Enodis®
One Company, Countless Solutions

HOT WATER SANITIZING UPRIGHT DOOR DISHMACHINE

SERVICE MANUAL

FOR JACKSON MODEL:

MODEL 100B/PRB

Jackson
An Enodis Company

January 19, 2004
P/N 7610-100-02-00 (Revision C)

www.jacksonmsc.com

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SPECIFICATIONS

SPECIFICATIONS 100 SERIES ITEM # _____

MODEL	100	100B	100PRB
Operating Capacity			
Racks per hour	55	55	55
(NSF Rated)			
Dishes per hour	1375	1375	1375
Glasses per hour	1375	1375	1375
Operating Cycle			
Wash Time-Sec	48	48	48
Rinse Time-Sec	10	10	10
Total Cycle-Sec	60	60	60
Wash Tank Capacity			
Gallons	12	12	12
Rinse Tank Capacity			
Gallons	N/A	3	3
Wash Pump Capacity			
Gal Per Min	188	188	188
Thermometers			
Wash — °F	140-160	140-160	140-160
Rinse — °F	180-195	180-195	180-195
Water Requirements			
(NSF Rated)			
Inlet Temperature — °F	180	140	140
Gal per hour	110	110	97
Flow Pressure PSI	20	20	20
Flow GPM	12	12	10.5
Inlet -I.P.S.	3/4"	3/4"	3/4"
Drain - I.P.S.	1 - 1/2"	1 - 1/2"	1 - 1/2"
Wash Pump Motor			
Horsepower	1	1	1
Rinse Pump Motor			
Horsepower	N/A	N/A	1/2
Electric Heat Wash			
KW	1.5	1.5	1.5
Electric Heat Rinse			
KW	N/A	13	13

Dimensions			
Length	24"	24"	24"
Width	24"	24"	24"
Height	57"	57"	57"
Standard table height	34"	34"	34"
Maximum Clearance for Dishes	15"	15"	15"
Standard Eq. Racks			
Dish 19 - 3/4 x 19 - 3/4	2	2	2
Combination	2	2	2
Shipping Weight			
Approximate basic model	400	400	400

Electrical Rating

Model	Volts	Cycle	Phase	Maximum Total Load Amps
100	208 or 220	60	1	16
100B	208 or 220	60	1	80
100PRB	208 or 220	60	1	80
100B	208 or 220	60	3	58
100PRB	208 or 220	60	3	58
100B	208 or 220	50	1	80
100PRB	208 or 220	50	1	80

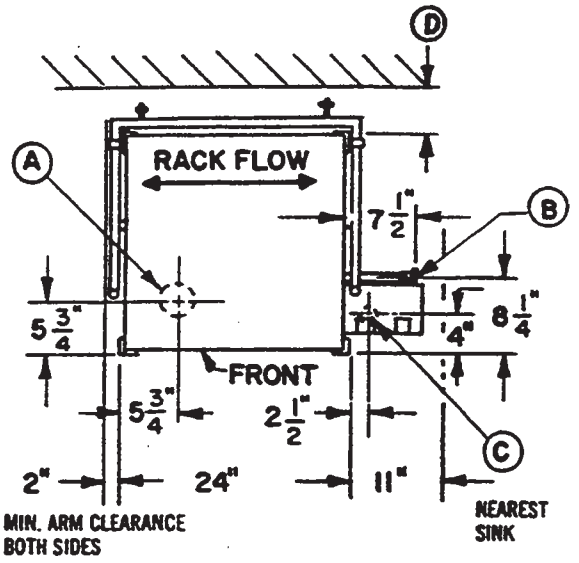
Specifications subject to change without notice.

GENERAL INSTRUCTIONS

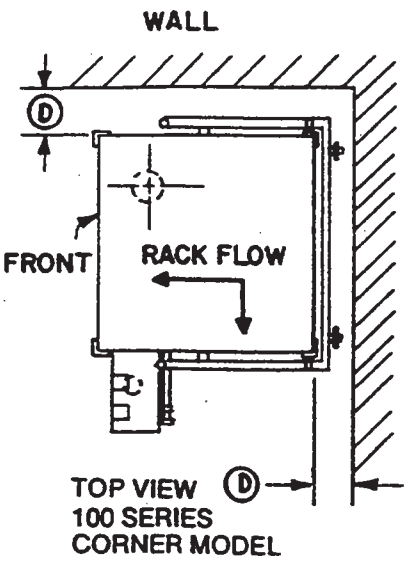
(INSTALLATION / DIMENSIONS) FOR 100B, PRB SERIES

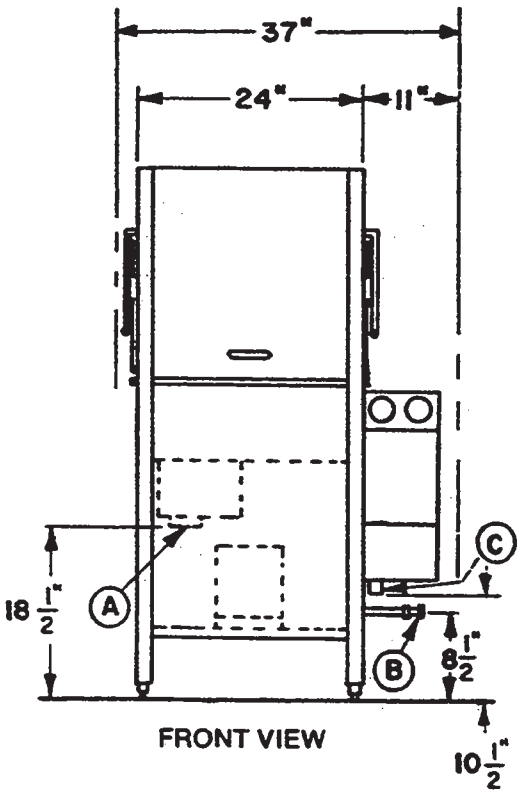
NOTE: Read the following instructions carefully. Proper installation of your Jackson Dishwasher will assure proper machine operation.

1. Open side doors, the front door (hook open) and remove dish, cup, and glass racks, and set to one side for later use. Remove the tape holding the overflow strainer, the pump intake strainer, the wash head assembly and the rinse head that are inside the machine.
2. Cut straps holding machine to base of crate, ease machine on to floor and slide into place of installation.
3. Connect drain to bottom of machine (1½" IPS female fitting on bottom of wash sump) with proper slope to conform with local and/or national codes. Drain is a gravity feed system from machine.
4. The incoming water line to the unit must be ¾" with the capacity to supply 12 gallons per minute with a flow rate of 20 PSI. The temperature at the unit must be 140° F. This connection is just before the Y-strainer. Connect to conform with local and/or national codes (STANDARDS).
5. Electrical connections should be made through hole in bottom of control box to terminal board inside (to the right lower side of control box). This terminal board is accessible by removing the lower cover plate on control box. The terminals are marked L1, L2 (requiring 208–230V, single phase), or L1, L2, L3 (requiring 208–230V, three phase). There is a grounding lug inside of the control box on the bottom left. Be sure all connections made are tightened properly. Refer to data plate for Voltage and Amperage totals and whether machine is designed for 50 or 60 cycle operation.
6. Install the proper circuit breaker, wire, and conduit size to conform with local and/or national codes. Refer to data plate for electrical loads.
7. DO NOT APPLY POWER UNTIL STEP 10.
8. Insert pump intake strainer and overflow strainer, then close door.
9. Turn on hand valve controlling water supply to machine; check for any leaks in plumbing and connections.
10. To energize electrically, proceed as follows:
    a. Turn on customer's circuit breaker controlling machine.
    b. Check voltage at incoming terminal L1, L2, and L3 (if applicable). It should match data plate voltage. Voltage at L1 and L2 should be checked to ground individually to ensure that a high (or wild) leg is <u>not</u> connected to L1 or L2. (Voltage exceeding 150V to ground would indicate high leg).
    c. If voltages are in required range, turn on 15 amp circuit breaker on side of control box. The 15 amp circuit breaker protects and controls the motors and control circuit only; it is not meant to protect or control the rinse heaters.
    d. Insert a rack into the machine and close all doors.
    e. Turn on the master switch; this supplies voltage to the operating controls. Then lift up on the rinse/fill switch. The unit will automatically fill the wash tub with water to a specific level.
    f. Open the front door and check the water level. It should be 1/4" below overflow level. If not, close doors, check the incoming water line making sure that the solenoid valve fully opens and closes as the switch is turned on and off.
    g. If the water is at the proper level, with the front door closed, turn on the heat switch. Observe the temperature gauges; the rinse temperature should rise to the specified level of 180° within five minutes if the incoming water temperature is 140° to the booster tank.
    h. The wash heater will take longer to reach 150°F, as the element is designed for maintaining temperature, not heating.
    i. Turn the manual wash switch on with the door closed. You should hear the water being pumped as it strikes the top of the machine. Turn off the manual wash switch.
    j. The unit is now ready to proceed with the washing of dishes in accordance with the operating instructions in this manual, and the instruction sticker on the front door of the dishwasher.

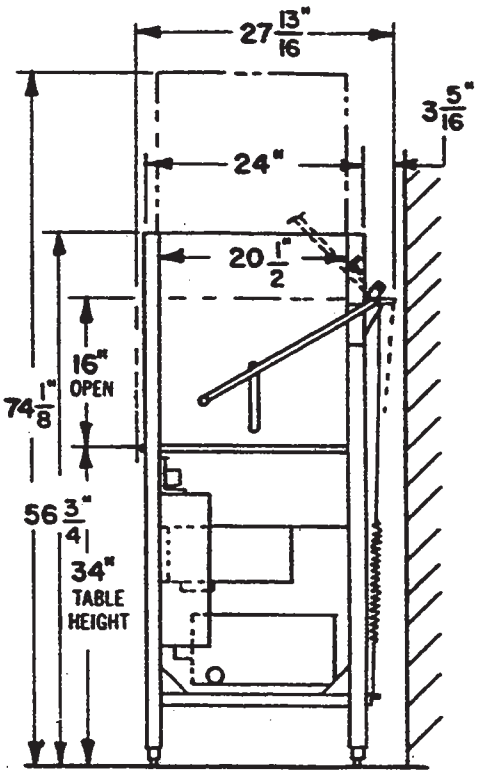


TOP VIEW





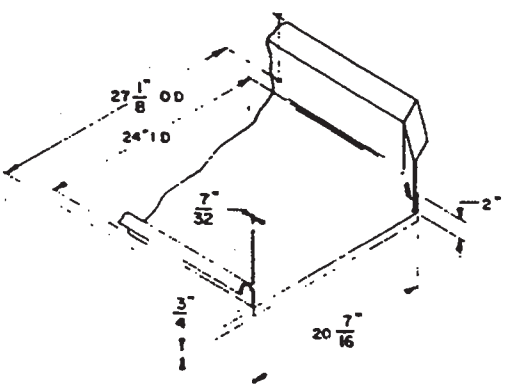
FRONT VIEW



RIGHT SIDE VIEW

NOTES:

A—Drain 1½", I.P.S.
B—Water Inlet ¾", I.P.S.
C—Electrical Connection
D—Standard Wall Clearance W/Dishtable 3⅝"



100 SERIES TABLE CONNECTION

GENERAL INSTRUCTIONS

(OPERATION) 100B, PRB

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

DISH PREPARATION

1. Scrape the dishes thoroughly.
2. Pre-rinse the dishes by soaking or by spraying off with a pre-rinse hose.
3. Place the dishes and cups in the dish rack with the cups upside down.
4. Place the glasses and silverware in the combination glass-silverware rack with the glasses upside down. Scatter the silverware loosely on the bottom of the rack. Do not put glasses on top of the silverware.
   NOTE: When silverware is in an upright position, it washes and rinses better than lying flat. These compartment silverware racks are available through your dealer or service agency.

MACHINE OPERATION

1. Open the front door and insert the pump intake strainer and overflow strainer.
2. Close all of the doors.
3. Turn the master switch on. Lift the rinse/fill switch up and release. The machine will now automatically fill the wash tank and energize the wash and rinse heater control circuit.
4. Turn on the heat switch, letting the temperatures rise to the required temperatures on the wash (150°) and rinse (180–195°) gauges.
5. Raise up the side doors. Slide in a rack of dirty dishes.
6. Add detergent* (see Detergent Recommendation). If an automatic detergent dispenser is used, follow the manufacturer's instructions.
7. Lower all of the doors.
8. Start the automatic wash and rinse cycle of the dishwasher by flipping the start switch in a full up or down position. For the next cycle, the switch must go in the opposite direction all of the way. The center position is off. The light in the top center of the panel will go on when the cycle starts.
9. When the light goes out, open the side doors, slide out the rack of clean dishes, slide in another rack of dirty dishes, and then repeat steps 6, 7, and 8.
10. At the end of a meal period or the end of the day, shut off the heater switch and the master switch. Drain the machine by removing the overflow strainer. Clean both strainers, the overflow and the inside strainer, of all foreign debris and build-up and flush out the unit.

*DETERGENT RECOMMENDATION AND RINSE ADDITIVES: We suggest you contact your local detergent specialists for the correct detergent and rinse additives for the area. To help until one can be reached, we suggest that you use a non-foaming dishwasher detergent, approximately one-quarter cup in wash tank, when machine is filled the first time, then one level tablespoon each cycle (or load) thereafter. This may have to be increased or decreased to obtain satisfactory results.

When manually dispensing powdered detergent in wash tub always distribute over a sufficient area to prevent build up. Some detergent, when dispensed in a small or concentrated area, may cause deterioration of the stainless tub or sump.

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. To remove all lime and corrosion deposits. (As needed or at least weekly)
   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. (Be sure to follow their directions if they vary from these being given) 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, empty the wash water by removing overflow strainer.
   f. Replace overflow strainer. Refill machine and allow to run for two minutes, then, again drain the wash reservoir.
   g. Refill as it is ready for regular operation.

2. Clean strainers. (Three times per day)
   a. Clean around overflow and pump intake strainer holes.
   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) (Semi Annually)
   a. Remove plug and clean strainer.

4. Clean rinse tubes. (Daily)
   a. Remove end plugs on lower and upper rinse.
   b. Clean all rinse tubes with special brush supplied.
   c. If spray holes in the rinse tubes are clogged, they may be cleaned with a pointed tool.

5. Clean wash head assembly. (Daily, or as needed)
   a. If spray jets are plugged, use pointed tool to dislodge and flush with water.
   b. If lodged items still remain in wash tubes, remove wash assembly by first removing rinse assembly.
   c. Clean assembly at sink by flushing water through spray jets.
   d. Reinstall wash and rinse assemblies. (See page with instructions)

6. Clean any deposits which may have built up on exterior moving parts. (Weekly)

REMOVAL of RINSE and/or WASH HEAD ASSEMBLIES

GENERAL INSTRUCTIONS

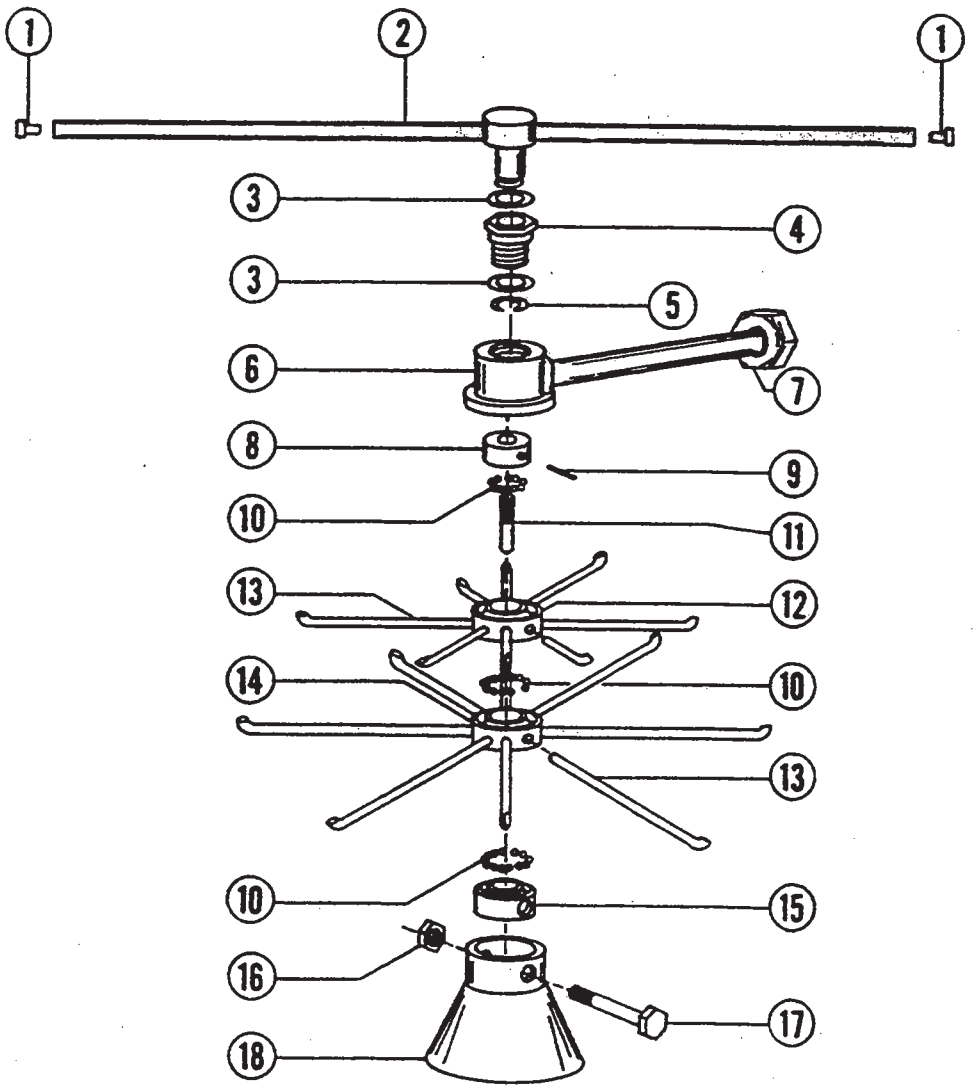
1. Turn master switch to off position.
2. Open door and drain machine by lifting overflow strainer.
3. When empty, replace overflow strainer.
4. With wrench, remove pipe fitting holding lower rinse feed pipe to machine and remove feed pipe and rinse head assembly.
5. Locate Allen head set screw in wash head cap, insert Allen wrench and loosen screw by turning counterclockwise.
6. Turn wash head cap counterclockwise until cap is removed and put cap in safe place.
7. Remove 1/4" stainless ball bearings carefully and put in a receptacle in a safe place. If any should drop in machine, you will be able to locate and retrieve if you left the overflow strainer in as suggested in step #3 above.
8. Lift and remove small manifold with short tubes. Put in safe place.
9. Remove 1/4" ball bearing in similar method to step #7.
10. Lift and remove large manifold with long length tubes similar to step #8.
11. The lower fixed race may be left in place.
12. Clean ball bearings by soaking in de-liming solution.
13. Ball bearing race ways may be cleaned by either brushing with de-liming solution (toothbrush makes excellent tool) or gently clean by rubbing with fine sandpaper or emery cloth.
14. Rinse ball bearings and manifolds thoroughly.
15. To reassemble, first, fill lower race to capacity with 1/4" ball bearings then remove one. This will give proper movement needed during rotation of assembly.
16. Replace lower manifold and fill race fully with 1/4" ball bearings. Repeat, removing one only.
17. Replace upper manifolds and repeat necessary parts of step #15.
18. Replace wash cap by screwing on center shaft clockwise, finger tight.
19. Back off wash cap about 1/4 turn and tighten Allen set screw.
20. Rotate manifolds in opposite directions; see if they rotate freely. A rule of thumb is to select the longest tube in the bottom manifold and make sure it moves up and down at least 1/8" and no more than 1/4".

21. Replace rinse assembly and feed pipe.

22. Close all doors and refill dishwasher.

23. Run through several cycles and recheck wash arms for easy movement. Adjust if necessary.

24. If removal of upper wash or rinse assembly is necessary, then extra care must be taken to support assembly. It will drop as one unit, but will be subject to falling apart as wash cap is removed.



ITEM	P/N	DESCRIPTION
1	0126800	End Plug
2	0136000	Rinse arm body
3	0133000	Nylatron washer (2)
4	0132500	Hex nut
5	0133500	Snap ring
6	0137000	Lower rinse feed pipe

ITEM	P/N	DESCRIPTION
7	0137000	Rinse feed pipe coupling or nut
8	0186500	Wash cap
9	0187000	Wash cap set screw
10	0194000	Ball bearings (3)
11	0187500	Center shaft
12	0200500	Small manifold

ITEM	P/N	DESCRIPTION
13	0194500	Spray tube (16)
14	0201000	Large manifold
15	0193500	Fixed race
16	0044700	Holding nut
17	0188500	Holding bolt
18		Wash head base

TIMER FOR MODEL 100 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, 220 VAC. 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 120 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 control panel from the control box by loosening the four screws holding it. Hang the control panel using the two right hand screws with the back side of the panel outward.

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 ½ raised, cam center, larger depressed areas, cam farthest 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 shorter flange on the cams always points toward the drive motor.

The timers 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.

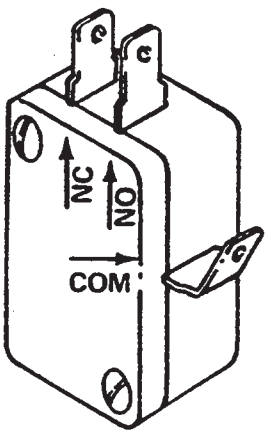
DEFECTIVE TIMER MOTOR

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 connection points.
2. Remove the two screws which hold the motor.
3. Replace with new motor.
4. Re-connect motor leads to proper points.

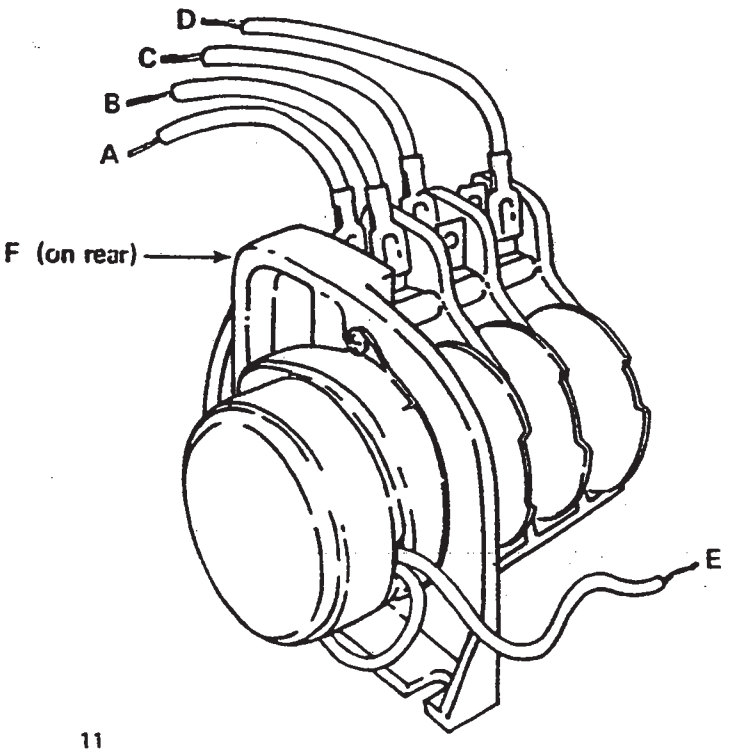
NOTE: It may be necessary to remove complete timer to replace motor; if so, follow steps 1 and 2 previous page.

TYPICAL TIMER SWITCH P/N 0177500



A. To upper right terminal start switch
B. To lower right terminal start switch
C. To right-central terminal manual wash switch.
D. To upper terminal of rinse switch
E. To #5 terminal
F. Shorting bar or jumpers connected to all three timer switches, this terminal

TIMER P/N 0171300, 50 Cycle
P/N 0171500, 60 Cycle



FUNCTION of SWITCHES, CIRCUIT BREAKER and INDICATING LIGHTS

Circuit breaker P/N 0012000	Rated 15 amps, controls power to control circuit only, I.E. timer, relays, solenoid valve, water-level control and motors. Circuit breaker does not cutoff power in control box at incoming terminal board and rinse heater or its relay contacts. Power is still applied to them when the circuit breaker is in "off" position.
Master switch P/N 0157500	This switch interrupts all power going to the control circuit, this means that all switches on control panel are inoperable until master switch is turned "on."
Start switch P/N 0162500	This switch controls the timer motor through two circuits (see electrical diagram) it is a three-position switch, up position = start, middle position = off, down position = start. To start, flip switch toggle in either up or down position; indicating light in center of panel will light verifying automatic cycle has started. After cycle ends and you are ready to start a new cycle, flip toggle to opposite position.
Cycle light P/N 0083500	This light comes on only when automatic cycle is in progress and extinguishes when cycle is complete.
Manual wash switch P/N 0155500	This switch is used to by-pass the timer and operate the wash pump manually. The wash pump will run as long as this switch is "on." The prime purpose of this switch is to extend the wash period for extremely soiled dishes before putting them through the normal automatic cycle. It may also be used as an emergency back-up should the timer ever fail to operate. The required wash time is indicated on the control panel (front).
Rinse/fill switch P/N 0154000	This switch is spring-loaded and must be held in its up position to operate. When switch is operated, water is allowed to fill machine through the rinse heads. It may be used as an emergency back-up in case of timer failure for rinsing dishes. The required rinse time is indicated on the front control panel.
Heat switch P/N 0157500	This switch completes the heat circuit which is composed of automatic control devices that turn heaters on and off to maintain required temperatures.
Heat light P/N 0083500	This indicating light remains lit all the time the heat switch is on.

REPLACEMENT of SWITCHES in CONTROL PANEL

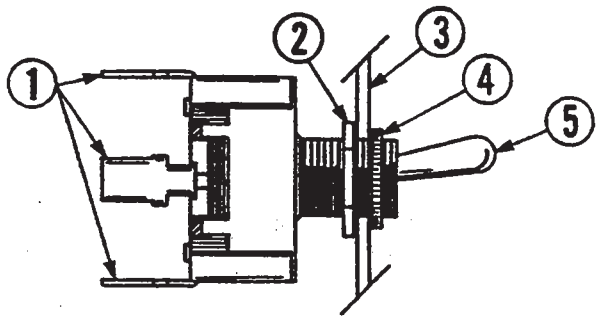
There are five switches installed in the control box cover panel. These are the start, master, manual wash, rinse/fill and heater switches.

Before working on machine, it is important that power be turned off at customer's circuit breaker to prevent the possibliity of electrical shock, trip breaker to "off" position. Then turn machine breaker "on" located right side of control box.

Remove control panel from control box by removing the four screws holding it in place. Hang the control panel using the two right hand upper and lower screw recepticles on the control box with backside of panel facing outward. The five switches are mounted in individual round holes with a keyway. By using a pair of pliers or open end wrench, it is possible to loosen the inside nut enough to allow the outside nut holding the switch to be removed by fingers. Push switch out of hole.

If a switch is found to be defective, replacement can be achieved by placing the new switch next to the old one. To make sure the new switch is not upside down, line up with the keyways. Transfer wires one at a time to the new switch. If this is not practical, pull wires off, one at a time and tag them for proper replacement.

Put switches back into panel, make sure switch protrudes through panel properly, tighten both nuts, and replace control panel on control box. Power can now be applied to dishwasher and run through cycles checking all operations.



1. CONNECTION TERMINALS
2. INSIDE NUT
3. PANEL PLATE
4. OUTSIDE NUT
5. BAT OR TOGGLE HANDLE

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.

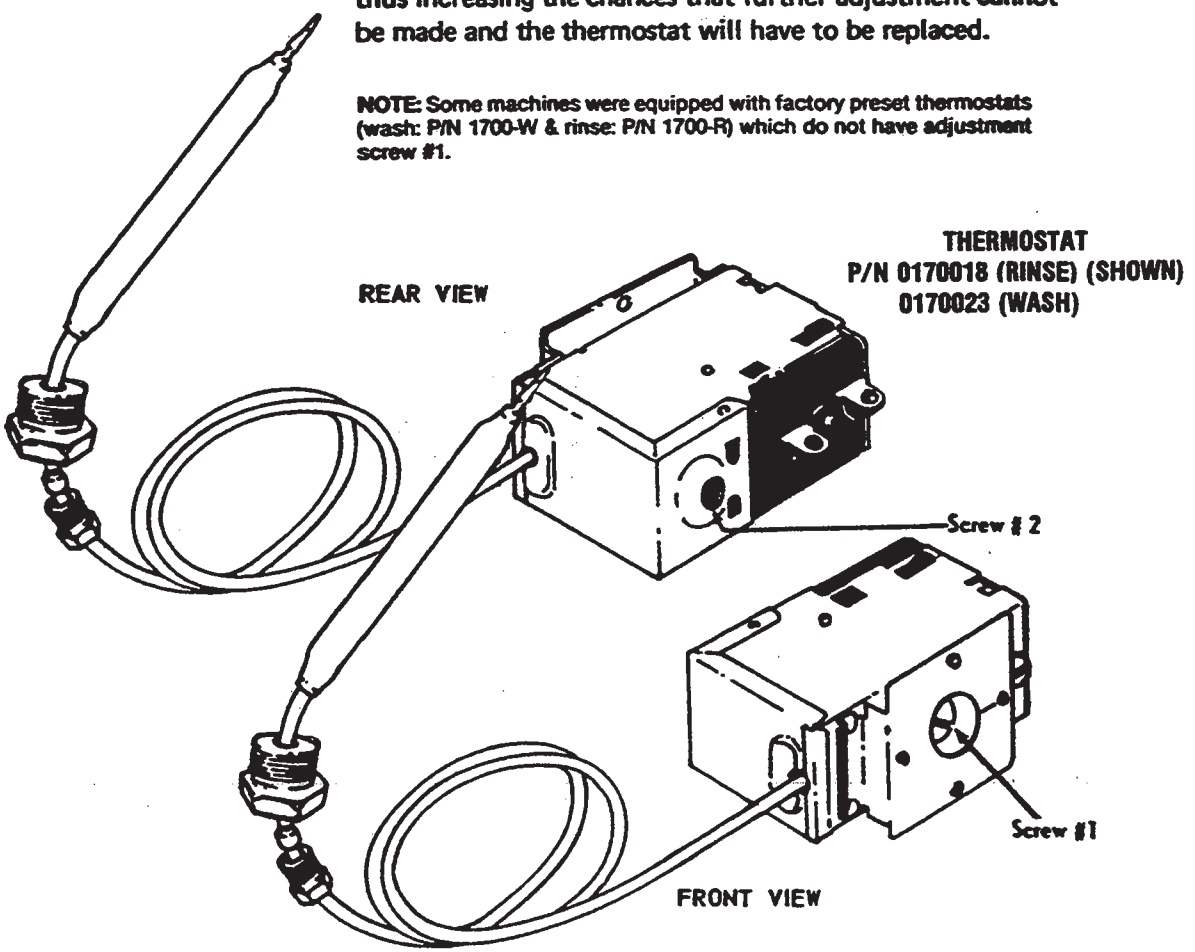
Set screw #1 so that it can be turned equal distances in either direction, then:
- - -if screw #1 stopped while turning in CW direction, turn screw #2 in CW direction slowly and only 1/8 of a turn or less per complete cycle of the unit.

- - -if screw #1 stopped while turning in CCW direction, turn screw #2 in CCW direction slowly and only 1/8 of a turn or less per complete cycle of the unit.

Three-fourth's of a turn 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.

NOTE: Making large moves in adjusting may cause misalignment thus increasing the chances that further adjustment cannot be made and the thermostat will have to be replaced.

NOTE: Some machines were equipped with factory preset thermostats (wash: P/N 1700-W & rinse: P/N 1700-R) which do not have adjustment screw #1.



SERVICE INSTRUCTIONS

(INCOMING WATER SOLENOID VALVE)

SOLENOID VALVE

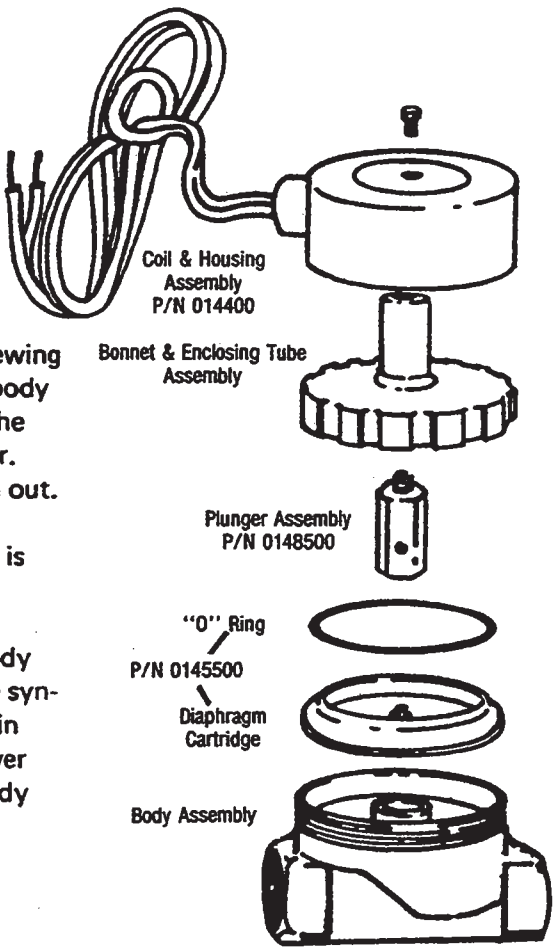


FIG. 3

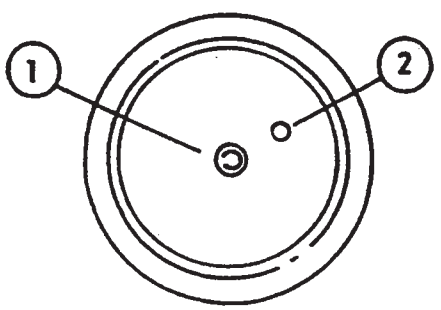
TO TAKE THE VALVE APART

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.

DIAPHRAGM CARTRIDGE
P/N 0145500



POSSIBLE PROBLEMS

Pilot Port extension #1 clogged

Hole #2 clogged

REMEDY

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

RINSE TANK HEATER SYSTEM

FUNCTION

The Rinse Tank Heater System is electrically connected in the circuit so that it is dependent upon the dishwasher being properly filled with and maintaining a safe water level. The automatic fill system, therefore, should operate properly before the heat system can be engaged. The circuit is controlled by a heat switch (mounted on the front control panel), a thermostat (mounted behind the lower front panel), a water level control (mounted in the control box), and a heater relay (mounted in the control box), with the coil being activated by the thermostat.

INDICATORS OF POSSIBLE MALFUNCTION

Once the machine has been properly filled and the heat system engaged, the heat circuit should operate by merely turning on the heat switch. Should the rinse tank heat, be it either too high, too low, or no indication of temperature at all, the following checkouts should be made.

CHECKOUT OF HEATER SYSTEM FOR RINSE TANK (Refer to drawing, figure 1)

NOTE: THE FOLLOWING CHECKOUTS SHOULD BE DONE BY A QUALIFIED SERVICE PERSON OR ELECTRICIAN.

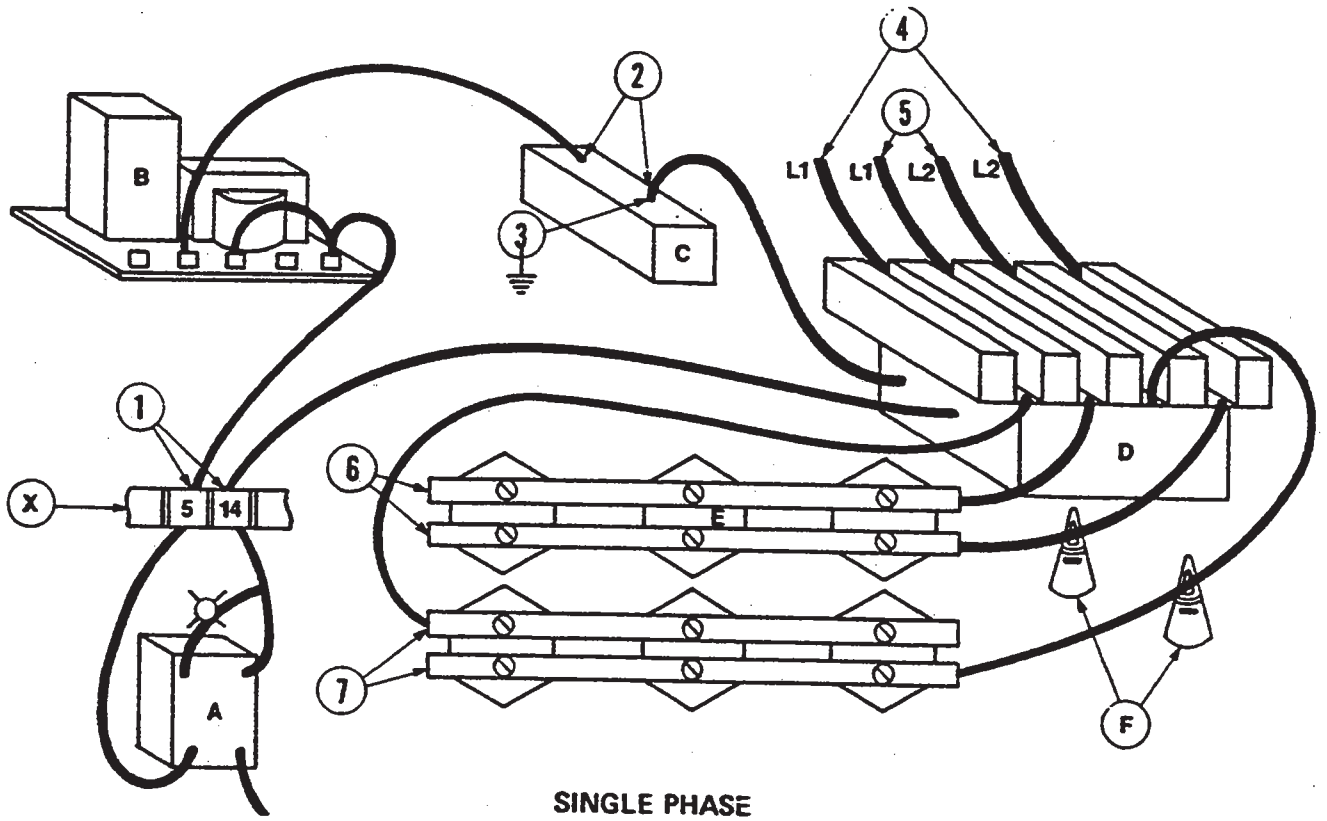
1. If temperature is too high: adjust thermostat, using thermostat instructions in this manual.
2. If temperature is too low, adjust thermostat as above, then:
   a. Turn off power to machine by tripping customer circuit breaker to "off" position. Turn off machine circuit breaker located on right side of control box.
   b. Remove lower cover plate on control box (held by single screw).
   c. Make sure rinse temperature is below 180° (preferably about 140°).
   d. Reapply power. Turn on master switch and observe heat relay (4 pole mounted lower left inside control box) while heat switch is turned "on" and "off". If relay contacts move in and out, see instructions under "B"; if not, proceed with "A".

   A. If heat relay does not close:
      1. There is an insulated movable bar on the relay across the top of the four contacts. With insulated probe, depress this bar and observe the rinse thermometer; the temperature should rise noticeably in a minute or two. If it moves very slowly, it would indicate that one or more elements are faulty. If it moves constantly higher at a good rate, elements are okay.

NOTE: A check with an amp probe at position E, if available, can be made. Each row of elements should draw 30 amps with a total approximate amperage draw of 60 amps for both rows of elements. (Single phase). Replace any defective elements.

A. 2. With master and heat switches on:
   a. Check position 1, figure 1. Voltage should be 220V; if not, checkout heat switch and replace if necessary.
   b. Check position 2; there should be no voltage. If there is, readjust thermostat per thermostat adjustment instructions.
   c. Check position 3; voltage should be approximately 120V to ground.
   d. If voltage being applied on positions 1, 2, and 3 check out okay, then the relay should be replaced. Coil is probably defective.

B. If heat relay closes:
   1. Check power supply at incoming terminal board L1 and L2. It should be 220V, approximately.
   2. Check power at positions 4 and 5, figure 1. Voltage should read approximately 220V; if not, check wires for breaks or bad connections.
   3. Check power at positions 6 and 7. Voltage should be approximately 220V. If not, check wires for breaks or bad connections.
   4. Temperature should rise as explained in A1 and amperages may be checked according to those instructions. Replace any defective elements.



SINGLE PHASE
CONNECTION

FIGURE NO. 1 RINSE HEATER SYSTEM

A. HEATER SWITCH
B. WATER LEVEL CONTROL
C. THERMOSTAT
D. HEATER RELAY
E. RINSE TANK HEATERS
F. AMPROBE TEST POSITION
X. TERMINAL BOARD (9 TERMINALS)

WASH TANK HEATER SYSTEM

FUNCTION

The Wash Tank Heater System is electrically connected in the circuit so that it is dependent upon the dishwasher being properly filled with and maintaining a safe water level. The automatic fill system, therefore, should operate properly before the heat system can be engaged. The circuit is controlled by a heat switch (mounted on the front control panel), a water level control (mounted in the control box), a thermostat (mounted behind the lower front panel), and a heater relay (mounted behind the lower front panel), and a heater relay (mounted in the control box), with the coil being activated by the thermostat.

INDICATORS OF POSSIBLE MALFUNCTION

Once the machine has been properly filled and the heat system engaged, the heat circuit should operate by merely turning on the heat switch. Should the wash tank be either too high, too low, or no indication of temperature at all, the following checkouts should be made.

CHECKOUT OF HEATER SYSTEM FOR WASH TANK (Refer to drawing, fig. 2)

NOTE: THE FOLLOWING CHECKOUTS SHOULD BE DONE BY A QUALIFIED SERVICE PERSON OR ELECTRICIAN.

1. If temperature is too high: adjust thermostat, using thermostat instructions in this manual.
2. If temperature is too low: adjust thermostat, using thermostat instructions in this manual.
3. If step one or two does not correct the problem, proceed as follows:
   a. Turn off power to machine by tripping customer circuit breaker to "off" position. Turn machine circuit breaker on right side of control box to "off".
   b. Remove control panel from control box. Remount panel to right side, using two screws, with the backside of panel facing you.
   c. Reapply power to unit.
   d. Wash tank must be emptied, then refilled for each checkout.
   e. Wash temperature must be 130 degrees or less. Observe wash heater open switching relay (two pole; only one pole used), located top relay on left side. With master switch on, turn heat switch on and off; if relay contacts move in and out, see instructions under BB, if not, proceed.

AA -- If heat relay doesn't close:

1. There's an insulated bar across the top of two contacts. With insulate probe, depress this bar and observe wash thermometer; temperature should rise slowly. Watch for approximately five minutes; if temperature doesn't rise, replace element. If amprobe E is used, the element should draw approximately 7 amps.
2. With master and heat switches on:
   a. Check position 1, figure 2. Voltage should be 220V. If not, check out and replace heat switch.
   b. Check position 2; there should be no voltage. If there is, readjust thermostat per thermostat adjustment instructions.
   c. Check position 3; voltage should be approximately 120V to ground.
   d. If voltage being applied on positions 1, 2, and 3 checks out okay, then the relay should be replaced. Coil is probably defective.

BB -- If heat relay does close:

1. Check power supply at terminal board #2 between terminals #5 and #7; it should be approximately 220V.
2. Check power at position 4; there should be no voltage.
3. Check position 5; voltage should be approximately 120V to ground.
4. Check power at position 6; voltage should be 220V approximately; if not, check wires for breaks and bad connections.
5. Temperature should rise as explained in AA1 and amperages may be checked according to those instructions. Replace any defective elements.

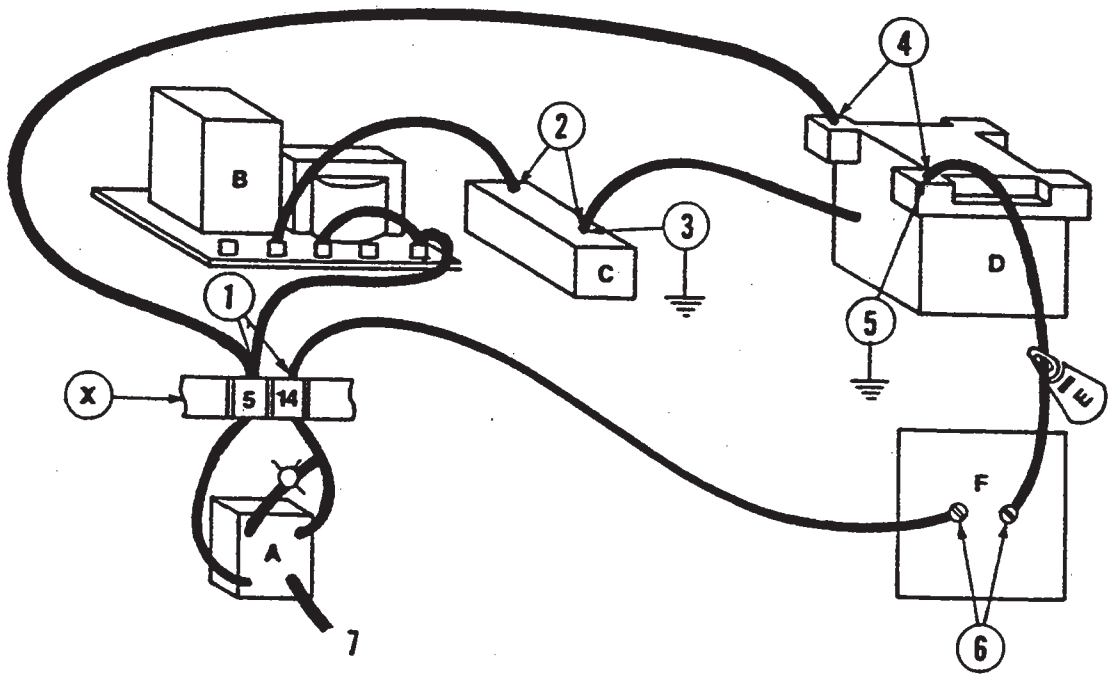


FIGURE NO. 2 WASH HEATER SYSTEM

A. HEATER SWITCH
B. WATER LEVEL CONTROL
C. THERMOSTAT
D. HEATER RELAY
E. AMPROBE TEST POSITION
F. WASH TANK HEATER
X. TERMINAL BOARD (9 TERMINALS)

REPLACING SEAL and CERAMIC on WASH PUMPS

FUNCTION

The pump is part of the total motor-pump system and utilizes one shaft seal and ceramic to prevent the pump from leaking around the impeller and shaft. One gasket is used to prevent leakage between the pump mounting plate and the machine pump plate.

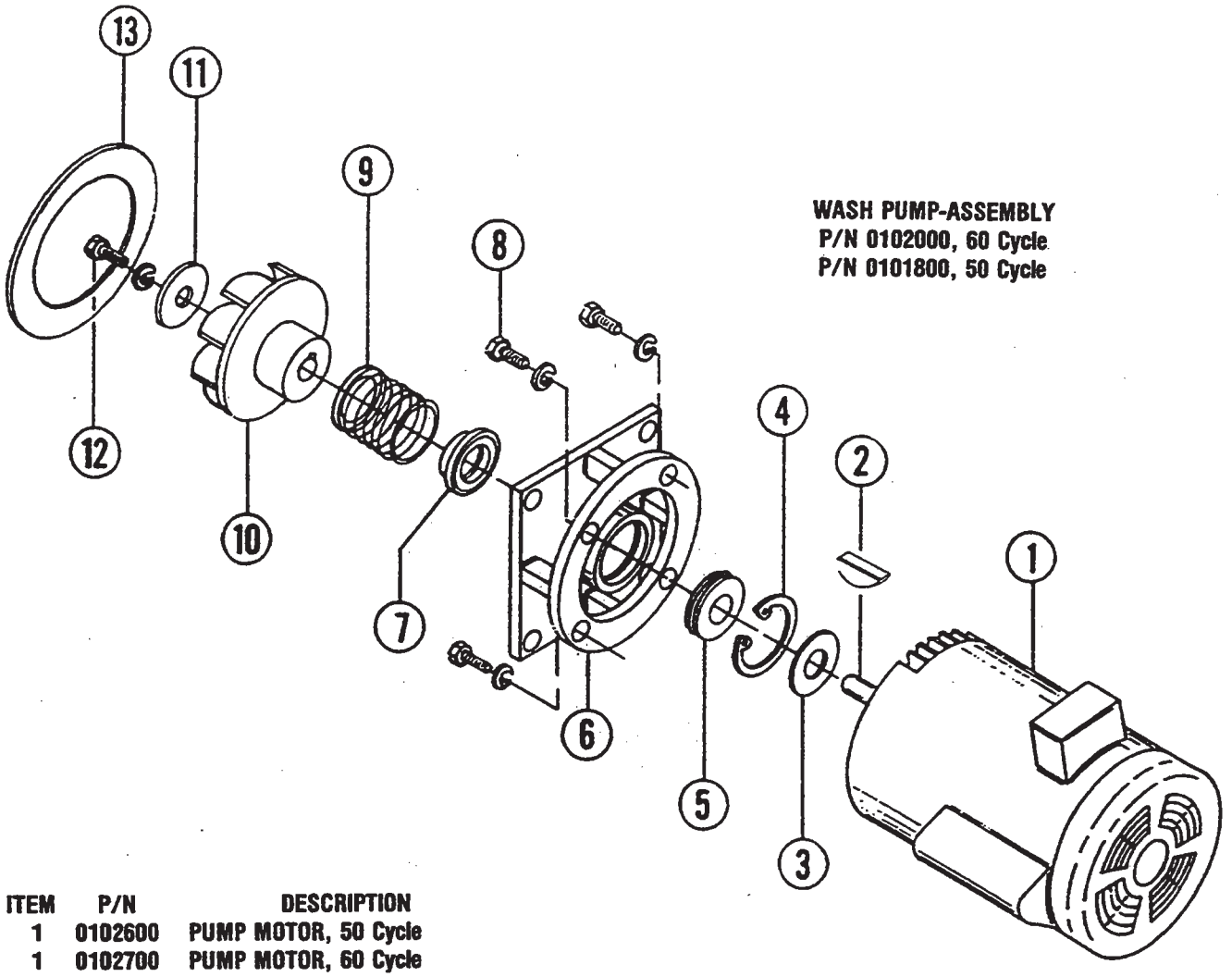
REPLACEMENT OF SEAL AND/OR CERAMIC

1. Remove the power source to the machine by turning the circuit breaker to its "off" position on the side of the control box.
2. Drain the machine by removing the overflow strainer in the wash tank.
3. Support the motor - - remove the four nuts holding the pump/motor to the machine's pump plate.
4. Carefully pull motor outward, move from side to side as required to remove from machine.
5. Set motor and pump on a sturdy stand close to machine or remove wires and conduit to allow motor/pump to be moved to a better work station.
6. Insert a firm object into the blades of the fan and use a 5/16" ratchet to remove bolt holding impeller. After the bolt is removed, pull the impeller up and off of the shaft.
7. The ceramic is imbedded in the pump mounting plate and usually does not need replacement, but the seal normally would when water leaks around the motor shaft area. If replacement of either is required, proceed as follows:
   a. Remove the four bolts holding the pump mounting plate to the motor.
   b. Slide the mounting plate up and off of the shaft and motor. The imbedded ceramic and shaft seal will be removed with the mounting plate.
   c. Turn over the plate and push the seal and/or ceramic out of the housing carefully. It may be necessary to break the ceramic to remove it.
   d. Clean the hole where the ceramic was installed.
   e. Lightly coat with a lubricant around the new ceramic's edges and "O" ring. Gently press the ceramic into place against the snap ring in the housing. Make sure that the grooved side of the ceramic faces the motor and housing snap ring, leaving the smooth side toward the impeller.
   f. Make sure that the woodruff key is in place in the shaft and then set the plate back on the motor over the shaft.

   NOTE: A field tool can be made (to ease installation of seal) from a pipe or tube (3/4" CPVC typical example) that has proper outside and inside dimensions. It must fit over step down in shaft, but be close to larger shaft size on outside. To accommodate woodruff, cut long slot in tube. Lubricate tube slip seal over tube onto shaft.
   g. Lightly coat with a lubricant the new seal face and gently press it into place over the shaft with the seal face against the ceramic. SEE NOTE ABOVE.
   h. Place the spring over the shaft with the metal cap up. Press the impeller down onto the shaft, aligning the keyway of the impeller with the woodruff key.
   i. Tighten the impeller washer, lockwasher, and bolt into place. Replace the four bolts that hold the mounting plate to the motor.
8. Reinstall the pump and motor in the unit by reversing steps one through eight (it is suggested that a new pump gasket be installed).

IMPELLER ROTATION:

WHEN FACING THE IMPELLER AFTER MOUNTING IT ON THE MOTOR SHAFT, THE IMPELLER SHOULD TURN IN A CCW DIRECTION.



WASH PUMP-ASSEMBLY
P/N 0102000, 60 Cycle
P/N 0101800, 50 Cycle

ITEM	P/N	DESCRIPTION
1	0102600	PUMP MOTOR, 50 Cycle
1	0102700	PUMP MOTOR, 60 Cycle
2	0106500	WOODRUFF KEY
3	3691300	WASHER, RUBBER
4	0108000	SNAP RING
5	0105000	CERAMIC FACE w/ "O" RING
6	0104500	PUMP MOUNTING PLATE
7	0105000	SEAL FACE
8		PLATE TO MOTOR MOUNTING BOLTS & LOCKWASHERS
9	0105000	SEAL ASSEMBLY (SEAL SPRING & CUP WASHER)
10	0105500	PUMP IMPELLER
11	0107500	IMPELLER WASHER
12	0107000	IMPELLER BOLT & LOCKWASHER
13	0106000	PUMP MOUNTING GASKET

REPLACING SEAL and CERAMIC on RINSE PUMPS

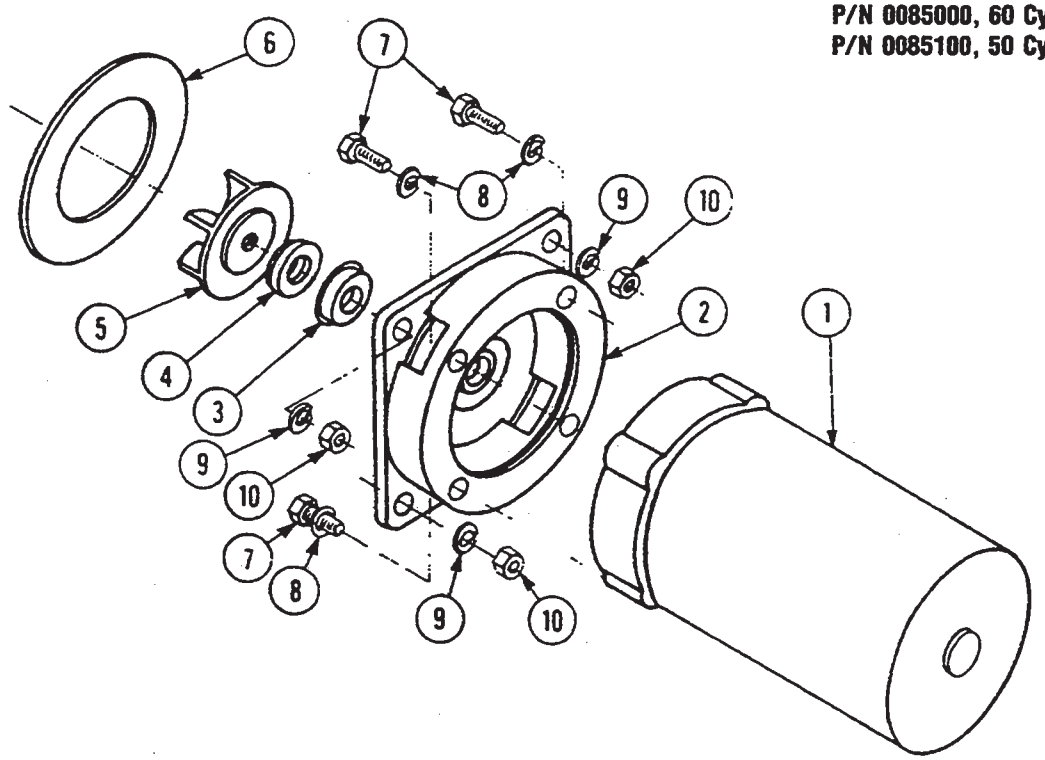
FUNCTION

The pump is part of the total motor-pump system and utilizes one seal and ceramic to prevent the pump from leaking around the impeller and shaft. One gasket is used to prevent leakage in between the pump mounting plate and the machine pump plate.

REPLACEMENT OF SEAL AND/OR CERAMIC

1. Remove power source to machine by turning circuit breaker to its off position on side of control box.
2. Drain machine by removing overflow strainer in wash tank.
3. Support motor - remove the four nuts holding the pump/motor to the machine's pump plate.
4. Carefully pull motor outward, move from side to side as required to remove from machine.
5. Set motor and pump on a sturdy stand close to machine or remove wires and conduit to allow motor/pump to be moved to a better work station.
6. Remove dust cap over end of motor shaft (opposite impeller end). This can be done by wedging with a screwdriver.
7. Remove impeller - hold shaft by inserting screw driver in slotted end of shaft and unscrew impeller in counterclockwise direction.
8. The ceramic is embedded in the impeller and normally does not need replacement, but it should be checked for cracks or a worn out surface. If ceramic does need replacement, proceed as follows.
   (a) With a pointed, flat tool , work the ceramic and rubber cup out of groove in impeller.
   (b) Clean groove of all residue.
   (c) Apply small amount of adhesive in groove.
   (d) Press new ceramic gently into groove with rubber cup leading the way. (NOTE: THE CERAMIC HAS ONE SIDE THAT IS GROOVED. THIS SIDE SHOULD BE FACING DOWN INTO THE RUBBER CUP. THE SMOOTH SURFACE SHOULD BE FACING UP).
9. The seal is embedded in the pump mounting plate and usually will need replacement when water leaks around motor shaft area. If replacement is required proceed as follows.
   (a) Remove four bolts holding pump mounting plate to motor, must be done with Allen wrench.
   (b) Slide mounting plate up off of shaft and motor.
   (c) Press seal out of housing carefully.
   (d) Clean hole where seal was installed.
   (e) Apply a small amount of non-hardening sealant to backside of seal. Insert new seal with a seal driver to prevent ruffling the edges of seal. Never use screwdriver or similar tool to alternately force edge of seal in place.
10. Reassemble pump and motor by reversing the above procedure.

PRB MODELS
RINSE PUMP & MOTOR ASSEMBLY
P/N 0085000, 60 Cycle
P/N 0085100, 50 Cycle



ITEM	P/N	DESCRIPTION
1	0086100	PUMP MOTOR, 50 Cycle
1	0086000	PUMP MOTOR, 60 Cycle
2	0088000	PUMP MOUNTING PLATE
3	0089000	PUMP CERAMIC FACE w/RETAINER CUP
4	0087500	PUMP IMPELLER SEAL
5	0089500	PUMP IMPELLER
6	0090000	PUMP MOUNTING GASKET
7	0090500	PUMP PLATE TO MOTOR MOUNTING BOLTS
8	0091000	MOUNTING PLATE LOCKWASHERS
9	0091000	PUMP MOUNTING PLATE TO BASE LOCKWASHERS
10	0091500	PUMP MOUNTING PLATE TO BASE NUTS

INSTRUCTIONS for ADJUSTING TENSION of CANTILEVER

PROBLEM: Doors raise hard, but lower easily.

SOLUTION:

1. Back off (loosen) upper adjusting nuts (F) on both eyebolts (E) about two or three complete turns.
2. Tighten lower adjusting nuts (G) on both eyebolts (E) a complete turn.
3. Check door for easy operation. Adjust further, if necessary.
4. When adjustment is completed, tighten upper adjusting nuts (F) down against angle to lock in position. Check both eyebolts.

PROBLEM: Doors raise easily, but lower hard.

SOLUTION:

1. Back off lower adjusting nuts (G) carefully, making sure there is still some thread on eyebolt available (both eyebolts).
2. Check door for easy operation. Adjust further, if necessary.
3. When adjustment is complete, tighten upper adjusting nuts (F) down against angle to lock in position. Check both eyebolts.

PROBLEM: Doors sticking, or are hard to move up and down.

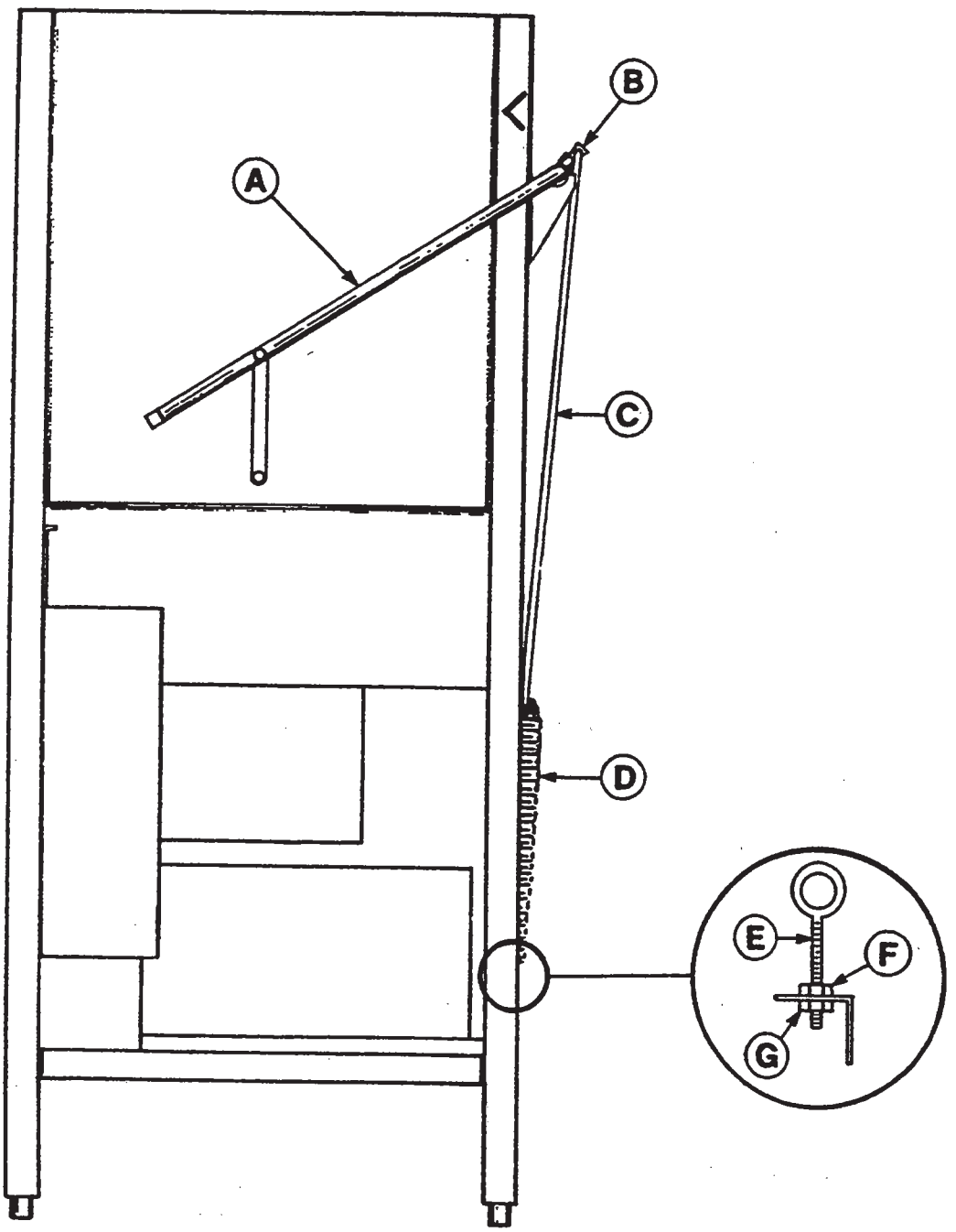
SOLUTION:

1. Raise doors.
2. Clean inside door channels on machine with a good cleaning compound. It may be necessary to remove doors to completely clean channel. If so, remove only one door at a time. Make sure cantilever has stop to prevent pulling other door up and out of channel. If it does not have stop, secure cantilever arm to machine with doors in the closed position.
3. Build up should be completely removed so it may be necessary to use an abrasive pad (non-metallic) to clean.
4. While you have the door out of channel, make sure it is not dented or crooked. If channel is crooked or dented, use ½" wide block to spread to proper opening.
5. Clean nylatron runners on the doors or replace nylatron, if excessively worn. See instructions on door runners.
6. Check door channels on machine for evenness and burrs.
7. After replacing doors, check for proper operation by raising and lowering with cantilever.

PROBLEM: One side of door higher than other and does not close completely.

SOLUTION:

1. Straighten cantilever arm.
2. This can sometimes be accomplished while arm is on machine by forcing down on the arm connected to the high door while the other side of the cantilever is pulled up.
3. If step two cannot be accomplished on machine, cantilever will have to be removed and straightened.


A
B
C
D
E
F
G

APPLYING NYLATRON STRIP TO 100 SERIES DOOR

P/N 0051800

INSTRUCTIONS FOR INSTALLING NEW DOOR GUIDES

IT'S IMPORTANT WHEN REMOVING THE OLD DOOR GUIDES THAT THE SURFACE BE CLEANED THOROUGHLY. THIS CAN BE DONE WITH A SOLVENT THAT WILL DISSOLVE THE REMAINING GLUE AND/OR THE USE OF A FINE SANDPAPER TO SCRATCH THE SURFACE WHERE THE DOOR GUIDE WOULD MAKE CONTACT WITH THE STAINLESS STEEL DOOR.

AFTER THIS IS ACCOMPLISHED AND YOU ARE QUITE CONVINCED THAT THE SURFACE IS CLEANED OF ALL OIL, GLUE, DIRT, DETERGENT ETC., THEN THE DOOR GUIDE SHOULD BE PLACED ON A FLAT SURFACE AND A BEAD OF A SILICONE ADHESIVE OR ANY GOOD NON-HARDENING GLUE SHOULD BE LAID ON THE INSIDE OF THE DOOR GUIDE'S SURFACE (TOP AND BOTTOM, MAKING SURE THAT NONE OF THE EXPOSED SURFACE TO THE OUTSIDE HAS ANY GLUE ON IT).

TAKE THE DOOR GUIDE AND SNAP IT OVER THE DOOR'S EDGE AS DESCRIBED IN THE ATTACHED SKETCH. DO NOT SLIDE UP THE EDGE. LET THIS DOOR SET FOR AT LEAST ONE HOUR BEFORE USE SO THAT THE GLUE OR ADHESIVE HAS A CHANCE TO SET SOMEWHAT.

IF THESE INSTRUCTIONS ARE FOLLOWED, THE DOOR GUIDES SHOULD ADHERE TO THE DOOR.

Fig. 1 - PUT A STREAM OF SILASTIC OR NON-HARDENING ADHESIVE IN INSIDE CORNER OF STRIP.

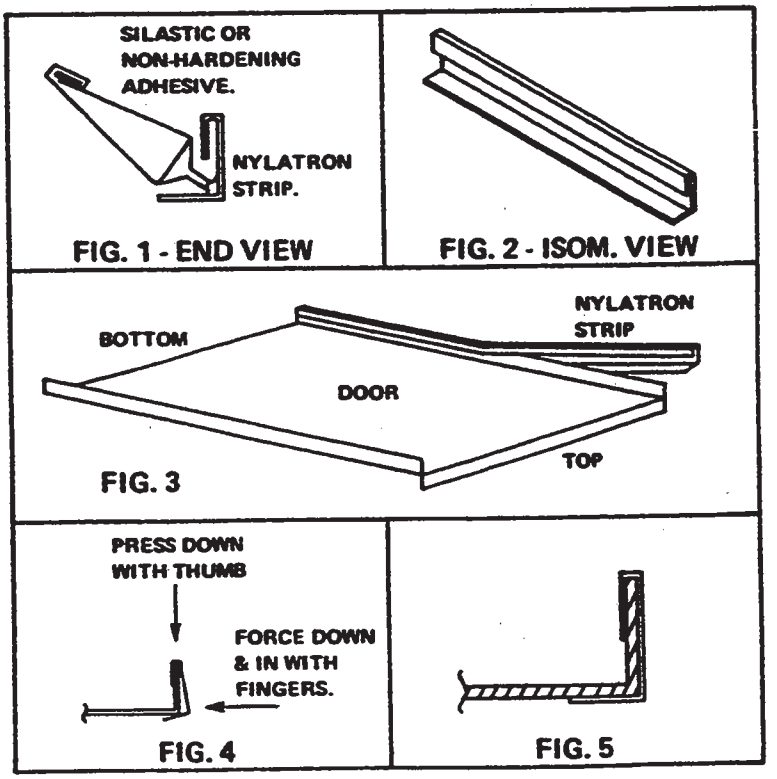
Fig. 2 - SIDE VIEW OF NYLATRON STRIP.

Fig. 3 - SNAP STRIP ON DOOR LIP.

NOTE: DO NOT SLIDE STRIP FROM END ALWAYS SNAP ON.

Fig. 4 - PRESS DOWN WITH THUMB AND INWARD WITH FINGERS.

Fig. 5 - FINISHED APPLICATION - END VIEW.



WATER LEVEL CONTROL (ELS)

(FOR RINSE TANK) P/N 0205000

FUNCTION

The Water Level Control device utilized on power rinse (PRB) models only, automatically maintains the water level in the rinse tank. The rinse tank water level control is energized by the master switch. 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, opening the normally closed circuit to the solenoid, which stops the water flow to the rinse tank.

When water is removed from the tank by the rinse pump, the sensing probe will alert the water level control by signal to deactivate and return the contact points on relay (in clear plastic case) to the normally closed position, allowing power to be reapplied to the solenoid valve. Water will again flow into rinse tank until proper level is reached and maintained.

CHECKOUT

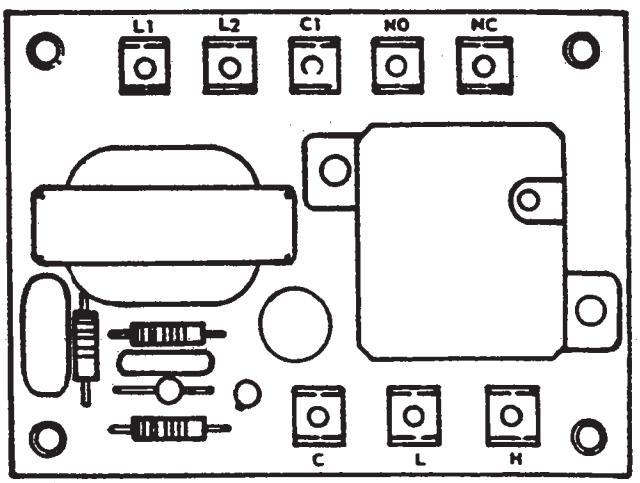
NOTE: ALL ELECTRICAL CHECKS SHOULD BE MADE BY QUALIFIED SERVICE PERSONNEL OR ELECTRICIAN.

If one of the following problems exist, this control should be checked out as shown below:

1. Water to rinse tank runs continually with the master switch on.
2. Water does not flow into rinse tank when required.

PROCEED WITH CHECKOUTS:

1. Remove power source to machine by moving breaker to "off" position.
2. Remove 4 screws holding control panel to control box and fasten to control box on right side, using 2 screws with backside of panel outward.
3. Locate the water level control for the rinse tank circuit (sketch below). Remove, mark, and insulate for easy replacement wires going to letters C and H on control.
4. Reapply power and turn on master switch.
5. With insulated wired, connect jumper wire between terminals C and H (24 Volt system).
6. If relay (inside clear plastic case marked "X" on drawing below) operates, then the water level control action can be deemed operational, and other causes should be explored (see troubleshooting section).
7. If relay doesn't operate, then check relay coil continuity. Replace relay or complete control, as necessary.
8. Remove power source once again and replace wires removed in (3) to original terminals or new control, if replacement was made.



WATER LEVEL CONTROL (ELS)

(INITIAL FILL AND WASH—HEAT CIRCUIT) P/N 0205000

FUNCTION

This control is activated when the master switch is turned on. The primary function is to automatically control the proper initial filling of the wash tank, then to activate the wash and rinse tank heat circuit. It will also provide cutoff of the wash and rinse heat circuit, should the water be accidentally drained from the machine (with the master switch still on). The master switch should be turned off before draining.

This water level control is used in conjunction with two probes (sensors), master switch, fill switch, rinse relay, thermostat(s), heat relay(s), solenoid or rinse motor.

When the master switch is turned on, the normally closed circuit in the plug-in relay is energized. As the fill switch is pushed upward and released, the rinse relay contacts close, and the solenoid (or rinse pump on PRB model) opens and water flows into wash tub. As the water rises in the wash tub, it will cover first the lower probe (directly above wash element) then reach the upper probe. At this time, the plug-in relay coil will be activated and open the normally closed contacts, de-energizing the solenoid (or rinse pump). Simultaneously, the contacts will close on the normally open circuit, energizing the wash-rinse heat circuit. (Checkout and information concerning that part of the circuit are in the wash heater system or rinse heater system instruction page of this manual.)

If the water should be drained from the machine while the master switch is still on, the lower probe will sense the lack of water and de-energize the plug-in relay, which will de-energize the wash-rinse heat circuit. DO NOT DEPEND ON THIS - - always turn master switch off before draining.

SYMPTOMS OF LEVEL CONTROL FAILURE:

1. Fill does not take place unless rinse switch is held upward until full.
2. Initial fill does not stop when it reaches overflow, but continues.
3. Wash-rinse heat circuit does not activate.
4. Wash heater remains on (if wash water accidentally emptied with master switch on.)

PROCEED WITH CHECKOUT:

1. Remove power to machine by turning customer circuit breaker to its "off" position. Turn machine circuit breaker, located on right side on control box, to "off".
2. Remove 4 screws holding control panel on control box. Remove panel and attach to one side of control box with 2 screws, with back side facing toward you.
3. Locate initial fill and wash-heat circuit water level control board and disconnect wires going to terminals marked C, H, and L. Mark and insulate wires for replacement.

4. Be sure wash tank is empty and master switch and heat switch are off. Carefully reapply power to machine. Begin by turning master switch on. With an insulated jumper wire, touch jumper between terminals C & H; relay in clear plastic cube should activate as wire is touched to terminals. Observe relay contacts - - they should pull in. If they do, remove wire and they should return to original position. Repeat several times to verify action. Reconnect wires removed.
5. If relay operates, the control can be deemed operational and other causes should be explored.
   EXAMPLES:
   1. Loose or broken wire to probe or ground (green wire).
   2. Dirty probe(s).
   3. Solenoid faulty (see instruction page concerning solenoid).
   4. Thermostat faulty or needs adjustment (see instruction page concerning thermostat).
   5. Wash element faulty (see instruction page concerning wash-heat checkout).
6. If relay does not operate, check voltage being applied to L1 - L2 marked on control. It should be 208-230V. Replace control, if necessary.
7. In any case, always locate sensor (probes) inside wash tub and clean off all deposits (instruct customer; this should be at least a weekly project).
8. Remove power to machine and replace panel and any wires that were not replaced previously.

TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Nothing on machine operates.	1- No Voltage to dishwasher. a. Customer's fuse blown or circuit breaker tripped.	a. Replace or reset.
	2- Machine circuit breaker tripped or turned off.	2- Turn on or reset.
	3- Voltage to machine low or circuit to machine broken.	3- Contact your electrician and/or power company for repair.
Will not fill with electrical power applied even though other components work. (B Model)	1- Water hand valve off.	1- Turn hand valve on.
	2- Master switch not on or faulty.	2- Turn on or replace.
	3- Fill switch faulty or loose wire connection.	3- Replace switch or wire or connection terminal.
	4- Solenoid valve does not operate.	4- See instruction page concerning the Solenoid valve.
	5- Water level control faulty	5- See page on water.
	6- Y strainer clogged.	6- Turn water to machine off, remove plug & strainer screen, clean & replace.
Will not fill with electrical power applied even though other components work (PRB Model)	1- Customer's water hand valve off.	1-Turn hand valve on.
	2- Master switch not on or faulty.	2- Turn on or replace.
	3- Fill switch faulty or loose wire connection.	3- Replace switch or wire or connection terminal.
	4- Rinse motor not operating.	4- Check connection and voltage to motor repair or replace as necessary.
	5- Water level control does not maintain the water level in the rinse tank.	5- See instruction page concerning the water level control for PRB Models.
	6- Solenoid Valve does not operate	6- See instruction page concerning Solenoid Valve.
	7- Y-strainer clogged.	7- Turn off water to machine, remove plug, prepare to catch hot water & strainer screen, clean & replace.

TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Fills slowly and/or rinse is weak.	1- Low water pressure.	1- Check water pressure by: a. Turn heat and master switch off. b. Empty wash tub. c. Replace overflow strainer, close doors. d. Turn on master switch. e. As you push up fill switch, time the seconds it takes to fill machine to within ¼" of top of the overflow tube. It should be 60 seconds. Any more than 5 seconds longer indicates the water supply & pressure insufficient.
	2- Rinse head assemblies limed up or clogged with other deposits.	2- Clean rinse head tubes. See instruction page on preventive maintenance.
Rinse water runs continuously with power on.	1- Rinse switch sluggish or faulty.	1- Replace.
	2- Solenoid valve dirty or faulty.	2- See special instructions page concerning Solenoid Valve.
	3- Water level control faulty (PRB Models only).	3- See special instructions page concerning water level control for PRB Models.
	4- Rinse tank probe coated (PRB Model)	4- Remove & clean probe then replace.
	5- Breather tube plugged or bent closed (PRB Model only).	5- Clean tube or repair.
Rinse water runs with no electrical power applied to solenoid (Master Switch off).	1- Water pressure excessive.	1- Check using pressure gauge during flow period (solenoid valve open) should read 20 PSI, if in excess installation of a Pressure Reducer can reduce pressure.
	2- Solenoid Valve diaphragm breather hole clogged.	2- See instructions page concerning Solenoid Valve.

TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Machine won't work on automatic. Wash and rinse work only on manual.	1- Timer motor faulty.	1- Pull control panel and observe timer operation. See instruction page for changing timer motor.
	2- Master or start switch faulty.	2- Replace switch.
	3- Start switch in middle position.	3- Position switch up or down fully.
Machine will not automatically fill.	1- Power is off.	1- Check incoming line fuses cuit breakers.
	2- Wire loose or broken to L1 and L2.	2- Check line voltage at L1 and L2 on water level control and control panel.
	3- Master switch faulty.	3- Replace.
	4- Water level control faulty.	4- To check water level control, see special instructions on water level control.
	5- High fill probe.	5- Clean or short out probe end to tank, this will cause the relay on the water level control to close and return, if this does not happen, check for loose wire especially a loose ground wire.
	6- Electric solenoid valve not opening.	6- Check electric solenoid valve, see special information section under solenoid valve
Wash motor does not operate on automatic or manual but machine rinses properly.	1- Wash switch faulty.	1- Replace.
	2- Broken or loose wire from terminal board to motor.	2- Check for loose or broken short circuit.
	3- Wash motor faulty.	3- Repair or replace.

TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Wash motor does not operate on automatic, but rinses on automatic and washes on manual	1- Wash micro switch in timer faulty	1- Check timer, see instruction page on timer
Machine begins to wash when master switch is turned on without operating start switch	1- Timer motor, micro switch faulty	1- Check timer, see instruction page on timer
	2- Start switch faulty	2- Replace
Machine goes through entire cycle and shuts off but washes through complete cycle	1- Wash micro switch faulty	1- Check timer, see instruction page on timer
Wash reservoir does not remain full	1- Large overflow strainer not properly seated.	1- Check 'O' ring in drain fitting - Put strainer in tightly
	2- Bottom of strainer (conical end of tube) bent out of shape	2- Replace strainer
	3- Dirt or mineral deposits in strainer hole	3- See instruction page on Preventive Maintenance
Wash motor runs but machine fails to wash satisfactorily	1- Wash temperature of 150° - 160° is not maintained	1- Adjust thermostat on wash tank, check wash heater element.
	2- Inadequate or improper detergent being used	2- Use recommended detergent, see machine's operation instructions
	3- Pump intake strainer is dirty	3- See Preventive Maintenance
	4- Wash tubes not turning	4- The wash assembly can usually be freed by bearing down on the wash assembly and rotating back and forth. If the assembly can't be freed in this manner, take the wash assembly apart and the bearing races, using care not to lose the bearings or drop them into the machine. Clean scale off parts with recommended scale solvent. See Preventive Maintenance & instruction for removal of wash head assemblies.

TROUBLE SHOOTING GUIDE

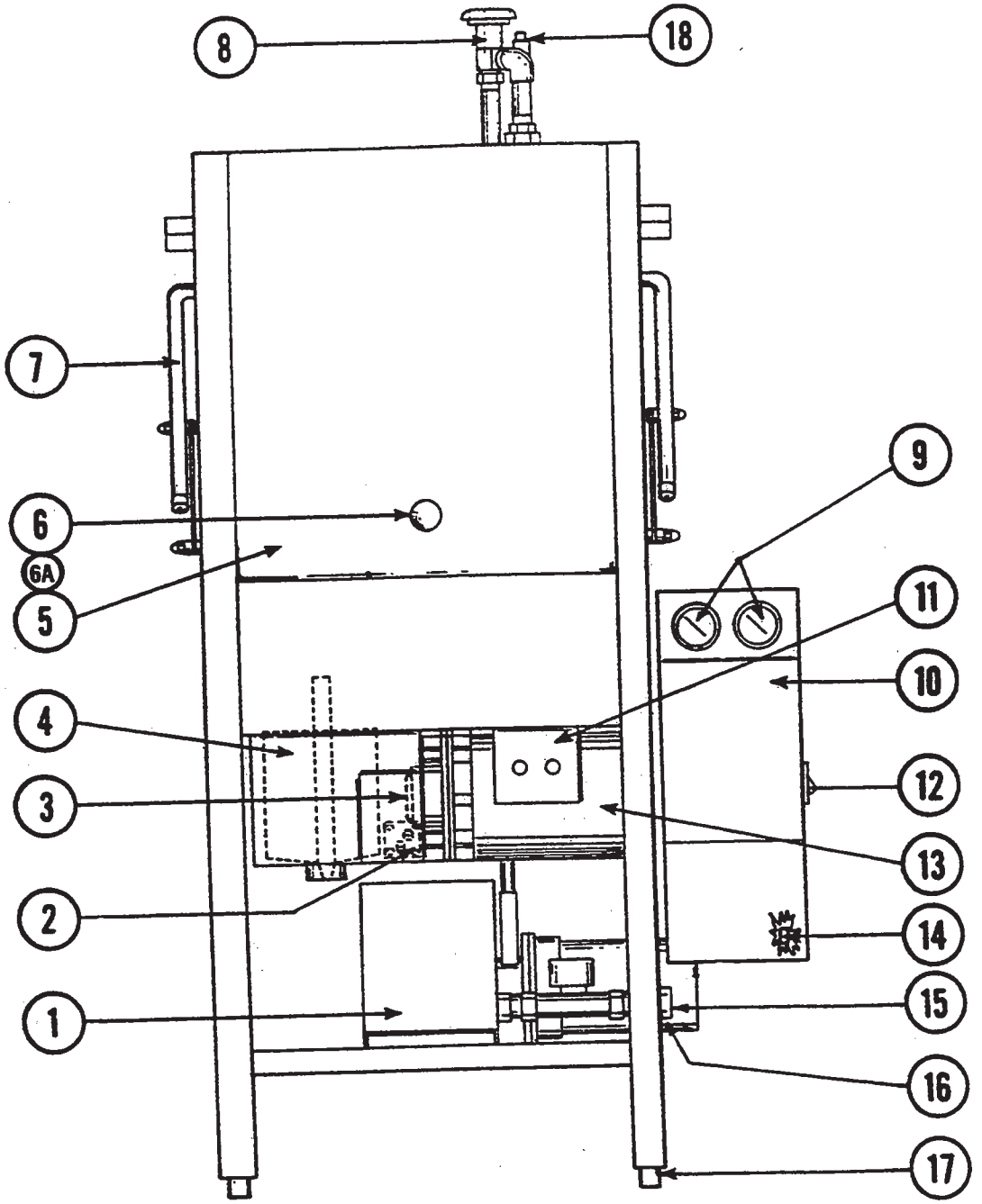
PROBLEM	CAUSE	SOLUTION
Wash Pump leaks	1- Impeller seal is worn (leaks around shaft)	1- Remove and inspect pump and motor assembly, see instruction page on pump seals and ceramic replacement
	2- Pump assembly is not seated to base of machine (leaks around mounting plate).	2- Replace gasket. Make sure mounting nuts are tight
Rinse and fill switch is on but water does not come through rinse tubes	1- Valve in water line is not open	1- Check to make sure all valves are open
	2- Rinse tubes are clogged	2- See Preventive Maintenance
	3- Strainer in water line is full of scale	3- See Preventive Maintenance
	4- Rinse and fill switch faulty	4- Check rinse and fill switch
	5- Electric solenoid diaphram or plunger not operating	5- Remove diaphram and plunger, flush and clean, see instruction page on Solenoid Valves
	6- Coil on the solenoid valve is burned out.	6- See #5 above
	7- Insufficient or excessive pressure	7- Check flow pressure which should not exceed 25 PSI or go below 15 PSI
When master switch is on rinse runs continually	1- Water level control faulty	1- Check instruction page on water level controls
Machine goes through entire cycle and shuts off, but rinses throughout the cycle	1- Defective rinse microswitch	1- Check timer, instruction page
Master switch off, rinse runs continually as soon as power is applied to machine	1- Master & rinse switch faulty	1- Replace rinse and/or master switch
	2- Loose green ground wire from water level control	2- Tighten ground wire or see instruction page on solenoids
Extremely high rinse temperature indication	1- Thermostat set too high	1- Adjust thermostat control, see instruction page on thermostat
	2- Thermostat faulty	2- Replace

TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Low rinse temperature indication	1- Machine using more water than normal by rinse running throughout wash cycle, caused by faulty rinse microswitch in timer	1- If this trouble occurs, it should be determined that the rinse is running during the wash cycle by inspecting the rinse solenoid and by disconnecting the wash motor lead at the terminal board on the control panel. See instruction page on timer
	2- Incoming water supply not hot enough	2- Provide adequate supply of hot water, see specifications sheet
	3- Heater switch faulty	3- Check heater switch
	4- Setting on thermostat control has been moved from original factory setting	4- Try new setting. Move the thermostat control clockwise for higher setting.
	5- Thermostat faulty	5- Check thermostat, see instruction page
	6- Heater faulty	6- Check heater, see instruction page
	7- Contactor faulty	7- Check contactor, see instruction page
	8- Thermometer faulty	8- Remove thermometer and check in hot water against an accurate thermometer
Water leaks from top of door	1- Spray arms are not moving freely or ends bent downward	1- See instruction page on preventive maintenance - pull upward on ends of longest wash spray arms ½".
Machine wash and rinse do not operate	1- Timer defective and stopped in timed cycle	1- Move start switch to middle position (start switch is three position) UP - Start CENTER - Off, DOWN - Start. See instruction page on timer.
Machine does not operate at all	1- Circuit breaker tripped	1- Reset circuit breaker on wall panel. Check voltage to machine at L1 and L2 at terminal board #TB2

TROUBLE SHOOTING GUIDE

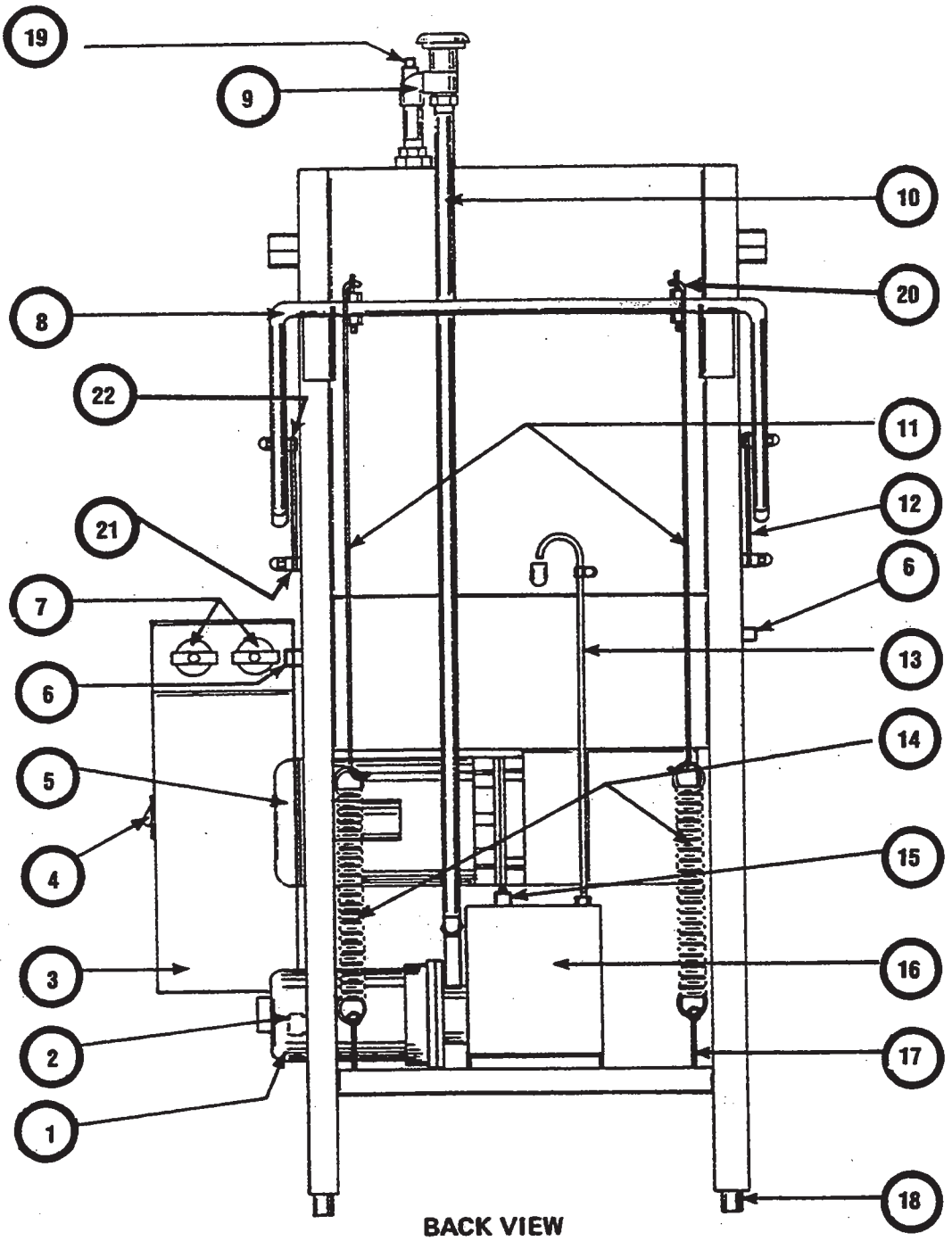
PROBLEM	CAUSE	SOLUTION
Rinse pump leaks. PRB Models only.	1- Impeller seal is worn.	1- See instruction page on ceramic replacement
	2- Impeller ceramic is worn or scored.	2- Same as 1.
Indicator light(s) do not glow at any time.	1- Lights faulty or poor connection.	1- Replace or correct connection.
None of the automatic functions work (wash, rinse).	1- Start switch faulty.	1- Check switch. Replace if necessary, see instructions page concerning replacement of switches in control panel.
	2- Wire connections poor.	2- Correct connection.
	3- Timer rinse or wash micro switch faulty.	3- See instruction page concerning timer & motor.
Vacuum breaker leaks	1- Limed up.	1- Disassemble: a. Remove top using flat jaw wrench or channel locks. b. Remove poppet. c. Clean poppet & V.B. top & body. d. Replace parts removed.
	2- Faulty.	2-Replace needed parts or whole VB.



FRONT VIEW

ITEM	P/N	DESCRIPTION
1	0068000	BOOSTER TANK
2	0058000	WASH TANK HEATER
3	0151000	INSIDE PUMP STRAINER
4	0152000	LARGE OVERFLOW STAINER
5	0047000	FRONT DOOR
6	0050900	DOOR HANDLE
6A	0051000	HANDLE JL MODELS
	0055100	BOTTOM FRONT PANEL (NOT SHOWN)
7	6007900	CANTILEVER ARM CONV. KIT
8	0184301	VACUUM BREAKER
9	0169100	WASH & RINSE THERMOMETERS

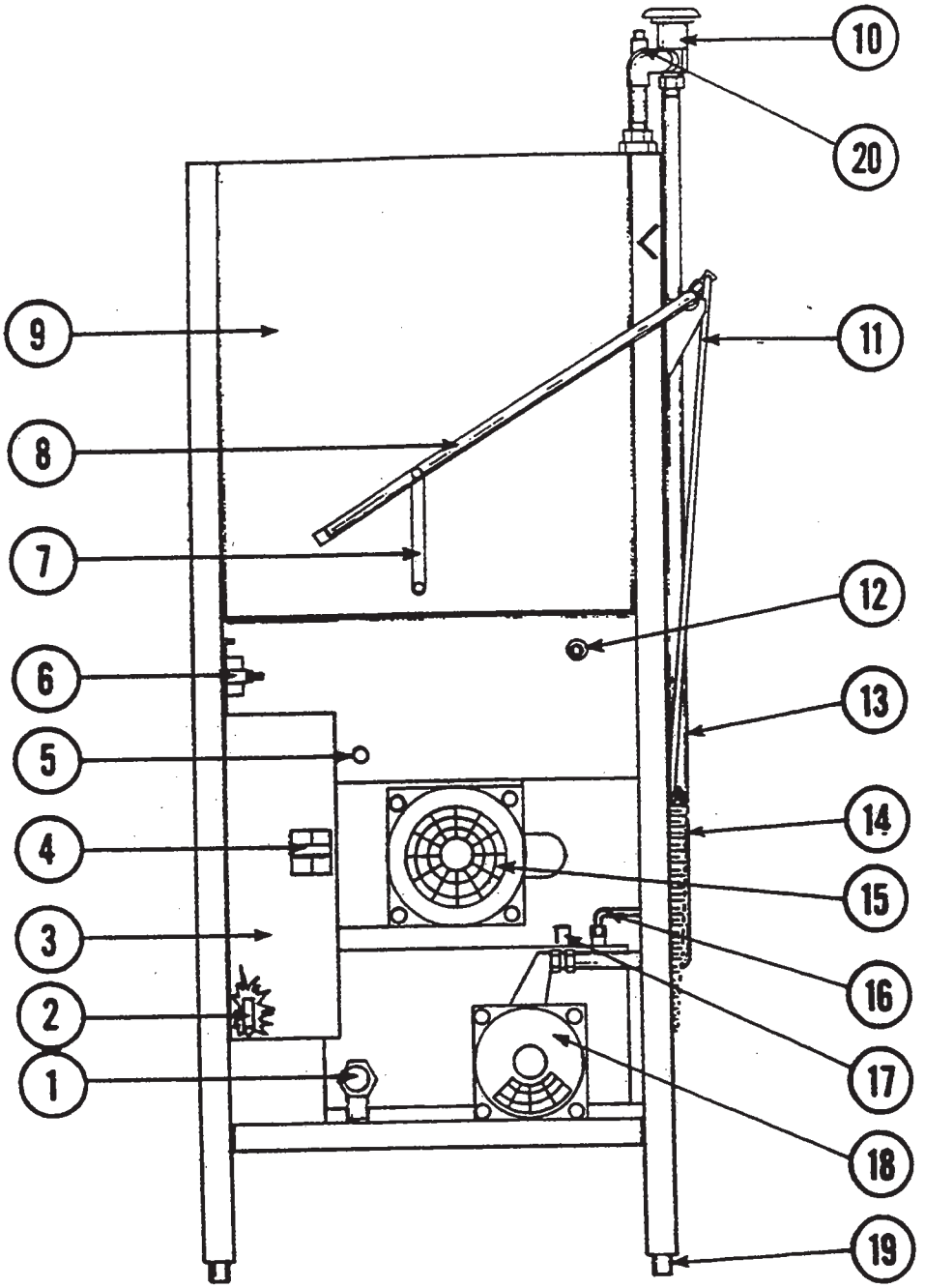
ITEM	P/N	DESCRIPTION
10	0019900	CONTROL BOX & PANEL
11	0169400	THERMOSTAT BOX
12	0012000	CONTROL CIRCUIT PROTECTION DEVICE
13	0101800	WASH PUMP & MOTOR, 50 Cycle
13	0102000	WASH PUMP & MOTOR, 60 Cycle
14	0165500	CUSTOMER'S ELECTRICAL CONNECTION
15		CUSTOMER'S WATER CONNECTION
16	0085100	RINSE PUMP & MOTOR (PRB ONLY) 50 Cycle
16	0085000	RINSE PUMP & MOTOR (PRB ONLY), 60 Cycle
17	0083300	ADJUSTABLE FOOT
18		RINSE ADDITIVE FITTING



BACK VIEW

ITEM	P/N	DESCRIPTION
1	0085100	RINSE PUMP & MOTOR (PRB ONLY), 50 Cycle
1	0085000	RINSE PUMP & MOTOR (PRB ONLY), 60 Cycle
2		CUSTOMER'S WATER CONNECTION
3	0019900	CONTROL BOX & PANEL
4	0012000	CONTROL CIRCUIT PROTECTION DEVICE
5	0101800	WATER PUMP & MOTOR, 50 Cycle
5	0102000	WASH PUMP & MOTOR, 60 Cycle
6		DETERGENT DISPENSER FITTING
[illegible]	0169100	WASH & RINSE THERMOMETER
[illegible]	6007900	CANTILEVER ARM
9	0184301	VACUUM BREAKER
10		EXTERNAL VACUUM BREAKER PIPING

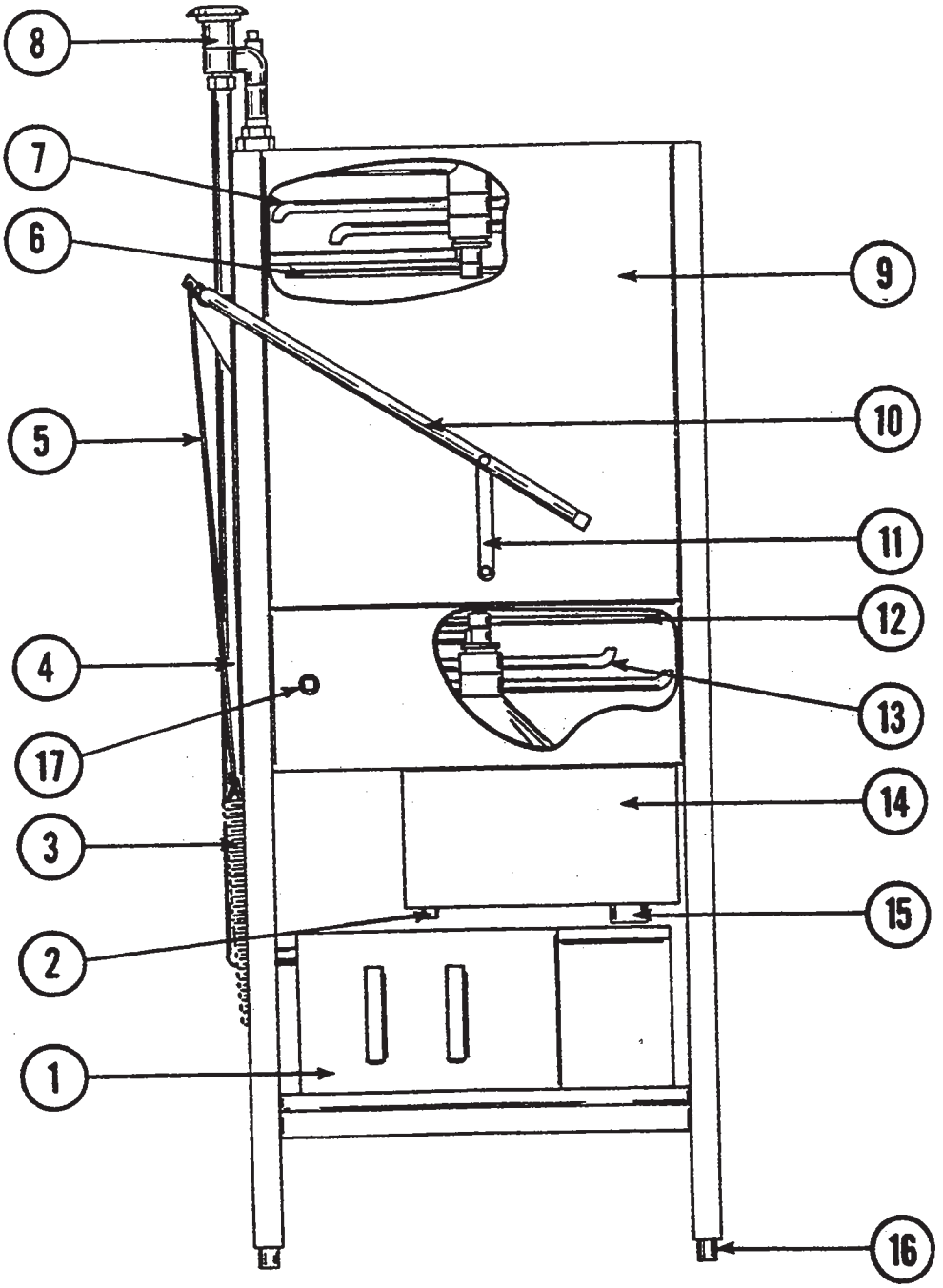
ITEM	P/N	DESCRIPTION
11	0008700	CANTILEVER SPRING RODS
12	0011501	CANTILEVER DOOR COUPLER
13	0007500	BREATHER TUBE (PRB ONLY)
14	0009000	CANTILEVER SPRINGS
15	0084500	WATER LEVEL PROBE (PRB ONLY)
16	0068000	BOOSTER TANK
17	0009400	CANTILEVER EYE BOLTS
18	0083300	ADJUSTABLE FOOT
19		RINSE ADDITIVE FITTING
20	0009100	YOKE ASSEMBLY
21	0049000	SPACER
22	0010000	SLEEVE



RIGHT SIDE VIEW

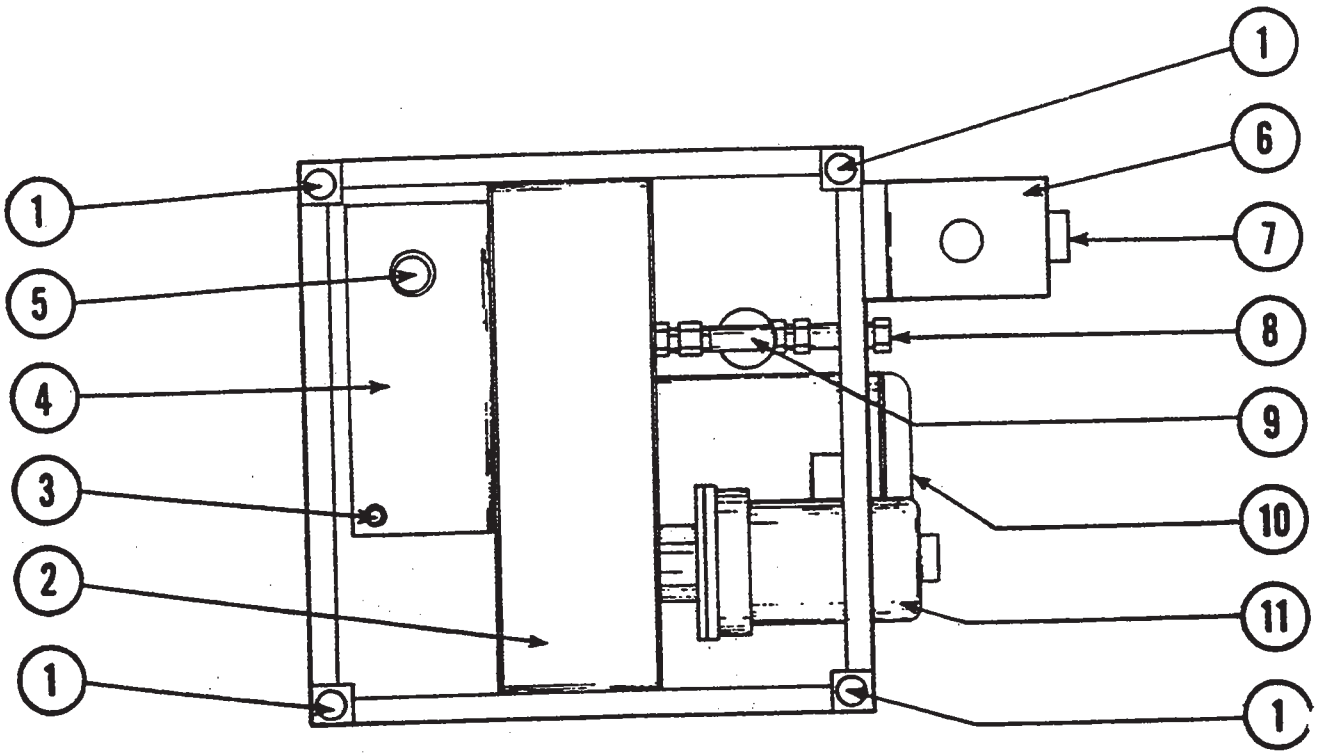
ITEM	P/N	DESCRIPTION
1		CUSTOMER'S WATER CONNECTION
2	0165500	CUSTOMER'S ELECTRICAL CONNECTION
3	0019900	CONTROL BOX & PANEL
4	0012000	CONTROL CIRCUIT PROTECTION DEVICE
5	0084300	HIGH WATER PROBE
6	0169100	WASH & RINSE THERMOMETERS
7	0011500	CANTILEVER DOOR COUPLER
8	6007900	CANTILEVER ARM
9	0048000	SIDE DOOR
10	0184300	VACUUM BREAKER
11	0008700	CANTILEVER SPRING ROD

ITEM	P/N	DESCRIPTION
12		DETERGENT DISPENSER FITTING
13		EXTERNAL VACUUM BREAKER PIPING
14	0009000	CANTILEVER SPRING
15	0101800	WASH PUMP & MOTOR, 50 Cycle
15	0102000	WASH PUMP & MOTOR, 60 Cycle
16	0007500	BREATHER TUBE (PRB ONLY)
17	0084500	WATER LEVEL PROBE (PRB ONLY)
18	0085000	RINSE PUMP & MOTOR (PRB ONLY) 60 (
18	0085100	RINSE PUMP & MOTOR (PRB ONLY) 50 Cycle
19	0083300	ADJUSTABLE FOOT
20		RINSE ADDITIVE FITTING



ITEM	P/N	DESCRIPTION
1	0006800	BOOSTER TANK
2		DETERGENT SENSOR FITTING
3	0009000	CANTILEVER SPRING
4		EXTERNAL VACUUM BREAKER PIPING
5	0008700	CANTILEVER SPRING ROD
6	0136000	UPPER RINSE HEAD ASSEMBLY
7	0200000	UPPER WASH HEAD ASSEMBLY
8	0184301	VACUUM BREAKER
9	0048000	SIDE DOOR

ITEM	P/N	DESCRIPTION
10	6007900	CANTILEVER ARM
11	0011500	CANTILEVER DOOR COUPLER
12	0136000	LOWER RINSE HEAD ASSEMBLY
13	0200000	LOWER WASH HEAD ASSEMBLY
14		WASH TANK (NLA)
15		DRAIN OUTLET
16	0083300	ADJUSTABLE FOOT
17		DETERGENT DISPENSER FITTING
18	0182100	PLUMBING VACUUM BREAKER TO HOOD

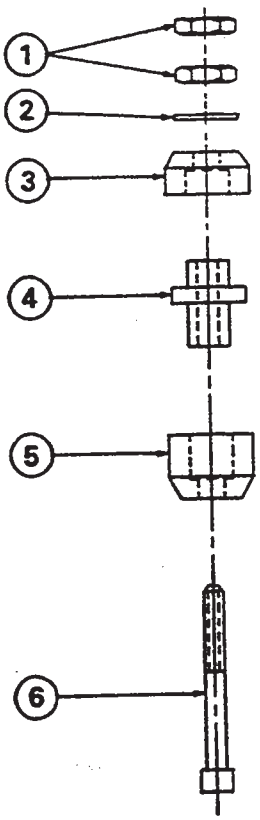


BOTTOM VIEW

ITEM	P/N	DESCRIPTION
1	0083300	ADJUSTABLE FOOT
2	0006800	BOOSTER TANK
3		DETERGENT SENSOR FITTING
4		WASH TANK
5		DRAIN OUTLET
6	0019900	CONTROL BOX & PANEL

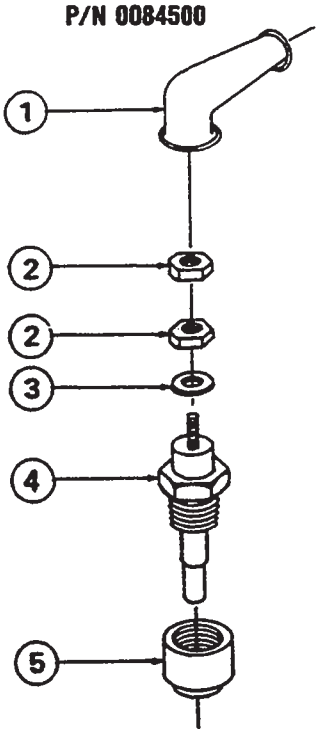
ITEM	P/N	DESCRIPTION
7	0012000	CONTROL CIRCUIT PROTECTION DEVICE
8	0153700	'Y' STRAINER
9	0143000	SOLENOID VALVE
10	0101800	WASH PUMP & MOTOR, 50 Cycle
10	0102000	WASH PUMP & MOTOR, 60 Cycle
11	0085000	RINSE PUMP & MOTOR (PRB ONLY), 60 Cycle
11	0085100	RINSE PUMP & MOTOR (PRB ONLY), 50 Cycle

HIGH LEVEL PROBE
P/N 0084300



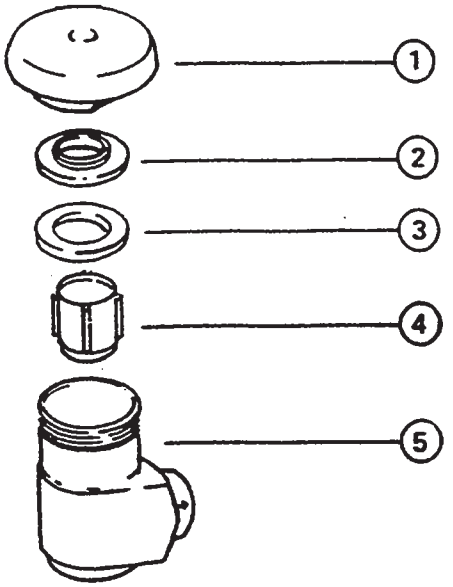
1 NUT, 6/32 S/S
2 WASHER RUBBER
3 PORCELAIN, OUTER
4 INSERT, SILASTIC
5 PORCELAIN, INNER
6 STEM

LOW LEVEL PROBE
P/N 0084500

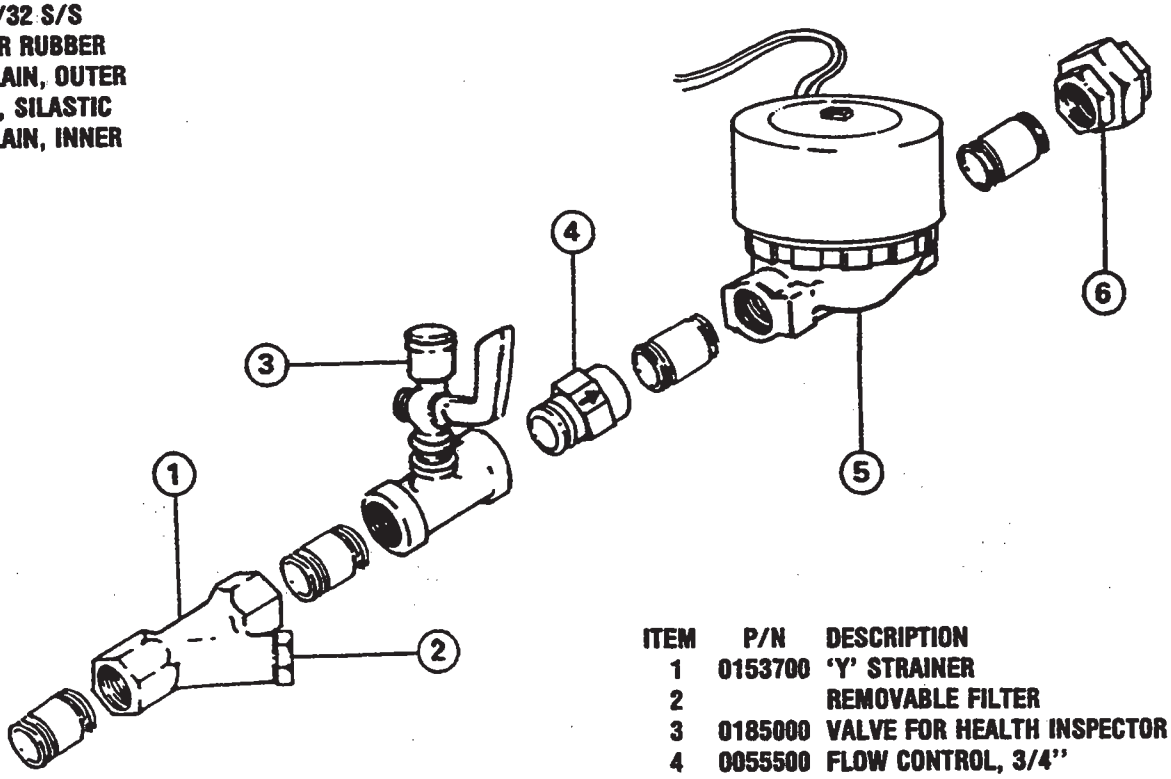


1 PROBE BOOT
2 NUTS
3 LOCKWASHER
4 PROBE
5 TANK COUPLING

VACUUM BREAKER P/N 0184301

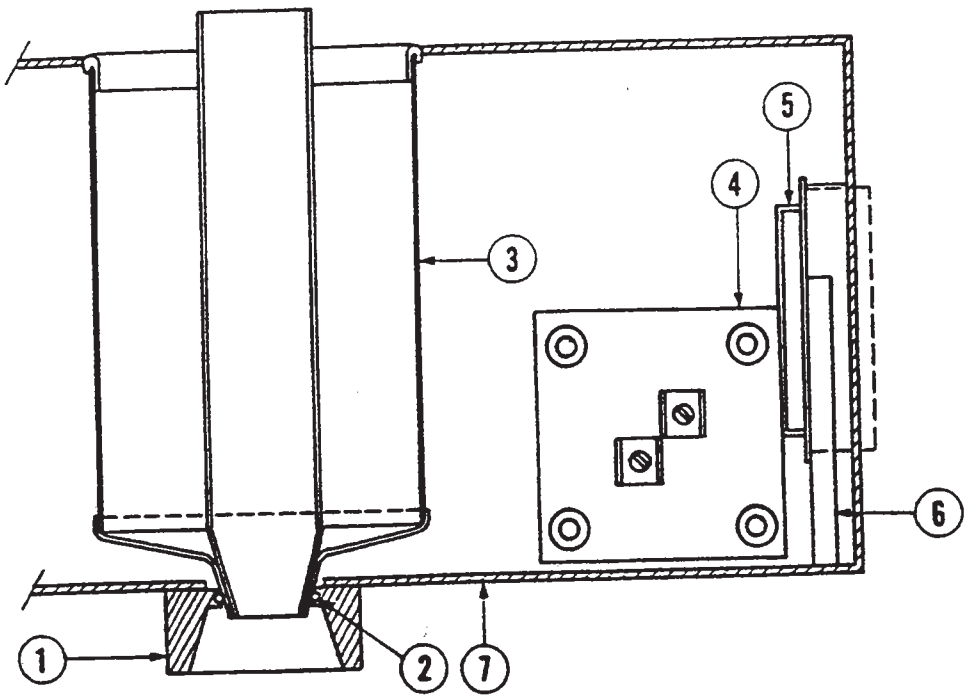


ITEM	P/N	DESCRIPTION
1		BONNET
2	0184700	DISK
3	0184700	GASKET
4	0184700	POPPET
5		BODY

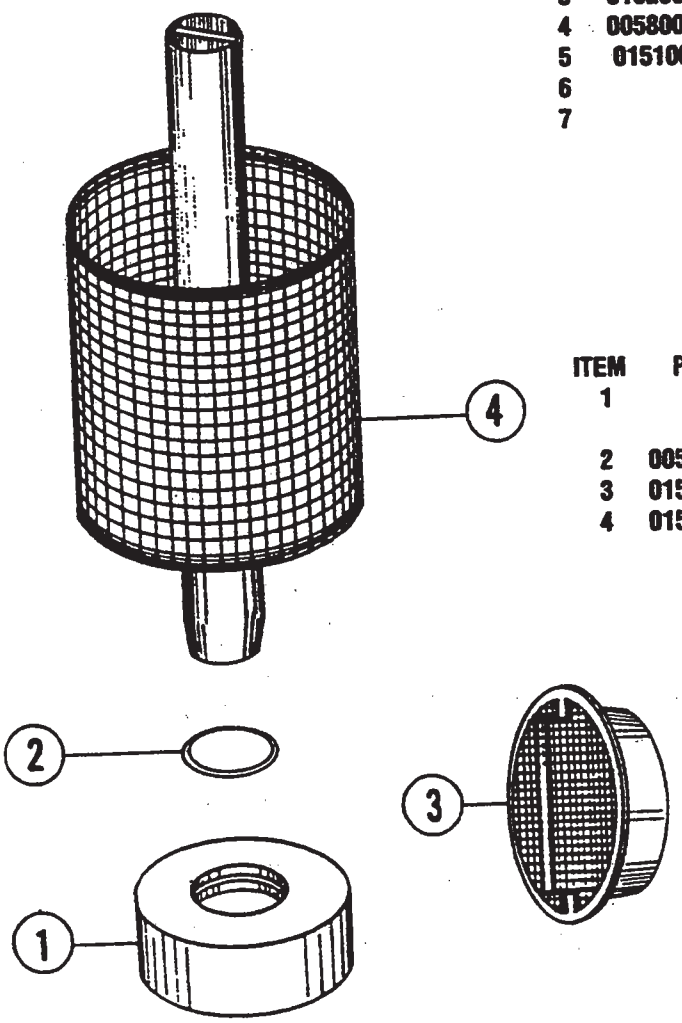


ITEM	P/N	DESCRIPTION
1	0153700	'Y' STRAINER
2		REMOVABLE FILTER
3	0185000	VALVE FOR HEALTH INSPECTOR
4	0055500	FLOW CONTROL, 3/4"
5	0143000	SOLENOID VALVE 3/4"
6		PIPE UNION

CUTAWAY VIEW OF WASH SUMP

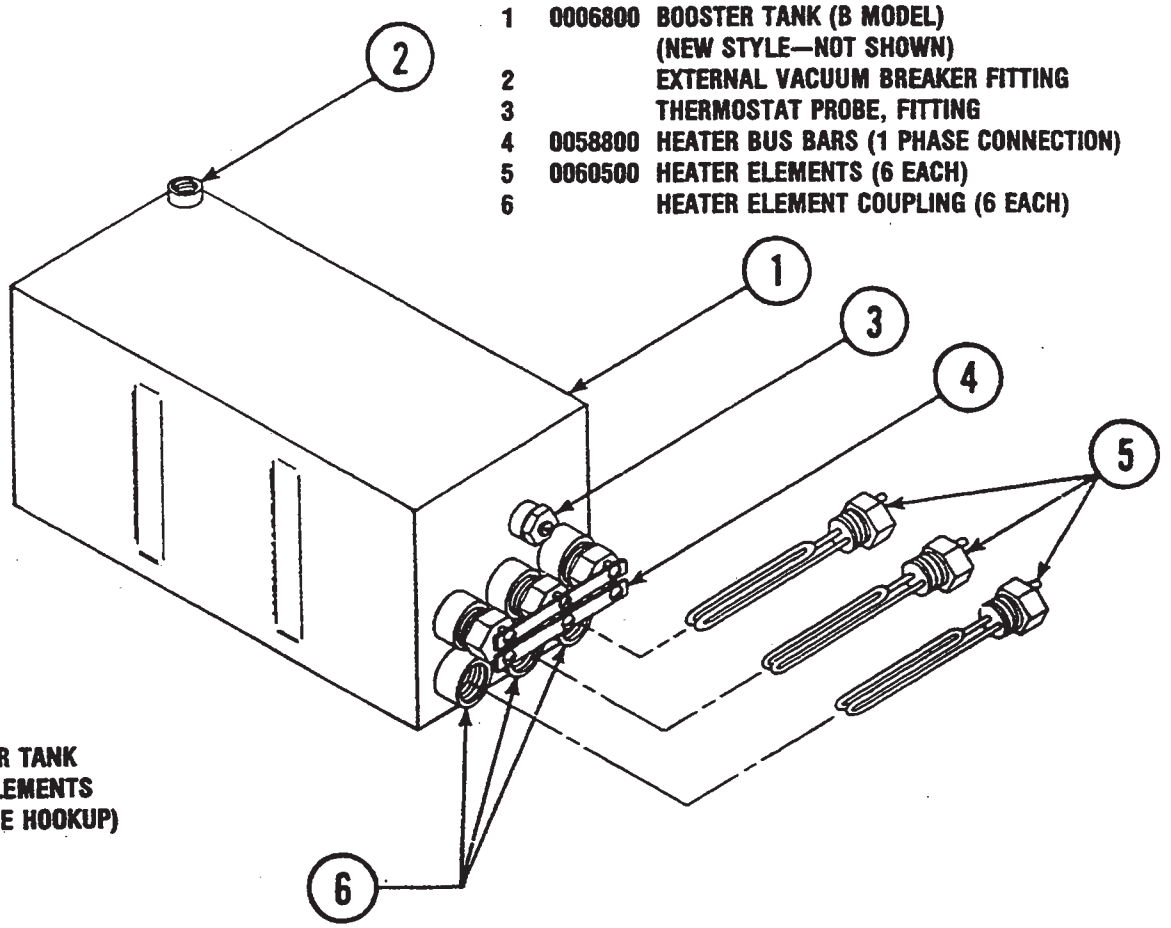


ITEM	P/N	DESCRIPTION
1		DRAIN FITTING
2	0005400	DRAIN 'O' RING
3	0152000	OVERFLOW STRAINER
4	0058000	WASH TANK HEATER ELEMENT
5	015100	INSIDE PUMP STRAINER
6		WASH TANK THERMOSTAT SHEATH
7		SUMP WALL



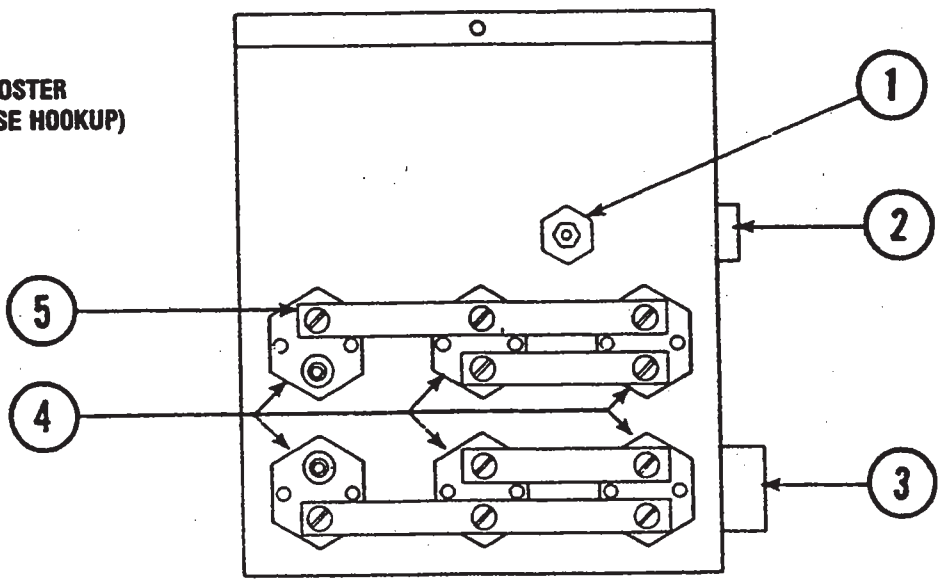
ITEM	P/N	DESCRIPTION
1		DRAIN FITTING WELDED TO WASH SUMP BOTTOM
2	0054000	DRAIN 'O' RING
3	0151000	INSIDE PUMP STRAINER
4	0152000	LARGE OVERFLOW STRAINER

ITEM	P/N	DESCRIPTION
1	0006800	BOOSTER TANK (B MODEL)
		(NEW STYLE—NOT SHOWN)
2		EXTERNAL VACUUM BREAKER FITTING
3		THERMOSTAT PROBE, FITTING
4	0058800	HEATER BUS BARS (1 PHASE CONNECTION)
5	0060500	HEATER ELEMENTS (6 EACH)
6		HEATER ELEMENT COUPLING (6 EACH)

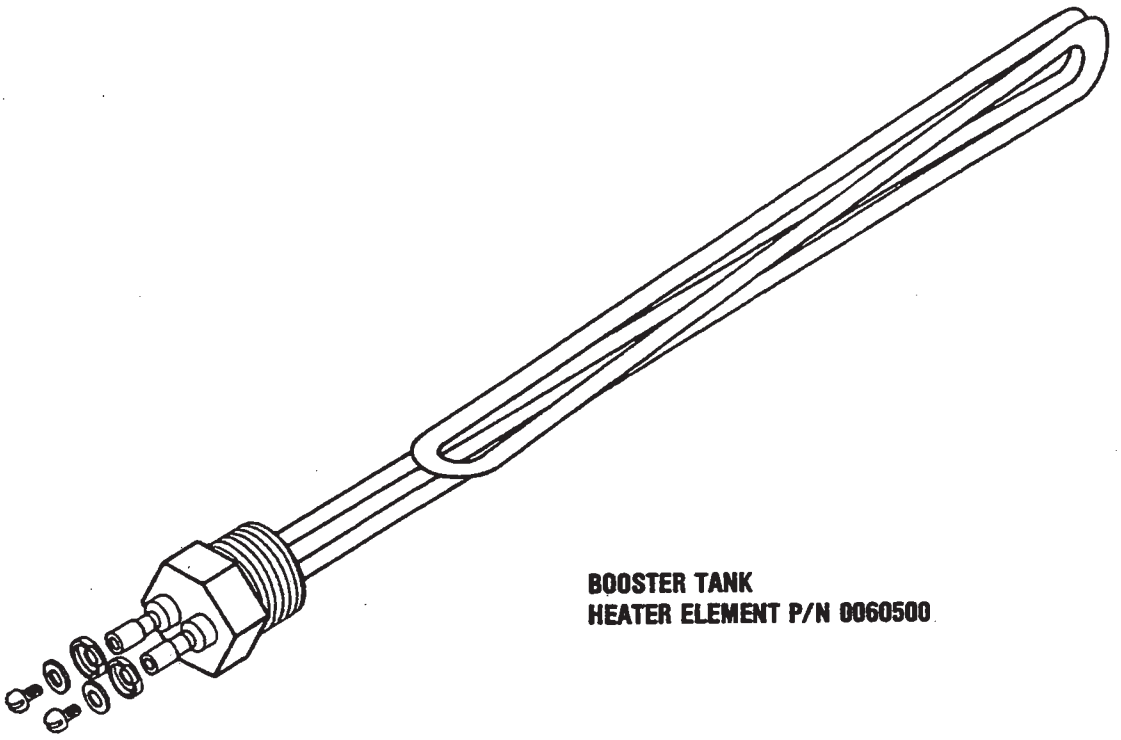


BOOSTER TANK
WITH ELEMENTS
(1 PHASE HOOKUP)

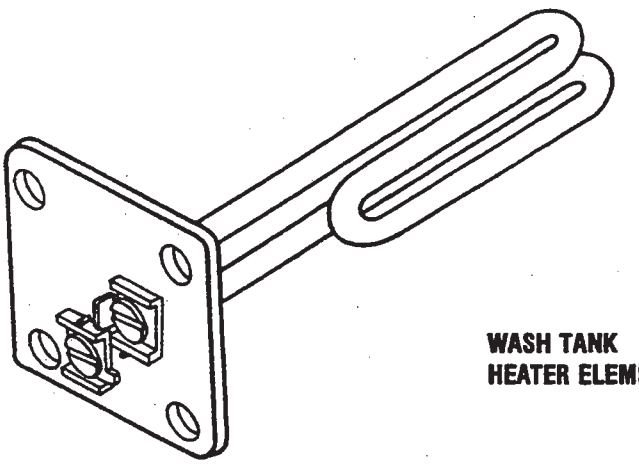
END VIEW BOOSTER
TANK (3 PHASE HOOKUP)



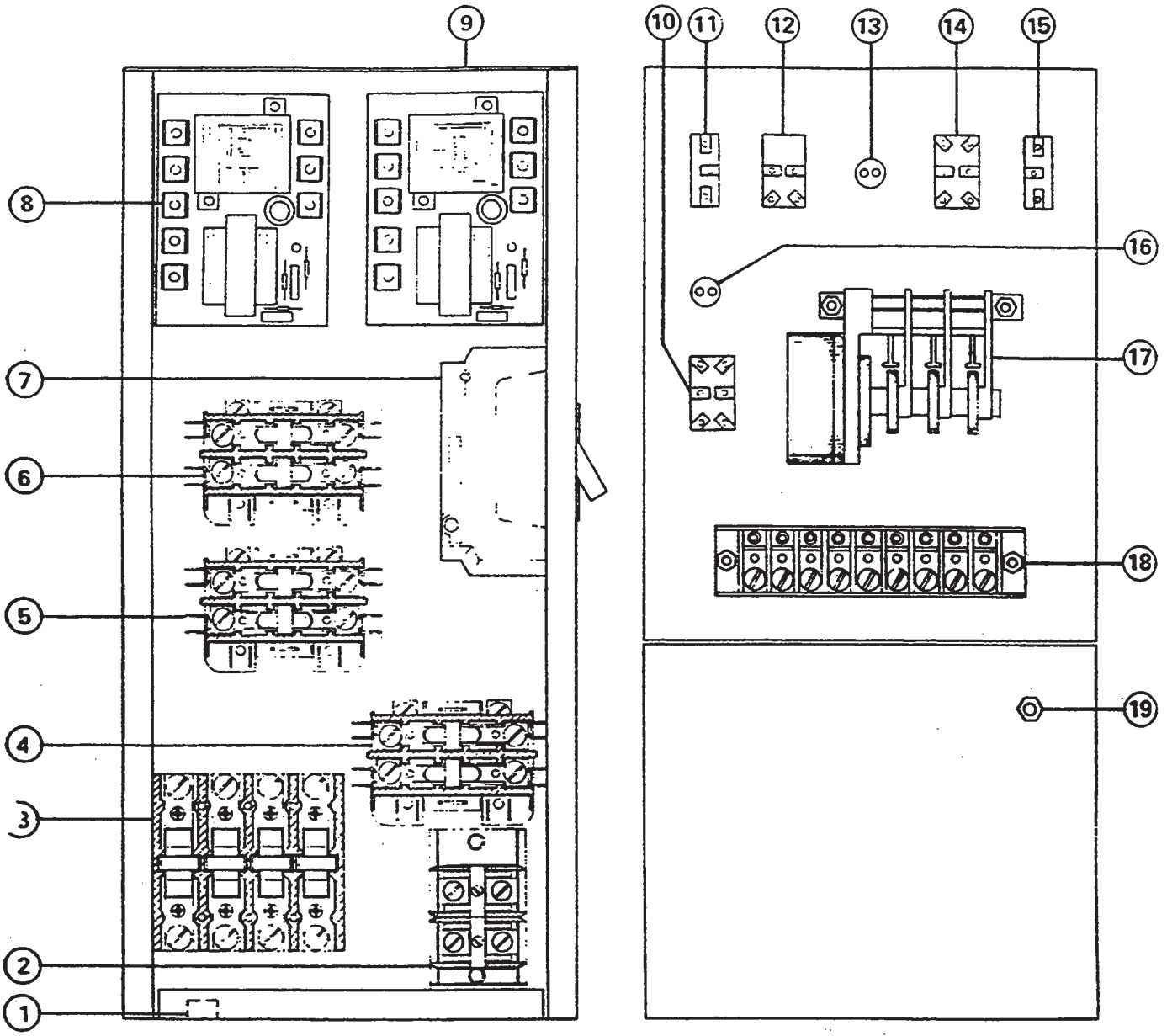
ITEM	P/N	DESCRIPTION
1		THERMOSTAT PROBE FITTING
2		THERMOMETER PROBE FITTING
3		INCOMING WATER FITTING
4	0060500	BOOSTER HEATER ELEMENTS
5	0058800	HEATER ELEMENT BUS BARS
&	0058900	(3 PHASE CONNECTION)



BOOSTER TANK
HEATER ELEMENT P/N 0060500



WASH TANK
HEATER ELEMENT P/N 0058000



CONTROL BOX AND CONTROL PANEL COMPONENTS

ITEM	P/N	DESCRIPTION
1		GROUNDING LUG
2	0165500	CUSTOMER'S ELECTRIC CONNECTION
3	0123000	HEATER RELAY (3 POLE/3 PHASE)
	0124000	(4 POLE/1 PHASE)
4	0121000	RINSE/FILL RELAY
5	0121000	WASH MOTOR RELAY
6	0122000	WASH HEATER RELAY
7	0012000	CONTROL CIRCUIT PROTECTION DEVICE
8	0205000	RINSE TANK WATER LEVEL CONTROL (PRB ONLY)
9	0205000	WASH HEATER WATER LEVEL CONTROL
10	0157500	HEATER SWITCH
11	0162500	START SWITCH
12	0157500	MASTER SWITCH
13	0083500	AUTOMATIC INDICATOR LIGHT
14	0155500	MANUAL WASH SWITCH
15	0154000	.MANUAL RINSE SWITCH
16	0083500	HEATER INDICATOR LIGHT
17	0171300	AUTOMATIC TIMER ASSEMBLY 50 Cycle
17	0171500	AUTOMATIC TIMER ASSEMBLY 60 Cycle
18	0167000	TERMINAL BOARD
19		GROUNDING STUD

R1 & R2: CONTACTORS

M-SW: MASTER SWITCH ON-OFF

1-ELS, CONTROL, HIGH LEVEL FILL, LOW LEVEL CUT-OFF IN WASH TANK & RINSE TANK, LOW VOLTAGE SENSOR, 24V. TO PROBE

H-SW: HEAT & LIGHT SWITCH

THS: INDEPENDENT THERMOSTAT CONTROL

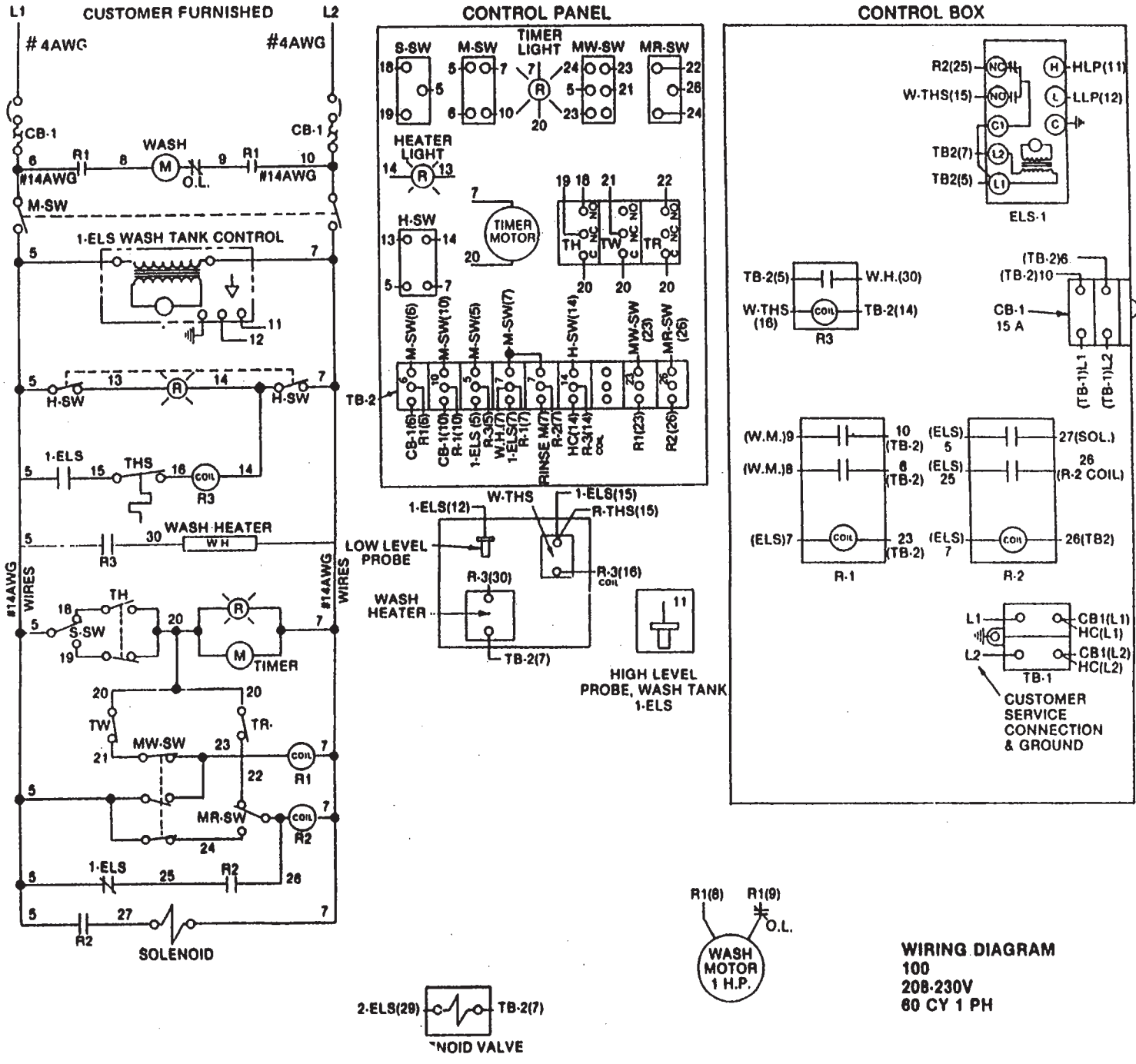
WASH HEATER: (1)-1500 W.

S-SW: START SWITCH - STARTS THE AUTOMATIC CYCLE WHEN THROWN TO THE CLOSE SIDE OF -
TH: TIMER HOLD, - TIMER MOTOR RUNS ONE HALF CYCLE, THEN OPENS - TH - TO COMPLETE ONE MACHINE CYCLE.

TW: TIMER WASH & TR: TIMER RINSE - CONTROLLED BY CAMS DRIVEN BY THE TIMER MOTOR

MW-SW: MANUAL OPERATION WASH SWITCH - IN THE OFF POSITION FOR AUTOMATIC OPERATION, ON - FOR MANUAL OPERATION.

MR-SW: MANUAL RINSE & FILL SWITCH, SPRING RETURN, LOCKS IN R2 THROUGH 1-ELS, UNTIL MACHINE FILLS TO HIGH LEVEL PROBE IN WASH TANK.



WIRING DIAGRAM
100
208-230V
60 CY 1 PH

RINSE HEATERS (6) 2200 W
HC: CONTACTOR

CB-1: OVER CURRENT CIRCUIT BREAKERS-15A.-

R1&2: CONTACTOR

M-SW: MASTER SWITCH ON-OFF

1-ELS, CONTROL, HIGH LEVEL FILL, LOW LEVEL CUT-OFF IN WASH TANK & RINSE TANK HEAT, LOW VOLTAGE SENSOR, 24V. TO PROBE

H-SW: HEAT & LIGHT SWITCH

W-THS & R-THS: INDEPENDENT THERMOSTAT CONTROL WASH & RINSE TANK HEAT WASH HEATER. (1)-1500 W.

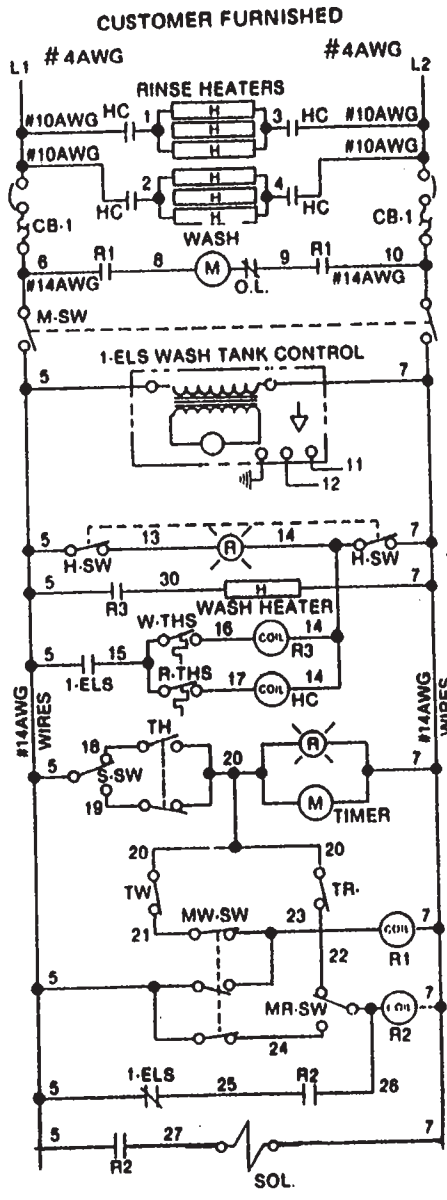
S-SW: START SWITCH - STARTS THE AUTOMATIC CYCLE WHEN THROWN TO THE CLOSE SIDE OF -

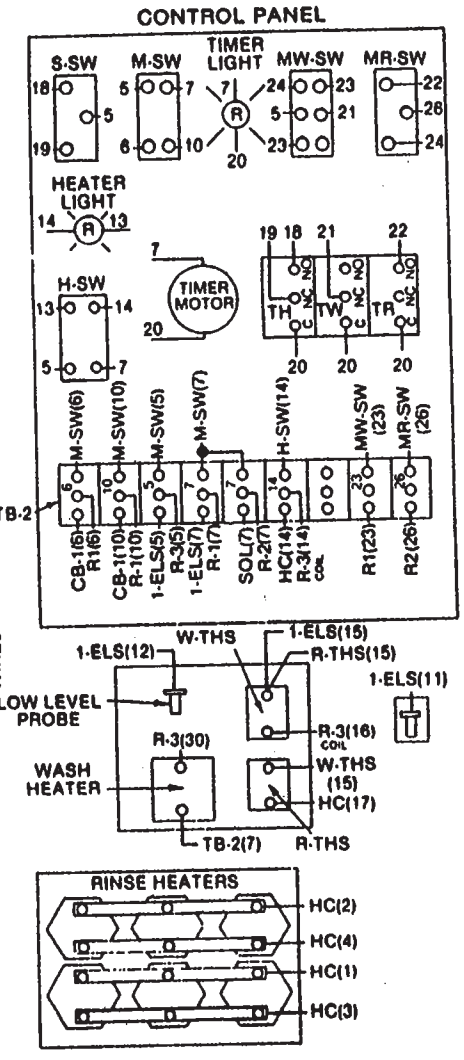
TH: TIMER HOLD, - TIMER MOTOR RUNS ONE HALF CYCLE, THEN OPENS - TH - TO COMPLETE ONE MACHINE CYCLE.

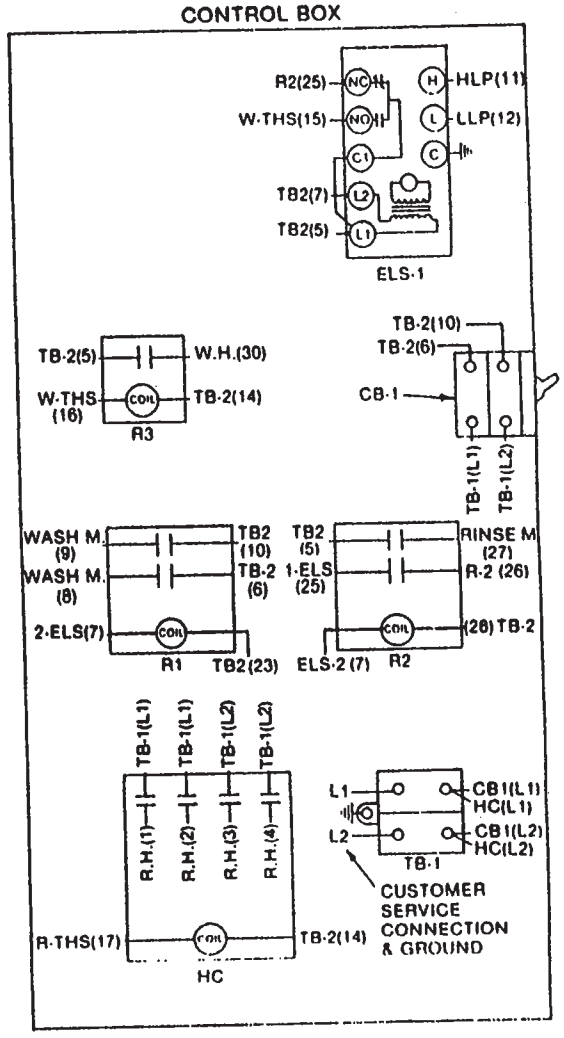
TW: TIMER WASH & TR: TIMER RINSE - CONTROLLED BY CAMS DRIVEN BY THE TIMER MOTOR

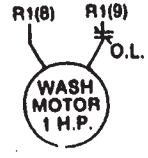
MW-SW: MANUAL OPERATION WASH SWITCH - IN THE OFF POSITION FOR AUTOMATIC OPERATION, ON - FOR MANUAL OPERATION.

MR-SW: MANUAL RINSE & FILL SWITCH, SPRING RETURN, LOCKS IN R2 THROUGH 1-ELS, UNTIL MACHINE FILLS TO HIGH LEVEL PROBE IN WASH TANK.









WIRING DIAGRAM
100B
208-230V
60 CY 1 PH &
50 CY 1 PH

RINSE HEATERS (6) 2500 W
HC: CONTACTOR (HEATER)

CB-1: OVER CURRENT CIRCUIT BREAKERS. 15 AMPS RATING

R1, R2 & R3: CONTACTORS (WASH & RINSE MOTORS, AND WASH HEATER)

M-SW: MASTER SWITCH ON-OFF

1-ELS, CONTROL, HIGH LEVEL FILL, LOW LEVEL CUT-OFF IN WASH TANK & RINSE TANK HEAT, LOW VOLTAGE SENSOR, 24V. TO PROBE

H-SW: HEAT & LIGHT SWITCH

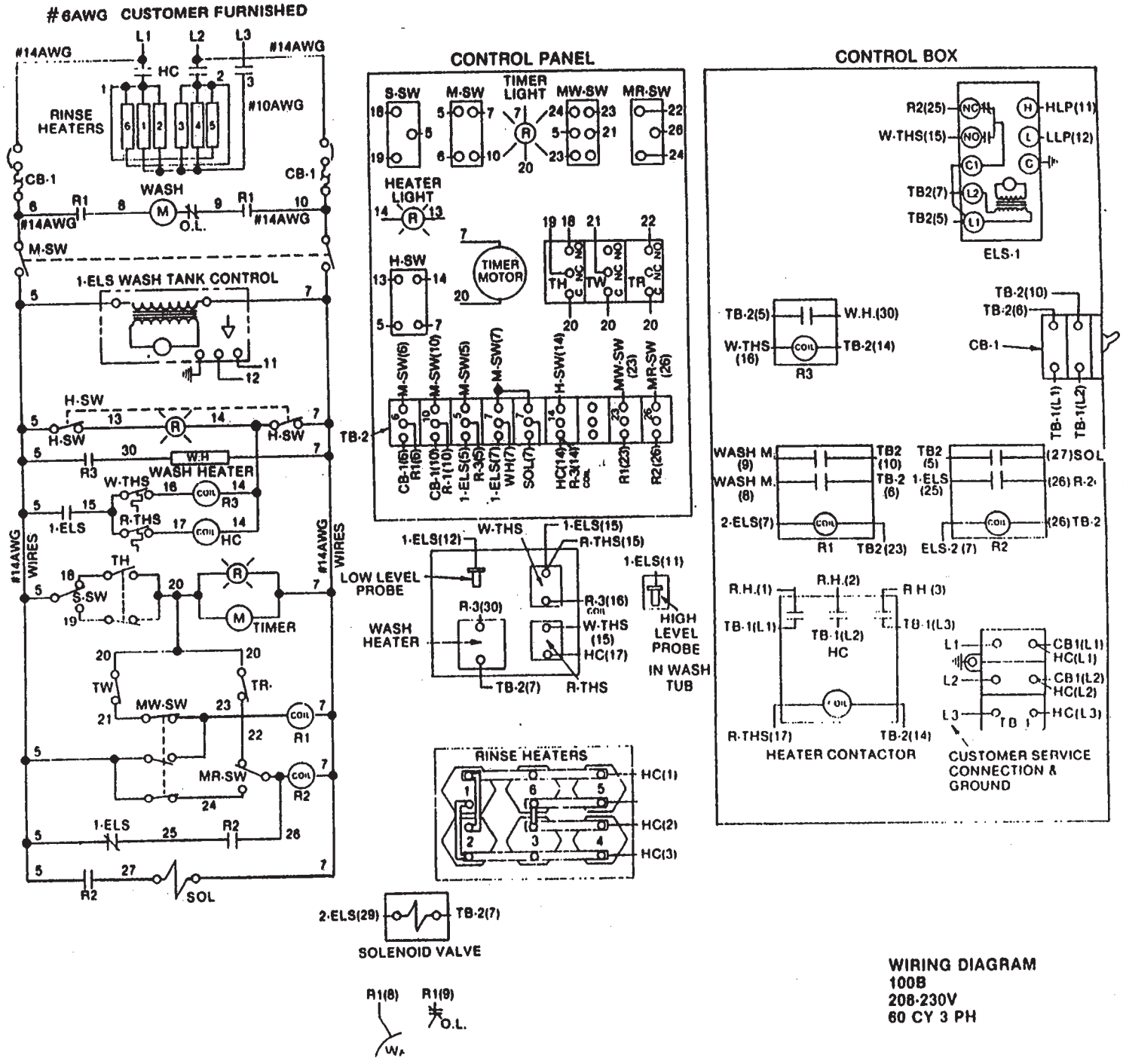
W-THS & R-THS: INDEPENDENT THERMOSTAT CONTROL OF WASH & RINSE TANK HEAT
WASH HEATER, (1)-1500 W.

S-SW: START SWITCH - STARTS THE AUTOMATIC CYCLE WHEN THROWN TO THE CLOSE SIDE OF -
TH: TIMER HOLD, - TIMER MOTOR RUNS ONE HALF CYCLE, THEN OPENS - TH - TO COMPLETE ONE MACHINE CYCLE.

TW & TR: TIMER WASH & TIMER RINSE - CONTROLLED BY CAMS DRIVEN BY THE TIMER MOTOR

MW-SW. MANUAL OPERATION WASH SWITCH - IN THE OFF POSITION FOR AUTOMATIC OPERATION, ON - FOR MANUAL OPERATION.

MR-SW: MANUAL RINSE & FILL SWITCH, SPRING RETURN, LOCKS IN R2 THROUGH 1-ELS, UNTIL MACHINE FILLS TO HIGH LEVEL PROBE IN WASH TUB.



WIRING DIAGRAM
100B
208-230V
60 CY 3 PH

RH: RINSE HEATERS. (6) 2500 W
HC: CONTACTOR (HEATER)
CB-1 OVER CURRENT, CIRCUIT BREAKER 15 AMP RATING

R1 & R2. CONTACTORS (WASH & RINSE MOTOR)

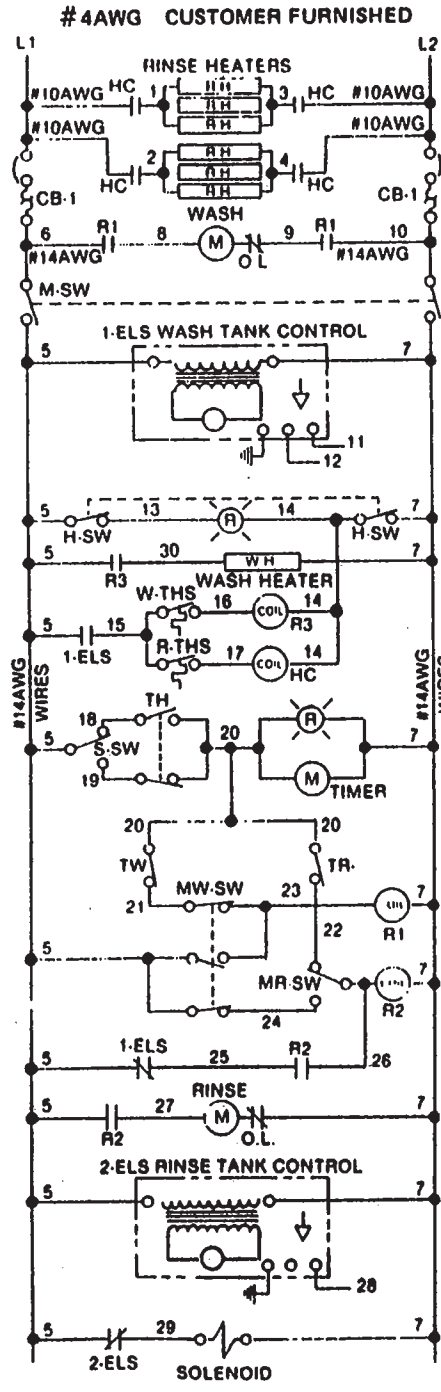
M-SW. MASTER SWITCH ON-OFF

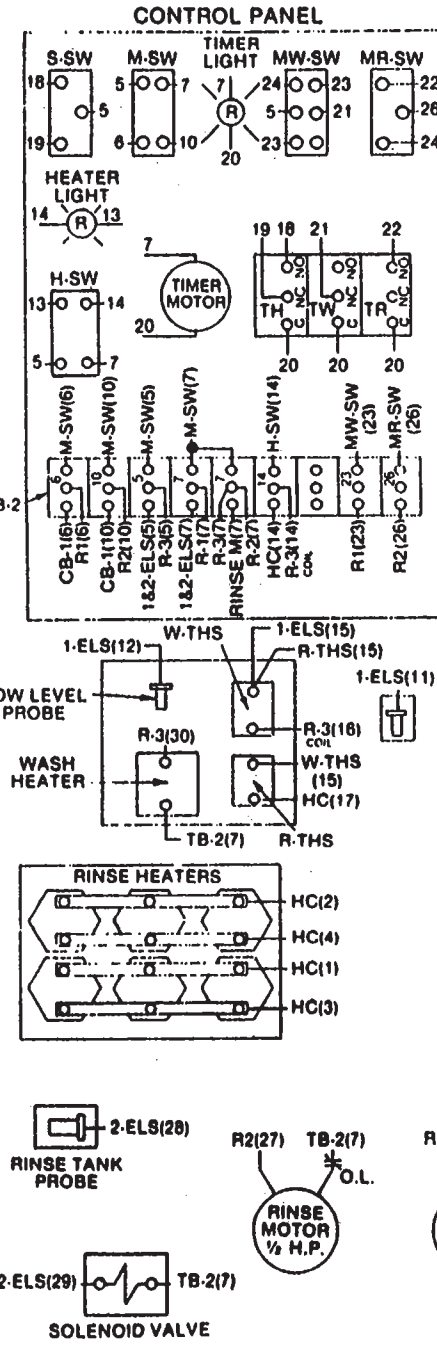
1-ELS: CONTROL, HIGH LEVEL FILL, LOW LEVEL CUT-OFF IN WASH TANK & RINSE TANK HEAT, LOW VOLTAGE SENSOR, 24 V. TO PROBE

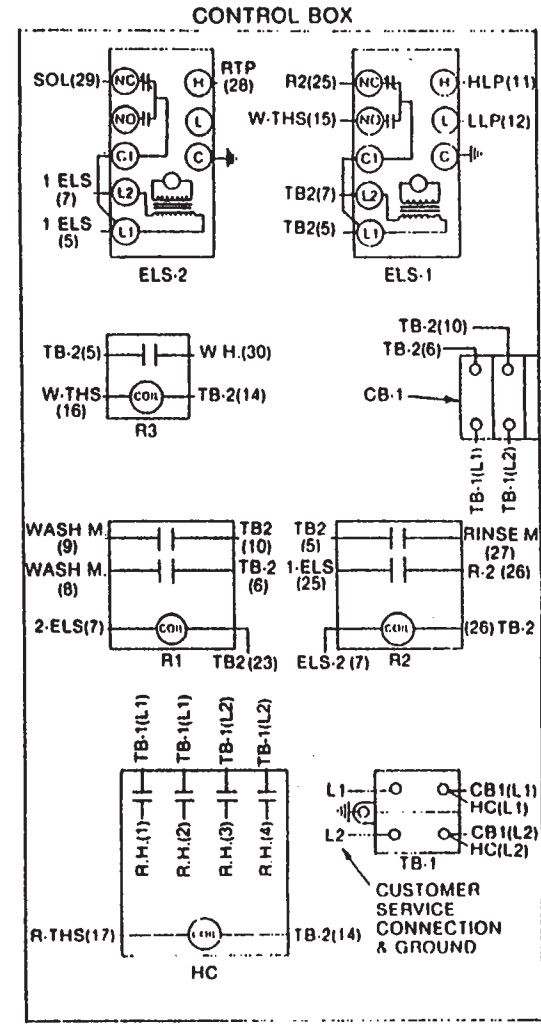
H-SW: HEAT & LIGHT SWITCH

W-THS & R-THS: INDEPENDENT THERMOSTAT CONTROL WASH & RINSE TANK HEAT; WASH HEATER. (1)1500 W.
R3: CONTACTOR (WASH HEATER)

S-SW: START SWITCH, STARTS THE AUTOMATIC CYCLE WHEN THROWN TO THE CLOSE SIDE OF TH
TH: TIMER HOLD: TIMER MOTOR RUNS ONE HALF CYCLE, THEN OPENS TH TO COMPLETE ONE MACHINE CYCLE
TW & TR: TIMER WASH & TIMER RINSE: CONTROLLED BY CAMS DRIVEN BY THE TIMER MOTOR.
MW-SW: MANUAL OPERATION WASH SWITCH; IN THE OFF POSITION FOR AUTOMATIC OPERATION. ON FOR MANUAL OPERATION. ON LOCKS OUT RINSE MOTOR
MR-SW: MANUAL RINSE & FILL SWITCH, SPRING RETURN, LOCKS IN R-2 THROUGH 1-ELS, UNTIL MACHINE FILLS TO HIGH LEVEL PROBE IN WASH TUB.
2-ELS: CONTROLS THE WATER LEVEL IN THE RINSE TANK THROUGH LOW VOLTAGE SENSOR, 24 V. TO PROBE FOR OPENING THE SOLENOID VALVE.







WIRING DIAGRAM
100PRB
208-230V
60 CY 1 PH
50 CY 1 PH

HC: CONTACTOR (HEATER)
RH: RINSE HEATERS. (6) 2500 W.

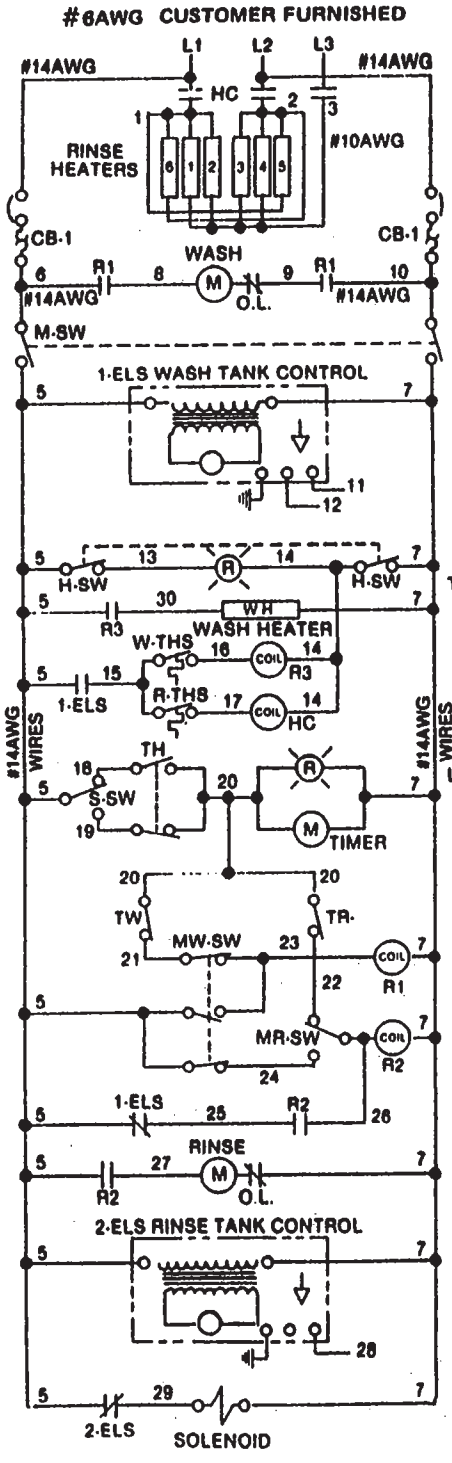
CB-1: OVER CURRENT, CURRENT CIRCUIT BREAKER, 15 AMPS RATING
R1 & R2: CONTACTORS (WASH & RINSE MOTORS)

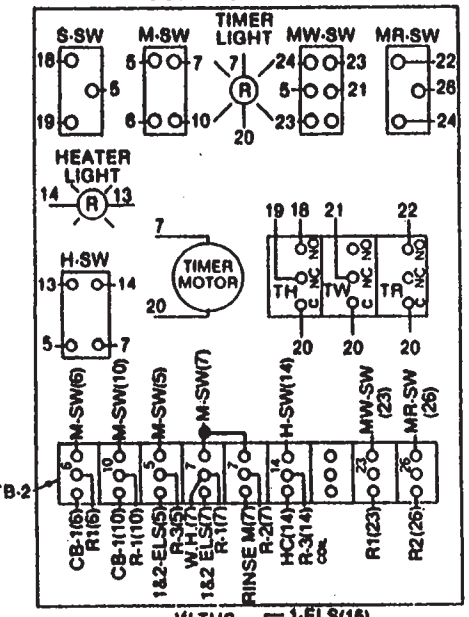
M-SW: MASTER SWITCH ON-OFF

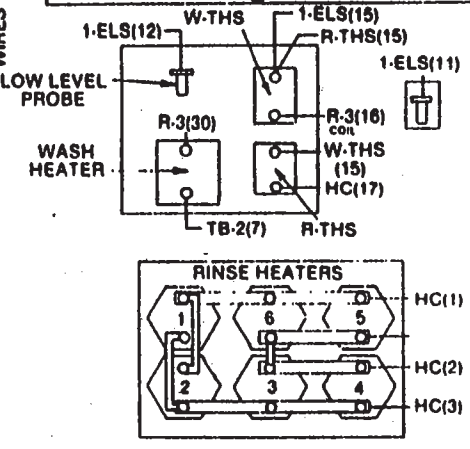
1-ELS: CONTROL, HIGH LEVEL FILL, LOW LEVEL CUT-OFF IN WASH TANK & RINSE TANK HEAT, LOW VOLTAGE SENSOR, 24 V. TO PROBE

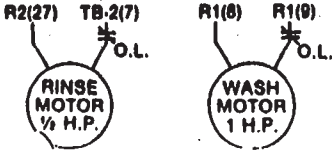
H-SW: HEAT & LIGHT SWITCH
R-3: CONTACTOR (WASH HEATER)
W-THS & R-THS: INDEPENDENT THERMOSTAT CONTROL WASH & RINSE TANK HEAT; WASH HEAT
WH: WASH HEATER (1)1500 W.

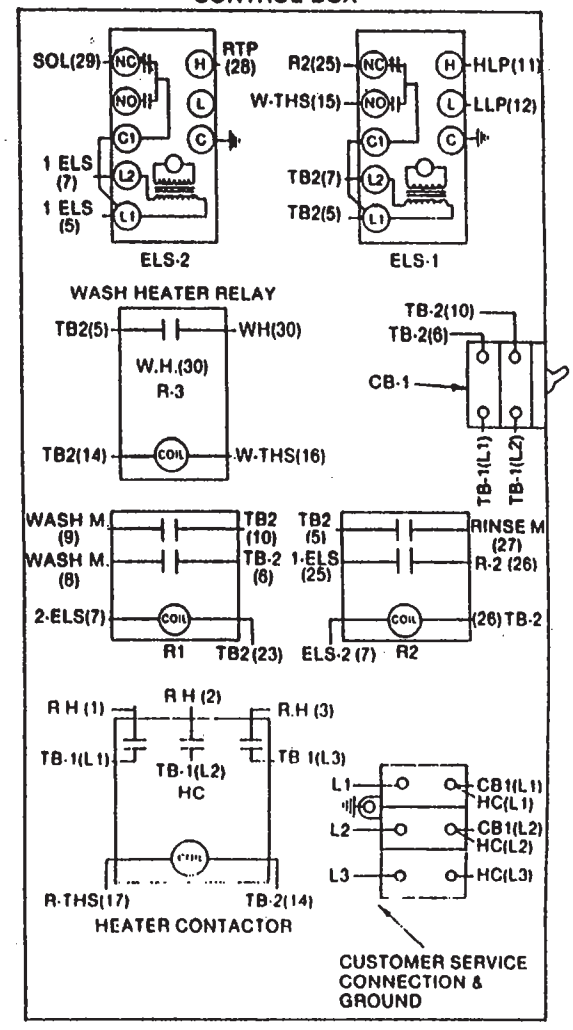
S-SW: START SWITCH, STARTS THE AUTOMATIC CYCLE WHEN THROWN TO THE CLOSE SIDE OF TH
TH: TIMER HOLD: TIMER MOTOR RUNS ONE HALF CYCLE, THEN OPENS TH TO COMPLETE ONE MACHINE CYCLE
TW & TR: TIMER WASH & TIMER RINSE: CONTROLLED BY CAMS DRIVEN BY THE TIMER MOTOR.
MW-SW: MANUAL OPERATION WASH SWITCH: IN THE OFF POSITION FOR AUTOMATIC OPERATION: ON-FOR-MANUAL OPERATION, ON LOCKS OUT RINSE MOTOR
MR-SW: MANUAL RINSE & FILL SWITCH, SPRING RETURN, LOCKS IN R-2 THROUGH 1-ELS, UNTIL MACHINE FILLS TO HIGH LEVEL PROBE IN WASH TUB.
2-ELS: CONTROLS THE WATER LEVEL IN THE RINSE TANK THROUGH LOW VOLTAGE SENSOR, 24 V. TO PROBE FOR OPENING THE SOLENOID VALVE.











WIRING DIAGRAM
100PRB
208-230V
60 CY 3 PH

PARTS LIST FOR MODEL 100 B/PRB DISHWASHERS

PART NUMBER	DESCRIPTION	SERIAL NUMBERS	100
0006800	Booster Tank for machine (stripped) B	All	1
0006900	Booster Tank for machine (stripped) PR	All	1
0006900	Booster Tank for machine (stripped) PRB	All	1
6007900	Cantilever Assy Comp. (includes parts 79; 83; 87; 90; 94; 96 100; 103; 106; 109; 112) N/S (Conversion Kit)	All	1
0008901	Cantilever Arm, ONLY N/S (1" Dia.) Old Style was 3/4"	All	1
0008501	Cantilever Arm Plugs		
0008400	Cantilever Ball Handle Grips	All	1
0008700	Cantilever Spring Rods	All	1
0009000	Cantilever Springs	All	2
0009100	Cantilever Yoke Assembly	AF11140	2
0009400	Cantilever Eye Bolts	All	2
0009600	Cantilever nuts, for eye bolts	All	4
0010000	Cantilever sleeve	All	2
0010300	Cantilever bolt, for sleeve 1/4" x 1 3/8"	All	2
0010600	Cantilever washer flat, for sleeve bolt 1/4"	All	4
0010900	Cantilever acorn nut, for sleeve bolt 1/4"	All	2
0011200	Cantilever lockwasher, for sleeve bolt 1/4"	All	2
0011500	Cantilever coupler door, to cantilever	All	2
0012000	Circuit Breaker, 15 amp (specify number from Part)	Specify	1
0019600	Control Box comp. wired	AF2100	1
0019900	Control Box comp. wired B	AF2100	1
0020200	Control Box comp. wired PR	AF2100	1
0020500	Control Box comp. wired PRB	AF2100	1
0021600	Control Box (stripped) ONLY	AF1149	1
0026500	Control Box front panel wired	AF1149	1
0026800	Control Box front panel wired B	AF1149	1
0027100	Control Box front panel wired PR	AF1149	1
0027300	Control Box front panel wired PRB	AF1149	1
0028400	Control Box front panel BLANK	All	1
0029000	Control Box, lower front cover (ONLY)	AF1149	1
0029900	Control Box, special adaptor cover (for field installation)	All	1
0047000	Door, front, standard model	All	1
0047500	Door, front, corner model	All	1
0048000	Door, side	All	2
0048500	Door catch, front	All	1
0049000	Door spacer, side	All	2
0049500	Door screw, for spacer 1/4" x 1 3/8"	All	2
0010600	Door washer flat, 1/4", s/s	All	2
0010900	Door acorn nut, for spacer 1/4", s/s	All	2
0050900	Door knob (front w/screw)	All	1
0051800	Door strips or guides	All	6
0053100	Door ONLY (false panel for corner model)	All	1
0054000	Drain '0' ring	1800; All	1
0055500	Flow Control, 11.5 GPM, 3/4"	AF11943	1
0056000	Gauge, pressure, 0-60, bottom connection	All	1
0058000	Heater element, Immersion, flange type, w/gasket, 220V, 1500W	All	1
0058500	Heater gasket, Immersion element flange type, above	All	1w
0058800	Heater bus bars, 3 hole	All	2
0058900	Heater bus bars, 2 hole	All	2
0060500	Heater element, Immersion, screw plug type, 220V, 2500W	All	6
0083500	Light indicator	All	2

PART NUMBER	DESCRIPTION	SERIAL NUMBERS	100
0084300	Probe; small Lundy	2800	2W
0084500	Probe, large Warrick Hi-level	All	1R
0084700	Probe; cover rubber (for 845)	All	1R
0085000	Pump assy. comp. w/motor, 1/2 HP, 3450 RPM, Rinse (PRB Only)	1200	1R
0085100	Pump Assembly, complete w/motor, 1/2 HP, 2850 RPM, Jet, Rinse (PRB Only), 50 Cycle	(All 50 Cycle)	1
0086000	Pump, motor 115/230V 1/2 HP, 3450 RPM, Jet, Rinse (PRB Only)	1200	1R
0086100	Pump, Motor 115/230V, 1/2 HP, 2850 RPM, Jet, Rinse (PRB Only) 50 Cycle	(All 50 Cycle)	1
0087500	Pump seal (for pump parts 850-863-920-925)	All	1R
0088000	Pump mounting plate (for pump parts 850-863)	1200	1R
0089000	Pump ceramic face w/retainer cup (for pump parts 850-863-920-925)	All	1R
0089500	Pump impeller 2 3/4" dia. 7/16" tap (for pump parts 850-863)	1200	1R
0090000	Pump gasket (for pump parts 850-863) (mounting)	All	1R
0090500	Pump bolts (for pump parts 850-863)	All	4R
0091000	Pump lockwashers (for pump Parts 850-863-920-925)	All	4X
0091500	Pump nuts (for pump parts 863-862-920-925)	All	4X
0101800	Pump Assembly, complete, Jet 1 HP, 1450RPM 50 Cycle	(All 50 Cycle)	1
0102000	Pump Assembly, complete, Jet 1 HP 1725 RPM	All	1W
0102600	Pump Motor, Jet, 115/208-230V, 1 HP 1450RPM 50 Cycle	(All 50 Cycle)	1
0102700	Pump Motor, Jet, 100/208V-230V, 1 HP 1725 RPM	All	1W
0104500	Pump mounting plate (for part 1020)	All	1W
0105000	Pump seal and ceramic (for part 1020)	All	1W
0105500	Pump impeller (for part 1020)	All	1W
0106000	Pump gasket, square (for part 1020) (mounting)	All	1W
0106500	Pump, Woodruff Key (for part 1020)	All	1W
0107000	Pump bolt, Impeller, s/s 5/16"-18 x 1" (for part 1020)	All	1W
0107500	Pump washer, Impeller (for part 1020)	All	1W
0108000	Pump snap ring (for part 1020)	All	4W
0090500	Pump bolts, 3/8"-16 x 1 1/4" Cap HH (for part 1020)	All	8W
0091000	Pump lockwashers (for part 1020)	for model JL-100	
0117500	Rack, SQUARE, 19 3/4" x 19 3/4" (cup, bowl & glass) moulded	for model JL-100	
0117800	Rack, SQUARE, 19 3/4" x 19 3/4" (dish) moulded	All	1
0120000	Regulator repair KIT, PRESSURE, 3/4" Watts	1149	1
0121000	Relay, 220V, 2-pole, HW (used on rinse & wash circuit)		
0122000	Relay, 220V 2-pole, Wash Heater	All	1
0123000	Relay, 220V, 3-pole, HW (used on heat circuit, three phase)	All	1
0124000	Relay, 220V, 4-pole, HW (used on heat circuit, single phase)	All	4
0127000	Rinse Head, End plug (nylon)	All	2
0132500	Rinse head hex bushing, s/s	All	2
0133000	Rinse head nylatron washer	All	2
0133500	Rinse head snap rings, s/s	All	1
0134000	Brush, tube cleaning, large	All	2
0136000	Rinse head upper & lower interchange	All	1
0136500	Rinse head feed pipe, Upper	All	1
0137000	Rinse head feed pipe, Lower	All	1
0143000	Solenoid valve, 3/4", 220V, JE (use 0143100)		1
0143100	Solenoid valve, 3/4", 220V, JE, GP	2076	1
0144000	Solenoid valve coil, 220V, JE (for 1/2" & 3/4")	All	1
0145500	Solenoid valve diaphragm cartidge, and '0' ring, 3/4", JE		1
0145600	Solenoid valve diaphragm cartridge, 3/4" JE, GP	All	1
0148000	Solenoid valve '0' ring, 3/4", JE	2076	1
0148500	Solenoid valve, plunger assembly, for 1/2" and 3/4", JE		1
0148600	Solenoid valve plunger assembly, 1/2" & 3/4", JE, GP	All	1
0150000	Solenoid valve strainer screen, 3/4" JE		1
0150100	Solenoid valve gasket, 3/4" JE, GP	All	1
0151000	Strainer, small pump intake	All	1
0152000	Strainer, large overflow		

PART NUMBER	DESCRIPTION	SERIAL NUMBERS	100
~ ~3700	Strainer, 'Y', 3/4''	All	1
,4000	Switch, rinse/fill (All) (SPDT) momentary slip disconnect	AF24,451; 2618; 1149	1
0155500	Switch, manual wash (DPDT) (All) Slip disconnect	AF24,451; 2618; 1149	1
0157500	Switch, master (DPST) (All) Slip disconnect (used on wash, heat & conveyor on 39's)	AF24,451; 2618; 1149; 1059	1
0157500	Switch, heat (DPST) (All) Slip disconnect	1149	1
0162500	Switch, start (SPDT) (All) Slip disconnect	1149	1
0165500	Terminal Board, 3 pole, complete	All	1
0166000	Terminal Board, 2 pole, 70 amp, with/mount channel	All	1
0167000	Terminal Board, 9 pole, complete slip terminal	1149	1
0169100	Thermometer, wash or rinse, standard	All	1
0170000	Thermostat, standard (use 0170018 or 0170023)	All	1
0170018	Thermostat, rinse, 180° fixed		1
0170023	Thermostat, wash, 150° fixed		1
0171300	Timer, 220V w/wires and mounting plate, 50 Cycle	(All 50 Cycle)	1
0171500	Timer, 220V w/wires and mounting plate	All	1
0172700	Timer Motor, 220V (for module type timer), 50 Cycle	(All 50 Cycle)	1
0173000	Timer motor, 220V (for module type timer)	All	1
0177500	Timer micro switches, plastic module type (for Eagle Bliss)	All	3
0180000	Track, standard, front or back (use 0180000)	All	1
0180000	Track, corner model, complete (convertible)	All	1
0182000	Vacuum breaker, poppet for 1/2'' & 3/4'' Febco (obsolete)	BF5490	1
0182500	Vacuum breaker, gasket for 1/2'' & 3/4'' Febco (obsolete)	BF5490	1
0183500	Vacuum Breaker, 3/4'', Watts (use 0184301) (Conbraco)	AF13,034	1
0183501	Vacuum Breaker Repair Kit, 3/4'', Watts (use 0184301) (Conbraco)	AF13,034	1
0184300	Vacuum Breaker, 3/4'' Sloan (use 0184301) (Conbraco)		
)4700	Vacuum Breaker Kit (float & seal) 3/4'' Sloan		
0185000	Valve, 1/4'' (for Health Inspector's gauge)	All	1
0186500	Wash head cap w/race	AF19,035	2
0187000	Wash head cap set screw	AF19,035	2
0187500	Wash head center shaft	AF19,035	2
0188500	Wash head holding bolt	AF19,035	2
0044700	Wash head nut for holding bolt (nylon insert)	AF19,035	2
0193500	Wash head fixed race	AF10,282	2
0194000	Wash head bearings, 1/4'', s/s	All	114
0194500	Wash head spray tube ONLY, long length	All	(as required)
0200000	WASH HEAD ASSY., UPPER & LOWER INTERCHANGE	All	2
0200500	Wash head, small manifold w/tubes	All	2
0201000	Wash head, large manifold w/tubes	All	2
0205000	Water level control, Curtis, 220V	AF23,344; 2526; All; All	1
0205500	Water level control, relay ONLY, Curtis	AF23,344; 2526; All; All	1
0206000	Water level control, printed board ONLY, Curtis	AF23,344; 2526; All; All	1
0009459	Rack support rod (Vee Shape) Rod only		
0008201	Cantilever arm support bracket		
0055001	Bottom front panel		
0136700	Vertical feed pipe (inside tank) upper to lower rinse arm		
0163700	Front door switch (some models) 3 terminal		
0163800	Side door switch (some models) 6 terminal		
0049801	Spacer Kit for door wraparound		
0138900	Rinse feed pipe support		
6047603	Conversion kit straight-thru to corner		
0049800	Door wraparound		
80001	Track rod support assembly		
0058200	Heater element, flange type 208V, 1500W		
0051900	Door plugs black plastic		
6047100	Conversion kit corner to straight-thru		

ORDERING REPLACEMENT WIRE

ORDERING REPLACEMENT WIRE FOR YOUR DISHMACHINE

Jackson dishmachines have several color and gauges of wire used in them and it may become necessary to replace these wires. Wire may be ordered from Jackson MSC Inc., but please note that it is only available in feet. Ensure that you order the correct color and guage.

BLACK WIRE:

6 Gauge	6145-002-15-91
8 Gauge	6145-104-43-00
10 Gauge	6145-104-16-00
12 Gauge	6145-112-01-00
14 Gauge	6145-104-09-00
18 Gauge	6145-104-01-97
18 Gauge with Orange Stripes	6145-011-35-66
18 Gauge with White Stripes	6145-011-35-65
18 Gauge with Yellow Stripes	6145-011-35-64

BLUE WIRE:

6 Gauge	6145-002-15-93
8 Gauge	6145-104-44-00
10 Gauge	6145-104-42-00
14 Gauge	6145-104-04-00
18 Gauge	6145-104-35-00
18 Gauge with Black Stripes	6145-011-46-35
18 Gauge with Red Stripes	6145-011-46-37
18 Gauge with White Stripes	6145-011-46-36
18 Gauge with Yellow Stripes	6145-011-46-38
20 Gauge	6145-104-06-97
20 Gauge with Black Stripes	6145-104-17-97
20 Gauge with White Stripes	6145-104-13-97

GREEN WIRE:

8 Gauge	6145-002-15-94
14 Gauge	6145-104-03-00
18 Gauge	6145-104-32-00
18 Gauge with Yellow Stripes	6145-001-44-96
20 Gauge	6145-104-05-97
20 Gauge with Black Stripes	6145-011-59-57
20 Gauge with Yellow Stripes	6145-104-11-97

GREY WIRE:

18 Gauge	6145-104-36-00
18 Gauge with Black Stripes	6145-011-81-71
18 Gauge with Blue Stripes	6145-011-81-72
18 Gauge with Red Stripes	6145-011-46-41
18 Gauge with White Stripes	6145-011-35-60
18 Gauge with Yellow Stripes	6145-011-46-42
20 Gauge	6145-104-03-97

RED WIRE:

6 Gauge	6145-002-15-92
8 Gauge	6145-104-45-00
10 Gauge	6145-104-08-00
14 Gauge	6145-104-05-00
18 Gauge	6145-104-37-00
18 Gauge with Black Stripes	6145-011-59-56
18 Gauge with Blue Stripes	6145-011-81-74
18 Gauge with White Stripes	6145-011-81-73
18 Gauge with Yellow Stripes	6145-011-81-75
20 Gauge	6145-104-02-97

WHITE WIRE:

10 Gauge	6145-104-19-00
14 Gauge	6145-104-10-00
18 Gauge	6145-104-39-00
18 Gauge with Black Stripes	6145-011-35-70
18 Gauge with Blue Stripes	6145-011-46-40
18 Gauge with Green Stripes	6145-011-35-69
18 Gauge with Grey Stripes	6145-002-20-18
18 Gauge with Red Stripes	6145-011-35-67
18 Gauge with Yellow Stripes	6145-011-35-68
20 Gauge	6145-104-04-97
20 Gauge with Orange & Yellow Stripes	6145-104-16-97
20 Gauge with Yellow Stripes	6145-104-15-97

YELLOW WIRE:

18 Gauge	6145-104-33-00
18 Gauge with Black Stripes	6145-011-81-68
18 Gauge with Blue Stripes	6145-011-81-70
18 Gauge with Red Stripes	6145-011-81-69
20 Gauge	6145-104-07-97

ORDERING REPLACEMENT WIRE (CONTINUED)/CONDUIT & FITTINGS

MISCELLANEOUS WIRE:

Brown (18 Gauge)	6145-104-20-00
Brown (20 Gauge)	6145-104-08-97
Orange (18 Gauge)	6145-104-34-00
Orange with Black Stripes (18 Gauge)	6145-011-35-62
Orange with Blue Stripes (18 Gauge)	6145-011-46-39
Orange with White Stripes (18 Gauge)	6145-011-35-63
Orange with Yellow Stripes (18 Gauge)	6145-011-35-61
Orange (20 Gauge)	6145-104-10-97
Pink (18 Gauge)	6145-011-82-69
Purple (18 Gauge)	6145-104-31-00
Violet (20 Gauge)	6145-104-09-97
Plug, GFI	6145-001-97-90
Cable, 16 Gauge, 3 Wire Romex	6145-001-98-29
Cord, Hubble Plug MC	6145-011-47-23
Cord, S-J	6145-011-49-02
Cord, Power	6145-011-70-28
Cord, 115V Power	6145-309-02-00
Cord, 125V Power, 96 " Long	6145-309-04-00

CONDUIT AND RELATED FITTINGS

Jackson dishmachines come with a wide variety of conduit and fittings for use in routing the wires of the machine. The list below provides for most of stock of such items. When ordering, remember that Jackson does not offer pre-cut sections of conduit for your machine, instead it is sold by the foot. Please take into account the slack that will be necessary once installing the new conduit to ensure that it fits correctly. It is recommended that you order at least 6" more conduit than you require to ensure that you have enough for trimming.

CONDUIT:

Conduit, 1/2", Liquidtite	5975-101-25-00
Conduit, 1/2", Non-Metallic	5975-111-46-57
Conduit, 1/2", PVC	5975-105-04-00
Conduit, 1/2", Sealtite	5975-105-01-00
Conduit, 1/2", Xtraflex	5975-105-06-44
Conduit, 3/8", Liquidtite	5975-105-02-00
Conduit, 3/4", Cole-Flex	5975-105-05-00
Conduit, 3/4", Liquidtite	5975-105-03-00
Conduit, 3/4", Non-Metallic	5975-011-47-71
Conduit, 3/4" Xtraflex	5975-105-07-44
Conduit, 1", Carlon	5975-011-68-42

CONDUIT FITTINGS:

Elbow, Cole-Flex, 1/2", 90 Degree	5975-205-40-00
Elbow, Xtraflex, 1/2", 90 Degree	5975-205-44-44
Elbow, Xtraflex, 3/4", 90 Degree	5975-205-45-44
Fitting, 1/2" Straight	5975-011-45-13
Fitting, 1/2", Straight, Zinc Plated	5975-111-89-89
Fitting, 1/2", 45 Degree	5975-011-45-23
Fitting, 1/2", 45 Degree, Zinc Plated	5975-111-89-86
Fitting, 1/2", 90 Degree	5975-011-45-14
Fitting, 1/2", 90 Degree, Zinc Plated	5975-111-89-88
Fitting, 3/4", Straight	5975-011-47-72
Fitting, 3/4", 45 Degree	5975-011-47-74
Fitting, 3/4", 90 Degree	5975-011-47-73
Fitting, 1", Straight	5975-011-70-75
Fitting, 1", 90 Degree	5975-011-68-43
Fitting, Cole-Flex, 1/2" Straight	5975-205-03-00
Fitting, Cole-Flex, 3/4" Straight	5975-205-41-00
Fitting, Cole-Flex, 3/4", 90 Degree	5975-204-42-00
Fitting, Liquidtite, .231 ID/.394 OD	5975-011-49-03
Fitting, Liquidtite, .25 ID/.546 OD	5975-011-65-51
Fitting, Liquidtite, .27 ID/.48 OD	5975-011-59-50
Fitting, Liquidtite, 1/2", 90 Degree	5975-111-01-00
Fitting, Liquidtite, 3/8", Straight	5975-205-03-82
Fitting, Liquidtite, 3/8", 90 Degree	5975-205-02-82
Fitting, Liquidtite, 3/4", Straight	5975-205-15-02
Fitting, Liquidtite, 3/4", 45 Degree	5975-205-01-82
Fitting, Liquidtite, 3/4", 90 Degree	5975-205-07-82
Fitting, Xtraflex, 1/2", Straight	5975-205-47-44
Fitting, Xtraflex, 3/4", Straight	5975-205-46-44
Nut, 1-1/4"	5975-011-42-54

ORDERING REPLACEMENT HOSE & TUBING

Tubing and hose are ordered by the foot. Jackson MSC Inc. reserves the right to require minimum ordering quantities for the items below.

HOSE:

Hose, 3/16" ID x 5/16" OD	4720-601-40-00
Hose, 1/4" ID x .062" Wall, Excelon	4720-111-59-46
Hose, 1/4" ID x 1/2" OD, 300-350 PSI	4720-011-95-43
Hose, 3/8" ID x 5/8" OD, 300 PSI	4720-002-31-63
Hose, 3/8" ID x 5/8" OD, PVC	4720-011-35-41
Hose, 3/8" ID x 3/4" OD, PVC	4720-111-35-41
Hose, 1/2" ID x 3/4" OD	4720-011-94-01
Hose, 1/2" ID, Reinforced	4720-011-63-06
Hose, 5/8" ID x 7/8" OD, PVC	4720-601-14-00
Hose, 3/4" ID x 1" OD	4720-011-94-10
Hose, 3/4" ID, Nylon Reinforced	4720-011-63-02
Hose, 1" ID x 1-1/4" OD, EPDM	4720-111-39-73
Hose, 1-1/4" ID x 1-1/2" OD, Reinforced	4720-601-42-00
Hose, 1-1/4" ID, Reinforced	4720-011-44-47
Hose, 1-1/2" ID, Clear Wire Reinforced	4720-111-34-60
Hose, 2" ID, Nylon Reinforced	4720-011-63-25
Hose, 2" ID, Reinforced Flex Drain	4720-011-63-04
Hose 2" ID x 3" OD, EPDM	4720-011-88-02

TUBING:

Tubing, 1/8" OD, Paraflex	4720-111-58-09
Tubing, 3/16" ID x .54" OD, CPVC	4720-111-35-31
Tubing, 1/4" OD	4720-111-51-65
Tubing, 1/4" OD, Blue	4720-601-11-00
Tubing, 1/4" OD, Red	4720-601-12-00
Tubing, 1/4" OD, White	4720-601-13-00
Tubing, 1/4" OD, Paraflex	4720-111-51-70
Tubing, 1/4" ID x 3/8" OD, Tygon	4720-001-97-65
Tubing, 1/2" ID x 13/16" OD, Polypropolene	4720-601-24-00
Tubing, 5/16" x 7/16" OD, Clear	4720-111-35-34
Tubing, 5/16" ID x 1/2" OD, Flexible	4720-011-35-21
Tubing, 3/8" ID x 1/16" Wall, Clear	4720-601-22-00
Tubing, 3/8" OD, White Polypropolene	4720-011-50-49
Tubing, 5/8" ID with .125" Wall	4720-002-12-20
Tubing, 3/4" ID x 1/8" Wall, Polypropolene	4720-601-25-00
Tubing, 3/4" ID x 1-1/8" OD, Nylon	4720-001-84-01
Tubing, 1" Polybrade	4720-011-69-16
Tubing, 1" ID x 1-3/8" OD, Polypropolene	4720-601-23-00
Tubing, 1-1/2" Polybrade	4720-011-69-17