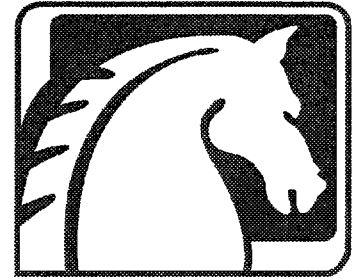


THE  
DEXTER  
COMPANY



## COIN OPERATED

### 25 LB. WASHERS

Thoroughbred 400  
WCN25

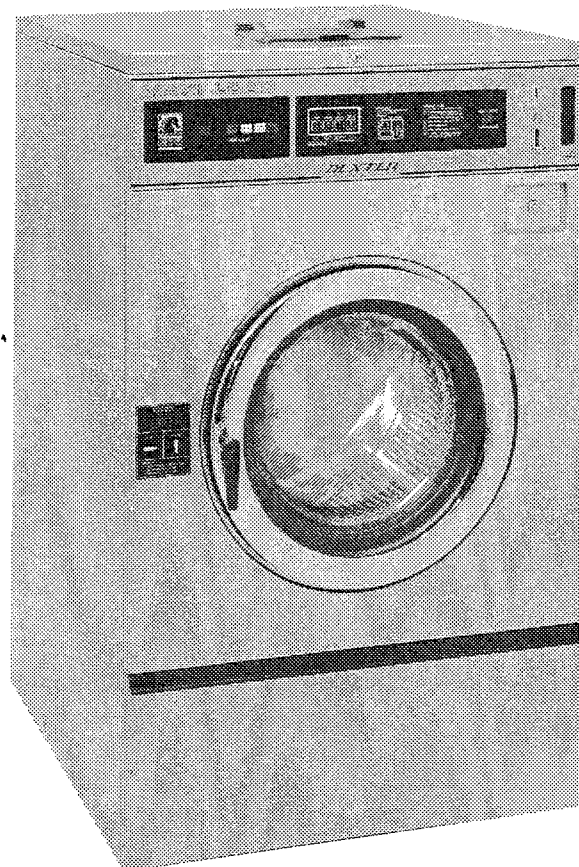
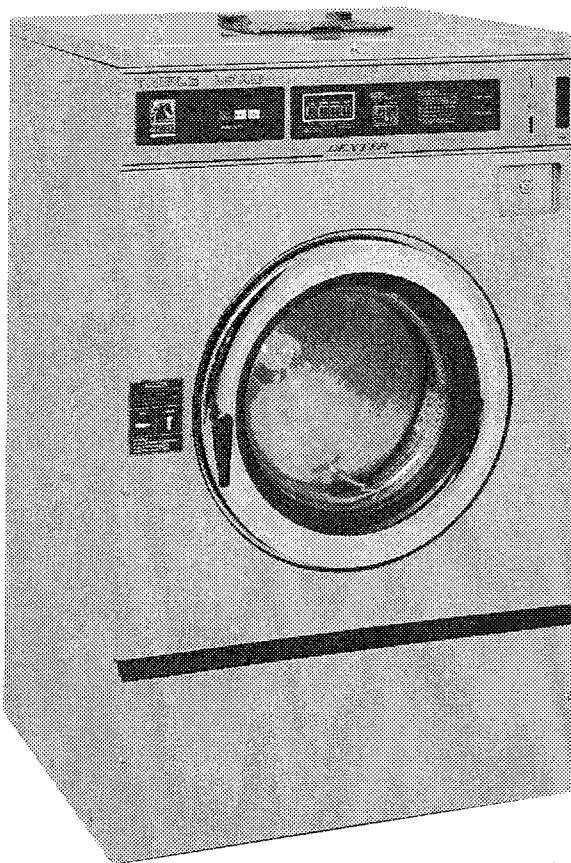
### 40 LB. WASHERS

Thoroughbred 600  
WCN45

## Service Procedures and Parts Data

Thoroughbred 400

Thoroughbred 600



Fairfield, Iowa 52556

Telephone 641-472-5131  
Fax 641-472-6336

## **WARNING**

**THESE WASHERS ARE EQUIPPED WITH DEVICES AND FEATURES RELATING TO THEIR SAFE OPERATION. TO AVOID INJURY OR ELECTRICAL SHOCK, DO NOT PERFORM AND SERVICE, UNLESS QUALIFIED TO DO SO.**

A machine should not be allowed to operated if any of the following occur:

- Excessively high water level.
- Machine is not connected to a properly grounded circuit.
- Loading door does not remain securely locked during the entire cycle.
- Vibration or shaking from an inadequate mounting or foundation.

## **WARNING - FOR SAFETY**

1. Always shut off power and water supply and also discharge capacitors before servicing.
2. Do not overload the washer.
3. Do not attempt to open door if cylinder is in motion or contains water.
4. Do not mechanically force or override door lock in any way.
5. Do not bypass any safety devices of this washer.
6. Do not use volatile or flammable substances in or near this washer.
7. Keep all panels in place. They protect against shock and injury and add rigidity to the washer.

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# Section 1

## Specifications

### Thoroughbred 400 Washers

Model	Voltage
WCN25AA	220-240 volts, 60 Hz, Single Phase
WCN25AB	208-240 volts, 60 Hz, Three Phase

### Thoroughbred 600 Washers

Model	Voltage
WCN40AA	220-240 volts, 60 Hz, Single Phase
WCN40AB	208-240 volts, 60 Hz, Three Phase

### Cycle Times

	Prewash & 3 Rinses	Prewash & 2 Rinses	No Prewash & 3 Rinses	No Prewash & 2 Rinses
Prewash	4 min.	4 min.	Not used	Not used
Drain	40 sec.	40 sec.	Not used	Not used
Wash	8 min.	8 min.	8 min.	8 min.
Drain	40 sec.	40 sec.	40 sec.	40 sec.
Rinse 1	3 min. 45 sec.	Not used	3 min. 45 sec.	Not used
Drain	40 sec.	Not used	40 sec.	Not used
Rinse 2	3 min. 45 sec.	3 min. 45 sec.	3 min. 45 sec.	3 min. 45 sec.
Drain	40 sec.	40 sec.	40 sec.	40 sec.
Int. Spin	50 sec.	50 sec.	50 sec.	50 sec.
Rinse 3	3 min. 45 sec.	3 min. 45 sec.	3 min. 45 sec.	3 min. 45 sec.
Drain	40 sec.	40 sec.	40 sec.	40 sec.
Extract	4 min.	4 min.	4 min.	4 min.
Tumble	16 sec.	16 sec.	16 sec.	16 sec.
Total *	32 min.	27.5 min.	27 min.	23 min.

\* Cycle times are approximate

# Specifications

## T-400 Coin Washer

<b>Capacity</b>	25lbs.
<b>Dimensions</b>	
Cylinder Depth	14 1/8"
Cylinder Diameter	25"
Cylinder Volume (cubic feet)	4.0
Door Opening	15 1/4"
Door Height (floor to bottom of door)	16 1/2"
Overall Height	48 1/4"
Cabinet Width	29 7/8"
Overall Depth	27 1/8"
Drain Diameter (O.D.)	3"
Drain Height (floor to center of outlet)	5"
Recommended Clearance Between Machines (minimum)	1/2"
Necessary Service Clearance Behind Machine	24"
<b>Cylinder RPM</b>	
Tumble Speed	50
Extract Speed	510
Extract Speed G-Force	92
Cylinder Direction in Extract	counter clockwise
<b>Motor H.P.</b>	
Wash (single phase)	0.35
Wash (three phase)	0.35
Extract (single phase)	1.5
Extract (three phase)	1.5
<b>Amperage (average measured on L1)</b>	
Wash(three phase)	3.75
Wash (single phase)	3.5
Extract (three phase)	3
Extract (single phase)	8.5
<b>Running Amps (maximum)</b>	
Single Phase	13
Three Phase	6.2
<b>Circuit Breaker (amps)</b>	
Three Phase	15
Single Phase	20
Built-in Controls Circuit Breaker	yes
Built-in Motor Protection	yes

<b>Voltage 60 Hz.</b>	
Three Phase	208-240
Single Phase	220-240
<b>Service</b>	
Three Phase	3 wire plus ground
Single Phase	3 wire plus ground
<b>Wire Size (min.)</b>	
Three Phase	12
Single Phase	12
<b>Water</b>	
Average Water Usage	
Normal Cycle with Full Load	39 gal.
Maximum Hot Water Use--	
Hot cycle with Full Load	15 gal.
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>	
Normal Wash-Including Fill Time	23 min.
Wash Temperatures	hot, warm & cold
Rinse Temperatures	cold-std. warm-opt.
<b>Mounting Hole Dimensions</b>	
Left to Right	26 7/8"
Front of Cabinet to First Hole	2 1/2"
First Hole to Second Hole	14 1/2" or 17 1/8"
Second Hole to Third Hole	N/A
Mounting Bolt Diameter	1/2" or 5/8"
Hole Diameter in Base	3/4"
Concrete Thickness (min.)	6"
Recommended Mounting Height	4" to 6"
<b>Weight</b>	
Shipping (lbs.)	503/1p 495/3p
Net (lbs.)	485/1p 477/3p

# Specifications

## T-600 Coin Washer

<b>Capacity</b>	40lbs.
<b>Dimensions</b>	
Cylinder Depth	21 1/8"
Cylinder Diameter	25"
Cylinder Volume (cubic feet)	6.0
Door Opening	15 1/4"
Door Height (floor to bottom of door)	16"
Overall Height	49 3/4"
Cabinet Width	29 7/8"
Overall Depth	35 7/8"
Drain Diameter (O.D.)	3"
Drain Height (floor to center of outlet)	5"
Recommended Clearance	
Between Machines (minimum)	1/2"
Necessary Service Clearance Behind Machine	24"
<b>Cylinder RPM</b>	
Tumble Speed	50
Extract Speed	510
Extract Speed G-Force	92
Cylinder Direction in Extract	counter clockwise
<b>Motor H.P.</b>	
Wash (single phase)	0.4
(three phase)	0.35
Extract (single phase)	1.8
(three phase)	1.5
<b>Amperage (average measured on L1)</b>	
Wash(three phase)	3.75
Wash (single phase)	3.5
Extract (three phase)	3
Extract (single phase)	5.25
<b>Running Amps (maximum)</b>	
Single Phase	13
Three Phase	6.2
<b>Circuit Breaker (amps)</b>	
Three Phase	15
Single Phase	20
Built-in Controls Circuit Breaker	yes
Built-in Motor Protection	yes

<b>Voltage 60 Hz.</b>	
Three Phase	208-240
Single Phase	220-240
<b>Service</b>	
Three Phase	3 wire plus ground
Single Phase	3 wire plus ground
<b>Wire Size (min.)</b>	
Three Phase	12
Single Phase	12
<b>Water</b>	
Average Water Usage	
Normal Cycle with Full Load	51 gal.
Maximum Hot Water Use--	
Hot cycle with Full Load	21 gal.
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>	
Normal Wash-Including Fill Time	23 min.
Wash Temperatures	hot, warm & cold
Rinse Temperatures	cold-std. warm-opt.
<b>Mounting Hole Dimensions</b>	
Left to Right	26 7/8"
Front of Cabinet to First Hole	2 3/4"
First Hole to Second Hole	21 1/2"
Second Hole to Third Hole	N/A
Mounting Bolt Diameter	5/8"
Hole Diameter in Base	3/4"
Concrete Thickness (min.)	6"
Recommended Mounting Height	4" to 6"
<b>Weight</b>	
Shipping (lbs.)	680/1p 652/3p
Net (lbs.)	655/1p 627/3p

## Water Usage

### T-400 Coin Washer

	Wash 2 Rinses	Prewash 2 Rinses	Wash 3 Rinses	Prewash 3 Rinses
Prewash	<b>Not used</b>	13.9 gal.	<b>Not used</b>	13.9 gal.
Wash	15.3 gal.	10.6 gal.	15.3 gal.	10.6 gal.
Rinse 1	<b>Not used</b>	<b>Not used</b>	10.3 gal.	10.3 gal.
Rinse 2	10.2 gal.	10.2 gal.	10.2 gal.	10.2 gal.
Int. Spin				
Rinse 3	13.35 gal.	13.35 gal.	13.35 gal.	13.35 gal.
<b>Total</b>	<b>38.85 gal.</b>	<b>48.05 gal.</b>	<b>49.15 gal.</b>	<b>58.35 gal.</b>

Washer tested with 25 lb load of 100% cotton test clothes  
Typically, small or mixed fabric loads will use less water.

## Water Usage

### T-600 Coin Washer

	Wash 2 Rinses	Prewash 2 Rinses	Wash 3 Rinses	Prewash 3 Rinses
Prewash	<b>Not used</b>	19.5 gal.	<b>Not used</b>	19.5 gal.
Wash	21.1 gal.	13.3 gal.	21.1 gal.	13.3 gal.
Rinse 1	<b>Not used</b>	<b>Not used</b>	12.6 gal.	12.6 gal.
Rinse 2	12.2 gal.	12.2 gal.	12.2 gal.	12.2 gal.
Int. Spin				
Rinse 3	17.85 gal.	17.85 gal.	17.85 gal.	17.85 gal.
<b>Total</b>	<b>51.15 gal.</b>	<b>62.85 gal.</b>	<b>63.75 gal.</b>	<b>75.45 gal.</b>

Washer tested with 40 lb load of 100% cotton test clothes  
Typically, small or mixed fabric loads will use less water.

## Water Temperatures

	Heavy Duty	Normal	Perm Press	Delicates
Prewash	Hot	Warm	Warm	Cold
Wash	Hot	Warm	Warm	Cold
Rinse 1	Cold	Cold	Cold	Cold
Rinse 2	Cold	Cold	Cold	Cold
Rinse 3	Cold	Cold	Cold	Cold

\*Rinses can be converted to warm by moving the Brown/Orange wire on TB-11 to TB-9 (TB-# relates to a terminal number on the large terminal block located in the electrical control trough). **Disconnect electrical power before moving wire.**

# 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 6" or thicker.

### Mounting

A concrete pad or steel base which elevates the machine 4 to 6 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 as is shown.

### Mounting Holes

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

#### Thoroughbred 400

Mounting hole dimensions are shown as either 14 1/2 or 17 1/8 inches front to back spacing. The 17 1/8 spacing is preferable unless current anchors dictate the 14 1/2 spacing. All 6 mounting holes may be used.

#### Thoroughbred 600

There are four mounting holes in the 600 and of course all must be used.

**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. A hot water recovery rate of approximately 30 gallons per hour is required for the T-400 and 42 gallons per hour for the T-600 with normal wash and cold rinses. 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.

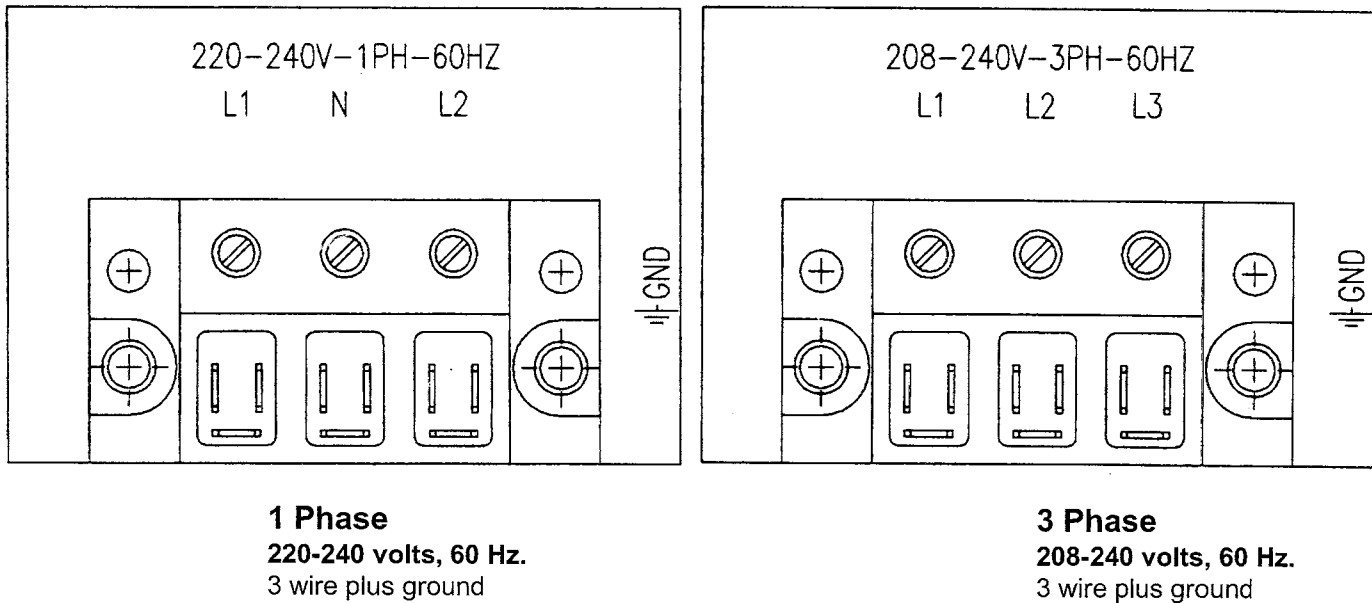
### Protective Film

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

Dexter WCN25 and WCN40 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 diagrams show 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 small terminal block located in the rear of the control trough. The terminal block is accessed by opening the top panel of the machine.



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

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

1 Phase	20 amp
3 Phase	15 amp

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

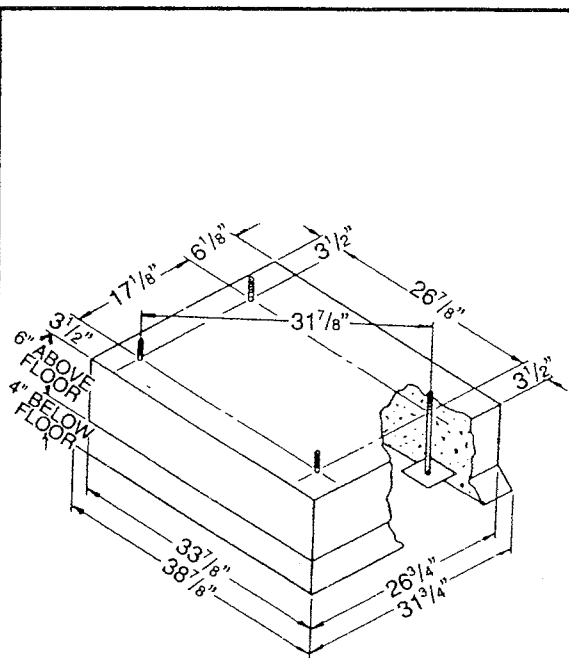
**Rotation in extract as viewed from front of washer looking towards rear will be counterclockwise.**

## 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. three phase washers have a controls transformer. Single phase washers do not require a controls transformer. Always check the incoming voltage and use the appropriate transformer terminal when installing three phase washers.**



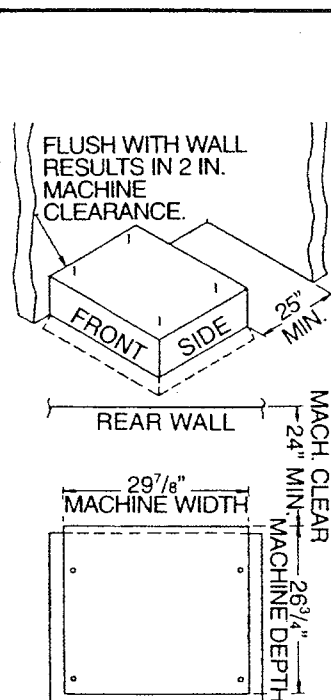


PEDESTAL SHOULD BE REINFORCED WITH MESH OR RODS.

ANCHORS: 1/2" X 8" BOLTS HEADED BY 4" SQ. FISH PLATE OR EQUIV.. (1 1/8" BOLT PROTRUSION)

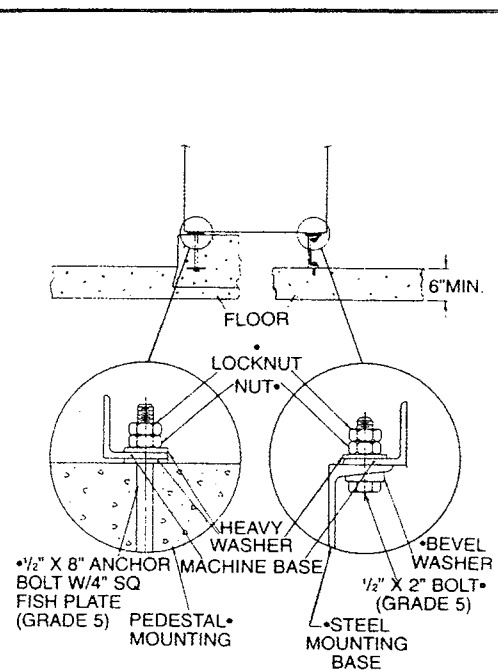
CONCRETE PEDESTAL ARRANGEMENT

Figure 1-1



FLOOR OUTLINE

Figure 1-2

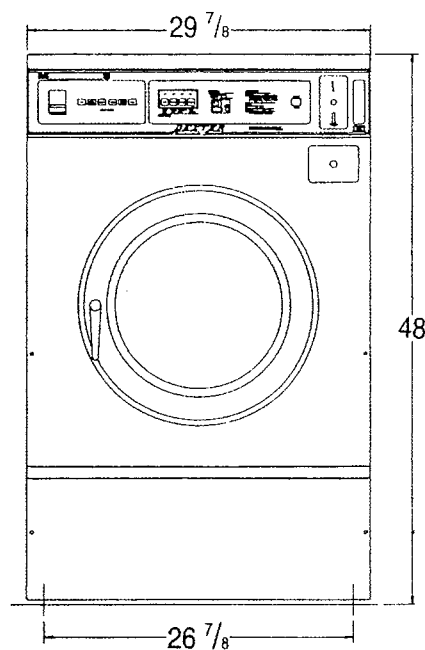


• NOT FURNISHED WITH MACHINE

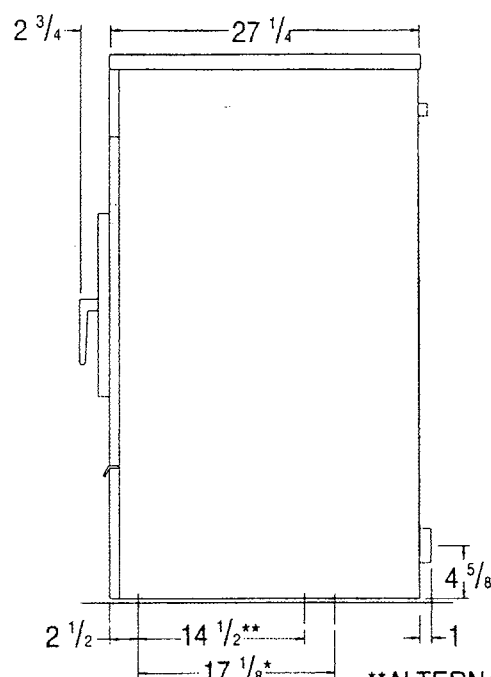
MACHINE MOUNTING DETAIL

Figure 1-3

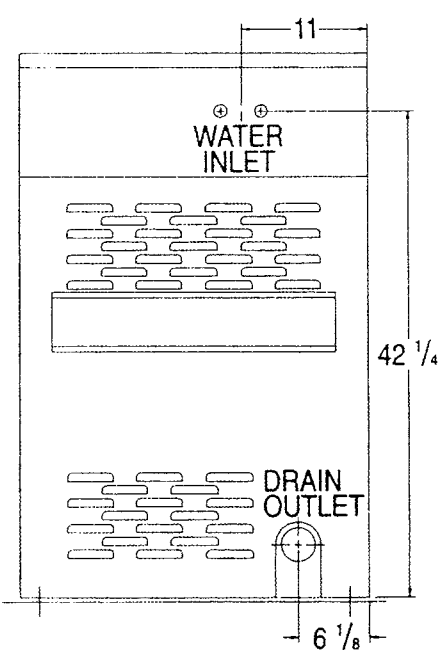
## 400 SERIES SERIES COMMERCIAL WASHER



FRONT

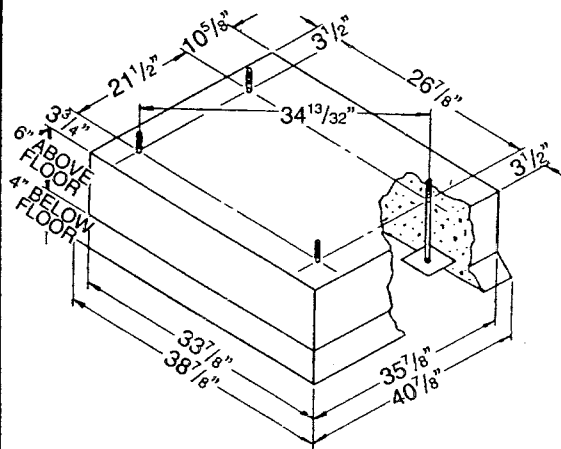


SIDE



REAR

\*\*ALTERNATE  
\*RECOMMENDED

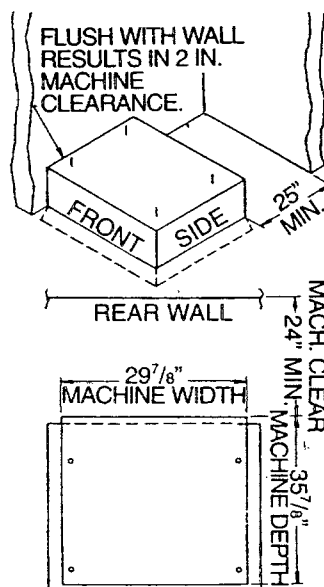


PEDESTAL SHOULD BE REINFORCED WITH MESH OR RODS.

ANCHORS:  $\frac{5}{8}$ " X 8" BOLTS HEADED BY 4" SQ. FISH PLATE OR EQUIV.. ( $\frac{1}{8}$ " BOLT PROTRUSION)

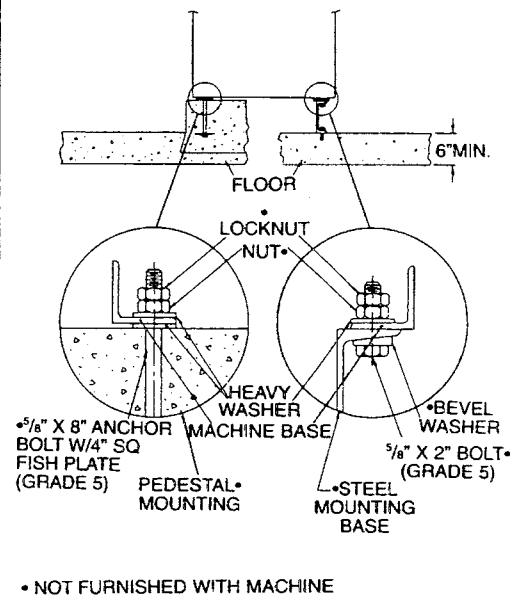
CONCRETE PEDESTAL ARRANGEMENT

Figure 1-1



FLOOR OUTLINE

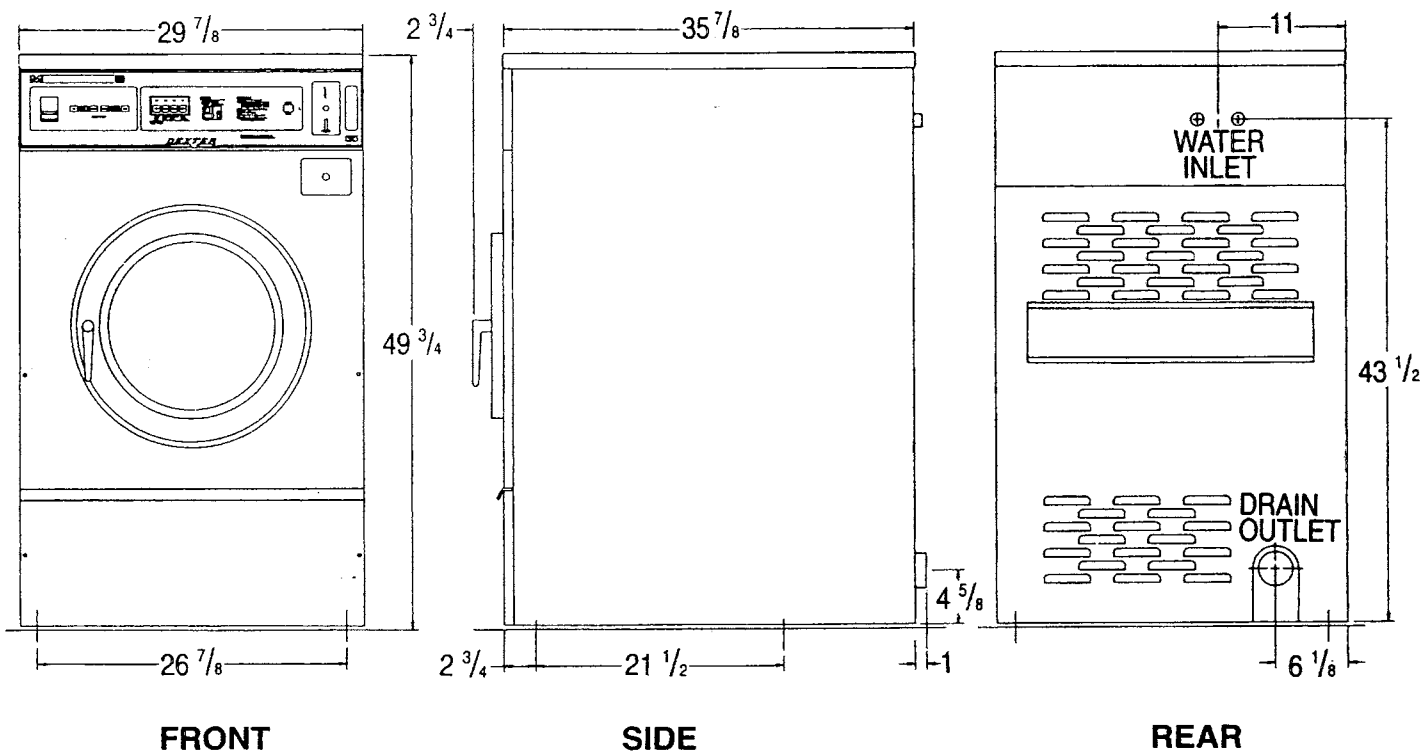
Figure 1-2



MACHINE MOUNTING DETAIL

Figure 1-3

## 600 SERIES SERIES COMMERCIAL WASHER



## Final Check out

**Always disconnect electrical power to the machine before opening the top. Avoid contact with capacitor or other electrical terminals.**

### Open the top of the machine as follows:

- Remove the four screws that hold the dispenser to the top panel.
- Unlock the top panel, slide to the rear to release and remove the top panel from the machine.

### Setting the Accumulator

**Always disconnect electrical power to the machine before setting the accumulator. Avoid contact with capacitor or other electrical terminals.**

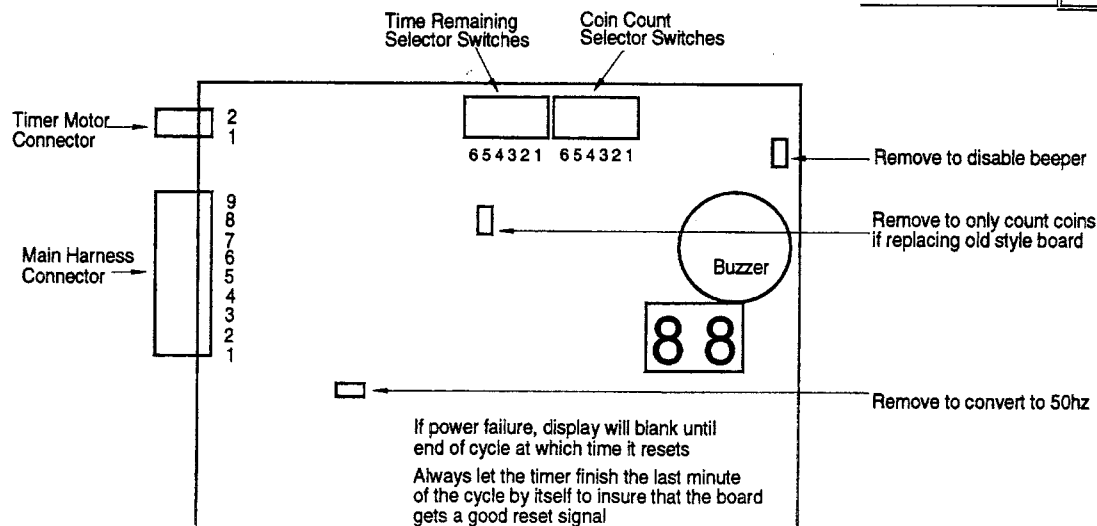
The accumulator board contains the digital coin count and time remaining display and is attached to the front of the machine. The **amount to start** is set by depressing the 6 small switches on the top edge of the accumulator in the correct combination for the desired number of coins. The **time remaining** is set by depressing the other six small switches on the top edge of the accumulator in the correct combination for the desired cycle time. (See chart for correct combinations) The switch numbers and names are printed on the clear cover over the coin accumulator circuit board. The switches are actuated by pushing the switch operator toward the back of the machine. As the switches are very small, a golf tee or some other nonmetallic tool is desirable for this process.

**Note:** For use in Canada, the coin acceptor magnet must be removed. See drop coin acceptor in Service Procedures Section for location of magnet.

### Setting the Operating Mode (Program length)

**Number of Coins or Minutes**      **Switch Number**

	1	2	3	4	5	6
1	X					
2		X				
3	X	X				
4			X			
5	X		X			
6		X	X			
7	X	X	X			
8				X		
9	X			X		
10					X	
11	X				X	
12		X			X	
13	X	X			X	
14			X		X	
15	X		X		X	
16		X	X		X	
17	X	X	X		X	
18				X	X	
19	X			X	X	
20						X
21	X					X
22		X				X
23	X	X				X
24			X			X
25	X		X			X
26		X	X			X
27	X	X	X			X
28				X		X
29	X			X		X
30					X	X
31	X				X	X
32		X			X	X
33	X	X			X	X
34			X		X	X
35	X		X		X	X
36		X	X		X	X
37	X	X	X		X	X
38				X	X	X
39	X			X	X	X



See the Cycle Time Chart in Section 1 for the four available Cycle Times.

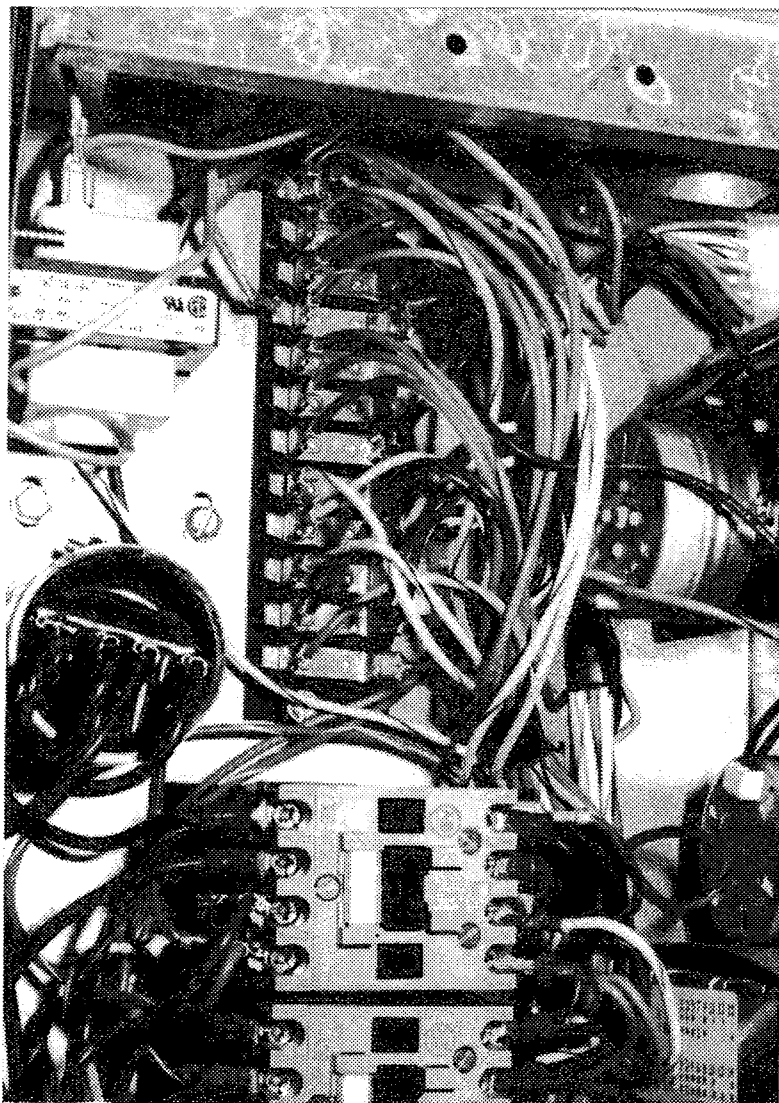
The operating mode can be selected by moving one jumper wire on the 12 position terminal block. Machines are shipped with the wire connecting terminal 4 to 7 giving no prewash and 2 rinses. Relocating the end of the orange/white wire with the plastic housing from position 7 gives these selections:

- Moving to #4 gives prewash and 3 rinses
- Moving to #5 gives prewash and 2 rinses
- Moving to #6 gives no prewash and 3 rinses
- Leaving on #7 gives no prewash and 2 rinses

**After changing the operating mode (program length), refer to Setting the Accumulator on the previous page to reset the cycle time remaining for the correct length of time for the new cycle.**

Close top, replace screws in dispenser, lock top and reconnect power.

**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.**



# Connections for Injection Systems and Rinse Conversions

## Connections for Injection Systems

Signals for the connection of chemical injector systems are available at the connection points listed below. These points will give 120VAC signals. The locations listed as TB-# are terminal block numbers for the large terminal block at the front of the control trough.

DESCRIPTION	TERMINAL LOCATION
Prewash	TB-12
Bleach	TB-2
Wash	This connection maybe made at the wash light at the front of the machine. The wire color to piggyback on is yellow/orange.
Rinse	This connection maybe made at the rinse light at the front of the machine. The wire color to piggyback on is yellow/blue. Be sure not to use the final rinse light.
Final Rinse	TB-8

## Connection for Warm Rinses

As shipped from the factory all rinses are cold. Rinses can be converted to warm by moving the brown/orange wire on TB-11 to TB-9 (TB-# relates to a terminal number on the large terminal block located in the electrical control trough). **Disconnect electrical power before moving the wire.**

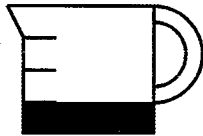
# Operating Instructions

## Accumulator

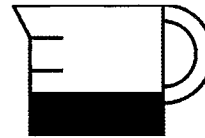
Prior to operation, the coin accumulator should be set for both the number of coins to start and the number of minutes in the cycle. (see Setting the Accumulator)

## Starting the Washer

- A. 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.



T-400



T-600

- B. Load the clothes loosely in the cylinder and latch the door securely. Be sure clothing does not get caught between the door gasket and tub front when closing the door.

**NOTE: To close the door the handle must be in the horizontal position . After moving the door to the closed position, the handle must be turned down to the vertical position to latch the door for machine operation.**

- C. Using the buttons on the front, select the wash cycle having the desired temperature.
- D. Insert the preset number of coins as shown in the coin display to start the machine. The washer will automatically start and the red "on" light will glow. The clothes door will lock and remain locked until the end of the cycle.
- E. At the correct time in the cycle the green "ADD BLEACH" light will come on indicating the time and location for adding bleach if desired.

## End of Cycle

When the cycle is completed, the end of cycle beeper will sound and the "on" light will go off. The loading door can now 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. Also, at the end of cycle the coin count display will reset to the original number of coins required to start.

# 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 diagram.
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.

## 25lb. and 40lb. Washer Schematic

### Start Circuit

Power travels into the machine on L1 & L2 (3 phase) or L1 & N (1 phase). On 3 phase, 240VAC goes to a Control Transformer that steps the voltage down to 120VAC for the controls. 120VAC then travels to the 1.5 amp Circuit Breaker. On 1 phase, 120VAC goes directly to the 1.5 amp Circuit Breaker. There is no need for a step down transformer.

From the Circuit Breaker, 120VAC travels on the white/red wire to the Coin Accumulator Transformer where it is stepped down to 12VAC. This 12VAC powers the Coin Accumulator Board via the gray wire. With the board now powered up, the insert coins light will be illuminated and it's ready to count coins. 120VAC is also supplied to the Main Timer Start and On-Off Contacts on the white/red wire. The Start Contact is closed before the machine has been started so 120VAC travels through the Start Contact and is supplied to the Coin Accumulator Board Start Relay. The S4 Coin Switch counts the quarters and sends a signal to the Coin Accumulator Board. When the coin count is satisfied, the Coin Accumulator Board closes the Start Relay and sends a short 120VAC signal on the orange/white wire to the Rapid Advance Timer Motor. This timer motor starts advancing the Main Timer to the preselected starting position. A few seconds after the Coin Accumulator Board sends the start signal to the Rapid Advance Timer Motor, the Coin Accumulator Start Relay opens, the display goes blank and 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 Contact RA-3 to power the Rapid Advance Motor again and the Main Timer is allowed to advance on to the preselected start position. The blue wire furnishes the neutral for the controls.

## 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 as well as the Main Timer Motor. 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. The Wash Light Contact in the Main Timer is closed and provides 120VAC to the Wash Light. The orange wire coming from the S3 Door Switch provides power to the Wash Water Contact in the Main Timer. 120VAC connects from the Wash Water Contact to the Wash Temperature Contact via an internal timer connection.

With 120VAC on the orange wire & neutral on the orange/yellow wire, the Coin Accumulator Board turns on the Time Remaining Light & starts counting down in minutes. (If delay fill kit is installed, time count down is stopped during fills.)

Now a cycle must be selected with the Selector Switch. We'll use Normal Wash. The washer fills the tub through the back of the machine with either one or both the C1 Cold and H1 Hot Water Valves. At the beginning of the cycle, the detergent dispenser flushes the detergent into the tub. 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. As the washer fills with water, the Wash Basket will tumble one direction for 19 seconds, pause, and then reverse direction for 19 seconds. 120VAC travels from the Wash Water Timer Contact to the Heavy Duty Contact in the Selector Switch via the white/black wire. 120VAC goes through the closed Heavy Duty Contact in the Selector Switch and energizes the C1 Cold Water Valve Solenoid via the white/orange wire. 120VAC also travels to the closed Wool/Delicate Contact in the Selector Switch. This closed contact provides power to the H1 Hot Water Valve Solenoid via the red/yellow wire. 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. The Reversing Timer will alternately open and close the two Wash Micro Switches and provide 120VAC to the R1A (brown/white wire) and R1B (orange/green wire) Wash Contactor Coils. These coils open and close the Contactor Switches to operate the Drive Motor.

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

## Drain, Rinse 1 & 2, & Final Rinse Circuit

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

For Rinse 1 & 2, 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. 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 Rinse 1 & 2 above.



## Extract Circuit

The Spin Contact in the Main Timer closes to provide 120VAC to the Spin Light. The Wash Motor Contact remains closed and provides 120VAC to the closed Clockwise Micro Switch on the Reversing Timer. 120VAC is then fed to the Counter Clockwise Micro Switch via a jumper wire. Power is then sent through the Counter Clockwise Micro Switch 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 Contactor Coil on the red/black wire. With 120VAC to the R2 Spin Motor Contactor Coil the Contactor is pulled down (closed) and two things happen. With the R2 Contactor closed, 120VAC is now provided from the orange wire directly to the Contactor eliminating the Reversing Timer and the Micro Switches from the circuit.

The second thing that happens when the R2 Contactor is closed is that voltage is provided directly to the Spin Winding in the motor on 3 phase machines and the washer spins.

On 1 phase washers, the R2 Contactor provides 120VAC to the Main Spin Winding and also provides 120VAC to the Solid State Start Switch Terminal #2. 120VAC goes out of the Solid State Start Switch on the #3 Terminal to the Spin Capacitor. The Spin Capacitor then provides 120VAC to the Phase Spin Winding until the Spin Motor comes up to speed. Within a few seconds of start up, the Solid State Start Switch senses that the Spin Motor Current has dropped (motor is up to speed) and opens the circuit on #3 Terminal on the Solid State Start Switch. This eliminates voltage to the phase winding (start winding) and the motor continues to run on the Main Winding.

## 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.

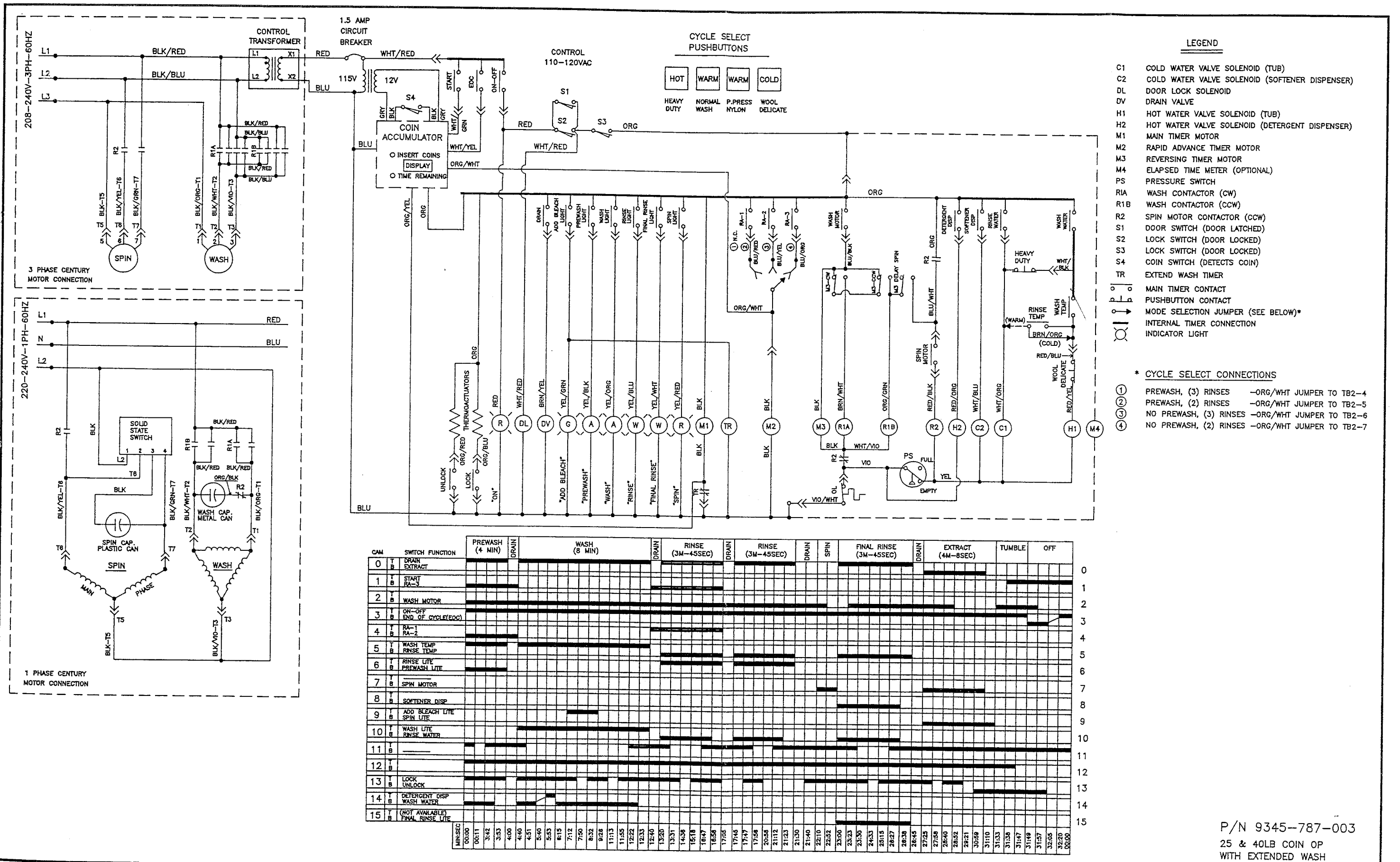
To insure that the Lock Thermoactuator has retracted by the end of the cycle, 1 minute prior to the end of the cycle, the Unlock Thermoactuator is powered with 120VAC through the Unlock Thermoactuator Contact in the Main Timer.

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 30 seconds to let the clothes shake loose and then stop.

## End of Cycle Circuit

The On-Off Contact in the Main Timer opens removing power to the Door Lock Switches and Contactors. The machine is now stopped. The Start Contact on the Main Timer is closed providing 120VAC to the Coin Accumulator Board on the white/green wire. The End Of Cycle Contact in the Main Timer is closed sending a 120VAC signal to the Coin Accumulator Board on the white/yellow wire telling it that the cycle is over. This does 2 things: 1. The beeper will signal for 3 seconds letting the user know that it is the end of the cycle. 2. It resets the Coin Accumulator Board and it is now ready to count coins again.





WIRING SCHEMATIC 1PH & 3PH,60HZ

DEC 10 1996





WIRING DIAGRAM 220-240V-1PH-60HZ

# 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)

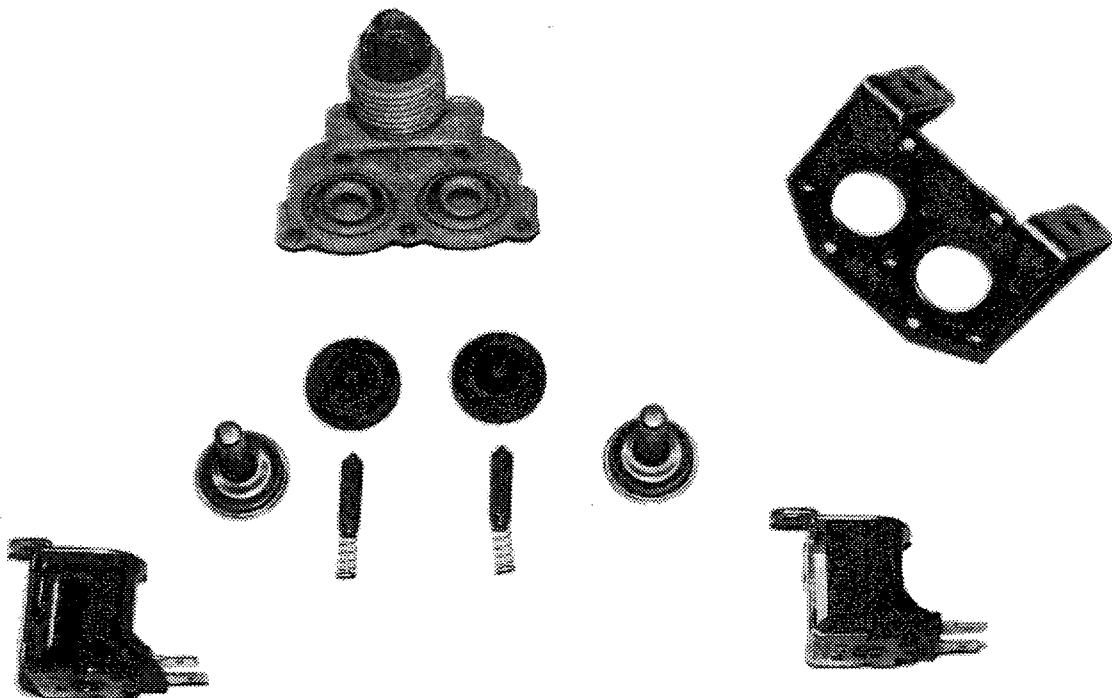
Detergent is flushed from the front of the compartment and fabric softener is flushed from the back. There will be a small amount of water left in the fabric softener compartment after each use. This is normal.

### 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.

### 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. 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 carries 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.

## **Coin Accumulator Transformer**

This transformer that powers the coin accumulator board is mounted on the right side of the control trough. It steps control voltage down to a 12 volt AC output. It is held in place with two screws.

## **Coin Accumulator Board**

This board displays the number of coins to start the washer, counts down the number of coins as they are added and starts the program timer when the preset coin amount is satisfied. With the preset coin amount satisfied, the coin accumulator closes a circuit sending control voltage to the timer on the orange with a white striped wire and starts the washer. At the end of the cycle, the timer closes the end of cycle cam providing control voltage on the white with a yellow striped wire to the coin accumulator board. This signal from the timer resets the accumulator board so it is ready to count coins and the display goes back to the original amount of coins needed to start the washer. 12 volt AC power for the coin accumulator is supplied by the coin accumulator transformer discussed above. The board is retained by three nuts.

## **Drop Coin Acceptor**

The drop style coin acceptor contains a coin switch that is actuated by each good coin that is accepted.

### **Removal**

The coin acceptor is removed by loosening the two Torx T-10 machine screws on the right side and by removing completely the two Torx T-10 machine screws on the left side (#T-10 Torx driver, Dexter Pt. No. 8545-051-003). There are locking nuts on the back side that will have to be held. Needle-nose pliers work well for this. Sliding the acceptor to the left will remove it from the slots in the front panel. This gives access to the coin switch and acceptor for adjustments.

### **Coin Thickness Adjustment (see diagram)**

On the right side of the acceptor there is a coin thickness adjusting screw "A" with a locking nut. To allow for different thickness coins the screw can be turned in to accept thicker coins and turned out to reject thicker coins. Start with a quarter of a turn on this screw and be sure to retighten the lock nut after adjustment.

### **Coin Height Adjustment (see diagram)**

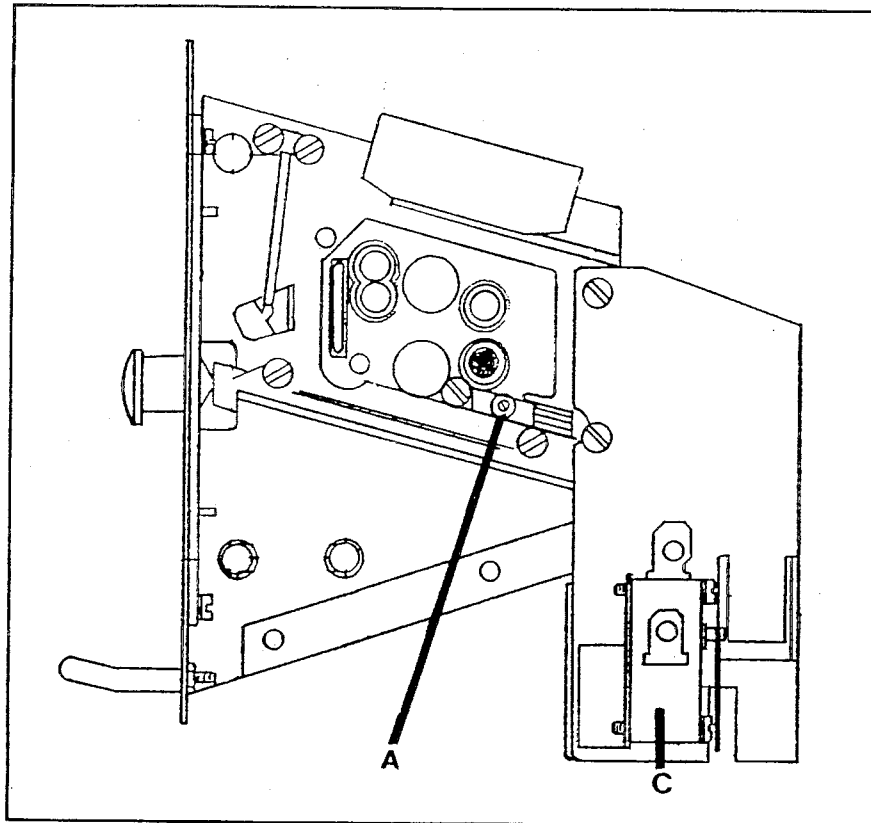
On the left side of the acceptor is a coin height adjusting bar "B". This bar is adjusted by loosening the two mounting screws and moving both ends of the bar up or down equal amounts. The bar should be raised as high as possible while still accepting the correct coins. If it is raised up too high, the good coins will be rejected.

### **Coin Switch Adjustment (see diagram)**

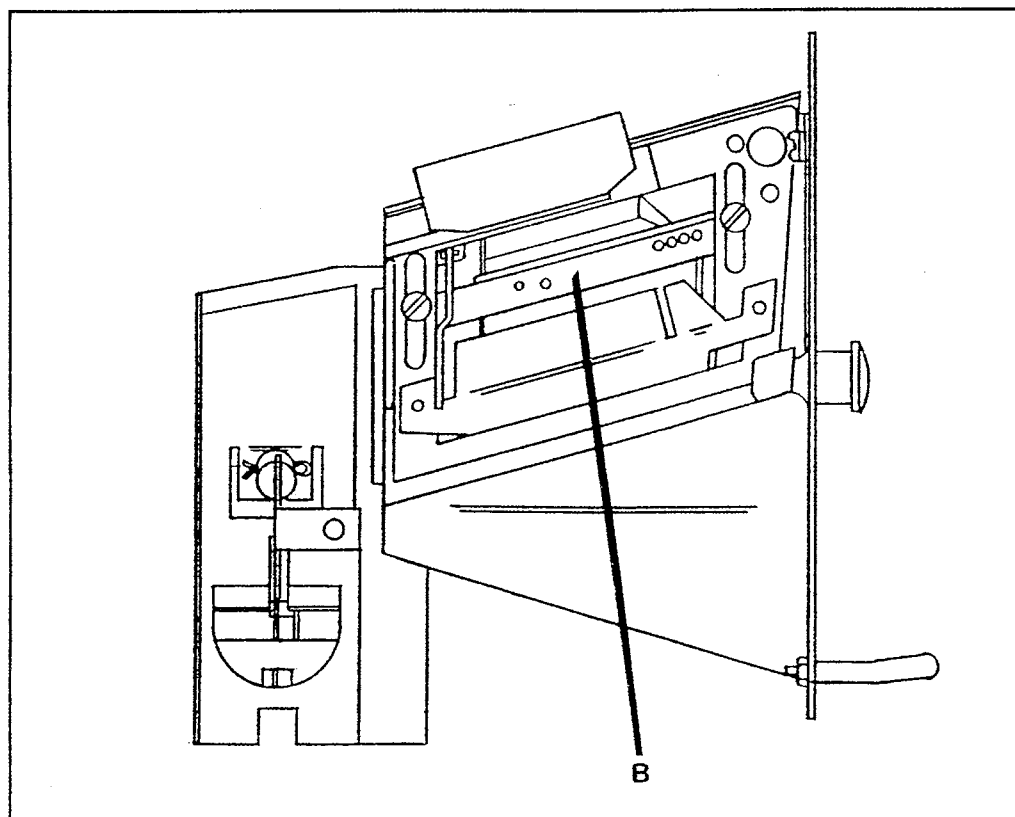
The normally open coin switch "C" should click (close) soon after the coin hits the operator wire. However, there must be enough travel to allow the switch to reset (open) once the coin has passed. Adjustment should be made by bending the wire very close to its attachment point.

## **Reversing Timer**

The reversing timer operates the wash and spin relays and is mounted on the left side of the control trough and retained 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 portions of the cycle.



COIN ACCEPTOR - right side



COIN ACCEPTOR - left side



## Motor Relays

These relays are located in the center of the control trough. The front relay is for spin. The other two are wash relays. The middle one is for counter clockwise direction and the back one is for clockwise direction. Wires are removed using a straight blade screwdriver. The relays are removed by prying out on the mounting tab at the bottom of the relay with a straight blade screwdriver.

### R1A Wash Motor Relay (clockwise)

The R1A Wash Motor Relay is mounted behind the R1B wash motor relay. The 120VAC coil on the wash relay is energized by the clockwise-wash micro switch in the reversing timer. The coil opens and closes the relay switches to operate the drive motor.

### R1B Wash Motor Relay (counter clockwise)

The R1B Wash Motor Relay is mounted behind the R2 spin motor relay. The 120VAC coil on the wash relay is energized by the counter clockwise-wash micro switch in the reversing timer. The coil opens and closes the relay switches to operate the drive motor.

### R2 Spin Motor Relay

The R2 Spin Motor Relay is mounted in front of the R1B spin motor relay. The 120VAC coil on the spin relay is energized when the delay-spin micro switch in the reversing timer sends 120VAC to the spin motor contact in the timer. The coil opens and closes the relay switches to operate the drive motor.

## 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.

**Note: All single phase 25lb. and 40lb. washers have an electronic start switch and run and start capacitors. Three phase machines do not require these parts.**

**ALWAYS DISCHARGE CAPACITORS BEFORE SERVICING.**

## Solid State Start Switch

This switch is located on the right side of the control trough directly behind the coin accumulator transformer. Its job is to switch the spin start capacitor on at the beginning of spin and to switch the spin start capacitor off when the motor achieves operating speed. To test the electronic start switch, clamp an ammeter around either single lead wire to the start capacitor (capacitor with plastic case). The switch should show starting current flow in the capacitor circuit momentarily at the start of spin. Continuous current flow means that the electronic start switch is stuck on and has failed. No current flow means that the switch is open and has failed.

## Capacitors

The capacitors are located in the right rear corner of the control trough directly behind the start switch. The capacitor with the metal case is the wash run capacitor and the capacitor with the plastic case is the spin start capacitor.

## 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. three phase washers have a controls transformer. Single phase washers do not require a controls transformer. Always check the incoming voltage and use the appropriate transformer terminal when installing three phase washers.**

## **Pressure Switch**

The pressure switch sets the water level in the washer. 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. The 1/4" screw in the middle of the switch adjusts the water level. Turning it clockwise 1/8 of a turn will raise the water level 1/4 of an inch. Counter clockwise will lower the water level. Before making any adjustments of the pressure switch, drain the tub and blow the hose clear of possible water bubbles which can cause erratic pressure switch operation. With no load, the water level should be approximately at the bottom to 1/2" up from the bottom of the glass on the T-600. With no load, the water level should be approximately 1/2" to 1" up from the bottom of the glass on the T-400.

## **Power Connection Terminal Block**

This terminal block sets at the very back of the control trough. Incoming power to the washer 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 selector switch is mounted in the center 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.**

## **Add-Bleach Light**

This 120VAC light indicates to the user the correct time to add bleach. It is removed by squeezing two mounting clips.

## **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 Lock Assembly

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

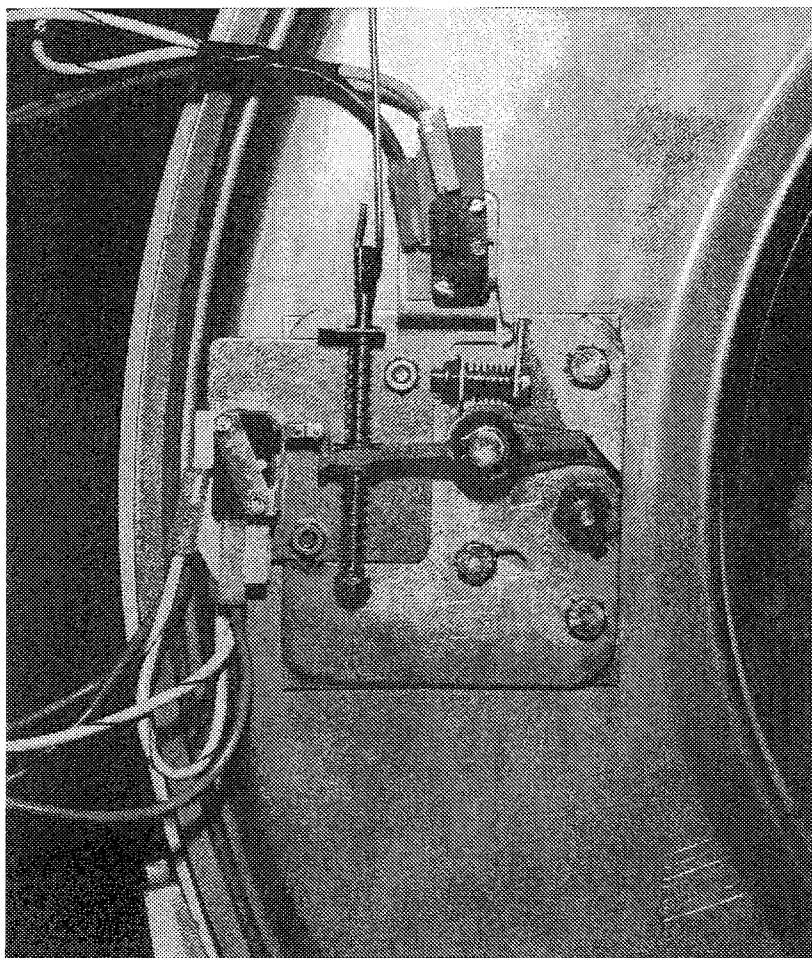
### Operation

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 specified number of coins should now be added to start the washer. This satisfies the coin accumulator which powers the timer rapid advance motor. 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.

1. Set door cam over pin.
2. Tighten spring screw on switch actuator arm until it just clears cam OD. ( Note : Spring screw will have approx. 1/8" thread exposed at end beyond nut.)
3. Set .040 thickness gage between arm and latch switch operator.
4. Swivel switch until it clicks closed. Back it up just until it clicks for a reset. Tighten in that position. Check again for close and rest with gage in place. Remove gage.
5. Check for switch actuation at partial turn of cam as in operation above.
6. Check that lock arm swings by cam lobe to lock position when switch just clicks.



## **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.

## **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 belt(s) off the basket pulley first and then remove from the motor pulley.  
Reverse this procedure for installation.

**Note: The T-400 and T-600 have 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.

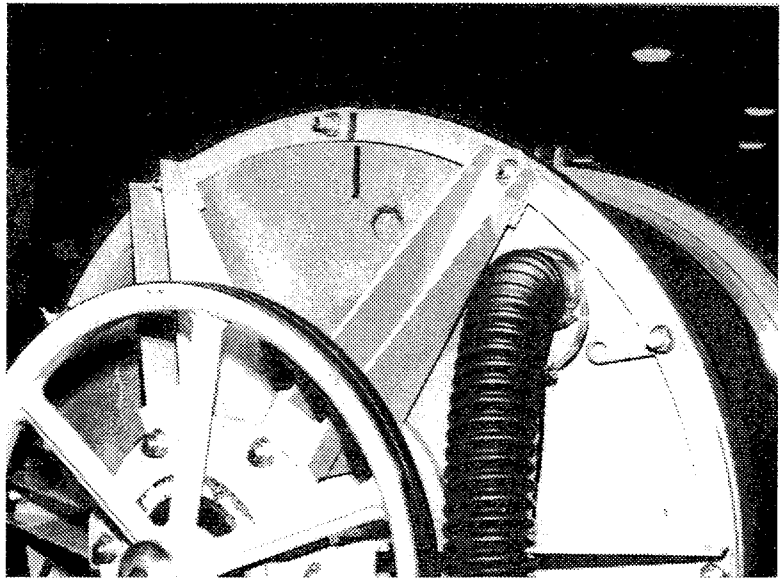
### **Installation**

- A. First remove the coin acceptor.
- B. Remove any remaining glue from the control panel.
- C. Before removing the paper backing from the name plate, check fit to the control panel. The program push buttons and the coin acceptor opening are the locating guides.
- D. 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.

## Tub Back, Bearing and Cylinder (basket) Assembly

### Removal

- A. Remove the top and back panel as described previously.
- B. Move the rear channel, that the water valves mount to, forward by removing the five mounting screws.
- C. Remove the drive belt.
- D. Remove the overflow hose, tub fill hose and pressure switch hose from the back of the tub.
- E.. Mark the tub back and bearing assembly for ease in assembly later. (see picture)
- F. Remove the 12 bolts and the tub back clamp ring. the brace where it connects



Remove the 12 bolts and nuts from the perimeter of the tub back clamp ring. Two of the twelve bolts are longer and go through the thicker part of the brace where it connects to the frame.

- G. Remove the 2 bolts that fasten the clamp ring to the frame.
- H. The entire tub back and cylinder assembly may be lifted out of the tub (it may be necessary to break the adhesion of the silicone that seals the tub back to the tub). Blocks should be placed under the edges of the cylinder before setting it down to prevent damage to the cylinder flange.

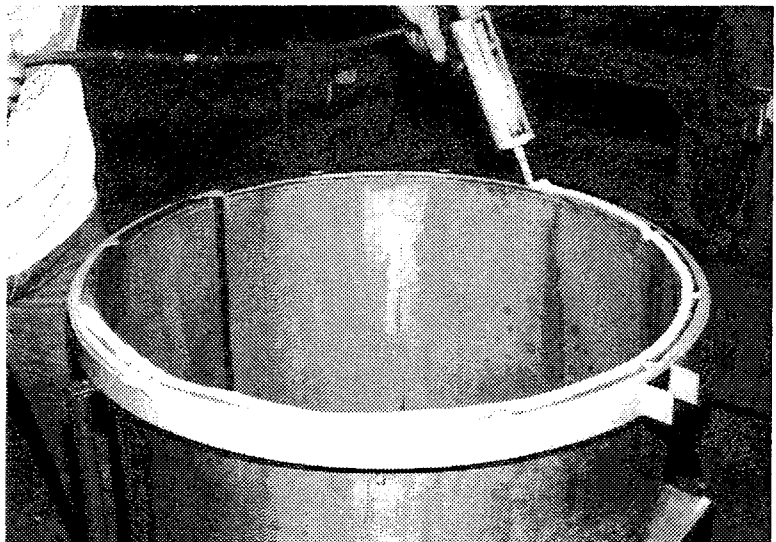
### Reassembly

Reverse the procedures above paying attention to the following areas

- A. Lay the washer on its front.

**Note: Put a thick pad across the front of the washer, above the door, to protect the door handle and coin acceptor.**

- B. Make sure the bearing housing weep holes are located at 12 o'clock and 6 o'clock.
- C. Clean the silicone rubber from the back of the outer tub and the perimeter of the tub back where the two meet. There is no gasket in this area.
- D. Apply a new bead of silicone rubber around the back of the outer tub. (see picture)
- E. Lower the tub back, bearing and cylinder assembly into the washer outer tub. (see picture top of next page)
- F. Torque all bolts according to the following chart.



- A. Make sure that the tolerance ring is in place inside the pulley.
- B. The shoulder inside the pulley that holds the tolerance ring should face the back of the washer when installed correctly.
- C. Use a stack of flat washers and a longer bolt to press the pulley onto the basket shaft.
- D. Reinstall the retaining bolt, lock washer and flat washer. The shaft end bolt with washer should be installed with a torque of 45 ft/lbs.

## **Bearing Housing, Water Seals and Tub Back**

### **Removal From Basket Shaft**

- A. Remove assembly from washer (see Tub Back, Bearing and Cylinder (basket) Assembly removal).
- B. Remove basket pulley (see Basket Pulley removal above).
- C. It is necessary to use a puller (Grip-O-Matic #1038 for T-400, #1045 for T-600) to remove the bearing housing assembly from the cylinder shaft. There is a flange on the bearing housing that should be used with this three armed puller.

### **Disassembly**

- A. To remove the tub back assembly, the 6 bolts attaching it to the bearing housing must be removed.
- B. Remove water seals from the seal mounting plate on the cylinder shaft. These are removed with your fingers.

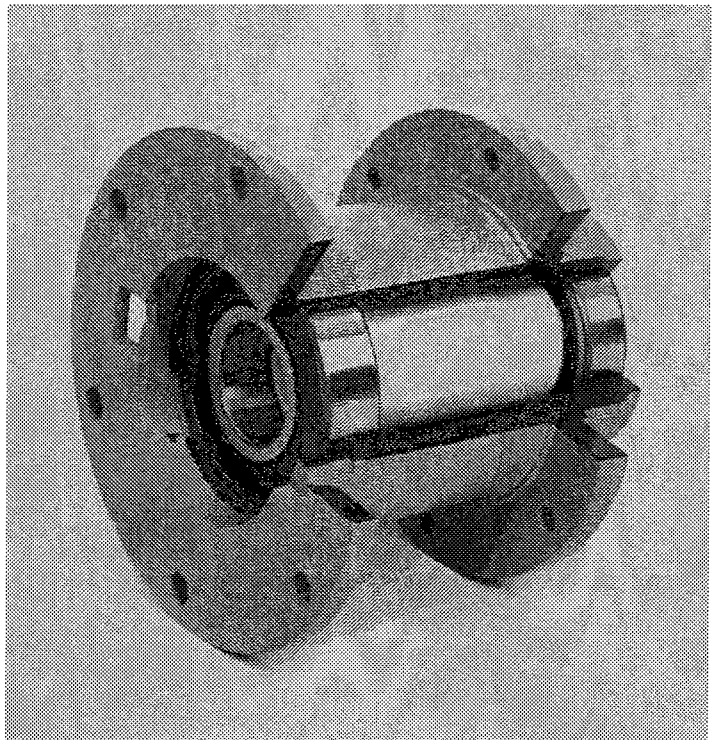
**IMPORTANT-** Be careful not to move the flat metal plate that mounts the two rubber sealing rings on the cylinder shaft. The location of this seal mounting plate is critical and it must not be moved. The two sealing rings can be replaced without disturbing it. The included illustration shows the proper location of this plate for T-400 washer. T-600 washers have the plate located against a stop on the shaft.

- C. The retaining ring next to the front bearing must also be removed.
- D. The bearings are pressed into the housing and must be pressed back out.

### **Reassembly**

- A. When installing new bearings into a bearing housing, first press the front (large) bearing into the housing until it bottoms. With the bearing spacer in place, press the rear bearing in until the spacer is snug between the two bearings. Be sure and reinstall the retaining ring in front of the front bearing (see picture).
- B. The tub back assembly should be reattached to the bearing housing with the 6 mounting bolts and torqued according to the torque chart.

**Note: The bead of silicone**





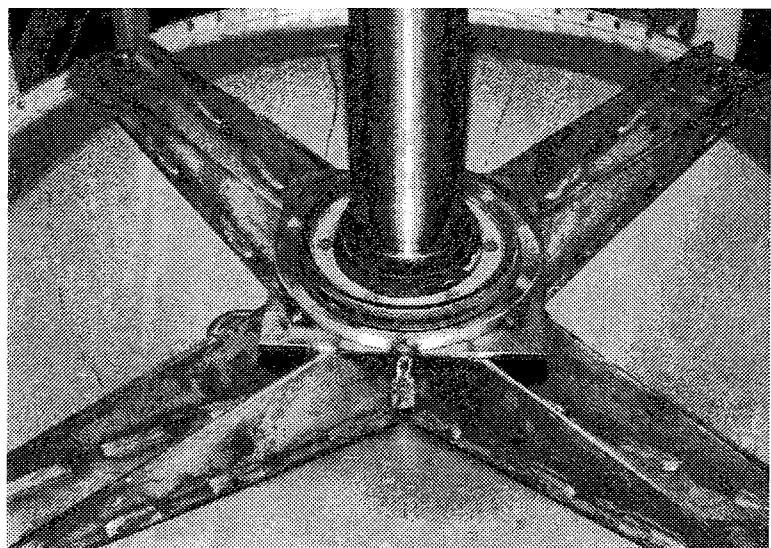
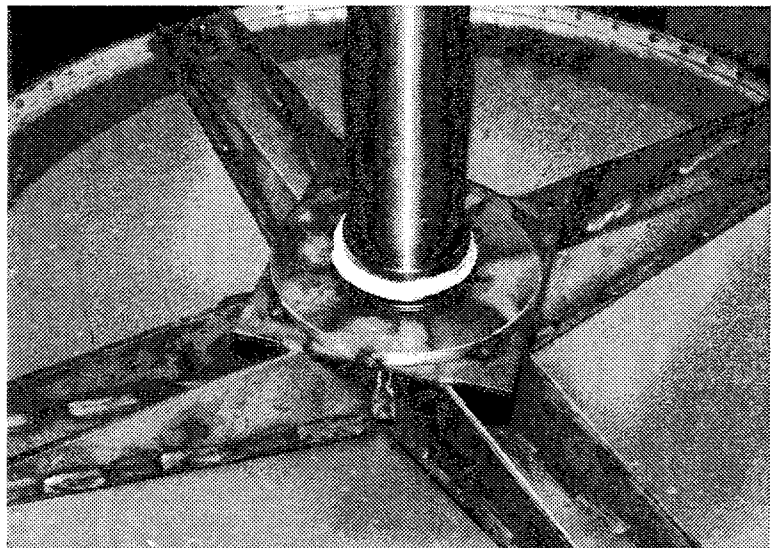
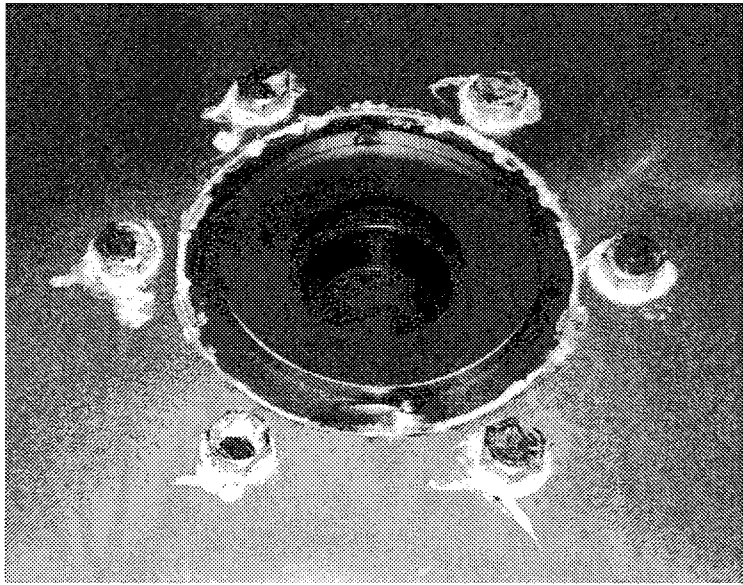
**that seals each bolt to the tub back. This must be cleaned and replaced upon reassembly (see picture).**

If the 6 support assemblies have been removed from the bearing housing, the 6 rear bearing housing bolts should be torqued according to the chart also.

- C. The primary and secondary seals that mount on the sealing ring may be slid over the shaft and seated on the metal sealing ring. 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-400 ring would need to be pressed on to the dimension shown on the following page. The T-600 ring must be pushed against the stop on the shaft. Before installing the new sealing ring, a bead of silicone should be put on the basket shaft (see picture). After installing the seals, lubricate the faces of the seals with silicone grease (see picture).

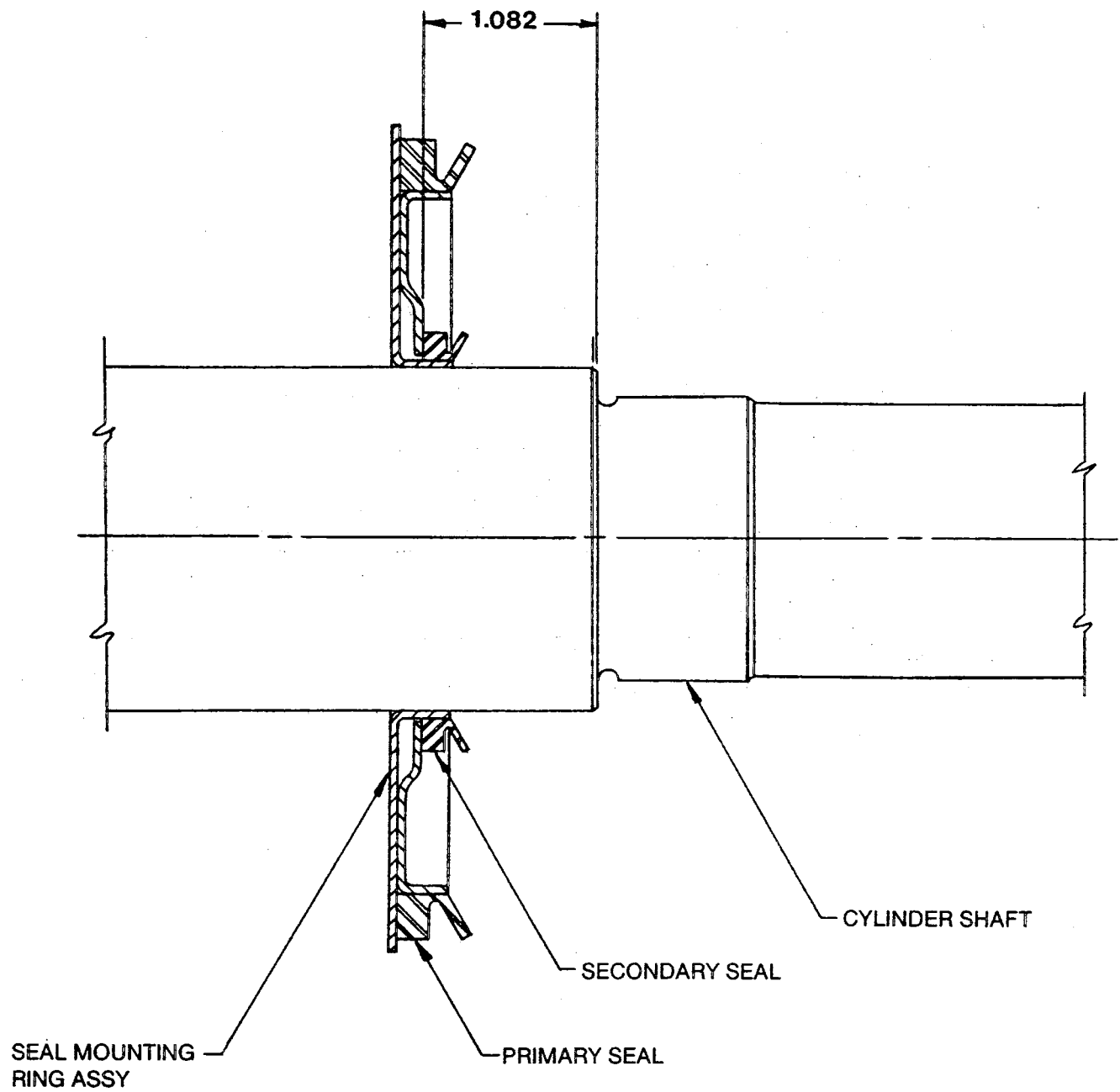
#### **Reinstallation onto Basket Shaft**

- A. Carefully set the assembly over the shaft engaging the bearings and bearing spacer.
- B. The tolerance ring that fits inside the pulley should be placed in position (see Basket Pulley Reassembly for correct positioning).
- C. The pulley should then be started onto the shaft. A stack of flat washers and a longer pulley bolt will be required to pull the basket shaft through the bearings and pulley.
- D. Install the shaft end bolt with washers and torque to specifications in Bolt Torque Chart.
- E. See Tub Back, Bearing and Cylinder Assembly for installation of complete assembly back into washer.





## T-400 SEAL RING LOCATION



SEAL ASSY AND CYLINDER SHAFT

## Outer Tub

### Removal

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

### Reassembly

- A. Install outer tub in front strap leaving bolts loose.
- B. Install tub back assembly in washer (see reassembly of Tub Back, Bearing and Cylinder (basket) Assembly).
- C. With tub back assembly bolted to washer frame and to the back of the outer tub, tighten front strap bolts.

## Removal of Cabinet

- A. The power supply, water hoses, and drain connection must all be disconnected before proceeding with the disassembly.
- B. Now remove the lower service panel and the top panel assembly.
- C. Remove the left and right lower front panel screws that retain the panel to the chassis.
- D. Remove the bottom row of back panel screws.
- E. Remove the loading door.
- F. Remove the screws along the bottom of each side panel. When reinstalling these screws do not overtighten.
- G. Remove clamp and soap dispenser hose where it attaches to the tub inlet.
- H. Disconnect the door lock wires from all switches and the door lock solenoid. The following illustration of their locations should be consulted.
- I. Disconnect pull rod between solenoid and door lock assembly.
- J. Disconnect the wires to the dump valve at the bottom of the machine.
- K. Disconnect the wires to the drive motor. There is a motor harness connector in the left rear corner of the control trough. The connector may be removed from the side of the trough by releasing the retainer ears. The wires from the trough components to the motor harness may be removed from the top side of the connector. There is a label on the trough floor to aid in reconnection of the wires to the connector.
- L. Remove the clamp and the hose from the vacuum breaker where it connects to the inlet on the back of the tub.
- M. Remove the pressure switch hose from the bottom of the switch.
- N. It should now be possible for two people to lift the cabinet up and off of the front of the machine and set it aside.

# 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
	Door Switch	Check for continuity through door switch when door is closed. If no continuity, adjust or replace door switch.
	Control Breaker	Check 1.5 amp breaker for continuity. If no continuity, replace breaker.
	Control Transformer (3 phase only)	Check voltage output from control transformer for 120VAC. If voltage is incorrect, replace transformer.
	Coin Acceptor	Check coin switch to make sure coins trip switch and give continuity across switch when closed. If no continuity, adjust or replace switch.
	Accumulator Transformer	Check accumulator transformer for 12VAC output to accumulator. If no voltage, replace transformer.
	Coin Accumulator	Check accumulator to see that display is showing correct number of coins to start. Check accumulator for short 120VAC output signal at orange/white wire when preset number of coins is reached. If no display or output signal, replace coin accumulator.
	Timer	Check to insure that the timer is in the "off" position to supply 120VAC through the "Start" cam to the coin accumulator board.
Machine will not accept and count coins	Timer, Rapid Advance Motor	Check the rapid advance motor for continuity and replace if no continuity.
	Coin Acceptor	Check coin acceptor for any type of blockage or damage. Clean, adjust or replace the acceptor as necessary.
	Power Supply	Check these areas: Circuit breakers, Voltage, Power leads, Power connections
	Timer	Timer must be in off position, machine had to finish previous cycle to reset coin accumulator board.
	Coin Accumulator	Check accumulator to see that display is showing correct number of coins to start. If no display, replace coin accumulator.

Symptom	Probable Cause	Suggested Remedy
Machine will not accept and count coins (continued)	Control Breaker	Check 1.5 amp breaker for continuity. If no continuity, replace breaker.
Door does not lock	Timer Position	The following sequence must have taken place to advance the timer before the door locks. -Loading door closed -Proper number of coins inserted to start machine -Accumulator counted and credited coins to advance timer into cycle closing "on-off" timer contact
	Door locking solenoid	Check to insure that solenoid is receiving 120VAC from S1 door switch. 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.
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 are 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	Main Timer Drive Motor	If 120VAC is supplied to timer motor, but it doesn't operate, replace timer motor.

Symptom	Probable Cause	Suggested Remedy
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.
	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.
No cold water to tub in wash	Pressure Switch	Check pressure switch continuity between terminals #1 & #2. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
	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 #1 & #2. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
	Timer	Choose cold cycle, advance to wash, check for voltage on white/black from timer. If no voltage, replace timer.
No hot water in detergent dispenser	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.
	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.

Symptom	Probable Cause	Suggested Remedy
No hot water detergent dispenser (continued)	Timer	Advance to wash, check for voltage on red/org in from timer. If no voltage, replace timer.
Water does not flush softener compartment.	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 #1 & #2. If no continuity, check pressure switch hose for obstruction. If hose okay, change pressure switch.
Water comes in but level does not rise	Timer	Advance machine to final rinse and check for voltage at wht/blue wire coming from timer. If no voltage, replace timer.
	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 #1 & #2. Replace switch if contacts do not open.
Water drains slowly	Drain System	Check hoses and drain valve for blockage. Clean if necessary. Check building drains for blockage or inadequate size.
Machine does not tumble	R2 Spin Relay	Check continuity between terminals #13 & #14 on R2 relay.
	Wash Speed Capacitor (1 phase only)	Check capacitor and replace if failed.

Symptom	Probable Cause	Suggested Remedy
Machine tumbles in only one direction	Reversing Timer	Check to see that reversing timer is running. Check for alternating 120VAC at orange/green and at brown/white from reversing timer to signal reversing operation to wash relays. If not running or no voltage, replace reversing timer.
	Tumble Relays	Check R1A and R1B tumble speed relays. If one does not close during tumble speed, check coil continuity and power to the relay. If 120VAC to relay and no coil continuity, replace relay.
Machine does not spin	Spin Relay	Check spin relay coil for continuity, replace if no coil continuity. Check relay contacts, replace if no continuity.
	Pressure Switch	Check pressure switch for continuity across terminals #1 & #2 indicating pressure switch has reset to the empty position. If no continuity, change pressure switch.
	Spin Start Capacitor (1 phase only)	Check capacitor and replace if failed.
	Solid State Start Switch (1 phase only)	Clamp an ammeter around either single lead wire to the start capacitor (capacitor with plastic case). The switch should show starting current flow in the capacitor circuit momentarily at the start of spin. Continuous current flow means that the electronic start switch is stuck on and has failed. No current flow means that the switch is open and has failed. If the switch has failed, replace it.
Machine starts and advances through cycle motor does not operate	Reversing Timer	Check to see that reversing timer is running. Check for alternating 120VDC at orange/green but and at brown/white from reversing timer to signal reversing operation to wash relays. If not running or no voltage, replace reversing timer.
Machine does not stop at end of cycle	Coin accumulator	Check for continuous output from terminal where orange-white wire connects to accumulator. If so replace accumulator.
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.
	Loading	NOTE: SMALL LOADS CONTRIBUTE TO OUT OF BALANCE LOADING AND INCREASE VIBRATION.



# Section 6

## Parts Data

### Thoroughbred 400

#### Accessories

Models	WCN25AA	220-240	volts	60hz.	Single Phase
	WCN25AB	208-240	volts	60hz.	Three Phase

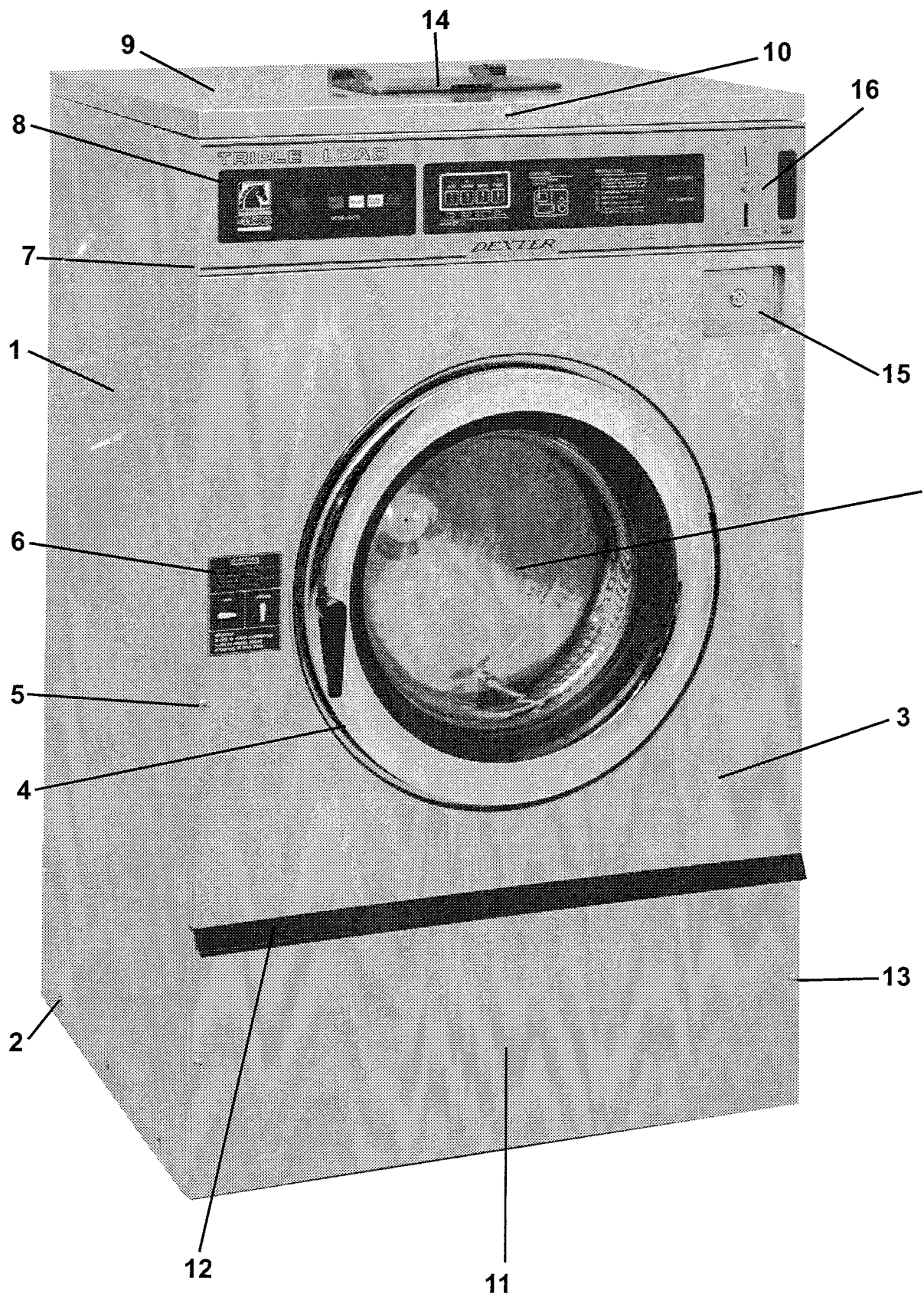
MODELS	
WCN25	
A	A
A	B

Part Number	Description		
9732-139-002	Kit, Door Gasket Expander (large) .....		
9732-139-001	Kit, Door Gasket Expander (small) .....		
Grip-O-Matic #1038	Puller to Remove Pulley and Bearing Housing from Shaft on T-400		
9990-027-011	Hose, Water Supply (furnished) 3/8" I.D. x 48" .....	2	2
9990-027-013	Hose, Water Supply (optional) 5/8" I.D. x 48" .....		
8641-242-000	Washer, Inlet Hose (furnished) .....	2	2
9565-003-001	Strainer, Inlet Hose (furnished) .....	2	2
9242-417-001	Drain hose 10 ft. length x 2-1/4" I.D. ....		
9242-417-003	Drain hose 10ft. length x 3" I.D. ....		
8641-586-002	Bevel Washer for 5/8" bolt used in installations using angle iron bases		
8641-586-003	Bevel Washer for 3/4" bolt used in installations using angle iron bases		
9732-139-001	Kit , Door Gasket Expander (large) .....		
9732-139-002	Kit , Door Gasket Expander (small) .....		
9732-140-001	Manual Operation Kit .....		
9539-474-001	Switch, Blk/Red (included in kit) .....		
9539-474-002	Switch, Blk/Wht (included in kit) .....		
8545-055-002	Electrical Probe 100-600VAC .....		
8545-055-001	Electrical Probe 24-90 VAC .....		
8538-151-001	Sealing compound .....		
8545-051-002	TORX#20 .....		
8545-051-003	Special Tool For Removing Coin Acceptor Mounting Screws. (T-10 Torx)		
9475-002-002	Flow Restrictors (in dispenser) .....		

## CABINET AND FRONT PANEL GROUP

Key	Part Number	Description	MODELS	
			WCN25	
			A	A
			A	B
1	9454-656-001	Panel, Side (Left or Right) - Stainless .....	2	2
2	9545-018-013	Screw, (Side Panel to Base) .....	6	6
2	8640-414-006	Nut, Hex .....	6	6
*	9029-066-001	Bracket, Side Panel .....	1	1
*	8640-413-002	Nut, Hex .....	2	2
*	9545-008-005	Screw .....	2	2
3	9454-659-001	Panel Assy, Front .....	1	1
4	9059-063-002	Band, Edge Protector .....	1	1
*	9545-008-024	Screw, Hex- To Control Panel .....	2	2
*	8640-399-005	Nut, Spring- To Control Panel .....	2	2
5	9545-008-014	Screw, Flat Head- Front to Sides .....	2	2
5	8641-585-001	Washer, Finish .....	2	2
*	8640-399-008	Nut, Spring- To Front Panel .....	2	2
*	9545-008-023	Screw, Guide .....	2	2
6	8502-624-002	Label, Door Opening .....	1	1
7	9989-452-001	Panel, Control (Mounts Nameplate) .....	1	1
*	9545-008-006	Screw, Control Panel to Sides .....	4	4
8	9412-076-007	Nameplate, Control Panel (one piece) .....	1	1
9	9454-663-001	Panel, Top .....	1	1
10	8650-012-003	Lock, Top (w/Key) .....	1	1
*	9306-025-001	Key, Top-6324 .....	1	1
*	9095-038-001	Cam, Lock-Top .....	1	1
*	8640-426-001	Nut, 9/32 .....	1	1
*	8641-581-008	Washer .....	1	1
11	9108-097-001	Door, Lower Service .....	1	1
12	9244-081-002	Handle (bumper guard) .....	1	1
*	9545-045-010	Screw .....	4	4
*	9545-008-023	Screw, Guide .....	2	2
13	9545-008-014	Screw Mtg., Flat Head .....	2	2
13	8641-585-001	Washer, Finish .....	2	2
*	8640-399-008	Nut, Spring .....	2	2
14	9108-095-003	Door, Dispenser .....	1	1
*	9451-191-001	Pin, Plain .....	2	2
*	9467-025-001	Post, Door Mounting .....	2	2
*	9545-045-002	Screw, Dispenser Post Mtg .....	4	4
*	9545-008-012	Screw, Dispenser Mounting .....	4	4
*	8640-399-007	Nuts, Spring .....	4	4
*	9086-017-001	Catch, Top Panel .....	1	1
*	9467-024-001	Post, Top Locator .....	2	2
*	8640-411-003	Nut, Keps .....	2	2
*	9355-001-001	Locator, Panel .....	2	2
*	9545-008-025	Screw, #10 .....	2	2
15	9732-122-001	Box Assy, Coin (See Coin Handling Group) .....	1	1
16	9021-001-010	Acceptor, Coin (See Coin Handling Group) .....	1	1

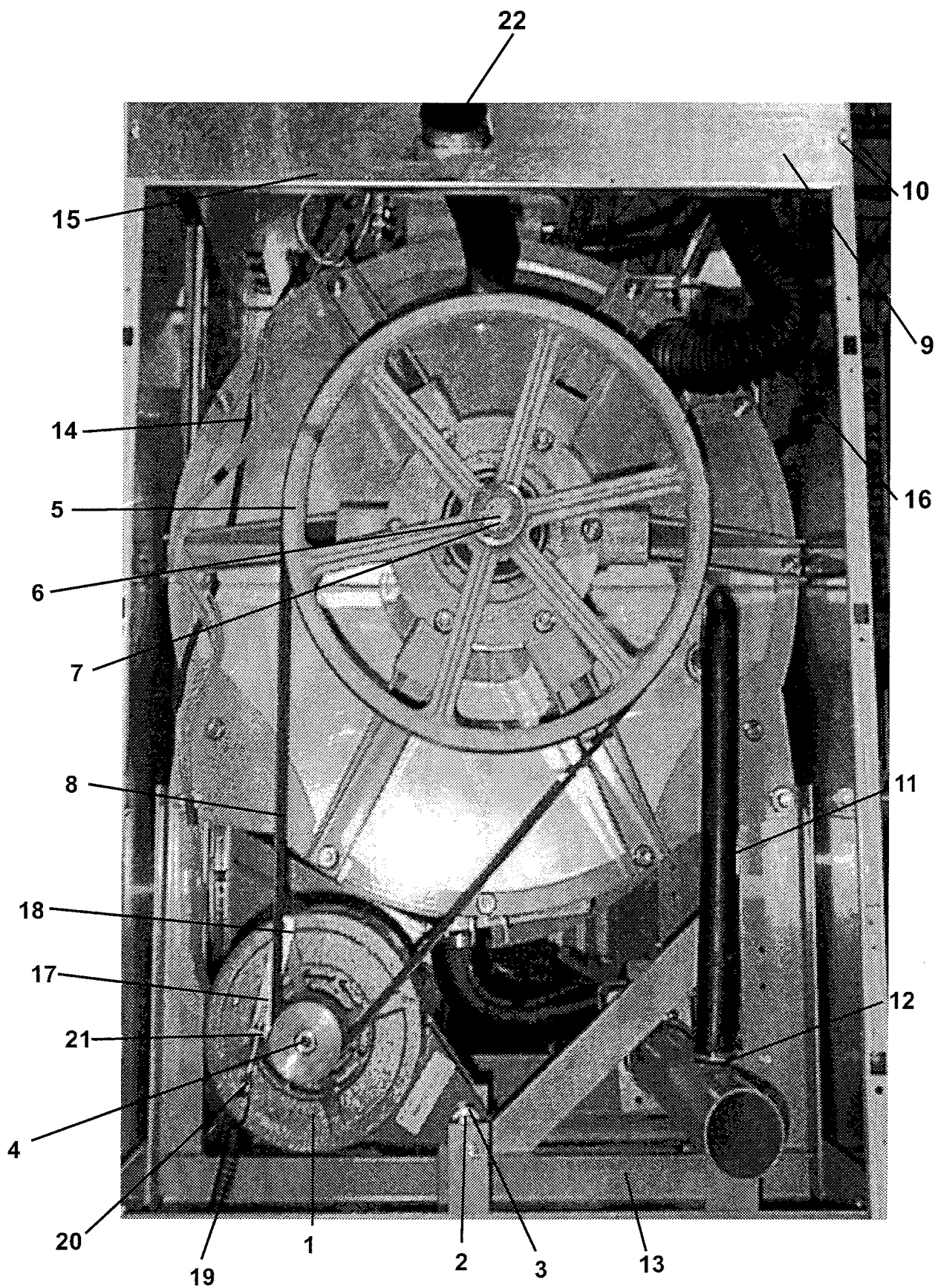
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## REAR VIEW

Key	Part Number	Description	MODELS	
			WCN25	
			A	B
1	9732-127-001	Drive Motor, 1 Phase .....	1	
1	9732-127-002	Drive Motor, 3 Phase .....		1
2	9497-222-002	Rod, Motor Mtg .....	1	1
*	9545-029-005	Screw (end of motor rod) .....	1	1
*	8641-582-014	Lockwasher (end of motor rod) .....	1	1
3	9076-052-002	Collar, Shaft (w/set screws) .....	3	3
4	9453-170-002	Pulley, Motor (after serial number #425720) .....	1	1
*	9487-234-001	Tolerance Ring .....	1	1
*	9545-028-015	Set Screw, Sq. Hd. ....	2	2
5	9453-168-002	Pulley, Driven old style single belt before # 425720) .....		
5	9453-168-004	Pulley, Driven (after serial nnnnnumber #425720) .....	1	1
6	9545-017-009	Screw .....	1	1
7	8641-581-026	Washer, Flat .....	1	1
6	8641-582-016	Lockwasher .....	1	1
8	9040-076-005	Drive Belt ( 2 required after serial number # 425720) .....	2	2
9	9081-104-001	Channel, Rear .....	1	1
10	9545-008-026	Screw .....	4	4
*	8640-399-004	Nut, Spring .....	4	4
11	9242-449-002	Hose, Overflow .....	1	1
12	8654-029-000	Clamp, Hose .....	2	2
*	9989-446-002	Panel Assy., Back .....	1	1
*	9545-008-026	Screw .....	10	10
*	8640-399-004	Nut, Spring .....	10	10
13	9545-030-002	Screw, to Base .....	2	2
14	9242-175-000	Hose, Pressure Switch .....	1	1
*	8654-117-015	Clamp, Pressure Sw. Hose .....	1	1
15	5198-211-004	Circuit Breaker, 1.5 amp .....	1	1
16	9242-458-002	Hose, Vacuum Breaker to Tub .....	1	1
*	8654-117-014	Clamp, Hose to Vacuum Breaker .....	1	1
*	8654-117-009	Clamp, Hose to Tub .....	1	1
17	9029-027-003	Strap Bracket, Motor Tension .....	1	1
18	8640-413-002	Nut, Strap to Motor .....	1	1
18	8641-581-006	Washer .....	1	1
19	9534-319-002	Spring, Belt Tension .....	1	1
20	9545-055-001	Bolt, Eye ( 1/4"-20x1/2") .....	1	1
21	8640-414-003	Nut, 1/4 Elastic Stop .....	1	1
22	9242-463-002	Overlow hose - 11" upper .....	1	1

\* Not Illustrated

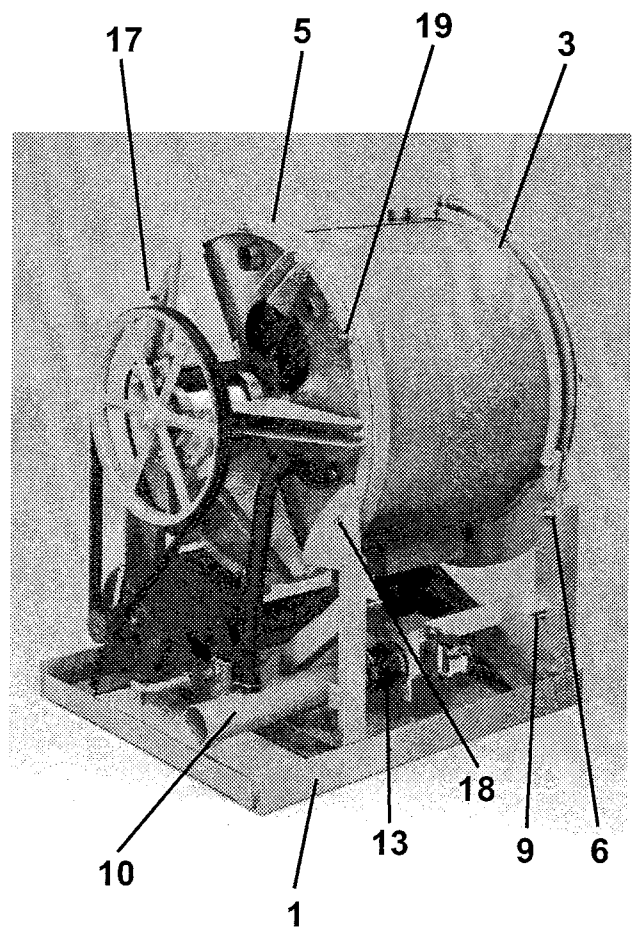
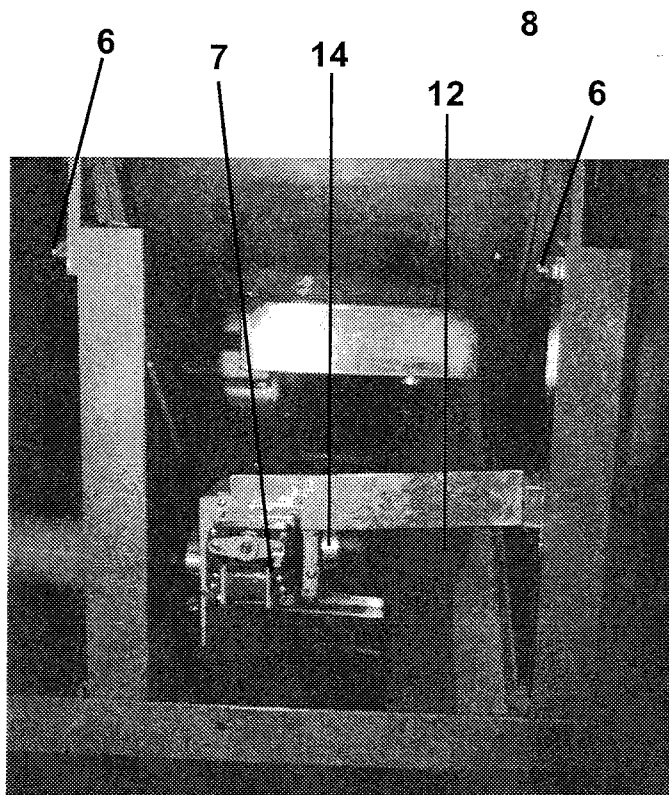
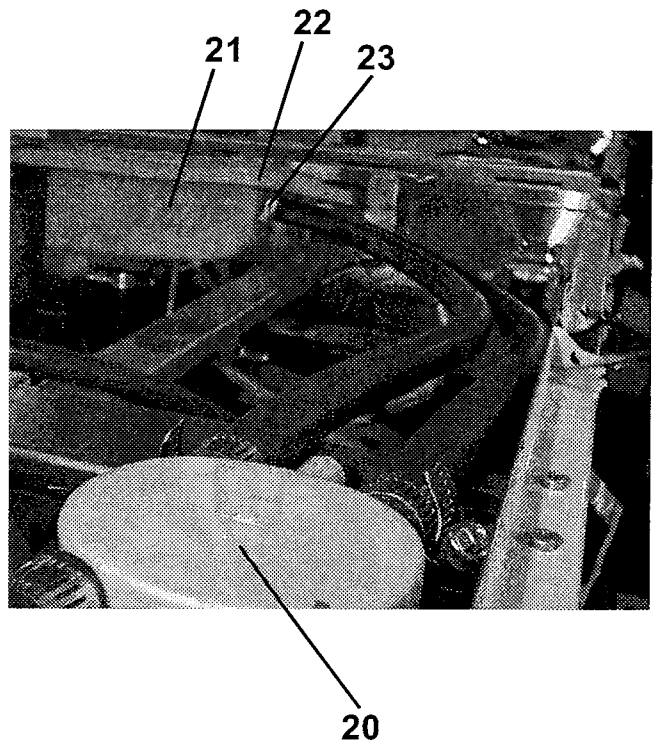
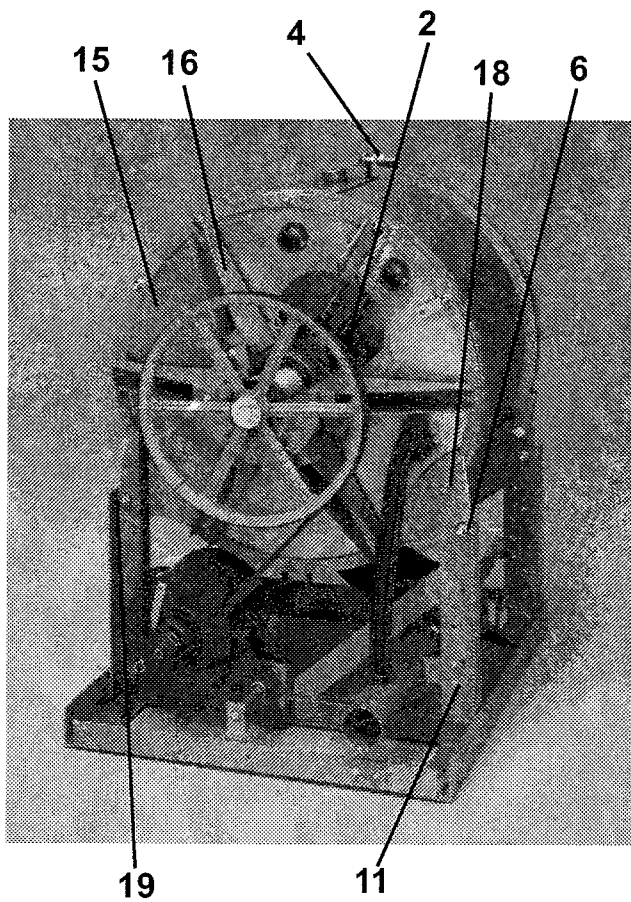


## CHASSIS AND DRAIN GROUP

Key	Part Number	Description	MODELS	
			WCN25	
			A	B
1	9945-087-002	Base Assy, Frame .....	1	1
2	9930-137-001	Tub Assy .....	1	1
2	9869-008-001	Tub & Cylinder Assy. ....	1	1
2	9848-109-001	Cylinder Assembly only .....	1	1
3	9950-051-002	Ring Assy, Tub Mtg-Front .....	1	1
4	9545-017-003	Bolt, Top Front Ring (1/2" x 1 3/4") .....	1	1
4	8641-582-016	Lockwasher (1/2" ext tooth) .....	1	1
4	8640-417-002	Nut .....	1	1
5	9950-041-002	Ring Assy, Tub Mtg-Rear .....	1	1
6	9545-017-009	Bolt, Front & Rear Rings to Base (1/2" x 1 1/4") .....	4	4
6	8641-582-016	Lockwasher (1/2" ext. tooth) .....	4	4
6	8640-417-002	Nut .....	4	4
7	9379-187-001	Valve, Drain .....	1	1
8	9029-056-001	Bracket, Drain Valve .....	1	1
*	9545-048-001	Screw, Valve to Bracket .....	1	1
*	8641-581-018	Washer .....	1	1
9	9545-030-002	Screw, Bracket to Base .....	2	2
10	9915-119-002	Tube Assy, Drain .....	1	1
11	9545-030-002	Screw, Tube Mtg .....	2	2
12	9242-456-001	Hose, Tub to Drain Valve .....	1	1
13	9242-457-001	Hose, Drain Valve to Tube .....	1	1
14	8654-117-014	Clamp, Hose .....	4	4
*	9552-038-003	Shim, Support Assembly .....	AR	AR
*	9242-458-002	Hose, Vacuum Brkr. to Tub .....	1	1
20	9610-001-001	Vacuum Breaker .....	1	1
*	9029-065-001	Bracket, Vacuum Breaker .....	1	1
*	9545-008-026	Screw .....	4	4
21	9732-108-002	Dispenser KIT .....	1	1
22	9206-416-001	Gasket, Dispenser .....	1	1
*	9242-450-002	Hose, Dispenser to Tub .....	1	1
23	8654-117-008	Clamp, Dispenser Hose .....	2	2
15	9732-137-002	Back Assy. Tub .....	1	1
16	9991-048-002	Support Arm Assy., Bearing Hsg. ....	6	6
17	9545-029-003	Bolt, (3/8" x 1 1/2") .....	10	10
18	9545-029-006	Bolt, (3/8" x 1 3/4") .....	2	2
19	8640-415-004	Nut, Flange Lock .....	12	12

\* Not Illustrated





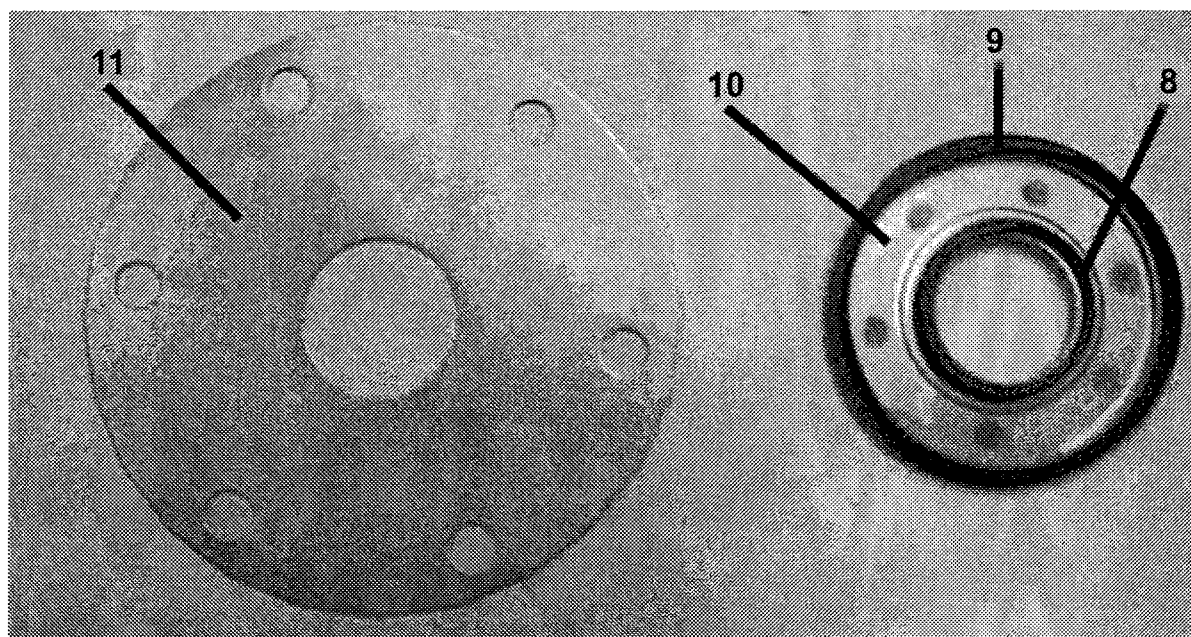
# CYLINDER, WATER SEALS & BEARING HOUSING GROUP

MODELS  
WCN25

A A  
A B

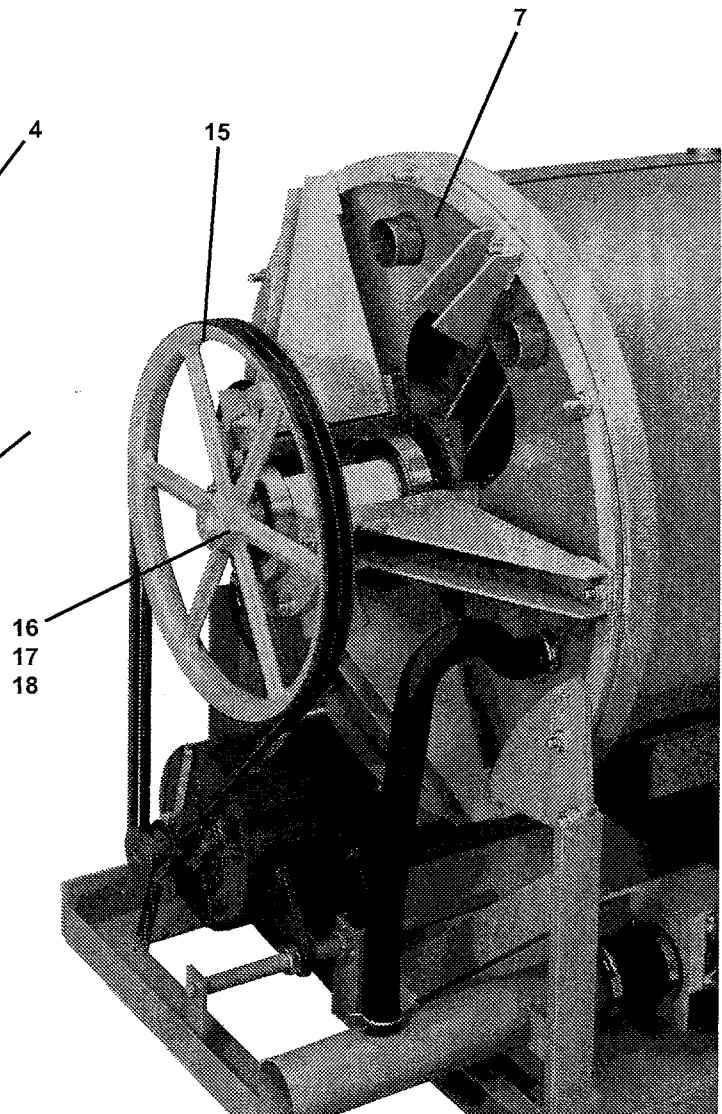
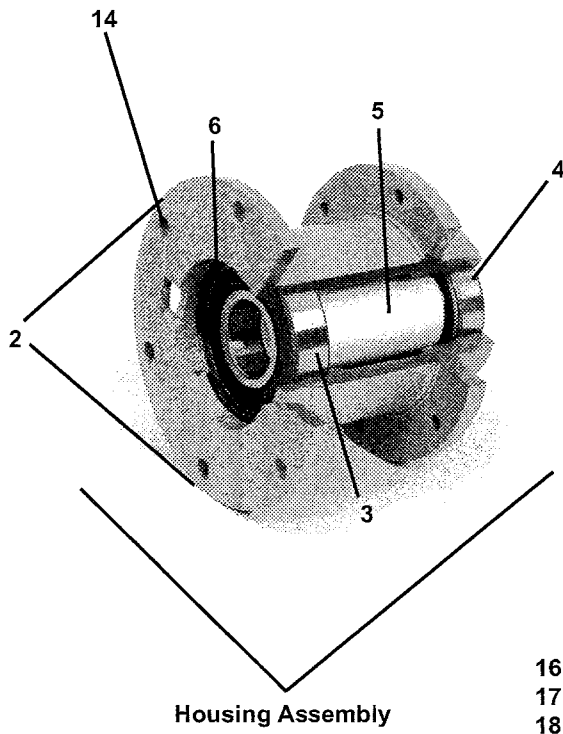
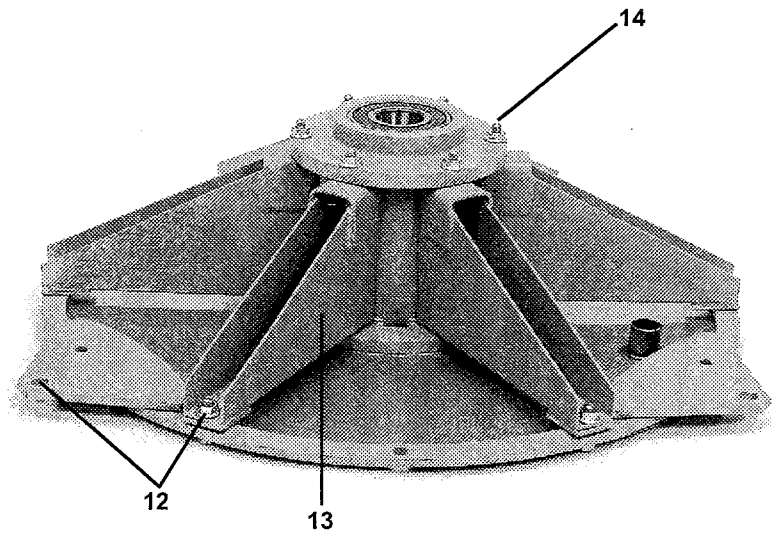
Key	Part Number	Description		
*	9803-179-002	Housing, Bearing- Assembly (includes items #2-#6) .....	1	1
2	9241-169-002	Housing, Bearing .....	1	1
3	9036-159-002	Bearing, Front .....	1	1
4	9036-159-001	Bearing, Rear .....	1	1
5	9538-158-001	Spacer, Bearing .....	1	1
6	9487-238-001	Ring, Bearing Retainer ( internal type ) .....	1	1
7	9732-137-002	Back Assy, Tub .....	1	1
8	9532-140-003	Seal, Secondary .....	1	1
9	9532-140-002	Seal, Primary .....	1	1
10	9950-042-001	Ring, Seal Mtg .....	1	1
11	9487-261-002	Tub Back Mating Ring, ( Between tub back and bearing housing) .....	1	1
12	9545-017-009	Bolt, 1/2" Tub End of Bearing Housing ( 1/2" x 1 1/4" ) .....	6	6
12	8640-417-002	Nut .....	6	6
12	8641-582-016	Lockwasher 1/2" ( ext. tooth) .....	6	6
13	9991-048-002	Support Arm Assy., Bearing Housing .....	6	6
14	9545-029-003	Bolt Pulley End of Bearing Housing ( 3/8" x 1 1/2" ) .....	6	6
14	8640-415-004	Nut, Flange Locking 3/8" .....	6	6
15	9453-168-002	Pulley, Driven old style single belt ( before # 425720 ) .....	1	1
15	9453-168-004	Pulley, Driven new style double belt ( after # 425720 ) .....	1	1
*	9487-234-001	Ring, Tolerance .....	1	1
16	8641-581-026	Washer 1/2" .....	1	1
17	9545-017-009	Bolt 1/2" x 1 1/4" ) .....	1	1
18	8641-582-016	Lockwasher 1/2" Ext. tooth .....	1	1

\* Not Illustrated





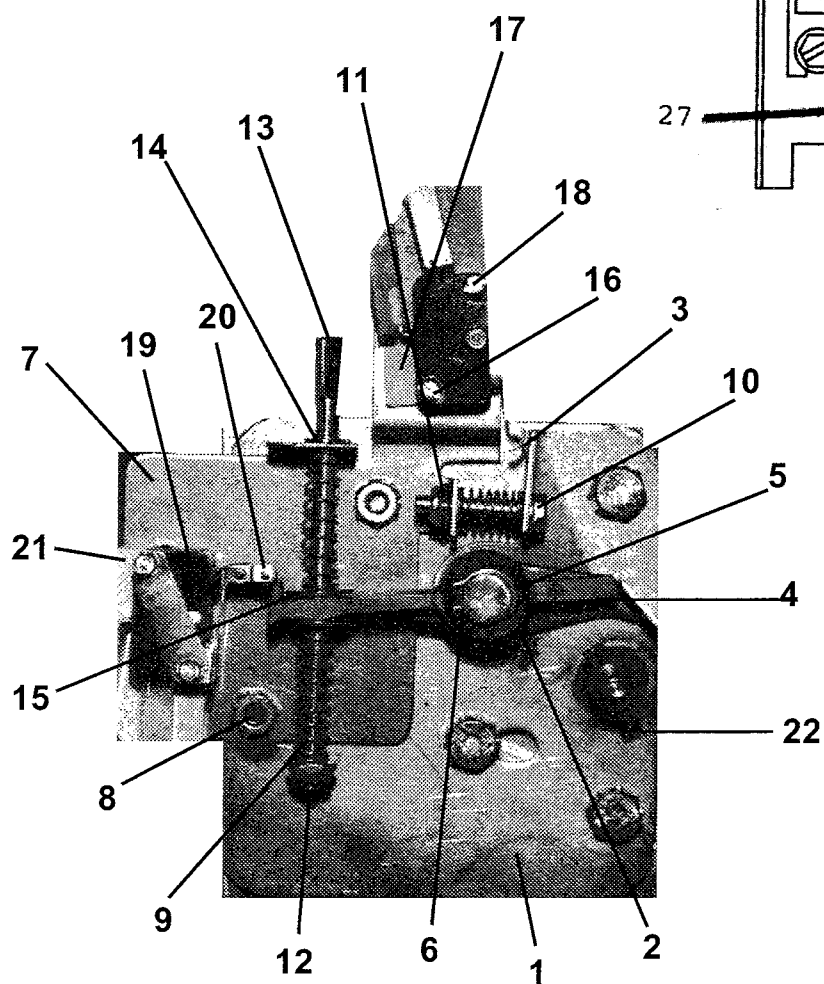
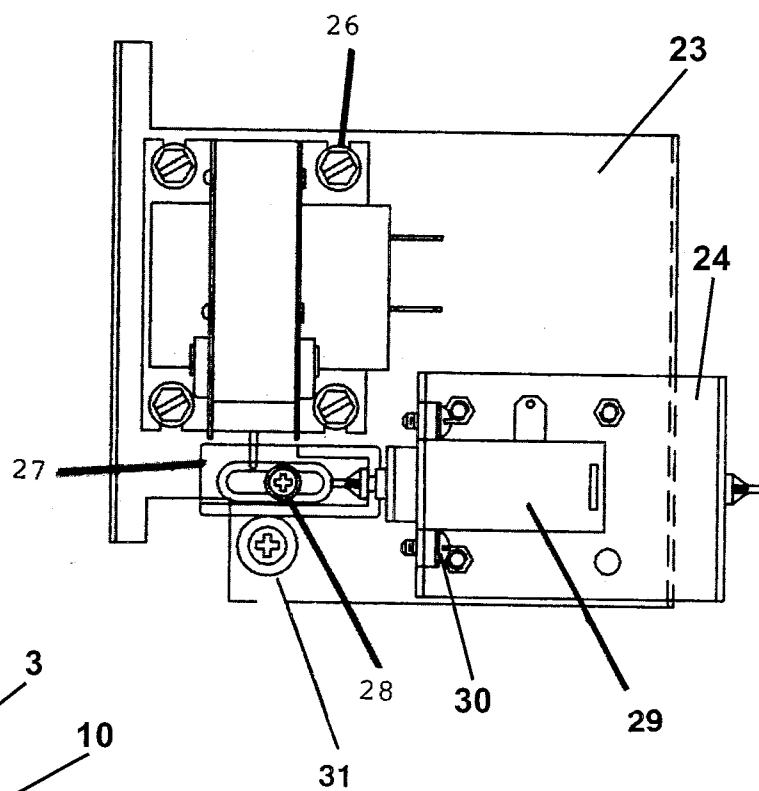
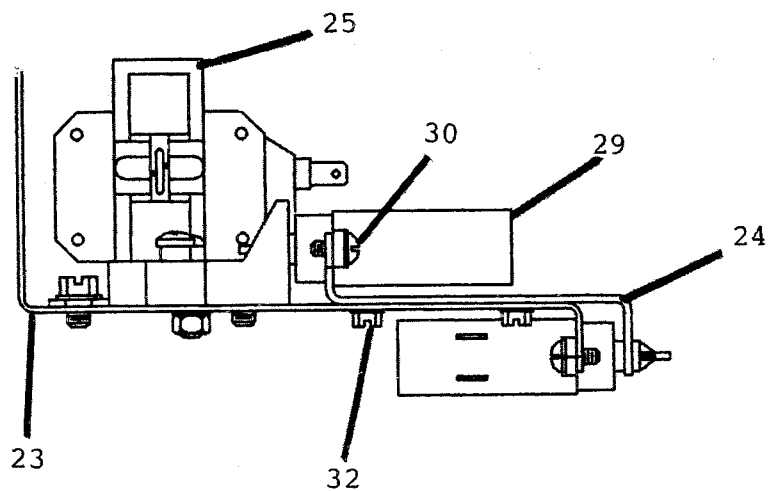
# Cylinder, Waterseals, Bearing Housing and Pulley Group



## DOOR LOCK GROUP

Key	Part Number	Description	MODELS	
			WCN25	
			A	B
*	9885-023-001	Lock Assy, Complete (includes #1 thru #22) .....	1	1
1	9982-284-001	Plate Assy, Door Lock .....	1	1
2	8641-581-030	Washer, Flat .....	1	1
3	9008-005-001	Actuator, Latching Switch .....	1	1
4	9450-002-002	Pawl, Locking .....	1	1
5	8641-569-003	Washer, Spring .....	1	1
6	9487-200-004	Ring, Retaining .....	1	1
7	9029-035-001	Bracket, Switch .....	1	1
8	8640-413-002	Nut, Hex 10-32 UNF .....	2	2
9	9534-364-002	Spring, Actuating .....	1	1
10	9545-012-020	Screw, Hx. 10-32 x 1" .....	1	1
11	8640-413-004	Nut, Elastic Stop 10-32 .....	2	2
12	9534-364-001	Spring, Return .....	2	2
13	9451-193-001	Pin, Guide .....	1	1
14	9487-200-005	Ring, Retaining .....	1	1
15	8641-581-031	Washer .....	2	2
16	9539-461-008	Switch, Latching Sensing .....	1	1
17	9550-169-003	Shield, Switch .....	3	3
18	9545-020-001	Screw 4-40 x 5/8" .....	2	2
18	8640-401-001	Nut, Twin .....	1	1
19	9539-461-007	Switch, Locking Sensing .....	2	2
20	9008-006-002	Actuator, Switch .....	2	2
21	9545-020-003	Screw 4-40 x 1 1/8" .....	2	2
21	8640-401-001	Nut, Twin 4-40 .....	1	1
22	9451-181-004	Pin, Dowel .....	1	1
*	9552-037-001	Shim, Door Lock, Thin .....	AR	AR
*	9552-037-002	Shim, Door Lock, Thick .....	AR	AR
*	9545-018-004	Screw, Lock mtg 1/4"-20 x 3/4" .....	3	3
*	8641-582-007	Lockwasher 1/4" Ext tooth .....	3	3
*	9922-011-001	Solenoid Ass'y, Door Locking (includes 23 thru 32) .....	1	1
23	9029-073-001	Bracket, (Door Locking Solenoid) .....	1	1
24	9985-169-001	Bracket Ass'y, Solenoid Slide .....	1	1
25	9536-074-001	Solenoid 120V 60 hz .....	1	1
26	9545-008-001	Screw, Solenoid Mtg .....	4	4
27	9540-033-002	Stop, Door Lock Solenoid .....	1	1
28	9545-061-001	Screw, Shoulder .....	1	1
28	8640-411-003	Nut, Keps #6 .....	1	1
29	9586-001-001	Thermoactuator 120 V .....	2	2
30	9545-031-011	Screw #6 x 5/16" .....	4	4
31	9538-157-004	Spacer, Plastic .....	1	1
31	9538-166-004	Spacer, Metal .....	1	1
31	9545-010-001	Screw, Cross Recessed .....	1	1
31	8640-412-005	Nut, Keps #8 .....	1	1
32	8640-411-003	Nut, Keps #6 .....	1	1
*	8640-412-005	Nut, Sol. Brkt. to Control Panel .....	3	3
*	9497-225-006	Rod, Pull .....	1	1

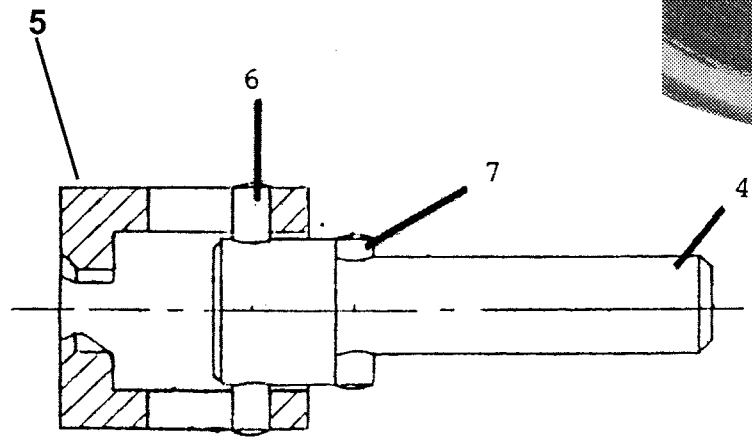
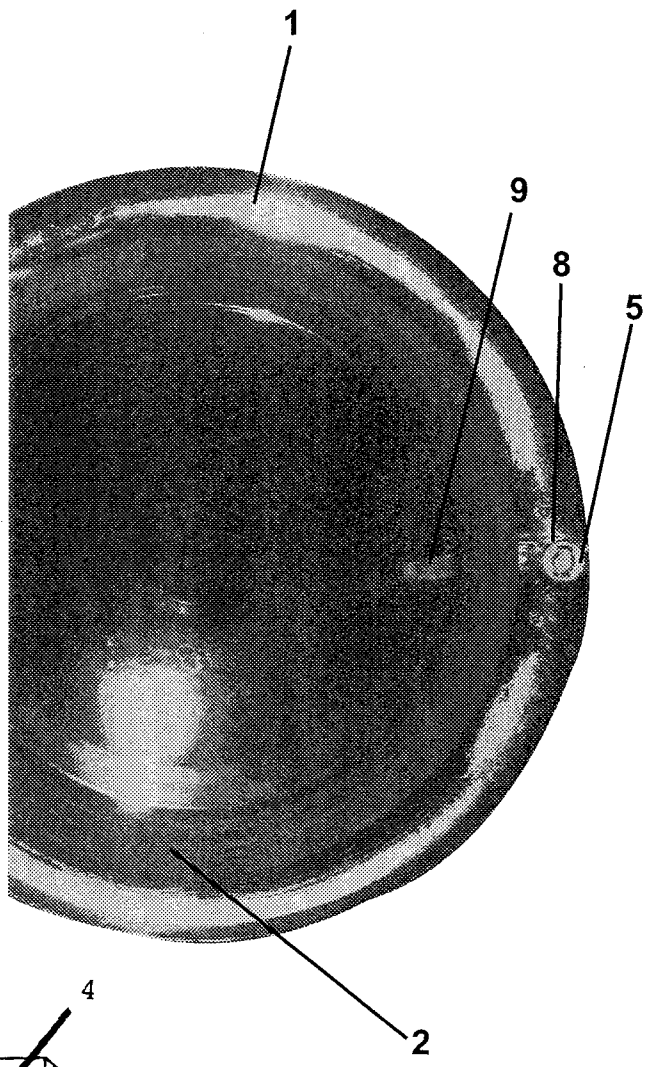
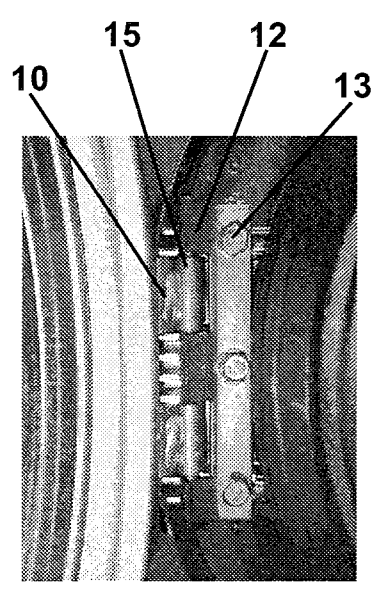
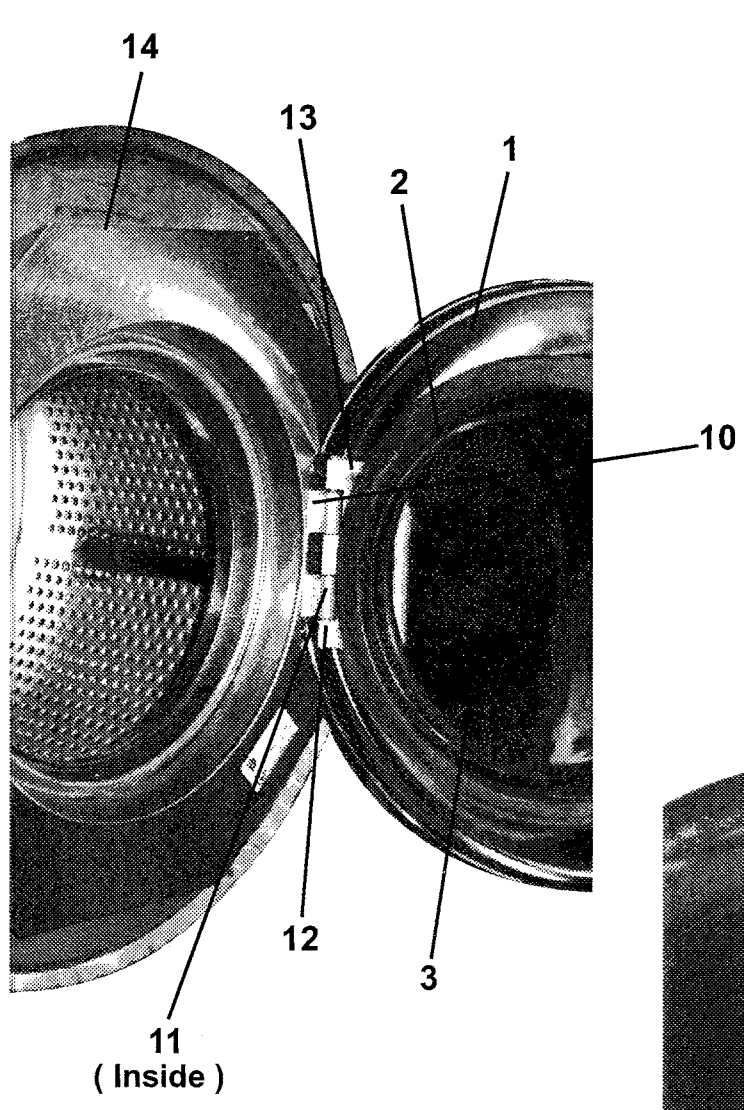
\* Not Illustrated



## LOADING DOOR GROUP

Key	Part Number	Description	MODELS	
			WCN25	
			A	A
			A	B
*	9960-259-002	Loading Door, Complete (includes 1 thru 10) .....	1	1
1	9487-230-001	Loading Door, Ring .....	1	1
2	9206-419-001	Gasket, Loading Door .....	1	1
3	9635-016-001	Window, Loading Door .....	1	1
*	9913-134-003	Shaft Assy, Locking (includes 4 thru 7) .....	1	1
4	9537-195-002	Shaft, Door Locking .....	1	1
5	9095-040-001	Cam, Locking .....	1	1
6	9451-181-005	Pin, Groove (1 1/4) .....	1	1
7	9451-181-004	Pin, Groove (3/4) .....	1	1
8	9534-360-002	Spring, Lock Cam .....	1	1
9	9244-080-003	Handle, Door .....	1	1
*	9451-181-006	Pin, Door Handle (groove) .....	1	1
10	9955-029-001	Loading Door Hinge Assy ( mounts to Tub Front ) .....	1	1
*	9545-014-009	Screw, Hinge Mtg 5/16" x 3/4" .....	3	3
*	8641-582-009	Lockwasher 5/16" Ext tooth .....	3	3
*	9552-036-001	Shim, Loading Door Hinge, Thin .....	AR	AR
*	9552-036-002	Shim, Loading Door Hinge, Thick .....	AR	AR
11	9451-184-003	Loading Door Hinge Pin(mounts inside Loading Door Hinge Assy) .....	1	1
15	8649-031-000	Ring, Retaining ( snap ring ext ) .....	1	1
12	9079-122-001	Loading Door Hinge Clamp ( mounts to door ring ) .....	1	1
13	9545-056-001	Screw, Loading Door Mtg 5/16" Theard Forming) .....	3	3
14	9487-254-001	Ring, Masking .....	1	1
*	9059-063-002	Band, Edge ( mounts to Front Panel ) .....	1	1
*	8640-413-002	Nut, Keps .....	4	4

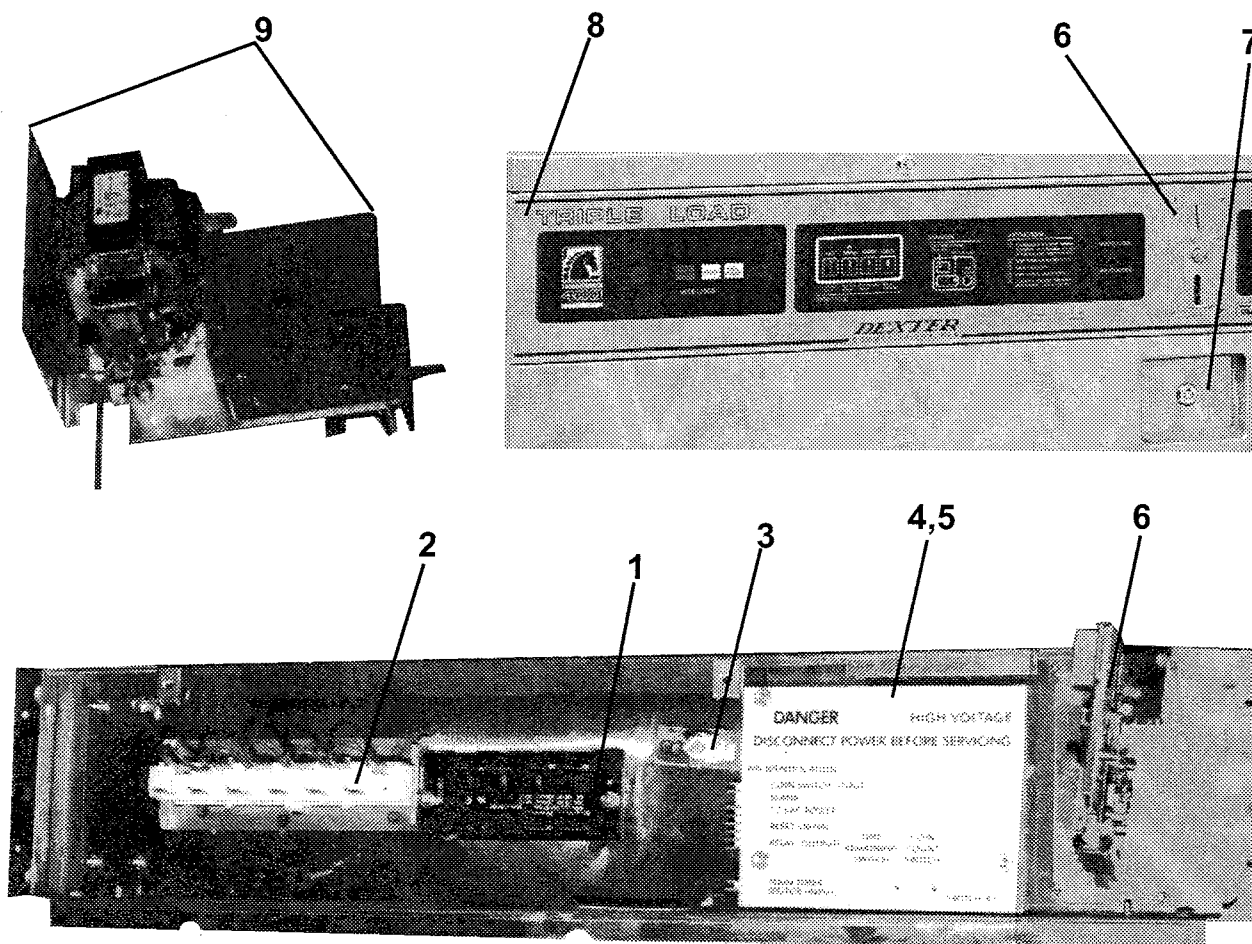
\* Not Illustrated



# CONTROL PANEL GROUP

			MODELS	
			WCN25	
			A	A
Key	Part Number	Description	A	B
1	9539-479-009	Switch, Push-button (cycle selector) .....	1	1
*	8640-412-005	Nut, Switch Mtg .....	2	2
2	3310-041-001	Light, Cycle Control .....	1	1
*	9206-100-001	Gasket, Light .....	2	2
3	3310-042-001	Light, Bleach .....	1	1
4	9020-005-001	Accumulator, Coin with Time Remaining .....	1	1
*	9627-682-001	Wiring Harness, Accumulator .....	1	1
*	9538-157-005	Short Spacer #8x 1/8" ( between board and shield ) .....	3	3
5	9550-174-001	Shield, Circuit Board with Timer Remaining .....	1	1
*	8640-412-005	Nut, Hx .....	3	3
*	9538-157-003	Long Spacer ( between panel and board ) .....	3	3
6	9021-001-010	Acceptor, Coin (See Coin Handling Group).....	1	1
7	9732-122-001	Kit, Coin Box W/Hardware .....	1	1
8	9412-076-007	Nameplate, Control Panel (one piece) .....	1	1
9	Solenoid Ass'y, Door Locking (see Door Lock Group for parts breakdown ) .....	1	1	
*	8640-412-005	Hex Nuts ( mounting solenoid assy. to control panel ) .....	3	3

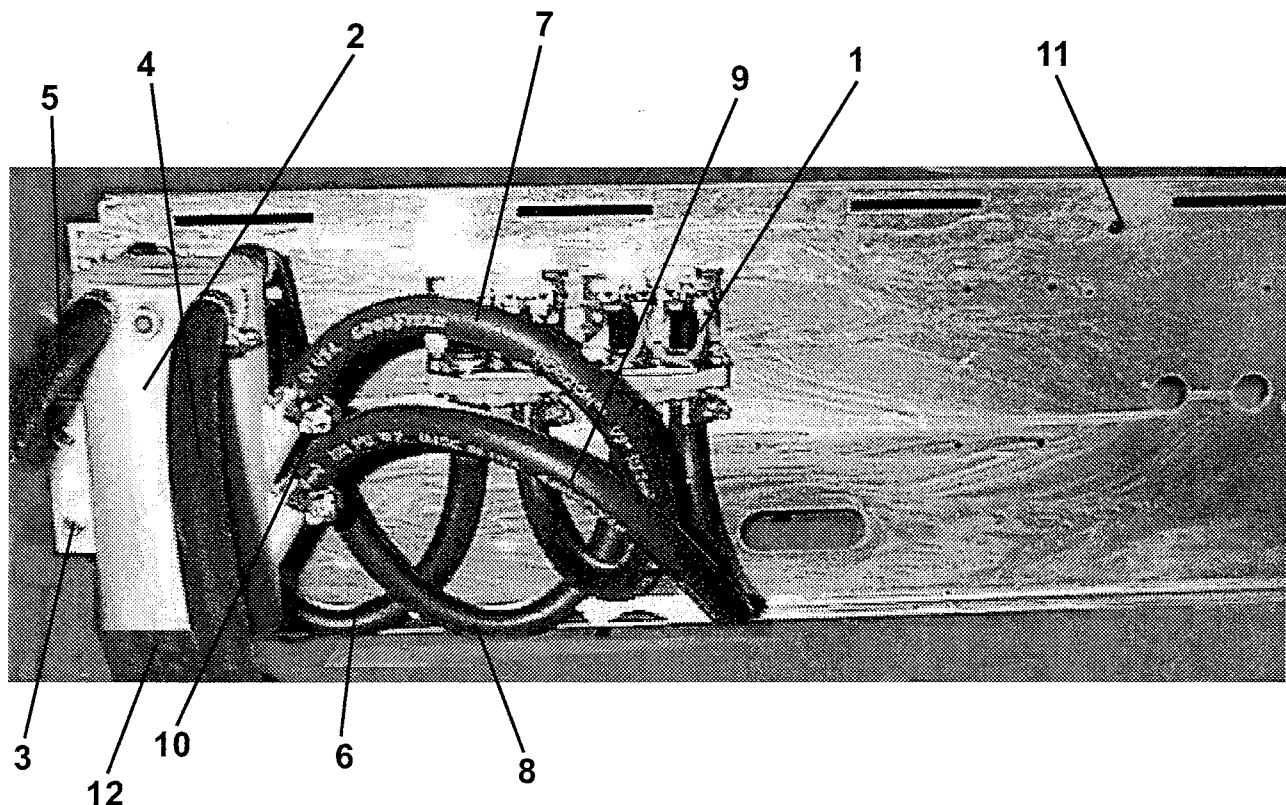
\* Not Illustrated



# WATER INLET GROUP

			MODELS	
			WCN25	
			A	A
			A	B
Key	Part Number	Description		
1	9379-183-003	Valve, Water Inlet ..... 2	2	2
		(see Water Inlet Valve Breakdown for individual parts)		
*	9545-008-026	Screw, Valve Mtg ..... 4	4	4
*	8640-399-009	Nut, Spring ..... 4	4	4
2	9029-065-001	Vacuum Breaker ..... 1	1	1
*	9029-065-001	Bracket, Vacuum Breaker ..... 1	1	1
3	9545-008-026	Screw ..... 4	4	4
12	9242-458-002	Hose, Vacuum Breaker to Tub ..... 1	1	1
*	8654-117-014	Clamp, Vacuum Breaker End ..... 1	1	1
*	8654-117-009	Clamp, Tub End ..... 1	1	1
4	9242-453-017	Hose, Vac. Brkr. to Wash Disp. 18 1/4" ..... 1	1	1
5	9242-453-016	Hose, Vac. Brkr. to Rinse Disp. 14 1/2" ..... 1	1	1
6	9242-453-020	Hose, Hot Valve to Vac. Brkr 18" ..... 1	1	1
7	9242-453-020	Hose, Hot Valve to Tub 18" ..... 1	1	1
8	9242-453-020	Hose, Cold Valve to Vac. Brkr 18" ..... 1	1	1
9	9242-453-020	Hose, Cold Valve to Tub 18" ..... 1	1	1
*	8654-029-000	Clamp, Hose-Spring ( overflow from drain to tub back ) ..... 2	2	2
10	8654-117-015	Clamp, Hose-Worm ..... 10	10	10
11	5198-211-004	Circuit Breaker ..... 1	1	1

\* Not Illustrated



# Electrical Components - Top Compartment

Single Phase Only

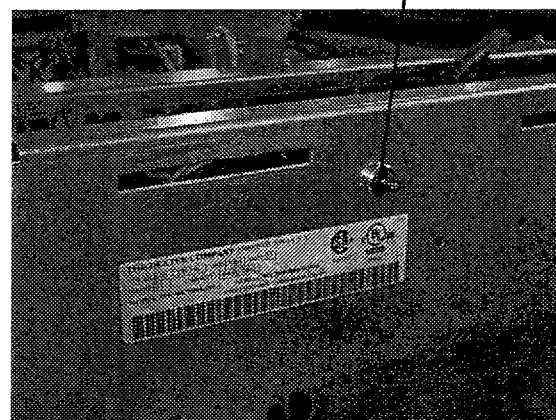
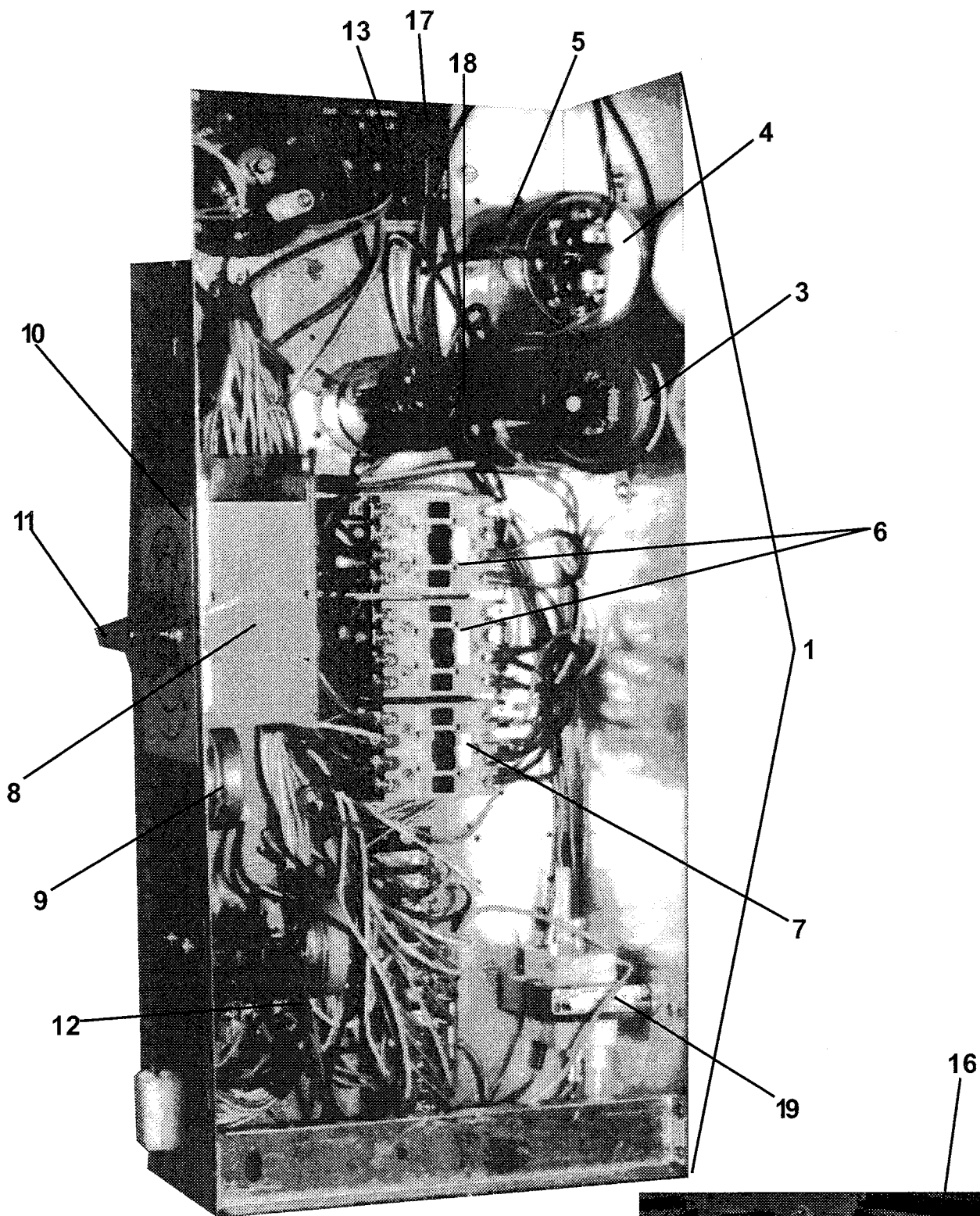
MODELS  
WCN25

A A  
A B

Key	Part Number	Description	
1	9839-012-003	Trough Assy, Controls Mtg .....	1
*	9545-008-026	Screw, Trough Sides .....	2
*	9029-064-001	Bracket, Trough to Rear Channel (not shown) .....	1
*	9545-008-001	Screw, Trough Bracket .....	3
3	5191-102-005	Capacitor, Spin-Start .....	1
4	5191-103-010	Capacitor, Run-Tumble .....	1
5	9544-049-002	Strap, Capacitor Mtg .....	1
*	9545-045-001	Screw, Capacitor Strap .....	2
6	5192-286-007	Relay, Tumble .....	2
7	5192-286-008	Relay, Spin .....	1
8	9571-362-001	Timer, Program .....	1
	(VERIFY PART NUMBER ON TIMER BODY)		
*	9376-295-002	Motor, Timer Main Drive .....	1
9	9376-286-004	Motor, Timer Rapid Advance .....	1
*	9545-012-001	Screw, Timer Mtg .....	2
10	9107-068-001	Dial, Timer Label .....	1
11	9307-176-001	Knob, Timer (w/set screws) .....	1
12	9571-360-001	Timer, Reversing 115 V .....	1
*	9545-044-004	Screw, Reversing Timer .....	2
13	9897-035-001	Terminal Block, Power Connection 4 pole .....	1
*	9545-045-007	Screw, Mtg .....	2
*	8502-619-003	Label, Fusing & Installation .....	1
14	9897-029-001	Terminal Block Assy, 12 Lug .....	1
*	9545-045-007	Screw, Mtg .....	2
*	9558-022-001	Strip, Terminal Marker .....	1
15	9539-457-001	Switch, Pressure .....	1
*	9545-045-001	Screw, Mtg .....	2
16	5198-211-004	Circuit Breaker, 1.5 amp .....	1
17	8652-130-037	Lug, Grounding .....	1
*	8639-621-007	Screw, Mtg .....	1
*	8641-582-006	Lockwasher .....	1
18	9539-478-002	Solid State Start Switch .....	1
*	9029-062-001	Strap, Mtg .....	1
*	9545-010-001	Screw .....	1
*	8640-412-005	Nut .....	1
*	9545-031-003	Screw, Mtg Strap to Control Trough .....	3
19	8711-003-001	Transformer, (For Accumulator) 120/24 VAC .....	1
*	9545-045-001	Screw, Transformer Mtg .....	2
*	8641-582-005	Lockwasher .....	2

\* Not Illustrated





# Electrical Components - Top Compartment

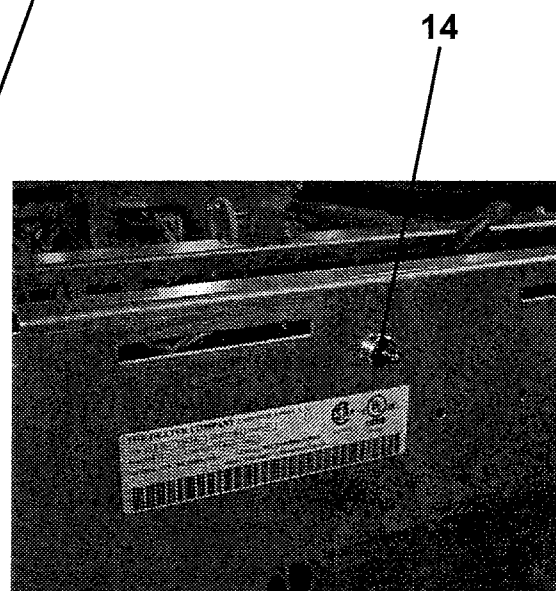
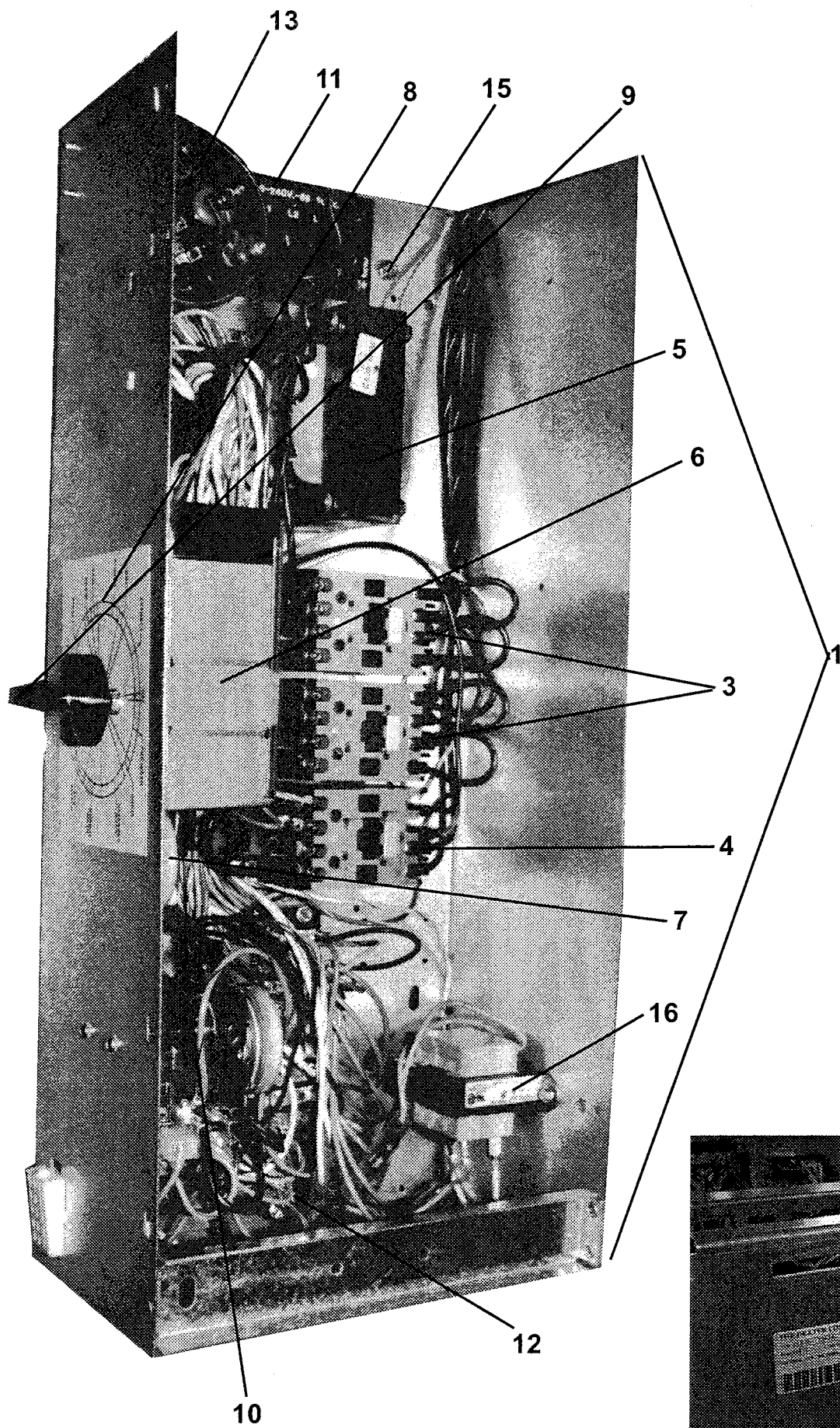
Three Phase Only

MODELS  
WCN25

A A  
A B

Key	Part Number	Description	
1	9839-012-003	Trough Assy, Controls Mtg .....	1
*	9545-008-026	Screw, Trough Sides .....	2
*	9029-064-001	Bracket, Trough to Rear Channel (not shown) .....	1
*	9545-008-001	Screw, Trough Bracket .....	3
3	5192-286-007	Relay, Tumble .....	2
4	5192-286-009	Relay, Spin .....	1
5	8711-004-001	Transformer, Control .....	1
*	8507-230-001	Transformer Instructions .....	1
*	9545-008-005	Screw, Mtg .....	1
*	8641-582-006	Lockwasher .....	1
6	9571-362-001	Timer, Program .....	1
	(VERIFY PART NUMBER ON TIMER BODY)		
*	9376-295-002	Motor, Timer Main Drive .....	1
7	9376-286-004	Motor, Timer Rapid Advance .....	1
*	9545-012-001	Screw, Timer Mtg .....	2
8	9107-068-001	Dial, Timer Label .....	1
9	9307-176-001	Knob, Timer (w/set screws) .....	1
10	9571-360-001	Timer, Reversing .....	1
*	9545-044-004	Screw, Reversing Timer .....	2
11	9897-035-002	Terminal Block, Power Connection 4 pole .....	1
*	9545-045-007	Screw, Mtg .....	2
*	8502-619-004	Label, Fusing & Installation .....	1
12	9897-029-001	Terminal Block Assy, 12 Lug .....	1
*	9545-045-007	Screw, Mtg .....	2
*	9558-022-001	Strip, Terminal Marker .....	1
13	9539-457-001	Switch, Pressure .....	1
*	9545-045-001	Screw, Mtg .....	2
14	5198-211-004	Circuit Breaker, 1.5 amp .....	1
15	8652-130-037	Lug, Grounding .....	1
*	8639-621-007	Screw, Mtg .....	1
*	8641-582-006	Lockwasher .....	1
16	8711-003-001	Transformer, (For Accumulator) .....	1
*	9545-045-001	Screw, Transformer Mtg .....	2
*	8641-582-005	Lockwasher .....	2

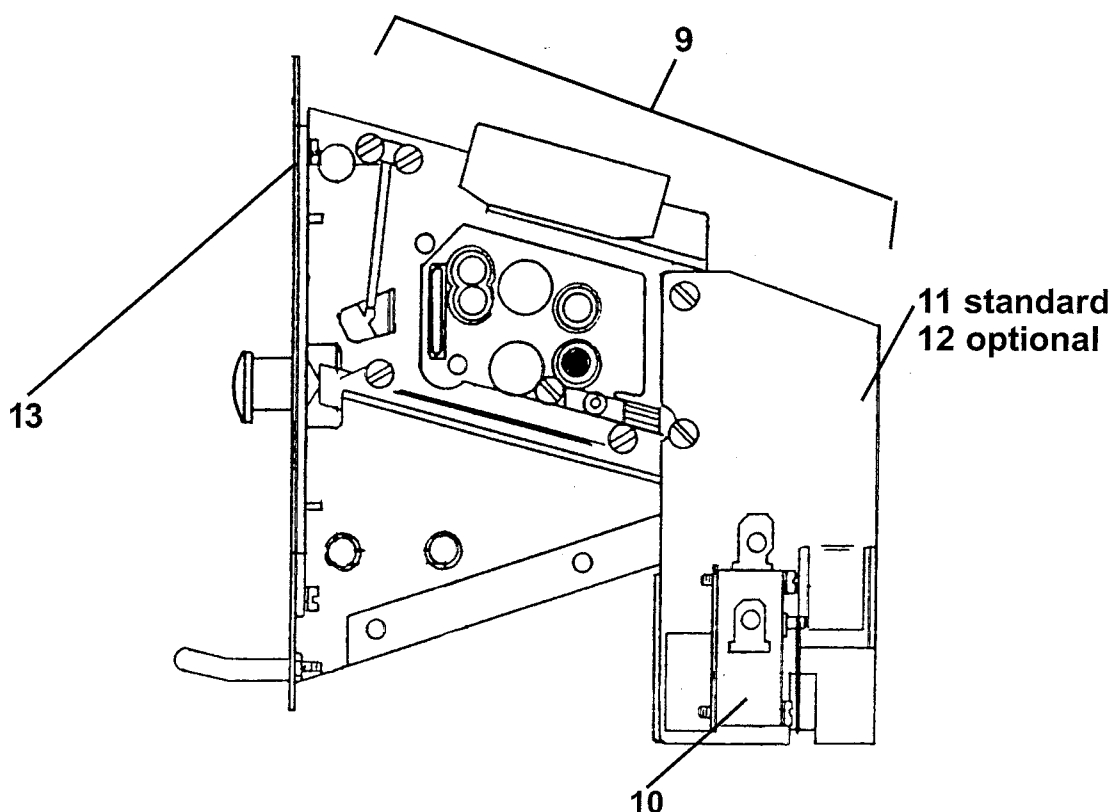
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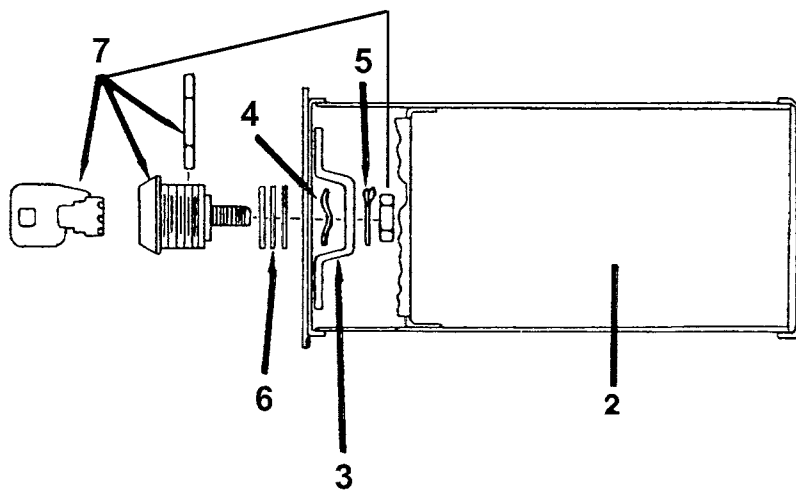
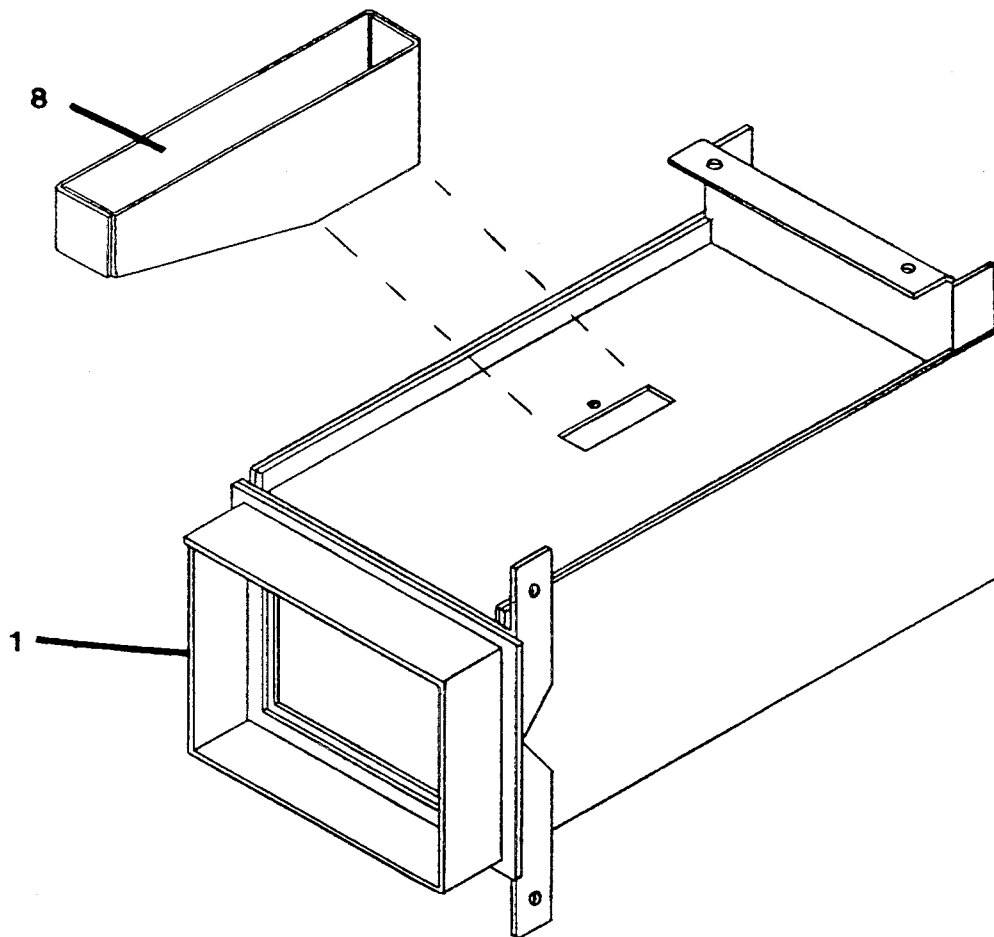


## Coin Handling Group

Key	Part Number	Description	MODELS	
			WCN25	
			A	B
1	9942-026-005	Vault, Assy .....	1	1
*	9545-008-026	Screw, Vault Mtg .....	4	4
NOTE: COIN BOX AND HARDWARE KIT AND COIN BOX LOCK NOT INCLUDED WITH MACHINE.				
2	9732-122-001	Kit, Coin Box W/Hardware (includes 3 thru 6) .....	1	1
3	9349-033-001	Latch, Coin Box .....	1	1
4	8641-569-002	Washer, Wave .....	1	1
5	8641-583-001	Washer, Keeper .....	1	1
6	8641-581-008	Washer, Spacer- Thick .....	2	2
6	8641-581-010	Washer, Spacer- Thin .....	4	4
7	8650-012-003	Lock, Coin Box (w/key) .....	1	1
8	9940-014-004	Chute Assy., Coin .....	1	1
*	9545-008-001	Screw, Chute Mtg .....	1	1
11	9119-025-002	Coin Acceptor chute without penny rejector (standard) .....	1	1
9	9021-001-010	Acceptor, Coin.....	1	1
*	9545-020-002	Screw, Acceptor Mtg.....	4	4
*	8640-424-002	Nut.....	4	4
10	9732-126-001	Switch, Coin.....	1	1
12	9119-025-001	Coin Acceptor chute with penny rejector (optional) .....	optional	
13	9486-133-001	Button Coin Return retainer .....	1	1

\* Not Illustrated

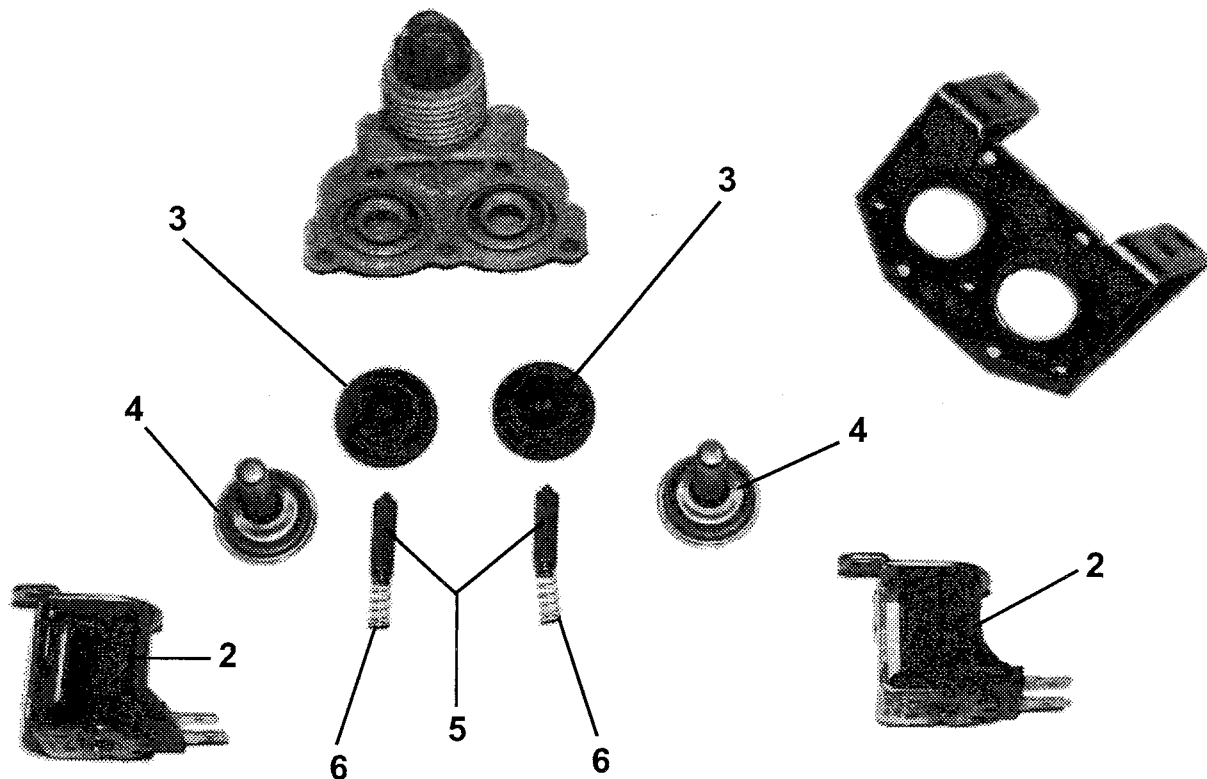




## Water Inlet Valve Breakdown

Key	Part Number	Description	MODELS	
			WCN25	
			A	A
			A	B
*	9379-183-003	Valve, Water Inlet Blue (includes 1 thru 6) .....	2	2
1	9555-056-001	Screen, Inlet ( in valve ) .....	2	2
2	9089-017-001	Coil Assy., 120 V .....	2	2
3	9118-049-001	Diaphragm .....	2	2
4	9211-021-002	Guide, Solenoid .....	2	2
5	9015-008-001	Armature .....	2	2
6	9534-298-001	Spring, Armature .....	2	2
*	9545-008-026	Screw, Valve Mtg .....	2	2

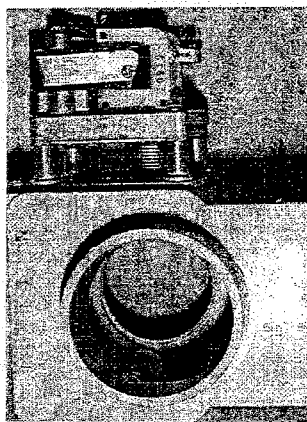
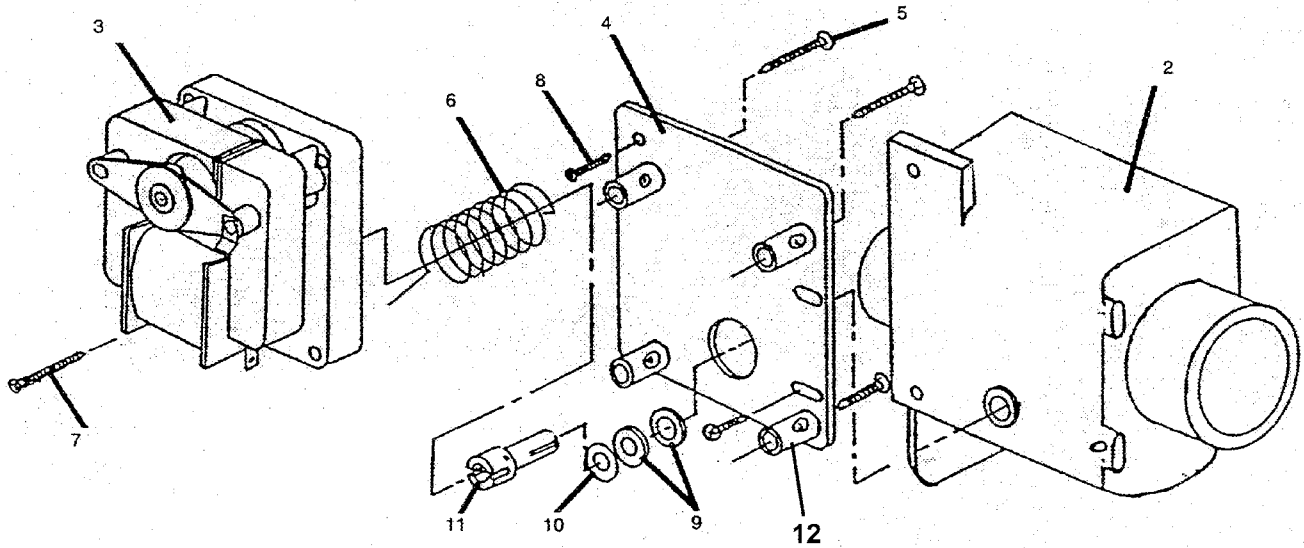
\* Not Illustrated



# DRAIN VALVE GROUP

Key	Part Number	Description	MODELS	
			WCN25	
			A	A
			A	B
*	9379-187-001	Valve, Drain (includes 2 thru 11) ( 3" ) .....	1	1
2	9064-070-001	Body, Valve (w/ball) .....	1	1
3	9914-137-001	Motor & Gear Train .....	1	1
4	9452-538-001	Plate, Motor Mtg .....	1	1
5	8639-994-001	Screw .....	3	3
6	9534-339-001	Spring, Drive .....	1	1
7	9545-054-001	Screw .....	2	2
8	9545-054-002	Screw .....	1	1
9	9532-134-001	Seal, V Packer .....	2	2
10	8641-584-001	Washer .....	1	1
11	9451-196-001	Pin, Main Drive .....	1	1
12	9538-149-001	Plate (spacers needed for replacement motor mtg. plate) .....	4	4

\* Not Illustrated



Valve  
Complete

## WIRING HARNESS GROUP

### MODELS WCN25

A      A  
A      B

Key	Part Number	Description		
USE FOLLOWING TWO ITEMS WITH TIMER PART NUMBER 9571-359-002				
	9627-680-002	Wiring Harness, Main .....	1	1
	9627-681-003	Wiring Harness, Control .....	1	1
	9627-682-001	Wiring Harness, Coin accumulator .....	1	1
	9627-683-001	Wiring Harness, Drain Valve .....	1	1
	8654-125-001	Clamp, Cable- 1/4 Dia. ....	1	1
	8653-074-001	Connector, Clear In-Line .....	AR	AR
USE FOLLOWING ITEMS WITH TIMER PART NUMBER 9571-362-001 .....				
	9627-683-001	Wiring Harness , Drain Valve .....	1	1
	9627-689-001	Wiring Harness , Control .....	1	1
	9627-695-001	Wiring Harness , Main .....	1	1
	9627-708-001	Wiring Harness , Countdown .....	1	1
	9627-682-001	Wiring Harness , Coin Accumulator .....	1	1

## LABELS AND DIAGRAMS

9345-789-004	Wiring Diagram	( 3 phase )
9345-788-004	Wiring Diagram	( 1 phase )
9345-787-002	Wiring Schematic	( 1 ph / 3 ph )
8502-614-004	Label High Voltage Warning	
8502-619-003	Label Fusing & Installation	( 1 phase )
8502-619-004	Label Fusing & Installation	( 3 phase )
8502-620-001	Label Motor Connections	
8502-230-001	Label Transformer Connections	( 3 phase )
8502-624-002	Label Door Opening Warning	
8502-639-001	Label Warning	
8511-001-002	Label Quality	
8514-019-002	Owners Booklet	
8507-274-001	Spin Direction Label	



# Section 7

## Parts Data

### Thoroughbred 600

#### Accessories

<b>Models</b>	<b>WCN40AA</b>	<b>220-240</b>	<b>volts</b>	<b>60hz.</b>	<b>Single Phase</b>
	<b>WCN40AB</b>	<b>208-240</b>	<b>volts</b>	<b>60hz.</b>	<b>Three Phase</b>

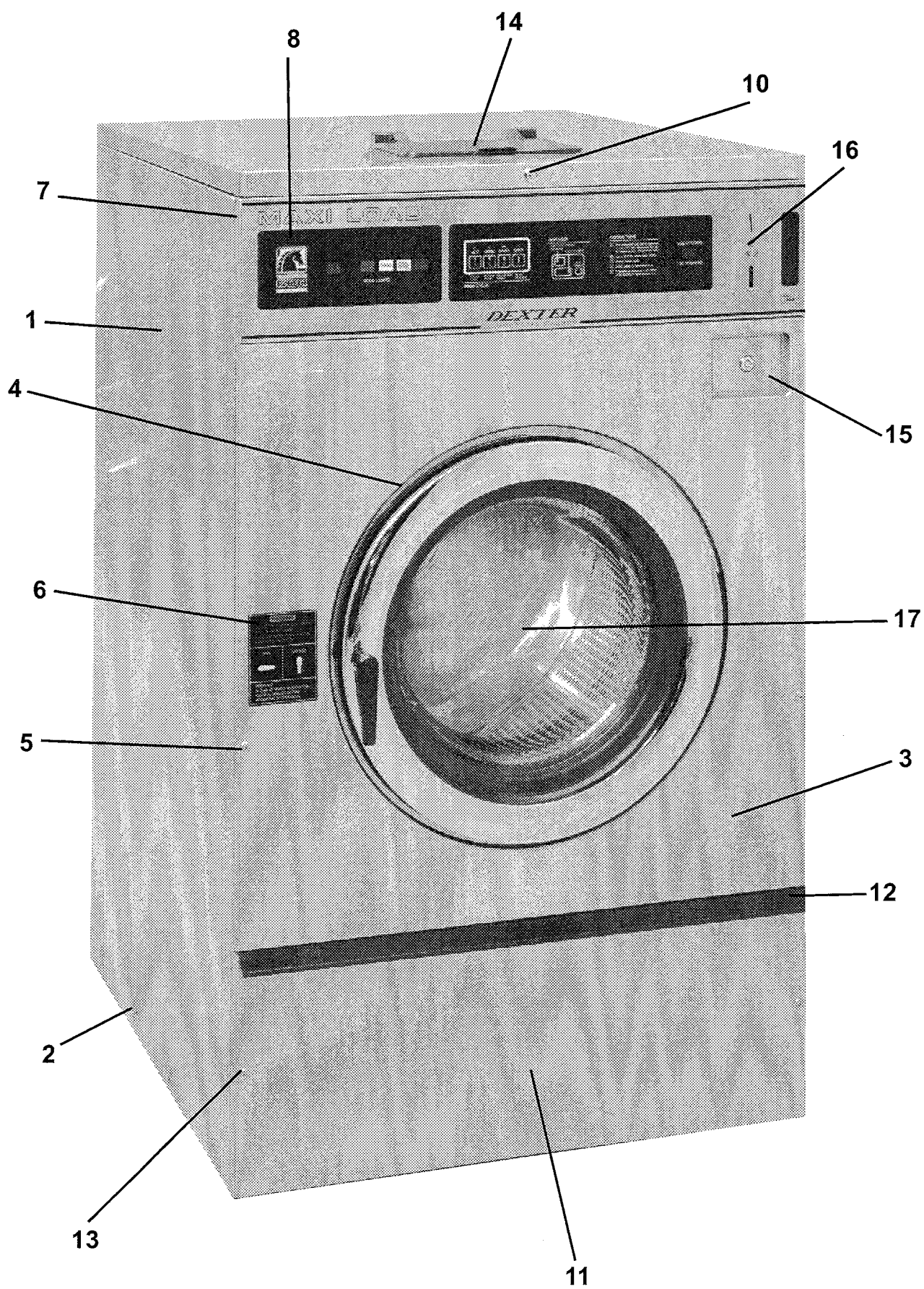
<b>MODELS</b>	
<b>WCN40</b>	
<b>A</b>	<b>A</b>
<b>A</b>	<b>B</b>

<b>Part Number</b>	<b>Description</b>		
Grip-O-Matic #1045	Puller to Remove Pulley and Bearing Housing from Shaft on T-600		
9732-139-002	Kit, Door Gasket Expander (large)		
9732-139-001	Kit, Door Gasket Expander (small)		
9990-027-011	Hose, Water Supply (furnished) 3/8" I.D. x 48" .....	2	2
9990-027-013	Hose, Water Supply (optional) 5/8" I.D. x 48" .....		
8641-242-000	Washer, Inlet Hose (furnished) .....	2	2
9565-003-001	Strainer, Inlet Hose (furnished) .....	2	2
9242-417-001	Drain hose 10 ft. length x 2-1/4" I.D. ....		
9242-417-003	Drain hose 10ft. length x 3" I.D. ....		
8641-586-002	Bevel Washer for 5/8" bolt used in installations using angle iron bases		
8641-586-003	Bevel Washer for 3/4" bolt used in installations using angle iron bases		
9732-139-001	Kit , Door Gasket Expander (large) .....		
9732-139-002	Kit , Door Gasket Expander (small) .....		
9732-140-001	Manual Operation Kit .....		
9539-474-001	Switch, Blk/Red (included in kit) .....		
9539-474-002	Switch, Blk/Wht (included in kit) .....		
8545-055-002	Electrical Probe 100-600VAC .....		
8545-055-001	Electrical Probe 24-90 VAC .....		
8538-151-001	Sealing compound .....		
8545-051-002	TORX#20 .....		
8545-051-003	Special Tool For Removing Coin Acceptor Mounting Screws. (T-10 Torx)		
9475-002-002	Flow Restrictors ( in dispenser )		

## CABINET AND FRONT PANEL GROUP

			MODELS	
			WCN40	
			A	A
			A	B
Key	Part Number	Description		
1	9989-449-001	Panel, Side (Left or Right)- Stainless .....	2	2
2	9545-018-013	Screw, (Side Panel to Base) .....	8	8
2	8640-414-006	Nut 8.....	8	8
*	9029-066-001	Bracket, Side Panel .....	1	1
*	8640-413-002	Nut, Hex #10 .....	2	2
*	9545-008-005	Screw, #10 .....	2	2
3	9454-669-001	Panel Assy, Front .....	1	1
4	9059-063-002	Band, Edge Protector (mounted to front panel) .....	1	1
*	8640-399-005	Nut, Spring- To Control Panel .....	2	2
*	9545-008-024	Screw, Hex- To Control Panel .....	2	2
5	9545-008-014	Screw, Flat Head .....	2	2
5	8641-585-001	Washer, Finish .....	2	2
*	8640-399-008	Nut, Spring .....	2	2
*	9545-008-023	Screw, Fillister Head Guide .....	2	2
6	8502-624-002	Label, Door Opening .....	1	1
7	9989-453-001	Panel, Control (Mounts Nameplate) .....	1	1
*	9545-008-005	Screw, Control Panel Mtg .....	4	4
8	9412-076-006	Nameplate, Control Panel .....	1	1
9	9454-664-001	Panel, Top .....	1	1
10	8650-012-003	Lock, Top (w/Key) .....	1	1
*	9306-025-001	Key, Top-6324 .....	1	1
*	9095-038-001	Cam, Lock Top .....	1	1
*	8640-426-001	Nut, 9/32 .....	1	1
*	8641-581-008	Washer .....	1	1
11	9108-097-001	Door, Lower Service .....	1	1
12	9244-081-002	Handle (bumper guard) .....	1	1
*	9545-045-010	Screw ( mounting handle ) .....	4	4
13	9545-008-014	Screw, Flat Head .....	2	2
13	8641-585-001	Washer, Finish .....	2	2
*	8640-399-008	Nut, Spring .....	2	2
*	9545-008-023	Screw, Fillister Head Guide Locating Front Panel .....	2	2
14	9108-095-003	Door, Dispenser .....	1	1
*	9451-191-001	Pin, Plain SS .....	2	2
*	9467-025-001	Post, Door Mounting .....	2	2
*	9545-045-002	Screw, Dispenser Post Mtg .....	4	4
*	9545-008-012	Screws, Dispenser Mounting .....	4	4
*	8640-399-007	Nuts, Spring .....	4	4
*	9086-017-001	Catch, Top Panel .....	1	1
*	9467-024-001	Top Panel Locator Posts .....	2	2
*	8640-411-003	Nut, Keps ( for top panel locator posts) .....	2	2
*	9355-001-001	Locator, Panel .....	2	2
*	9545-008-025	Screw, #10 .....	2	2
15	9732-122-001	Box Assy, Coin (See Coin Handling Group) .....	1	1
16	9021-001-010	Acceptor, Coin (See Coin Handling Group) .....	1	1
17	9456-041-007	Plastic Plug 1 1/2" ( inside cylinder ) .....	1	1

\* Not Illustrated



## REAR VIEW

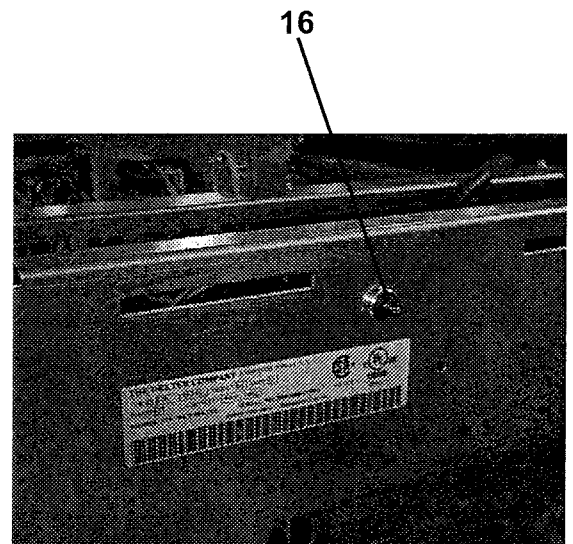
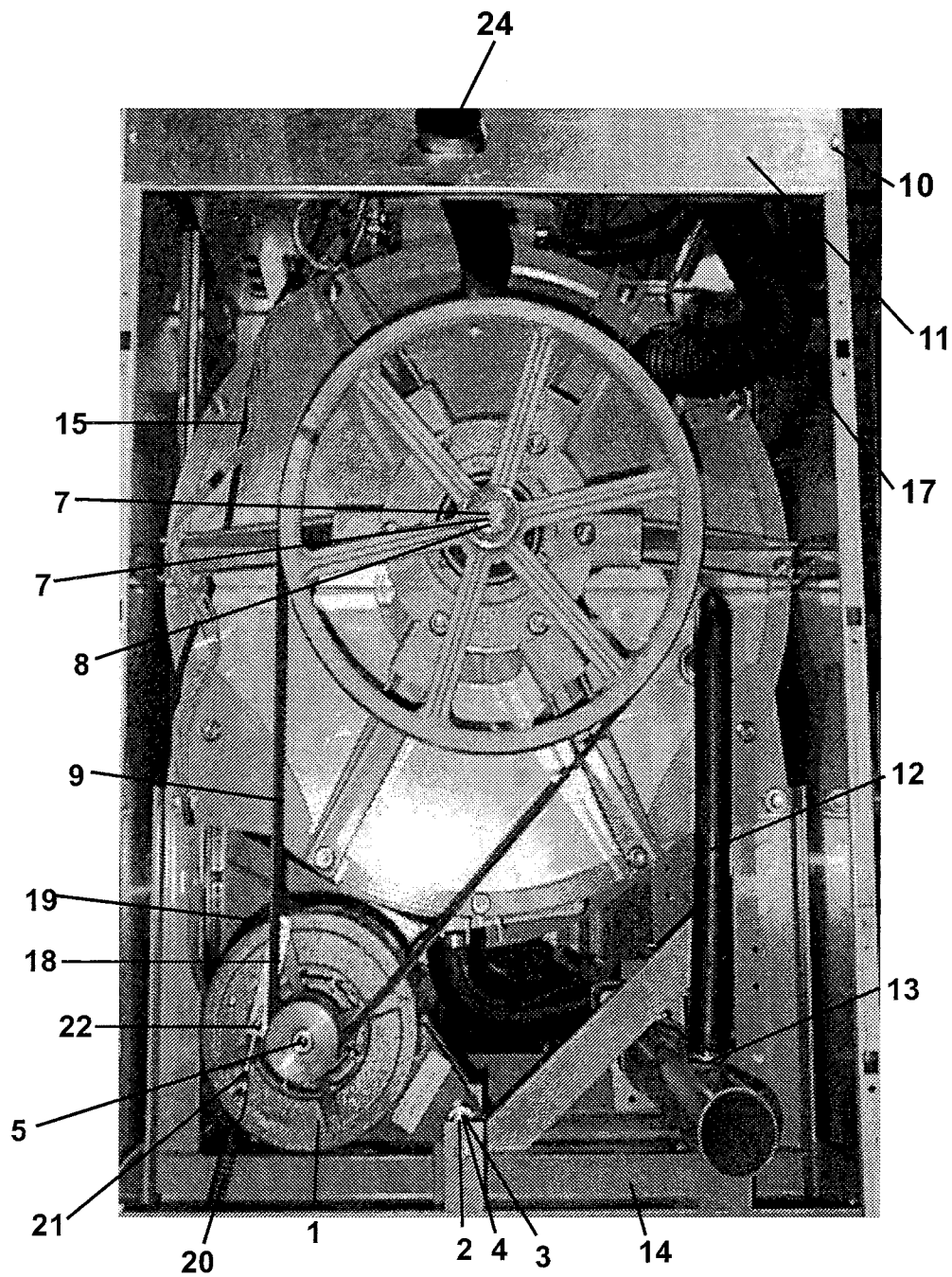
### MODELS

#### WCN40

A      A  
A      B

Key	Part Number	Description		
1	9732-127-005	Drive Motor, 1 Phase 60 HZ ( see kit list ) .....	1	
1	9732-127-006	Drive Motor, 3 Phase 60 HZ ( see kit list ) .....		1
2	9497-222-004	Rod, Motor Mtg .....	1	1
3	9545-029-005	Bolt ( motor mounting rod ) .....	1	1
3	8641-582-014	Lockwasher .....	1	1
4	9076-052-002	Collar, Shaft (w/set screws) .....	3	3
5	9453-170-002	Pulley, Motor .....	1	1
*	9545-028-013	Screw, set .....	2	2
6	9453-168-003	Pulley, Driven .....	1	1
7	9545-060-001	Screw, Pulley to Shaft .....	1	1
8	8641-581-032	Washer, Flat .....	2	2
7	8641-582-018	Lockwasher .....	1	1
9	9040-076-005	Drive Belt .....	2	2
11	9081-123-001	Channel, Rear .....	1	1
10	9545-008-026	Screw .....	4	4
*	8640-399-004	Nut, Spring .....	4	4
12	9242-449-002	Hose, Overflow .....	1	1
13	8654-029-000	Clamp, Hose spring type .....	2	2
*	9989-446-001	Panel Assy., Back .....	1	1
*	9545-008-026	Screw .....	8	8
*	8640-399-004	Nut, Spring .....	6	6
14	9545-030-002	Screw, to Base bottom .....	3	3
15	9242-175-002	Hose, Pressure Switch .....	1	1
*	8654-117-015	Clamp, Pressure Sw. Hose 1" WORM TYPE .....	1	1
16	5198-211-004	Circuit Breaker, 1.5 amp .....	1	1
17	9242-458-002	Hose, Vacuum Breaker to Tub .....	1	1
*	8654-117-014	Clamp, Hose to Vacuum Breaker .....	1	1
*	8654-117-009	Clamp, Hose to Tub .....	1	1
18	9029-027-003	Strap, Motor tension .....	1	1
19	8640-413-002	Nut, Strap to Motor .....	1	1
19	8641-581-006	Washer .....	1	1
20	9534-319-002	Spring, Belt Tension .....	1	1
21	9545-055-001	Bolt, Eye 1/4" -20 X 2 1/2" .....	1	1
22	8640-414-003	Nut, 1/4-20 Elastic Stop .....	1	1
23	8502-614-004	Label High Voltage .....	1	1
24	9242-463-003	Hose Overflow 12 1/4" upper .....	1	1

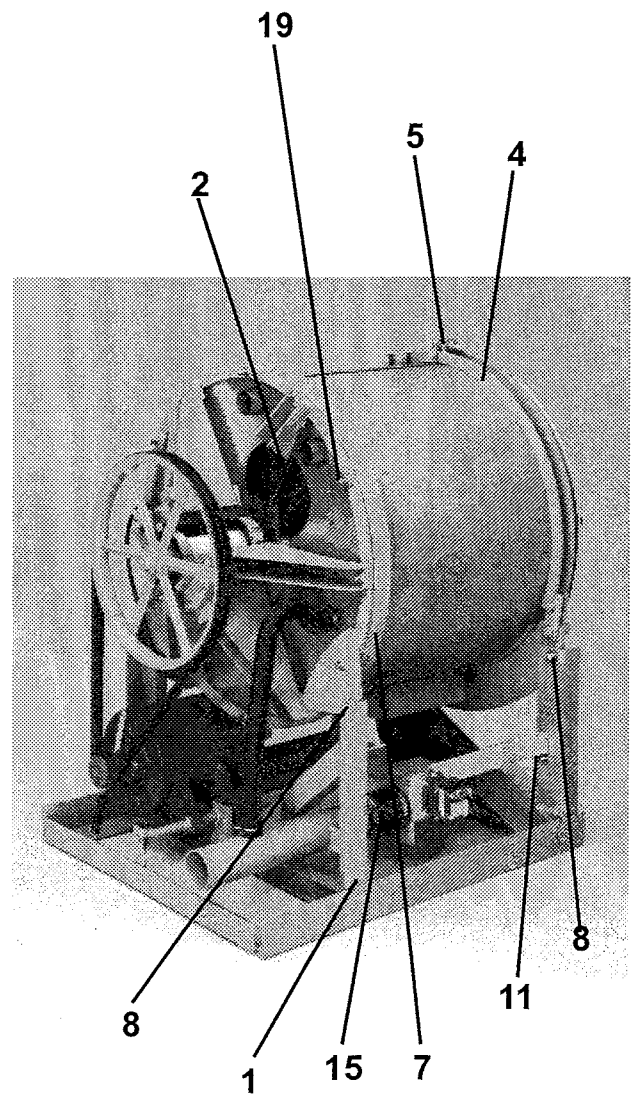
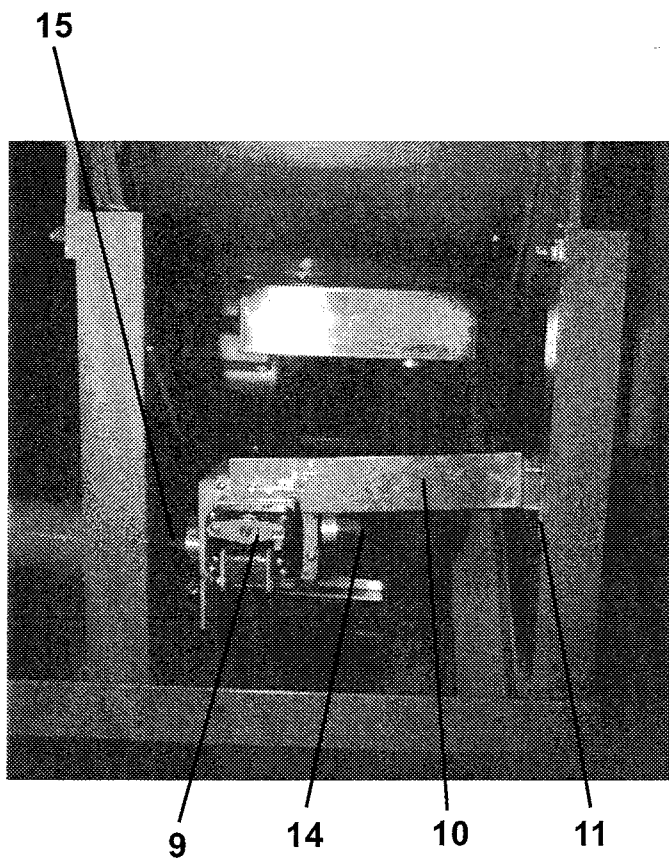
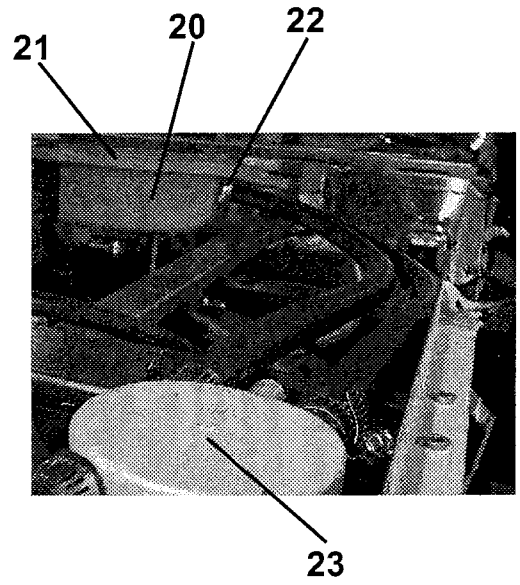
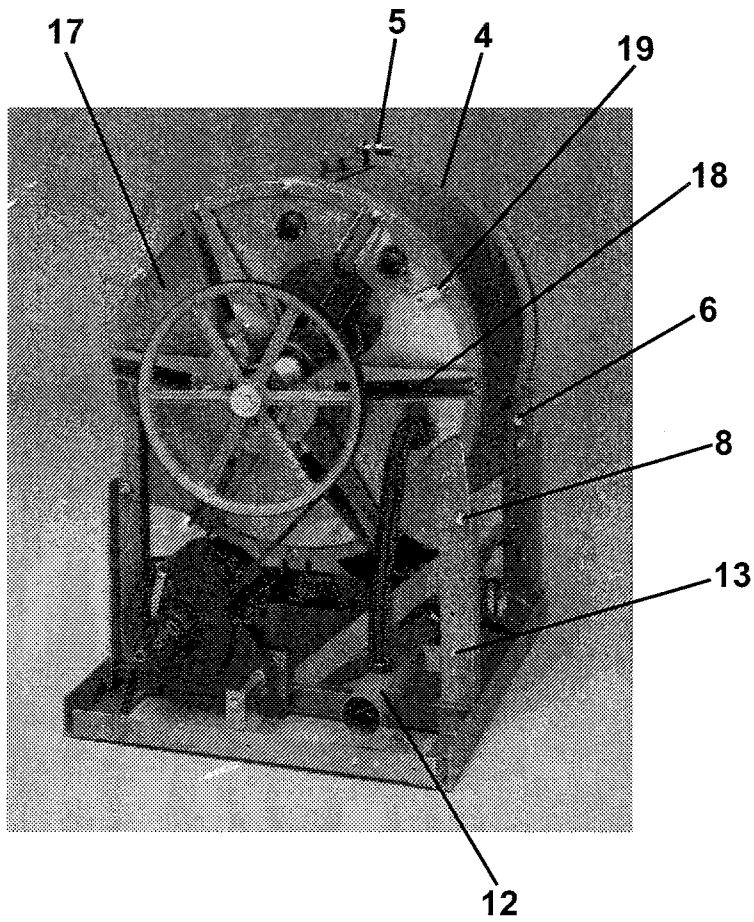
\* Not Illustrated



## CHASSIS AND DRAIN GROUP

			MODELS	
			WCN40	
			A	A
			A	B
Key	Part Number	Description		
1	9945-097-002	Base Assy, Frame .....	1	1
2	9930-136-001	Tub Assy .....	1	1
3	9967-009-002	Cradle Assy, Tub .....	1	1
4	9950-050-002	Ring Assy, Tub Mtg-Front .....	2	2
5	9545-060-003	Bolt, Top Front Ring 5/8" x 3" .....	1	1
5	8640-425-001	Nut .....	1	1
5	8641-582-018	Lockwasher .....	1	1
6	9545-060-002	Bolt, 5/8 x 2 1/2 Front Ring to Cradle (double nuts used) .....	2	2
6	8640-425-001	Nut, Hex .....	4	4
7	9950-041-004	Ring Assy., Tub Mtg.- Rear .....	1	1
8	9545-060-001	Bolt, 5/8 x 1 1/2 Rings to Base ( front and rear ) .....	4	4
8	8641-582-018	Lockwasher .....	4	4
8	8640-425-001	Nut, Hex .....	4	4
9	9379-187-001	Valve, Drain .....	1	1
10	9029-052-001	Bracket, Drain Valve .....	1	1
*	9545-048-001	Screw, Valve to Bracket .....	1	1
*	8641-581-018	Washer .....	1	1
11	9545-030-002	Screw, Bracket to Base .....	2	2
12	9915-118-002	Tube Assy, Drain .....	1	1
13	9545-030-002	Screw, Tube Mtg .....	2	2
14	9242-456-001	Hose, Tub to Drain Valve .....	1	1
15	9242-457-001	Hose, Drain Valve to Tube .....	1	1
16	8654-117-014	Clamp, Hose .....	4	4
*	9552-038-001	Shim, Support Assembly ( thin ) .....	AR	AR
*	9242-458-002	Hose, Vacuum Brkr. to Tub .....	1	1
23	9610-001-001	Vacuum Breaker .....	1	1
*	9029-077-001	Bracket, Vacuum Breaker .....	1	1
*	9545-008-005	Screw .....	4	4
20	9732-108-002	Dispenser, .....	1	1
21	9206-416-001	Gasket, Dispenser .....	1	1
*	9242-450-001	Hose, Dispenser to Tub .....	1	1
22	8654-117-008	Clamp, Dispenser Hose .....	2	2
17	9732-137-003	Back Ass'y, Tub .....	1	1
18	9991-056-002	Support Arm Ass'y, Bearing Housing .....	6	6
19	9545-059-002	Bolt, 7/16" x 2" Tub Back to Tub .....	12	12
19	8640-416-005	Nut, Flange Lock .....	12	12
*	9552-038-003	Shim (thick) .....	AR	AR

\* Not Illustrated

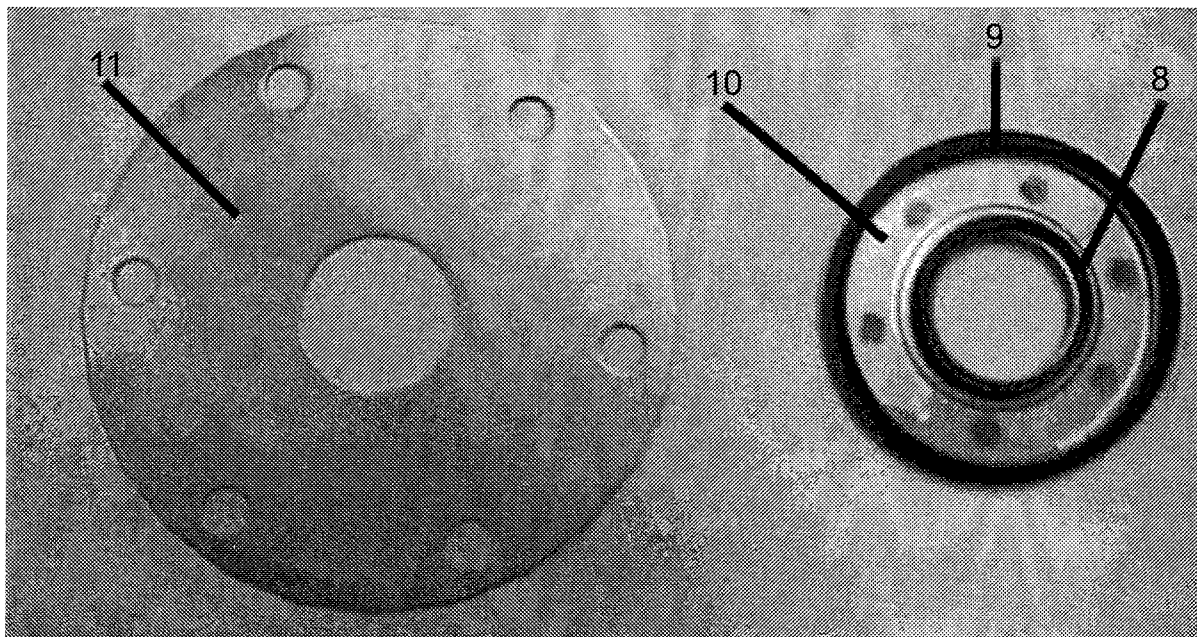




# CYLINDER, WATER SEALS & BEARING HOUSING GROUP

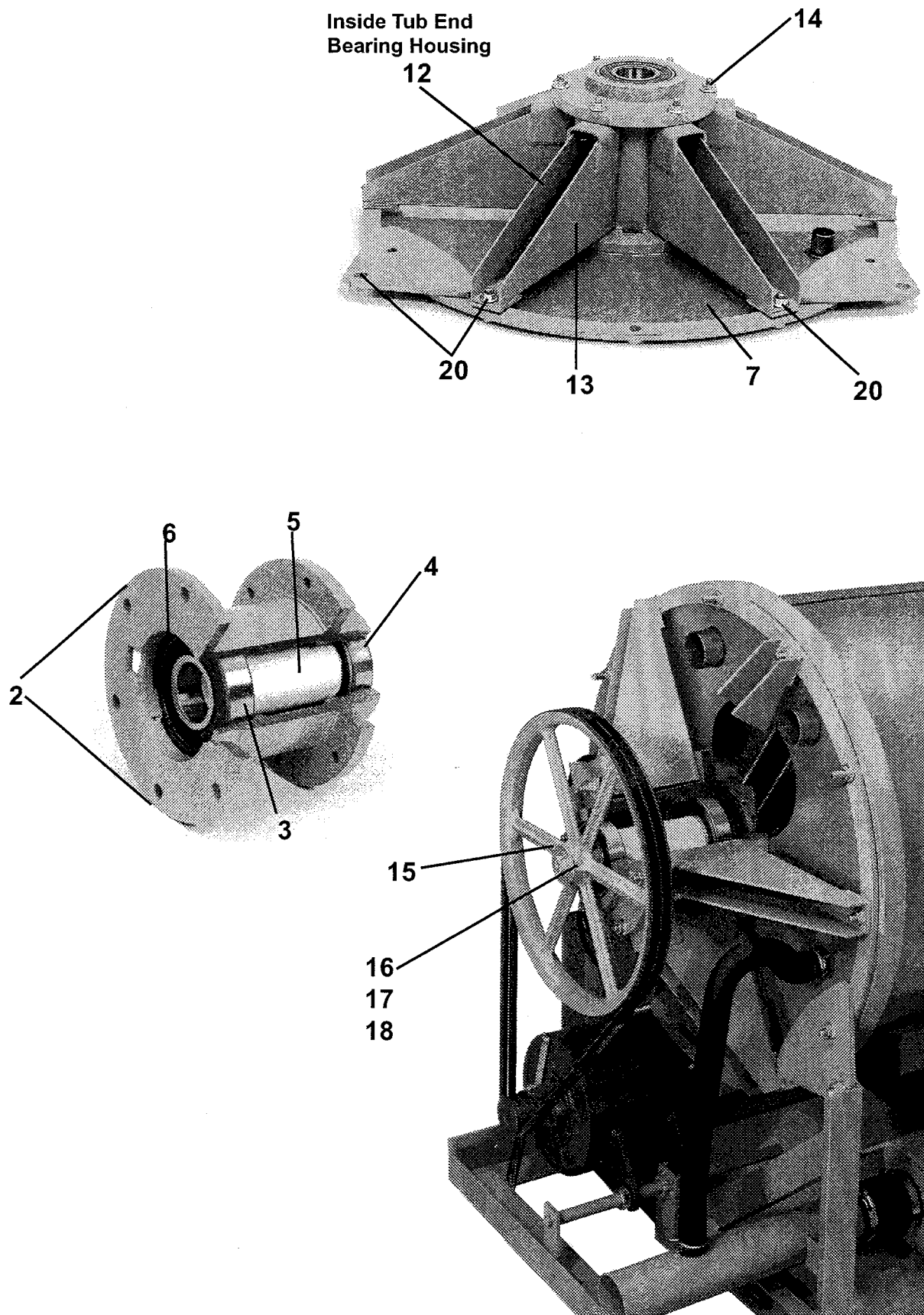
Key	Part Number	Description	MODELS	
			WCN40	
			A	A
			A	B
1	9848-113-001	Cylinder, Assy .....	1	1
*	9803-186-001	Housing, Bearing- Assembly (includes items #2-#6) .....	1	1
2	9241-180-002	Housing, Bearing .....	1	1
3	9036-159-005	Bearing, Front( LARGE ) .....	1	1
4	9036-159-004	Bearing, Rear ( SMALL ) .....	1	1
5	9538-167-001	Spacer, Bearing .....	1	1
6	9487-238-003	Ring, Bearing Retainer ( Internal ) .....	1	1
7	9732-137-003	Back Assy, Tub .....	1	1
8	9532-140-006	Seal, Secondary .....	1	1
9	9532-140-002	Seal, Primary .....	1	1
10	9950-048-001	Ring, Seal Mtg .....	1	1
11	9487-261-003	Seal Mating Ring ( between bearing housing and tub back ) .....	1	1
12	9545-060-001	Bolt, 5/8" x 1 1/2" Tub End of Bearing Housing .....	6	6
12	8640-425-001	Nut 5/8" .....	6	6
12	8641-582-018	Lockwasher .....	6	6
13	9991-056-002	Support Arm Assy., Bearing Housing .....	6	6
14	9545-059-003	Bolt, 7/16" x 1 1/2" Pulley End of Bearing Housing .....	6	6
14	8640-416-005	Nut Flange Whz Lock 7/16" .....	6	6
15	9453-168-003	Pulley, Driven .....	1	1
16	9487-234-003	Ring, Tolerance .....	1	1
17	8641-581-032	Washer 5/8" x 2 1/4" dia. ....	1	1
18	9545-060-001	Bolt 5/8" x 1 1/2" .....	1	1
19	8641-582-018	Lockwasher .....	1	1
20	9545-059-002	Bolt 7/16" x 2" Tub Back and Supports .....	12	12

\* Not Illustrated





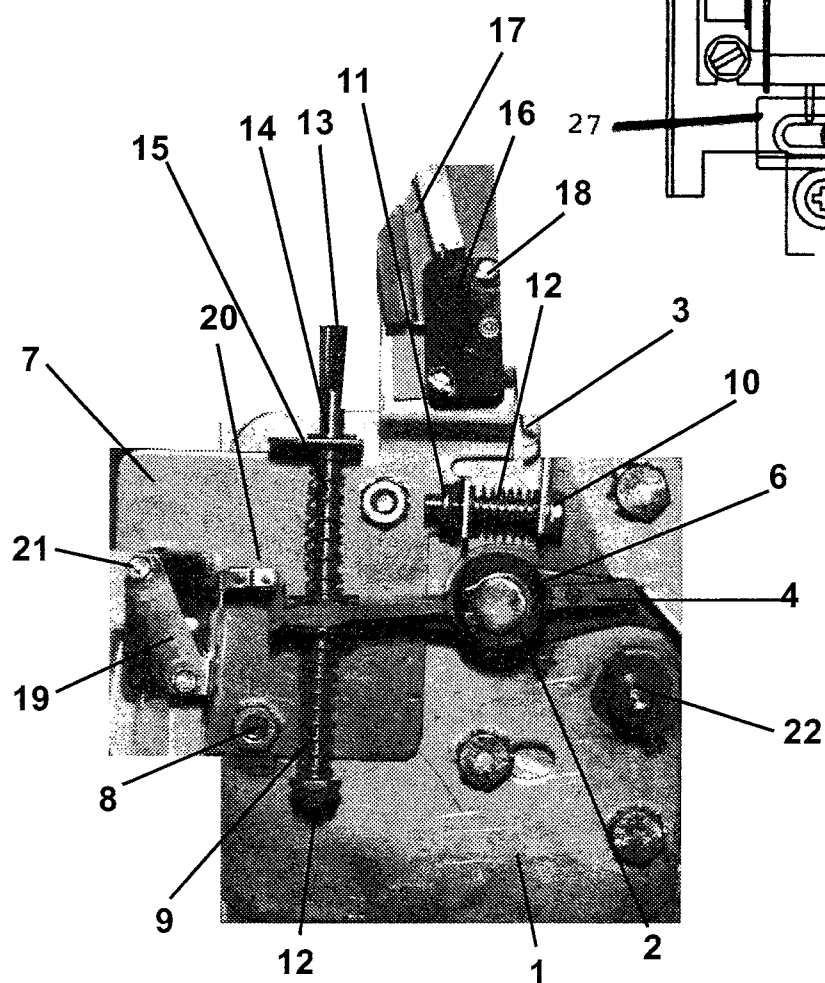
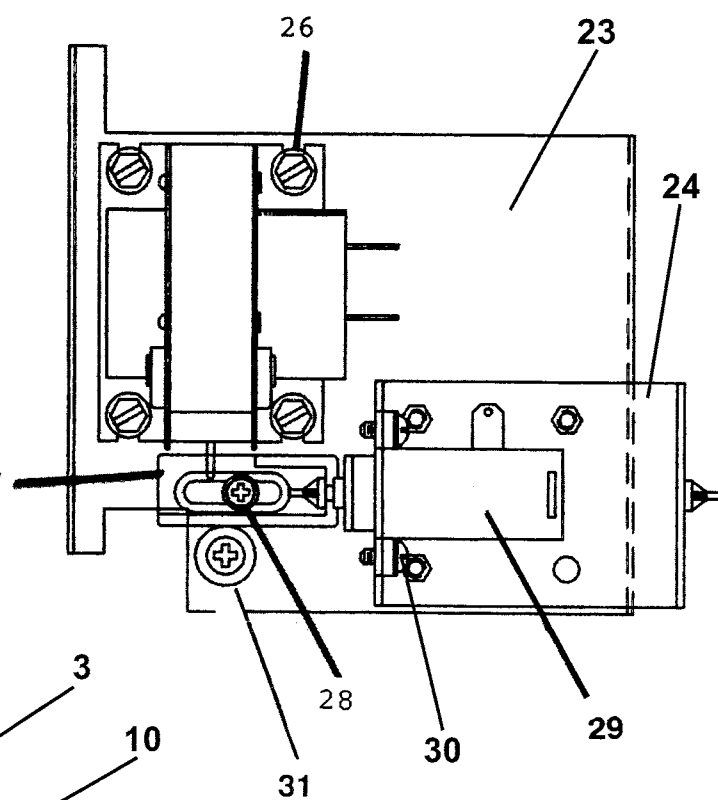
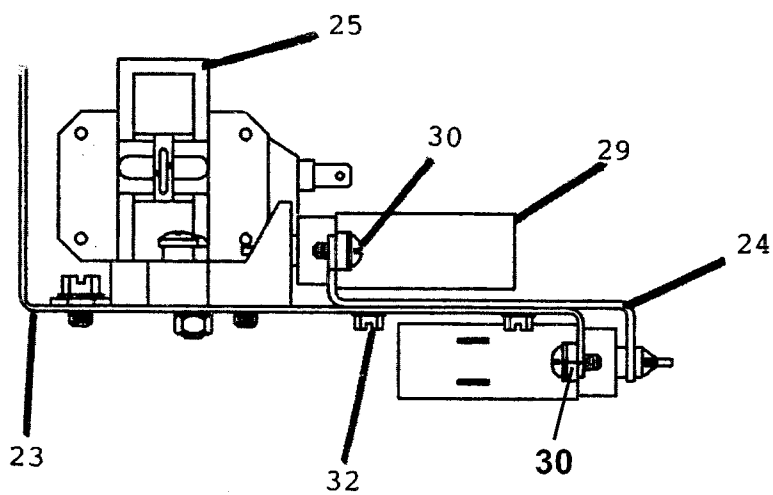
# Cylinder Water Seals and Bearing Housing and Pulley Group



# DOOR LOCK GROUP

Key	Part Number	Description	MODELS	
			WCN40	
			A	A
			A	B
*	9885-023-001	Lock Assy, Complete (includes #1 thru #22) .....	1	1
1	9982-284-001	Plate Assy, Door Lock .....	1	1
2	8641-581-030	Washer, Flat .....	1	1
3	9008-005-001	Actuator, Latching Switch .....	1	1
4	9450-002-002	Pawl, Locking .....	1	1
5	8641-569-003	Washer, Spring .....	1	1
6	9487-200-004	Ring, Retaining .....	1	1
7	9029-035-001	Bracket, Switch .....	1	1
8	8640-413-002	Nut, Hex .....	2	2
9	9534-364-002	Spring, Actuating .....	1	1
10	9545-012-020	Screw, Hx .....	1	1
11	8640-413-004	Nut, Elastic Stop .....	2	2
12	9534-364-001	Spring, Return .....	2	2
13	9451-193-001	Pin, Guide .....	1	1
14	9487-200-005	Ring, Retaining .....	1	1
15	8641-581-031	Washer .....	2	2
16	9539-461-008	Switch, Latching Sensing .....	1	1
17	9550-169-003	Shield, Switch .....	3	3
18	9545-020-001	Screw 4-40 x 5/8" .....	2	2
18	8640-401-001	Nut, Twin .....	1	1
19	9539-461-007	Switch, Locking Sensing .....	2	2
20	9008-006-002	Actuator, Switch .....	2	2
21	9545-020-003	Screw 4-40 x 1 1/8" .....	2	2
21	8640-401-001	Nut, Twin .....	1	1
22	9451-181-004	Pin, Dowel .....	1	1
*	9552-037-001	Shim, Door Lock, Thin .....	AR	AR
*	9552-037-002	Shim, Door Lock, Thick .....	AR	AR
*	9545-018-004	Screw, Lock mtg 1/4"-20 x 3/4" .....	3	3
*	8641-582-007	Lockwasher 1/4" (ext. tooth) .....	3	3
*	9922-011-001	Solenoid Ass'y, Door Locking (includes 23 thru 32) .....	1	1
23	9029-073-001	Door Locking Solenoid Bracket .....	1	1
24	9985-169-001	Bracket ass'y, Solenoid Slide .....	1	1
25	9536-074-001	Solenoid 120 volts 60 hz .....	1	1
26	9545-008-001	Screw, Solenoid Mtg .....	4	4
27	9540-033-002	Stop, Door Lock Solenoid .....	1	1
28	9545-061-001	Screw, Shoulder .....	1	1
28	8640-411-003	Nut, Keps #6 .....	1	1
29	9586-001-001	Thermoactuator 120 V .....	2	2
30	9545-031-011	Screw #6 x 5/16" .....	4	4
31	9538-157-004	Spacer, Plastic .....	1	1
31	9538-166-004	Spacer, Metal .....	1	1
31	9545-010-001	Screw, Cross Recessed .....	1	1
31	8640-412-005	Nut, Keps #8 .....	1	1
32	8640-411-003	Nut, Keps #6 .....	3	3
*	8640-413-002	Nut, Sol. Brkt to Control Panel .....	3	3
*	9497-225-003	Rod, Pull .....	1	1

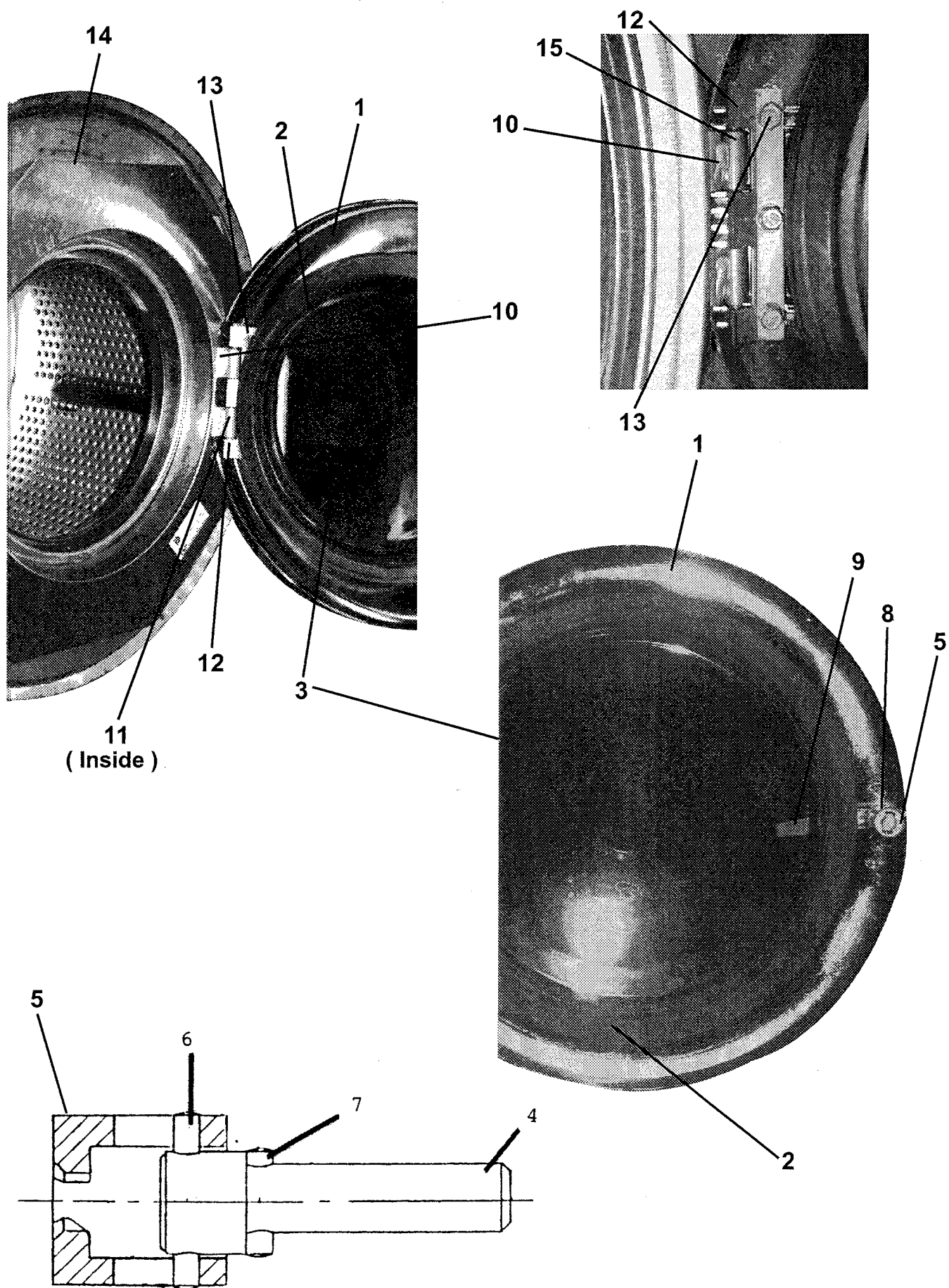
\* Not Illustrated



## LOADING DOOR GROUP

			MODELS	
			WCN40	
			A	A
			A	B
Key	Part Number	Description		
*	9960-259-002	Loading Door, Complete (includes 1 thru 10) .....	1	1
1	9487-230-001	Loading Door, Ring .....	1	1
2	9206-419-001	Gasket, Loading Door .....	1	1
3	9635-016-001	Window, Loading Door .....	1	1
*	9913-134-003	Shaft Assy, Locking (includes 4 thru 7) .....	1	1
4	9537-195-002	Shaft, Door Locking .....	1	1
5	9095-040-001	Cam, Locking .....	1	1
6	9451-181-005	Pin, Groove (1 1/4) .....	1	1
7	9451-181-004	Pin, Groove (3/4) .....	1	1
8	9534-360-002	Spring, Lock Cam .....	1	1
9	9244-080-003	Handle, Door .....	1	1
*	9451-181-006	Pin, Door Handle (groove) .....	1	1
*	9545-014-009	Screw, Hinge Mtg .....	3	3
*	8641-582-009	Lockwasher 5/16" .....	3	3
*	9552-036-001	Shim, Loading Door Hinge, Thin .....	AR	AR
*	9552-036-002	Shim, Loading Door Hinge, Thick .....	AR	AR
10	9955-029-001	Hinge Assy, Loading Door (mounts to tub front) .....	1	1
11	9451-184-003	Pin, Loading Door Hinge ( fits inside loading door hinge) .....	1	1
15	8649-031-000	Ring, Snap Ring Ext.Retaining .....	1	1
12	9079-122-001	Clamp, Loading Door Hinge .....	1	1
13	9545-056-001	Screw, Loading Door Mtg .....	3	3
14	9487-254-001	Ring, Masking .....	1	1
*	8640-413-002	Nut .....	4	4
*	9059-063-002	Band, Edge Protector (mounted to front panel ) .....	1	1

\* Not Illustrated

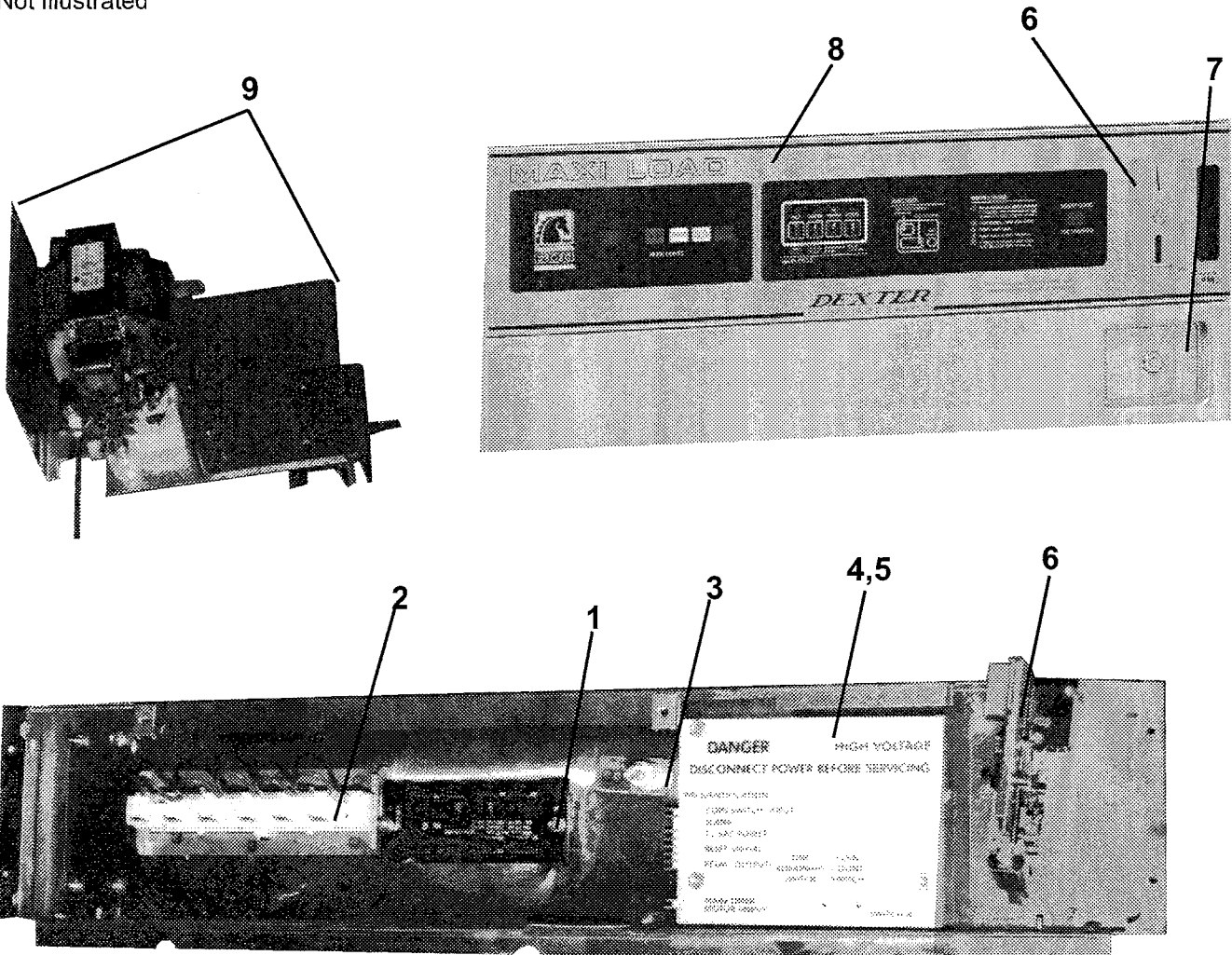


# CONTROL PANEL GROUP

MODELS  
WCN40  
A A  
A B

Key	Part Number	Description		
1	9539-479-009	Switch, Push-button (cycle selector).....	1	1
*	8640-412-005	Nut, Switch Mtg .....	2	2
2	3310-041-001	Light, Cycle Control .....	1	1
*	9206-100-001	Gasket, Light.....	2	2
3	3310-042-001	Light, Bleach .....	1	1
4	9020-005-001	Accumulator, Coin (with Time Remaining) .....	1	1
*	9627-682-001	Wiring Harness, Accumulator .....	1	1
*	9538-157-005	Short Spacer (between board and shields) .....	3	3
5	9550-174-001	Shield, Circuit Board with Timer Remaining .....	1	1
*	8640-412-005	Nut, Hx .....	3	3
*	9538-157-003	Long Spacer ( between board and panel ) .....	3	3
6	9021-001-010	Acceptor, Coin (See Coin Handling Group).....	1	1
7	9732-122-001	Kit, Coin Box W/Hardware .....	1	1
8	9412-076-006	Nameplate, Control Panel ( one piece, w / time remaining ) .....	1	1
9	Solenoid Ass'y,	Door Locking (see Door Lock Group for parts breakdown) .....	1	1
*	8640-412-005	Nut Hx ( mounting solenoid assy. to countdown ) .....	3	3

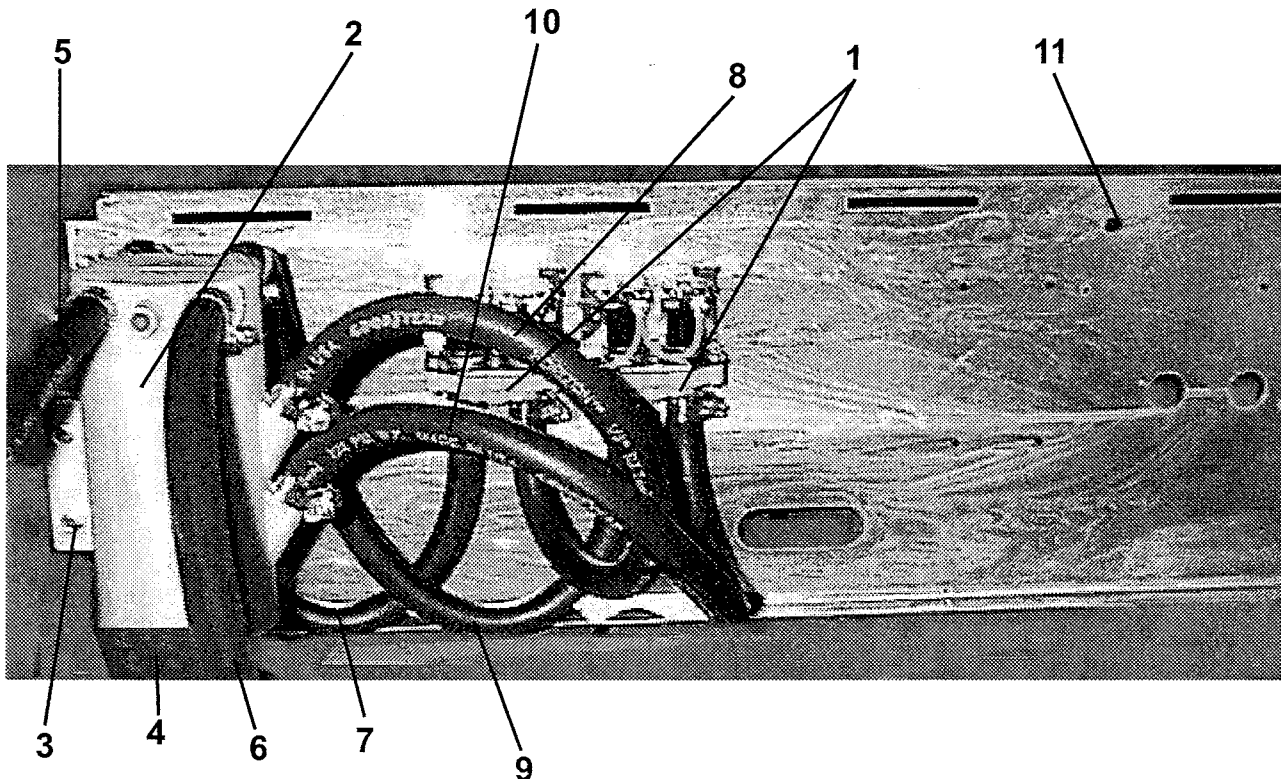
\* Not Illustrated



# WATER INLET GROUP

Key	Part Number	Description	MODELS	
			WCN40	
			A	A
			A	B
1	9379-183-003	Valve, Water Inlet ..... (see Water Inlet Valve Breakdown for individual parts)	2	2
*	9545-008-026	Screw, Valve Mtg .....	4	4
*	8640-399-006	Nut, Spring .....	4	4
2	9610-001-001	Vacuum Breaker .....	1	1
*	9029-077-001	Bracket, Vacuum Breaker .....	1	1
3	9545-008-026	Screw .....	4	4
4	9242-458-002	Hose, Vacuum Breaker to Tub-Ribbed .....	1	1
*	8654-117-014	Clamp, Vac. Brkr. End .....	1	1
*	8654-117-009	Clamp, Tub End .....	1	1
5	9242-453-008	Hose, Vacuum Breaker to Wash Dispenser 26" .....	1	1
6	9242-453-009	Hose, Vacuum Breaker to Rinse Dispenser 23" .....	1	1
7	9242-453-020	Hose, Hot Valve to Vacuum Breaker 18" .....	1	1
8	9242-453-020	Hose, Hot Valve to Tub 18" .....	1	1
9	9242-453-020	Hose, Cold Valve to Vacuum Breaker 18" .....	1	1
10	9242-453-020	Hose, Cold Valve to Tub 18" .....	1	1
*	8654-029-000	Clamp, Hose-Spring ( overflow from drain to tub back ) .....	2	2
*	8654-117-015	Clamp, Hose-Worm .....	10	10
11	5198-211-004	Circuit Breaker .....	1	1

\* Not Illustrated



# ELECTRICAL COMPONENTS - TOP COMPARTMENT

## SINGLE PHASE ONLY

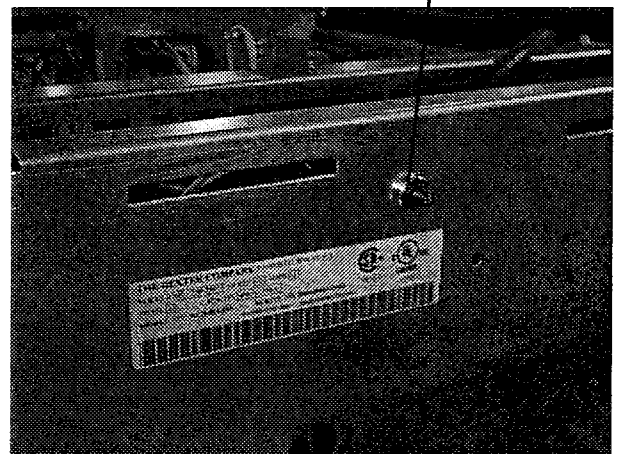
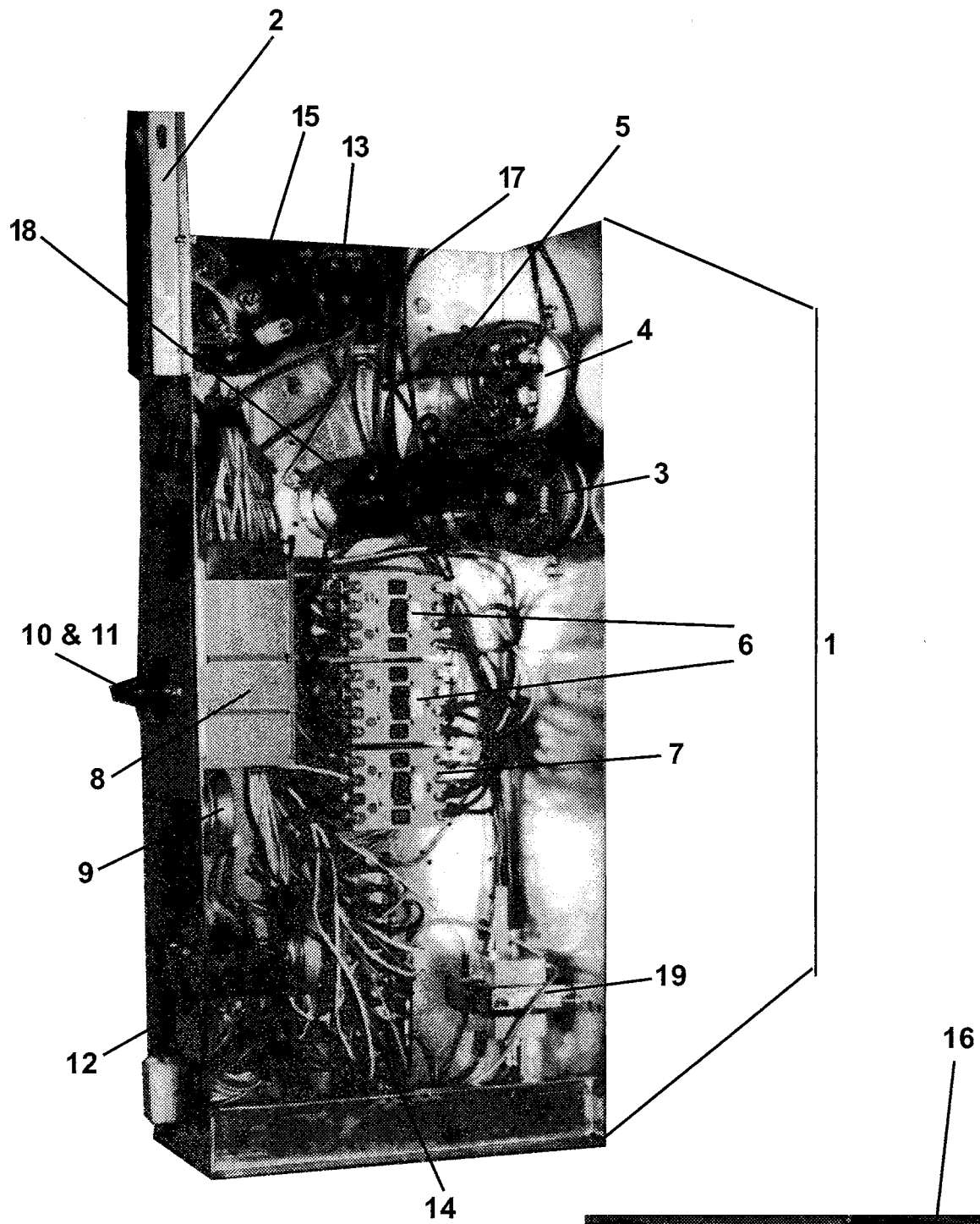
### MODELS WCN40

A      A  
A      B

Key	Part Number	Description	
1	9839-012-003	Trough Assy, Controls Mtg .....	1
2	9003-229-001	Angle, Trough to Rear Channel .....	1
*	9545-008-026	Screw .....	4
3	5191-102-006	Capacitor, Spin-Start .....	1
4	5191-103-009	Capacitor, Run-Tumble .....	1
5	9544-054-001	Strap, Capacitor Mtg .....	1
*	9545-045-001	Screw, Capacitor Strap .....	2
6	5192-286-007	Relay, Tumble .....	2
7	5192-286-008	Relay, Spin .....	1
8	9571-362-001	Timer, Program .....	1
	(VERIFY PART NUMBER ON TIMER BODY)		
*	9376-295-002	Motor, Timer Main Drive .....	1
9	9376-286-004	Motor, Timer Rapid Advance .....	1
*	9545-012-001	Screw, Timer Mtg .....	2
10	9107-068-001	Dial, Timer Label .....	1
11	9307-176-001	Knob, Timer (w/set screws) .....	1
12	9571-360-001	Timer, Reversing .....	1
*	9545-044-004	Screw, Reversing Timer .....	2
13	9897-035-001	Terminal Block, Power Connection .....	1
*	9545-045-007	Screw, Mtg .....	2
*	8502-619-003	Label, Fusing and Installation .....	1
14	9897-029-001	Terminal Block Assy, 12 Lug .....	1
*	9545-045-007	Screw, Mtg .....	2
*	9558-022-001	Strip, Terminal Marker .....	1
15	9539-457-001	Switch, Pressure .....	1
*	9545-045-001	Screw, Mtg .....	2
16	5198-211-004	Circuit Breaker, 1.5 amp .....	1
17	8652-130-037	Lug, Grounding Terminal .....	1
*	8639-621-007	Screw, Mtg .....	1
*	8641-582-006	Lockwasher .....	1
18	9539-478-002	Solid State Start Switch .....	1
*	9029-062-001	Strap, Mtg .....	1
*	9545-010-001	Screw .....	1
*	8640-412-005	Nut .....	1
*	9545-031-003	Screw, Mtg Strap to Control Trough .....	3
19	8711-003-001	Transformer, (For Accumulator) 120V/12V .....	1
*	9545-045-001	Screw, Mtg .....	2
*	8641-582-005	Lockwasher .....	2

\* Not Illustrated





# ELECTRICAL COMPONENTS - TOP COMPARTMENT

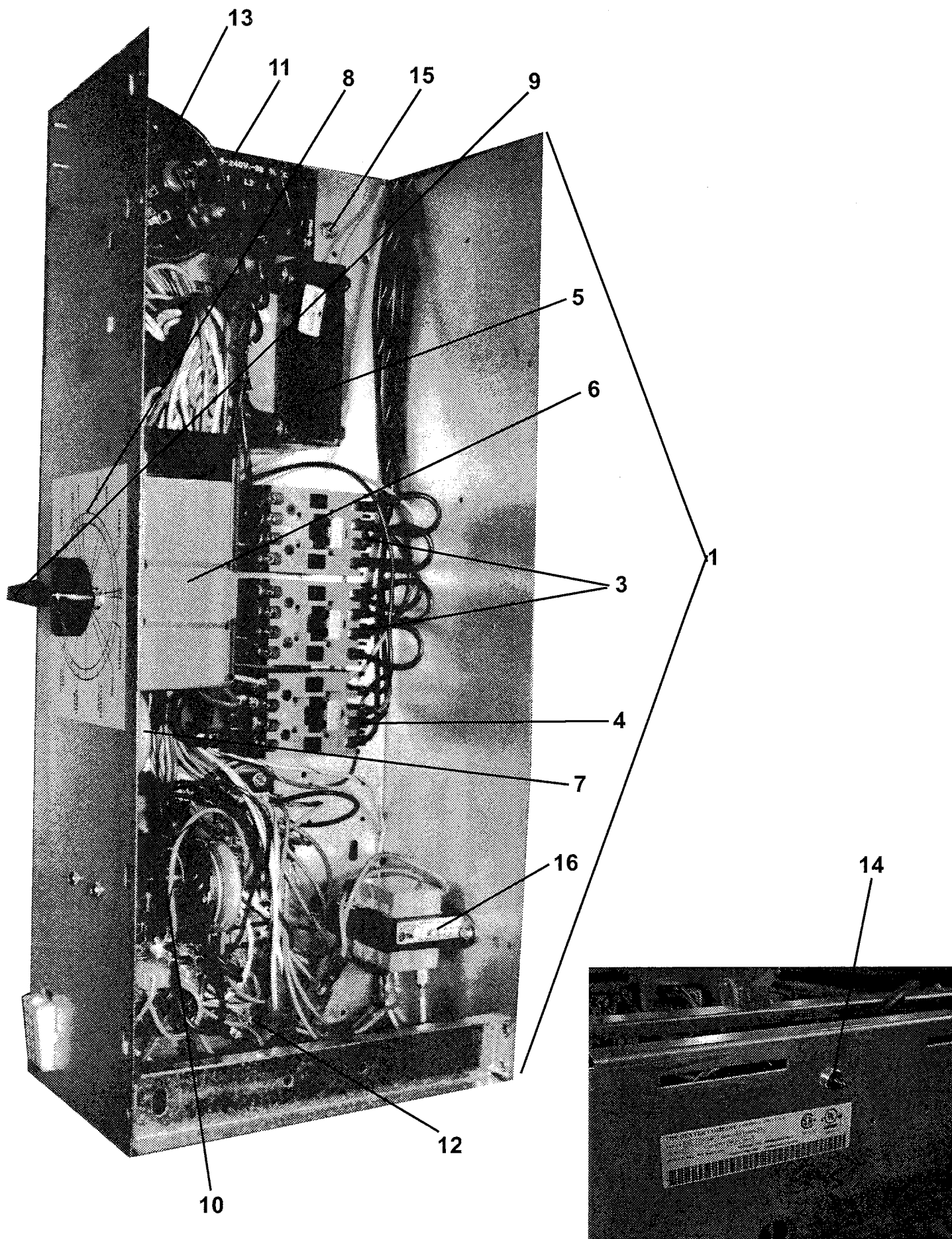
## THREE PHASE ONLY

### MODELS WCN40

A A  
A B

Key	Part Number	Description	
1	9839-012-003	Trough Assy, Controls Mtg .....	1
*	9003-229-001	Angle, Trough to Rear Channel .....	1
*	9545-008-026	Screw .....	4
3	5192-286-007	Relay, Tumble .....	2
4	5192-286-009	Relay, Spin .....	1
5	8711-004-001	Transformer, Control .....	1
*	8507-230-001	Transformer Instructions .....	1
*	9545-008-005	Screw .....	1
*	8641-582-006	Lockwasher .....	1
6	9571-362-001	Timer, Program .....	1
	(VERIFY PART NUMBER ON TIMER BODY)		
*	9376-295-002	Motor, Timer Main Drive .....	1
7	9376-286-004	Motor, Timer Rapid Advance .....	1
*	9545-012-001	Screw, Timer Mtg .....	2
8	9107-068-001	Dial, Timer Label .....	1
9	9307-176-001	Knob, Timer (w/set screws) .....	1
10	9571-360-001	Timer, Reversing .....	1
*	9545-044-004	Screw, Reversing Timer Mtg .....	2
11	9897-035-002	Terminal Block, Power Connection .....	1
*	9545-045-007	Screw, Mtg .....	2
*	8502-619-004	Label, Fusing .....	1
12	9897-029-001	Terminal Block Assy, 12 Lug .....	1
*	9545-045-007	Screw, Mtg .....	2
*	9558-022-001	Strip, Terminal Marker .....	1
13	9539-457-001	Switch, Pressure .....	1
*	9545-045-001	Screw, Mtg .....	2
14	5198-211-004	Circuit Breaker, 1.5 amp .....	1
15	8652-130-037	Lug, Grounding Terminal .....	1
*	8639-621-007	Screw, Mtg .....	1
*	8641-582-006	Lockwasher .....	1
16	8711-003-001	Transformer, (For Accumulator) 120V / 12 V .....	1
*	9545-045-001	Screw, Mtg .....	2
*	8641-582-005	Lockwasher .....	2

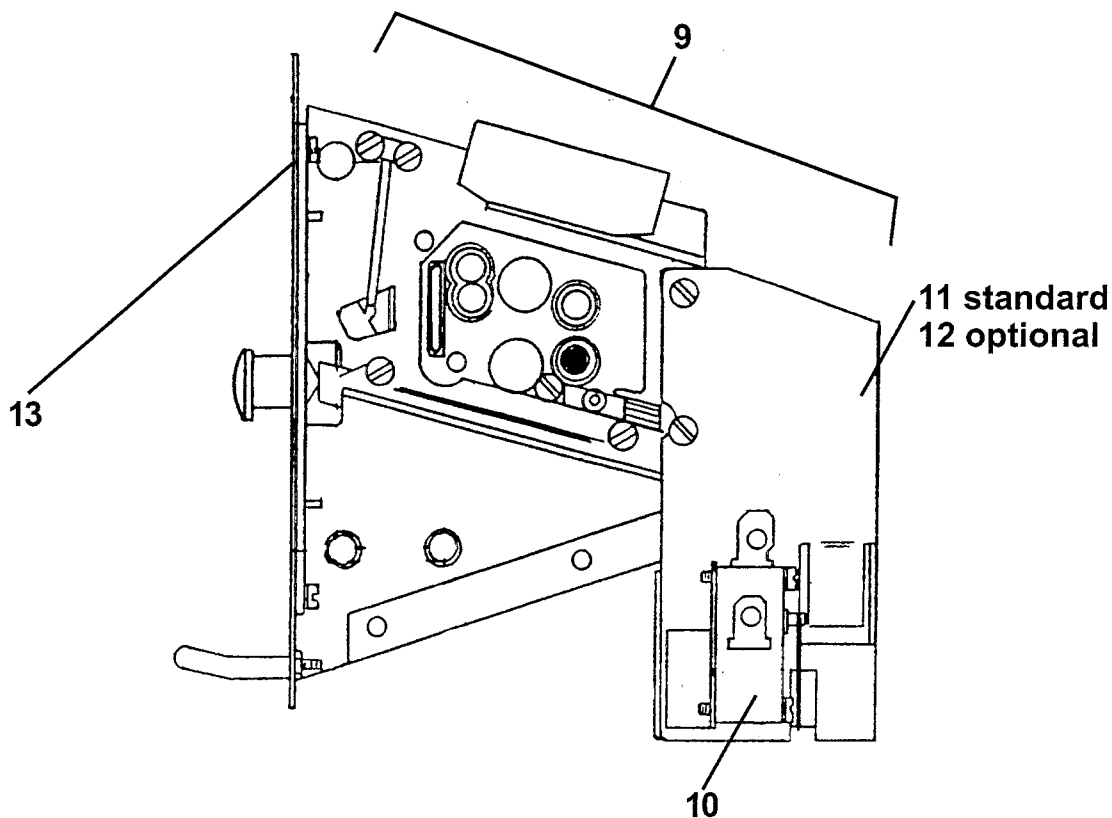
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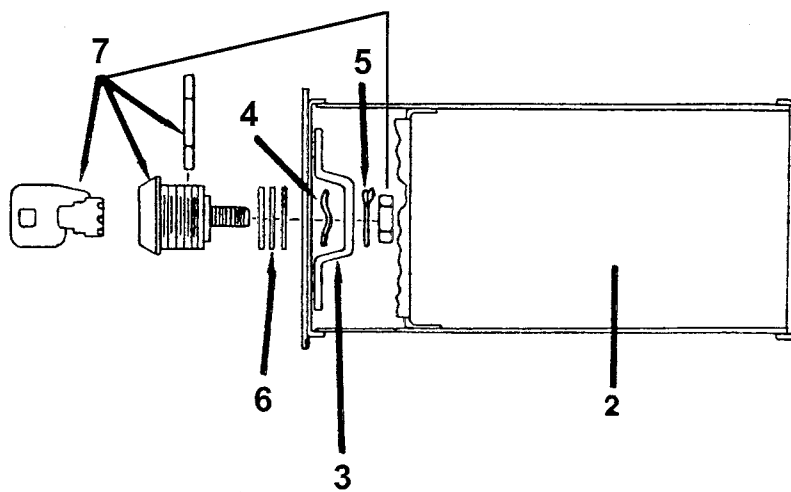
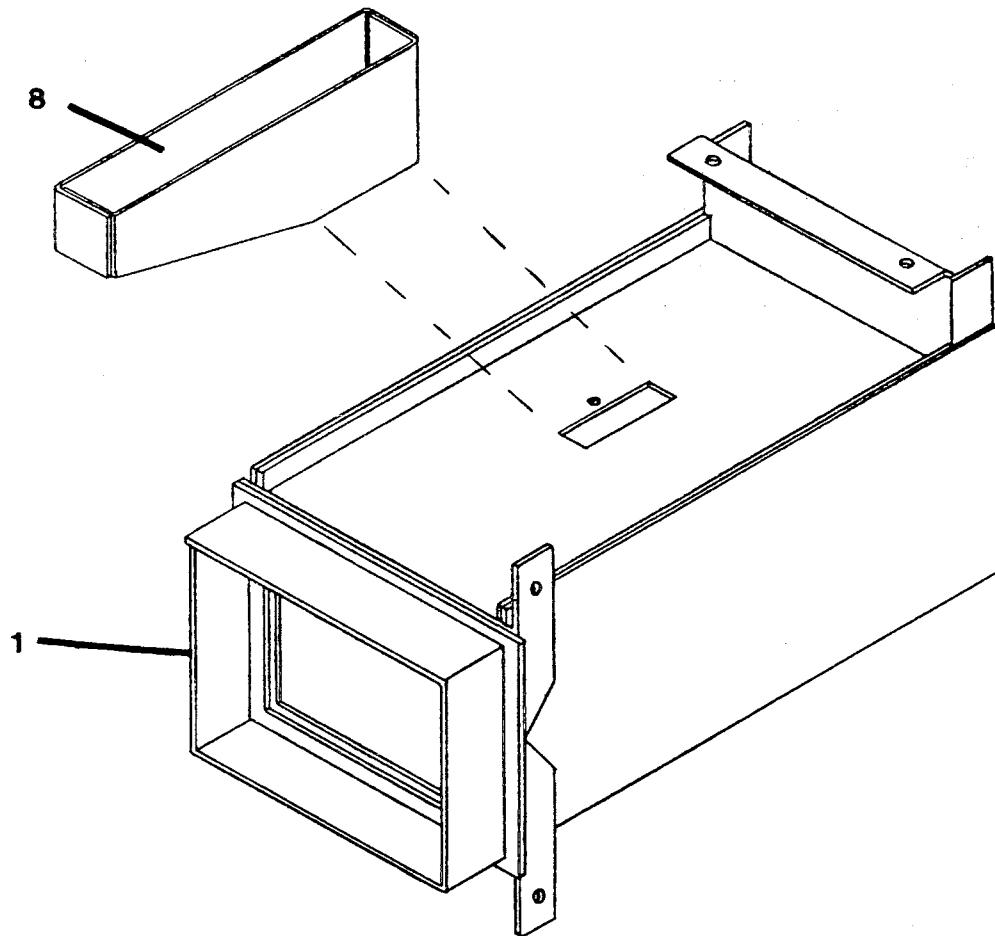


## COIN HANDLING GROUP

			MODELS	
			WCN40	
			A	A
			A	B
Key	Part Number	Description		
1	9942-026-006	Vault, Assy .....	1	1
*	9545-008-026	Screw, Vault Mtg .....	4	4
NOTE: COIN BOX AND HARDWARE KIT AND COIN BOX LOCK NOT INCLUDED WITH MACHINE.				
2	9732-122-001	Kit, Coin Box W/Hardware (includes 3 thru 6) .....	1	1
3	9349-033-001	Latch, Coin Box .....	1	1
4	8641-569-002	Washer, Wave .....	1	1
5	8641-583-001	Washer, Keeper .....	1	1
6	8641-581-008	Washer, Spacer- Thick .....	2	2
6	8641-581-010	Washer, Spacer- Thin .....	4	4
7	8650-012-003	Lock, Coin Box (w/key not included with 9732-122-001) .....	1	1
8	9940-014-004	Chute Assy., Coin .....	1	1
*	9545-008-001	Screw, Chute Mtg .....	1	1
11	9119-025-002	Coin Acceptor chute without penny rejector (standard) .....	1	1
9	9021-001-010	Acceptor, Coin .....	1	1
*	9545-020-002	Screw, Acceptor Mtg .....	4	4
*	8640-424-002	Nut .....	4	4
10	9732-126-001	Switch, Coin .....	1	1
12	9119-025-001	Coin Acceptor chute with penny rejector (optional) .....	optional	
13	9486-133-001	Button Coin Return Retainer .....	1	1

\* Not Illustrated

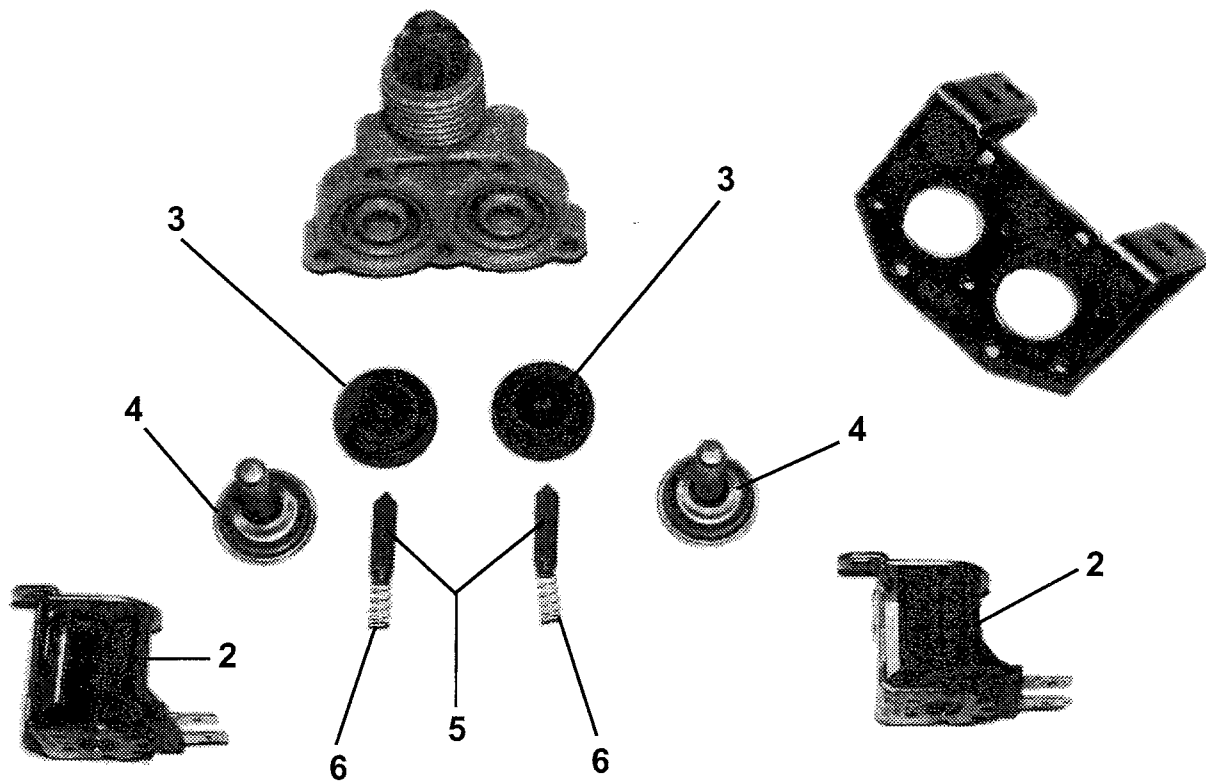




# WATER INLET VALVE BREAKDOWN

			MODELS	
			WCN40	
			A	A
			A	B
Key	Part Number	Description		
*	9379-183-003	Valve, Water Inlet Blue (includes 1 thru 6) .....	2	2
1	9555-056-001	Screen, Inlet end of valve .....	2	2
2	9089-017-001	Coil Assy., 120 V .....	2	2
3	9118-049-001	Diaphragm .....	2	2
4	9211-021-002	Guide, Solenoid .....	2	2
5	9015-008-001	Armature .....	2	2
6	9534-298-001	Spring, Armature .....	2	2
*	9545-008-026	Screw, Valve Mtg .....	2	2

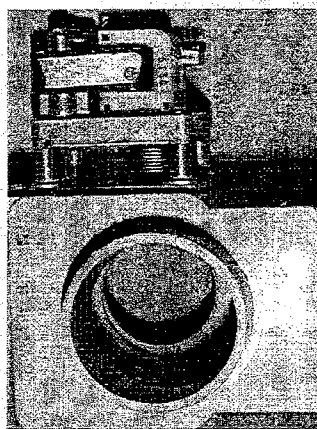
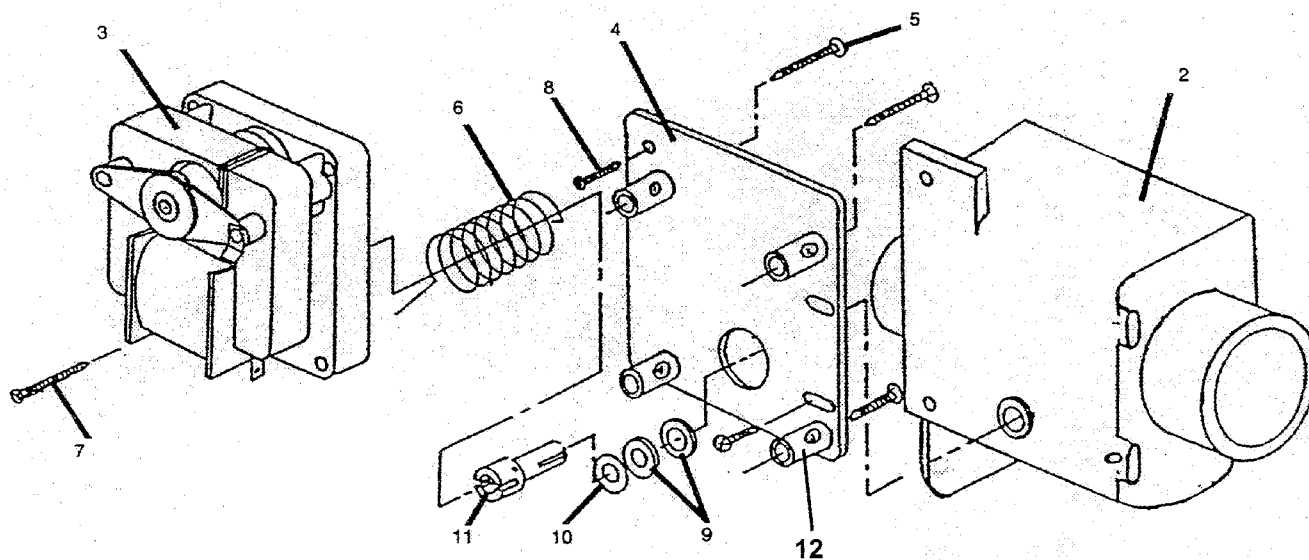
\* Not Illustrated



# DRAIN VALVE GROUP

Key	Part Number	Description	MODELS	
			WCN40	
			A	A
			A	B
*	9379-187-001	Valve, Drain (includes 2 thru 11) 3".....	1	1
2	9064-070-001	Body, Valve (w/ball) .....	1	1
3	9914-137-001	Motor & Gear Train .....	1	1
4	9452-538-001	Plate, Motor Mtg .....	1	1
5	8639-994-001	Screw .....	3	3
6	9534-339-001	Spring, Drive .....	1	1
7	9545-054-001	Screw .....	2	2
8	9545-054-002	Screw .....	1	1
9	9532-134-001	Seal, V Packer .....	2	2
10	8641-584-001	Washer .....	1	1
11	9451-196-001	Pin, Main Drive .....	1	1
12	9538-149-001	Plate (spacers needed for replacement motor mtg. plate).....	4	4

\* Not Illustrated



Valve  
Complete

## WIRING HARNESS GROUP

Key	Part Number	Description	MODELS	
			WCN40	
			A	A
			A	B
USE FOLLOWING ITEMS WITH TIMER PART NUMBER 9571-359-002				
	9627-680-002	Wiring Harness, Main .....	1	1
	9627-681-003	Wiring Harness, Control .....	1	1
	9627-682-001	Wiring Harness, Coin Accumulator .....	1	1
	9627-683-001	Wiring Harness, Drain Valve .....	1	1
	8654-125-001	Clamp, Cable- 1/4" Diameter .....	1	1
	8653-074-001	Connector, Clear In-Line .....	AR	AR
USE FOLLOWING ITEMS WITH TIMER PART NUMBER 9571-362-001				
	9627-708-001	Wiring Harness , Countdown	1	1
	9627-682-001	Wiring Harness , Coin Accumulator	1	1
	9627-695-001	Wiring Harness , Main	1	1
	9627-689-001	Wiring Harness , Control	1	1
	9627-683-001	Wiring Harness , Drain Valve	1	1

## LABELS AND DIAGRAMS

8502-614-004	Label , High Voltage
8502-619-003	Label , Fusing and Instructions
8502-620-001	Label , Motor Connections
8502-624-002	Label , Door Opening
8507-274-001	Spin Direction
8511-001-002	Label , Quality
8514-021-002	Owners Booklet
9345-787-002	Wiring Schematic ( 1 ph / 3 ph )
9345-788-004	Wiring Diagram ( 1 ph )
9345-789-004	Wiring Diagram ( 3 ph )