

# 2000 Series

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## *Installation/Operation Manual with Service Replacement Parts*

*For Champion Model DH2000 • Moyer Diebel Model MD2000*

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### **Door-type High Temperature Dishwasher**

Model: 2000 Series

Hot water sanitizing machine w/fresh  
water rinse and built-in stainless steel  
electric booster



*Issue Date: 6.14.16*

***Manual P/N 114614 rev. P***

*For machines beginning with S/N D09037592 and above*

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3765 Champion Boulevard  
Winston-Salem, NC 27105  
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Toll-free: 800/ 858-4477

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Printed in the USA

  
G R O U P  
Champion Industries,  
an Ali Group Company

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  
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Tel: 336/ 661-1556  
Fax: 336/ 661-1660  
email: [service@championindustries.com](mailto: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 top-mounted control cabinet.**

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

# **REGISTER YOUR PRODUCT ONLINE**

*Make sure you are connected to the internet then enter the address below.*

**In the U.S.A**

**<http://www.championindustries.com/register>**

**In Canada**

**<http://www.championindustries.com/canada/register>**



# PRODUCT REGISTRATION BY FAX

**COMPLETE THIS FORM AND FAX TO:**

**(336) 661-1660 in the USA**

**1-(800) 204-0109 in Canada**

## PRODUCT REGISTRATION CARD

Model	Serial #
-------	----------

Date of Installation: \_\_\_\_/\_\_\_\_/\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_  
(Street) Province Postal Code

Telephone #: ( ) \_\_\_\_ --- \_\_\_\_

Contact: \_\_\_\_\_

Installation Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone #: \_\_\_\_\_

Contact: \_\_\_\_\_

**FAILURE TO REGISTER YOUR PRODUCT MAY VOID YOUR WARRANTY**

**IMPORTANT IMPORTANT**

## Revision History

The Revision History can contain part number changes, new instructions, or information that was not available at print time. We reserve the right to make changes to these instructions without notice and without incurring any liability by making the changes. Equipment owners may request a revised manual, at no charge, by calling 1 (800) 858-4477 in the USA or by calling 1 (800) 263-5798 in Canada.

<b>Revision Date</b>	<b>Revised Pages</b>	<b>Serial Number Effectivity</b>	<b>Revision Description</b>
6.12.09	All	D09037592	Released First Edition
8.12.09	All	D09037592	Changed Schematic for Overflow tempering Ckt.
9.11.09	24-25	D09087829	Added 1/2" Piping to Fill Assy.
9.16.09	31-32	D09087829	Corrected P/N of Pump Suction Screen to 333021
10.23.09	20-21	D09087829	Added 1/2" to Booster Piping
2.12.10	26-27	D09087829	Added Front and Side Panels
2.22.10	5	D09087829	Changed location of element jumper bars
10.6.10	31	D09087829	Changed description of items 22, 23, 24
3.8.11	24-25	All	Added P/N 114861, Endcap Item 37 to parts list
8.22.11	30-31	D10088521	Changed Item 2, P/N 114468 to P/N 114745
6.1.12	36	D10088521	Revised Electrical Schematic Drain Tempering Circuit
6.1.12	24-25	All	Use Kit 900962 to repair or replace the final rinse arm
12.16.13	22-23	D130711000	Updated control cabinet cover to square corners, P/N 335089
7.1.14	30-31	All	Float Switch Flat washer P/N changed to 104882
6.12.15	22-23	All	Revised Parts List
8.11.15	25	All	Corrected Items 20, 30 to P/N 0507443 and P/N 0507445
2.23.16	35,36	All	Revised Arc Suppressor on TSB
6.14.16	22,23	D160413495	Changed booster contactor to 60A
	37-38	D160413495	Added Booster contactor kit P/N 901078 upgrade instructions

## LIMITED WARRANTY

Champion Industries (herein referred to as Champion), 3765 Champion Blvd., Winston-Salem, North Carolina 27105, and 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.

# Table of Contents

## 2000 Series Door-type Dishwasher

<i>Revision History .....</i>	<i>i</i>
<i>Limited Warranty .....</i>	<i>ii</i>
<i>Model Description .....</i>	<i>iv</i>
<b>Installation .....</b>	<b>1</b>
<i>Receiving .....</i>	<i>1</i>
<i>Converting Straight-through to Corner Operation .....</i>	<i>2</i>
<i>Electrical Connections .....</i>	<i>4</i>
<i>3 Phase Power Connections .....</i>	<i>4</i>
<i>3 Phase to 1 Phase Conversion .....</i>	<i>5</i>
<i>Hot Water and Drain Connections .....</i>	<i>6</i>
<i>Vent Fan and Chemical Dispensers .....</i>	<i>7</i>
<b>Initial Start-up .....</b>	<b>8</b>
<i>Installation Check List .....</i>	<i>8</i>
<b>Operation .....</b>	<b>9</b>
<i>Normal Wash Mode .....</i>	<i>9</i>
<i>Rinse Sentry Mode .....</i>	<i>11</i>
<i>Automatic Drain Cycle .....</i>	<i>11</i>
<b>Cleaning and Maintenance .....</b>	<b>12</b>
<i>Cleaning .....</i>	<i>12</i>
<i>De-liming .....</i>	<i>14</i>
<i>Maintenance .....</i>	<i>15</i>
<i>Troubleshooting .....</i>	<i>16</i>
<b>Service Replacement Parts .....</b>	<b>17</b>
<b>Timer Chart .....</b>	<b>34</b>
<b>Electrical Schematics .....</b>	<b>35</b>
<b>Kit 901078 Booster Contactor Upgrade Installation Instructions .....</b>	<b>37</b>

## **Model Description**

### **2000 Series**

High temperature hot water sanitizing dishwasher with built-in 40-70°F/22-82°C rise booster heater.

208-240VAC/60/1 & 3

Field convertible single or three phase

Self-draining pump

Automatic start

Fresh water rinse

55 racks per hour/60-second total cycle time

Rinse sentry

Automatic drain valve

### **Optional Equipment** *(consult factory)*

Drain water tempering kit

Side panels



**NOTE:**

The installation of your dishwasher must be performed by qualified service personnel. Problems due to improper installation are not covered by the Warranty.

1. Inspect the outside of the dishwasher carton for signs of damage.
2. Remove the carton and inspect the dishwasher for damage.
3. Check for any accessories that may have shipped with your dishwasher.
4. Turn to the front of this manual and complete the warranty card. Immediately mail the warranty card to validate your warranty.
5. Move the dishwasher near its permanent location.

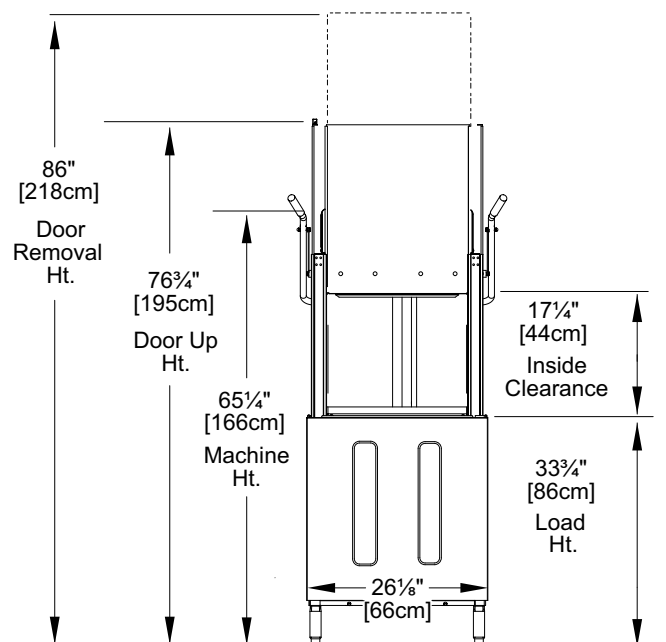
**CAUTION:**

Be careful when lifting and moving the dishwasher to prevent damage to the machine.

**NOTE:**

The installation of the dishwasher must comply with all local electrical, plumbing, health and safety codes or in the absence of local codes, installed in accordance with the applicable requirements in the National Electrical Code, NFPA 70, Canadian Electrical Code (CEC), Part 1, CSA C22.1; and the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, NFPA 96.

6. Compare the installation site utility connections with the dishwasher utility connections and make sure that they are the same.
7. Place the dishwasher in its permanent location.
8. The dishwasher has 4 adjustable feet for leveling.
9. Level the dishwasher front-to-back and side-to-side.
10. The dishwasher can be installed in a straight-through or a corner configuration.
11. The typical dishwasher load height is 33 $\frac{3}{4}$ " [86cm].
12. The machine height is 65 $\frac{1}{4}$ " [166cm].
13. The dishwasher doors require an open height of 76 $\frac{3}{4}$ " [195cm] and 86" [218cm] for door removal.



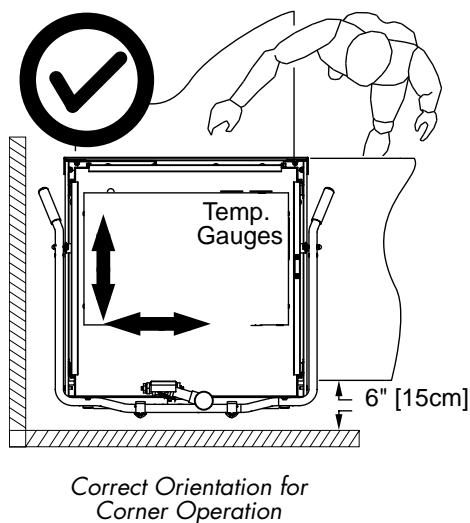
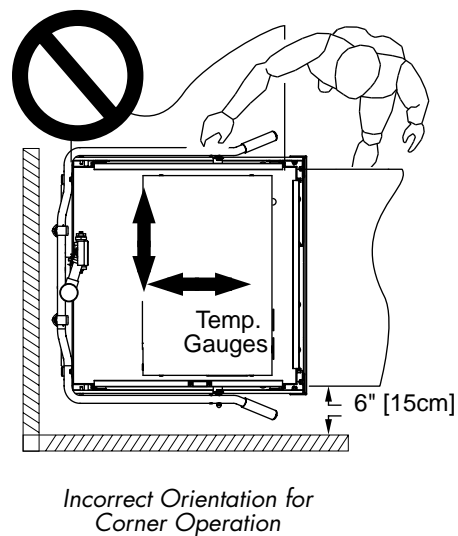
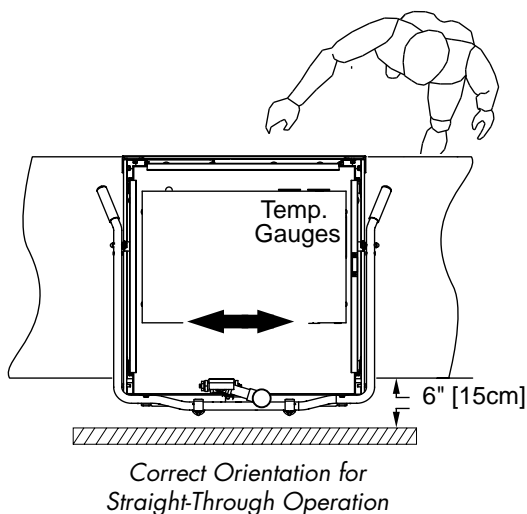
*Dishwasher Dimensions in inches and Centimeters*

## Converting Straight-through Operation to Corner Operation

Dishwashers are shipped from the factory for Straight-through operation. Refer to the diagrams below and on the next page to convert a Straight-through operation machine to a Corner operation machine. Dish racks enter and exit the sides of a straight-through machine. Dish racks enter the side and exit the front of corner operation machine.

To convert the dishwasher:

1. Convert the dishwasher before it is placed in its final position and before connecting utilities.
2. The temperature gauges must be clearly visible to the operator when facing the front of the machine. In addition, the door handles should move freely without interference from walls or other obstructions. Nominal wall clearance is 6" [152mm]; the minimum wall clearance is 4" [102mm].
3. Position the dishwasher as shown below and refer to the next page for instructions on changing the dish rack guides and door operation.



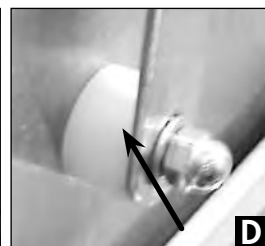
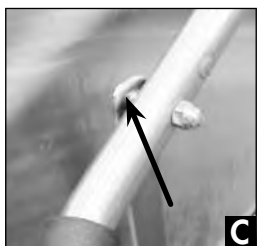
## Converting Straight-through Operation to Corner Operation

To convert track guides and door-lift for corner operation:

1. Remove the rack guide (A); save the fasteners.  
Move (A) and re-attach as shown in the illustration at right.
2. Slide a dish rack through the machine to check the guide to dish rack clearance. The dish rack should move smoothly without binding or tipping on the guides.
3. Disconnect the door-lift bracket (B) connecting the front door and the wall-side door and discard. To seal the holes, Re-install the bolts and lockwashers that held the bracket.
4. Disconnect the door linkage arm (C) from the wall-side door and discard. Re-install the white roller (D) and hardware.
5. Disconnect the door linkage arm (C) from the other door but do not discard.
6. Lift the door handle up and back until the springs relax.
7. Adjust the door spring hooks (E) located at the rear of dishwasher to reduce door spring tension until the front and side doors open and close without binding.

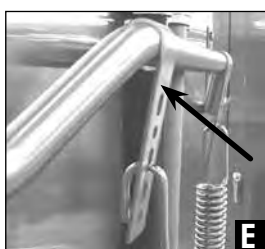


Remove the door-lift bracket connecting the front and wall-side doors.

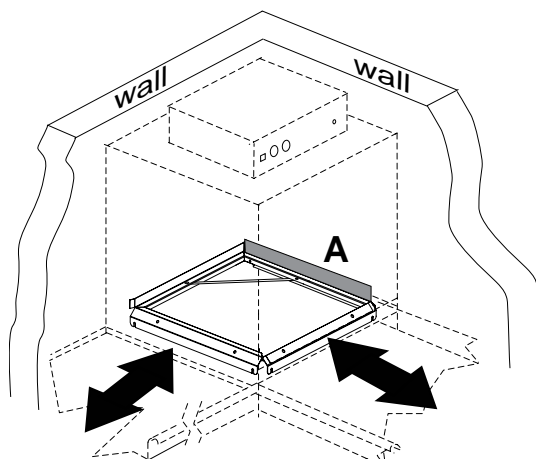
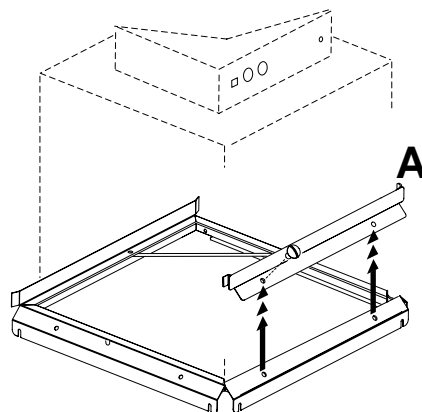
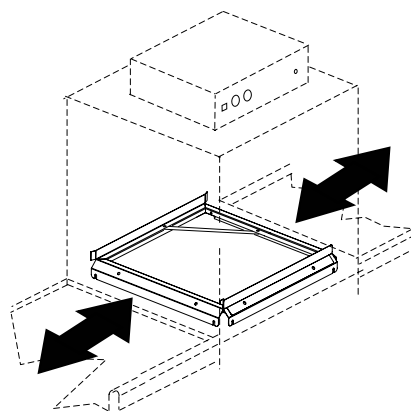


Remove the door-linkage arm from the wall-side door and discard.

Re-install the white roller with existing hardware.



Re-adjust the door springs at the rear of the dishwasher then check that the doors open and close without binding.



## Electrical Connections

### Three Phase 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.

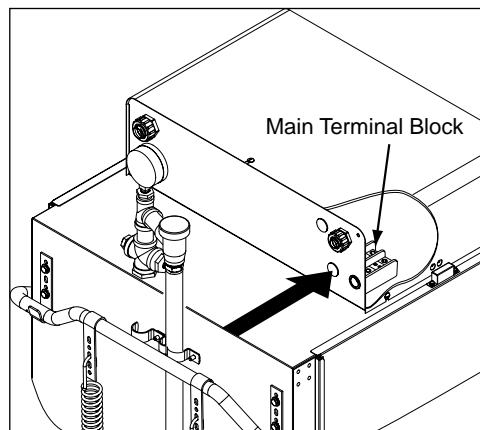
Lock-out and tag the breaker to indicate that work is being performed on the circuit.

### ATTENTION

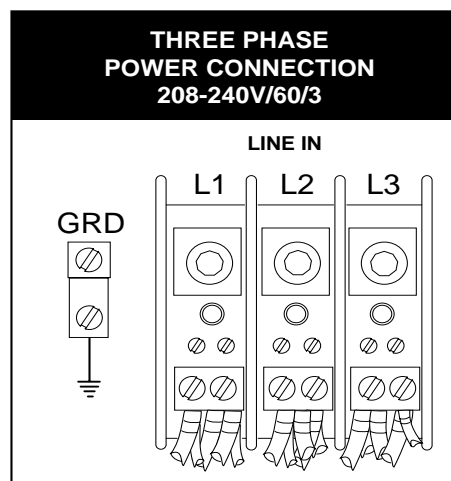
A qualified electrician must connect the main incoming power to the dishwasher in accordance with all local codes and regulations or in the absence of local codes in accordance with the National Electrical Code.

Standard Dishwashers are shipped from the factory for 3-phase operation. To connect the dishwasher for 3-phase operation:

1. Remove the top-mounted control cabinet cover and locate the main terminal block in the left-rear corner of the cabinet.
2. Refer to the **Machine Electrical Connection Data Plate** located near the main terminal block and make sure that the incoming power supply matches the machine's electrical requirements.
3. Connect the incoming 3-phase power as shown in the illustration to the right.
4. Re-install the control cabinet cover.



Main Terminal Block Location



**NOTE:**

Refer to the next page for 3-phase to 1-phase field conversion instructions.

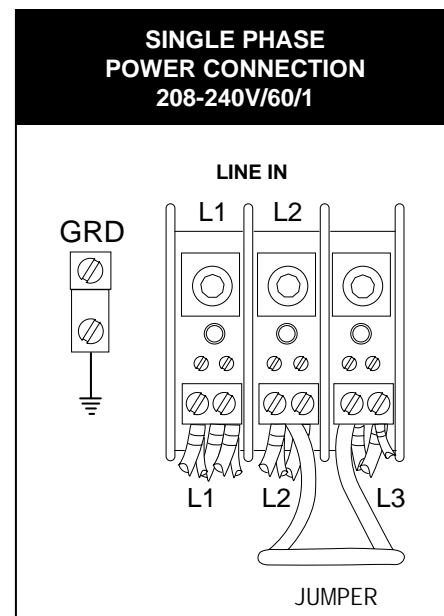
## Electrical Connections

### 3-Phase to 1-Phase Conversion

A standard 3-phase operation dishwasher can be converted for 1-phase operation with the installation of a jumper wire on the main terminal and rewiring of the wash tank and booster tank heaters. A jumper wire, jumper bars and a new data plate are stowed on top of the wash tank heater junction box. To convert the dishwasher from 3-phase to 1-phase operation:

#### **Install Main Terminal Block Jumper Wire**

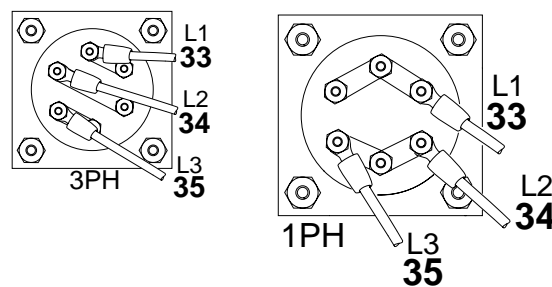
1. Disconnect all power to the machine.
2. Remove the top-mounted control cabinet cover and locate the main terminal block located in the left-rear corner of the cabinet.
3. Connect the jumper wire (shipped inside the control cabinet) between L2 and L3 on the output side of the main terminal block.
4. Connect the 1-phase incoming power supply to L1 and L2 on the input side of the main terminal block.



Connect the jumper wire between L2 and L3 on the output side of the main terminal block

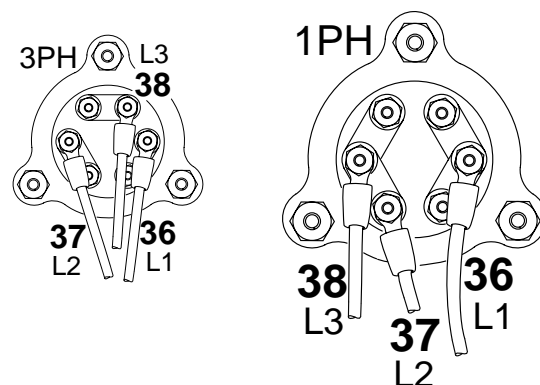
#### **Rewire Wash Tank Heater Element for 1PH**

1. Remove the lower front panel.
2. Remove the wash tank heater junction box cover.
3. Remove the paper insulator and jumper bars from the heater terminals.
4. Additional short jumper bars are stowed with the new data plate.
5. Reposition the jumper bars for 1PH as shown below.
6. Connect the #33 wire to one element terminal as shown.
7. Connect the #34 and #35 wires to the other terminals as shown.
8. Reinstall the paper insulator and the junction box cover.



#### **Rewire Booster Heater Element for 1PH**

1. Remove the booster heater element cover.
2. Remove the paper insulator and jumper bars from the heater terminals.
3. Install the jumper bars for 1PH as shown below.
4. Additional short jumper bars are stowed with the new data plate.
5. Connect the #36 wire to one element terminal as shown.
6. Connect the #37 and #38 wires to the other terminals as shown.
7. Reinstall the paper insulator and the booster heater element cover.



**NOTE:** The additional jumper bars needed for 1PH operation are stowed with the new data plate on top of the wash tank heater junction box.

#### **ATTENTION:**

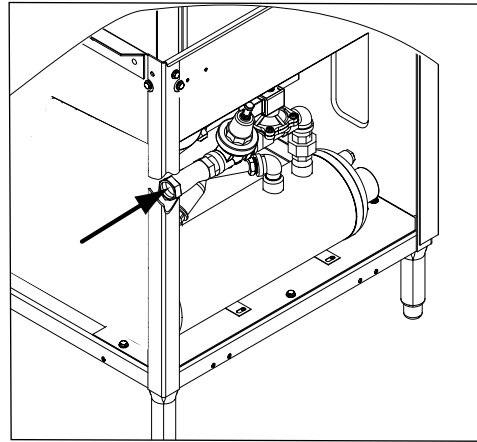
**Affix the new data plate on top of the existing machine data plate to complete the conversion.**

## Installation

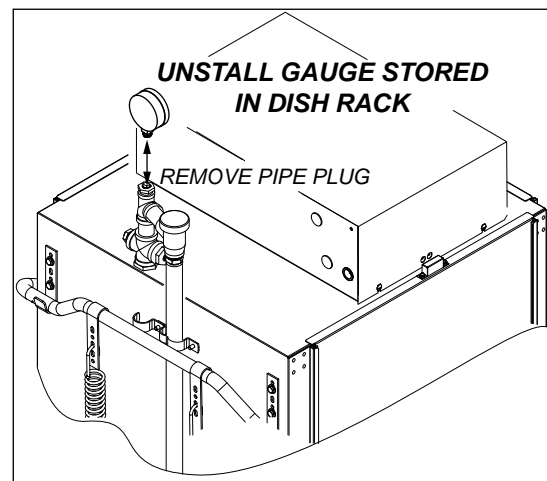
### Hot Water Connection

The hot water connection is located at the lower left-rear side of the dishwasher. A 3/4" line strainer and pressure regulating valve (PRV) were installed at the factory.

1. The pressure regulating valve is stored in the dish rack, located inside the machine. remove the brass plug and install pressure gauge. See the middle figure.
2. The size of the incoming hot water line should be 3/4" or larger.
3. A water hardness of 3 grains/U.S. gal [51.3 mg/L] or less is recommended.
4. The PRV should be adjusted to supply a minimum flowing pressure of 20 PSI/138 kPa during the final rinse. The maximum flowing pressure must not exceed 25 PSI/172 kPa during the final rinse.
5. The temperature of the incoming hot water must maintain a minimum temperature of 140°F/60°C for a 40°F/22°C rise booster or a minimum temperature of 110°F/43°C for a 70°F/39°C rise booster.
6. A manually operated 3/4" or larger shut-off valve should be installed in the incoming line as close to the dishwasher as possible for servicing.



The incoming hot water line is a 3/4" NPT connection.

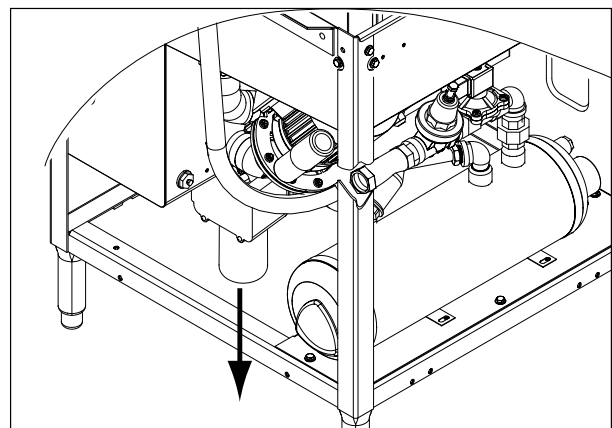


Remove pipe plug and install pressure gauge.

### Drain Connection

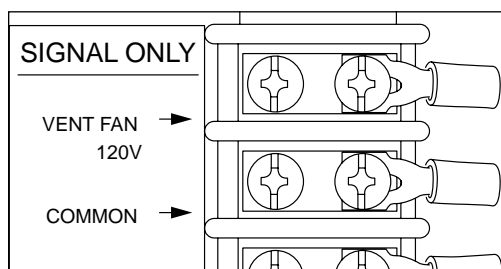
The drain water connection is a 2" slip-fit hose connection and is located at the center-rear of the machine base. It is a gravity drain.

1. The dishwasher drain is 2" O.D. hose connection.
2. A optional drain water tempering kit is available (consult the factory).
3. Drain water flow is controlled by an automatic electrically operated drain valve.
4. The floor sink and/or drain plumbing must be able to accommodate a maximum drain flow rate of 20 US gpm / 17 Imp gpm / 76 Lpm.



The drain is a 2" slip-fit hose connection.

## Vent Fan Control



The Vent Fan Control Signal is limited to 120VAC 1 Amp maximum load.

1. A vent fan control signal is provided on a terminal block located inside the top-mounted control cabinet. The terminal locations are clearly marked.
2. The 120VAC signal is designed only to operate an external vent fan contactor (supplied by others) and is limited to 1 AMP maximum load and is available when the dishwasher power switch is turned ON.

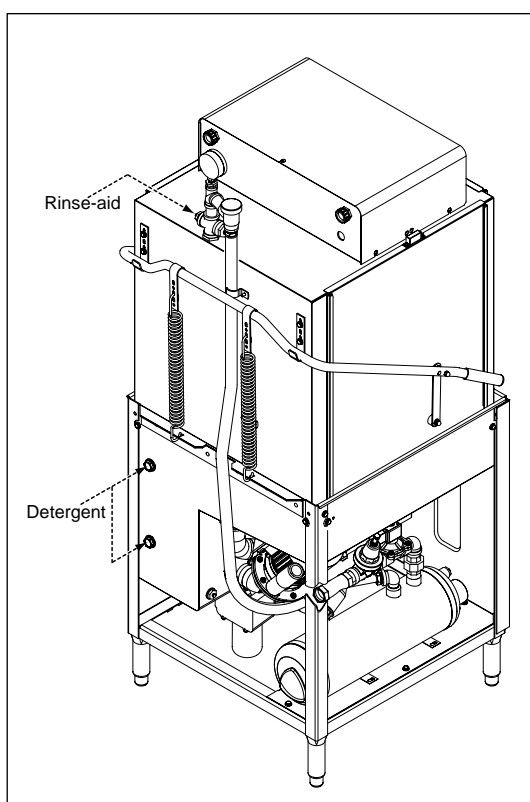
**CAUTION:**

Do not connect a vent fan motor to the signal connection terminals.

## Chemical Dispenser Provisions

Provisions for chemical suppliers to connect their chemical dispensing systems are provided on the dishwasher and include:

1. A 1/4" NPT plastic fitting as a rinse-aid injection point. The fitting is installed in the upper final rinse piping located at the top-rear of the dishwasher (see illustration at left).
2. Two 7/8" holes are provided on the right-side rear of the wash tank as detergent injection points.
3. Detergent and rinse-aid control signals are available inside the top-mounted control cabinet. The signals are 120VAC, Max. 1 Amp load. Connection points are located on a labeled terminal block (see below).
4. Do not remove the jumper between the common terminals.

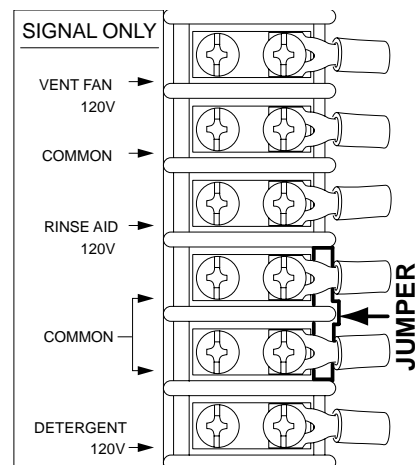


Detergent and Rinse-aid Injection Points

**NOTE:**

Consult a qualified chemical supplier for chemical supplies and chemical dispensing equipment.

A commercial grade non-chlorinated detergent is recommended for use with this machine.



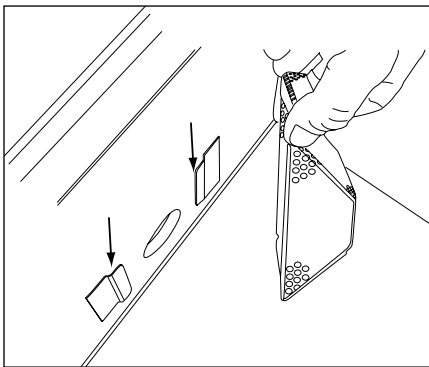
**DO NOT REMOVE THE JUMPER BETWEEN THE COMMON TERMINALS**

## Installation Check List

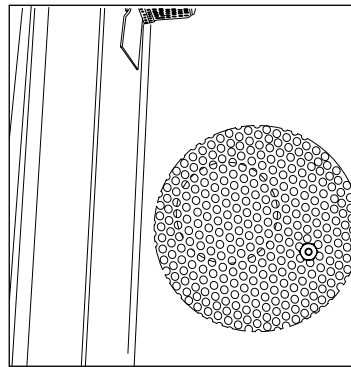
1. Remove any protective film from dishwasher. Check the interior for foreign material.
2. Make sure that the dishwasher is permanently located.
3. Make sure that all utility connections are complete.
4. Make sure that the chemical supply containers are full.
5. Make sure that the pump suction screen is in place.
6. Make sure the drain screen is clean and unobstructed by debris.
7. Make sure the scrap screen plate and scrap screens installed and firmly seated.  
The screen plate is mounted in the center of the wash tank and locks in a slot on the back screen support.
8. Make sure that the spray arms are in place and that they spin freely.
9. Fully close the dishwasher door.
10. Turn hot water supply on and check for leaks in the main water supply piping connected to the dishwasher.

### **! IMPORTANT !**

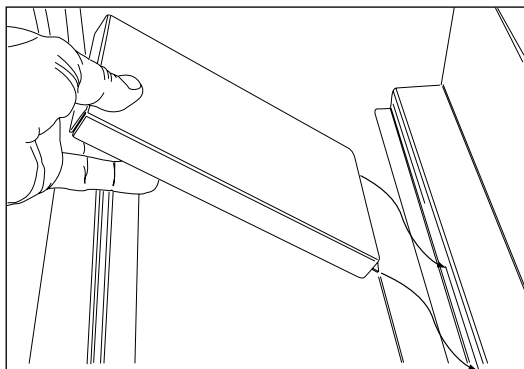
**Be sure Pressure Gauge is installed, as shown on page 6. During the initial fill, adjust the PRV to ensure that the flowing pressure of the incoming water is set between 20-25 PSI.**



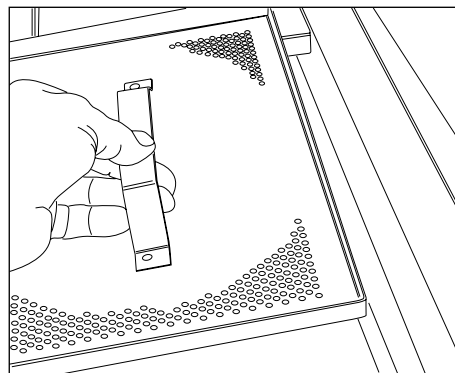
*Make sure the pump suction strainer is in place.*



*Make sure the drain screen is unobstructed.*

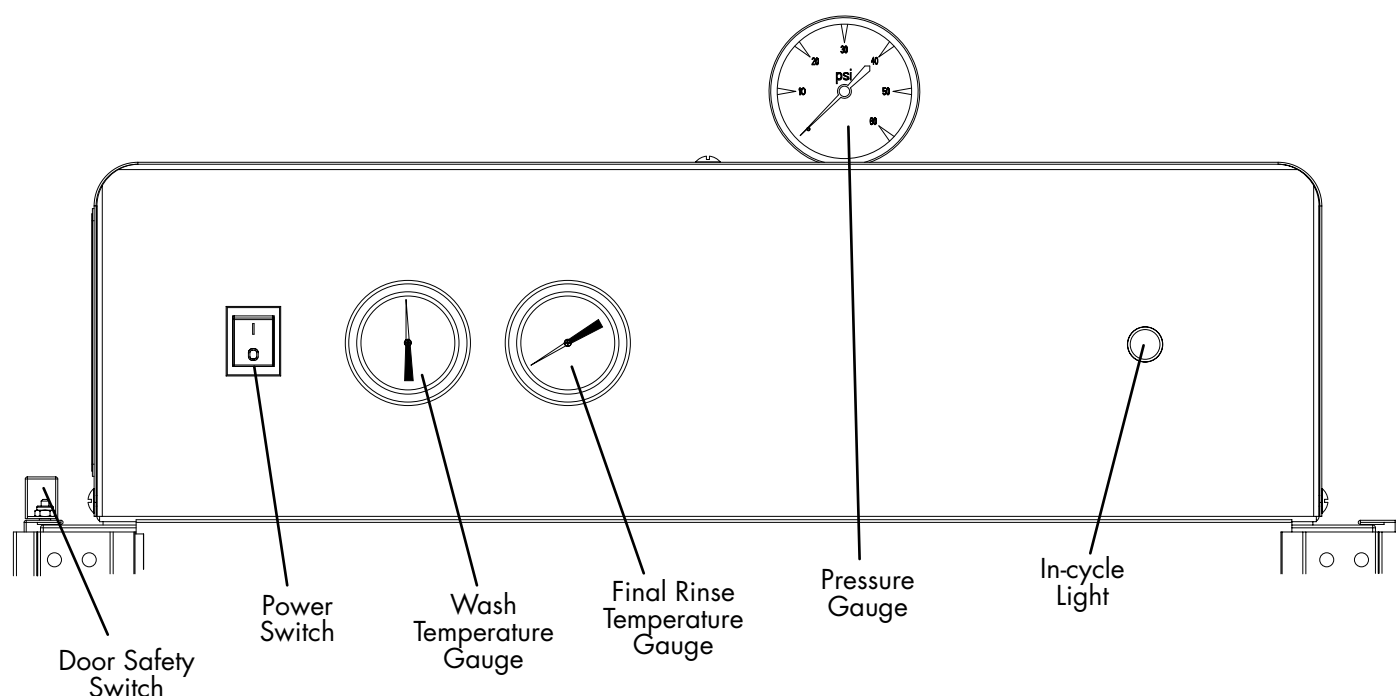


*Make sure the scrap screen plate is mounted in the center of the wash tank and separating the scrap screens.*



*Make sure the scrap screens are in place.*



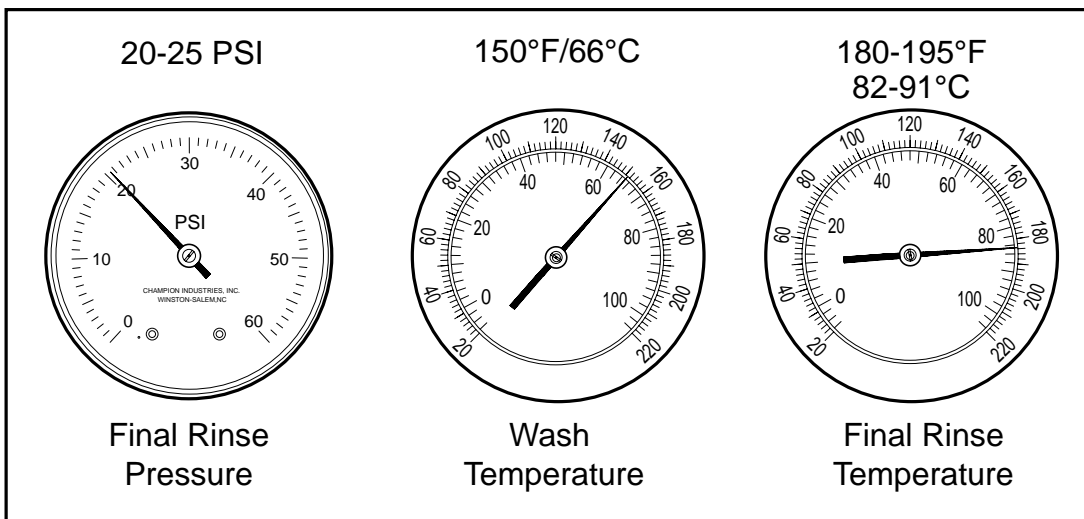
*Normal Operation Mode*

Follow the instructions below to operate the dishwasher in a Normal Wash Mode. A Rinse Sentry feature holds the dishwasher in a wash mode if the booster heater temperature is below 180°F/82°C.

1. Turn the main power on at the main circuit breaker.
2. Make sure the spray arms and the scrap screens are in place.
3. Turn the water supply on.
4. Close the dishwasher front door.
5. Push the dishwasher Power Switch to the ON position. The power switch will illuminate and the machine will fill with water.
6. Check the pressure gauge as the machine fills and make sure the incoming water pressure is between 20-25 psi.
7. Wait up to 10-minutes for the WASH temperature gauge to indicate a minimum of 150°F/66°C.
8. Load soiled wares into the dish rack. Place plates, glasses, cups and bowls in a peg rack. Place utensils in a single layer in a flat-bottom rack. Place pots and pans in a flat-bottom rack. Do not overload the dish racks.
9. Slide 1 dish rack into the wash compartment making sure that wares do not interfere with the rotating spray arms. Do not wash more than 1 dish rack at a time.
10. Close the front door fully, the wash cycle will begin automatically. The green in-cycle light will illuminate.

## Normal Operation Mode (continued)

11. The wash cycle time runs for approximately 40-seconds. *(continued on next page)*
12. Opening the door when the dishwasher is in-cycle will stop the dishwasher. The cycle will resume automatically when the dishwasher door is closed.
13. The final rinse cycle begins at the end of the wash cycle and runs for approximately 12-seconds.
14. Check the FINAL RINSE temperature gauge during the final rinse and make sure that it indicates a minimum of 180°F/82°C. The acceptable range of operation is 180-195°F/82-91°C.
15. Check the pressure gauge located at the top of the dishwasher to ensure that the final rinse pressure maintains a flowing pressure between 20-25 PSI.
16. At the end of the rinse cycle, the in-cycle light will go out. Open the door and remove the clean rack of wares. Repeat steps 8-15 for additional dish racks.
17. Refer to the Automatic Drain Cycle on the next page for the procedures to drain the dishwasher.



*The pressure gauge is located at the top of the dishwasher. The wash temperature gauge and the final rinse temperature gauges are located on the front of the control cabinet.*

## Rinse Sentry Operation Mode

The final rinse water temperature must be a minimum of 180°F/82°C during the final rinse cycle to ensure that all wares are sanitized. If for any reason, the hot water temperature in the booster tank cannot provide this temperature, the dishwasher will enter a Rinse Sentry Mode of operation and extend the cycle time.

The Rinse Sentry changes the Normal Operation Mode as described below:

1. The Rinse Sentry constantly monitors the water temperature inside final rinse booster.
2. If the temperature inside the booster heater falls below 180°F/82°C then the Rinse Sentry will extend the wash cycle time until the booster heater water temperature reaches the proper temperature.
3. The in-cycle light will remain illuminated during the Rinse Sentry Mode.
4. The RINSE water temperature gauge must be monitored to ensure that a minimum of 180°F/82°C is maintained during the rinse cycle.
5. The temperature range for the final rinse water is 180-195°F/82-91°C.
6. An extraordinarily long wash cycle may indicate a low incoming water temperature or a problem with the booster heater operation.

**DO NOT REMOVE WARES UNTIL THE FINAL RINSE CYCLE HAS  
SANITIZED THE WARES AND THE GREEN CYCLE LIGHT GOES OUT.**

## Automatic Drain Cycle

The dishwasher can be drained automatically when the dishwasher has completed a normal wash cycle or whenever the dishwasher is idle.

To drain the dishwasher:

1. Turn the dishwasher Power Switch OFF. The automatic drain valve will open and the machine will drain.
2. The drain valve will remain open for 10-minutes to allow time to flush the interior with fresh water during a cleaning operation.
3. When 10-minutes has elapsed the drain, the drain valve will close.  
The automatic drain cycle is complete.

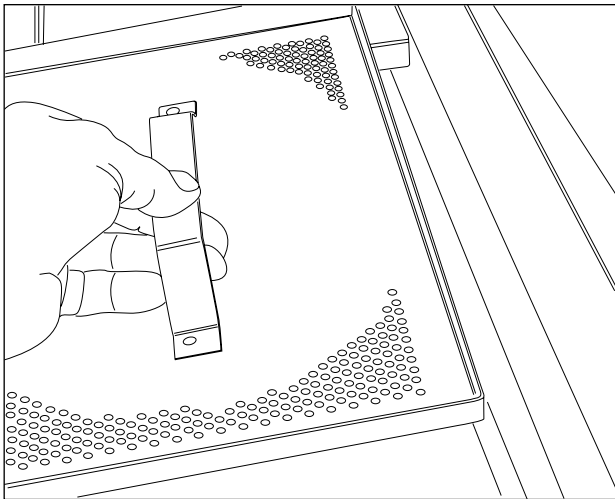
### NOTE:

The automatic drain cycle can be repeated after 10-minutes by turning the power Switch ON and immediately OFF. The dishwasher will drain for another 10-minutes and then turn off.

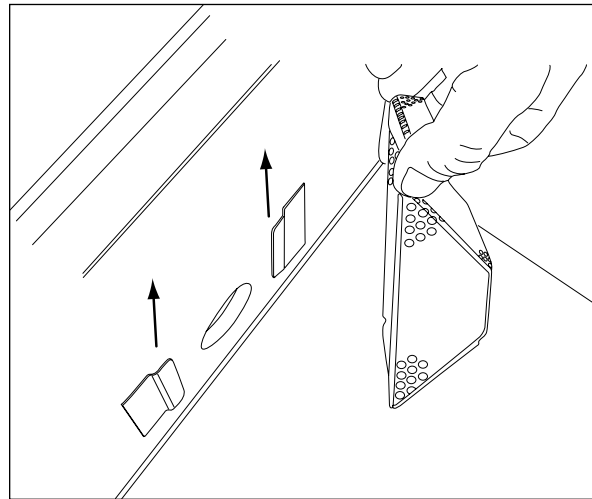
## *Cleaning*

### **After Each Meal Period or every 8 Hours of Operation.**

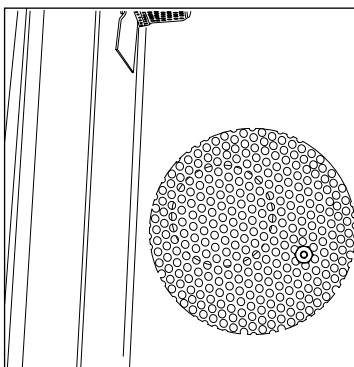
1. Press the lighted power switch to the OFF position. The power switch light will go out and the automatic drain cycle will operate for 10-minutes.
2. Flush the interior of the machine with fresh water.
3. Remove the scrap screens and remove debris in a waste container.
4. Flush the scrap screens making sure to back-flush.
5. Do not strike the scrap screens against solid objects.
6. Flush the wash tank, the pump suction strainer and drain screen.
7. Check the wash tank for foreign material and clean as required.
8. Replace pump suction strainer and scrap screens.
9. Make sure that spray arms turn freely.
10. Check the chemical containers and refill as required.
11. Close the door and turn the power switch ON. The machine will refill with fresh hot water.
12. Resume normal operation.



*Clean scrap screens.*



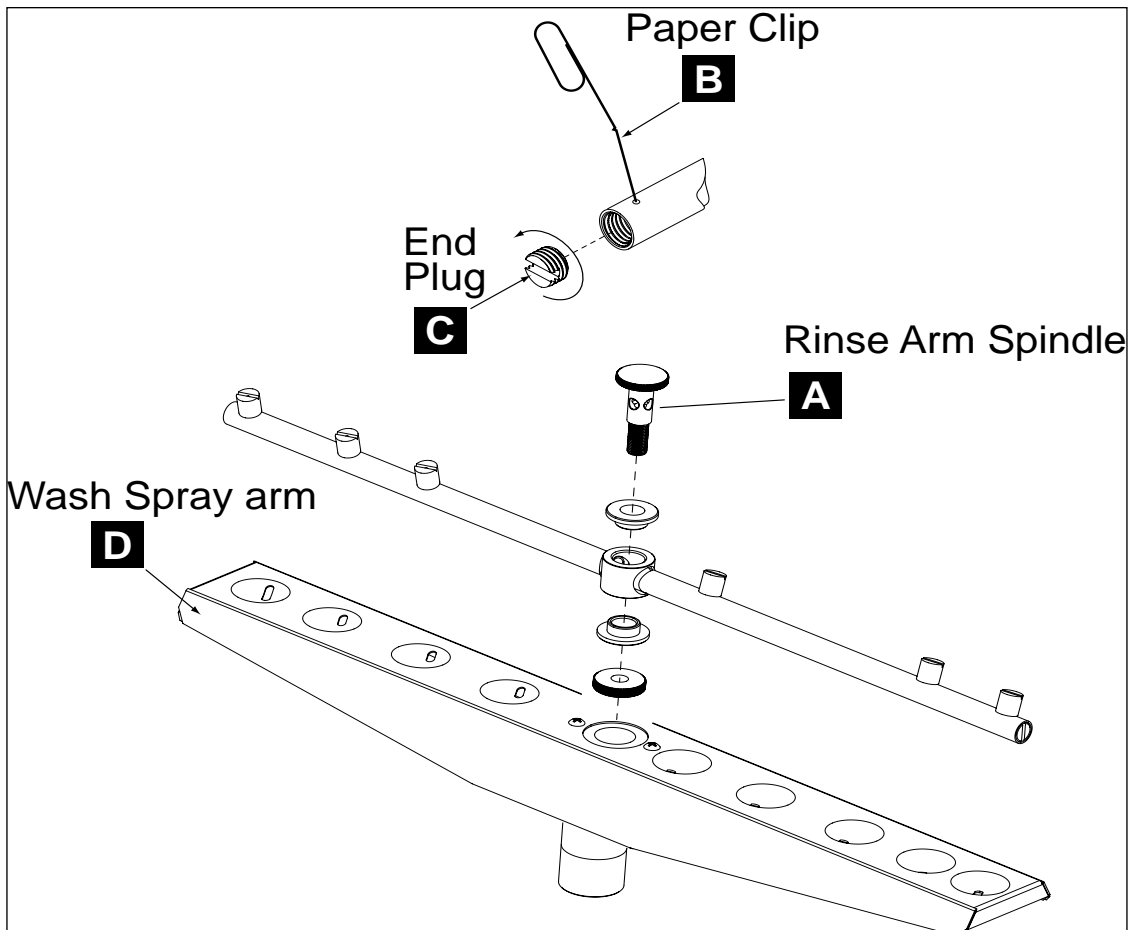
*Clean pump suction strainer*



*Clean drain screen.*

## At the End of the Day

1. Perform Steps 1-10 on the previous page.
2. Remove the upper and lower rinse and wash spray arms. The spray arms are interchangeable.
3. Unscrew the upper and lower rinse arm spindles (A). Remove the rinse arm assemblies
4. Clean the final rinse arm nozzles using a small paper clip (B).
5. Remove the rinse arm end plugs (C) *if necessary*, and flush the rinse arm with clean water.
6. Re-install the rinse arm end plugs if they were removed.
7. Remove the wash spray arms and flush with clean water.
8. DO NOT USE STEEL WOOL TO CLEAN THE INTERIOR OF THE MACHINE.
9. Contact the chemical supplier for de-liming if required (see next page).
10. Wipe the interior and exterior of the machine with a soft cloth and a mild detergent.  
DO NOT HOSE THE EXTERIOR OF THE MACHINE WITH WATER.
11. Reassemble the dishwasher and leave the door open to allow overnight drying.



## *De-liming*

Minerals accumulate on the interior surfaces of the dishwasher. The deposits have a white haze and, in cases of heavy accumulation, may appear as a granular solid. The generic name for mineral deposits is lime. The removal of lime deposits is called de-liming. Your dishwasher should be de-limed regularly; how often will depend on the mineral content of your water.

Inspect your machine interior for lime deposits. If de-liming is required, a de-liming agent should be used for best results in accordance with the chemical supplier's instructions.

### **Danger:**

Death or serious injury may result when de-liming solution is mixed with sodium hypochlorite (*chlorine bleach*) sanitizing agent. Mixing may cause hazardous gases to form. De-liming solution and other acids must never be mixed with chlorine, iodine, bromine, or fluorine.

### **CAUTION:**

Skin contact with de-liming solutions can cause severe irritation and possible chemical burns. Always wear protective clothing and goggles when handling chemicals.

### **Attention:**

Contact your chemical supplier for specific safety procedures and instructions for the use of the de-liming solution supplied for the dishwasher.

De-liming solution or other chemicals are not supplied by the dishwasher manufacturer.

## *Maintenance*

### Daily Maintenance

1. Check all of the wash arm and rinse arm spray jets and clean as necessary.
2. Make sure the water supply is on and that the drain is not clogged.
3. Check the temperature gauges and/or displays to ensure that they are operating.
4. Make sure dish racks are in good condition.
5. Check the chemical containers and refill as required.
6. Follow the cleaning procedures given above.

### Weekly Maintenance

1. Perform Steps 1-5 in the Daily Maintenance.
2. Inspect water lines for leaks.
3. Check for water leaks underneath the dishwasher.
4. Make sure the floor drain and/or piping handles the drain water discharge.
5. Make sure the dishwasher is level.
6. Clean accumulated lime deposits from the wash tank heating element.
7. Inspect the scrap screen and replace it if damaged.
8. Check the spray arms and replace or repair if damaged.

#### **NOTE:**

Consult your chemical supplier for chemical dispensing system maintenance.

Follow the troubleshooting guide below in the event that your dishwasher does not operate as expected. Perform the basic checks below before calling an authorized service agent:

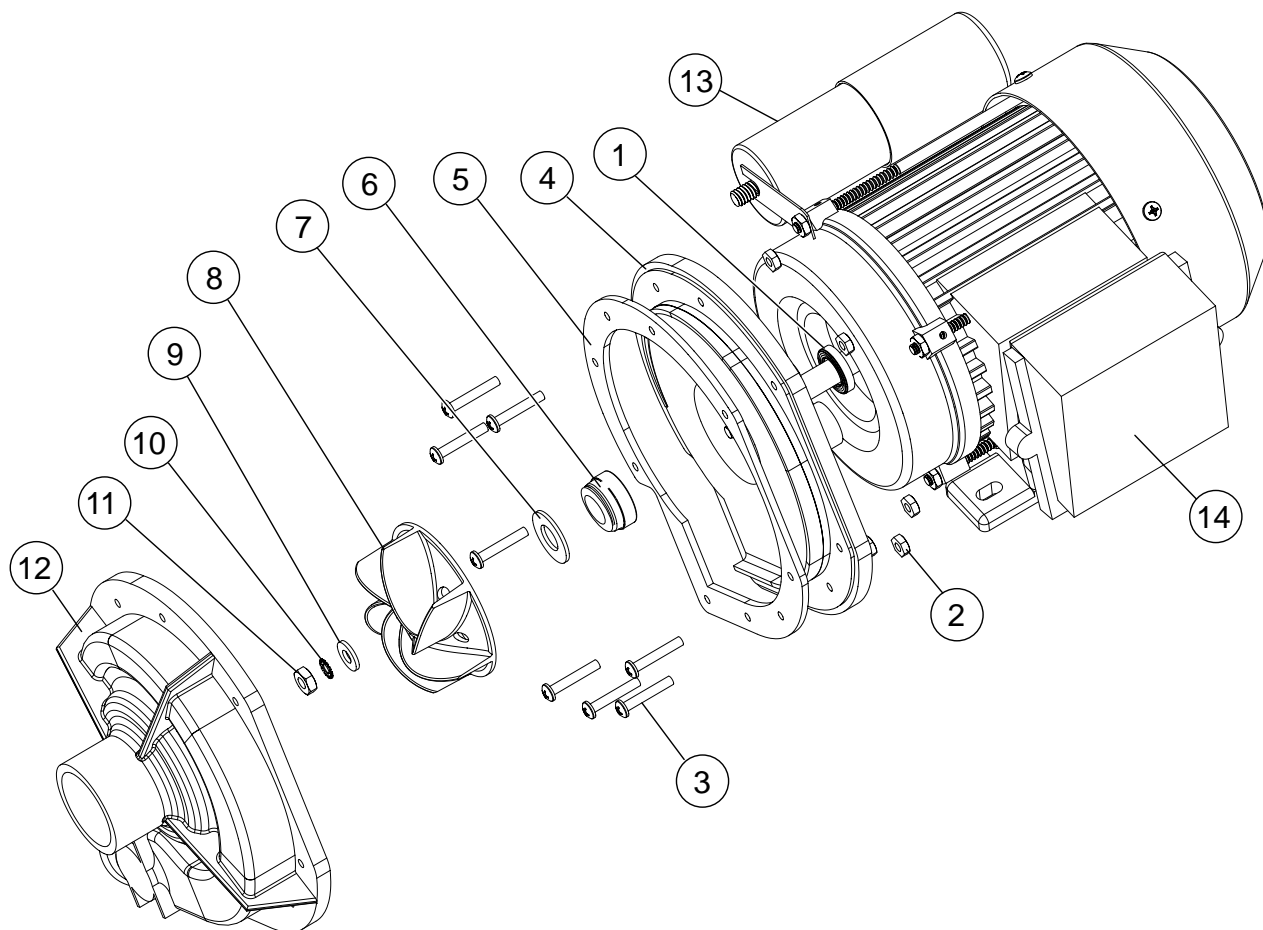
1. Make sure that the main water supply is turned on.
2. Make sure that the main power is turned on.
3. Make sure the machine is clean.

Condition	Cause	Solution
Dishwasher will not run.	Door not closed. Main power OFF. Dishwasher OFF.	Close door completely. Check breaker on panel. Turn dishwasher ON.
Low or no water.	Main water supply off. PRV setting incorrect Line strainer clogged. Solenoid valve defective.	Open supply valve. Adjust the PRV setting Contact Service Agent. Contact Service Agent.
Chemicals won't feed into dishwasher.	Chemical supply low. Pick-up tube clogged Supply tubing damaged. Supply tubing kinked.	Refill chemical container. Clean/replace tube. Replace tubing. Straighten tubing.
Poor wash results.	Wares incorrectly loaded. in dishrack.  Clogged screens. Clogged spray arms.  Chemical injectors not feeding.  Thermostat defective.  Detergent motor defective.  Water temperature low.	Reposition wares or reduce amount of wares.  Clean screens. Clean spray arms.  Contact Chemical Supplier.  Contact Service Agent.  Contact Service Agent  Contact Service Agent
Dishwasher stays in wash cycle.	Rinse Sentry extends wash mode to allow final rinse water booster temperature to reach 180°F/82°C.	Contact Service Agent.
Dishwasher will not drain.	Drain screen clogged. Drain screen clogged. Drain valve defective.	Clean drain screen. Contact Service Agent. Clean drain screen.
Water spraying out of pressure gauge line.	Pressure gauge not installed in waterline.	Contact Service Agent. Pressure gauge stowed in dish rack when shipped.



# Service Replacement Parts

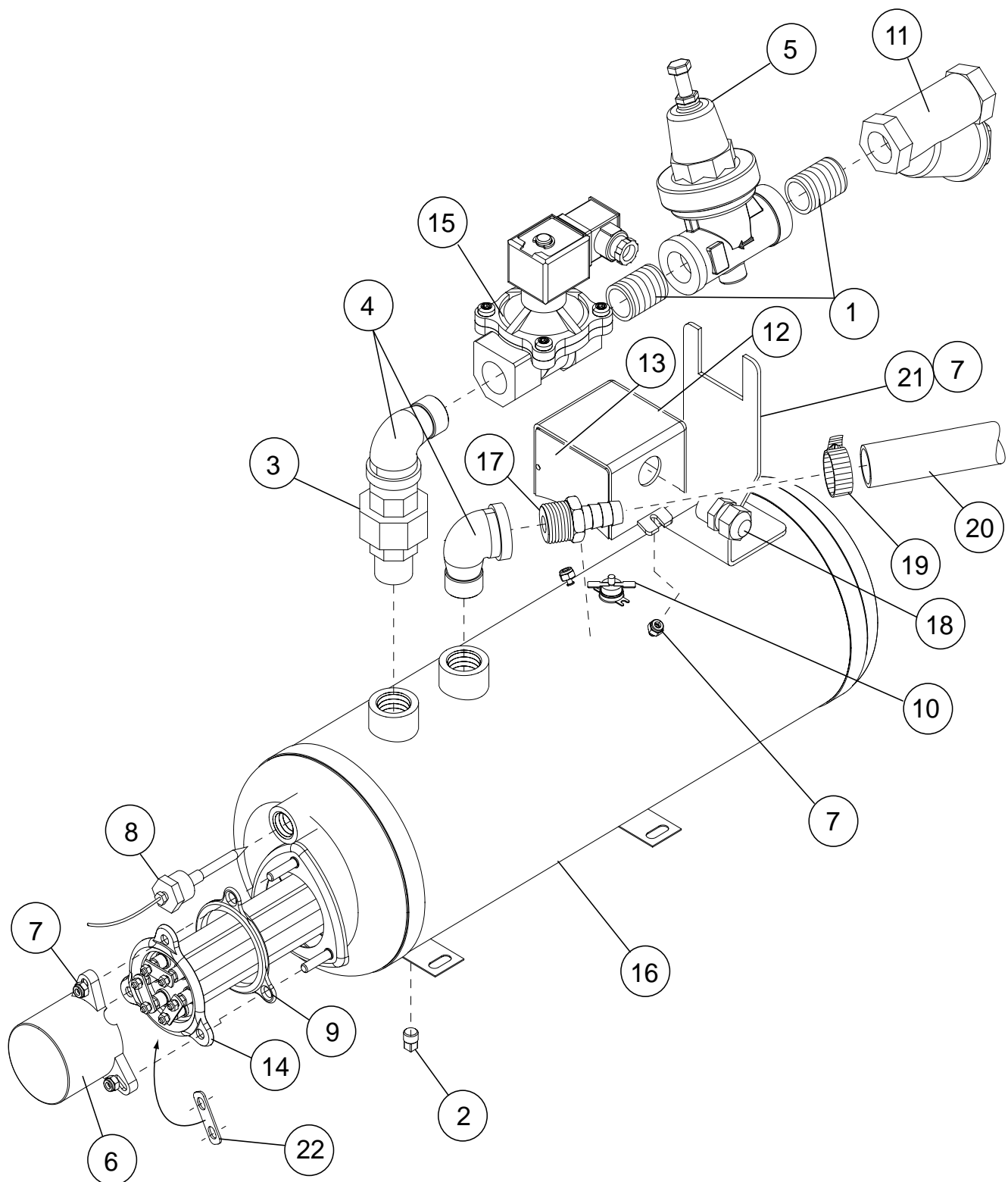
<i><b>Illustrations</b></i>	<i><b>Page</b></i>
Wash Pump/Motor Assembly .....	18
Booster Assembly .....	20
Control Panel Assembly .....	22
Wash and Rinse Spray Arm Assemblies .....	24
Hood and Door Assembly .....	26
Track Assembly .....	28
Wash Tank Heat, Drain, Screens, Hoses .....	30
Dish racks, Line Strainer and Pressure Regulating Vavle (PRV) .....	32
Timer Chart .....	35
Electrical Schematics .....	36



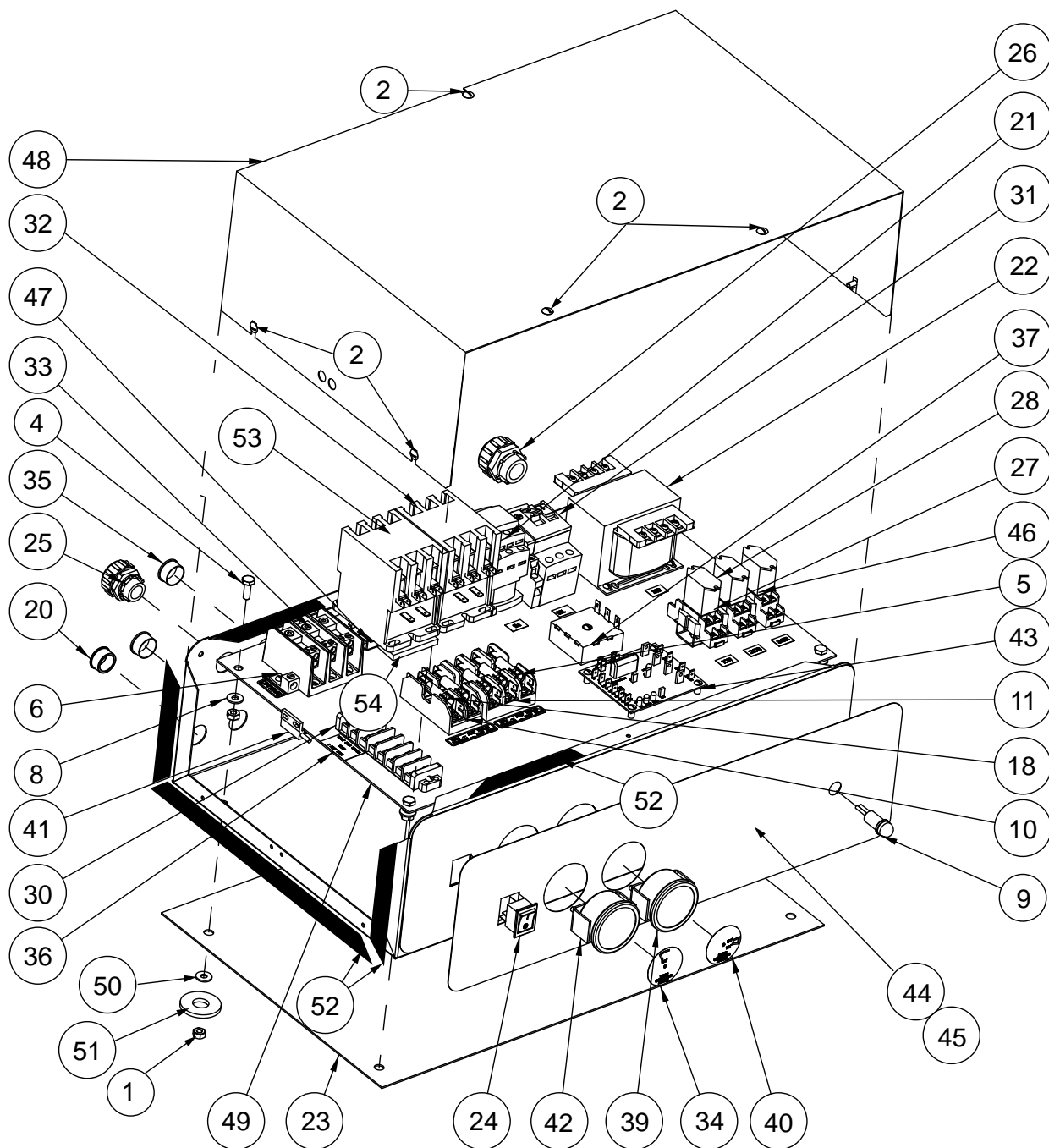
Item No.	Part No.	Description	Qty.
1	114134	SLINGER, WATER	1
2	114135	NUT	9
3	114136	SCREW	9
4	114137	BACKPLATE, PUMP	1
5	114138	GASKET, PUMP	1
6	114139	SEAL, PUMP	1
7	114140	WASHER	1
8	114141	IMPELLER	1
9	114142	WASHER	1
10	114143	WASHER, LOCK	1
11	114144	NUT, IMPELLER	1
12	114145	HOUSING, PUMP	1
13	114322	CAPACITOR 15 $\mu$ F	1
14	114525	PUMP/MOTOR ASSEMBLY COMPLETE 220VAC/60/1	1

**NOTE:**

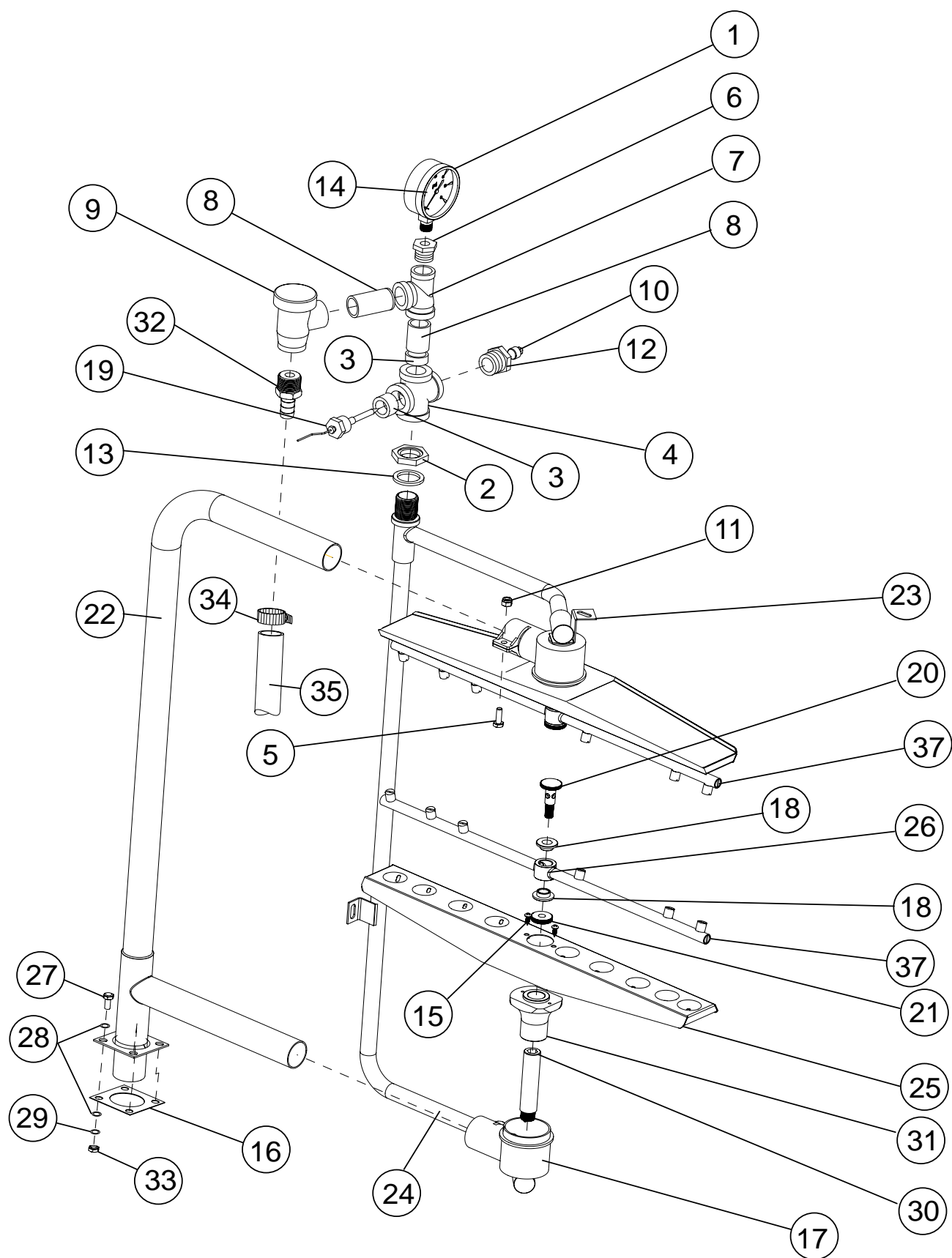
THE MOTOR CANNOT BE ORDERED AS A SEPARATE REPLACEMENT PART.



Item No.	Part No.	Description	Qty.
1	100184	NIPPLE, 3/4" NPT X CLOSE BRASS	2
2	100210	PLUG, 1/8" SST	1
3	100571	UNION, 3/4" NPT BRASS	1
4	102444	ELBOW, STREET 3/4" NPT X 90° BRASS	2
5	107550	VALVE, PRESSURE REG. 3/4" NPT BRASS	1
6	107908	COVER, HEATER	1
7	107966	NUT, HEX GRIP 10-32 SST W/NYLON	7
8	109069	THERMOSTAT, W/CAPILLARY	1
9	109985	O-RING, BOOSTER HEATER	1
10	110562	THERMOSTAT, HI-LIMIT FIXED SNAP 240°F	1
11	110768	STRAINER, LINE 3/4" BRONZE FEMALE	1
12	110929	BOX, ELECTRIC BOOSTER, THERMOSTAT	1
13	110930	COVER, BOOSTER THERMO BOX	1
14	111233	HEATER, BOOSTER 7.5kW/10kW, 208-240V, 1 & 3 PH	1
15	111437	VALVE, SOLENOID 120VAC 3/4" NPT	1
—	108516	COIL, SOLENOID 120VAC	A/R
—	109903	KIT, REPAIR SOLENOID VALVE 3/4"	A/R
16	0509042	TANK, BOOSTER WELDMENT	1
17	0512027	BARB, HOSE 3/4" NPTx3/4"BR <i>(Before S/N D09087829)</i>	1
—	108528	BARB, HOSE 1/2" NPT BR <i>(After S/N D09087829)</i>	1
18	B500355	CONNECTOR, STRAIN RELIEF CORD	1
19	113269	CLAMP, HOSE	1
20	206727	HOSE, 3/4" <i>(Before S/N D09087829)</i>	1
—	206987	HOSE, 1/2" <i>(After S/N D09087829)</i>	1
21	333154	BRACKET, PIPING SUPPORT	1
22	111488	JUMPER, STRIP <i>(spares used for conversion)</i>	3

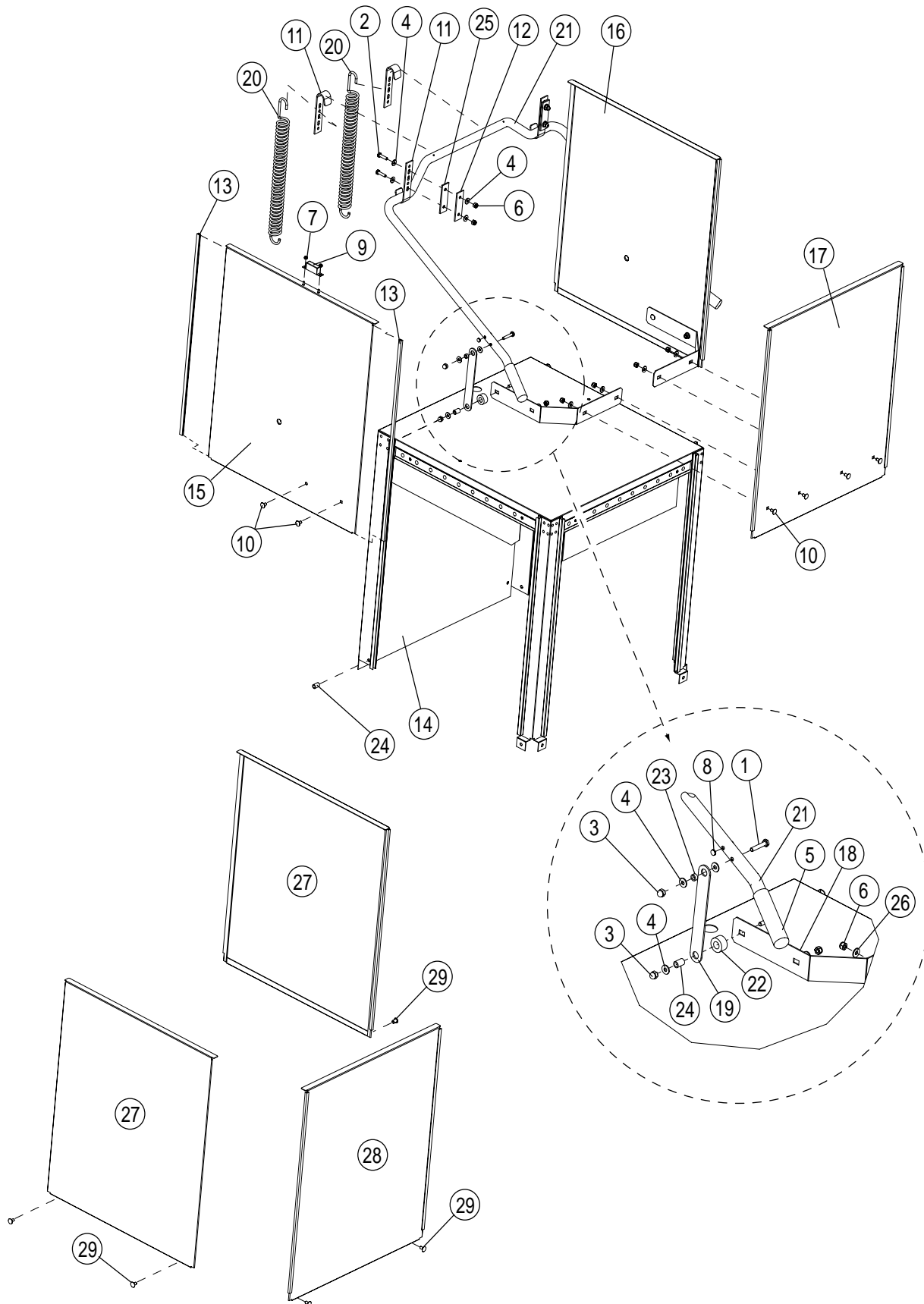


Item No.	Part No.	Description	Qty.
1	100003	NUT, HEX PLAIN 1/4-20 SST	8
2	100097	SCREW, TRUSS HD. 10-32 X 1/2" SST	7
3	100100	SCREW, ROUND HD. 8-32 X 1/4" SST	19
4	100736	BOLT, HEX HD., 1/4-20 X 3/4" SST	4
5	100929	FUSE, ATMR-30, 600V ONE-TIME	3
6	103310	LUG, GROUND	1
7	104873	LABEL, GROUND	1
8	106026	WASHER, FLAT 1/4" SST	4
9	106364	LIGHT, INDICATOR	1
10	106402	FUSE BLOCK, 2-POLE	1
11	106925	FUSE BLOCK, 3-POLE	1
12	106975	LABEL, 1CR	1
13	106976	LABEL, 2CR	1
14	106977	LABEL, 3CR	1
15	106980	LABEL, 1M	1
16	107098	LABEL, XFMR	1
17	107099	LABEL, 1MOL	1
18	107289	FUSE, 2.5 A	2
19	107564	SCREW, TRUSS HD. 6-32 X 1" SST	1
20	107964	PLUG, SNAP	1
21	108122	CONTACTOR, 3-POLE	1
22	108397	TRANSFORMER, 150VA	1
23	109849	INSULATION, CONTROL CABINET	1
24	0512220	SWITCH, ROCKER ON/OFF	1
25	110836	FITTING, STRAIGHT, 1/2" SEALTITE	1
26	110838	FITTING, STRAIGHT, 3/4" SEALTITE	1
27	111036	SOCKET, RELAY 2-POLE	3
28	111068	RELAY, 2-POLE, 10 AMP	3
29	111319	SCREW, TRUSS HD. 6-32 X 1/2" SST	4
30	111331	TERMINAL STRIP, 8-POLE	1
31	111628	MOTOR STARTER	1
32	116167	CONTACTOR, 3-POLE 40A	1
33	111833	TERMINAL BLOCK, INPUT	1
34	112086	OVERLAY, 150°F, WASH	1
35	112519	PLUG, SNAP	2
36	112614	LABEL, VENT FAN SIGNAL	1
37	113314	TIMER, INFITEC, 600SEC	1
38	113506	LABEL, MAX AMP	2
39	113622	GAUGE, RINSE, TEMPERATURE, 4FT. CAPILLARY	1
40	113644	OVERLAY, 180°F, RINSE	1
41	113721	SWITCH, REED ALEPH	1
42	114236	GAUGE, WASH, TEMPERATURE 8FT. CAPILLARY	1
43	114470	CONTROL BD., ELECTRONIC	1
44	114583	DECAL CHAMPION DH2000, CONTROL CABINET	1
45	114584	DECAL MOYER DIEBEL MD2000, CONTROL CABINET	1
46	206015	RAIL, DIN 35MM X 15MM	A/R
47	206016	RAIL, DIN 35MM X 15MM	A/R
48	331602	COVER, CONTROL CABINET, ROUND CORNERS (Prior to S/N D130711000)	1
—	335089	COVER, CONTROL CABINET, SQUARE CORNERS (From S/N D130711000 to S/N D150112221)	1
—	336415	COVER, CONTROL CABINET, SQUARE CORNERS (From S/N D150112221 & above)	1
49	331693	PANEL, INNER	1
50	115432	WASHER, SEALING	4
51	104925	WASHER, FENDER	4
52	107431	GASKET, STEAM	10FT
53	116166	CONTACTOR, 3-POLE 60A (Beginning with S/N D160413495)	1
54	116504	BRACKET, CONTACTOR (Beginning with S/N D160413495)	1

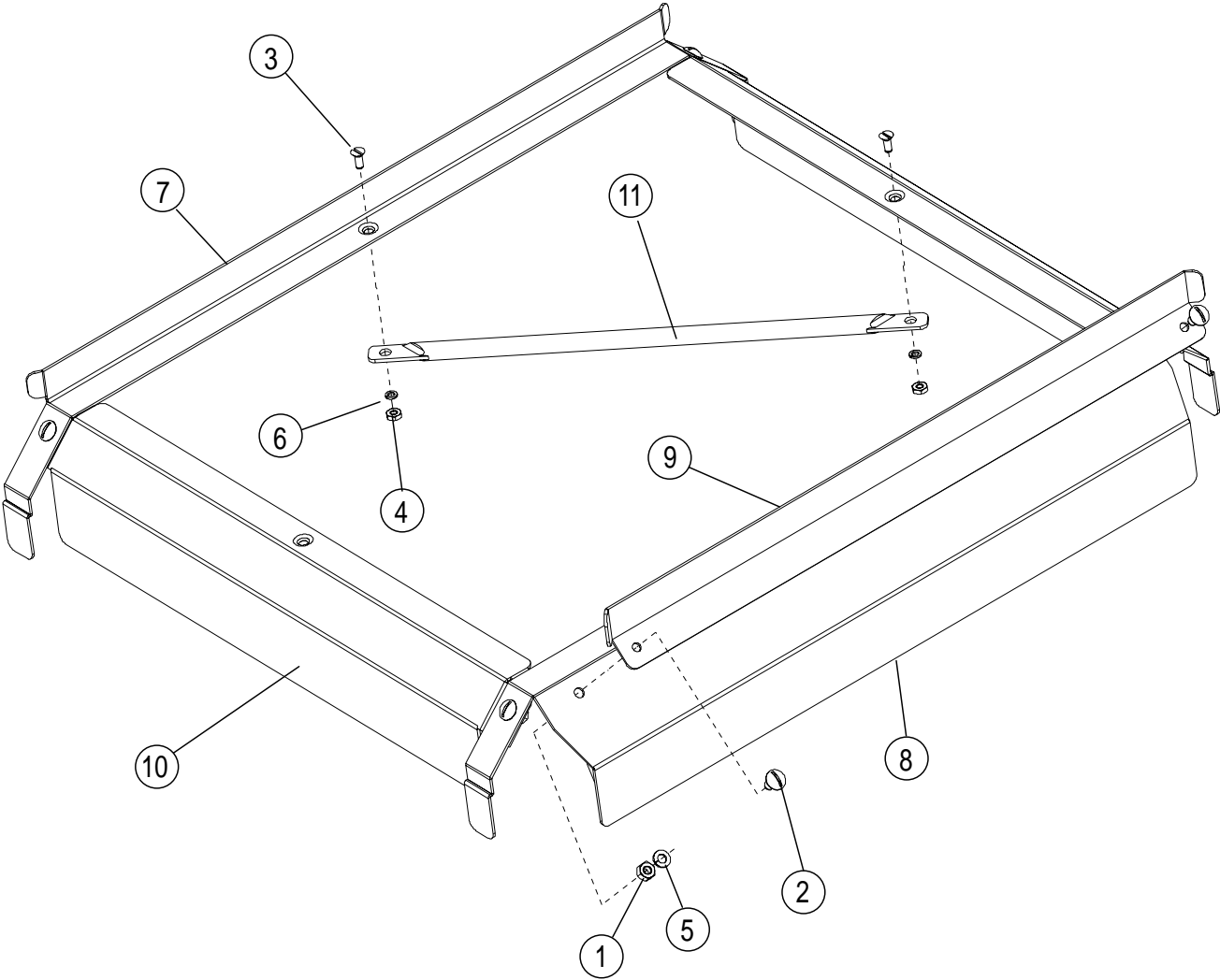




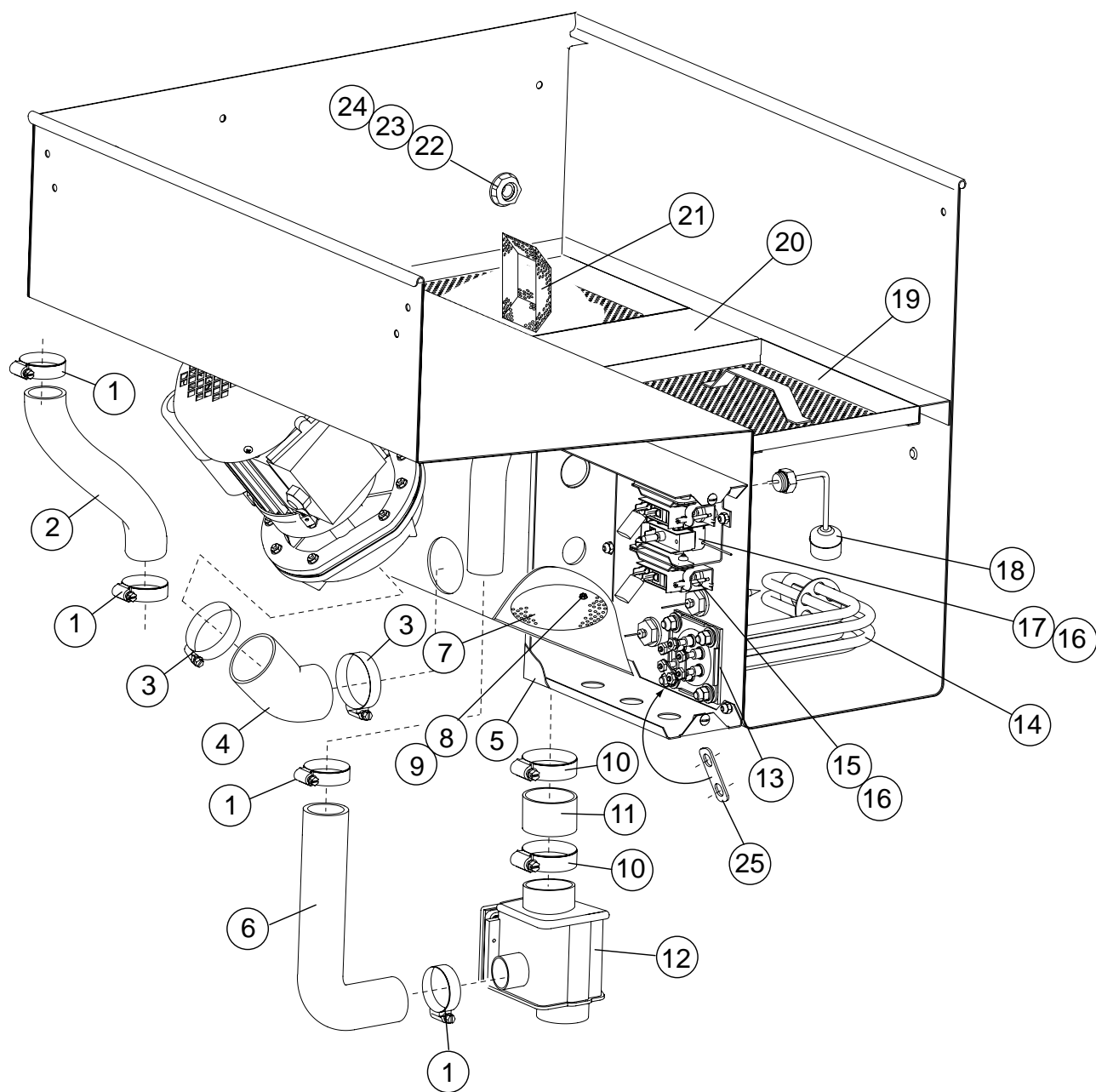
Item No.	Part No.	Description	Qty.
1	100135	GAUGE, PRESSURE 0-60 PSI	1
2	100156	LOCKNUT, 3/4" NPT BRASS	1
3	100171	BUSHING, RED. FACE 3/4" X 1/2" BRASS	3
4	100599	CROSS, 3/4" NPT BRASS	1
5	100736	BOLT, HEX HD. 1/4-20 X 3/4" SST	2
6	102388	BUSHING, RED 1/2" NPT X 1/4" NPT BRASS	1
7	102525	TEE, RED. 3/4" X 1/2" X 3/4" NPT BRASS <i>(Before S/N D09087829)</i>	1
—	102514	TEE, 1/2" X 1/2" X 1/2" NPT BRASS <i>(After S/N D09087829)</i>	1
8	102651	NIPPLE, 3/4" NPT X 2" LG. BRASS <i>(Before S/N D09087829)</i>	2
—	100206	NIPPLE, 1/2" NPT, 2-1/2" LG. BRASS <i>(After S/N D09087829)</i>	1
9	104429	BREAKER, VACUUM 3/4" NPT BRASS <i>(Before S/N D09087829)</i>	1
—	100500	BREAKER, VACUUM 1/2" NPT BRASS <i>(After S/N D09087829)</i>	1
—	900837	KIT REPAIR, 3/4" VACUUM BREAKER	A/R
10	107463	PLUG, 1/4" NPT	1
11	107967	HEX GRIP NUT, 1/4-20 SST W/NYLON	2
12	108181	BUSHING, RED. 3/4" X 1/4" PVC	1
13	108620	GASKET, RINSE MANIFOLD 3/4" PIPING	1
14	109765	OVERLAY, PRESSURE GAUGE	1
15	109835	SCREW, #8 X 1/2" PHILS. SST	4
16	109854	GASKET, WASH STANDPIPE	1
17	109864	SUPPORT, WASHARM HUB	1
18	113514	BEARING, RINSE ARM	4
19	113622	THERMOMETER, 8 FT. CAPILLARY	1
20	0507443	SPINDLE, RINSE ARM	2
21	114556	NUT, RINSE ARM	2
22	332489	STANDPIPE, WASH WELDMENT	1
23	332552	SUPPORT, BRACKET	1
24	332553	MANIFOLD, WELDMENT RINSE STANDPIPE	1
25	332761	WELDMENT, WASHARM	1
26	332762	WELDMENT, RINSE ARM	1
27	100740	BOLT, HEX HD. 5/16-18 X 1" SST	4
28	102376	WASHER, FLAT 5/16" SST	8
29	106013	WASHER, LOCK SPLIT 5/16" SST	4
30	0507445	SPINDLE, WASH ARM	2
31	0507446	BEARING, WASH ARM SUPPORT	2
32	0512027	BARB, HOSE, ST 3/4" NPT X 3/4" H BRASS <i>(Before S/N D09087829)</i>	1
—	107419	BARB, HOSE, ST 1/2" NPT X 1/2" H BRASS <i>(After S/N D09087829)</i>	1
33	100154	NUT, HEX HD. PLAIN 5/16-18 SST	4
34	113269	CLAMP, HOSE	1
35	206727	HOSE, 3/4"	1
—	206987	HOSE, 1/2"	1
36	100171	BUSHING, FACE 3/4" X 1/2" NPT BRASS <i>(After S/N D09087829)</i>	2
37	114861	ENDCAP, HEADLESS 7/16-20 SST	4



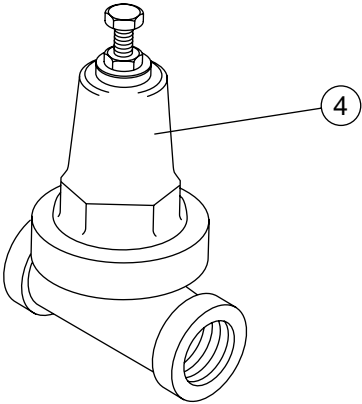
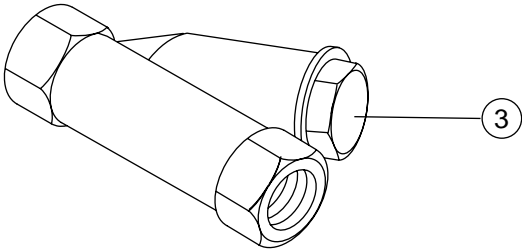
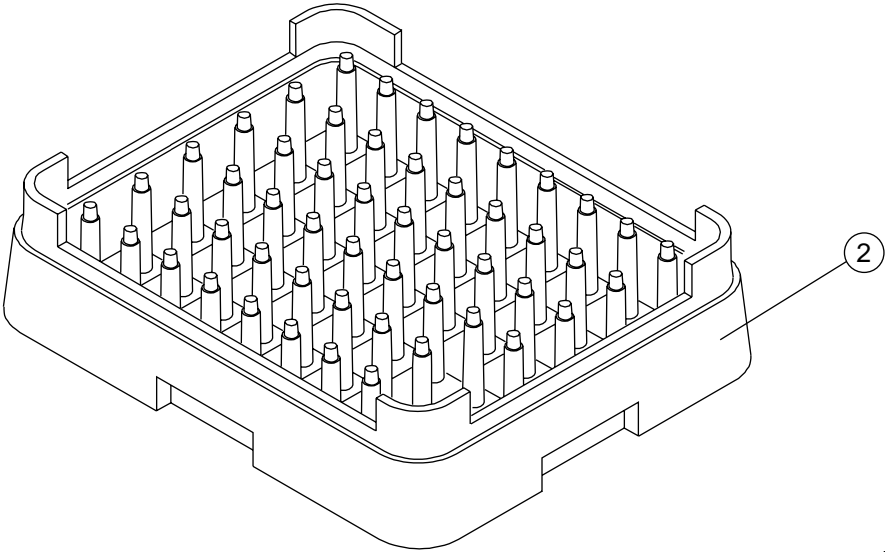
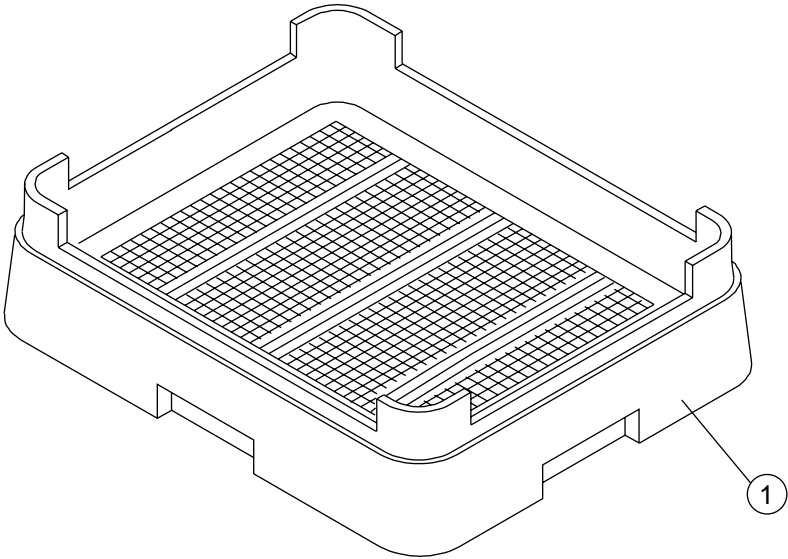
Item No.	Part No.	Description	Qty.
1	100002	BOLT, HEX HD., 1/4-20 X 1-3/8" SST	2
2	100738	BOLT, HEX HD., 1/4-20 X 1" SST	4
3	106014	NUT, HEX ACORN PLAIN, 1/4-20 SST	4
4	106026	WASHER, FLAT 1/4" SST	21
5	107962	HANDLE, GRIP	2
6	107967	HEX, GRIP NUT, 1/4-20 SST W/NYLON	12
7	108954	HEX, GRIP NUT, 6-32 SST W/NYLON	2
8	113745	PLUG, HOLE FDA, SILICON	4
9	113937	MAGNET, ALEPH	1
10	114154	SCREW, TRUSS HD., 1/4-20 X 1/2" SST	6
11	0310781-1	PIVOT, DOOR HANDLE	4
12	0310792-1	PLATE, DOOR PIVOT	2
13	0310843-2	WEAR STRIP, DOOR 24" LG.	6
14	332538	HOOD, WELDMENT	1
15	332546	DOOR, LH	1
16	332547	DOOR, RH	1
17	332557	DOOR, FRONT	1
18	332867	BRACKET, CONNECTION DOOR	2
19	332881	LIFT BAR, DOOR	2
20	0510459	SPRING, DOOR	2
21	0510779-1	HANDLE, DOOR	1
22	0510787-1	SPACER, LIFT BAR, DOOR	1
23	0510788-1	TUBE, SPACER	2
24	0510788-2	TUBE, SPACER	4
25	0510791-1	GASKET, DOOR PIVOT	2
26	104618	WASHER, FLAT 3/8" SST	6
27	332559	PANEL, SIDE	2
28	332540	PANEL, FRONT	1
29	104923	SCREW, 1/4-20 X 3/8" RD., HD., SST	6



<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	100003	HEX PLAIN NUT, 1/4-20 SST	6
2	100073	SCREW, TRUSS HD., 1/4-20 X 1/2" SST	6
3	100754	SCREW, FLAT HD., 10-32 X 1/2" SST	2
4	104985	HEX PLAIN NUT, 10-32 SST	2
5	106482	WASHER, LOCK 1/4" SPLIT SST	6
6	106486	WASHER, LOCK #10 SPLIT, SST	2
7	332021	TRACK, REAR	1
8	332022	TRACK, FRONT	1
9	332023	TRACK, RAIL ADJUST	1
10	332024	BAFFLE, SPLASH	2
11	332025	TUBE, CROSS TRACK	1



Item No.	Part No.	Description	Qty.
1	107340	CLAMP, HOSE	4
2	114745	HOSE, DISCHARGE	1
3	104203	CLAMP, HOSE	2
4	114467	HOSE, SUCTION	1
5	332543	COVER, JUNCTION BOX	1
6	114472	HOSE, OVERFLOW	1
7	304816	STRAINER, DRAIN	1
8	107967	HEX, GRIP NUT 1/4-20 SST W/NYLON	1
9	106026	WASHER, FLAT 1/4-20 SST	1
10	104165	CLAMP, HOSE	2
11	205990	HOSE, DRAIN	1
12	114471	VALVE, DRAIN, ELECTRIC W/COVER	1
13	108345	GASKET, ELEMENT	1
14	114178	ELEMENT, HEATER 5.2 kW, 208/60/3	1
—	100740	BOLT, HEX 5/16-18 X 1" SST	4
—	102376	WASHER, FLAT 5/16" SST	4
—	106013	WASHER, LOCK SPLIT, 5/16" SST	4
15	109069	THERMOSTAT, CONTROL	1
16	113271	SUPPRESSOR, ARC	2
17	110561	THERMOSTAT, FIXED HI-LIMIT	1
18	111092	SWITCH, FLOAT	1
—	107089	HEX, PLAIN JAM NUT, 1/2-13 SST	1
—	104822	WASHER, FLAT	2
19	305164	SCREEN, SCRAP	2
20	332544	SUPPORT, FILLER SCREEN	1
21	333021	STRAINER, PUMP SUCTION	1
22	108418	PLUG, 1/2" NPT PLASTIC	1
23	108417	NUT, 1/2" NPT PLASTIC	1
24	109034	GASKET, 1/2" PLUG	1
25	111488	JUMPER, STRIP <i>(spare for conversion)</i>	3

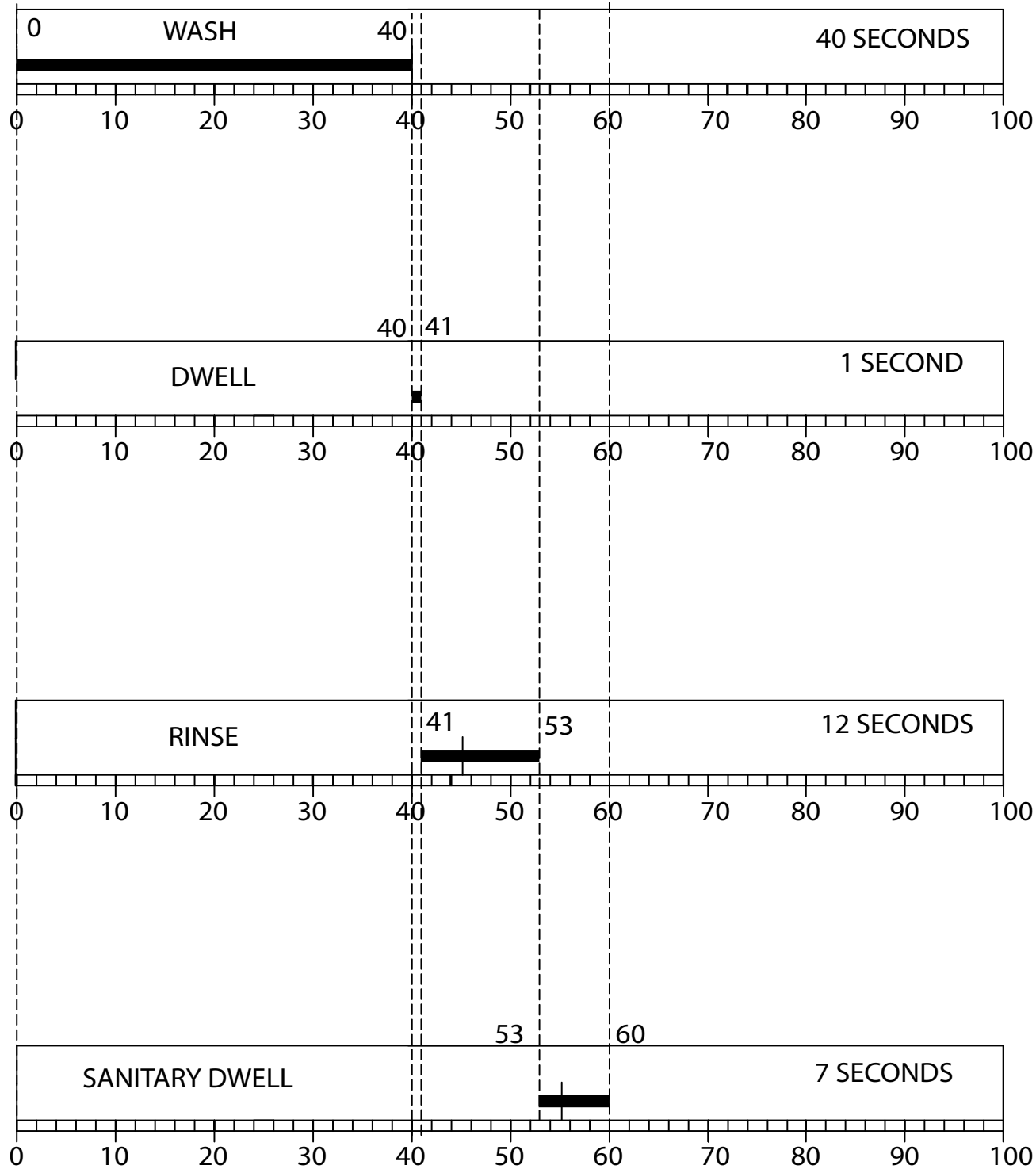




<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	101273	DISH RACK, FLAT-BOTTOM	AR
2	101285	DISH RACK, PEG	AR
3	110768	STRAINER, LINE 3/4" BRONZE	1
4	107550	VALVE, PRES. REGULATING 3/4" (Optional)	1

# Timing Chart

## 60 SECONDS TOTAL CYCLE



### CYCLE STRUCTURE

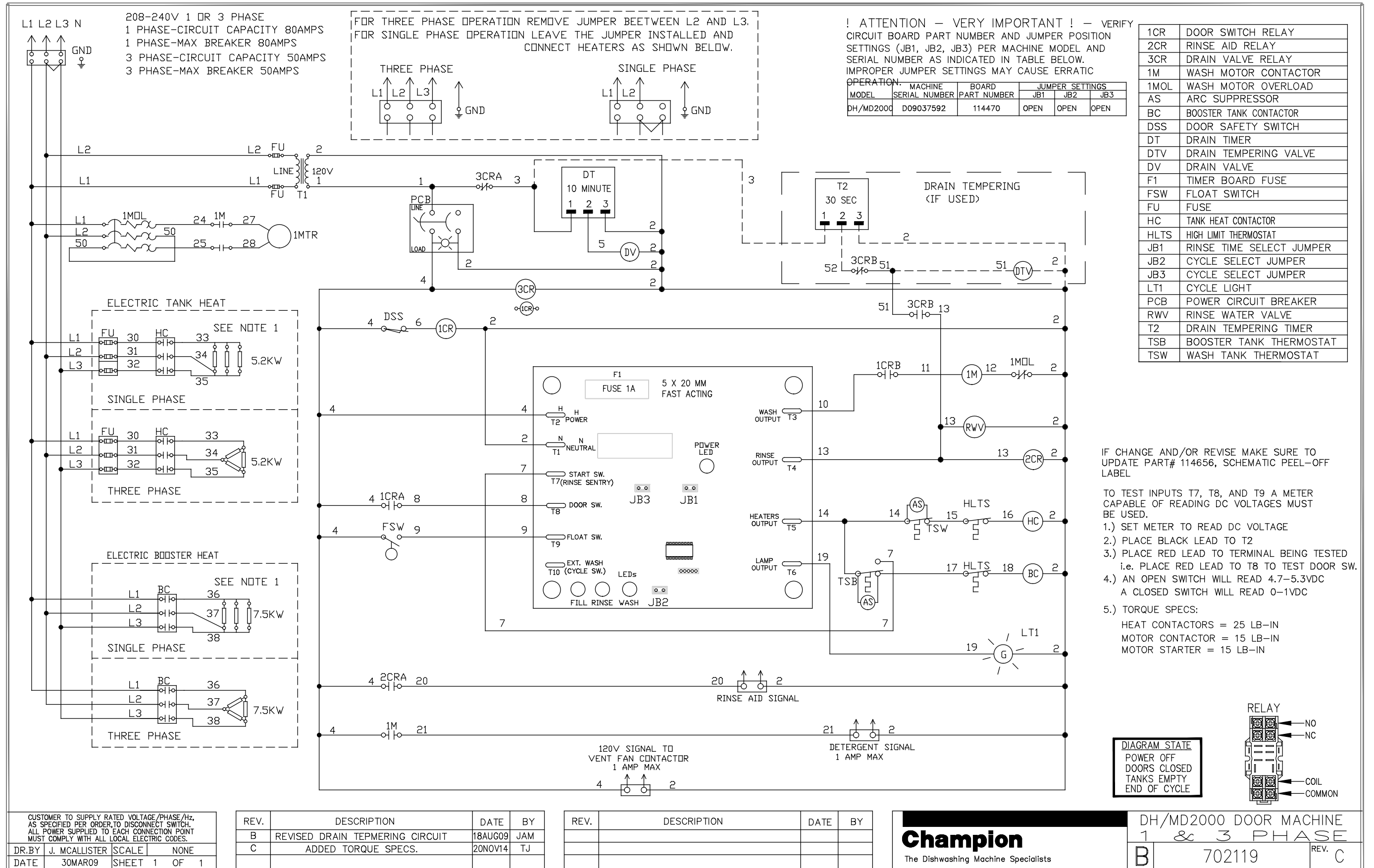
60 seconds cycle consisting of:

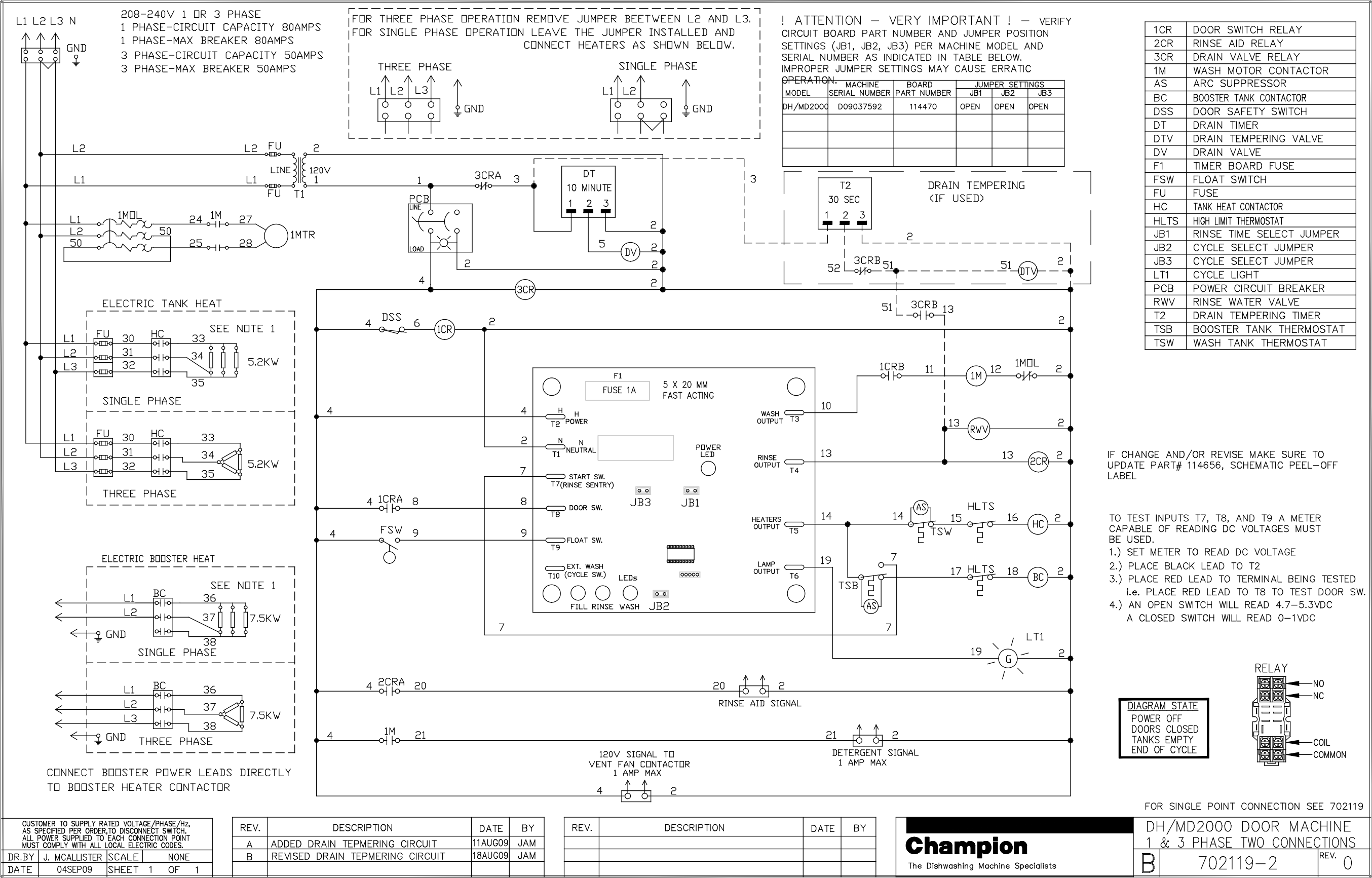
40 seconds	Wash
1 second	Dwell
12 seconds	Rinse
7 seconds	Sanitary Dwell

TIME CYCLE - DH/MD2000

DWG. 114470-0/B

3/10/09 L.B.









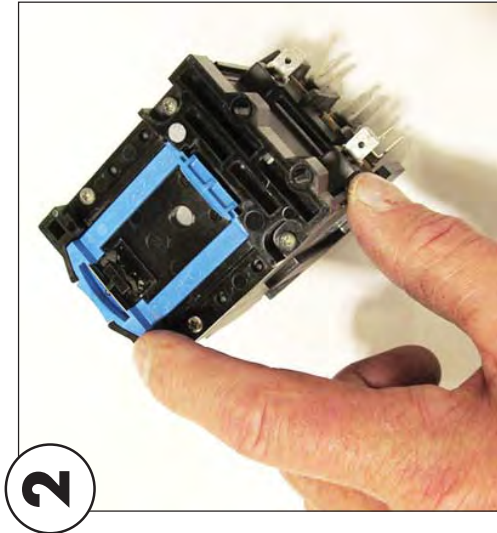
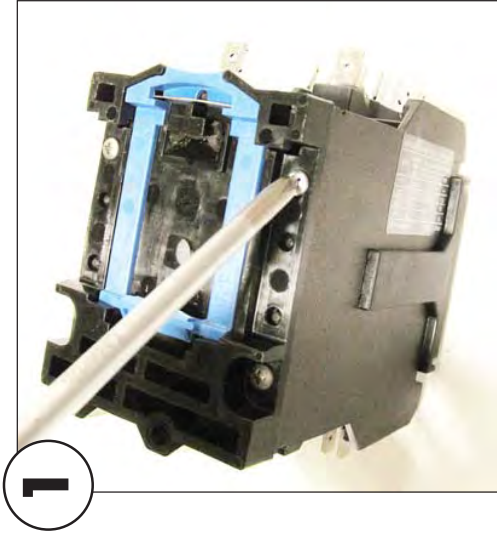
**WARNING:**  
Electrocution may occur when working on energized circuits.  
Disconnect power at the main breaker or service disconnect switch,  
then lock out and tag it to indicate that work is being performed on the circuit.

Kit Contents:

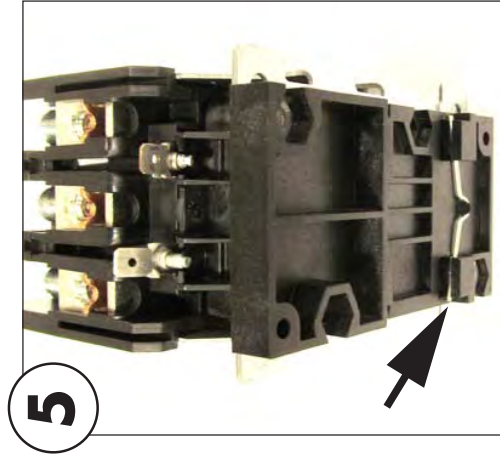
PART NO.	DESCRIPTION	QTY.
116166	Contactor, 60A	1
116504	Bracket, 60A Contactor Din Rail Mounting	1
114566	Tie, Cable 7"	4
111885	Paper, Fish	2
702939	Harness, Booster with 3 jumpers	1

**PREPARATION:**

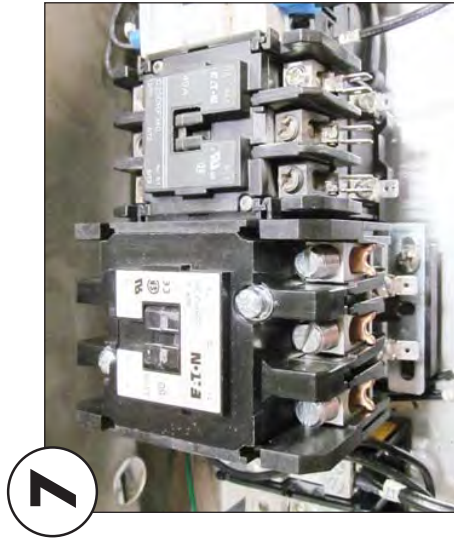
Disconnect all power to the dishwasher and lock out tag out the circuit. Remove black booster element cover. Note the location and disconnect the booster heater wires. Disconnect the 1/2" 90° flexible conduit fitting from the machine base. Remove the cable ties and the cable clamps holding the booster harness to the rear of the machine. Disconnect the booster contactor wires. Disconnect the 1/2" straight flexible conduit fitting from the rear of the control cabinet. Remove the booster harness and discard. Disconnect and remove the booster and wash tank heater contactors.



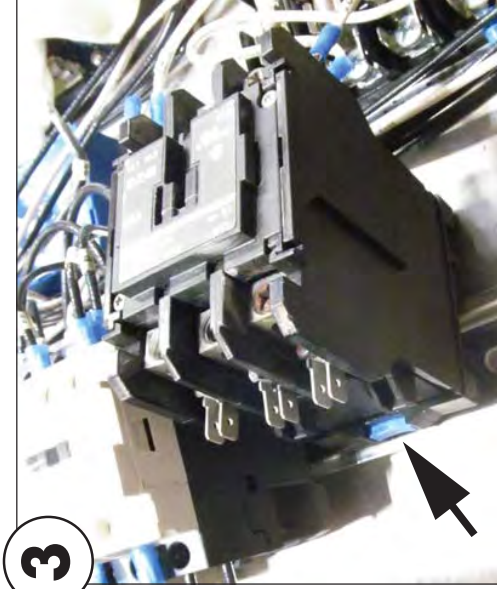
Remove and rotate the 40A wash contactor Din rail bracket 180° as shown in No. 2.



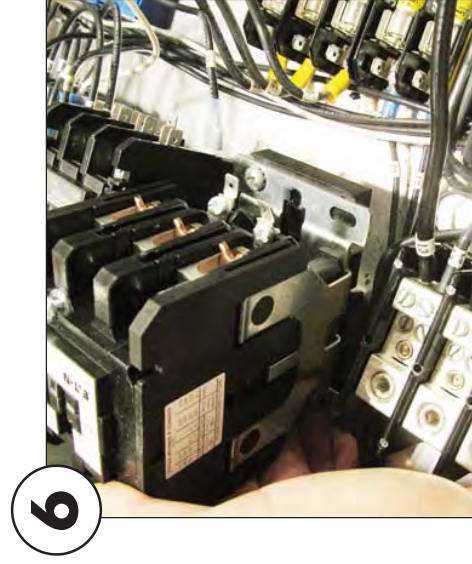
Install the Din rail mounting bracket on the 60A contactor making sure the spring clip is on the opposite end of the contactor coil leads as shown in No. 5.



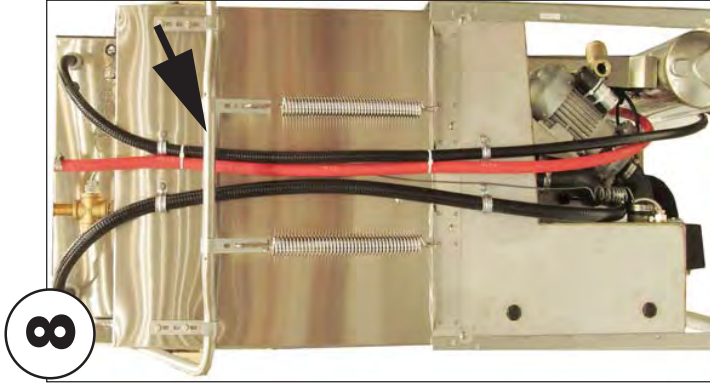
60A and 40A contactors installed.



Reinstall the 40A contactor on the Din rail with the coil terminals facing the front of the cabinet and the blue actuator facing the rear.



Install the 60A contactor.



Install new harness making sure to route it behind the handle.



Install the fish paper, connect the longest wire, #38, in the center then connect wires #36 and #37. Reinstall the black cover.



Continued on next page

**DH/MD2000 BOOSTER CONTACTOR UPGRADE KIT, P/N 901078** (continued)

**Refer to the Diagram below:**

1. Connect the #8 **booster wiring harness** and **jumper** as shown.
2. Reconnect the **existing #10 wash contactor wiring** previously removed.
3. Tighten all terminals then tighten again to ensure they are secure.
4. Replace panels and covers.
5. Turn power on and check operation.
6. Upgrade is complete.

