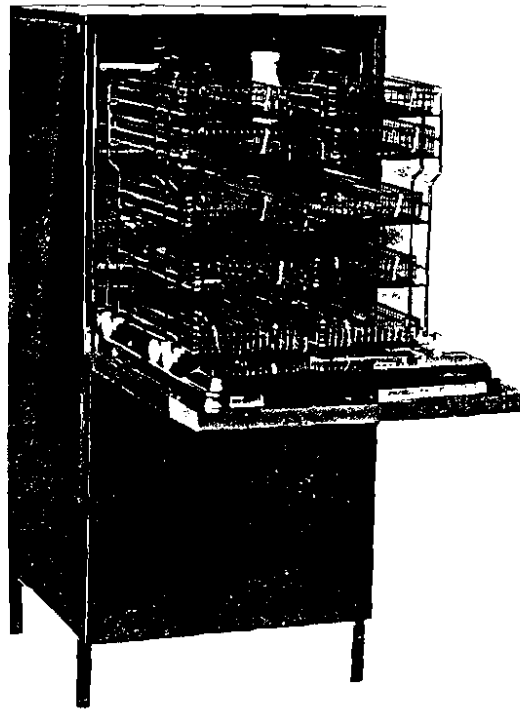


# A.C.E. WASHER DISINFECTOR

## OPERATING INSTRUCTIONS & SERVICE MANUAL



SERIES 2000 - 4

INDUSTRILEX MANUFACTURING  
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# OPERATING INSTRUCTIONS & SERVICE MANUAL

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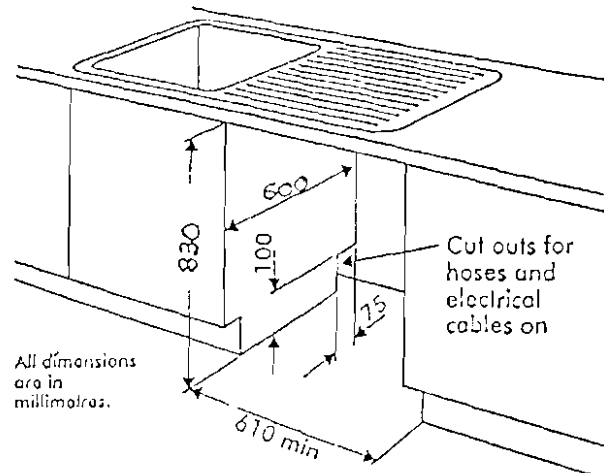
## INSTALLATION INSTRUCTIONS

### Preparing the cupboard opening - Undercounter model

**IMPORTANT:** If bare chipboard is adjacent to or above the Washer door opening, seal with suitable paint to prevent swelling.

**NOTE:** Ensure floor and cupboard opening levels are the same to enable easy removal of the Washer for service requirements.

Cupboard opening dimensions.



### Power Supply

The power point must be in an accessible location adjacent to and not behind the Washer.

The supply must be 240 Volt, 50 HZ with 15 Amp rating. The power point must be correctly earthed, if in doubt, have it checked by a qualified electrician. Before any work is carried out, the unit must be isolated from the power supply.

### Water Supply

The hot water temperature must be 60 degrees C minimum.

Taps for the hot and cold water with 3/4" BSP connection must be provided in an accessible location adjacent to and not behind the Washer.

It is essential to use gate valves or ball valves, which have no non-return characteristics. **DO NOT** use stop taps.

The temperature of the hot water must not exceed 75 degrees C, adjust the hot water service setting if adjustable. The water supply for the Washer must be between 30 kPa and 1100 kPa. If the pressure exceeds 1100 kPa it will be necessary to fit a pressure limiting valve in the supply to the unit.

### Water Hammer

Quick action taps and fast acting electric valves can cause water hammer.

This can result in very high pressures which could lead to failure of the pressure limiting valve or the electric water valves to the Washer. Water hammer can be prevented by fitting a flow control valve in line with and close to the quick action taps which cause the hammer

Recommended type is R.M.C. MF 50 10-12 litres

# INSTALLATION INSTRUCTIONS

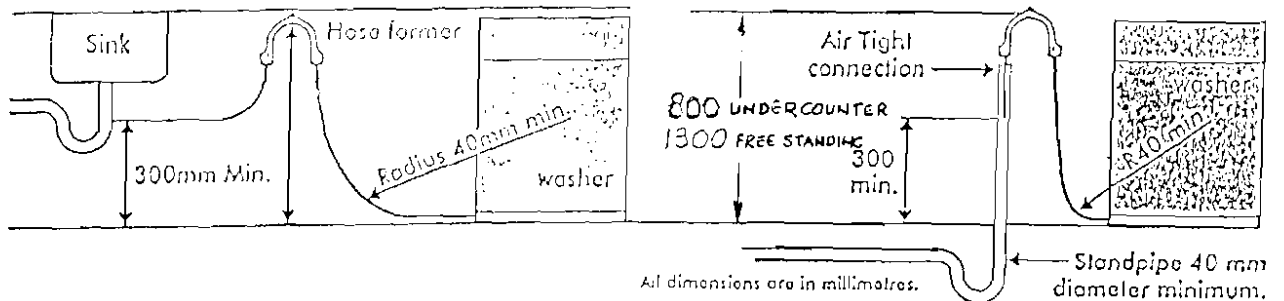
## Drainage Connection

Connection and positioning of drain hose.

- When the drain hose is connected to the sink 'S' trap or waste disposal unit, the hose must be looped up to the underside of the benchtop and secured.
- When the drain hose is connected to a separate stand pipe or tundish, it is essential that the discharge end of the drain hose terminates not lower than 600mm from the top of the Washer.

## Important

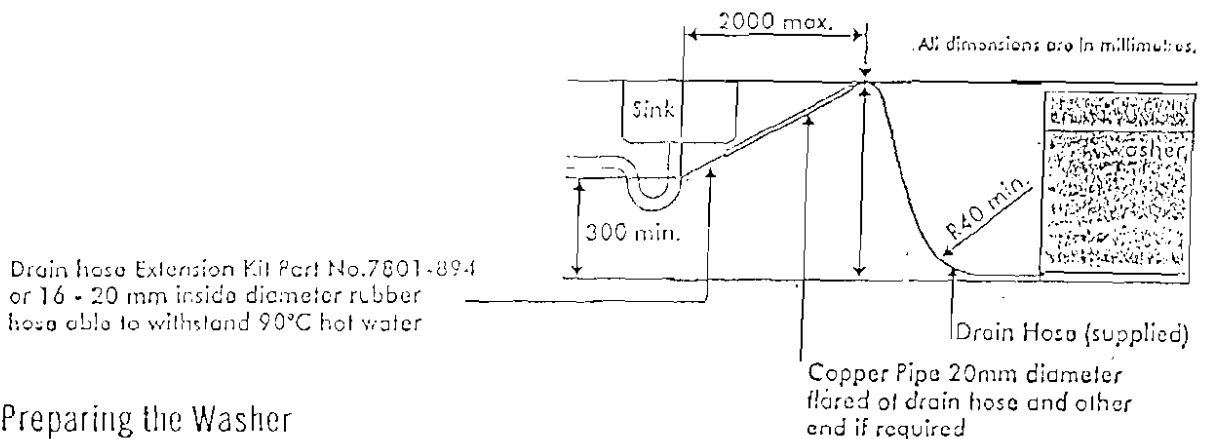
To prevent the possibility of syphoning the following installation methods must be observed.



**IMPORTANT:** It is essential that the discharge end of the drain hose terminates not lower than 600mm from the top of the Washer.

## Drain Hose Extension

The length of the drain hose can be extended by two meters maximum.



Drain hose Extension Kit Part No.7801-894  
or 16 - 20 mm inside diameter rubber  
hose able to withstand 90°C hot water

## Preparing the Washer

- Unclip hoses and powercord from the back panel.
- Place the Washer on its back and remove the wooden base.  
Screw the levelling screws into the legs of the machine (free standing models).
- Place the Washer in position and adjust levelling feet if required.
- Connect machine to water supply, drain and electric supply. Open the wash chamber door and remove cardboard inserts and elastic bands from spray arms.
- Provide the machine with liquid detergent, Liquid detergent is strongly alkaline and caustic. We strongly recommend to use skin and eye protection when handling this substance.

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## INSTALLATION INSTRUCTIONS

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### Preparing the Washer (Cont'd)

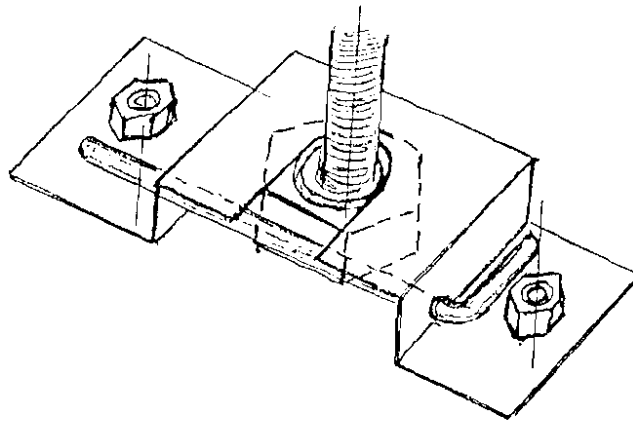
6. The recommended Liquid Detergent is "MEDIGLEAM."  
It is available in 5 litre containers from Whiteley Industries Pty Ltd.  
Telephone (02) 9929 9155.

### Detergent provision for Freestanding Models

Open the bottom door of the machine and place the liquid detergent container on the floor in front of the bottom tray. Remove the cap of the container and insert the stainless steel tube carefully, place the container inside the machine and close the door

### Detergent provision for Undercounter Models

Position the Liquid Detergent container in a cupboard next to the machine or in a convenient location close to the machine. Remove the cap of the container and insert the stainless steel tube which is stored at the back of the Washer. The plastic tube can be shortened to suit if necessary



### Securing the Washer for Heavy Loads

Although both the Freestanding and Undercounter Washers are very stable, we recommend where heavy loads are likely to be encountered, to use the lock down bracket which is supplied with each machine.

To install lock down bracket:-

- Position machine in required position.
- Place bracket over **rear levelling foot** and mark positions of fixing holes.
- Drill and insert 8mm dyna bolts or use woodscrews where required and secure bracket to the floor.
- Slide machine in position levelling foot engaged in bracket and insert lock pin as shown

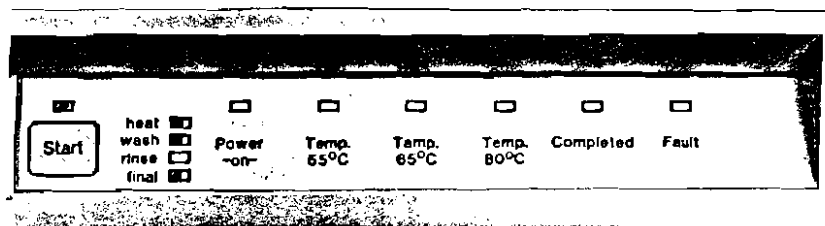
## OPERATING INSTRUCTIONS

1. Check that electric power is on.
2. Check that the Hot and Cold water taps are turned on.
3. Open the door, this can only be done when the "power on" light is illuminated
4. Ensure no objects are left on utensils to be loaded into the machine, i.e. cotton wool etc. Load the utensils in the baskets.  
The bottom basket can accommodate 6 wash bowls, these are stacked vertically. The top basket is used for tooth mugs, sputum bowls, kidney bowls, etc. these should be placed upside down so that all water will drain freely from the articles
5. Ensure there is sufficient liquid detergent available in the machine or place a heaped tablespoon of powder detergent in the dispenser in the door
6. Close the door and press "Start". The programme will commence. While the machine is in operation the door cannot be opened.

### THE WASH PROGRAMME

- |    |   |  |
|----|---|--|
| 1. | Cold Rinse                              | the "rinse" light is on.   |
| 2. | Hot rinse                               | the "rinse" light is on.   |
| 3. | Hot Wash<br>55 degrees C<br>for 2 min.  | the "wash" light is on<br>the "heat" light is on.<br>the "temp. 55 degrees C" light will illuminate when the temperature is reached.             |
| 4. | Hot Rinse                               | the "rinse" light is on.   |
| 5. | Disinfect<br>80 degrees C<br>for 5 min. | the "final" light is on.<br>the "heat" light is on.<br>the three temperature lights will illuminate when the indicated temperatures are reached. |
| 6. | Cold Rinse                              | the "rinse" light is on.   |

On completion of the cold rinse, the door is unlocked, the buzzer sounds and the "completed" light is illuminated.



## PERIODIC MAINTENANCE

### Cleaning the machine casing Inside

Use recommended stainless steel cleaner to keep the inner lining in "as new" condition. Wipe the rubber door seals over occasionally, including the seal at the bottom of the door.

### Cleaning the machine casing Outside

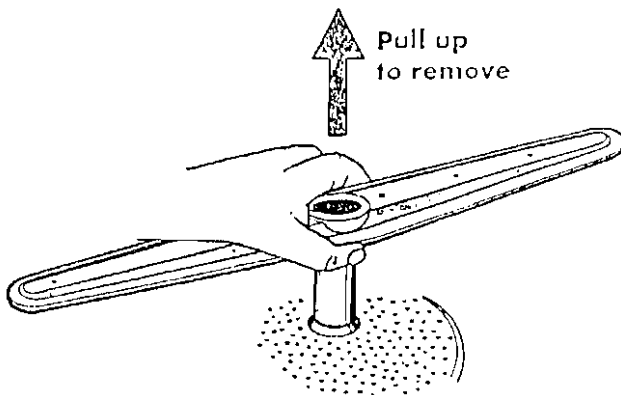
Wipe over occasionally with a soft damp cloth. **NEVER** use acids, abrasive cleaners or detergents.

### Removing the spray arms

Every so often, it's worth removing and cleaning the spray arms to make sure that none of the holes have become blocked.

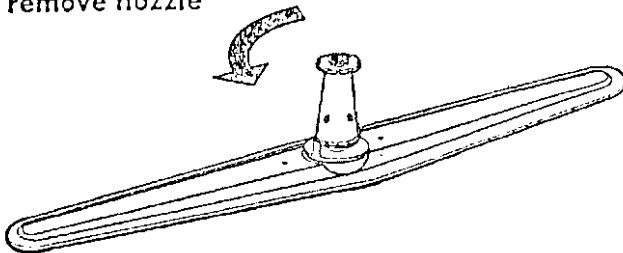
### Removing the lower spray arm

To remove the Lower Spray Arm, grasp the centre of the spray arm and pull upwards, it will simply unclip. When replacing make sure it is fully clipped down.



The plastic nozzle on the underside of the spray arm can be detached simply by unscrewing anticlockwise

Rotate anticlockwise to remove nozzle



### Removing the upper spray arm

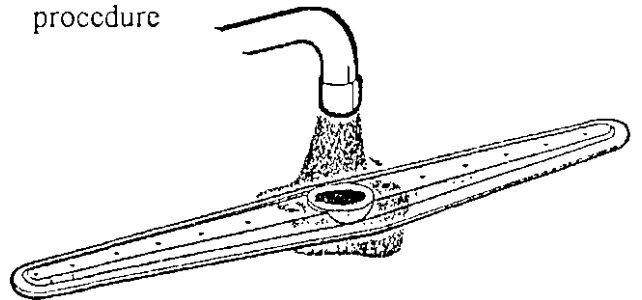
To remove the Upper Spray Arm, pull the upper basket out. Detach the clip on the right hand side of plastic tower which holds it to the basket. Be careful not to trap your fingers. Remove complete assembly from the underside of the basket.

Alternatively, carefully unscrew the spray arms from the plastic tower. To achieve this, hold the inner tower steady and unscrew the spray arm clockwise. To replace the spray arm carefully screw the spray arm anticlockwise on to the inner tower.

### Cleaning the Spray arms

To clean both the upper and lower spray arms rinse under running water. Ensure all spray holes are clear, if necessary unblock spray holes with a wooden kitchen skewer or the like.

To replace the spray arms reverse the above procedure

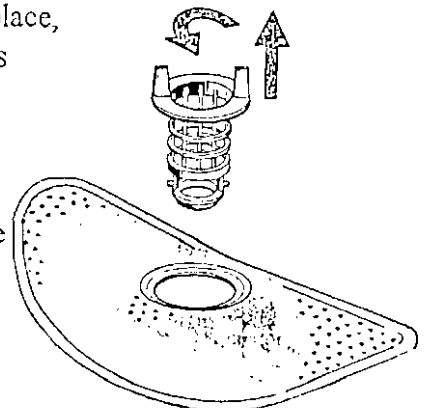


### Removing the drain cup

The drain cup is located in the stainless steel filter at the base of your machine. The drain cup is used to collect larger misc. items which may be too big to pass through the drain pump. For best wash performance, check the drain cup after each wash program, empty and rinse if necessary.

Twist the two vertical handles anticlockwise, rotate the drain cup and lift to remove. To replace, reverse these steps making sure the drain cup locks into place.

Rotate anticlockwise & lift to remove drain cup



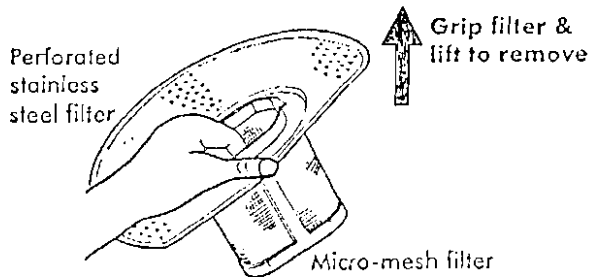
## PERIODIC MAINTENANCE

### The wash filters

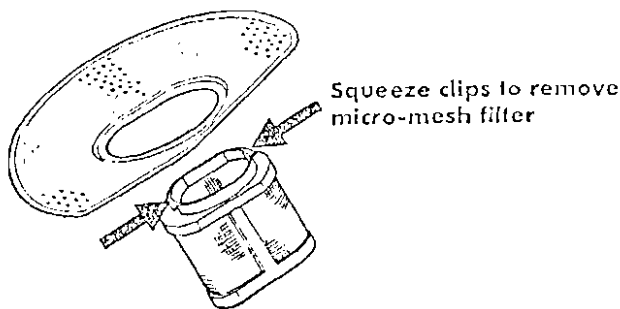
Your machine has two wash filters - a two piece round perforated stainless steel filter located in the base of the machine and a finer micro-mesh filter under this.

### Removal of the wash filters

The left half of the stainless steel filter can be removed by firstly removing the drain cup, grip the filter and lift.



Attached to the underside of this filter is the micro mesh filter. Squeeze the two clips above the perforated filter to release the micro-mesh.

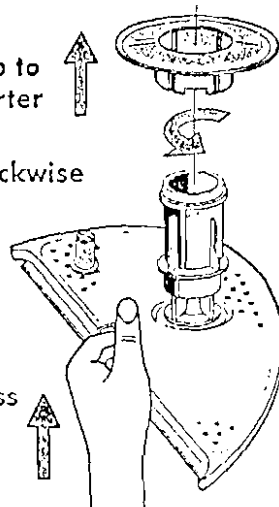


The remaining half of the perforated filter can be removed. First remove the lower spray arm then grasp the spray jet diverter around the outer edges. To remove pull upwards and it will simply unclip. Unscrew the tower anticlockwise, then grip the stainless steel filter and lift it out.

Grasp edges & pull up to remove spray jet diverter

Unscrew tower anticlockwise to remove

Lift stainless steel filter to remove

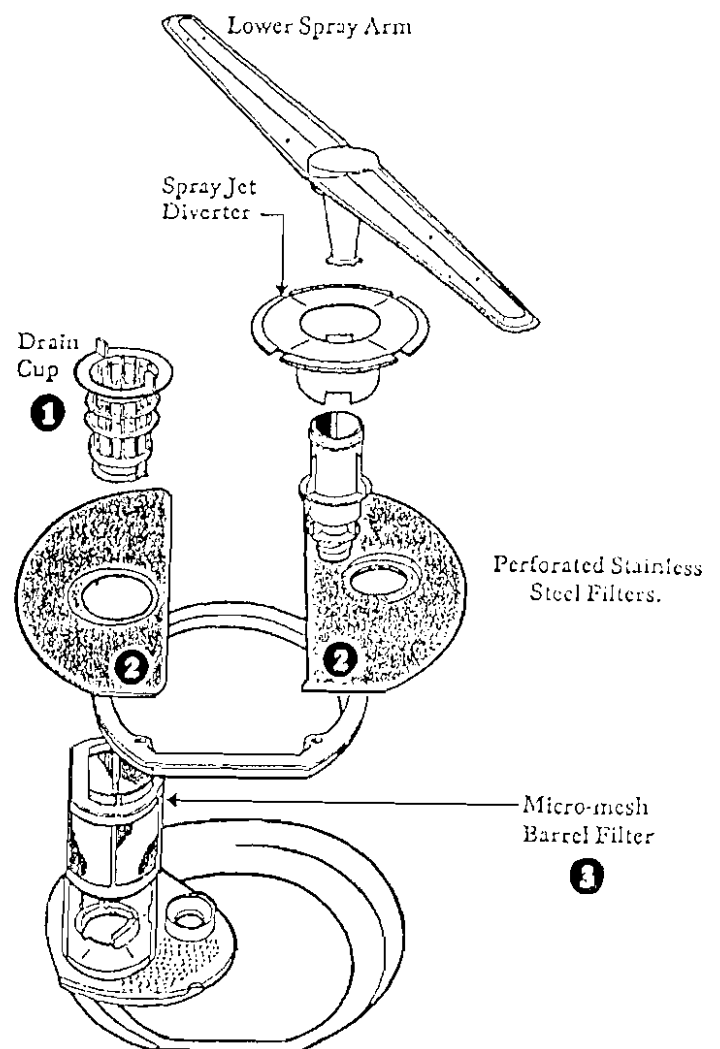


### Cleaning of filters

To clean the filters, place under running water and gently brush with a soft bristled brush. Be careful not to deform the filters while cleaning, as this may prevent them from being able to be re-installed.

### Replacing the filters

Replace the filters in reverse order, starting with the right half stainless steel perforated filter then replace the tower and lower spray arm. Reconnect the micro mesh filter to the left half stainless steel perforated filter prior to replacing it back into the machine and then replace the drain cup. **Ensure that the filters are replaced correctly for best results.**





## PERIODIC MAINTENANCE

### Cleaning the inlet water filters

The special filter washer, between the tap and hose, filters all incoming water. To clean this, first close the shut off valve, than to release any water pressure left in the hose, select and start the program. Allow the machine to run for about 25 to 30 seconds, then switch off at the power point.

Unscrew the hose connection and gently remove the filter washer and rinse clean. Refit the washer and hose to the shut off valve in the reverse order, take care not to over tighten.

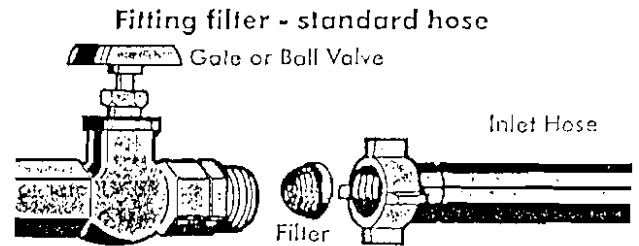
**The condition of the water supply hoses should be checked periodically.**

**IMPORTANT:** Do not use iron and non-rust proof steel utensils in the Utensil Washer, and do not use soap impregnated steel pads for cleaning as this will cause rust stains on the stainless steel interior.

### When not in use for long periods

To prevent any chance of odour:

- Ensure racks are completely cleared of utensils.
- Clean filters thoroughly. Ensure rubber door seal is clean, also the door liner edges, which are not cleaned by the wash cycle.
- Turn off the electricity and water.
- Leave the door ajar to avoid stuffiness.



**IMPORTANT:** Ensure domed side of filter faces valve.

### Hose Fitting

If this component requires replacement, it must be replaced with the authorised service spare part to ensure correct operation. Fill hoses should be checked at 6 month intervals to ensure any deterioration is identified.

### Power Cord Replacement

In the event of the power supply cord being damaged, it must be replaced with the authorised service part and fitted by a qualified electrician.

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## **BEFORE CALLING FOR SERVICE**

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### **Machine will not start**

Make sure that the door is closed, press door until it clicks shut.

Make sure "Power on" light is on, if not, check the power supply to the machine.

When power is available to machine, switch power point off and then on.

### **Machine starts, but water does not enter machine**

Check that the water taps are on

Check for kinks and sharp bends in hoses.

Check inlet filters in supply hoses

### **Programme is not advancing automatically**

This may be due to water loss caused by syphoning.

The machine will stay in the heating mode

Check height of discharge end of drain hose, this should not be lower than 600mm from the top of the Utensil Washer.

### **Water does not empty out of machine.**

Check drain hose for kinks and sharp bends

Check drain filter for blockage.

If the machine pumps water into a bucket when the drainhose is disconnected from the waste pipe, then the waste pipe plumbing is blocked.

### **Machine Displays Fault Flashing on Control Panel**

The machine is programmed to indicate "fault" on the Control Panel LED when the programme time has exceeded 45 minutes, this may be due to the hot inlet water being too cold:

- Check temperature of hot water to machine it should be 60°C min.
- Even with the fault LED flashing, on account of too low a water temperature the machine will complete the disinfecting programme satisfactorily.

**IMPORTANT:** It is essential that the discharge end of the drain hose terminates not lower than 600mm from the top of the Utensil Washer.

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## **STANDARD WARRANTY (AUSTRALIA)**

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### **Foreword**

The warranty below is to help you in the unlikely event that there is a problem with the appliance itself. We functionally test every unit using its own controls including water fills, circulation and drain out. It would be a good practice to check your method of operation against the operating instructions before calling out our service personnel. Also ensure that the installation specifications have been met. Failure to do this could result in expense to you for our service personnel attending even inside the warranty period, where there is no fault with our product.

### **Utensil Washer Warranty**

The benefits conferred by this warranty are in addition to all other rights and remedies in respect of the product which the consumer has under the Trade Practices Act and similar state and territory laws

Subject to the following conditions we provide from the date of installation the following warranty:-

- Any part found to be defective in workmanship or material will be replaced at no cost within the period of warranty which is 12 months. The period of warranty and the condition below do not impinge upon your statutory rights which you are at liberty to exercise as a consumer

### **Conditions of Warranty**

The following conditions do not preclude you from your statutory rights as a consumer.

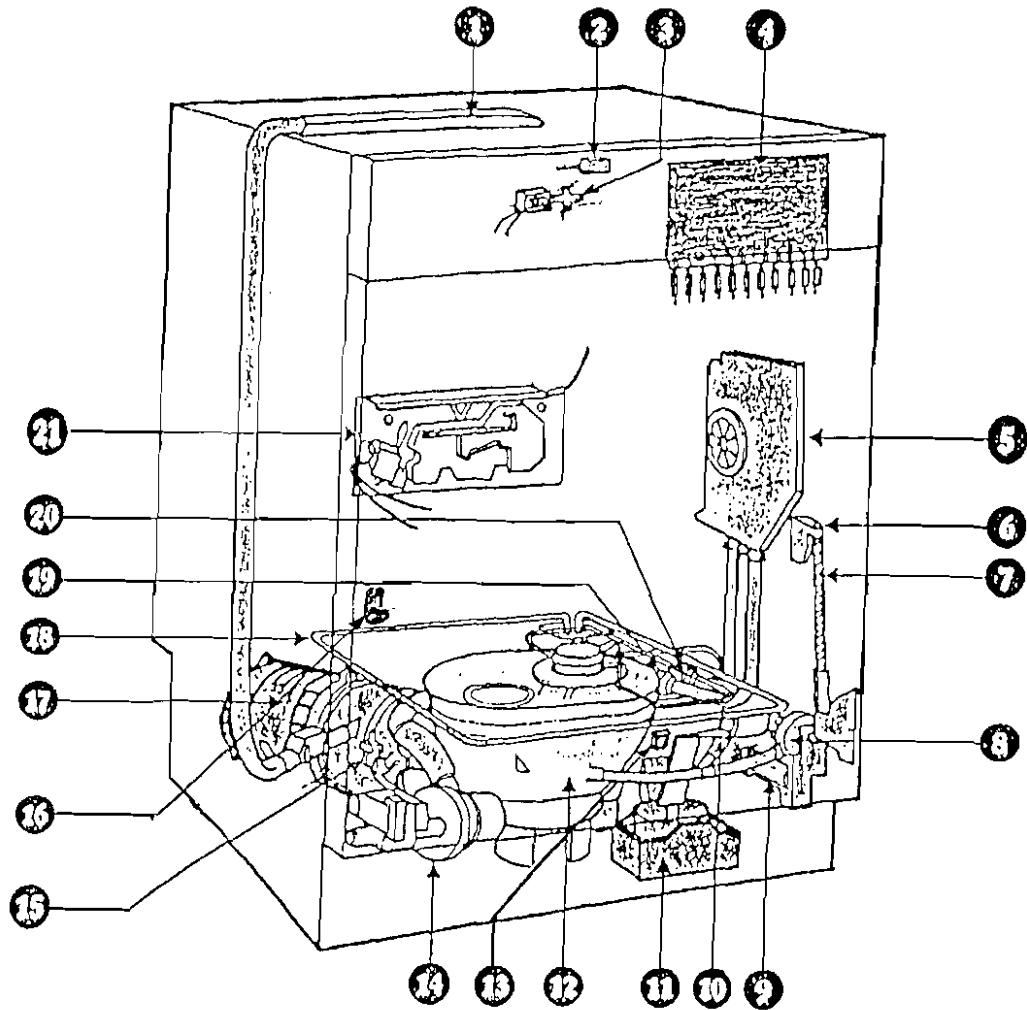
- Under this warranty, the unit must be installed according to the Manufacturer's installation instructions and be connected to the correct electric power, water supply and drainage system
- The unit must be used in strict accordance with the operating instructions.
- A charge will be made where the failure is due to neglect, abuse or accidental damage on the part of the operator.
- No responsibility is accepted for any loss or damage, direct or indirect, arising from the incorrect installation or operation of this unit
- The installation work performed on this appliance is not within the control of the manufacturer.

If damage and incorrect operation of this appliance occurs due to faulty installation, then the subsequent repair is not covered by this warranty, and any service work required to rectify the faults is chargeable.

Industrilex Manufacturing  
Factory 5 91-99 Beresford Road  
P O Box 189 Lilydale Victoria  
3140 Australia  
Tel: (03) 9735 1673  
Fax: (03) 9739 6490

# SERVICE INSTRUCTIONS

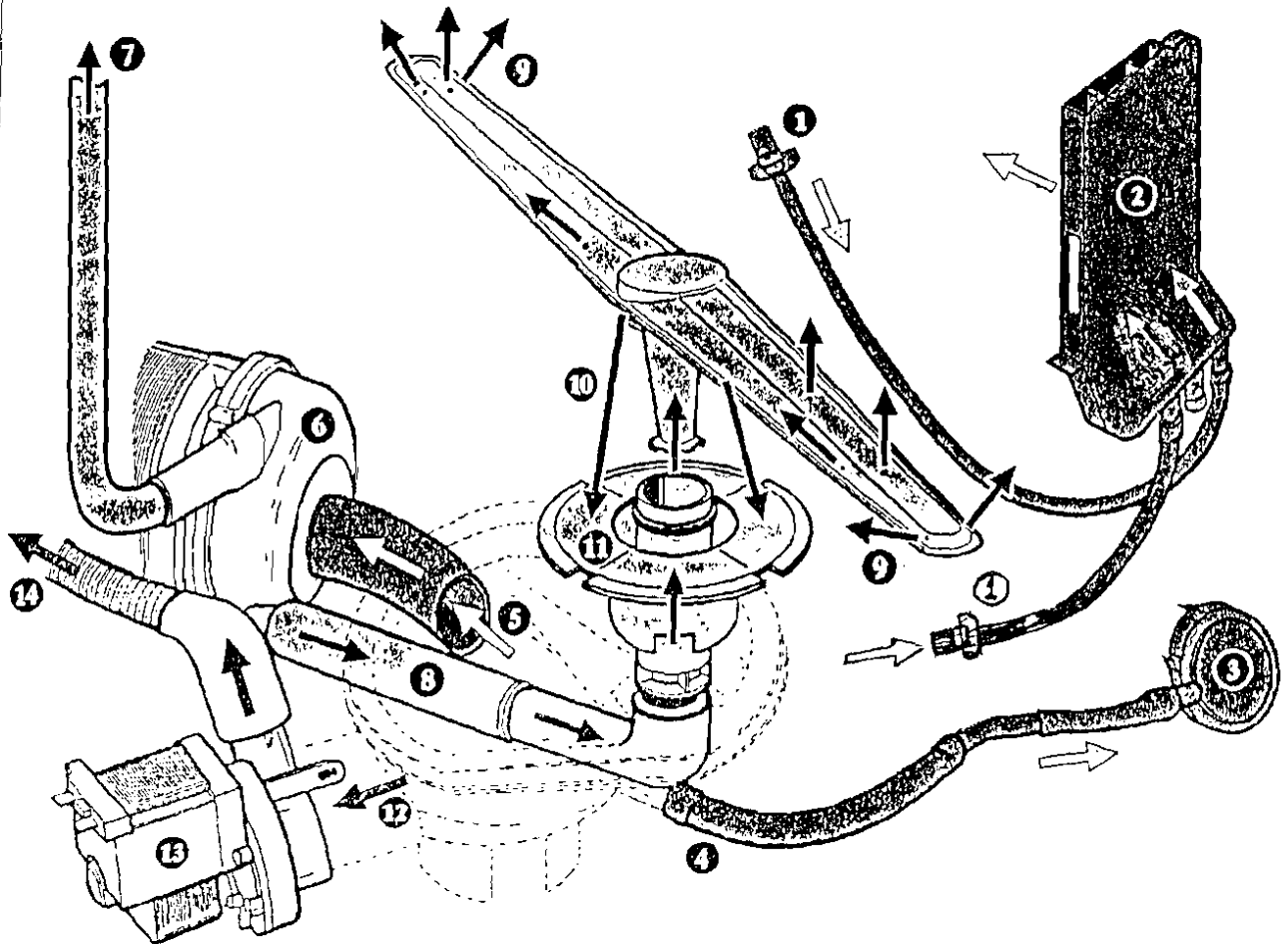
## LOCATION OF MAJOR COMPONENTS



- |   |                                 |
|---|---------------------------------|
| 1. Upper Basket Feed Pipe                     | 2. Door Microswitch             |
| 3. Door Solenoid                              | 4. Electronic Controller        |
| 5. Load Collector                             | 6. Push Rod Guide               |
| 7. Door Hinge, Spring & Push Rod              | 8. Pressure Switch              |
| 9. Wash Motor Capacitor                       | 10. Overfill Spillway           |
| 11. Overfill Chamber, Cup & Microswitch Assy. | 12. Sump                        |
| 13. Heater Relay                              | 14. Drain Pump                  |
| 15. Overtemperature Thermostat                | 16. Detergent Pump              |
| 17. Wash Motor Pump                           | 18. Heating Element - 2000 Watt |
| 19. Water Inlet Solenoid Valve                | 20. Heating Element - 1200 Watt |
| 21. Detergent Dispenser                       |                                 |

## SERVICE INSTRUCTIONS

The diagram below illustrates the water flow and identifies the main components in a 3 level micro-filtration system. Note that the sump is drawn in dotted lines for illustration purposes.



- |                                       |                                 |
|---------------------------------------|---------------------------------|
| 1. Water inlet Solenoid Valve         | 2. Collector                    |
| 3. Pressure Switch                    | 4. Sump                         |
| 5. Wash Pump water inlet via sump     | 6. Wash Pump                    |
| 7. Wash Pump to Upper Spray Arm       | 8. Wash Pump to Lower Spray Arm |
| 9. Various Lower Spray Arm water jets | 10. Lower Spray Arm water jets  |
| 11. Spray Jet Diverter                | 12. Drain Pump water inlet      |
| 13. Drain Pump                        | 14. Water outlet to drain       |

# SERVICE INSTRUCTIONS

## SPECIFICATIONS

### DIMENSIONS OF UTENSIL WASHER

	"M" Model	"L" Model
Width in mm	600	600
Height in mm	825	1310
Depth in mm	590	590
Electric Mains	240 Volt, 50 Hz AC.	
Current Rating	15 Amps	
Wash Pump Motor	110 Watts	
Drain Pump Motor	30 Watts	
Water Heating Elements	2000 Watts & 1200 Watts	
Water Volume, per fill	6 Litres	
Inlet Water Pressure	30 kPa min. - 1100 kPa max.	
Inlet Water Temperature	60°C min - 75°C max.	
Drain Hose	19mm I.D.	

### Wash Motor/Pump Assembly

Part Number 8905-900 (2 outlet).

Motor Manufacturer - Webster Manufacturing Ltd.

Motor Cat No. D63V 3110

240V AC, 50 Hz, 1 PH, 0.89A.

110W. MCR CS&R, 2850rpm.

Class 130

Capacitor 6 $\mu$ F 400V

**Warning: Motor is fitted with internal auto reset overload and may restart without warning.**

Resistance of winding @ 20°C  $\pm$  5%

Brown & Blue - 29.0 Ohms.

Blue & Black - 29.0 Ohms.

Black & Brown - 58 Ohms

**Note:**

Motor/Pump Assembly, part number 8905-900, has pump cover with the two 10mm diameter spigots blanked off (2 outlets).

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## SERVICE INSTRUCTIONS

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### Water Inlet Valve

Manufacturer - Eltek

Operating Supply Pressure Range -Static Cold: 20 kPa minimum  
1000 kPa maximum  
Static Hot: 20 kPa minimum  
500 kPa maximum

Maximum inlet supply water temperature - 65°C.

Nominal delivery flow rate from valve - 4 litres/minute.

220/240V AC, 50 Hz.

Solenoid DC resistance @ 20°C - 3.94 k Ohms  $\pm$  5%

Inlet thread G 3/4" (3/4" BSP)

Electrical connection - 2 x 6.3mm x 0.8mm QC tabs

### Powder Detergent Dispenser

Manufacturer - Elbi, Type 542.

Single solenoid type with gravity latch/lock mechanism

220/240V AC, 50 Hz.

Resistance of solenoid coil @ 20°C - 1.3 Ohms  $\pm$  10%

Total capacity of detergent chamber - 37cc.

### Fluid Detergent Dispenser

2 Litre capacity with 12 Volt DC pump for 40cc  
detergent injection.

Optical eye action filler cap for detergent level.

### Water Heating Elements

240 V AC, 50 Hz, 2000W & 240V AC, 50 Hz, 1200 Watt.

31 Ohms 3 @ 20°C (2000W)

Insulation resistance - 20 meg Ohms (minimum).

Element sheath material - 321 stainless steel

Mounting - stainless steel (type 302).

Flange and stud - M6 stainless steel (type 302-304)

Ends of sheath sealed with epoxy-epirez 324A.

Electrical connection - 6.3mm QC male stainless steel (type 302-304)  
spade terminals.

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## SERVICE INSTRUCTIONS

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### Thermostat - Overtemp

Identification - Green Dot.

Mounting - M4 x 0.7 male thread

Electrical connection - 6.3mm x 0.8mm QC tabs.  
125V/250V.

Temperature specification - Close:  $50^{\circ}\text{C} \pm 4^{\circ}\text{C}$ .  
- Open:  $80^{\circ}\text{C} \pm 3^{\circ}\text{C}$ .

### Pressure Switch

Main Contact Load - 16A, 240V AC

Contacts - Nos. 1 & 3 utilised for heater.  
- Nos 1 & 2 utilised for hot & cold watervalves.

Electrical connection - 6.3mm male tabs

Nominal Calibration - set 60mm  $\text{H}_2\text{O}$   
- reset 15mm  $\text{H}_2\text{O}$

Operating Temperature - T85°C maximum.

### Drain Pump

Manufacturer - Plaset.

Rated Input - 30W, 0.25A, 240V AC.

Resistance of Field Winding @ 20°C - 166 Ohms  $\pm 10\%$ .

Insulation - Class F

Nominal RPM - 3000, 2 pole motor

Motor temperature protector field winding - 170°C trips open

Outlet Spigot equipped with non-return flap valve.

Nominal Discharge Rate - 15.20 litres/min @ 1 metre head.

### Micro Switch - Overfill

Manufacturer - Honeywell.

250V AC, 20A, UL approved

85°C maximum temperature.

Switch Mode - SPDT.

Contacts - Silver CAD oxide or silver contacts.

Electrical connection - 6.3mm x 0.8mm silver plated QC tabs

Operating Force - 70 gram

Release Force - 10 gram.



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## SERVICE INSTRUCTIONS

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### Mains Terminal Block

Supplier - Multi Contacts Australia Pty. Ltd.  
Poles - 3 marked A, N & E  
380V, 16A, from 3 x 0.75 to 5 x 1.5mm  
Housing - Self Extinguishing Black polyamide.  
Temperature Rating - 125°C.  
Metal Parts - Zinc Passivated Steel.

### Heating Relay

MB2 240V 13 Amp.  
MB2 PDT 13 Amp.

### 12 Volt Transformer

Arlec part number PS699  
Multi-Voltage Transformer  
240V 50 Hz 3-3-12V 500 mA  
Operated at 12 Volts DC.

### Wash Motor Capacitor

400V AC, 50 Hz 6 $\mu$ F.  
Type - metallised Polypropylene.  
Electrical Connection - 2 x 6.3mm x 0.8mm QC tabs

### Door Solenoid

Manufacturer - ITC  
Number 16 - 240V continuous.

### Door Microswitch

Zippy - 10 Amp 250V

# SERVICE INSTRUCTIONS

## ELECTRONIC CONTROL TEST FACILITY

### 1. LED Display Test

This test is useful for checking that all LED's are working.  
Press the following buttons.

1st Press **Temp 80°C**, 2nd **Power on**, 3rd **Temp 65°C**, 4th **Temp 80°C**  
and then **Power on**.

All the lights will go on and then one at the time to show that they are working.  
To cancel this mode, Switch off at electric supply and switch on again.

### 2. Individual Output Control

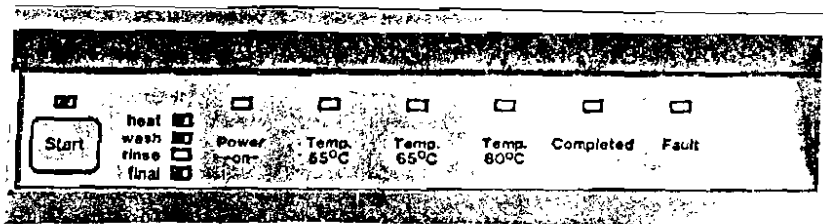
This allows each output to be operated independently for fault finding.

1st Press **Temp 80°C**, 2nd **Power on**, 3rd **Temp 65°C**, 4th **Temp 80°C**  
and then **Completed**.

Then each control switch operates an output as follows:

•	Completed	Operates	Wash Pump
•	Temp 80°C	"	Drain Pump
•	Temp 65°C	"	Water Heater
•	Fault	"	Detergent Dispenser
•	Power On	"	Door Lock
•	Operate - Start -	"	Cold Water Fill Valve
•	Blank (at the end)	"	Hot Water Fill Valve

To disable this facility and return to normal operation, switch off at electric supply and switch on again.

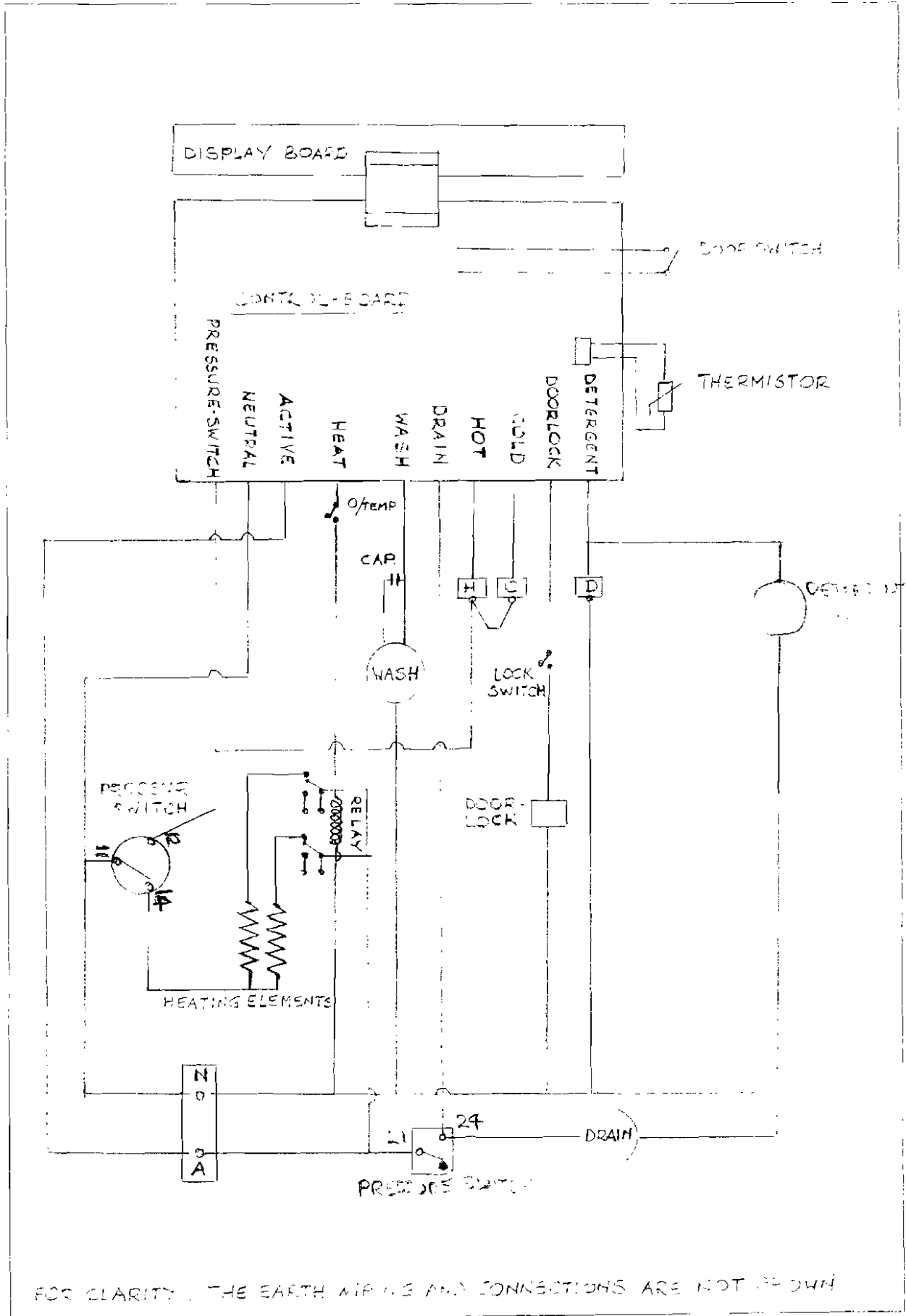


# SERVICE INSTRUCTIONS

## PROGRAMME ELECTRONIC CONTROLLER

Cycle	Step	Time	Operation
1st PRE-RINSE - Cold (Rinse LED on)	1	Till Full	Cold Fill and wash full signal. After 15 seconds, wash motor off for 3 seconds, then on again.
	2	2 min	Wash.
	3	Empty + 15"	Drain until empty + 15 sec.
2nd PRE-RINSE - Hot (Rinse LED on)	4	Till Full	Hot fill and wash until full signal. After 15 sec. wash motor off, for 3 seconds then on again.
	5	45 sec	Wash.
Hot Wash (Wash LED on)	6	Empty + 15"	Drain until empty + 15 sec.
	7	Till Full	Hot fill and wash until full signal. After 15 sec. wash motor off for 3 seconds. Then wash starts again together with start of detergent disp.
	8	1.20 min	Wash, Heat & Detergent release (5 sec)
	9	Till Hot	Wash, Heat until 55°C is reached.
	10	2 min	Wash.
	11	Empty + 15"	Drain until empty + 15 sec.
1st Hot Rinse (Rinse LED on)	12	Till Full	Hot fill and Wash until full signal. After 15 seconds, wash motor off for 3 seconds, then on again.
	13	Till Hot	Wash & Heat until 55°C is reached.
	14	1 min.	Wash.
2nd Hot Rinse Final LED on	15	Empty + 15"	Drain until empty + 15 seconds
	16	Till Full	Hot fill & Wash until full signal. After 15 seconds, wash motor off for 3 seconds, then on again.
Last Rinse - Cold (Rinse LED on)	17	Till Hot	Wash & Heat until 82°C is reached
	18	5 mins	Wash and maintain 82°C temperature.
	19	Empty + 15"	Drain until empty + 15 seconds
Last Rinse - Cold (Rinse LED on)	20	Till Full	Cold fill & Wash until full signal After 15 seconds, wash motor off for 3 seconds, then on again.
	21	45 seconds	Wash
	22	Empty + 15"	Drain until empty + 15 seconds.
	23	-- --	
COMPLETED	24	--	
	25		End of cycle. Door is unlocked. buzzer sounds, Completed LED is lit.

WIRING DIAGRAM L & M MODELS SERIES 2000-MK2



FOR CLARITY, THE EARTH WIRING AND CONNECTIONS ARE NOT SHOWN

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# SERVICE INSTRUCTIONS

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## TROUBLE SHOOTING GUIDE

### 1. Poor Wash

Most poor wash problems are caused by insufficient water supply to the spray arms.

Clear any obstruction from the spray arms. Check cleanliness of the wash filters.

Check the upper spray arm nozzle for any blockage. Top spray arms only have jet holes on the top and a small drain hole on the underside.

Use a clear glass or plastic panel the size of the door opening to allow a clear view of the spray arms in operation.

Check top basket venturi cone lines up with delivery nozzle in top of tub.

BOTTOM SPRAY ARM, jets should easily reach top of the liner, with substantial force when empty.

TOP SPRAY ARM, during this test cover bottom basket area with heavy dishes or pans. Jets from top spray arm should easily and forcefully reach the top of the liner.

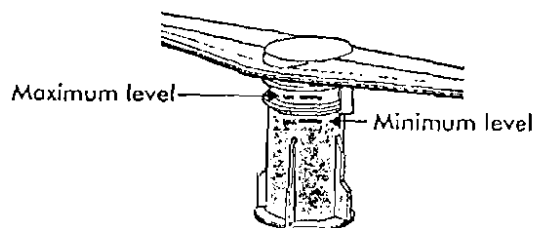
If spray height is correct, check rotation of spray arms, the range is 20-36 R.P.M.

Spray patterns should be clearly defined streams of water. (Not diffused. This indicates obstruction in spinner arm.

### 2. Bottom Spray Arm (poor performance and/or low pressure)

Check water level in the Utensil Washer. Low water level will cause poor wash performance and pulsing/hunting of spray arm pressure. Allow machine to fill three times and check each fill. Compare water level in tub with min. - max. marking on lower spray arm support, (see sketch) if water level is not correct refer to pressure switch adjustment. Low water level may be due to syphoning. Check drain hose routing.

**Water level indicators**



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## SERVICE INSTRUCTIONS

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### TROUBLE SHOOTING GUIDE (Cont'd)

**IMPORTANT:** It is essential that the discharge end of the drain hose terminates not lower than 600mm from the top of the Utensil Washer.

Check drain hose for kinks, sharp bends etc

If the water level or volume is too low or inconsistent then check the pressure switch and replace if necessary.

Check the inlet hose to see that it is free of kinks and sharp bends. Also check filters and supply pressure.

#### 3. Top Spray Arm (poor performance and/or pressure)

Upper Spray Arm feed hose, check that the hose is not kinked, blocked or pinched.

#### 4. Rotation of Spray Arms

Check free rotation of the arm by flicking it with the hand. If the arm turns slowly during actual operation check that it is horizontal and not binding on the shaft.

The spinner must have slight up/down clearance

Spray pattern, check jets for blockages. Replace arm if necessary

#### 5. Drain Time

Check that unit drains in the allocated time. If not look for drain hose damage or obstructions to flow.

#### 6. Water in Machine

Residual water in the machine after it should have drained, may be caused by:

- Drain hose strained to reach the spigot on the sink waste and subsequently flattened (especially when hot).
- The spigot on the sink waste not drilled out completely and debris has collected and partially blocked the spigot.
- Hose extended beyond allowable limits.
- Hose kinked.
- Hose incorrectly extended by using a smaller diameter hose as the extension piece.

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## SERVICE INSTRUCTIONS

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### TROUBLE SHOOTING GUIDE (Cont'd)

**7. Motor Cutting Out**

Give unit an extended run in a fully installed condition and ensure that motor does not cut out during this time. Ensure that machine is up to operating temperature

**8. Machine Will Not Start**

Make sure that the door is closed, press door until it clicks shut.

Make sure the "Power On" light is on, if not, check the power supply to the machine

When power is available to machine, switch power point off and then on

Check membrane switch

**9. Machine Starts, But Water Does Not Enter Machine**

Check that the water taps are on

Check for kinks and sharp bends in hoses.

Check inlet filters in supply hoses

Check coil of water valves.

**10. Programme Is Not Advancing Automatically**

This may be due to water loss caused by syphoning. The machine will stay in the heating mode.

Check height of discharge end of drain hose, this should not be lower than 600mm from the top of the Utensil Washer.

Check Thermistor position and supply to heating elements

**11. Water Does Not Empty Out of Machine**

Check drain hose for kinks and sharp bends.

Check drain filter for blockage

If the machine pumps water into a bucket when the drain hose is disconnected from the waste pipe, then the waste pipe plumbing is blocked.

Check drain pump for blockage and operation.

**12. "Fault" LED Flashing**

Check hot inlet water temperature for 60°C min.

Check Thermistor position.

Check operation of heating elements.

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## REMOVAL OF PARTS

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### OUTER DOOR PANEL

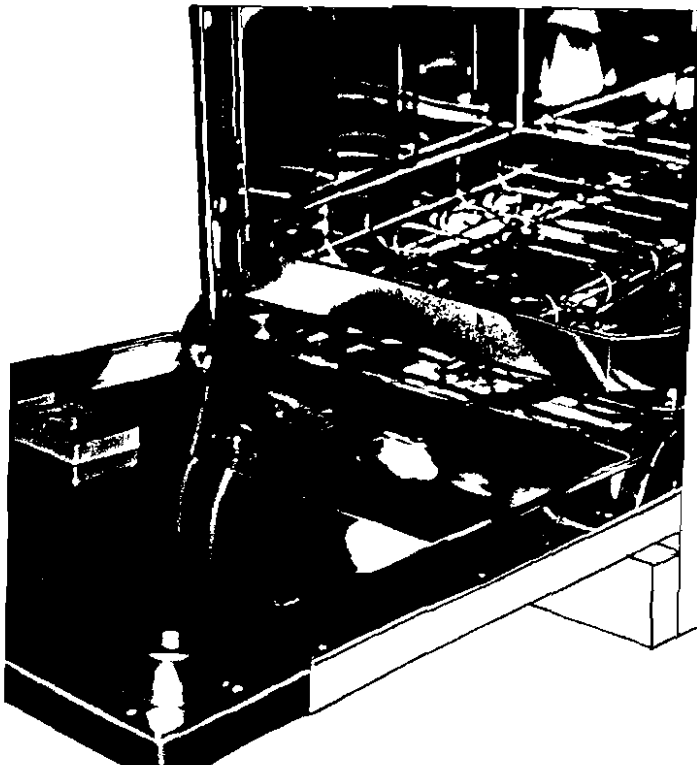
### SECTION 1.

#### Disconnect electrical power supply

Open the door to the horizontal position and remove the three Phillips head stainless steel screws fitted to each side of the door to enable the Outer Door Panel to be withdrawn from the stainless steel door liner. Whilst removing the six stainless steel screws, ensure the Outer Door Panel is supported to prevent damage. It is suggested to leave one central screw loose and in place for support whilst removing the three stainless steel screws on the other side of the door.

To remove the Outer Door Panel, support the side with all three screws removed with your knee under the Outer Door Panel while holding the Outer Door Panel and stainless steel door liner together on the opposite side with your free hand and remove the remaining central screw.

Carefully lift the Outer Door Panel clear, carry out any work required. Re-fit the Outer Door Panel.





## REMOVAL OF PARTS

### DETERGENT DISPENSER

### SECTION 2

#### Disconnect electrical power supply

Remove the Outer Door Panel.

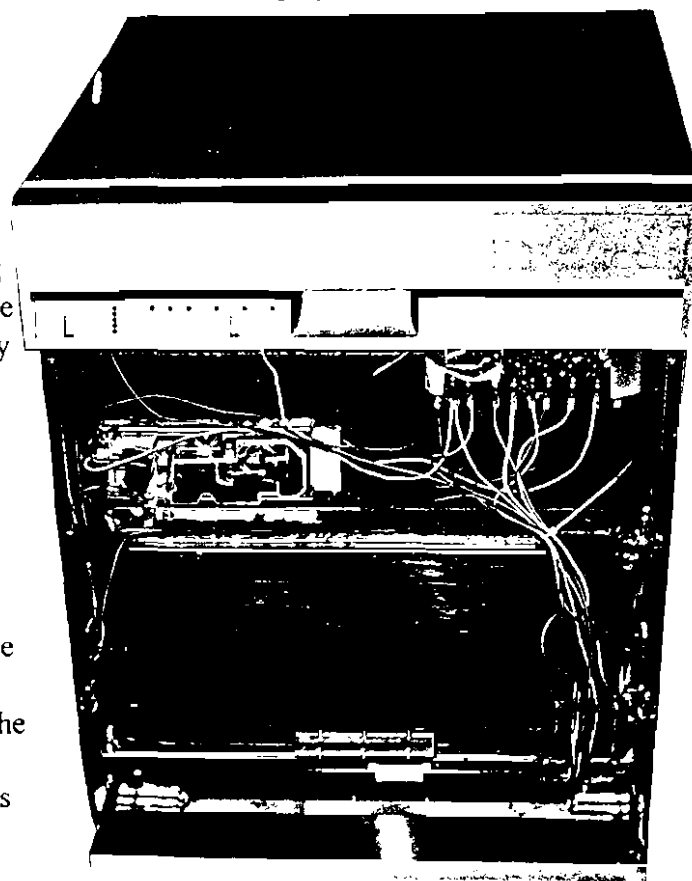
Remove the six retaining screws which fix the Detergent & Rinse Aid Dispenser to stainless steel door liner through upper and lower fixing brackets. On electronic models, attached to the right hand corner of the upper fixing bracket by one of the retaining screws, is the Thermistor Retaining Clip.

Remove the Detergent & Rinse Aid Dispenser from the stainless steel door liner.

Upon refitment of a Detergent & Rinse Aid Dispenser to the stainless steel door liner ensure the sealing face area is clean and free from damage. To ensure an effective seal between the Dispenser seal and the stainless steel door liner face, alternatively tension the two centre screws through the upper and lower brackets and then the upper and lower corner screws.

Operate & test machine before leaving.

Note: The Dispenser upper & lower fixing bracket also clamp the thermistor bracket, insert thermistor in bracket before tightening screws. Refit Outer Door Panel.



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## REMOVAL OF PARTS

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### CONTROL PANEL

### SECTION 3

#### Disconnect electrical power supply

Remove the Outer Door Panel  
(Section 1)

Remove the Six Phillips Head countersunk stainless steel screws located at the top section of the stainless steel door liner. Four screws are located on the top of the liner flange and a screw on each side is 80mm from the top corner.

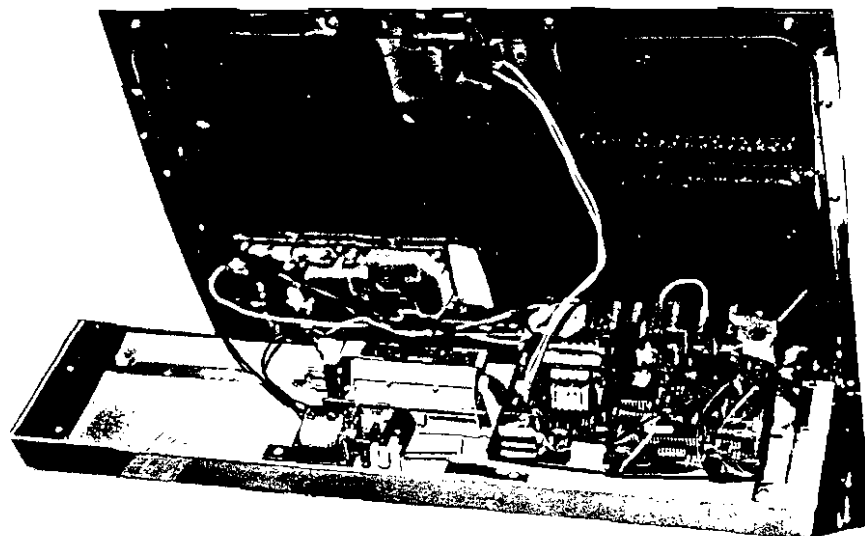
Close door, pull control panel assembly forward

Carry out work required. If the Control Panel is unserviceable remove the components and assemble them onto a new Control Panel.

Before reassembly on to the top of the door ensure that the reinforcing channel is in its correct position, otherwise it could be very difficult to reopen the door.

Refit Control Panel. Ensure door handle operates correctly and locking hook latches securely.

Refit Outer Door Panel.



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## REMOVAL OF PARTS

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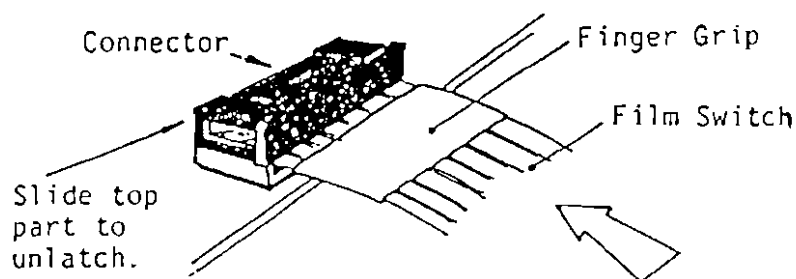
### MEMBRANE SWITCH

### SECTION 4

#### Replacement of Membrane Switch

Remove Outer Door Panel and Control Panel. Section 1 & 3.

Removal of the membrane switch can be done without removing the power/control board. Remove the membrane switch tail from the board connector by unlatching the patent tail connector. (See sketch.) Remove the touch-control as follows. Insert the blade of a knife or small screwdriver under the extreme left hand corner of the membrane assembly and prise it from the Control Panel. When sufficiently removed to grip with tweezers or fingernails gently pull the adhesive backed assembly off the panel for the full width of the membrane. Grip the extreme end and remove.



#### Replacing the Membrane Switch

Clean the switch area of the Control Panel front with a clean cloth using methylated spirit. Any gum adhering to the board will not be dissolved by methylated spirit, but it can be rolled up into itself like dough and it departs cleanly from the Control Panel.

Starting at the left hand end of the membrane switch facing the front of the panel, lightly align the membrane assembly at the left end, butting it against the plastic moulding of the handle opening. Lay the ribbon/membrane assembly down when half way along, feed the tail through the slot in RHS end. After checking for correct positioning gently press the assembly down to adhere firmly.

# REMOVAL OF PARTS

## CONTROL BOARD

## SECTION 5

### Replacement of Power Control Board

Remove Outer Door Panel and Control Panel Section 1 & 3.

#### Removal

Disconnect the film switch from the connector. (See sketch)

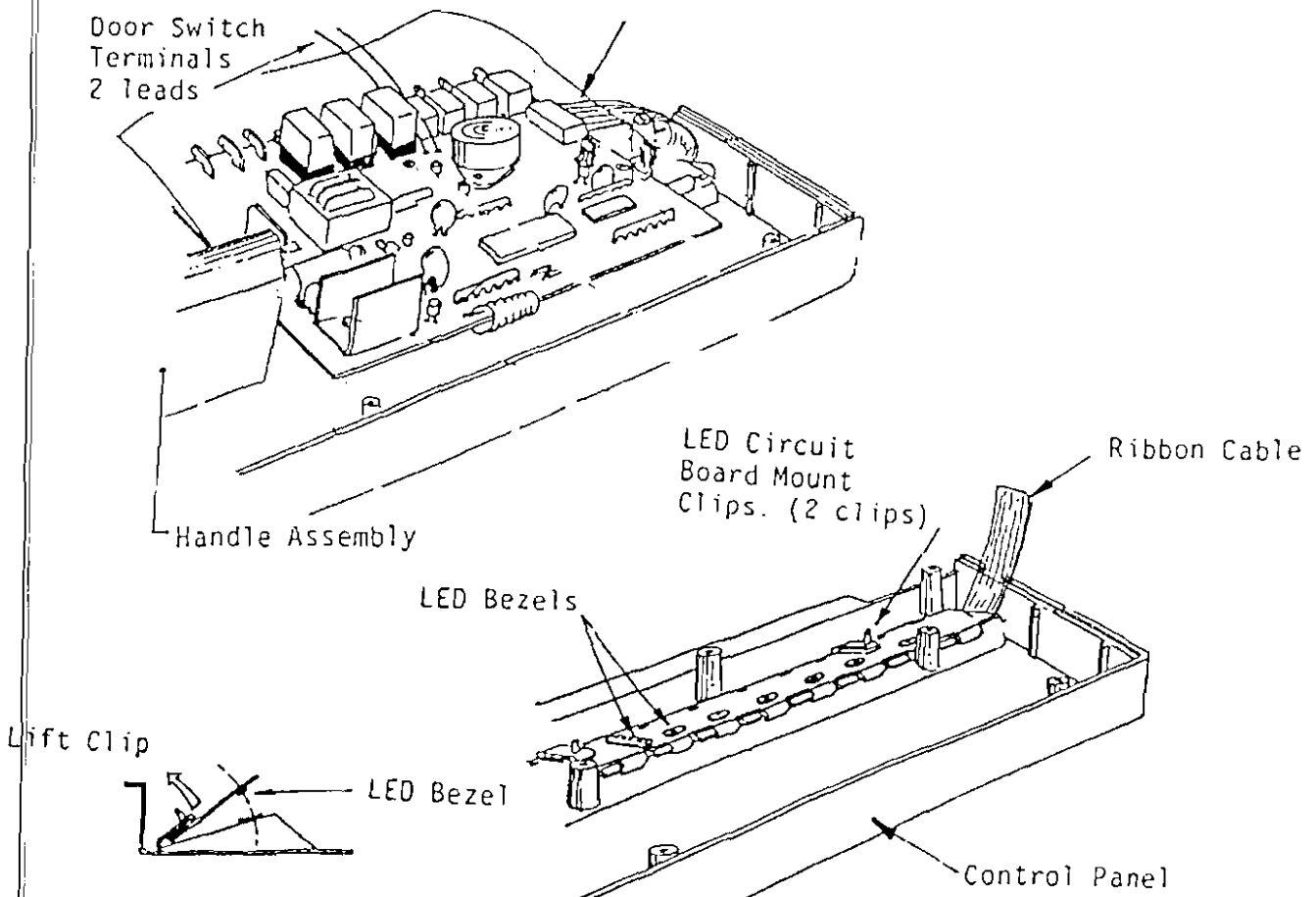
Remove 3 circuit board mount screws.

Lift PCB and place in front of control panel.

Remove dew protection and carefully disengage the LED sub-board which is connected to the PCB.

### Replacing the P.C. Board

Placing the Control Panel upside down on a bench, place the board and LED sub-board connected to it, near the switch end. Carefully insert the LED board into position while holding the plastic clips up alternately with a thumb. ENSURE THE LED'S AREN'T DAMAGED WHEN SLIDING THE BOARD INTO POSITION. The LED'S should now be in the centre of the control board holes provided for them. Place the main board in position and secure with the 3 screws.



# REMOVAL OF PARTS

## DOOR SAFETY SWITCH

## SECTION 6

### Replacing the Door Safety Switch

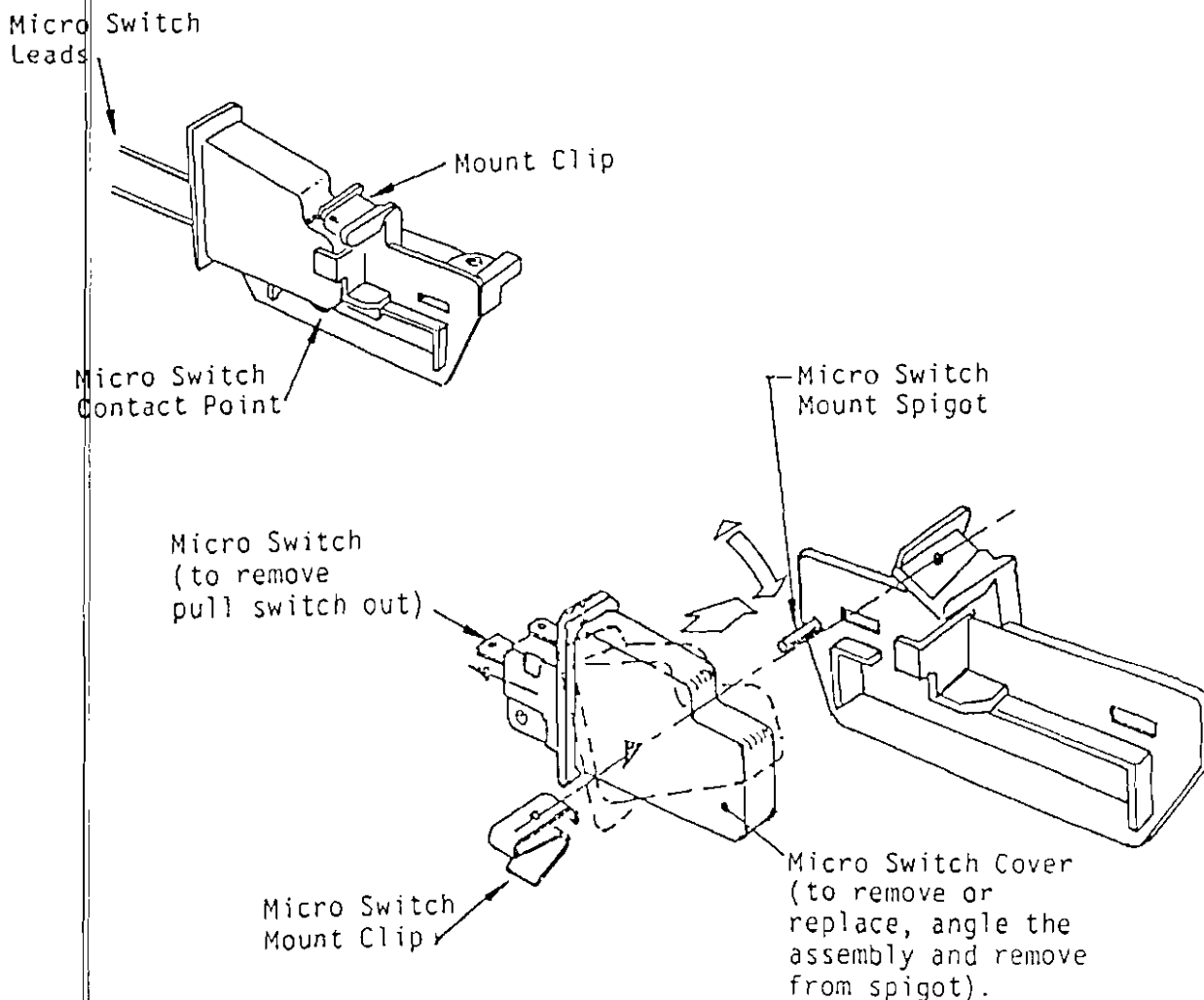
Remove Outer Door Panel and Control Panel. (Section 1 & 3)

Remove clip retaining microswitch assembly (See sketch), and pivot the assembly to clear the retaining lug of the black plastic moulding.

Withdraw the switch from the mounting spigot by pulling forward.

Remove the rubber cover and pull quick-connects off switch terminals.

Assemble in reverse order.



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## REMOVAL OF PARTS

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### EXTERIOR PANELS "M" MODEL

Disconnect electrical power supply

To remove the exterior panels the following sequence should be observed.

**Top Panel:** Remove 2 screws located underneath the front ledge and remove 2 screws located at the back flange

**Bottom Panel:** Remove 2 screws located on each side of the bottom panel

**Back Panel:** Remove 6 screws located on the back of the machine.

**Side Panel LH & RH:** Remove 2 screws located on the front flange and remove 2 screws located on the back flange.

Assemble in reverse order.

### EXTERIOR PANELS "L" MODEL

Disconnect electrical power supply

**Top Panel:** This panel is removed as described for the "M" Model.

**Lower Door:** Remove 4 screws securing the 2 hinges of the door to the frame.

**Back Panel Upper:** Remove 6 screws located on the back of the machine.

**Back Panel Lower:** Remove 4 screws located on the back of the machine.

**Side Panel LH & RH:** Remove 3 screws located on the front flange and remove 2 screws located on the back flange.

Assemble in reverse order.

## REMOVAL OF PARTS

### Stainless Steel Door Liner

The stainless steel Door Liner is retained to the machine hinges located at the base of the stainless steel Tub. Two stainless steel Phillips head countersunk screws on each side of the lower section of the stainless steel Door Liner Flange, clamp the Door Liner to the Swing Arm (movable arm) of the hinges.

The Fixed Arms of the hinge assembly are screwed to the front flange of stainless steel Tub by two stainless steel countersunk Phillips head screws, identical to the screws used on the Swing Arms of the Hinges. It is advised to remove both Push Rod Springs prior to removal of the stainless steel Door Liner from the dishwasher.

### Disconnect electrical power

#### Remove Outer Door Panel

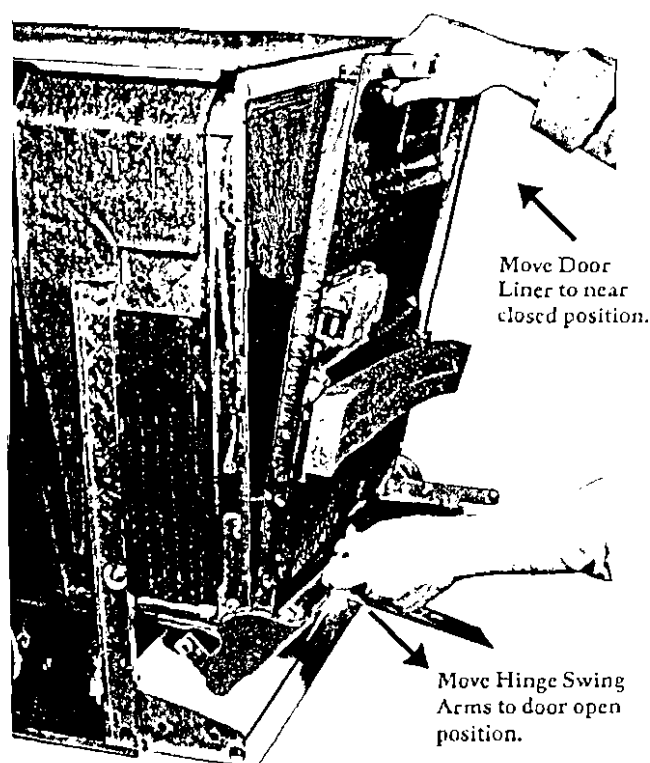
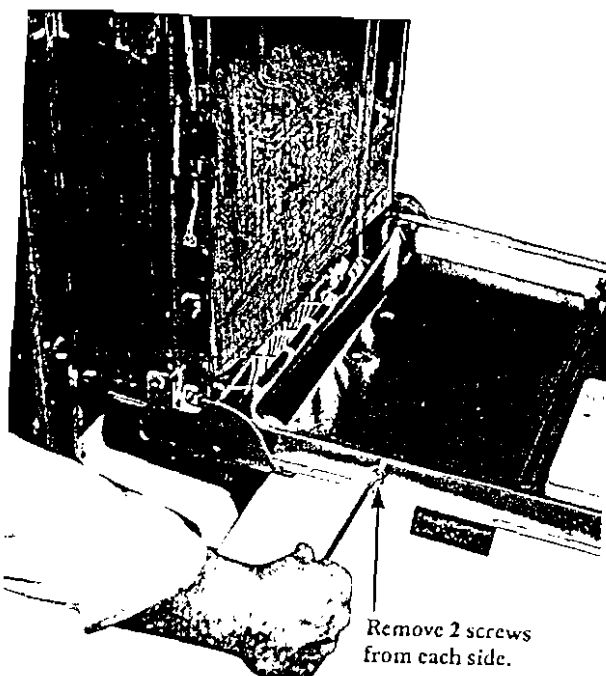
Remove the Door Hinge Springs and Push Rod Guides

Remove the four stainless steel Phillips head countersunk screws from the side flanges with the door in the open position, as shown right.

Return the door to a partially closed position as shown in the photograph below right to prevent damage to the spillway fixed to the front lip of the stainless steel tub.

With the Swing Arms of the door hinges returned to the door open position, lift the stainless steel door liner clear of the machine as shown below right.

Reassemble the machine in reverse order.



## REMOVAL OF PARTS

### DOOR HINGE, SPRING & PUSH ROD GUIDES

Disconnect electrical power supply.

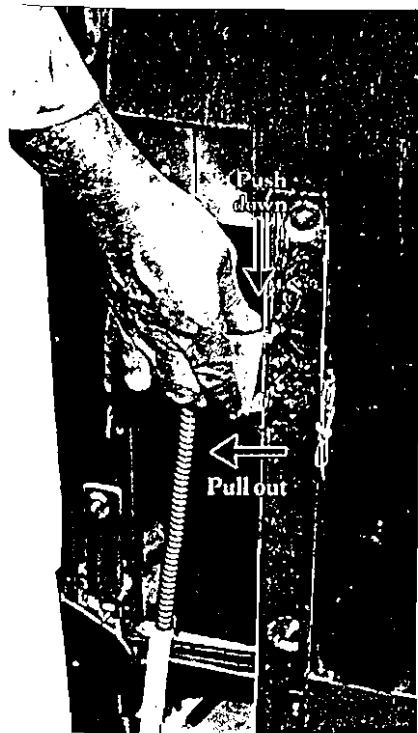
Remove Top and Side panels to expose the door hinge system. The complete door assembly is counter balanced with a compression spring system mounted at each side of the machine. A Push Rod is connected to the Swing Arm of the hinge plate forming a lower pivot point. The upper end of the Push Rod is supported by the Fixed Guide which is anchored to the chassis rail by two retainer clips. Upon opening the door the Push Rod will pass through the bore of the Fixed Guide, decreasing the length of the Push Rod between the step and Fixed Guide. Hence the compression spring located on the Push Rod will be compressed by the reduction of length between the step of the Push Rod and the Fixed Guide.

Closing the door will result in an increase of length between the step of the push rod and the fixed guide, resulting in a reduction of the spring tension.

To remove the Push Rod and Fixed Guide, close the door and push the Fixed Guide downwards to unlatch the two retainer lug clips, whilst pulling the bottom of the Fixed Guide away from the Chassis Rail.

Upon removing the Fixed Guide from the Chassis Rail slots, the Push Rod and Door Spring can be disconnected from the Swing Arm of the Hinge Plate by tilting the Push Rod outwards to disengage the offset keeper/retainer.

Reassemble in reverse order.





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## REMOVAL OF PARTS

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### DOOR HINGES

#### Disconnect electrical power supply

The Door Hinges consist of a left hand and right hand hinge assembly. The fixed arm is mounted to the flange of the stainless steel tub by two stainless steel countersunk screws, whilst the swing arm or movable arm is attached to the stainless steel door liner flange with two stainless steel countersunk screws. A positive stop position is provided with the door in the open position by the swing arm locating on a heavy projection formed on the fixed arm of the hinge.

To replace the Door Hinges, the stainless steel door liner needs to be removed.

Remove the two stainless steel screws which clamp the fixed arm to the flange of the stainless steel tub.

Repeat procedure for the opposite side.

Replacement hinges can be fitted by reversing the procedure.

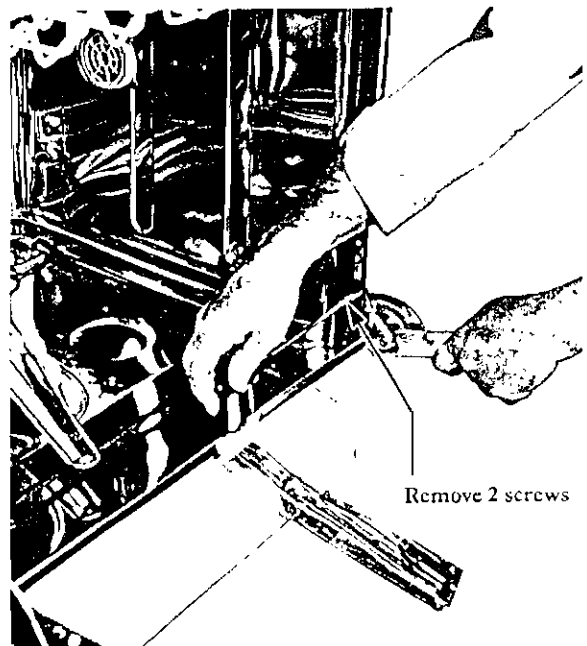
Reassemble in reverse order.

Operate & Test machine before leaving.



Hinge Fixed Arm

Hinge Swing Arm



Remove 2 screws

## REMOVAL OF PARTS

### Upper Basket Rail & Wheel Guides

On each side wall surface of the stainless steel tub is mounted a heavy gauge stainless steel Rail Guide, which is free to slide forwards and backwards, when the top basket is pulled out to load/unload. The two Rail Guides support the top basket by means of a set of wheels attached to the top basket, which engage the top and lower surfaces of the Rail Guide. Each Rail Guide is supported by two Wheel Guides located on each side of the stainless steel tub wall surfaces, which support and allows each Rail Guide to slide freely.

Each Wheel Guide has a stainless steel axle which is threaded into a heavy gauge support plate, affixed to the external surface of the stainless steel tub, by a stainless steel Phillips head screw clamped to each vertical chassis rail with a M5 nyloc nut.

Each stainless steel Phillips headed axle is located within the two vertical side recesses of the stainless steel tub, which spans the complete height of the stainless steel tub walls.

As the support plate is attached to the vertical chassis rail it remains captive even if both Wheel Guide Axles are removed together. Previous model machines required only one Wheel Guide to be removed at a time, as the support plate was only supported by the two Wheel Guides.

To remove the Rail and Wheel Guides proceed as follows:-

Remove both front Rail Guide Pegs by compressing the top sections together and lifting clear from the Rail Guides as above right. Slide the top basket out and clear of the Rail Guides. Remove both Rear Rail Guide Pegs from the Rail Guides and lift clear.

Slide the Rail Guides out and clear from the Wheel Guides.

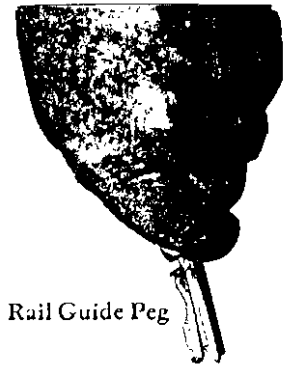
Remove the Wheel Guide Axles by releasing and unscrewing with a Phillips screwdriver as shown above right.

Ensure the stainless steel cup washer, which houses the rubber "O" ring, is identified with the recess side of the washer to the surface of the stainless steel tub.

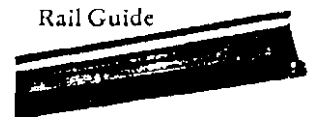
Refer to illustration right for the correct assembly of the Wheel Guide Axle. Wheel Guide, stainless steel cup washer and rubber "O" ring.

Reassemble in reverse order.

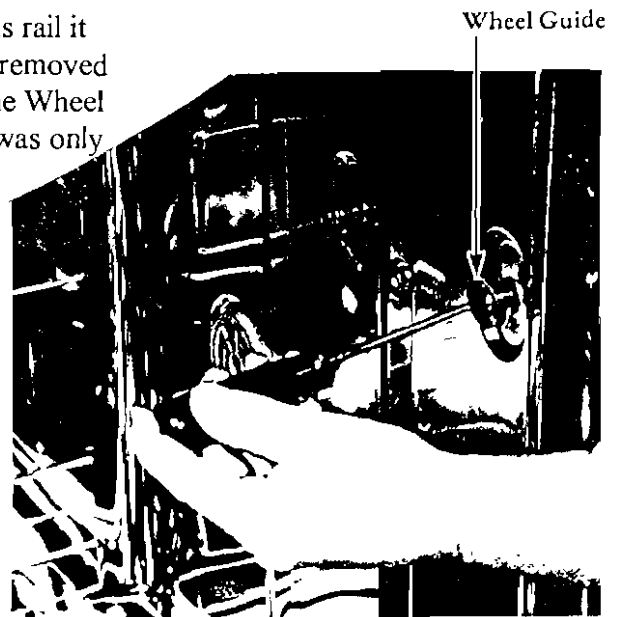
Operate & test machine before leaving.



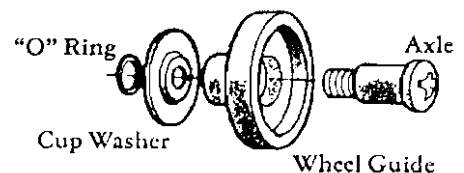
Rail Guide Peg



Rail Guide



Wheel Guide

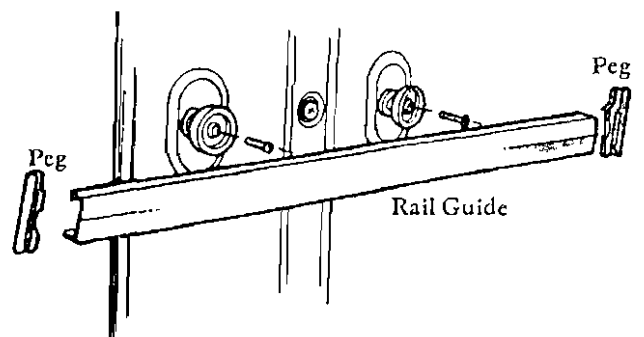


"O" Ring

Cup Washer

Axle

Wheel Guide



Peg

Rail Guide

Peg

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## REMOVAL OF PARTS

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### Tub Gasket

The tub gasket is of a new design wherein the left hand and right hand gasket extensions (as used in previous models) is now attached to the tub gasket.

To remove the tub gasket, grasp the bottom section and pull the tub gasket from the recess formed in the stainless steel tub as shown right. When refitting tub gasket to the stainless steel tub recess, begin by positioning both ends of the tub gasket into the bottom of the stainless steel tub recess which is formed around the tub by a flange located 8 mm from sides and top of tub. The tub gasket has a moulded section on each end in the form of a lip, which locates under the inner side of the stainless steel tub recess flange. Ensure the lip is correctly fitted to the recess on each end of the tub gasket.

With both ends of the tub gasket positively positioned in the recess, press down onto the block moulded section of the tub gasket at one end to maintain its position and commence to feed the tub gasket into the recess. The tub gasket has three barbs moulded into the side face of the gasket and extends the full length of the tub gasket. As the tub gasket is pushed into the recess the barbed side face of the tub gasket engages with the side face of the recess flange.

The tub gasket is located within the recess by finger pressure only, do not push the gasket "upwards" as this will tend to stretch the tub gasket and cause an excess in length to occur, resulting in the tub gasket not seating correctly.

After approximately 300mm of the tub gasket has been seated into the recess, switch to the opposite side of the machine, press down onto the block moulded section of the tub gasket to maintain its position at the bottom of the tub and feed the tub gasket into the recess by finger pressure.

After seating approximately 300mm of tub gasket into the recess, switch to other side of machine and repeat the procedure.

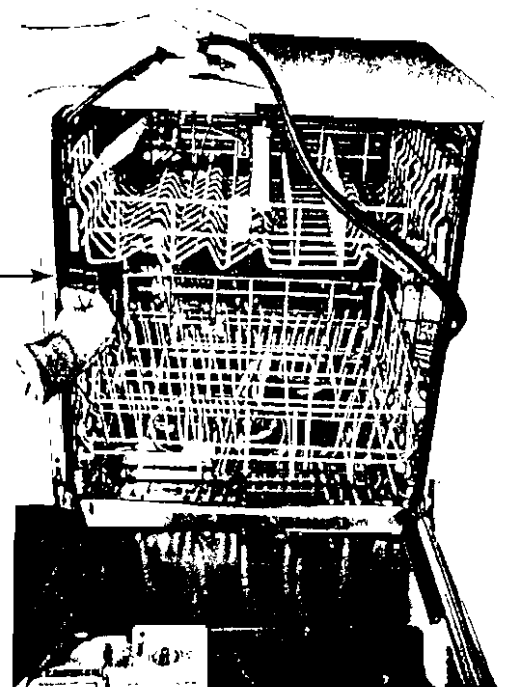
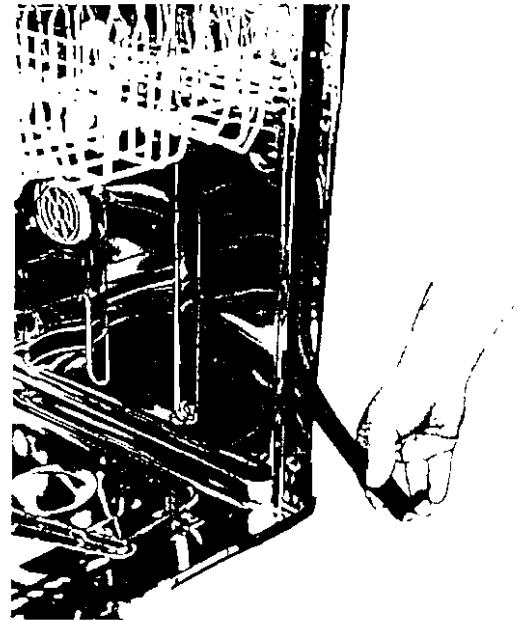
Alternate procedure until both sides of

Seat 300 mm of Tub Gasket at a time, switching from side to side.

the tub gasket has been inserted and seated correctly. Starting at each top corner seat the gasket into the radius of the stainless steel tub, alternated from side to side ensuring it is seated/located correctly.

Finally, seat the tub gasket working from each side across the top section of stainless steel tub, with central section also to be located into recess correctly without an excess in length of tub gasket present.

Operate & Test machine before leaving.



## REMOVAL OF PARTS

### Pressure Switch & Adjustment for Waterlevel

The Pressure Switch is located on the right hand front chassis rail, directly to the rear of the electrical access panel, as shown right. To remove the pressure switch proceed as follows:-

#### Disconnect Electrical Power Supply

Remove appropriate panels

Locate the pressure switch square detent spring mounting on the bracket attached to the front chassis rail as shown below right.

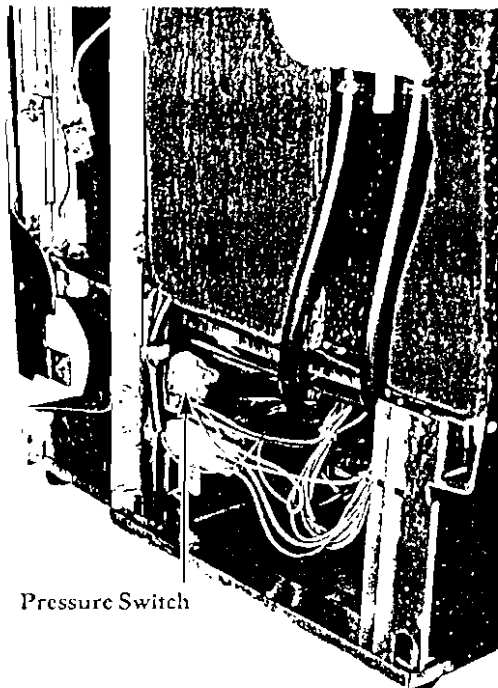
Compress the detent spring mounting with a pair of pointed nose pliers as shown below, push the mounting through the square hole in the bracket to release the Pressure Switch.

Compress the double coil hose clamp located on the pressure switch hose with pliers and slide hose clamp off the pressure switch spigot.

Grasp the Pressure Switch and pull the hose from the Pressure Switch.

Remove the 6.3mm terminals and wires from the pressure switch tab connections.

Replace pressure switch if faulty.



Pressure Switch

#### Adjust Pressure Switch for Waterlevel

To adjust Pressure Switch for Waterlevel proceed as follows:-

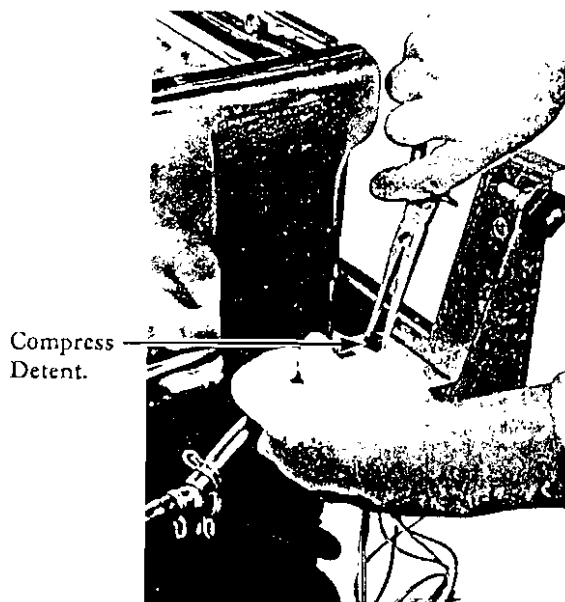
On the back of the pressure switch is a central spigot which house the adjustment screw for waterlevel.

Turning this screw clockwise raises the level and anti-clockwise lowers the level.

It is recommended, to make the adjustment, turning the screw no more than one half turn at the one time and then check the result.

Reassemble in reverse order.

Operate & Test machine before leaving.



Compress Detent.

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## REMOVAL OF PARTS

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### Sump

The Sump is located under the stainless steel tub and is attached to the tub by a Sump Gasket and a Sump Retainer fitted to the interior of the stainless steel tub. The Sump Retainer locates into the recessed aperture in the base of the stainless steel tub and into the internal face of the Sump. The Sump, Sump Retainer and the recessed aperture (190mm diameter) have an 80mm long flat section towards the front of the machine and is parallel with the front lip of the stainless steel tub.

On the flange formed on the recessed aperture in the stainless steel tub is mounted a grooved sump gasket, which is compressed between the sump flange and the sump retainer by four mounting screws.

### Disconnect electrical power supply

Remove appropriate panels.

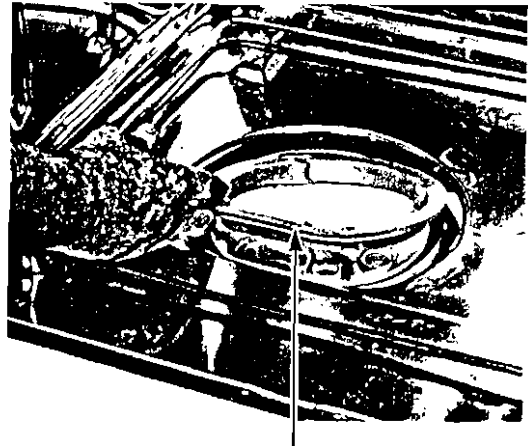
To remove the Sump, disconnect hoses attached to the Sump Spigots.

Remove Phillips head screw which retains the Drain Pump to the sump socket.

Remove the four mounting screws and lift the Sump Retainer clear as shown right.

Remove Sump from the stainless steel tub and lift it clear from the stainless steel tub as shown below left.

Remove the Sump Gasket from the flange of the stainless steel tub as shown below right.



Remove Sump Retainer.



Reassemble the machine in reverse order.  
Operate & test machine before leaving.

## REMOVAL OF PARTS

### Wash Motor/Pump Assembly - Removal and Refitting

The Wash Motor/Pump Assembly is a high efficiency compact device horizontally mounted at a 30° angle to the rear rail and located within the rear left hand corner of the machine as shown right. A centrally positioned induction or inlet spigot on the pump cover also provides the front mounting via a short hose connected to the sump spigot with appropriate hose clamps.

To remove the Wash Motor/Pump Assembly from the machine proceed as follows:-

#### Disconnect electrical power

Remove appropriate panels.

Disconnect the four pin wash motor/pump receptacle from wiring harness/plug as shown above right.

Remove the two pump outlet hoses from the pump cover by compressing the double coil hose clamps and sliding the clamps along the hoses away from the pump cover spigots.

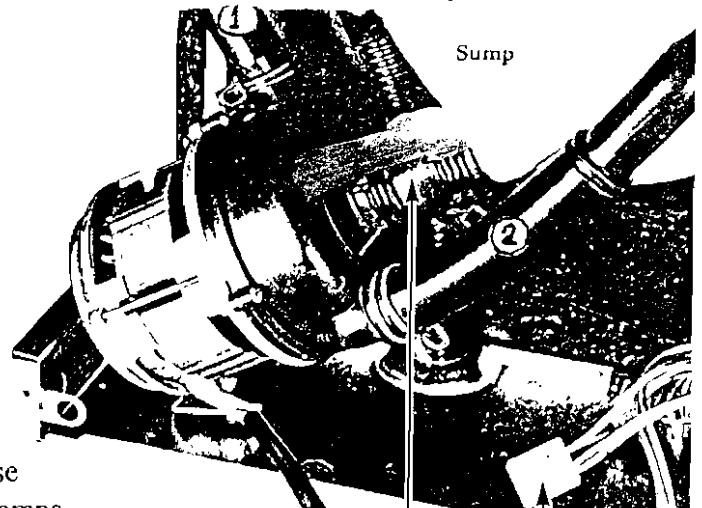
The two hoses as shown above right are identified as follows:-

- Upper hose - 22mm diameter pump spigot parallel with the base of the stainless steel tub. Function:- Water supply to Top Spray Arm.
- Lower Hose - 25mm diameter pump cover spigot - hose connector. Function:- Water supply to Lower Spray Arm.

Grasp each hose in turn and disconnect from the pump cover spigots.

Removal of the two outlet hoses now provides access to the centrally mounted induction/inlet spigot of the pump cover. Compress the double coil hose clamp located on the inlet hose and slide clamp from spigot towards the Sump as shown left.

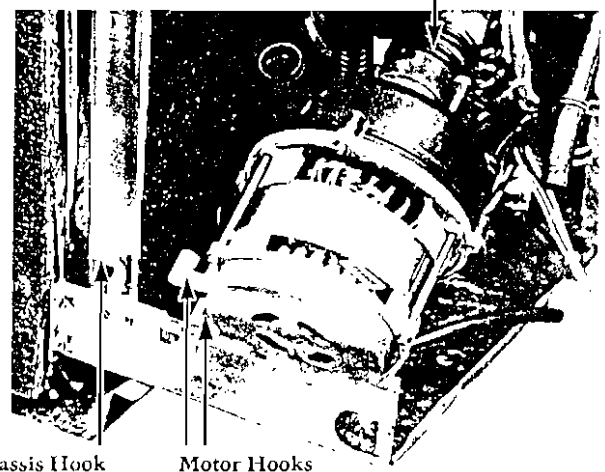
**Note:** The Wash Motor/Pump is actually supported by the short hose between the Wash Motor/Pump and the corresponding spigot of the Sump.



Short hose connection between pump inlet spigot and sump spigot.

Disconnect four pin receptacle.

Move double coil hose clamp away from Wash Pump/Motor.



Chassis Hook

Motor Hooks

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## REMOVAL OF PARTS

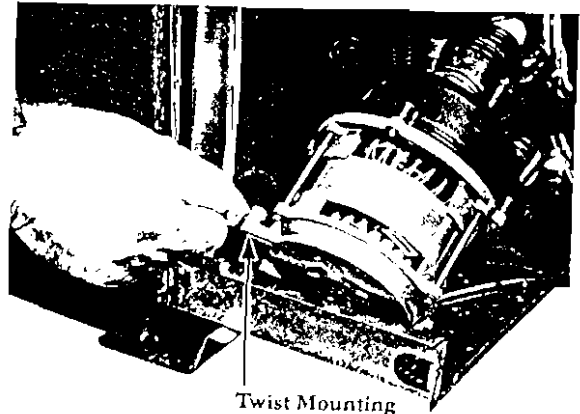
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### Wash Motor/Pump Assembly - Removal and Refitting (Cont'd)

The rear end of the Wash Motor is supported by a triangular detachable neoprene Mounting Support Strap, which is attached to a hook located on the left hand rear chassis panel. On the rear diecast end-shield of the Wash Motor are the support hooks onto which the two lower holes of the triangular Mounting Support Strap are attached to support the Wash Motor. Refer to the previous photo which has the rubber triangular Mounting Support Strap removed to clearly show the hooks.

Two options are available to remove the Wash Motor triangular neoprene Mounting Support Strap:-

Twist the Mounting Support Strap and push the locating hole from the front hook on the Wash Motor end-shield as shown right. Push the Mounting Support Strap up and release the Mounting Support Strap from the hook located on the chassis panel. The rear locating hole of the mounting support strap can then be disengaged from the hook on the wash motor end-shield. The wash motor mounting support strap can then be lifted clear of the machine.



Twist Mounting Support Strap off hooks.

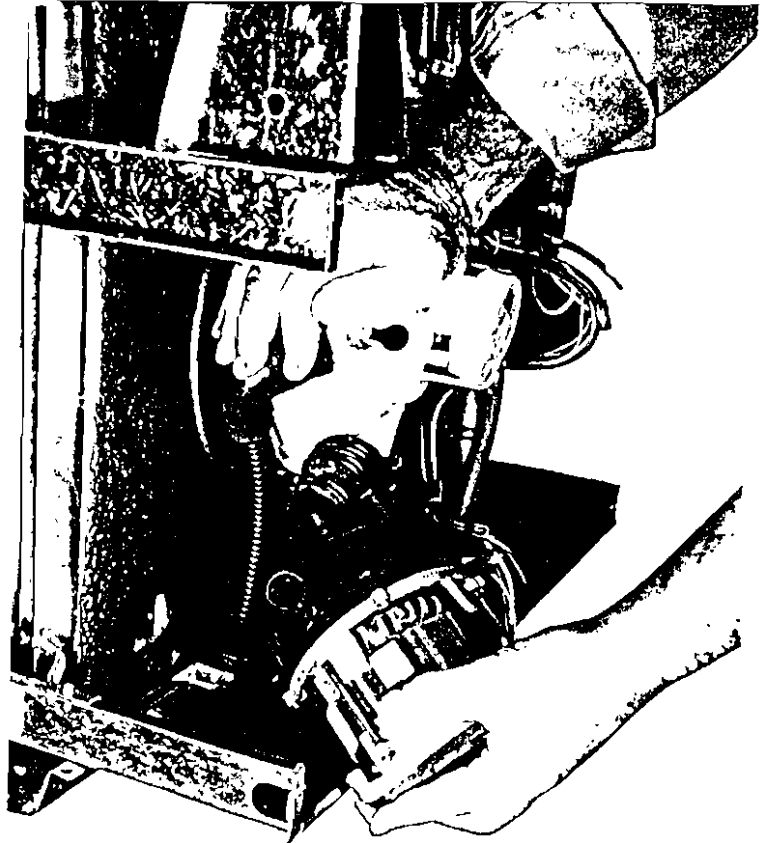
**OR**

Remove the retaining screw which mounts the hook onto the chassis panel. Detach both locating holes in the Mounting Support Strap from both hooks on the Wash Motor end-shield. Lift clear the Mounting Support Strap and the detached chassis hook from the appliance.

The Wash Motor/Pump can then be withdrawn from the pump cover inlet hose, as shown below right, and lifted clear as a complete assembly.

Refit the Wash Motor/Pump and reassemble the machine in reverse order or refer to section Wash Motor/Pump requires to be dismantled.

Operate & Test machine before leaving.



## REMOVAL OF PARTS

### Wash Motor/Pump - Dismantle

Sit the Wash Motor/Pump upon the rear diecast end-shield on a table or suitable flat surface. Whilst viewing the Wash Motor/Pump assembly from the pump cover end, position the two support hooks formed on the diecast end shield at a twelve o'clock position. It should be noted the pump outlet spigot for the water supply to the Upper Spray Arm is at the nine o'clock position, whilst the pump outlet spigot for the lower spray arm is at the four o'clock position. The alignment of the pump cover to the two support hooks on the diecast end-shield of the motor must be maintained for correct fitment of the Wash Motor/Pump to the machine.

Directly below the pump outlet spigot located at the four o'clock position (Lower Spray Arm water supply) on the outer diameter, is a 3 mm diameter round spigot, engaged into a slot on a corresponding black plastic flange, which is known as the Pump Plate.

Locate the small locating spigot and corresponding cutout (3mm wide) and mark this location onto the diecast flanged end-shield of the Wash Motor (four o'clock position) with a felt tipped marking pen for re-assembly purposes. It can also be noted that the four o'clock position is identified by the electrical input cables entering the stator at this position.

Release and remove the four Phillips head screws which retain the pump cover to the Pump Plate and wash motor flanged diecast end-shield.

Lift clear the pump cover and the neoprene "O" ring which seals the pump cover to the pump plate.

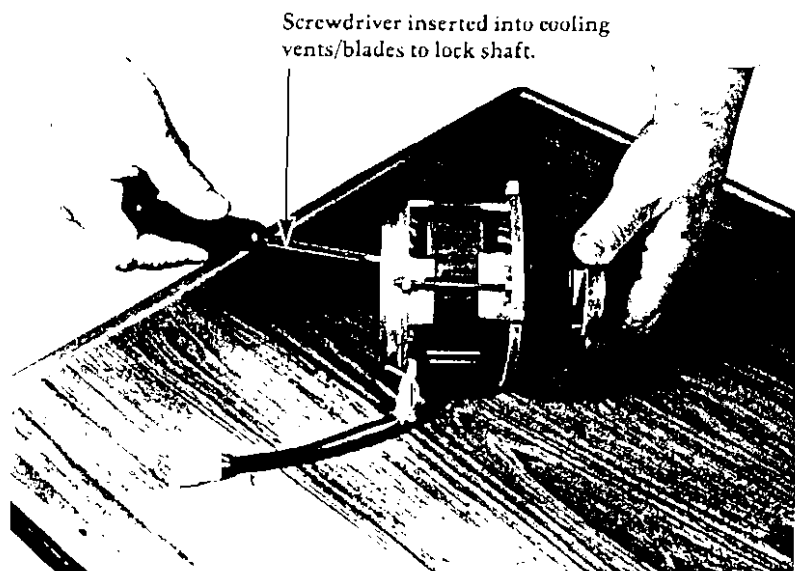
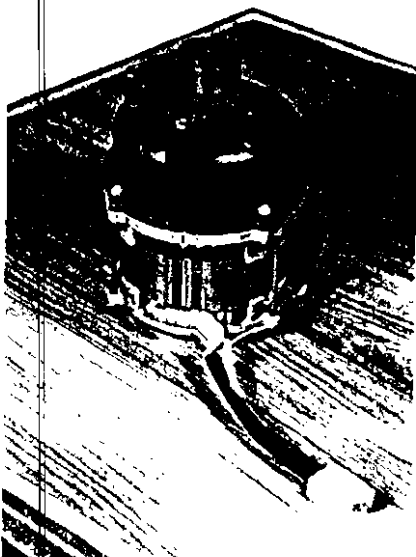
The pump impellor requires to be removed to access the removal of the Pump Plate.

To remove the impellor from the shaft, insert a screw driver into the opposite end diecast end-shield air cooling vents and engage with a blade of the cooling fan (eight diecast blades on rotor), to lock the rotor in a stationary position. Whilst holding the screw driver firmly, grasp the impellor and turn in an anti-clockwise direction to unscrew the impellor from the shaft. Lift impellor clear from the pump shaft.

The flanged pump plate which houses the carbon faced rotary seal and bellows can also be lifted clear from the Wash Motor.

Upon lifting the Pump Plate clear, the flanged diecast end-shield of the Wash Motor will be visible. A black plastic water slinger is attached to the motor shaft, which is housed by an annular projection with a cutout at the six o'clock position, to allow water leaking past the rotary seal to exit the flanged diecast end-shield.

Refer to re-assembly section of Wash Pump.



Screwdriver inserted into cooling vents/blade to lock shaft.



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## REMOVAL OF PARTS

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### Wash Motor/Pump - Reassemble

Position the Wash Motor with the two mounting hooks at the twelve o'clock position and the input electrical cables in a corresponding four o'clock position. Ensure the motor is electrically sound and the bearings are not water damaged/noisy.

The Pump Plate is normally supplied as a replacement with the bellows and carbon faced seal factory fitted. On the underface of the Pump Plate are two cutouts, within the outer mounting rings, positioned on each side of a mounting hole.

**Note:** Both cutouts are to provide an exit for water leakage past the rotary seal and impellor ceramic face. This mounting hole must be positioned directly opposite the two mounting hooks at the twelve o'clock position. ie: Position the mounting hole and two cutouts at six o'clock position on the flanged diecast end-shield of the Wash Motor. Note that the large directional vane for the lower spray arm spigot is then located at the four o'clock position.

Check the condition of the pump impellor for damage and inspect the ceramic rotary seal face for condition/damage. If damage/wear is present replace both impellor and pump cover/rotary seal.

Fit the impellor to the right handed threaded pump shaft. Rotate impellor and compress rotary bellows/seal until the rotor of the Wash Motor commences to rotate with the impellor.

Insert a screw driver into the opposite end diecast end-shield air cooling vent and lock the blades of the cooling fan and rotor from turning, whilst screwing the impellor onto the shaft at the opposite side of the wash motor/pump. Tighten impellor securely and remove screw driver from the blades of the cooling fan.

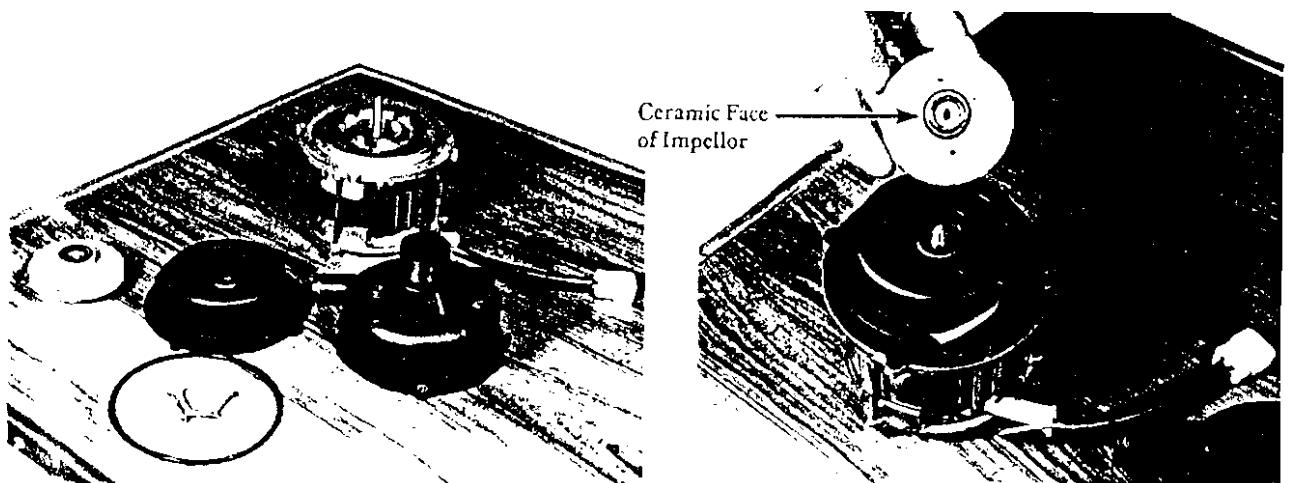
Clean and refit neoprene "O" ring to Pump Plate if a replacement is not available. It is suggested to fit a replacement if a pump is serviced.

Refit the pump cover to the Pump Plate ensuring the 3mm spigot on the pump cover locates into the cutout (3mm) of the Pump Plate located at the four o'clock position.

Refit the four Phillips headed screws to the pump cover pump plate wash motor mounting holes. Tighten all four screws evenly, alternatc from side to opposite side to ensure the pump cover and pump plate compresses the neoprene "O" ring correctly.

Insert a finger in to the pump cover inlet spigot, engage with the impellor blades and establish the impellor/wash motor rotor is free and turns without fouling the pump cover.

Refer to removal and refitting section of Wash Motor/Pump.



## REMOVAL OF PARTS

### DRAIN PUMP - REMOVAL

The Drain Pump is a self contained motor and pump assembly mounted directly into the Sump by the induction or inlet spigot equipped with an neoprene "O" ring to prevent water leakage. A single Phillips head screw retains the complete motor and pump to the Sump. Removal of the Drain Pump is accomplished by the following procedure:-

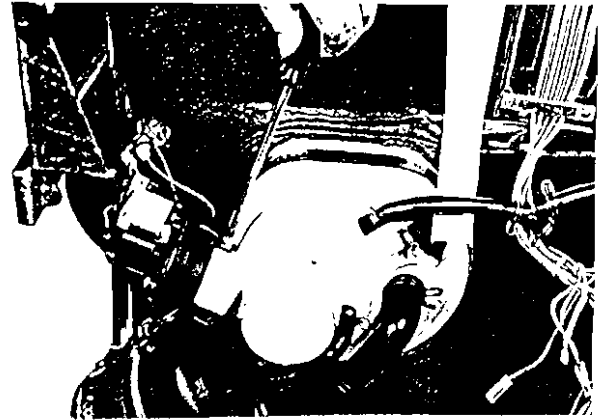
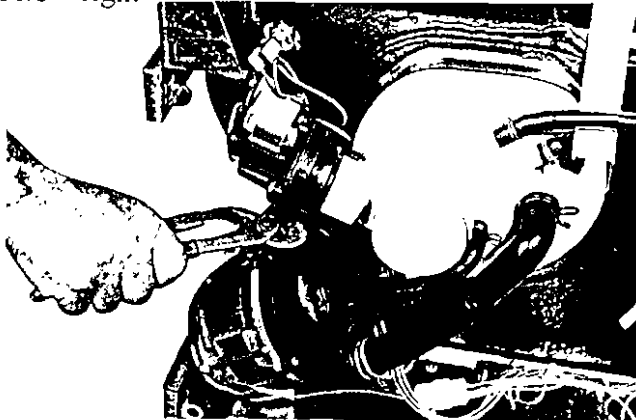
#### Disconnect electrical power supply

Remove appropriate panels.

Disconnect the two QC terminals and wires from the 6.3mm tabs marked "L&N" mounted on the encapsulated field windings of the Drain Pump Motor.

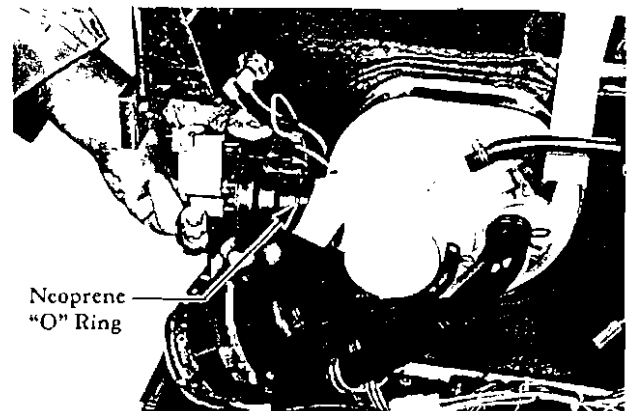
Remove the drain hose double coil hose clamp with a pair of multigrips/pliers from the pump outlet spigot as shown below left and withdraw the moulded drain hose elbow from the pump outlet spigot. The moulded elbow of the Drain Hose has two offset slots in the end face of the elbow, which engage with the offset lugs on the pump cover/outlet spigot. This feature is to index the drain elbow/hose into the correct angle and position in relation to other internal components.

Remove single Phillips head screw which retains Drain Pump to the sump socket as shown below right



Grasp the Drain Pump and pull the complete motor and pump assembly from the bore of the sump socket, wherein the Drain Pump Spigot and neoprene "O" ring is housed as shown below.

The Neoprene "O" ring is removed from the pump cover/inlet spigot and discarded. A replacement neoprene "O" ring should be used upon refitment of the drain pump. Refer to refit section of the Drain Pump or refer to dismantle section of the Drain Pump.



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## REMOVAL OF PARTS

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### Drain Pump - Dismantle & Assemble

As the Drain Pump is a self-clearing device, generally, the Drain Pump will not require to be dismantled. However, if there is a need to dismantle the Drain Pump after having removed it then follow this procedure:-

Removal of the Drain Pump cover/inlet spigot will require a "Torx" hand driver fitted with a T-15 drive to remove three torx headed screws which retain the pump cover/inlet spigot to the pump body/motor assembly. Prior to removing the three torx screws, view the Drain Pump from the motor end with the two electrical tap terminals marked from left to right as "N" & "L" and also inverted. The pump cover outlet spigot (three deep grooves on surface) is positioned in relation to the electrical terminals "N" & "L" at an eleven o'clock position. Mark both pump cover and pump body to retain this relationship. Remove the three torx headed screws and separate the pump cover from the pump body. A Neoprene "O" ring is located within a groove on the pump housing, carefully remove the "O" ring, clean the groove and refit the "O" ring.

A flap valve is incorporated within the pump cover/inlet spigot. The purpose of the flap valve is to ensure water from the household drain system will not flow back into the dishwasher. Located within the end groove on the pump cover/outlet spigot is the retaining ring/flap valve. Lift the retaining ring/flap valve from the groove, clean, examine for damage and refit to pump cover/outlet spigot groove.

Establish that the domed surface of the flap valve is towards the seat face of the pump cover/outlet spigot. The retaining ring of the flap valve should be positioned within the groove, for the domed surface of the flap valve to contact the seat face effectively and be concentric with the bore of the pump cover/outlet spigot.

**NOTE:** If the flap valve is not seated correctly it will not operate as a non-return valve. Refit the pump cover to the pump body, locating the outlet spigot at the eleven o'clock position in relation to the electrical terminals "N & L". Press both components together without damaging the neoprene "O" ring and fit the three torx head screws and tighten evenly.

Insert finger into pump cover/inlet spigot, engage with the impellor blade and establish impellor will turn freely.

**NOTE:** A magnetic effect between rotor and stator will cause the impellor to "flick" past the poles of the motor every 180° of rotation. This is normal and the effect is used to obtain a self clearing pump action.

Refer to refit section of the Drain Pump.



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## REMOVAL OF PARTS

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### DRAIN PUMP - REFIT TO MACHINE

#### Disconnect electrical power supply

It is recommended to replace the neoprene "O" ring which seals the pump cover/inlet spigot to the sump socket. Fit neoprene, "O" ring onto pump cover/inlet spigot and locate against the eight stops moulded onto the surface of the inlet spigot

When engaging the drain pump inlet spigot to the sump socket, it is advised to smear water onto the surface of the neoprene "O" ring, to assist entry into the sump socket.

Approximately position the pump cover/outlet spigot towards the front of the machine, or in a horizontal mode, insert the pump cover/inlet spigot into the sump socket.

Exert hand pressure against the drain pump to compress the neoprene "O" ring and rotate at the same time approximately 90°, to seat the slotted locking plate of the Drain Pump against the retaining boss of the Sump.

Refit the Phillips flange head (two start thread) screw **Do not over-tighten.**

Slide the double coil hose clamp over the drain hose elbow and fit the elbow over the pump cover/outlet spigot. Engage the two offset slots in the end of the drain hose elbow with the two lugs on the pump cover/outlet spigot

Push the drain hose elbow firmly onto the two offset slots and lugs.

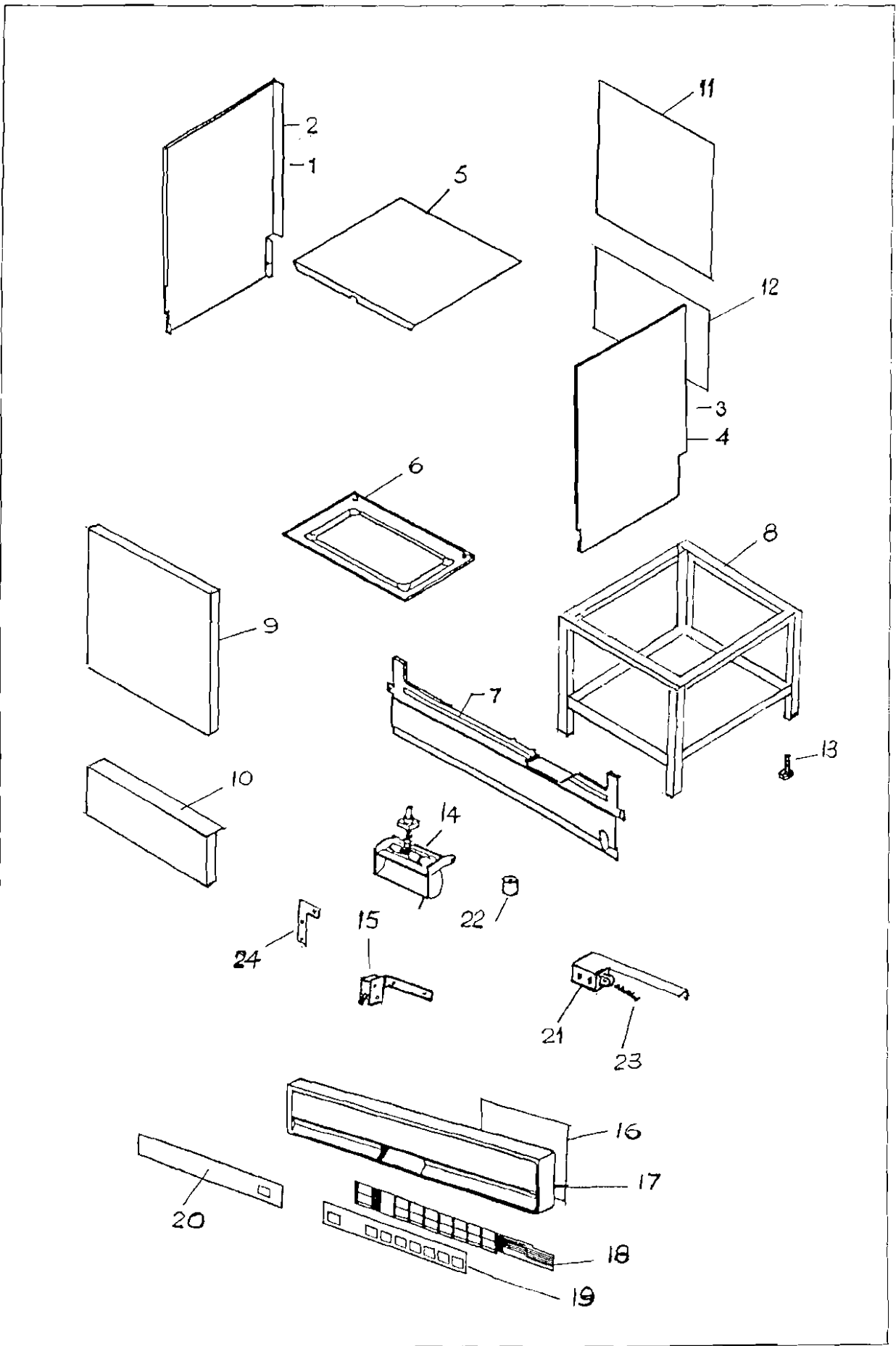
Compress the double coil hose clamp with multigrips/pliers and position clamp on drain hose elbow between the wash motor/pump and Drain Pump. This position allows access to refit or remove the double coil hose clamp with multigrips/pliers.

Refit the QC Terminals and wires to the Drain Pump tabs marked "N" & "L".

Reassemble in reverse order

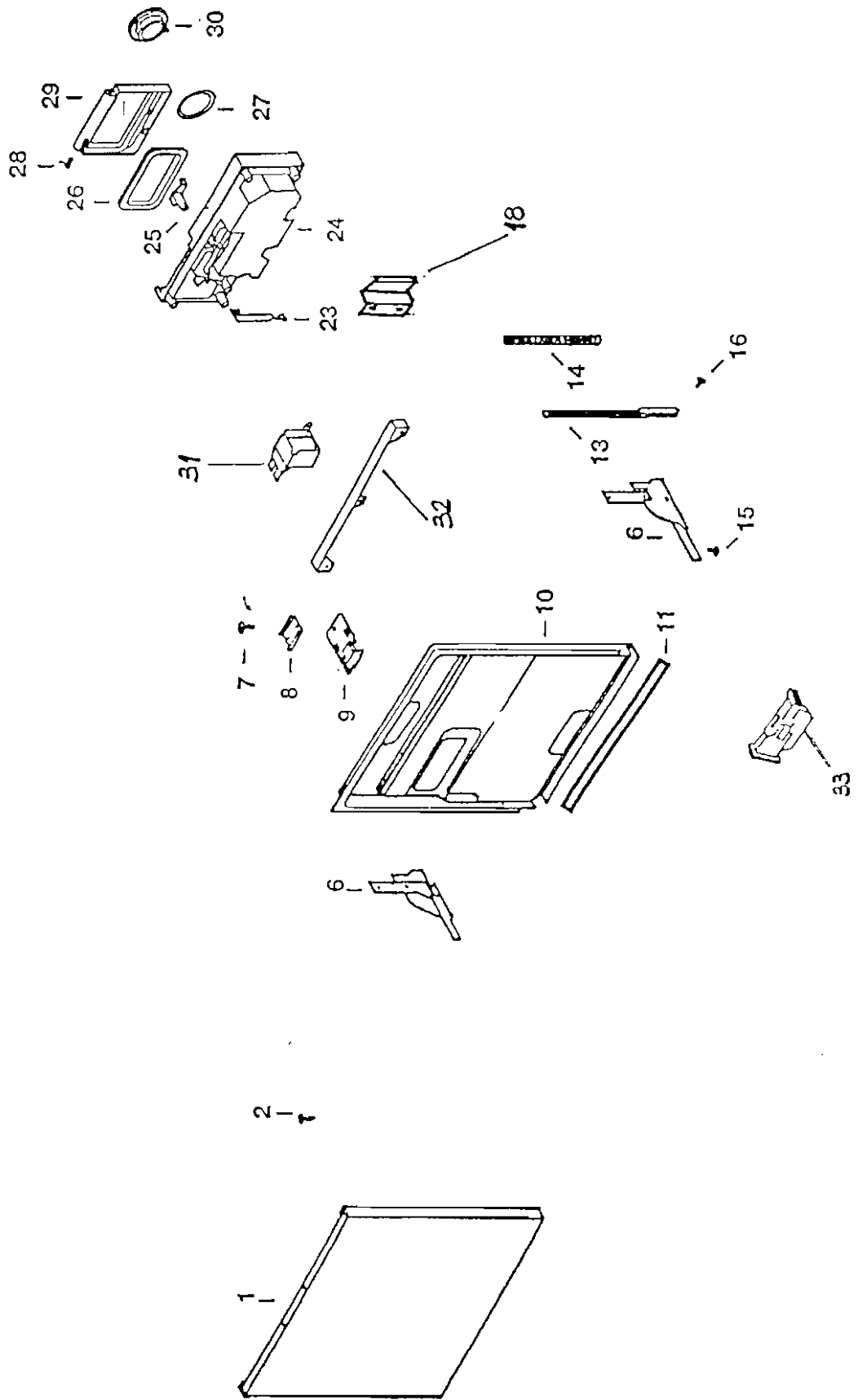
Operate & test machine before leaving.

# PARTS LIST - Exterior Panels





# PARTS LIST - Door Components



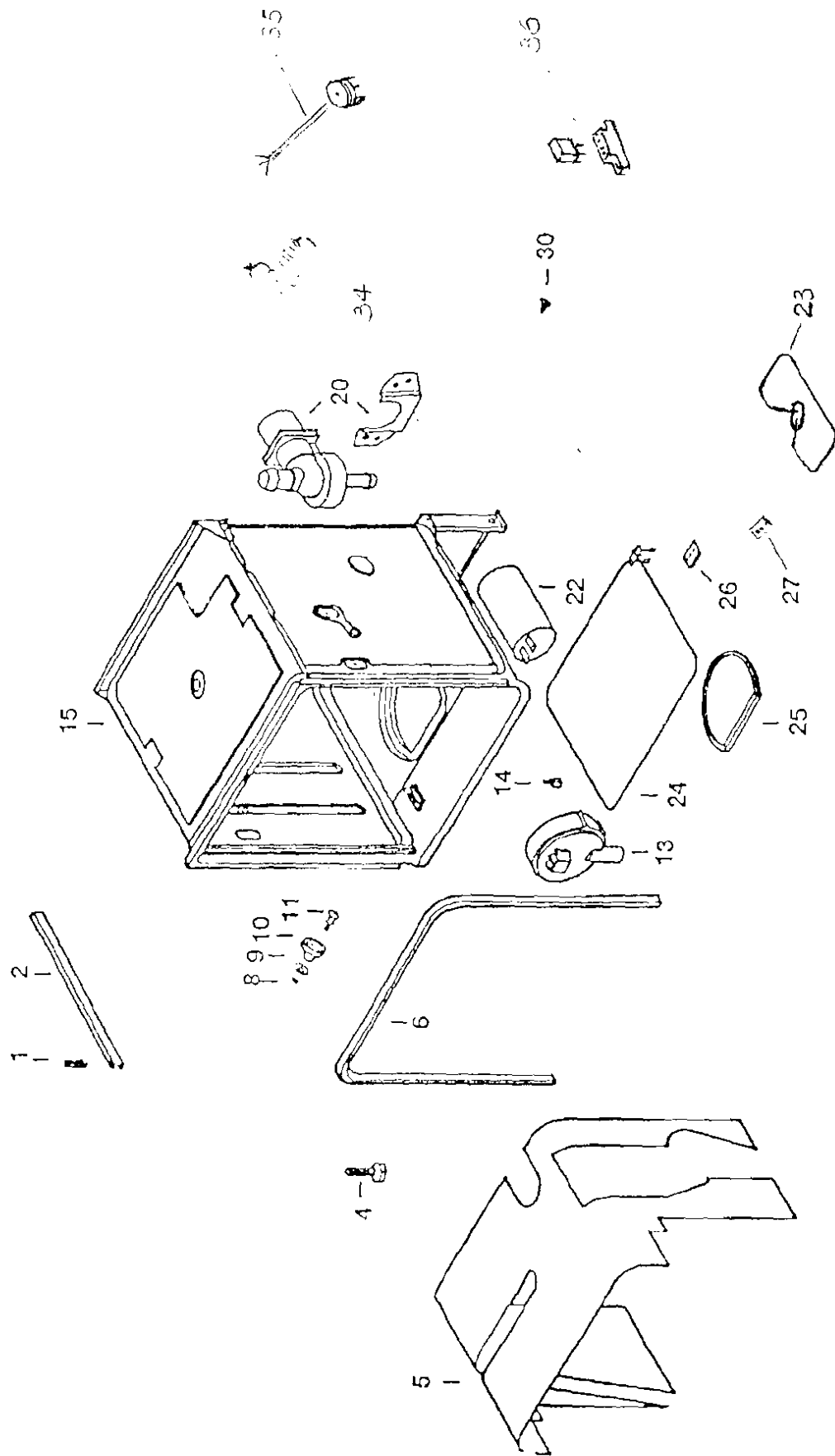
# PARTS LIST

## DOOR COMPONENTS

Item	Part Number	Description	Price
1	IND 001	Outer Door	
2	890581	Screw	
6	851167	Door Hinge LH	
	851168	Door Hinge RH	
7	851167	Screw	
8	890548	Bracket Door Catch	
9	890547	Door Latch	
10	890546	Door Liner	
11	890545	Lower Door Seal	
13	890540	Push Rod Short	
14	890540	Spring	
15	S0076	Screw Hinge	
16	S0072	Screw	
18	IND 005	Thermistor Bracket	
23 to 32	8905145	Powder Detergent Dispenser	
33	8511896	Micro Switch Assembly	

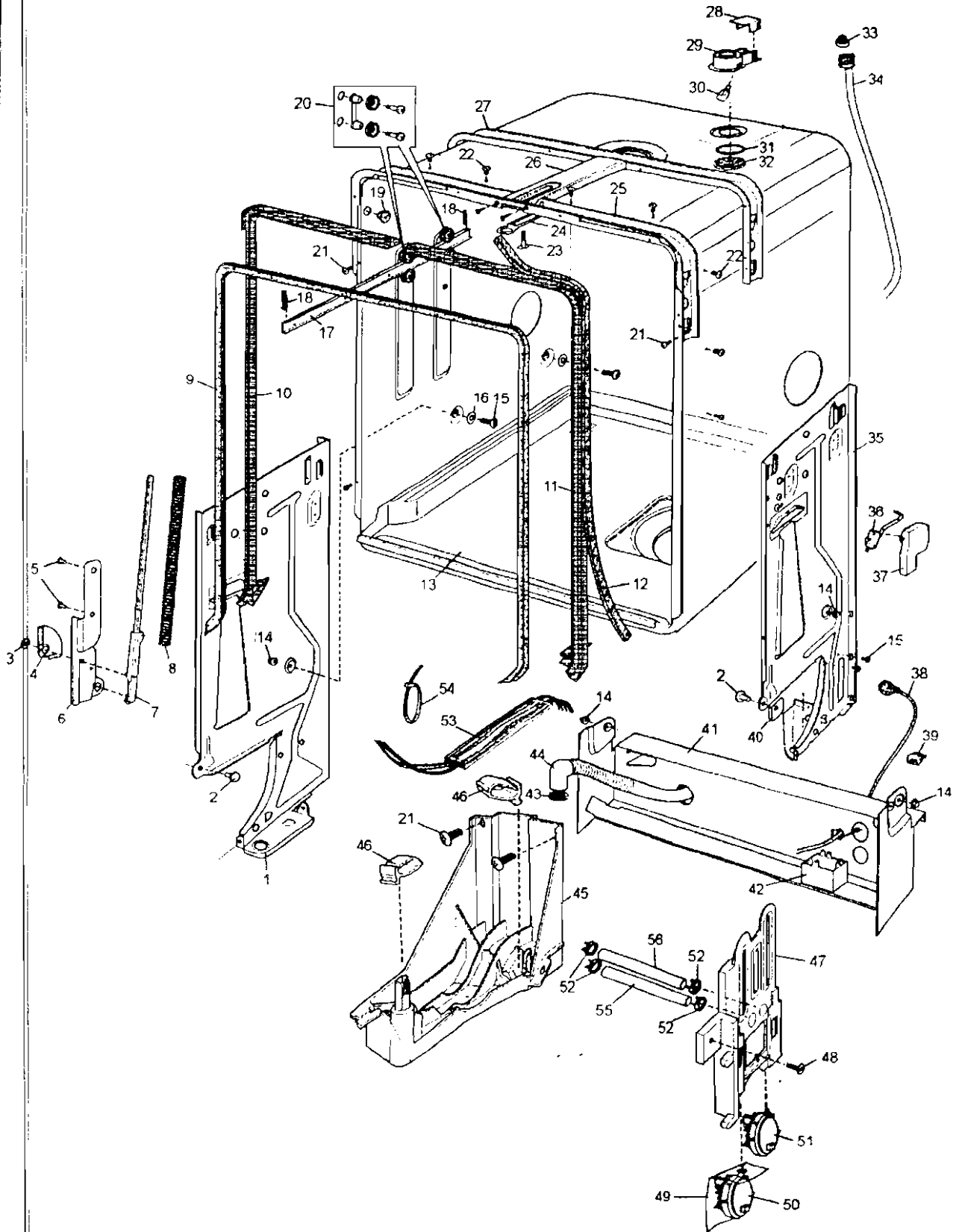


PARTS LIST - Wash Tub and Electrical Components



MODELS: SERIES 2000 WJ00

EX. VIEW DRAWING 4365  
LINER ASSEMBLY

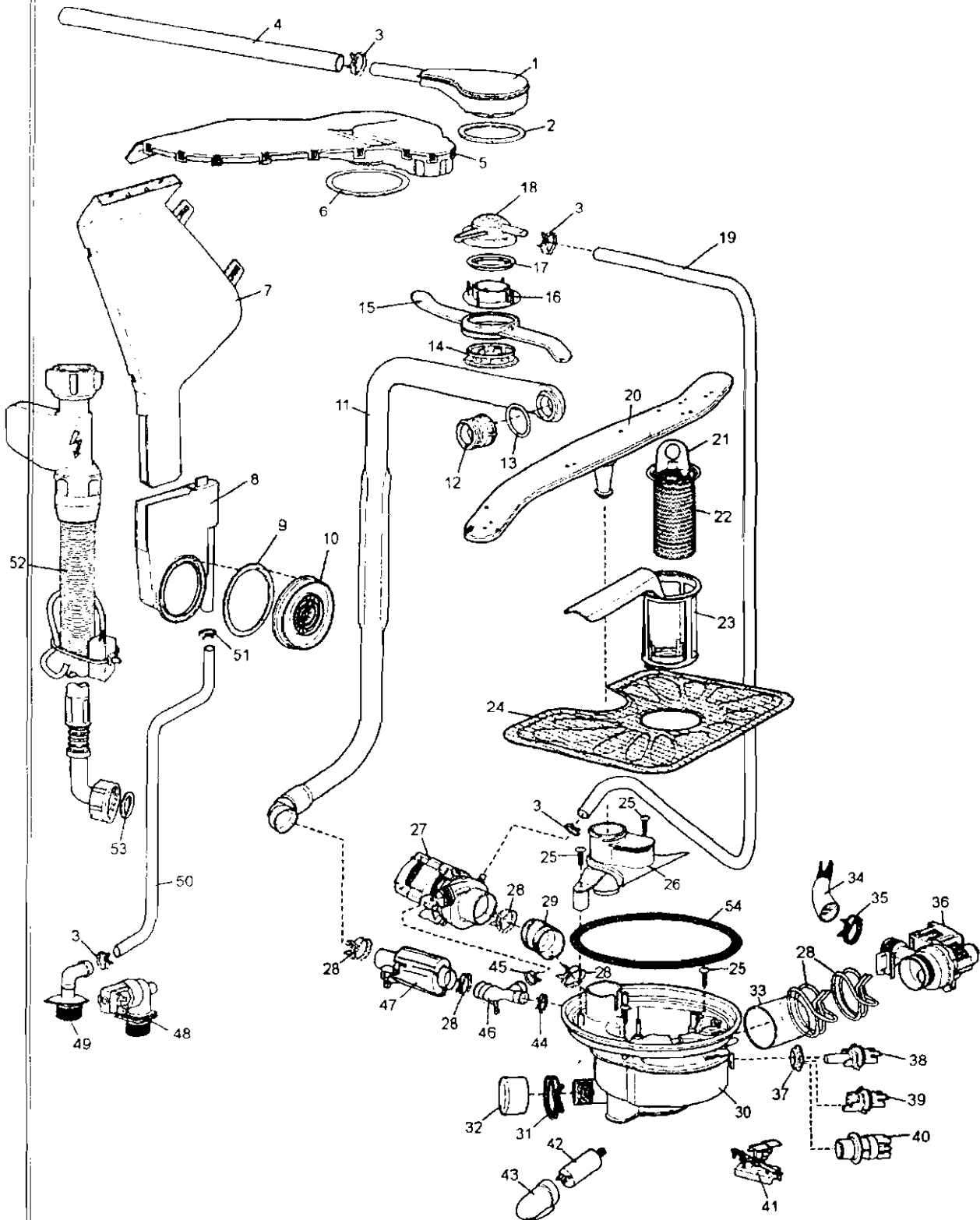


ITEM	PART N°	DESCRIPTION	Ex. 4365	QTY
1	0012 400 075	Support Frame Assy. Tapped, LH. (Inc. Item 2)		1
2	0061 400 004G	Pivot, Hinge		2
3	0125 400 027	Clip, Door Pivot		2
4	0581 400 014G	Pad, Guard, Door Hinge (LH.)		1
5	0150 400 105	Screw, M5 Taplite, Truss HD. 6* ZN		4
6	0045 477 014	Hinge Kit L/H		1
	0045 477 015	Hinge Kit R/H		1
7	0120 400 029	Support, Spring		2
8	0120 400 051	Spring, Hinge		2
9	0208 400 154	Seal, Door		1
10	0332 400 017G	Retainer, Door Seal, (LH.)		1
11	0332 400 018G	Retainer, Door Seal, (RH.)		1
12	0208 400 133G	Seal, Seal Retainer		2
13	N.P.N.	Liner Assembly, Insulated		0
14	0065 400 022G	Nut, M5 Hex. Locking		4
15	0150 400 062G	Screw, M5 x 12 mm, Truss HD. S. S.		4
16	0115 400 027G	Washer, Sealing		4
17	0011 400 006	Rail, Guide		2
18	C828074X	Stop, Rail End (Pale Grey)		4
19	0421 400 005	Cone, Door Guide		2
20	0012 400 032	Support Assy., Rail Roller		4
21	0150 400 061G	Screw, M4 x 10 mm, Pan HD.		40
22	0150 400 086	Screw, #7-19 Hi-LO FLNG HD		16
23	0150 400 109	Screw, M5 x 13 mm, PHI HD.		1
24	0029 400 017	Catch, Door (Moulded)		1
25	0048 401 003	Support, Channel Liner (Front)		1
26	0489 400 014	Brace, Catch		1
27	0048 401 001	Support, Channel Liner, Rear		1
28	N.P.N.	NOT USED IN THIS MODEL		0
29	N.P.N.	NOT USED IN THIS MODEL		0
30	N.P.N.	NOT USED IN THIS MODEL		0
31	N.P.N.	NOT USED IN THIS MODEL		0
32	N.P.N.	NOT USED IN THIS MODEL		0
33	8000 001 866	Washer, Strainer		1
	0115 400 013	Seal, Inlet Tail		1
34	>0571 400 031	Hose Assy., Inlet (Spares Replacement)		1
35	0012 400 072	Support Frame Assy. Tapped, RH. (Inc. Item 2)		1
36	N.P.N.	NOT USED IN THIS MODEL		0
37	N.P.N.	NOT USED IN THIS MODEL		0
38	0614 400 014	Cord, Service		1
39	0005 400 057	Clamp, Service Cord		1
40	0581 400 015G	Pad, Guard, Door Hinge (RH.)		1
41	0038 400 682	Panel, Support, Rear		1
42	N.P.N.	NOT USED IN THIS MODEL		0
43	8905115	Clamp, Drain Hose		1
44	*0571 400 166	Hose Assy., Drain		1
45	0012 400 050	Support, Motor, Pump (Recirc)		1
46	0253 400 025	Mounting, Motor		2
47	0012 400 064	Support, Pressure Switches		1
48	0150 200 042	Screw, 7-19 x 1/2" HILO Pan PH.		1
49	0349 400 020	Shield, Pressure Switch (P1)		1
50	0534 400 099	Switch, Pressure P1 Level		1
51	0534 400 098	Switch, Pressure, Safety		1
52	0005 400 066	Clamp, Hose		4
53	0561 400 283	Harness Assembly, One Piece		1
54	S2041	Tie, Cable		2
55	0055 400 051	Tube, Pressure Switch (P1)		1
56	0055 400 050	Tube, Pressure Switch (Safety)		1

NOTE:- >Separate Parts for Inlet Hose or extensions if required.  
0571 400 037 Hose, Inlet (Per Metre) 0613 400 003 Tail, Elbow  
0613 400 004 Tail, Straight 0065 201 003 Nut 104100 Clamp  
\*Parts required for extending Drain Hose.  
0571 400 142 Hose, Drain 0182 200 002 Connector  
0005 001 019 Clamp (x2)  
For extensions under two metres, use hose, Part N° ES5323 (per metre) and  
connector, Part N° ES5149 x 2. Total drain hose length must not exceed 4 metres.

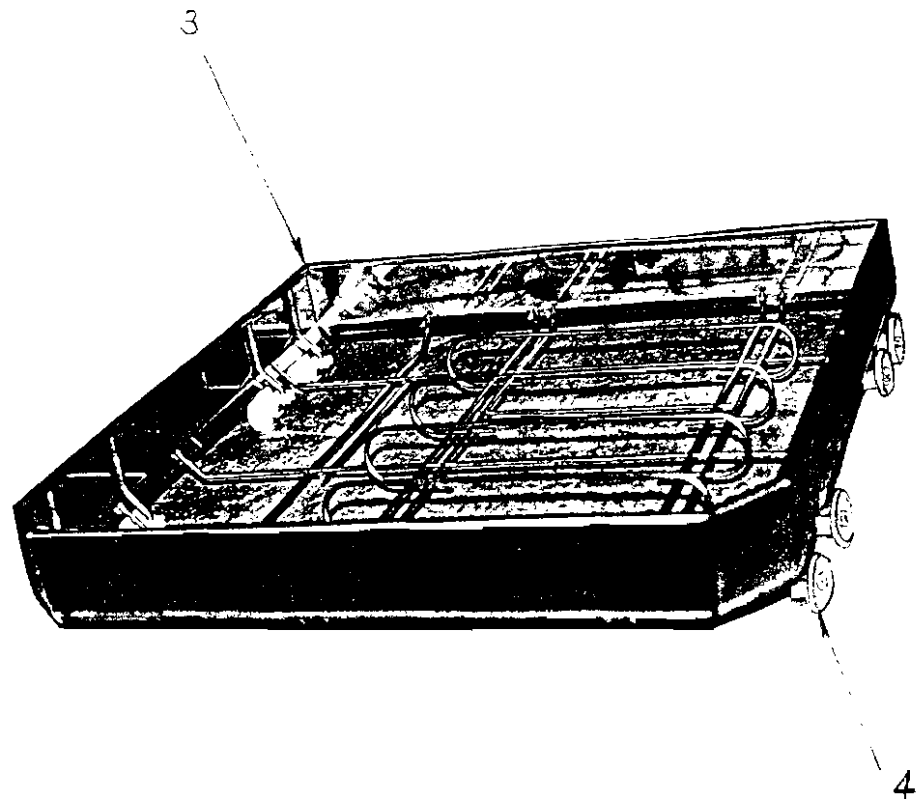
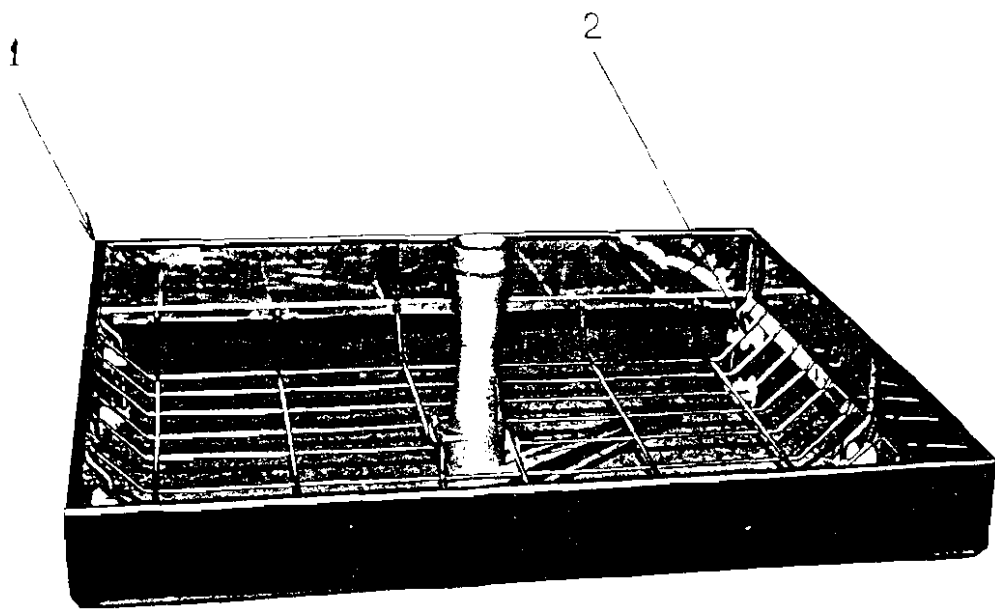
MODELS: SERIES 2000 W300

### EX. VIEW DRAWING 4310 SUMP, PUMP and WATER SYSTEM

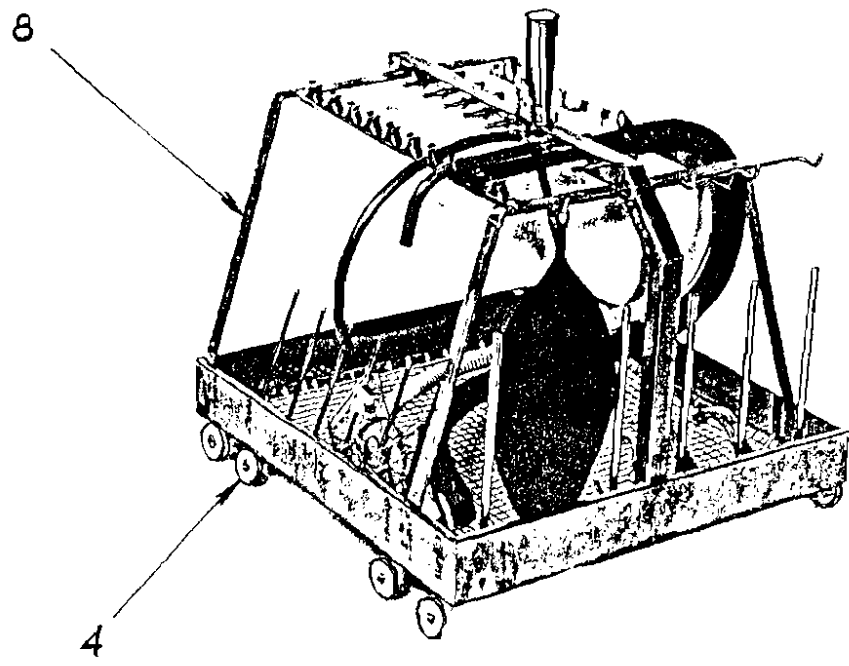
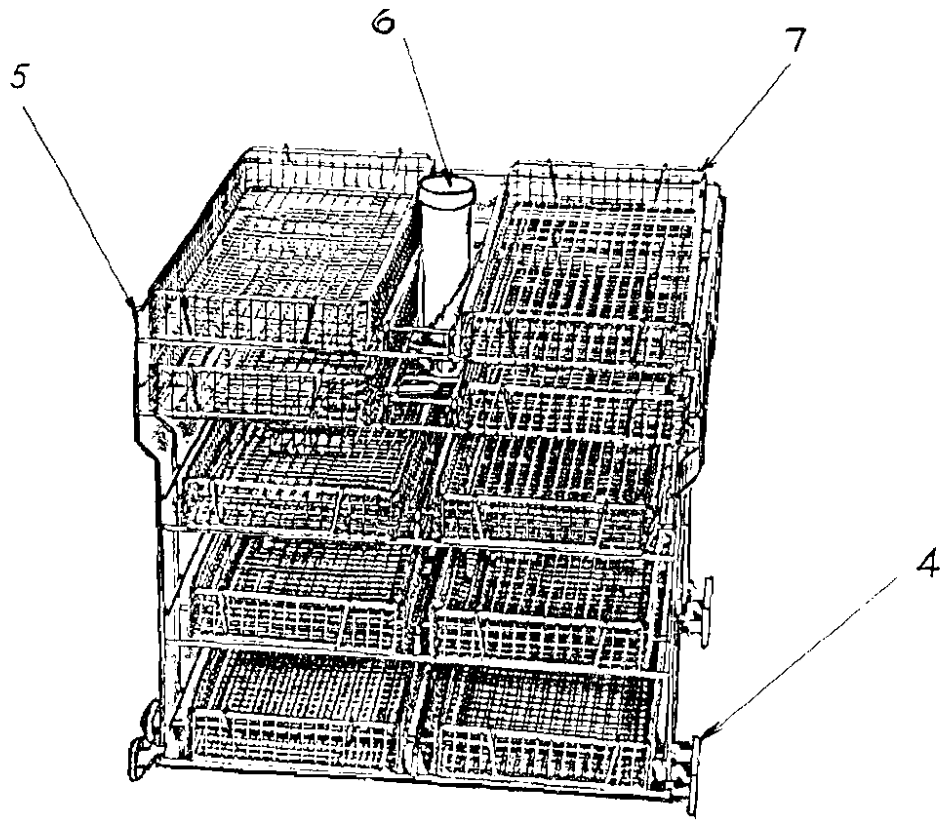


ITEM	PART N°	DESCRIPTION	Ex. 4310	QTY
1	0130 400 004	Housing, Active Dry		1
2	Refer Item 1	Gasket, Housing, Active Dry		1
3	8905138	Clamp, Hose (15.5mm)		4
4	0571 400 138	Hose, Active Dry Housing to Syphon Break		1
5	N.P.N.	NOT USED IN THIS MODEL		0
6	N.P.N.	NOT USED IN THIS MODEL		0
7	N.P.N.	NOT USED IN THIS MODEL		0
8	0218 400 010	Inlet, Water (Syphon Break)		1
9	0188 400 003	Gasket, Air Vent		1
10	0047 400 006	Vent, Air		1
11	0055 400 046	Tube, Heater to Upper Spray Arm		1
12	0065 400 049	Nut, Feed Tube		1
13	0208 400 145	Seal, "O" Ring		1
14	N.P.N.	NOT USED IN THIS MODEL		0
15	N.P.N.	NOT USED IN THIS MODEL		0
16	0065 400 046	Nutlock, Top Spray		1
17	0208 400 148	Seal, Adaptor Top		1
18	0151 400 010	Adaptor, Top Spray		1
19	0571 400 154	Hose, Top Spray to Pump		1
20	0598 400 017	Arm, Spray (Lower)		1
21	0144 400 038	Filter, Coarse		1
22	0144 400 039	Filter, Fine S/Steel		1
23	0144 400 040	Filter, Micro Mesh (Inc. Items 21 and 22)		1
24	0144 400 037	Filter, Primary, S/Steel		1
25	0150 400 117	Screw, 4 x 16TT Inox		4
26	0012 400 051	Support, Spray Arm		1
27	0214 400 029	Motor, Pump, Recirc.		1
28	0005 400 069	Clamp, Tube		6
29	0571 400 150	Hose, Recirc. Pump		1
30	0594 400 014	Housing, Sump		1
31	0005 400 070	Clamp, Hose (28mm)		1
32	0049 400 017	Plug, Water Softener		1
33	0571 400 153	Hose, Sump to Drain Pump		1
34	0571 400 166	Hose, Drain		1
35	8905115	Clamp, Hose 37.2mm		1
36	0214 400 030	Motor, Pump, Drain		1
37	0208 400 149	Seal, Thermostat		1
38	N.P.N.	NOT USED IN THIS MODEL		0
39	N.P.N.	NOT USED IN THIS MODEL		0
40	0541 400 028	Thermostat, Sump (Dual)(47/64°C)		1
41	N.P.N.	NOT USED IN THIS MODEL		0
42	0588 400 018	Capacitor, 3µF		1
43	0007 400 026	Cap, Capacitor		1
44	0005 400 063	Clamp, Hose 32mm		1
45	0005 400 060	Clamp, Hose 38mm		1
46	0571 400 152	Hose, "Y", Pump to Sump		1
47	0122 400 012	Element, In-Line		1
48	8905146	Valve, Inlet		1
49	N.P.N.	NOT USED IN THIS MODEL		0
50	0571 400 167	Hose, Syphon Break		1
51	0005 400 059	Clamp, Hose 17.7 Dia.		1
52	N.P.N.	NOT USED IN THIS MODEL		0
53	N.P.N.	NOT USED IN THIS MODEL		0
54	0208 400 147	Seal, Sump		1

PARTS LIST - Baskets for Utensils

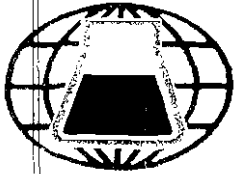


PARTS LIST - Baskets for Instruments









Whiteley Industries Pty. Ltd.

1921 000 2000

1921 000 2000

TECHNICAL BULLETIN  
MEDICAL PRODUCTS DIVISION

# SONEX

## HOSPITAL AND LABORATORY EQUIPMENT DETERGENT

SONEX is a highly active liquid detergent free of colour and odour. It is specifically designed for manual and machine cleaning of anaesthetic equipment, instruments, plastic and glass utensils in hospitals, pathology and research laboratories.

SONEX is moderately alkaline, non flammable and completely safe for use when used in accordance with the directions. It is non corrosive at use dilution.

In formulating SONEX particular care was taken to ensure rapid and complete rinsibility so that cleaned articles are free of detergent residues. This is particularly important whenever research is being conducted and articles such as micro titre dishes must be completely detergent free after final rinsing. It is equally important that all medical instruments be completely free of detergent residues.

### DIRECTIONS FOR USE

<b>MANUAL WASHING</b>	Lightly soiled articles . . . . .	5 ml per litre
	Medium soiled articles . . . . .	10 ml per litre
	Heavily contaminated articles . . . . .	15 ml per litre

The cleaning action will be accelerated if the solution can be heated.

**Note:** Gloves should always be worn during all manual cleaning procedures.

<b>MACHINE WASHING</b>	Lightly soiled articles . . . . .	2.0 ml per litre
	Medium soiled articles . . . . .	4.0 ml per litre
	Heavily contaminated articles . . . . .	6.0 ml per litre

Where machines have automatic dispensing systems manufacturer's instructions should be followed.

### CHEMICAL COMPOSITION AND PROPERTIES

Surfactant system . . . . .	Anionic
Colour . . . . .	Colourless
Odour . . . . .	Odourless
pH (concentrate) . . . . .	12.5 - 12.8
pH (0.5% dilution) . . . . .	9.3 - 9.6
Foam properties . . . . .	Controlled low foam
Solubility . . . . .	Completely soluble in water
Abrasives . . . . .	None
Flash point . . . . .	None
Specific Gravity . . . . .	1.060
Non Volatiles . . . . .	12.9% M/V
Free Alkalinity . . . . .	1.5% KOH
Soaps and Amines . . . . .	None
Toxicity . . . . .	Mildly toxic (alkali only)
Shelf Life . . . . .	2 years

PO Box 1076 NORTH SYDNEY 2059 (02) 99299155 FAX (02) 99299077

# MATERIAL SAFETY DATA SHEET

## STATEMENT OF HAZARDOUS NATURE:

*Hazardous according to criteria of Worksafe Australia.*

R34 Causes burns

R41 Risk of serious damage to eyes.

S37/39 Wear suitable gloves and eye/face protection

S24/25 Avoid contact with skin and eyes

## COMPANY DETAILS

**WHITELEY INDUSTRIES PTY. LTD. ( A.C.N. 000 906 678 )**

Postal Address: P O Box 1076 North Sydney NSW 2059

Telephone Number: (02) 9929 9155 Facsimile: (02) 9929 9077

Emergency Telephone Number: Poisons Information Centre (National) 13 11 26

Product Name: <b>SONEX</b>	UN Number	1719	
Intended Use: Instrument Detergent	Dangerous Goods Class	8	
Product Type: Alkaline detergent	Subsidiary Risk	Nil	
Date Issued: 31 <sup>st</sup> January, 2000.	Issue 5	Hazchem Code	2R
		Poisons Schedule	5

## PHYSICAL PROPERTIES

Specific Gravity ( H <sub>2</sub> O = 1): 1.060	Solubility in Water	Soluble
Appearance Odour: Colourless liquid with no perceptible odour		
Flash Point: Nil	Method:	Nil
Flammability Limits: Lower: Nil Upper: Nil		
Other: pH > 13		

## INGREDIENTS

<i>Chemical Family</i>	<i>Hazardous Ingredients</i>	<i>CAS No.</i>	<i>Proportion</i>
1 Alkali	Potassium Hydroxide	1310-58-3	2%
2 Surfactant	Sodium naphthalenesulfonate	68442-09-1	<10%
3 Nil	Ingredients determined not to be hazardous		to 100%

## HEALTH HAZARD INFORMATION

### EFFECTS

*Eye (Contact):* Will cause burning pain and reddening of the eyes

*Skin (Contact):* A mild to moderate irritant. Prolonged or repeated contact may lead to dermatitis.

*Inhalation(Breathing):* Not volatile at normal use temperatures

*Ingestion (Swallowing):* Will cause abdominal pain and nausea.

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Alterations are not permitted without Company approval

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**DISCLAIMER**

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The user should consult the company prior to use of this MSDS to ensure this MSDS is the latest available for the product described. The information on this MSDS was based on the best information available to the company at the date listed. The user assumes full responsibility for proper use of this MSDS.

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**HEALTH HAZARD INFORMATION**

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**FIRST AID**

*Eye (Contact):* Hold eyelids open and immediately irrigate with copious quantities of water for 15 minutes. Seek urgent medical assistance.

*Skin (Contact):* Remove contaminated clothing. Wash thoroughly with soap and water. Obtain medical attention if irritation persists.

*Inhalation(Breathing):* Not volatile at room temperature.

*Ingestion (Swallowing):* DO NOT induce vomiting. Give a glass of water. Seek immediate medical attention.

*Advice to Doctor:* Treat symptomatically as for an alkaline detergent.

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**PRECAUTIONS FOR USE**

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*Exposure Limits:* Acute toxic data . Potassium Hydroxide (100%), Oral LD<sub>50</sub>(rat)= 365 mg/Kg

Note: Effects are reduced upon dilution.

*Ventilation:* Not normally required.

*Protective Equipment*

*Gloves:* Rubber or PVC

*Eye Protection:* Eye protection should be worn.

*Clothing & Other Protective Equipment:* As required to prevent repeated eye or skin contact.

*Flammability:* Nil

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**SAFE HANDLING INFORMATION**

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*Storage & Transport Precautions:* Store in a cool place.

*Spills & Disposal:* Wash to drain with copious volume of water. Caution: Slippery when wet.

*Fire-Explosion Hazard:*

*Special Fire Fighting Procedures:* Nil

*Hazardous Decomposition Products:* Unknown.

**WARNING:** Corrosive

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**Prepared By: G. PROBERT**

**Position: FACTORY CHEMIST**

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