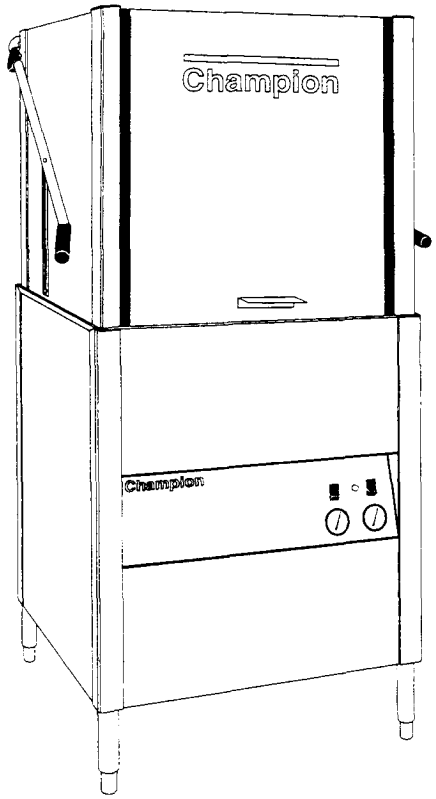
Champion

The Dishwashing Machine Specialists

Technical Manual



International Door
Dishwasher

Model

I-DH
High Temperature with
Built-in Booster

Machine Serial No.

January, 1996 **Manual P/N 0509190**

P. 0. Box 4149 Winston-Salem, North Carolina 27115-4149
910/661-1556 Fax: 910/661-1660

2674 N. Service Road Jordan Station, Ontario, Canada LOR ISO
905/562-4195 Fax: 905/562-4618

Champion Industries, Inc.

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INTRODUCTION

Welcome to **Champion...**
and thank you for allowing us to take care of your dishwashing needs.

This manual covers the international door-type dishwasher, Model I-DH. Your machine was completely assembled, inspected, and thoroughly tested at our factory before it was shipped to your installation site.

This manual contains:

- Installation Instructions
- Operation Instructions
- Maintenance Instructions
- Replacement Parts Lists
- Electrical Schematics

All information, illustrations and specifications contained in this manual are based upon the latest product information available at the time of publication. **Champion** constantly improves its products and reserves the right to make changes at any time or to change specifications or design without notice and without incurring any obligation.

For your protection, factory authorized parts should always be used for repairs.

Replacement parts may be ordered directly from your **Champion** authorized parts distributor or authorized service agency. When ordering parts, please supply the model number, serial number, voltage, and phase of your machine, the part number, part descriptions and quantity.

Model Number

The I-DH is a high temperature (180°F/82°C) sanitizing dishwasher with booster.

Standard Equipment includes:

- Manual tank fill
- Built-in (40°F/23°C rise) electric or steam booster heater.
- Field convertible for comer operation
- Electric tank heat (3 KW)
- Balanced door lift system
- Automatic start on close of doors
- Low-water tank heat protection
- 1 HP drip-proof pump motor
- Door safety switch
- Splash-proof control console
- Interchangeable upper & lower spray arms
- Stainless steel front and side panels
- Detergent/chemical connection provisions
- Fill solenoid valve
- 3/4" line strainer
- Common utility connections
- Two dish racks (peg and flat bottom)

Options

Electric booster with (70°F/39°C temperature rise) heater for (110°F/43°C) hot water supply.

Pressure reducing valve, (PRV) 3/4" - P/N 107550
Water pressure gauge (0-60 PSI) - P/N 100135

Electrical Power Requirements

Voltage	Booster Rise	Machine Full Load Amps	Power Requirement (125% Service Factor)
220/60/1	40°F/23°C	56A	70A
220/50/1	40°F/23°C	56A	70A
220/60/3	40°F/23°C	32A	40A
220/50/3	40°F/23°C	32A	40A
380/60/3	40°F/23°C	19A	24A
380/50/3	40°F/23°C	19A	24A
220/60/1	N/A		
220/50/1	N/A	—	—
220/60/3	70°F/39°C	41A	52A
220/50/3	70°F/39°C	41A	52A
380/60/3	70°F/39°C	24A	30A
380/50/3	70°F/39°C	24A	30A

INSTALLATION

Unpack the dishwasher

CAUTION:
Care should be taken when lifting the machine to prevent damage.

NOTE:
The installation of your machine must meet all applicable health and safety codes.

1. Immediately after unpacking the machine, inspect for any shipping damage. If damage is found, save the packing material and contact the carrier immediately.

2. Remove the dishwasher from the skid. Move the machine to its permanent location.

NOTE:
Refer to: *To change from Straight-through Operation to Corner Operation* on the next page if your machine will be placed for corner operation.

3. Level the machine (if required) by placing a level on the top of the machine and adjusting the feet. Level the machine front-to-back and side-to-side.

4. Remove the dishracks from the interior of the machine.

5. Refer to Fig. 1. Remove (2) screws that hold the front panel. Remove the front panel in preparation for service connections.

Figure 1
Remove Front Panel

To Change from Straight-through Operation to Corner Operation

The I-DH dishwasher is shipped from the factory for straight-through operation. The following instructions explain how to change the dishwasher for comer operation. Refer to Fig. 2

1. Place the dishwasher so that operator controls are readily accessible.
2. Minimum clearance from any wall is 5-1/4" (133mm).

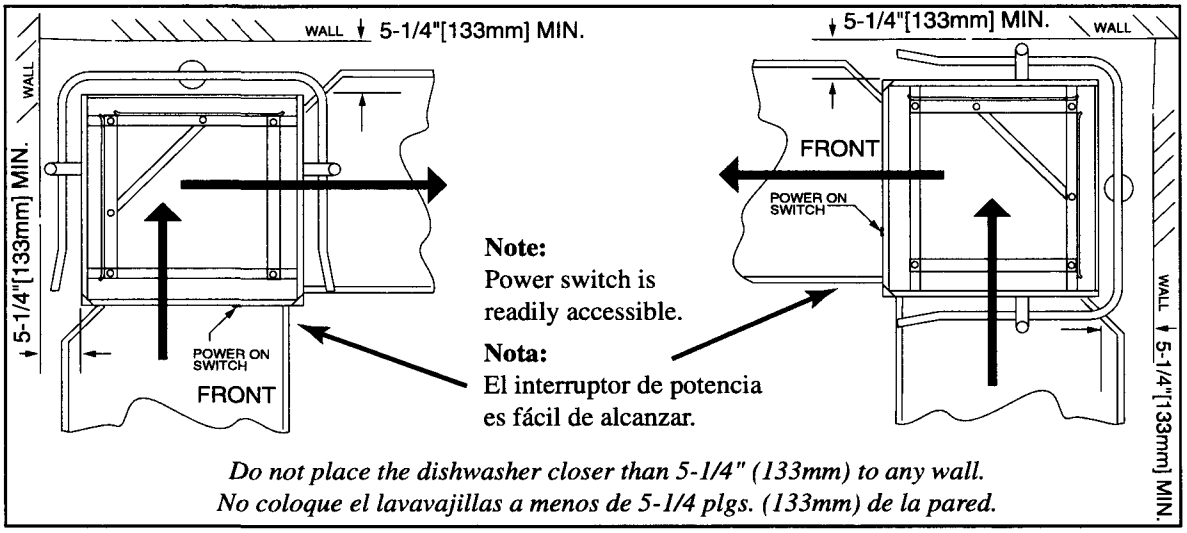


Figure 2
Placement for Corner Operation/Colocación para funcionamiento lateral

Refer to Fig. 3a-3b and perform the steps below.

1. Remove the front rack guide (A). Discard the square spacers.
2. Move front rack guide (A) to the right side of the rack tracks. (See Fig. 3b) Use existing hardware.
3. Unbolt the track (B) and rack support rod (C).
4. Remove and save the two remaining fasteners from rear track.
5. Bolt (B) and (C) as shown in Fig. 3b.

Figure 3
Change the Track Assembly/Cambio del ensamblaje de rieles

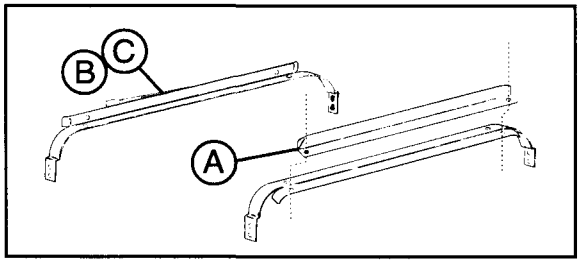


Figure 3a
Straight-Through Configuration

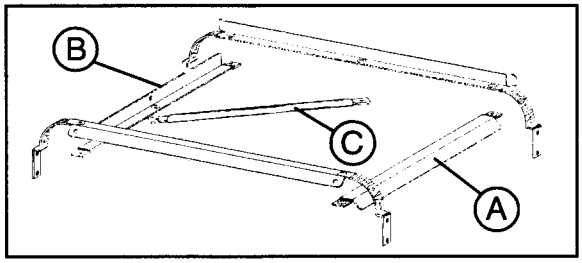


Figure 3b
Corner Configuration

INSTALLATION (Cont.)

Electrical Connections

Warning:
Electrical and grounding connections must comply with all applicable Electrical Codes.

Warning:
When working on the dishwasher, disconnect the electric service and place a tag at the disconnect switch to indicate work is being done on that circuit.

1. A qualified electrician must compare the electrical power supply with the machine electrical specifications before connecting to the incoming service through a fused disconnect switch.

Refer to Fig. 4

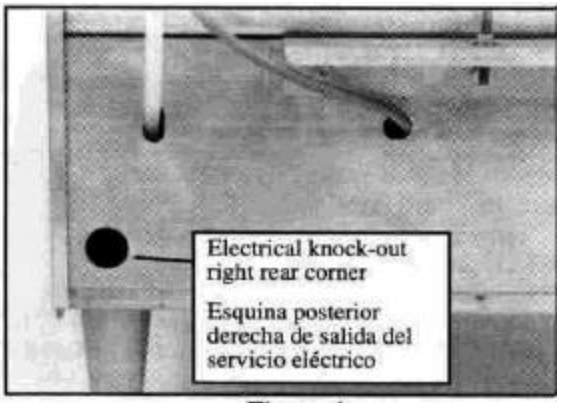


Figure 4
Electrical Connection Location

2. A knockout is provided at the lower right rear comer for the electrical service connection. A fused disconnect switch or circuit breaker (supplied by others) is required to protect the power supply circuit.

Electrical Connections (Cont.)

Refer to Fig. 5

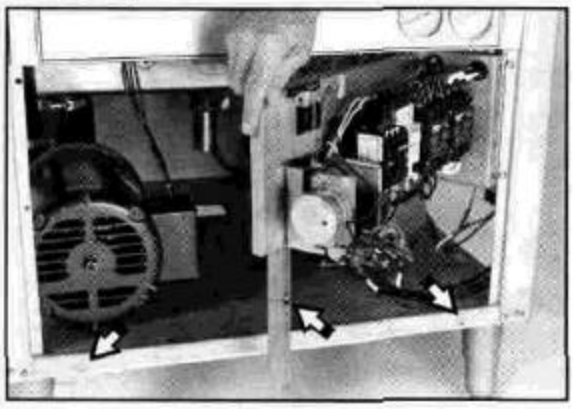


Figure 5
Hinged Control Panel

3. Remove (2) lower screws from the front panel of the machine to expose the electrical controls. Loosen (1) screw on the control panel support post. Slide the support post up to disengage the post from the machine base. Swing the hinged control panel forward.

Refer to Fig. 6

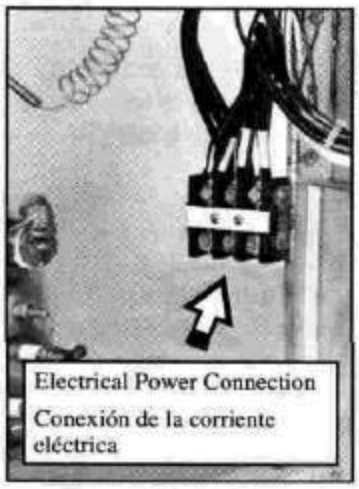


Figure 6
Main Terminal Block

4. Three phase or single-phase incoming powers wiring connections are made at the bottom of the machine's main terminal block. The main terminal block is located on the side of the front right post of the dishwasher.

INSTALLATION (Cont.)

Plumbing Connections

NOTE:
Plumbing connections must comply with all applicable sanitary and plumbing codes.

Water Connections

1. The I-DH dishwasher requires a single, hot water supply. The following minimum water temperatures are recommended:

I-DH with built-in 40° rise electric booster
(Minimum 140°F/60°C)
(Min./Max. flow pressure 20-22 PSI/138 kPa)

I-DH with built-in 70° rise electric booster
(Minimum 110°F/43°C)
(Min./Max. flow pressure 20-22 PSI/138 kPa)

2. Install a pressure-reducing valve, (PRV), in the water supply line if flow pressure exceeds 20-22 PSI/138-151.8 kPa.

3. The hot water connection to all I-DH dishwashers is 3/4" NPT. The connection is made from underneath the dishwasher up to the hot water solenoid valve located on the left side of the booster tank.

Refer to Fig. 7

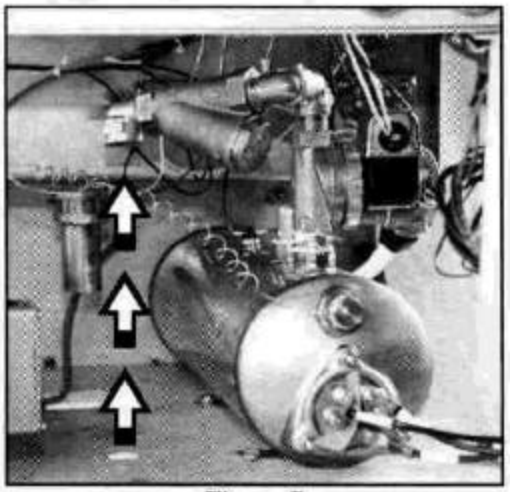


Figure 7
Hot Water Connection
Conexión de agua caliente
3/4" NPT

Water Connections (Cont.)

4. A manual shut-off valve (supplied by others) should be installed in the supply line in order to service the machine.
5. A pressure reducing valve, (PRV), (supplied by others) should be installed in the water supply line.
6. A pressure gauge (supplied by others) should be installed in the water supply line on the machine side of the PRV.

Drain Connections

1. The model I-DH is a GRAVITY DRAIN machine equipped with a 1-1/2" O.D. hose connection point.
2. Drain height for model I-DH must not exceed 11" (280mm) above floor level.
3. The drain connection is made to the dishwasher from underneath the machine through an access hole in the machine base.

Refer to Fig. 8

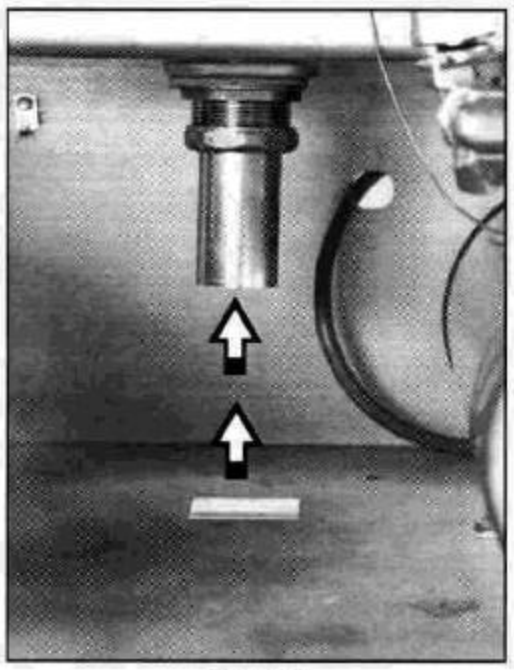


Figure 8
Drain Connection
Conexión de desagüe
1-1/2" O.D.

INSTALLATION (Cont.) Chemical

Connections

NOTE:
Consult a qualified chemical supplier for your chemical needs.

1. An electrical detergent signal connection point for detergent dispensing equipment is provided on the control voltage terminal block located in the top left comer of the hinged control panel.

Refer to Fig. 9

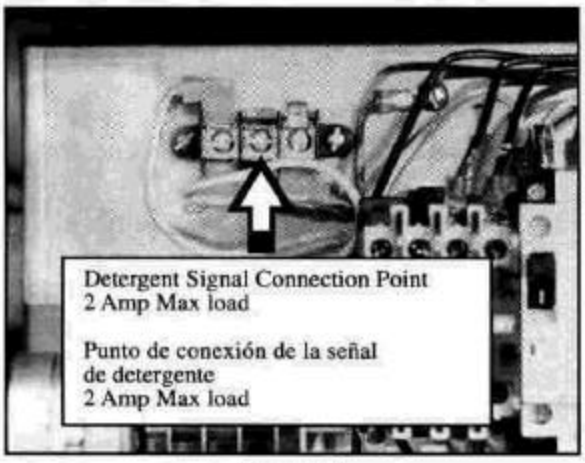


Figure 9
Detergent Signal Connection Point

2. The detergent signal is limited to a maximum load of 2 Amps. Signal voltage is 220VAC.

(Chemical Connections continued on next page)

Chemical Connections (Cont.)

3. A 1/2"NPT detergent probe injection point is provided at the rear of the dishwasher.

Refer to Fig. 10

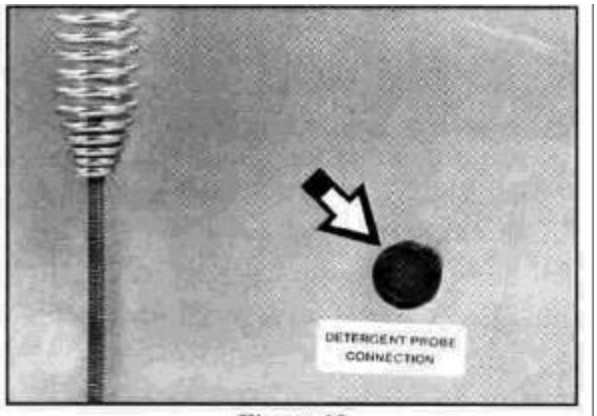


Figure 10
Detergent Probe Injection Point
Punto de inyección del tubo de detergente
1/2" NPT

4. A 1/8" NPT rinse aid injection point is provided in the final rinse manifold of the booster piping. The manifold is located on the right side of the booster assembly. It can be accessed from the front of the dishwasher.

Refer to Fig. 11

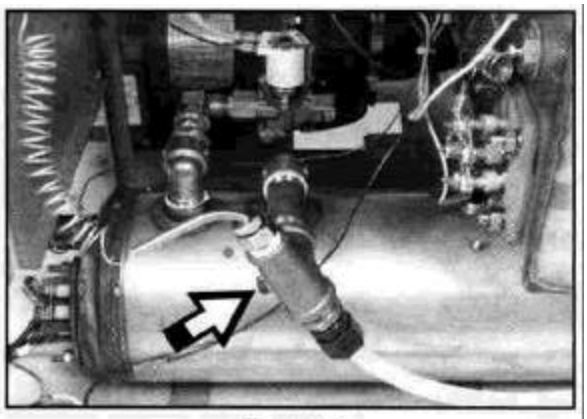


Figure 11
Rinse Aid Injection Point
Punto de inyección auxiliar de enjuague
1/8" NPT

INITIAL START-UP

Complete the installation

After plumbing and electrical connections are made, follow the steps below to complete the installation of your dishwasher.

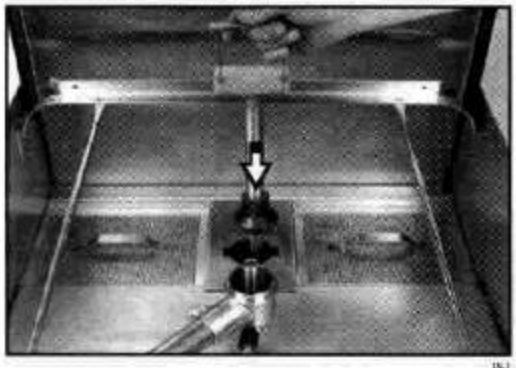
1. Remove the white protective covering from the exterior of the machine.
2. Remove any foreign material from inside the machine.
3. Make sure dishwasher power switch is off.
4. Turn main water supply on.
5. Turn main power on at the main power service disconnect switch.

Fill the dishwasher with water

Follow the steps below to fill your machine for the first time and each time the machine is completely drained.

1

Install scrap screens. Make sure rubber stopper is secure on the drain-overflow assembly. Make sure the drain-overflow seats securely in the tank bottom.

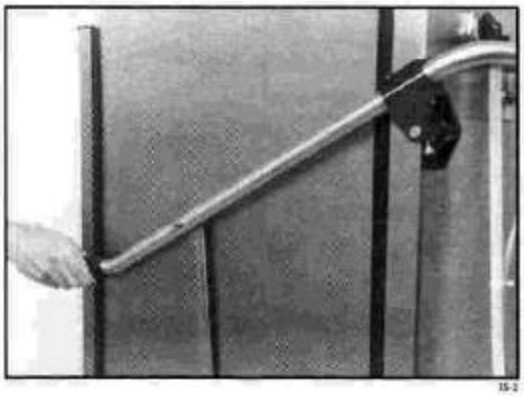


2

Make sure all doors are fully closed.

Warning:
During the fill operation, water will spray from the dishwasher if the doors are open.

MAKE SURE DOORS ARE FULLY CLOSED.

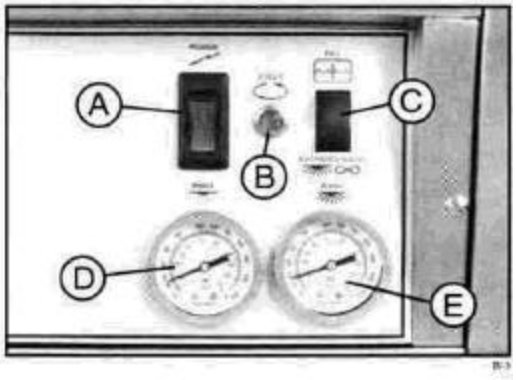


Fill the dishwasher with water (Cont.)

3

The controls are located on the front of the dishwasher.

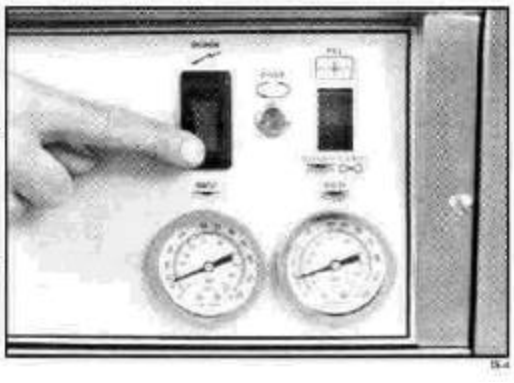
A- On/Off power switch
B- In cycle light
C- Fill/Extended wash switch
D- Final rinse water temperature gauge
E- Wash water temperature gauge



4

THE POWER SWITCH IS OFF DURING INITIAL FILL.

Push the On/Off power switch down to the OFF position. The red indicator light in the center of the power switch is not illuminated when the switch is off.

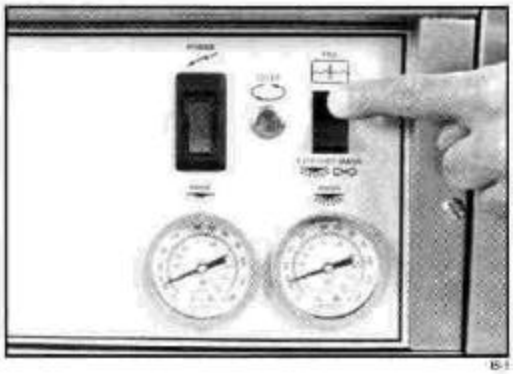


5

Push the Fill/Extended wash switch UP to the FILL position to fill the dishwasher with water.

NOTE:

The initial fill primes the booster tank assembly. The booster tank is full when you hear water enter the wash tank of the dishwasher.



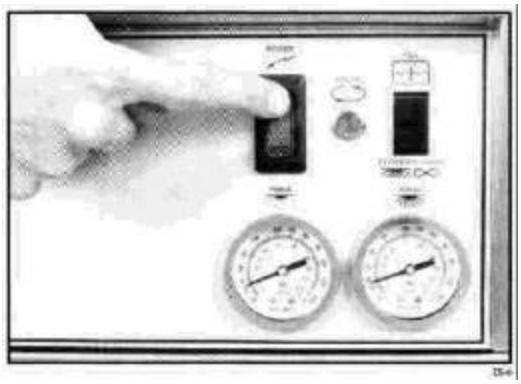
Leave the switch UP until water begins to drain out the overflow. Tank is full. Push the Fill/Extended wash switch to the center position.

INITIAL START-UP (Cont.)

Check wash and final rinse water temperatures

6

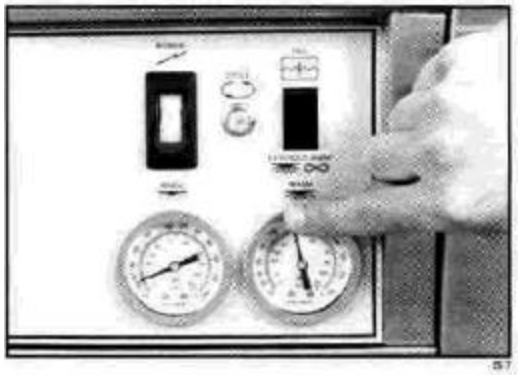
Push the On/Off power switch "Up" to the on position. The red indicator light in the switch will come on. The wash tank and booster tank heaters will begin to heat the water in the dishwasher.



7

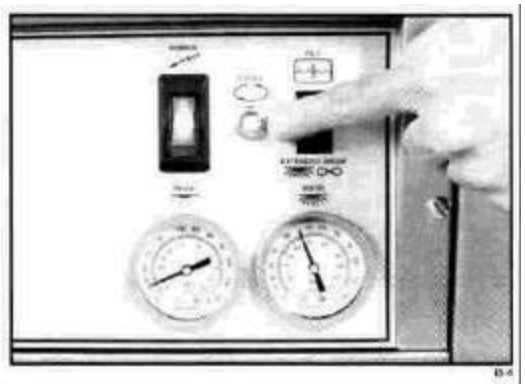
Wait approximately 10 minutes for the wash tank water to reach operating temperature.

Check the wash water temperature gauge located on right side of the control cabinet to be sure it indicates the proper temperature.



8

Open and then fully close the dishwasher doors. The dishwasher will begin a wash cycle automatically.
Note that the amber colored cycle lamp is lit during the automatic dishwasher cycle.
Opening the doors anytime during the cycle will stop the dishwasher.
Closing the doors will resume the automatic cycle where it left off.



Check the wash and final rinse water temperatures (Cont.)

9

The final rinse water temperature should be a minimum of 180°P/82°C during the final rinse cycle. The optimum final rinse temperature is 180-195°F/82-91°C.

Check the final rinse water temperature gauge located on left side of the control cabinet

Check the Extended Wash operation

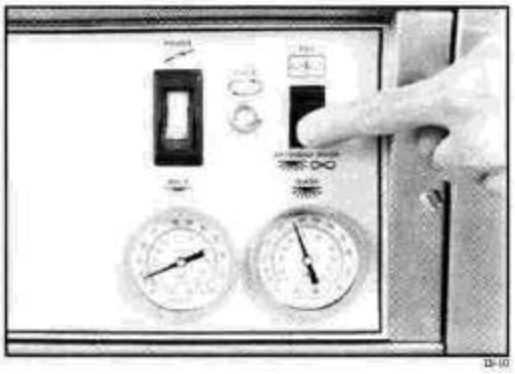
The extended wash switch holds the dishwasher in a continuous wash mode for cleaning heavily soiled ware.

10

Open and then fully close the dishwasher doors. The dishwasher will begin a wash cycle automatically.

Push the Fill/Extended wash switch "Down" to the extended wash position.

The dishwasher will remain in a continuous wash mode until the switch is flipped back to the center position.



NOTE:

The extended wash switch may also be used during deliming operations.

Consult a qualified chemical supplier for detailed instructions and procedures.

INITIAL START-UP (Cont.

Complete the initial start-up

Check all the plumbing for leaks. Also, check the drain plumbing for leaks and be sure that the drain will handle the drain water flow from the dishwasher.

After the drain and the plumbing connections are checked, turn off the power to the dishwasher.

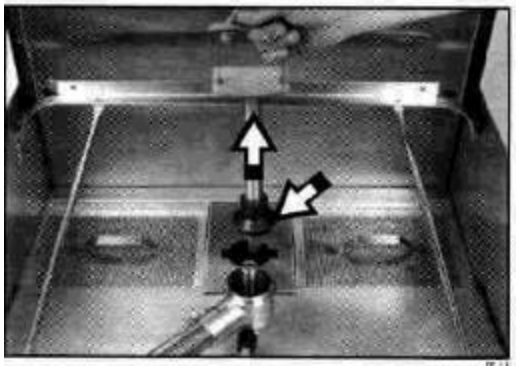
Drain the dishwasher

11

Turn off power at the dishwasher. Drain the dishwasher by pulling the handle of the drain-overflow assembly straight up.

Be sure that the drain-overflow rubber stopper is secure on the drain-overflow assembly pipe.

Check that the building drain handles the water flow exiting the dishwasher drain.



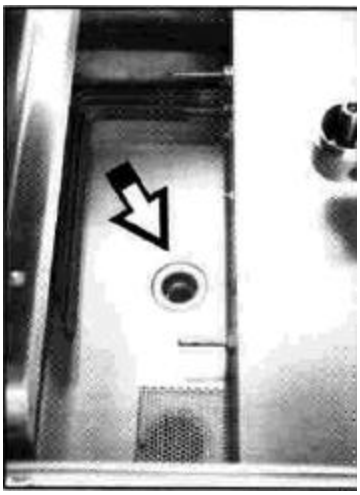
12

Remove the scrap screens and check the drain located in the bottom of the dishwasher wash tank.

Clean the interior of the wash tank of any foreign material.

Leave the doors open to air dry the interior of the dishwasher.

The initial start-up is complete.



OPERATION

Refer to the Initial Start-up section, Steps 1-5, on pages 16-20, to place your dishwasher into service. To operate your dishwasher, perform the action in the left-hand column; check the result in right hand column.

Action	Result
1. Push the On/Off power switch "UP" to the ON position.	1. The indicator light in the center of the power switch illuminates. The wash tank heater and the booster tank heater begin to heat.
2. Wait approximately 10 minutes for the wash tank heater to heat the water. Then, check the reading on the wash water temperature gauge.	2. The wash water temperature gauge should indicate a minimum of 150°F/66°C.
3. Prescrap and load the ware into the dishrack.	3. Ware should be placed edgewise in the peg rack. Cups and bowls should be placed upside down in the flat rack. Silverware should be spread evenly in a single layer in the flat rack.
4. Open the doors. Insert a dishrack of soiled ware. Fully close the doors.	4. Amber cycle light illuminates as the dishwasher begins a 60-second automatic cycle. The cycle times are listed below:
Opening the doors anytime during the automatic cycle stops the dishwasher. Closing the doors will resume the cycle where it left off.	Wash = 48 seconds Dwell = 2 seconds Final rinse = 10 seconds
5. Check the final rinse temperature gauge reading during the 10-second final rinse cycle.	5. The final rinse temperature gauge should indicate a minimum of 180°F/82°C. The optimum final rinse temperature range is between 180-195°F/82-90°C.
6. Check the incoming water pressure during the 10-second final rinse cycle. A water pressure gauge (supplied by others) should be installed on the incoming water supply.	6. The water pressure gauge should indicate a flowing pressure of 20-22 PSI/138-151.8 kPa. A pressure reducing valve (PRV) is required if flow pressure exceeds 20-22 PSI/138-151.8 kPa
7. The 60-second automatic cycle ends.	7. The amber cycle light goes out.
8. Open the doors. Remove the clean rack. Insert another rack of soiled ware. Fully close the doors.	8. The 60-second automatic cycle begins again.
9. Turn power OFF at the dishwasher. Remove the drain-overflow assembly. Clean the scrap screens. Clean the dishwasher after each meal period or every two hours of operation.	9. Dishwasher wash tank drains completely. Periodic cleaning reduces detergent consumption and improves washing results.

MAINTENANCE

Cleaning your machine is the best maintenance that you can provide. Components that are not regularly flushed and cleaned do not perform well.

The following schedules are the minimum requirements necessary for the proper performance of your machine. Intervals should be shortened whenever your machine is faced with abnormal working conditions, hard water, or multiple shift operations.

CLEANING SCHEDULE

Every 2 Hours or After Each Meal Period

1. Drain the dishwasher.
2. Flush interior with fresh water.
3. Clean scrap screens and pump intake screen.
4. Clean spray arm nozzles.

Every 8 Hours or at the End of the Day

1. Drain the machine.
2. Flush interior with fresh water.
3. Clean scrap screens and pump intake screen.
4. Clean spray arms.
5. Thoroughly clean the exterior of machine.
   DO NOT HOSE DOWN WITH WATER.
6. Reassemble the machine.
7. Leave doors open to aid in drying.

CAUTION:
Do not leave water in wash tank overnight.

DELIMING SCHEDULE

Your dishwasher should be delimed regularly to prevent buildup of mineral deposits.

NOTE:
Consult your chemical supplier for an appropriate deliming solution and proper procedures.

TROUBLESHOOTING

Perform the seven checks listed below in the event that your dishwasher does not operate as expected.

1. All switches are **ON**
2. Drain-overflow assembly is in place and seated
3. Wash and rinse nozzles are clean
4. Wash and rinse pipe assemblies are installed correctly
5. Scrap screens are properly positioned
6. Thermostat(s) are properly adjusted
7. Detergent and rinse additive dispensers are adequately filled.

If a problem still exists, use the following table for troubleshooting.

CONDITION	CAUSE	SOLUTION
Machine will not start	Doors not closed	Make sure doors are fully closed
	Door safety switch faulty	Contact your service agency
	Start switch faulty	Contact your service agency
	Main switch off	Check disconnect at main panel
	Overload protector tripped	Reset overload in Control Box
Machine washes constantly	Fill/Extended wash switch in extended wash position	Push Fill/Extended wash switch to the center position
Low or no water	Main water supply is turned off	Turn on house water supply
	Drain-overflow assembly is not in place and seated	Place and seat drain-overflow
	Machine doors not fully closed	Close doors securely
	Faulty fill valve	Contact your service agency
	Machine not filled initially	Hold fill switch UP to fill
	Clogged strainer in fill valve	Clean or replace
Continuous water filling	Stuck or defective fill switch	Contact your service agency
	Fill valve will not close	Clean or replace
	Drain-overflow not in place	Install drain-overflow assembly
Wash motor not running	Overload protector tripped	Reset overload in Control Box
	Defective motor	Contact your service agency
Wash tank water temperature is low when in use	Incoming water temperatureat machine too low	Raise temperature to: 110-140°F/43-60°C
	Defective thermometer	Check or replace
	Defective thermostat	Check for proper setting or replace
	Defective heater element	Check or replace
	Defective solenoid valve	Check or replace
	Heater elements have soil/lime buildup	Clean and delime

TROUBLESHOOTING (Cont.)

CONDITION	CAUSE	SOLUTION
Insufficient pumped spray pressure	Clogged pump intake screen	Clean
	Clogged spray pipe	Clean
	Scrap screen full	Must be kept clean and in place
	Low water level in tank	Check drain-overflow assembly
	Pump motor rotation incorrect	Reverse connection between L1 and L2 in Control Cabinet
	Defective pump seal	Contact Service Agent
Insufficient final rinse or no final rinse	Faulty pressure reducing valve	Clean or replace
	Improper setting on pressure reducing valve	Set flow pressure at 20-22 PSI/ 138-151.8kPa
	Clogged rinse nozzle and/or pipe	Clean
	Improper water line size	Have installer change to proper size
	Clogged strainer in fill valve	Clean or replace
Low final rinse temperature	Low incoming water temperature	Check the booster - be sure the thermostat is set to maintain 180°F/82°C temperature. Check valve to be sure it is clean and operating
	Defective thermometer	Check for proper setting or replace
Poor washing results	Detergent dispenser not operating properly	Contact detergent supplier
	Insufficient detergents	Contact detergent supplier
	Wash water temperature too low	See condition "Wash Tank Water Temperature" above
	Wash arm clogged	Clean
	Improperly scraped dishes	Check scraping procedures
	Ware being improperly placed in rack	Use proper racks. Do not overload racks
	Improperly cleaned equipment	Unclog wash sprays and rinse nozzles to maintain proper pressure and flow conditions. Overflows must be open. Keep wash water as clean as possible.
	Heater elements have soil/lime buildup	Clean and delime

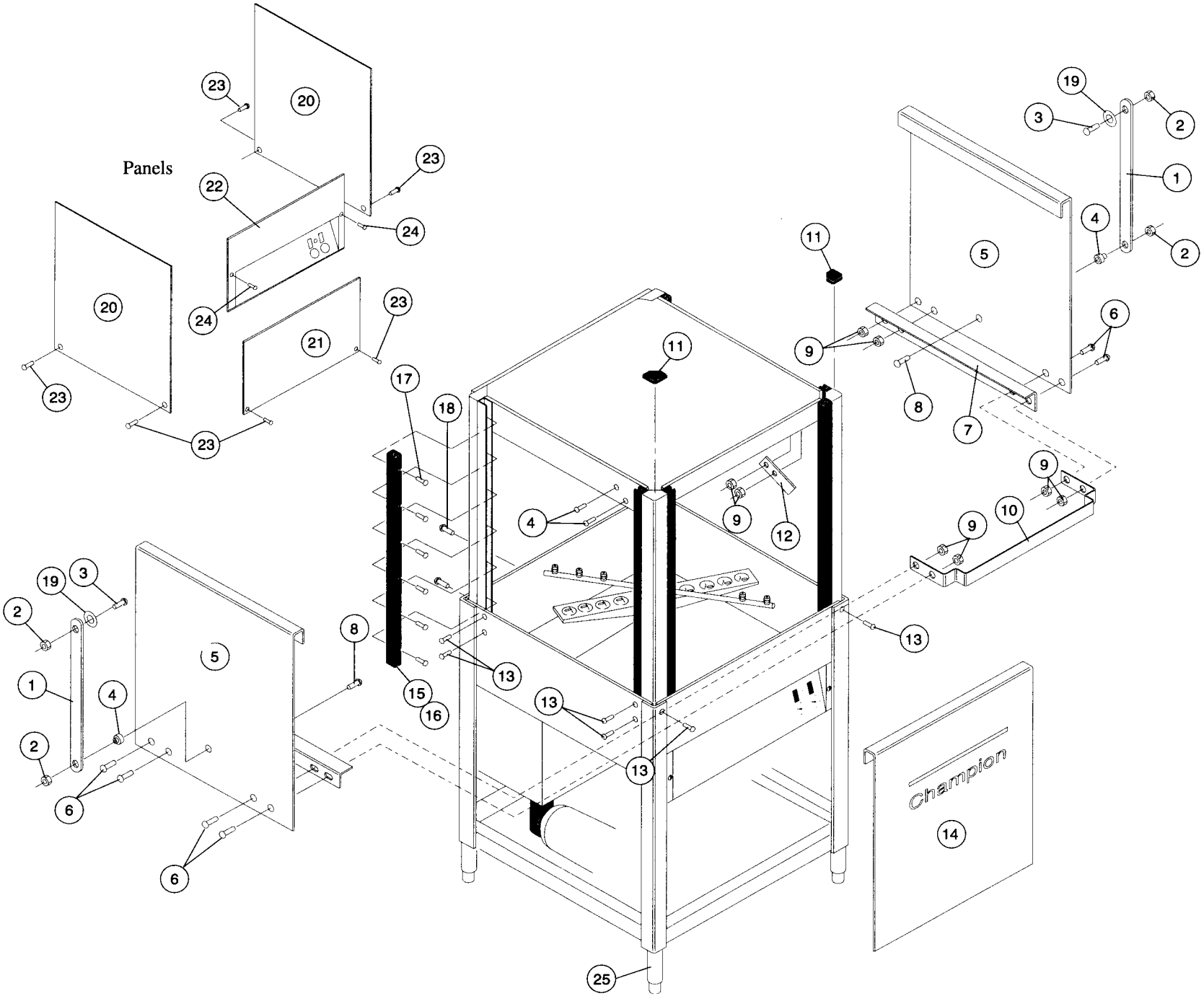


Figure 12 – Door Assemblies and Panels

DOOR ASSEMBLIES AND PANELS

Fig. 12 Item No.	Part No.	Part Description	Qty.
1	0309167	Lift bar, door	2
2	0509274	Nut, acorn (5/16-18 SST)	4
3	104002	Bolt (5/16-18 X 1-1/2)	2
4	0509264	Bushing, side door	2
5	0709357	Door, side	2
6	0501412	Screw (10-32 X 3/8 Truss hd)	8
7	0308704	Guard, splash	2
8	100740	Bolt (5/16 - 18 X 1 Hex hd)	2
9	0503722	Nut (10-32 Hex hd SST)	10
10	0309277	Bracket, door lift	1
11	108053	Plug, corner post	2
12	0307328	Stop, door	2
13	100779	Screw (1/4 - 20 X 5/8 Truss hd)	10
14	0709138	Door, front	1
15	108347	Guide, door	6
16	108410	Gasket, door guide	6
17	0508144	Screw (8-32 X 3/4 Round hd)	36
18	0501419	Bolt (1/4-20 X 1/2 Hex hd)	4
19	100826	Washer, flat	2
20	0309162	Panel, side	2
21	0309163	Panel, front	1
22	0709272	Panel, instrument	1
23	0504911	Screw (#8 X 5/16 Pan hd)	6
24	0501423	Screw (10-32 X 1-1/4 Round hd)	2
25	0501873	Foot, cast grey	4

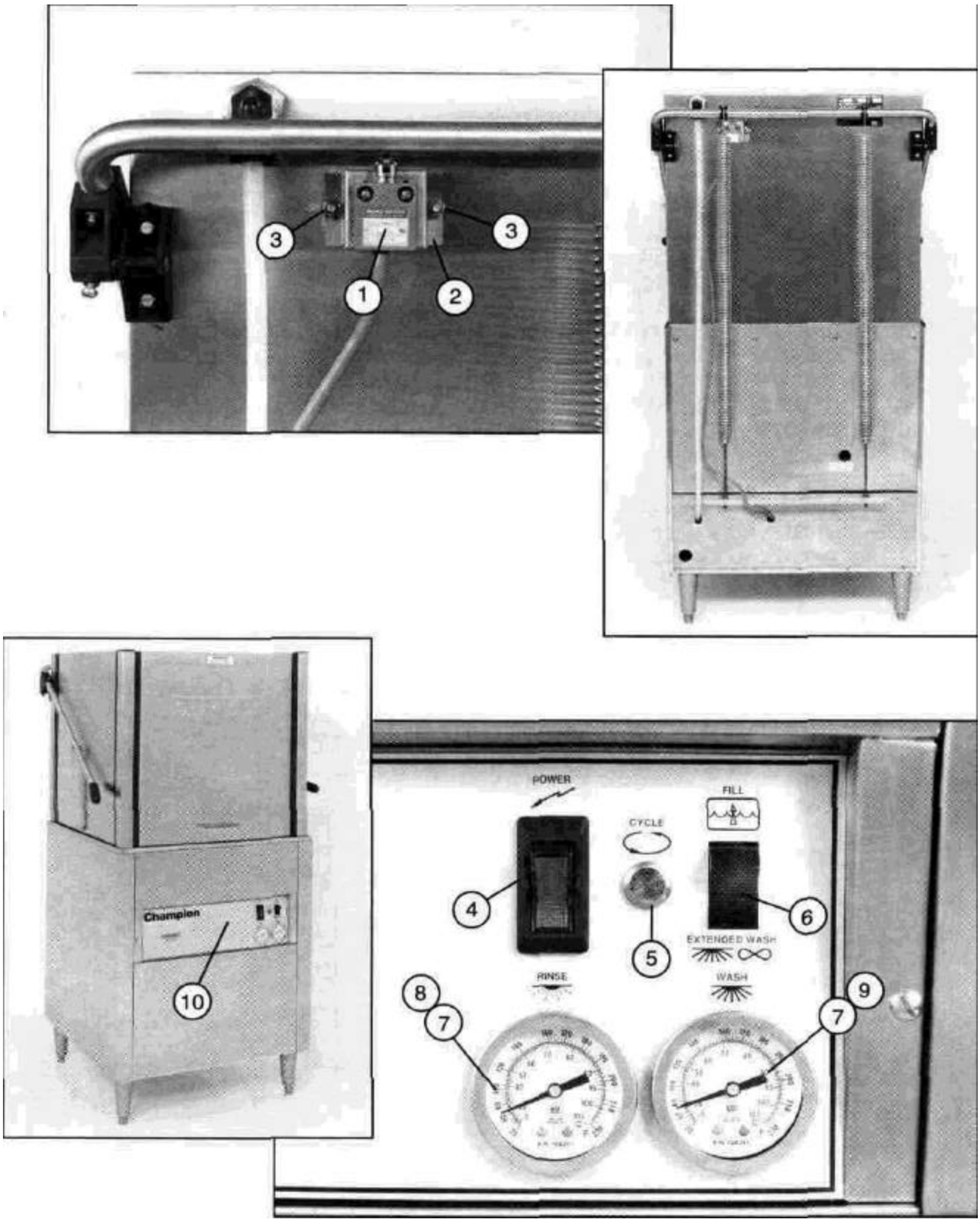


Figure 13 - Door Safety Switch and Instrument Panel

DOOR SAFETY SWITCH AND INSTRUMENT PANEL

Fig. 13 Item No.	Part No.	Part Description	Qty.
1	0509199	Switch, door	1
2	0309193	Bracket, switch	2
3	107967	Nut, grip (1/4-20 with nylon insert)	2
4	111980	Breaker, circuit On-Off switch (5A)	1
5	0503765	Lite, amber (240V)	1
6	0509228	Switch, (Fill/Extended Wash)	1
7	108391	Thermometer (48" capillary tube)	2
8	107445	Overlay, final rinse (180-195°F)	1
9	107444	Overlay, wash (150-160°F)	1
10	0509205	Decal, instrument panel	1

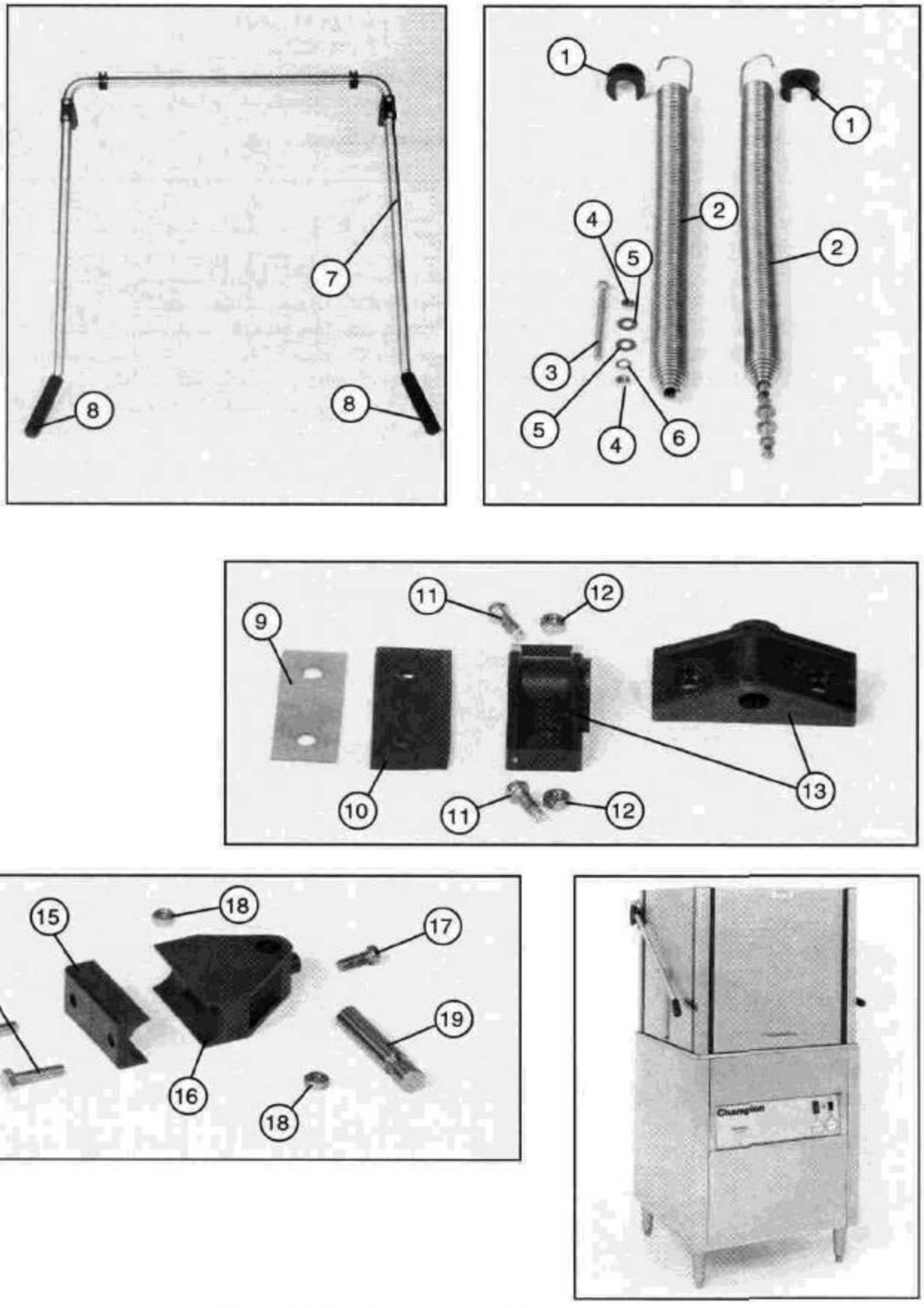


Figure 14 - Door Handle Assembly and Springs

DOOR HANDLE ASSEMBLY AND SPRINGS

Fig. 14 Item No.	Part No.	Part Description	Qty.
1	107397	Block, spring hook	2
2	108066	Spring, extension	2
3	0509168	Bolt, extension spring (5/16-18 X 11 Hex hd)	2
4	100154	Nut, plain (5/16-18)	4
5	102376	Washer (5/16 X 3/4 X 1/16)	4
6	106013	Washer, Lock (5/16 split)	2
7	0309166	Handle, door	1
8	107962	Handle, grip	2
9	304811	Plate, backing	2
10	108368	Gasket, backing	2
11	107436	Screw (M6 X 16mm Filister)	4
12	107420	Nut, plain (M6)	4
13	107399	Support, pivot block (top and side view shown)	2
14	107437	Bolt (M6 X 45mm Hex hd)	4
15	107396	Block, upper pivot	2
16	107395	Block, lower pivot	2
17	107436	Screw (M6X 16mm Filister)	2
18	107420	Nut, plain (M6)	4
19	107393	Pin, pivot	2

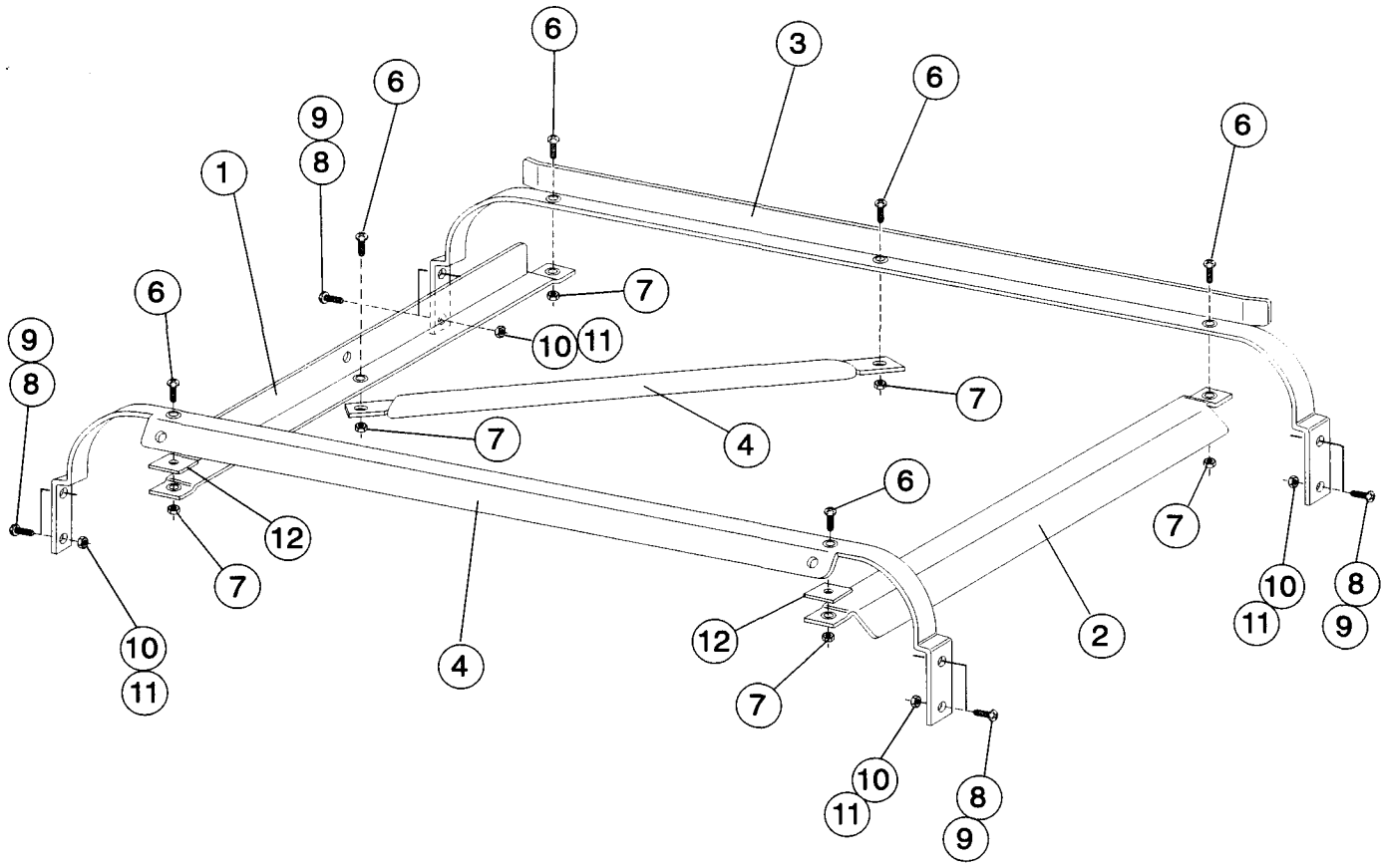


Figure 15 - Track Assembly

TRACK ASSEMBLY

Fig. 15 Item No.	Part No.	Part Description	Qty.
1	0309469	Guide	1
2	0309468	Guide	1
3	0309472	Track, rear	1
4	0309470	Support, rack	1
5	0309471	Track, front	1
6	106727	Screw (10-32 x 5/8 Flat Hd)	6
7	107966	Nut, Grip (10-32 w/ nylon insert)	6
8	100779	Bolt (1/4-20 x 5/8 Truss Hd)	8
9	0501481	Washer, sealing	8
10	0501501	Washer, lock	8
11	0501539	Nut (1/4-20 Hex Hd)	8
12	0309473	Spacer	2

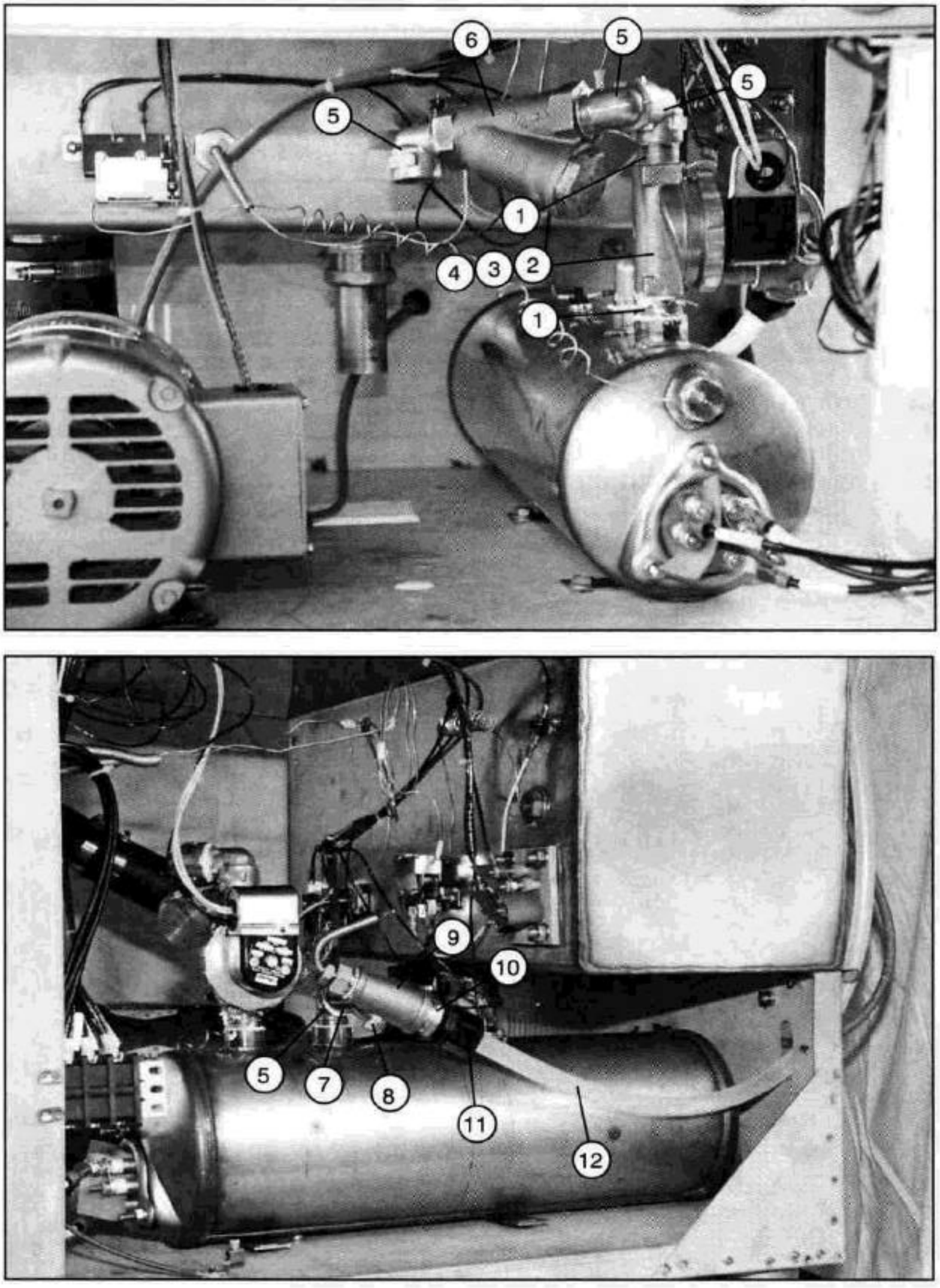
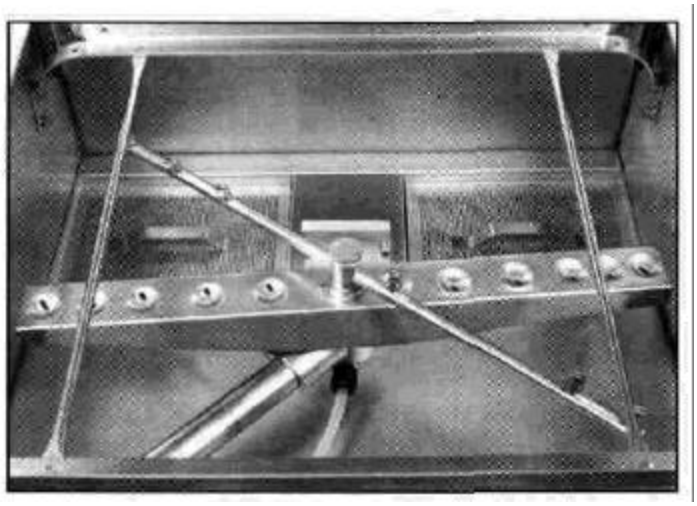


Figure 16 - Fill Piping Assembly

FILL PIPING ASSEMBLY

Fig. 16 Item No.	Part No.	Part Description	Qty.
1	100184	Nipple, close (3/4 NPT, Brass)	2
2	0509275	Valve, solenoid 3/4" (120V coil)	1
3	109903	Repair kit, solenoid valve 3/4"	1
4	108516	Coil, solenoid valve (120V)	1
5	102444	Elbow, street (3/4 X 90°, Brass)	4
6	110768	Strainer, line (3/4", Brass)	1
7	102470	Nipple (3/4 X 3. Brass)	1
8	0508709	Plug (1/8" Brass)	1
9	0308728	Tee, reworked (3/4 X 1/2 X 3/4, Brass)	1
10	100171	Bushing, reducer (3/4 X 1/2, Brass)	1
11	0509180	Fitting, compression (1/2 MPT X 5/8)	1
12	0509176	Tubing (5/8")	60"



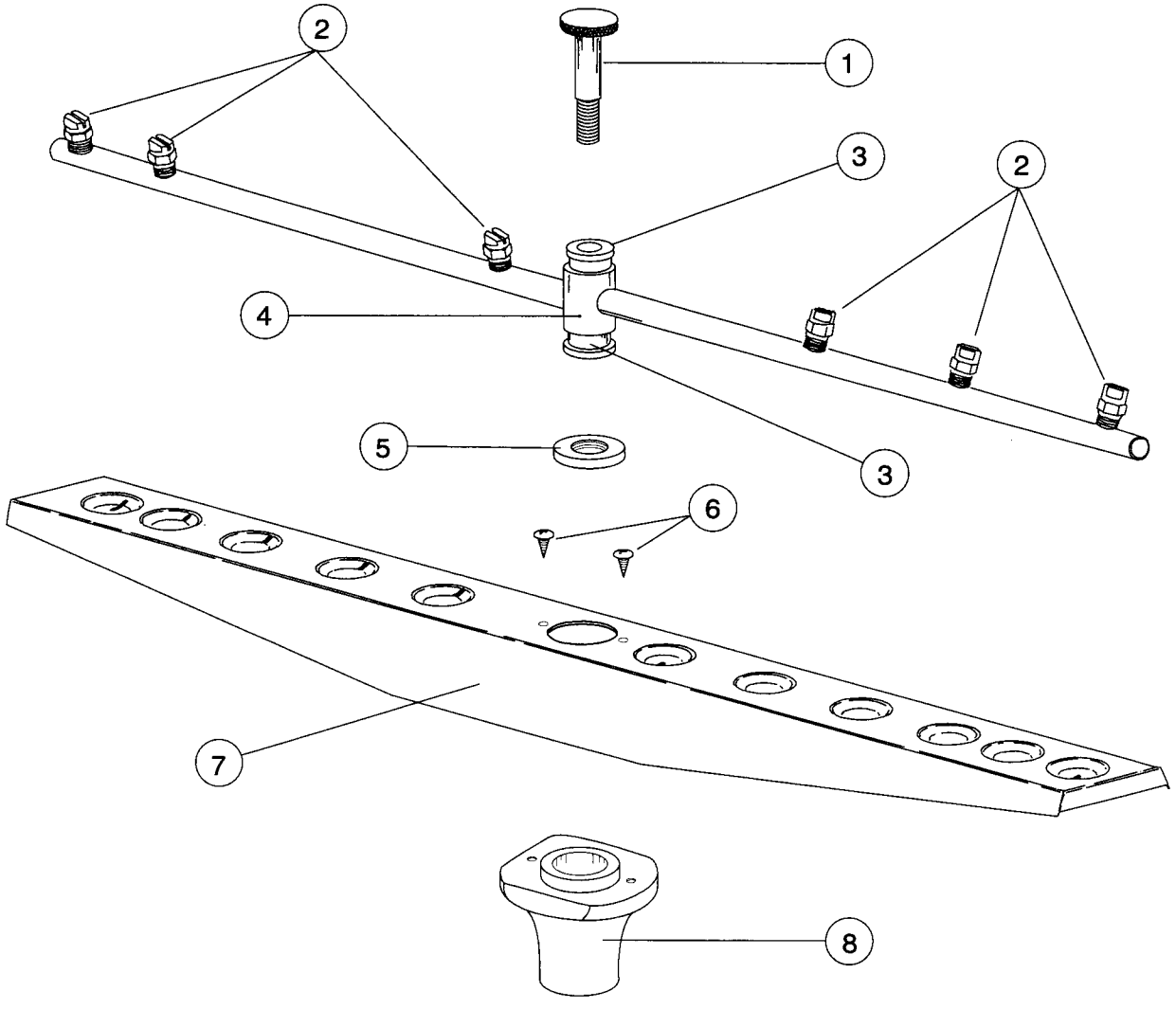


Figure 17 - Wash/Rinse Spray Arm Assembly

WASH/RINSE SPRAY ARM ASSEMBLY

Fig. 17 Item No.	Part No.	Part Description	Qty.
1	0507443	Spindle, rinse arm	2
2	0508376	Nozzle, rinse arm	12
3	112164	Bearing, rinse arm	4
4	0707453	Rinse arm assy (includes Items 2-3)	2
5	0507444	Nut, rinse arm	2
6	0501563	Screw (#8 X 1/2 Pan hd)	4
7	0707452-S	Wash arm assy (includes Items 6, 8)	2
8	0507446	Bearing, wash arm	2

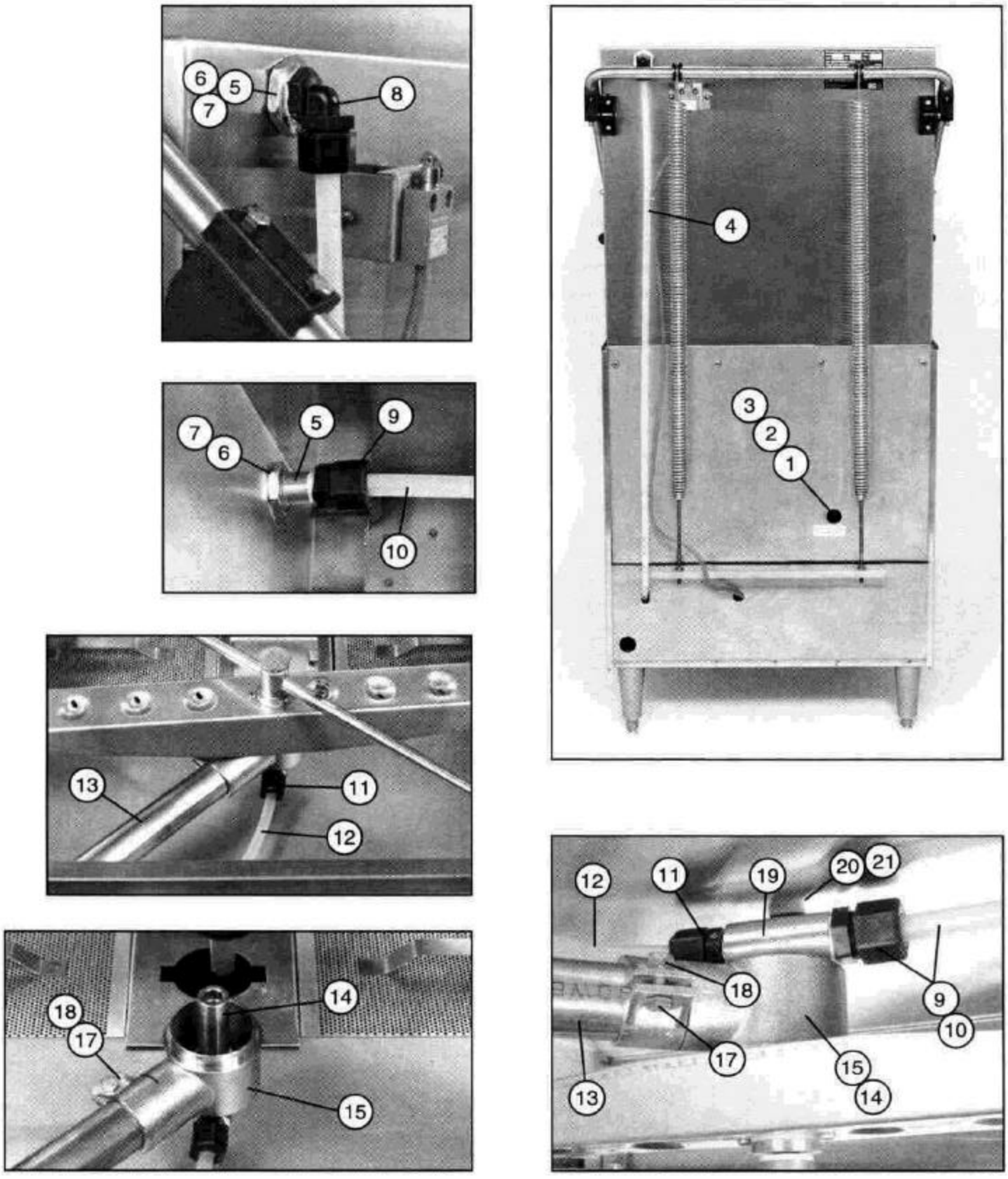
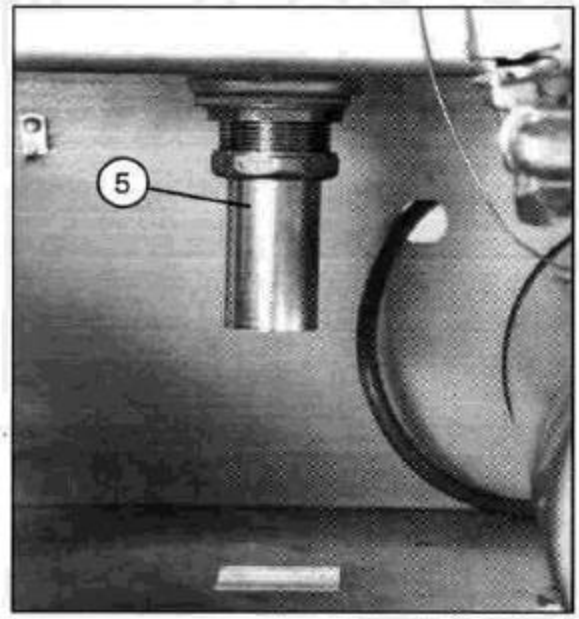
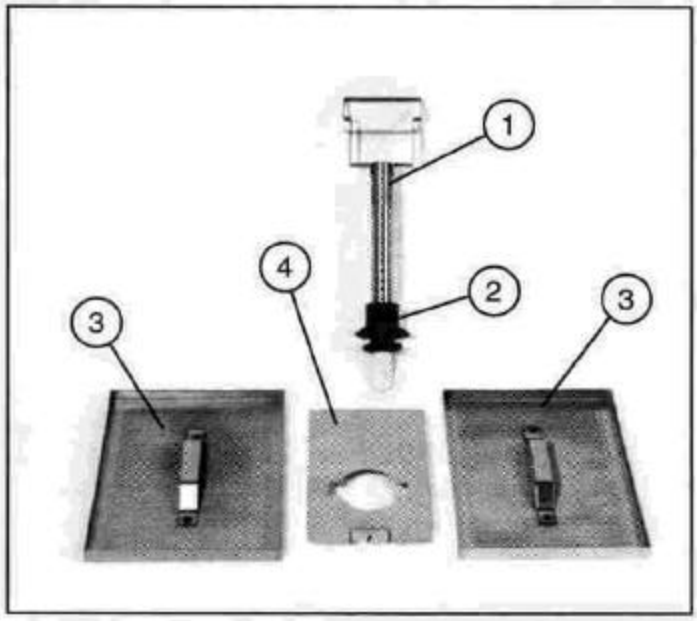


Figure 18 - Wash/Rinse Spray Piping Assembly

WASH/RINSE SPRAY PIPING ASSEMBLY

Fig. 18 Item No.	Part No.	Part Description	Qty.
1	108418	Plug (1/2")	1
2	108417	Nut, plug	1
3	109034	Washer, fiber (13/16 X 1-1/16)	1
4	0509176	Tubing (5/8")	60"
5	0509179	Fitting, bulkhead (1/2 NPT, Nickle plate)	1
6	0309350	Washer, flat (not shown)	2
7	104889	Putty, water sealing (Compound 440) (not shown)	1
8	0509182	Fitting, compression elbow (1/2 MPT X 5/8)	1
9	0509180	Fitting, compression straight (1/2 MPT X 5/8)	2
10	0509176	Tubing (5/8")	15"
11	0509181	Fitting, compression straight (3/8 MPT X 3/8)	2
12	0509177	Tubing (3/8")	60"
13	109781	Standpipe, wash	1
14	0507445	Spindle, wash arm	2
15	109864	Support, wash arm	1
16	0509178	Connector, bottom rinse	1
17	100736	Bolt (1/4-20 X 3/4 Hex hd)	2
18	107967	Nut, grip (1/4-20)	2
19	0509150	Connector, top rinse	1
20	0501539	Nut (1/4-20 Hex)	1
21	0501501	Washer, lock 1/4 split	1





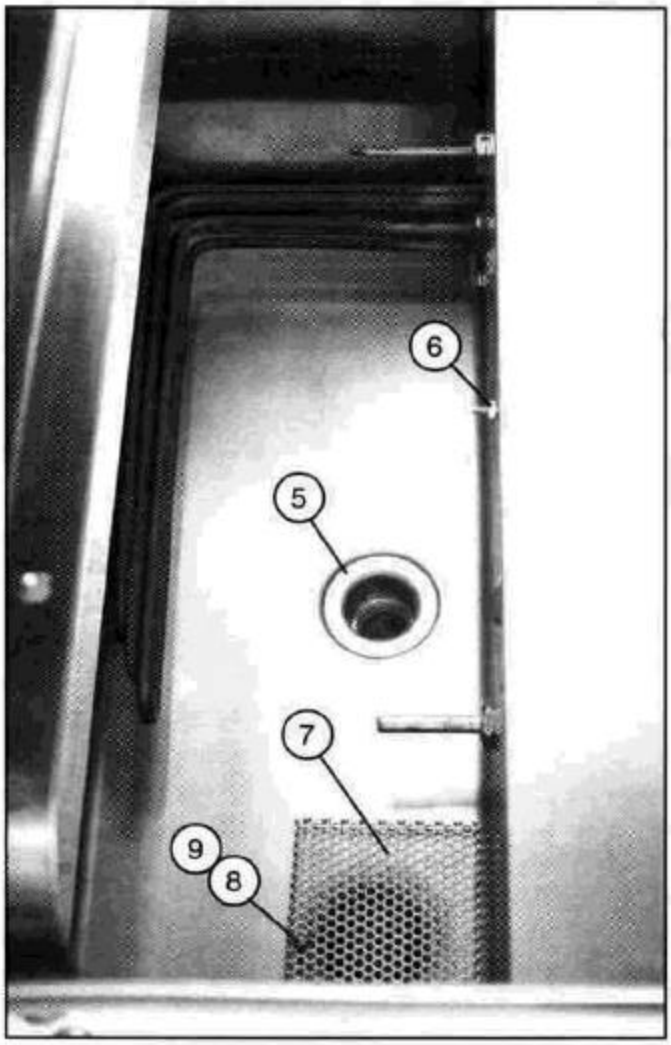
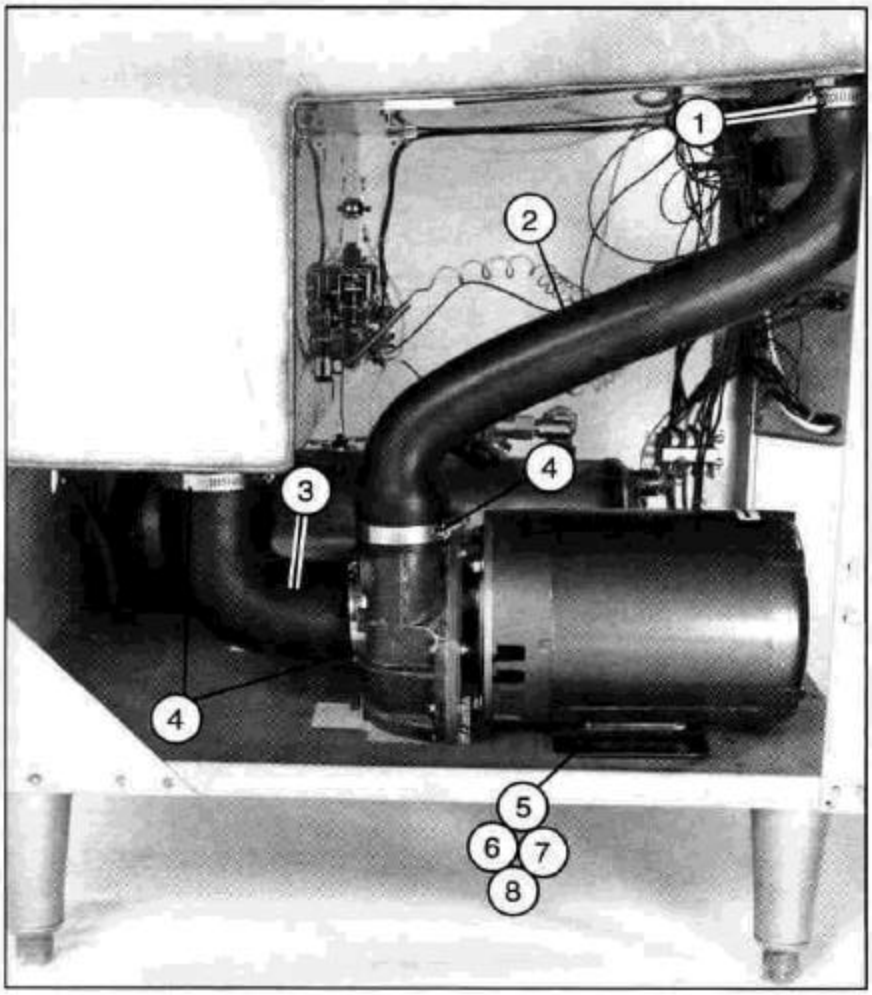


Figure 19 - Scrap Screens and Drain Assembly

SCRAP SCREENS AND DRAIN ASSEMBLY

Fig. 19 Item No.	Part No.	Part Description	Qty.
1	0709196	Assembly, drain overflow	1
2	0509198	Stopper, drain overflow assembly	1
3	305164	Screen, scrap	2
4	0309192	Cover, drain	1
5	0302565	Assembly, drain	1
6	107966	Nut, grip (10-32 with nylon insert)	1
7	308005	Strainer	1
8	107967	Nut, grip (1/4-20 w/nylon insert)	1
9	0507709	Washer, flat #10 (SST)	1



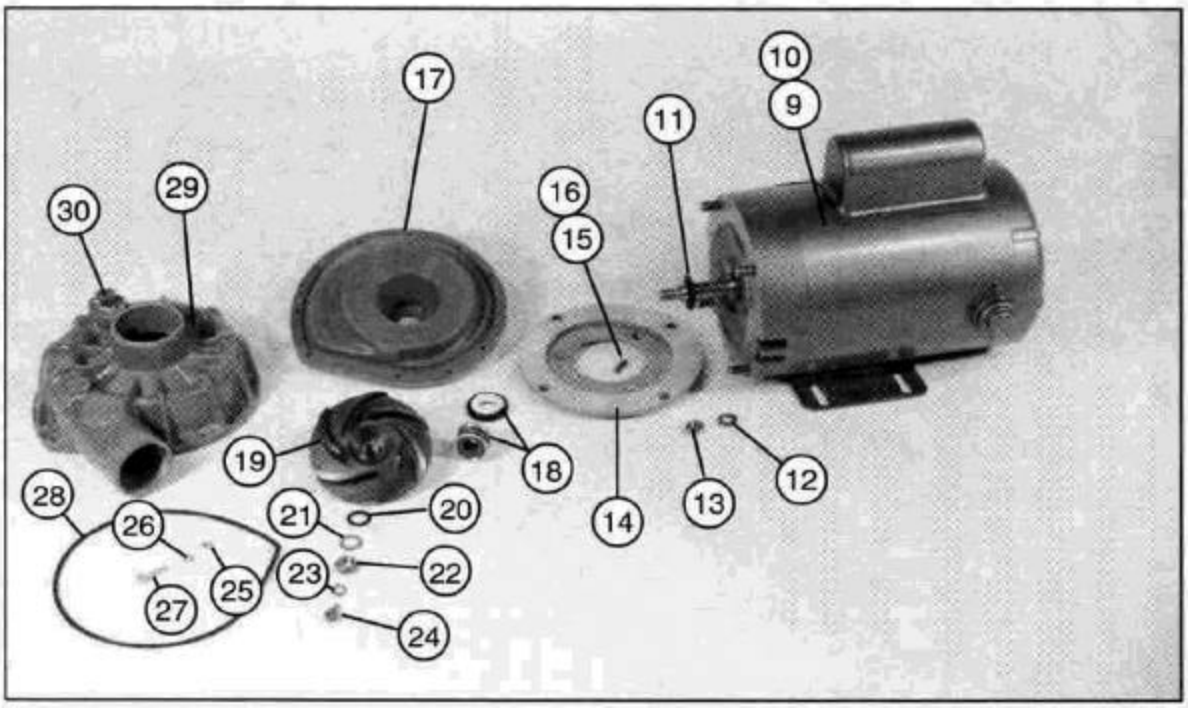


Figure 20 - Pump Assembly

PUMP ASSEMBLY

Fig. 20 Item No.	Part No.	Part Description	Qty.
1	107340	Clamp hose	1
2	0509351	Hose, discharge	1
3	0508515	Hose, suction	1
4	105986	Clamp, hose	3
5	100739	Bolt (5/16-18 X 3/4 Hex hd)	4
6	102376	Washer, flat (5/16)	8
7	106013	Washer, lock (5/16 split)	4
8	100154	Nut, plain (5/16-18)	4
9	0509174	Motor, 1.4 HP (220/380V/3 PH/50-60Hz)	1
10	112163	Motor, 1.4HP(220/380V/1 PH/50-60Hz)	1
11	109654	Washer, pump slinger	1
12	106407	Washer, lock (3/8 split)	4
13	107690	Nut, jam (3/8-16)	4
14	204460	Backing plate, machine	1
15	100754	Screw (10-32 X 1/2 Flat hd)	4
16	110270	Washer, countersunk	4
17	109649	Back housing, pump	1
18	111111	Seal, pump	1
19	111143	Impeller	1
20	110458	0-ring	1
21	110248	Washer, flat	1
22	110247	Nut, jam (7/16-20)	1
23	106482	Washer, lock (1/4 split)	1
24	100734	Bolt (1/4-20 X 1/2 Hex hd)	1
25	100194	Nut, grip (10-32)	11
26	0501505	Washer, lock	11
27	107137	Bolt (10-32 X 7/8 Hex hd)	11
28	111943	Gasket (.032" thick)	1
29	109651	Volute	1
30	107463	Plug (1/4")	1
—	0709191	Motor and pump assembly complete 1.4 HP (220/380V/3 PH/50-60Hz)	1
—	0709279	Motor and pump assembly complete 1.4 HP (115/200-240V/1 PH/50-60Hz)	1

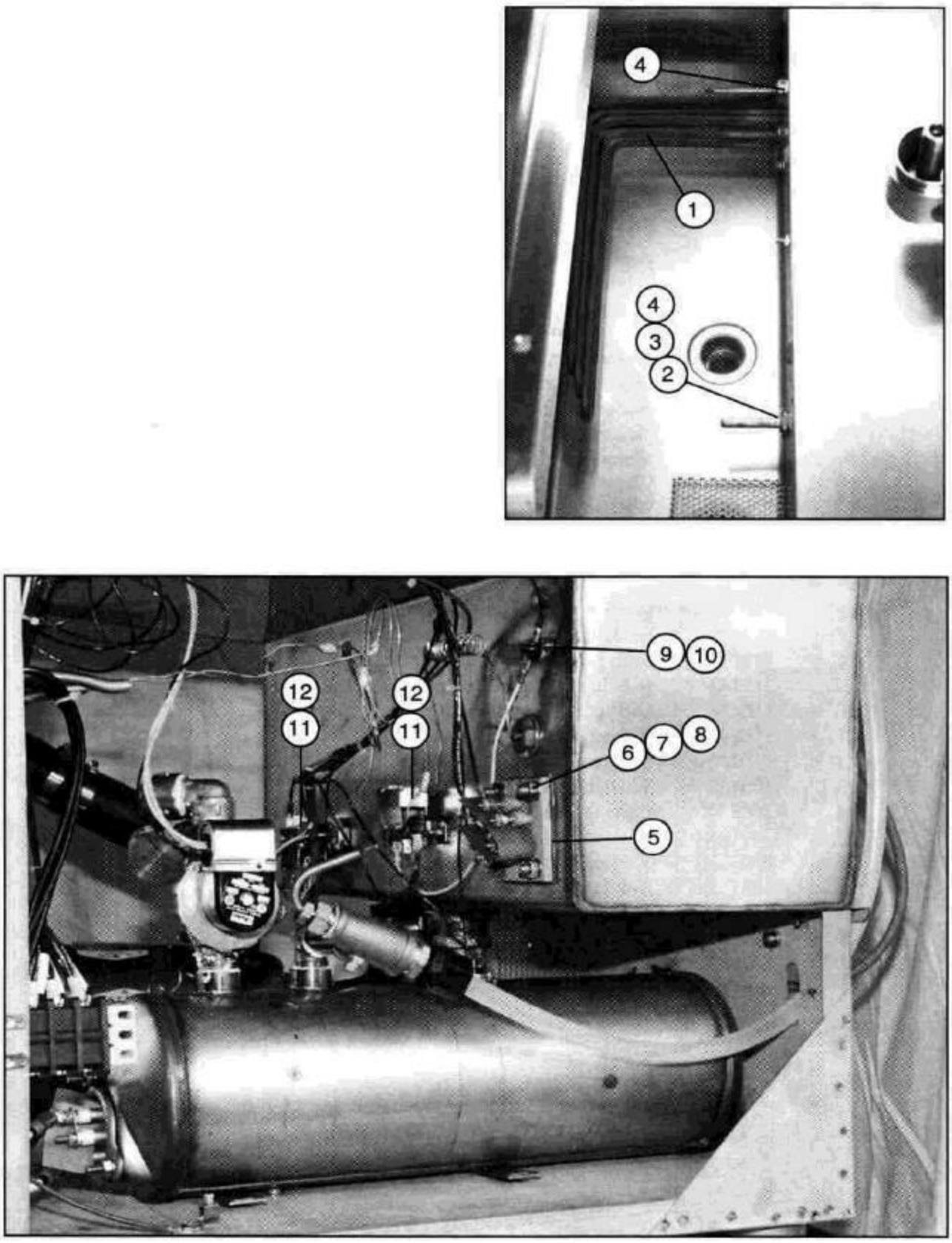


Figure 21 - Wash Tank Heater and Thermostats

WASH TANK HEATER AND THERMOSTATS

Fig. 21 Item No.	Part No.	Part Description	Qty.
1	0509185	Element, wash tank heater (3 KW, 220/380V, 1-3 PH)	1
2	108391	Thermometer (48")	1
3	0508872	Adapter, thermometer	1
4	201029	Nut, lock (1/2" Nickel plate)	2
5	0307354	Gasket, wash tank heater element	1
6	100739	Bolt (5/16-18 X 3/4 Hex hd)	4
7	106013	Washer, lock (5/16 split)	4
8	100154	Nut, plain (5/16-18)	4
9	110562	Thermostat, high limit (wash tank)	1
10	108954	Nut, grip (6/32 with nylon insert)	2
11	109069	Thermostat, control	1
12	107966	Nut. grip (10-32 w/nylon insert)	4

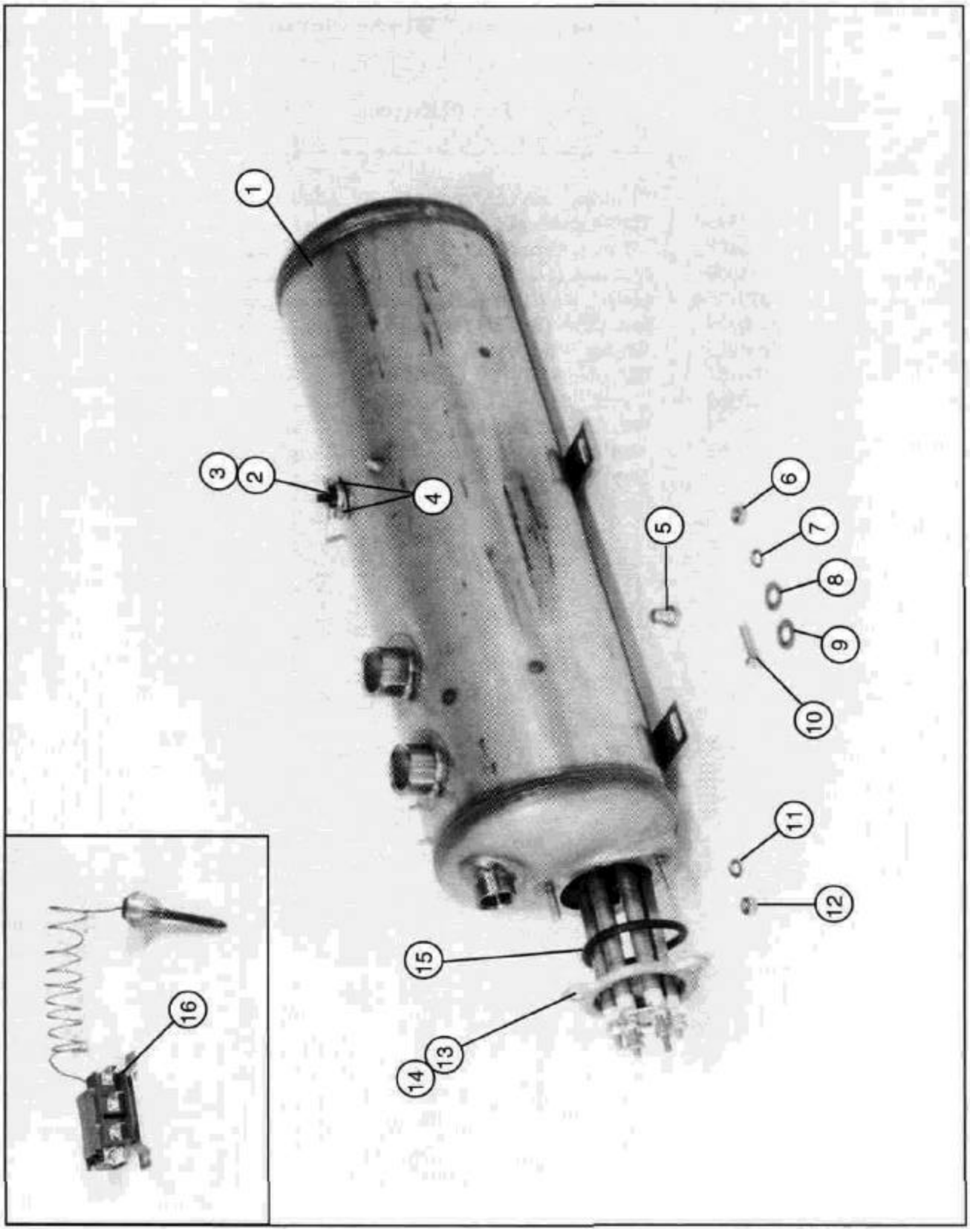
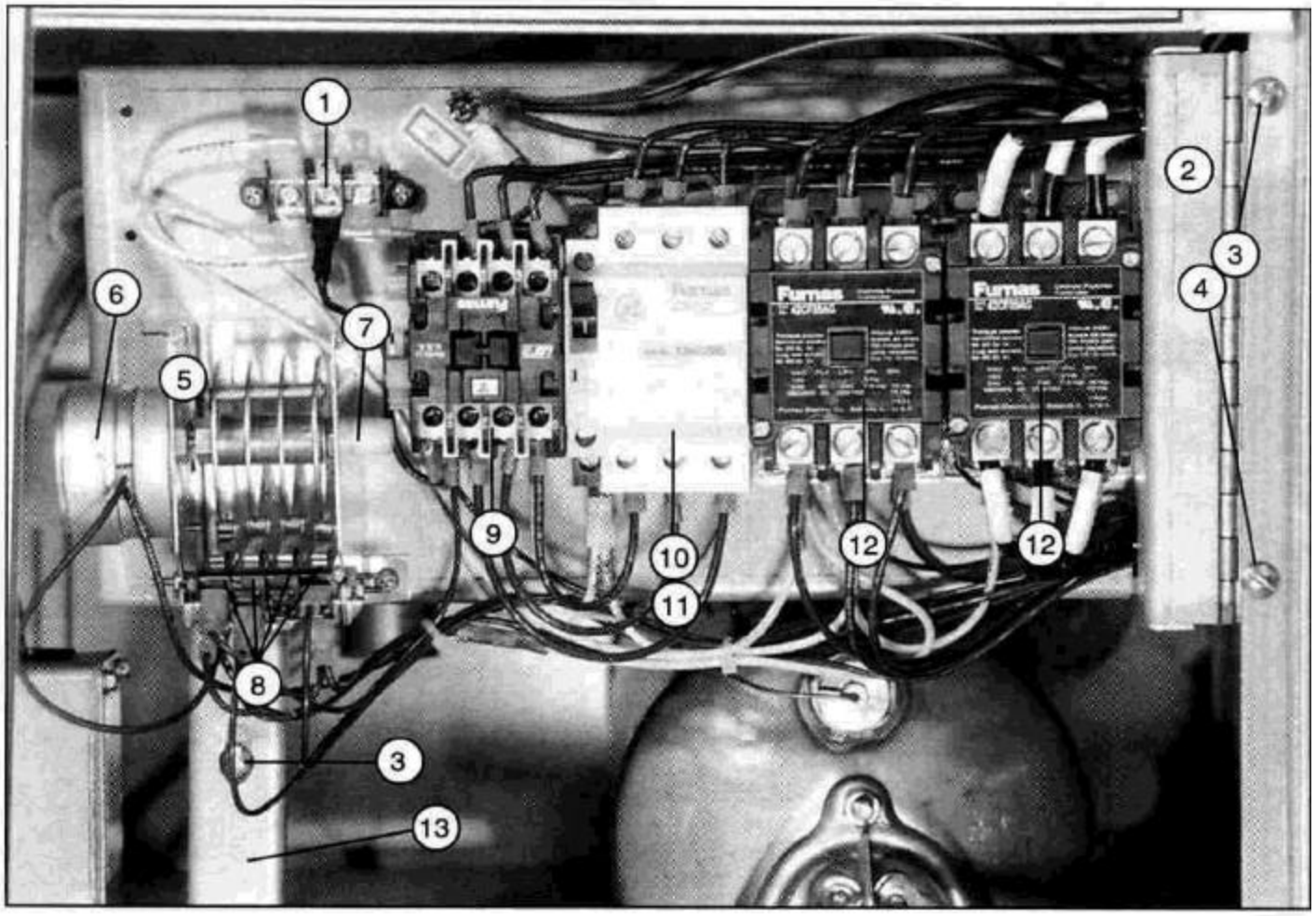


Figure 22 - Electric Booster Assembly and Thermostat

ELECTRIC BOOSTER ASSEMBLY AND THERMOSTAT

Fig. 22 Item No.	Part No.	Part Description	Qty.
1	0509042	Tank, booster	1
2	110562	Thermostat, high limit (fixed, snap)	1
3	110563	Compound, heat sink	1
4	108954	Nut, grip (6-32 with nylon insert)	2
5	100210	Plug 1/8 (SST)	1
6	100154	Nut, plain (5/16-18)	2
7	106013	Washer, lock (5/16 split)	2
8	104618	Washer, flat (3/8 X 7/8 X 1/16)	2
9	102376	Washer, flat (5/16 X 3/4 X 1/16)	2
10	100740	Bolt (5/16-18 X 1 Hex hd)	2
11	106482	Washer, lock (1/4 split)	3
12	100003	Nut, plain (1/4-20 SST)	3
13	107909	Heater, booster, 6 KW (208-240V) (Wired Delta) 40° rise (For single and three phase)	1
13	107909	Heater, booster, 6 KW (380V) (Wired Wye) 40° rise (For three phase only)	1
14	111334	Heater, booster, 12 KW (208-240V) (Wired Delta) 70° rise (For three phase only)	1
14	111334	Heater, booster, 12 KW (380V) (Wired Wye) 70° rise (For three phase only)	1
15	109985	0-ring	1
16	109069	Thermostat, booster heat control	1



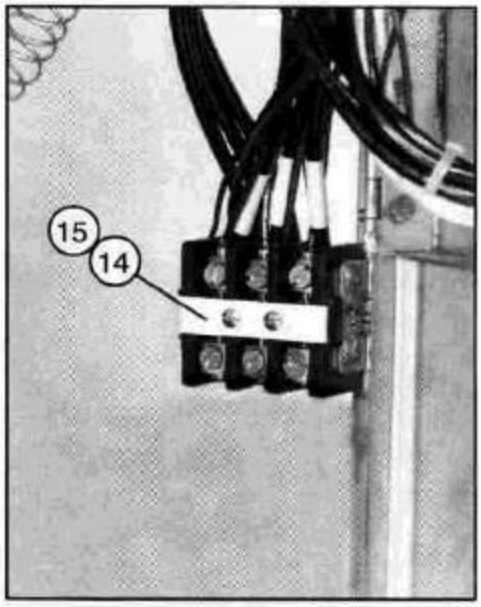


Figure 23 - Control Cabinet

CONTROL CABINET

Fig. 23 Item No.	Part No.	Part Description	Qty.
1	0505899	Block, terminal	1
2	0709157	Panel, control (sheet metal only)	1
3	0501412	Screw (10-32 X 3/8 Truss hd)	3
4	0501500	Washer, lock	2
5	0709169	Assembly, timer (includes Items 6-8)	1
6	0509175	Motor, timer	1
7	0503701	Bearing, timer	1
8	0501379	Switch, timer	4
9	0509172	Contactor, wash motor, (12A, 3 Pole, 220V coil) 1 & 3 phase	1
10	111630	Overload, motor-1.4 HP Wash (208-240V/1PH)	1
11	111628	Overload, motor-1.4 HP Wash (208-240/380V/3PH)	1
12	0509173	Contactor, heat (50A, 3 Pole, 220V coil) 1 & 3 phase	2
13	0309159	Support, leg	1
14	0504951	Block, terminal (3 pole) (for 3 Phase)	1
15	106963	Block, terminal (2 pole) (for 1 phase) (not shown)	1
—	103309	Wire lug, ground (not shown)	1
—	0509183	Harness, wiring	1

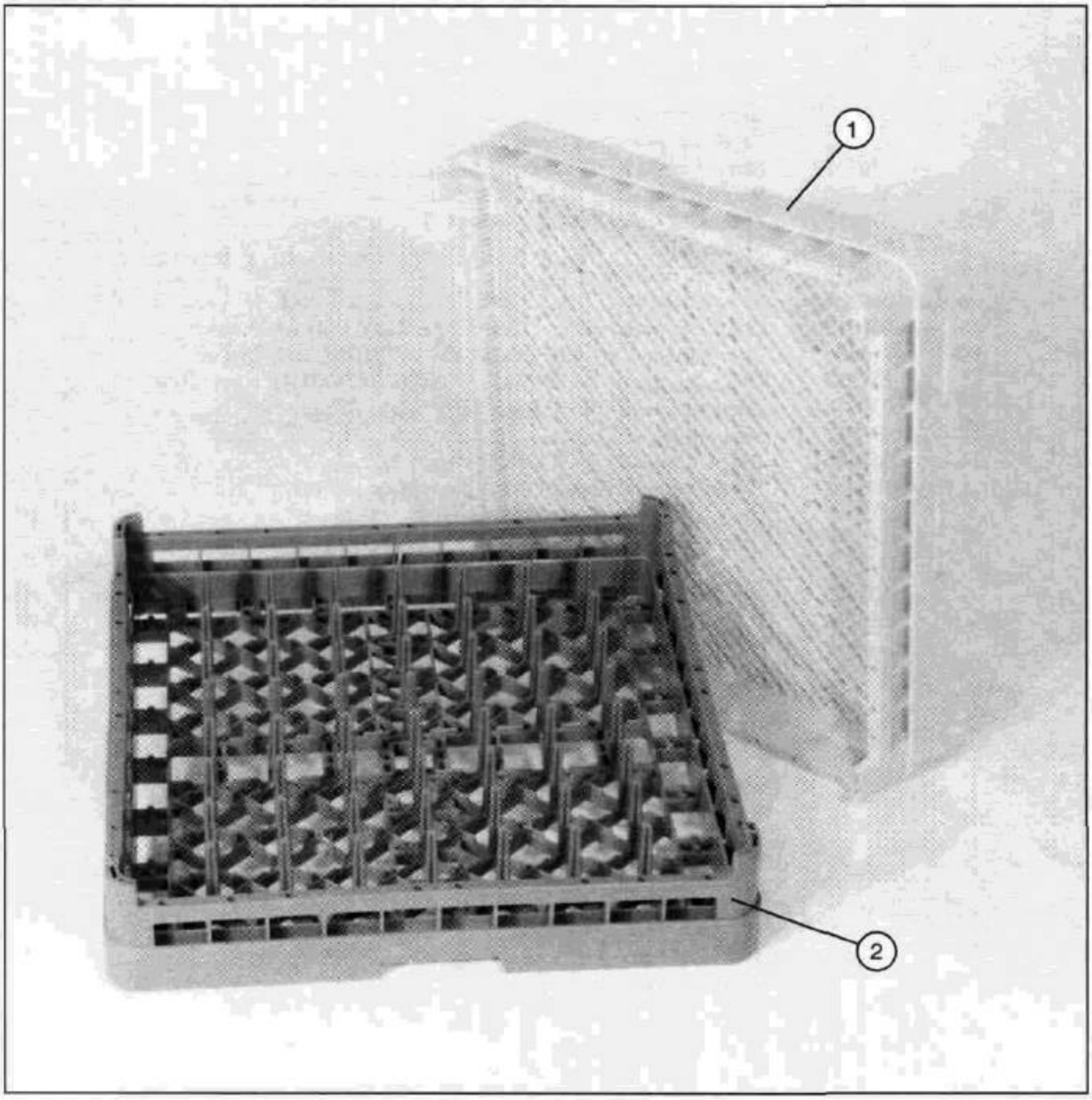


Figure 24 - Dishracks

DISHRACKS

Fig 24 Item No	Part No	Part Description	Qty
1	101273	Rack, (Flat Bottom)	1
2	101285	Rack, (Peg)	1

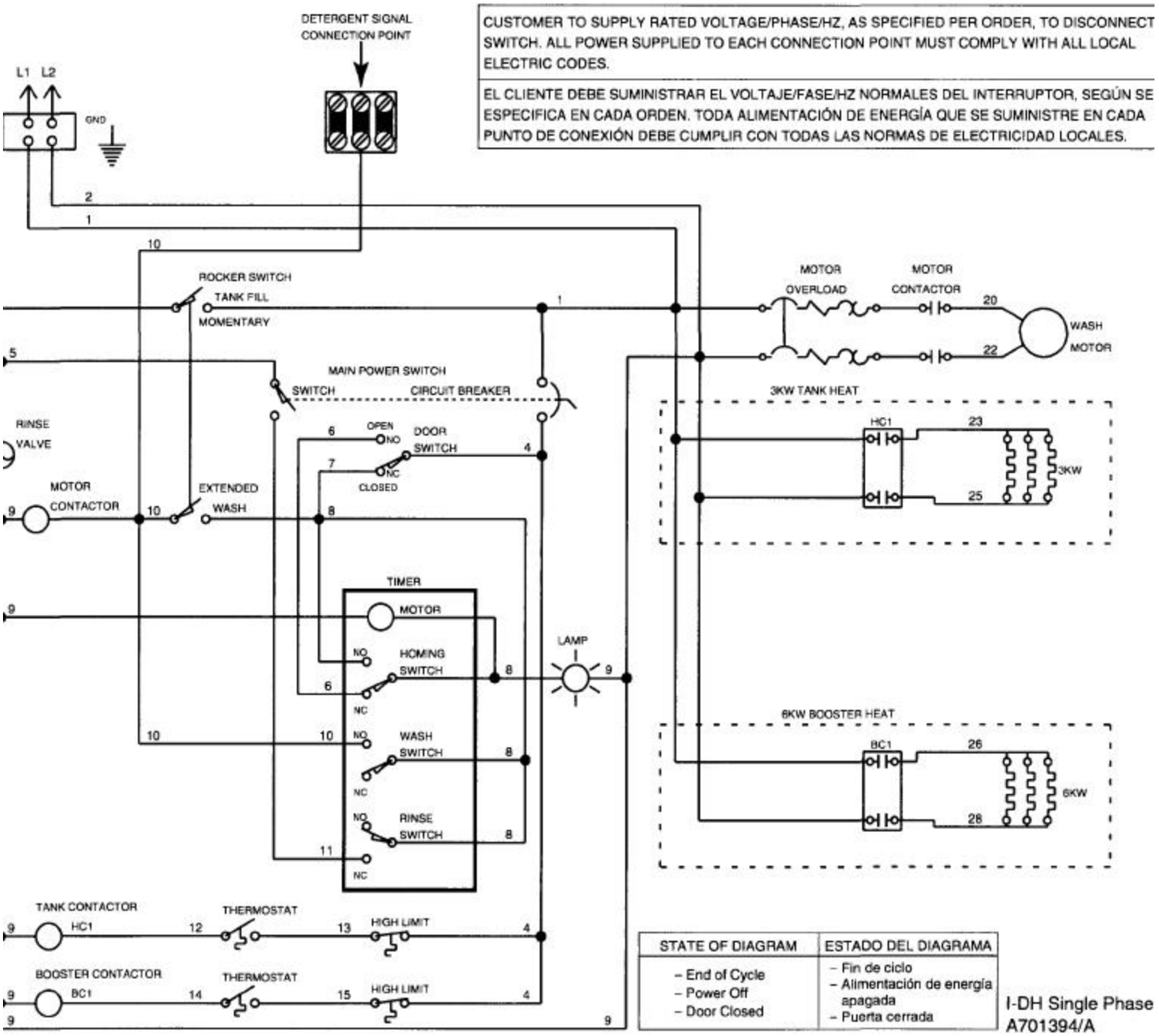


Figure 25 – Electrical Schematic (Single Phase)

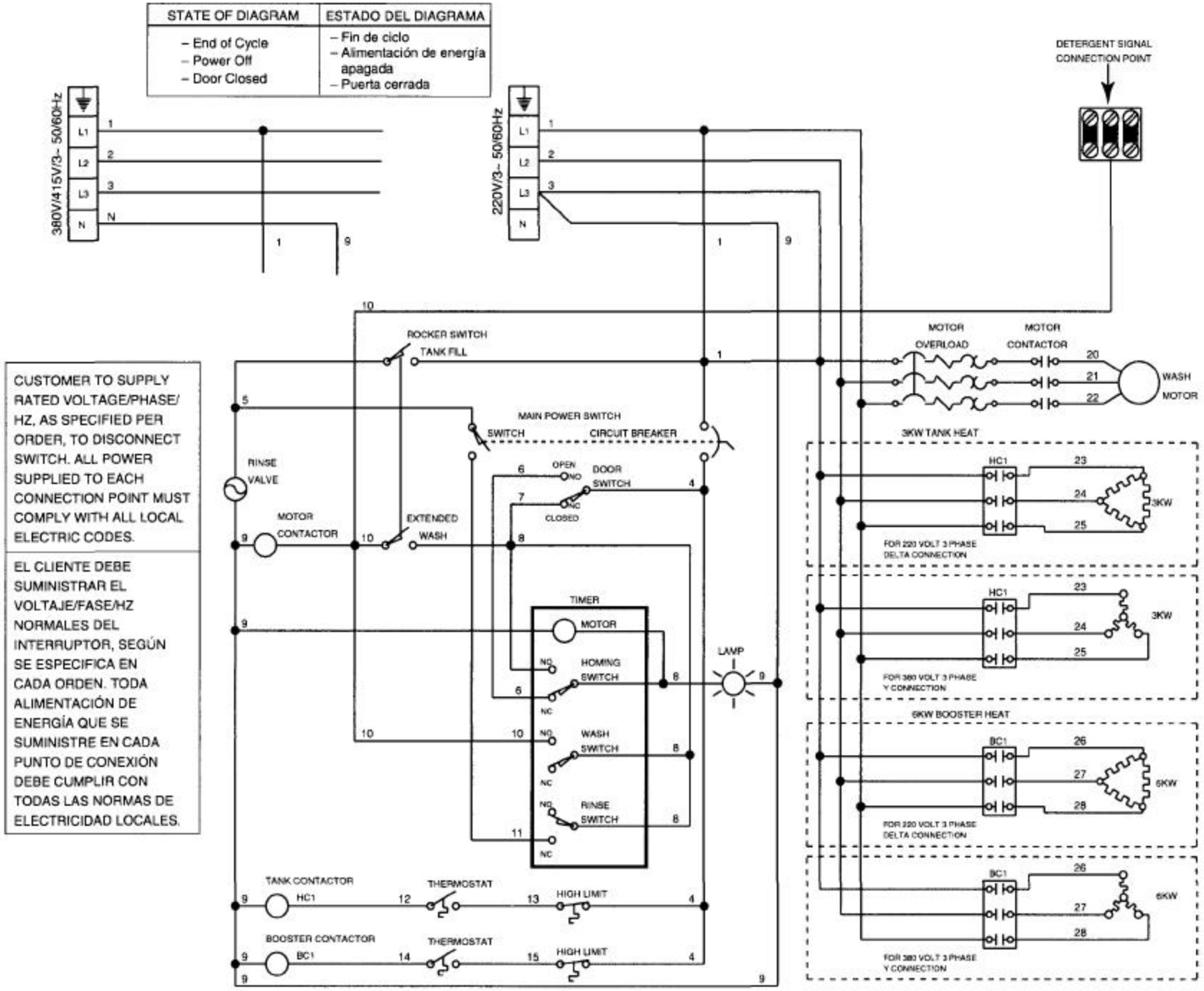


Figure 26 – Electrical Schematic (Three Phase)