserted to start washer.• Accumulator counted and credited coins to advance timer into cycle closing "ON/OFF" cam.• Door locking solenoid. If electrical power is available to the door solenoid but solenoid does not close, replace solenoid.

45. WASHER DOES NOT START

POSSIBLE CAUSE	TO CORRECT
Electric power disconnected or fuse blown.	Connect electrical power or replace fuse.
Improperly adjusted door latching switch.	Adjust switch, paragraph 40.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

46. DRIVE MOTOR DOES NOT RUN

POSSIBLE CAUSE	TO CORRECT
No electrical power.	Check the washer's 1.5 Amp circuit breaker (located on rear cross channel) to be sure it is not tripped or blown.
Inoperative program timer.	Check timer and replace if inoperative.
Inoperative reversing timer.	Check timer and replace if inoperative.
Improperly adjusted door latching switch.	Adjust switch, paragraph 40.
Inoperative door latching switch.	Check switch and replace if inoperative.
Improperly adjusted door lock switch.	Adjust switch, paragraph 41.
Inoperative door lock switch.	Check switch and replace if inoperative.
Motor overload protector has cycled.	Wait two or three minutes for overload protector to reset.
Inoperative capacitor.	Check capacitor and replace if inoperative.
Inoperative drive motor.	Check motor and replace if inoperative.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

47. WASHER STARTS BUT WILL NOT ADVANCE THROUGH CYCLE

POSSIBLE CAUSE	TO CORRECT
Inoperative program timer.	Check timer and replace if inoperative.
Obstruction in drain valve.	Clean valve, <i>Figure 11</i> .
Obstructed drain system.	If washer stalls ahead of spin (pressure switch reset) cycles, check for blockage of drain system that will stop timer advance by preventing resetting of pressure switch.
Kinked drain hose.	Straighten drain hose.
Incorrect wiring.	Refer to wiring diagram.

48. HOT WATER DOES NOT ENTER CYLINDER

POSSIBLE CAUSE	TO CORRECT
Hot water supply line closed.	Check for closed valve, kinked hose or obstruction in line.
WASH CYCLE switch improperly set or inoperative.	Reset switch or replace if inoperative.
Inoperative pressure switch.	Check pressure switch continuity between terminals "1" and "2".
Inoperative hot water solenoid.	Check coil continuity at terminals and replace if inoperative.
Clogged water valve inlet screen.	Remove and clean or replace screen.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

49. COLD WATER DOES NOT ENTER CYLINDER

POSSIBLE CAUSE	TO CORRECT
Cold water supply line closed.	Check for closed valve, kinked hose or obstruction in line.
WASH CYCLE switch improperly set or inoperative.	Reset switch or replace if inoperative.
Inoperative pressure switch.	Check pressure switch continuity between terminals "1" and "2".
Inoperative cold water solenoid.	Check coil continuity at terminals and replace if inoperative.
Clogged water valve inlet screen.	Remove and clean or replace screen.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

50. WARM WATER DOES NOT ENTER CYLINDER

POSSIBLE CAUSE	TO CORRECT
No hot water.	Refer to paragraph 48.
No cold water.	Refer to paragraph 49.

51. NO HOT WATER IN DETERGENT DISPENSER

POSSIBLE CAUSE	TO CORRECT
Inoperative WASH DISP cam.	Check for voltage at WASH DISP cam to close hot water solenoid.
Inoperative pressure switch.	Check pressure switch continuity between terminals "1" and "2".
Inoperative hot water solenoid.	Check coil continuity at terminals and replace if necessary.

52. CYLINDER DOES NOT FILL

POSSIBLE CAUSE	TO CORRECT
No hot water.	Refer to paragraph 48.
No cold water.	Refer to paragraph 49.
Improperly adjusted pressure switch.	Adjust switch, paragraph 38.
Inoperative dump valve.	Check the following: <ul style="list-style-type: none">• Dump valve blockage.• Dump valve and gear train.• Electrical power to dump valve, if no power to dump valve check Brown/Yellow circuit for power.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

53. WATER DOES NOT SHUT OFF (Water Level Too High)

POSSIBLE CAUSE	TO CORRECT
Inoperative pressure switch.	Check for blockage in pressure hose. Check pressure switch open circuit across terminals "1" and "2". Replace pressure switch if contacts do not open.
Inoperative hot water solenoid.	Check coil continuity at terminals and replace if inoperative.
Clogged water valve inlet screen.	Remove and clean or replace screen.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

54. WATER DOES NOT DRAIN OR DRAINS SLOW FROM CYLINDER

POSSIBLE CAUSE	TO CORRECT
Inoperative dump valve.	Check the following: <ul style="list-style-type: none"> • Dump valve blockage. • Dump valve motor and gear train.
Improper drain facilities.	Check the building drain system for blockage or inadequate size.
Kinked drain hose.	Straighten drain hose.
Incorrect wiring.	Refer to wiring diagram.

55. WASHER DOES NOT TUMBLE

POSSIBLE CAUSE	TO CORRECT
Inoperative R2 relay.	Check continuity between terminals "13" and "14" on relay.
Inoperative wash speed capacitor.	Check capacitor and replace if inoperative.
Loose or broken drive belt.	Check belt tension spring or replace drive belt.
Inoperative drive motor.	Check motor and replace if inoperative.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

56. WASHER TUMBLES ONLY IN ONE DIRECTION

POSSIBLE CAUSE	TO CORRECT
Inoperative reversing timer.	Check reversing timer for motion, if none, check for electrical power to timer motor and check continuity of timer motor.

57. WASHER DOES NOT SPIN

POSSIBLE CAUSE	TO CORRECT
Motor does not run.	Refer to paragraph 46.
Inoperative spin relay.	Check spin relay coil for continuity, replace if shorted. Check relay contacts.
Inoperative pressure switch.	Check pressure switch for contact across terminals "1" and "2" indicating pressure switch has reset.
Inoperative spin capacitor.	Check and replace spin capacitor if inoperative.
Loose or broken drive belt.	Check belt tension spring or replace drive belt.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

58. WASHER DOES NOT STOP AT END OF CYCLE

POSSIBLE CAUSE	TO CORRECT
Inoperative coin accumulator.	Check for continuous output from terminal where Orange/White wire connects to accumulator. If so, replace accumulator.

59. LOADING DOOR WILL NOT OPEN

POSSIBLE CAUSE	TO CORRECT
Inoperative timer.	Make sure washer is in "OFF" position allowing the timer to authorize door unlock.
Inoperative door lock solenoid.	Check that door lock solenoid is not stuck shut.
No electrical power.	Check the washer's 1.5 Amp circuit breaker (located on rear cross channel) to be sure it has not tripped or blown.
Broken, loose or incorrect wiring.	Refer to wiring diagram.

60. DOOR LEAKS

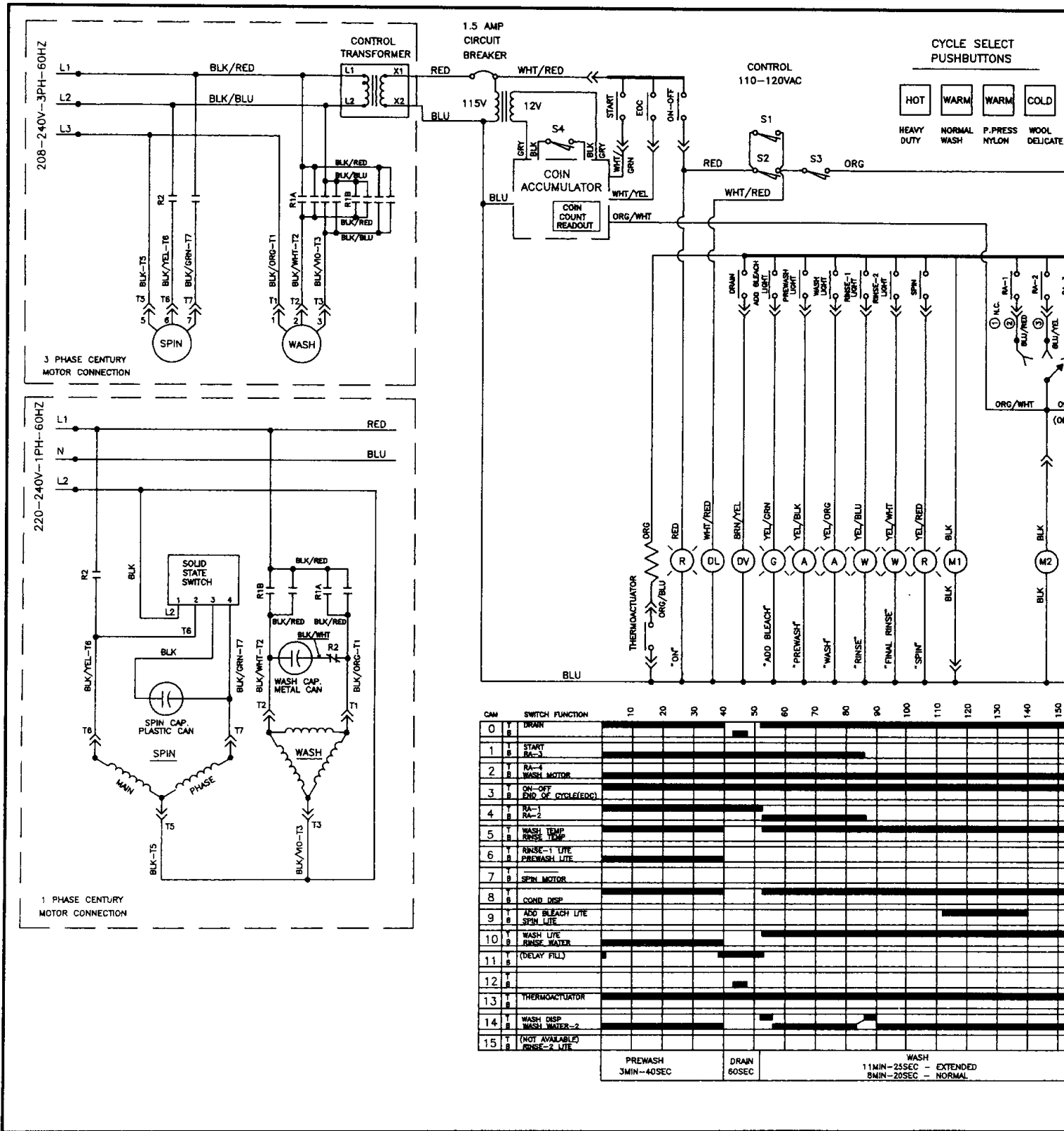
POSSIBLE CAUSE	TO CORRECT
Insufficient pressure on door gasket.	Adjust pressure by removing shims from either the hinge or from the door latch, depending on the area of the leak.
Damaged gasket.	Replace gasket.

61. EXCESSIVE VIBRATION

POSSIBLE CAUSE	TO CORRECT
Unbalanced load in cylinder.	Stop washer, redistribute load, then restart washer.
Loosened nuts on mounting bolts.	Tighten nuts.
Loose cabinet screws.	Tighten screws.
Worn drive belt.	Check belt and replace if worn.

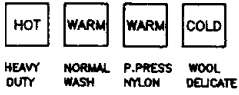
Section V

Wiring Schematics and Diagrams



WIRING SCHEMATIC — 220/240 VOLT, 60 HERTZ, 1 PHASE
208/240 VOLT, 60 HERTZ, 3 PHASE

CYCLE SELECT
PUSHBUTTONS

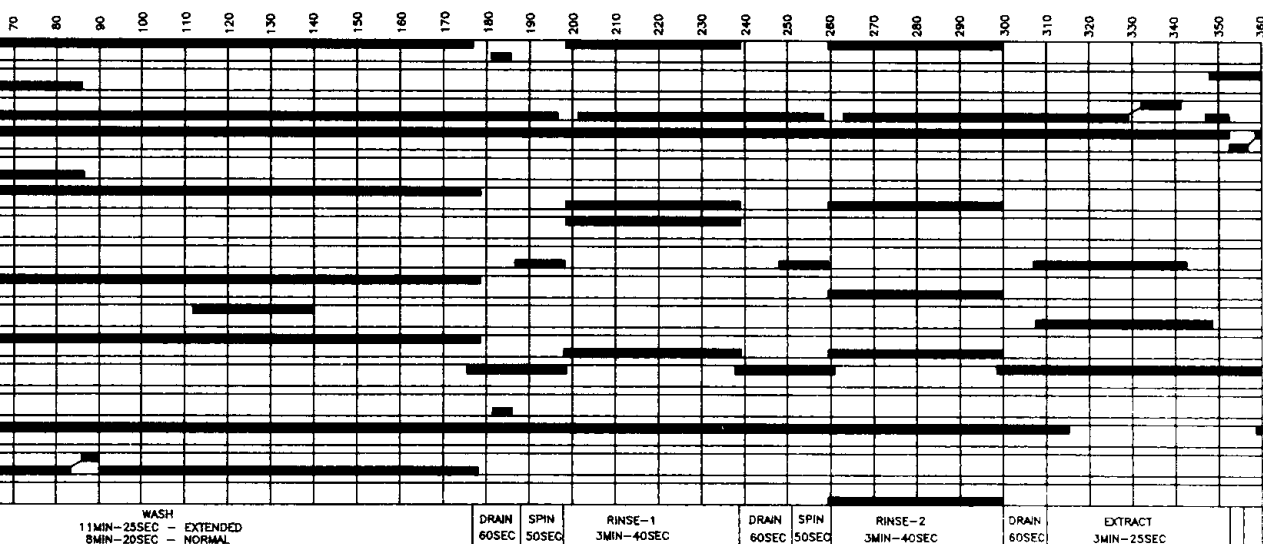
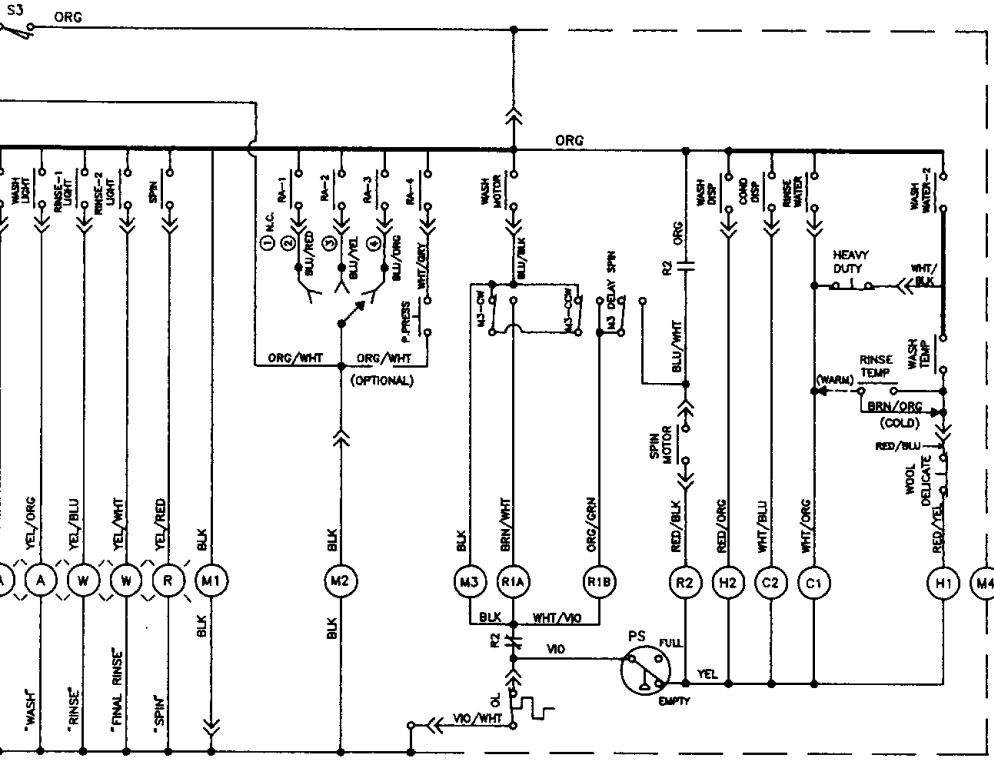


LEGEND

- C1 COLD WATER VALVE SOLENOID (TUB)
- C2 COLD WATER VALVE SOLENOID (CONDITIONER DISPENSER)
- DL DOOR LOCK SOLENOID
- DV DRAIN VALVE
- H1 HOT WATER VALVE SOLENOID (TUB)
- H2 HOT WATER VALVE SOLENOID (WASH DISPENSER)
- M1 MAIN TIMER MOTOR
- M2 RAPID ADVANCE TIMER MOTOR
- M3 REVERSING TIMER MOTOR
- M4 ELAPSED TIME METER (OPTIONAL)
- PS PRESSURE SWITCH
- RIA WASH CONTACTOR (CW)
- R1B WASH CONTACTOR (CCW)
- R2 SPIN MOTOR CONTACTOR (CW)
- S1 DOOR SWITCH (DOOR LATCHED)
- S2 LOCK SWITCH (DOOR LOCKED)
- S3 LOCK SWITCH (DOOR LOCKED)
- S4 COIN SWITCH (DETECTS COIN)
- MAIN TIMER CONTACT
- PUSHBUTTON CONTACT
- MODE SELECTION JUMPER (SEE BELOW)*
- INTERNAL TIMER CONNECTION
- INDICATOR LIGHT

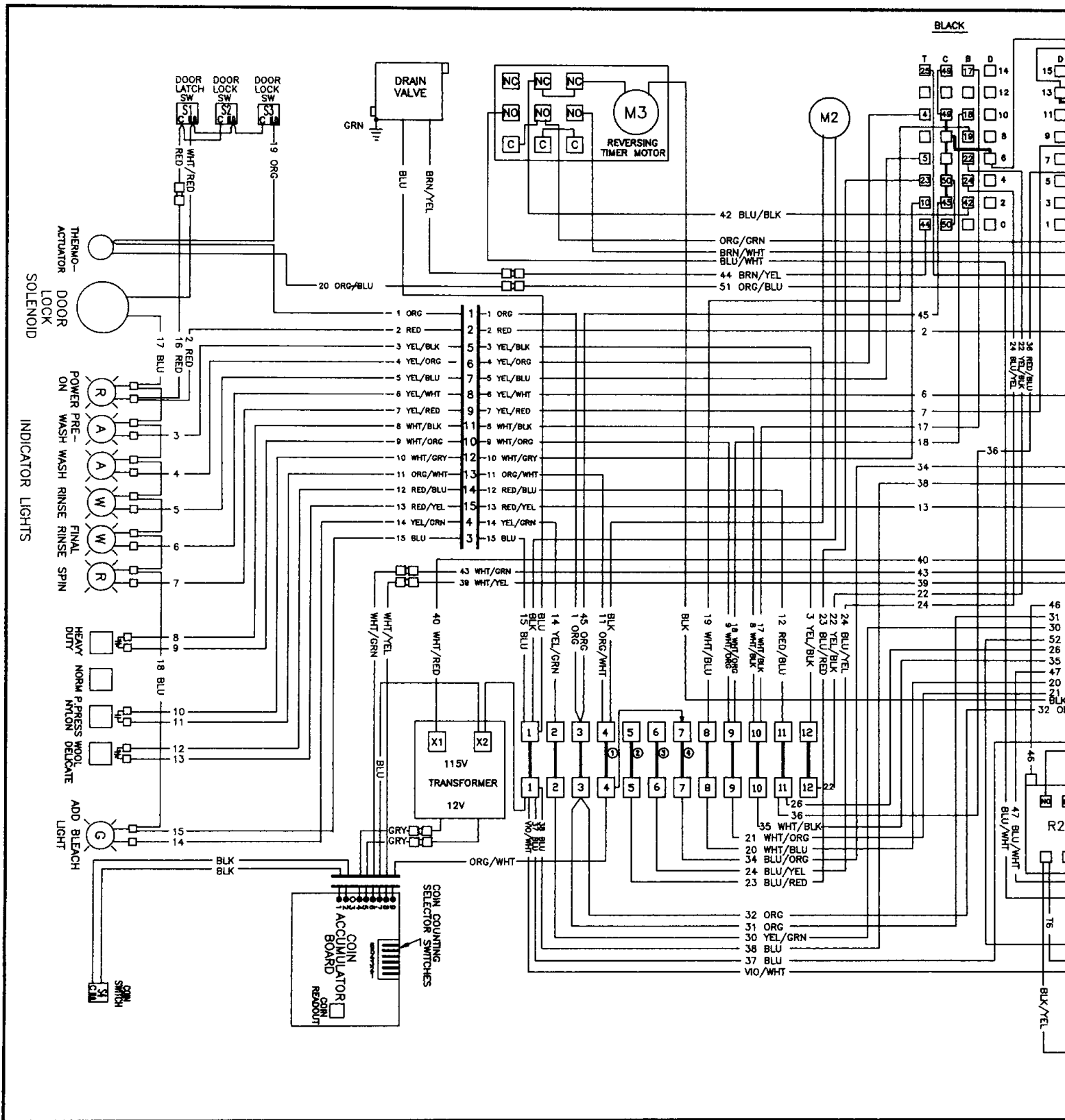
* MODE SELECT CONNECTIONS (SEE DWG. 9345-714-001 & 9345-715-001)

- ① PREWASH & LONG WASH -ORG/WHT JUMPER TO TB2-4
- ② LONG WASH -ORG/WHT JUMPER TO TB2-5
- ③ PREWASH & NORMAL WASH-ORG/WHT JUMPER TO TB2-6
- ④ NORMAL WASH -ORG/WHT JUMPER TO TB2-7

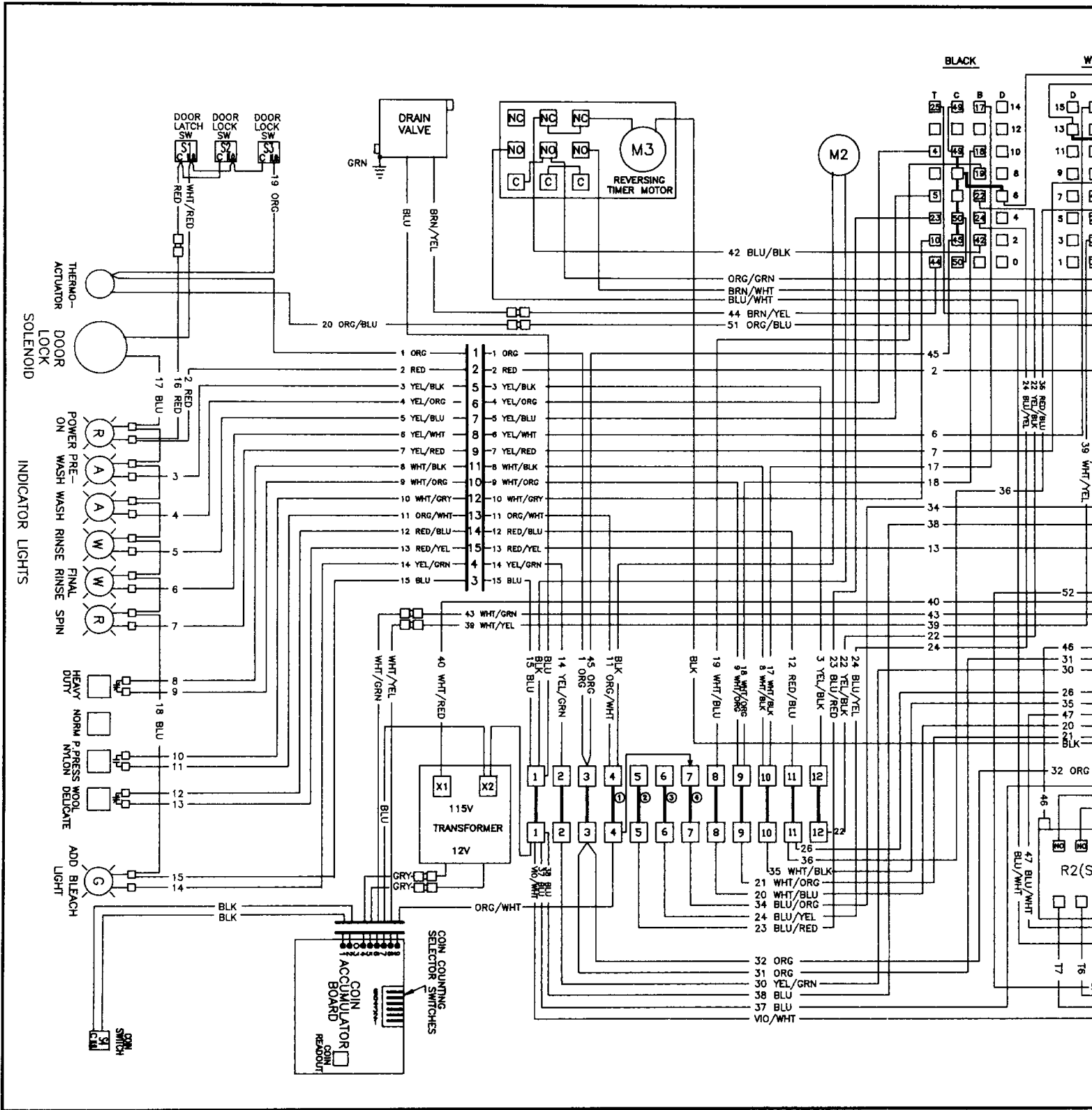


WASH
11MIN-25SEC - EXTENDED
8MIN-20SEC - NORMAL

DRAIN 60SEC
SPIN 50SEC
RINSE-1 3MIN-40SEC
DRAIN 60SEC
SPIN 50SEC
RINSE-2 3MIN-40SEC
DRAIN 60SEC
EXTRACT 3MIN-25SEC



WIRING DIAGRAM — 220/240 VOLT, 60 HERTZ, 1 PHASE



WIRING SCHEMATIC — 208/240 VOLT, 60 HERTZ, 3 PHASE

