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TECHNICAL MANUAL
[*SGML VERSION; SEE CHANGE
RECORD*]

DISHWASHER SERVICE

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CHAPTER 1.**JACKSON DISHWASHER MODEL 24-BF***

SPECIFICATIONS
 JACKSON DISHWASHER MODEL 24-BF*

	NSU
OPERATING CAPACITY 100%	24B
Racks per hour	21
Dishes per hour	525
Glasses per hour	525
OPERATING CYCLE	
Wash Time-seconds	120
Rinse Time-seconds	15
Total Cycle-seconds	150
WASH TANK CAPACITY (Gallons)	5.65
RINSE TANK CAPACITY (Gallons)	3
WASH PUMP CAPACITY (GPM)	60
WATER REQUIREMENTS 100%	
Inlet Temperature°F	140°
Gallons per hour	52.3
Flow Pressure, PSI	20
Flow, gallons per minute	7.1
Inlet size-IPS	1/2
Drain size-O.D.	1 1/2
WASH PUMP MOTOR (HP)	1/2
WASH HEATER (kw)	1.0
RINSE HEATER (kw)	5.0
ELECTRICAL REQUIREMENTS (See below for details, under Electrical Rating)	
DIMENSIONS	
Height, with Top	36"
Height, with no Top	34 1/2"
Width	2"
Clearance, Wall to Machine	21/4"
Depth	24"
Maximum Height for Dishes	14"
Rack Size	19 3/4"

NOTE**VENTED BACK****ELECTRICAL RATING**

MODEL	VOLTS	PHASE	APPROX TOTAL LOAD AMPS
24 B			
NSU	440	3	8.5

Specifications subject to change without notice.

1-1. GENERAL INSTRUCTIONS (INSTALLATION)

NOTE

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

Uncrating 24.

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

NOTE

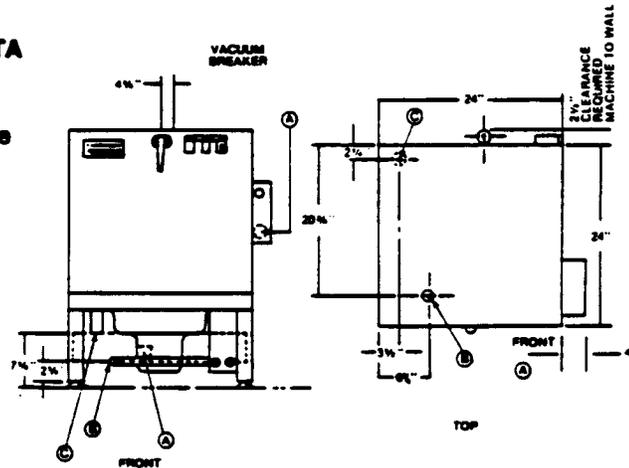
NSF base cradle installation must be field installed on all AF and BF models. Cradle goes around bottom; secure in place using liquid adhesive.

Installation Instructions. Use accompanying instructions for mounting deck hardware in addition to these.

1. Level dishwasher machine using adjustable feet.
2. Refer to dimensional data sketch for connections.
3. The drain from the machine is a gravity drain system and should, therefore, have the proper drop from the machine to the kitchen's drain system. The drain connection is located to the left rear of the machine when facing the machine's door. The drain connection is fitting is 1 1/2" OD tube size, 7" from floor.
4. The incoming water line should be attached to the machine's connection which is located to the front left side of the machine. The pipe size to the machine should be 1/2" and the water should be 140° for the model B's and 180° for the model A's.
5. The electrical connections should be made to the terminal board located inside the 440V control box mounted on the right side. The terminals are marked L1, L2 and L3. Install proper circuit breaker, wire and conduit size to conform with local and/or national codes (standards).

DIMENSIONAL DATA

Reference only
Subject to change

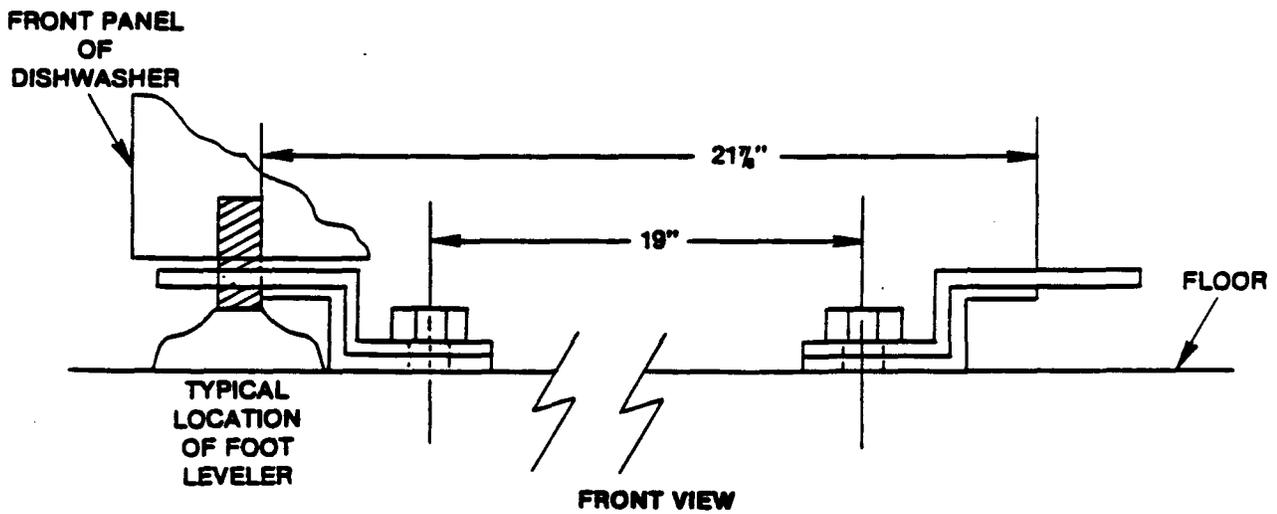
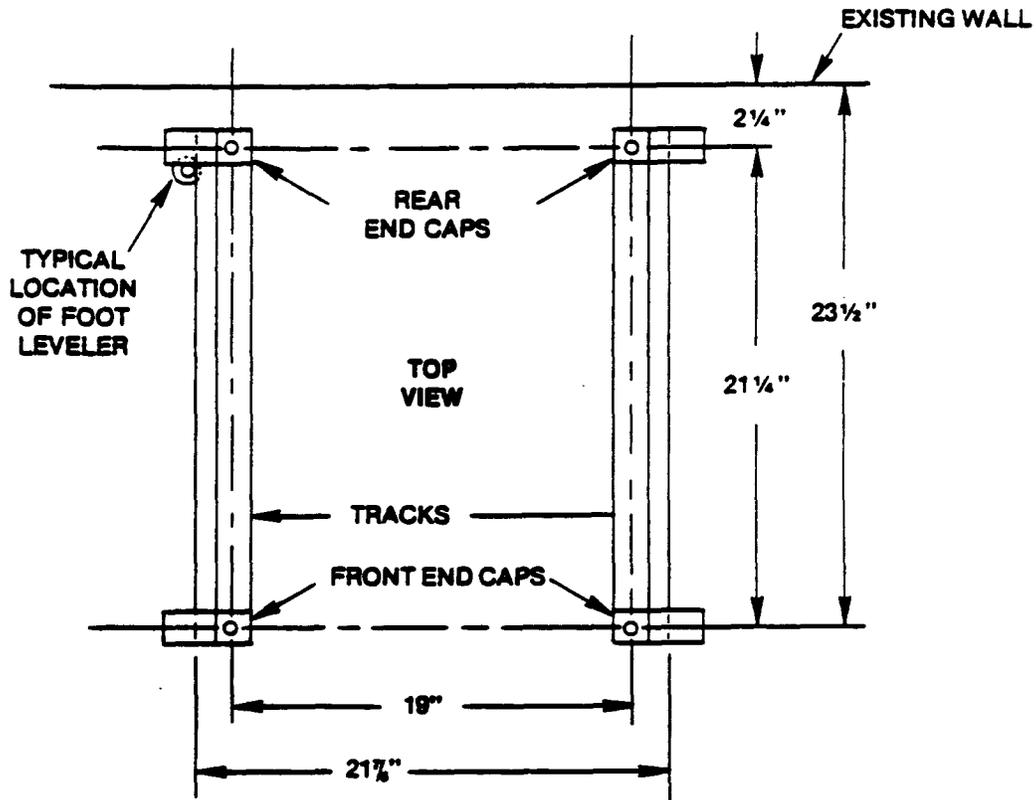
**LEGEND**

- A—ELECTRICAL HOOK UP
B—3/4" F.S.P.S. WATER INLET
C—1 1/4" DRAIN CONNECTION

Mounting Deck Hardware Instructions:

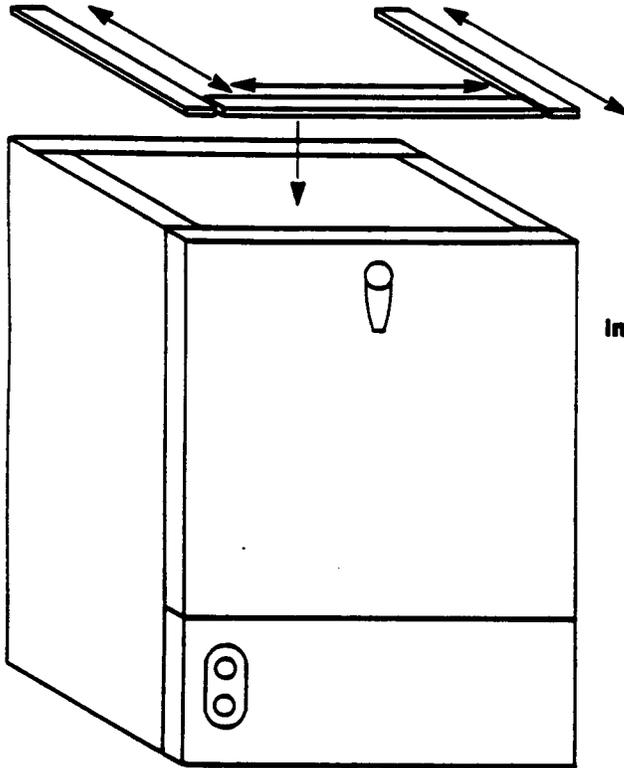
1. Set dishwasher in place and level machine using the adjustable feet.
2. After finding exact location of machine, temporarily remove machine in order to install the deck hardware necessary to secure machine in place.
3. Refer to accompanying sketch for installation. Stainless steel lug bolts (3/8" dia.) will be required to secure end caps and tracks to floor.
4. Drill holes into deck as per dimensions on sketch. Make sure that the rear end holes are located 2 1/4" from wall so that the dishwasher will fit securely against the wall.
5. The tracks and the rear end caps may now be bolted securely to the floor.
6. Carefully slide the dishwasher back into place.
7. The front end caps may now be bolted on to the track.
8. The machine should now be secure. Minor adjustments may be necessary to remove any play.
9. If possible, we also recommend that the tracks be tack welded to deck.

1-2. INSTALLATION OF DECK HARDWARE TO SECURE DISHWASHER (Not To Scale)



Installation of Model 24 Top and Table gasket: These instructions are to be used for applying the adhesive backed sponge rubber strip to the top of the machine prior to setting the table in place.

Included with the Model 24 table is a 6 foot length of 1/4 " thick x 1 " wide sponge rubber adhesive backed stripping.



Instructions for applying gasket:

1. Place one end of the stripping along the complete side of the leg support flange and cut it off.
2. Repeat the same procedure along the other side.
3. Place the remaining piece along the front edge and fit it in between the side pieces and cut it to length.
4. Remove the backing and set the strips in place.

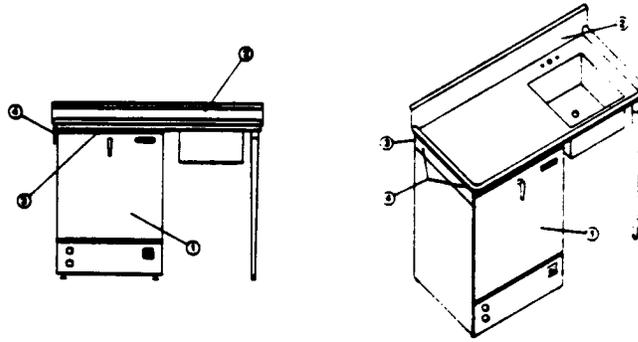
Installation of Model 24 Dishwasher Under Dishtable:

1. On the end of the table, locate bracket #4 opposite the sink end.
2. A square rubber gasket #3 is supplied and should be secured to top frame of dishwasher with caulk or suitable adhesive.
3. Place dishtable #2 where it is to be installed and support the machine's end.
4. Slide dishwasher #1 underneath dishtable #2 so that the outside of machine is positioned against the guide bracket #4. Make sure dishtable and dishwasher are in desired permanent location.
5. Using the two holes in bracket #4 as a guide, drill two holes...illegible... diameter in the side panel of machine.

NOTE

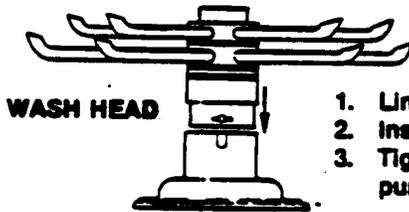
Drill through first thickness of metal only.

6. Using the self-tapping screws supplied, screw them through bracket #4 and into the side panel of machine until screws are tight.



Removal of Pan Strainer for Cleaning: (Wash and rinse head assemblies must be removed prior to removing strainer.)

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

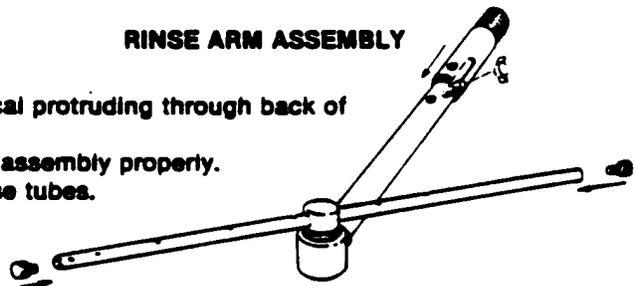


WASH HEAD

1. Line holes up on wash head assembly to match slots in pump housing.
2. Insert wash head assembly down into upper pump housing as far as possible.
3. Tighten the wing nut as necessary until wash head is seated securely in pump housing.

RINSE ARM ASSEMBLY

1. Line up stud to match with slot in nipple.
2. Insert rinse arm assembly into female pipe receptical protruding through back of machine.
3. Tighten wing nut as necessary to secure rinse arm assembly properly.
4. Make certain end plugs are secured properly in rinse tubes.



1-3. GENERAL INSTRUCTIONS (OPERATION)

NOTE

Read the following instructions carefully. Proper operation of your Jackson Dish-washer will assure clean and sanitized glasses and dishes, at optimum efficiency.

Dish Preparation.

1. Scrape dishes thoroughly.
2. Pre-wash dishes by soaking or with hose.
3. Place dishes and cups in dish rack, cups upside down.
4. Place glasses and silverware in combination glass-silverware rack, glasses upside down. Scatter silverware loosely on bottom.

NOTE

Silverware in the upright position washes and rinses better than lying flat. These silverware compartment racks are available through your dealer or Service Agency.

Operators Instructions:

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

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

1-4. GENERAL INSTRUCTIONS (PREVENTIVE MAINTENANCE)

(THE FOLLOWING IS TO BE PERFORMED AS NEEDED.)

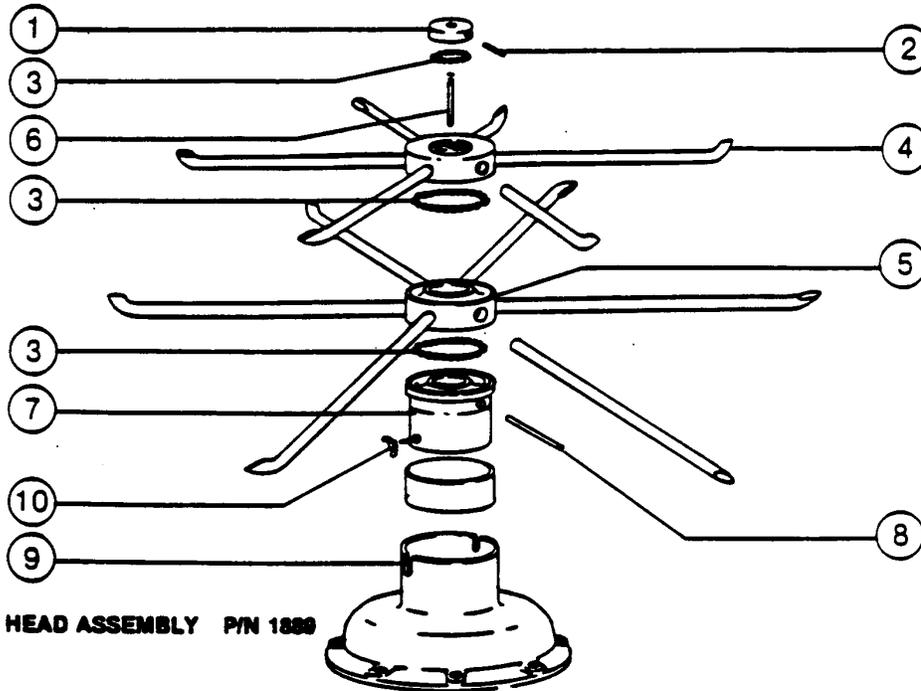
NOTE

Read the following instructions carefully. Proper maintenance of your Jackson Dishwasher will ensure optimum service with a minimum of down time.

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

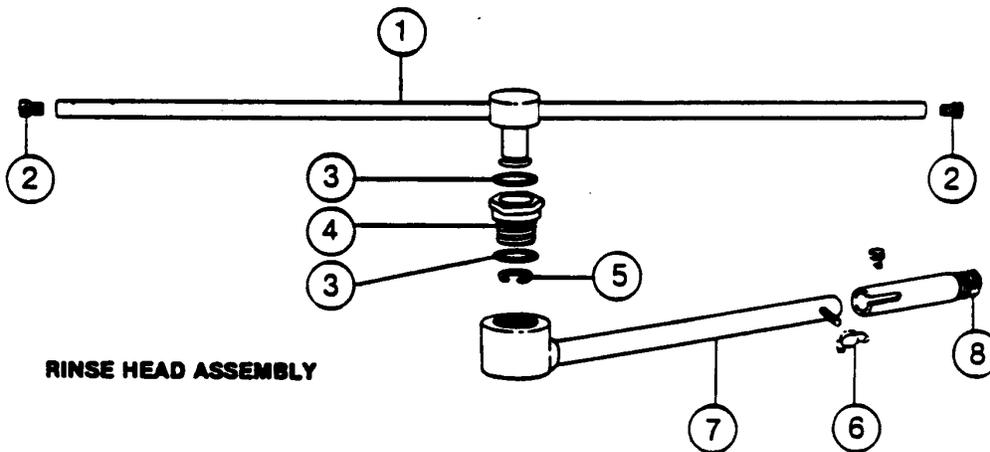
1-5. REMOVAL of RINSE and/or WASH HEAD ASSEMBLIES (GENERAL INSTRUCTIONS).

1. Before opening the door, hold the drain switch in and drain all of the water out of the unit.
2. Open the door and allow the unit a few minutes to cool off.
3. With your fingers, loosen the wing nut holding the rinse feed pipe. When it is loose, pull the feed pipe out of the nipple and lay it to one side.
4. Locate Allen head set screw in the wash head cap, insert Allen wrench and loosen screw by turning counterclockwise.
5. Turn wash head cap counterclockwise until cap is removed and put cap in safe place.
6. Remove 1/4" stainless ball bearings carefully and put it in a receptacle in a safe place.
7. Lift and remove small manifold with short tubes. Put it in a safe place.
8. Remove 1/4" ball bearing in similar method to step #6.
9. Lift and remove large manifold with large length tubes similar to step #7.
10. The lower fixed race may be left in place.
11. Clean ball bearings by soaking in de-liming solution.
12. 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.
13. Rinse ball bearings and manifolds thoroughly.
14. To reassemble, first fill lower race to capacity with 1/4" ball bearings, then remove one. This will give proper movement during rotation of assembly.
15. Replace lower manifold and fill race fully with 1/4" ball bearings. Repeat, removing one only.
16. Replace upper manifolds repeat necessary parts of step #14.
17. Replace wash cap by screwing on center shaft clockwise, finger tight.
18. Back off wash cap about 1/4 turn and tighten Allen set screw.
19. 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".
20. Replace the rinse assembly and pipe by aligning the stud on the feed pipe with the slot in the nipple. Push the feed pipe in gently as far as it will go and then secure it with the wing nut.
21. Close the front door and refill dishwasher.
22. Run through several cycles and recheck wash arms for easy movement. Adjust if necessary.



WASH HEAD ASSEMBLY P/N 1880

ITEM	P/N	DESCRIPTION	ITEM	P/N	DESCRIPTION
1.	1865	WASH HEAD CAP WITH RACE	6.	1875	WASH HEAD CENTER SHAFT
2.	1870	WASH HEAD CAP SET SCREW	7.	1938	WASH HEAD FIXED RACE
3.	1940	WASH HEAD BEARING 1/4" S/S	8.	1886	WASH HEAD SHAFT HOLDING PIN
4.	1890	WASH HEAD SMALL MANIFOLD w/TUBES	9.	1096	UPPER PUMP HOUSING
5.	1895	WASH HEAD LARGE MANIFOLD w/TUBES	10.	1897	WASH HEAD ASSEMBLY HOLDING WING NUT



RINSE HEAD ASSEMBLY

ITEM	P/N	DESCRIPTION	ITEM	P/N	DESCRIPTION
1.	1252	RINSE HEAD ARM	5.	1285	RINSE HEAD SNAP RINGS S/S
2.	1268	RINSE HEAD END PLUGS	6.	1372A	RINSE FEED PIPE HOLDING WING NUT
3.	1290	RINSE HEAD NYLATRON WASHER	7.	1372	RINSE FEED PIPE (LOWER)
4.	1255	RINSE HEAD HEX BUSHING S/S	8.		RINSE FEED PIPE NIPPLE

1-6. TIMER for MODEL 24 DISHWASHERS

General Description: The timer is a self-contained (frame mounted) timer of the repeating cycle type. It is mounted on the control panel of Jackson Automatic Dishwashing Machines, to control the automatic functions of these machines. It consists of a clock motor which operates on 60 cycle, AC, 110VAC or 50 cycle, AC, 220VAC. In addition to the clock motor, the timer also contains a driven cam arrangement which operates three micro switches.

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

Service Instructions:

CAUTION

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

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

If it is determined that the timer is defective, it is recommended that a new timer be installed. If a new timer is not available, limited field maintenance can be accomplished by changing the micro switch.

A frozen contact on a micro switch will be indicated if one function of the timer is being executed all the time or if there is an absence of a click when the switch arm is actuated.

To Replace Micro Switch.

1. Remove all wires from the timer, property tag them to assure proper replacement.
2. Remove the two screws which hold the timer to the control panel.
3. One screw holds the micro switches, cams and actuating arms in the frame. This screw is seen on the side opposite the motor. Remove this screw.

NOTE

Be sure to note which cam goes with which micro switch. Cam nearest timer motor has 1/2 of its edge raised; center cam has 2 large depressed areas; cam furthest from timer motor has two smaller depressed areas.

4. The unit can now be taken apart and the defective micro switch replaced.
5. Reassemble.

NOTE

The flanges on the cams are such that they only mesh in one direction.

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

1-7. 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.

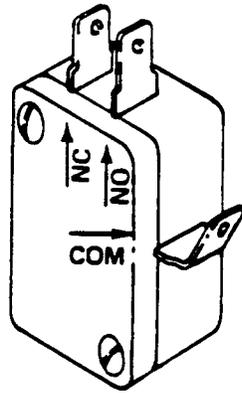
To Replace Motor:

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

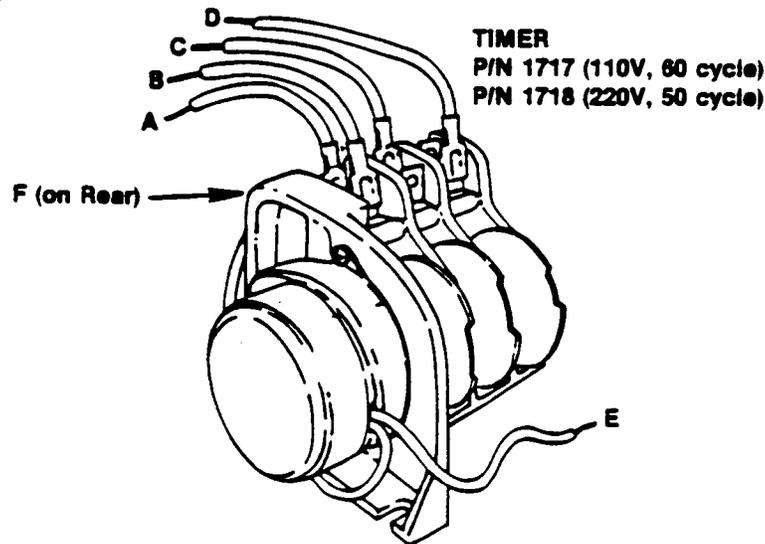
NOTE

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

TYPICAL TIMER SWITCH P/N 1775



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



FUNCTION of SWITCHES, CIRCUIT BREAKER and INDICATING LIGHTS

- Start switch: P/N 1558 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: This light comes on only when automatic cycle is in progress and extinguishes when cycle is complete. It is located in the start switch.
- Manual wash switch: P/N 1557 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 1543 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.

FUNCTION of SWITCHES, CIRCUIT BREAKER and INDICATING
LIGHTS - Continued

Heat switch: P/N 1578	This switch applies power to the heat circuits which are composed of automatic control devices that turn heaters on and off to maintain required temperatures.
Heat light:	This indicating light remains lit all the time the heat switch is on. It is located in the heat switch.
Drain Switch: P/N 1609	This switch controls the manual draining of the unit at the end of a meal period or at the end of the day. It is a spring-loaded switch and must be held in its up position to operate. The switch when activated causes the drain valve to open and the motor to go into reverse, pumping the water out of the sump into the drain line. This switch should be held for approximately 50 seconds.

1-8. REPLACEMENT of SWITCHES in FRONT DOOR

There are five switches installed in the front door. These are the start, drain, manual wash, rinse/fill and heater switches.

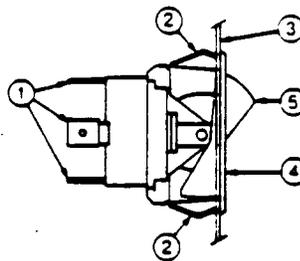
Before working on the machine, it is important that the power be turned off at the customer's circuit breaker to prevent the possibility of electrical shock; trip the breaker to the "Off" position. Then turn the machine circuit breaker "Off" located on the left side of the control box.

The five rocker switches are mounted in a rectangular hole held in position by a bracket. These switches are designed to be released from the inside and pushed outward. The spring sides must be depressed to release the switch and bracket from the hole. To remove the bracket from the switch, wedge a screwdriver in between them then lift up and move off.

If the switch is found to be defective, mount a new one into the bracket and insert it into the hole in the control box. Make sure that the tab on the switch is in the proper notch on the bracket for easy operation of the switch. Replace the wires from the used switch terminal by terminal on to the new switch.

Power can now be applied to the dishwasher and run through cycles checking all operations.

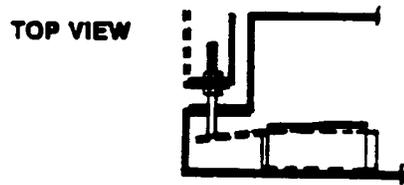
1. CONNECTION TERMINALS
2. BRACKET SPRING SIDES
3. PANEL PLATE
4. BRACKET FRONT
5. ROCKER BUTTON



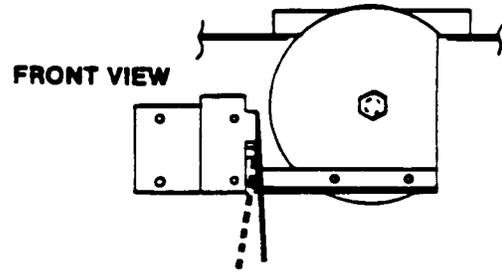
1-9. INTERLOCK SYSTEM.

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

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



DOOR SAFETY SWITCH (SIDE) P/N 1641



DOOR LATCH SAFETY SWITCH P/N 164

1-10. CHECKOUT (INTERLOCK SYSTEM)

NOTE

All electrical checks should be made by qualified service personnel.

If it's determined that the proper power is being applied to the machine's incoming terminal blocks, then further check of the safety switch should be made.

NOTE

This checkout would only be performed if none of the systems of the machine operate. This would mean that none of the switches, when depressed, will perform the function noted for that switch.

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

Proceed with checkout.

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

1-11. 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.

NOTE

Do not touch the screw sealed with red paint. When adjusting screw #2 power should be disconnected during adjustment.

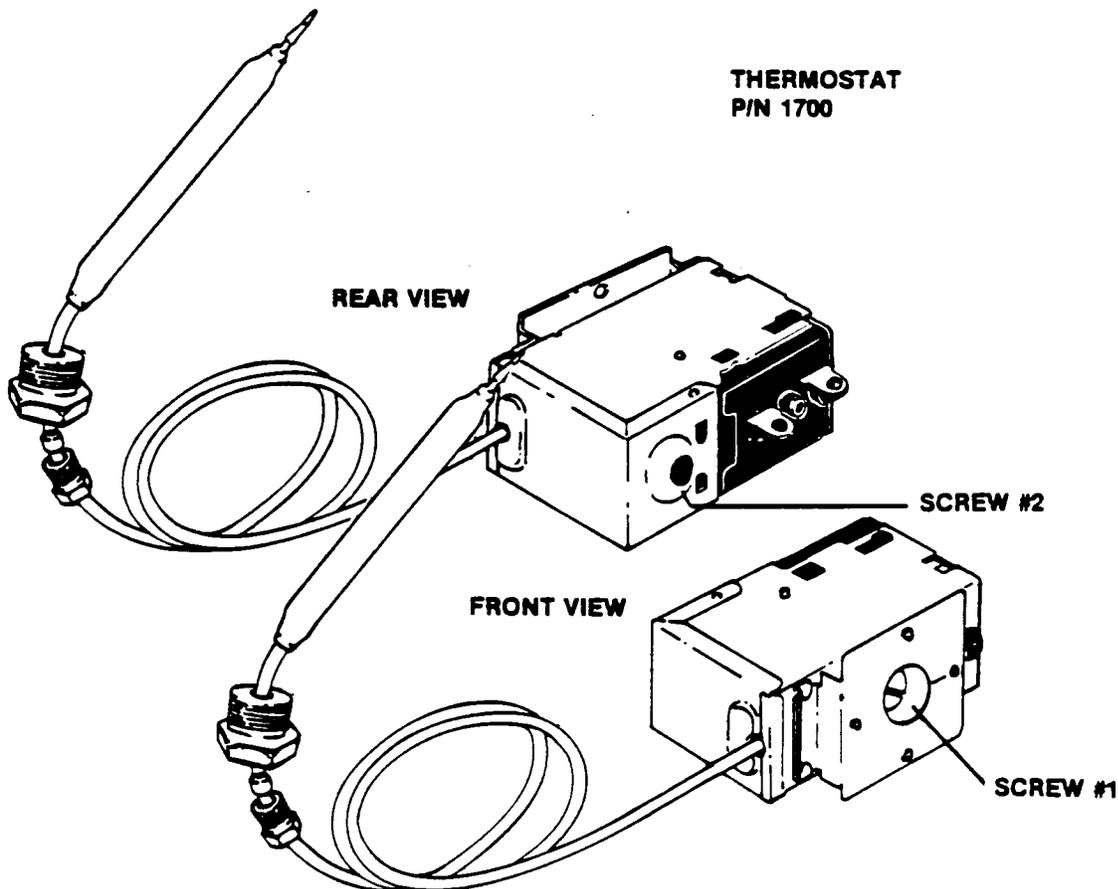
Set screw #1 so that it can be turned equal distances in either direction, then:

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-fourths of a turn will bring the thermostat to approximately the same setting obtained when screw #1 stopped. Check the present temperature setting before attempting any further adjustments. Use screw #1 for any further adjustments.

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

**1-12. RINSE TANK HEATER SYSTEM**

Function: The Rinse Tank Heater System is electrically connected in the circuit with the control system functioning on 110/130V and the power system functioning on 440/480V. The heat circuit is controlled by a heat

switch (mounted on front door) and a thermostat (mounted near thermometer) which activates the coil on the heat relay. When higher temperature is required, power is applied to the heaters when the contacts of the heat relay are closed. Should the rinse tank thermometer read either too high or too low, follow checkout below:

Checkout of Heater System for Rinse Tank: (Refer to dwg. Fig. #2)

NOTE

The following checkout should be done by a qualified service person or electrician.

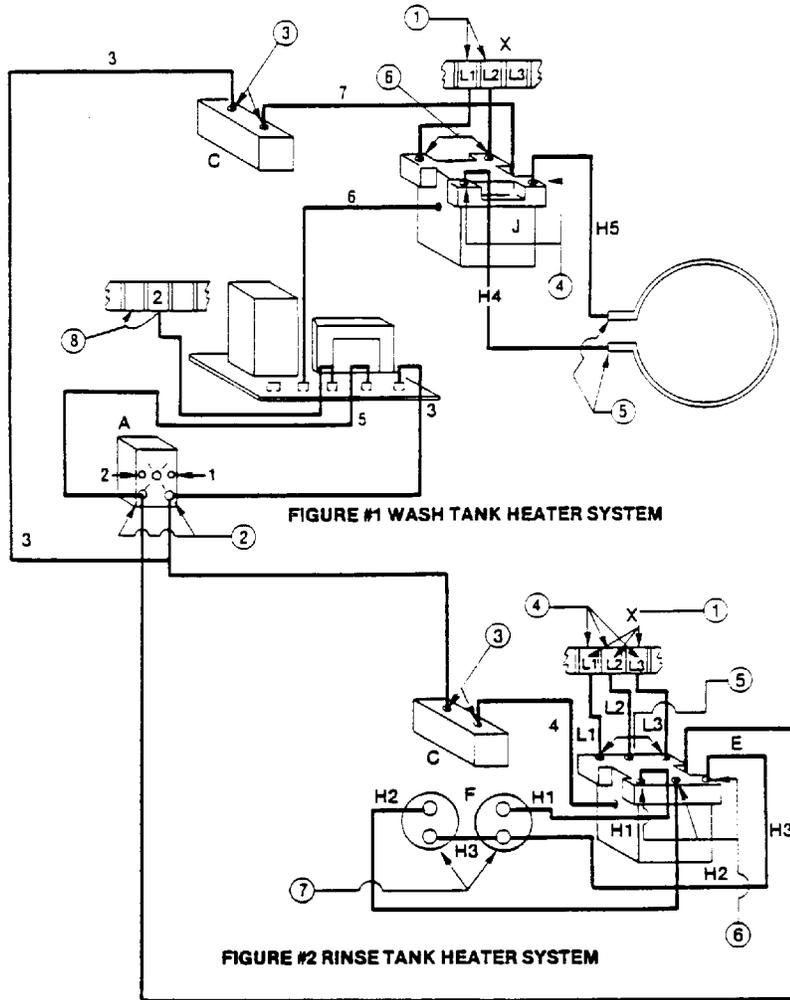
1. Turn off power to machine by tripping "power on" switch to off position.
2. Remove the cover panel from 440V control box mounted on right side of machine.
3. Make sure rinse temperature is below 180°.
4. Reapply power and observe heat relay (3 pole) letter E, figure 2 as heat switch is turned on and off several times.
 1. If heat relay contacts do not close, with heat switch on:
 - a. Check power supply at Position 1 on terminal board X. Voltage should be approx. 440 VAC across L1-L3 and L2-L3. If not, check customer's breaker. If defective, replace.
 - b. Check Position 2; voltage should be 110V. If not, check switch as necessary.
 - c. Check Position 3; there should be 'zero' volts there. If not, readjust thermostat per thermostat instructions.
 - d. If voltage is being applied to Positions 1 and 2, then the relay should be replaced; coil on relay probably defective.
 2. To determine if elements are working:
 - a. There's an insulated movable bar on the heat relay across the top of the three contacts. With an insulated probe, depress the bar and observe rinse thermometer, the temperature should rise noticeably in a minute or two. If it moves very slowly, it would indicate that one element is defective. If it moves consistently higher at a good rate, the elements are okay.

NOTE

A check with an amp probe, if available, can be made.

The elements together should draw approx. 8.5 amps; one element will draw approx. 5 amps. Replace element if found defective.

3. If the heat relay closes:
 - a. Check power supply at Position 4 on terminal board X, right hand view. It should be 440V approx. across L1-L3 and L2-L3. If not, check circuit breaker at customer's panel; replace if defective.
 - b. Check power Position 5; voltage should be approx. 440V across L1-L3 and L2-L3. If not, check connections and wires for breaks; replace as necessary.
 - c. With heat switch on and relay closed, check power at Position 6; voltage should be approx. 440V across HI-H3 and H2-H3. If not, replace heat relay.



- | | |
|--------------------------------|----------------------------------|
| A - HEAT SWITCH | F - RINSE HEATERS |
| B - WATER LEVEL CONTROL | G - BUS BARS |
| C - THERMOSTAT | J - RELAY (2-POLE) |
| D - (WASH) RING HEATER | X - TERMINAL BOARD (440V) |
| E - RELAY (3-POLE) | Y - TERMINAL BOARD (110V) |

d. If No. 3 above checks out okay, check at Position 7; voltage should be approx. 440V across H1-H3 and H2-H3. If not, check wiring from heat relay to elements for loose connections or broken wires; repair as necessary.

1-13. WASH TANK HEATER SYSTEM

Function.

The Wash Tank Heater Control system is electrically connected in the circuit with the control system functioning on 110/130V and the power system functioning on 440/480V. The heat circuit is controlled by a heat switch (mounted on front door), a thermostat (mounted near thermometer) which activates the coil on the heat

relay, and a water level control (mounted middle of control panel). When higher temperature is required, power is applied to the heaters when the contacts of the heat relay are closed. Should the wash tank thermometer read either too high or too low, follow checkout below:

Checkout of Heater System for Wash Tank: (Refer to drawing, Figure 1.)

NOTE

The following checkout should be done by qualified same person or electrician.

1. Turn off power to machine by tripping "power on" switch to off position.
2. Remove cover panel from 440V control box mounted on right side of machine.
3. Make sure wash temperature is below 130°.
4. Reapply power and observe heat relay (2 pole) letter J figure 1 as heat switch is turned on and off several times.
 1. If heat relay contacts do no close, with heat switch on:
 - a. Check power supply at Position 1 on terminal board X. Voltage should be approx.440V across L1-L2. If not, check customer's breaker. If defective, replace.
 - b. Check Position 2 voltage should be 110V. If not, check switch as necessary.
 - c. Check Position 3; there should be 'zero' volts there. If not, readjust thermostat per thermostat instructions.
 - d. If voltage is being applied to Positions 1 and 2 then the relay should be replaced, coil on relay probably defective.
 2. To determine if heat element is working:
 - a. There's an insulated movable bar on the heat relay across the top of the two contacts. With an insulated probe, depress the bar and observe wash thermometer, the temperature should rise noticeably in a minute or two. If it moves very slowly, it would indicate that the element is defective. If it moves consistently higher at a good rate, the element is okay.

NOTE

A check with an amp probe, if available, can be made.

The heat element should draw approx. 2.25 amps. Replace element if found defective.

3. If the heat relay closes:
 - a. Check power supply at Position 2 on terminal board X, right hand view. It should be 440V approx. If not, check circuit breaker at Customers panel; replace if defective.
 - b. Check power at Position 6, voltage should be 440V across L1-L2. If not, check connections and wires for breaks; replace as necessary.
 - c. With heat switch on and relay closed, check power at Position 4, voltage should be approx. 440V across H4-H5. If not, replace heat relay.
 - d. If No. 3 above checks out okay, check at Position 5; voltage should be 440V across H4-H5. If not, check wiring from heat relay to element for loose connections or broken wires; repair as necessary.

4. Observe water level control (B) (with front door closed and latched). Turn heat switch on and off several times. Relay and contact points (Inside clear plastic case on water level control) should move back and forth. If water level control relay doesn't close, refer to page on water level control's function and check out.

1-14. WATER LEVEL CONTROL AS USED ON 24 P/N 2045

Function.

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

NOTE

All electrical checks should be made by qualified service personnel.

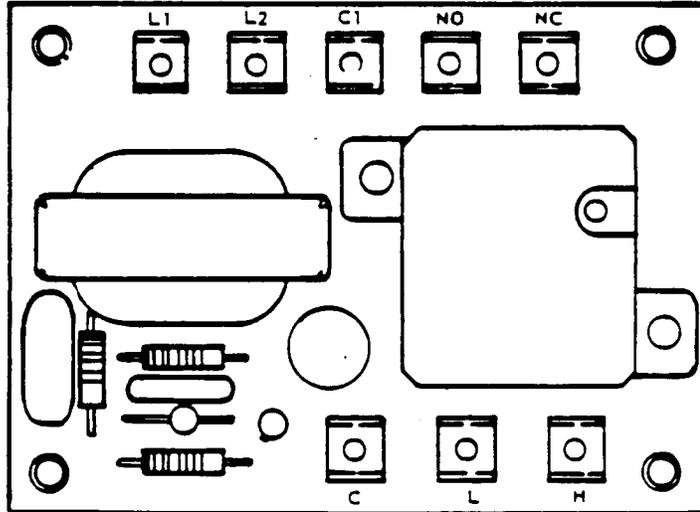
The control is designed to sense when the proper water level is maintained. At this time, the relay in the clear plastic case will activate, closing the circuit to the thermostat which completes the wash tank heat circuit as it closes. If one of the following problems exist, this unit should be checked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

Symptoms of Level Control Failure.

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

Proceed with Checkouts.

1. Remove power source to machine by moving "power on" switch on 440V control box to "off" position.
2. Remove-screws holding lower kick plate on front of machine and locate water level control (sketch below).
3. Remove, mark and insulate, for easy replacement, wires going to letters C & H.
4. Re-apply power, turn on heat switch. With an insulated wire, connect jumper wire between terminals C & H (24 volt system).
5. If relay operates, the water level control action can be deemed operational; then other causes should be explored.
6. If relay doesn't operate, replace control.
7. Remove power source once again and replace wires that were removed in step three to original terminals (see trouble shooting section for other possible causes).



SERVICE INSTRUCTIONS
(INCOMING WATER SOLENOID VALVE)

SOLENOID VALVE

P/N 1420 (110V, used on 60 cycle machine)

P/N 1425 (220V, used on 50 cycle machine)

To take the valve apart:

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

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

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

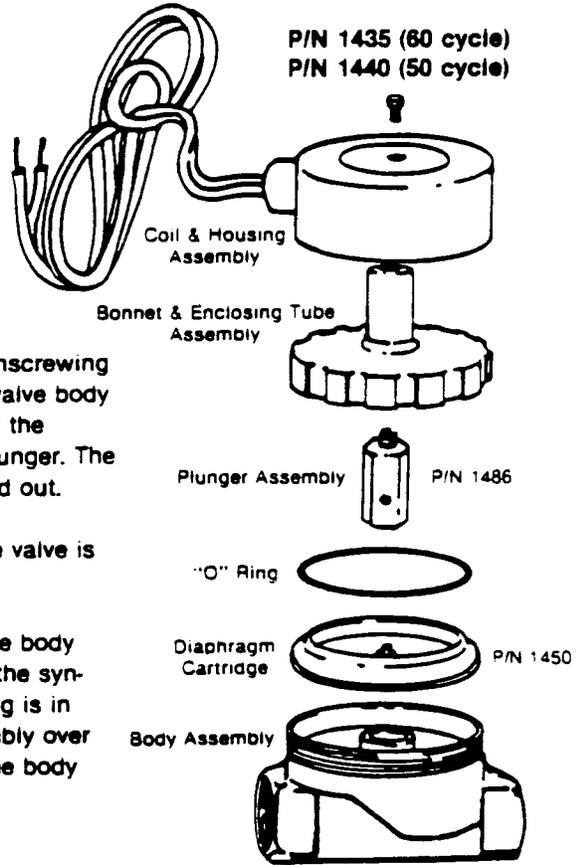
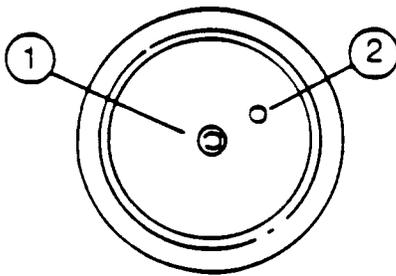


FIG.3

DIAPHRAGM CARTRIDGE



Possible Problems

Pilot Port extension #1 clogged

Hole #2 clogged

Remedy

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

1-15. SEAL and CERAMIC for PUMP SYSTEM (GENERAL INFORMATION)

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

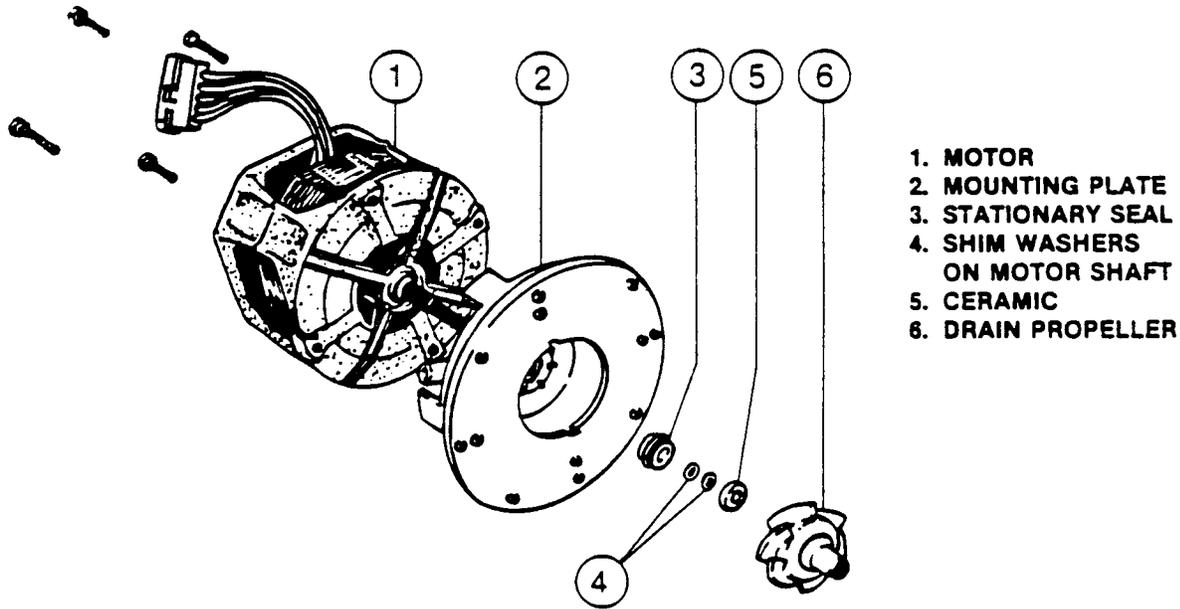
Replacement of Seal and/or Ceramic:

1. Drain machine either by depressing drain switch or by bailing out.
2. Turn incoming power to machine off.
3. Open door - remove dolly, racks, rinse head assembly and wash head assembly.
4. Remove kickplate (located under front door).
5. Unplug motor at connector
6. Loosen eight screws holding pump in sump tank.
7. Disconnect drain hose from motor (must be done from underneath machine).
8. Pull motor and pump gently upward and move from side to side as required to remove unit. (Old machine motor removed downward.)
9. Set pump and motor on bench and proceed.
10. Loosen eight screws holding upper pump housing, and remove housing.
11. Remove diffuser plate.
12. Loosen impeller screw and remove impeller.
13. Remove suction adapter plate.
14. Remove drain inlet plate.
15. Remove propeller.
16. Remove mounting plate from motor (loosen 4 phillips head screws on bottom of plate).
17. Knock out old seal carefully and clean hole, re-insert new seal.

NOTE

Be sure not to ruffle edges of seal when inserting. Seal should contact all resting surfaces at one time.

18. Ceramic is imbedded in propeller and normally does not wear or need replacement, but check for cracks.
19. Re-install motor and pump by reversing above process.



- 1. MOTOR
- 2. MOUNTING PLATE
- 3. STATIONARY SEAL
- 4. SHIM WASHERS ON MOTOR SHAFT
- 5. CERAMIC
- 6. DRAIN PROPELLER

TROUBLE SHOOTING GUIDE

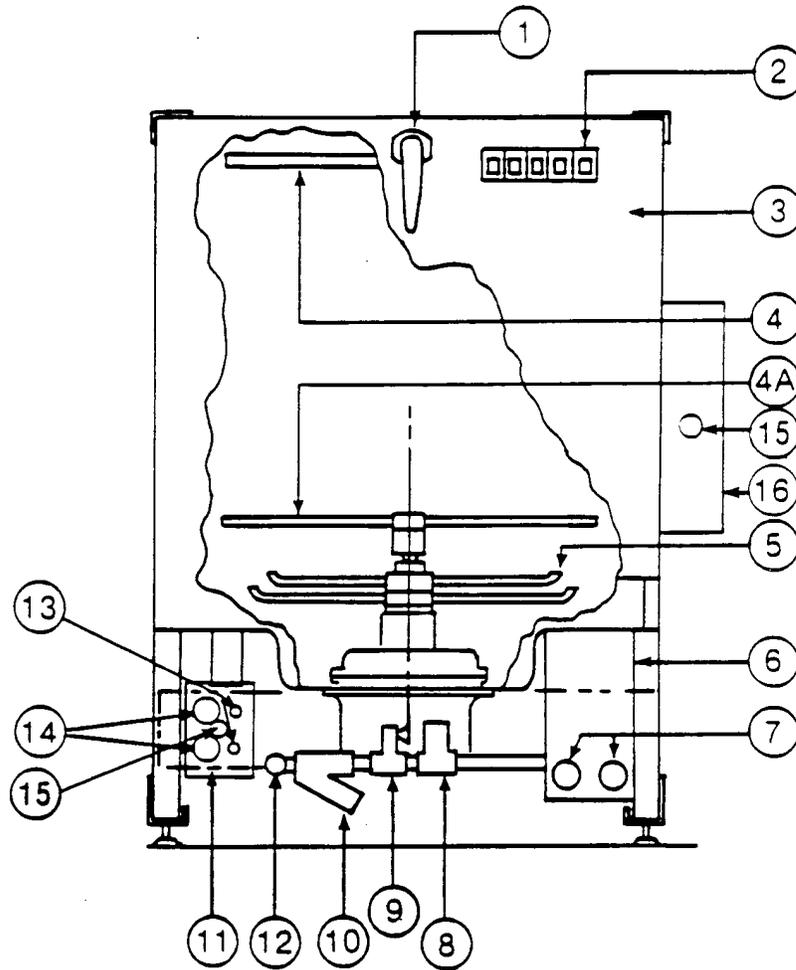
PROBLEM	CAUSE	SOLUTION
Water overflow out bottom of front door when wash pump is operating.	Machine not level.	Level machine. Slight tilt to rear
	Overflow drain clogged.	Remove obstruction, checking inside of machine first.
	Water level in machine's wash reservoir too high.	Solenoid valve not closing at end of fill or rinse cycle causing excessive water problem.
Wash motor doesn't operate on manual wash.	Detergent foaming.	Reduce quantity of detergent.
	Wires broken or loose.	Check all wires in the motor and reconnect as necessary.
	Defective manual wash switch.	Replace.
	Bad bearing, noticeable by noisy bearings or locked drive shaft.	Replace.
	Defective motor starting relay. (Typical-motor hums.)	Replace.
NOTE		
The motor starting relay is utilized to insert a starting field in the wash pump motor, once the motor has gained speed the running winding will then take over and the starting winding will be removed when the relay kicks out. This relay is the amperage sensing type.		
Motor runs on manual wash but doesn't operate on automatic (rinse operates okay on both manual and automatic cycles.)	Defective center micro switch of timer.	Replace switch.
	Defective circuit in manual wash switch.	Replace switch.
No water comes through the rinse arms when the rinse till switch is depressed.	Hand water valve to machine not turned on.	Turn on water valve.
	Defective coil on solenoid valve.	Replace coil.

TROUBLE SHOOTING GUIDE - Continued

PROBLEM	CAUSE	SOLUTION
Little or no water coming through rinse assemblies.	Broken or loose wires. Defective manual rinse fill switch. Limed up rinse heads or piping.	Repair or reconnect. Replace. Begin by cleaning rinse heads using instructions for de-liming. If this isn't satisfactory, then clean the rinse feed pipes.
Rinse doesn't operate on automatic during timed cycle (but does operate on manual rinse/fill operation).	Water pressure low. Micro switch defective (this is the micro switch furthest from the timer motor on the timer assembly). Rinse fill switch defective on N.C. contacts.	Increase pipe size to machine. Replace. Replace.
Rinse water runs continuously with circuit breaker controlling machine turned off.	Defective plunger in solenoid valve. Defective diaphragm in solenoid valve.	Replace plunger. Check both holes in diaphragm cartridge to insure that they are open. The one on the outside perimeter should be the size of an ordinary straight pin. If it's not, heat a straight pin and put it through this hole to enlarge. If this fails to correct situation, replace diaphragm.
NOTE		
In disassembling solenoid valve, use instructions shown on separate page.		
Rinse water runs continuously with power applied to machine, but when circuit breaker to machine is turned off, water stops.	Defective rinse/fill switch. Defective timer that has stopped in a position keeping the rinse on. Defective micro switch on timer assembly.	Replace. Replace timer motor or timer as necessary Replace.
NOTE		
Excessive water line pressure can cause water to continually run even though the power to the machine is turned off. Check specifications for required		
Wash temperature not at required reading on thermometer.	Defective thermometer. Rinse temperature not at required temperature, causing wash temperature to be lowered during rinse cycle.	Using a thermometer (fast reading type that's known to be correct), insert in wash reservoir and check reading against wash thermometer on machine. If machine thermometer isn't correct within three or four degrees, replace. Check out rinse heat using heater checkout system page in manual.

TROUBLE SHOOTING GUIDE - Continued

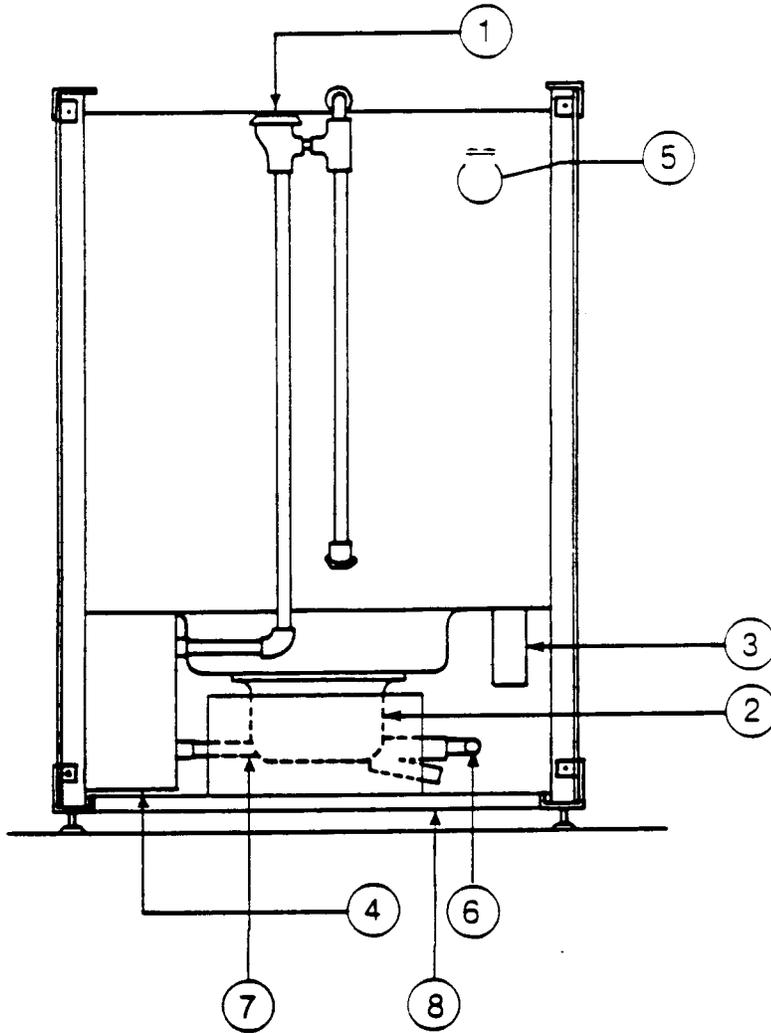
PROBLEM	CAUSE	SOLUTION
NOTE		
Any switches, water level checked out, can be controls, heater elements, relays or done using the heater checkout system contactor that have to be page.		
Rinse water not at required temperature range.	Heater switch defective.	Replace.
	Water level protection control defective.	Replace.
	Heater element defective.	Replace.
	Wires loose or burned off.	Retighten or Replace.
	Thermometer's defective.	Replace.
After filling machine with water, leakage began at lower front panel without machine operating or at end of rinse cycle.	Heater switch defective. Thermostat defective.	See page on heater system checkout. Adjust using instructions on thermostat page and heater system's checkout page. Replace if necessary.
	Defective heater relay on contactor.	It defective, replace. See note on heater system above.
Machine doesn't drain when drain switch is depressed.	Overflow drain clogged.	Clean away obstruction.
	Drain solenoid clogged.	Remove obstruction.
	Defective switch.	Replace.
	Defective motor or motor start relay.	Replace.
	Defective drain solenoid.	Replace.
NOTE		
The drain pump of this system should work. machine is part of wash motor, so if wash motor operates properly drain		



FRONT VIEW

ITEM	P/N	DESCRIPTION
1.	512	DOOR HANDLE ASSEMBLY
2.		SWITCHES
3.	488	FRONT DOOR
4.	1251	RINSE ASSEMBLY, UPPER
4A.	1252	RINSE ASSEMBLY, LOWER
5.	1889	WASH ASSEMBLY
6.	56	BOOSTER TANK
7.	806	HEATER ELEMENTS
8.	1425	SOLENOID
9.	1850	VALVE FOR HEALTH INSPECTOR GAUGE
10.	1536	"Y" STRAINER
11.	305	ELECTRIC PANEL
12.		INCOMING WATER CONNECTION
13.	1700	THERMOSTATS
14.	1891	THERMOMETERS
15.	1595	ILLUMINATED POWER ON SWITCH
16.		440V CONTROLS BOX
17.	121	THERMAL CIRCUIT BREAKER

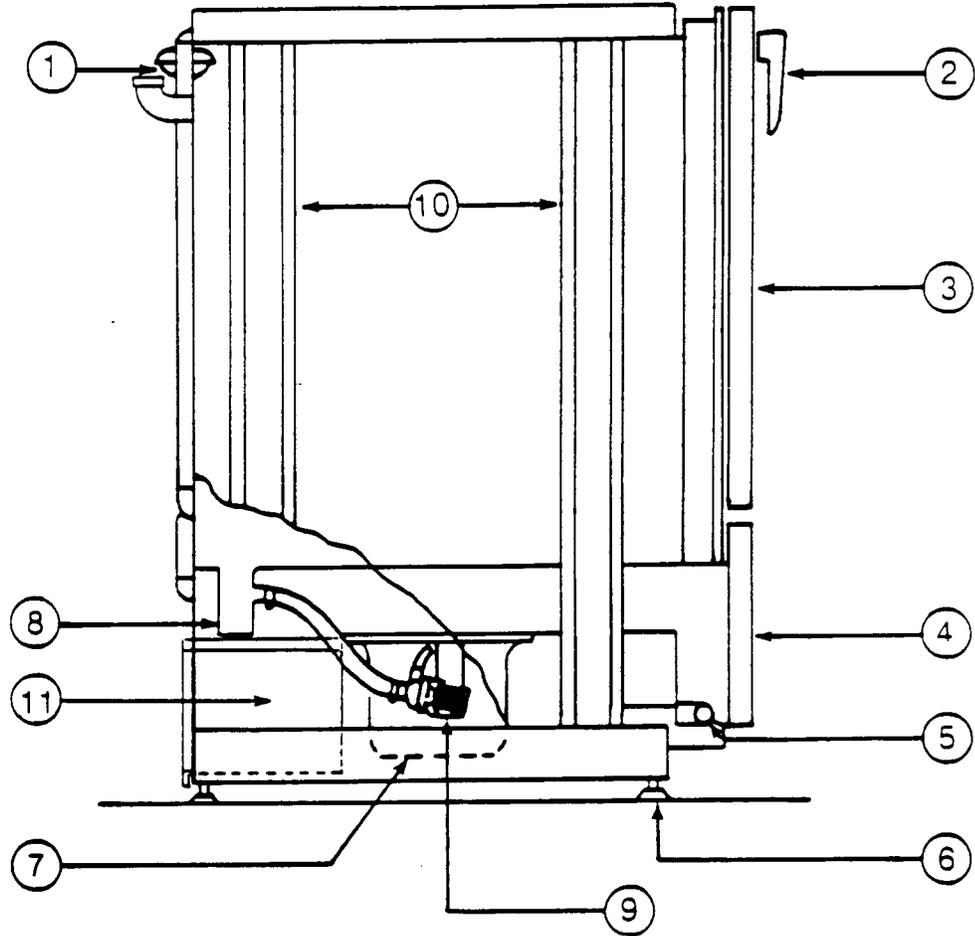
FRONT VIEW



BACK VIEW

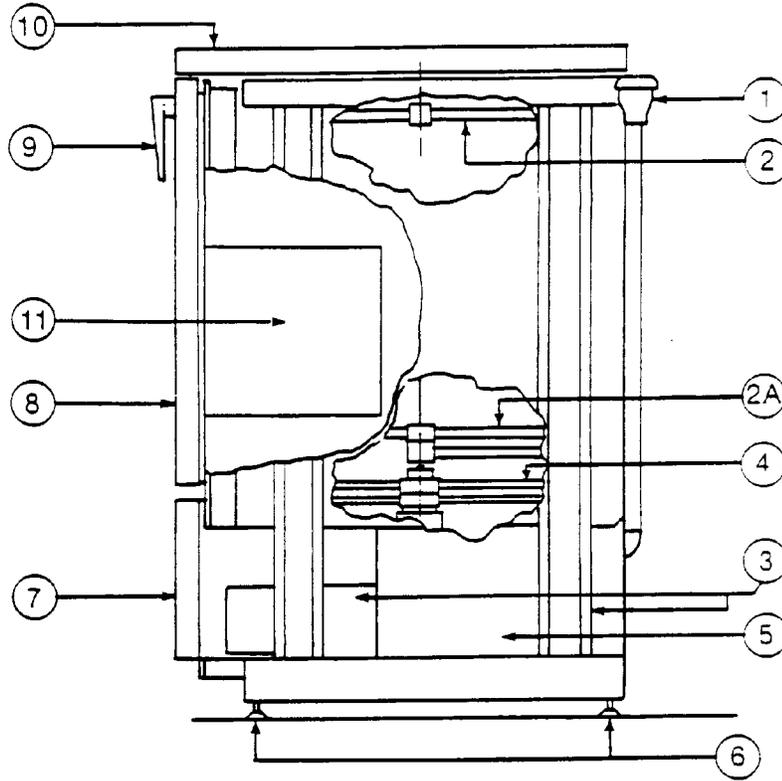
ITEM	P/N	DESCRIPTION
1.	1841	VACUUM BREAKER ASSEMBLY
2.	1081	PUMP & MOTOR ASSEMBLY
3.		DRAIN — GRAVITY FEED
4.	58	BOOSTER TANK
5.		EQUALIZING VENT
6.		INCOMING WATER CONNECTION
7.		TRANSFORMER BOX W/LID
8.		TRANSFORMER PLATFORM

BACK VIEW



LEFT SIDE VIEW		
ITEM	P/N	DESCRIPTION
1.	1841	VACUUM BREAKER ASSEMBLY
2.	512	DOOR HANDLE ASSEMBLY
3.	487	FRONT DOOR, OUTER
4.	549	KICK PANEL
5.		INCOMING WATER CONNECTION
6.	834	ADJUSTING FEET
7.	1081	PUMP & MOTOR ASSEMBLY
8.		DRAIN — GRAVITY FEED
9.	1424	DRAIN SOLENOID VALVE
10.		SIDE FRAME & BRACE
11.		TRANSFORMER BOX W/LID

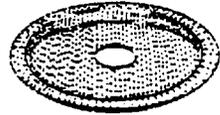
LEFT SIDE VIEW



RIGHT SIDE VIEW

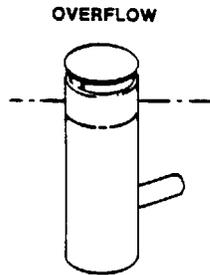
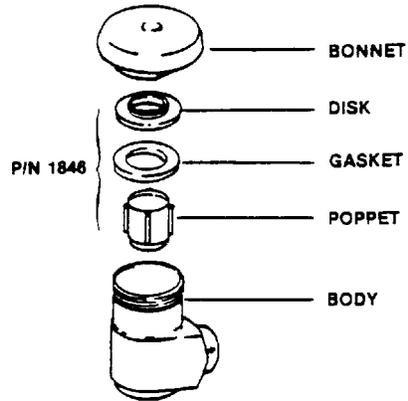
ITEM	P/N	DESCRIPTION
1.	1841	VACUUM BREAKER
2.	1251	RINSE ASSEMBLY — UPPER
2A.	1252	RINSE ASSEMBLY — LOWER
3.		SIDE FRAME & BRACE
4.	1889	WASH ASSEMBLY
5.	58	BOOSTER TANK
6.	834	ADJUSTING FEET
7.	549	KICK PANEL
8.	487	FRONT DOOR
9.	512	DOOR HANDLE ASSEMBLY
10.	547	OPTIONAL TOP
11.		440V CONTROLS BOX

RIGHT SIDE VIEW

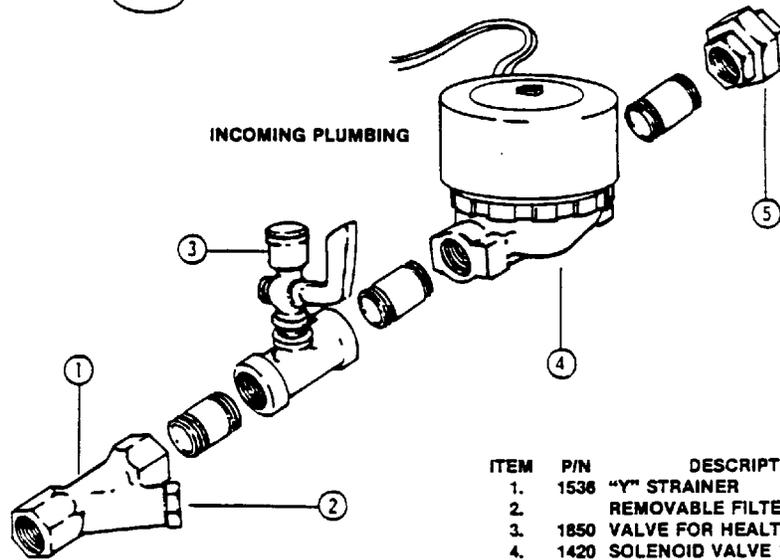


PAN STRAINER P/N 1531

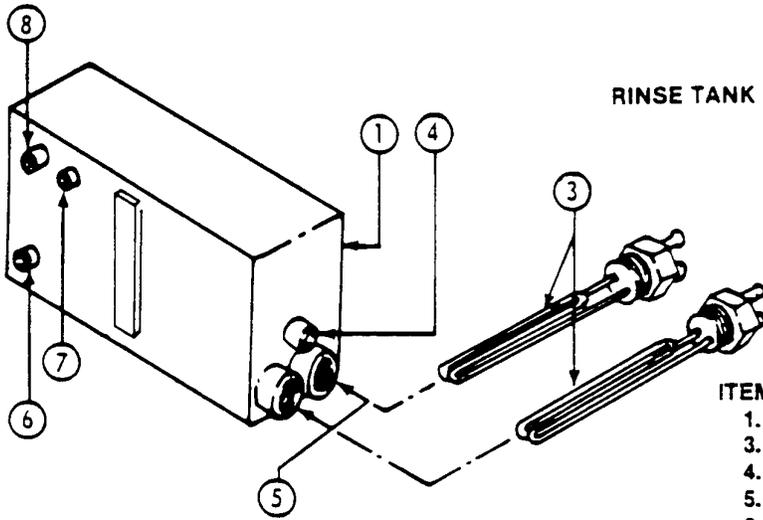
VACUUM BREAKER P/N 1841



OVERFLOW

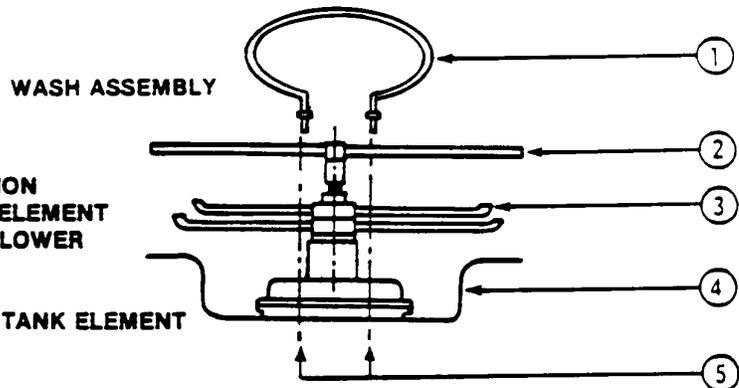


ITEM	P/N	DESCRIPTION
1.	1536	"Y" STRAINER
2.		REMOVABLE FILTER
3.	1850	VALVE FOR HEALTH INSPECTOR
4.	1420	SOLENOID VALVE 1/2", (110V, used on 60 cycle machine)
4.	1425	SOLENOID VALVE 1/2", (220V, used on 50 cycle machine)
5.		PIPE UNION



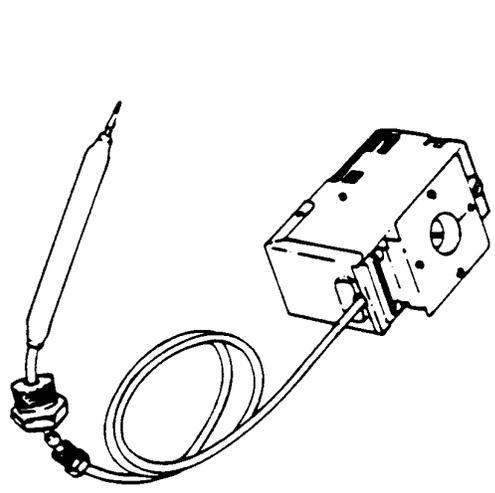
RINSE TANK

ITEM	P/N	DESCRIPTION
1.	56	BOOSTER TANK
3.	606	BOOSTER HEATER ELEMENT
4.		THERMOSTAT COUPLING
5.		HEATER COUPLINGS
6.		WATER INLET
7.		THERMOMETER COUPLING
8.		WATER OUTLET

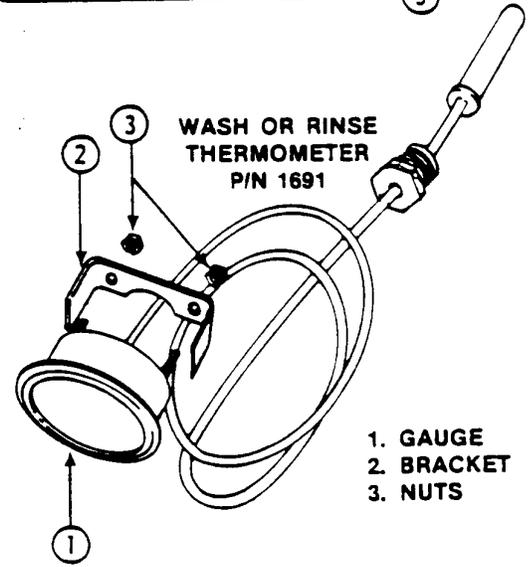


WASH ASSEMBLY

ITEM	P/N	DESCRIPTION
1.	566	WASH TANK RING ELEMENT
2.	1252	RINSE ASSEMBLY, LOWER
3.	1889	WASH ASSEMBLY
4.		WASH RESERVOIR
5.		HOLES FOR WASH TANK ELEMENT

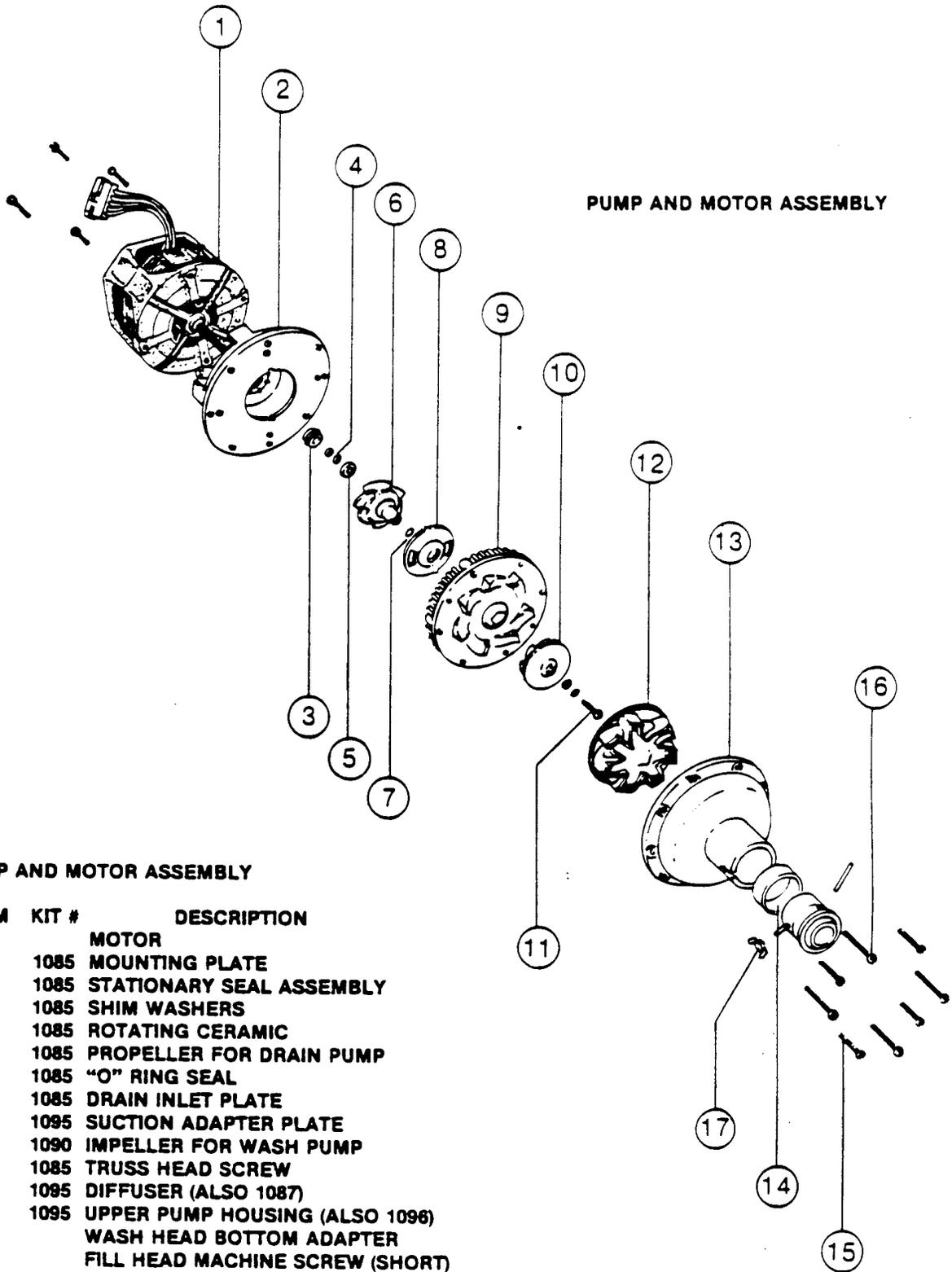


WASH OR RINSE THERMOSTAT
P/N 1700



WASH OR RINSE
THERMOMETER
P/N 1691

- 1. GAUGE
- 2. BRACKET
- 3. NUTS

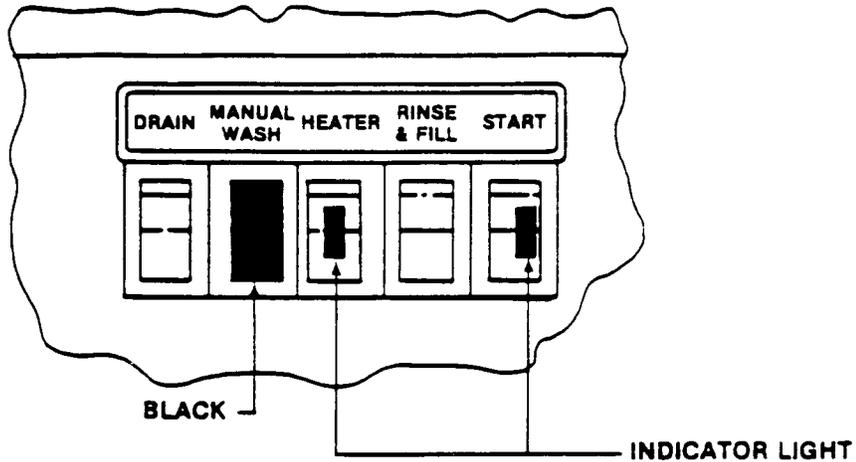


PUMP AND MOTOR ASSEMBLY

PUMP AND MOTOR ASSEMBLY

ITEM	KIT #	DESCRIPTION
1.		MOTOR
2.	1085	MOUNTING PLATE
3.	1085	STATIONARY SEAL ASSEMBLY
4.	1085	SHIM WASHERS
5.	1085	ROTATING CERAMIC
6.	1085	PROPELLER FOR DRAIN PUMP
7.	1085	"O" RING SEAL
8.	1085	DRAIN INLET PLATE
9.	1095	SUCTION ADAPTER PLATE
10.	1090	IMPELLER FOR WASH PUMP
11.	1085	TRUSS HEAD SCREW
12.	1095	DIFFUSER (ALSO 1087)
13.	1095	UPPER PUMP HOUSING (ALSO 1096)
14.		WASH HEAD BOTTOM ADAPTER
15.		FILL HEAD MACHINE SCREW (SHORT)
16.		FILL HEAD MACHINE SCREW (LONG)
17.	1897	WING NUT

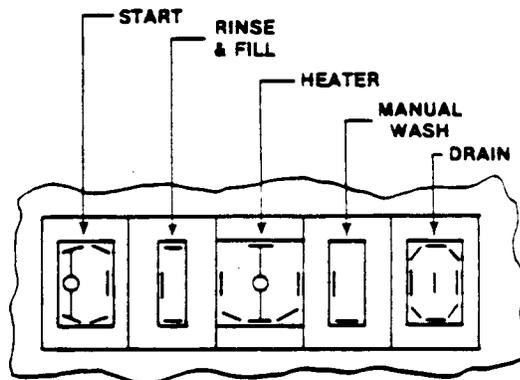
PUMP AND MOTOR ASSEMBLY WITH PARTS LIST



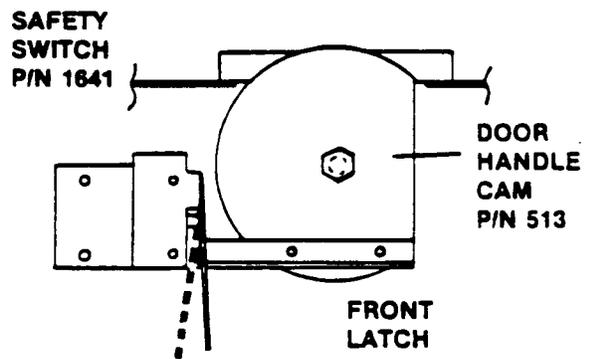
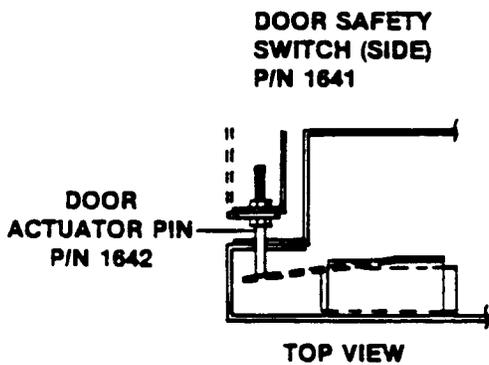
SWITCHES

SWITCHES

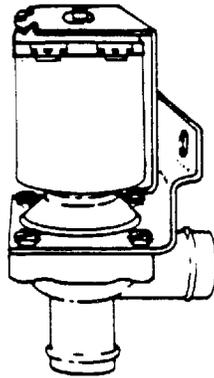
ITEM	P/N	DESCRIPTION
1.	1588	START — SPDT (lighted)
2.	1543	RINSE FILL — SPDT (momentary)
3.	1578	HEATER — DPST (lighted)
4.	1557	MANUAL WASH — SPST
5.	1609	DRAIN 3PDT (momentary)



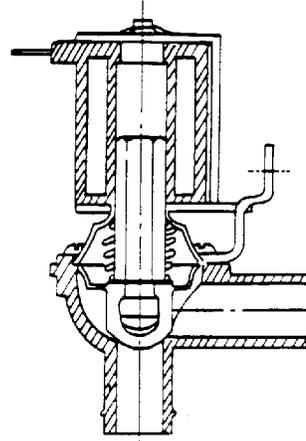
REAR VIEW OF SWITCHES



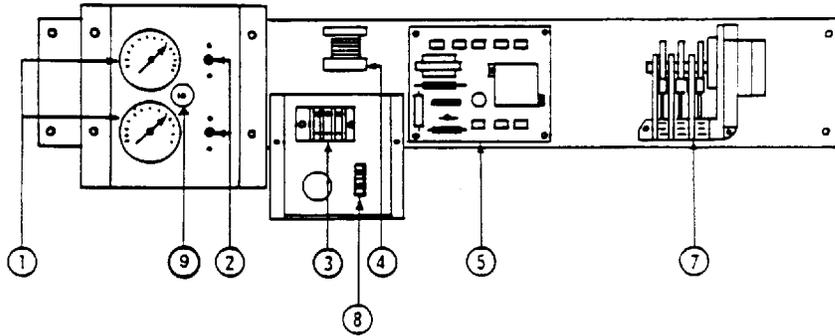
SWITCHES



DRAIN VALVE
P/N 1424



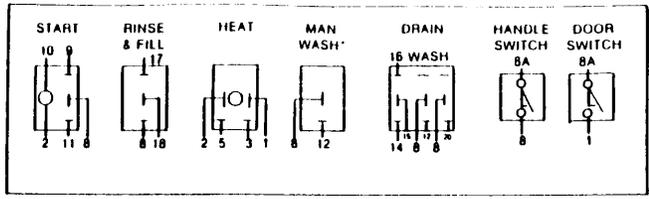
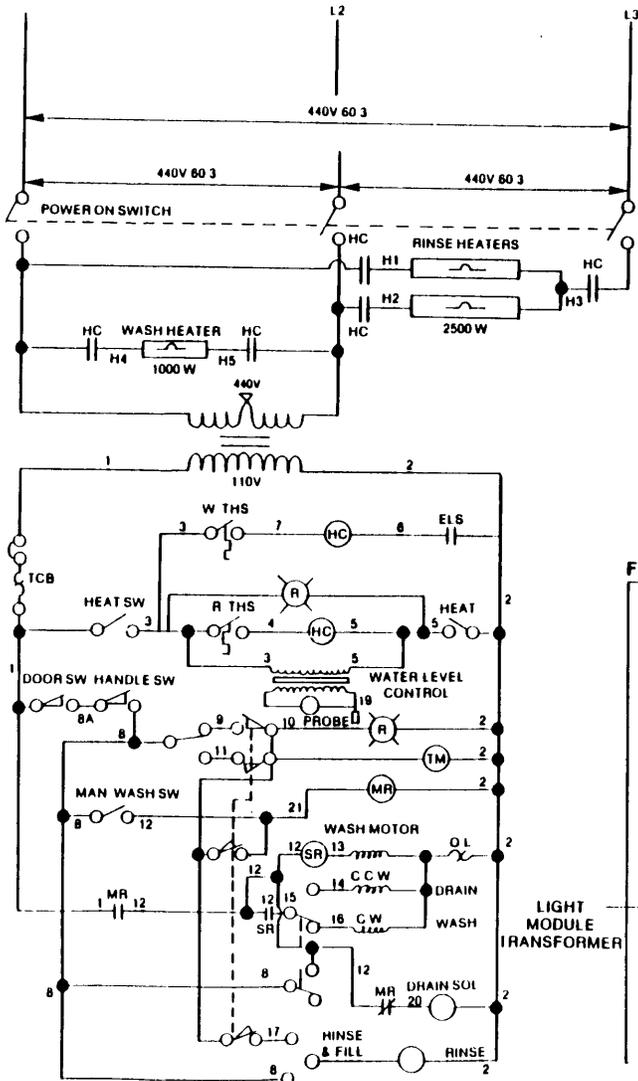
CUTAWAY VIEW



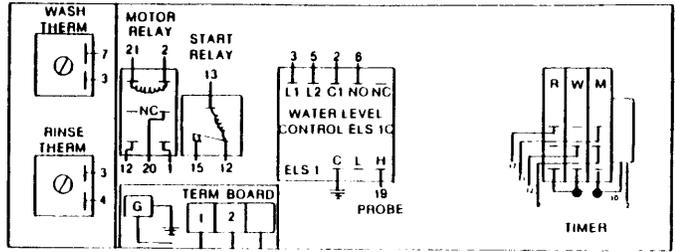
PANEL

ITEM	P/N	DESCRIPTION
1.	1691	THERMOMETERS, WASH & RINSE
2.	1700	THERMOSTAT
3.	1656	TERMINAL BOARD, INCOMING ELECTRICAL CONNECTION
4.	1207	STARTING RELAY
5.	2045	WATER LEVEL CONTROL
7.	1717	TIMER
8.		GROUND LUG
9.	121	THERMAL CIRCUIT BREAKER

DRAIN VALVE AND PANEL

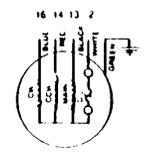
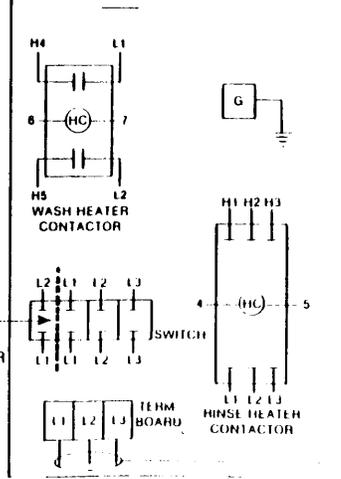


REAR VIEW OF PANEL

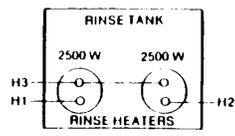


FRONT VIEW OF PANEL

FRONT VIEW OF SIDE BOX (440V)



ALL WIRE #14 105'



WITH BOOSTER WIRING DIAGRAM MODEL 24 BP NSU 440V 60CY 3PH

CUSTOMER SERVICE CONNECTION & OHG ALL 400V WIRES BLACK ALL 110V WIRE "ED"

COMPLETE PARTS LIST for MODEL 24 NSU

56	Booster Tank (stripped) for 24B	1
121	Circuit Breaker (10 Amp)	1
305	Control Panel, wired (lower front) for 24B (Specify 440V)	1
472	Door, complete, stripped	1
473	Door, front, outer only, stripped	1
474	Door Insert, inner only, stripped	1
447	Door Handle Cam Nut	2
512	Door Handle Assembly	1
513	Door Handle Cam	1
523	Door Gasket	1
524	Door Gasket, Clamp Assembly	1
534	Drain Hose-Pump to Solenoid Valve, short	1
535	Drain Hose Clamps	4
536	Drain Hose-Solenoid Valve to Drain, long	1
544	Door Spring	2
545	Enclosure Panel, righthand side	1
546	Enclosure Panel, lefthand side	1
547	Enclosure Panel, top	1
566	Heater Element, Ring Style, 1000W, 400V	1
606	Heater Element, Immersion, Screw-Type, 2500W, 440V	2
843	Probe, Lundy, small	1
1081	Pump Assembly, complete with motor, 115V, 60 cycle	1
1084	Pump Gasket	1
1085	Pump Propeller Mounting Plate and Seal Assembly, kit	1
1087	Pump Diffuser (only)	1
1090	Pump Impeller, kit	1
1095	Pump, Upper Housing, kit	1
1096	Pump, Upper Housing, (only)	1
1097	Pump Fill Head Machine Screws, short	4
1098	Pump Fill Head Machine Screws, long	4
1102	Rack Trolley, movable, s/s	1
1175	Rack, square, 19 3/4 x 19 3/4" (cup, bowl, glass)	1
1178	Rack, square, 19 3/4 x 19 3/4" (dish- molded)	2
1205	Relay, 110V, 2-pole, Wash Circuit, HW	1
1207	Relay, 110V, Motor Starting	1
1236	Relay, 110V, 3 pole, rinse circuit AB	1
1251	Rinse Head Assembly, upper	1
1252	Rinse Head Assembly, lower	1
1253	Rinse Head End Plug, knurled	2
1255	Rinse Head, Hex Bushing	2
1257	Rinse Head, upper, Dual Systems	2

COMPLETE PARTS LIST for MODEL 24 NSU - Continued

1260	Rinse Head, Nylatron Washer	2
1265	Rinse Head, Snap Ring, s/s	2
1301	Lower Feed Pipe Knurled Holding Screw	1
1310	Rinse Head Brush, Tube Cleaning	1
1372	Rinse Head Feed Pipe, lower	1
1372A	Rinse Head Feed Pipe Wing Nut	1
1387	Rinse Head Spray Nozzle, Dual System	6
1420	Solenoid Valve, 1/2", JE, 110V	1
1423	Drain Valve Kit, includes Valve, Bracket, Hoses	1
1424	Drain Valve, Dole 1/2 " 110V, (Valve only)	1
1435	Solenoid Valve Coil, 110V, JE	1
1440	Solenoid Valve Coil, 220V, JE, (for 50 cycle machine)	1
1450	Solenoid Valve Diaphragm Cartridge & "O" Ring, JE	1
1475	Solenoid Valve "O" Ring, JE	1
1485	Solenoid Valve, Plunger Assembly, JE	1
1495	Solenoid Valve, Strainer Screen, JE	1
1531	Strainer, Pan-Type	1
1543	Switch, Rinse-Fill (Rocker-type)	1
1549	Switch Contact Blocks	3
1557	Switch, Manual Wash (Rocker-type)	1
1578	Switch, Heat (illuminated rocker-type)	1
1588	Switch, Start (illuminated rocker-type)	1
1595	Switch, Illuminated Power On, 440V	1
1609	Switch, Drain (Rocker-type)	1
1610	Switches wired w/harness	1
1641	Switch Interlock (side or latch)	1
1643	Switch Bracket, for side interlock	1
1647	Switch Bracket, for latch interlock	1
1656	Terminal Board, 3-pole	1
1679	Terminal Board Blocks w/Screw Terminals	3
1680	Terminal Board End Barrier	1
1681	Terminal Board Clips	2
1682	Terminal Board Track, 3	1
1690	Thermometer, Standard	1
1691	Thermometer, 36" Cap., Rinse	1
1700	Thermostat, Standard	1
1717	Timer, 115V w/wires, 60 cycles	1
172.2	Timer Motor, 115V, for Module-Type Timer	1
1775	Timer Micro Switches, Plastic Module-Type	3
1809	Transformer, IKVA, 440/220/110	1
1841	Vacuum Breaker, Sloan, 1/2	1

COMPLETE PARTS LIST for MODEL 24 NSU - Continued

1846	Vacuum Breaker, Sloan, Float and Seal Repair Kit	1
1865	Wash Head Cap w/Race	1
1870	Wash Head Cap Set Screw	1
1875	Wash Head Center Shaft	1
1886	Wash Head Holding Pin	1
1889	Wash Head Assembly, complete	1
1890	Small Manifold w/Tubes, Wash Head	1
1895	Large Manifold w/Tubes, Wash-Head	1
1896	Wash Head Knurled Screw	2
1897	Wash Head Fixed Race Wing Nut	1
1936	Wash Head Fixed Race	1
1940	Wash Head Bearings, 1/4" s/s	57
2045	Water Level Control, 110V, Curtis	1

SUGGESTED REPAIR PARTS LIST CROSS REFERENCING CHART

JACKSON PART NUMBER	DESCRIPTION	MFG PART NUMBER
1. 121	Thermal Circuit Breaker	Potter & Brumfield #W58XB1A4A-10
2. 566	Heater Element Ring Style 1000 W, 440 V.	Tru Heat #XC-431
3. 606	Heater Element Immersion 2600 W, 440V.	Watlow #L8JX17A
4. 1081	Pump Assembly W/Motor 115V	Gorman-Rupp # 1-3110
5. 1205	Heater Contactor 110V, Two Pole	Honeywell R4242A1005
6. 1207	Relay, 110V Motor Starting	GE # 3ARR18A80V
7. 1236	Relay, 110V 3-Pole Rinse Circuit, AB	Allen Bradley #702A0D92
8. 1424	Drain Valve 1/2" 110V Dole	Dole #S-50 (K29312)
9. 1435	Solenoid Valve Coil 110v	Jacke Evans #1435
10.1543	Switch Rinse Fill Rocker Type	Carling #TIGL5B-6S-WHXJA1
11.1557	Switch Manual Wash (rocker type)	Carling TIGA51-6S-BLXJA1
12.1578	Switch Heat (illuminated rocker type)	Carling # LTIGK51-6S-WH-RCXJA1
13.1588	Switch Start (illuminated rocker type)	Carling #LTILC51-1S-WH-F
14.1609A	Switch Drain (rocker type)	CARling #TIGL5B-6S-WH-WBL
15.1691	Thermometer Standard	Ametek
16.1595	Switch Illuminated Power on 440 V	Square D K11J1R/KM-5
17.1700-W	Thermostat Standard	Ranco #C12-5236
1700-R	Thermostat-Rinse	Ranco #C12-5241
18.1717	Timer 115 V/wires	Ignal Signal #TM3S2272A61016
19.1809	Transformer 1KUA 440/220/110	Square D # ED-71

