

JACKSON  
DISHWASHER

**JV-24 B-BF**

Maintenance,

Operation

and Repair Parts Manual

PRIOR TO SERIAL NUMBER: 2000

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**ALCO**  
The Corporate Partnership.

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# SPECIFICATIONS

## Jackson Dishwasher Model JV24 A – AF\* – B – BF\*

|                                |              |              |
|--------------------------------|--------------|--------------|
| <b>OPERATING CAPACITY 100%</b> | <b>JV24A</b> | <b>JV24B</b> |
| Racks per hour                 | 21           | 21           |
| Dishes per hour                | 525          | 525          |
| Glasses per hour               | 525          | 525          |
| <b>OPERATING CYCLE</b>         |              |              |
| Wash time -- seconds           | 120          | 120          |
| Rinse time -- seconds          | 15           | 15           |
| Total Cycle -- seconds         | 150          | 150          |
| <b>WASH TANK CAPACITY</b>      |              |              |
| Gallons                        | 5.65         | 5.65         |
| <b>RINSE TANK CAPACITY</b>     |              |              |
| Gallons                        | --           | 3            |
| <b>WASH PUMP CAPACITY</b>      |              |              |
| Gallons, per minute            | 60           | 60           |
| <b>WATER REQUIREMENTS 100%</b> |              |              |
| Inlet Temperature °F           | 180°         | 140°         |
| Gallons, per hour              | 52.3         | 52.3         |
| Flow Pressure, PSI             | 20           | 20           |
| Flow, gallons per minute       | 7.1          | 7.1          |
| Inlet size -- IPS              | 1/2          | 1/2          |
| Drain size -- O.D.             | 1-1/2        | 1-1/2        |
| <b>WASH PUMP MOTOR</b>         |              |              |
| Horse power                    | 1/2          | 1/2          |
| <b>WASH HEATER, KW</b>         | 1.0          | 1.0          |
| <b>RINSE HEATER, KW</b>        | --           | 5.0          |

ELECTRICAL REQUIREMENTS (SEE BELOW FOR DETAILS. UNDER ELECTRICAL RATING)

### DIMENSIONS

|                           |           |         |
|---------------------------|-----------|---------|
| Height, with Top          | 35"       | 36"     |
| Height, with no Top       | 34-1/2"   | 34-1/2" |
| Width                     | 24"       | 24"     |
| Clearance Wall to Machine | 2-1/4"    | 2-1/4"  |
| Depth                     | 24"       | 24"     |
| Maximum Height for Dishes | 14"       | 14"     |
| Rack Size                 | 19-3/4" X | 19-3/4" |

NOTE VENTED BACK

\* ALL 'F' MODELS ARE FREE STANDING (TOP AND SIDE PANELS)

## ELECTRICAL RATING

| <u>MODEL</u> | <u>VOLTS</u> | <u>PHASE</u> | <u>APPROX. TOTAL LOAD AMPS</u> |
|--------------|--------------|--------------|--------------------------------|
| JV24B        | 220          | 1            | 35 Refer to                    |
| JV24B        | 208          | 1            | 35 Machine Data                |
| JV24A        | 110          | 1            | 16 Plate                       |

# GENERAL INSTRUCTIONS (Installation)

**NOTE:** Read the following instructions carefully, Proper installation of your Jackson Dishwasher will assure proper machine operation.

## UNCRATING JV24

1. Remove straps around carton.
2. Open top flaps of dishwasher carton.
3. Remove any packing from top and sides of machine that can be done with ease from top.
4. Slide carton sleeve upward over top of dishwasher, set to one side.
5. Lift dishwasher and wooden base from carton base.
6. Move dishwasher to general installation area.
7. Remove bolts holding wooden base to machine and screw in adjustable feet supplied.
8. Reassemble wash and rinse assemblies in machine using sketch and instructions in this manual.
9. Set dishwasher in place, ready for installation.

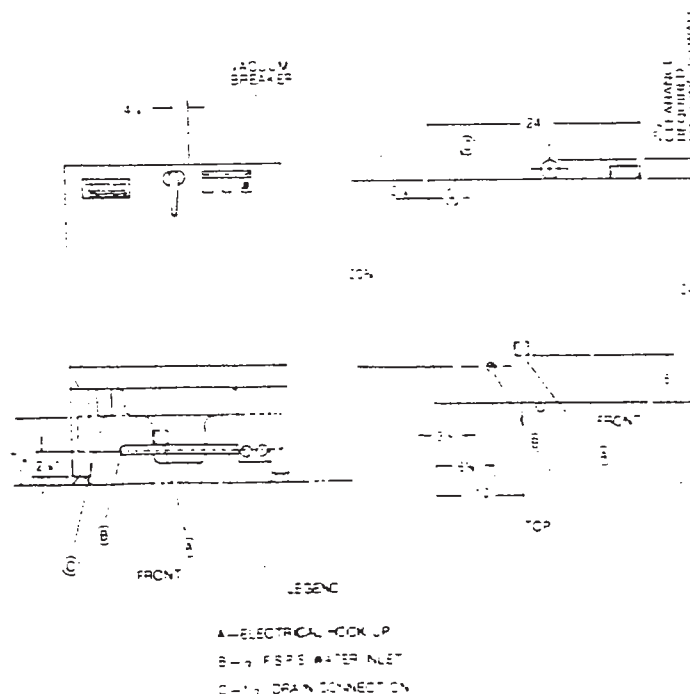
**NOTE:** NSF base gasket installation must be field installed on all AF and BF models. Gasket goes around bottom on lower edge of sides, back and kick plate; secure in place using liquid adhesive.

## INSTALLATION INSTRUCTIONS

1. Level dishwasher machine using adjustable feet.
2. Refer to dimensional data sketch for connections.
3. The drain from the machine is a gravity drain system and should, therefore, have the proper drop from the machine to the kitchen's drain system. The drain connection is located to the left rear of the machine when facing the machine's door. The drain fitting is 1-1/2" OD tube size, 7" from floor.
4. The incoming water line should be attached to the machine's connection which is located to the front left side of the machine. The pipe size to the machine should be 1/2" and the water should be 140° for the model B's and 180° for the model A's.
5. The electrical connections should be made to the terminal board located at the left center front. The terminals are marked L1, L2 and Neutral. INSTALL PROPER CIRCUIT BREAKER, WIRE AND CONDUIT SIZE TO CONFORM WITH LOCAL AND/OR NATIONAL CODES (STANDARDS).

## DIMENSIONAL DATA

Reference only  
Subject to change

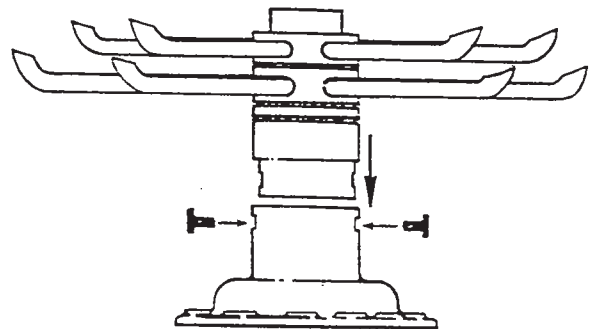


## REMOVAL OF PAN STRAINER FOR CLEANING (Wash and Rinse Head Assemblies Must be Removed Prior to Removing Strainer)

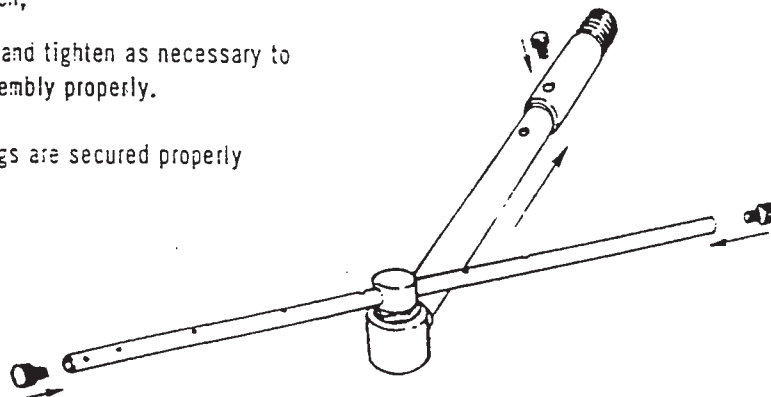
1. Turn heat switch 'off' and drain machine by depressing drain switch for approximately 50 seconds.
2. Remove knurled screw from rinse feed pipe, remove rinse head assembly by pulling forward.
3. Remove 2 knurled screws from upper pump housing, wash head may now be lifted out.
4. Pan strainer now accessible, lift out and clean thoroughly.
5. Clean around pump intake with bristle brush.
6. Replace strainer pan.
7. Re-install wash and rinse head assemblies.
8. Clean strainer pan daily or as needed to insure proper machine operation.

## INSTALLATION OF WASH HEAD AND RINSE ARM ASSEMBLIES (Items Disassembled for Shipment)

1. Insert wash head assembly down into upper pump housing as far as possible.
2. Line holes up on wash head assembly to match holes in pump housing.
3. Insert 2 knurled screws in pump housing, tighten as necessary until wash head is seated securely in pump housing.



1. Insert rinse arm assembly into female pipe receptical protruding through back of machine.
2. Line up holes to match;
3. Insert knurled screw and tighten as necessary to secure rinse arm assembly properly.
4. Make certain end plugs are secured properly in rinse tubes.



# GENERAL INSTRUCTIONS (Operation)

**READ INSTRUCTIONS CAREFULLY:** Proper operation of your Jackson Dishwasher will assure clean and sanitized glasses and dishes, at optimum efficiency.

## DISH PREPARATION

1. Scrape dishes thoroughly.
2. Pre-wash dishes by soaking or with hose.
3. Place dishes and cups in dish rack (cups, upside down).
4. Place glasses and silverware in combination glass-silverware rack (glasses upside down, scatter silverware loosely on bottom). NOTE: Silverware in the upright position washes and rinses better than lying flat. These silverware compartment racks available through dealer or service agency.

## OPERATORS INSTRUCTIONS

1. Make sure clean pan strainer in place and slide empty rack in machine.
2. Place start rocker switch in center position.
3. Close door and lock latch.
4. Push top of fill switch and hold approximately 45 seconds.
5. Turn heater switch on.
6. Open door and slide rack of dishes into dishwasher.
7. Dispense proper amount of detergent in machine.
8. Start automatic wash and rinse cycle of dishwasher by pushing on top or bottom of start switch (with indicating light), light will come on.
9. When light goes out, cycle has ended. Open door, slide out rack of clean dishes to air dry, slide in rack of dirty dishes, add detergent, close door and push start switch.
10. At end of mealtime, shut off by placing start rocker switch in center position and heater switch off. Drain machine by pressing top of drain switch approximately 50 seconds. Remove pan strainer after removing lower rinse arm and wash head assembly, clean inside of machine and replace clean strainer, wash head and lower rinse arm assembly. (See page on Installation of Wash Head and Rinse Arm Assemblies - Removal of Pan Strainer for Cleaning)

## DETERGENT RECOMMENDATIONS AND RINSE ADDITIVES

We suggest that you contact your local Detergent Specialists for the correct detergent and rinse additives for the area. To help you until one can be reached, we suggest that you use a non-foaming dishwasher detergent: approximately three tablespoons in wash tank when machine is filled, and one teaspoon each cycle or load, thereafter. This may have to be increased or decreased to obtain satisfactory results

# GENERAL INSTRUCTIONS

## (PREVENTIVE MAINTENANCE)

(The following is to be performed as needed).

**READ CAREFULLY:** Proper maintenance of your Jackson Dishwasher will insure optimum service with a minimum of down time.

1. Remove all lime and corrosion deposits.
  - a. Fill the machine with wash water as would ordinarily be done for washing.
  - b. Open door and place one cup or less of de-liming compound into the water, which is available from your detergent supplier.
  - c. Turn on the manual wash switch and allow to wash for five minutes.
  - d. Open door and examine the interior. All lime should be removed and parts should be shiny. If not, allow to wash for longer period.
  - e. After the interior is clean, with door closed, empty the wash water by depressing drain switch for approximately 50 seconds. Refill machine and allow to run for two minutes, then, again drain the wash reservoir.
  
2. Clean around overflow strainers and drain hole.
  - a. Clean around overflow and strainer pan.
  - b. Clean around pump intake (toothbrush makes excellent tool for cleaning).
  
3. Clean Y-strainer on incoming water line. (Water to machine must be turned off for this operation).
  - a. Remove plug and clean strainer.
  
4. Clean rinse tubes.
  - a. Remove rinse assembly by disconnecting rinse feed pipe and removing end-plugs on lower rinse.
  - b. Clean all rinse tubes and feed pipes with special brush supplied.
  - c. If spray holes in the rinse tubes are clogged, they may be cleaned with a pointed object.
  
5. Clean wash head assembly.
  - a. By removing two knurled screws holding wash head assembly to pump.
  - b. Clean assembly at sink by flushing water through spray jets.
  - c. If spray jets are still plugged, use sharp object to dislodge and flush again.
  - d. Reinstall wash and rinse assemblies. (See page with instructions)
  
6. Clean any deposits which may have built up on exterior moving parts.
  - a. Clean around door gasket.
  - b. Using a soft bristle brush, clean around switches on exterior of control panel. (Use no water).
  - c. Use soft bristle brush, dip in wash tank water and scrub inside door around gasket and hinges. Use clean cloth or paper towel to wipe off loose residue.

# TIMER for MODEL JV24 DISHWASHERS

## GENERAL DESCRIPTION

The timer is a self-contained (frame mounted) timer of the repeating cycle type. It is mounted on the control panel of Jackson Automatic Dishwashing machines, to control the automatic functions of these machines. It consists of a clock motor which operates on 60 cycle, AC, 110VAC. In addition to the clock motor, the timer also contains a driven cam arrangement which operates three micro switches.

## PRINCIPLE OF OPERATION

The timer controls various operations of the automatic washers as per wiring diagram for each machine. However, the timing cycle and the micro switches are the same for each model. The time for ONE COMPLETE REVOLUTION of the cam shaft is approximately 300 seconds allowing two wash and two rinse operations for each complete revolution of the cam shaft. The micro switch nearest the timer motor is the hold circuit and uses both the NO and NC contacts. The middle micro switch controls the wash and uses the NO contact. The micro switch farthest away from the timer motor controls the rinse and uses just the NC contact.

## SERVICE INSTRUCTIONS

**CAUTION:** Always remove the power to the machine before working on the control panel or while servicing the components on the switch panel. All electrical checks should be made by qualified personnel.

Timer operation can be observed after removing the machine's kickplate by loosening the two screws holding it.

If it is determined that the timer is defective, it is recommended that a new timer be installed. However, limited field maintenance can be accomplished as follows:

A frozen contact on a micro switch will be indicated by one function being executed all the time or the absence of a click when the switch arm is actuated. The micro switch is replaced by:

1. Remove all wires from the timer, properly tag them to assure proper replacement.
2. Remove the two screws which hold the timer to the control panel.
3. One screw holds the micro switches, cams and actuating arms in the frame. This screw is seen on the side opposite the motor. Remove this screw. NOTE: Be sure to note which cam goes with which micro switch. Cam nearest timer motor has 1/2 raised, cam center, larger depressed areas, cam furthest from timer motor, smallest depressed areas.
4. The unit can now be taken apart and the defective micro switch replaced.
5. Reassemble. NOTE: The flanges on the cams are such that they only mesh in one direction.

The timer's cam drive system is equipped with a clutch to enable one to view the operations of the cams and micro switches. Remove power to machine BEFORE touching timer. Rotate cams by turning with fingers; cams will turn in one direction only. Do not force them. As cams actuate switches, listen for the 'click' of the switch or test the switches with an ohmmeter.



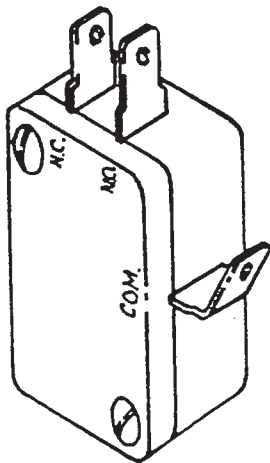
# DEFECTIVE MOTOR

A defective motor is indicated by the fact that the cams do not rotate or the machine does not perform the automatic operations or performs a specific part of the cycle continuously, but works okay on manual. Remember, the timer motor is controlled by the start switch and the hold micro switch, check this complete circuit before changing motor. The motor is replaced by:

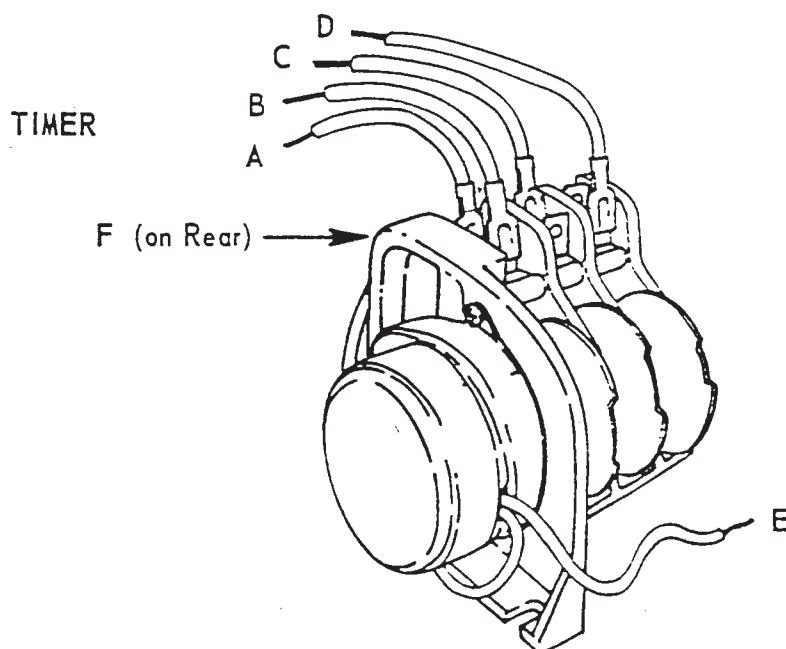
1. Remove motor leads from shorting bar and neutral.
2. Remove the two screws which hold the motor.
3. Replace with a new motor.

**NOTE:** It may be necessary to remove complete timer to replace motor; if so, follow steps 1 and 2, previous page.

## TYPICAL TIMER SWITCH



- A. TO UPPER RIGHT TERMINAL START SWITCH
- B. TO LOWER RIGHT TERMINAL START SWITCH
- C. TO BOTTOM TERMINAL MANUAL WASH SWITCH
- D. TO UPPER TERMINAL OF RINSE SWITCH
- E. TO NEUTRAL TERMINAL
- F. SHORTING BAR CONNECTED TO ALL THREE TIMER SWITCHES, THIS TERMINAL



# REPLACEMENT of SWITCHES in FRONT DOOR

There are five switches installed in the door's upper-righthand corner. These are the Drain, Start, Rinse/fill, Heater and Manual wash.

Before working on machine, it is important that the power to the machine be turned off at the Circuit Breaker — trip Breaker to its off position. Remove inside door from machine by removing the eight screws on the flanged section of the inside door panel. The five switches are all snapped into place in individual rectangular holes. By using a screw driver, it is possible to pry up the chromed flange on each side away from switch and remove the switch from flange. Little pressure should be used to prevent damage of switch and flange.

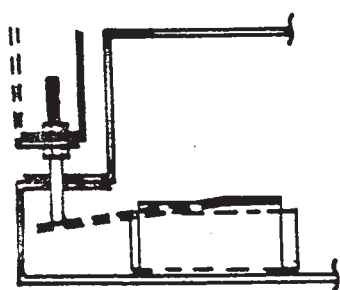
After the switch has been checked to see if it's defective, replacement can be made by placing the new switch close to the defective switch and moving one wire at a time, transferring them to the same terminals on the new switch until all wires have been reconnected. If this is not practical, pull the wires loose, one at a time, tag them and reconnect them according to the electrical diagram.

Put all switches back into place making sure switch protrudes through front door properly (NOTE: Two click positions on bracket). Replace inner door panel. Power can be reapplied to the unit and dishwasher run through cycles, checking all operations after replacement.

## INTERLOCK SYSTEM

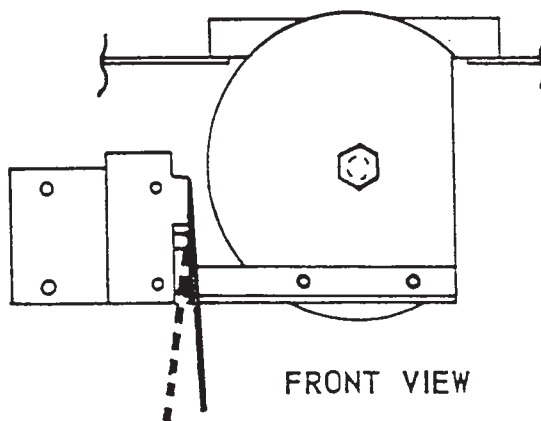
The Interlock System is designed to prevent the machine from operating when the front door is opened or not latched properly.

The Interlock System consists of two safety switches, one mounted so that the door latch has to be closed to complete the circuit. The other switch is located so that a pin on the machine depresses a safety switch mounted on the door, to complete the circuit. Either of these switches, if not depressed, will prevent the machine from operating. Basically, the door must be closed and the door latch locked in order for the machine to function.



TOP VIEW

DOOR SAFETY SWITCH (SIDE)



FRONT VIEW

DOOR LATCH SAFETY SWITCH

# CHECKOUT (INTERLOCK SYSTEM)

**NOTE:** All electrical checks should be made by qualified service personnel.

If it's determined that the proper power is being applied to the machine's incoming terminal blocks, then further check of the safety switch should be made. **NOTE: THIS CHECKOUT WOULD ONLY BE PERFORMED IF NONE OF THE SYSTEMS OF THE MACHINE OPERATE. THIS WOULD MEAN THAT NONE OF THE SWITCHES, WHEN DEPRESSED, WILL PERFORM THE FUNCTION NOTED FOR THAT SWITCH.**

Example: Drain, fill, start or manual wash switches.

Proceed with checkout.

1. Remove power to the machine by turning circuit breaker that protects the machine to 'off' position.
2. Open the front door and remove screws holding inside panel of door.
3. Disconnect one wire from the switch closest to the door latch and using an ohmmeter, depress the lever of the switch and check that there is continuity across that switch. If there is no continuity, replace switch.
4. Check second safety switch located in top lefthand corner of door. Remove wire from one side of the switch and check for continuity with ohmmeter when switch is depressed. If there is no continuity, replace switch.
5. Replace inside door panel.
6. Re-apply power & re-check operation.

# THERMOSTAT ADJUSTMENT

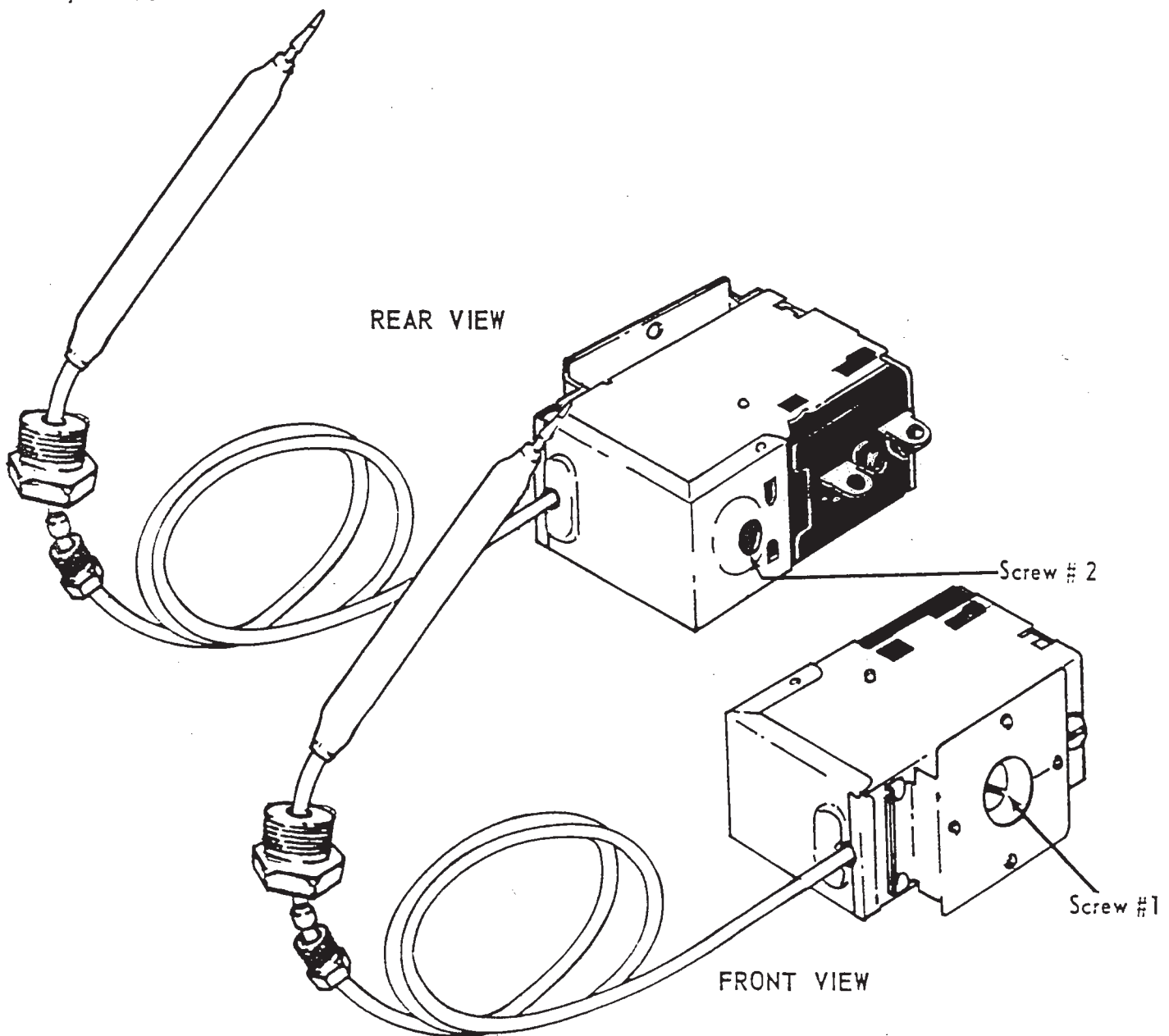
The thermostat can be adjusted by turning screw #1 (see picture) on the thermostat control box cover. (Remember the present setting, in case the problems are elsewhere in the control circuit.) A CW rotation is used to obtain a lower temperature setting and a CCW rotation is used to obtain a higher temperature setting. A 1/8 turn of screw #1 changes the temperature approximately 15° F. If screw #1 is turned all the way to its stop in either direction; adjust screw #2 as follows. **DO NOT TOUCH THE SCREW SEALED WITH RED PAINT.** When adjusting screw #2 power should be disconnected during adjustment.

Set screw #1 so that it can be turned equal distances in either direction, then:

--if screw #1 stopped while turning in CW direction, turn screw #2 3/4 turn in CW direction.

--if screw #1 stopped while turning in CCW direction, turn screw #2 3/4 turn in CCW direction.

This will bring the thermostat to approximately the same setting obtained where screw #1 stopped. Check the present temperature setting before attempting any further adjustments. Use screw #1 for any further adjustments.



# RINSE TANK HEATER SYSTEM

## FUNCTION

The Rinse Tank Heater System is electrically connected in the circuit with the control system functioning on 110/130V and the power system functioning on 208/230V. The Heat circuit is controlled by a heat switch (mounted on front door) and a thermostat (mounted near thermometer) which activates the coil on the heat relay. When higher temperature is required, power is applied to the heaters when the contacts of the heat relay are closed. Should the rinse tank thermometer read either too high or too low, follow checkout below.

## CHECKOUT OF HEATER SYSTEM FOR RINSE TANK

(Refer to Drawing, Figure #2)

**NOTE: THE FOLLOWING CHECKOUT SHOULD BE DONE BY A QUALIFIED SERVICE PERSON OR ELECTRICIAN**

1. Turn off power to machine by tripping circuit breaker to 'off' position.
  2. Remove front kick plate below door.
  3. Make sure rinse temperature is below 180°
  4. Reapply power and observe heat relay (2pole) letter E, figure 2. (next to timer) as heat switch is turned on and off several times.
- 
1. If heat relay contacts do not close: with heat switch on
    - a. Check power supply at Position 1 on terminal board X. Voltage should be 110VAC, if not, check customer's breaker. If defective, replace.
    - b. Check position 2, voltage should be 110V. If not, check switch as necessary.
    - c. Check position 3; there should be 'zero' volts there. If not, readjust thermostat per thermostat instructions.
    - d. If voltage is being applied to positions 1 and 2 then the relay should be replaced, coil on relay probably defective.
  2. To determine if elements are working
    - a. There's an insulated movable bar on the heat relay across the top of the two contacts. With an insulated probe, depress the bar and observe rinse thermometer, the temperature should rise noticeably in a minute or two. If it moves VERY slowly, it would indicate that one element is defective. If it moves consistently higher at a good rate, elements are okay. NOTE: A CHECK WITH AN AMP PROBE, IF AVAILABLE, CAN BE MADE. The elements together should draw 20 amps, one element will draw only 10 amps. Replace element if found defective.

3. If the heat relay closes
  - a. Check power supply at position 4 on terminal board X, right hand view, it should be 220V approx., if not, check circuit breaker at customers panel; replace if defective.
  - b. Check power at position 5, voltage should be 220V. If not, check connections and wires for breaks, replace as necessary.
  - c. With heat switch on and relay closed; check power at position 6, voltage should be 220V. If not, replace heat relay.
  - d. If No. 3 above checks out okay, check at position 7, voltage should be 220V. If not, check wiring from heat relay to elements for loose connections or broken wires; repair as necessary.

## WASH TANK HEATER SYSTEM

### FUNCTION

The Wash Tank Heater Control system is electrically connected in the circuit to operate on 220V. (Older models 110V). The heat circuit is controlled by a heat switch (mounted on front door), water level control (mounted middle of control panel), and thermostat (mounted near thermometers). When higher temperature is required, power is applied to the heater element through above controls. Should the wash tank thermometer read either too high or too low, follow checkout below.

### CHECKOUT OF HEATER SYSTEM FOR WASH TANK (Refer to drawing, Figure 1)

**NOTE: THE FOLLOWING CHECKOUT SHOULD BE DONE BY QUALIFIED SERVICE PERSONNEL OR ELECTRICIAN**

1. Ready machine for normal dishwashing operation with wash tank water at proper level.
2. Remove front kickplate below door.

**NOTE: POWER'S STILL APPLIED TO CIRCUIT, SO BE CAREFUL**

3. Check power to machine at position 1. terminal board X should read 110V. If not, check customers circuit breaker, if defective, replace.
  4. Wash temperature should be 130° or less to proceed.
  5. Observe water level control, letter 'B' (with front door closed and latched). Turn heat switch on and off several times. Relay and contact points (inside clear plastic case on water level control) should move back and forth.
- AA If water level control relay doesn't close.
1. Refer to page on Water Level Control's function and checkout.
- BB If water level control relay does close, proceed with heat switch on.
1. Check voltage at Position 1 on terminal board X. Voltage is 110.
  2. Check Position 3, Figure 1; there should be no voltage. If there is voltage, then adjust thermostat (refer to page on Thermostat Adjusting).
  3. Check Position 2 at heat switch A. There should be 110V.
  4. Check Position 5, Figure 1, voltage should be 220. If not, check Position 6, there should be 220V.
  5. Temperature should rise **slowly**, a check with an amprobe would indicate if the element is drawing the correct amperage. Replace element if defective.

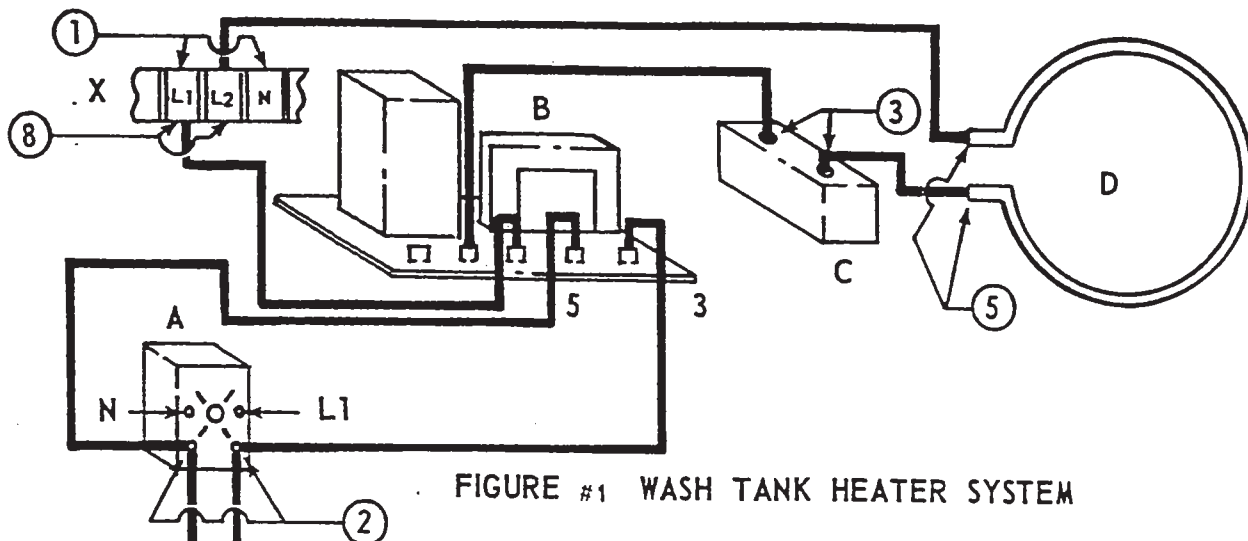


FIGURE #1 WASH TANK HEATER SYSTEM

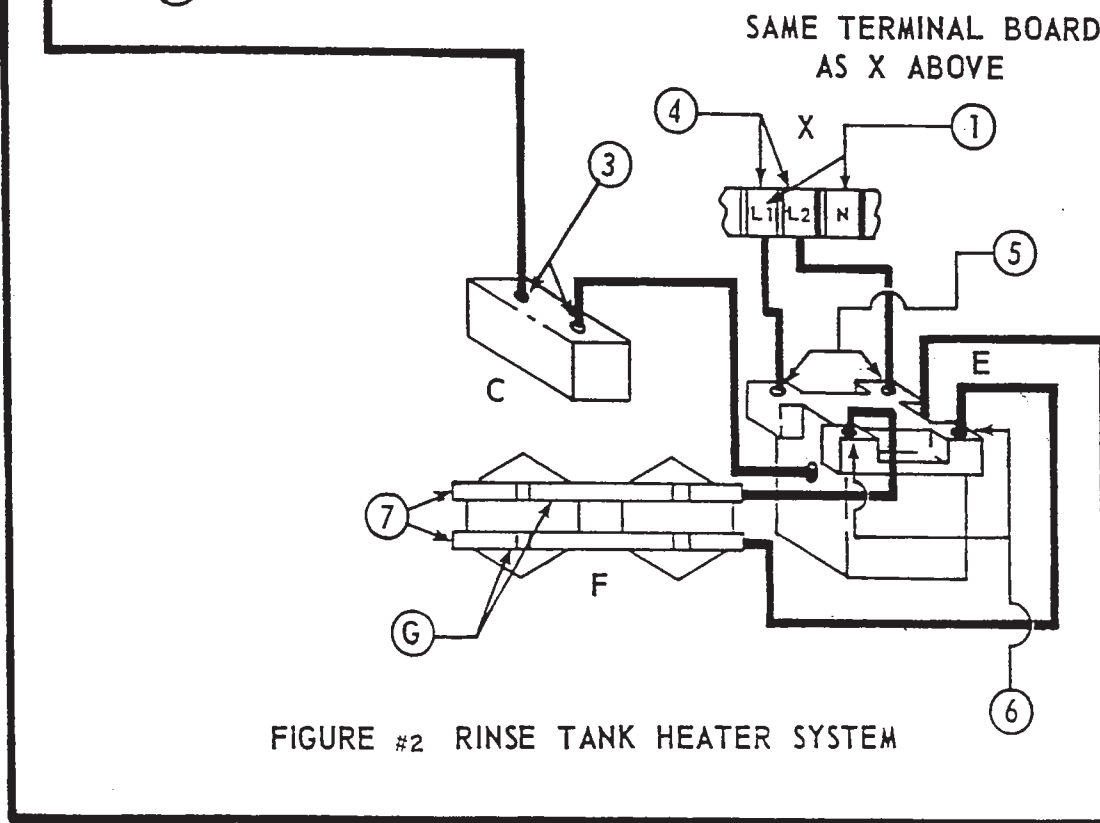


FIGURE #2 RINSE TANK HEATER SYSTEM

A - HEAT SWITCH  
 B - WATER LEVEL CONTROL  
 C - THERMOSTAT  
 D - (WASH) RING HEATER

E - RELAY  
 F - RINSE HEATERS  
 G - BUS BARS  
 X - TERMINAL BOARD

# WATER LEVEL CONTROL

as Used on JV-24

## FUNCTION

The water level control device is utilized on this machine to automatically control the cutoff of the wash tank heater when water drains from the wash tank.

## CHECKOUT

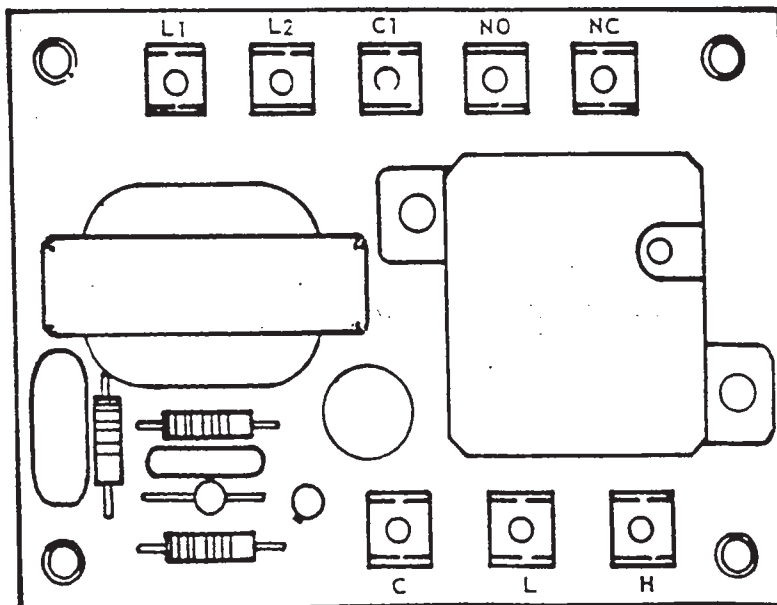
**NOTE:** All electrical checks should be made by qualified service personnel.

The control is designed to sense when the proper water level is maintained. At this time, the relay in the clear plastic case will activate, closing the circuit to the thermostat which completes the wash tank heat circuit as it closes. If one of the following problems exist, this unit should be checked out as shown below.

1. Wash heater circuit is not activated with water at proper level (up to overflow level on overflow pipe) in wash tank.
2. Wash heaters remain on when water drained from wash tank. (Sometimes caused by deposits on probe)

## PROCEED WITH CHECKOUTS

1. Remove power source to machine by moving circuit breaker to 'off' position.
2. Remove screws holding lower kick plate on front of machine and locate water level control (sketch below).
3. Remove, mark and insulate, for easy replacement, wires going to letters C & H.
4. Re-apply power, turn on heat switch. With an insulated wire, connect jumper wire between terminals C & H (24 volt system).
5. If relay operates, the water level control action can be deemed operational; then other causes should be explored.
6. If relay doesn't operate, replace control.
7. Remove power source once again and replace wires that were removed in step three to original terminals (see trouble shooting section for other possible causes).





# SERVICE INSTRUCTIONS

## (INCOMING WATER SOLENOID VALVE)

### SOLENOID VALVE

#### TO TAKE THE VALVE APART

DISASSEMBLY - These valves may be taken apart by unscrewing the bonnet and the enclosing tube assembly from the valve body assembly. See Fig. 3. After unscrewing, carefully lift off the bonnet and enclosing tube assembly. Don't drop the plunger. The "O" ring seal and diaphragm cartridge can now be lifted out.

Be careful not to damage the machined faces while the valve is apart.

TO REASSEMBLE - Place the diaphragm cartridge in the body with the pilot port extension UP. Hold the plunger with the synthetic seat against the pilot port. Make sure the "O" ring is in place, then lower the bonnet and enclosing tube assembly over the plunger. Screw bonnet assembly snugly down on the body assembly.

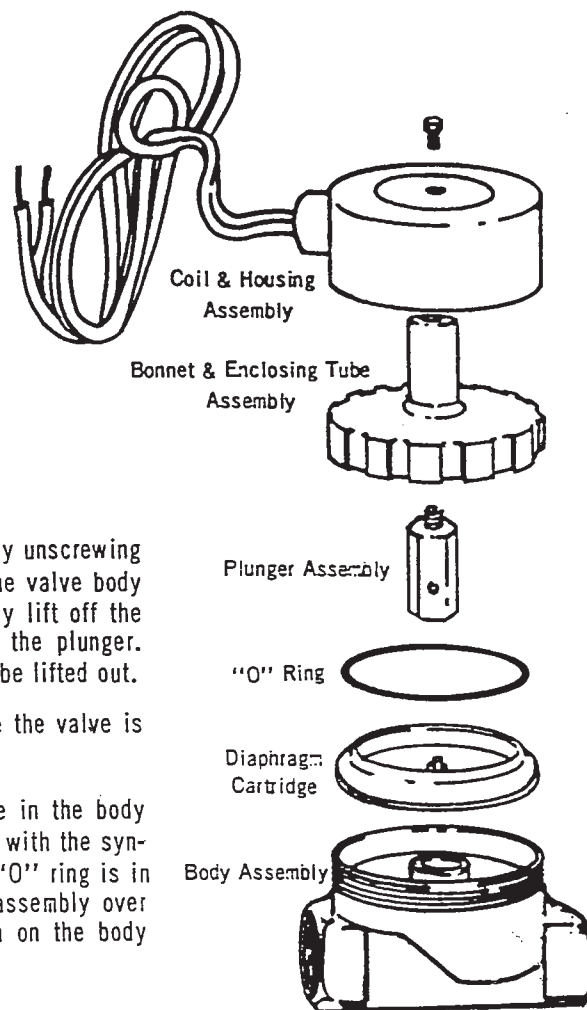
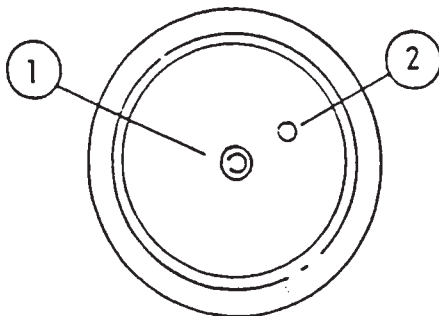


FIG. 3

### DIAPHRAGM CARTRIDGE



#### POSSIBLE PROBLEMS

Pilot Port extension #1 clogged

Hole #2 clogged

#### REMEDY

Pass heated straight pin through hole #2  
or clean hole #1

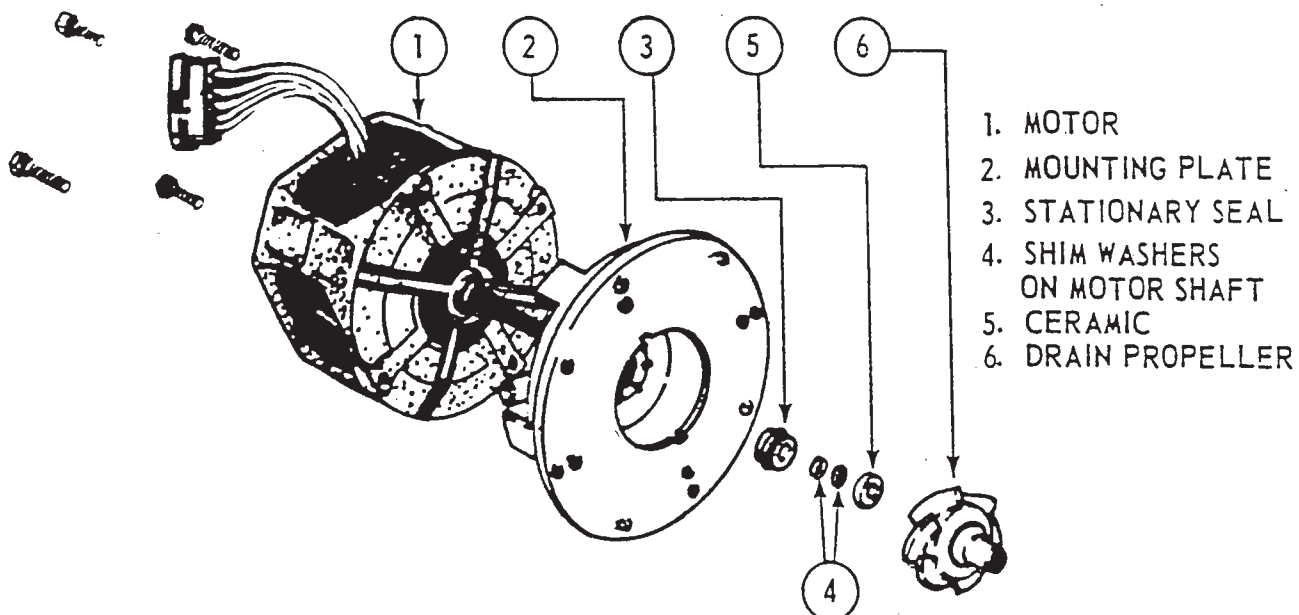
# SEAL AND CERAMIC FOR PUMP SYSTEM

## General Information

The wash and drain pump are part of the total motor pump system. One seal and ceramic are utilized to prevent the pump from leaking.

## Replacement of Seal and Ceramic

1. Drain machine either by depressing drain switch or by bailing out.
2. TURN INCOMING POWER TO MACHINE OFF.
3. Open door - remove dolly, racks, rinse head assembly and wash head assembly.
4. Remove kickplate (located under front door).
5. Unplug motor at connector
6. Loosen eight screws holding pump in sump tank.
7. Disconnect drain hose from motor (must be done from underneath machine).
8. Pull motor and pump gently upward and move from side to side as required to remove unit.  
(Old machines motor removed downward)
9. Set pump and motor on bench and proceed.
10. Loosen eight screws holding upper pump housing, and remove housing.
11. Remove diffuser plate.
12. Loosen impeller screw and remove impeller.
13. Remove suction adapter plate.
14. Remove drain inlet plate.
15. Remove propeller.
16. Remove mounting plate from motor (loosen 4 phillips head screws on bottom of plate).
17. Knock out old seal carefully and clean hole, re-insert new seal. NOTE: Be sure not to ruffle edges of seal when inserting. Seal should contact all resting surfaces at one time.
18. Ceramic is imbedded in propeller and normally does not wear or need replacement, but check for cracks.
19. Re-install motor and pump by reversing above process.

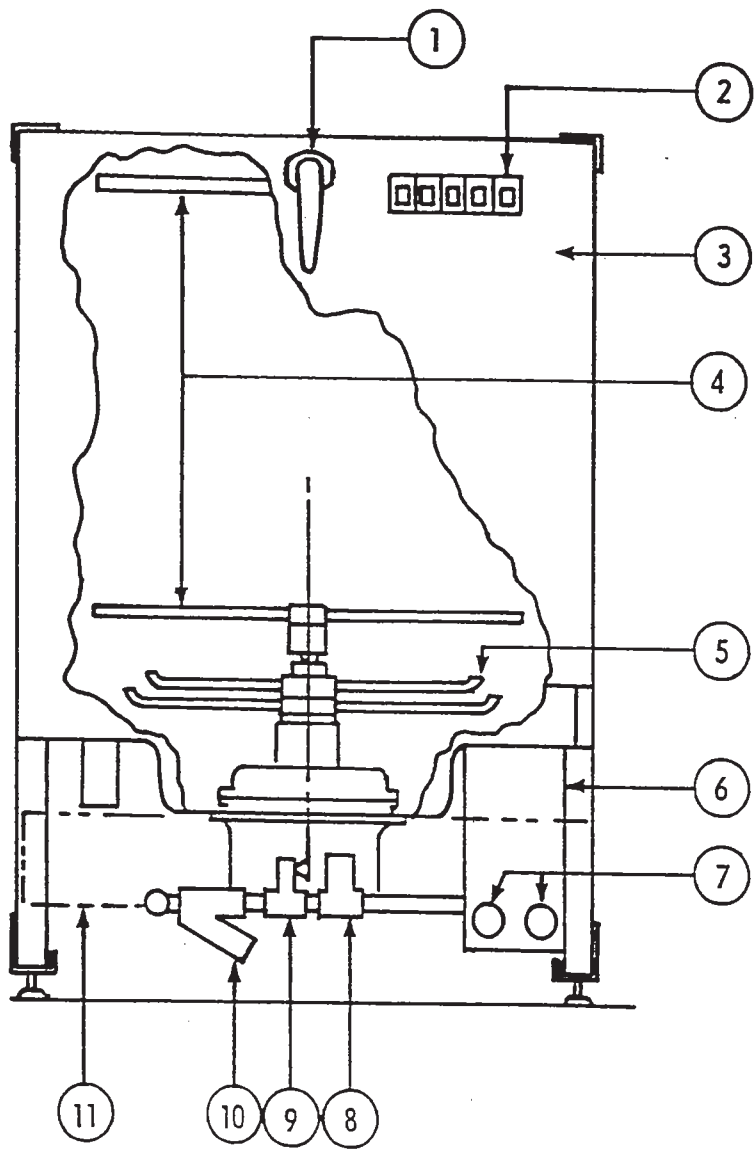


| PROBLEM  | CAUSE   | SOLUTION  |
|--|---|---|
| Water overflow out bottom of front door when wash pump is operating  | <p>Machine not level</p> <p>Overflow drain clogged</p> <p>Water level in machine's wash reservoir too high</p> <p>Detergent foaming</p>   | <p>Level machine</p> <p>Slight tilt to Rear</p> <p>Remove obstruction, checking inside of machine first</p> <p>Solenoid valve not closing at end of fill or rinse cycle causing excessive water problem</p> <p>Reduce quantity of detergent</p> |
| Wash motor doesn't operate on manual wash  | <p>Wires broken or loose</p> <p>Defective manual wash switch</p> <p>Bad bearing, noticeable by noisy bearings or locked drive shaft</p> <p>Defective motor starting relay. (Typical - motor hums)</p> | <p>Check all wires in the motor and reconnect as necessary</p> <p>Replace</p> <p>Replace</p> <p>Replace</p>   |
| <p><b>NOTE:</b> THE MOTOR STARTING RELAY IS UTILIZED TO INSERT A STARTING FIELD IN THE WASH PUMP MOTOR. ONCE THE MOTOR HAS GAINED SPEED, THE RUNNING WINDING WILL THEN TAKE OVER AND THE STARTING WINDING WILL BE REMOVED WHEN THE RELAY KICKS OUT. THIS RELAY IS THE AMPERAGE SENSING TYPE.</p> |   |   |
| Motor runs on manual wash but doesn't operate on automatic (rinse operates okay on both manual and automatic cycles)   | <p>Defective center micro switch of timer</p> <p>Defective circuit in manual wash switch</p>  | <p>Replace switch</p> <p>Replace switch</p>   |
| No water comes through the rinse arms when the rinse fill switch is depressed  | <p>Hand water valve to machine not turned on</p> <p>Defective coil on solenoid valve</p> <p>Broken or loose wires</p> <p>Defective manual rinse fill switch</p>                                       | <p>Turn on water valve</p> <p>Replace coil</p> <p>Repair or reconnect</p> <p>Replace</p>  |

| PROBLEM  | CAUSE  | SOLUTION   |
|--|--|--|
| <p>Little or no water coming through rinse assemblies</p>  | <p>Limed up rinse heads or piping</p> <p>Water pressure low</p>  | <p>Begin by cleaning rinse heads using instructions for de-liming. If this isn't satisfactory, then clean the rinse feed pipes</p> <p>Increase pipe size to machine</p>  |
| <p>Rinse doesn't operate on automatic during timed cycle (but does operate on manual rinse/fill operation)</p> | <p>Micro switch defective (this is the micro switch furthest from the timer motor on the timer assembly)</p> <p>Rinse fill switch defective on N.C. contacts</p> | <p>Replace</p> <p>Replace</p>  |
| <p>Rinse water runs continuously with circuit breaker controlling machine turned off</p>                       | <p>Defective plunger in solenoid valve</p> <p>Defective diaphragm in solenoid valve</p>  | <p>Replace plunger</p> <p>Check both holes in diaphragm cartridge to insure that they are open. The one on the outside perimeter should be the size of an ordinary straight pin. If it's not, heat a straight pin and put it through this hole to enlarge. If this fails to correct situation, replace diaphragm</p> |
| <p>NOTE: IN DISASSEMBLING SOLENOID VALVE, USE INSTRUCTIONS SHOWN ON SEPARATE PAGE.</p>                         |  |  |
|  |  |  |

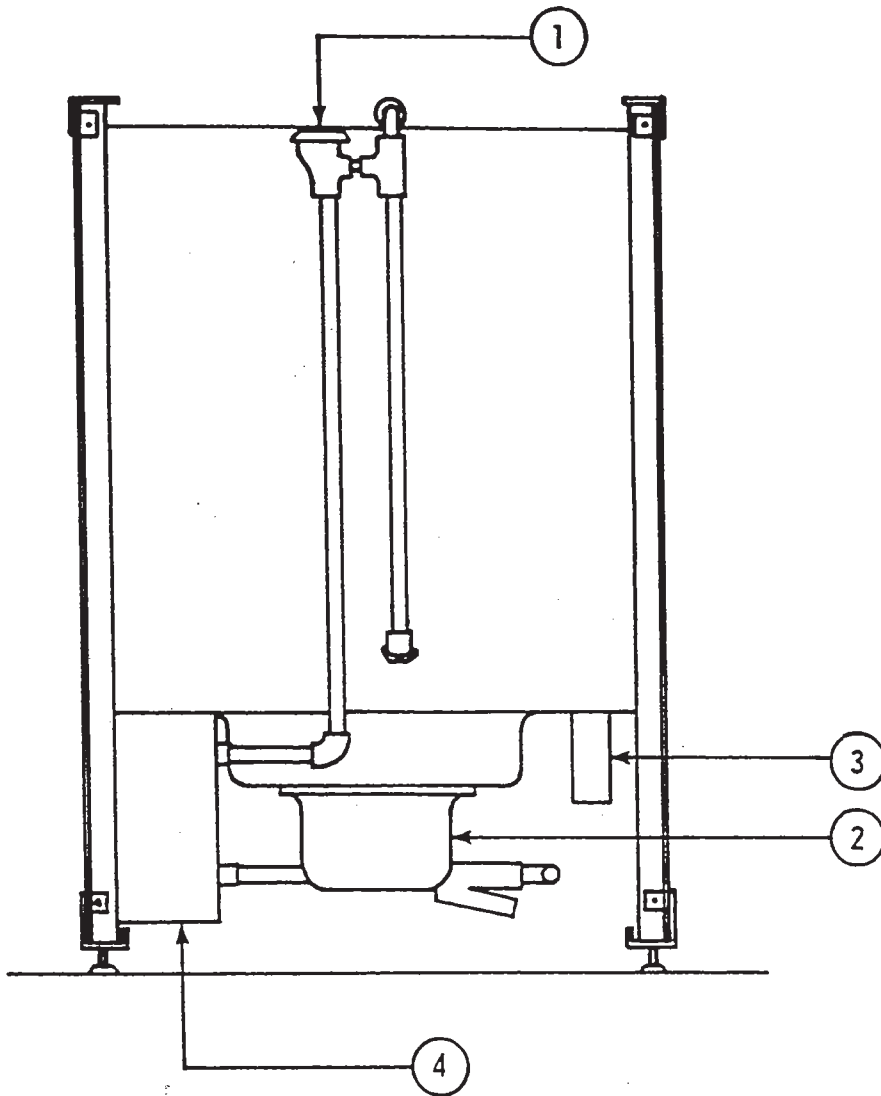
| PROBLEM   | CAUSE   | SOLUTION  |
|---|---|---|
| Rinse water runs continuously with power applied to machine, but when circuit breaker to machine is turned off, water stops   | Defective Rinse/fill switch<br><br>Defective timer that has stopped in a position keeping the rinse on<br><br>Defective micro switch on timer assembly    | Replace<br><br>Replace timer motor or timer as necessary<br><br>Replace   |
| <b>NOTE:</b> EXCESSIVE WATER LINE PRESSURE CAN CAUSE WATER TO CONTINUALLY RUN EVEN THOUGH THE POWER TO THE MACHINE IS TURNED OFF. CHECK SPECIFICATIONS FOR REQUIRED PRESSURE. |   |   |
| Wash temperature not at required reading on thermometer   | Defective thermometer<br><br><br><br><br><br><br>Rinse temperature not at required temperature, causing wash temperature to be lowered during rinse cycle | Using a thermometer (fast reading type that's known to be correct) insert in wash reservoir and check reading against wash thermometer on machine. If machine thermometer isn't correct within three or four degrees, replace<br><br>Check out rinse heat using heater checkout system page in manual |
| <b>NOTE:</b> ANY SWITCHES, WATER LEVEL CONTROLS, HEATER ELEMENTS, RELAYS OR CONTACTOR THAT HAVE TO BE CHECKED OUT, CAN BE DONE USING THE HEATER CHECKOUT SYSTEM PAGE.         |   |   |
|   | Heater switch defective   | Replace   |
|   | Water level protection control defective  | Replace   |
|   | Heater element defective  | Replace   |
|   | Wires loose or burned off   | Retighten or Replace  |

| PROBLEM   | CAUSE   | SOLUTION  |
|---|---|---|
| Rinse water not at required temperature range   | Thermometer's defective<br>Heater switch defective<br>Thermostat defective<br>Defective heater relay on contactor | Replace<br>See page on heater system checkout<br>Adjust using instructions on thermostat page and heater system's checkout page. Replace if necessary<br>If defective, replace. See note on heater system above |
| After filling machine with water, leakage began at lower front panel without machine operating or at end of rinse cycle         | Overflow drain clogged  | Clean away obstruction  |
| Machine doesn't drain when drain switch is depressed  | Drain solenoid clogged<br>Defective switch<br>Defective motor or motor start relay<br>Defective drain solenoid    | Remove obstruction<br>Replace<br>Replace<br>Replace   |
| <b>NOTE: THE DRAIN PUMP OF THIS MACHINE IS PART OF WASH MOTOR. SO IF WASH MOTOR OPERATES PROPERLY DRAIN SYSTEM SHOULD WORK.</b> |   |   |



FRONT VIEW

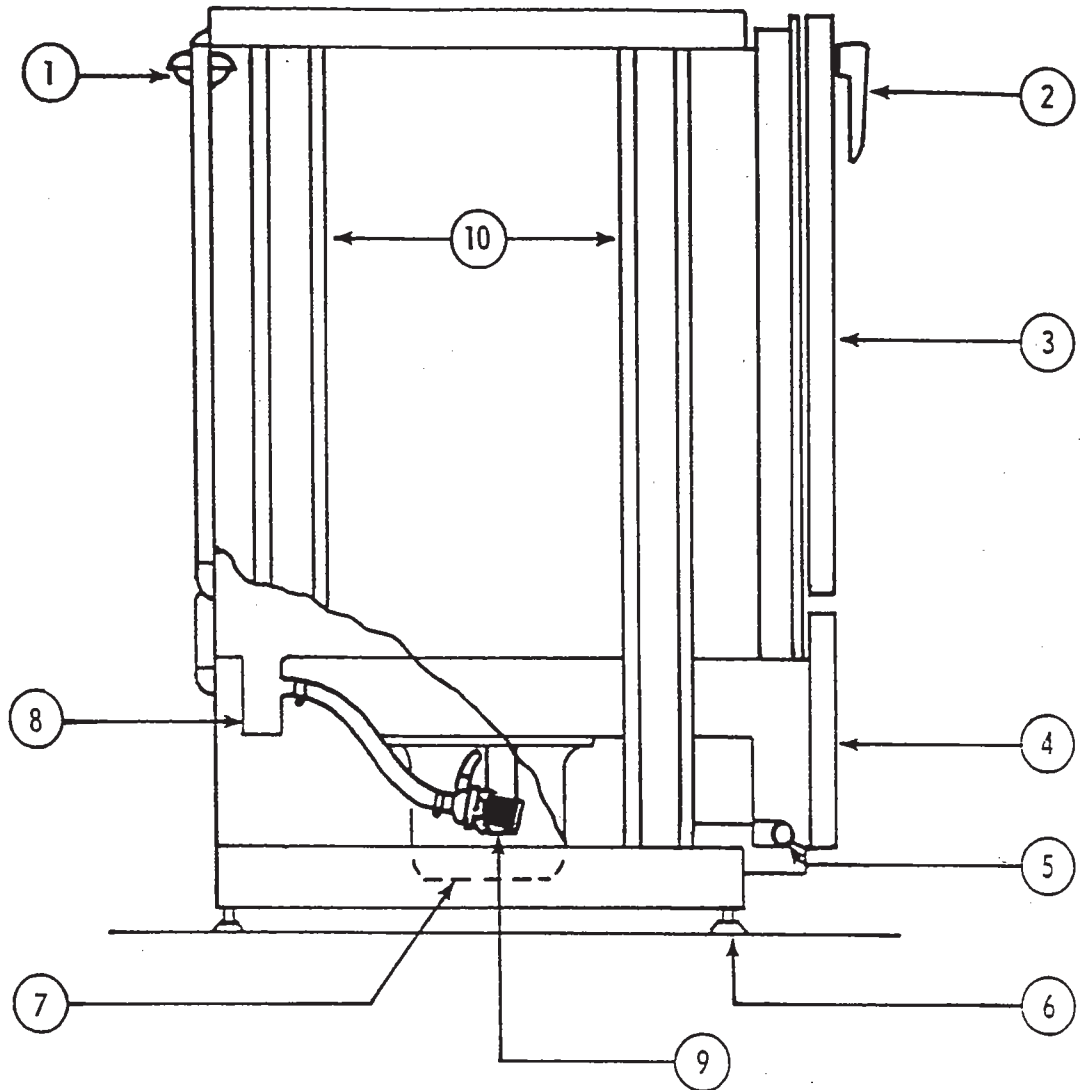
- 1 DOOR LATCH
- 2 SWITCHES, DRAIN, HEAT, WASH, RINSE & FILL, START
- 3 FRONT DOOR
- 4 RINSE ASSEMBLY, UPPER & LOWER
- 5 WASH ASSEMBLY
- 6 BOOSTER TANK
- 7 HEATER ELEMENTS
- 8 SOLENOID
- 9 VALVE FOR HEALTH INSPECTOR GAUGE
- 10 "Y" STRAINER
- 11 FOR ELECTRIC PANEL



BACK VIEW

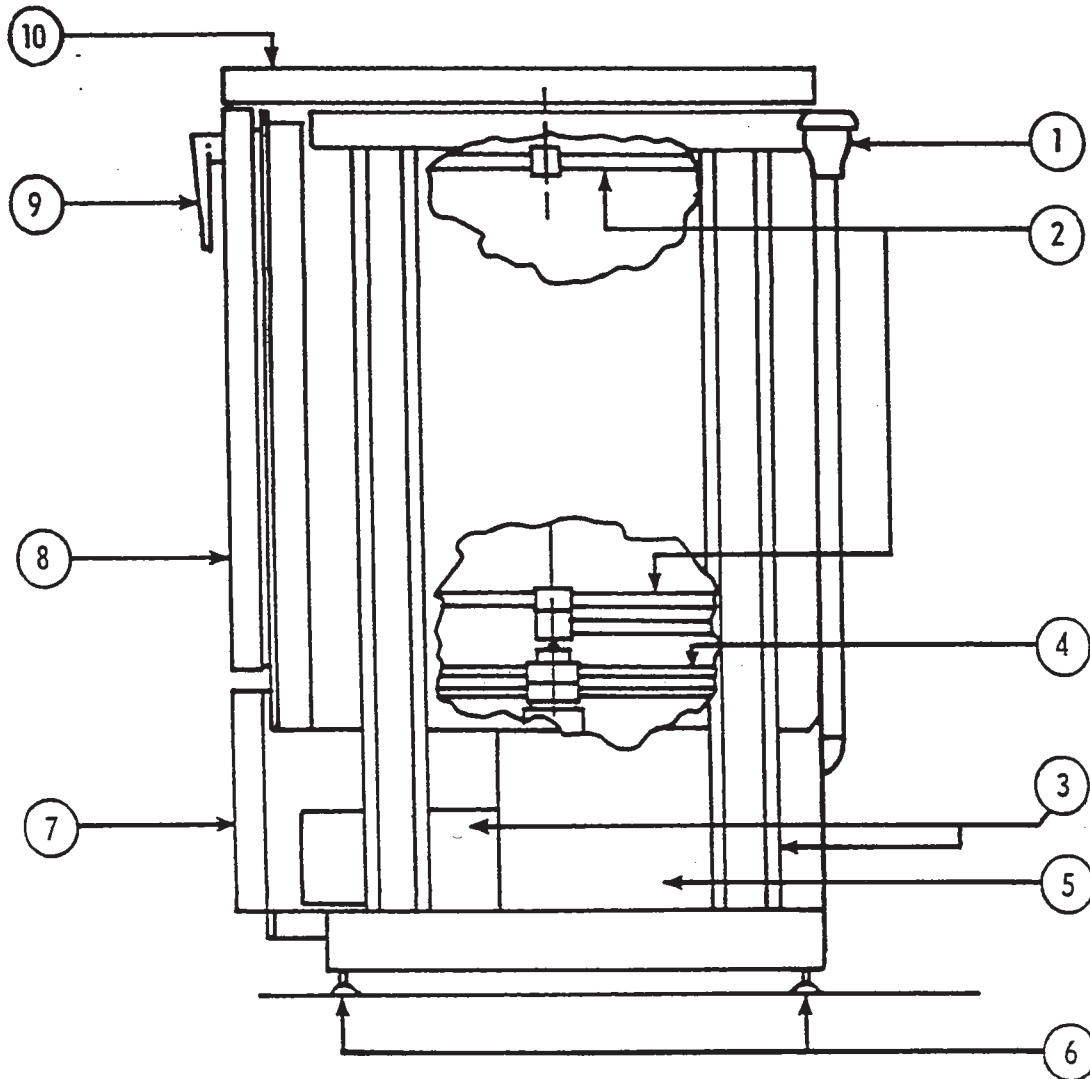
- 1 VACUUM BREAKER
- 2 DOUBLE PUMP & MOTOR ASSEMBLY
- 3 DRAIN
- 4 BOOSTER TANK





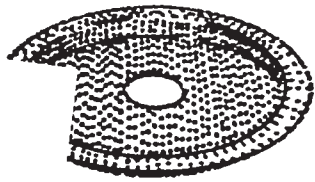
LEFT SIDE VIEW

- 1 VACUUM BREAKER
- 2 DOOR LATCH
- 3 FRONT DOOR
- 4 KICK PANEL
- 5 INCOMING WATER
- 6 ADJUSTING FEET
- 7 MOTOR
- 8 DRAIN
- 9 DRAIN SOLENOID VALVE
- 10 SIDE FRAME & BRACE



RIGHT SIDE VIEW

- 1 VACUUM BREAKER
- 2 RINSE ASSEMBLY - UPPER & LOWER
- 3 SIDE FRAME & BRACE
- 4 WASH ASSEMBLY
- 5 BOOSTER TANK
- 6 ADJUSTING FEET
- 7 KICK PANEL
- 8 FRONT DOOR
- 9 DOOR LATCH
- 10 OPTIONAL TOP



AN STRAINER

VACUUM BREAKER



① BONNET



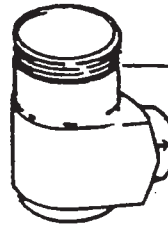
② DISK



③ GASKET

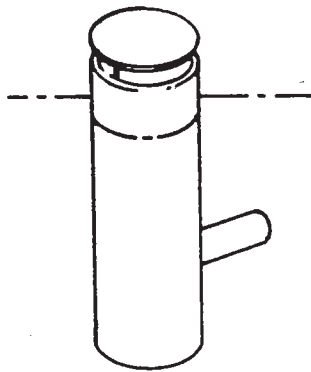


④ POPPET

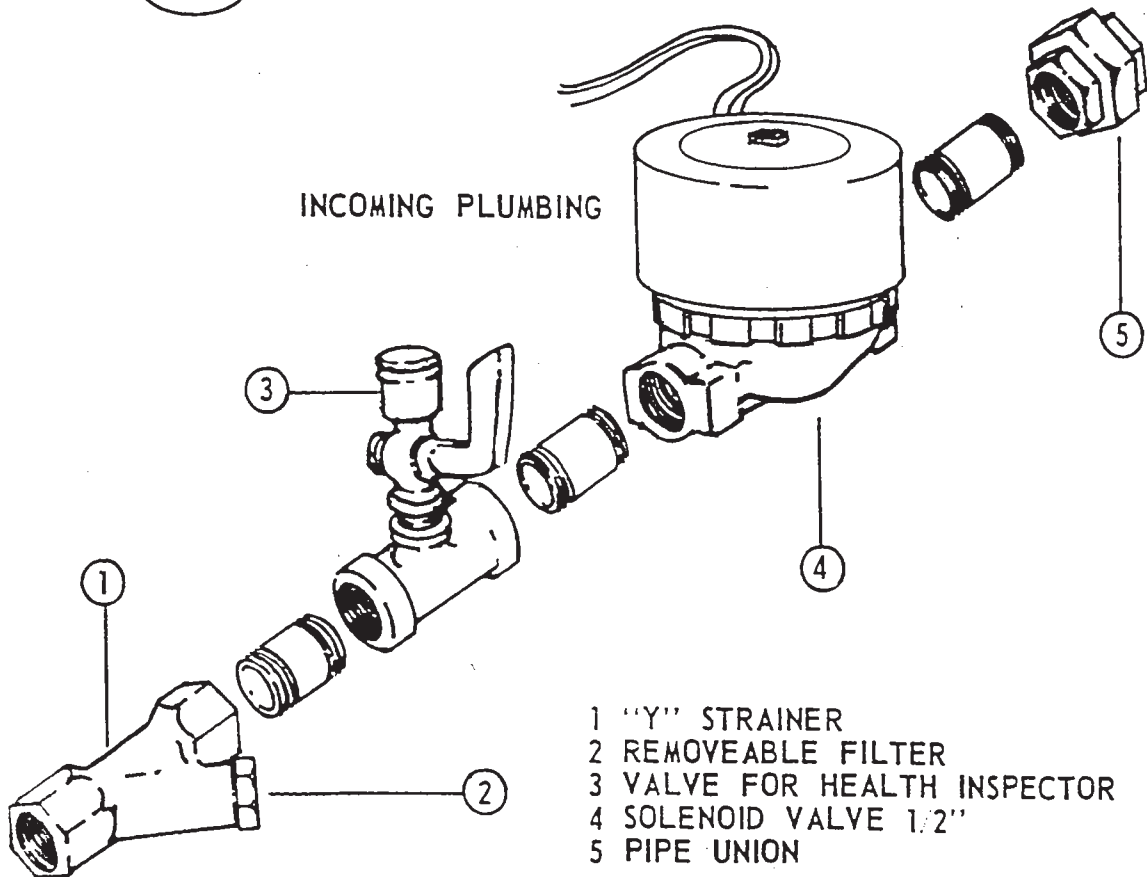


⑤ BODY

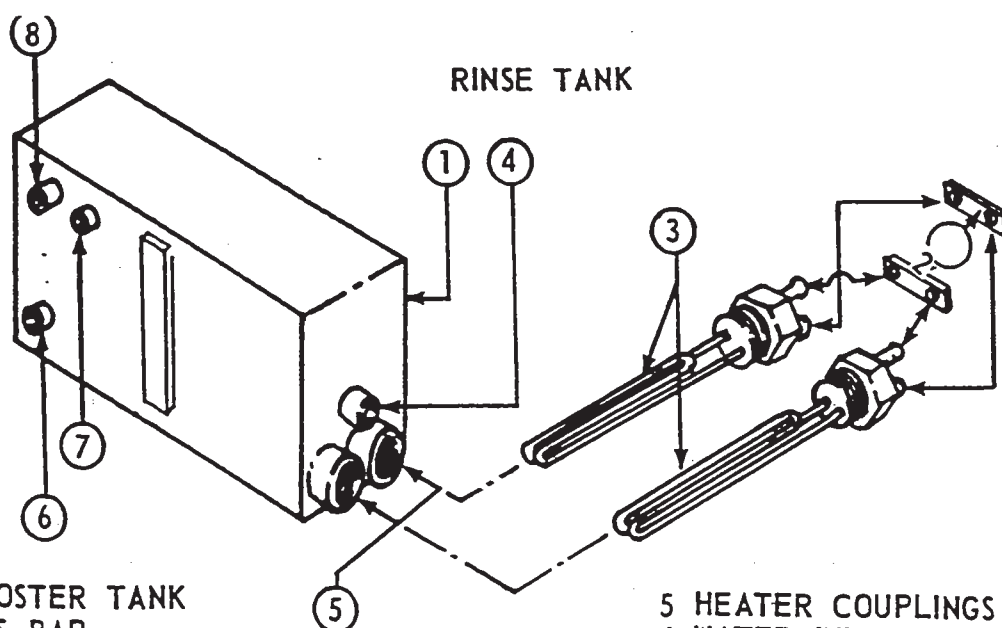
OVERFLOW



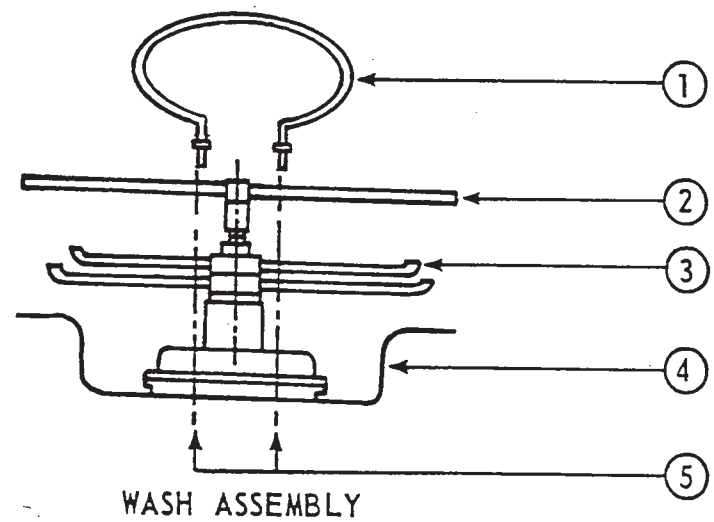
INCOMING PLUMBING



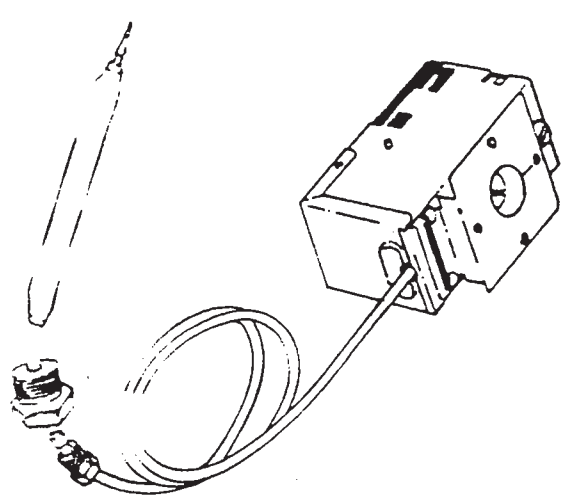
- 1 "Y" STRAINER
- 2 REMOVEABLE FILTER
- 3 VALVE FOR HEALTH INSPECTOR
- 4 SOLENOID VALVE 1/2"
- 5 PIPE UNION



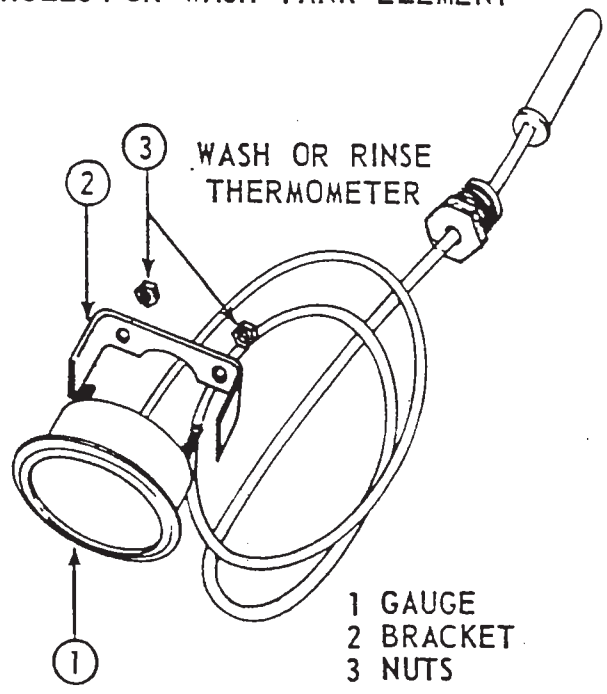
- |                          |                        |
|--------------------------|------------------------|
| 1 BOOSTER TANK           | 5 HEATER COUPLINGS     |
| 2 BUS BAR                | 6 WATER INLET          |
| 3 BOOSTER HEATER ELEMENT | 7 THERMOMETER COUPLING |
| 4 THERMOSTAT COUPLING    | 8 WATER OUTLET         |



- |                          |                               |
|--------------------------|-------------------------------|
| 1 WASH TANK RING ELEMENT | 4 WASH RESERVOIR              |
| 2 RINSE ASSEMBLY         | 5 HOLES FOR WASH TANK ELEMENT |
| 3 WASH ASSEMBLY          |                               |



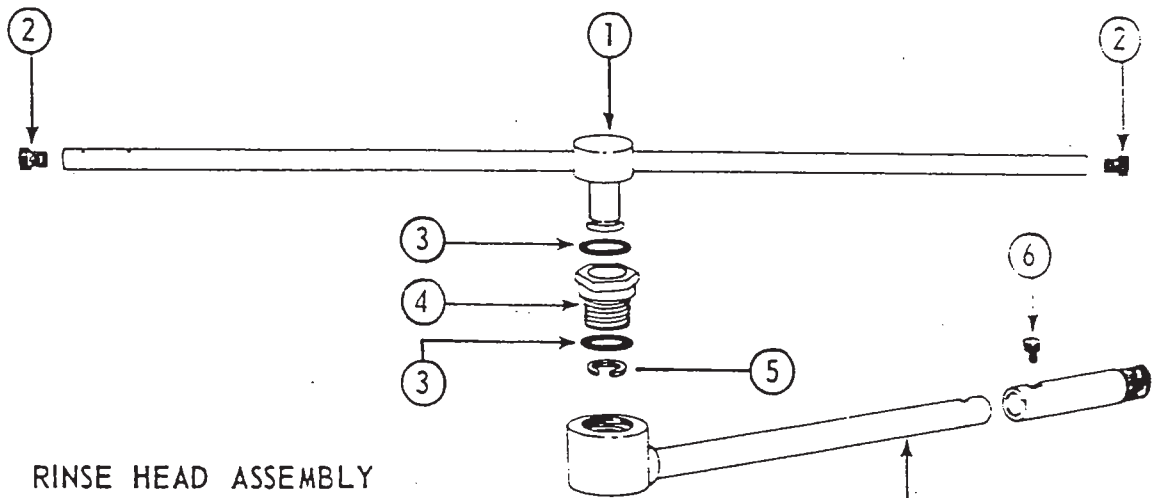
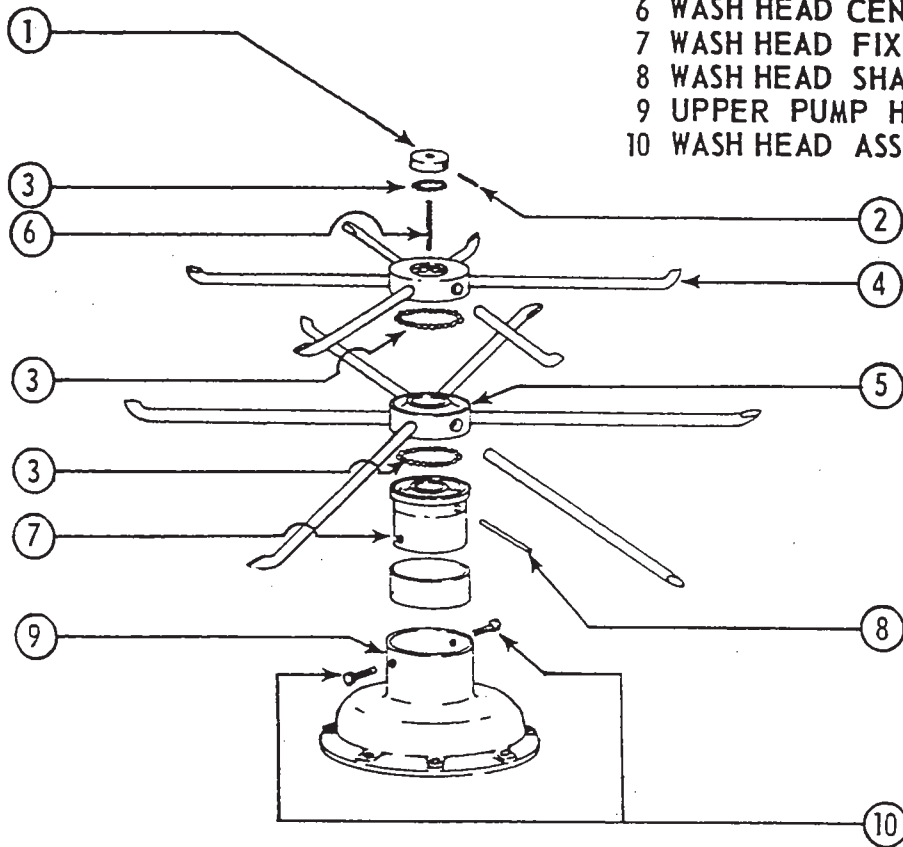
WASH OR RINSE THERMOSTAT



- |           |
|-----------|
| 1 GAUGE   |
| 2 BRACKET |
| 3 NUTS    |

### WASH HEAD ASSEMBLY

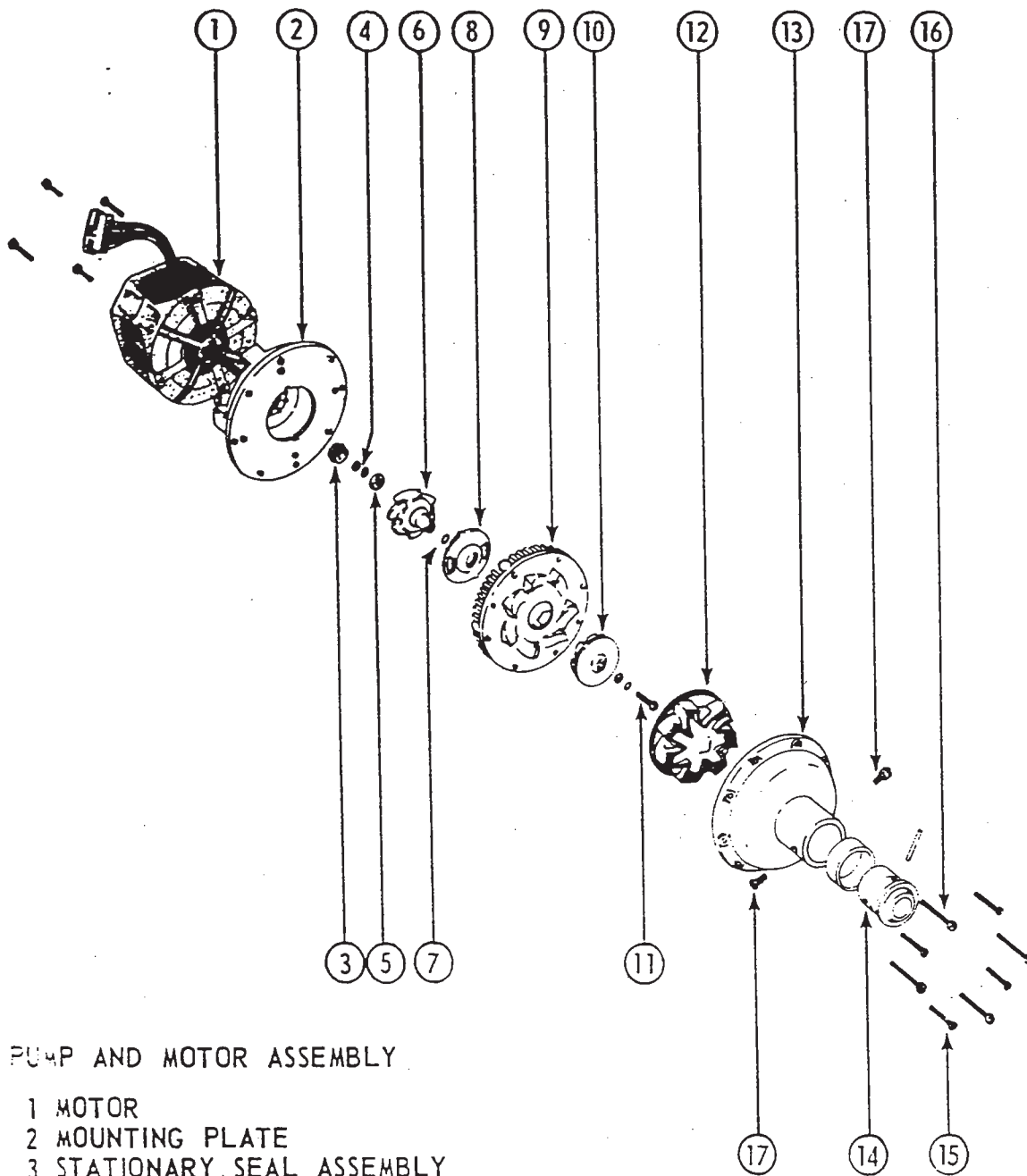
- 1 WASH HEAD CAP WITH RACE
- 2 WASH HEAD CAP SET SCREW
- 3 WASH HEAD BEARING 1/4" S/S
- 4 WASH HEAD SMALL MANIFOLD w/TUBES
- 5 WASH HEAD LARGE MANIFOLD w/TUBES
- 6 WASH HEAD CENTER SHAFT
- 7 WASH HEAD FIXED RACE
- 8 WASH HEAD SHAFT HOLDING PIN
- 9 UPPER PUMP HOUSING
- 10 WASH HEAD ASSEMBLY HOLDING SCREWS



### RINSE HEAD ASSEMBLY

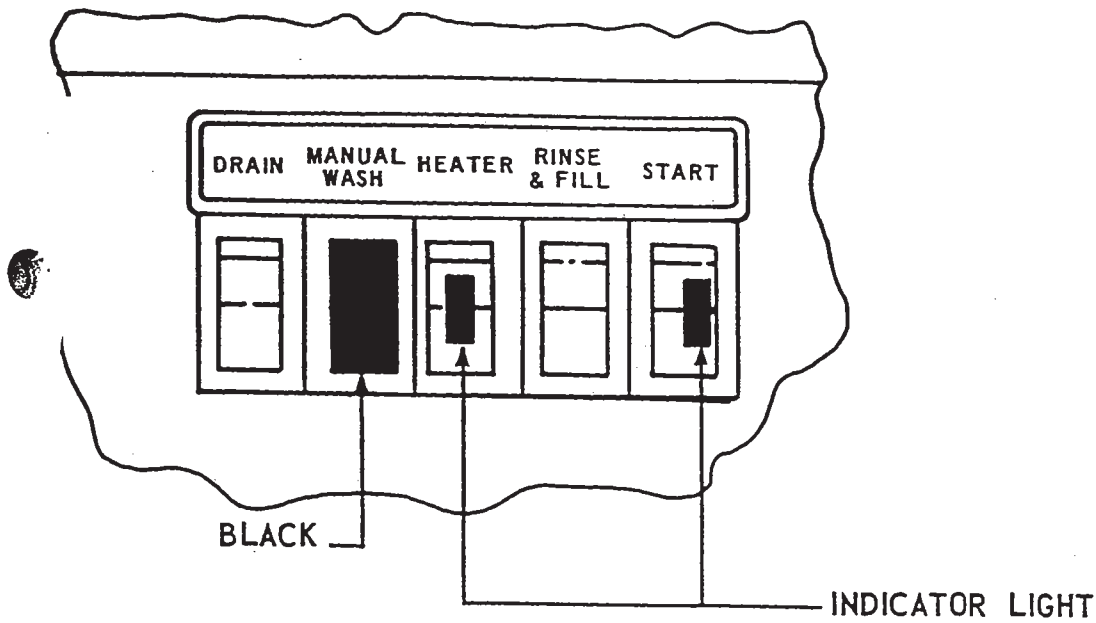
- 1 RINSE HEAD ARM
- 2 RINSE HEAD END PLUGS
- 3 RINSE HEAD NYLATRON WASHER
- 4 RINSE HEAD HEX BUSHING S S
- 5 RINSE HEAD SNAP RINGS S S
- 6 RINSE FEED PIPE HOLDING SCREW
- 7 RINSE FEED PIPE (LOWER)

# PUMP AND MOTOR ASSEMBLY



## PUMP AND MOTOR ASSEMBLY

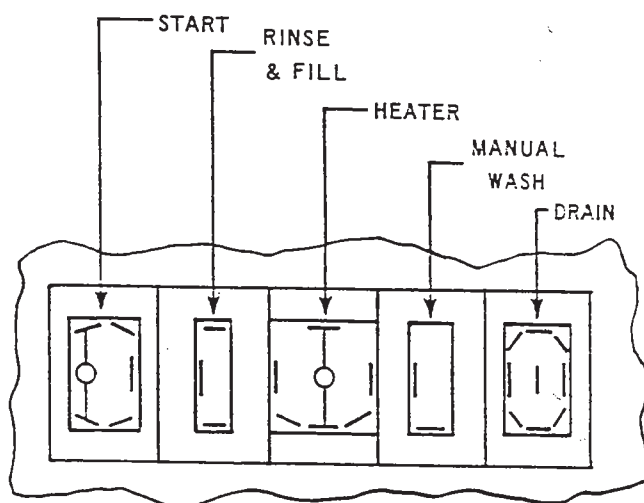
- 1 MOTOR
- 2 MOUNTING PLATE
- 3 STATIONARY SEAL ASSEMBLY
- 4 SHIM WASHERS
- 5 ROTATING CERAMIC
- 6 PROPELLER FOR DRAIN PUMP
- 7 "O" RING SEAL
- 8 DRAIN INLET PLATE
- 9 SUCTION ADAPTER PLATE
- 10 IMPELLER FOR WASH PUMP
- 11 TRUSS HEAD SCREW
- 12 DIFFUSER
- 13 UPPER PUMP HOUSING
- 14 WASH HEAD BOTTOM ADAPTER
- 15 FILL HEAD MACHINE SCREW (SHORT)
- 16 FILL HEAD MACHINE SCREW (LONG)
- 17 THUMB SCREW



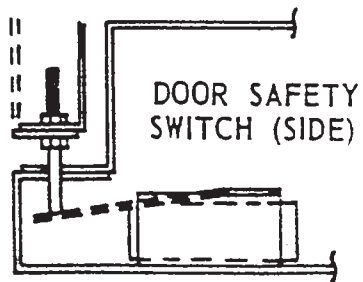
### SWITCHES

#### SWITCHES

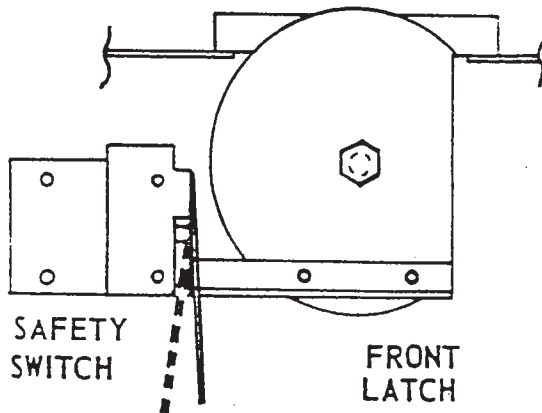
- START - SPDT (lighted)
- RINSE & FILL - SPDT (momentary)
- HEATER - DPST (lighted)
- MANUAL WASH - SPST
- DRAIN 3PDT (momentary)

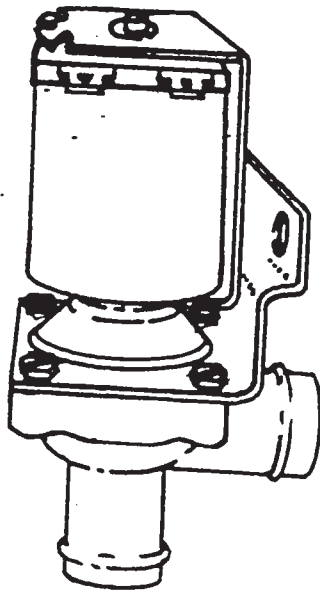


REAR VIEW OF SWITCHES

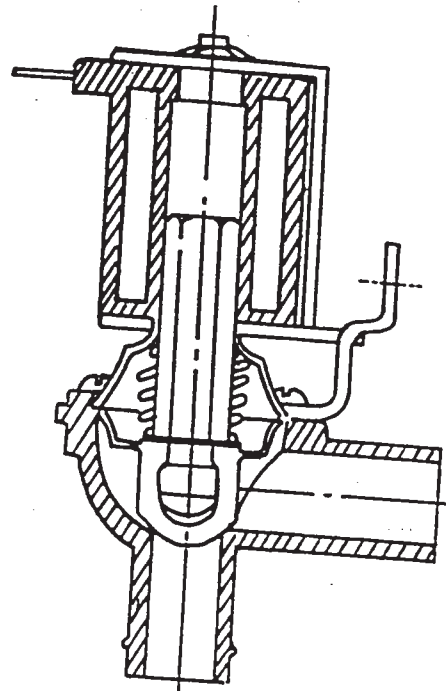


TOP VIEW

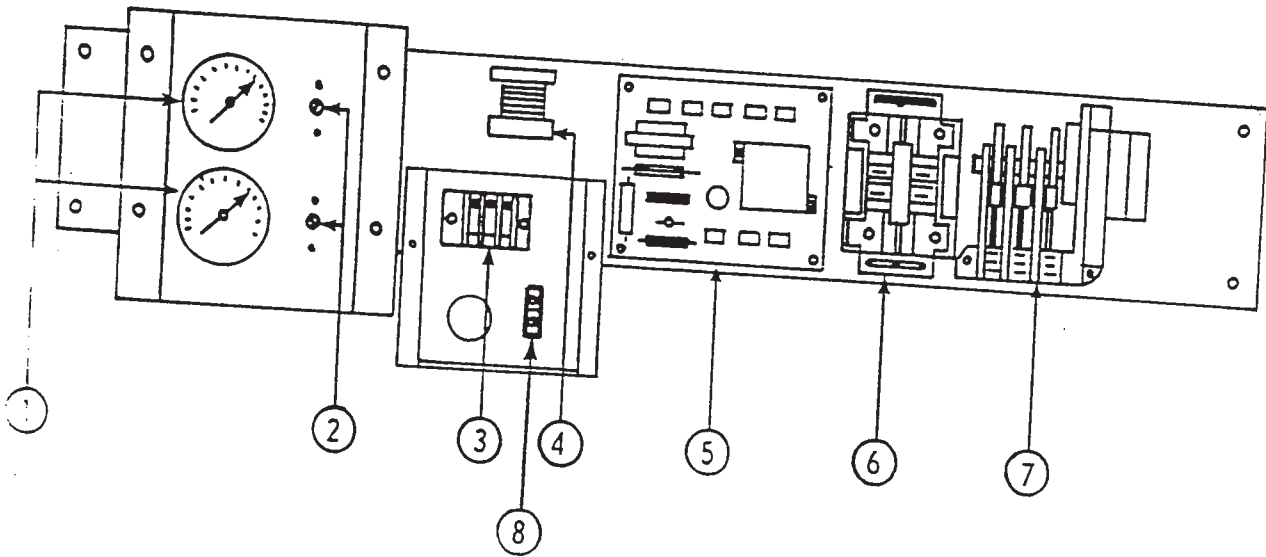




DRAIN VALVE



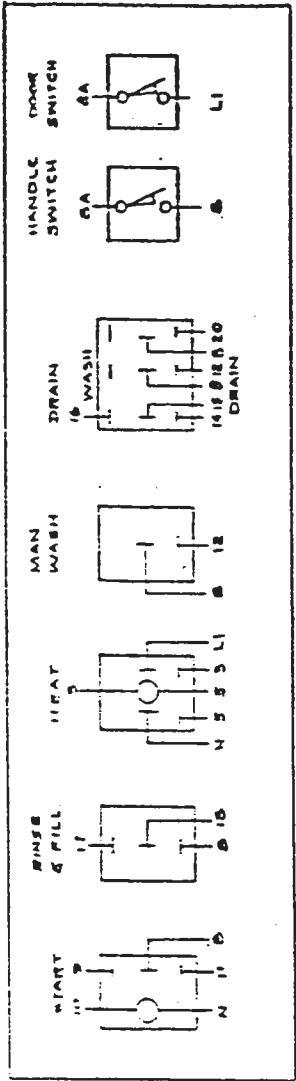
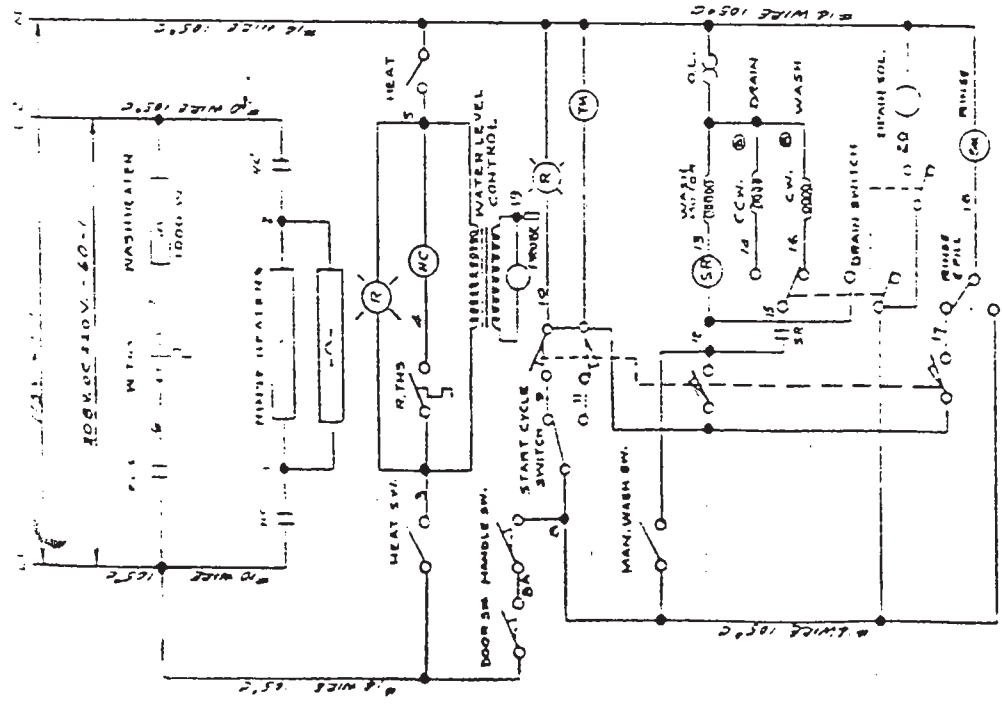
CUTAWAY VIEW



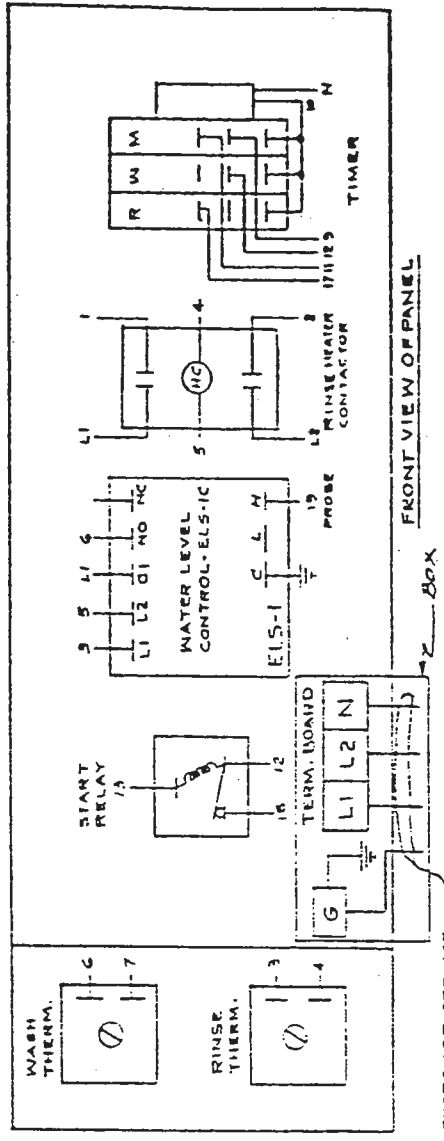
PANEL

- 1 THERMOMETER
- 2 THERMOSTAT
- 3 TERMINAL BOARD
- 4 STARTING RELAY
- 5 WATER LEVEL CONTROL
- 6 HEATER RELAY
- 7 TIMER
- 8 GROUND LUG

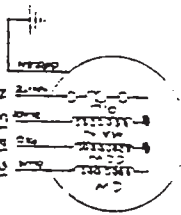
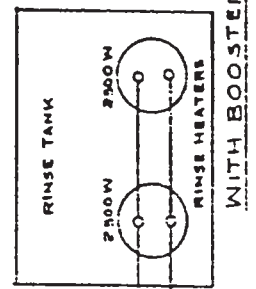
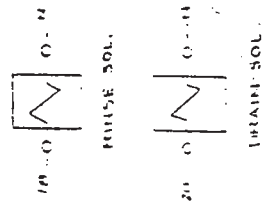
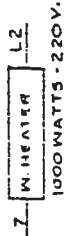




REAR VIEW OF PANEL



FRONT VIEW OF PANEL



NOTE:  
ALL NEUTRAL WIRES "WHITE"  
ALL "GROUND" WIRES "GREEN"  
ALL "OTHER" WIRES "RED"

**Jackson Products Company**  
Tampa, Florida

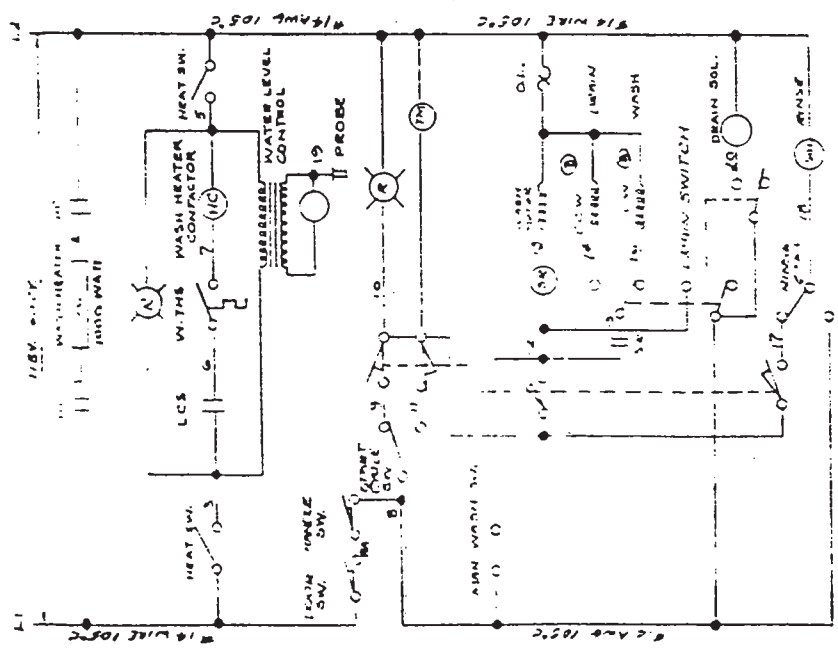
SCALE NONE  
DRAWN BY NEW BRINKLEY  
DATE 11-14-74

WASHER FACTORY  
NO. 276  
DATE 11-14-74

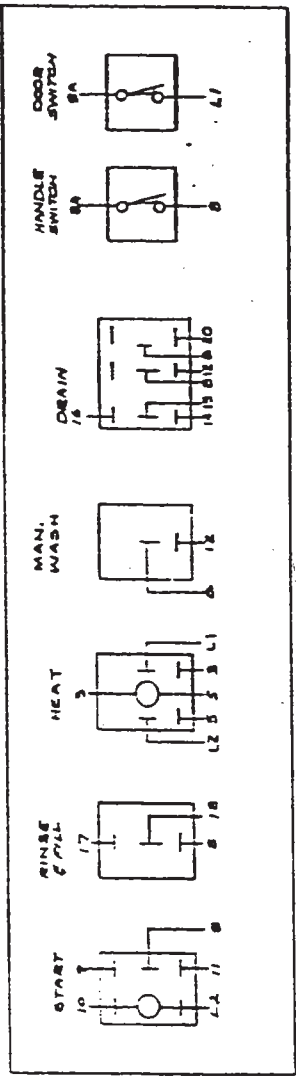
WIRING DIAGRAM 27-24 B  
REV. 11-14-74

CE-5031-3

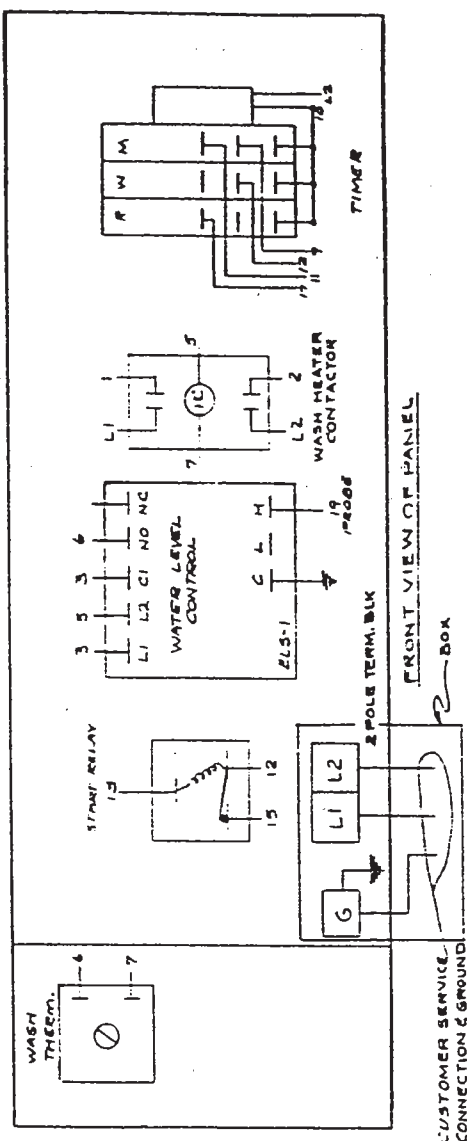
SUPERCIDE - CI 3407



NOTE:  
 ALL NEUTRAL WIRES "WHITE"  
 ALL "GROUND" WIRES "GREEN"  
 ALL "OTHER" WIRES "RED"

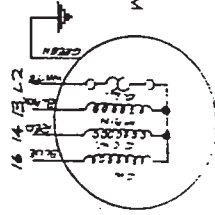
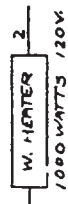


REAR VIEW OF PANEL

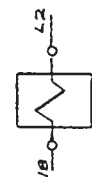


FRONT VIEW OF PANEL

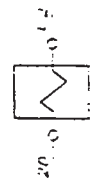
CUSTOMER SERVICE CONNECTION & GROUND



NO BOOSTER



RINSE SOL.



DRAIN SOL.

**Jackson Products Company**  
 1000 W. 11th St., St. Paul, Minn. 55102  
 SCALE 1/8" = 1" (SEE DRAWING)  
 UNW BRINKLEY  
 DATE 11-14-74  
 DRAWN BY  
 CHECKED BY  
 APPROVED BY  
 PROJECT NO. CE-5032  
 CHANGE LETTER

REVISIONS



# COMPLETE PARTS LIST for JV24

|      |  |   |
|------|--|---|
| 56   | BOOSTER TANK (stripped) for 24B  | 1 |
| 300  | CONTROL PANEL, WIRED (lower front) for 24A   | 1 |
| 305  | CONTROL PANEL, WIRED (lower front) for 24B   | 1 |
| 472  | DOOR COMPLETE, stripped  | 1 |
| 473  | DOOR FRONT, OUTER ONLY, stripped   | 1 |
| 474  | DOOR INSERT, INNER ONLY, stripped  | 1 |
| 512  | DOOR HANDLE ASSEMBLY   | 1 |
| 513  | DOOR HANDLE CAM  | 1 |
| 447  | DOOR HANDLE CAM NUT  | 2 |
| 523  | DOOR GASKET  | 1 |
| 524  | DOOR GASKET, CLAMP ASSEMBLY  | 1 |
| 534  | DRAIN HOSE-PUMP TO SOLENOID VALVE SHORT  | 1 |
| 535  | DRAIN HOSE CLAMPS  | 4 |
| 536  | DRAIN HOSE-SOLENOID VALVE TO DRAIN LONG  | 1 |
| 544  | DOOR SPRING  | 2 |
| 545  | ENCLOSURE PANEL, RIGHTHAND SIDE  | 1 |
| 546  | ENCLOSURE PANEL, LEFTHAND SIDE   | 1 |
| 547  | ENCLOSURE PANEL, TOP   | 1 |
| 569  | HEATER ELEMENT, RING STYLE, 1000W 220V   | 1 |
| 593  | HEATER BUS BAR, 2-HOLE, COPPER   | 2 |
| 602  | HEATER ELEMENT, SHORT, 220V 2500W  | 2 |
| 607  | HEATER ELEMENT, SHORT, 208V 2500W  | 2 |
| 615  | HEATER ELEMENT, IMMERSION, SCREW-TYPE, 208V  | 2 |
| 620  | HEATER ELEMENT, IMMERSION, SCREW-TYPE, 220V  | 2 |
| 843  | PROBE, LUNDY, SMALL  | 1 |
| 1081 | PUMP ASSEMBLY, COMPLETE WITH MOTOR, 115V   | 1 |
| 1084 | PUMP GASKET  | 1 |
| 1085 | PUMP PROPELLER MOUNTING PLATE<br>and SEAL ASSEMBLY, KIT  | 1 |
| 1087 | PUMP DIFFUSER (only)   | 1 |
| 1090 | PUMP IMPELLER, KIT   | 1 |
| 1095 | PUMP, UPPER HOUSING, KIT   | 1 |
| 1097 | PUMP FILL HEAD MACHINE SCREWS, SHORT   | 4 |
| 1098 | PUMP FILL HEAD MACHINE SCREWS, LONG  | 4 |
| 1102 | RACK TROLLEY, MOVABLE, S S   | 1 |
| 1175 | RACK, SQUARE, 19 <sup>3</sup> / <sub>4</sub> x 19 <sup>3</sup> / <sub>4</sub> " (cup, bowl, glass) | 1 |
| 1178 | RACK, SQUARE, 19 <sup>3</sup> / <sub>4</sub> x 19 <sup>3</sup> / <sub>4</sub> " (dish-molded)      | 2 |
| 1205 | RELAY, 110V, 2-pole, HW HEAT CIRCUIT   | 1 |
| 1207 | RELAY, 110V, MOTOR STARTING  | 1 |
| 1251 | RINSE HEAD ASSEMBLY, UPPER   | 1 |
| 1252 | RINSE HEAD ASSEMBLY, LOWER   | 1 |
| 1253 | RINSE HEAD END PLUG KNURLED  | 2 |
| 1255 | RINSE HEAD, HEX BUSHING  | 2 |
| 1257 | RINSE HEAD, UPPER, DUAL SYSTEMS  | 2 |
| 1260 | RINSE HEAD, NYLATRON WASHER  | 2 |
| 1265 | RINSE HEAD, SNAP RING, S S   | 2 |
| 1301 | LOWER FEED PIPE KNURLED HOLDING SCREW  | 1 |
| 1310 | RINSE HEAD BRUSH, TUBE CLEANING  | 1 |
| 1372 | RINSE HEAD FEED PIPE, LOWER  | 1 |
| 1387 | RINSE HEAD SPRAY NOZZLE, DUAL SYSTEM   | 6 |
| 1420 | SOLENOID VALVE, 1/2", JE, 110V   | 1 |
| 1423 | DRAIN VALVE KIT, includes VALVE, BRACKET, HOSES  | 1 |
| 1424 | DRAIN VALVE, DOLE 1/2" 110V (Valve only)   | 1 |
| 1435 | SOLENOID VALVE COIL, 110V, JE  | 1 |
| 1450 | SOLENOID VALVE DIAPHRAGM CARTRIDGE & "O" RING, JE  | 1 |
| 1475 | SOLENOID VALVE "O" RING, JE  | 1 |
| 1485 | SOLENOID VALVE, PLUNGER ASSEMBLY, JE   | 1 |
| 1495 | SOLENOID VALVE, STRAINER SCREEN, JE  | 1 |

# COMPLETE PARTS LIST for JV24

|      |  |    |
|------|--|----|
| 1531 | STRAINER, PAN-TYPE .....                             | 1  |
| 1543 | SWITCH, RINSE-FILL (Rocker-type) .....               | 1  |
| 1557 | SWITCH, MANUAL WASH (Rocker-type) .....              | 1  |
| 1578 | SWITCH, HEAT (Illuminated rocker-type) .....         | 1  |
| 1588 | SWITCH, START (Illuminated rocker-type) .....        | 1  |
| 1609 | SWITCH, DRAIN (Rocker-type) .....                    | 1  |
| 1610 | SWITCHES WIRED w HARNESS .....                       | 1  |
| 1641 | SWITCH INTERLOCK (side or latch) .....               | 1  |
| 1643 | SWITCH BRACKET, FOR SIDE INTERLOCK .....             | 1  |
| 1647 | SWITCH BRACKET, FOR LATCH INTERLOCK .....            | 1  |
| 1656 | TERMINAL BOARD, 3-POLE .....                         | 1  |
| 1690 | THERMOMETER, STANDARD .....                          | 1  |
| 1691 | THERMOMETER, 36" CAP., RINSE .....                   | 1  |
| 1700 | THERMOSTAT, STANDARD .....                           | 1  |
| 1717 | TIMER, 115V w WIRES .....                            | 1  |
| 1722 | TIMER MOTOR, 115V, FOR MODULE-TYPE TIMER .....       | 1  |
| 1775 | TIMER MICRO SWITCHES, PLASTIC MODULE-TYPE .....      | 3  |
| 1841 | VACUUM BREAKER, SLOAN, 1/2" .....                    | 1  |
| 1846 | VACUUM BREAKER, SLOAN, FLOAT AND SEAL REPAIR KIT ... | 1  |
| 1865 | WASH HEAD CAP w/RACE .....                           | 1  |
| 1870 | WASH HEAD CAP SET SCREW .....                        | 1  |
| 1875 | WASH HEAD CENTER SHAFT .....                         | 1  |
| 1886 | WASH HEAD HOLDING PIN .....                          | 1  |
| 1889 | WASH HEAD ASSEMBLY, COMPLETE .....                   | 1  |
| 1890 | SMALL MANIFOLD w TUBES, WASH HEAD .....              | 1  |
| 1895 | LARGE MANIFOLD w TUBES, WASH HEAD .....              | 1  |
| 1896 | WASH HEAD KNURLED SCREW .....                        | 2  |
| 1938 | WASH HEAD FIXED RACE .....                           | 1  |
| 1940 | WASH HEAD BEARINGS, 1/4" S S .....                   | 57 |
| 2045 | WATER LEVEL CONTROL, 110V, CURTIS .....              | 1  |

