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# Section 1

## Specifications

### Thoroughbred 900 Mechanical Timer OPL Washer

**Model**                      **Voltage**  
 WCN55AEH                  208-240 volts, 60 Hz, Single Phase or Three Phase

#### Cycle Times OPL Mechanical Timer Washer

	Rotary Switch Position				Chemical Signal	Water Level
	1	2	3	4		
Flush	3 min.	3 min.	Not used	Not used	No	High
Drain	42 sec.	42 sec.	Not used	Not used		
Prewash	3 min.	3 min.	3 min.	3 min.	Yes--A	High
Drain	42 sec.	42 sec.	42 sec.	42 sec.		
Wash	7 min.	7 min.	7 min.	7 min.	Yes--B	Low
Drain	49 sec.	49 sec.	49 sec.	49 sec.		
Rinse 1	2 min.	Not used	2 min.	2 min.	No	High
Drain	41 sec.	Not used	41 sec.	41 sec.		
Rinse 2	7 min.	7 min.	7 min.	Not used	Yes--C	Low
Drain	49 sec.	49 sec.	49 sec.	Not used		
Rinse 3	2 min.	2 min.	2 min.	2 min.	No	High
Drain	41 sec.	41 sec.	41 sec.	41 sec.		
Int. Spin	2 min.	2 min.	2 min.	2 min.		
Rinse 4	2 min.	2 min.	2 min.	2 min.	No	High
Drain	42 sec.	42 sec.	42 sec.	42 sec.		
Rinse 5	4 min.	4 min.	4 min.	4 min.	Yes--D	Low
Drain	41 sec.	41 sec.	41 sec.	41 sec.		
Extract	5 min.	4 min.	5 min.	3 1/2 min.		
Tumble	37 sec.	37 sec.	37 sec.	37 sec.		
Total *	43 min.	39.5 min.	39.5 min.	30.5 min.		

\* Cycle times are approximate and do not include fill time from empty to low level. Fill time from low to high level is included as timer operates during this period.

# Specifications

<b>Capacity</b>	55lbs.
<b>Dimensions</b>	
Cylinder Depth	22"
Cylinder Diameter	30"
Cylinder Volume (cubic feet)	9.0
Door Opening	15 1/4"
Door Height (floor to bottom of door)	18 3/8"
Overall Height	54"
Cabinet Width	34 3/8"
Overall Depth	38 3/4"
Drain Diameter (O.D.)	3"
Drain Height (floor to center of outlet)	7 1/2"
Recommended Clearance	
Between Machines (minimum)	1/2"
Necessary Service Clearance Behind Machine	24"
<b>Cylinder RPM</b>	
Tumble Speed	43
Intermediate Extract Speed	375
Intermediate Extract G-Force	60
Extract Speed	531
Extract Speed G-Force	120
Cylinder Direction in Extract	counter clockwise
<b>Motor H.P.</b>	
Wash (single phase)	3
(three phase)	3
Extract (single phase)	3
(three phase)	3
<b>Amperage (average measured on L1)</b>	
Wash (three phase)	3
Wash (single phase)	3
Intermediate Extract (three phase)	3
Intermediate Extract (single phase)	3
Extract (three phase)	4.2
Extract (single phase)	4.2
<b>Running Amps (maximum)</b>	
Single Phase	8.4
Three Phase	8.4
<b>Circuit Breaker (amps)</b>	
Three Phase	15
Single Phase	15
Built-in Controls Circuit Breaker	yes
Built-in Motor Protection	yes

<b>Voltage 60 Hz.</b>	
Three Phase	208-240
Single Phase	208-240
<b>Service</b>	
Three Phase ***	3 wire plus ground
Single Phase ***	2 wire plus ground
<b>Wire Size (min.)</b>	
Three Phase	12
Single Phase	12
<b>Chemical Injection</b>	
Rear Access Electrical Connections	Yes
Rear Access Hose Connections	Yes
<b>Steam Heat Option</b>	
	Yes
<b>Water</b>	
Recommended Hot Water (degrees)	140
Water Pressure (min/max)	30-120psi
Water Inlet Size (hose thread)	3/4"
Water Flow Rate (gallons/minute)	9
<b>Wash Cycle</b>	
Cycle Time	See Wash Cycle Time Chart
Wash Temperatures	hot, warm & cold
Rinse Temperatures	hot, warm & cold
<b>Mounting Hole Dimensions</b>	
Left to Right	27 3/4"
Front of Cabinet to First Hole	2 3/4"
First Hole to Second Hole	23"
Second Hole to Third Hole	11"
Mounting Bolt Diameter	3/4"
Hole Diameter in Base	1"
Concrete Thickness (min.)	8"
Recommended Mounting Height	4" to 10"
<b>Weight</b>	
Shipping (lbs.)	1075
Net (lbs.)	1025

\*\*\* 120 volt chemical pumps will require a neutral wire

## Water Temperatures

### OPL Mechanical Timer Washer

#### Push Button Temperature Switch

	1	2	3	4
Flush	Warm	Warm	Warm	Cold
Prewash	Warm	Warm	Warm	Cold
Wash	Hot	Warm	Warm	Cold
Rinse 1	Hot	Hot	Warm (Hot OPT)	Cold
Rinse 2	Hot	Hot	Warm (Hot OPT)	Cold
Rinse 3	Warm	Warm	Warm (Cold OPT)	Cold
Rinse 4	Warm	Warm	Warm (Cold OPT)	Cold
Rinse 5	Warm	Warm	Warm (Cold OPT)	Cold

#### Options

1. Replace all Hot rinses with Warm rinses by removing brn/red wire from coil of R5 relay and insulate
2. Push button 3 replace Warm rinse 1 & 2 with Hot by removing black jumper wire between push button 3 and push button 4 and connecting the wht/brn wire (piggybacked on the black jumper) to push button 4 normally open terminal B1
3. Push button 3 replace Warm rinse 3,4 & 5 with Cold by moving brn/org wire from pushbutton 3 common terminal A2 to push button 3 normally closed terminal C2

# Wash Formulas

Application	Formula	Mechanical Timer	Rotary Switch Position	
Shirt Laundry oxygen bleach	Shirts (No Starch)	X	4 (A)	
	Shirts (Starch)	X	4 (A)	
Hotel/Motel chlorine bleach	White Sheets	X	2 (B)	
	White Pillowcases	X	1(B)	
	White Towels, Bath Mats & Wash Cloths	X	3 (B) or 1(B)	
	Colored Sheets & Towels	X	4 (B) or 1(B)	
	Delicate Wash	X	4 (B)	
	Housekeeping Rags & Mops	X	1 (C)	
	Housekeeping Uniforms	X	2 (D)	
	Stain Treatment	No		
	Reclaim Part1	No		
	Part 2	No		
Health Care chlorine bleach	Sheets & Pillowcases	X	2	
	Towels	X	3 or 1	
	Diapers & Pads	X	1 (K)	
	Personals	X	4	
	Delicates	X	4	
Food & Beverage chlorine bleach	White (Cotton/Blend) Table Linen	X	3 (E)	
	Colored (Cotton/Blend) Table Linen	X	2 (F)	
	White (100% Polyester) Table Linen	X	3 (E)	
	Colored (100% Polyester) Table Linen	X	2 (F)	
	White Chef Coats	X	1 (J)	
	Kitchen & Maintenance Rags	X	1 (G)	
	oxygen bleach	White/Colored (Cotton/Blend) Table Linen	X	3 (H)
		White/Colored (100% Polyester) Table Linen	X	3 (H)
		White Chef Coats	X	1 (G)
		Kitchen & Maintenance Rags	X	1 (G)
Other oxygen bleach	Oxygen Bleach--Terry	X	1 (G) or 3(L)	
	Oxygen Bleach--Terry (No Iron)	X	1 (G) or 3(L)	
	Open	No		

- (A) Switch Position #4 gives 7 minute wash. Flush & Prewash eliminated with jumper  
(connect orange/white wire to terminal strip #2)
- (B) Flush & Prewash eliminated with jumper (connect orange/white wire to terminal strip #2)
- (C) Switch Position #1 gives 2 flushes/3 rinses after bleach
- (D) Switch Position #2 gives either 2 flushes or 0 flushes. Flush & Prewash eliminated with jumper  
(connect orange/white wire to terminal strip #2)
- (E) Switch Position #3 gives 7 minute wash
- (F) Switch Position #2 gives either 2 or 0 flushes with a 7 minute wash. Flush & Prewash eliminated with jumper  
(connect orange/white wire to terminal strip #2)
- (G) Switch Position #1 gives 3 min. flush/3 min. prewash/7 min. wash/5 rinses
- (H) Switch Position #3 gives 7 minute wash/7 minute 2nd rinse
- (J) Switch Position #1 gives 3 min. flush/3 min. prewash/7 min. wash
- (K) Switch Position #1 gives 2 flushes
- (L) Same as (G) only deletes first Flush

Please refer to OPL Washer CYCLE TIMES charts for all available options.



# Section 2

## Installation & Operation

All washers must be installed in accordance with all local, state and national building, electrical, and plumbing codes in effect in the area.

### Foundation Requirements

The washer must be securely bolted to a substantial concrete floor, or mounted upon a suitable base which is in turn securely bolted to a substantial concrete floor. Care must be stressed with all foundation work to insure a stable unit, eliminating vibration. All installations must be made on sound concrete floors 8" or thicker.

### Mounting

A concrete pad or steel base which elevates the machine 4 to 10 inches above the floor level is recommended to provide easy access to the loading door. Allow a minimum of 24" of clearance behind the rear of the machine for service. Six bolts are required to mount the washer to the steel base or concrete pad.

### Mounting Holes

The following pages illustrate the mounting dimensions for the machine and also show a typical concrete pad arrangement.

**Note: Mounting bolts should be checked frequently to insure that they remain tight. The machine should be checked with a spinning load to be sure there is no unusual vibration or movement between the machine and the base or floor.**

### Plumbing

Water supply hoses are furnished with each machine. The threaded connections on the hoses are standard garden hose type thread. Separate hot and cold water lines with shut off valves or faucets for inlet hose connections must be provided, maintaining 30 to 120 p.s.i. water flow pressure. The hot water recovery rate necessary will depend on the length of the cycle and the specific program selected. A hot water temperature of 140 degrees Fahrenheit is recommended for best washing results.

### Drain

The drain outlet tube at the rear of the machine is 3" in outside diameter. A flexible hose (Pt. No. 9242-417-003) is available to extend the drain system. Adequate fall must be maintained for proper drainage.

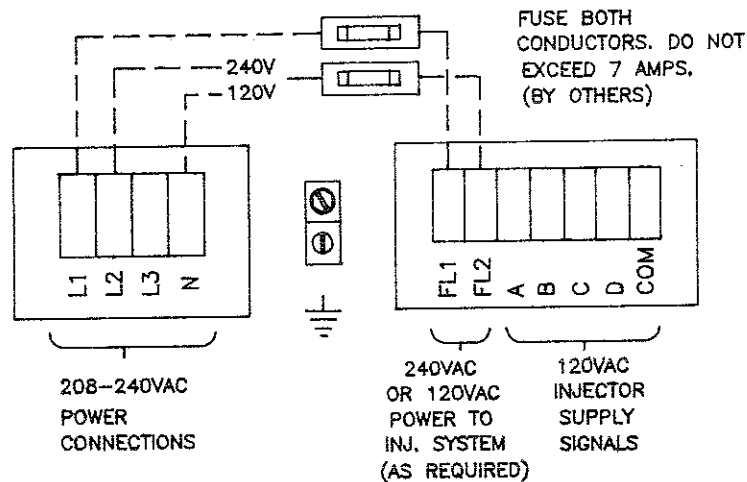
### Protective Film

The machine may have protective adhesive film on the front escutcheon area and the front and side stainless steel panels. The film may be peeled off before putting the machine into service.

## Electrical (includes chemical pump connections)

Dexter WCN55 series washers are intended to be permanently installed appliances. The machines should be connected to an individual branch circuit not shared by lighting or other equipment. The electrical connection should be sheathed in water proof flexible conduit, or equivalent, with conductors of the proper size and insulation (suggested size below). A power cord is not provided. The following diagram shows the proper power connections to the rear terminal block for both 1 and 3 phase machines. Wiring should be performed by a qualified person.

Electrical power connections are made to the terminal block located at the upper right-rear corner of the washer (viewed from front). The terminal block is accessed by removing the cover.



**1 Phase, 208-240 volts, 60 Hz.**  
connect L1, L2, and ground

**3 Phase, 208-240 volts, 60 Hz.**  
connect L1, L2, L3 and ground  
(high leg must go on L3)

**A-Prewash Product**  
**B-Detergent**  
**C-Bleach**  
**D-Sour/Softener**  
**Com-120VAC common**

**Suggested Minimum Wire Size --**  
**12 Ga.**

Jumpers for 120VAC and 240VAC power supply for chemical pumps (dash lines in drawing) are field installed.

**Fusing Requirements: Dual element time delay fuse or equivalent breaker of amperage specified below.**

1 Phase/ 3 Phase	15 amp	When injection pump takes only signal pulses from washer terminal block.
1 Phase/ 3 Phase	20 amp	When injection pump uses washer terminal block for its power supply as well as signal pulses.

**Always disconnect electrical power to the machine before performing any adjustments or service work.**

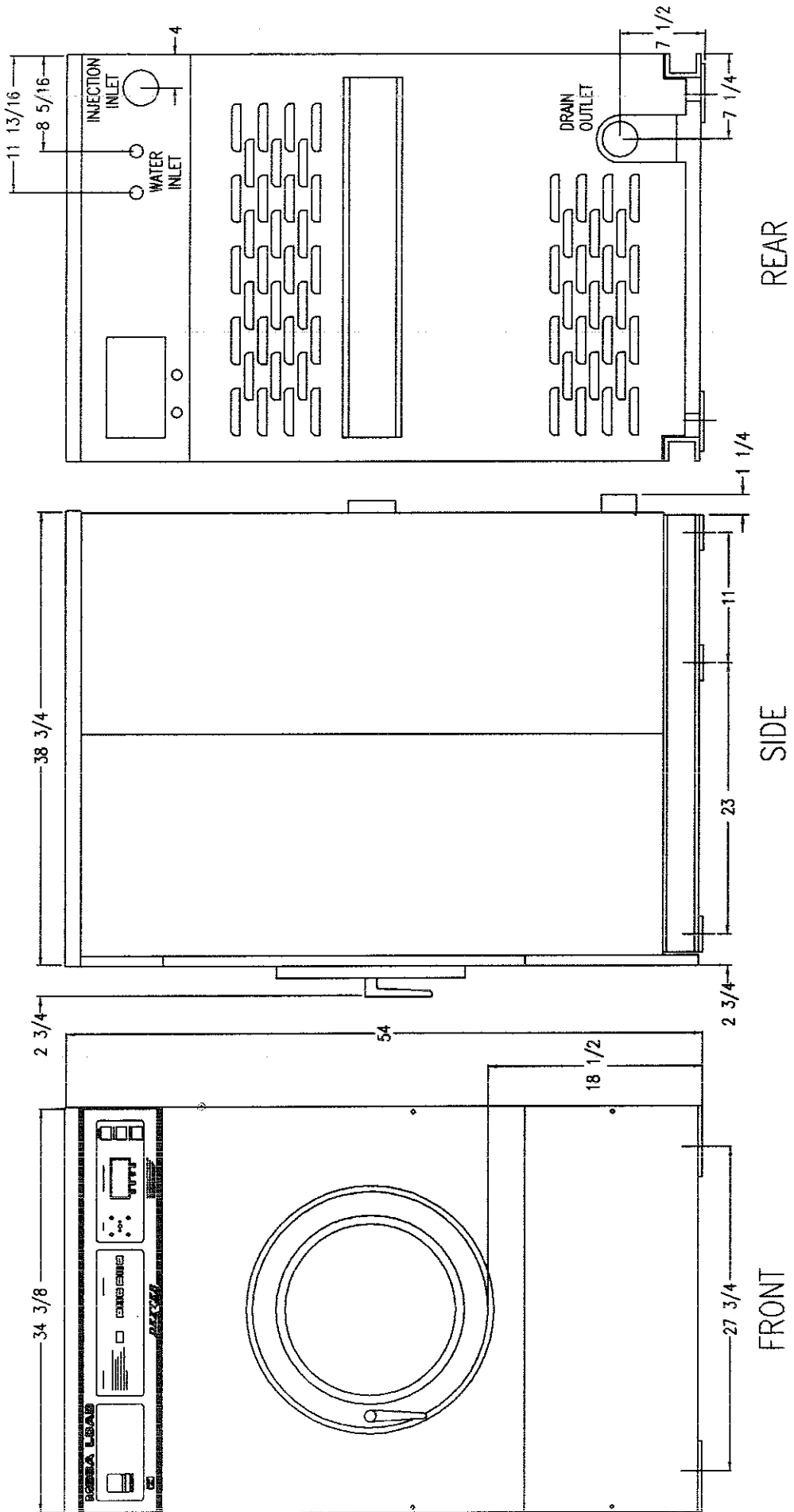
## Liquid Chemical Connection

In the left rear corner of the washer is the chemical injection assembly. This is where all chemical hose connections are made. The chemical hoses should be inserted into the round pvc pipe a minimum of 14" and a maximum of 18" to eliminate chemical buildup in the pipe and/or restrict water flow to the tub.

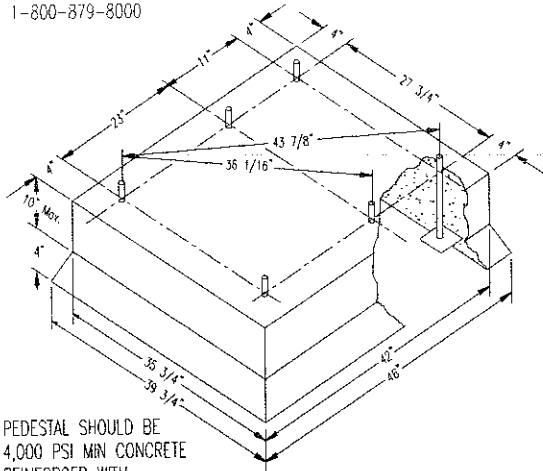
## Final Check out

After all mounting, plumbing and electrical work is completed, the washer should be run through a cycle and checked for water leaks and proper functioning.

# 900 SERIES INDUSTRIAL WASHER MOUNTING DIMENSIONS



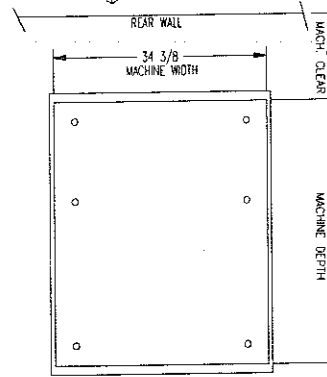
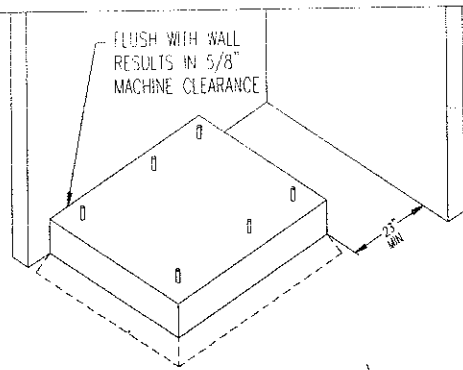
3/4" X 8" GD. 8 BOLTS  
HEADED BY 4" SQ. FISH PLATE OR EQUIV.  
OR  
'HILTI' ADHESIVE ANCHORING SYSTEM.  
USE HILTI 'HEA' 3/4-6 5/8 ADHESIVE CAPSULES  
AND HILTI 'HAS' SUPER RODS 3/4-9 5/8  
FOR MORE INFORMATION CALL  
HILTI CUSTOMER SERVICE  
1-800-879-8000



PEDESTAL SHOULD BE  
4,000 PSI MIN CONCRETE  
REINFORCED WITH  
MESH OR RODS.

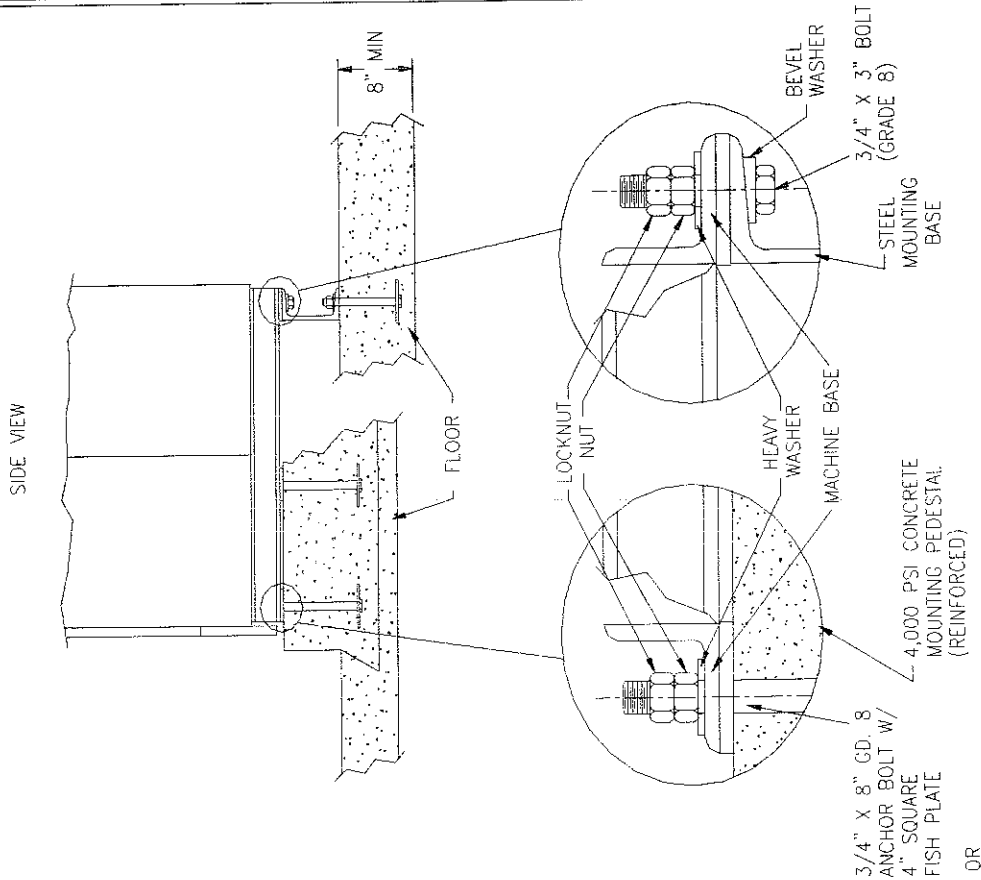
CONCRETE PEDESTAL MOUNTING

Figure 1-1



FLOOR OUTLINE

Figure 1-2



MACHINE MOUNTING DETAIL

Figure 1-3

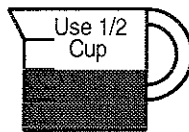
NOT FURNISHED WITH MACHINE

HILTI 3/4-9 5/8 HAS  
SUPER RODS W/ HEA  
3/4-6 5/8 CAPSULES

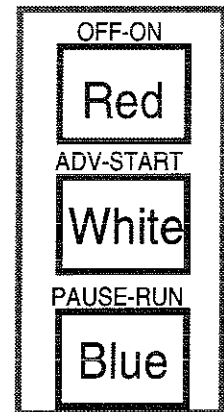
# Operating Instructions

## Starting the Washer

- A. Load the clothes in the cylinder and latch the door. Check to insure that clothes do not get caught between the door gasket and the tub front.
- B. Make the appropriate cycle selection for the wash load using the 4-position rotary selector switch.
- C. Make the appropriate temperature selection for the wash load using the 4-push button temperature selector switch.
- D. To manually add wash compounds, pour low-sudsing powdered detergent in the amount shown below into the detergent dispenser on top of the machine. Rinse conditioners may also be added to the dispenser. The correct location is shown on the dispenser lid.



- E. To manually add bleach in Rinse, pour bleach in round opening (location shown on dispenser lid) in top of washer.
- F. To start the washer:
  1. The top (Off/On) and bottom (Pause/Run) rocker switches must be in the right hand position.
  2. The center (Advance/Start) rocker switch must then be pushed to the right hand position to begin the cycle.
- G. To rapid advance the washer during a cycle, push the center (Advance/Start) rocker switch to the left hand position.
- H. To pause for an extended soak, push the bottom (Pause/Run) rocker switch to the left hand position.
- I. To stop the wash cycle and drain the water, push the top (On/Off) button to the left hand position.



## Safety Door Lock

If power is interrupted the Safety Door Lock delays opening the door until it is safe to do so. If power failure occurs or if power is interrupted during maintenance, it will be necessary to wait 2 to 3 minutes before the door can be opened.

## End of Cycle

When the cycle is completed, the washer will stop, the "on" light will go off, and the loading door will unlock. It can be opened by turning the door handle to the indicated position and pulling. Leave the clothes door open when the machine is not in use.

# Cycle Options

## Omit All Flushes

1. Remove the clear in-line splice from the end of the orange/white wire. (This wire will be laying loose next to the terminal strip)
2. Connect the orange/white wire to terminal #2 on the terminal strip.

## Omit Hot Rinses on Rinse #1 & #2

1. Remove brown/red wire from coil of R5 relay and insulate wire.

## Add Hot Rinses on Rinse #1 & #2 on Temperature Push Button position #3

1. Remove black jumper from back of temperature switch that connects push button #3 N.O. (B2) to push button #4 N.O. (B1)
2. Move white/brown wire on back of temperature switch to push button #4 N.O. (B1).

## Add Cold Rinses on Rinse #3, #4 & #5 on Temperature Push Button position #3

1. Move brown/orange wire from push button #3 Common (A2) to push button #3 N.C. (C2).

# Section 3

## Wiring Schematics

### Timer Sequence Chart

The timer sequence charts are used in conjunction with the wiring diagrams to trace the circuitry during the timer cycle. The timer contacts and the operation or component that each contact controls are listed down the left side of the chart. The phases of the complete cycle are shown across the bottom of the chart. The timer switch increments are numbered across the top of the chart. The solid horizontal bars in the chart denote when the various contacts are closed during the cycle.

#### To use the timer sequence chart to trace the circuitry:

1. Locate the particular part of the cycle on the sequence chart.
2. Determine which timer contacts are closed during that particular step of the cycle by noting the solid vertical bars in that step across the chart.
3. Draw in the gap of the respective contacts on the wiring diagram with a soft dark pencil, to illustrate the contacts as being closed.
4. Similarly, determine which switch contacts are closed, by the switch chart, and illustrate them as closed on the wiring schematic.
5. The circuitry during the particular step of the cycle may then be easily traced on the wiring diagram, since all contacts and switches are then properly illustrated as being open or closed.

### Start Circuit

Power travels into the control trough on L1 & L2. 240 volts goes to a Control Transformer that steps the voltage down to 120VAC for the controls. 120VAC then travels to the On/Off Switch. If On is selected 120VAC travels to the 1.5 amp Circuit Breaker. On 1 phase, 120VAC goes directly to the On/Off Switch and then to the 1.5 amp Circuit Breaker.

From the Circuit Breaker, 120VAC travels on the white/red wire to the Main Timer Start and On-Off Contacts. The Start Contact is closed before the machine has been started so 120VAC travels through the Start Contact and is supplied to the Advance/Start Switch. When the Advance/Start Switch is closed 120VAC is supplied on the orange/white wire to the Rapid Advance Timer Motor. This timer motor starts advancing the Main Timer to the preselected starting position. The On-Off Contact in the Main Timer closes and provides 120VAC to the S1 Door Switch. The On-Off Contact also provides 120VAC to the On Light on the red wire. With the S1 Switch closed (door is latched) the Door Lock Solenoid is now powered with 120VAC via the white/red wire. The Door Lock Solenoid pulls in, locking the door and closing the S2 and S3 Switches. The S2 Switch is a backup to the S1 Switch so that the adjustment on S1 isn't as critical. The S3 Switch provides 120VAC to Timer Contacts RA-1, 2, 3 & 4 to power the Rapid Advance Motor again (if 2 Flushes are not selected) and the Main Timer is allowed to advance on to the preselected start position.

## Fill Circuit-Warm

120VAC is supplied to the controls through the S1, S2, and S3 Door Switches. The On Light and the Door Lock Solenoid (discussed in Start Circuit) will remain on throughout the cycle. The Lock Thermoactuator Contact in the Main Timer is closed and provides the neutral side to operate the Lock Thermoactuator. This contact cycles open and closed keeping the Lock Thermoactuator activated until 1 1/2 minutes before the end of the cycle. At this point the contact opens and removes power to the Lock Thermoactuator. 120VAC is provided to the Lock Thermoactuator on the orange wire from the S3 Door Switch. The Drain Contact in the Main Timer is closed and provides 120VAC to the Drain Valve on the brown/yellow wire which closes the valve. The Wash Motor Contact in the Main Timer is closed and provides 120VAC to the Reversing Timer and the Reversing Timer Motor on the blue/black wire. This will start the Reversing Timer operating which will alternately open and close the Micro Switches that provide the direction of tumble for the wash basket. Depending on the cycle selected either the Wash Light Contact, the Prewash Light Contact, or No Contact (1st Flush) in the Main Timer is closed and provides 120VAC to these Lights. The orange wire coming from the S3 Door Switch provides power to the Wash Water Contact in the Main Timer as well as the High Water Level Contact if high water level is called for. 120VAC connects from the Wash Water Contact to the Wash Temperature Contact via an internal timer connection.

Now a water temperature must be selected with the Temperature Selector Switch. We'll use #2 Warm. The washer fills the tub through the back of the machine with both the C1 Cold and H1 Hot Water Valves. 120VAC goes through the closed #1 Contact in the Selector Switch and energizes the C1 Cold Water Valve Solenoid via the white/orange wire. 120VAC also travels to the closed #4 Contact in the Selector Switch. This closed contact provides power to the H1 Hot Water Valve Solenoid via the red/yellow wire. The neutral for the Water Valves & Main Timer Motor is provided through the Pause/Run Switch. In the Pause position, the neutral side for the Drive Motor, Main Timer Motor and the Pressure Switch/Water Valves is removed. (In this position the washer will hold water for a soak cycle indefinitely until run is selected). The Main Timer is stopped until the Pressure Switch provides neutral when low level is reached. At the beginning of the wash bath, the detergent dispenser flushes the detergent into the tub if powdered products are used. This is accomplished with the Wash Dispenser Contact in the Main Timer. 120VAC travels through the closed Wash dispenser Contact and is supplied to the H2 Hot Water Valve Solenoid by the red/orange wire. 120VAC travels from the Wash Water Timer Contact to the #1 Contact in the Selector Switch via the white/black wire. Liquid Chemical Signals are 120VAC and are provided at the back of the machine by the timer.

As the washer fills with water, liquid chemicals are flushed in through the back of the tub by the fill water. While filling, the Wash Basket will tumble one direction for 19 seconds, pause, and then reverse direction for 19 seconds. All Flushes and Rinse 1, 3 & 4 are high level. Wash, Rinse 2 & Final Rinse are low level. When the water reaches low level, the low level side of the Pressure Switch moves to the full position and opens the neutral side of the line to the Water Valves (on low level baths only) and provides neutral to the Main Timer Motor (Timer does not advance until low level is reached). On high level baths, when the water reaches high level, the high level side of the Pressure Switch moves to the full position which opens the neutral side to the Water Valves. For a high level bath 120VAC travels from the timer High Water Level Contact on the green/white wire to the R4 High Water Level Relay. When energized, the R4 High Water Level Relay opens the neutral yellow wire from the low level side of the Pressure Switch & closes the violet/yellow from the high side. When the water reaches the predetermined level the Pressure Switch moves to the full position and opens the neutral side of the line to the Water Valves. This shuts the Water Valves off.

## Wash Circuit

As the washer fills the tub through the back of the machine with either one or both the C1 Cold and H1 Hot Water Valves, the Wash Basket will tumble one direction for 19 seconds, pause, and then reverse direction for 19 seconds. This is accomplished through the use of a Reversing Timer. 120VAC is supplied to the Reversing Timer Motor on the blue/black wire from the Wash Motor Timer Contact in the Main Timer and 120VAC is supplied to the R1 Run Relay any time the door is locked. This R1 Relay closes & provides 24VDC to the Reversing Timer Wash Micro Switches. The Reversing Timer will alternately open and close the two Wash Micro Switches and provide 24VDC to the FW (forward) or RV (reverse) terminals on the Variable Frequency Drive.

As discussed in Start and Fill, the Lock Thermoactuator, Drain Valve, On Light, and Main Timer Motor (except in fill) are all operating throughout the Wash Cycle.

Liquid Chemicals: Injection Pumps receive 120VAC signals from the terminal strip on the back of the washer. These are labeled A, B, C, & D. (A-Prewash, B-Wash, C-Rinse 2, D-Final Rinse)



## **Drain, Rinse 1, 2, 3 & 4 & Final Rinse Circuit**

The Drain Contact on the Main Timer opens removing power to the Drain Valve. The normally-open spring-loaded Drain Valve opens and empties the tub.

For Rinse 2, 3 & 4 the Rinse Light Contact in the Main Timer closes and provides 120VAC to the Rinse Light. The Rinse Water Contact in the Main Timer also closes and provides 120VAC to the C1 Cold Water Solenoid and through the Rinse Temp Contact to the H1 Hot Water Solenoid (Except when cold #4 is selected). The tub will fill until the predetermined level is achieved at which time the Pressure Switch Contact will open the neutral side of the line shutting off the C1 Cold Water Solenoid.

For the Final Rinse, the Final Rinse Light Contact in the Main Timer closes and provides 120VAC to the Final Rinse Light. Rinse water is the same as in Rinses above.

The Hot Rinse Contact provides 120VAC to the R5 relay on the brown/red wire. This opens the circuit to the C1 Cold Water Solenoid when Temperature Selector Switch #1 or #2 is depressed.

As discussed in Start and Fill, the Lock Thermoactuator, Drain Valve, On Light, and Main Timer Motor (except in fill) are all operating throughout the Rinse Cycle.

## **Intermediate Extract Circuit**

The Wash Contact remains closed and provides 24VDC to the closed Clockwise Micro Switch on the Reversing Timer. 24VDC is then fed to the Counter Clockwise Micro Switch via a jumper wire. 120VAC is then sent to the Delay Spin Micro Switch. The Delay Spin Micro Switch provides 120VAC to the Spin Motor Contact in the Main Timer on the blue/white wire. The Spin Motor Contact is closed for spin and the voltage continues on to the R2 Spin Motor Relay Coil on the red/black wire. With 120VAC to the R2 Spin Motor Relay Coil two things happen. 120VAC is now provided from the orange wire directly to the Relay eliminating the Reversing Timer and the Micro Switches from the circuit.

The second thing that happens when the R2 Relay is closed is that 24VDC is provided from the +24 terminal of the Variable Frequency Drive through the R1 Run Relay through the R2 Spin Relay to terminals LI1 & LI3 on the Drive and the washer spins at intermediate speed.

## **Final Extract Circuit**

Same as Intermediate Extract but adds the R3 Extract Relay. The Main Timer provides 120VAC to the Extract Relay Coil. When this relay closes it provides 24VDC to the LI2 terminal on the Variable Frequency Drive. This means that all 3 terminals LI1, LI2 & LI3 are powered for high spin.

## **Thermoactuator and Shake Out Circuit**

The Lock Thermoactuator Contact in the Main Timer opens 1 1/2 minutes before the end of the cycle removing the neutral to the Thermoactuator. This allows the Thermoactuator time to retract by the end of the cycle.

To insure that the Lock Thermoactuator has retracted by the end of the cycle, 1 minute prior to the end of the cycle, the Unlock Thermoactuator is powered with 120VAC through the Unlock Thermoactuator Contact in the Main Timer.

The Spin Motor Contact in the Main Timer opens, stopping voltage to the R2 Spin Motor Relay & the motor. The basket will coast to a stop. The Wash Motor Contact in the Main Timer closes providing power to the Reversing Timer once again (discussed in Wash Cycle). The washer will tumble for approximately 15 seconds to let the clothes shake loose and then stop. The neutral for the Main Timer Motor is provided through the Delay Fill Timer Contact.

## **End of Cycle Circuit**

The On-Off Contact in the Main Timer opens removing power to the Door Lock Switches and Relays. The machine is now stopped. The Start Contact on the Main Timer is closed providing 120VAC to the Advance/Start Switch on the white/green wire. The machine is now ready to start a new cycle.





# Section 4

## Service Procedures

Before performing any service work, remove electrical power from the machine.  
Always replace panels before putting machine into service.

### Top Panel Removal

- A. Remove 4 screws that hold detergent dispenser to top panel.
- B. Unlock top panel lock.
- C. Raise top panel, slide to the rear to release from back clips and lift off.

### Detergent Dispenser

Remove top panel to access dispenser. (see Removing Top Panel)

Detergent is flushed from the front of the compartment and fabric softener is flushed from the back. There will be a small amount of water left in the fabric softener compartment after each use. This is normal.

### Vacuum Breaker

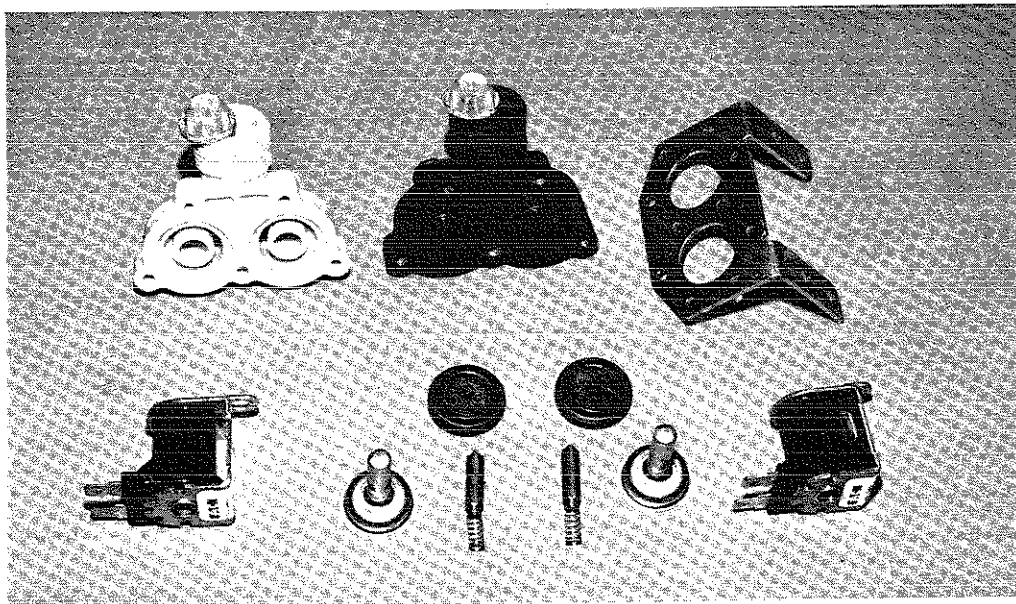
In the left rear of the cabinet is the vacuum breaker. It guides the water to the tub and dispenser and prevents a back flow of water.

### Chemical Injection Assembly

In the left rear corner of the washer is the chemical injection assembly. This is where all chemical hose connections are made.

### Water Valves

Remove top panel to access water valves. (see Removing Top Panel) The two dual outlet water valves are mounted to the rear channel with two screws each. The hot water valve is black in color designating that it is for higher temperature hot water. The cold valve is blue in color designating that it is for lower temperature cold water. Always check inlet screens to be sure that they are clean. Disassembly requires the removal of two solenoid screws and three valve body screws. Below the solenoid coil is a solenoid guide, armature, armature spring and diaphragm. All valve parts are available individually or as a complete unit.



## **Circuit Breaker**

The circuit breaker mounts to the rear channel. It protects all of the controls in the machine but does not include the motor. To reset the circuit breaker just push in the button.

## **Control Mounting Trough**

Remove top panel to access control trough. (see Removing Top Panel) It sets on the right side of the machine and holds many of the controls.

## **Reversing Timer**

The reversing timer operates the wash and spin relays and is mounted on the left side of the control trough with two screws. It has three cam operated switches. Two switches operate the wash cycle by alternately engaging the wash relays to tumble counter clockwise for 19 seconds, stop for 3 seconds, reverse direction and tumble clockwise for 19 seconds. The third switch engages the spin relay for the high speed spin portion of the cycle.

## **R1 Run Relay**

The R1 Run Relay is a small relay that is mounted directly behind the R2 intermediate extract relay. The 120VAC coil on the Run Relay is energized any time that the timer is in the run position and the door is locked. When energized, the Run Relay provides 24VDC to the reversing timer for wash and to the R2 intermediate extract relay for spin.

## **R2 Spin Motor Relay (Intermediate Extract Relay)**

The R2 Spin Motor Relay is the large relay that mounts in the center of the control trough. The 120VAC coil on the R2 Relay is energized any time that the timer is in the spin position. 24VDC is provided from the +24 terminal of the Variable Frequency Drive through the R1 Run Relay to the R2 Relay. When energized, the R2 Relay provides 24VDC to terminals LI1 & LI3 on the Drive and the washer spins at intermediate speed.

## **R3 Extract Relay (High Speed Extract Relay)**

The R3 Extract Relay is a small relay that is mounted directly behind the R1 run relay. The Main Timer provides 120VAC to the R3 Extract Relay coil. When this relay closes it provides 24VDC to the LI2 terminal on the Variable Frequency Drive. This relay combined with the R2 Spin Motor Relay powers all 3 terminals LI1, LI2 & LI3 on the Variable Frequency Drive for high spin.

## **R4 High Water Level Relay**

The R4 High Water Level Relay is a small relay that is mounted directly behind the R3 extract relay. The Main Timer provides 120VAC to the R4 High Water Level Relay coil. The R4 Relay closes the circuit from the pressure switch coming out of the high level contacts for the various high level baths in the cycle. It also opens the circuit coming out of the low level contacts.

## **R5 Hot Rinse Relay**

The R5 Hot Rinse Relay is a small relay that is mounted directly behind the R4 high water level relay. The Main Timer provides 120VAC to the R5 Hot Rinse Relay coil. The R5 Relay opens the circuit to the cold water valve so that specific rinses are hot water only.

## **Program Timer**

This timer is located on the left side of the control trough directly behind the reversing timer and is held in place with two screws. It controls most machine functions. There are two drive motors on the program timer. The one towards the front of the machine advances the timer at the beginning of the cycle. The timer motor towards the rear drives the timer throughout the cycle. These two motors can be replaced individually. The program timer has a black knob that allows the timer to be manually turned to any portion of the cycle for diagnostic purposes.

## Controls Transformer

This transformer is mounted at the back of the control trough and steps a range of 208 to 240 volts down to 115 volts for the controls. There are two terminals on the controls transformer for incoming power. One terminal is for 208 to 220 volts and the other is for 221 to 240 volts.

**Note: All 60 Hz. 55lb. washers have a controls transformer. Always check the incoming voltage and use the appropriate transformer terminal when installing these washers.**

## Pressure Switch (Dual Level)

The pressure switch sets the water level in the washer and is located in the left rear corner of the control trough. As the water level rises, it compresses the air in the pressure switch hose. When the washer reaches the desired water level, the compressed air in the pressure switch hose opens the contacts in the switch, shutting off the water. When at the empty level, the pressure switch contacts are closed allowing the machine to either spin or fill with water. At low level the water will be approximately 1/2" up from the bottom of the door glass. On high level the water will be approximately 3"-4" up from the bottom of the door. The pressure switch is sealed and is not adjustable.

## Power Connection Terminal Blocks

These terminal blocks set in the right rear corner of the washer and are accessed from the back. Incoming power to the washer and all electrical signals for chemicals should connect here. (see Electrical under Installation and Operation Section for exact connections)

## Cycle Indicator Lights

The 120VAC indicator lights are mounted to the back of the control panel and are held in place with two tabs. They are removed by squeezing the tabs with a screw driver. The lights are replaced as a complete unit.

## Temperature Selector Switch

The push-button temperature selector switch is mounted on the right side of the control panel and is held in place with two nuts. It allows the selection of hot, warm or cold water temperatures.

**Note: Do not over tighten on reinstallation as the switch can be damaged.**

## Cycle Selector Switch

The rotary cycle selector switch is mounted to the left of the temperature selector switch and is held in place with 2 phillips screws. It allows the selection of 4 different wash cycles.

## Rocker Switches

These switches can be replaced individually by squeezing the tabs on the back side and pressing them out the front of the panel.

- A. Top switch is red and controls Off and On. This switch must be in the on position for the washer to operate. The off position will cause the washer to stop in the cycle and drain the water.
- B. Middle switch is white and controls Advance and Start. This switch must be held in the start position momentarily to start a cycle. Wash and rinse baths can be advanced through by holding the switch in the advance position.
- C. Bottom switch is blue and controls Pause and Run. This switch must be in the run position for the washer to advance through the cycle. The washer can be stalled at any point during the cycle for extended soaks by selecting pause. The door will remain locked and the drain valve will remain closed keeping the water in the tub.

## Lower Service Panel Removal

Remove 2 screws and pull forward to disengage from the locator studs.

## **Drain Valve**

The drain valve is a ball type and is powered closed by the drain valve motor. It is mounted under the washer tub on the left side. It is spring loaded open. If power is interrupted to the washer, the motor releases the sealing ball, allowing the drive spring to open the valve. With the valve open, all water in the washer will drain out.

## **Service**

For access to drain valve, remove lower service panel.

## **Cleaning**

- A. Loosen the clamp on the tub hose at the drain valve end and remove the hose from the drain valve.
- B. Loosen the drain hose clamp on the back of the drain valve.
- C. Remove two drain valve mounting bracket screws from the frame of the washer.
- D. Remove the drain valve and bracket assembly.
- E. Unplug the wiring after the drain valve is removed from the washer.

## **Front Panel Removal**

- A. Remove 2 screws between front panel top and front channel (located behind control panel).
- B. Remove the two screws in the middle of the front panel.
- C. Pull panel out at the bottom to about a 45 degree angle to detach the top lip and remove.

## **Masking Ring (door lock cover) Removal**

- A. Remove front panel.
- B. Remove nuts that retain masking ring.
- C. Move it to the left and off.

## **Door Locking Solenoid**

The door locking solenoid is powered shut with control voltage to lock the door and releases when voltage is removed. It is located in the left front corner of the washer.

## **Thermoactuators**

The thermoactuators are a safety device that keeps the door from immediately unlocking if power is lost while the machine is operating. They are mounted under the door locking solenoid.

### **Lock Thermoactuator**

Control voltage is applied to the lock thermoactuator at the beginning of the cycle making it extend and block the door locking solenoid. This keeps the door locked for approximately two minutes after a power failure occurs. The lock thermoactuator does not delay the door opening at the end of a normal cycle.

### **Unlock Thermoactuator**

To insure that the lock thermoactuator has retracted by the end of the cycle, one minute prior to the end of the cycle, the unlock thermoactuator is powered with control voltage making it extend and unblock the door locking solenoid.



## Door Lock Assembly

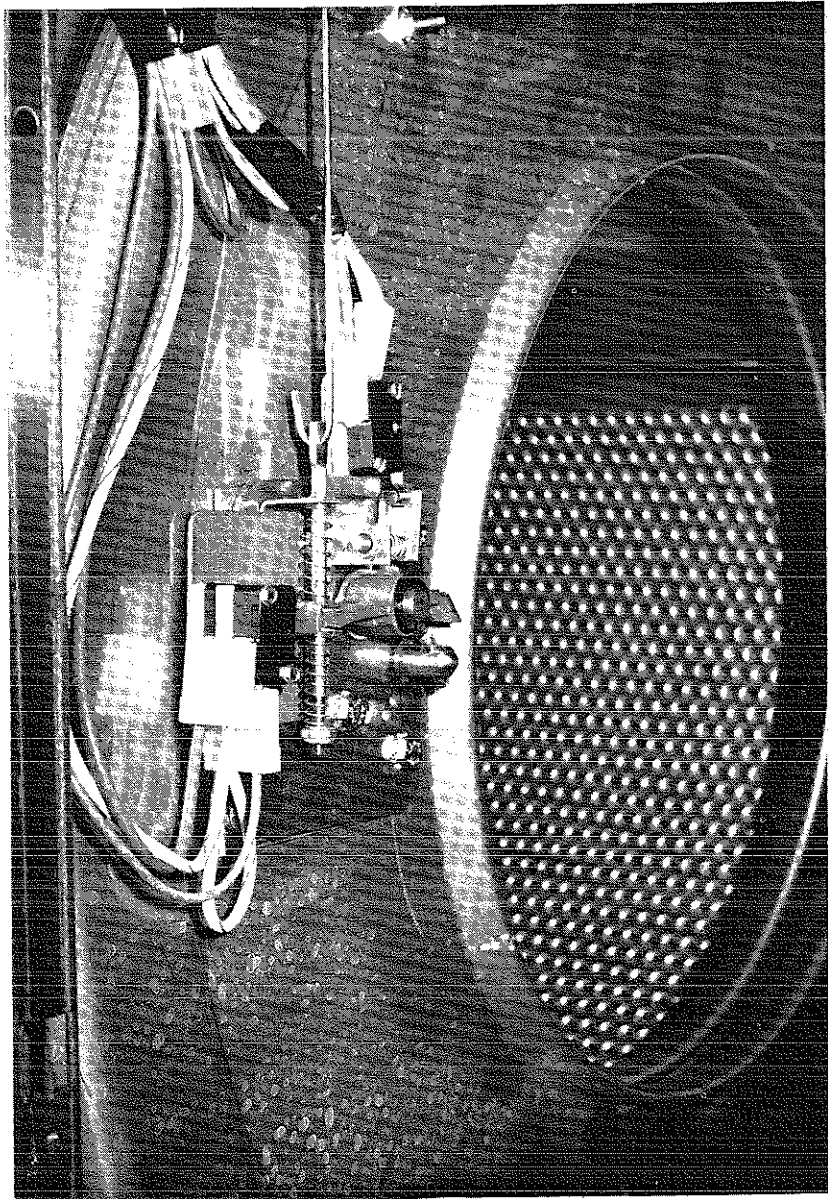
After removing the front panel and trim ring, the door lock assembly can now be accessed.

### Operation

After loading the clothing, the door should be closed and latched. The locking cam on the door contacts the latching switch actuator which closes the latching switch. The red off-on switch should be in the on position. The blue pause-run switch should be in the run position and the white advance-start switch should be pushed to start position to begin the cycle. The timer rapid advance motor is now powered. A timer contact provides power to the latching switch and with the door latched, the power travels through the latching switch to the door lock solenoid. This solenoid pulls up on the locking pawl by use of a linkage rod. The locking pawl has two jobs. The first is to lock the door. This is accomplished by blocking the locking cam on the door so that it can't rotate to unlock. The second job is to close the two piggyback lock sensing switches. These switches control power to all of the controls. If the door unlocks for any reason, these two switches will stop the machine. When the door handle is 1/4 to 1/2 of an inch from its fully closed position, the latching switch should close. The two piggyback lock sensing switches should be open when the door is unlocked and should be closed when the door is locked.

### Adjustment

The latching switch and the piggyback lock sensing switches all have slotted mountings for easy adjustment.



### **Loading Door Removal**

- A. Support door to prevent dropping.
- B. Remove 3 bolts holding hinge retainer and set door off.

### **Loading Door Disassembly**

- A. Remove the loading door as outlined above.
- B. Lay the door on a flat surface with the glass down.
- C. While holding down on the door glass, lift up on the door ring and roll back the lip of the gasket with your fingers.
- D. Work all the way around the gasket and the glass is out.

### **Loading Door Reassembly**

- A. Lay the door ring face down on a flat surface.
- B. Start the glass into one side of the door gasket.
- C. Use one hand underneath to push the gasket out and the other hand on the top pulling the gasket in place.
- D. The front lip of the door gasket should be checked for proper seating.

### **Loading Door Adjustment**

The door can be adjusted by changing the number of shims behind the door hinge and the door lock assembly. The vertical fit of the door to the tub can be altered by loosening the door hinge bolts and raising or lowering the door before retightening. It is important for the door to be centered on the tub front. By chalking the nose of the tub and closing the door to transfer that line to the gasket, the centering can be evaluated. It is also important for door pressure to be similar around the door perimeter. Door pressure can be evaluated by inserting a dollar bill in several positions and tugging on it. See Parts Section for kit to increase door sealing pressure.

### **Loading Door Hinge Removal**

- A. First remove loading door, front panel, and trim ring.
- B. Remove 3 screws holding door hinge. Shims may be present between hinge and tub front. The number may be increased or decreased to adjust right side door pressure.

**NOTE: Door hinge mounting bolts penetrate tub front and require silicone sealer applied to holes when reinstalling.**

### **Back Panel Removal**

- A. Remove all screws holding back panel in position except the bottom row.
- B. The bottom row of screws are slotted and only need to be loosened and the panel will lift off.

**Note: The back panel is not only a safety requirement but also contributes to the rigidity of the cabinet.**

### **Drive Belt Removal**

Turn the drive belts off the basket pulley first and then remove from the motor pulley. Reverse this procedure for installation.

**Note: The T-900 has two drive belts that should be replaced in pairs.**

## Drive Motor

Refer to Specifications Chart for horse power and amperage draw on motors.

### Removal

- A. Remove the drive belt as explained above.
- B. Remove the tension spring and bracket.
- C. Disconnect the motor wires in the control area at the top of the machine. The motor wire retaining clamp should be removed and reused. There is a diagram showing where each motor wire plugs in so there is no need to mark them.
- D. Loosen the set screws on the motor support shaft.
- E. Remove the retaining bolt from the front of the support shaft.
- F. Remove the motor support shaft.
- G. Lift motor out of machine.

**Note: On larger washers it is advisable to put a board under the motor and slide it out rather than lifting it.**

## Control Panel Name Plate

The name plate on washer front is adhesive backed.

### Removal

- A. The name plate may be removed by simply peeling it off.

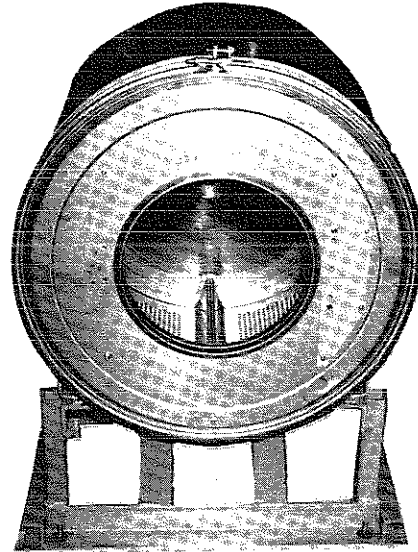
### Installation

- A. Remove any remaining glue from the control panel.
- B. Before removing the paper backing from the name plate, check fit to the control panel.
- C. Remove the paper backing from the right side of the name plate, position it on the panel and press right end into place, then peel the backing from the left end and press into place.

## Cylinder (basket)

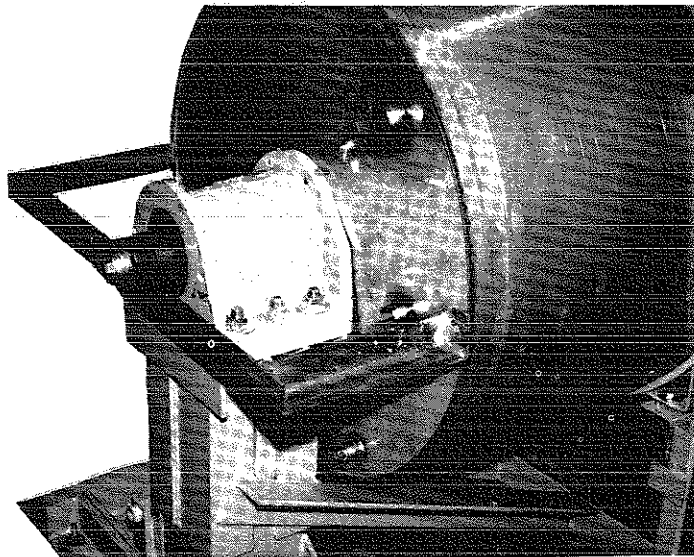
### Removal

- A. Remove the top panel as described previously.
- B. Remove lower service panel as described previously.
- C. Remove front panel as described previously.
- D. Remove masking ring as described previously.
- E. Remove door lock assembly. (Leave wires & pull rod in place)
- F. Remove clothes door.
- G. Remove tub front clamp ring.
- H. Remove tub front. Use a flat screw driver to pry the tub front loose.
- I. Remove the rear access panel.
- J. Remove the drive belts.
- K. Remove drive pulley.
  1. Remove 3 retaining screws.
  2. Insert 3 2" screws into the threaded removal holes.
  3. Alternately tighten these screws evenly to pull the pulley off.
- L. Remove pulley hub. Drive a flat screw driver into the slot in the hub and pull it from the shaft.
- M. Install cylinder puller. (Snap On part #CJ-84-C) Be sure to thread a bolt into the end of the cylinder shaft to protect the threads.
- N. Push the basket out.

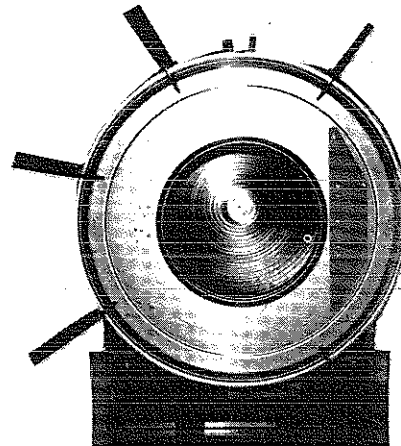


### Reassembly

- A. Use the hub of the drive pulley, a stack of 5/8" flat washers and a 3" long 5/8" bolt to pull the cylinder shaft through the bearings. After the 3" bolt a 2" long bolt will be required to finish pulling the cylinder shaft through.
- B. Remove the 1/2" bolt and nut from the top of the outer tub clamping band.
- C. Install Dexter Tool part # 8545-056-001 on the back of the outer tub to adjust tub front to cylinder clearance. Thread 5/8" bolt through tool and into cylinder shaft. Push the outer tub forward 1/4" to 1/2" with tool 8545-056-001 by tightening the 5/8" bolt. This will ease the installation of the outer tub front.
- D. Clean the silicone rubber off the tub front and the outer tub.
- E. Install new bead of silicone rubber on tub front.



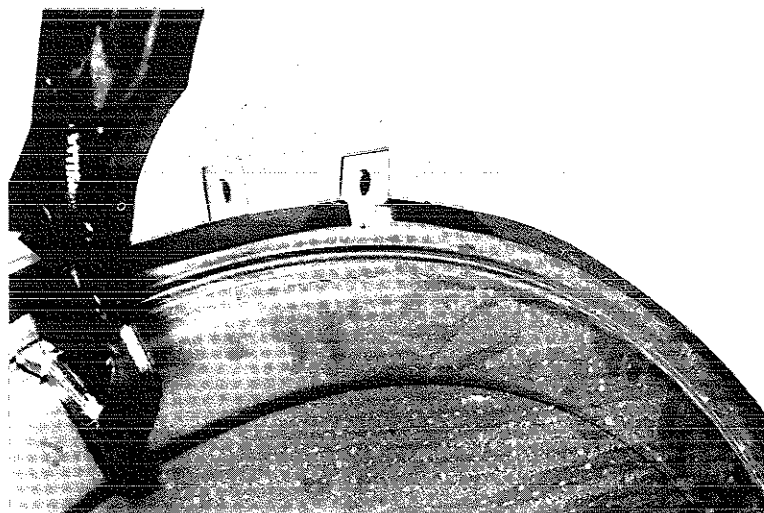
- F. Install tub front.
  1. Align hole in top of tub front with notch in top of outer tub.
  2. Use 4-6 #11R vise grip clamps to hold tub front to outer tub. A rubber mallet may be needed to properly seat the tub front into the outer tub.
  3. Install tub front gasket around outer edge of tub front and outer tub flange. The opening should be centered at the top.
  4. Remove vise grips. The tub front gasket will hold the tub front in place.
- G. Install tub front clamp ring and tighten. Tap around the clamp ring with a rubber mallet to seat the ring and gasket while tightening the clamp ring bolt.
- H. Adjust clearance between the outer tub front and the front lip of the cylinder to 5/16".
- I. Tighten the outer tub clamping band.
- J. If necessary, the outer tub may be adjusted up or down and side to side with the 2 bolts that fasten the bottom of the outer tub clamping band to the frame.
- K. Remove Dexter Tool part 8545-056-001 from the back of the outer tub.
- L. Install drive pulley.
  1. Install hub on cylinder shaft.
  2. Hold hub against rear bearing with 5/8" bolt and flat washer in end of cylinder shaft.
  3. Line up 3 unthreaded holes in pulley with the 3 threaded holes in hub.
  4. Insert 3 pulley bolts and tighten evenly alternating bolts to 30ft/lbs.



**Note: Overtightening or uneven tightening can break drive pulley.**

- M. Install drive belts.
- N. Install back panel.
- O. Install door lock. All mounting holes should be sealed with silicone rubber.
- P. Install door, masking ring, front panel, lower service panel and top.

**Torque all bolts according to the following chart.**



## Bolt Torque Chart

<u>Bolt Size</u>	<u>Where Used</u>	<u>Torque</u>
7/16" Stainless Cap Screw	Outer Tub to Bearing Housing	60-80 ft/lbs
3/4" Bolt	Bearing Housing to Frame	200-300 ft/lbs
1/2" Bolt	Outer Tub Clamping Band to Frame	70-110 ft/lbs
1/2" Bolt	Outer Tub Clamping Band - Top	30-40 ft/lbs
3/8" Cap Screw	Drive Pulley to Hub	30 ft/lbs

### Water Seals

#### Replacement

- Remove cylinder from washer (see Cylinder (basket) removal).
- Remove water seals from the seal mounting plate on the cylinder shaft. These are removed with your fingers.
- The primary and secondary seals that mount on the sealing ring may be slid over the shaft and seated on the metal sealing ring with your fingers. In the unlikely event that the metal ring that mounts these sealing rings were to be damaged or moved, a new one would need to be pressed on. The T-900 ring must be pushed against the stop on the shaft.  
**After installing the seals, lubricate the faces of the seals with silicone grease.**
- Install cylinder (see Cylinder (basket) reassembly).

### Bearing Housing Assembly

#### Removal

- Remove cylinder from washer (see Cylinder (basket) removal).
- Remove 6 7/16" tub back to bearing housing cap screws.
- Remove 6 3/4" bearing housing to frame bolts.
- Remove bearing housing from frame.
- Remove the retaining ring next to the front bearing.
- The bearings are pressed into the housing and must be pressed back out.

#### Reassembly

- When installing new bearings into a bearing housing, first press the front (large) bearing into the housing until it bottoms and install the snap ring. With the bearing spacer in place, press the rear bearing in until the spacer is snug between the two bearings.

**Note: If the tub-back water-seal mating ring has been moved it must be cleaned and resealed with silastic around all 6 bolt holes and around the outer edge.**

- Set bearing housing on frame.
- Install and torque 6 tub back to bearing housing cap screws according to the previous chart.
- Install and torque 6 bearing housing to frame bolts according to the previous chart.
- Install cylinder (see Cylinder (basket) reassembly).

### Outer Tub

#### Removal

- The outer tub can easily be removed when the tub front, cylinder and bearing housing have been removed as outlined previously.
- At that point the only attachments to the chassis are the two front strap mounting bolts.

#### Reassembly

- See Cylinder (basket) reassembly.

# Section 5

## Trouble Shooting

Symptom	Probable Cause	Suggested Remedy
Machine does not start	Power Supply	Check these areas: Circuit breakers, Voltage, Power leads, Power connections
	"Start" Switch	When actuated there must be continuity through the contacts on the start switch.
	"Pause-Run" Switch	Must be in "Run" position and should have continuity through the switch.
	"Off-On" Switch	Check for continuity in "On" position. If no continuity, replace switch.
	Door Switch	Check for continuity through door switch when door closed. If no continuity, adjust or replace switch.
	Control Breaker	Check 1.5 amp breaker for continuity. If no continuity, replace breaker.
	Timer	Check to insure that the timer is in the "off" position to supply 120VAC through the "Start" cam to the start switch.
	Timer, Rapid Advance Motor	Check the rapid advance motor for continuity and replace if no continuity.
	Control Transformer	Check voltage output from control transformer for 120VAC. If voltage is incorrect, replace transformer.
Door does not lock	Timer Position	The following sequence must have taken place to advance the timer before the door locks. 1. Loading door closed. 2. Timer initially in "Off" position. 3. Pause-Run in "Run" position. 4. Off-On in "On" position. 5. Push Start button. 6. Timer advances to "On" position.
	Door locking solenoid	Check to insure that solenoid is receiving 120VAC from input/output board. If it is, replace solenoid.
	Door Switch	Check for continuity through door latch switch when door closed. If no continuity, adjust or replace door switch.

Symptom	Probable Cause	Suggested Remedy
Door will not open	Thermoactuator	Check to see if thermoactuator(s) and/or its mechanism is stuck or binding and not allowing the door lock solenoid to open. Check to be sure that the locking thermoactuator is not receiving 120VAC during the last 1 1/2 minutes of the cycle. Also check to see that the unlocking thermoactuator is receiving 120VAC during the last minute of the cycle. If the thermoactuators do not receive voltage at the correct times, change the timer. If the timing and voltage is correct, replace the thermoactuator.
	Door Rod	Check to see that door rod from solenoid to lock ass'y is long enough to allow lock ass'y to disengage. If not, adjust rod.
	Door Lock Solenoid	Check that door lock solenoid is not stuck closed. If stuck, replace solenoid.
	Timer	Make sure machine is in "off" position allowing Timer to authorize door unlock.
Machine starts but timer will not advance	Water Valves	Check to insure that water valves are operating. If not, check for 120VAC to water valve from timer. If 120VAC, clean screens. If still no operation, change water valve. If no voltage check pressure switch then change timer.
	Drain Valve	Check to insure that drain valve is closing. If not, check for 120VAC to drain valve from timer. If 120VAC, change or clean drain valve. If no voltage, change timer.
	Fill Hose Screens & Water Valve Screens	Check all screens for obstructions and clean.
	Water	Check to insure that water is turned on and operating.
	Pressure Switch Hose	Check hose for holes. Be sure the inlet end of the large part of the hose is lower than the rest of the hose and is free of debris.
	Pressure Switch	Check to insure that pressure switch has continuity between #21 & #22 and #11 & #12. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
	Main Timer Drive Motor	If power is available to main timer drive motor but it doesn't run, replace timer motor.



Symptom	Probable Cause	Suggested Remedy
Machine tumbles in only one direction	Reversing Timer	Check to see that reversing timer is running. Check for alternating 24VDC at blue and at orange from reversing timer to signal reversing operation to drive. If not running or no voltage, replace reversing timer.
	Variable Frequency Drive	Check blue and orange wires on variable frequency drive for alternating 24VDC for forward and reverse direction from the reversing timer. If no voltage, see reversing timer above. Be sure to check wire connections at drive. If 24VDC at drive, replace drive.
Does not give intermediate spin	Pressure Switch	Check pressure switch for continuity across terminals #21 & #12 indicating pressure switch has reset to the empty position. If no continuity, change pressure switch.
	Reversing Timer	Check to see if running. Check for 24VDC output on blue/wht wire. If not running or no output, change reversing timer.
	Pause-Run Switch	Check in run position for continuity to allow spin relay to operate.
	Spin Relay R2	Check spin relay coil for continuity, replace if shorted. Check for 24VDC input to spin relay contacts. Check for 24VDC out of relay on red & black wires. If input voltage is okay and there is no output voltage, change relay.
	Timer	Advance to spin cycle, check for 120VAC on red/blk from main timer. If no voltage, change timer.
Machine starts and advances through cycle but motor does not operate	Variable Frequency Drive	<p>Check Variable frequency drive  Green light on back illuminated, Okay.  Red light on back illuminated, do the following:</p> <ol style="list-style-type: none"> <li>1. Disconnect power to washer for two minutes to reset variable frequency drive. Reconnect to power and check for green light. Green--okay. Red--go to step 2.</li> <li>2. Check incoming power to washer for correct voltage. Line voltage out of the specified operating range will cause the drive to fault, lighting the red light.</li> <li>3. Check motor. Disconnect from power. Push tab on bottom of drive and remove lower cover. <b>(Do not remove complete cover as it will damage the drive)</b></li> </ol> <p>Disconnect the three gray wires that operate the motor from terminals "U", "V", and "W" in the drive. Reconnect power to the washer and check the green light. Green--change the drive motor. Red--change the variable frequency drive.</p>

Symptom	Probable Cause	Suggested Remedy
Machine starts and advances through cycle but motor does not operate (continued)	Pause-Run Switch	Check to be sure that switch is in run position to allow run relay to operate.
	R1 Relay	Start machine to verify that door locks and check for 120VAC to R1 (run relay) coil. Check for continuity across relay coil. Check for 24VDC input on white wire and 24VDC output on blk/red wire. If no output, replace relay.
	Reversing Timer	Check to see that reversing timer is running. Check for alternating 24VDC at blue and at orange from reversing timer to signal reversing operation to drive. If not running or no output voltage, replace reversing timer.
Intermediate spin speed works-no high extract	Program Timer	Advance to final extract, check red/green wire from timer for 120VAC to extract relay. If no voltage, replace timer.
	Extract Relay (R3)	Check relay for continuity through coil. Check output on green wire from extract relay for 24VDC. If no continuity or no 24VDC, replace relay.
Hot water does not enter tub in wash	Water Valve Coil	Check coil continuity at terminals and replace if no continuity.
	Water Inlet Screens	Check water inlet screens for blockage and clean if necessary.
	Water	Check to insure that water is turned on and operating.
	Pause-Run Switch	Check in run position for continuity. If no continuity, replace switch.
	Timer	Advance machine into wash cycle and check for 120VAC at red/blue wire coming from timer.
	Water Temperature Selector Switch	Check switch for continuity between red/blue wire and red/yellow wire when Hot is selected. If no continuity, change switch.
	High Water Level Relay	Check for continuity across N.C. contacts of high water level relay. If no continuity, replace relay.
	Pressure Switch	Check pressure switch continuity between terminals #11 & #12. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.

Symptom	Probable Cause	Suggested Remedy
No cold water to tub in wash	Water Valve Coil	Check coil continuity at terminals and replace if no continuity.
	Water Inlet Screens	Check water inlet screens for blockage and clean if necessary.
	Water	Check to insure that water is turned on and operating.
	Pressure Switch	Check pressure switch continuity between terminals #11 & #12. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
	Pause-Run Switch	Check in run position for continuity. If no continuity, replace switch.
	Timer	Choose cold cycle, advance to wash, check for voltage on white/black from timer. If no voltage, replace timer.
	Water Temperature Selector Switch	Choose cold cycle, advance to wash and check wht/org wire from selector switch for 120VAC. If no voltage, change switch.
	High Water Level Relay	Check for continuity across N.C. contacts of high water level relay. If no continuity, replace relay.
No hot water in detergent dispenser	Hot Rinse Relay	Check for continuity across N.C. contacts of hot rinse relay. If no continuity, replace relay.
	Water Valve Coil	Check coil continuity at terminals and replace if no continuity.
	Water Inlet Screens	Check water inlet screens for blockage and clean if necessary.
	Water	Check to insure that water is turned on and operating.
	Pause-Run Switch	Check in run position for continuity. If no continuity, replace switch.
Water does not flush softener compartment.	Timer	Advance to wash, check for voltage on red/org from timer. If no voltage, replace timer.
	Water Valve Coil	Check coil continuity at terminals and replace if no continuity.
	Water Inlet Screens	Check water inlet screens for blockage and clean if necessary.

Symptom	Probable Cause	Suggested Remedy
Water does not flush softener compartment. (continued)	Water	Check to insure that water is turned on and operating.
	Pause-Run Switch	Check in run position for continuity. If no continuity, replace switch.
	Pressure Switch	Check pressure switch continuity between terminals #11 & #12. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
	Timer	Advance machine to final rinse and check for voltage at wht/blue wire coming from timer. If no voltage, replace timer.
	High Water Level Relay	Check for continuity across N.C. contacts of high water level relay. If no continuity, replace relay.
Water comes in but level does not rise	Drain Valve (open)	Check these areas - Drain valve blockage - Drain valve motor and gear train. If power but drain valve does not close, replace valve. - Power to the drain valve. If no power to drain valve, check (brn/yel) circuit for power.
Water level too high	Pressure Switch	Check for blockage in pressure switch hose. Check for pressure switch opening circuit across terminals #21 & #12. Replace switch if contacts do not open.
	High Water Level Relay	Check for continuity across N.C. contacts of high water level relay. If no continuity, replace relay.
Water drains slowly	Drain System	Check hoses and drain valve for blockage. Clean if necessary. Check building drains for blockage or inadequate size.
Water leakage around loading door	Door Adjustment	Door may need adjustment due to abuse or wear. Check tightness around perimeter using a dollar bill. Adjust left to right tightness by shims at door lock or hinge side. It is important to center gasket to tub opening before tightening door to hinge bolts. Chalk may be used on tub front to show point of contact with tub. If gasket is deformed, worn, or damaged, replace. Refer to parts section for door gasket expander kit.

Symptom	Probable Cause	Suggested Remedy
Excessive vibration	Mounting System	Check these areas: - Strength of mounting structure, concrete or base. - Mounting bolts may be loose and need tightening.
	Drive Belt	- Worn drive belt can cause vibration and noise.
	Pulleys	- Damaged pulleys.
	LOADING	- NOTE: SMALL LOADS CONTRIBUTE TO OUT OF BALANCE LOADING AND INCREASE VIBRATION.

# Section 6

## Parts Data

### Thoroughbred 900

#### Accessories

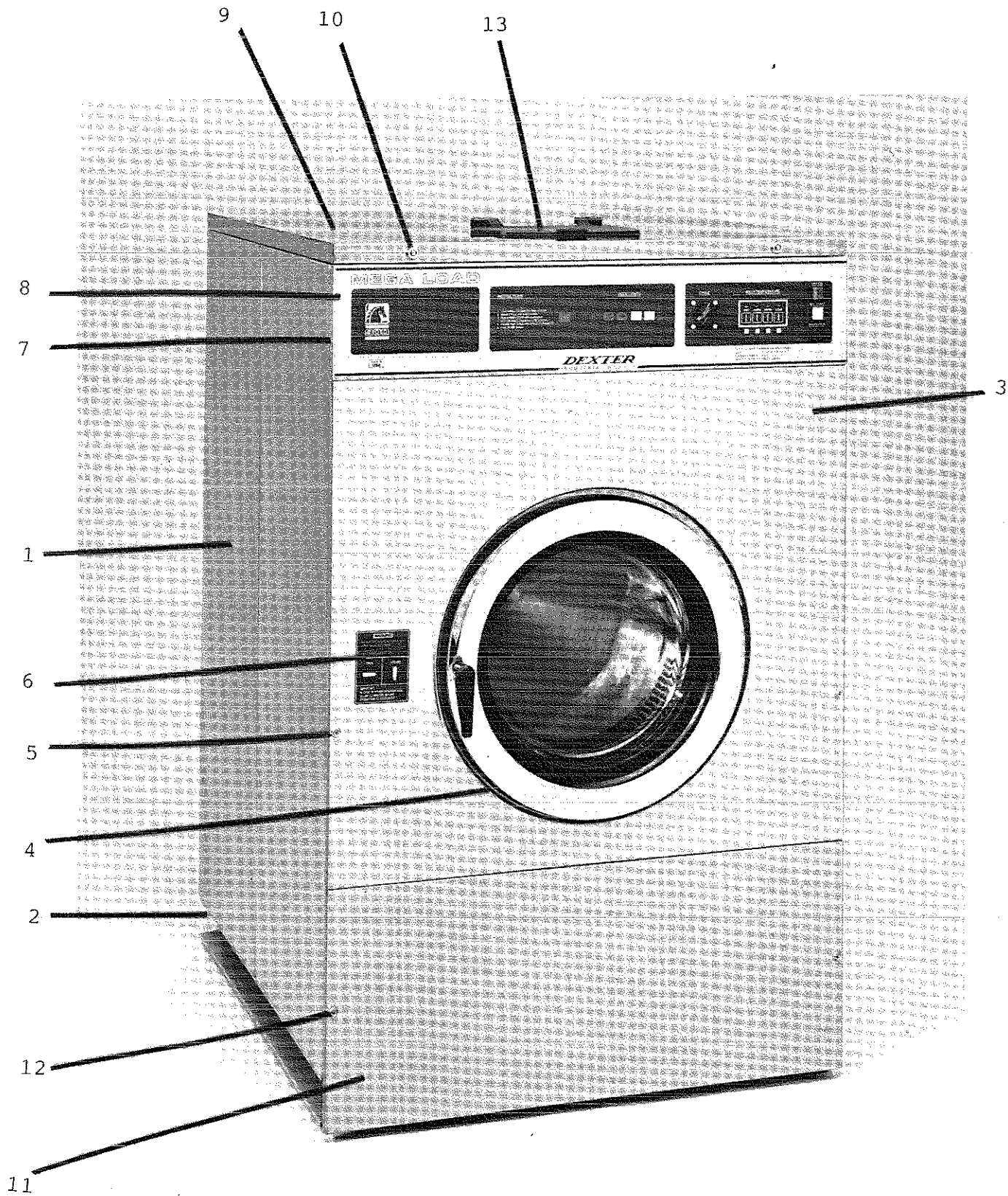
Model WCN55AEH 208-240 volts 60hz. Single or Three Phase  
Mechanical Timer Industrial Washer

Part Number	Description
9990-027-011	Hose, Water Supply (furnished) .....2
8641-242-000	Washer, Inlet Hose (furnished) .....2
9565-003-001	Strainer, Inlet Hose (furnished) .....2
9732-139-002	Kit, Door Gasket Expander (large) ..... 1
9732-139-001	Kit, Door Gasket Expander (small) ..... 1
8545-056-001	Special Tool for adjusting spacing between outer tub front and cylinder front
Snap On #CJ-84-C	Puller for pushing cylinder out of bearings

## CABINET AND FRONT PANEL GROUP

Key	Part Number	Description	
1	9454-672-001	Panel, Side (Left or Right)Stainless .....	4
*	9545-018-013	Screw, Side to Side .....	8
*	8640-414-006	Nut, Keps .....	8
2	9966-012-001	Strap Assy, Side Panel .....	4
2	8640-414-006	Nut .....	8
3	9454-671-002	Panel Assy, Front .....	1
4	9059-063-002	Band, Edge Protector .....	1
*	9545-008-024	Screw, Hex- To Control Panel.....	2
*	8640-399-005	Nut, Spring- To Control Panel .....	2
5	9545-008-014	Screw, Flat Head- Front to Sides .....	2
5	8641-585-001	Washer, Finish .....	2
*	8640-399-008	Nut, Spring- To Control Panel .....	2
*	9545-008-023	Screw, Fillister Head Guide .....	2
6	8502-624-002	Label, Door Opening .....	1
7	9989-454-001	Panel, Control (Mounts Nameplate) .....	1
*	9545-008-024	Screw, Control Panel Mtg to front .....	2
*	8640-399-005	Nut, Spring .....	2
*	9545-008-026	Screw, Hex Wshr-Control Panel to Sides .....	4
8	9412-092-001	Nameplate, Control Panel .....	1
*	9355-001-001	Locator, Panel .....	1
*	9545-008-025	Screw, #10 .....	1
9	9454-673-001	Panel, Top .....	1
10	8650-012-003	Lock, Top(w/Key) .....	2
*	9306-025-001	Key, Top-6324 .....	1
*	9095-038-001	Cam, Lock Top .....	2
*	8640-426-001	Nut, 9/32 .....	2
*	8641-581-008	Washer, Flat .....	2
11	9108-099-001	Door, Lower Service .....	1
*	9244-081-003	Handle (bumper guard) .....	1
*	9545-045-010	Screw .....	1
*	9545-008-023	Screw, Fillister Head Guide .....	2
12	9545-008-014	Screw, Flat Head .....	2
12	8641-585-001	Washer, Finish .....	2
*	8640-399-008	Nut, Spring .....	2
13	9108-095-003	Door, Dispenser .....	1
*	9451-191-001	Pin, Plain .....	2
*	9467-025-001	Post, Door Mounting .....	2
*	9545-045-002	Screw, Dispenser Post Mtg .....	4
*	9545-008-012	Screw, Dispenser Mounting .....	4
*	8640-399-007	Nut, Spring .....	4

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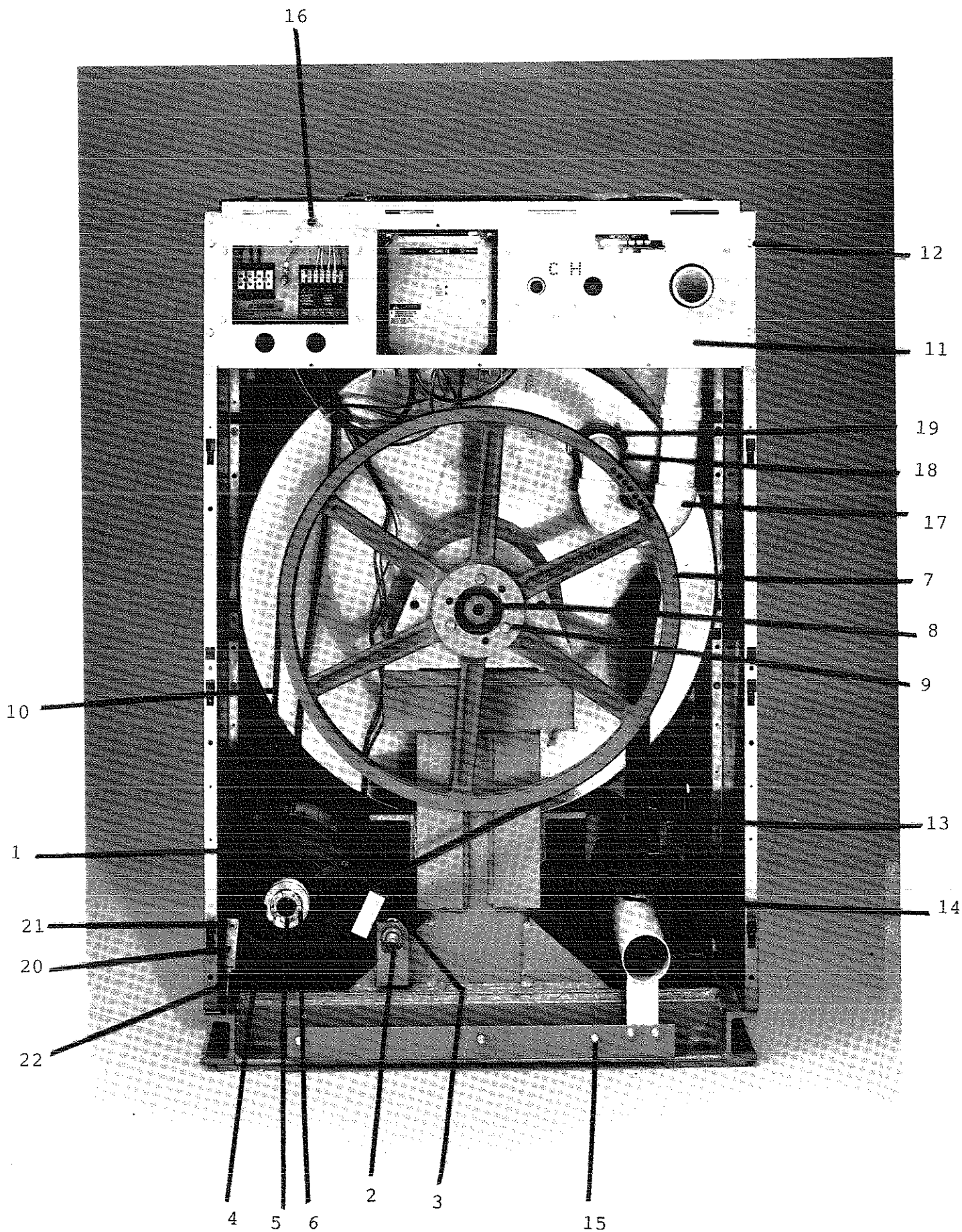




## REAR VIEW

Key	Part Number	Description	
1	9376-298-001	Drive Motor .....	1
2	9497-222-004	Rod, Motor Mtg .....	1
*	9545-029-005	Screw (end of motor rod) .....	1
*	8641-582-014	Lockwasher (end of motor rod) .....	1
3	9076-052-002	Collar, Shaft (w/set screws) .....	2
4	9453-175-002	Pulley, Motor .....	1
5	9053-077-001	Bushing, Split Taper .....	1
6	9545-018-021	Screw .....	3
7	9453-176-001	Pulley, Driven .....	1
8	9053-076-001	Bushing, Taper .....	1
9	9545-029-011	Screw .....	3
9	8641-582-003	Lockwasher .....	3
10	9040-079-001	Drive Belt .....	2
11	9081-109-001	Channel, Rear .....	1
12	9545-008-026	Screw .....	4
*	8640-399-004	Nut, Spring .....	4
13	9242-449-003	Hose, Overflow .....	1
14	8654-029-000	Clamp, Hose .....	2
*	9989-455-001	Panel Assy., Back .....	1
15	9545-030-002	Screw, To Base- 1/4x3/4 .....	4
*	9545-008-026	Screw, 10Bx 1/2 .....	14
*	8640-399-004	Nut, Spring .....	10
*	9242-175-004	Hose, Pressure Switch .....	1
*	8654-117-015	Clamp, Pressure Sw. Hose .....	1
16	5198-211-004	Circuit Breaker, 1.5 amp .....	1
17	9883-005-001	Injector Ass'y .....	1
18	9242-461-001	Hose, Injector Ass'y .....	2
19	8654-117-014	Clamp .....	4
<b>Original Motor Tensioner (20 thru 23)</b>			
20	9029-027-004	Strap, Motor Tension .....	1
21	8640-413-002	Nut, Strap to Motor .....	1
21	8641-581-006	Washer .....	1
22	9545-018-020	Screw 1/4x3 .....	1
	8640-414-003	Nut, Elastic Stop .....	1
<b>Current Motor Tensioner (not pictured)</b>			
*	9545-055-001	Bolt, Eye .....	1
*	9534-151-000	Spring, Belt Tension .....	1
*	9099-012-001	Chain, Spring Tension .....	1
*	9341-046-001	Link, Chain .....	1
*	8640-414-003	Nut, Stop .....	1
*	8640-413-002	Nut, Link to Motor .....	1
*	8641-581-006	Washer .....	1

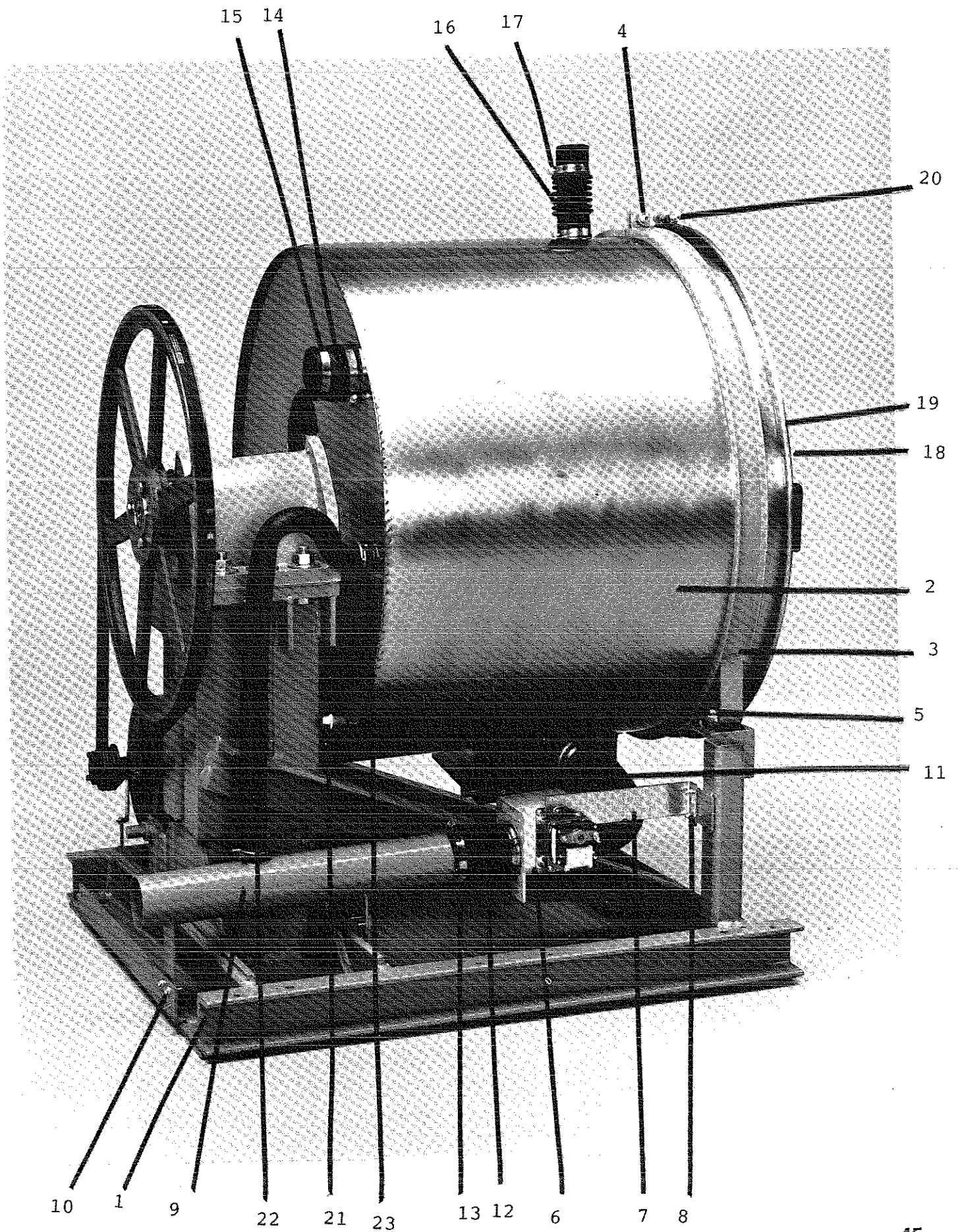
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## CHASSIS AND DRAIN GROUP

Key	Part Number	Description	
1	9945-101-002	Base Assy, Frame .....	1
2	9930-138-001	Tub Assy .....	1
3	9950-053-002	Ring Assy, Tub Mtg-Front .....	1
4	9545-017-003	Screw, 5/8x3 .....	1
4	8640-417-002	Nut .....	1
4	8641-582-016	Lockwasher .....	1
5	9545-017-003	Bolt, 1/2-13x1 3/4, Grd 5 Tub to Base .....	2
5	8641-582-016	Lockwasher .....	4
5	8640-417-002	Nut, Hex .....	8
5	8641-581-026	Washer, Flat.....	
5	9552-013-001	Shim, Thin .....	AR
5	9552-013-002	Shim, Thick .....	AR
6	9379-187-001	Valve, Drain .....	1
7	9029-070-001	Bracket, Drain Valve .....	1
*	9545-048-001	Screw, Valve to Bracket .....	1
*	8641-581-018	Washer .....	1
8	9545-030-002	Screw, Bracket to Base .....	2
9	9915-120-002	Tube Assy, Drain .....	1
10	9545-030-002	Screw, Tube Mtg .....	4
11	9242-459-001	Hose, Tub to Drain Valve .....	1
12	9242-457-001	Hose, Drain Valve to Tube .....	1
13	8654-117-014	Clamp, Hose .....	4
*	9610-001-001	Vacuum Breaker .....	1
*	9029-069-001	Bracket, Vacuum Breaker .....	1
*	9545-008-005	Screw .....	4
14	9241-461-001	Hose, Injector Assy .....	2
15	8654-117-001	Clamp .....	4
*	9732-108-002	Dispenser, .....	1
*	9206-416-001	Gasket, Dispenser .....	1
16	9242-450-001	Hose, Dispenser to Tub .....	1
17	8654-117-008	Clamp, Dispenser Hose .....	2
18	9974-007-001	Front Ass'y, Tub .....	1
19	9950-055-001	Ring Ass'y, Clamp (tub front to outer tub) .....	1
20	9545-029-009	Screw, 3/8-16x3 .....	1
20	8640-415-001	Nut, Hex 3/8-16 .....	1
*	9206-421-002	Gasket, Tub Front .....	1
21	8615-104-039	Pipe Plug .....	2
22	9242-449-003	Hose, Overflow .....	1
23	8654-029-000	Clamp, Hose .....	2

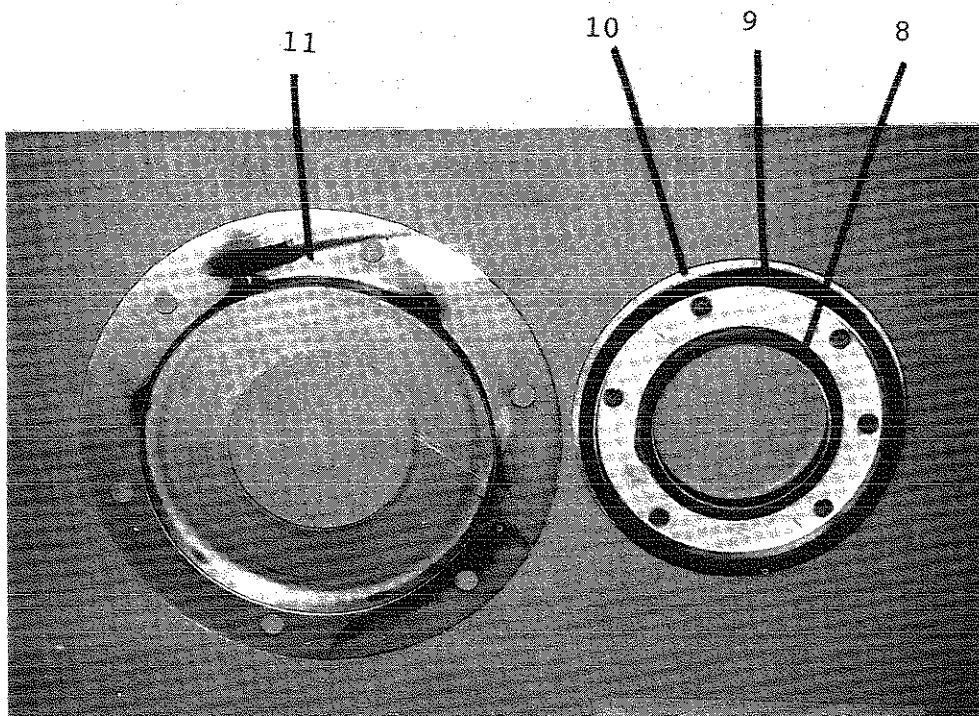
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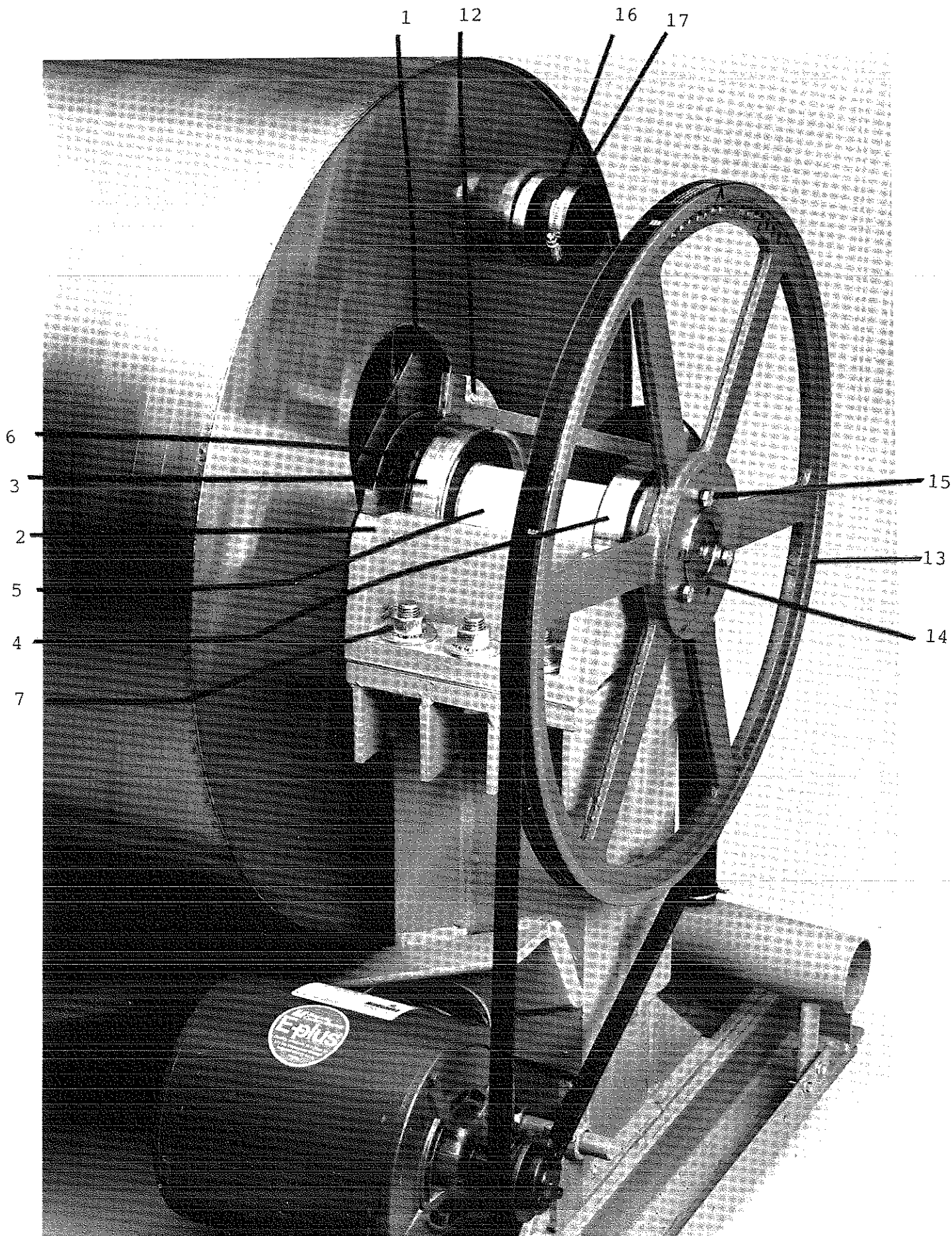
# CYLINDER, WATER SEALS & BEARING HOUSING GROUP

Key	Part Number	Description	
1	9848-116-001	Cylinder, Assy .....	1
*	9803-187-001	Housing, Bearing- Assembly (includes items #2-#6) .....	1
2	9241-181-004	Housing, Bearing .....	1
3	9036-159-006	Bearing, Front .....	1
4	9036-159-005	Bearing, Rear .....	1
5	9538-170-001	Spacer, Bearing .....	1
6	9487-238-004	Ring-Retainer, Internal .....	1
7	9545-057-002	Screw, Bearing Housing, 3/4-10 x 2 1/2 .....	6
7	8641-581-033	Washer, Flat- To Frame .....	6
7	8641-582-020	Washer, External Tooth .....	6
7	8640-418-003	Nut .....	6
8	9532-140-008	Seal, Secondary (small) .....	1
9	9532-140-007	Seal, Primary (large) .....	1
10	9950-052-001	Ring, Seal Mtg .....	1
11	9950-054-004	Ring, Seal Tub Back .....	1
12	9545-059-004	Screw, 7/16-14 x 1 Tub Back to Bearing Housing .....	6
12	8641-581-034	Washer, Flat .....	6
13	9453-176-005	Pulley, Driven .....	1
14	9053-078-002	Bushing, Taper .....	1
15	9545-029-011	Screw .....	3
15	8641-582-003	Lockwasher .....	3
16	9241-461-001	Hose, Injector Assy .....	2
17	8654-117-001	Clamp .....	4

\* Not Illustrated



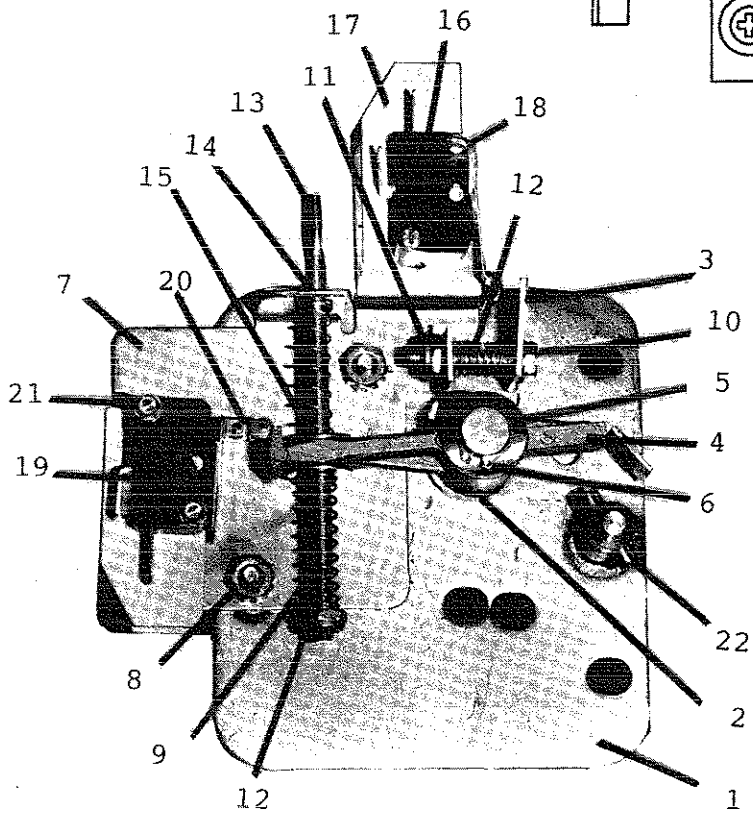
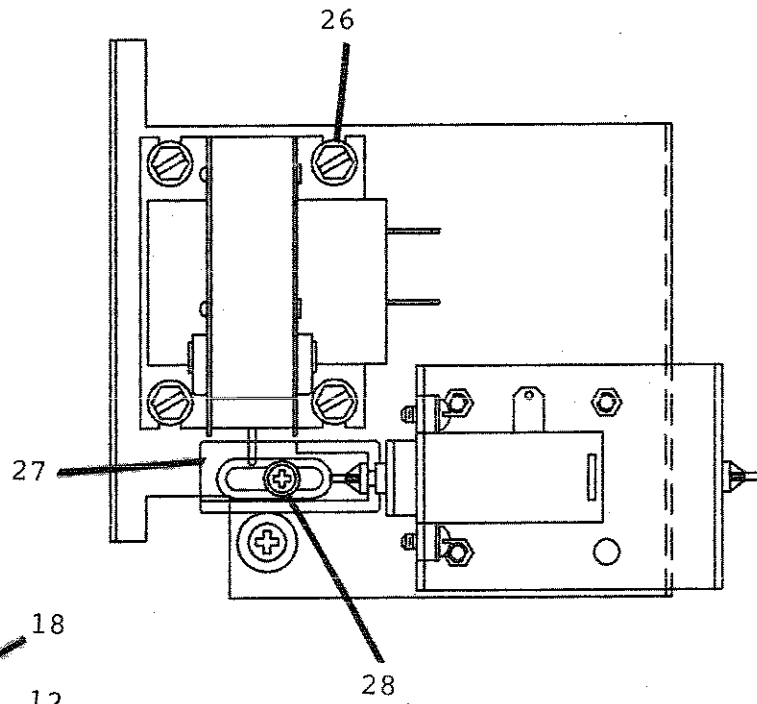
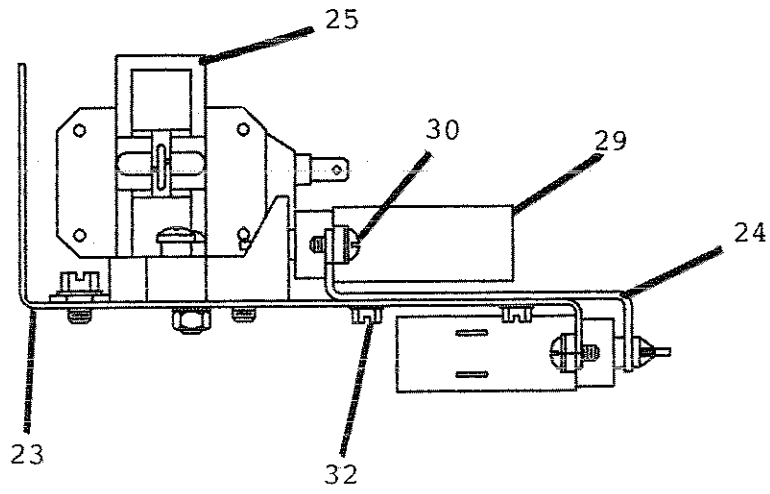




## DOOR LOCK GROUP

Key	Part Number	Description	
*	9885-023-001	Lock Assy, Complete includes (1 thru22) .....	1
1	9982-284-001	Plate Assy, Door Lock.....	1
2	8641-581-030	Washer, Flat .....	1
3	9008-005-001	Actuator, Latching Switch .....	1
4	9450-002-002	Pawl, Locking .....	1
5	8641-569-003	Washer, Spring.....	1
6	9487-200-004	Ring, Retaining.....	1
7	9029-035-001	Bracket, Switch .....	1
8	8640-413-002	Nut, Hex .....	2
9	9534-364-002	Spring, Actuating .....	1
10	9545-012-020	Screw, Hx .....	1
11	8640-413-004	Nut, Elastic Stop .....	2
12	9534-364-001	Spring, Return .....	2
13	9451-193-001	Pin, Guide .....	1
14	9487-200-005	Ring, Retaining.....	1
15	8641-581-031	Washer .....	2
16	9539-461-003	Switch, Latching Sensing .....	1
17	9550-169-003	Shield, Switch .....	3
18	9545-020-001	Screw.....	2
18	8640-401-001	Nut, Twin .....	1
19	9539-461-004	Switch, Locking Sensing .....	2
20	9008-006-002	Actuator, Switch.....	2
21	9545-020-003	Screw.....	2
21	8640-401-001	Nut, Twin .....	1
22	9451-181-004	Pin, Dowel .....	1
*	9552-037-001	Shim, Door Lock, Thin .....	AR
*	9552-037-002	Shim, Door Lock, Thick .....	AR
*	9545-018-014	Screw, Lock mtg .....	3
*	8641-582-007	Lockwasher .....	3
*	9922-011-001	Solenoid Ass'y, Door Locking includes (23 thru 32) .....	1
23	9029-073-001	Bracket, Solenoid .....	1
24	9985-169-001	Bracket Assy, Solenoid Slide .....	1
25	9536-074-001	Solenoid.....	1
26	9545-008-001	Screw, Solenoid Mtg.....	4
27	9540-033-002	Stop, Door Lock Solenoid.....	1
28	9545-061-001	Screw, Shoulder .....	1
28	8640-411-003	Nut, Keps #6.....	1
29	9586-001-001	Thermoactuator .....	2
30	9545-031-004	Screw.....	4
31	9538-157-004	Spacer, Plastic .....	1
31	9538-166-004	Spacer, Metal .....	1
31	9545-010-001	Screw, Cross Recessed .....	1
31	8640-412-005	Nut, Keps #8.....	1
32	9545-044-003	Screw, Hx .....	3
*	8640-412-005	Nut, Sol. Brkt to Control Panel .....	3
*	9497-225-007	Rod, Pull- Solenoid to Lock.....	1

\* Not Illustrated

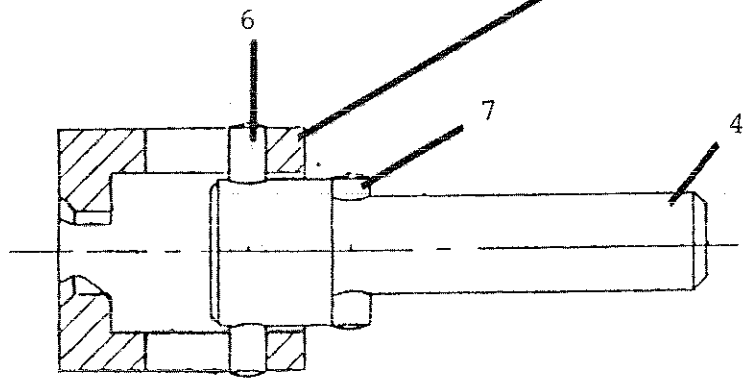
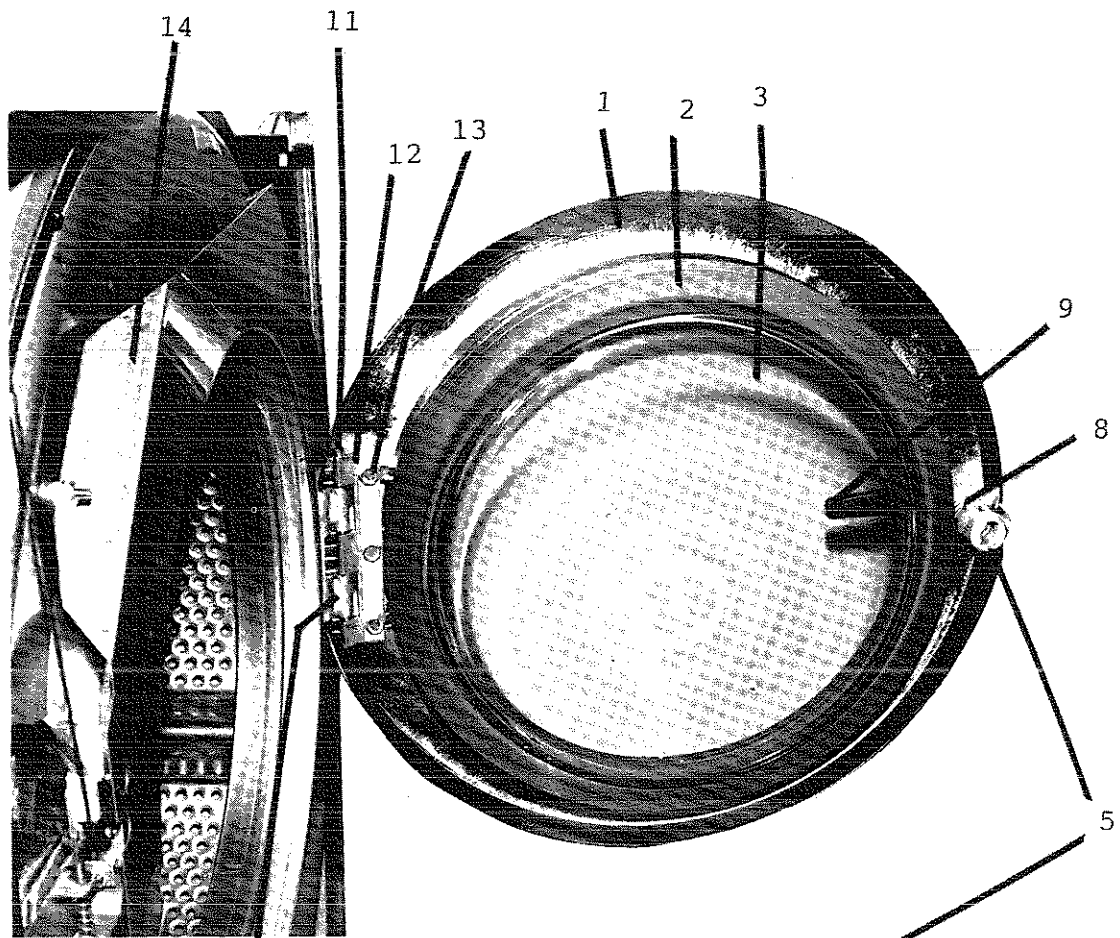




## LOADING DOOR GROUP

Key	Part Number	Description	
*	9960-259-002	Loading Door, Complete includes (1 thru 9) .....	1
1	9487-230-001	Loading Door, Ring .....	1
2	9206-419-001	Gasket, Loading Door .....	1
3	9635-016-001	Window, Loading Door .....	1
*	9913-134-003	Shaft Assy, Locking includes (4 thru 7) .....	1
4	9537-195-002	Shaft, Door Locking .....	1
5	9095-040-001	Cam, Locking .....	1
6	9451-181-005	Pin, Groove (1 1/4") .....	1
7	9451-181-004	Pin, Groove (3/4") .....	1
8	9534-360-002	Spring, Lock Cam .....	1
9	9244-080-003	Handle, Door .....	1
*	9451-181-006	Pin, Door Handle (groove) .....	1
10	9955-029-001	Hinge Assy, Loading Door .....	1
*	9545-014-009	Screw, Hinge Mtg .....	3
*	8641-582-009	Lockwasher .....	3
*	9552-036-001	Shim, Loading Door Hinge, Thin .....	AR
*	9552-036-002	Shim, Loading Door Hinge, Thick .....	AR
11	9451-184-003	Pin, Loading Door Hinge .....	1
*	8649-031-000	Ring, Retaining .....	1
12	9079-122-001	Clamp, Loading Door Hinge Pin .....	1
13	9545-056-001	Screw, Loading Door Mtg .....	3
14	9487-254-001	Ring, Masking .....	1
	9059-063-002	Band, Edge .....	1
*	8640-413-002	Nut, Keps .....	4

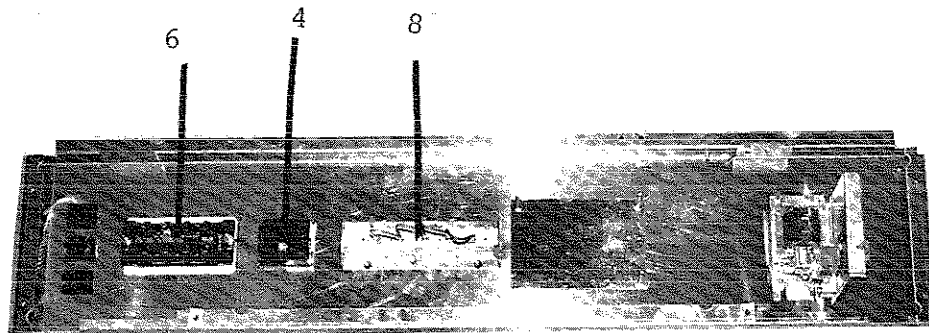
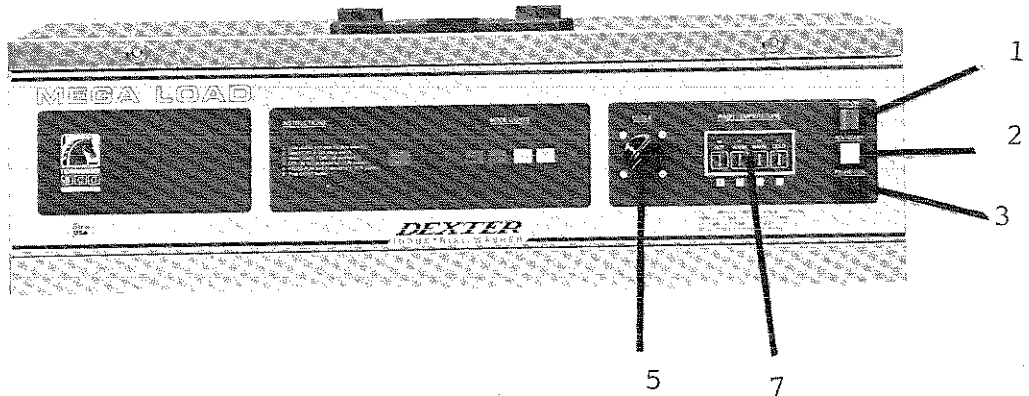
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# CONTROL PANEL GROUP

Key	Part Number	Description	
1	9539-474-004	Switch, Red- OFF/ON .....	1
2	9539-474-005	Switch, White- ADVANCE/START .....	1
3	9539-474-006	Switch, Blue- PAUSE/RUN .....	1
4	9539-471-001	Switch, Rotary Selector .....	1
5	9307-176-001	Knob, Control .....	1
	9545-044-004	Screw, 6-32 x 1/4 .....	2
6	9539-479-007	Switch, Push button (temperature selector) .....	1
7	8502-629-007	Label, Switch .....	1
*	8640-412-003	Nut, Switch Mtg .....	2
*	9538-165-001	Spacer .....	2
8	3310-041-001	Light, Cycle Control .....	1
*	9206-100-001	Gasket, Light .....	2

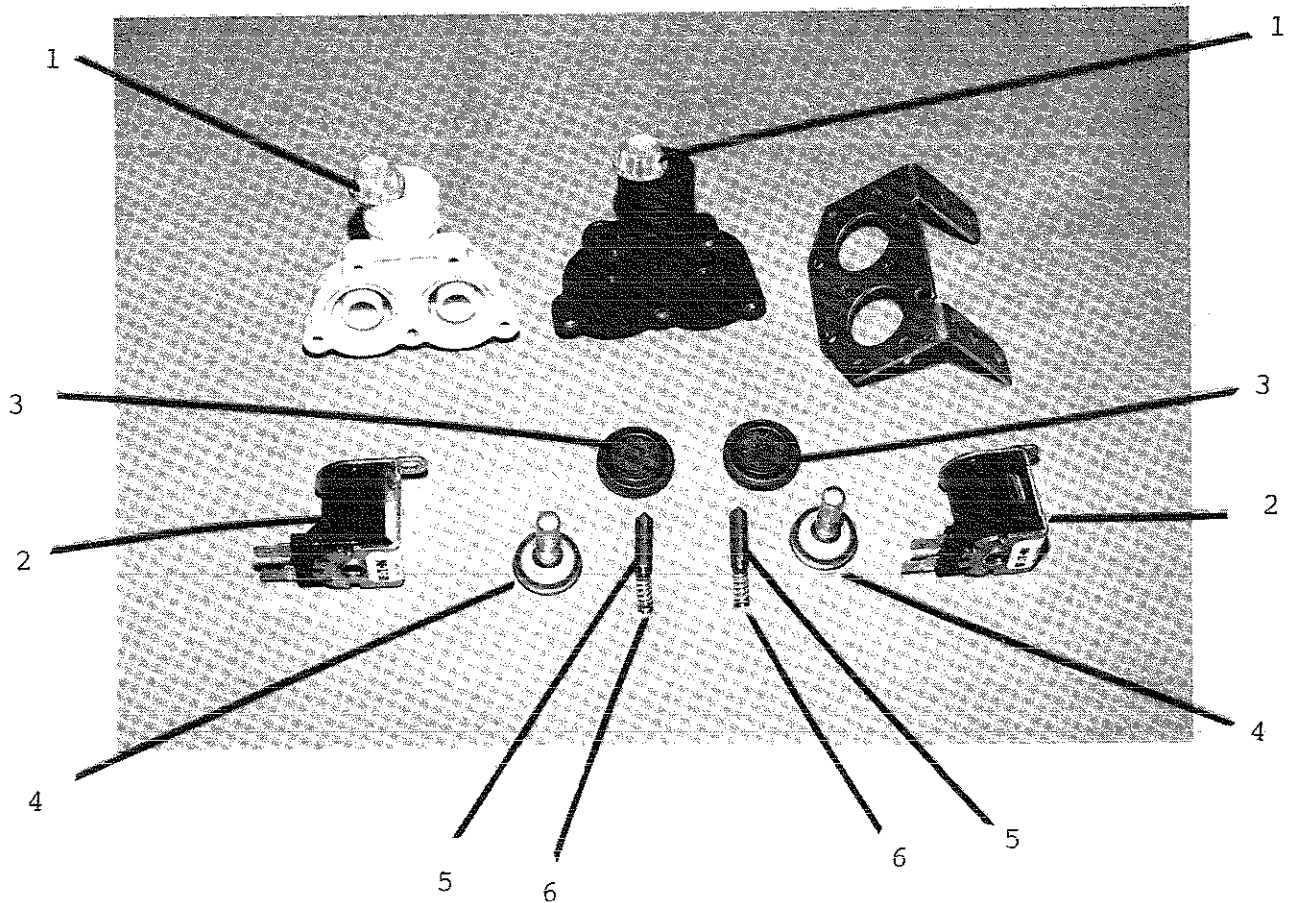
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# WATER INLET VALVE BREAKDOWN

Key	Part Number	Description	
*	9379-183-003	Valve, Water Inlet Blue (includes #1 thru #6)	1
*	9379-183-004	Valve, Water Inlet Black (includes #1 thru #6)	1
1	9555-056-001	Screen, Inlet	2
2	9089-017-001	Coil Assy., 120 V	2
3	9118-049-001	Diaphragm	2
4	9211-021-002	Guide, Solenoid	2
5	9015-008-001	Armature	2
6	9534-298-001	Spring, Armature	2
*	9545-008-026	Screw, Valve Mtg	2

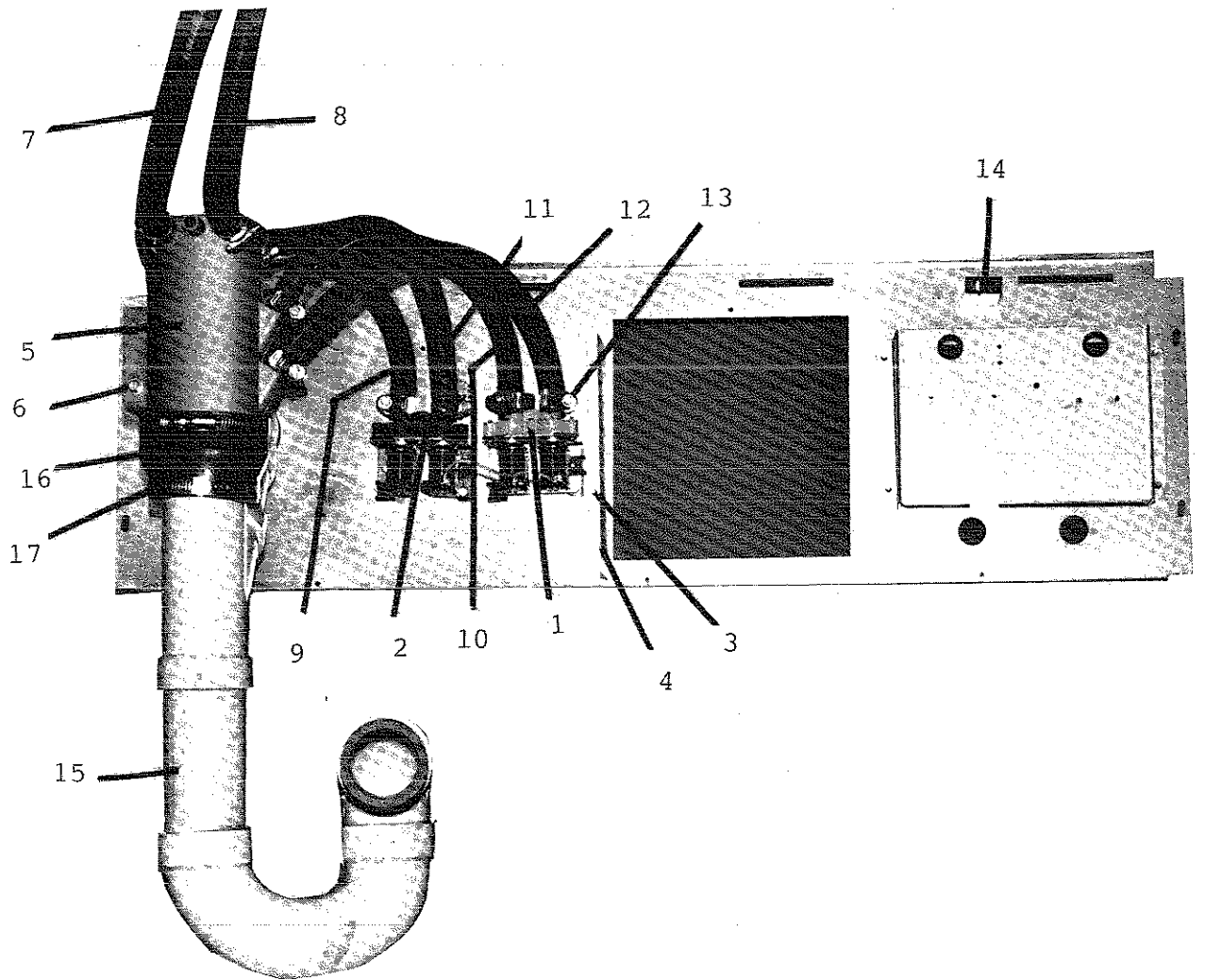
\* Not Illustrated



## WATER INLET GROUP

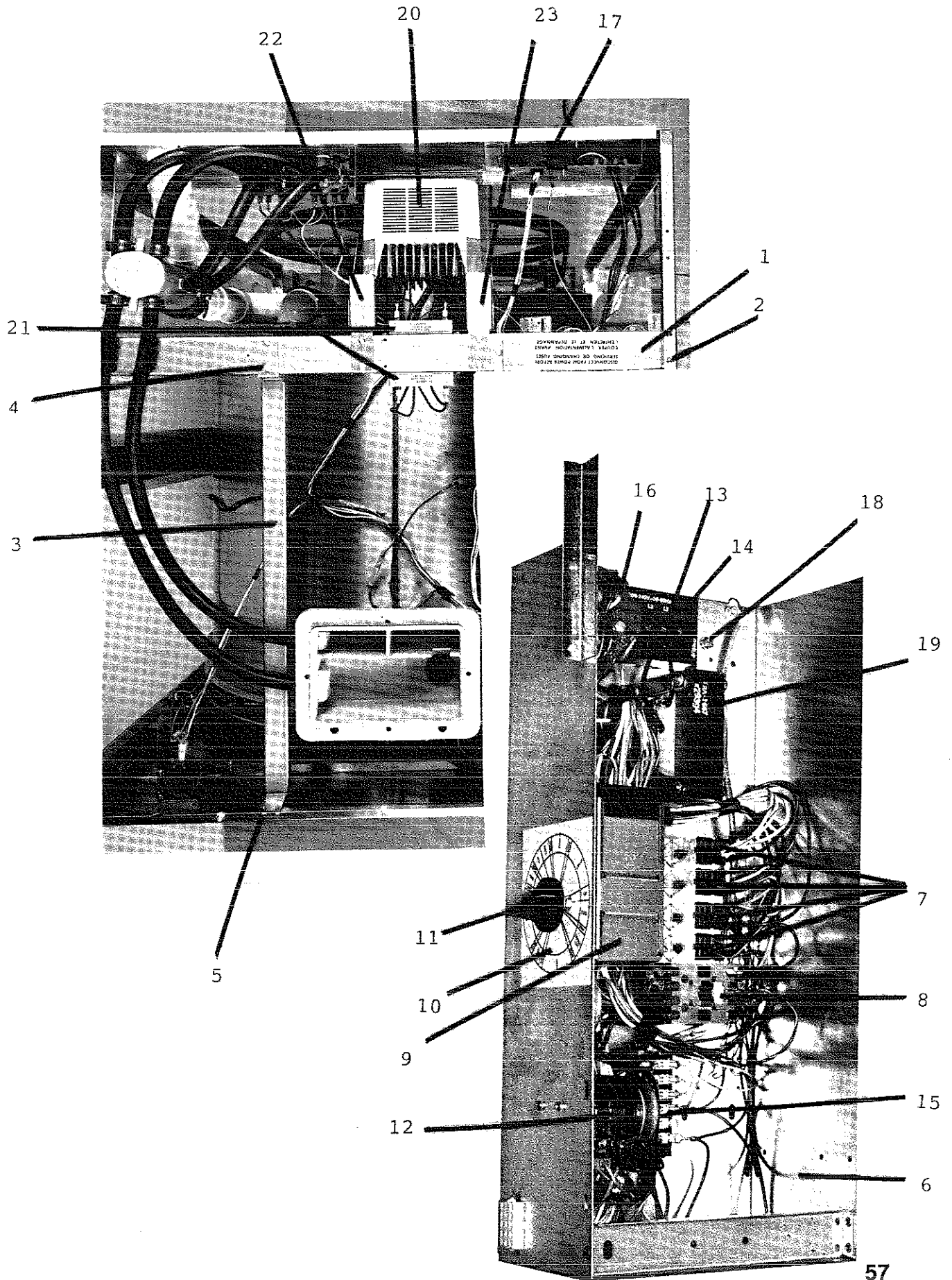
Key	Part Number	Description	
1	9379-183-003	Valve, Water Inlet (blue) .....	1
		(see Water Inlet Valve Breakdown for individual parts)	
2	9379-183-004	Valve, Water Inlet (black) .....	1
*	9545-008-026	Screw, Valve Mtg .....	4
*	8640-399-009	Nut, Spring .....	4
3	9208-049-001	Guard, Water Valve .....	1
4	9545-008-026	Screw .....	2
5	9610-001-001	Vacuum Breaker .....	1
*	9029-069-001	Bracket, Vacuum Breaker .....	1
6	9545-008-026	Screw .....	4
7	9242-453-018	Hose, Vac. Brkr. to Wash Dis .....	1
8	9242-453-019	Hose, Vac. Brkr. to Rinse Dis .....	1
9	9242-453-015	Hose, Hot Valve to Vac. Brkr .....	1
10	9242-453-007	Hose, Cold Valve to Vac. Brkr .....	1
11	9242-453-015	Hose, Hot Valve to Tub .....	1
12	9242-453-007	Hose, Cold to Tub .....	1
13	8654-117-015	Clamp, Hose-Worm .....	12
14	5198-211-004	Circuit Breaker .....	1
15	9883-005-001	Injector Assy, Soap .....	1
16	9241-461-001	Hose, Injector Assy .....	2
17	8654-117-001	Clamp .....	4

\* Not Illustrated



# ELECTRICAL COMPONENTS TOP COMPARTMENT

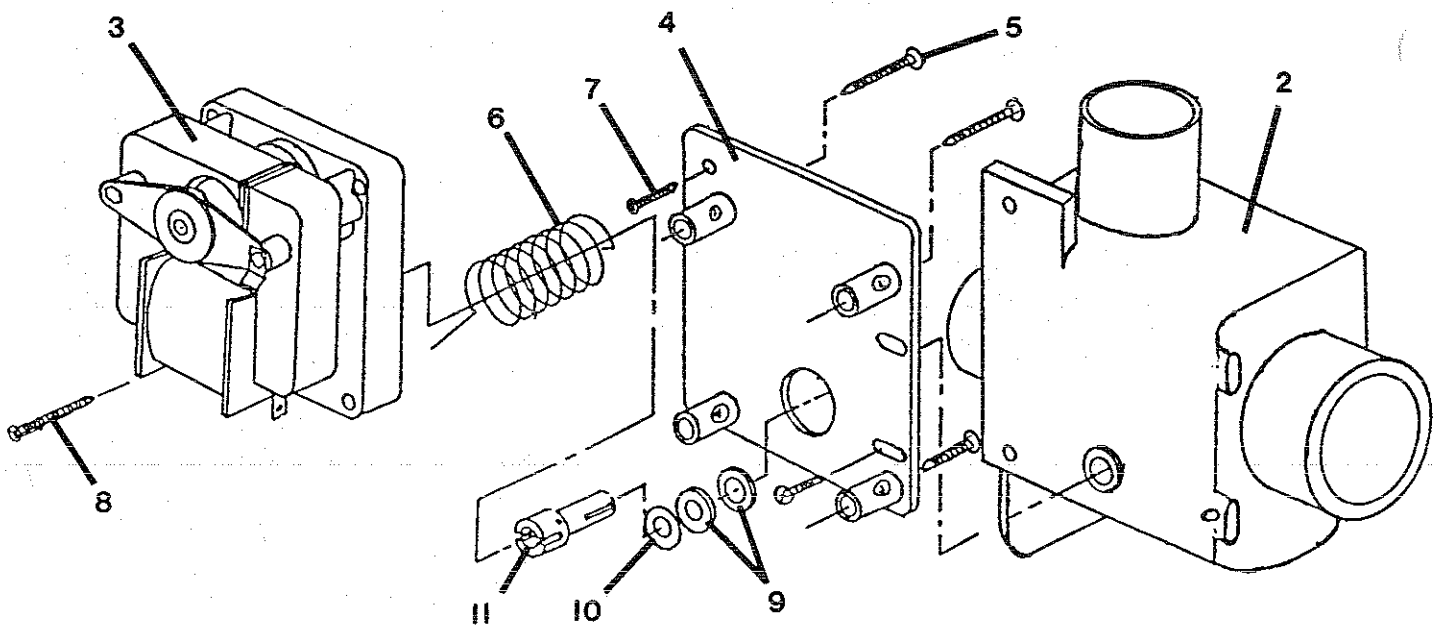
Key	Part Number	Description	
1	9081-110-001	Channel, Trough Mtg .....	1
2	9545-008-023	Screw .....	4
3	9081-108-001	Channel, Dispenser Support .....	1
4	9545-008-026	Screw .....	2
5	9545-008-001	Screw, To Cntrl Panel .....	2
6	9839-013-001	Trough Assy, Controls Mtg .....	1
*	9545-008-005	Screw .....	4
7	5192-285-001	Relay, Run, Extract, High Level & Hot Rinse .....	4
8	5192-286-009	Relay, Spin .....	1
9	9571-361-002	Timer, Program .....	1
	(VERIFY PART NUMBER ON TIMER BODY)		
*	9376-295-004	Motor, Timer Main Drive .....	1
*	9376-286-004	Motor, Timer Rapid Advance .....	1
*	9545-012-001	Screw, Timer Mtg .....	2
10	9107-067-001	Dial, Timer .....	1
11	9307-176-001	Knob, Timer (w/set screws) .....	1
	9538-157-006	Spacer, Knob .....	1
12	9571-360-001	Timer, Reversing .....	1
*	9545-044-004	Screw, Reversing Timer .....	2
13	9897-028-001	Terminal Block, 3 Position .....	1
14	9558-022-001	Strip, Terminal Marker .....	1
*	9545-045-007	Screw, Mtg .....	2
15	9897-034-001	Terminal Block Assy, 6 Position .....	1
*	9558-027-001	Strip, Terminal Marker .....	1
*	9545-045-007	Screw, Mtg .....	2
16	9539-482-001	Switch, Pressure .....	1
*	9545-031-003	Screw .....	1
*	9029-071-001	Bracket, Pressure Switch .....	1
*	9545-045-001	Screw, Mtg .....	2
17	5198-211-004	Circuit Breaker, 1.5 amp .....	1
18	8652-134-001	Lug, Grounding .....	1
*	8639-621-007	Screw, Mtg .....	1
*	8641-582-006	Lockwasher .....	1
19	8711-004-001	Transformer, Control .....	1
*	9545-008-026	Screw .....	1
*	8641-582-006	Lockwasher .....	1
20	9375-001-002	Drive, VF-120G .....	1
*	9545-008-026	Screw .....	4
*	8640-413-002	Nut, Hex .....	4
21	9483-004-001	Resistor, Braking .....	2
*	9545-012-003	Screw .....	4
*	8640-413-002	Nut .....	4
22	9003-238-001	Angle, Drive Mtg.-L.H .....	1
23	9003-238-002	Angle, Drive Mtg.-R.H .....	1
*	9545-413-002	Nut .....	6





# DRAIN VALVE GROUP

Key	Part Number	Description	
1	9379-187-001	Valve, Drain (includes #2 thru #11)	1
2	9064-070-001	Body, Valve (w/ball)	1
3	9914-137-001	Motor & Gear Train	1
4	9452-538-001	Plate, Motor Mtg	1
5	8639-994-001	Screw	3
6	9534-339-001	Spring, Drive	1
7	9545-054-001	Screw	2
8	9545-054-002	Screw	1
9	9532-134-001	Seal, V Packer	2
10	8641-584-001	Washer	1
11	9451-196-001	Pin, Main Drive	1



## TERMINAL BLOCKS

Key	Part Number	Description	
*	9897-034-001	Terminal Block, 6 Position .....	1
*	9558-027-001	Terminal Marker Strip .....	1
*	9545-045-007	Screw .....	2
*	9897-028-001	Terminal Block, 3 Position .....	1
*	9558-022-001	Terminal Marker Strip .....	1
*	9545-045-007	Screw .....	2
*	9897-033-001	Terminal Block, 4 Position .....	1
*	9558-025-001	Terminal Marker Strip .....	1
*	9545-031-010	Screw .....	2
*	9897-032-002	Terminal Block, 7 Position .....	1
*	9558-028-001	Terminal Marker Strip .....	1
*	9545-053-002	Screw .....	2
*	8652-134-001	Terminal Lug, Ground .....	1
*	8639-621-007	Screw .....	1
*	9544-041-002	Lockwasher .....	1
*	8652-130-037	Terminal, Grounding .....	1
*	8639-621-007	Screw .....	1
*	9544-041-002	Lockwasher .....	1

## LABELS

Key	Part Number	Description	
*	8502-624-002	Label, Warning Door Opening .....	1
*	8502-614-004	Label, High Voltage .....	1
*	8502-647-001	Label, Connections- Injector .....	1
*	8502-649-001	Label, Connections- Electrical .....	1
*	8502-619-004	Label, Fusing & Installation .....	1

## WIRING HARNESS GROUP

Key	Part Number	Description	
*	9627-688-001	Wiring Harness, Power Term Blk .....	1
*	9627-690-001	VF Power Drive .....	1
*	9627-692-001	Wiring Harness, Main .....	1
*	9627-694-001	Wiring Harness, Control .....	1
*	9627-693-001	Wiring Harness, VF Control Shield .....	1
*	9627-691-001	Wiring Harness, Injection Control .....	1
*	9627-683-001	Wiring Harness, Drain Valve .....	1
*	8654-125-001	Clamp, Cable- 1/4 Dia .....	1

\* Not Illustrated

# Section 7

## Maintenance

### Daily

1. Clean the top and the cabinet to remove residue.
2. Clean the soap dispenser and soap lid.
3. Check the drain for leaking and proper draining.
4. Check the loading door for leaks.
5. Clean the door seal of all foreign material.
6. Leave the loading door open to aerate the washer when not in use.

### Quarterly

**Make sure the power is disconnected before making the following checks.**

1. Check the drive belt for wear and proper tension.
2. Clean lint and other foreign material from around drive motor.
3. Check all water connections for leaks.
4. Wipe and clean the inside of the washer and check all electrical components for moisture and dust.
5. Remove and clean water inlet hose filters. Replace if necessary.
6. After any service always replace all panels before reconnecting electrical power.



