

Champion

The Dishwashing Machine Specialists

Technical Manual

Undercounter
Dishwasher

Model TUW-15

Machine Serial No.

August, 1992

Manual P/N 111482

P.O. Box 4149

Winston-Salem, North Carolina 27115-4149

Champion Industries, Inc.

910/661 -1556

Fax: 910/661-1660

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EFFECTIVE AT SERIAL NUMBER 1744

0508129



LIMITED WARRANTY

Champion Industries Inc. (herein referred to as Champion), P.O. Box 4149, Winston-Salem, North Carolina 27115, warrants machines, and parts, as set out below.

Warranty of Machines: Champion warrants all new machines of its manufacture bearing the name "Champion" and installed within the United States to be free from defects in material and workmanship for a period of one (1) year after the date of installation or fifteen (15) months after the date of shipment by Champion, whichever occurs first. [See below for special provisions relating to glasswashers.] The warranty registration card must be returned to Champion within ten (10) days after installation. If warranty card is not returned to Champion within such period, the warranty will expire after one year from the date of shipment.

Champion will not assume any responsibility for extra costs for installation in any area where there are jurisdictional problems with local trades or unions.

If a defect in workmanship or material is found to exist within the warranty period. Champion, at its election, will either repair or replace the defective machine or accept return of the machine for full credit; provided, however, as to glasswashers. Champion's obligation with respect to labor associated with any repairs shall end (a) 120 days after shipment, or (b) 90 days after installation, whichever occurs first. In the event that Champion elects to repair, the labor and work to be performed in connection with the warranty shall be done during regular working hours by a Champion authorized service technician. Defective parts become the property of Champion. Use of replacement parts not authorized by Champion will relieve Champion of all further liability in connection with its warranty. In no event will Champion's warranty obligation exceed Champion's charge for the machine. The following are not covered by Champion's warranty:

- a. Lighting of gas pilots or burners.
- b. Cleaning of gas lines.
- c. Replacement of fuses or resetting of overload breakers.
- d. Adjustment of thermostats.
- e. Adjustment of clutches.
- f. Opening or closing of utility supply valves or switching of electrical supply current.
- g. Cleaning of valves, strainers, screens, nozzles, or spray pipes.
- h. Performance of regular maintenance and cleaning as outlined in operator's guide.
- i. Damages resulting from water conditions, accidents, alterations, improper use, abuse, tampering, improper installation, or failure to follow maintenance and operation procedures.
- j. Wear on Pulper cutter blocks, pulse vanes, and auger brush.

Examples of the defects not covered by warranty include, but are not limited to: (1) Damage to the exterior or interior finish as a result of the above, (2) Use with utility service other than that designated on the rating plate, (3) Improper connection to utility service, (4) Inadequate or excessive water pressure, (5) Corrosion from chemicals dispensed in excess of recommended concentrations, (6) Failure of electrical components due to connection of chemical dispensing equipment installed by others, (7) Leaks or damage resulting from such leaks caused by the installer, including those at machine table connections or by connection of chemical dispensing equipment installed by others, (8) Failure to comply with local building codes, (9) Damage caused by labor dispute.

Warranty of Parts: Champion warrants all new machine parts produced or authorized by Champion to be free from defects in material and workmanship for a period of 90 days from date of invoice. If any defect in material and workmanship is found to exist within the warranty period Champion will replace the defective part without charge.

DISCLAIMER OF WARRANTIES AND LIMITATIONS OF LIABILITY. CHAMPION'S WARRANTY IS ONLY TO THE EXTENT REFLECTED ABOVE. CHAMPION MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED, TO ANY WARRANTY OF MERCHANTABILITY, OR FITNESS OF PURPOSE. CHAMPION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THE REMEDIES SET OUT ABOVE ARE THE EXCLUSIVE REMEDIES FOR ANY DEFECTS FOUND TO EXIST IN CHAMPION DISHWASHING MACHINES AND CHAMPION PARTS, AND ALL OTHER REMEDIES ARE EXCLUDED, INCLUDING ANY LIABILITY FOR INCIDENTALS OR CONSEQUENTIAL DAMAGES.

Champion does not authorize any other person, including persons who deal in Champion dishwashing machines to change this warranty or create any other obligation in connection with Champion Dishwashing Machines.

SPECIFICATIONS

Quick Facts

Capacity

Racks per hr. 21

Motor horsepower

Wash 1/2
(115/60/1, 6-8 amps)

Water consumption

Per hr. (max. use) 37 US gal;
147 liters;
31.5 imp. gal
Per rack 1.8 gal;
7 liters;
1.5 imp. gal

Chemical Injectors

Detergent 45cc/min (std.)
Rinse 40cc/min (std.)
(optional for Little Caesar's)

Temperatures °F/C

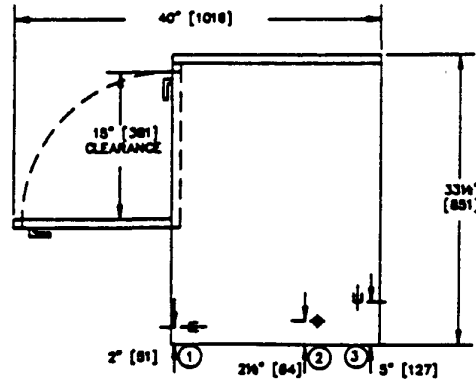
Wash (minimum) 150/66
Rinse (minimum) 180/82.2

Heating (@ 240V)

Tank heat, electric (kw) 1.2
Booster, electric (kw) 6

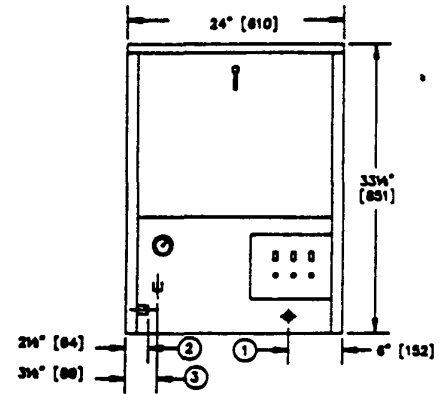
Time cycle in seconds (140 total)

Wash 80
Rinse 23
Drain/fill 37



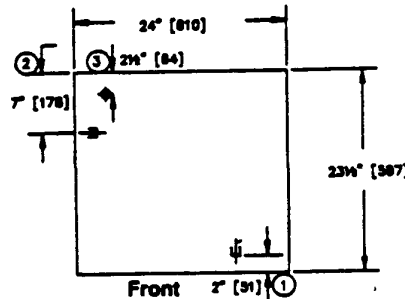
Side View

Dimensions shown in inches and millimeters



Front View

Plan View



Front

Utilities	
1	Electrical: 115-208/240/60/1; 3 wire 38 amp draw fused at 50 amp Flexible cord with plug required
2	Water connection: 1/2" NPT female Flow pressure: 25-95 psi (172.5-656 kPa) Supply water temperature 140°F/60°C
3	Drain connection: 1/2" flex hose. Max drain flow: 8 gpm (30.31 Lpm/6.7 imp. gpm)

Warning:

Plumbing and electrical connections should be made by a qualified workman who will observe all the applicable plumbing, sanitary and safety codes.

Standard Accessories

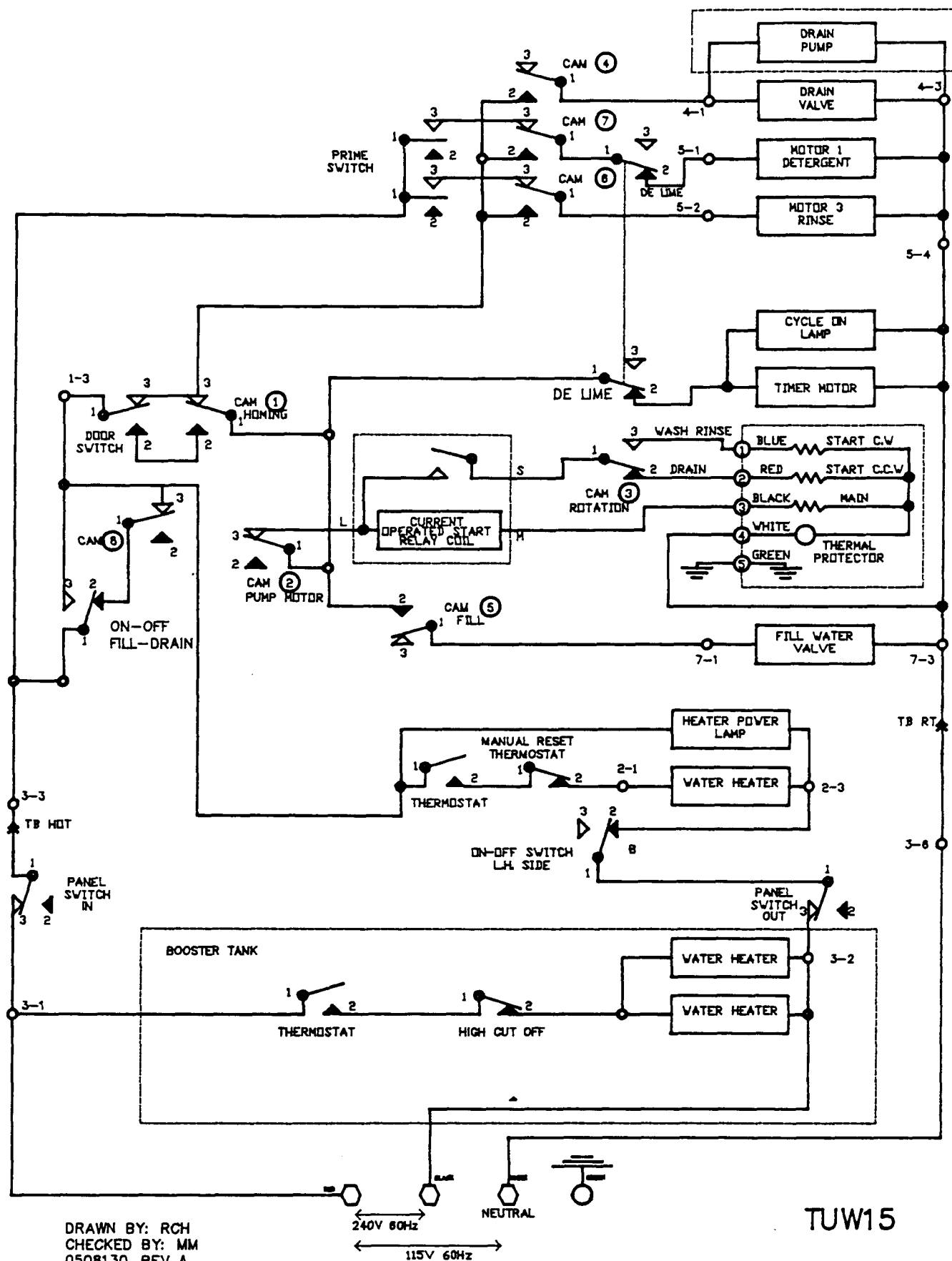
One plate rack 20" x 20" (508 x 508)
One combination rack 20" x 20" (508 x 508)

Optional Accessories

17T - 17" stand with front access door
6T - 6" stand
CST - Combination sink/table

	Uncrated	Crated
Height	33-1/2" (851)	40-1/2" (1029)
Width	24" (610)	25" (635)
Depth	23-1/2" (597)	25-1/2" (647)
Ship Wt. lbs/kg	215/97	235/106

SCHEMATIC



DRAWN BY: RCH
 CHECKED BY: MM
 0508130 REV A
 10 DEC 90
 EFFECTIVE AT SERIAL NO. 1744

TUW15

WARNING WARNING WARNING

FAILURE TO FOLLOW PROPER INSTALLATION INSTRUCTIONS MAY VOID WARRANTY

PLUMBING CONNECTIONS MUST BE MADE BEFORE POWER IS CONNECTED TO THE MACHINE. DAMAGE TO THE BOOSTER HEATER ELEMENTS **WILL** RESULT OTHERWISE.

PLUMBING

Water Supply: Connect the machine to a 1/2 inch hot water line.

The minimum incoming water temperature and pressure is 140°F at 25 PSI.

The maximum incoming water temperature and pressure is 160°F at 90 PSI.

Drain: Connect to a 1/2 inch tailpiece in accordance with local plumbing codes.

THIS MACHINE SHOULD BE CONNECTED TO A 115/208 OR 120/240 VOLT A.C. 4 WIRE, SINGLE PHASE SERVICE FUSED AT 50 AMPS.

FOLLOW THESE STEPS:

1. CONNECT NEUTRAL AND L1 WIRES, LEAVING L2 WIRE TEMPORARILY DISCONNECTED.
2.
 - a) PUSH "ON-OFF" SWITCH TO "ON-FILL" POSITION.
 - b) CLOSE DOOR AND TURN HANDLE.
 - c) PUSH "DE-LIME" SWITCH TO "DE-LIME" POSITION FOR APPROXIMATELY 1 MINUTE. RETURN TO "OFF" POSITION.
 - d) ALLOW MACHINE TO COMPLETE FILL CYCLE.
3. CONNECT THE L2 WIRE.

ELECTRICAL CONNECTIONS SHOULD BE MADE BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH LOCAL ELECTRICAL CODES.

INSTALLATION PLUMBING

PREPARATION

The warewasher must be installed on a level, rigid surface. Allowance is to be made for water and drain lines to the unit. When situated, the machine must be completely sealed to the floor using a good grade of silicone sealant.

Area allowance Width 24" (610 mm)

Height 33-1/2" (851 mm)

Depth 23-1/2" (597 mm)

Remove the packing and dishware racks from the interior of the warewasher.

WATER

Install a shut-off valve between the supply and the dishwasher in an accessible location. Connect the warewasher to the hot water supply. The incoming water temperature is

140° F (60° C) minimum and

160° F (71.1° C) maximum. Flow rate is 3.3 Imp. gal., 4 US gal. (13.6 L) per minute.

Flow pressure:

Minimum 25 psi (172.5 kPa)

Maximum 95 psi (656 kPa)

DRAIN PUMP


Connect 1/2" (12.7 mm) flexhose to 1-1/2" (38 mm) drain piping as per local plumbing code. Drain should not be in excess of 6 feet (1.56 m) above floor level or at a distance more than 40 feet (12.25 m) away for a remote location.

ELECTRICAL

Have the heater switch and start switch in "OFF" position. The 500UT needs a six-foot (1.8 m) power cord with a "U" ground parallel blade plug. Provide a 115/208 or 115/240 V, 60 Hz, A.C. 4-wire, single phase service fused at 50 amps grounding receptacle in an accessible location within four feet of the warewasher. This should be installed by a qualified electrician in accordance with the local electrical code specifications.

OPERATION

OPERATING INSTRUCTIONS

1. Be sure screen assemblies are in place.
 2. Be sure there is detergent in the detergent container.
 3. With door latch open, turn cycle switch to "ON-FILL" Close door, allow machine to fill automatically.
 4. Pre-scrap all heavy soils from dishes before loading into machine.
 5. Load pre-scrapped dishware into machine.
 6. Close door and latch handle. Cycle will start.
 7. When cycle light goes out, cycle is complete.
 8. Open door, remove clean dishware.
-  **NOTE:** The door must be open for three (3) seconds for automatic cycle to reset before starting another cycle.
9. After initial start-up each day, all other cycles are automatic-just load, close door and place door handle in locked position to start cycle.

DRAINING THE MACHINE

1. Turn the "ON-OFF" switch to "OFF-DRAIN" position.
2. Close the door.
3. Allow machine to automatically drain (approximately 1-1/2 minutes).

DAILY CLEANING INSTRUCTIONS

1. Drain machine.
2. Remove scrap screens assembly and screen support assembly.
3. Empty and clean scrap screens and screen support assembly.



IMPORTANT: Do not operate the warewasher with the screen assemblies covered with food particles. Keep the screens clean. Pre-scraping or pre-flushing of dishware to remove heavy, loose particles of food is recommended. Failure to keep screens clean will result in poor wash results and could prevent proper draining during cycle.

4. Wipe down the interior of the unit with a mild soap solution, then wipe down with a clean cloth.
5. Replace the screen support and screens.
6. Close door, remove drip tray, clean and replace.
7. At the end of the work day, after completing steps 1 to 6, leave door partially open to allow the machine wash tank to air-dry overnight.



NOTE: THE WASH TANK SHOULD BE LEFT EMPTIED OVERNIGHT.

MAINTENANCE

DESCALING

Descaling the warewasher interior may be necessary in areas with hard water. General descaling can be done by spraying a descaling chemical directly onto the scaled surface until the scale is removed, then flushing with fresh water.

To descale the interior wash well proceed as follows:

1. With door latch open, set cycle switch to "ON-FILL" Close door and allow machine to fill automatically with fresh hot water to the normal water level.
2. Open door and add descaler to wash well in the amount recommended by your chemical supplier. (The usual amount is one to two cups.)
3. Close door to start a wash cycle and immediately set delime switch to "ON." Allow machine to run for approximately 5 minutes, depending on scale conditions.
4. Set delime switch to "OFF" and allow machine to finish cycle.
5. Run an additional standard wash cycle to ensure that the machine has been entirely rinsed and flushed of descaling chemical.



WARNING: Descaling chemicals are to be used with caution. Consult your chemical supplier for the proper use and handling instructions.

Scheduled preventive maintenance practices will greatly increase the efficiency of your machine. A machine that is well-maintained will not break down as frequently as one which receives only occasional care. A small investment of a few minutes each day will pay you dividends in the form of many trouble-free hours of faithful service.

The best maintenance you can give you dishwashing machine is to **keep it Clean**. By periodically cleaning and flushing the machine, you can add greatly to its life expectancy. The components of a machine that suffers from neglect will soon clog up and become inoperative.

SAFETY FEATURES

The warewasher will not operate with the door open. Close the door and turn the handle down until it reaches the stop position.

CHEMICALS

CHEMICAL INJECTORS



NOTE: IT IS RECOMMENDED THAT A NON CHLORINATED DETERGENT BE USED.

The built-in chemical injectors will provide accurate dispensing and reliable operation.

Flush the chemical lines once a week with fresh hot tap water to prevent chemical crystalization inside the chemical tubing and possible damage to chemical pumps.

Place the chemical tubes in a container of hot water and flush thoroughly by holding the prime switch •ON."

Visually inspect the hoses for possible leaks. If any hoses are in need of repair, contact your authorized service agent. Return the chemical feed lines to their proper chemical containers and reprime them with chemical.

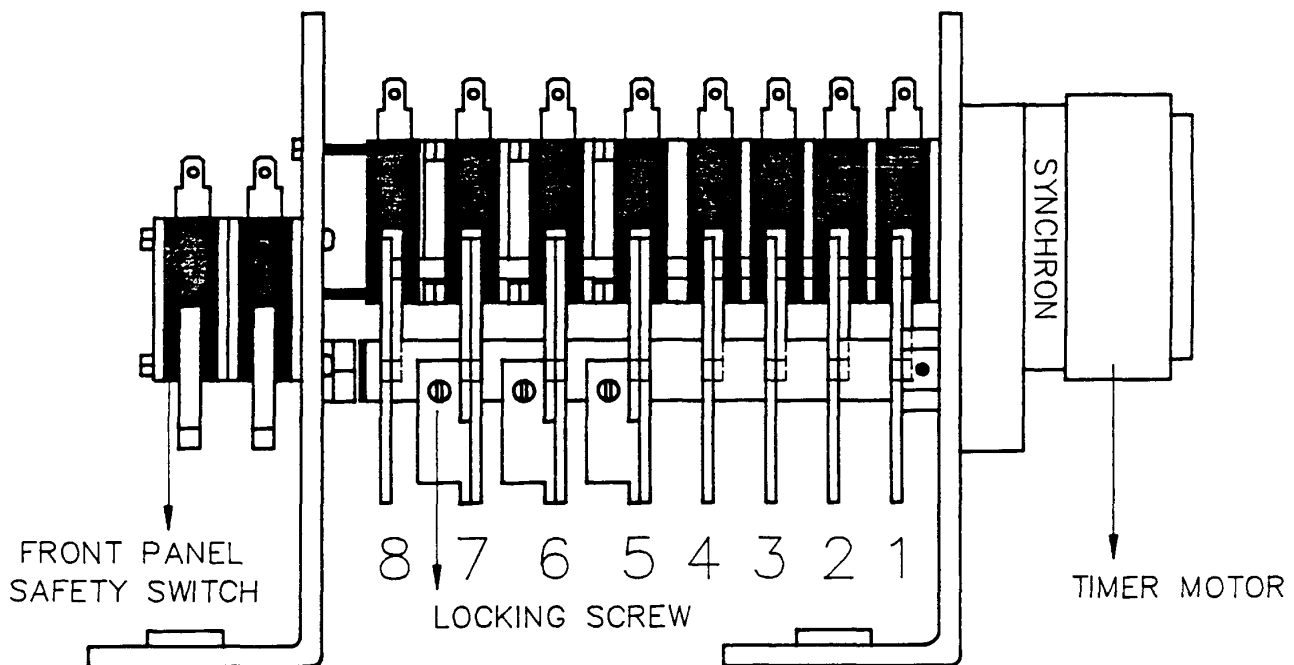
CHEMICAL SETTINGS

To adjust the chemical concentration, do the following:

1. Remove the drip tray.
2. Remove the top left-hand screw from the control box to allow the front panel to hinge forward.
3. Rotate the cam set by pushing the top of the cams slowly towards the back of the warewasher until the locking screws on the adjustable cams are accessible.
4. Loosen the lock screw for the chemical to be adjusted and increase or decrease the cam gap as desired. Increasing the gap in the cam increases the volume of chemical dispensed.
5. Tighten the locking screw sufficiently to ensure the cam will not move.
6. Replace the front panel mounting screw and the drip tray.
7. Operate the machine.

TIMING CHART

CAM	TIME IN SECS	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	
1	HOMING CAM																	
2	WASHPUMP FORWARD=WASH																	
3	WASHPUMP REVERSE=DRAIN																	
4	DRAIN VALVE DRAIN PUMP																	
5	FILL VALVE																	
6	RINSE PUMP																	
7	DETERGENT PUMP																	
8	AUTO-FILL DRAIN																	



TROUBLE-SHOOTING

1. WAREWASHER WILL NOT OPERATE

CAUSE

1. Power cord not plugged into power outlet.
2. No power.

3. Door not closed.

4. Door switch out of adjustment or defective.

5. Cycle not resetting.

REMEDY

1. Plug into outlet.
- 2a. Check main cycle switch is in "ON" position.
- b. Check electrical panel for blown fuse or tripped circuit breaker.
- c. Door opened between wash and rinse cycle. Close door and allow machine to finish cycle.
3. Ensure door is closed and door handle is turned down until it reaches stop position. Check door locking cam is properly positioned and secured to door handle shaft.
- 4a. Reposition or replace door switch or replace handle.
- b. Replace homing timer switch if defective.
- 5a. Unlatch door handle for full 3 seconds to allow cycle timer to reset.
- b. Replace homing cam switch.
- c. If set screw on timer cam shaft assembly is loose, tighten it.

2. WASH WELL UNDERFILLS

CAUSE

1. Fill cam #5 on timer control shaft out of adjustment.
2. Insufficient water pressure.
3. Defective fill solenoid coil.
4. Filter screen in the fill solenoid is plugged.
5. Defective water fill switch on timer.
6. Drain solenoid valve is leaking.

REMEDY

1. Reset fill cam to provide proper time to fill to screen level.
2. Check water line pressure. Ensure recommended flow rate and pressure are provided. (25 psi /172.5 kPa flow pressure)
3. Replace solenoid coil.
4. Clean the screen.
5. Replace the switch.
6. Clean debris from valve seat or replace drain solenoid valve.

TROUBLE-SHOOTING

3. WASH WELL OVERFILLS

CAUSE

1. Screen assemblies and pump screen covered with foreign matter preventing complete removal of wash water during drain cycle.
2. Fill cam #5 on timer not set properly to fill to top of screen assemblies.
3. Pump intake filter plugged with foreign matter.
4. Drain solenoid valve blocked or not opening.
5. Main drain piping blocked.
6. Drain pump not operation.

REMEDY

1. Keep screen assemblies and pump screen clean at all times.
2. Reset fill cam to provide proper adjustment of water level (just above scrap screens).
3. Clean out wash well and pump intake filter.
4. Clean obstruction or replace drain solenoid valve.
5. Have piping unplugged by plumber.
6. Repair or replace drain pump.

4. WASH WELL DOES NOT DRAIN PROPERLY

CAUSE

1. Cycle switch, or drain switch, or pump motor cam switch in control panel faulty.
2. Pump plugged with foreign matter.
3. Defective pump impeller.
4. Defective pump motor assembly.
5. Screen assemblies and pump screen covered with foreign matter preventing wash water return to pump.
6. Main drain plugged.
7. Drain pump not operating.
8. Drain solenoid will not open.
9. Drain solenoid will not close.
10. Drain hose blocked or kinked

REMEDY

1. Replace the defective switch.
2. Remove foreign matter from pump intake screen and/or pump assy
3. Replace the impeller.
4. Replace the pump motor assembly
5. Keep screen assemblies and pump screen clean at all times.
6. Clear obstruction from drain.
7. Repair or replace.
- 8a. Solenoid coil defective. Replace
- b. Solenoid power cord unplugged at rear of control box. Replug.
- c. Drain valve arm broken or disconnected. Replace drain valve assembly.
- 9a. Drain mechanism jammed with soils. Clean.
- b. See 8c.
10. Replace hose.

TROUBLE-SHOOTING

5. WASH WELL CONTINUALLY FILLS WHEN UNIT IS NOT OPERATING

CAUSE

1. Dirt under seat of solenoid fill valve or worn seat.
2. Fill timer cam switch defective.

REMEDY

1. Clear seat of obstruction; replace solenoid valve or install rebuild kit for solenoid valve if necessary.
2. Replace fill timer cam switch.

6. WASH WATER BELOW MINIMUM RECOMMENDED TEMPERATURE (140°F / 60°C)

CAUSE

1. Thermostat set too low.
2. Defective thermostat.
3. Defective wash tank heater.
4. Manual reset tripped on wash tank high limit thermostat.
5. Water supply temperature from the hot water tank too low. 140°F minimum required

REMEDY

1. Increase temperature by turning thermostat control clockwise. (Located inside control box.)
2. Replace thermostat.
3. Replace wash tank heater.
4. Push reset button on wash tank high limit thermostat (located between heater terminals).
- 5a. Hot water tank too small: replace with properly sized tank.
- b. Thermostat control on hot water tank set too low. Adjust to correct setting.
- c. Heater element in hot water tank defective.

7. CHEMICAL NOT FEEDING

CAUSE

1. No chemical in container.
2. Feed lines to and from chemical pump plugged.
3. Screen on feed line plugged.
4. Chemical feeder defective.
5. Defective chemical injector pump.
6. Chemical feeder system not plugged into rear of control box.
7. Tubing kinked or split.
8. Worn chemical pump rotor.
9. Element tube split or loose hose clamps or ties.

REMEDY

1. Replace with full container.
2. Clear obstruction. Flush lines with hot water.
3. Clean.
4. Repair or replace feeder.
5. Repair or replace chemical injector pump.
6. Plug in.
7. Unkink or replace tubing.
8. Replace chemical pump rotor.
9. Replace element tube on chemical pump.

TROUBLE-SHOOTING

8. DISHES DO NOT WASH PROPERLY

CAUSE

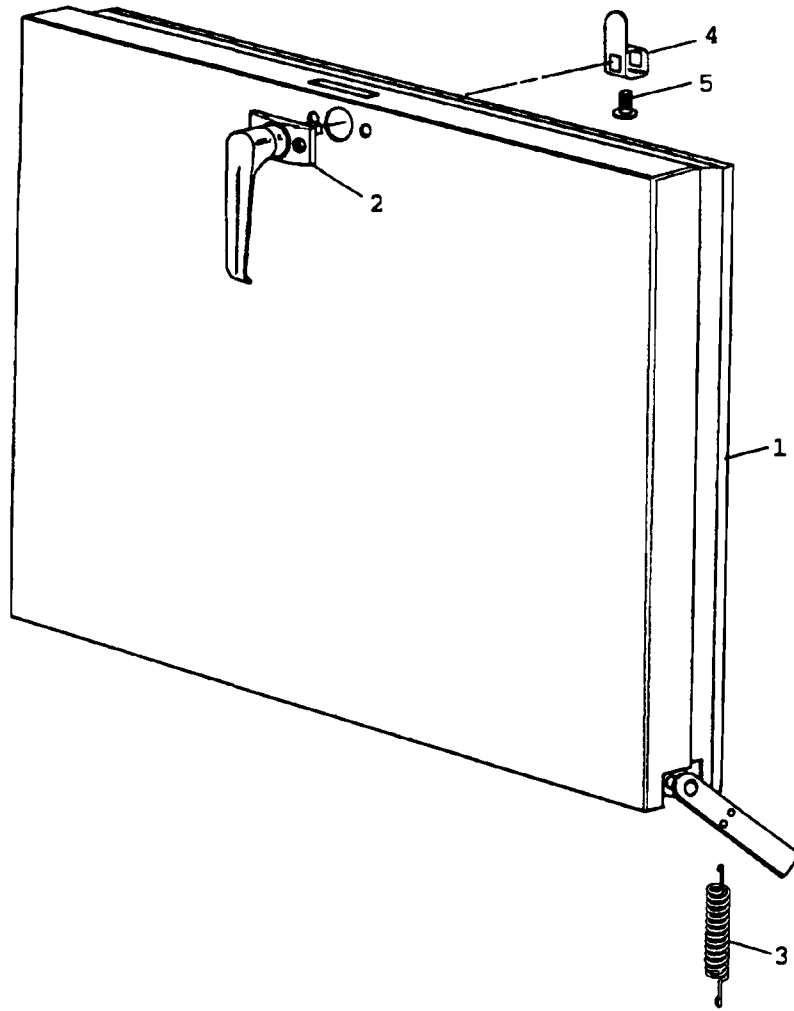
1. Improper concentrations or type of detergent being used in wash well.
NOTE: Commercial grade must be used.
2. Overloading of dishware in dishrack.
3. Insufficient water in wash well.
4. Wash arms not turning.
5. Pump not operating.
6. Defective or worn pump impeller.
7. Defective pump motor assembly.
8. Wash water temperature too low.
9. Worn spray arm support.
10. Pump intake or scrap screens blocked.
11. Lime scale build-up inside wash tank.
12. Rinse water below 180°F (82°C) minimum required temperature for proper sanitation.

REMEDY

1. Check with a qualified chemical sales representative for proper concentration and type of product to be used for local water conditions. Wash well holds 7 qts. (8 L) of water when at screen assembly level.
2. Space dishware in dishrack allowing room for water to circulate through dishware.
- 3a. Re-adjust fill cam to bring level just above screen assemblies.
- b. Check line flow rate and pressure.
4. Remove obstruction such as cutlery, or clean spray nozzles and spray arm support.
5. Ensure that snap-type electrical connector for pump is secure.
6. Replace the impeller.
7. Replace the pump motor assembly.
- 8a. Must not be less than 140° F (60° C) and not higher than 160° F (71.1° C) for best wash results.
- b. Check wash tank heater thermostat is properly set.
- c. Wash tank thermostat is defective. Replace.
- d. Booster not providing 180° F water. Check booster for proper temperature.
- e. If capacity insufficient, install the correct size hot water tank to provide 140°F/60°C constantly.
9. Loss of wash water pressure due to worn spray arm support. Replace spray arm support.
10. Clean pump intake screen and scrap screens.
11. Descale warewasher regularly using the proper descaling chemical. Contact your chemical supplier for the proper product and use directions.
- 12a. Heater elements defective. Replace elements (located on front of booster tank).
- b. Thermostat improperly set. Adjust.
- c. Thermostat tripped or defective. Reset by pushing button in on high limit switch, or replace if defective.
- d. High temperature cut-off thermostat defective. Replace.
- e. No power to booster. Check circuit breaker OR check for loose connection OR check for broken wire at terminal block.

REPLACEMENT PARTS

DOOR COMPLETE



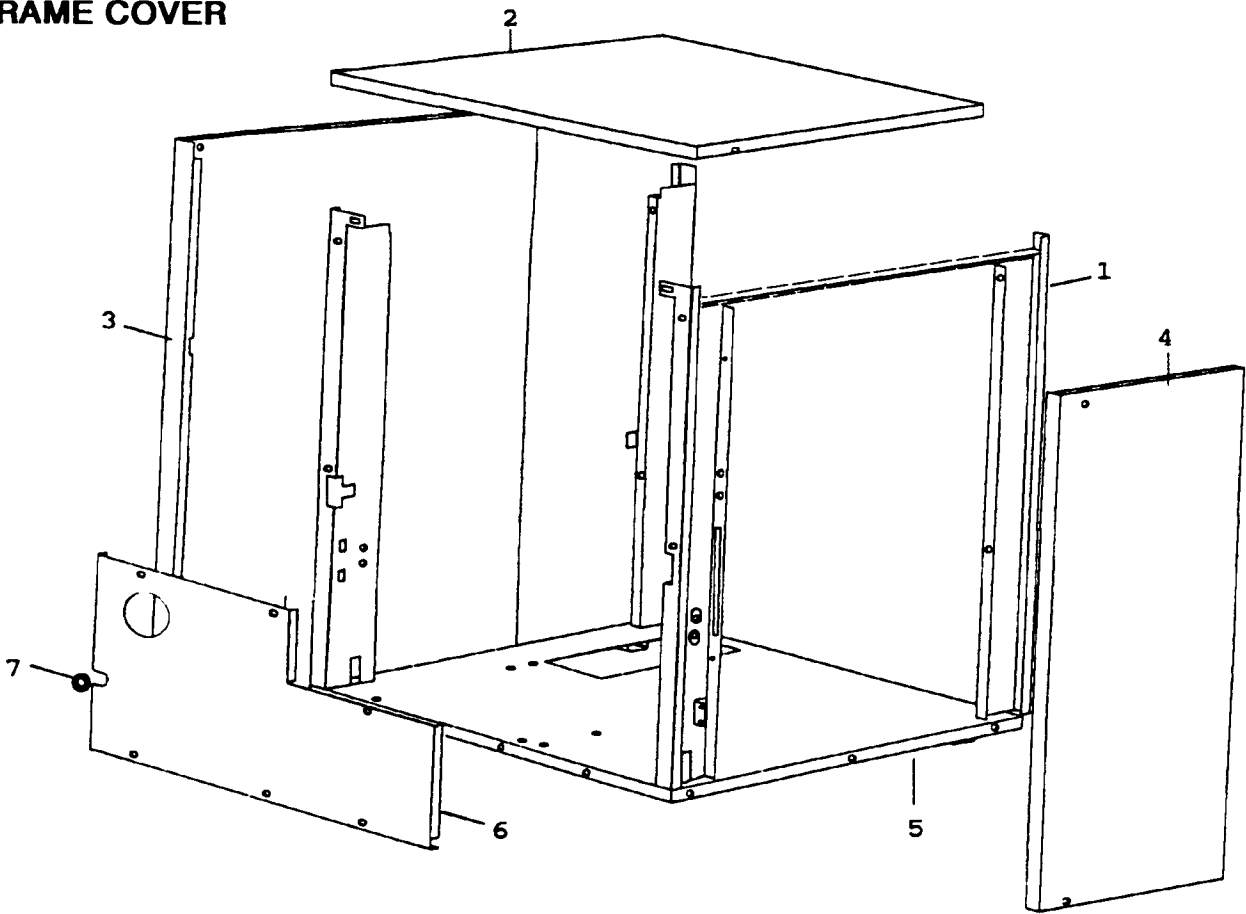
PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0700308	1	DOOR WELDED ASSY	1
0501922	2	DOOR HANDLE	1
0503715	3	DOOR EXTENSION SPRING	2
0307358	4	DOOR CAM	1
0501413	5	#10-32 x 3/8 RH SS MC SCREW	1

REPLACEMENT PARTS

FRAME COVER

PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0708104	1	FRAME ASSEMBLY WELDED	1
0300304	2	TOP PANEL	1
0307568	3	LH SIDE PANEL	1
0307569	4	RH SIDE PANEL	1
0308114	5	GLIDE FOOT	4
0307573	6	FRONT PANEL	1
0503716	7	GROMMET	1

FRAME COVER



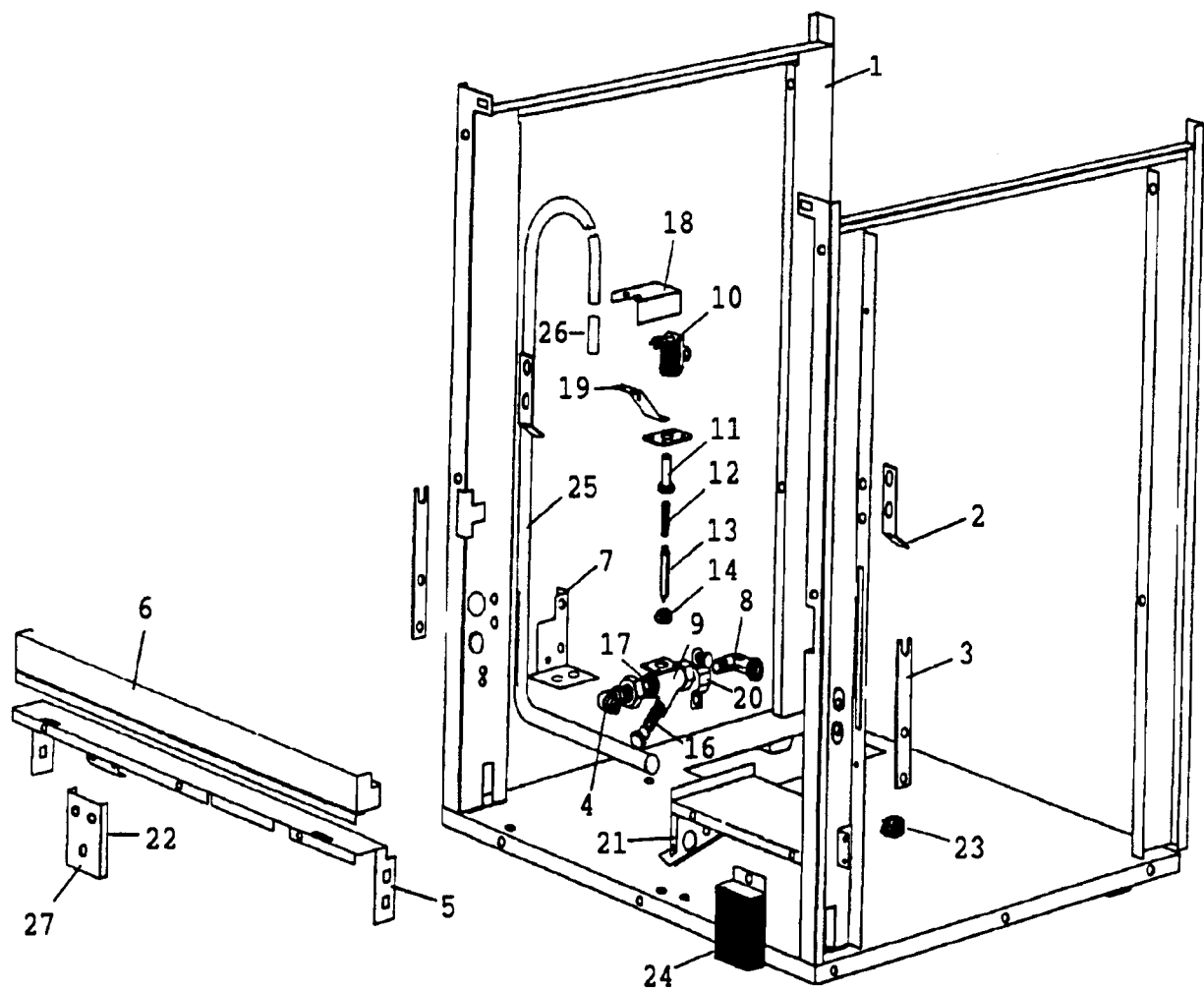
REPLACEMENT PARTS

FRAME

PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0708104	1	FRAME ASSEMBLY WELDED	1
0300067	2	DOOR STOP	2
0300069	3	HINGE BAR	2
0502618	4	3/8 MPT x 1/2 COUPLER	1
0705502	5	DRIP TRAY SUPPORT ASSEMBLY	1
0705479	6	DRIP TRAY ASSEMBLY	1
0300065	7	VALVE SUPPORT	1
0503713	8	REDUCING ELBOW 1/2 FPT x 3/8 MPT	1
0504952	9	115 V FILL SOLENOID VALVE, 3 GPM	1
0505235	10	COIL 155V, 60 HZ	1
0505229	11	SOLENOID GUIDE	1
0502811		FILL VALVE REPAIR KIT	1
	12	SPRING	1
	13	PLUNGER	1
0502809	14	DIAPHRAGM	1
0502803	16	SCREEN	1
0502808	17	FLOW WASHER, 3 GPM	1
0306208	18	CABLE CLAMP	1
0307373	19	CABLE CLAMP BRACKET	1
0300203	20	CLAMP	1
0708106	21	CONNECTION BOX	1
0305096	22	THERMOMETER ADJUST BRACKET	1
0503656	23	HEYCO CABLE CLAMP	1
0705544	24	TERMINAL BLOCK	1
107417	25	1/2 ID RUBBER HOSE	5-FT
0300164	26	WATER INLET TUBE	1
0503656	27	3/8 GROMMET	1
0300084	NS	NUT PLATE 8-32 TAP	1
0505506	NS	FILL VALVE HARNESS	1

REPLACEMENT PARTS

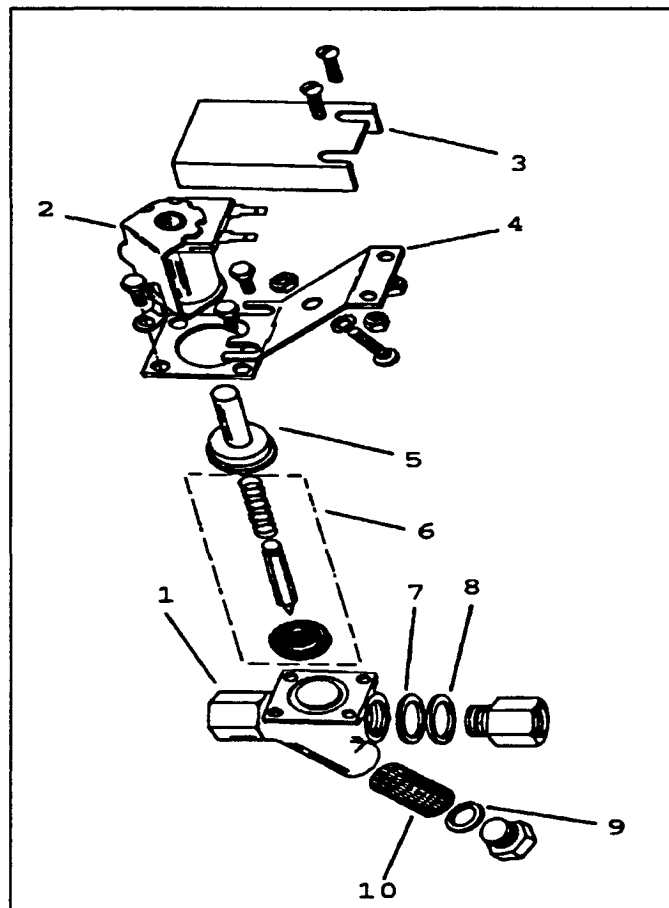
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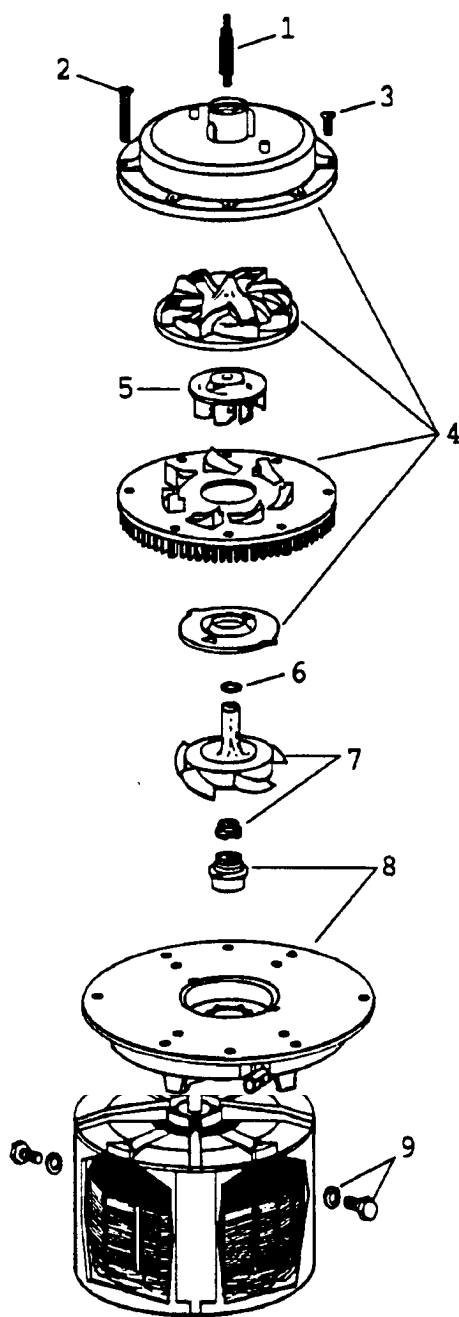
REPLACEMENT PARTS

INLET PLUMBING

PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0300203	NS	INLET PLUMBING CLAMP	1
0504952	1	230V 60HZ SOLENOID FILL VALVE	2
0505235	2	COIL - 230V 60HZ	1
0306208	3	CABLE CLAMP COVER	1
0700899	4	CABLE CLAMP ASSY	1
0505229	5	SOLENOID GUIDE	1
0502811	6	DIAPHRAGM KIT	1
0502808	7	FLOW WASHER	1
0502807	8	WASHER	1
0502804	9	WASHER	1
0502803	10	SCREEN	1



VERTICAL PUMP



REPLACEMENT PARTS

PART NO.	ITEM NO.	DESCRIPTION	QTY/PER
0504910		VERTICAL PUMP & MOTOR ASSEMBLY	1
0501659	1	SPRAY ARM PIVOT	1
0501431	2	#8-32 x 1-1/8 RH SS SCREW	4
0501425	3	#8-32 x 5/8 RH SS SCREW	4
0707619	4	PUMP SERVICE KIT	1
0502704	5	IMPELLER	1
0502703	6	•O" RING SEAL	1
0502744	7	PROPELLER/ROTATING SEAL	1
0502705	8	SEAL/MOUNTING PLATE ASSY	1
0501457	9	10-32 x 7/8 HEX HD BOLT	4

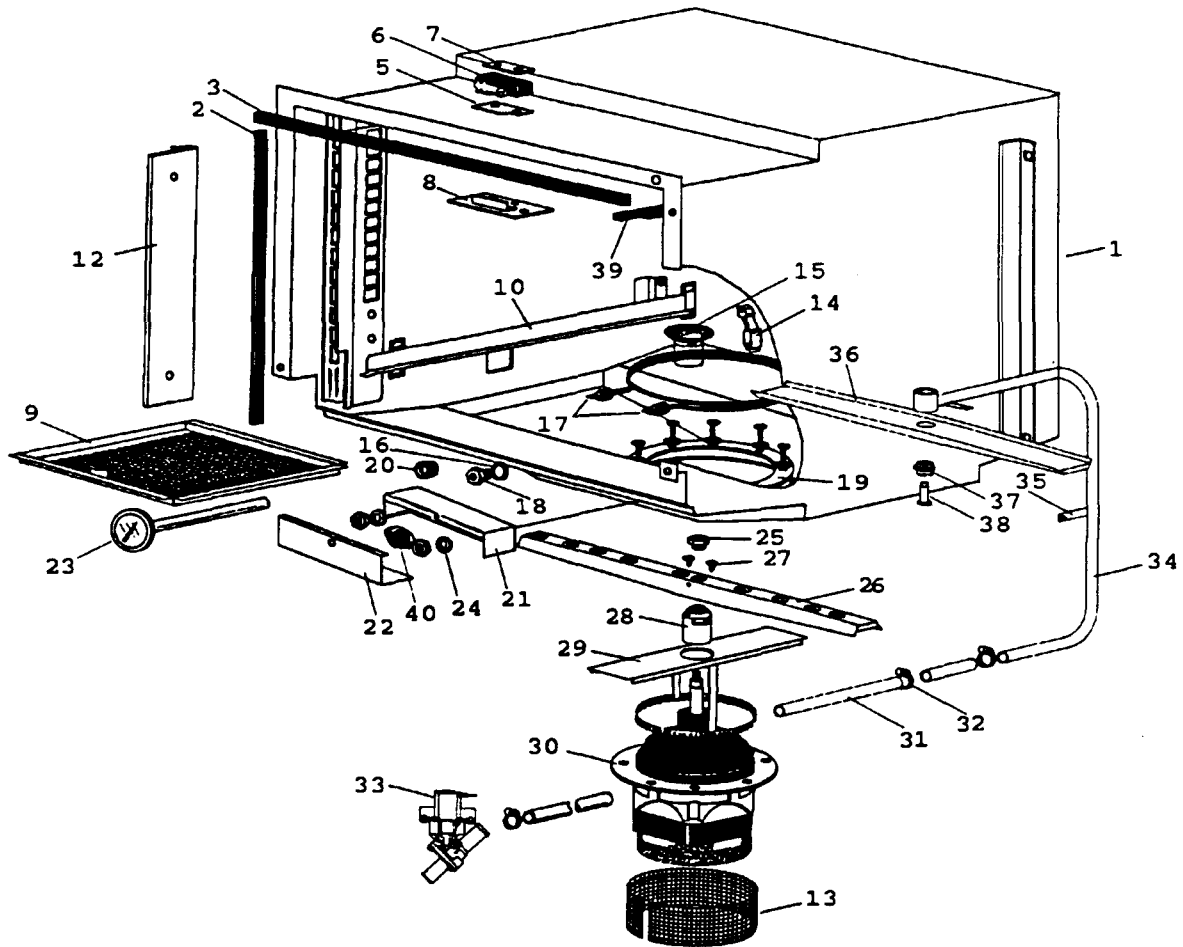
REPLACEMENT PARTS

TANK

PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0708105	1	TANK ASSEMBLY WELDED	1
0503717	2	DOOR SIDE GASKET 19" LONG	2
0501882	3	DOOR TOP GASKET 20-5/8" LONG	1
0503727	NS	DOOR SWITCH HARNESS	1
0300132	5	DOOR SWITCH INSULATION	2
0501382	6	DOOR SWITCH	1
0300074	7	NUT PLATE	1
0300073	8	SWITCH PLATE	1
0705487	9	RH & LH SCREEN FRAME ASSEMBLY	2
0700079	10	LH TRAY SLIDE ASSEMBLY	1
0700080	NS	RH TRAY SLIDE ASSEMBLY	1
0700311	12	VENT COVER ASSEMBLY	2
0704892	13	MOTOR GUARD SCREEN	1
0703373	14	SPRING CLIP ASSEMBLY	1
0700006	15	OVERFLOW COVER	1
0501836	16	HEATER "0" RING	1
0504601	17	HEATER 1200 W, 240V 500HT/UT	1
0501650	18	THERMOSTAT REDUCER	1
0501881	19	WASH PUMP GASKET	1
0501896	20	THERMOMETER SEAL	1
0305097	21	HEATER BOX	1
0300061	22	HEATER COVER	1
0504602	23	THERMOMETER 2" DIAL, 12" STEM	1
0503574	NS	STRAIN RELIEF BUSHING, SMALL	1
0301684	25	BOTTOM SPRAYARM LOCK NUT	1
0705486		LOWER SPRAYARM ASSEMBLY	1
0705049	26	BOTTOM SPRAYARM	1
0501563	27	#8 x 3/8" TH SLOT TYPE "A"	2
0505044	28	BOTTOM SPRAYARM SUPPORT	1
0707602	29	SCREEN SUPPORT ASSEMBLY	1
0504910	30	VERTICAL PUMP AND MOTOR ASSY, 115 V, 60 HZ	1
0305495	31	CONNECTION TUBE	1
0503679	32	7/16 SS GEAR-TYPE HOSE CLAMP	2
0306618	33	DRAIN VALVE, REWORKED	1
0705041	34	TOP MANIFOLD ASSEMBLY	1
0305051	35	MANIFOLD CLIP	2

REPLACEMENT PARTS

TANK



PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0705507		UPPER SPRAYARM COMP.	1
0705047	36	UPPER SPRAYARM	1
0505043	37	UPPER SPRAYARM SUPPORT	1
0501563	NS	#8 x 3/8 TH SLOT	1
0505042	38	UPPER SPRAYARM PIVOT	1
0505485	39	STEAM GASKET	2
0507098	40	WASH TANK LIMIT THERMOSTAT	1
0305067	NS	RH SCREEN SUPPORT	1
0507097	NS	HEATER HARNESS	1

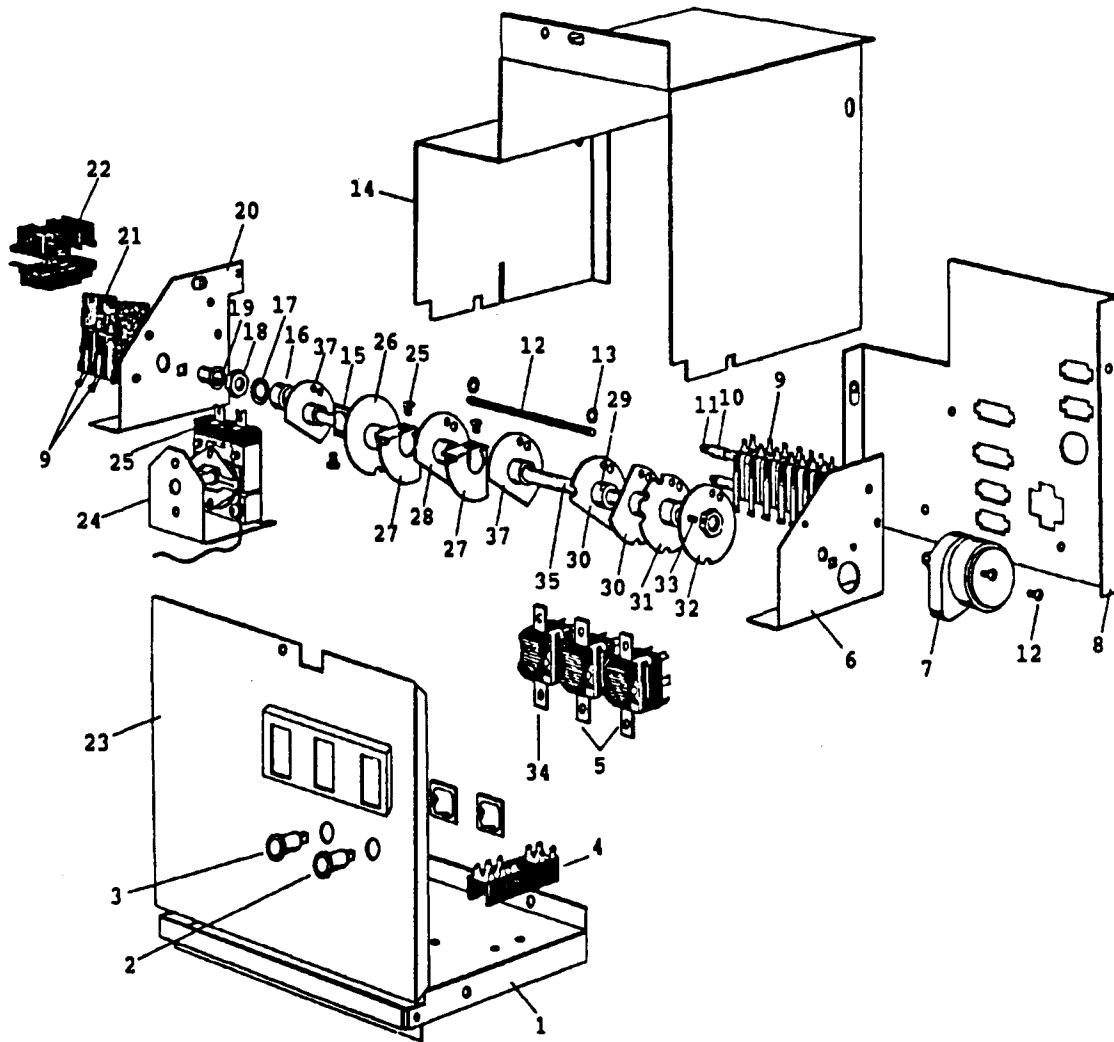
REPLACEMENT PARTS

CONTROL BOX

PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0708108		CONTROL BOX ASSEMBLY	1
0705524	1	CONTROL BOX BOTTOM ASSEMBLY	1
0503747	2	RED NEON LAMP, 115V	1
0503765	3	AMBER NEON LAMP, 240 V	1
0503749	4	11 POINT TERMINAL BLOCK	1
0501361	5	DPDT ROCKER SWITCH 20 AMP	2
0300108	6	RH TIMER SUPPORT	1
0504956 '	7	25 RPH 115V TIMER MOTOR	1
0705087	8	CONTROL BOX REAR ASSEMBLY	1
0501379	9	15 AMP TIMER SWITCH	10
0501479	10	1/4 OD x 1/8 x 1/16 FLAT FIBER WASHER	12
0503740	11	TIMER STUD, 4-1/4' LONG	2
0505605	12	TIMER PIN, 3-1/4" LONG	1
0503664	13	•E' RETAINER RING, 3/16 SHAFT	2
0305084	14	CONTROL BOX COVER	1
0300053	15	ADJUSTABLE DETERGENT CAM	1
0503735	16	ADJUSTING SPACER	1
0501507	17	5/16 LOCKWASHER INT-TOOTH CRS	1
0501543	18	5/16-24 JAM NUT, SS	1
0503701	19	TIMER SHAFT BEARING	1
0300099	20	LH TIMER SUPPORT	1
0503573	21	SWITCH INSULATION, LARGE	2
0501358	22	WASH PUMP START RELAY	1
0708107	23	CONTROL BOX FRONT ASSEMBLY	1
0300096	24	THERMOSTAT SUPPORT	1
0501380	25	VARIABLE THERMOMETER	1
0300052	26	DETERGENT CAM	1
0300237	27	ADJUSTABLE CAM	2
0305069	28	CHEMICAL FILL CAM	1
0301672	29	CAM SPACER	4
0305072	30	DRAIN CAM, WASH PUMP REVERSE CAM	2
0308382	31	WASH PUMP CAM	1
0300124	32	HOMING CAM	1
0501397	33	#6-40 x 3/16 SOCK SET CUP PT	2
0501369	34	SPRING RETURN ROCKER SWITCH	1

REPLACEMENT PARTS

CONTROL BOX



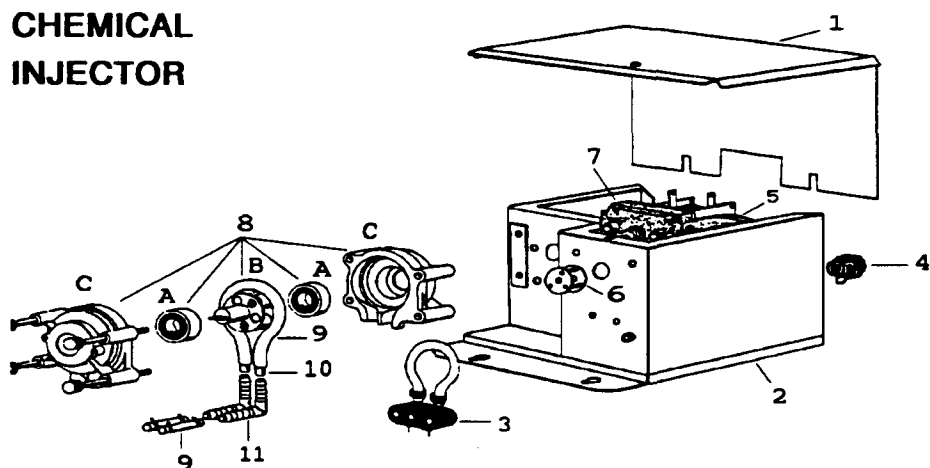
PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0503737	35	TIMER SHAFT	1
0508112	NS	CONTROL BOX HARNESS	1
0305068	37	FILL VALVE, AUTO FILL & DRAIN CAM	2
0503647	NS	STRAIN RELIEF BUSHING, MEDIUM	1
0505530	NS	WASH PUMP HARNESS	1
0505514	NS	CAM ADJUSTMENT LABEL	1
0508130	NS	UT SCHEMATIC	1

REPLACEMENT PARTS

CHEMICAL INJECTOR ASSEMBLY

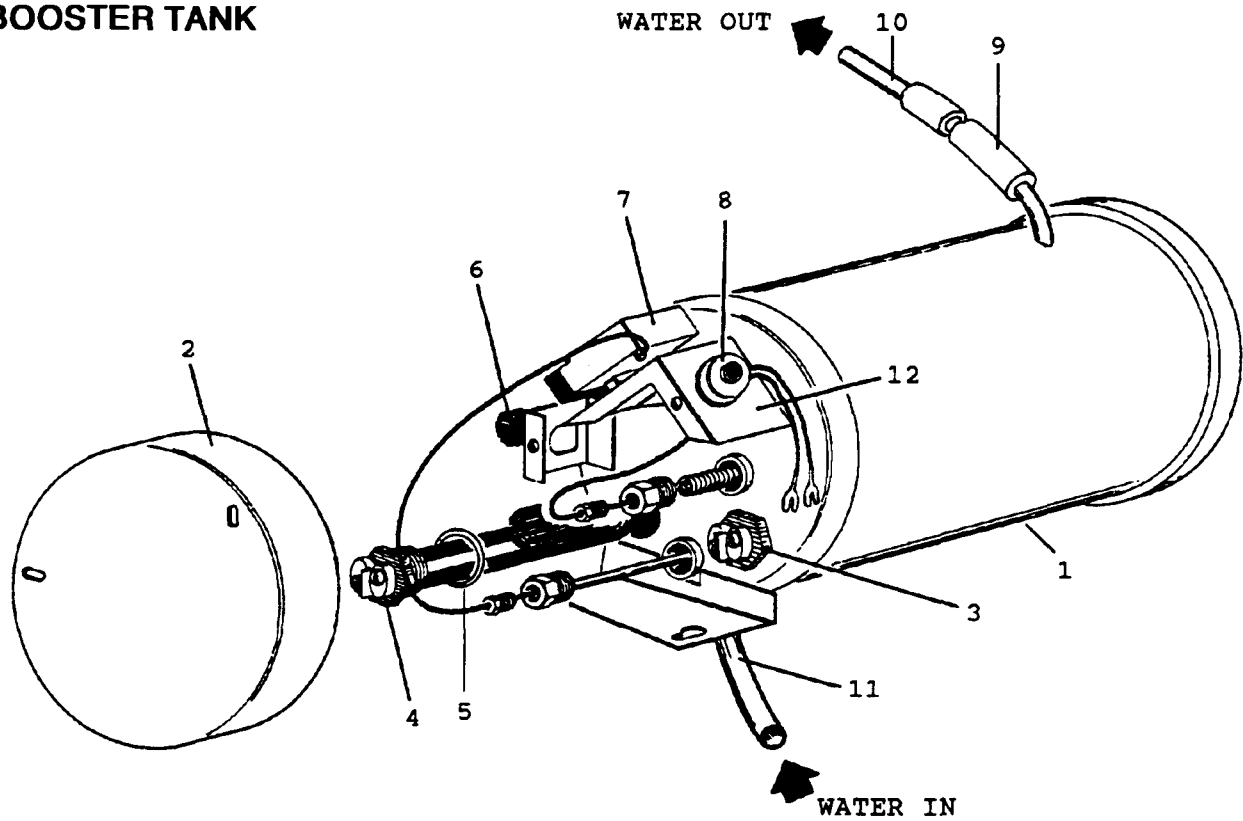
PART NUMBER	ITEM NO.	DESCRIPTION	QTY/ PER
0705611		CHEMICAL INJECTOR ASSEMBLY	1
0305089	1	PUMP COVER	1
0705092	2	PUMP HOUSING ASSEMBLY	1
0706635	3	45 CC ELEMENT TUBE ASSEMBLY	1
0503574	4	STRAIN RELIEF BUSHING, SMALL	1
0503756	5	RINSE-AID PUMP MOTOR, INJECTOR UNIT 115 V (OPT. ON LITTLE CAESAR'S ONLY)	1
0707142	6	ROTOR	1
0503757	7	DETERGENT PUMP DRIVE MOTOR, 115 V, 60 HZ	1
0503754	8	MASTERFLEX PUMP C/W HARDWARE	1
0503755	9	DETERGENT PUMP HOSE	7 FT.
0304883	10	ELBOW HOSE SPACER	2
0502644	11	1/4- HOSE BARB ELBOW	2
0502718	8A	BEARING	2
0502715	8B	SPINDLE C/W ROTOR	1
0502713	8C	PUMP HEAD	2
0503301	NS	COVER WARNING LABEL	1
0503592	NS	EARTH LABEL	1
0503694	NS	SANITIZER LABEL	1
0503695	NS	DETERGENT LABEL	1
0505518	NS	CHEMICAL INJECTOR HARNESS	1
0503575	NS	.125 BUTT CONNECTOR INSULATION	2
0503758	NS	CLOSED END CONNECTOR	1
0501472	NS	#10 L FLAT WASHER, BRASS	2
0501518	NS	5-1/2" NYLON TIE	2

CHEMICAL INJECTOR



REPLACEMENT PARTS

BOOSTER TANK

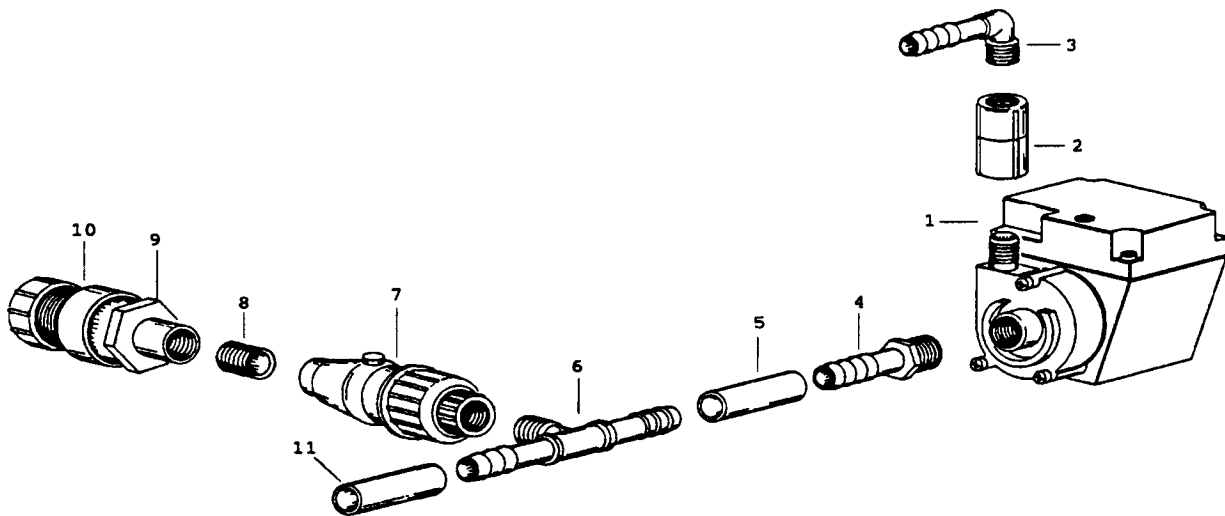


PART NUMBER	ITEM	DESCRIPTION	QTY/PER
0705520		BOOSTER TANK COMPLETE	1
0705065	1	BOOSTER TANK WELDED	1
0707243	2	END COVER	1
0707480	3	HEATER ASSY.	2
0507315	4	240-V, 3000-W HEATER	2
0503588	5	•O" RING 1/8" x 1-3/8" SILICONE	2
0503647	6	STRAIN RELIEF BUSHING	1
0504953	7	BOOSTER THERMOSTAT	1
0507095	8	BOOSTER LIMIT THERMOSTAT	1
107417	9	1/2- ID RUBBER HOUSE (OUTLET)	5'
0300164	10	WATER INLET TUBE	1
0502665	11	INLET LINE 1/2- BRAIDED TUBING	16"
0307716	12	BOOSTER THERMOSTAT BRACKET	1
0507096	NS	BOOSTER TANK HARNESS	1
0503679	NS	7/16 S.S. GEAR-TYPE CLAMP	1

REPLACEMENT PARTS

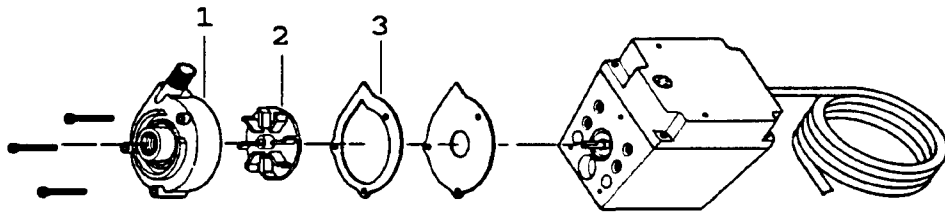
DRAIN PUMP ASSEMBLY

PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
C35065	1	DRAIN PUMP	1
0508139	2	COUPLING 1/2x1/2NPTF	1
0508140	3	ELBOW 1/2 HOSE x 1/2 NPTM	1
0508141	4	ADAPTOR 1/2 HOSE X 3/4 NPTM	1
0502665	5	1/2" BRAIDED HOSE	1
0508128	6	TEE 1/2 HB x 1/2 HB x 1/2 NPTM	1
0508127	7	CHECK VALVE 1/2 NPTF x 1/2 NPTF	1
0508126	8	CLOSE NIPPLE 1/2 NPT x 1/2 NPTM	1
0508125	9	ADAPTOR 1-1/2 NPTM x 1/2 NPTF	1
0508124	10	ADAPTOR TAILPIECE 1-1/2 COUPF x 1-1/2 NPTF	1
0501833	11	1 1/2" HOSE C/W COUPLING	10 FT
0308119	NS	PUMP HOLD-DOWN STRAP	1



REPLACEMENT PARTS

DRAIN PUMP PARTS



DRAIN PUMP PARTS

PART NUMBER	ITEM NO.	DESCRIPTION	QTY/PER
0508368	1	VOLUTE 3/4 NPT	1
0508369	2	IMPELLER, NYLON	1
0508370	3	GASKET	
		MOUNT SCREWS #10-24 x 1-5/8" LARGE	3

SERVICE INSTRUCTIONS



MAKE CERTAIN THAT THE UNIT IS DISCONNECTED FROM THE POWER SOURCE BEFORE ATTEMPTING TO SERVICE OR REMOVE ANY COMPONENT!

1. This unit is permanently lubricated. Oiling is not required. Do not, in any case, open the sealed portion of the unit or remove housing screws.
2. Periodic cleaning of the pump parts will prolong the LIFE and EFFICIENCY of the pump. Refer to the above picture for the assembly and disassembly of the pumping head.
3. First remove the three screws on the left. (Do NOT remove other screws which may be exposed.)
4. Lightly clean any corrosion or debris which may clog the impeller. Use a brush and penetrating oil and lightly scrape to remove encrusted material.
5. Turn the impeller by hand to make sure it turns freely. If it is rotating, install parts in reverse order in which they were removed.
6. If it does not rotate, if pump is tripping circuit breakers, or not operating properly after cleaning, return to an authorized service agent. DO NOT attempt repairs yourself.
7. Be certain power cord is in good condition and contains no nicks or cuts.

REPLACEMENT PARTS

FASTENERS

PART NUMBER	DESCRIPTION
0501397	6-40 x 3/16 SET SCREW
0501403	10-32 x 3/4 RH BRASS SCREW
0501404	10-32 x 3/8 RH BRASS SCREW
0501406	8-32 x 1/2 RH SLOT SS SCREW
0501408	8-32 x 1/4 TRUSS SLOT SS SCREW
0501412	10-32 x 3/8 TRUSS SLOT SS SCREW
0501413	10-32 x 3/8 RH HD SS SCREW
0501415	SS RH 10-32 x 5/8 SCREW
0501418	SS RH 1/4-20 x 1/2 SCREW
0501419	1/4-20 X 1/2 HEX HD SS BOLT
0501424	SS HH 1/4-20 BOLT
0501425	SS RH 8-32 x 5/8 SCREW
0501436	SS RH 4-40x1/4 SCREW
0501441	TYPE 23 10-32 x 5/16 SCREW
0501450	SS NIBS 6-32 x 1/4 SCREW
0501463	RH 8-32 X 1 SCREW
0501472	#10 BRASS FLAT WASHER
0501476	SS FLAT 1/4 WASHER
0501479	FIBER FLAT WASHER
0501493	#10 EXTERNAL TOOTH LOCKWASHER
0501496	LOCK WASHER, EXTERNAL TOOTH 5/16
0501497	#8 SPLIT LOCKWASHER
0501501	1/4 SPLIT LOCKWASHER
0501518	5" PLASTIC HOSE TIE
0501519	4" PLASTIC HOSE TIE
0501533	10-32 BRASS HEX NUT
0501539	1/4-20 SS HEX NUT
0501549	KEPS NUT 4-40
0501563	SS TH 8-32 x 3/8 SCREW
0501565	SS TH 10-32 3/8 SCREW
0503679	7/16 GEAR TYPE CLAMP
0503723	6-32x1 RH SS SCREW
0503724	SS HH 5/16-18 BOLT
0503743	PLASTIC TIE, 5"
0503745	RH 8-32 x 3/16 SCREW
0504911	PH 8 5/16 SCREW
0504941	ALUMINUM POP RIVET 5/32
0506589	6-32 x 7/8 PAN SS SCREW
0502665	BRAIDED HOSE
0503755	CHEMICAL TUBING
0506591	DETERGENT TUBING