

Champion®



Installation/Operation Manual with Service Replacement Parts

For machines beginning with S/N D3684 and above



Door-type Extended Hood Dishwasher

Models:

D-HBTM5, DHBTCM5
High Temperature Extended Hood with
Built-in Booster Heater

D-H1TM5, DH1TCM5
High Temperature Extended Hood without
Built-in Booster Heater



www.championindustries.com

Champion Industries, INC.
3765 Champion Boulevard, Winston-Sale, NC 27105
P.O. Box 4149 Winston-Salem, NC 27115-4149
1-800 232-8591 Fax: 1-800-661-1556

2674 N. Service Road, Jordan Station
Ontario, Canada L0R 1S0
1-800 263-5798 Fax: 1-905 562-4618

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Manual P/N 113492 Rev. G

Printed in U.S.A.



For future reference, record your dishwasher information in the box below.

Model Number _____	Serial Number _____	
Voltage _____	Hertz _____	Phase _____
Service Agent _____	Tel: _____	
Parts Distributor _____	Tel: _____	

National Service Department



In Canada:
Toll-free: 800/ 263-5798
Tel: 905/ 562-4195
Fax: 905/ 562-4618
email: service@moyerdiebellimited.com



In the USA:
Toll-free: 800/ 858-4477
Tel: 336/ 661-1556
Fax: 336/ 661-1660
email: service@championindustries.com

ATTENTION:

The model no., serial no., voltage, Hz and phase are needed to identify your machine and to answer questions.

The machine data plate is located on the front panel of the machine

Please have this information ready if you call for service assistance.

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ATTENTION:

Complete the back of the POSTAGE PAID WARRANTY CARD below, then cut along the dashed lines and mail immediately to make sure that your machine warranty is validated.

USE CANADIAN WARRANTY CARD IN CANADA AND USA WARRANTY CARD IN THE UNITED STATES.

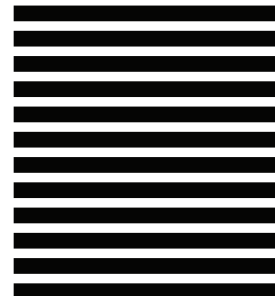


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WARRANTY REGISTRATION CARD

Model

Serial #

Date of Installation: ___/___/___

Company Name: _____

Address: _____ (Street) _____ State or Province _____ Zip Code

Telephone #: () _____ --- _____

Contact: _____

Installation Company: _____

Address: _____

Telephone #: _____

Contact: _____

This Card Must Be Returned to Validate Machine Warranty:

IMPORTANT IMPORTANT

WARRANTY REGISTRATION CARD

Model

Serial #

Date of Installation: ___/___/___

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Address: _____ (Street) _____ State or Province _____ Zip Code

Telephone #: () _____ --- _____

Contact: _____

Installation Company: _____

Address: _____

Telephone #: _____

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IMPORTANT IMPORTANT

Revision History

A revision might be a part number change, new instructions, or information that was not available at the time of printing. We reserve the right to make changes to this manual without notice and without incurring any liability by making changes. Dishwasher owners may request a revised manual at no charge by calling (800) 858-4477 in the USA or (800) 263-5798 in Canada.

Revision Date	Pages	Serial No. Effectivity	Description
7.1.02	All	D3694	Release of First Edition
10.18.02	3	D3864	Revised rated amp listing
10.18.02	11,15	D3864	Added control panel decal
10.18.02	13,15,17,24	D3864	Revised cycle times
10.18.02	33	D3864	Added new panel P/N 327262
10.18.02	35,37	D3864	Added new door P/N's
10.24.02	44,45	D3864	Revised rinse arm bearing P/N's Bearing 112164 replaced by 113514, 0707452 replaced by 414111.
10.24.02	45	D3864	Added new rinse arm P/N 414110.
10.24.02	47	D3864	Added water deflector P/N 327283.
10.24.02	54,55	D3864	Added bushing P/N 100171.
10.24.02	60,61	D3864	Added new control panel.
10.24.02	63	D3864	Added new timer bd. P/N 113547.
12.18.02	63	D3957	Added timer bd. kit P/N 900911 to convert bds. to P/N 113597.
2.5.03	49,61	_____	Replaced P/N 108391 w/ 113622.
2.5.03	63	_____	Vendor change for overloads Square D in place of Siemens.
1.29.04	15	_____	Revised cycle time instructions.
2.3.04	52,53	D4237	Added PRV and line strainer
2.3.04	67	D4237	Update schematic to Rev. K
3.5.04	39	D4410	Changed door safety switch P/N 112659 to P/N 113721.
3.5.04	39	D4410	Added door handle and kit P/N 900860
9.3.09	67	_____	Update schematic to Rev. M

Revision History (continued)

Revision History (continued)

<i>Revision Date</i>	<i>Pages</i>	<i>Serial No. Effectivity</i>	<i>Description</i>
1.06.10	All	D09117934	Release of Second Edition

Model Descriptions

Model Numbers

D-HBT - Straight-through with built-in booster

D-HBTC - Corner with built-in booster

D-H1T - Straight-through without built-in booster

D-H1TC - Corner without built-in booster

Standard Equipment

Automatic Tank Fill and start

Adjustable cycle selector switch

Combination dishwasher for dishes, pots, pans and utensils

Built-in electric booster heater (DHBT, DHBTC only) in 40 °F/22 °C rise for 140 °F/60 °C supply water

Specified as straight-through or corner operation

2-door lift system

Electric tank heat

Low-water tank heat protection

Door safety switch

Automatic electric drain

Common utility connection

Chemical connection provisions

Stainless steel front and side panels

2" O.D. gravity drain connection

Mounted water pressure regulating valve (DHBT, DHBTC)

Interchangeable upper and lower spray arms

Stainless steel rinse arms

Two dish racks (1 peg, 1 flat-bottom)

Options and Accessories

Built-in electric booster heater (DHBT, DHBTC only) in 70 °F/39 °C rise for 110 °F/43 °C supply water

Externally mounted steam booster (steam booster 40 °F/22 °C - 70 °F/39 °C rise)

Steam injector or steam coil tank heat (steam booster 40 °F/22 °C - 70 °F/39 °C rise)

Single Source gas booster heater

Additional dish racks:

Peg rack P/N 101285

Flat-bottom P/N 101273

Sheet Pan P/N 113281

3/4" NPT Pressure Regulating Valve (PRV) P/N 107550

3/4" NPT Line Strainer P/N 110768

LIMITED WARRANTY

Champion Industries Inc. (herein referred to as Champion), P.O. Box 4149, Winston-Salem, North Carolina 27115, and P.O. Box 301, 2674 N. Service Road, Jordan Station, Canada, L0R 1S0, 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 and Canada 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.

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Model DHBT, DH1T Extended Hood Door-type Dishwashers

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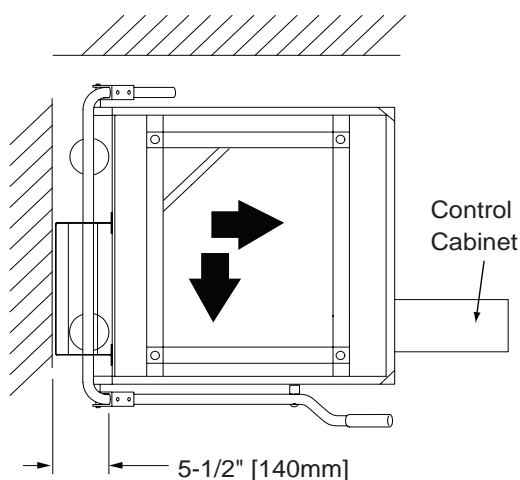
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Receiving

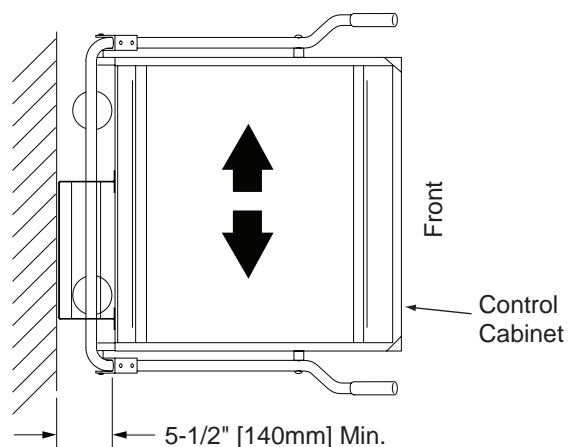
!!ATTENTION!!

Use caution when moving or lifting the dishwasher to prevent damaging the dishwasher or the installation site. Check doorway and passageway clearance before moving the dishwasher. Remove dishwasher front panel and check under the machine base for obstructions before moving.

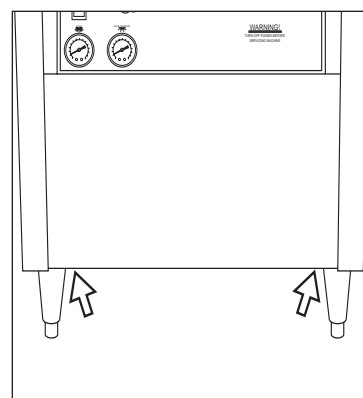
1. Inspect the dishwasher for shipping damage
2. Check the dishwasher interior for curtains, panels and other supplies.
3. Lift the dishwasher off the shipping pallet and move the machine near its permanent location.
4. Leave a minimum of 5-1/2" between walls and the rear of the dishwasher.
5. Level the dishwasher side-to-side and front-to-back using a bubble level. The dishwasher legs are adjusted by screwing them in or out.
6. Do not remove tags attached to the utility connections.
7. Remove the protective film from the dishwasher exterior.
8. Remove any foreign material from the dishwasher interior.



*DHBTC, DH1TC
Corner Configuration*



*DHBT, DH1T
Straight-through Configuration*



*Remove two front panel screws
in preparation for utility connections*

Electrical Connections



WARNING:

Electrocution or serious injury may result when working on an energized circuit.

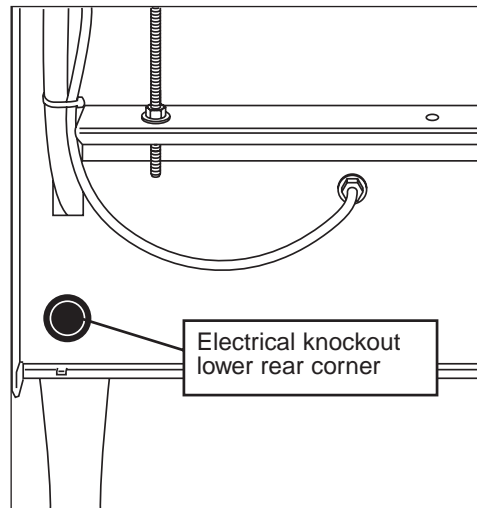
Disconnect power at the main breaker or service disconnect switch before working on the circuit.

Lock-out and tag the breaker to indicate that work is being performed on the circuit.

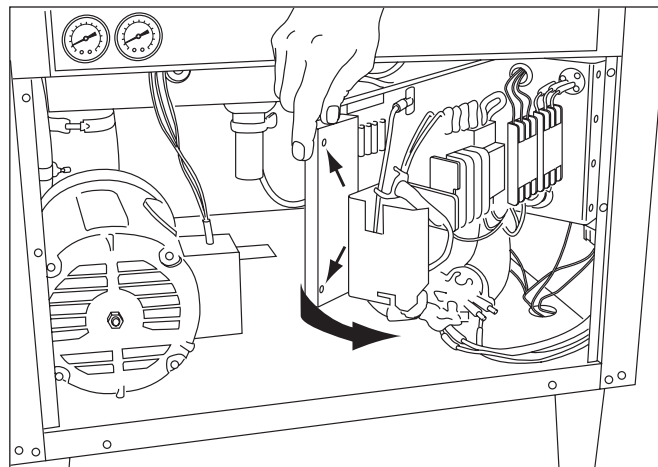
ATTENTION

A qualified electrician must connect the main incoming power to the dishwasher in accordance with all local codes and regulations or in the absence of local codes in accordance with the National Electrical Code.

1. A knockout is provided at the lower right rear corner (machine viewed from the front) for the electrical service connection. A fused disconnect switch or circuit breaker (supplied by others) is required to protect the power supply circuit.



2. Remove two screws on the control panel support and swing the panel forward to gain access to the main terminal block.

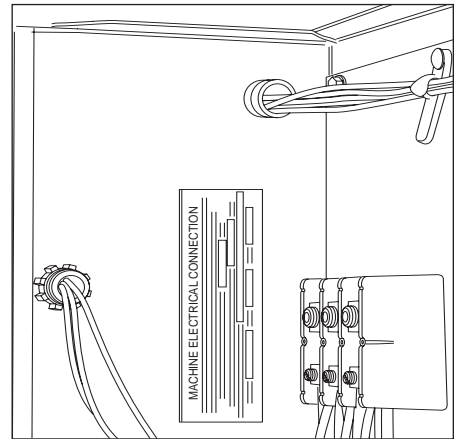


Electrical Connections

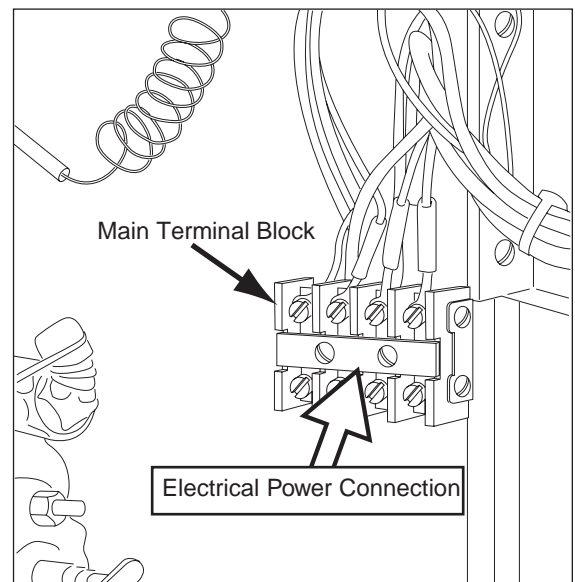
!!ATTENTION!!

Electrical and grounding connections must comply with the National Electrical Code or in the absence of a National Code then all Local Electrical Codes.

A qualified electrician **MUST** compare the electrical power supply with the machine electrical specifications stamped on the **MACHINE ELECTRICAL CONNECTION PLATE** located on the base of dishwasher near the main terminal block.



3. Three phase or single phase incoming power connections are made at the bottom of the main terminal block. The main terminal block is located on the right front post of the dishwasher.



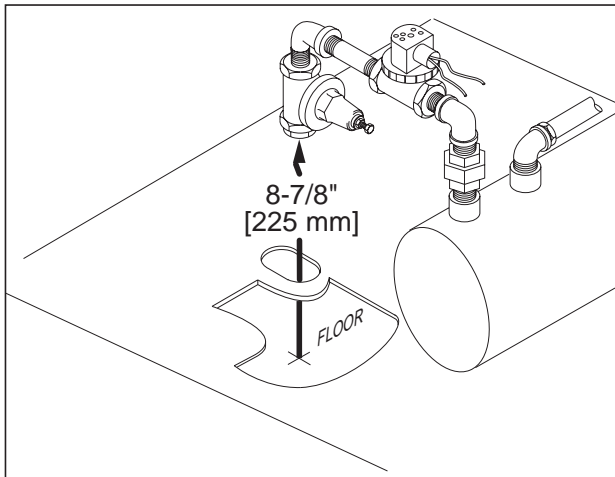
Hot Water Connections

NOTE:

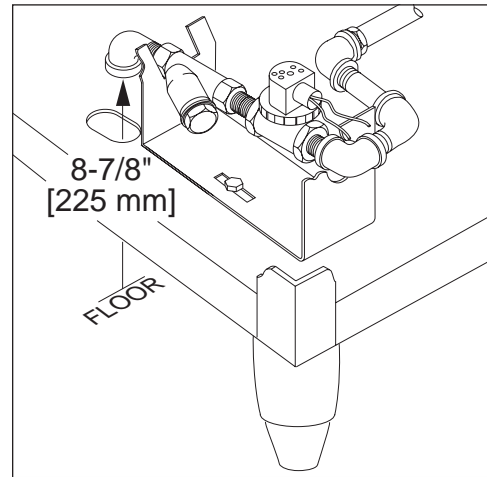
Only qualified personnel should make dishwasher plumbing connections. Connections must meet local plumbing and sanitary codes. Improper installation is not covered by the dishwasher warranty.

Hot Water Requirements:

1. Connect a 3/4" NPT hot water supply line to the line strainer located above the base of the dishwasher. Refer to the illustrations below.
2. For a dishwasher without a booster heater, the hot water connection must supply a minimum of 180°F/82°C measured at the dishwasher.
3. For a 40°F/22°C rise booster heater, the hot water connection must supply a minimum of 140°F/60°C measured at the dishwasher.
4. For a 70°F/39°C rise booster heater, the hot water connection must supply a minimum of 110°F/43°C measured at the dishwasher.
5. For a wash tank hot water coil heated dishwasher, the hot water connection must supply a minimum of 185°F/85°C measured at the dishwasher.
6. Install a pressure regulating valve (PRV) before the dishwasher supply connection to maintain a flowing pressure of 20-25 PSI/137.8-172.4 kPa. (Sold separately for DH1T).
7. Install a service shut-off valve in the supply line, as close to the dishwasher as possible. The size of the valve must be the same size or larger as the supply line.



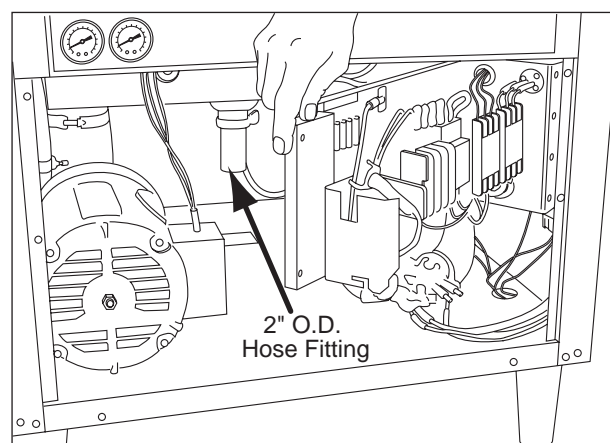
DHBT, DHBTC 3/4" NPT Hot Water Connection



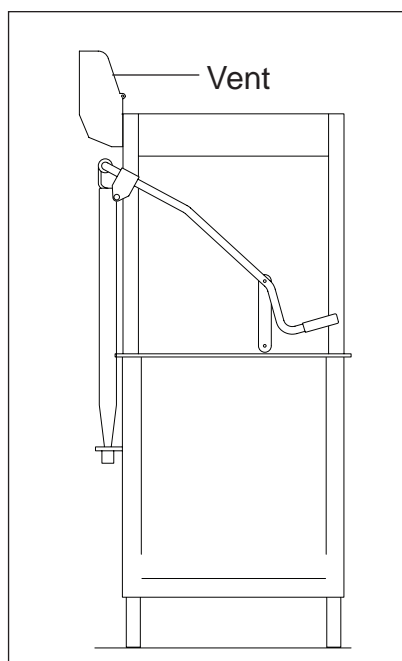
DH1T, DH1TC 3/4" NPT Hot Water Connection

Drain Connections

1. All models are GRAVITY DRAIN machines equipped with a 2" O.D. hose connection.
2. The maximum flow rate is 15 U.S. gpm/56.8 Lpm.
3. Drain height for all models must not exceed 8-7/8" [225mm] above the finished floor.
4. The drain connection is made to the dishwasher from underneath the machine. An access hole is provided in the machine base.



Ventilation Connections



NOTE:

DO NOT VENT THE DISHWASHER INTO WALLS, CEILINGS OR ENCLOSED PLACES.

1. The dishwasher is equipped with a vent stack at the rear of the machine.
2. Typical venting requires a vent hood for the machine.
3. **DO NOT CONNECT A VENT STACK TO THE DISHWASHER VENT.**

Steam Coil Tank Heat and Steam Booster Heater

The illustration below details a steam heated machine consisting of a tank heat steam coil and a mounted steam booster for the final rinse. Contact the factory for steam injector tank heat details.

NOTE:

Only qualified personnel should make dishwasher steam connections.

Connections must meet local plumbing and sanitary codes. Improper installation is not covered by the dishwasher warranty.

Steam Requirements:

2A: 3/4" NPT hot water supply (140°F/60°C) at 68 GPH at 20 PSI flowing pressure.

3A: 1/2" NPT cold water tempering (85°F/30°C) max 25 PSI if equipped.

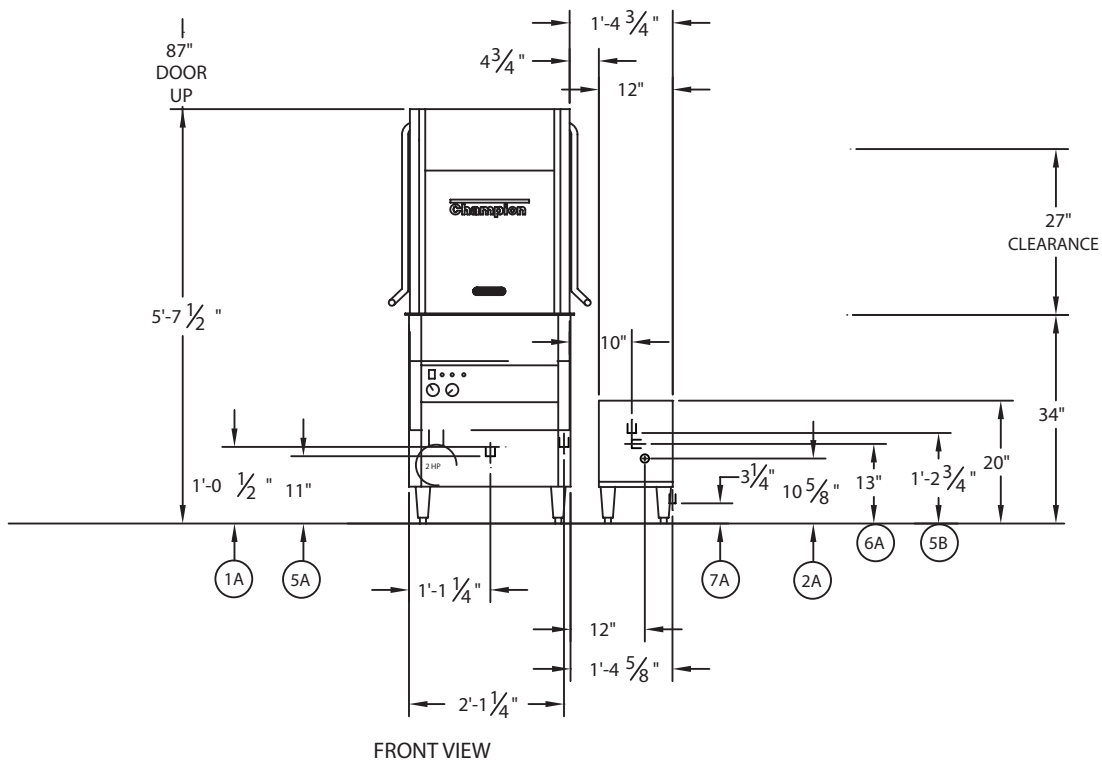
4A: 3/4" NPT final rinse hot water (180-195°F/82-91°C) at 324 GPH at 20 PSI flowing pressure.

5A: 2" O.D. drain hose connection.

5B: 3/4" NPT booster relief to open drain.

6A: 1" NPT Booster 50 Lb/Hr / Tank Heat 25 Lb/Hr consumption.
7-10 PSI, 11-14 PSI, 15-30 PSI flowing pressure.

7A: 3/4" NPT condensate return to boiler (no back-pressure).



Single Source Gas Booster Heater

The illustration below details a single source gas heated machine consisting of a tank heat hot water coil and a gas-powered booster heater for the final rinse. The gas-powered booster provides hot water for the hot water coil and the final rinse. The booster will run on natural gas or propane which is specified at the time of order.

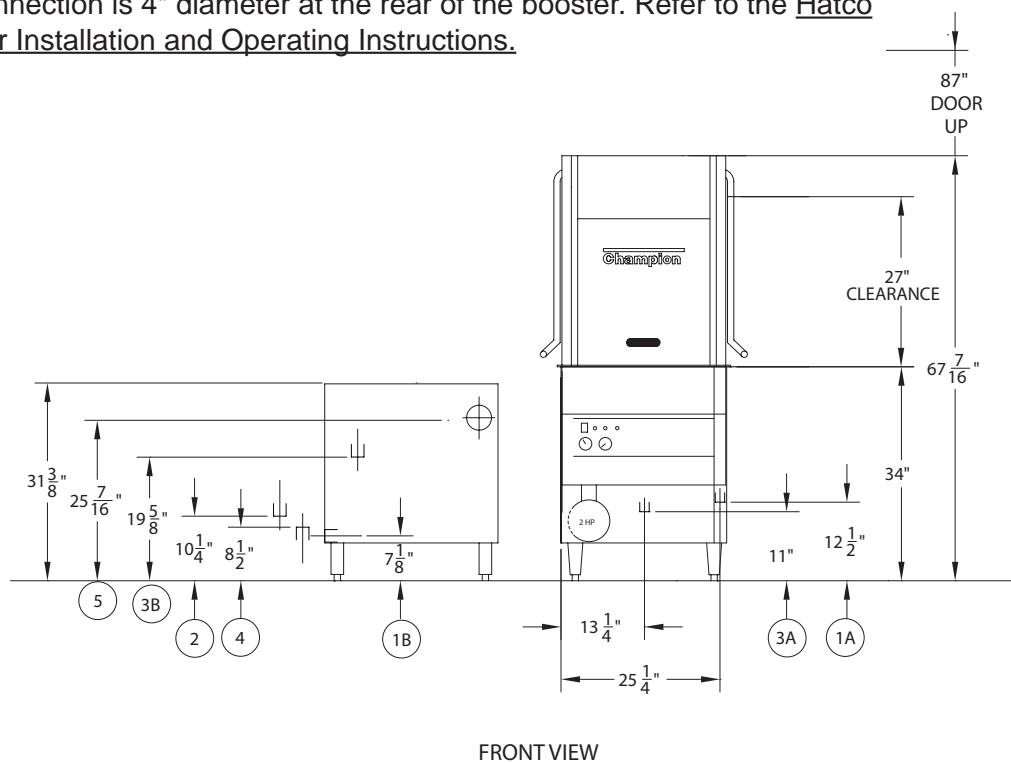
NOTE:

Only qualified personnel should make dishwasher gas connections.

Connections must meet local gas and sanitary codes. Improper installation is not covered by the dishwasher warranty.

Single Source Requirements:

- 1A: Gas booster electrical requirements are 15A @ 120V/60/1
- 2A: 3/4" NPT hot water supply 140 °F/60 °C for 40 °F/22 °C rise and 110 °F/43 °C for 70 °F/39 °C rise at 20-22 PSI flowing pressure.
- 3A: 2" O.D. machine drain hose connection,
- 3B: 3/4" NPT relief valve to open drain,
- 3C: 1/2"NPT vent to open drain.
- 4A: Natural gas, 40 °F/22 °C rise requires 58,000 BTU/HR., 70 °F/39 °C rise requires 105,000 BTU/HR. Hatco Model PMG-60 requires 1/2" NPT, Hatco Model PMG-100 requires 3/4" NPT
- 5A: Gas flue connection is 4" diameter at the rear of the booster. Refer to the [Hatco Gas Booster Installation and Operating Instructions](#).

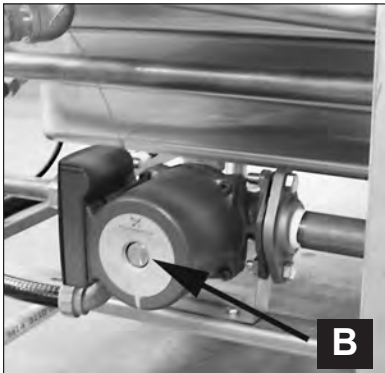


Purging Air from the Dishwasher/Booster Heater System

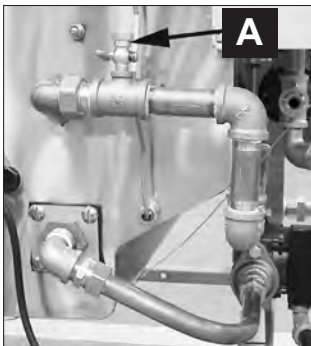
CAUTION:

PERMANENT DAMAGE to the hot water recirculating pump can occur if the air is not purged from the dishwasher/booster heater system prior to placing the dishwasher into service.

Follow the instructions carefully to prevent damage to the dishwasher hot water recirculating pump.



The dishwasher recirculating pump is located on the base of the machine.



The air purge petcock is located behind the dishwasher lower front panel.

Follow the procedure below to purge the air from the system. Plumbing and electrical service connections must be completed before purging the system.

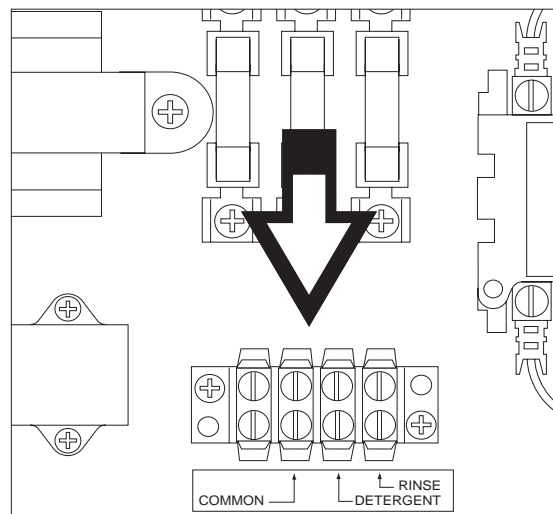
To purge the air:

1. Make sure the dishwasher main power switch is OFF.
2. Make sure the main water supply valve located at the booster heater is OFF.
3. Open petcock (A) on the inlet side of the dishwasher hot water heater coil.
4. Remove the silver plug located in the center of the recirculating pump.
5. Turn the main water supply valve ON. Water will begin to fill the booster heater and the dishwasher heater coil.
6. Water and air will begin to flow out of the purge petcock and the recirculating pump and eventually only water will be observed.
7. Turn the booster heater power switch ON.
8. Turn the dishwasher power switch ON. The dishwasher wash tank will begin to fill with water.
9. Continue to observe the petcock and the recirculating pump and make sure that there is a steady stream of water is flowing from (A) and (B).
10. Replace the silver plug (B) in the center of the recirculating pump then close the petcock (A).
11. Turn the dishwasher power switch OFF.
12. Purging is complete.

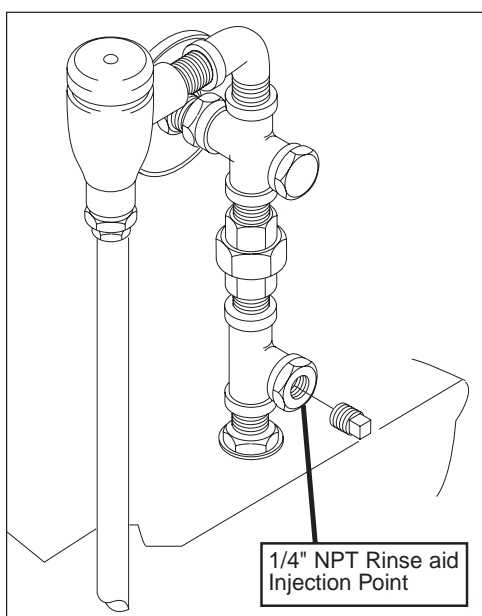
Chemical Connections

1. Use a qualified detergent/chemical supplier for detergent/chemical and dispensing equipment needs.
2. Labeled detergent control circuit connection terminals are provided in the control cabinet for detergent and rinse agent dispensing equipment (supplied by others).
3. The illustration below shows the terminal board for the machine.
4. The signal connection points include:
 - Detergent signal 120VAC, 1A max load.
 - Rinse aid/Sanitizer signal 120VAC, 1A load.
 - Vent Fan 120VAC, 1Amp max amp load

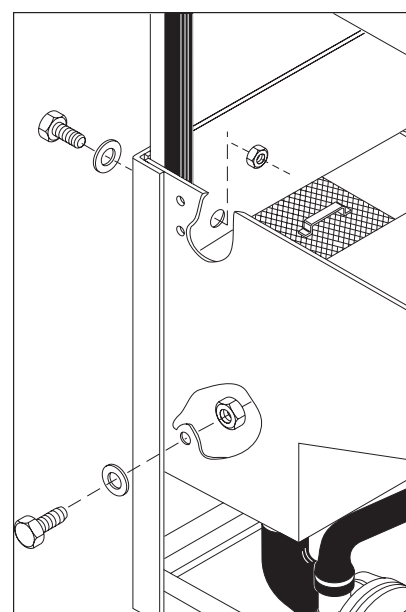
5. A 1/2" detergent probe injection point is provided at the rear and left side of the dishwasher.
6. Detergent may be added manually if the dishwasher is not equipped with dispensing equipment. Consult the chemical supplier for recommended dosing amounts.
7. A 1/4" NPT rinse-aid injection point is provided in the final rinse piping located at the top rear of the dishwasher. Consult a chemical supplier for the proper liquid rinse-aid.



A chemical connection terminal board is provided to supply chemical dispenser signal voltages.



A rinse-aid injection point is provided at the top of the dishwasher.



Two detergent injection fittings are provided in the wash tank.

Door Safety Switch

Dishwasher access doors are equipped with a door safety switch that automatically stops the dishwasher pump if a door is raised while the dishwasher is running. In addition, the dishwasher will not start if a door is left open.

1. If the dishwasher is running and a door is raised, then lighted in-cycle light goes out and the pump stops.
2. Check the interior of the dishwasher for a dish rack still in the machine. This dish rack must be washed again to ensure it is washed and sanitized completely.
3. To restart the dishwasher, make sure all doors are closed.

Pump Intake Screen and Float Switch

Refer to the photo below and note the location of the pump intake screen and dual float switch.

1. Make sure the pump intake screen is installed by sliding it on the bracket located above the wash pump intake.
2. Make sure the float ball on the float switch moves freely on the float stem.
3. Check the interior of the tank for any foreign objects and make sure the drain screen is clean.



Make sure tank is clean, the pump intake screen is installed and the float switch moves freely.

Scrap Screens and Screen Support

4. Make sure the scrap screen support is positioned across the wash tank and installed in the brackets at the front and rear of the tank.

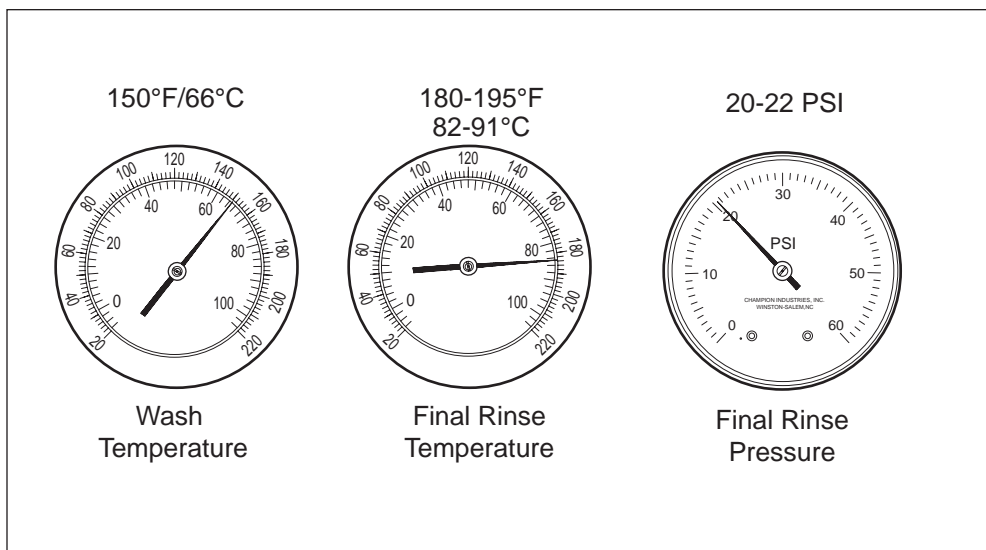


5. Install the scrap screens.



Check list

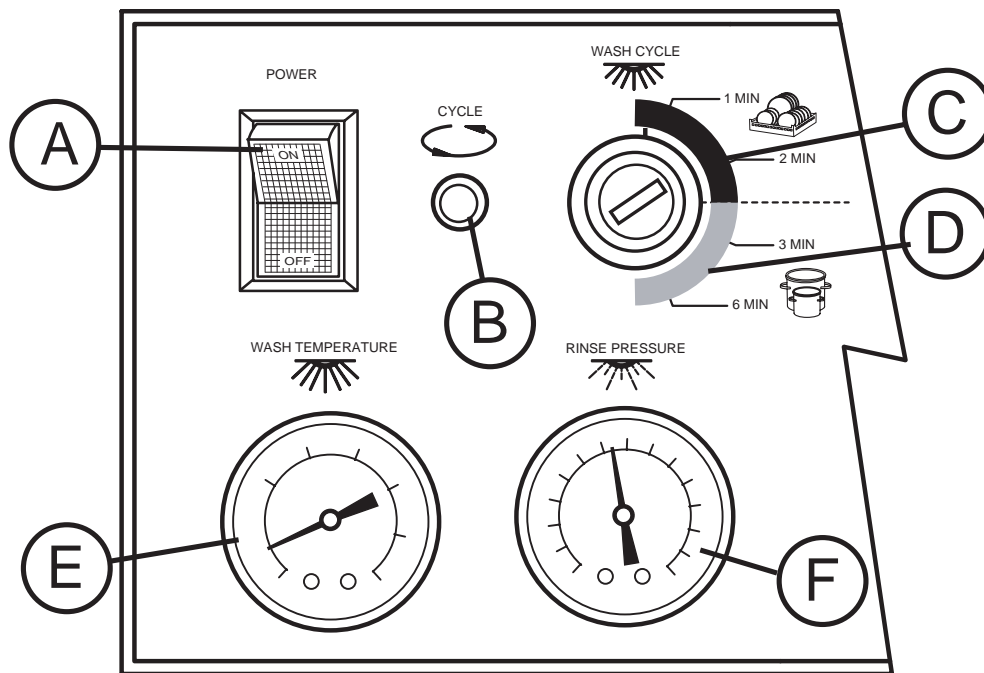
1. Remove white protective film from the dishwasher exterior.
2. Install lower panels to the dishwasher.
3. Remove any foreign material from inside of the machine.
4. Check dishwasher drain/overflows are closed and in securely seated.
5. Install scrap screens, spray arms.
6. Turn main utilities to the dishwasher ON. (Power, water).
7. Make sure doors are closed.
8. Turn dishwasher power switch ON.
9. Check that the wash tank water temperature reaches a minimum of 150 °F/60 °C.
10. Open and close the door to start an automatic wash and final rinse cycle.
11. During the final rinse check that the final rinse water temperature reaches a minimum of 180 °F/82 °C during the final rinse.
12. Make sure that the final rinse pressure gauge indicates 20-22 PSI during the final rinse.
13. Check for leaks.
14. Push the Power Switch OFF. The dishwasher should drain for 10 minutes.
15. Check that floor drain handles the water volume leaving the dishwasher.



Control Panel

Refer to the illustration below and the explanation of the control panel controls located at the lower front of the dishwasher.

- A: ON/OFF power switch
- B: In-cycle light
- C: Wash cycle selector for dishes
- D: Wash cycle selector for pots and pans
- E: Wash water temperature gauge
- F: Final rinse water pressure gauge

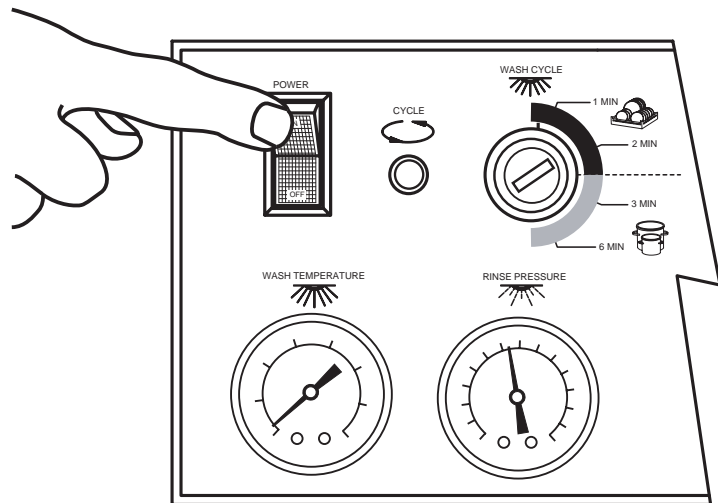


Operation

Operation

The following steps describe the operation of the dishwasher.

1. Make sure the main power and water supplies are turned on and the dishwasher doors are closed.
2. Push the power switch to the ON position.
The power switch will illuminate and the machine will fill with water.



3. Wait approximately 10 minutes for the wash tank temperature gauge to reach a minimum of 150°F/60°C.

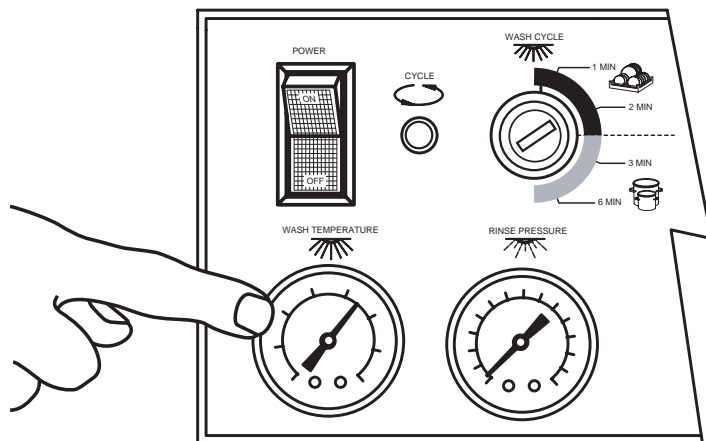
The booster heater is heating the final rinse water at the same time.

4. Prescrap the dishes and load them into the dish racks for washing.

Load plates glasses and bowls in a peg rack. Spread silverware and utensils evenly in a single layer in a flat bottom rack.

5. Bake sheets should be loaded vertically in special bake sheet racks.

6. DO NOT OVERLOAD DISH RACKS.



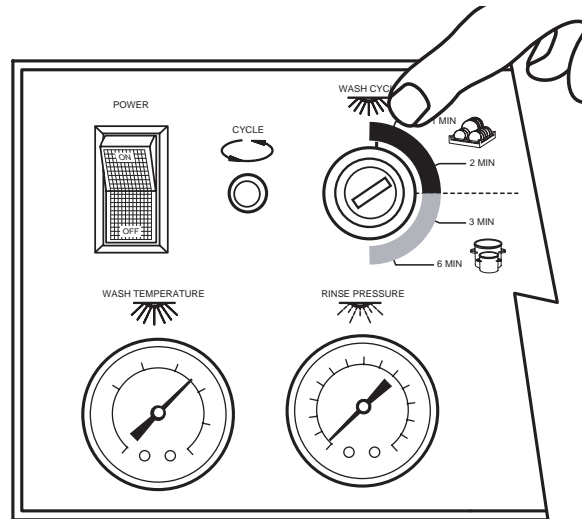
Operation

Setting the Wash Cycle Selector Switch -

The selector switch provides 4 time options, 2 for dishes and 2 for pots and pans. To select a time cycle:

1. Make sure the power is on.
2. Make sure the cycle light is out.
The time cycle cannot be changed if the dishwasher is actively running a timed cycle.
3. Make sure all doors are closed.
4. Turn the wash cycle selector knob to either 1, 2, 3, or 6 minute setting.

Open the dishwasher doors to lock-in the selected time cycle. The time cycle will run when the doors are closed for the next automatic cycle.



NOTE:

The time cycle will not change if the selector switch is turned when the doors are open.

Refer to the information below for the cycle time breakdowns.

1 Minute Wash Cycle	
Wash =	44 seconds
Final Rinse =	10 seconds
Dwell =	14 seconds
Total Cycle =	68 seconds

2 Minute Wash Cycle	
Wash =	96 seconds
Final Rinse =	13 seconds
Dwell =	11 seconds
Total Cycle =	120 seconds

3 Minute Wash Cycle	
Wash =	156 seconds
Final Rinse =	13 seconds
Dwell =	11 seconds
Total Cycle =	180 seconds

6 Minute Wash Cycle	
Wash =	96 seconds
Final Rinse =	13 seconds
Dwell =	11 seconds
Total Cycle =	360 seconds

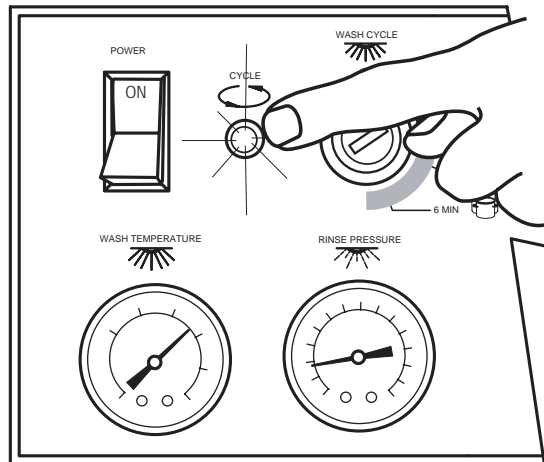
NOTE:

The 1 and 2 minute time cycles are designated for dishes and the 3 and 6 minute cycles are designated for pots and pans.

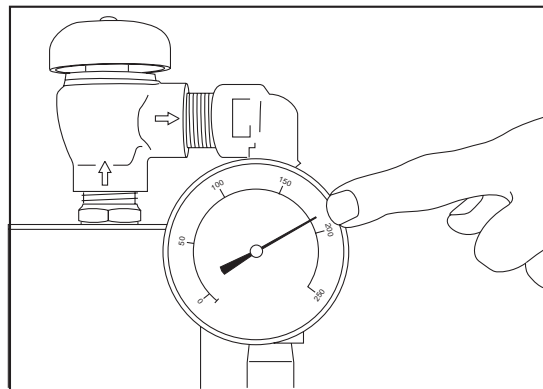
Operation

Operation (continued)

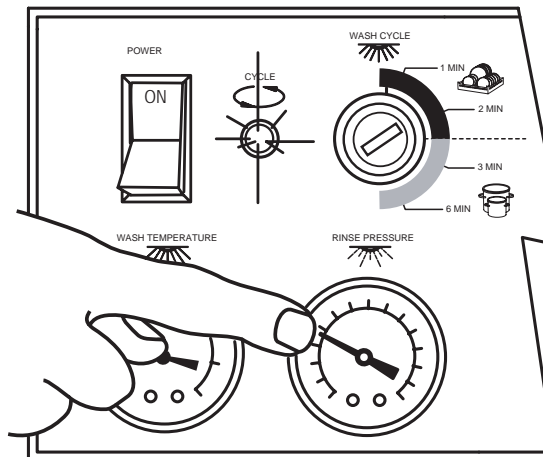
6. Load a dish rack into the dishwasher and close the doors.
7. The cycle will begin automatically and the cycle light will illuminate.
8. Open the doors and the cycle will automatically stop.
9. Close the doors and the cycle will resume where it left off.



10. Check the final rinse temperature during the final rinse making sure that the minimum temperature of 180-195 °F/82-91 °C is maintained.



11. Check the final rinse pressure gauge during the final rinse and make sure the pressure gauge indicates between 20-22 PSI.



12. The cycle light will go out when the final rinse is complete.
13. Open the doors and remove the clean rack of wares.
14. Repeat the process for additional racks.

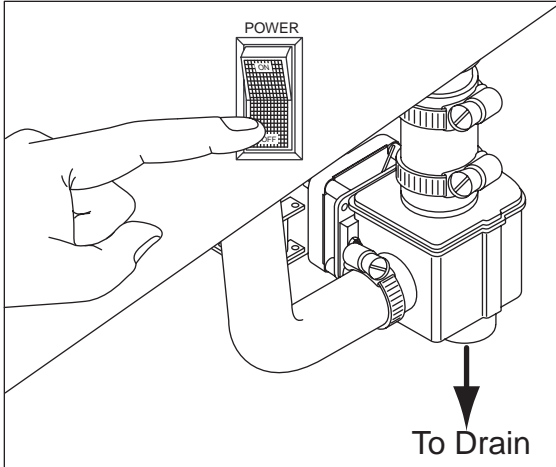
Operation Summary

ACTION	RESULT
1. Push ON/OFF switch UP to the ON position.	The power switch illuminates, machine fills automatically and wash water begins to heat. DHBT booster begins to heat.
2. Wait 10 minutes for water to reach proper temperature.	Wash water temperature gauge should indicate minimum of 150°F/60°C.
3. Prescrap and load wares into the dish racks.	Wares should be placed edgewise in a peg rack. Cups and bowls should be placed upside down in flat bottom rack. Silverware or utensils should be placed in a single layer in a flat bottomed rack.
4. Open the doors, insert a dish rack of soiled ware and close the doors. Opening the doors anytime during the automatic cycle stops the dishwasher. Closing the doors will resume the cycle where it left off.	The in-cycle light will illuminate and complete the selected time cycle set on the wash selector switch. Cycle times are 1, 2, 3, and 6 minutes.
5. Check the final rinse temperature gauge and final rinse pressure gauge during the final rinse portion of the timed cycle.	The final rinse temperature must maintain a minimum of 180-195°F/82-91°C during the final rinse and a flowing pressure of 20-22 PSI.
6. The selected automatic cycle ends.	The in-cycle light goes out.
7. Open the doors, remove the cleaned wares, insert another rack of soiled wares and close the dishwasher doors.	The selected automatic cycle begins again.
8. Push the power switch DOWN to the OFF position.	The dishwasher automatic electric drain valve opens for 10 minutes to drain the dishwasher.
9. Clean the dishwasher after each meal period or after 2 hours of continuous operation, whichever occurs first.	Periodic cleaning reduces detergent consumption and improves the overall performance of the dishwasher.
10. Spray the interior of the dishwasher with fresh water. Clean the scrap screens and pump intake strainer. Clean the spray arms.	
11. Wipe the exterior of the machine with a soft cloth and mild detergent.	
12. DO NOT HOSE THE EXTERIOR OF THE MACHINE WITH WATER.	

Cleaning

Cleaning

Cleaning your dishwasher is the best maintenance you can perform. The cleaning intervals below are the minimum requirements for most dishwashers. You may need to clean your dishwasher more often when washing heavily soiled wares or during long hours of continuous operation.



The automatic drain valve will open for 10 minutes to drain the dishwasher when the Power Switch is turned off.

Daily or every 2 hours of operation

1. Turn power switch to OFF. The automatic electric drain valve will open for 10 minutes.
2. Flush the interior of the dishwasher with fresh water.
3. Clean Scrap screens and pump intake screen
4. Remove wash and rinse spray arm assemblies. Flush with fresh water.

Every 8 hours of operation or at the End-of-the-day.

1. Turn power switch to OFF. The automatic electric drain valve will open for 10 minutes.
2. Flush the interior of the dishwasher with fresh water.
3. Clean Scrap screens and pump intake screen
4. Remove wash and rinse spray arm assemblies. Flush with fresh water.
5. Check rinse nozzles and clean with a paperclip if needed.
6. Clean the exterior of the machine with a soft cloth and mild detergent
DO NOT HOSE THE EXTERIOR WITH WATER.
7. Flip power switch on and immediately off to drain machine again.
8. Reassemble the machine and leave doors open to aid overnight drying.
9. Do not leave water in wash tank overnight.

Lime (scale) deposits are the result of minerals contained in the water feeding the dishwasher and appear as a white haze on the surface of the dishwasher. Severe scaling can appear as a granular deposit. These deposits are a result of the mineral content in the geographic area of the machine's location.

WARNING:

Death or injury can result from toxic fume when de-liming agents come in contact with Chlorine Bleach, or other chemicals that contain iodine, bromine, or fluorine.

USE EXTREME CAUTION WHEN HANDLING ANY DE-LIMING AGENT

CAUTION:

De-liming agents can cause chemical burns.

Wear rubber gloves, eye protection and any other protective clothing as instructed by a qualified chemical supplier and follow the instructions provided by the chemical supplier.

Maintenance

Weekly

1. Inspect all water lines for leaks and tighten at joints if required.
2. Clean any detergent residue from the exterior of the machine.
3. Check that the drain/overflow pipes seat tightly in their drains.
4. Clean any accumulated scale from the heating element.
5. Inspect the spray arms for any damage or missing parts.
6. Inspect the final rinse arms for missing parts.
7. Check that float switch moves freely.

Monthly

1. Inspect interior of machine for lime deposits and clean.
2. Check that the drains flow freely.
3. Clean any accumulated scale from the heating element.
4. Inspect the rinse spray arms and ensure all plugs are installed.
5. Inspect the final rinse arms for missing parts
6. Inspect the pawl bar and drive assembly for damage or missing parts.
7. Check that float switch moves freely.
8. Check the door guides and door operation.
9. Check the operation of temperature and pressure gauges
10. Perform complete operation check.

Yearly

1. Contact authorized service agent to perform complete maintenance review of machine.
2. Correct any abnormal situations as recommended.

Troubleshooting

Before calling for service check the following conditions.

1. Dishwasher main power and water supply is on.
2. Machine has been assembled correctly.
3. Drain is closed.
4. Screens and pump intake screen are clear.
5. Doors are closed and secure.

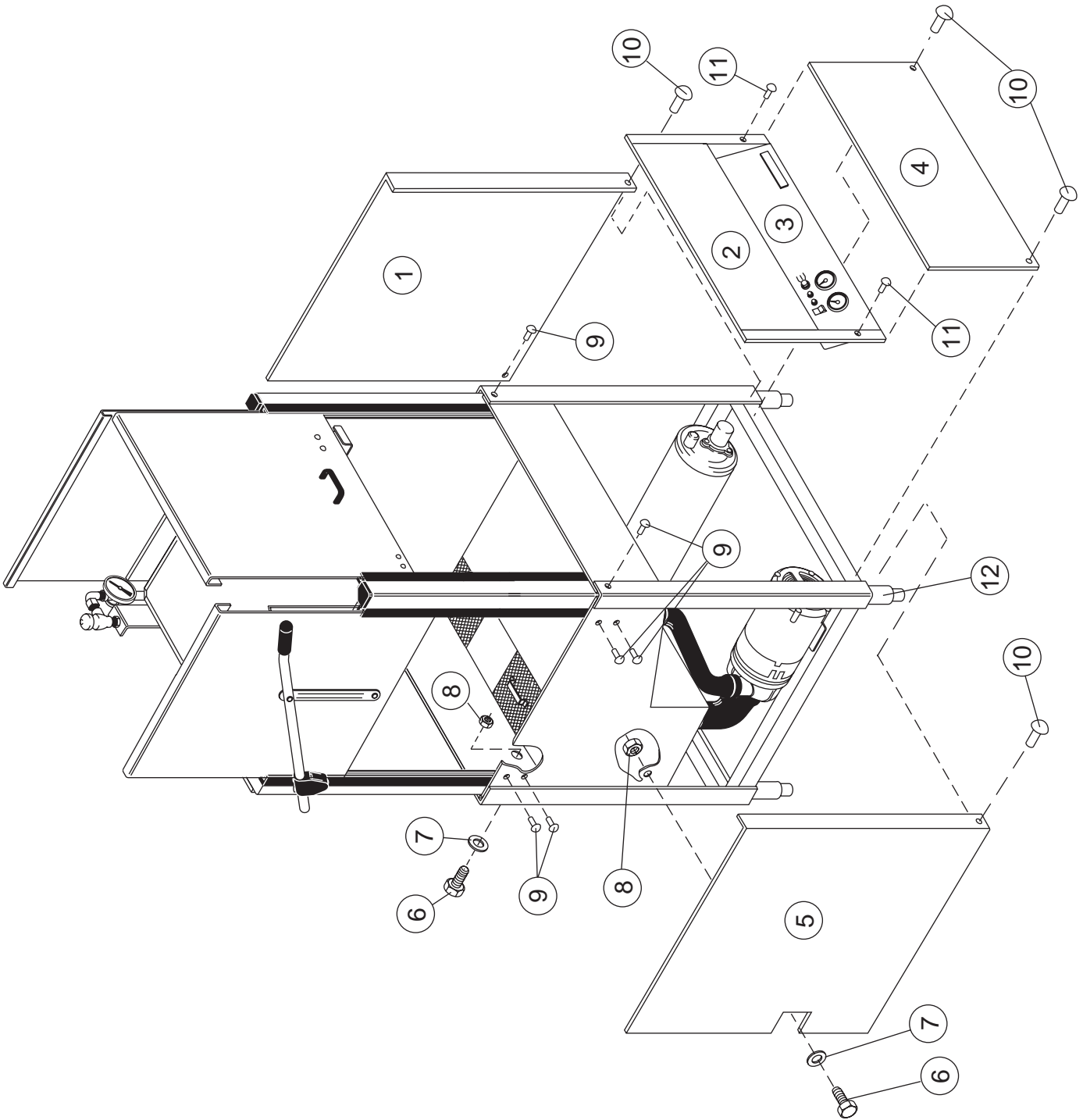
Condition	Cause	Solution
Dishwasher will not run.	Door not closed. Main power OFF Dishwasher Power OFF.	Close door completely. Check breaker on panel. Turn dishwasher ON.
Machine washes constantly.	Timer or door switch defective	Contact Service Agent
Low or no water.	Main water supply off. PRV setting incorrect Solenoid strainer clogged. Solenoid valve defective. Drain valve defective Stuck or defective float.	Open supply valve. Adjust the PRV setting Clean strainer. Contact Service Agent. Contact Service Agent. Clean or replace.
Water fills constantly	Defective ckt. bd. Defective fill valve Defective drain valve Defective float switch	Contact Service Agent
Wash motor won't run	Tripped motor overload Defective motor	Reset motor overload Replace motor
Wash tank water temp is low when in use.	Incoming water temp at machine too low Defective thermometer Defective thermostat Defective heater Defective solenoid valve Heater element limed up	Increase water temperature Contact Service Agent Contact Service Agent Contact Service Agent Contact Service Agent Clean element

Troubleshooting (continued)

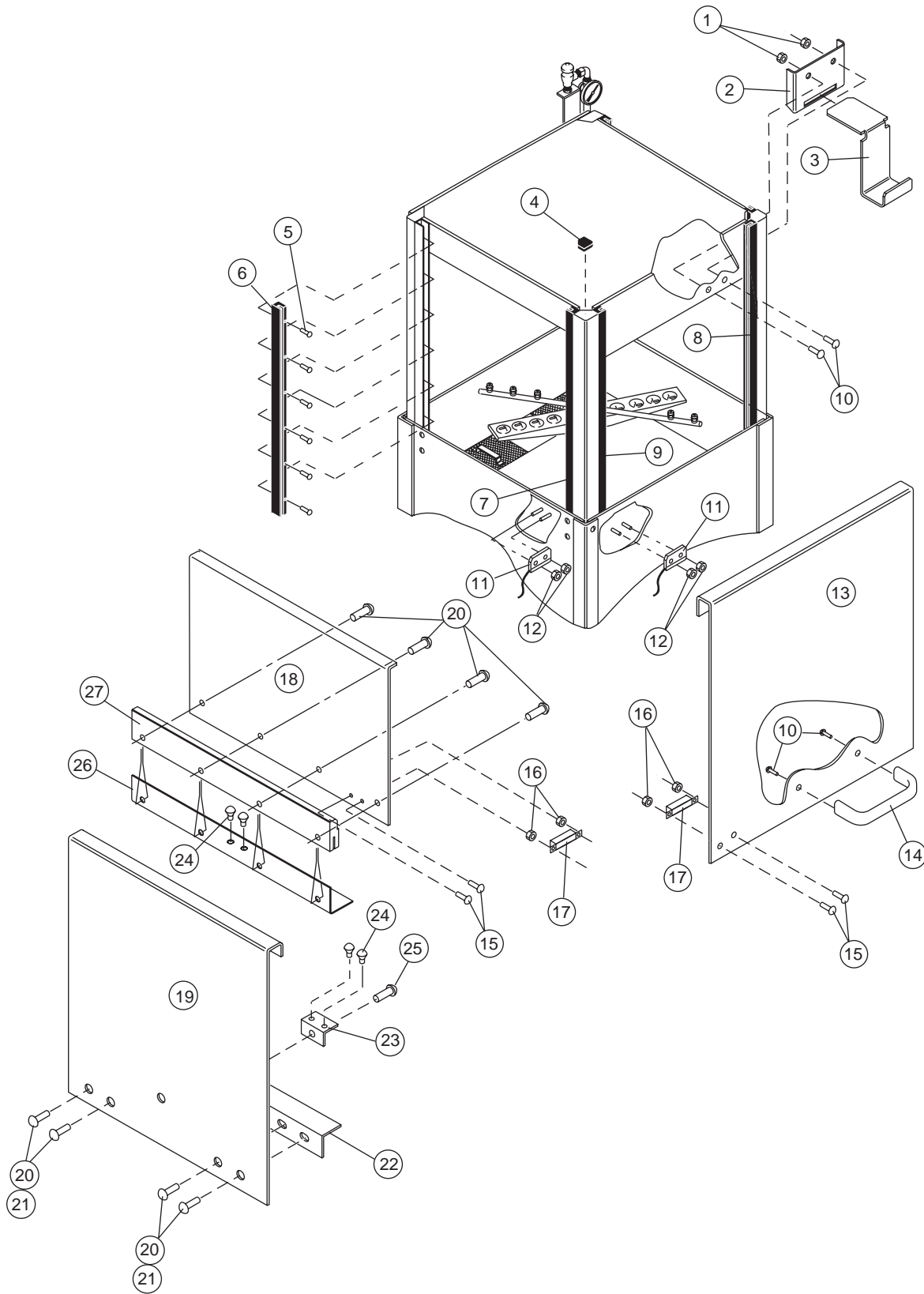
Condition	Cause	Solution
Insufficient pumped spray pressure	Clogged pump intake screen. Clogged spray arm. Scrap screen full. Pump motor rotation wrong Defective pump seal.	Clean. Clean. Clean. Reverse L1 and L2. Replace pump seal.
Insufficient or no final rinse spray pressure	Main water supply off. PRV setting incorrect Solenoid strainer clogged. Solenoid valve defective. Clogged rinse nozzles.	Open supply valve. Adjust the PRV setting Clean strainer. Contact Service Agent. Clean with paperclip.
Insufficient final rinse or no final rinse.	Defective PRV. PRV setting wrong. Clogged rinse nozzle or rinse arm. Incoming water line too small. Clogged line strainer.	Replace. Set to 20-22 PSI flowing. Clean nozzle with paperclip and flush arm. Increase line size. Clean strainer.
Low final rinse temperature.	Low incoming water temperature. Defective thermostat Defective thermometer.	Booster thermostat setting low. Replace thermostat. Replace thermometer.
Poor wash results.	Detergent not added to tank Wares incorrectly loaded in dishrack. Clogged screens . Clogged spray arms. Thermostat defective. End plugs missing. Water temperature low. Heater elements limed up	Check detergent supply. Reposition wares or reduce amount of wares. Clean screens.. Clean spray arms. Contact Service Agent. Check spray arms. Check incoming water temperature. De-lime dishwasher.

Service Replacement Parts

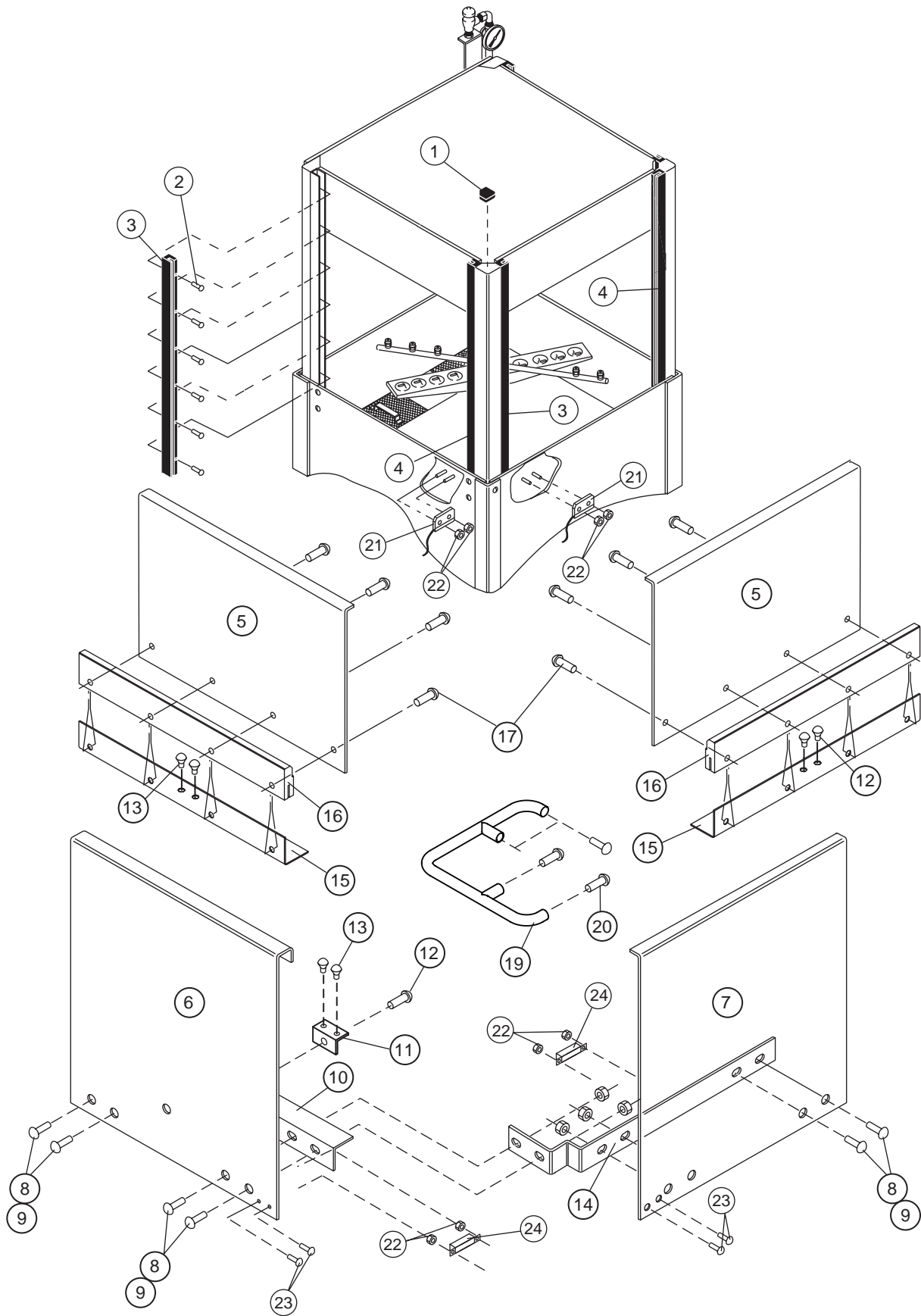
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Item No.	Part No.	Description	Qty
1	321929	RH PANEL, NO CUT-OUT	1
2	324588	PANEL, INSTRUMENT (PRIOR TO S/N D3864)	1
---	327262	PANEL, INSTRUMENT (BEGIN W/ S/N D3864)	1
---	327344	PANEL, INSTRUMENT (CORNER) (BEGIN D3864)	1
3	113051	LABEL, PANEL OVERLAY (PRIOR TO D3864)	1
---	113525	LABEL, PANEL OVERLAY (BEGIN D3864)	1
---	113567	LABEL, PANEL CORNER (BEGIN D3864)	1
4	322074	PANEL, FRONT LOWER	1
5	321941	LH PANEL, WITH CUT-OUT	1
6	108418	PLUG, PLASTIC	2
7	109034	WASHER, 13/16' X 1-3/16" FIBER	2
8	108417	NUT, PLASTIC	2
9	100779	SCREW, 1/4-20 X 5/8" TRUSS HD.	6
10	0504822	SCREW, 8/32 X 1/2" PAN HD.	4
11	100763	SCREW, 10-32 X 1-1/4" RD. HD.	2
12	112587	FOOT, CAST GREY	4

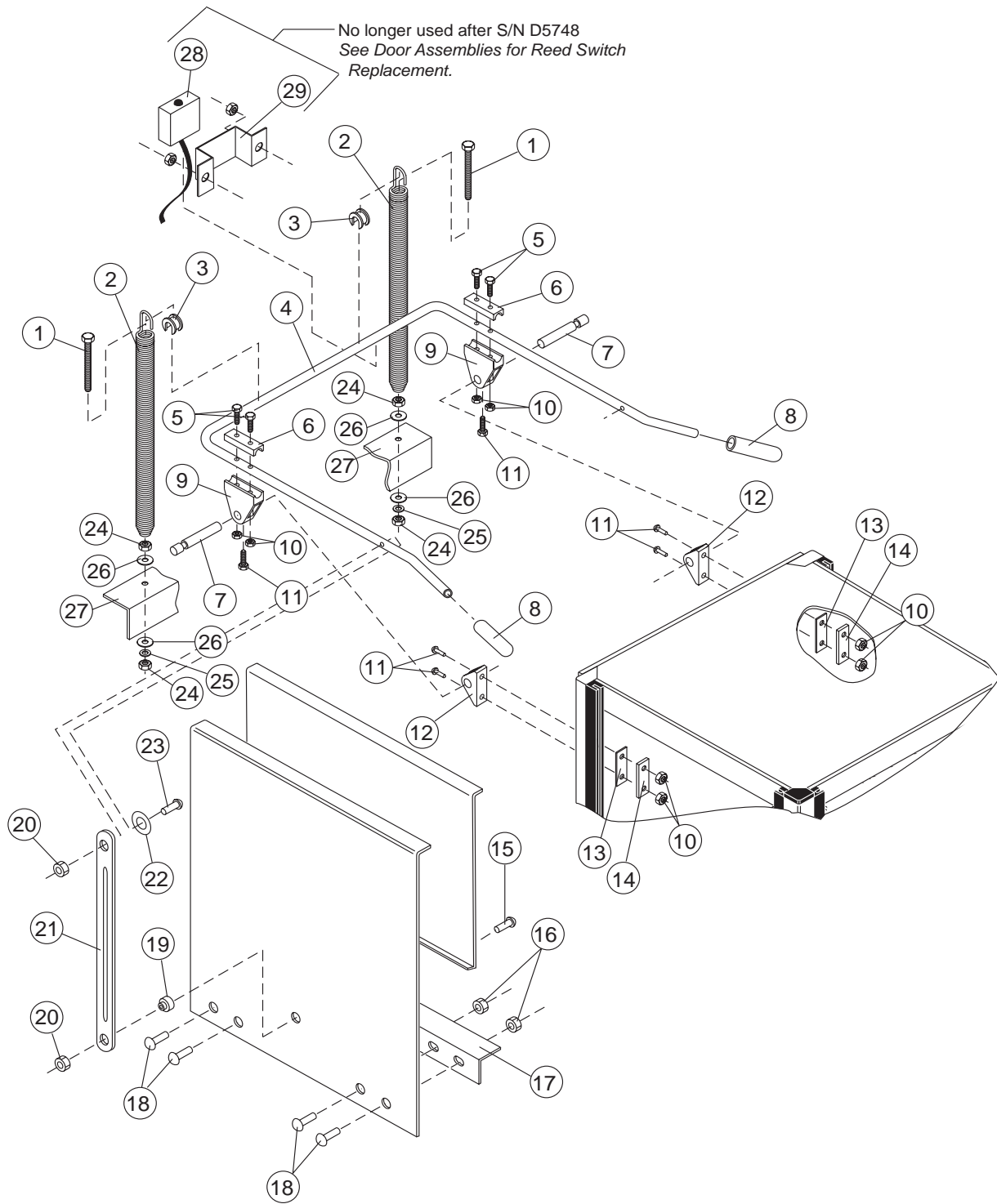


Item No.	Part No.	Description	Qty
1	100141	GRIP NUT, 1/4-20 SST	2
2	317345	BRACKET, DOOR CATCH	1
3	325921	HOOK, DOOR CATCH	1
4	108053	PLUG, CORNER POST	2
5	107970	SCREW, 8/32 X 1" FILISTER	48
6	112704	DOOR GUIDE, SIDE DOOR LEFT	2
7	112705	DOOR GUIDE, SIDE DOOR RIGHT	2
8	112703	DOOR GUIDE, FRONT DOOR LEFT	1
9	112702	DOOR GUIDE, FRONT DOOR RIGHT	1
10	100073	SCREW, 1/4-20 X 1/2" TRUSS HD., SST	3
11	111090	REED, SWITCH MAGNETIC	2
12	108954	GRIP NUT, 6-32	6
13	322790	DOOR, FRONT (PRIOR TO S/N D3864	1
---	327248	DOOR, FRONT (BEGIN WITH S/N D3864)	1
14	108966	HANDLE, DOOR	1
15	106382	SCREW, 6-32 X 3/8" TRUSS HD., SST	4
16	108954	GRIP NUT, 6-32	4
17	111026	MAGNET, REED SWITCH	2
18	325633	SIDE DOOR, UPPER	2
19	322788	SIDE DOOR, LOWER (PRIOR TO S/N D3864)	2
---	328239	SIDE DOOR, LOWER (BEGIN WITH S/N D3864)	2
20	100097	SCREW, 10-32 X 1/2" TRUSS HD., SST	16
21	107966	GRIP NUT, 10-32 SST	2
22	322077	SPLASH GUARD (PRIOR TO S/N D3864)	2
---	324620	SPLASH BAFFLE, SIDE DOOR (BEGIN S/N D3864)	2
23	323006	DOOR STOP (PRIOR TO S/N D3864)	2
---	327321	DOOR STOP (BEGIN WITH S/N D3864)	2
24	107893	SHOCK ABSORBER	8
25	112723	BOLT, 5/16-18 X 15" FULL THREAD	2
26	323305	ANGLE, DOOR STOP	2
27	112772	STOP, DELRIN SPLASH BAFFLE	2
---	113564	NAMEPLATE, DUAL PERFORMANCE ATTACHED TO FRONT DOOR (NOT SHOWN) (BEGIN WITH S/N D3864)	1



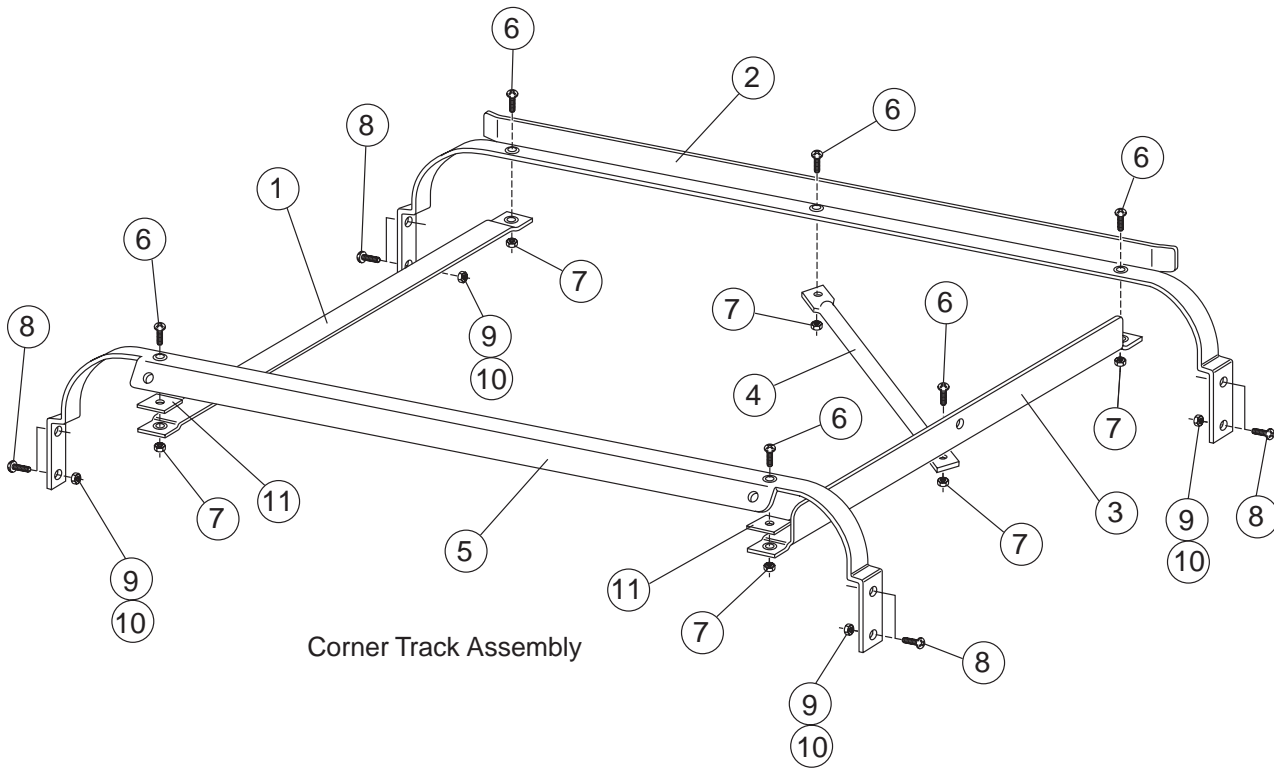
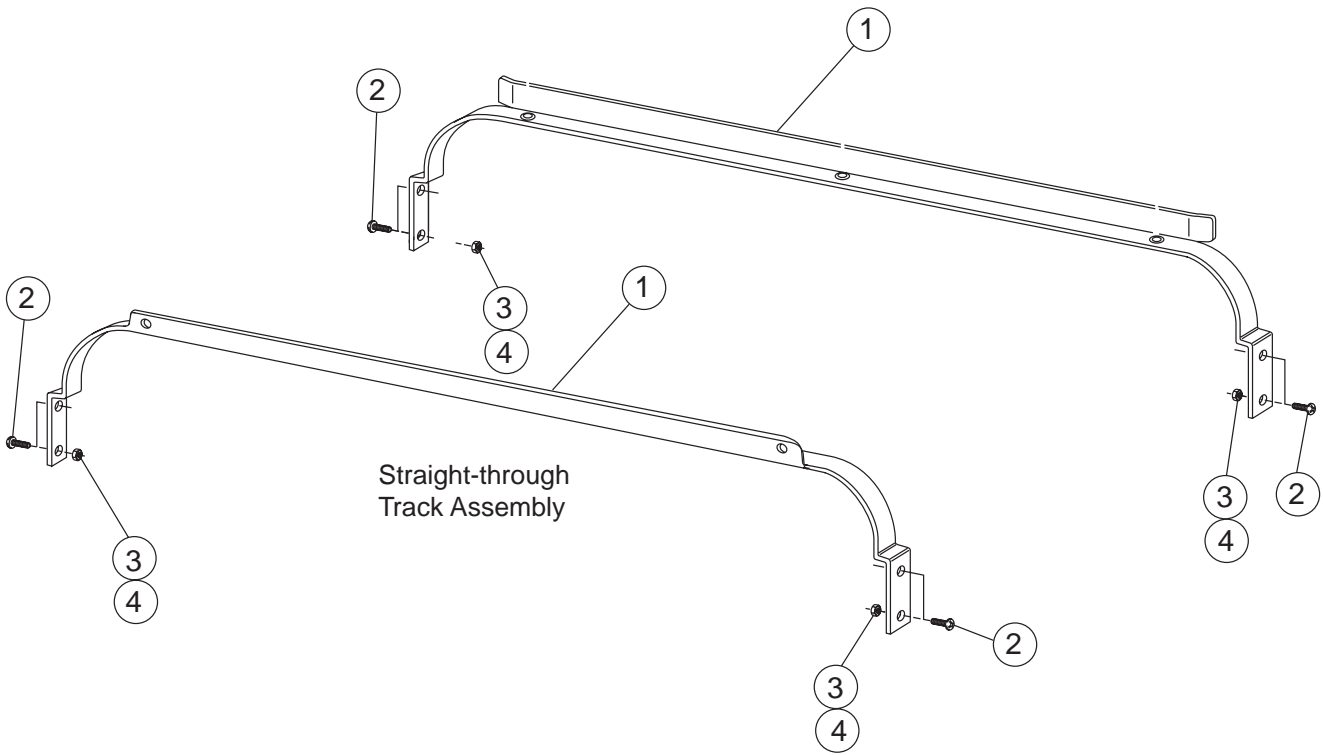
Item No.	Part No.	Description	Qty
1	108053	PLUG, CORNER POST	2
2	107970	SCREW, 8-32 X 1" FILISTER HD. SST	32
3	112704	GUIDE, DOOR LEFT	2
4	112705	GUIDE, DOOR RIGHT	2
5	325633	DOOR, SIDE UPPER	2
6	322788	DOOR, LOWER SIDE (PRIOR TO S/N D3864)	1
---	327252	DOOR, LOWER SIDE (BEGIN W/ S/N D3864)	1
7	323221-S	DOOR, LOWER FRONT (PRIOR TO S/N D3864)	1
---	327295	DOOR, LOWER FRONT (BEGIN W/ S/N D3864)	1
8	100007	SCREW, 10-32 X 3/8" TRUSS HD., SST	6
9	104985	NUT, PLAIN 10-32	6
10	322077	SPLASH GUARD, PRIOR TO D3864 NO LONGER USED	--
11	323006	STOP, DOOR (PRIOR TO S/N D3864)	1
---	327321	STOP, DOOR (BEGIN W/ S/N D3864)	1
12	100740	BOLT, 5/16-18 X 1" HEX HD., SST	2
13	107893	SHOCK ABSORBER	6
14	323224	BRACKET, CORNER DOOR LIFT (PRIOR D3864)	1
---	327242	BRACKET, CORNER DOOR LIFT (BEGIN D3864)	1
---	327256	BRACKET, FRONT DOOR (BEGIN D3864)	1
15	323305	ANGLE, DOOR STOP	2
16	112772	STOP, DELRIN SPLASH BAFFLE	2
17	100097	SCREW, 10-32 X 1/2" TRUSS HD., SST	8
18	327260	SIDE DOOR LIFT (BEGIN D3864) NOT SHOWN	1
19	113916	DOOR CONNECT, HANDLE	1
20	100755	SCREW, 1/4-20 X 1/2" FLAT HD., SST	4
21	111090	SWITCH, MAGNETIC REED	2
22	108954	GRIP NUT, 6-32 W/NYLON INSERT SST	8
23	106382	SCREW, 6/32 X 3/8" TRUSS HD., SST	4
24	111090	MAGNET, REED SWITCH	2

Door Handle and Spring Assembly



Item No.	Part No.	Description	Qty
1	112723	BOLT, 5/6-18 X 15"	2
2	108066	SPRING, EXTENSION	2
3	107397	BLOCK, SPRING HOOK	2
4	113757	DOOR HANDLE, STD. (BEGIN S/N D4185)	1
---	112860	DOOR HANDLE, CORNER (PRIOR S/N D4185)	1
5	107347	BOLT, M6 X 45 MM HEX HD., SST	4
6	107396	BLOCK, UPPER PIVOT	2
7	107393	PIN, PIVOT	2
8	107962	GRIP, HANDLE	2
9	107395	BLOCK, LOWER PIVOT	2
10	107420	NUT, PLAIN M6	8
11	107436	SCREW, M6 X 16 MM	6
12	107399	SUPPORT, PIVOT BLOCK	2
13	108368	GASKET, BACKING	2
14	304811	PLATE, BACKING	2
15	100740	BOLT, 5/16-18 X 1" HEX. HD., SST	2
16	107966	GRIP NUT, 10-32 W/NYLON INSERT, SST	8
17	322077	GUARD, SPLASH	2
18	100097	SCREW, 10-32 X 1/2" TRUSS HD., SST	8
19	0509264	BUSHING, SIDE DOOR	2
20	0509274	NUT, ACORN 5/16-18 SST	2
21	0309167	LIFT, BAR DOOR STD.	2
---	322926	LIFT, BAR DOOR CORNER	2
22	102376	WASHER, FLAT	2
23	104002	BOLT, 5/16-18 X 1-1/2" SST	2
24	100154	NUT, PLAIN 5/16-18 SST	4
25	106013	WASHER, LOCK 5/16-18 SPLIT	2
26	102376	WASHER, FLAT 5/16-18 SST	4
27	321927	SPRING, ANCHOR BRACKET	1
28	113721	SWITCH, REED STD. (BEGIN S/N D5748)	1
---	0509199	SWITCH, DOOR SAFETY (PRIOR TO D5748)	1
29	0309451	BRACKET, DOOR SWITCH (PRIOR TO D5748)	1
---	328173	BRACKET, DOOR SWITCH STD. (BEGIN S/N D5748)	1
---	900860	KIT, DOOR HANDLE CONVERSION TO 113757	A/R

Track Assembly



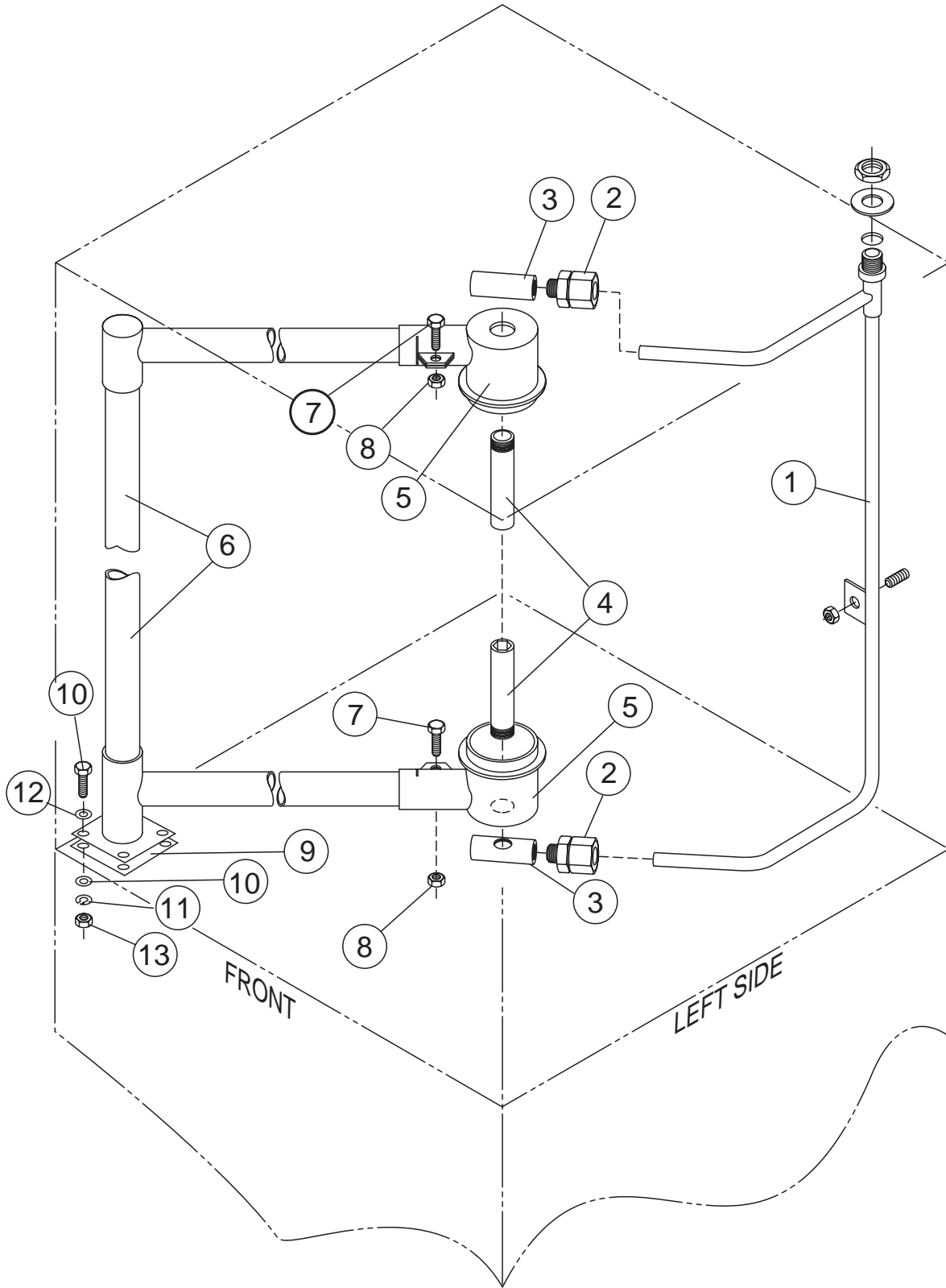
STRAIGHT-THROUGH TRACK CONFIGURATION

Item No.	Part No.	Description	Qty
1	0309472	TRACK, REAR	1
2	100073	BOLT, 1/4-20 X 1/2" TRUSS HD., SST	8
3	106482	WASHER, LOCK 1/4" SPLIT SST	8
4	100003	NUT, PLAIN 1/4" HEX HD., SST	8

CORNER TRACK CONFIGURATION

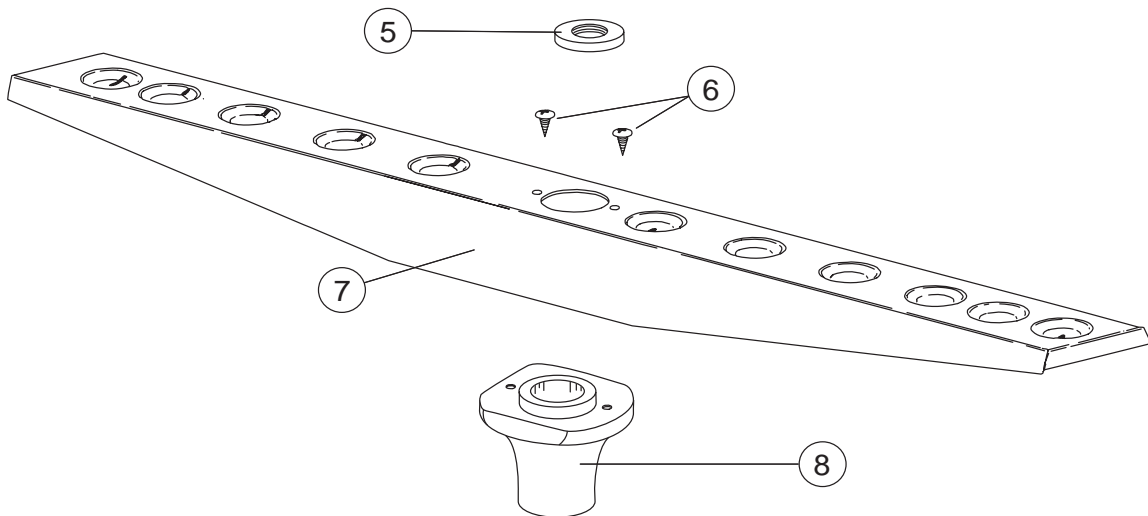
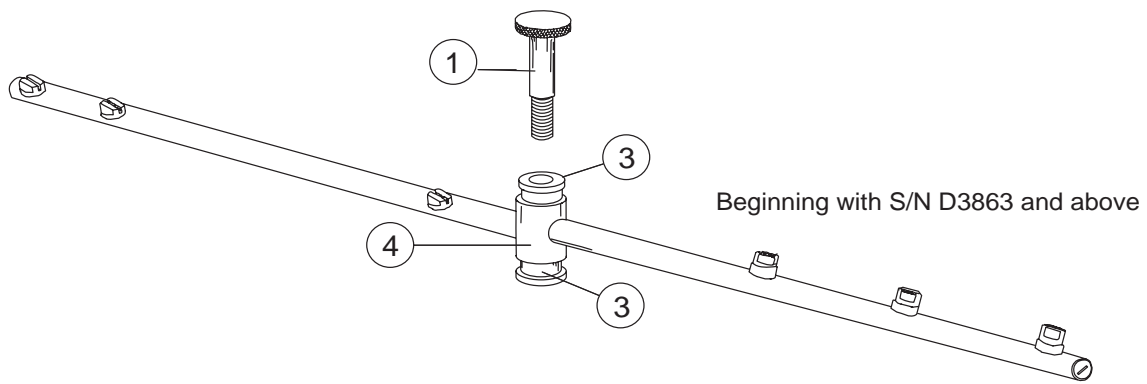
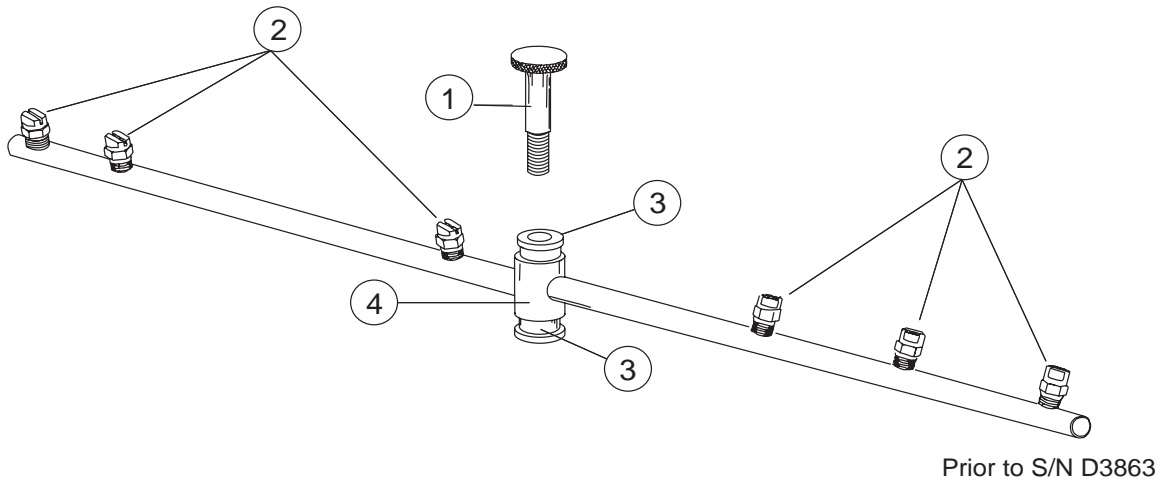
Item No.	Part No.	Description	Qty
1	0309469	GUIDE, RIGHT HAND	1
2	0309472	TRACK, REAR	1
3	0309468	GUIDE, LEFT HAND	1
4	0309470	SUPPORT, RACK	1
5	0309471	TRACK, FRONT	1
6	106727	SCREW, 10-32 X 5/8" FLAT HD., SST	8
7	107966	GRIP NUT, 10-32 W/NYLON INSERT, SST	8
8	100073	BOLT, 1/4-20 X 1/2" TRUSS HD., SST	8
9	106482	WASHER, LOCK 1/4" SPLIT, SST	8
10	100003	NUT, PLAIN 1/4-20 HEX HD., SST	8
11	0309473	SPACER	2

Wash and Rinse Spray Piping



Item No.	Part No.	Description	Qty
1	325632	MANIFOLD, RINSE	1
2	113027	CONNECTOR, RINSE ARM	2
3	113028	CONNECTOR, TOP RINSE ARM	2
4	0507445	SPINDLE, WASH ARM	2
5	109864	SUPPORT, WASH ARM	2
6	113252	STANDPIPE, WASH	1
7	100736	BOLT, 1/4-20 X 3/4" HEX HD., SST	2
8	107967	GRIP NUT, 1/4-20 SST	3
9	109854	GASKET, WASH STANDPIPE	1
10	100740	BOLT, 5/16-18 X 1" HEX HD., SST	4
11	106013	WASHER, LOCK 5/16" SPLIT, SST	4
12	102376	WASHER FLAT, 5/16" SST	8
13	100154	NUT, PLAIN 5/16-18, SST	4

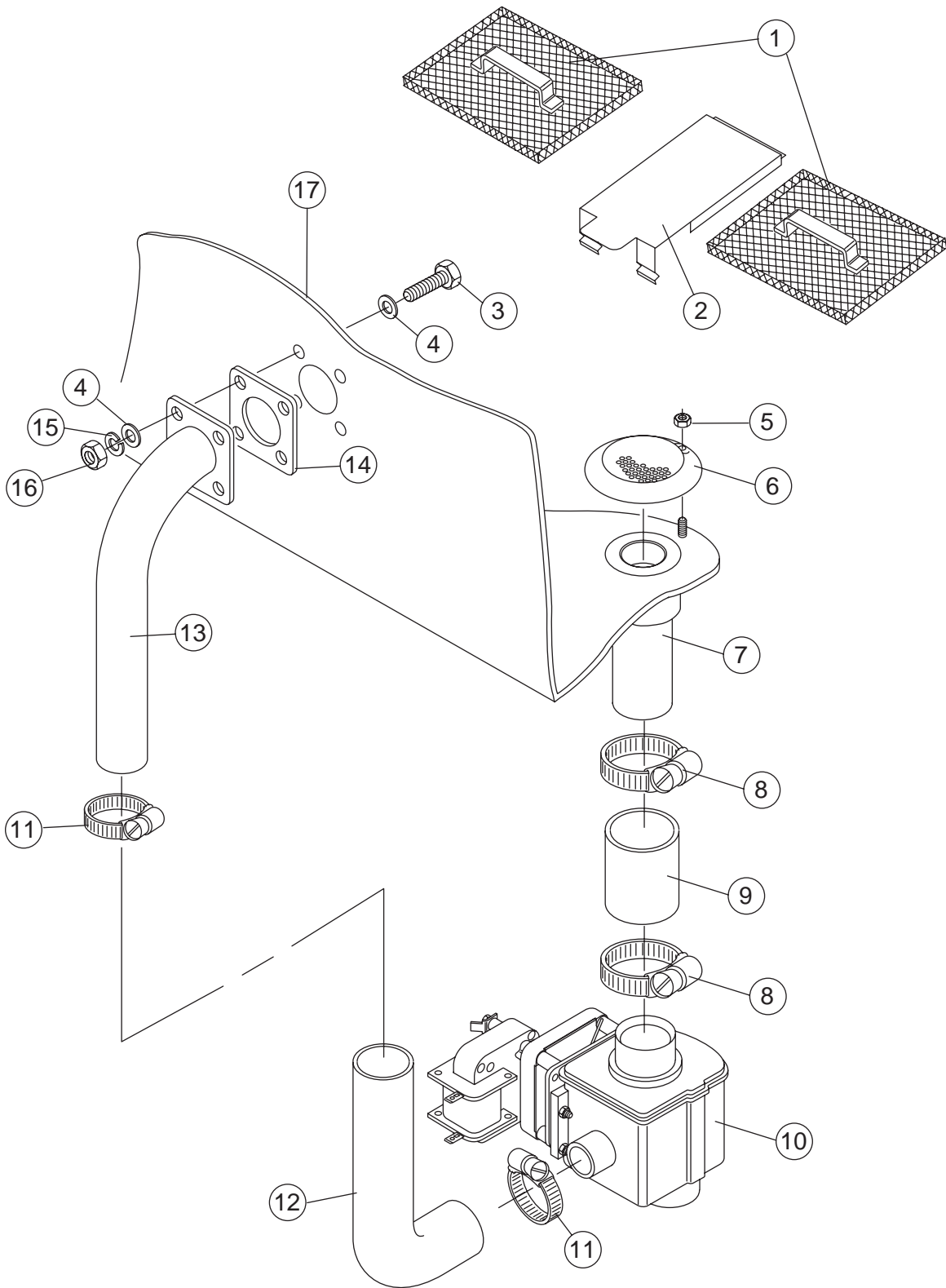
Wash and Rinse Spray Arms



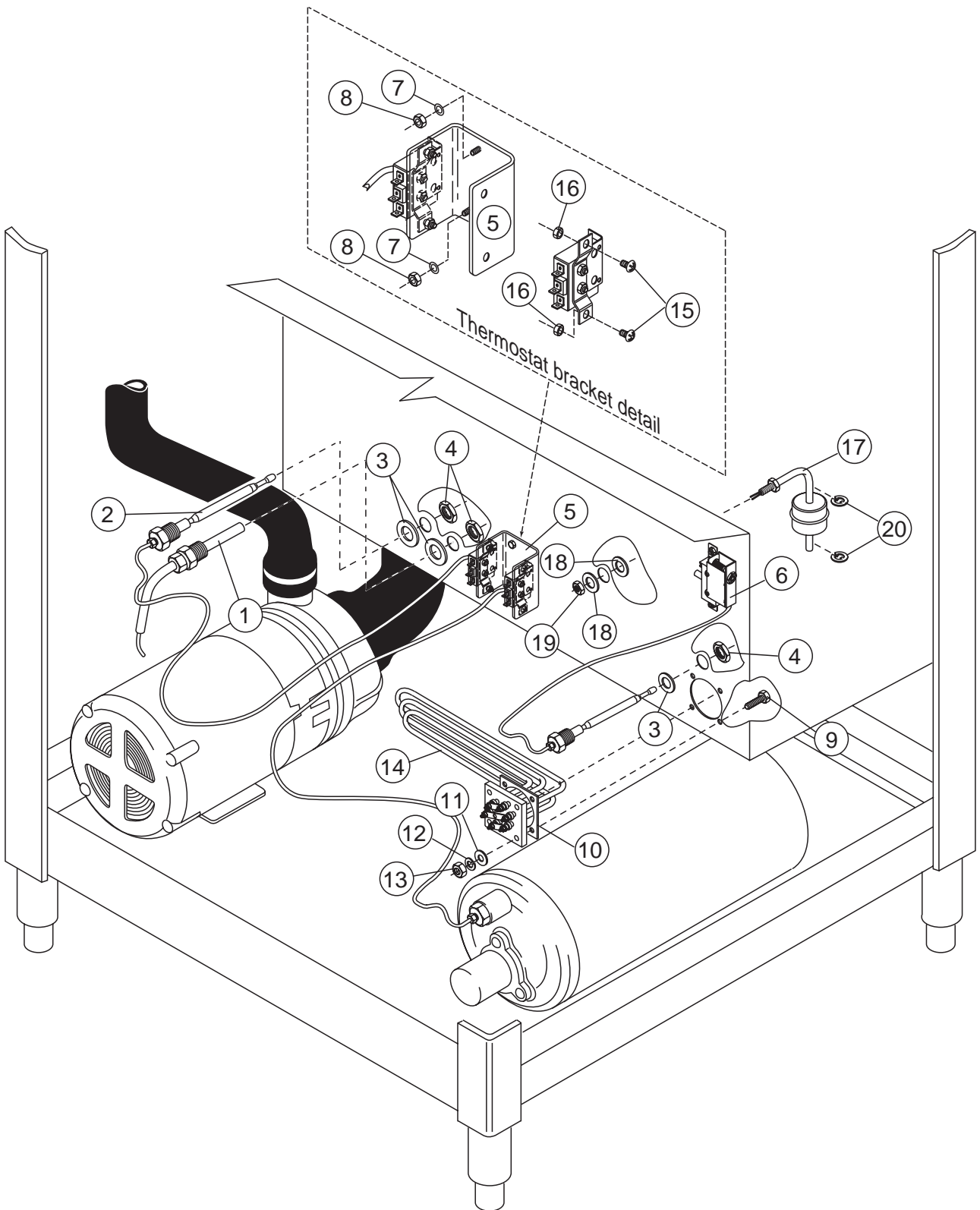
Item No.	Part No.	Description	Qty
1	0507443	SPINDLE, RINSE ARM	2
2	0508376	NOZZLE, RINSE ARM (PRIOR TO S/N D3864)	12
3	113514	BEARING, RINSE ARM (REPLACES 112164)	4
4*	414111	RINSE ARM ASSY, (INCLUDES 2 & 3) (PRIOR TO S/N D3864)	2
----	414110	RINSE ARM ASSY COMPLETE (BEGIN D3864)	2
5	0507444	NUT, RINSE ARM	2
6	109835	SCREW, #8 X 1/2" PAN HD., SST	4
7	0707452-S	WASH ARM ASSY, (INCLUDES 6 & 8)	2
8	0507446	BEARING, WASH ARM	2

* 0707453 IS NO LONGER AVAILABLE AS A COMPLETE RINSE ARM ASSY.
REPLACEMENT NOZZLES AND BEARINGS ARE STILL AVAILABLE FOR THAT ASSY.
TO REPLACE THE COMPLETE RINSE ARM ASSY ORDER P/N 414111.

Scrap Screens and Drain Assembly

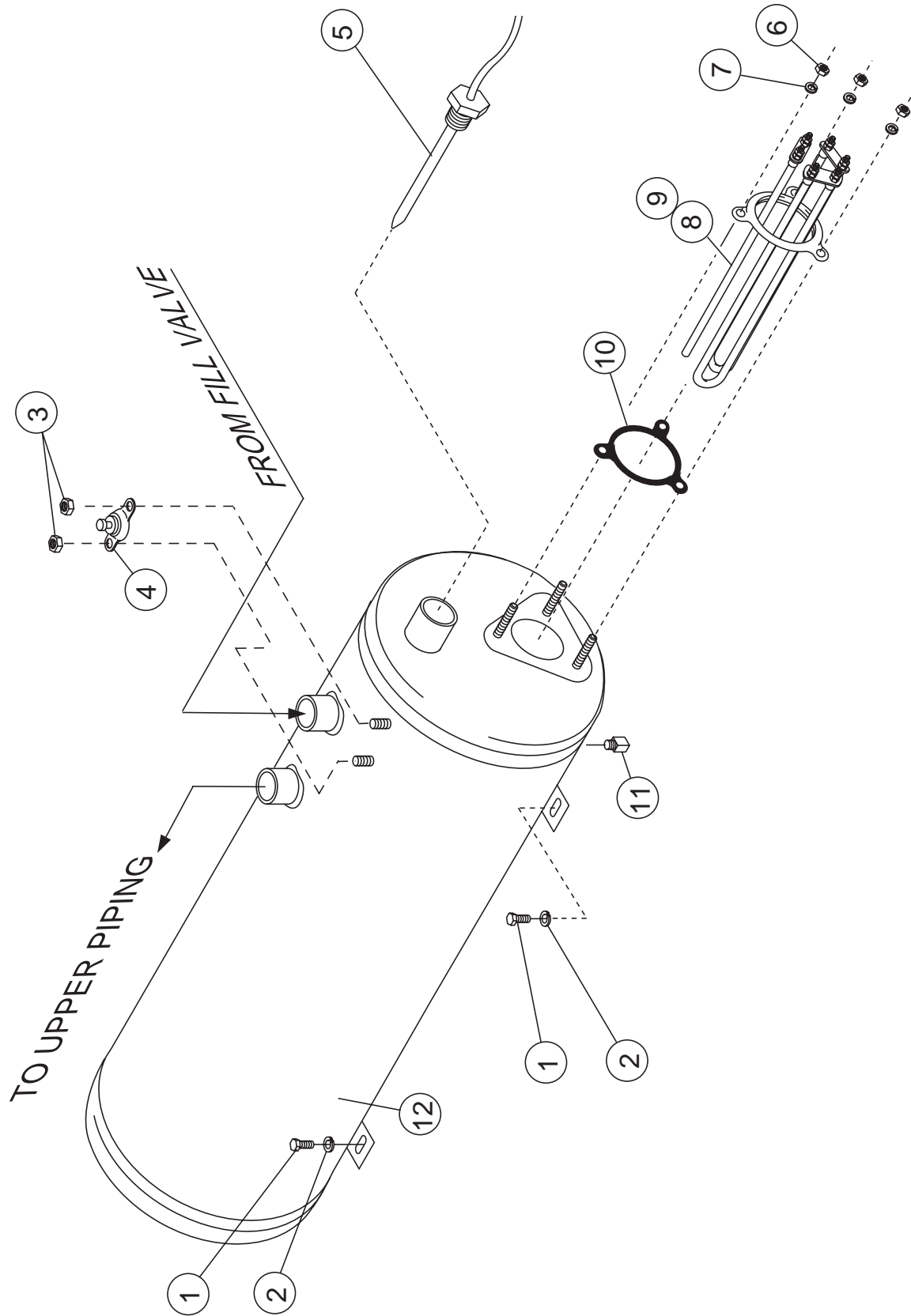


Item No.	Part No.	Description	Qty
1	305164	SCREEN, SCRAP 10"	2
2	324582	PLATE, FILLER	1
3	100736	BOLT, 1/4-20 X 3/4" HEX HD., SST	4
4	106026	WASHER, FLAT 1/4" SST	8
5	107967	GRIP NUT, 1/4-20 W/NYLON INSERT	1
6	304816	STRAINER	1
7	205988	CONNECTOR, ELECTRIC DRAIN VALVE	1
8	104165	CLAMP, HOSE	2
9	205990	HOSE, RUBBER	1
10	113315	ELECTRIC DRAIN VALVE (BEGIN S/N D2964)	1
11	107340	CLAMP, HOSE	2
12	113048	HOSE, OVERFLOW	1
13	324573	OVERFLOW, FLANGE WELDMENT	1
14	113047	GASKET, DRAIN FLANGE	1
15	106482	WASHER, LOCK 1/4 SPLIT, SST	4
16	100003	NUT, PLAIN HEX HD., 1/4-20 SST	4
17	327283	DEFLECTOR, WATER (BEGIN S/N D3851)	1
---	327098	SUPPORT, DRAIN VALVE (NOT SHOWN)	1
----	900830	KIT, DRAIN VALVE (FROM S/N D1848 THROUGH S/N D2963)	A/R



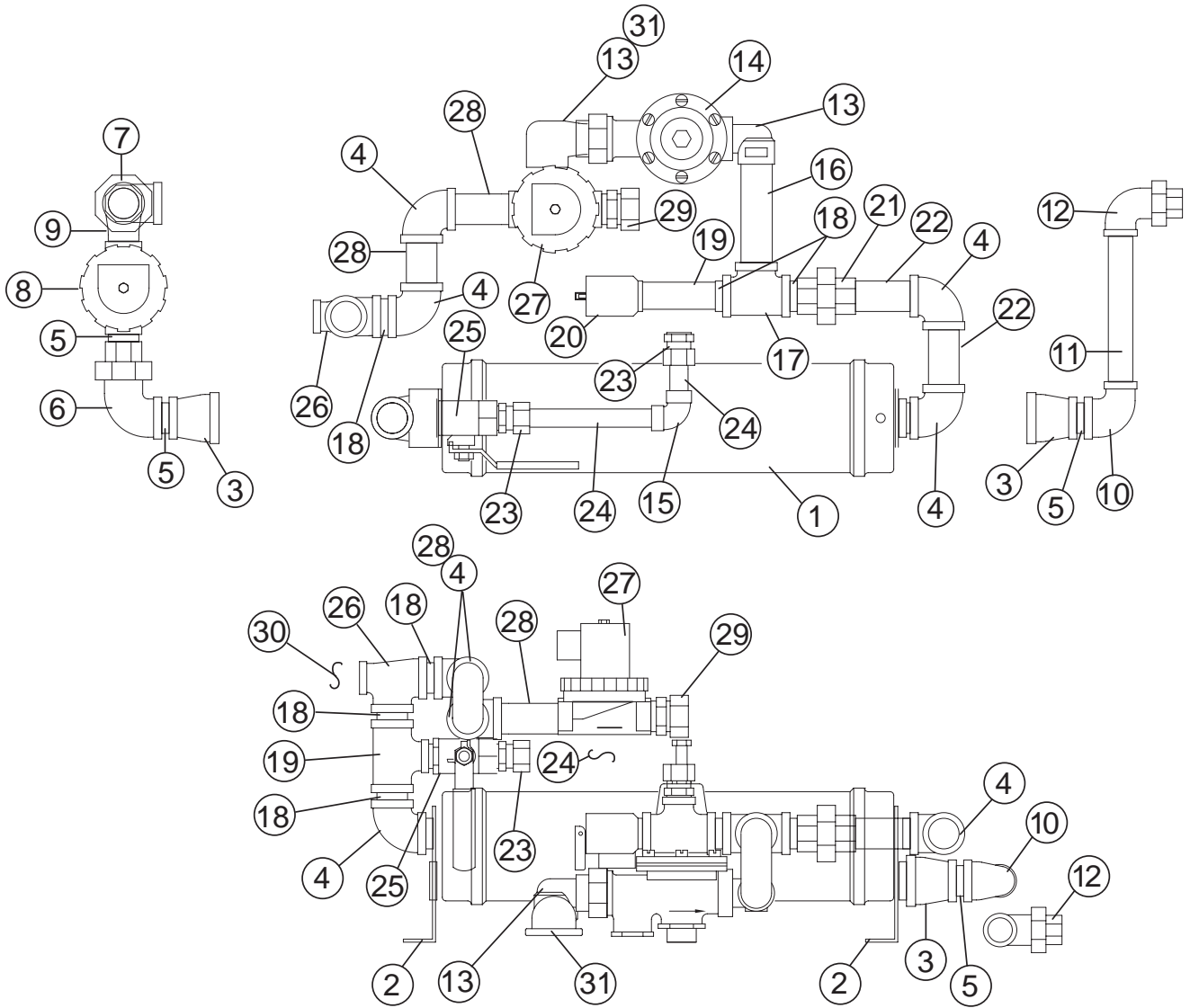
Item No.	Part No.	Description	Qty
1	113622	THERMOMETER, 4FT. CAPILLARY	1
2	109069	THERMOSTAT W/CAPILLARY	1
3	201041	WASHER	3
4	201029	NUT, LOCK 1/2"	3
5	322076	BRACKET, DUAL THERMOSTAT	1
6	110561	THERMOSTAT, FIXED HIGH-LIMIT	1
7	106482	WASHER, LOCK 1/4" SPLIT, SST	4
8	100003	NUT, PLAIN 1/4-20 HEX HD., SST	4
9	100740	BOLT, 5/16-18 X 1" HEX HD., SST	4
10	108345	GASKET	1
11	102376	WASHER, FLAT 5/16 SST	8
12	106013	WASHER, LOCK 5/16" SPLIT, SST	4
13	100154	NUT, PLAIN 5/16-18 SST	4
14	0509637	HEATER, 3KW 115V/1PH	1
PRIOR TO S/N D09117987			
---	113479	HEATER, 4.7KW 208-240/380-415V/1-3PH	1
---	113480	HEATER, 4.7KW 460V/3PH	1
---	113481	HEATER, 4.7KW 575V/3PH	1
BEGIN WITH S/N D09117987 AND ABOVE			
---	114178	HEATER, 5.2KW 208-240/380-415V/1-3PH	1
---	114179	HEATER, 5.2KW 460V/3PH	1
---	114180	HEATER, 5.2KW 575V/3PH	1
15	100007	SCREW, 10-32 X 3/8" TRUSS HD., SST	4
16	107966	GRIP NUT, 10-32 W/NYLON INSERT, SST	4
17	111092	SWITCH, FLOAT	1
18	104882	WASHER	2
19	107089	NUT, JAM 1/2-13	1
20	111151	C-CLIP, FLOAT SWITCH	2

Electric Booster Assembly



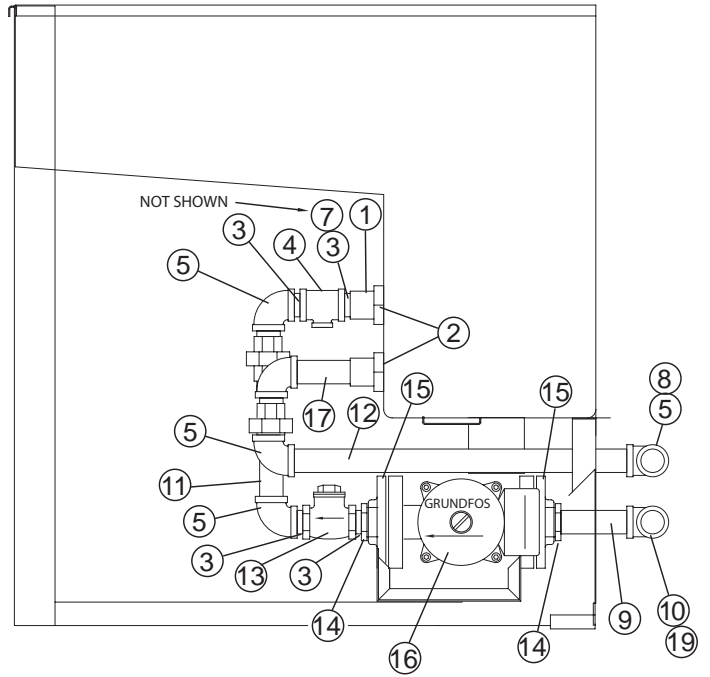
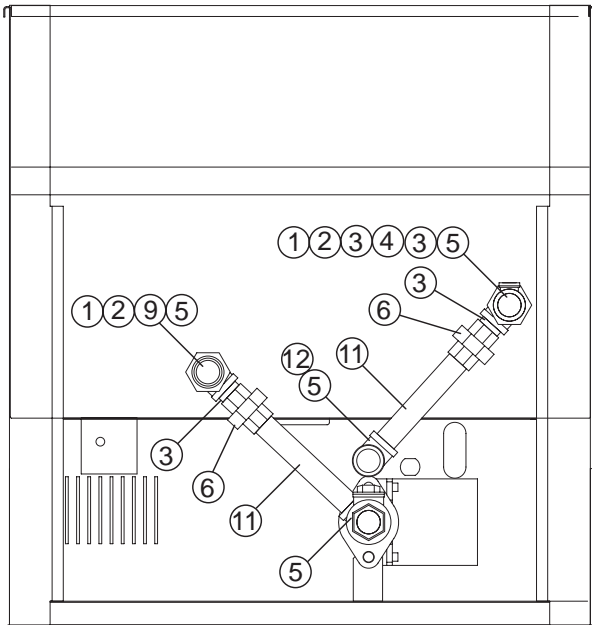
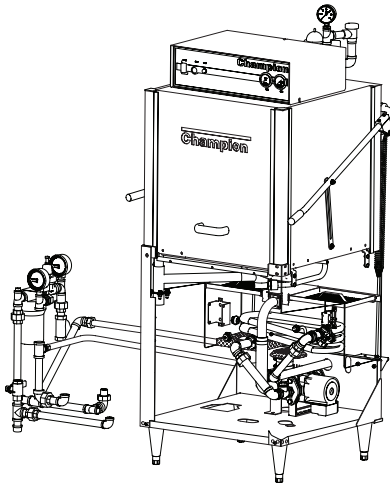
Item No.	Part No.	Description	Qty
1	100740	BOLT, 5/16-18 X 1" HEX HD., SST	2
2	102376	WASHER, FLAT 5/16" SST	2
3	108954	GRIP NUT, 6-32 W/NYLON INSERT, SST	2
4	110562	THERMOSTAT, HIGH LIMIT SNAP	1
---	110563	COMPOUND, HEAT SINK	A/R
5	109069	THERMOSTAT, CONTROL W/CAPILLARY	1
6	100003	NUT, PLAIN 1/4-20 SST	3
7	106482	WASHER, LOCK 1/4" SPLIT, SST	5
8	111334	HEATER, 9KW 208-240/380-415V 40°RISE (1-3 PH)	1
---	108579	HEATER, 9KW 480V/3PH 40°RISE	1
---	111122	HEATER, 9KW 575V/3PH 40°RISE	1
9	111266	HEATER, 18KW 208-240/380-415V 70°RISE (1-3PH)	1
---	111267	HEATER, 18KW 480V/3PH 70°RISE	1
---	111600	HEATER, 18KW 575V/3PH 70°RISE	1
10	109985	SEAL, ELECTRIC HEATER	1
11	100210	PLUG, 1/8" SST	1
12	0509042	TANK, BOOSTER	1

k2 Steam Booster Assembly



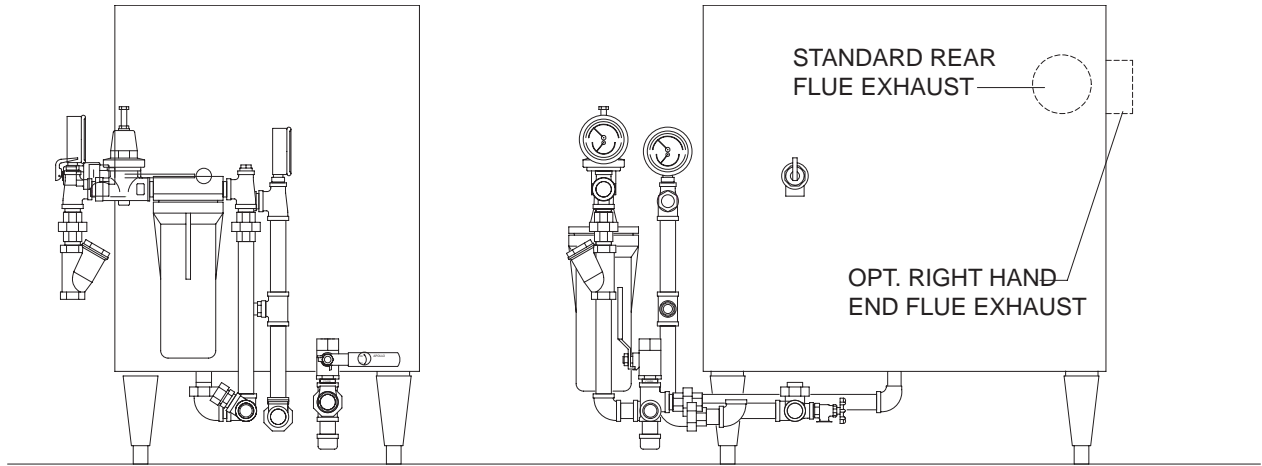
Item No.	Part No.	Description	Qty
1	110189	BOOSTER, K2 SPIREX	1
2	315596	BRACKET, BOOSTER SUPPORT	2
3	105725	COUPLING REDUCING, 1" X 3/4" NPT BI	2
4	102442	ELBOW, 3/4" NPT X 90° BRASS	5
5	105803	NIPPLE, CLOSE 3/4" NPT BI	3
6	106485	UNION ELL, 3/4" NPT X 90° FEMALE BI	1
7	107502	UNION ELL, 3/4" NPT X 90° MALE BI	1
8	109887	VALVE, SOLENOID 3/4" NPT STEAM	1
---	108516	KIT, SOLENOID COIL REPAIR 3/4" NPT	A/R
---	109903	KIT, REPAIR DIAPHRAGM 3/4" NPT VALVE	A/R
9	105731	STREET ELL, 3/4" NPT BI	1
10	105738	ELBOW, REDUCING 3/4" X 1/2" NPT BI	1
11	105794	NIPPLE, 1/2" NPT X 6" LG. BI	1
12	111386	UNION ELL, 1/2" NPT X 90° FEMALE BI	1
13	112430	STREET ELL, 3/4" NPT X X 90° FORGED BRASS	1
14	112387	PRESSURE REGULATOR/LINE STRAINER 3/4" NPT	1
15	103427	ELBOW, 1/2" X 90° COPPER	1
16	102662	NIPPLE, 3/4" NPT X 6-1/2" LG. BRASS	1
17	102521	TEE, 3/4" NPT BRASS	1
18	100184	NIPPLE, CLOSE 3/4" NPT	6
19	102526	TEE, 3/4" X 3/4" X 1/2" NPT BRASS	2
20	104649	RELIEF VALVE 3/4" NPT 125 PSI	1
21	100571	UNION, 3/4" NPT BRASS	1
22	102470	NIPPLE, 3/4" NPT X 3" BRASS	2
23	107736	UNION, 1/2" X 1/2" NPT MALE COPPER	2
24	107380	FORM TO FIT, TUBING 1/2" TYPE L COPPER	2
25	104749	BALL VALVE, 1/2" NPT M X F	1
26	102525	TEE, 3/4" X 1/2" X 3/4" NPT BRASS	1
27	111437	VALVE, 3/4" NPT HOT WATER	1
---	111472	KIT, SOLENOID COIL REPAIR 3/4" VALVE	A/R
---	109903	KIT, REPAIR DIAPHRAGM 3/4" NPT VALVE	A/R
28	102651	NIPPLE, 3/4"NPT X 2" LG. BRASS	2
29	109879	COMPRESSION FITTING, 3/4" X 7/8" OD	1
30	109069	THERMOSTAT, WITH CAPILLARY (NOT SHOWN)	1
31	102444	ELBOW, STREET, 3/4" X 90° BRASS CAST	1

Hot Water Coil Tank Heat Assembly

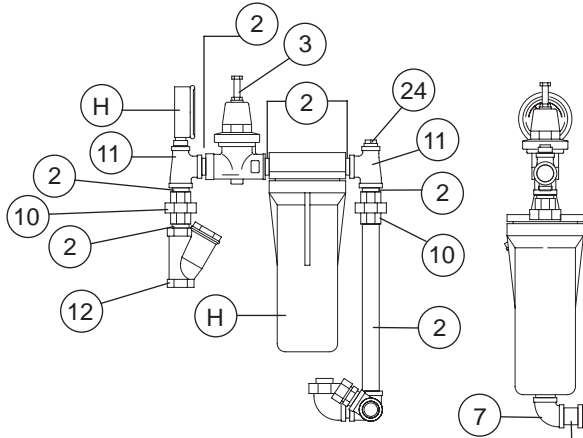


Item No.	Part No.	Description	Qty
1	322280	COIL WELDMENT, STEAM/HOT WATER	1
2	100585	LOCKNUT, 1" NPT BRASS	2
3	100184	NIPPLE, CLOSE 3/4" NPT BRASS	6
4	107418	TEE, 3/4" X 3/4" X 1/4" BRASS	1
5	102442	ELBOW, 3/4" NPT BRASS	5
6	100571	UNION, 3/4" NPT BRASS	2
7	112437	NEEDLE VALVE, 1/4" NPT M X F BRASS	1
8	109879	COMPRESSION FITTING, 7/8" OD X 3/4" NPT BRASS	1
9	102490	NIPPLE, 3/4" NPT X 3-1/2" LG. BRASS	2
10	109925	COMPRESSION FITTING, 5/8" OD X 1/2" MPT	1
11	102660	NIPPLE, 3/4" NPT X 6" LG. BRASS	2
12	102690	NIPPLE, 3/4" NPT X 16-1/2" LG. BRASS	1
13	100853	CHECK VALVE, 3/4" NPT BRASS	1
14	102396	REDUCING BUSHING, 1" X 3/4" NPT BRASS	2
15	111860	FLANGE KIT, FLANGES, GASKETS, BOLTS	1
16	111854	CIRCULATION PUMP	1
17	102653	NIPPLE, 3/4" NPT X 4" LG. BRASS	1
18	323041	PUMP SUPPORT BRACKET	1
19	102446	ELBOW REDUCING, 3/4" X 1/2" X 90° BRASS	1

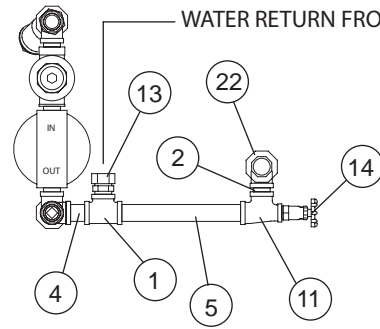
Single Source Gas Booster Piping



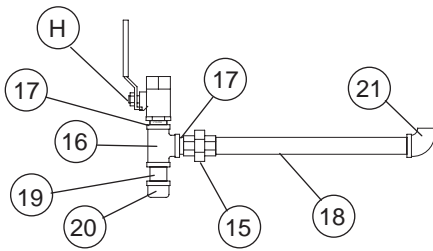
110° HOT WATER IN TO BOOSTER AND RETURN FROM TANK HEAT COIL



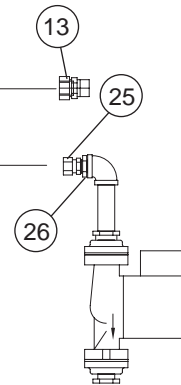
WATER RETURN FROM COIL



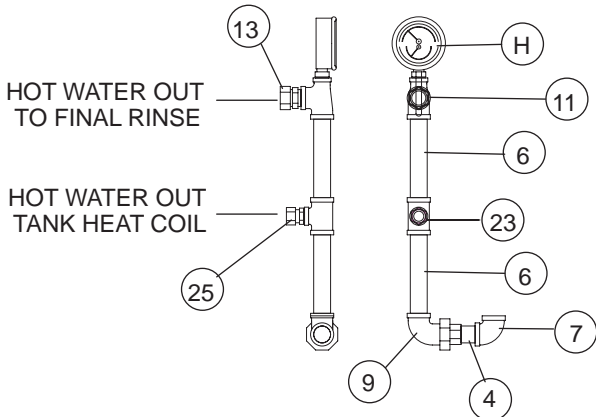
HOT WATER RETURN FROM COIL TO BOOSTER



HOT WATER IN FROM BOOSTER TO COIL

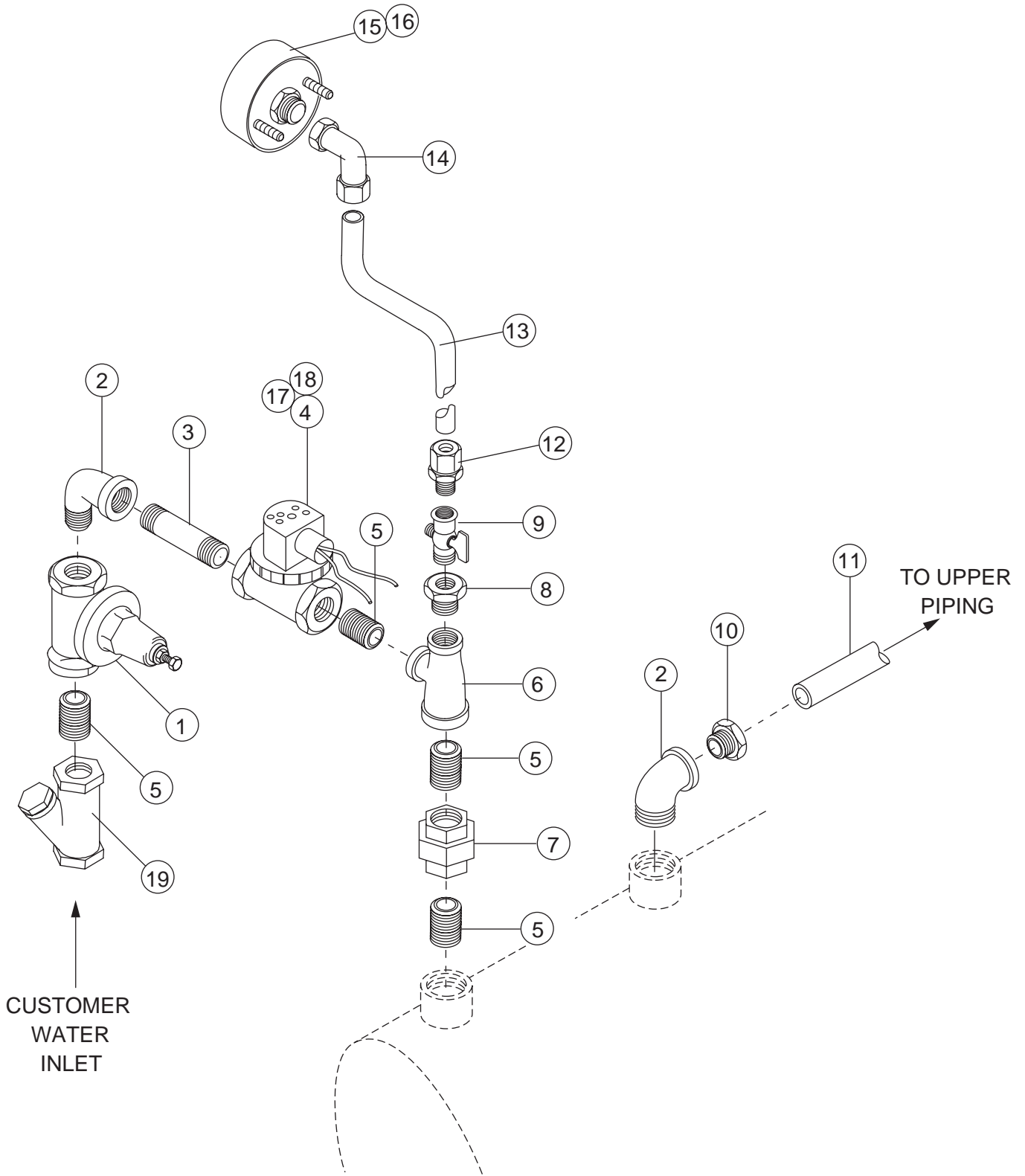


HOT WATER OUT TO MACHINE FINAL RINSE AND COIL



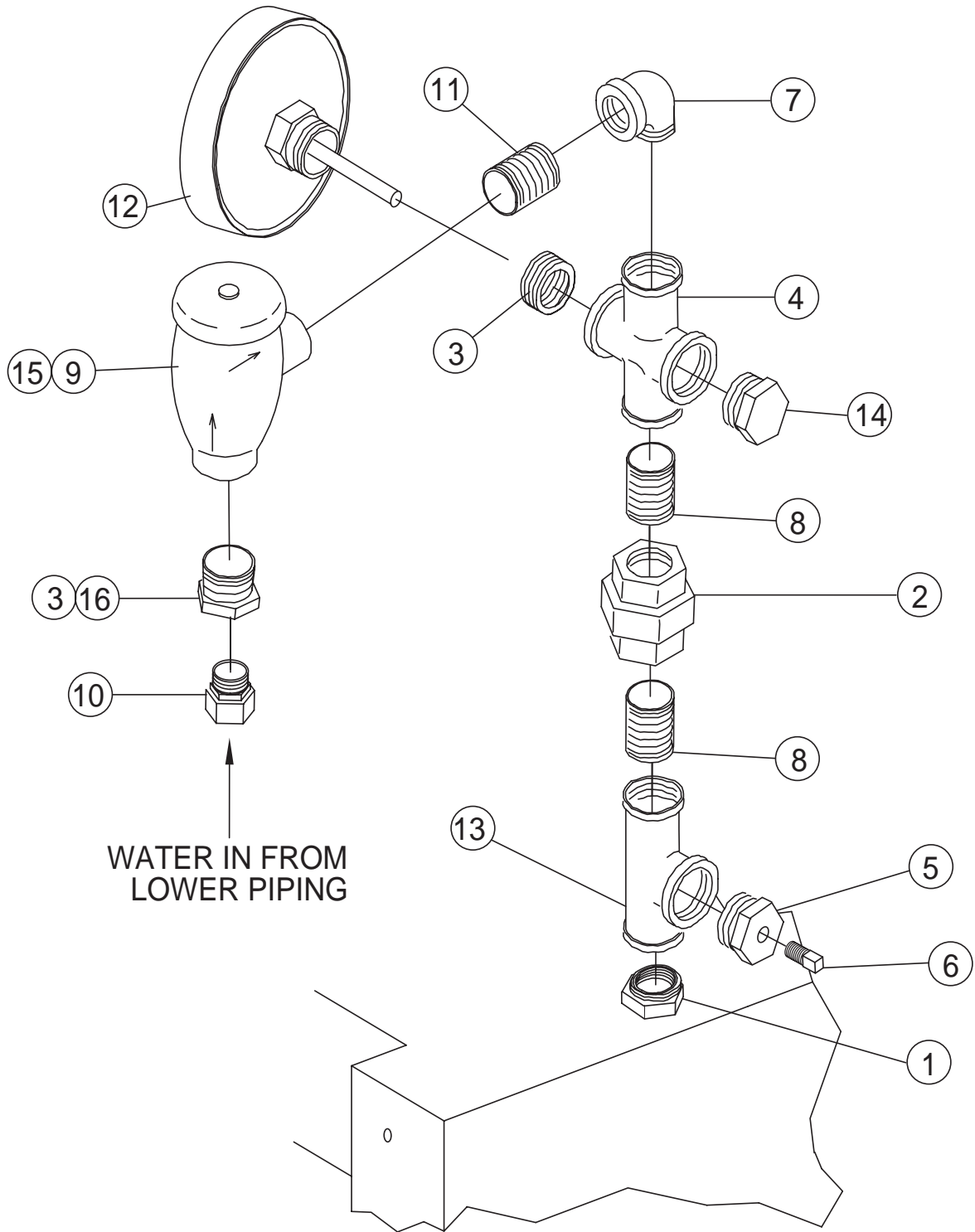
Item No.	Part No.	Description	Qty
1	102521	TEE, 3/4" NPT BRASS	1
2	100184	NIPPLE, CLOSE 3/4" NPT BRASS	7
3	107550	PRESSURE REGULATING VALVE 3/4" NPT BRONZE	1
4	102651	NIPPLE, 3/4" NPT X 2" LG. BRASS	2
5	102669	NIPPLE, 3/4" NPT X 8-1/2" LG. BRASS	1
6	102660	NIPPLE, 3/4" NPT X 6" LG. BRASS	2
7	102442	ELBOW, 3/4" NPT X 90° BRASS	2
8	102678	NIPPLE, 3/4" NPT X 11-1/2" LG. BRASS	1
9	106911	UNION ELL, 3/4" NPTF X 90° BRASS	1
10	100571	UNION, 3/4" NPT BRASS	2
11	102525	TEE, 3/4" X 1/2" X 3/4" NPT BRASS	4
12	110768	LINE STRAINER, 3/4" NPT BRONZE	1
13	109879	COMPRESSION FITTING, 7/8" OD X 3/4" NPT BRASS	2
14	112228	VALVE, ANGLE, DRAIN BRASS	1
15	105779	UNION, 3/4" NPT BI	1
16	105752	TEE, 3/4" NPT BI	1
17	105803	NIPPLE, 3/4" NPT CLOSE BI	2
18	113003	NIPPLE, 3/4" NPT X 13" LG. BI	1
19	105806	NIPPLE, 3/4" NPT X 2" LG. BI	1
20	100113	CAP, 3/4" NPT SST	1
21	105731	STREET ELL, 3/4" NPT 90° BI	1
22	100118	UNION ELL MALE, 3/4" NPT X 90° BRASS	1
23	102526	TEE, 3/4" X 3/4" X 1/2" NPT BRASS	1
24	102504	PLUG, 1/2" NPT BRASS	1
25	109925	COMPRESSION FITTING, 5/8" OD X 1/2" NPT BRASS	2
26	102392	BUSHING, 3/4" X 1/2" NPT BRASS	1
H	-----	SUPPLIED BY HATCO WITH BOOSTER	

DHBT Lower Fill Piping Assembly



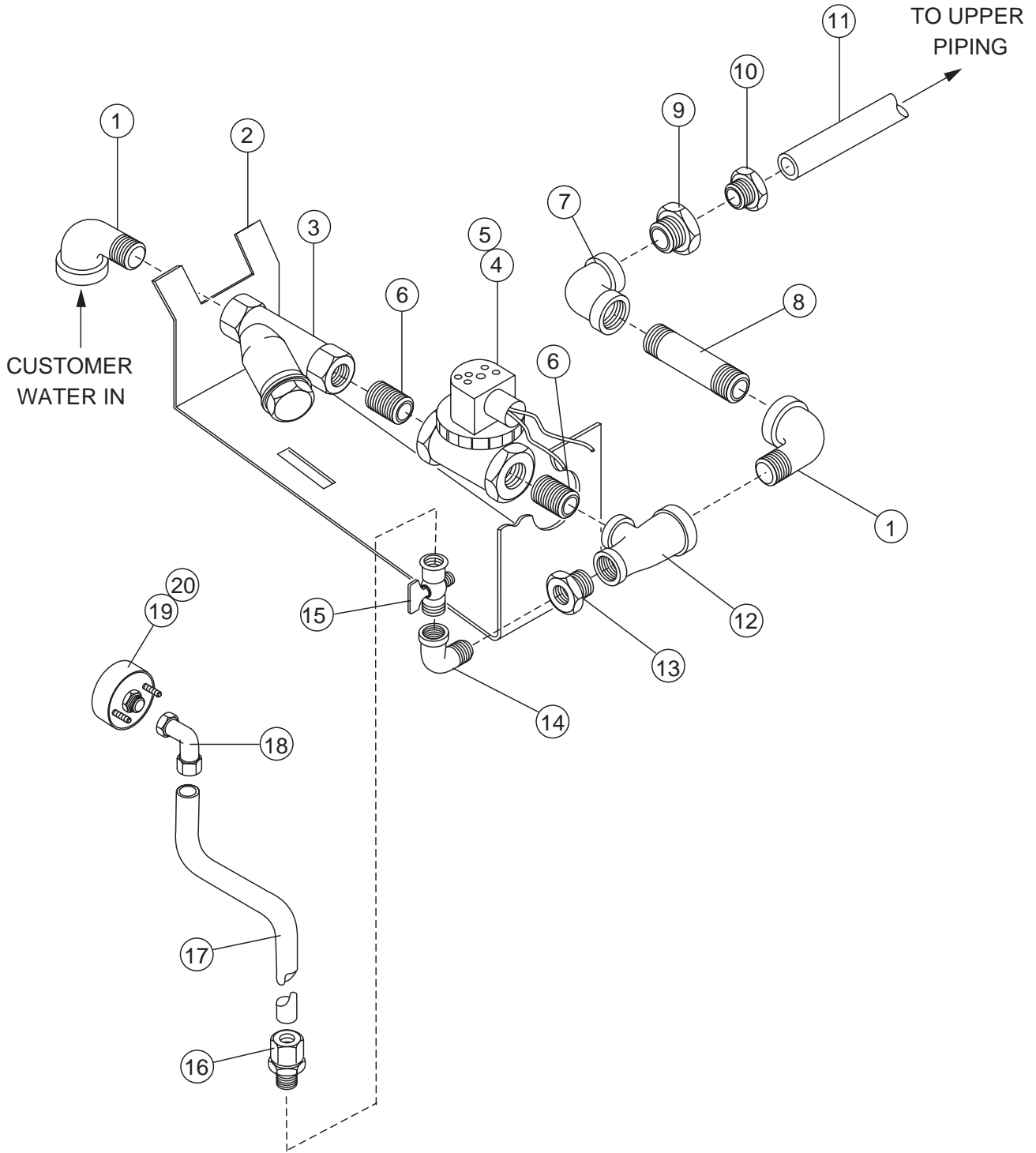
Item No.	Part No.	Description	Qty
1	107550	VALVE, PRESSURE REGULATING 3/4"	1
2	102444	STREET ELL, 3/4" X NPT BRASS	2
3	102651	NIPPLE, 3/4" X 2" BRASS	1
4	111437	VALVE, 3/4" NPT HOT WATER	1
5	100184	NIPPLE, CLOSE 3/4" NPT BRASS	4
6	102525	TEE, 3/4" X 1/2" X 3/4" BRASS	1
7	100571	UNION 3/4" NPT X BRASS	1
8	102388	BUSHING REDUCING, 1/2" X 1/4" BRASS	1
9	112437	VALVE, NEEDLE 1/4"	1
10	109879	COMPRESSION FITTING 3/4" NPT X 7/8" OD	1
11	205824	TUBE, FINAL RINSE	1
12	107065	CONNECTOR, MALE 1/4" OD X 1/4" NPT	1
13	107928	TUBING, HIGH DENSITY	3FT.
14	111100	ELBOW, FEMALE 1/4" OD X 1/8" MPT	1
15	109812	GAUGE, PRESSURE 0-60 PSI	1
16	109816	OVERLAY, GAUGE 20-30 PSI	1
17	111472	COIL, SOLENOID 120VAC	A/R
18	109903	KIT, VALVE REPAIR	A/R
19	110768	STRAINER, LINE 3/4" BRONZE	1

DHBT, DH1T Upper Fill Piping Assembly



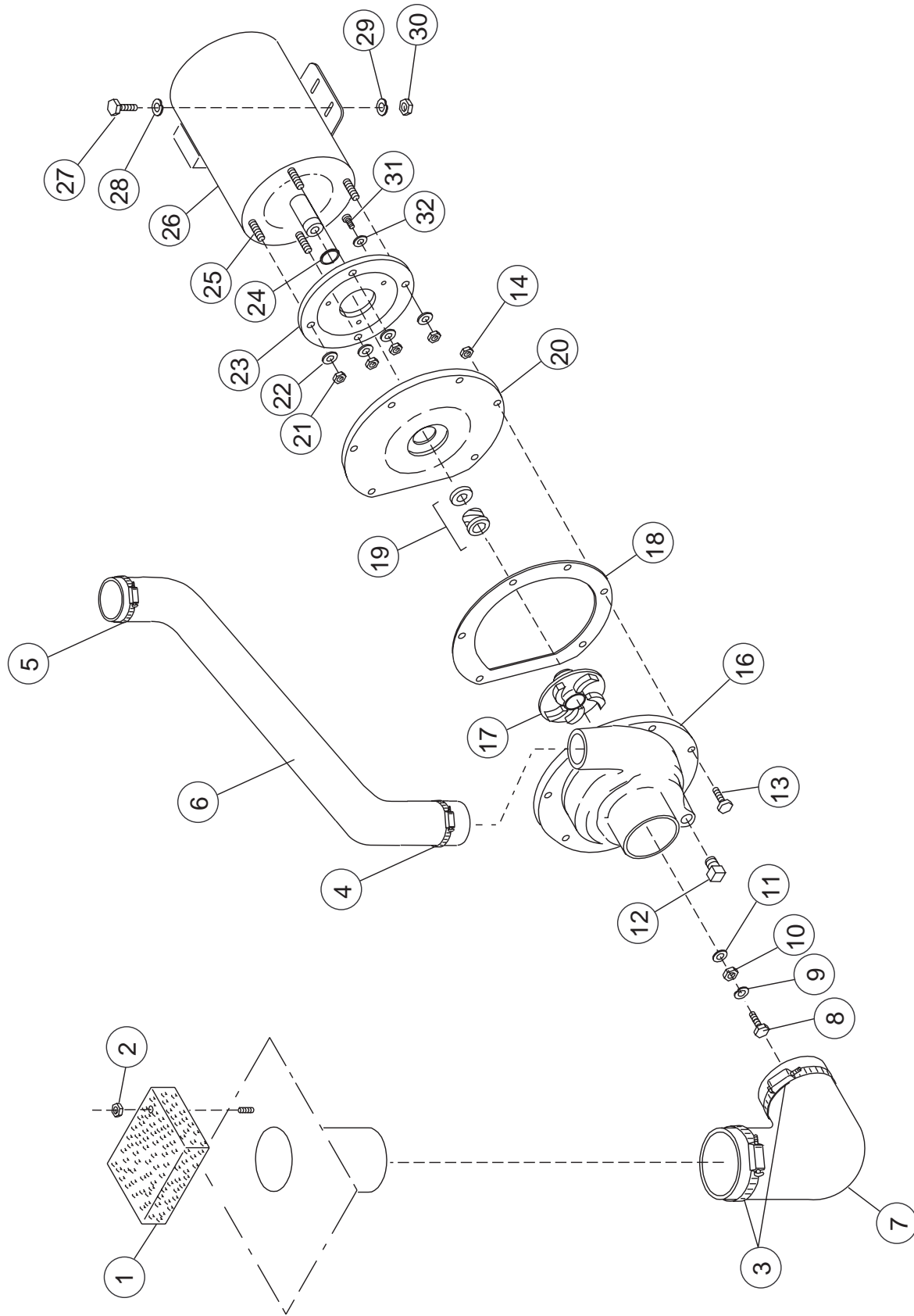
Item No.	Part No.	Description	Qty
1	100156	LOCKNUT, 3/4" NPT BRASS	1
2	100571	UNION 3/4" NPT BRASS	1
3	102392	BUSHING, RED. 3/4" NPT X 1/2" BRASS (PRIOR TO S/N D3699)	1
---	100171	BUSH, RED., FACE 3/4" NPT X 1/2" BRASS (BEGIN WITH S/N D3700)	1
4	100599	CROSS, 3/4" NPT BRASS	1
5	108181	BUSHING, RED. 3/4" X 1/4" NPT PLASTIC	1
6	107463	PLUG, 1/4" NPT PLASTIC	1
7	102444	ELBOW, STREET 3/4" NPT 90° BRASS	1
8	100184	NIPPLE, CLOSE 3/4" NPT BRASS	1
9	113222	VACUUM BREAKER, 3/4" NPT BRONZE	1
10	109925	COMPRESSION FITTING, 1/2" NPT X 5/8" OD BRASS	1
11	102489	NIPPLE, 3/4" NPT X 2-1/2" LG. BRASS	1
12	104682	THERMOMETER, 1/2" NPT	1
13	102521	TEE, 3/4" NPT BRASS	1
14	102505	PLUG, 3/4" NPT BRASS	1
15	113223	KIT, REPAIR VACUUM BREAKER 3/4"	1
16	102392	BUSHING, REDUCING 3/4" NPT X 1/2" BRASS (BEGIN WITH S/N D3700)	1

DH1T Lower Fill Piping Assembly



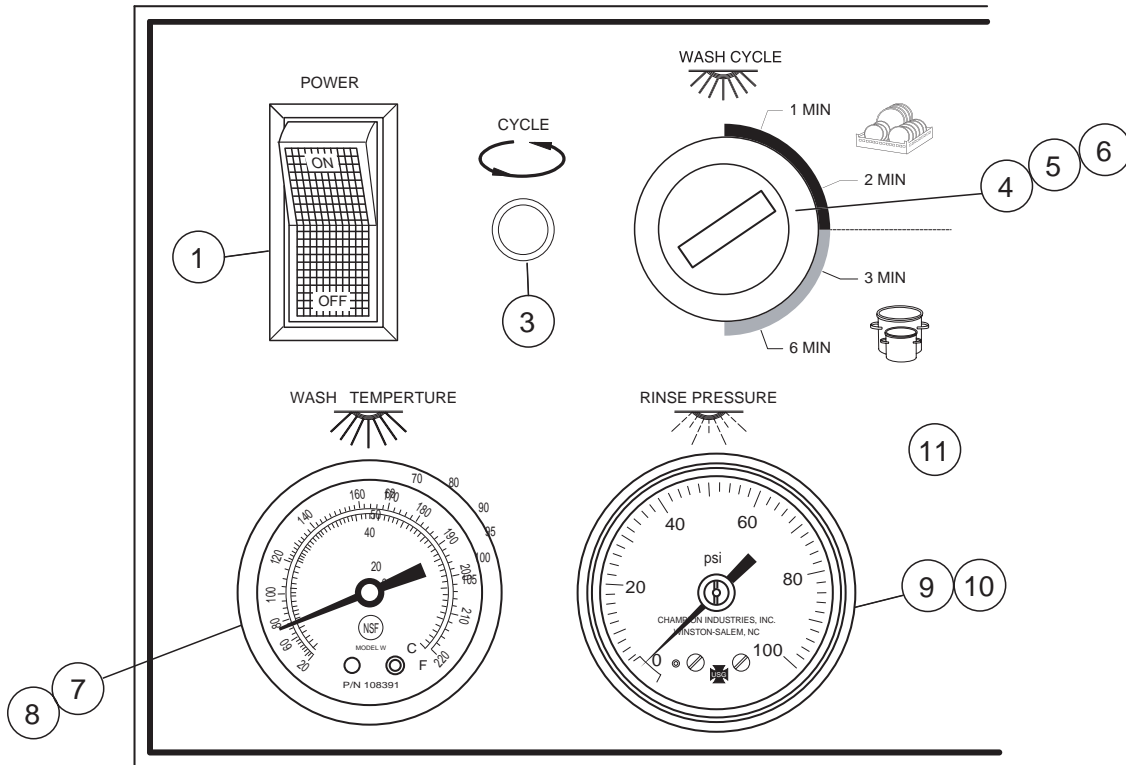
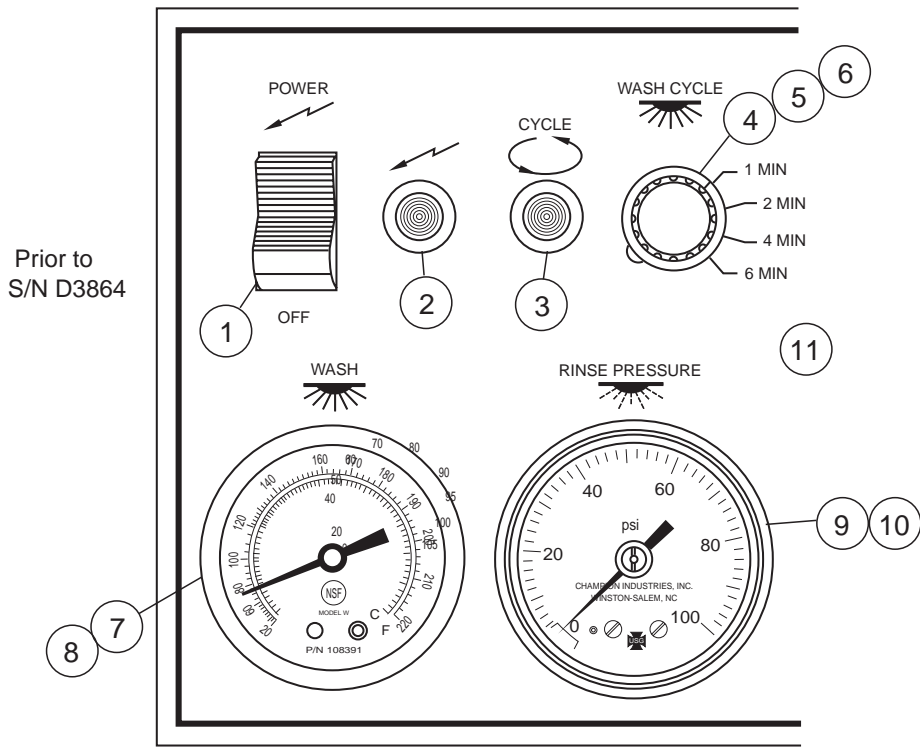
Item No.	Part No.	Description	Qty
1	102444	STREET ELL, 3/4" NPT BRASS	2
2	0309340	BRACKET, PLUMBING SUPPORT	1
3	110768	STRAINER, LINE 3/4" BRASS	1
4	111437	VALVE, 3/4" NPT HOT WATER, 12OVAC	1
5	109903	KIT, REPAIR VALVE, 3/4" NPT HOT WATER	A/R
---	111472	COIL. SOLENOID 12OVAC, 3/4" NPT HOT WATER	A/R
6	100184	NIPPLE, CLOSE 3/4"NPT BRASS	2
7	102442	ELBOW, 3/4" NPT BRASS	1
8	102470	NIPPLE, 3/4" NPT X 3" LG. BRASS	1
9	102392	BUSHING, REDUCING 3/4" X 1/2" NPT BRASS	1
10	109925	COMPRESSION FITTING, 1/2" NPT X 5/8" OD BRASS	1
11	205824	TUBE, 1/2" COPPER FORMED	1
12	102525	TEE, RED., 3/4" X 1/2" X 3/4" NPT	1
13	102388	BUSHING, RED., 1/2" X 1/4" NPT BRASS	1
14	101261	STREET ELL, 1/4" NPT BRASS	1
15	112437	NEEDLE VALVE, 1/2" MPT BRASS	1
16	107065	ADAPTER, 1/4" OD X 1/4" MPT PLASTIC	1
17	107928	TUBING, HIGH DENSITY	3 FT.
18	111100	ELBOW, FEMALE 1/4: OD X 1/8" NPT	1
19	109812	GAUGE, PRESSURE 0-60 PSI	1
20	109765	OVERLAY, GAUGE	1

Pump Assembly

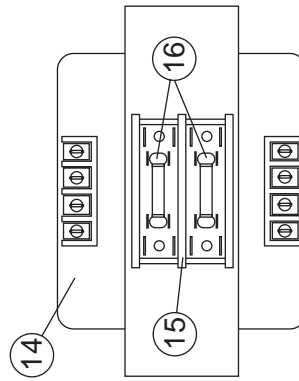
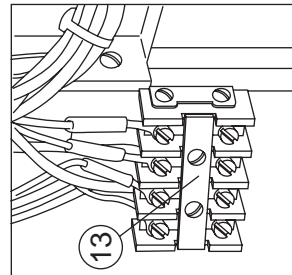
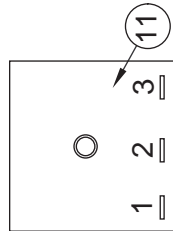
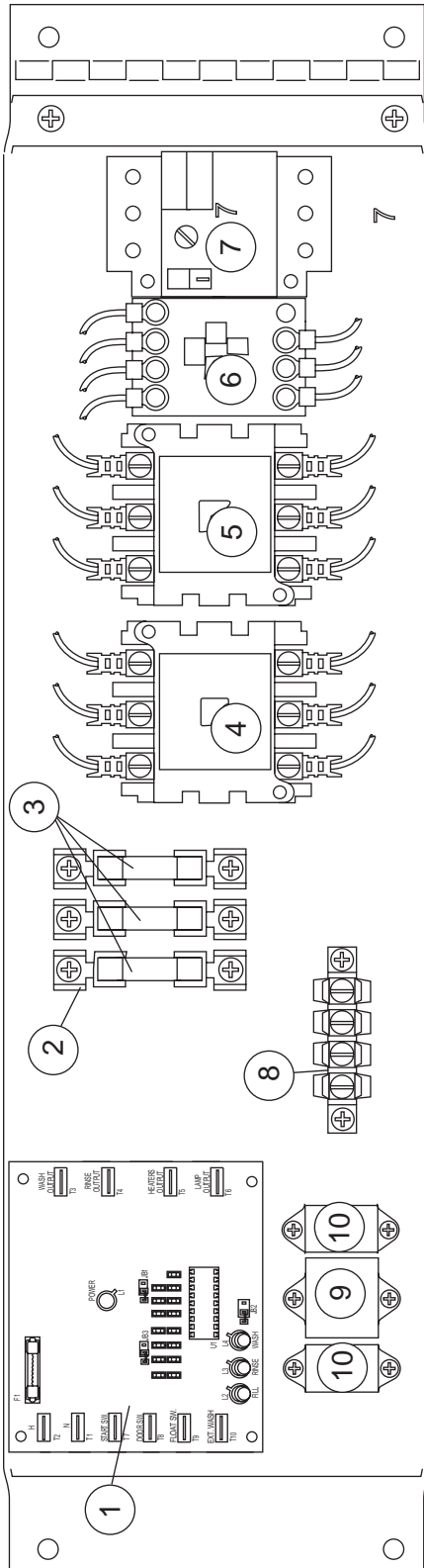


Item No.	Part No.	Description	Qty
1	324580	STRAINER	1
2	107966	GRIP NUT, 10-32 W/NYLON INSERT	1
3	104203	CLAMP, HOSE	2
4	104165	CLAMP, HOSE	1
5	107340	CLAMP, HOSE	1
6	112383	HOSE, PUMP DISCHARGE	1
7	0508515	HOSE, SUCTION	1
8	100734	BOLT, 1/4-20 X 1/2" HEX HD., SST	1
9	106482	WASHER, LOCK 1/4" SPLIT SST	1
10	110247	NUT, HEX JAM 7/16-20	1
11	110248	WASHER, FLAT	1
12	107463	PLUG, 1/4"	1
13	107137	BOLT, 10-32 X 7/8" HEX HD., SST	11
14	100194	GRIP NUT, 10-32	11
15	0501505	WASHER, LOCK INTERNAL SST #8 (NOT SHOWN)	11
16	109651	VOLUTE	1
17	113513	IMPELLER	1
18	109653	GASKET, O-RING	1
19	111111	SEAL, PUMP	1
20	109649	FLANGE ASSY, 1HP	1
21	107690	NUT, JAM 3/8-16	4
22	106407	WASHER, LOCK 3/8" SPLIT	4
23	109648	PLATE, BACKING	1
24	109654	PUMP, SLINGER WASHER	1
25	110734	STUD, 3/8-16 X 1-3/8"	4
26	110422	MOTOR, 2HP 208-240/460V/60/3	1
---	110421	MOTOR, 2HP 115/208-240/60/1	1
---	112163	MOTOR, 1.4HP 115/208-240/50/1	1
---	0507708	MOTOR, 1.4HP 575/60/3	1
27	100739	BOLT, 5/16-18 X 3/4" HEX HD., SST	4
28	102376	WASHER, FLAT 5/6" SST	4
29	106013	WASHER, LOCK 5/16-18 SST	4
30	100142	GRIP NUT, 5/16-18	4
31	100754	SCREW, FLAT 10-32 X 1/2" SST	4
32	110270	WASHER, COUNTERSUNK SST	4
---	900173	KIT, PUMP ASSY LESS MOTOR	A/R
---	452281	PUMP/MOTOR ASSY COMPLETE 2HP (208-240/460/60/3)	A/R
---	452282	PUMP/MOTOR ASSY COMPLETE 2HP (115/208-240/60/1)	A/R
---	452283	PUMP/MOTOR ASSY COMPLETE /1.4HP 575V/60/3PH	A/R

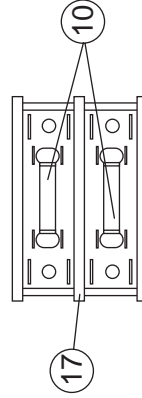
Control Panel Assembly



Item No.	Part No.	Description	Qty
1	0501361	SWITCH, ON/OFF (PRIOR TO D3863)	1
---	111980	CIRCUIT BRKER, ON/OFF (BEGIN WITH D3863)	1
2	112390	LIGHT, RED (PRIOR TO D3863-NO LONGER USED)	1
3	112391	LIGHT, AMBER (PRIOR TO D3863)	1
---	106364	PILOT, LIGHT 120V GREEN (BEGIN D3863)	1
4	113054	SWITCH, TIME SELECT, 4 POSITION	1
5	113055	CONTACT BLOCK, NO	1
6	113056	CONTACTK BLOCK NC	2
7	112086	OVERLAY, WASH 150°F	1
8	113622	THERMOMETER, 4FT. CAPILLARY	1
9	109812	GAUGE, PRESSURE 0-60 PSI	1
10	109756	OVERLAY, 20-30 PSI	1
---	113051	LABEL, PANEL OVERLAY (DHT/TC) PRIOR TO D3863	1
---	113525	LABEL, PANEL OVERLAY (BEGIN WITH D3863)	1
---	113567	LABEL, PANEL OVERLAY CORNER MODEL (BEGIN WITH D3863)	1



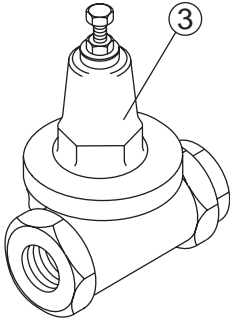
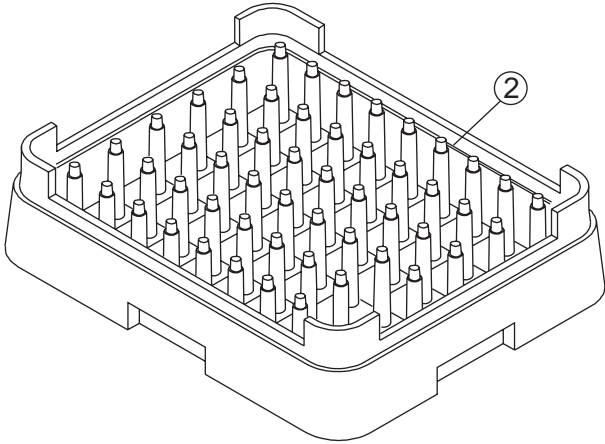
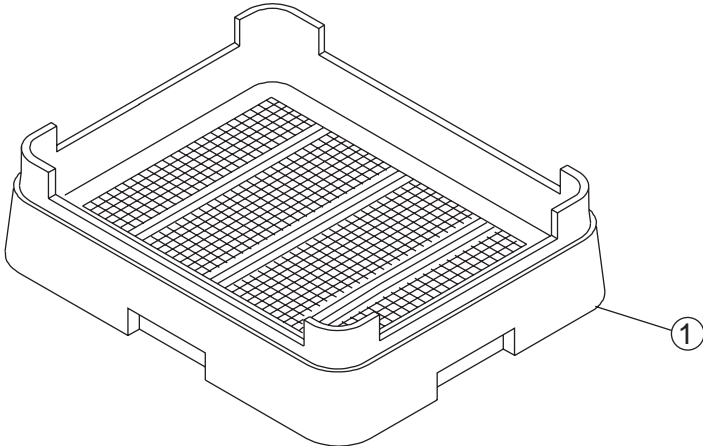
Main Power Transformer
mounted on machine base
(208V-575V/1 or 3 phase)



Main Power Fuse Block
mounted on machine base
(115V/1 phase only)

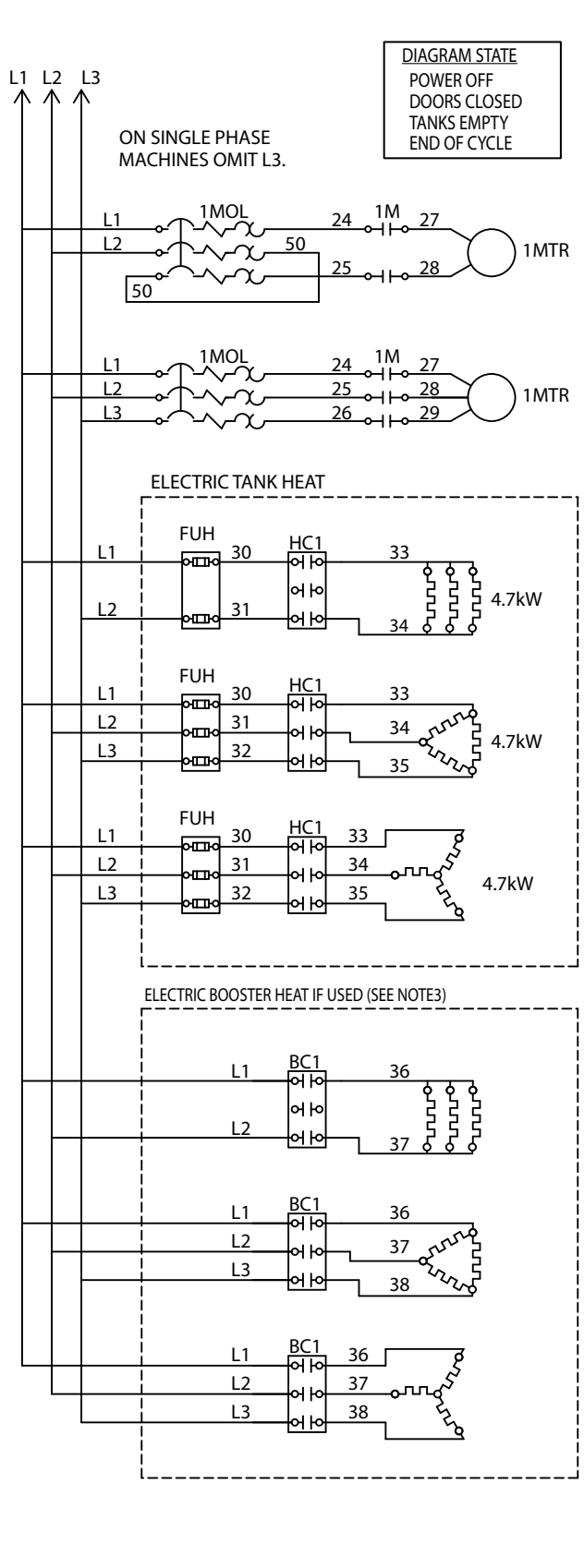
Item No.	Part No.	Description	Qty
1	900911	TIMER BOARD (PRIOR TO D3863)	1
---	113597	TIMER BOARD (BEGIN WITH D3863)	1
2	106925	BLOCK, FUSE 30A 3P	1
3	100922	FUSE, 20A (DHBT) 208-240/380-415/3	3
---	100913	FUSE, 10A (DHBT) 480V/3	3
---	100922	FUSE, 20A (DH1T) 208-240/380-415/3	3
---	100913	FUSE, 10A (DHIT) 480V/3	3
---	100929	FUSE, 30A (DH1T) 115V/1	3
---	100929	FUSE, 30A (DH1T) 208-240/1	3
---	100929	FUSE, 30A (DHBT) 208-240V/1	3
4	111904	CONTACTOR, BOOSTER HTR., 40A 3P ALL MODELS	1
5	111904	CONTACTOR, BOOSTER HTR., 40A 3P ALL MODELS	1
6	108122	CONTACTOR, WASH MOTOR., 12A 3P ALL MODELS	1
7	112691	STARTER, OVERLOAD WASH 208-240V3	1
---	110805	STARTER, OVERLOAD WASH 480V/3	1
---	110805	STARTER, OVERLOAD WASH 380-415V/3	1
---	112692	STARTER, OVERLOAD WASH 575V/3	1
---	111632	STARTER, OVERLOAD WASH (DH1T) 115V/1	1
---	111632	STARTER, OVERLOAD WASH (DH1T) 208-240V/1	1
8	107366	BOARD, TERMINAL	1
9	112382	RELAY, 3PDT, 10A 120VAC COIL	1
10	111068	RELAY, 2PDT, 10A 120VAC COIL	2
11	113314	TIMER, INFINTEC (DRAIN TIMER)	1
12	0509564	LABEL, CHEMICAL CONNECTIONS (NOT SHOWN)	1
13	111833	BLOCK, TERMINAL 3P (MAIN POWER)	1
14	109064	TRANSFORMER, 250VA, 208-240-480V/60/1&3	1
---	111521	TRANSFORMER 250VA, 575V/60/3	1
15	112424	KIT, FUSE BLOCK	1
16	112484	FUSE 1.5A 208-240V/1&3	2
---	112483	FUSE, 1.8A 380-415V/3	2
---	112887	FUSE, .5A 480V/3	2
17	106042	BLOCK, FUSE 2P 115V ONLY	1
18	107289	FUSE, 2.5A, 115V ONLY	2
---	103310	WIRE LUG, GROUND (NOT SHOWN)	1

Dish racks, PRV



Item No.	Part No.	Description	Qty
1	101273	RACK FLAT BOTTOM	1
2	101285	RACK, PEG	1
3	107550	VALVE, PRESSURE REGULATING (PRV)	1

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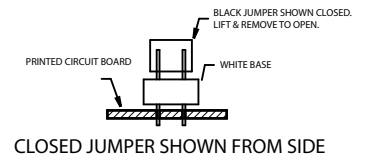
NOTE 1: IF SUPPLY VOLTAGE IS 115V, T1 IS NOT USED. WIRES #1 AND 2 ARE CONNECTED TO THE FUSE BLOCK IN PLACE OF WIRES #39 AND 40.

NOTE 2: DS1 NOT USED ON CORNER MACHINE MODELS.
! ATTENTION - VERY IMPORTANT ! - VERIFY CIRCUIT BOARD PART NUMBER AND JUMPER POSITION SETTINGS (JB1, JB2, JB3) PER MACHINE MODEL AND SERIAL NUMBER AS INDICATED IN TABLE BELOW. IMPROPER JUMPER SETTINGS MAY CAUSE ERRATIC OPERATION.

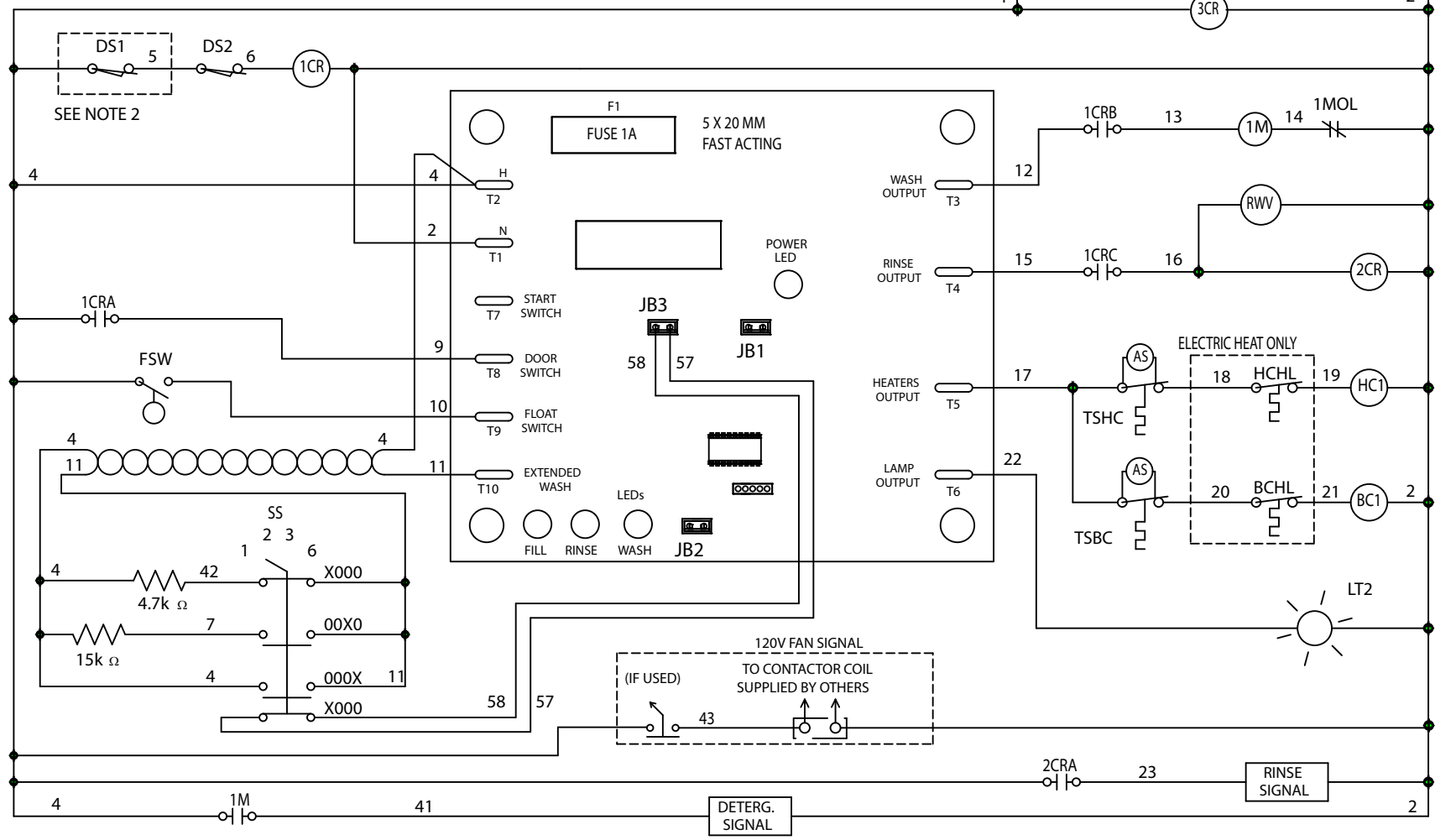
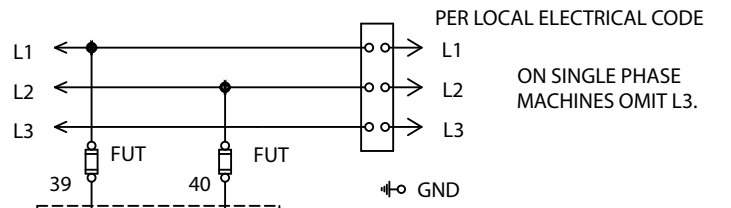
Model	S/N	Part No.	Machine Board Jumper Settings		
			JB1	JB2	JB3
DH1T, DHBT	Up to D3857	112676 Rev. C	Open	Open	Open
DH1T, DHBT	D3858-D08016801	113597 Rev. G	Closed	Closed	Open
DLF	ALL	113597 Rev. G	Open	Closed	Open
DH1T, DHBT	D08016801-UP	113597 Rev. H	Closed	Open	Closed

E* - Energy Star Qualified Product, starting with serial# D08016801

NOTE 3: THE KW RATING OF THE BOOSTER ELEMENT IS DEPENDENT ON THE VOLTAGE AND DEGREE RISE OF THE SYSTEM. SINGLE PHASE MACHINES W/ ELECTRIC BOOSTER ARE 40° RISE ONLY. 40° RISE UNITS USE 7.5/10 OR 9 KW ELEMENTS. 70° RISE UNITS USE 13.5/18 OR 17.7 KW ELEMENTS.



T1 NOT USED WITH 115V LINE SUPPLY SEE NOTE 1



1CR	DOOR SWITCH RELAY
2CR	RINSE AID SIGNAL RELAY
3CR	POWER ON RELAY
1M	WASH MOTOR CONTACTOR
1MOL	WASH MOTOR OVERLOAD
1MTR	WASH MOTOR
AS	ARC SUPPRESSOR
BC1	BOOSTER TANK CONTACTOR OR STEAM VALVE
BCHL	BOOSTER TANK HIGH LIMIT
DS1	DOOR SAFETY SWITCH, FRONT DOOR
DS2	DOOR SAFETY SWITCH, SIDE DOORS
DTV	DRAIN TEMPERING VALVE
DV	DRAIN VALVE
F1	TIMER BOARD FUSE
FSW	FLOAT SWITCH
FUH	TANK HEAT FUSES
FUT	TRANSFORMER FUSES
HC1	TANK HEAT CONTACTOR OR STEAM VALVE
HCHL	TANK HEAT HIGH LIMIT
IT	INTERVAL TIMER, 10 MINUTE
JB1	RINSE TIME SELECT JUMPER
JB2	CYCLE SELECT JUMPER
JB3	CYCLE SELECT JUMPER
LT2	CYCLE LIGHT
PCB	POWER SWITCH CKT BKR
RWV	RINSE WATER VALVE
SS	CYCLE TIME SELECTOR SWITCH
T1	LINE:120V TRANSFORMER
TSBC	BOOSTER TANK THERMOSTAT
TSDT	DRAIN TEMPERING THERMOSTAT
TSHC	WASH TANK THERMOSTAT

(IF USED)

TO TEST INPUTS T8 AND T9 A METER CAPABLE OF READING DC VOLTAGES MUST BE USED.

- 1.) SET METER TO READ DC VOLTAGE
- 2.) PLACE BLACK LEAD TO T2
- 3.) PLACE RED LEAD TO TERMINAL BEING TESTED
i.e. PLACE RED LEAD TO T8 TO TEST DOOR SW.
- 4.) AN OPEN SWITCH WILL READ 4.7-5.3VDC
A CLOSED SWITCH WILL READ 0-1VDC

CUSTOMER TO SUPPLY RATED VOLTAGE/PHASE/Hz AS SPECIFIED PER ORDER TO DISCONNECT SWITCH. ALL POWER SUPPLIED TO EACH CONNECTION POINT MUST COMPLY WITH ALL LOCAL ELECTRIC CODES.

DR. BY	J. NEWTON	SCALE	NONE
DATE	6MAY99	SHEET	1 OF 1

REV.	DESCRIPTION	DATE	BY
I	ADD JUMPER SETTING / SERIAL NUMBER INFORMATION	1 NOV02	MJM
J	ADDED SURGE SUPPRESSORS	17MAR03	JAM
K	CORRECTED JB1 JUMPER SETTING TO CLOSED	29JAN04	WB

REV.	DESCRIPTION	DATE	BY
L	REMOVED SURGE SUPPRESSOR FROM DOOR SWITCH	14DEC04	JAM
M	REVISED BOARD, ADDED CONNECTION TO JB3	18JAN08	JAM

Champion
The Dishwashing Machine Specialists

D-H1/BTE - ELECTRONIC CONTROLS STEAM/ELECTRIC- 1 & 3 PHASE		REV.
B	701648	M