
Champion[®]

The Dishwashing Machine Specialists

*For machines beginning with
serial no. R1247 and above*

Technical Manual

Two Tank Rack Conveyor with/without Prewash

Basic Model	With (PR22) 22" Prewash	With (PR36) 36" Prewash	With (FFPR26) 26" Front Feed Prewash
40KB	40KPRB	PR36/40KB	FFPR26/40KB
60KB	60KPRB	PR36/60KB	FFPR26/60KB
64KB	64KPRB	PR36/64KB	FFPR26/64KB

Machine Serial No.

June, 2005

Manual P/N **112951** Rev. I

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Complete the information below so it will be available for quick reference.

Model Number _____ Serial Number _____

Voltage and Phase _____

Champion Service Agency _____ Phone _____

Champion Parts Source _____ Phone _____

Champion Service:

Champion (USA)

Phone: 1 (336) 661-1556

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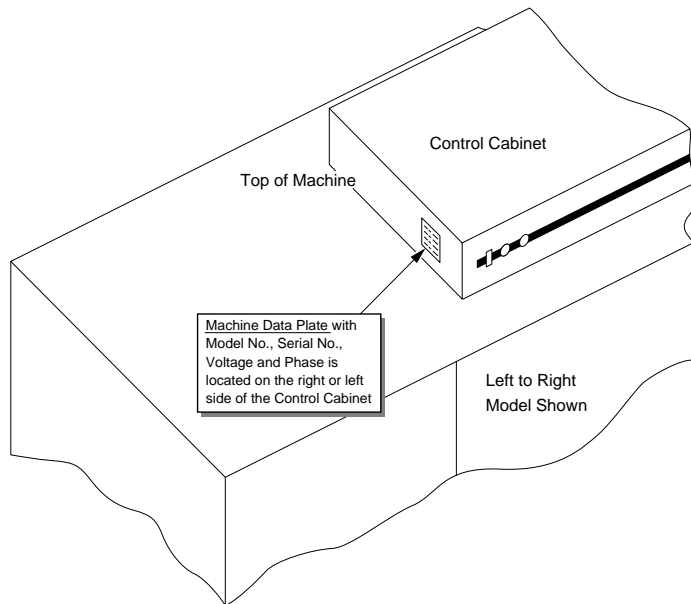
Phone: 1 (905) 562-4195

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Fax: 1 (905) 562-4618

We strongly recommend that you Fax your orders.

NOTE: When calling to order parts, be sure to have the model number, serial number, voltage and phase of your machine.



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Revision History

Revision Date	Revised Pages	Serial Number Effectivity	Comments
3/10/99	All	R-1247	First Issue of Manual and service replacement parts
1/26/00	35	—	Added cradle assy P/N's
1/26/00	90	R1666	Changed motor contactor P/N 111642 to Motor contactor P/N 108122
1/26/00	95	—	Added dual float switch, P/N 11019 to parts list
5/23/00	39	R-1810	Changed pump assembly parts
10/1/00	95	—	Corrected float switch, P/N 111019
10/10/00	35	—	Added 40-60 KB cradle part numbers
11/01/00	54	R1529	Added new piping due to change in location of pressure switch
11/01/00	58	All	Inserted new drawing for all Serial numbers with no booster or with Steam booster
4/3/01	89	—	Revised machines for 12' thermometer – 109499
1/03/02	55,59	R2441	Change vacuum breaker 3/4" 1044129 to 113222
1/03/02	56,60,63,73,77		Change vacuum breaker 1/4" 107069 to 113218
1/03/02	56,59,63,73,77	R2441	Change Parker/Evans 1/4" solenoid valve 109885 to GC solenoid valve 1/2" 113352 along with repair kit, coils and piping changes
1/03/02	73,77		Added track stiffener 325667
5/20/02	56,60,63,73,77		Added 900836 Kit* Repair, 1/4" & 1/2" Vacuum Breaker and 900837 Kit* Repair 3/4" Vacuum Breaker
2/5/03	39		Replaced impellers with new part numbers.
2/5/03	89		Replaced 108391 with 113622 thermometer.
2/5/03	91		Replaced Furnace (Siemens) overloads with Telemecanique (Square D) overloads.
2/5/03	92, 115, 117		Replaced P/N 111826 with P/N 111827 .
7/23/03	55, 56, 59, 60, 63, 73, 74, 77, 78		Revised plastic style vacuum breakers with bronze style.
7/23/03	89		Corrected part numbers for overlays.
3/11/04	43, 45, 67, 69 71, 73	R3285	Replaced 111090 with 113721 reed switch.
3/11/04	124	—	Revised schematic 700935 revision H to revision I.

Revision History (Cont.)

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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.

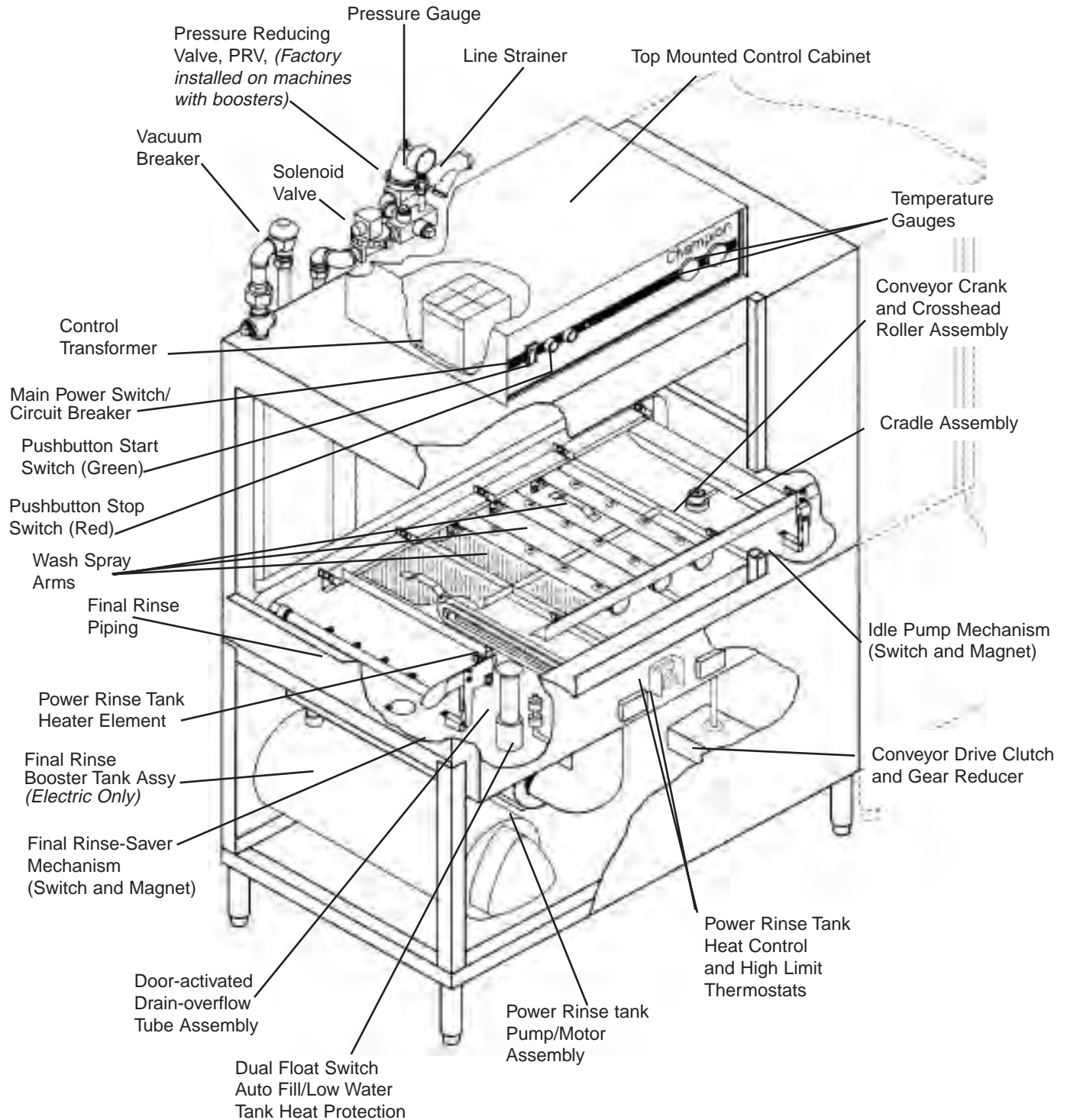
Warranty of Parts: Champion warrants all new machine parts produced or authorized by Champion to be free from defects in material and workmanship for a period of 90 days from date of invoice. If any defect in material and workmanship is found to exist within the warranty period Champion will replace 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.

Rack Conveyor Key Component Locations

(Right to Left Electrical Machine Shown)



INTRODUCTION

Welcome to **Champion**.

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

This manual covers several models. Model numbers are shown on the front cover.

Your machine has been completely assembled, inspected, and thoroughly tested at our factory before it was shipped to your installation site.

This manual contains:

- Warranty information
- Operation and cleaning instructions
- Maintenance instructions
- Troubleshooting guide
- Basic service information
- Replacement parts lists
- Electrical schematics

Complete and return your warranty registration card within ten (10) days after the installation of your machine.

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

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

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

GENERAL

This manual covers the Champion two tank rack conveyor dishwashing machine. This machine is fully automatic and is equipped with 2 H.P. wash/rinse pump motors and a 1/4 H.P. conveyor drive motor. All models are available for right-to-left or left-to-right operation.

This series of dishwashers is modular in design. The following models and options are covered in this manual:

Model Numbers

Two tank - Basic	64KB, 40KB, 60KB
Two tank with 22" Prewash	64KPRB, 40KPRB, 60KPRB
Two tank with 36" Prewash	PR36/64KB, PR36/40KB, PR36/60KB
Two tank with 26" Front Feed Prewash	FFPR26/64KB, FFPR26/40KB, FFPR26/60KB

- The 64KB basic model, along with its respective prewash option, is a high temperature (180°F/82°C final rinse) sanitizing model.
- The 40KB basic model, along with its respective prewash option, is a high temperature (180°F/82°C final rinse) sanitizing model.
- The 60KB basic model, along with its respective prewash option, is a high temperature (180°F/82°C final rinse) sanitizing model.

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INSTALLATION

Unpacking

**CAUTION:**

Care should be taken when lifting the machine. The piping under the base can be damaged. Remove the dishwasher front panels if lifting from the front with a forklift.

1. Immediately after unpacking your machine, inspect for any shipping damage. If damage is found, save the packing material and contact the carrier upon receipt of the machine.
2. Remove the dishwasher from the skids. Adjust the feet if required, then move the machine to its permanent location. The machine should not be installed within 6 inches [153mm] of any wall or structure.
3. Level the machine by placing a level on the top of the machine and adjusting the feet. Level front-to-back and side-to-side.

Electrical Connections

**NOTE:**

Electrical and grounding connections must comply with the National Electrical Code and/or Local Electrical Codes.

**WARNING:**

When working on the dishwasher, disconnect the electric service and tag it to indicate work is being done on that circuit.

1. The electrician should compare the electrical specifications on the machine electrical connection plate (located inside the control cabinet) to the electrical power supply before connecting to the incoming service at a fused disconnect switch.
2. Motor rotation was set at the factory. Ensure proper rotation of the conveyor drive shaft (red arrow on shaft shows direction of rotation). Reversing the motor direction is done in the control cabinet by reversing the wires L1 and L2 on the disconnect switch side of the main electrical connection terminal block (Refer to the electrical diagrams in the back of this manual).
3. A knock-out plug is provided at the rear of the control cabinet for electrical service connections.

NOTE:

Electrical and grounding connections must comply with the National Electrical Code and/or Local Electrical Codes.

NOTE:

Electric boosters require a separate electrical connection.

A fused disconnect switch or circuit breaker (supplied by user) is required to protect each

Plumbing Connections



CAUTION:

Plumbing connections must comply with local sanitary and plumbing codes.

1. Connect the hot water supply at the final rinse piping connection located behind the control cabinet at the top of the machine.
2. A “Y” line strainer is provided by Champion for machines without boosters. A pressure reducing valve (PRV) is provided by Champion for machines with built-in boosters.
3. If the incoming hot water supply pressure exceeds 25 psi [173 kPa], a PRV must be installed and set to 20-22 psi [138-151 kPa]. The PRV may be purchased from Champion or supplied by others.
4. Install a manual shut-off valve in the steam and water supply lines to accommodate servicing the machine. The valve should be the same size as or larger than the supply line.
5. Provide a suitable gravity drain to connect to a 1-5/8" OD drain tube.

Ventilation

1. Stainless steel watertight ducting should be installed **INSIDE** the 4" x 16" [102mm x 407mm] vent stacks at the load and unload ends. A minimum of 6 air changes per hour of kitchen air is recommended. The typical exhaust ventilation requirements for a rack machine using a 180°F/82°C final rinse are:
 - The load end requires 150 CFM @ 1/4" (SP), [71 Liters/sec] with prewash.
 - The load end requires 200 CFM @ 1/4" (SP), [95 Liters/sec] without prewash.
 - The unload end requires 400 CFM @ 1/4" (SP), [189 Liters/sec].
2. An adjustable damper is supplied with the vent stacks for adjusting the exhaust volume.

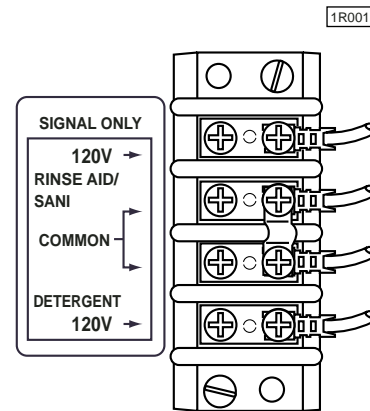


CAUTION:

Exhaust air should not be vented into a wall, ceiling, or concealed space of a building. Condensation will cause damage.

Chemical Connections

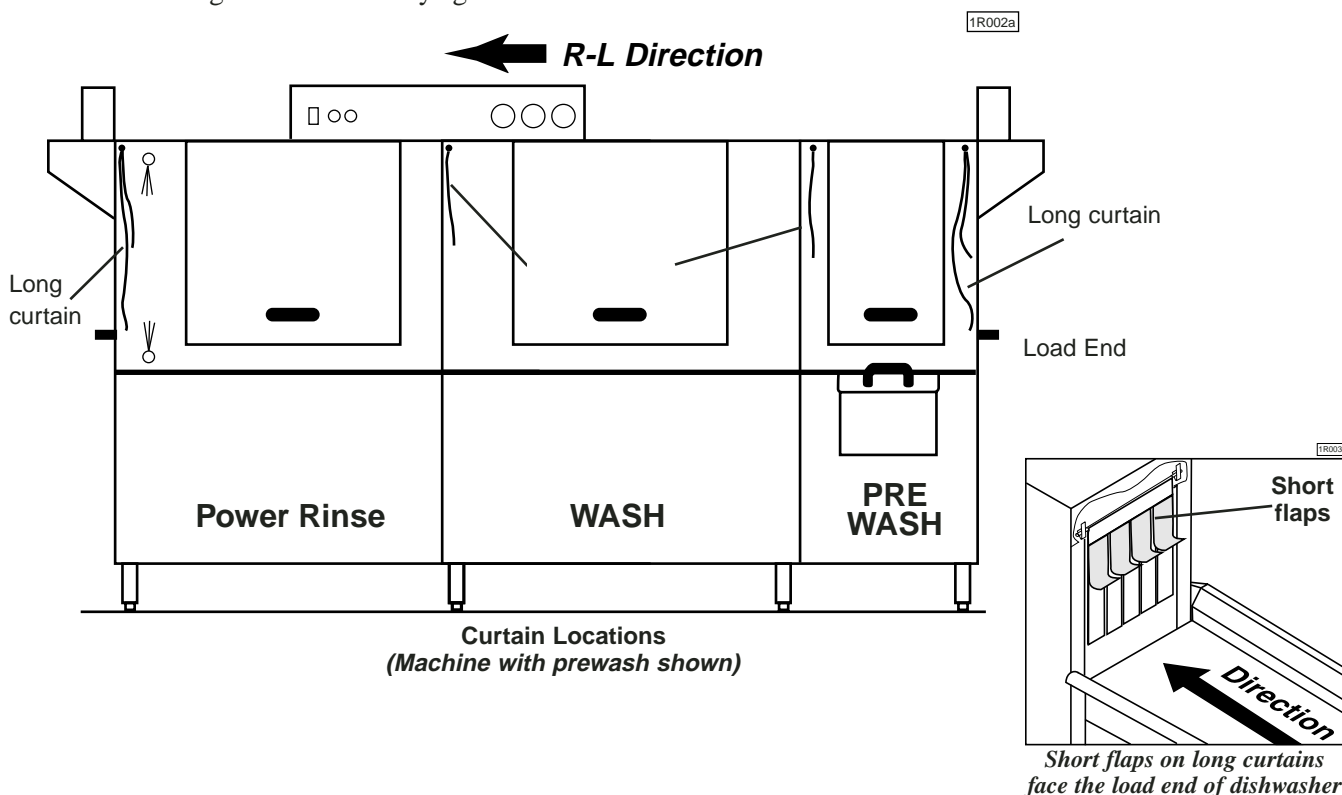
1. Use a qualified detergent/chemical supplier.
2. Labeled control circuit connection terminals are provided in the control cabinet for detergent and rinse agent/sanitizer dispensing equipment (supplied by others).
3. Refer to the illustration below. The illustration shows the terminal board for current production machines. Signal connection points include:
 - Detergent signal 120VAC, 1 Amp Max amp load.
 - Rinse aid/Sanitizer signal 120VAC, 1 Amp Max amp load.
4. A removable black plug is provided in the load end side of the wash tank for installation of the detergent conductivity cell.



Chemical Connection Terminal Board

Curtain Locations

1. Refer to the illustrations below and hang the curtains as shown. J-hooks are located in the corners of each section to accept the curtain rods.
 - Standard long curtain 24" x 20-1/4" [610mm x 515mm]
 - High hood long curtain 24" x 22-3/4" [610mm x 578mm]
 - Standard short curtain 24" x 13-1/4" [610mm x 337mm]
 - High hood short curtain 24" x 20-1/4" [610mm x 515mm]
2. Make sure the short flaps of the long curtains face the load end of the dishwasher. The longest curtains always go on each end of the dishwasher.



Completing Installation

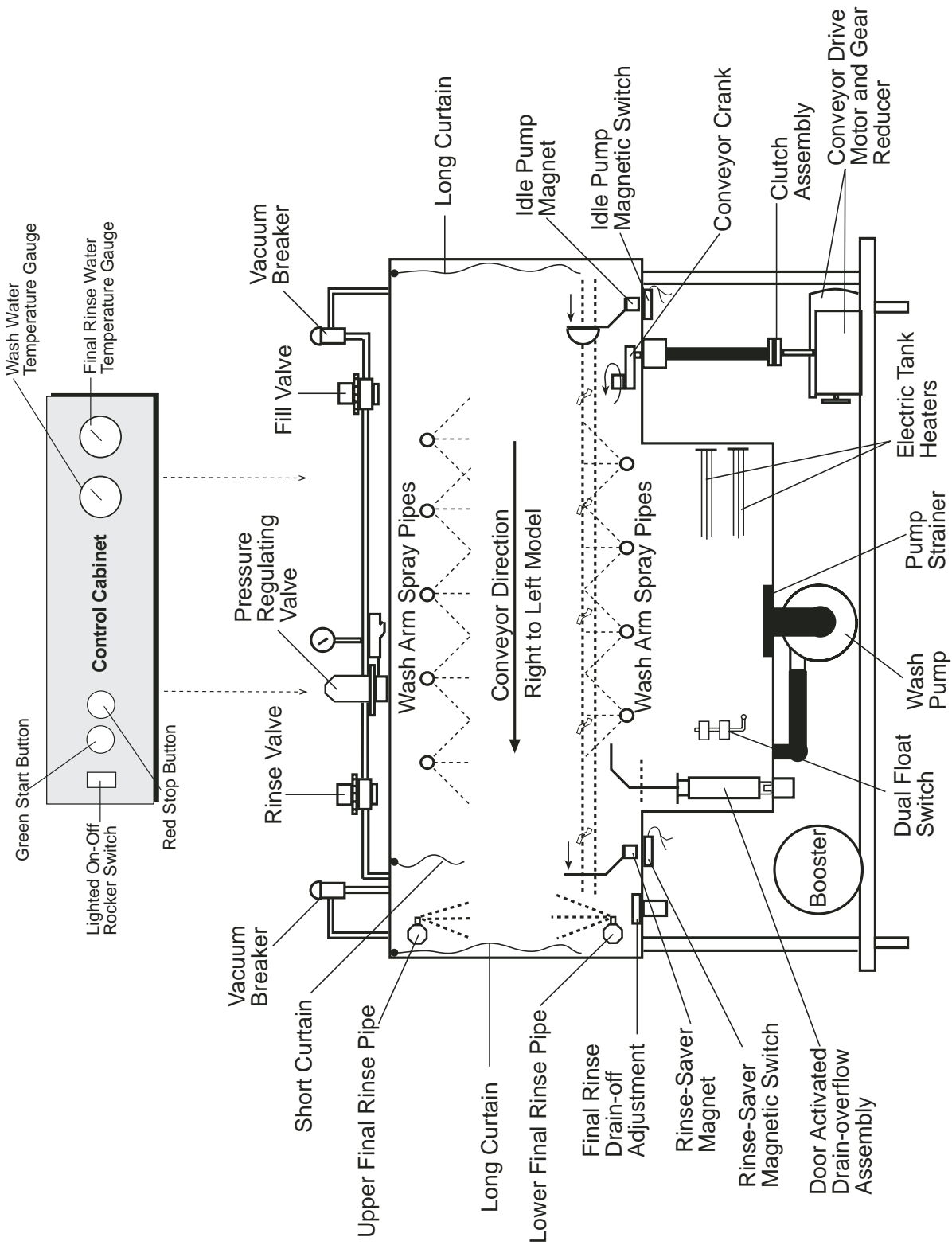


WARNING:

Do not insert racks into machine before tanks fill with water. Operating pumps dry will cause pump seal damage and leakage that can result in a motor failure.

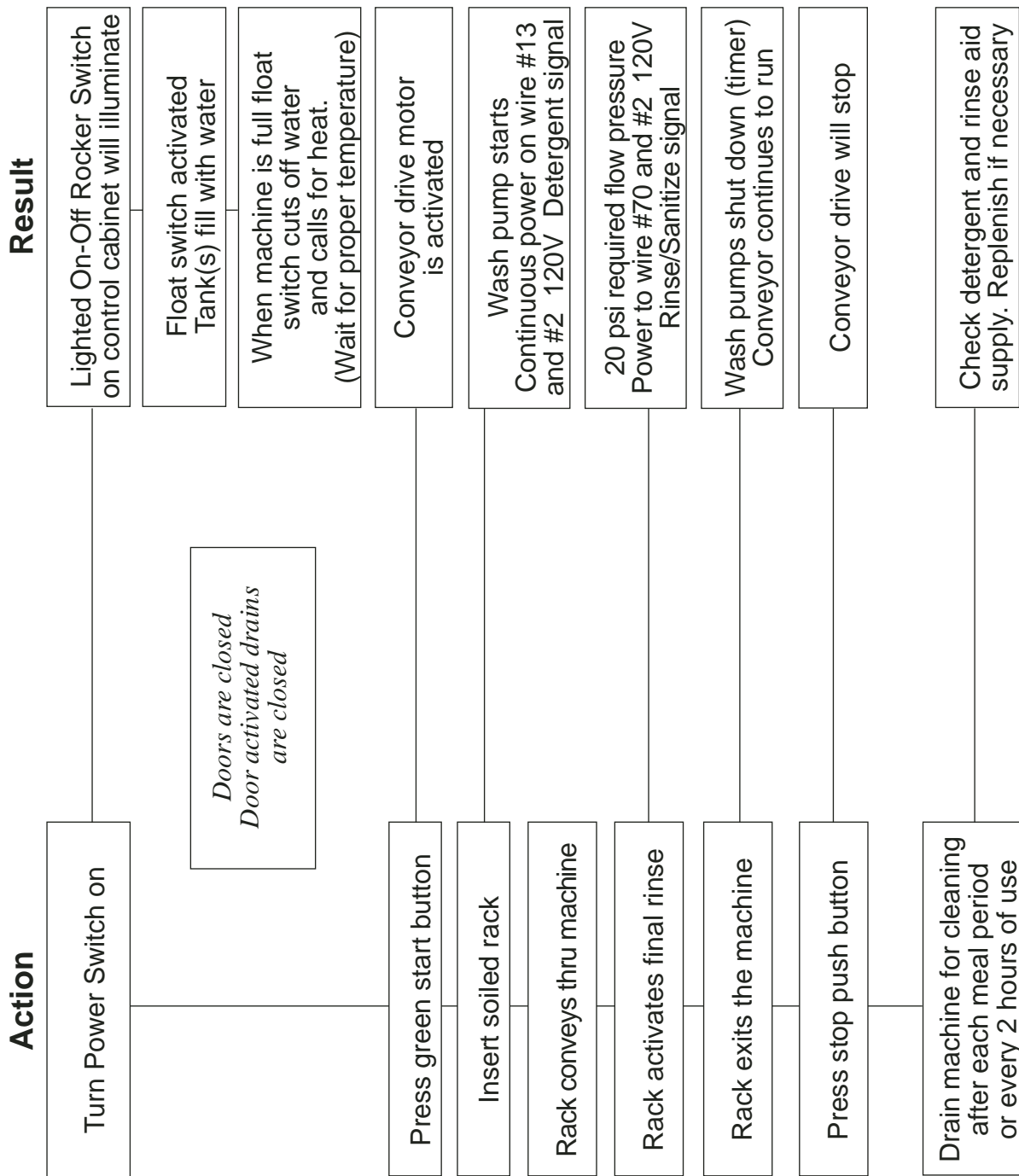
1. Remove any foreign material from inside the machine.
2. Check to insure that drains and overflow pipes are operational and sealed.
3. Position scrap screens on supports above the tanks.
4. After plumbing and electrical connections are completed, fill the tank and wait 10 minutes. Check all plumbing connections for leaks.
5. Drain the tank and check the drain lines for leaks.
6. The formed down lip of the dishtable should be placed inside the machine. The dishtable should be pitched toward the dishwasher for proper draining by adjusting its leveling feet. The dishtable should be sealed to the dishwasher.

OPERATION PROCEDURE



**Simplified Rack Conveyor Dishwasher
Right to Left Model**

Rack Conveyor Machine Operation Procedure



OPERATION

Follow the procedure below to operate your dishwasher properly.

1. Check that spray pipes, curtains, overflow drains, and scrap screens are in place and clean.
2. Turn on detergent dispenser switches and check detergent supply.
3. Turn on exhaust vent system (if applicable), and make sure it is operating.
4. Close door(s). Push the power switch to the ON position. Tanks will begin filling with water.
5. When tanks are full, check wash tank temperature gauge. Minimum wash temperatures are:
 - 64KB, 40KB, 60KB Wash tank - **150°F/66°C**
 - 64KB, 40KB, 60KB Power rinse tank - **160°F/71°C**
 - Prewash tanks do not have tank heaters
6. Press the **START** button on the control cabinet. Only the conveyor will start. The pumps **WILL NOT OPERATE** until the first rack enters the machine.
7. Scrap and pre-flush all items to be washed, and load the items into the rack.
DO NOT OVERLOAD RACKS.
Place dishes edgewise in a peg rack, cups and bowls upside down in a flat rack.
Spread silverware evenly in a single layer in a flat rack or upright (loosely packed) in a cutlery rack.
8. Push the rack into the machine, and the pumps will start automatically.
9. Check the rinse pressure and temperature as the racks pass through the final rinse. This rinse pressure **MUST** be 20-22 psi [138-151 kPa] and the final rinse temperature **MUST** be 180°F/82°C minimum.
10. The pumps will automatically stop shortly after the last rack leaves the machine. The conveyor will continue to run.
11. The machine may be stopped any time during the cycle by pressing the **STOP** button on the control cabinet. When restarted, items inside the machine will be fully washed and rinsed.
12. **CLEAN** scrap screens, scrap baskets (if applicable) and **REPLACE** tank water every 2 hours of operation or after each meal period. Check chemical supply.

**CAUTION:**

DO NOT allow racks to remain on unload dishtable. This could cause the conveyor to jam and may damage machine. The installation of a table limit switch is highly recommended and will reduce the risk of damage.

**WARNING:**

Do not leave water in tanks overnight.

MAINTENANCE

The efficiency and life of your machine is increased by regularly scheduled preventive maintenance. A well maintained machine gives better results and service. An investment of a few minutes of daily maintenance will be worthwhile.

The best maintenance you can provide is to keep your machine clean. Components that are not regularly cleaned and flushed will clog and become inoperative.

Intervals shown in the following schedules represent an average length of time between necessary maintenance. Maintenance intervals should be shortened whenever your machine is faced with abnormal working conditions, hard water, or multiple shift operations.

Maintenance Schedule

CLEANING

- **Daily-Every 2 Hours of Operation**

1. Turn power switch to **OFF**.
2. Remove all scrap screens, scrap baskets (if applicable), and pull drain lever(s) to drain water. Clean inside of tanks and flush with clean water. Backflush scrap screens until clean. **Do not strike screens against solid objects.**
3. Remove the spray pipes by a 1/4 turn, counterclockwise. Remove the end plug from each spray pipe. Flush pipe and nozzles until clean. **Do not strike spray pipes against solid objects.** Replace end plugs, verify that rubber seals are in place on manifolds. Reinstall spray pipes using a 1/4 clockwise turn.
4. Remove and clean curtains. Hang them off the dishtable to dry.
5. Leave the doors open between operations to allow drying.
6. Verify that final rinse nozzles are clean and free of internal hard water deposits. Clean rinse nozzle orifices with a small paper clip. Consult your chemical supplier for the proper use and kind of deliming chemical.
7. Report any unusual conditions to your supervisor.

- **As Required**

1. Check temperature and pressure gauge readings.
2. Inspect machine and check pump motor for leaks around the shaft.
3. Check chemical supplies and refill as necessary.

- **Weekly**

1. Inspect all water lines for leaks and tighten at joints if required.
2. Clean all detergent residue from exterior of machine.
3. Check drain/overflow tube for leaks.
4. Clean accumulated scale from heating element.
5. Remove and closely inspect each spray arm for blockage.

- **Weekly (Cont.)**

6. Straighten a paper clip and use it to clear each rinse nozzle.
7. Inspect pawl bars and drive assembly for wear and freedom of travel.
8. Check float switches in tank for freedom of travel.
9. Check idle pump and final rinse levers for freedom of travel.

DELIMING

Your dishwasher should be delimed regularly as required. This will depend on the mineral content of your water.

Inspect your machine interior for lime deposits. If deliming is required, a deliming agent should be used for best results. Consult your chemical supplier for proper type and procedures.



DANGER:

Deliming solution, rinse agents, or other acids must not come in contact with household bleach (sodium hypochlorite) or any chemicals containing chlorine, iodine, bromine, or fluorine. Mixing may cause hazardous gases to form. Consult your chemical supplier.

TROUBLESHOOTING

In order to find the cause of a breakdown or abnormal operating condition in your dishwasher please ensure that:

1. All switches are ON
2. Drain and overflow tube are in place and seated
3. Wash pipe and rinse nozzles are clean
4. Scrap screen(s) and scrap basket (if applicable) are properly positioned
5. Spray pipes are in their proper positions
6. Thermostat(s) are at their correct setting
7. Sanitizer, detergent, and rinse additive dispensers are adequately filled
8. Doors are fully closed.

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

CONDITION	CAUSE	SOLUTION
Machine will not start	Door not closed.....	Make sure doors are fully closed
	Door safety switch faulty	Contact your service agency
	Start switch faulty.....	Contact your service agency
	Main switch off.....	Check disconnect
	No rack inserted	Place rack in unit
	Overload protector tripped	Reset overload in control box
Low or no water	Main water supply is turned off	Turn on house water supply
	Drain/overflow tube is not in place and seated	Place and seat drain tube
	Machine doors not fully closed	Close doors securely
	Faulty fill valve.....	Contact your service agency
	Stuck or defective float.....	Check floats and clean
	Clogged 'Y' strainer	Clean or replace
Continuous water filling	Stuck or defective float.....	Check floats and clean
	Fill valve will not close.....	Clean or replace
	Drain tube not in place	Look for drain tube in tank
Any motor not running	Overload protector tripped	Reset overload in control box
	Defective motor	Contact your service agency
Wash tank water temperature is low when in use	Incoming water temperature at machine too low	Raise temperature to: 140°F/60°C
	Defective thermometer	Check or replace
	Defective thermostat	Check for proper setting or replace
	Defective heater element	Check or replace
	Low steam pressure	Check steam supply pressure
	Defective steam trap	Check or replace
	Defective solenoid valve.....	Check or replace

CONDITION	CAUSE	SOLUTION
Insufficient pumped spray pressure	Clogged pump intake screen.....	Clean
	Clogged spray pipe	Clean
	Scrap screen full	Must be kept clean and in place
	Low water level in tank.....	Check drain and overflow tube
	Pump motor rotation incorrect	Reverse connection between L1 and L2 in control cabinet (3 phase only)
	Defective pump seal	Contact service agent
Insufficient final rinse or no final rinse	Faulty pressure reducing valve	Clean or replace
	Improper setting on pressure reducing valve.....	Set flow pressure to 20-22 psi [138-151 kPa]
	Clogged rinse nozzle and/or pipe	Clean with paper clip/delime
	Improper water line size	Have installer change to proper size
	Clogged 'Y' strainer	Clean or replace
Low final rinse temperature	Low incoming water	Check the booster (KB, KPRB models) be sure the thermostat is set to maintain 180°F/82°C temperature. Check valve to be sure it is clean and operating.
	Defective thermometer	Check for proper setting or replace
Poor washing results	Detergent dispenser not operating properly.....	Contact detergent supplier
	Insufficient detergents	Contact detergent supplier
	Food Soil concentration too high in wash tank	Drain tank, clean and refill every 2 hours of operation or after each meal period.
	Wash water temperature too low	See condition "Wash Tank Water Temperature" above
	Wash arm clogged.....	Clean
	Improperly scraped dishes	Check scraping procedures
	Ware improperly placed in rack	Use proper racks. Do not overload racks
	Improperly cleaned equipment	Unclog wash sprays and rinse nozzles to maintain proper pressure and flow conditions. Overflows must be open. Keep wash water as clean as possible.
	Electric elements or steam coils has soil/lime buildup	Clean and delime

ELECTRICAL SERVICE

Fuse Blocks—120VAC Control Voltage

Two fuse blocks, located in the center rear of the main control cabinet protect the main control transformer. Each fuse block holds a fuse. The fuses are marked 1FU and 2FU on the electrical schematic.

To Replace the fuse:

- Disconnect power to the machine at the main service switch.
- Flip the tab on the top of the fuse block to open the block.
- Remove the fuse and replace it.
- Close the fuse block and turn the main power on.
- If the fuse blows again, **DO NOT INCREASE THE FUSE SIZE.**
- **DETERMINE THE CAUSE OF THE OVERLOAD.**

Fig. 1 shows the fuse block opened and the fuse exposed.

Motor Overloads

Motor overloads are located to the left of the fuse blocks inside the control cabinet. Each motor has one overload to protect it from line voltage electrical overloads. In addition, an auxiliary set of switch contacts is built into the overload. The switch contacts disconnect 120VAC power to the motor contactor coils in the event of an overload condition. Refer to Fig. 2.

Note the Switch Lever on the Overload.

- If the switch lever is off with the “0” showing then the overload has tripped on an overload.

To Reset the Motor Overload:

- Flip the starter switch to the On position.
- Run the dishwasher and test the AMP draw of the motor in question. If the motor checks okay then there may be a wiring problem or the overload may be defective.

To Replace a Motor Overload:

- Disconnect the wires to the overload.
- Release the mounting catch on the front side of the overload, push forward and lift out.
- Snap the new overload into place and reconnect the wires.

To adjust the overload setting:

The screwdriver in Fig. 2 is positioned to adjust the motor overload AMP setting.

- Read the FLA motor amps that applies for the machine voltage on the Motor Nameplate.
- Turn the setting to match nameplate FLA.



Figure 1
Fuse Blocks



Figure 2
Motor Overload

Pump Timer

Refer to Fig. 3

The automatic timer located in the left center of the control cabinet is set at the factory.

The Pump Timer controls the amount of time that the pumps will run before the last rack enters the load end of the dishwasher tunnel.

The Pump Timer is an OFF DELAY timer.

Each timer is marked with a tag noting the time set by the factory.

The timer has the following user defined settings:

1. Adjustable timer range
2. Timer knob setting
3. Indicator light (ON when timer is counting)
4. 50 Hz or 60 Hz setting on the back of the timer

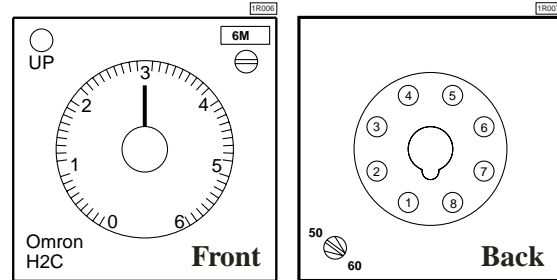


Figure 3
Pump Timer

To Replace a Timer:

- Disconnect power to the machine at the main service switch.
- Remove the defective timer and install the replacement.
- Adjust the new timer setting to match the setting of the original timer.

Operation Sequence:

- A dishrack entering the machine contacts the idle pump switch lever.
- Normally closed contacts of the idle pump switch open, de-energizing control relay 1CR.
- Normally closed contacts (1, 9) of 1CR close and apply 120VAC to reset coil of pump timer.
- Pump timer resets.
- The dishrack moves off the idle pump switch lever. The switch contacts close.
- 1CR energizes and contacts (1, 9) open removing 120VAC from the pump timer reset coil.
- The pump timer begins to time down for its preset time setting.
- The timer is reset each time the idle pump switch is activated. If the timer is reset only once it will time out and shut the pumps off after the rack has exited the dishwasher.

To Check the Pump Timer Setting:

- Turn the power on.
- Place a rack on the conveyor.
- Press the Green start button. The conveyor drive will start.
- When the rack enters the load end the pumps will start.
- Wait for the rack to exit the tunnel at the unload end.
- When the pumps stop, push the red stop button.
- Measure the distance between the exit end of the tunnel and the rack.
- The rack should be about 1 foot past the end of the tunnel.
- If the distance is less than 1 foot, increase the pump timer setting. Continue to increase the timer setting a few seconds at a time until the proper distance is reached.
- If the measured distance is greater than 1 foot, decrease the pump timer setting. Continue to decrease the timer setting a few seconds at a time until the proper distance is reached.

ELECTRICAL SERVICE (Cont.)

Automatic Fill/Low Water Heat Protection

Dual Float Switches –

Refer to Fig. 4

Each tank contains a dual float. The device consists of an angled stem containing two reed switches.

Two stainless steel ball floats slide over the stem and are free to move up and down.

The floats contain magnets. When the float moves on the stem, it opens and closes its associated reed switch inside the stem. The reed switches control relays. The relays control the automatic fill and heat for different parts of the machine. Float switches and their relays operate on 24VAC.

Circuit Explanation –

The following is a general explanation of the float switch circuit. Refer to the electrical schematic on your machine for a detailed description of the individual floats, relays, and wiring.

Bottom Float and Reed Switch:

- The bottom float controls the heat.
- When the bottom float is down, the bottom reed switch contacts are open.
- When the bottom float is up, the bottom reed switch contacts close.

Top Float and Reed Switch:

- The top float controls a fill valve.
- When the top float is down, the top reed switch contacts are open.
- When the top float is up, the top reed switch contacts are closed.

Initial Fill –

- When the tank is completely empty, both floats are down and their reed switch contacts are open.
- The control relay for the float switch is de-energized.
- The fill valve for the tank is energized and the tank begins to fill with water.
- As the water level in the tank rises, the bottom float begins to move up.
- When the bottom float is completely up, its NO reed switch contacts close.
- This prepares the heat circuit, but the heat **Does Not** energize at this time.
- The tank continues to fill until the top float is completely up.
- The top float's NO reed switch contacts close. Its control relay energizes.
- The fill valve de-energizes.
- The heat circuit energizes through the float switch and the contacts of the control relay.

During Normal Operation –

- If the water level in a tank falls below the level of the top float, the top float moves down and its reed switch contacts open.
- When the water level falls below the level of the bottom float, the bottom float moves down and its reed switch opens.
- The control relay de-energizes. The fill valve energizes and refills the tank.
- The heat circuit will de-energize until the water level in the tank raises the top float again.
- The bottom float keeps the heat circuit ready as long as the water level is above the level of the bottom float.

1R008



Figure 4
Dual Float
Switch

ELECTRICAL SERVICE (Cont.)

Thermostat Locations and Adjustments

Refer to Fig. 5

Electric tank heat is controlled by two thermostats.

1. The control thermostat which regulates the temperature.
2. The high limit thermostat which protects from overheating.

Location:

Both thermostats are located on front of tank, inside a black enclosure box behind the front access panel.

Adjustment:

The Control Thermostat has an adjustment screw on one side.

- The thermostat is wired Normally Closed.
- Turn the adjustment screw clockwise to increase the temperature in the tank and counterclockwise to decrease the temperature in the tank.

The High Limit Thermostat is not adjustable.

It contains a red reset button in its center.

- The red button pops out if the temperature in the tank exceeds 210°F/99°C.
- Press the red button in to reset the high limit.
Determine the cause of the high temperature condition.

Refer to Fig. 6 and Fig. 7.

Electric Booster Heat is controlled by two thermostats.

1. The control thermostat which regulates the temperature.
2. The high limit thermostat which protects from overheating.
3. Each tank has a control and a high limit thermostat.

Location:

The control thermostat is enclosed in a black box mounted on the front of the wash tank behind the front access panel.

The high limit thermostat is enclosed in a box mounted on top of the booster tank.

Adjustment:

The control thermostat has an adjustment screw on one side.

- The thermostat is wired Normally Closed.
- Turn the adjustment screw clockwise to increase the booster tank temperature and counterclockwise to decrease the booster tank temperature.

The high limit thermostat is a bimetal snap design. It is not adjustable.

- A button with a red dot in the center pops out when the temperature exceeds 210°F/99°C.
- Press the red reset button in to reset the high limit.
Determine the cause of the high temperature condition.

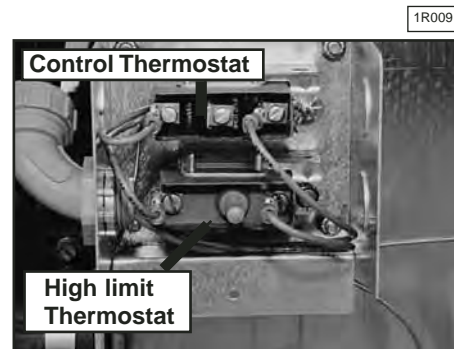


Figure 5
Tank Heat Thermostats

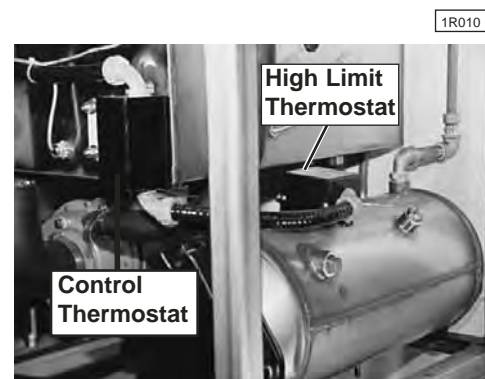


Figure 6
Booster Thermostat Locations



Figure 7
Booster - High Limit Thermostat

ELECTRICAL SERVICE (Cont.)

Heater Element Wiring – Booster Tank and Wash Tank Heater Elements

Refer to the illustrations and follow the steps below to properly install terminal jumpers and to make line power connections to a replacement element.

Step 1. Hold the element assembly with the calrod coils facing toward you.

Step 2. Match your element coil to Configuration A, B, C, or D.

Step 3. Rotate your element coils to match the correct configuration.

Step 4. Flip the element over and match your element to the correct terminal configuration.

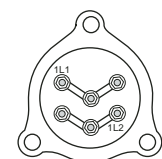
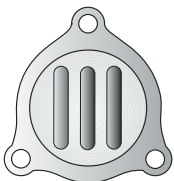
Step 5. Install terminal jumpers according to the illustration for your voltage requirement.

Step 6. Install the element and make your line connections 1L1, 1L2, or 1L3 per the illustration.

Configuration A

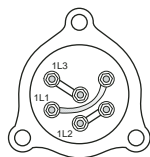
Booster tank element

View of calrod coils

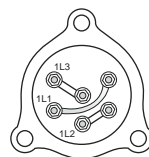


208V/1 Phase

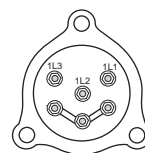
Terminal Connections view of element



208-240V/3 Phase
Delta Connection



480V/3 Phase
575V/3 Phase
Delta Connection

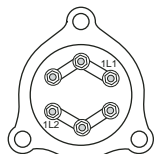
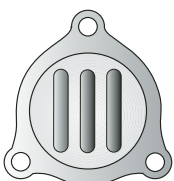


208-240V/3 Phase
Wye Connection for
380-415V/3 Phase

Configuration B

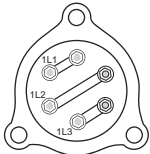
Booster tank element

View of calrod coils

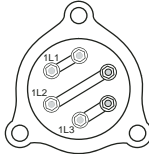


208V/1 Phase

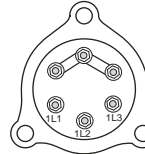
Terminal Connections view of element



208-240V/3 Phase
Delta Connection



480V/3 Phase
575V/3 Phase
Delta Connection

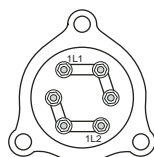


208-240V/3 Phase
Wye Connection for
380-415V/3 Phase

Configuration C

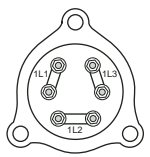
Booster tank element

View of calrod coils

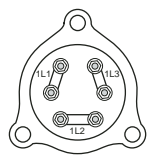


208V/1 Phase

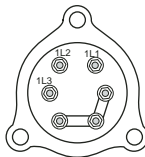
Terminal Connections view of element



208-240V/3 Phase
Delta Connection



480V/3 Phase
575V/3 Phase
Delta Connection

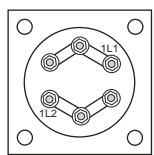
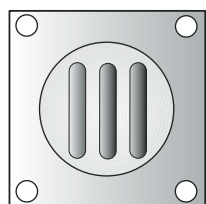


208-240V/3 Phase
Wye Connection for
380-415V/3 Phase

Configuration D

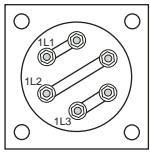
Wash tank element

View of calrod coils

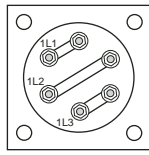


208V/1 Phase

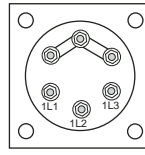
Terminal Connections view of element



208-240V/3 Phase
Delta Connection



480V/3 Phase
575V/3 Phase
Delta Connection



208-240V/3 Phase
Wye Connection for
380-415V/3 Phase

Motors

Motor Specifications

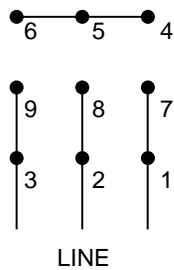
Voltage: Standard motors are multi-voltage
 Low voltage: 208-230VAC
 High voltage: 460VAC or 575VAC only

Phase: Motors may be single or three phase

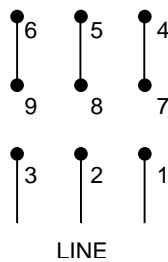
Wiring Connections:

Refer to the diagrams below for 3 phase motor lead wiring.

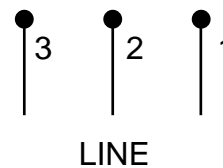
Low voltage 208-230V/3PH



High Voltage 460V/3PH

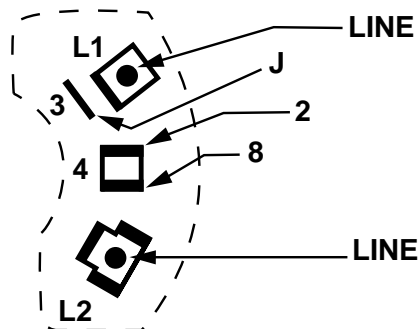


575V/3PH Only



Refer to the diagram at right
for single phase motor lead wiring.

Low voltage 208-230V/1PH Only



Troubleshooting:

Motor will not run:

1. Check incoming power to control cabinet.
2. Check for tripped manual motor starter (overload) in control cabinet.
(Refer to Motor Overload service section for the proper setting)
3. Check power at motor contactor.

Motor runs hot and trips motor starter overload:

1. Check for proper voltage between L1-L2, or (L1-L2, L2-L3, L1-L3 for 3 phase).
2. Check FLA on motor leads L1, L2, (also L3 for 3 phase) using amp tester.
(Motor full load amp (FLA) ratings are stamped on motor nameplate).

Motor Replacement:

1. Disconnect the power to the machine.
2. Disconnect the wires at the motor junction box.
3. **Make note of the motor connections in order to phase the replacement correctly.**
4. Install the new motor and check for proper rotation.
5. Proper shaft rotation is clockwise looking at the rear of the motor.
6. Motor rotation can be reversed by switching L1 and L2 on 3 phase motors. Single phase motor rotation cannot be reversed
7. Replacement motors are available as complete assemblies.
8. Champion cannot provide replacement bearings, stators, or rotors for motor repair parts.

Dual Float Switches –

Troubleshooting:

The dual float controls fill and heat circuits.

Identifying a Dual Float Problem:

The most common trouble conditions associated with a dual float failure are:

1. The tank fills constantly.
2. The tank heat will not come on.

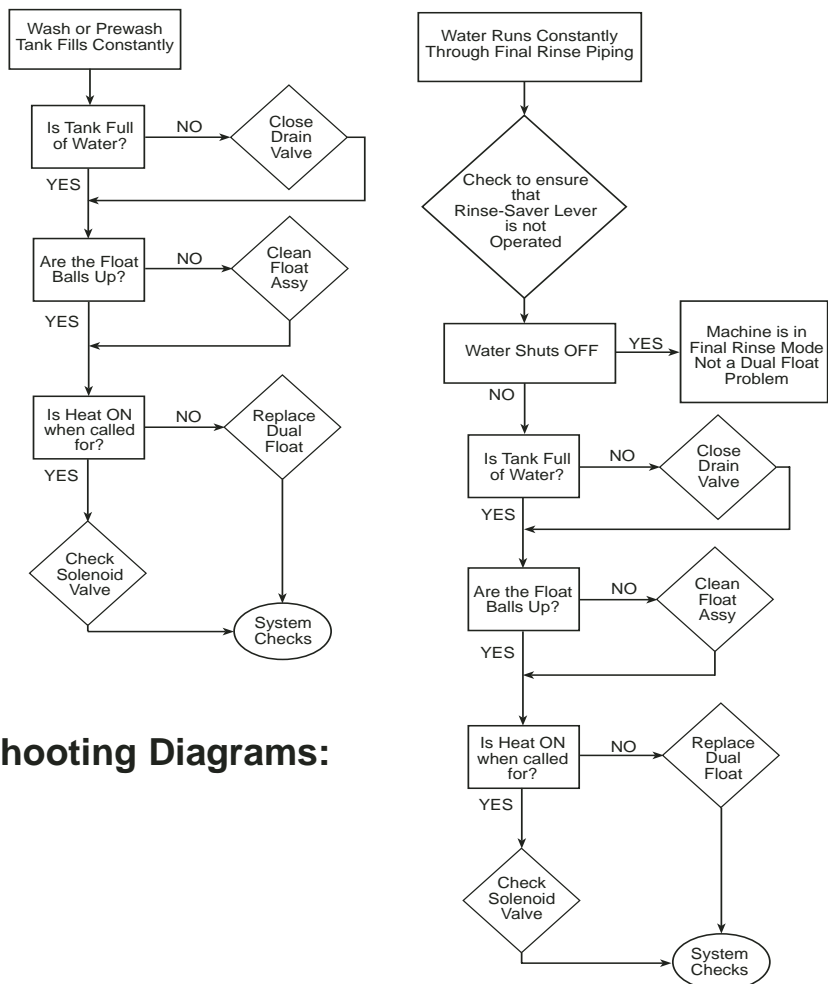
Inspect the Dual Float:

1. Be sure that the dual float assembly is clean and free of scale build-up.
2. Be sure that the stainless steel balls on the float assembly move up and down freely.

In addition to checking the float operation, perform the following—

System Checks:

1. All drain valves are fully closed.
2. Incoming water supply Flow Pressure is 20-22 psi [138-151 kPa].
3. Fuses in control cabinet are good (Electric Heat Only).
4. Tank Heat thermostats and/or High limit thermostats operate correctly.
5. Booster Heat thermostats and/or High limit thermostats operate correctly.



Dual Float Troubleshooting Diagrams:

Electric Booster Heater — Element Installation

Refer to Fig. 8 and Fig. 9

Champion built-in boosters are constructed of stainless steel and have locations for three electric booster heater elements.

1. The two booster configurations for rack conveyor models are:

Single tank - 40°F/22°C rise booster
 Two tank - 70°F/39°C rise booster

The total Kw rating of the booster assembly is determined by the model number of the machine and the minimum temperature of the incoming water supply.

2. **The highest rated Kw element should always be installed in the bottom right corner location of booster canister No. 1.**

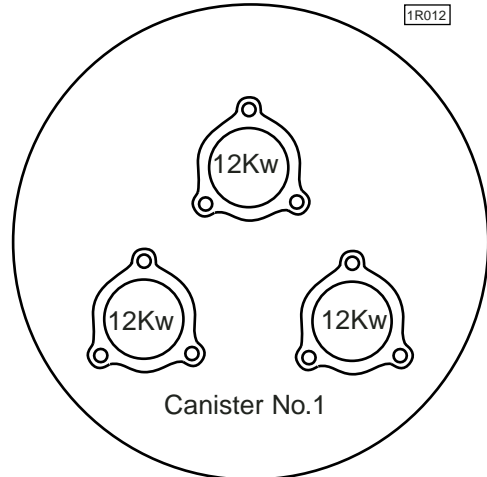


Figure 8
Front View
 Typical 40°F/22°C Rise Booster
 One Tank – Total 36Kw Shown

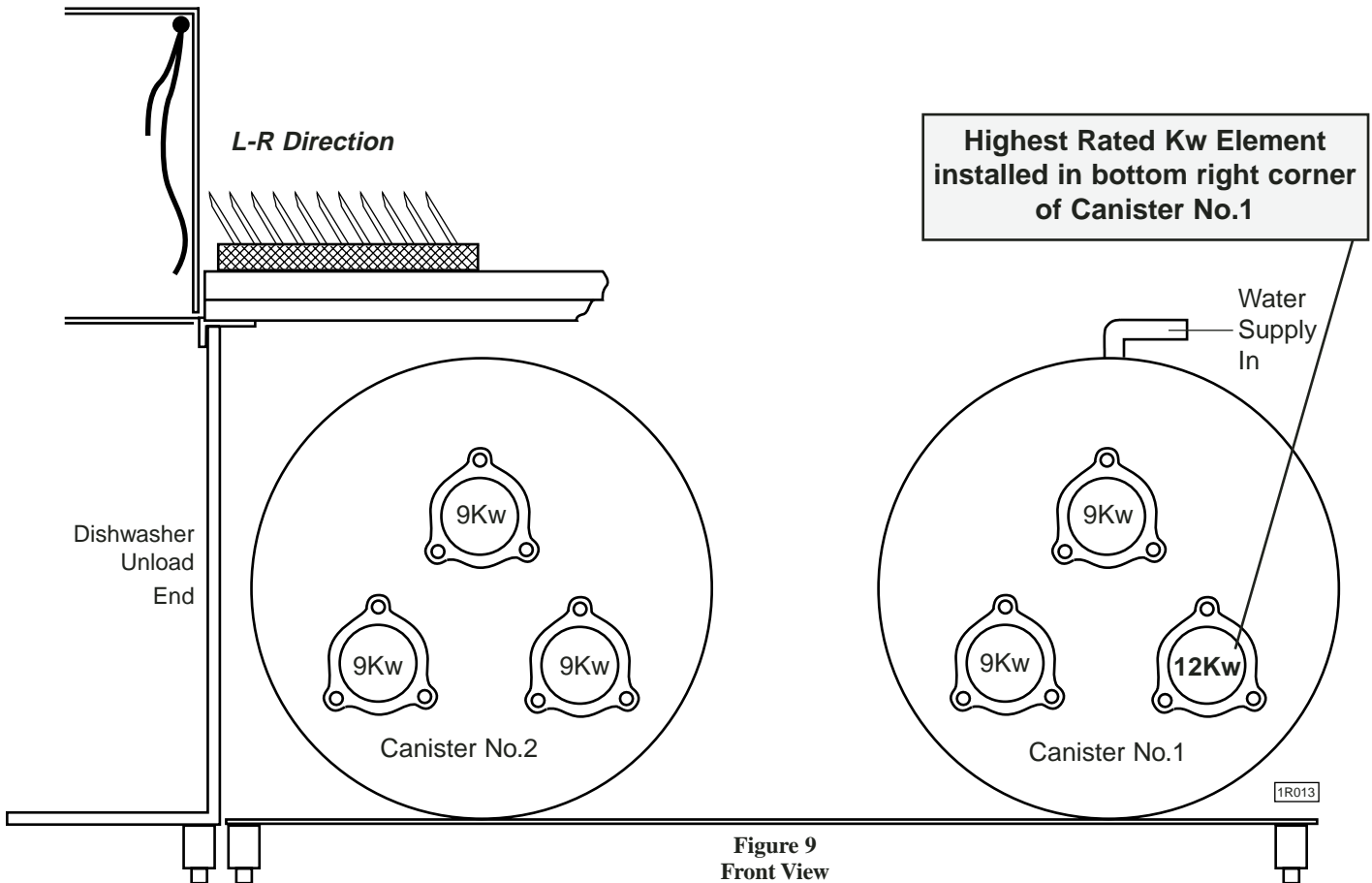


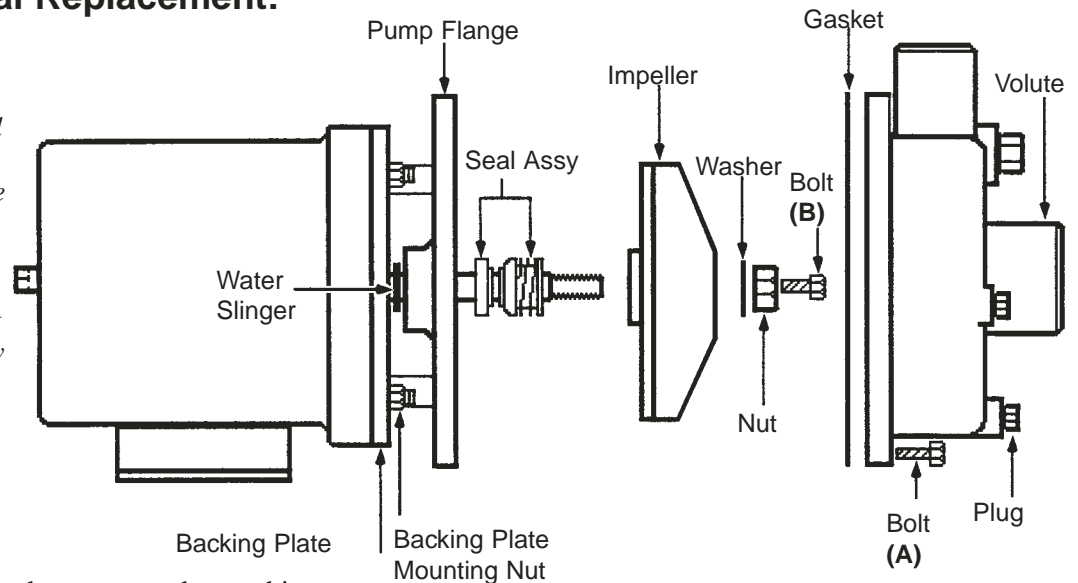
Figure 9
Front View
 Typical 70°F/39°C Rise Booster
 Two-Tank – Total 57Kw Shown

MECHANICAL SERVICE

Pump Seal Replacement:

WARNING:

Disconnect all power to the machine at the main power source and place a tag at the disconnect switch to show that work is being done on the circuit.



1. Disconnect the power to the machine.
2. Drain the machine. Remove the plug from the lowest point on the pump volute and drain the pump.
3. Remove the pump hoses.
4. Disconnect the wires to the motor at the motor junction box.
5. Unbolt the motor from the base of the machine and remove the motor and pump.
6. Remove all the bolts (A) on the volute and carefully remove the volute from the pump flange.
7. Lock the motor shaft holding the square end of the rear shaft with a wrench or vise grips.
8. Remove the impeller retaining bolt (B). Remove the large retaining nut and washer.
9. Remove the impeller using a strap wrench. Turn it counterclockwise. **Do not strike the impeller with a hammer to loosen or remove it.**
10. Check the impeller counterbore for shim washers. Be sure to reinstall. Not all impellers have shims.
11. Remove the old seal and discard. Check the seal seat in the pump flange and clean thoroughly.
12. Clean the seating surface on the motor shaft with #600 emery paper or crocus cloth.
13. Check the water slinger and replace if worn or missing. Remove the (4) backing plate mtg. nuts to gain access to the slinger.
14. Press the rubber seal and ceramic into the pump flange. Use a water soluble lubricant. Keep the ceramic clean.
15. Install the rotating part of the seal on the shaft with the graphite surface toward the ceramic. Use a water soluble lubricant.
16. Reinstall the impeller, washer, lock-nut, and bolt. Install a new flange gasket. Bolt the volute to the flange.
17. Reinstall the pump and motor assembly on the base of the machine and reconnect the pump hoses.
18. Reconnect the power and fill the tank with water. Check for leaks.
19. Bump start the pump to check the motor for correct rotation.
20. Proper shaft rotation is clockwise looking at the rear of the motor.

MECHANICAL SERVICE (Cont.)

Idle Pump and Rinse-Saver Switch Assemblies

Idle Pump Switch Assembly –

Refer to Fig. 10. The idle pump switch, also called the rack switch is located on the load end of the conveyor track. It is made up of a lever mechanism, a magnet, and a magnetic reed switch. The magnetic switch contacts are closed when the idle pump lever is at rest as pictured in figure 10. When a rack is placed into the machine, it contacts the idle pump lever. The magnet swings away from the magnetic switch. The closed contacts of the switch open and power is removed from control relay 1CR. The normally closed contacts, (1, 9) of 1CR, close and apply 120VAC to the PUMP TIMER RESET COIL. The timer resets and the wash pump(s) start. When the rack moves past the idle pump lever, the magnet returns to its resting state. The magnetic switch contacts close. Power is re-applied to 1CR and the 120VAC is removed from the pump timer reset coil. The timer begins to count down. The idle pump switch will reset the timer each time a rack contacts the lever. If only one rack operates the idle pump switch then the timer will time out after its preset time and the pumps will stop.



Figure 10
Idle Pump Switch Assembly

Magnetic Switch and Magnet –

Refer to Fig. 11. The magnetic switches are located on the underside of the tank hood. Studs are welded on the hood and the switches are nuted securely in place. The magnets are mounted on the ends of the idle pump and rinse-saver levers by screws and nuts. The magnets are enclosed in stainless steel housings.

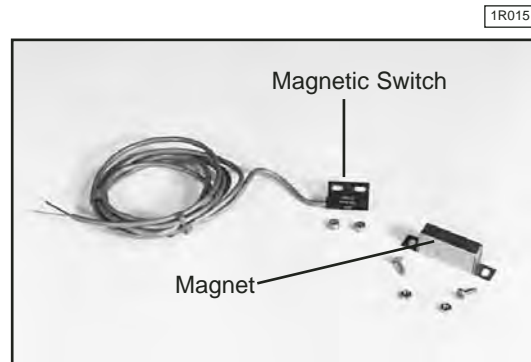


Figure 11
Magnetic Switch and Magnet

Rinse-Saver Switch Assembly –

Refer to Fig. 12. The rinse-saver switch assembly, also called the final rinse switch, is located on the unload end of the conveyor track. It is made up of a lever assembly, magnetic switch, and magnet. The contacts of the magnetic switch are closed when the magnet is in the rest position as pictured in figure 12. The operation of the final rinse is controlled by the rinse-saver switch. When a rack contacts the lever of the switch assembly, the magnet moves away from the magnetic switch. The contacts of the switch open and power is removed from control relay 2CR. The normally closed contacts (12, 4) of 2CR close. 120VAC power is applied to the final rinse water solenoid valve. 180°F/82°C final rinse water is supplied to sanitize the dishes. Power will continue to be applied to the solenoid valve as long as a rack operates the rinse-saver assembly. When the rack moves past the lever, the magnet returns to its rest position. The magnetic switch closes and the final rinse turns off.



Figure 12
Rinse-Saver Switch Mechanism

Conveyor Drive Assembly

Refer to Fig. 14. The conveyor drive assembly is made up of a crank assembly, a clutch assembly, gear reducer, and 1/4 HP motor.

Crank Assembly –

Refer to Fig. 13. The crank assembly mounts inside the dishwasher hood and is made up of a crank, adjustable stud, and cross-head roller. The roller engages the conveyor cradle assembly. The crank assembly rotates in a counter-clockwise direction. The crosshead roller should be adjusted so that it is flush with the bottom of the cradle assembly crosshead.

Clutch Assembly –

Refer to Fig. 14. The clutch assembly is made up of the clutch discs, a clutch shaft, bearing, bearing housing, and seal assembly. The clutch assembly couples the output shaft of the gear reducer to the crank assembly.

Clutch Adjustment –

The clutch assembly is torqued at the factory to 12 ft/lbs. This allows the clutch to slip if the conveyor cradle assembly jams.

Refer to Fig. 17.

To adjust the clutch:

1. Loosen the two set screws in the clutch adjusting nut.
2. Tighten the adjusting nut only enough so that the clutch assembly will slip when a person of moderate build (about 180lbs./82 kg) exerts force against the conveyor cradle assembly.
3. It is extremely important that the clutch assembly slips if the conveyor cradle jams; so be careful not to overtighten the clutch adjusting nut.
4. Tighten the set screws in the adjusting nut and recheck the conveyor cradle assembly.

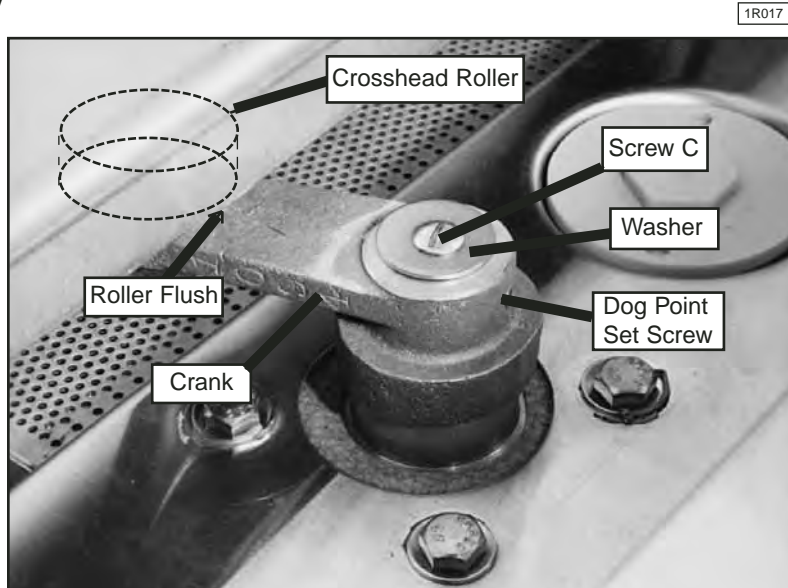


Figure 13 – Crank Assembly

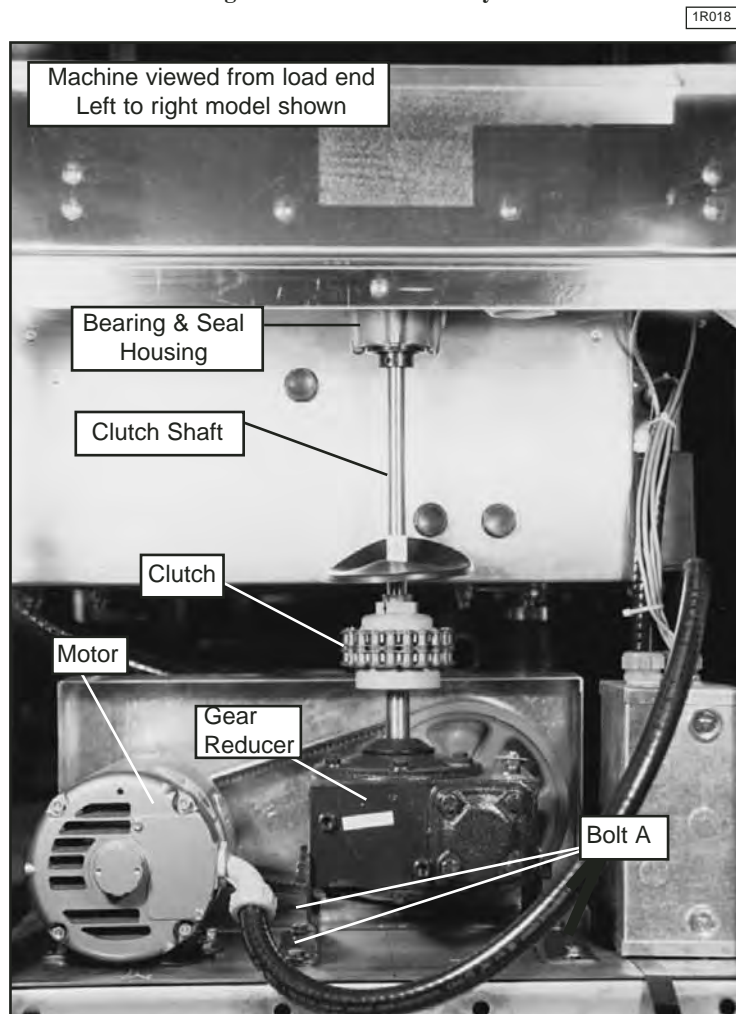


Figure 14 – Conveyor Drive Assembly

Drive Clutch Replacement –

- Turn off all power to the machine and remove the load end curtain.

Refer to Fig. 15.

1. Remove (Screw A), the 10-32 x 3/8" flat head bracket retaining screw located slightly forward of the idle pump switch assembly.
2. Remove (Screw B), quantity (4), 1/4-20 X 1/2" truss head track mounting screws on the load end of the machine.
3. Lift the cradle and track assembly so that it clears the crosshead roller.

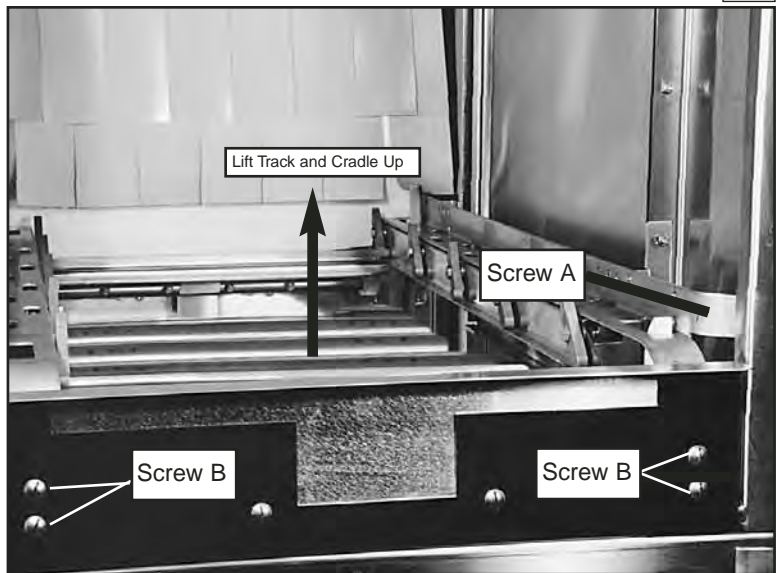


Figure 15
View of Load End of Machine

Refer to Fig. 13.

4. Remove (Screw C), a 10-32 x 3/8" truss head screw and washer from the crank assembly.
5. Loosen the crank dog-point retaining set screw and remove the crank assembly from the clutch shaft.
6. Remove the lower front and side panels to access the clutch and gear reducer.

Refer to Fig. 16.

7. Remove (Screw D), quantity (4), 1/4-20 x 3/8" round head screws that hold the bearing and shaft seal in the bearing housing.
8. Loosen (Screw E), quantity (2), bearing set screws and slide the bearing and seal assembly down the clutch shaft.

Refer to Fig. 17.

9. Loosen (Screw F), quantity (2), clutch set screws on the bottom of clutch assembly. Slide the clutch assembly up until it clears the output shaft of the gear reducer.

Refer to Fig. 14.

10. Remove the V-belt from the motor and gear reducer pulleys.
11. Remove (Bolt A), quantity (4), 5/16-18 x 3/4" hex head bolts holding the gear reducer to the machine base. Slide the gear reducer out.
12. Remove the clutch assembly by pulling the clutch and clutch shaft down and out of the bearing housing.
13. Install the new clutch assembly and re-assemble in reverse order.

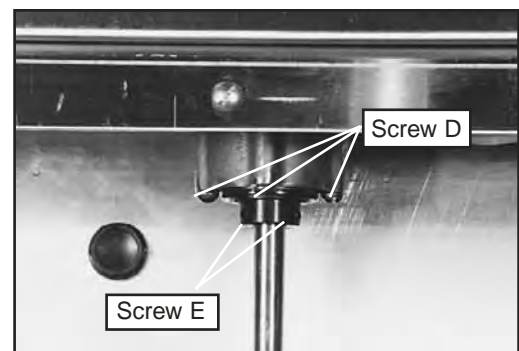


Figure 16
Close-up view of Bearing Housing

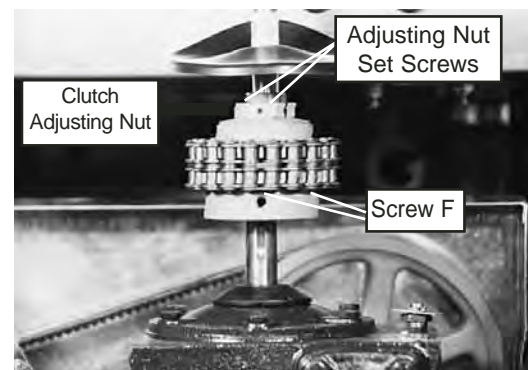


Figure 17
Close-up view of Clutch Assembly

TABLE LIMIT SWITCH INSTALLATION INSTRUCTIONS KIT P/N 407400

I. Introduction

Champion Industries offers a table limit switch as an option to protect the dishwasher conveyor system from jams caused by dishracks backing up at the unload end of the dishtables.

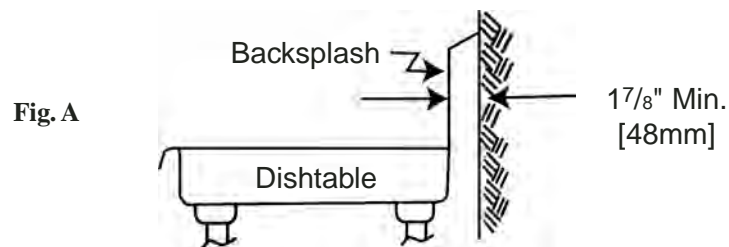
These instructions provide the servicer with a step-by-step method for installing and wiring the table limit switch on a rack conveyor dishwasher.

II. Pre-installation

The minimum clearance necessary to install a table limit switch is 1-7/8" [48mm], measured from the wall to the backside of the dishtable backplash. (See Fig. A)

NOTE:

If you do not have 1-7/8" [48mm] clearance, you will not be able to install the switch assembly.

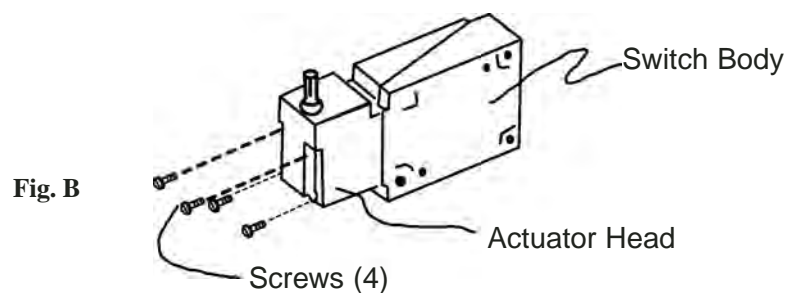


A. Inspect the Installation Kit Be sure that your kit contains:

- | | | | |
|--|--------|---|--------|
| (1) Switch bracket..... | 315339 | (1) Table limit switch assy | 111165 |
| (2) 10-32 x 1/4 truss head screw | 100213 | (1) Switch spring & rod assy | 111166 |
| (2) 10-32 x 1/2 truss head screw | 100097 | (1) Paper template for marking holes .. | 111167 |
| (1) Instruction sheet | 900721 | | |

NOTE:

Refer to Fig. B and note the orientation of the actuator head, 4 screws, and the switch body. If the switch in your kit does not resemble Fig. B, remove the 4 screws holding the actuator head and rotate the head to match the assembly in Fig. B. Re-install the screws.



B. Additional Materials Required for Installation (Supplied by the Installer)

- (*) Ft. of flexible non-metallic liquid tight 1/2" conduit
- (*) Ft. of #14 gauge wire (2 wires & a ground required)
- (3) Ring terminals #6 stud size
- (1) Ring terminal 1/4-20 stud size
- (2) Wire nuts
- (1) Straight 1/2" liquid tight conduit fitting for (R-L)
- (1) 90° Ell 1/2" liquid tight conduit fitting for (R-L)
or
- (2) Straight 1/2" liquid tight conduit fittings for (L-R)
- * As required

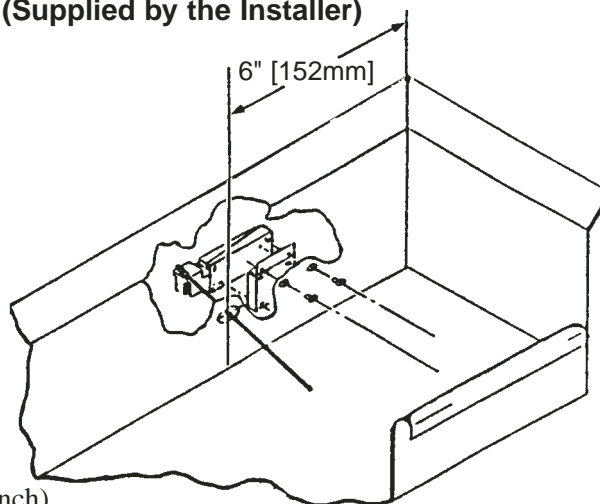


Fig. C
L-R Installation

C. Special Tools Required

- Variable speed drill
- 3/16" drill bit
- 5/16" drill bit (If using a Greenlee® 1/2" conduit punch)
- Hole saw or knock-out punch capable of cutting stainless steel.

NOTE:



Greenlee® makes a knock-out punch for cutting SST. Their 1/2" conduit punch will cut the 7/8" [22mm] hole required for this installation: Greenlee® P/N 28154Punch

P/N 28155Die

P/N 28451Bolt

These parts may be ordered through a local dealer.

III. Installation

A. Cutting and Drilling the Dishtable

- Refer to Fig. C for L-R installation
 - Refer to Fig. D for R-L installation
1. Check the paper template provided in your installation kit.
 2. Note that the template will work for both L-R & R-L operations.
For L-R operation, the 3/16" [5mm] holes are nearest the end of the table. For R-L operation, the 7/8" [22mm] hole is nearest the end of the table.
 3. Using the template measurements, mark and drill the required holes.

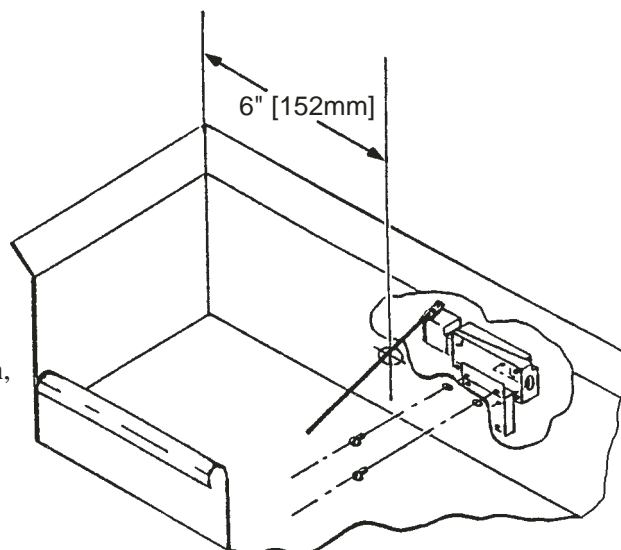


Fig. D
R-L Installation

B. Assemble the Switch and Switch Bracket

- Refer to Fig. C and use the diagram as a guide for assembly.
1. Use (2) 10-32 x 1/4" truss screws to mount the switch bracket to the switch assembly. When properly installed, the switch bracket mounting holes will be above the switch assembly and the shaft of the actuator head will be pointing up.

C. Adjusting the Switch Spring & Rod Assembly

- Refer to Fig. C for L-R installation and Fig. D for R-L installation
- 1. The switch spring and rod assembly pass through the 7/8" [22mm] hole. With the switch in an unoperated state, the rod should be angled towards the discharge end of the dishwasher.
- 2. The rod should touch the edge of the 7/8" [22mm] hole closest to the unload end of the machine. This position will allow the switch rod maximum travel before it contacts the opposite edge of the 7/8" [22mm] hole and will insure that the switch will be operated by the dishrack.
- 3. This is a trial and error adjustment. One suggested method is to hold the switch and rod assembly in position on the outside of the table. Estimate the rod location and lock it down with the 5/32" socket head screw on the end of the rod assembly. Install the switch assembly using the (2) 10-32" x 1/2" truss head screws. Check the switch rod position and adjust as necessary.

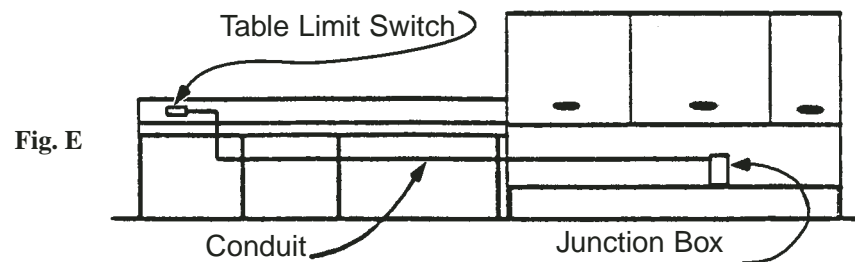
IV. Wiring and Final Mounting of the Table Limit Switch Assembly

Note 1: Wiring should be made in accordance with local electrical codes.

Note 2: Champion recommends a ground wire from the switch to the junction box.

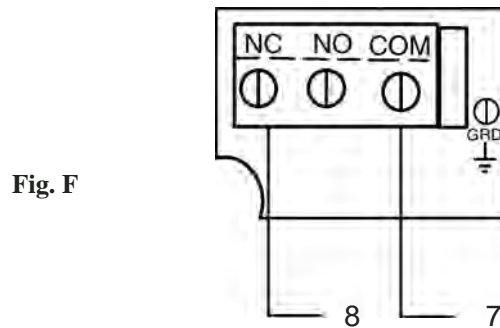
A. Locating and Wiring of Junction Box

1. Remove the front lower panel of the dishwasher. The junction box is located near the center of the lower frame. (See Fig. E)



2. Open the junction box and locate two wires marked 7 and 8. the wires are wire-nutted together.
3. Use one of the vacant knock-outs on the junction box and connect a conduit fitting.
4. Measure and cut the conduit and route the #14 gauge wires through conduit and into the junction box.
5. Crimp the 1/4" ring terminal to the ground wire. Locate a 1/4-20 bolt that holds the junction box to the frame of the dishwasher. Remove the nut and put the ground wire on this bolt. Replace the nut and tighten securely.
6. Designate one of the conduit wires as 7 and connect it to wire 7 in the junction box. Designate the remaining conduit wire as 8 and connect it to wire 8 in the junction box. Close the junction box and replace the front panel on the dishwasher.

7. Connect the proper conduit fitting to the table limit switch. Route the #14 gauge wires to the switch and refer to Fig. F for the proper terminal designations.



8. Connect conduit wire 7 to the COM (Common) terminal of the switch terminal block. Connect conduit wire 8 to the NC (Normally Closed) terminal of the switch terminal block. Connect the conduit ground wire to the ground screw in the switch assembly.
9. Close the switch cover.
Apply a thread locking compound to the threads of the 10-32 x 1/2" screws.
Mount the switch assembly to the dishtable.

V. Testing Table Limit Switch Operation

1. Start the dishwasher and load enough racks to activate the limit switch while the conveyor and pumps are running.
2. Observe the dishrack as it contacts the switch rod assembly. The dishwasher conveyor should stop before the rod reaches the end of its travel.
If it does not: Re-adjust the switch rod position in the 7/8" hole to operate earlier or re-check the wiring.
3. Check the dishwasher for correct operation.

REPLACEMENT PARTS

1R022

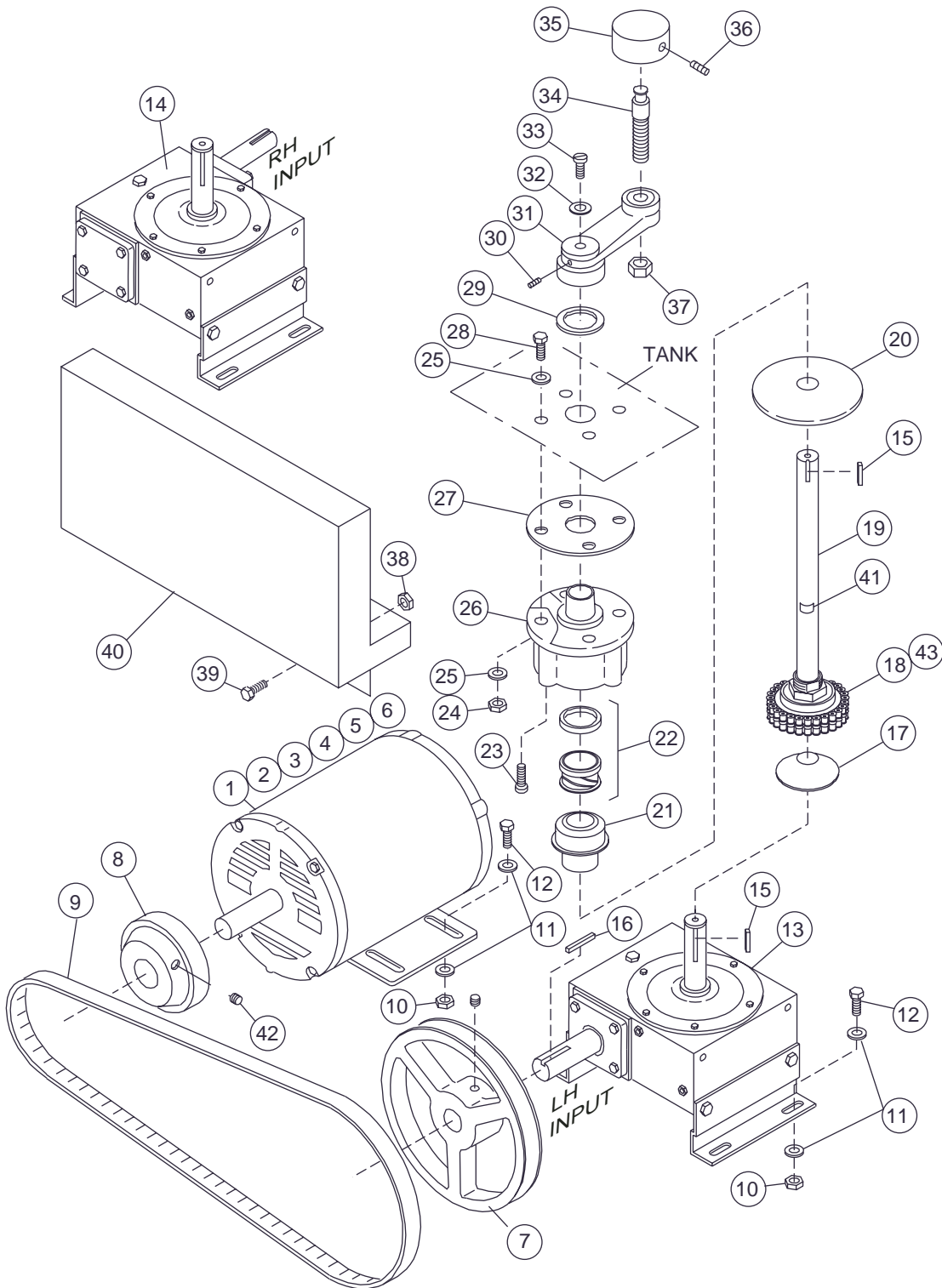


Figure 18 – Conveyor Drive Assembly

CONVEYOR DRIVE ASSEMBLY

Fig. 18 Item No.	Part No.	Part Description	Qty.
1	100249	Motor, 1/4-HP Drive (115/208-230V-60Hz 1Ph)	1
2	107181	Motor, 1/4-HP Drive (208-240-480V-60Hz 3Ph)	1
3	180225	Motor, 1/4-HP Drive (380V-50Hz 3Ph)	1
4	180274	Motor, 1/4-HP Drive (380V-60Hz 3Ph)	1
5	180145	Motor, 1/4-HP Drive (415V-60Hz 3Ph)	1
6	180240	Motor, 1/4-HP Drive (575V-60Hz 3Ph)	1
7	100453	Sheave (AK54) 3/4" Bore	1
8	100446	Sheave (AK30) 1/2" Bore	1
9	100797	Belt - 4L340 (64KB, 64KPRB)	1
9	100794	Belt - 4L310 (40 & 60KB & KPRB)	1
10	100142	Nut, grip (5/16-18)	1
11	102376	Washer, flat (5/16")	1
12	100739	Bolt (5/16-18 x 3/4") Hex hd	1
13	110300	Box, gear (L-R)	1
14	110299	Box, gear (R-L)	1
15	104916	Key (3/16" x 3/16" x 3/4")	2
16	104915	Key (3/16" x 3/16" x 1 1/4")	1
17	100870	Slinger, water	1
18	109661	Limitter, torque (Includes item 47).....	1
19	202675	Shaft, drive.....	1
20	109374	Shield, drip.....	1
21	100382	Bearing.....	1
22	102244	Seal (5/8") (2-Piece)	1
23	104923	Screw (1/4-20 x 3/8") Round hd	4
24	100143	Nut, grip (3/8-16)	4
25	104618	Washer, flat (3/8")	8
26	B1074-1	Housing, bearing	1
27	108820	Gasket, bearing housing	1
28	100153	Bolt (3/8-16 x 1") Hex hd	4
29	103180	Ring, wiper	1
30	100771	Screw, set (1/4-20 x 1/4") Socket hd	1
31	202386	Crank	1
32	104925	Washer, flat (1/4" x 1" O.D.)	1
33	100007	Screw (10-32 X 3/8") Truss hd	1
34	100868	Stud, crosshead roller.....	4
35	202381	Roller, crosshead	4
36	100769	Screw, set (3/8-16 x 3/4") Dog Point.....	8
37	107089	Nut, jam (1/2-13).....	1
38	100141	Nut, grip (1/4-20)	1
39	100734	Bolt (1/4-20 x 1/2") Hex hd	4
40	313360	Guard, belt	1
41	110990	Label - Rotation.....	1
42	N/A	Screw, set (5/16-18 x 3/8") Dog Point.....	1
43	105263	Set, clutch pad (1 pair for #250 clutch).....	1
—	900146	Clutch assy (Includes items 15, 18-20, 41).....	—

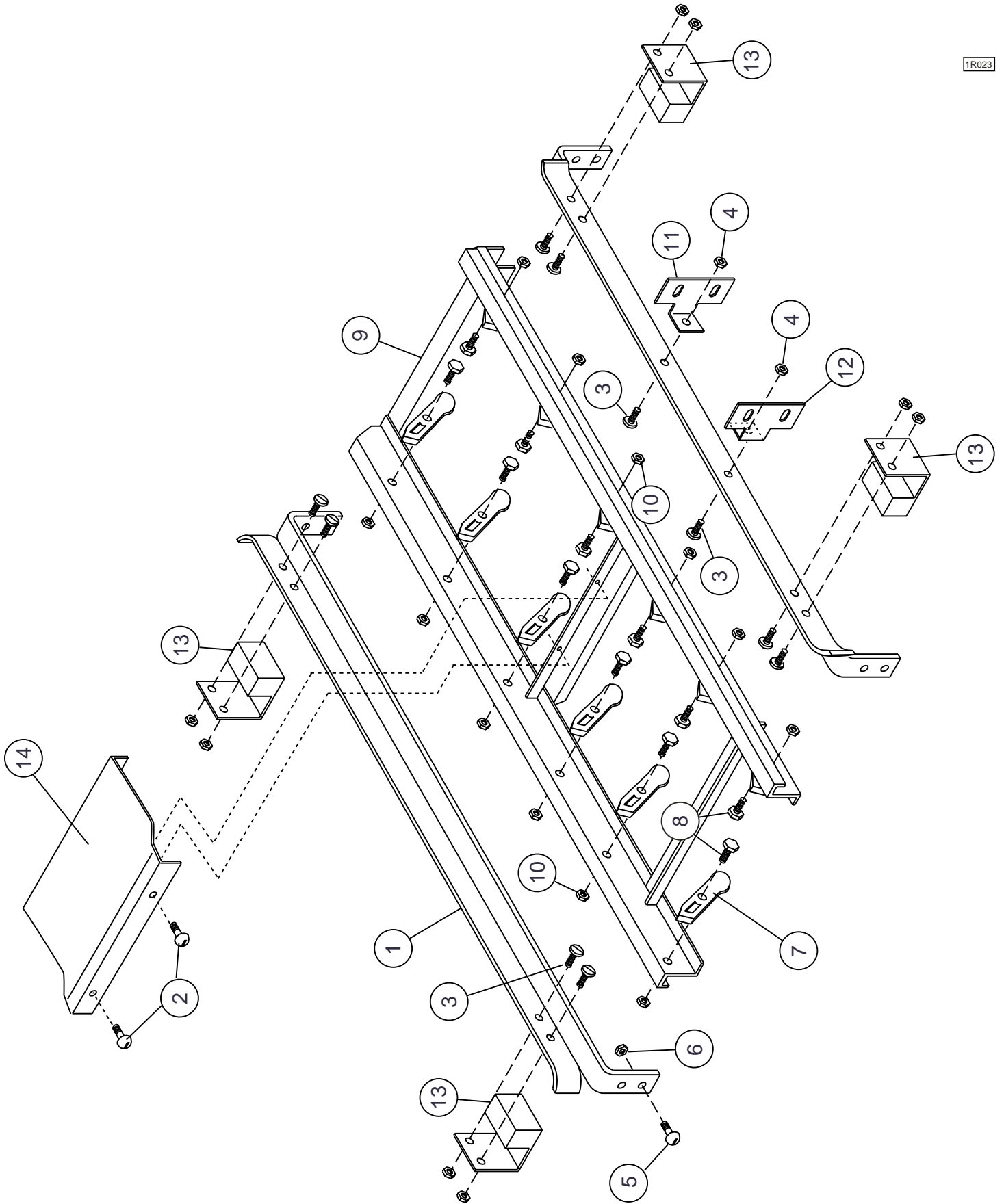


Figure 19 – Track and Cradle Assembly (64KB)

TRACK AND CRADLE ASSEMBLY

Fig.19 Item No.	Part No.	Part Description	Qty.
1	312106	Track	2
2	100007	Screw (10-32 x 3/8") Truss hd.....	2
3	111296	Screw (10-32 x 3/8") Flat hd	10
4	100194	Nut, grip (10-32)	10
5	100073	Screw (1/4-20 x 1/2") Truss hd	12
6	100141	Nut, grip (1/4-20)	12
7	204513	Pawl.....	12
8	110857	Shoulder bolt	12
9	316901	Cradle (64KB)	1
9	316902	Cradle Weldment (40KB)	1
9	316903	Cradle Weldment (60KB)	1
10	100142	Nut, grip (5/16-18)	10
11	315278	Support – Front (RH)	1
12	315279	Support – Front (LH).....	1
13	408092	Slide Assy, Cradle	6
14	316214	Divertor, Cradle	1
—	408140	Cradle Assy. (64KB)(includes items 6-9)	1
—	408141	Cradle Assy. (40KB)(includes items 6-9)	1
—	408142	Cradle Assy. (60KB)(includes items 6-9)	1

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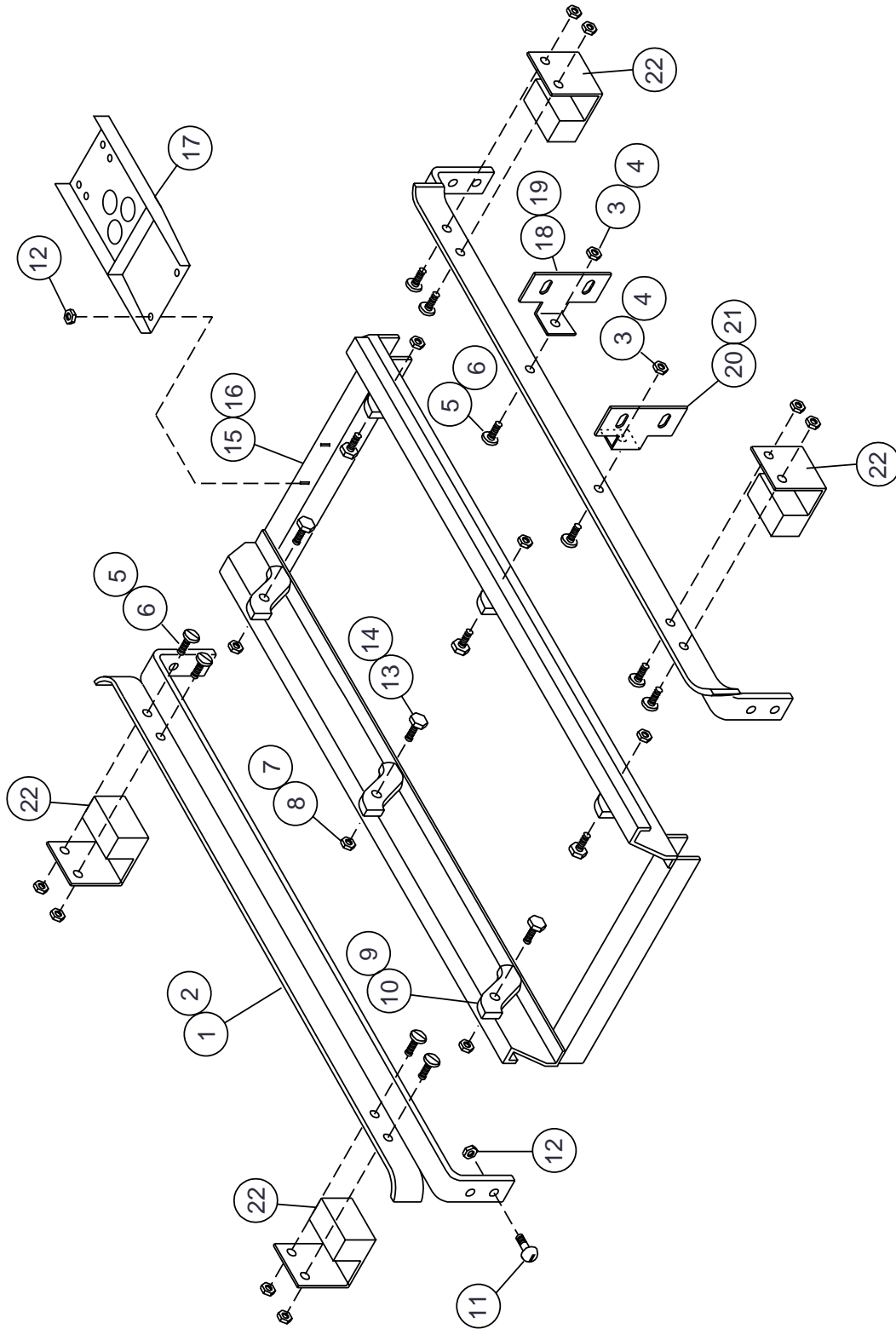


Figure 20 – Track and Cradle Assembly – PR22, PR36
(PR36 Shown)

TRACK AND CRADLE ASSEMBLY (PR22, PR36)*(All S/N's) (PR36 Shown)*

Fig. 20 Item No.	Part No.	Part Description	Qty.
1	311651	Track (PR22)	2
2	313117	Track (PR36)	2
3	100194	Nut, grip (10-32) (PR22)	9
4	100194	Nut, grip (10-32) (PR36)	10
5	111296	Screw (10-32 x 3/8") Flat hd (PR22)	9
6	111296	Screw (10-32 x 3/8") Flat hd (PR36)	10
7	100142	Nut, grip (5/16-18) (PR22)	4
8	100142	Nut, grip (5/16-18) (PR36)	6
9	204513	Pawl (PR22)	4
10	204513	Pawl (PR36)	6
11	100073	Screw (1/4-20 x 1/2") Truss hd	8
12	100141	Nut, grip (1/4-20)	6
13	110857	Shoulder bolt (PR22)	8
14	110857	Shoulder bolt (PR36)	10
15	312955	Cradle (PR22)	8
16	312954	Cradle (PR36)	1
17	313357	Cradle connector	1
18	315278	Support, Front RH (PR22 R-L)	1
19	315278	Support, Front RH (PR36).....	1
20	315279	Support, Front LH (PR22 L-R)	1
21	315279	Support, Front LH (PR36).....	1
22	408092	Slide Assy, cradle.....	4
—	405925	Cradle Assy (PR22) (includes items 7, 9, 13, 15).....	1
—	405926	Cradle Assy (PR36) (includes items 8, 10, 14, 16).....	1

1R027

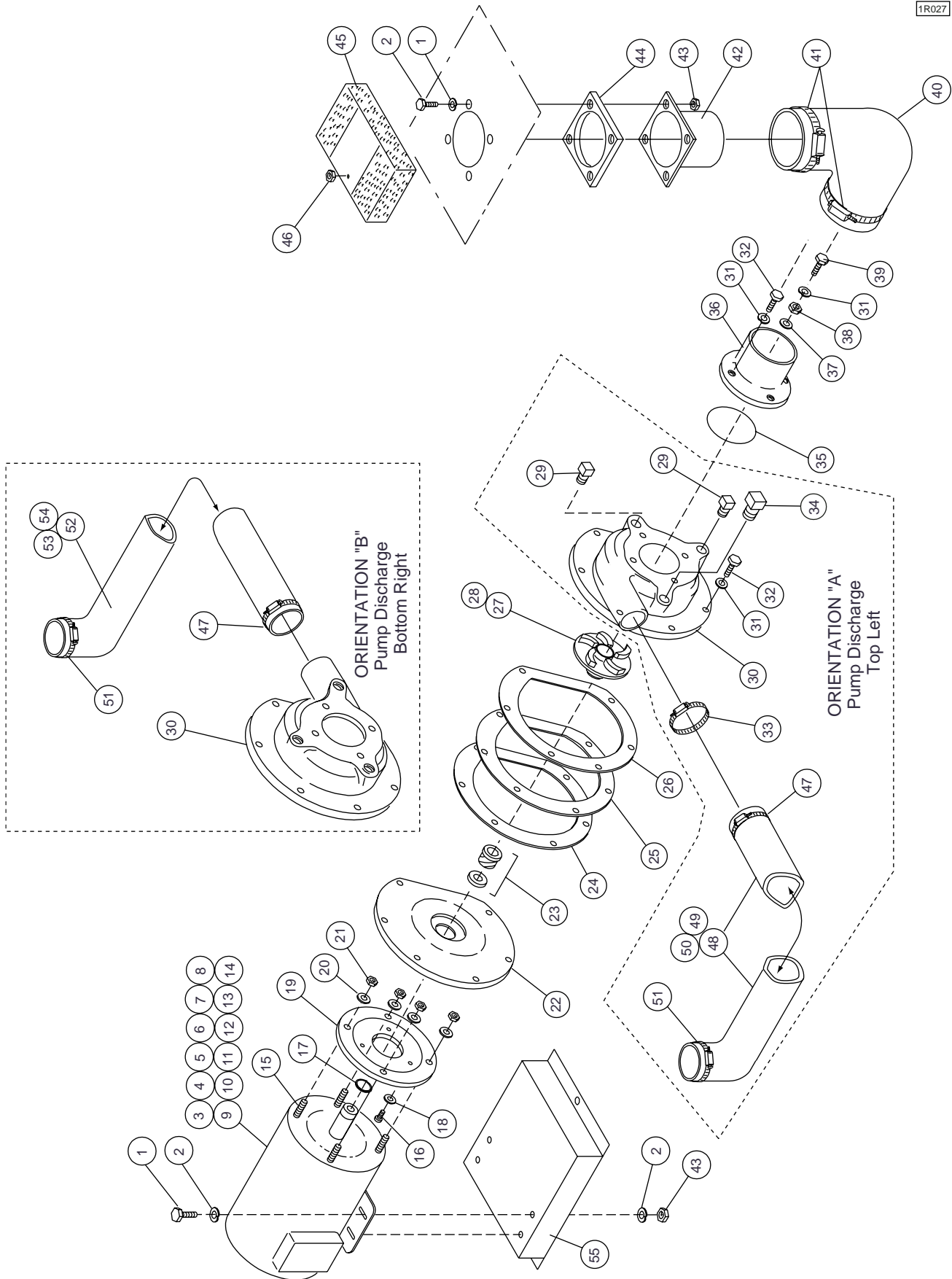


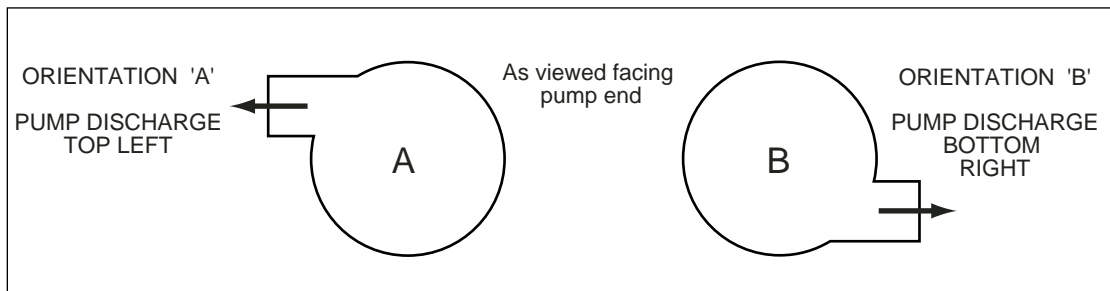
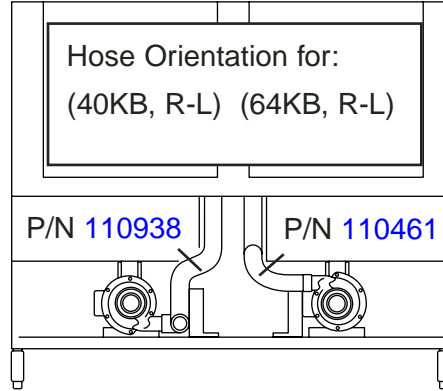
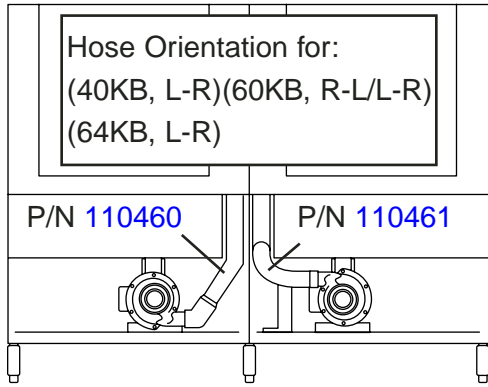
Figure 21 – Motor and Pump Assembly
(Wash, Power Rinse, Prewash)

MOTOR AND PUMP ASSEMBLY
(Wash, Power Rinse, Prewash)

Fig. 21 Item No.	Part No.	Part Description	Qty.
—	<i>Replacement kits are available to rebuild existing pump assemblies.</i>		
	Pump Replacement Kits		
—	900737	Kit, gasket (Includes Qty. 1 each of Item 24-26) (Order Qty. 2)	2
—	900738	Kit, Flange/Volute Replacement (Pump seal not included) (Includes items 22, 24-26, 29-39)	1
—	900739	Kit, Pump Assy, 1-HP (Motor not included) (Includes items 19, 22-26, 27, 29-39)	1
—	900740	Kit, Pump Assy, 2-HP (Motor not included) (Includes items 19, 22-26, 28, 29-39)	1
1	100739	Bolt (5/16-18 X 3/4) Hex hd	8
2	102376	Washer, flat (5/16")	12
3	110421	Motor, 2-HP (208-240V/60Hz/1Ph).....	1
4	110422	Motor, 2-HP (208-240V/460V/60Hz/3Ph).....	1
5	112221	Motor, 2-HP (380V/50Hz/3Ph)	1
6	180273	Motor, 2-HP (380V/60Hz/3Ph)	1
7	180246	Motor, 2-HP (415V/50Hz/3Ph)	1
8	111740	Motor, 2-HP (575V/60Hz/3Ph)	1
9	110419	Motor, 1-HP (115V/208-240V/60Hz/1Ph).....	1
10	110420	Motor, 1-HP (208-240V/460V/60Hz/3Ph).....	1
11	180245	Motor, 1-HP (380V/50Hz/3Ph)	1
12	180272	Motor, 1-HP (380V/60Hz/3Ph)	1
13	180237	Motor, 1-HP (415V/50Hz/3Ph)	1
14	111739	Motor, 1-HP (575V/60Hz/3Ph)	1
15	110734	Stud, motor	4
16	100754	Screw (10-32 X 1/2") Flat hd.....	3
17	109654	Slinger, water	1
18	110270	Washer, star (countersunk)	3
19	204460	Plate, backing	1
20	106407	Washer, lock (3/8") Split	4
21	107690	Nut, jam (3/8-16)	4
22	111681	Flange, pump	1
23	111111	Seal, mechanical (5/8")	1
24	111941	Gasket (.0085") (1 notch).....	1
25	111942	Gasket (.015") (2 notches)	1
26	111943	Gasket (.032") (3 notches)	2
27	113118	Impeller, SST (1 HP) (2.875") (PR22, PR36).....	1
28	113119	Impeller, SST (2 HP) (3.5") (Wash, Rinse)	1
29	102500	Plug (1/4" NPT) Brass	2
30	112380	Volute, pump	2
31	106482	Washer, lock (1/4").....	4
32	100736	Bolt (1/4-20 X 3/4") Hex hd	10
33	111964	Clamp, discharge pump hose	1
34	102504	Plug (1/2" NPT) Brass	1
35	112338	O-ring	2
36	112379	Flange, suction	1
37	110248	Washer, flat	1
38	110247	Nut, jam (7/16-20) Hex	1
39	100734	Bolt (1/4-20 X 1/2") Hex hd	1
40	109562	Hose, intake	1
41	104203	Clamp, hose (M52).....	2
42	307995	Flange, intake	1
43	100142	Nut, grip (5/16-18).....	8
44	109568	Gasket, flange intake	1
45	322550	Strainer, pump intake	1
46	107967	Nut, grip (1/4-20) w/nylon insert.....	1
47	110858	Clamp, discharge hose	1

MOTOR/PUMP ASSEMBLY (Cont.)
(Wash, Power Rinse, Prewash)

Fig. 21 Item No.	Part No.	Part Description	Qty.
48	109578	Hose, discharge (<i>Orientation A</i>)..... (For R-L direction FFPR26) (For R-L & L-R direction PR36 units)	1
49	110459	Hose, discharge (<i>Orientation A</i>)..... (For R-L & L-R direction PR22 units)	1
50	110461	Hose, discharge (<i>Orientation A</i>)..... (For 40KB wash R-L direction), (For 40KB power rinse L-R direction) (For 60KB wash R-L direction), (For 60KB power rinse L-R direction) (For 64KB wash R-L direction), (For 64KB power rinse L-R direction)	1
51	104165	Clamp, hose (M40).....	1
52	110457	Hose, discharge (<i>Orientation B</i>) (For L-R direction FFPR26)	1
53	110938	Hose, discharge (<i>Orientation B</i>)..... (For 40KB power rinse R-L direction), (For 64KB power rinse R-L direction)	1
54	110460	Hose, discharge (<i>Orientation B</i>)..... (For 40KB wash L-R direction) (For 60KB power rinse R-L direction) (For 60KB wash L-R direction) (For 64KB wash L-R direction)	1
55	312645	Base, motor mount	1



MOTOR AND PUMP ASSEMBLY (Cont.)
(Wash, Power Rinse, Prewash)

Fig. 21 Item No.	Part No.	Part Description	Qty.
Pump Assemblies – ORIENTATION “A”			
—	451524	Pump Assy. IHP, 208-240V/60Hz/1PH (Includes items 1-2, 9, 15-26, 27, 29-32, 34-39)	1
—	451523	Pump Assy. IHP, 208-240V/460v/60Hz/3PH (Includes items 1-2, 10, 15-26, 27, 29-32, 34-39)	1
—	451637	Pump Assy. IHP, 575V/60Hz/3PH (Includes items 1-2, 14, 15-26, 27, 29-32, 34-39)	1
—	451668	Pump Assy. IHP, 380V/50Hz/3PH (Includes items 1-2, 11, 15-26, 27, 29-32, 34-39)	1
—	451674	Pump Assy. IHP, 380V/60Hz/3PH (Includes items 1-2, 12, 15-26, 27, 29-32, 34-39)	1
—	451670	Pump Assy. IHP, 415V/50Hz/3PH (Includes items 1-2, 13, 15-26, 27, 29-32, 34-39)	1
—	451526	Pump Assy. 2HP, 208-240V/60Hz/1PH (Includes items 1-2, 3, 15-26, 28, 29-32, 34-39)	1
—	451525	Pump Assy. 2HP, 208-240V/460V/60Hz/3PH (Includes items 1-2, 4, 15-26, 28, 29-32, 34-39)	1
—	451656	Pump Assy. 2HP, 380V/50Hz/3PH (Includes items 1-2, 5, 15-26, 28, 29-32, 34-39)	1
—	451685	Pump Assy. 2HP, 380V/60Hz/3PH (Includes items 1-2, 6, 15-26, 28, 29-32, 34-39)	1
—	451647	Pump Assy. 2HP, 415V/50Hz/3PH (Includes items 1-2, 7, 15-26, 28, 29-32, 34-39)	1
—	451639	Pump Assy. 2HP, 575V-60Hz-3PH (Includes items 1-2, 8, 15-26, 28, 29-32, 34-39)	1
Pump Assemblies – ORIENTATION “B”			
—	451361	Pump Assy. IHP, 208-240V/60Hz/1PH (Includes items 1-2, 9, 15-26, 27, 29-32, 34-39)	1
—	451615	Pump Assy. IHP, 208-240V/460V/60Hz/3PH (Includes items 1-2, 10, 15-26, 27, 29-32, 34-39)	1
—	452383	Pump Assy. IHP, 575V/60Hz/3PH (Includes items 1-2, 14, 15-26, 27, 29-32, 34-39)	1
—	451363	Pump Assy. 2HP, 208-240V/60Hz/1PH (Includes items 1-2, 3, 15-26, 28, 29-32, 34-39)	1
—	451362	Pump Assy. 2HP, 208-240V/460V/60Hz/3PH (Includes items 1-2, 4, 15-26, 28, 29-32, 34-39)	1
—	451657	Pump Assy. 2HP, 380V/50Hz/3PH (Includes items 1-2, 5, 15-26, 28, 29-32, 34-39)	1
—	451673	Pump Assy. 2HP, 380V/60Hz/3PH (Includes items 1-2, 6, 15-26, 28, 29-32, 34-39)	1
—	451641	Pump Assy. 2HP, 415V/50Hz/3PH (Includes items 1-2, 7, 15-26, 28, 29-32, 34-39)	1
—	451636	Pump Assy. 2HP, 575V/60Hz/3PH (Includes items 1-2, 8, 15-26, 28, 29-32, 34-39)	1

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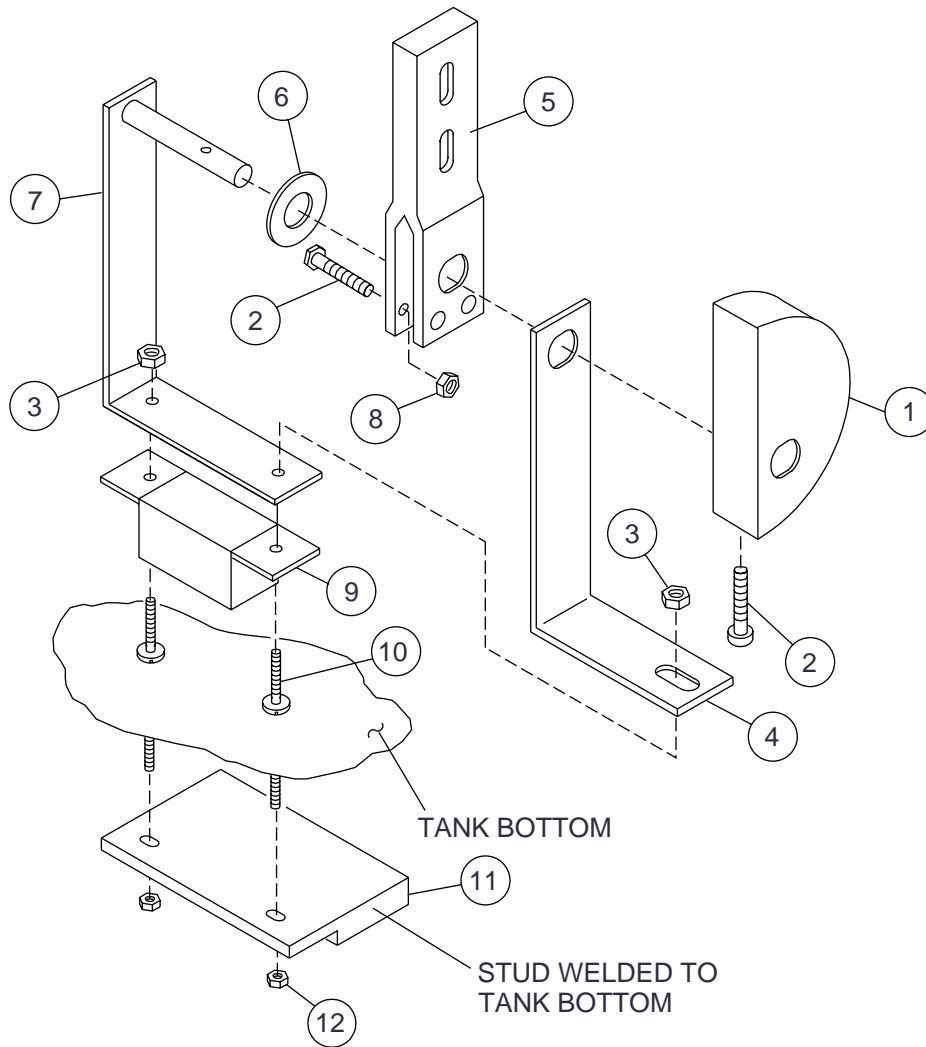


Figure 22 – Idle Pump Mechanism

IDLE PUMP MECHANISM

Fig. 22 Item No.	Part No.	Part Description	Qty.
1	111030	Cam, idle pump	1
2	107137	Bolt (10-32 x 7/8") Hex hd	2
3	104971	Nut, grip (6-32)	2
4	316562	Support bracket, pivot arm	1
5	316565	Support bracket, idle pump	1
6	104618	Washer, flat (3/8")	A/R
7	316560	Pivot arm, idle pump	1
8	100194	Nut, grip (10-32)	1
9	111026	Magnet	1
10	111319	Screw (6-32 x 1/2") Truss hd	2
11	113721	Switch Reed Aleph	1
12	104971	Nut, grip (6-32)	2
—	408221	Idle Pump Mechanism Assy (R-L 64KB, 64KPRB, 60KB, 40KB, PR36) (includes items 1-10)	1
—	408220	Idle Pump Mechanism Assy (L-R PR22, R-L 64KB, 64KPRB, 60KB, 40KB, PR36) (includes items 1-10).....	1

**NOTE:**

For Idle Pump Mechanism on FFPR26, refer to the next page and parts list.

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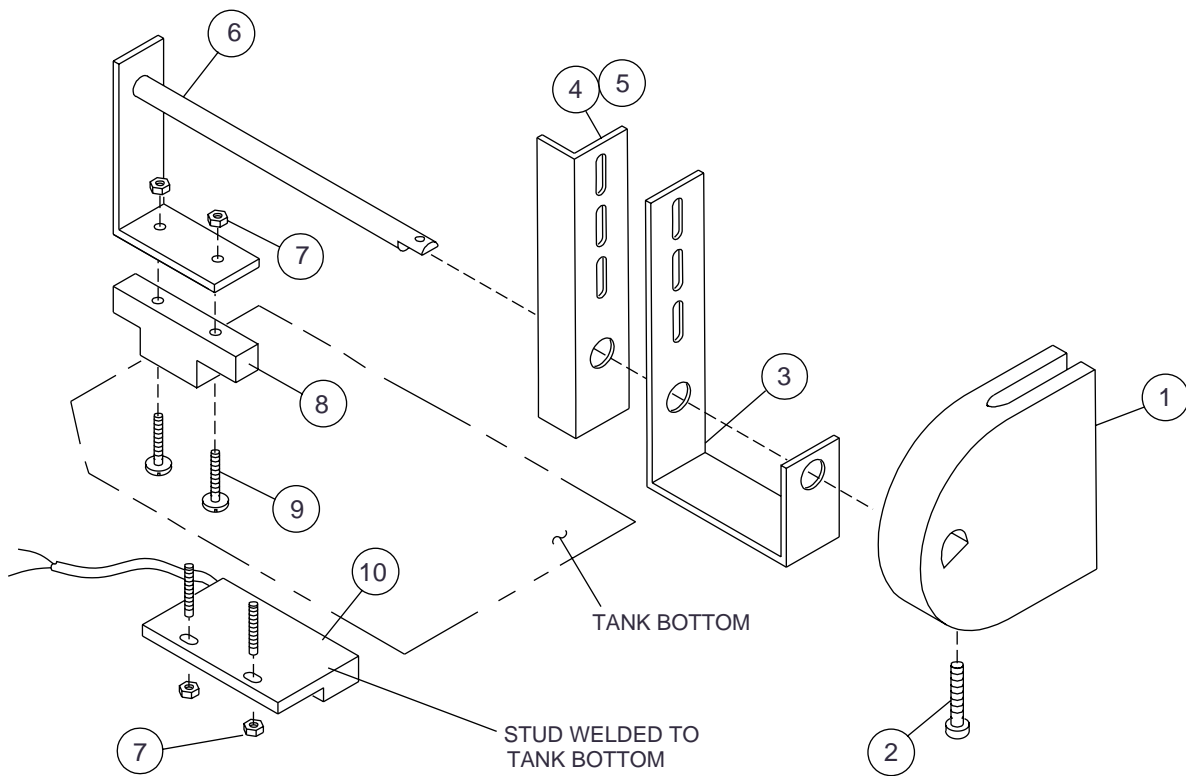


Figure 23 – Idle Pump Switch (FFPR26 Only)
(R-L Shown)

IDLE PUMP SWITCH (FFPR26 Only)
(R-L Shown)

Fig. 23 Item No.	Part No.	Part Description	Qty.
1	111029	Cam	1
2	107137	Bolt (10-32 x 7/8") Hex hd	1
3	314093	Support, pivot arm	1
4	315181	Stiffener, (R-L direction machine only)	1
5	315182	Stiffener, (L-R direction machine only)	1
6	314106	Pivot arm	1
7	104971	Nut, grip (6-32)	4
8	111026	Magnet	1
9	111319	Screw (6-32 x 1/2") Truss hd.....	2
10	113721	Reed Switch Aleph	1

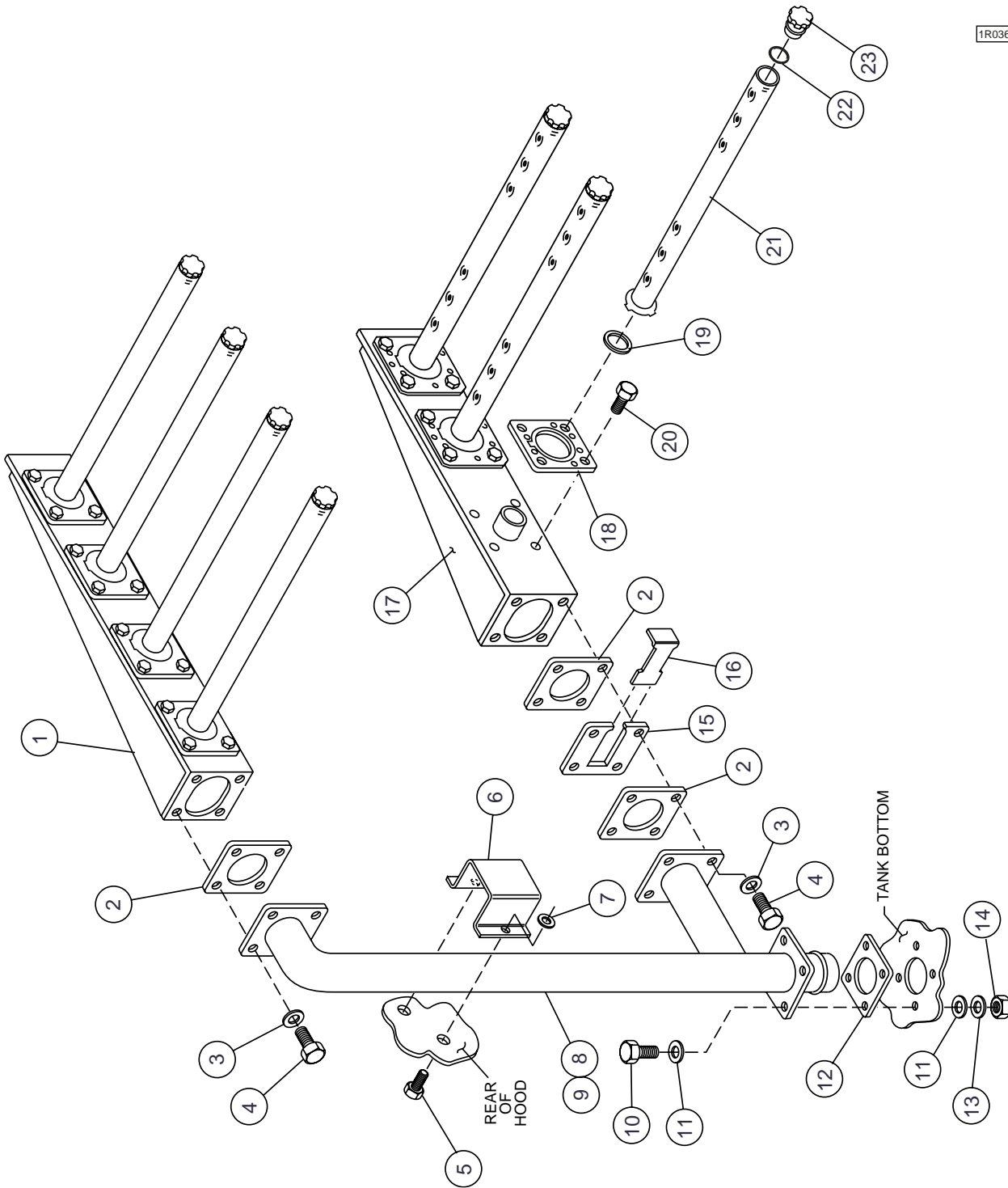


Figure 24 – Wash System Assembly
(Wash Tank and Power Rinse Tank)

WASH SYSTEM ASSEMBLY
(Wash Tank and Power Rinse Tank)

Fig. 24 Item No.	Part No.	Part Description	Qty.
1	410702	Manifold Assy.	1
2	111456	Gasket Manifold	3
3	106482	Washer Lock 1/4" Split	8
4	100736	Bolt 1/4-20 x 3/4 Hex Head	8
5	100073	Screw 1/4-20 x 1/2 Truss Head	2
6	313212	Bracket, Standpipe.....	1
7	100141	Nut Grip 1/4-20 SST	2
8	315640	Standpipe, Weldment (Standard hood wash tank)	1
—	316759	Standpipe, Weldment (Standard hood power rinse tank)	1
9	316884	Standpipe, Weldment (High hood wash tank)	1
—	316883	Standpipe, Weldment (High hood power rinse tank).....	1
10	100740	Bolt 5/16-18 x 1 Hex Head	4
11	102376	Washer 5/16 x 3/4 x 1/16.....	8
12	108345	Gasket 3 x 3 x 1/8"	1
13	106013	Washer Lock 5/16 Split	4
14	100154	Nut Plain 5/16-18	4
15	316772	Plate, Adjustable Restrictor	1
16	316773	Slide, Adjustable Restrictor	1
17	316756	Manifold, Weld 3 Hole	1
18	111454	Locking Plate, Manifold	9
19	111505	O-ring Wash Arm.....	9
20	111478	Bolt 10-32 x 1/2 Hex Head	36
21	321471	Spraypipe Weldment	9
22	104414	O-ring 1 Inch	9
23	112240	Plug Debossed Spraypipe	9
*—	411477	Spraypipe Assy (Includes Items 21-23).....	—

* **Note:** Please consult the factory to order:
P/N 411477 Debossed spraypipe assembly (Items 21-23).

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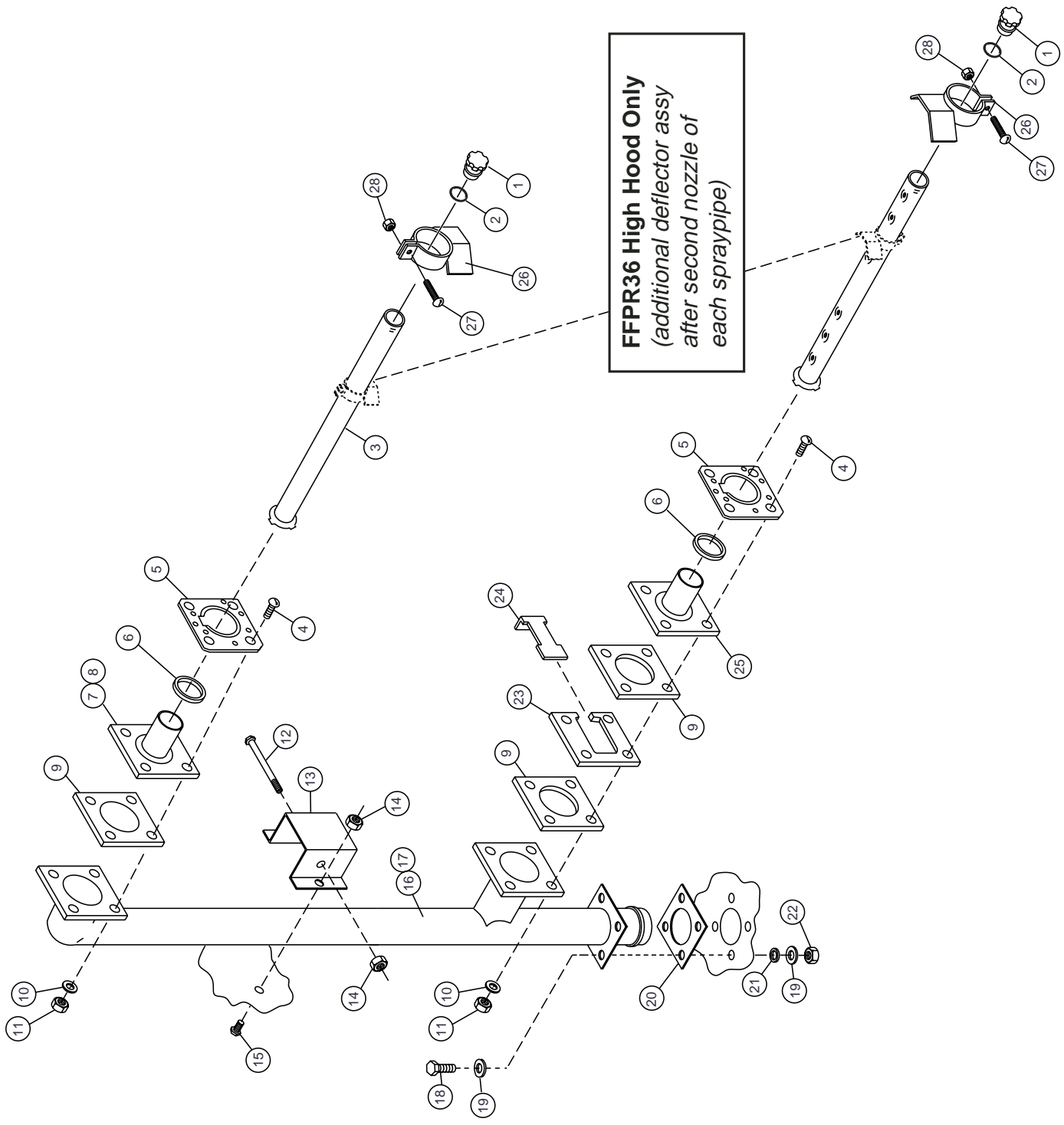


Figure 25 – Wash System Assembly (PR22, FFPR26)

WASH SYSTEM ASSEMBLY (PR22, FFPR26)

Fig. 25 Item No.	Part No.	Part Description	Qty.
1	112240	Plug, Debossed Spraypipe	2
2	104414	O-ring 1"	2
3	321471	Spraypipe	2
4	107137	Bolt 10-32 x 7/8" HH	8
5	111454	Locking Plate, Manifold	2
6	111505	O-ring Wash Arm.....	2
7	316794	Flange Weld Standpipe PR22	1
8	408287	Flange Assy. PR26FF	1
9	111456	Gasket, Manifold NG	3
10	106486	Washer Lock #10 Split	8
11	100194	Nut Grip 10-32	8
12	106028	Bolt 1/4-20 x 2 1/2"HH	1
13	313212	Bracket, Standpipe.....	1
14	100141	Nut Grip 1/4-20	2
15	100073	Bolt 1/4-20 x 2 1/2" Truss Head	1
16	315625	Standpipe PR22 & PR26	1
17	316886	Standpipe PR22 & PR26 High Hood	1
18	100740	Bolt 5/16-18 x 1 Hex Head	4
19	102376	Washer 4/16 x 3/4 x 1/16.....	8
20	108345	Gasket 3 x 3 x 1/8	1
21	106013	Washer Lock 5/16 Split	4
22	100154	Nut Plain 5/16-18	4
23	316772	Plate, Adjustable Restrictor	1
24	316773	Slide, Adjustable Restrictor	1
25	408287	Flange Assy. Lower PR22 & PR26	1
**26	321904	Deflector, Spraypipe PR26 Only	2
**27	100754	Screw 10-32 x 1/2" Flat Head	2
**28	107966	Nut Grip 10-32 W/Nylon Insert	2
*—	411477	Spraypipe Assy (Includes Items 1-3).....	—

* **Note:** Please consult the factory to order:
P/N 411477 Debossed spraypipe assembly, (Items 1-3).

** **Note:** FFPR36 High Hood units use Qty. 4 each of Items 26-28.
(See Fig. 32, pg.62)

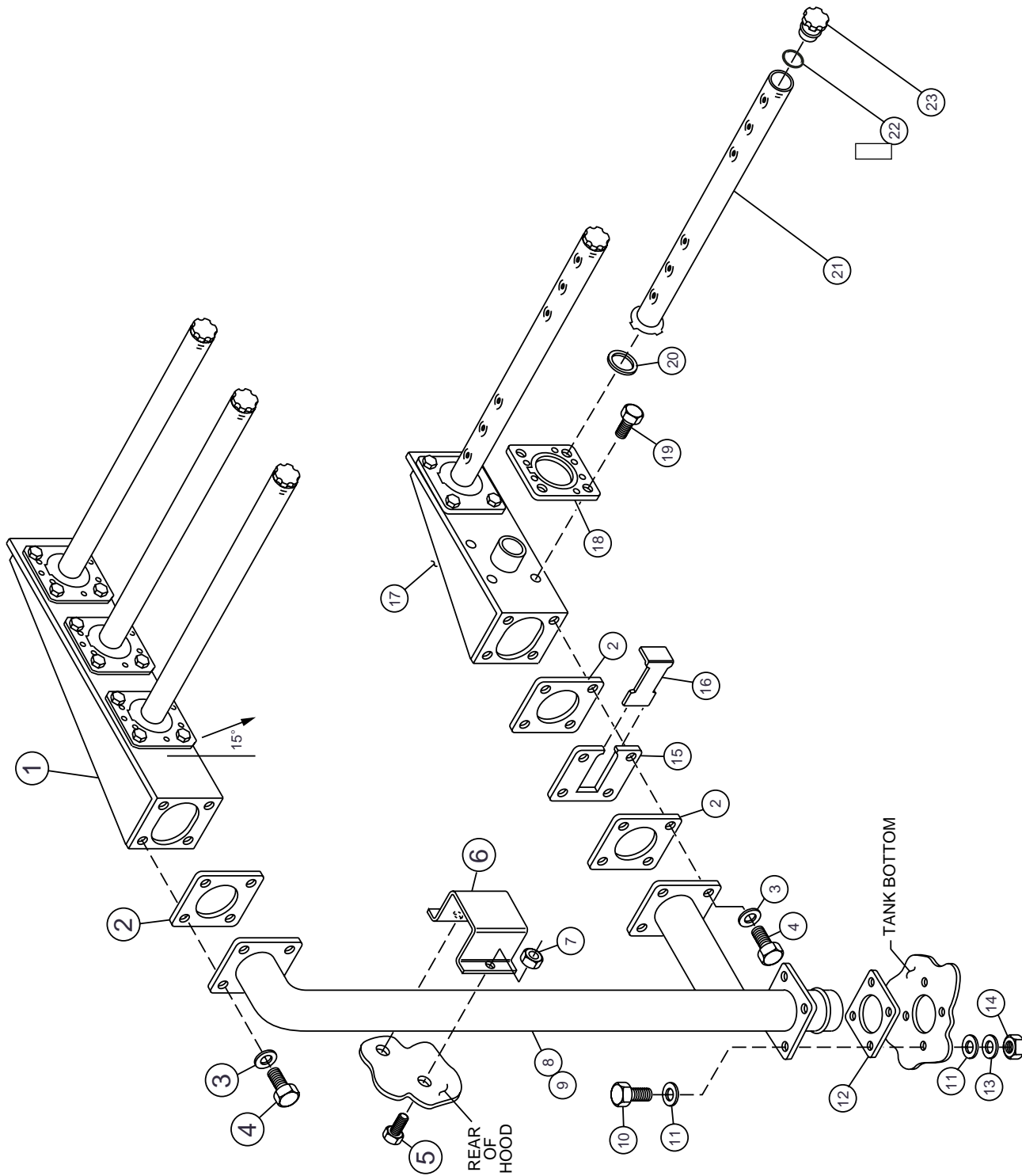


Figure 26 – Wash System Assembly (PR36)

WASH SYSTEM ASSEMBLY (PR36)

Fig. 26 Item No.	Part No.	Part Description	Qty.
1	316688	Manifold Weld 3 Hole	1
2	111456	Gasket, Manifold	3
3	106482	Washer Lock 1/4" Split	8
4	100736	Bolt 1/4-20 x 3/4" HH	8
5	100073	Screw 1/4-20 x 1/2" Truss Head	1
6	313212	Standpipe Bracket	1
7	100141	Nut Grip 1/4-20	1
8	205221	Standpipe Modified PR36	1
9	316885	Standpipe PR36 High Hood	1
10	100740	Bolt 5/16-18 x 1 Hex Head	4
11	102376	Washer 5/16 x 3/4 x 1/16.....	8
12	108345	Gasket 3 x 3 x 1/8	1
13	106013	Washer Lock 5/16 Split	4
14	100154	Nut Plain 5/16-18	4
15	316772	Plate, Adjustable Restrictor	1
16	316773	Slide, Adjustable Restrictor.....	1
17	316691	Manifold Weld 2 Hole	1
18	111454	Locking Plate, Manifold	5
19	111478	Bolt 10-32 x 1/2" W/Loctite	20
20	111505	O-ring Wash Arm.....	5
21	321471	Spraypipe Assy. (includes 22 & 23)	5
22	104414	O-ring 1 Inch	5
23	112240	Plug, Debossed Spraypipe	5
*—	411477	Spraypipe Assy (Includes Items 21-23).....	—

* **Note:** Please consult the factory to order:
P/N 411477 Debossed spraypipe assembly, (Items 21-23).

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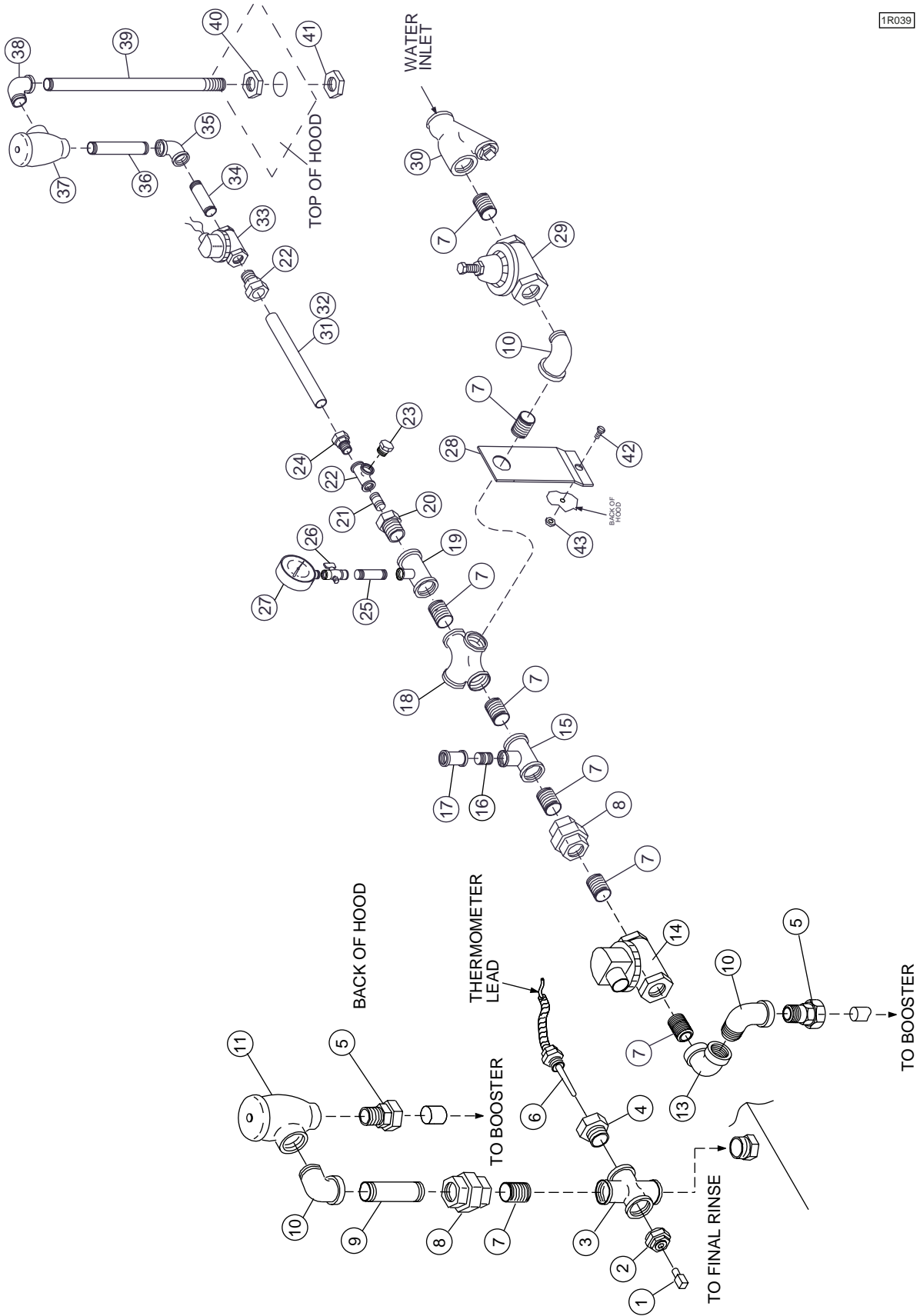


Figure 27 – Outside Rinse Piping With Electric Booster Prior to Serial Number R1529

OUTSIDE RINSE PIPING WITH ELECTRIC BOOSTER*(Prior to S/N R1529)*

Fig. 27 Item No.	Part No.	Part Description	Qty.
1	101259	Plug, pipe (1/8 NPT) Brass	1
2	105976	Bushing, Reducing (3/4 NPT x 1/8 NPT) Brass	1
3	100599	Cross (3/4 NPT) Brass.....	1
4	102392	Bushing, Reducing (3/4 NPT x 1/2 NPT) Brass	1
5	109879	Fitting, compression (7/8" OD x 3/4 NPT male)	2
6	108391	Thermometer, 48" lead	1
7	100184	Nipple (3/4 NPT Close) Brass.....	6
8	100571	Union (3/4 NPT) Brass	2
9	102490	Nipple (3/4 NPT x 3 1/2) Brass	1
10	102444	Elbow, street (3/4 NPT x 90°) Brass	2
11	104429	Breaker, vacuum (3/4 NPT) Brass.....	1
—	108351	Kit, repair 3/4" vacuum breaker	1
12	102654	Nipple (3/4 NPT x 4 1/4) Brass	1
13	102442	Elbow (3/4 NPT x 90°) Brass	2
14	111437	Valve, solenoid (3/4 NPT) (120V coil)	1
—	109903	Repair kit (3/4 NPT) solenoid valve	1
—	111472	Replacement coil, (3/4") Solenoid valve.....	1
15	102526	Tee (3/4 NPT x 3/4 NPT x 1/2 NPT) Brass	1
16	100209	Nipple (1/2 NPT x Close) Brass	1
17	102412	Coupling (1/2 NPT Female) Brass	1
18	100599	Cross (3/4 NPT) Brass	1
19	107418	Tee (3/4 NPT x 1/4 NPT) Brass	1
20	102403	Bushing, Reducing (3/4 NPT x 1/4 NPT) Brass	1
21	100947	Nipple (1/4 NPT x Close) Brass	1
22	103403	Tee (1/4 NPT) Brass	1
23	102500	Plug (1/4 NPT) Brass	1
24	109909	Fitting, compression (1/4 NPT x 1/2 O.D.) (PR22)	1
25	110134	Nipple (1/4 NPT x 2 1/2) Brass	1
26	106418	Petcock (1/4 NPT Female) Brass.....	1
27	100135	Gauge, pressure (0-60 PSI Male)	1
28	311694	Bracket, piping support	1
29	107550	Valve, pressure reducing (3/4 NPT) Brass	1
30	110768	Strainer, line (3/4 NPT) Brass	1
31	107380	Tubing, copper (64KB)	A/R
32	107380	Tubing, copper (64KB)	A/R
33	109885	Valve, solenoid (1/4 NPT) (120V coil) (PR22).....	1
—	111172	Repair kit, (1/4") Solenoid valve	1
—	111469	Replacement coil (1/4") Solenoid valve	1
34	101262	Nipple (1/4 NPT x 1 1/2) Brass (PR22)	1
35	102422	Elbow (1/4 NPT x 90°) Brass (PR22).....	1
36	110134	Nipple (1/4 NPT x 2 1/2) Brass (PR22)	1
37	107069	Breaker, vacuum (1/4 NPT) Brass (PR22)	1
—	108349	Kit, repair 1/4" vacuum breaker	1
38	101261	Elbow, street (1/4 NPT x 90°) Brass (PR22).....	1
39	110135	Nipple (1/4 NPT x 7 1/4) Brass (PR22)	1
40	100573	Locknut (1/4 NPT) Brass (PR22)	1
41	201669	Locknut (1/4 NPT) Plated (PR22).....	1
42	100073	Screw (1/4-20 x 1/3) Truss hd	1
43	100141	Nut, grip (1/4-20)	1
—	601076	Piping Assy Final Rinse (includes items 3,-5,7-10,)	1
—	601247	Piping Assy Wash/Rinse (includes items 7-12, 15-27)	1
—	403563	Piping Assy Fill (includes items 24, 31-41)	1

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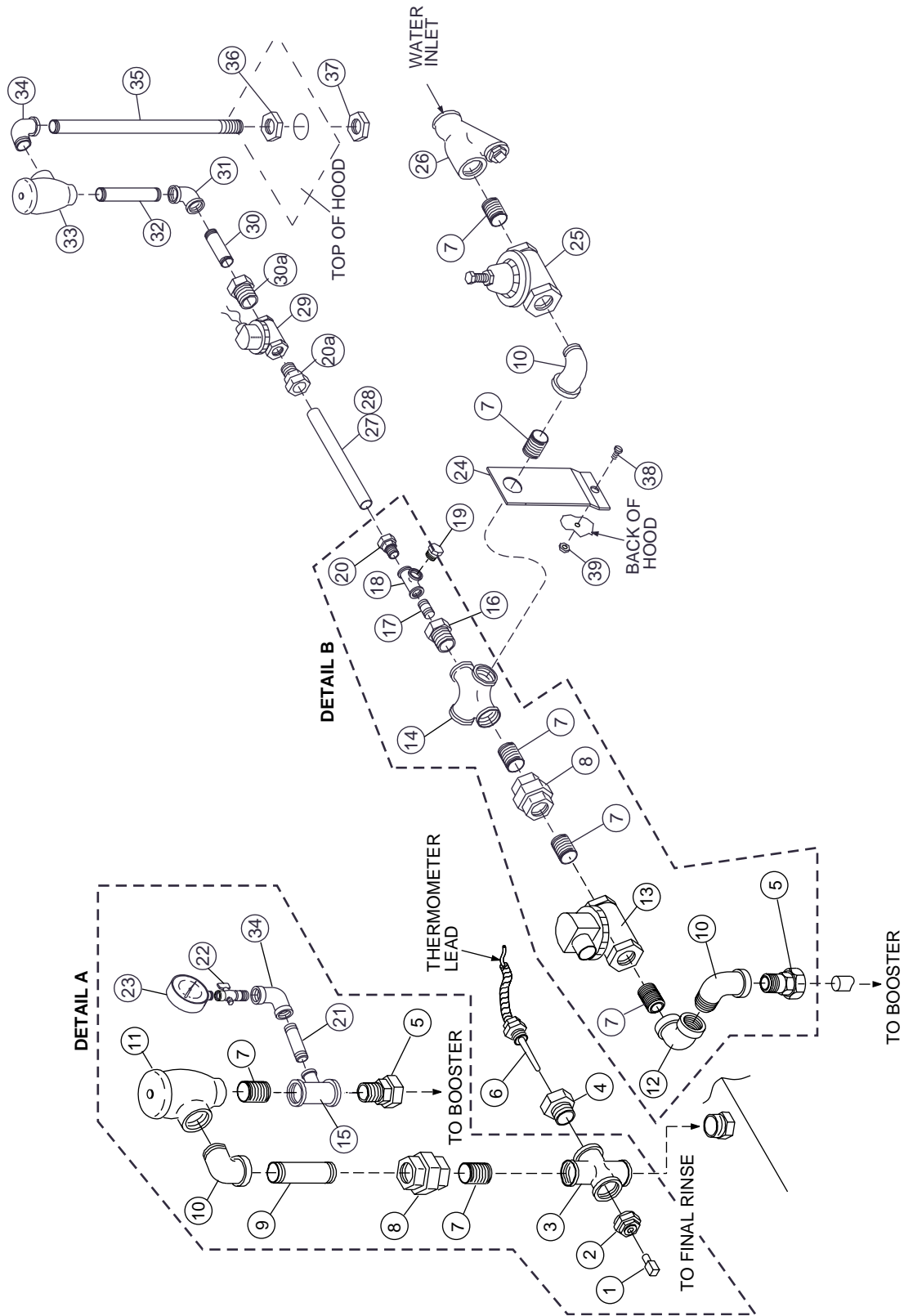


Figure 28 – Outside Rinse Piping With Electric Booster After Serial Number R1529

OUTSIDE RINSE PIPING WITH ELECTRIC BOOSTER
(After S/N R1529)

Fig. 28 Item No.	Part No.	Part Description	Qty.
1	101259	Plug, pipe (1/8 NPT) Brass	1
2	105976	Bushing, Reducing (3/4 NPT x 1/8 NPT) Brass	1
3	100599	Cross (3/4 NPT) Brass.....	1
4	102392	Bushing, Reducing (3/4 NPT x 1/2 NPT) Brass	1
5	109879	Fitting, compression (7/8" OD x 3/4 NPT male)	2
6	108391	Thermometer, 48" lead	1
7	100184	Nipple (3/4 NPT Close) Brass.....	6
8	100571	Union (3/4 NPT) Brass	2
9	102490	Nipple (3/4 NPT x 3 1/2) Brass	1
10	102444	Elbow, street (3/4 NPT x 90°) Brass	2
11	104429	Breaker, vacuum (3/4 NPT) Brass (bronze)	1
**—	108351	Kit, repair 3/4" vacuum breaker (bronze)	1
**—	113223	Kit, Repair 3/4" vacuum breaker (plastic).....	1
12	102442	Elbow (3/4 NPT x 90°) Brass	2
13	111437	Valve, solenoid (3/4 NPT) (120V coil)	1
—	109903	Repair kit (3/4 NPT) solenoid valve	1
—	111472	Replacement coil, (3/4") Solenoid valve.....	1
14	100599	Cross (3/4 NPT) Brass	1
15	107418	Tee (3/4 NPT x 1/4 NPT) Brass	1
16	102403	Bushing, Reducing (3/4 NPT x 1/4 NPT) Brass	1
17	100947	Nipple (1/4 NPT x Close) Brass	1
18	103403	Tee (1/4 NPT) Brass	1
19	102500	Plug (1/4 NPT) Brass	1
20	109909	Fitting, compression (1/4 NPT x 1/2 O.D.) (PR22)	1
20a	109909	Fitting, compression (1/4" NPT x 1/2" O.D.) (Prior to S/N R2440).....	1
20a	111250	Fitting, compression (1/2" O.D. x 1/2" MPT) (After S/N R2441)	1
21	110134	Nipple (1/4 NPT x 2 1/2) Brass	1
22	106418	Petcock (1/4 NPT Female) Brass.....	1
23	100135	Gauge, pressure (0-60 PSI Male)	1
24	311694	Bracket, piping support	1
25	107550	Valve, pressure reducing (3/4 NPT) Brass	1
26	110768	Strainer, line (3/4 NPT) Brass	1
27	107380	Tubing, copper (64KB)	A/R
28	107380	Tubing, copper (64KB)	A/R
*29	109885	Valve, solenoid (1/4 NPT) (120V coil) (PR22) (Prior to S/N R2440) ...	1
—	111172	Repair kit, (1/4") Solenoid valve	1
—	111469	Replacement coil (1/4") Solenoid valve	1
29	113352	Valve Solenoid (1/2" NPT) (After S/N R2441)	1
—	113392	Repair kit (1/2") Solenoid Valve	1
—	113357	Replacement Coil (120V)	1
30	101262	Nipple (1/4 NPT x 1 1/2) Brass (PR22) (Prior to S/N R2440).....	1
30	100947	Nipple, close 1/4 NPT Brass (After S/N R2441)	1
30a	102388	Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2441)	1
31	102422	Elbow (1/4 NPT x 90°) Brass (PR22).....	1
32	110134	Nipple (1/4 NPT x 2 1/2) Brass (PR22)	1

OUTSIDE RINSE PIPING WITH ELECTRIC BOOSTER (cont.)
(After S/N R1529)

Fig. 28 Item No.	Part No.	Part Description	Qty.
33	107069	Breaker, vacuum (1/4 NPT) Brass (PR22) (Prior to S/N R2561).....	1
—	108349	Kit, repair 1/4" vacuum breaker	1
33	113218	Vacuum Breaker (1/4" NPT) Brass (After S/N R2561)	1
—	113219	Kit, Repair 1/4" vacuum breaker.....	1
34	101261	Elbow, street (1/4 NPT x 90°) Brass (PR22).....	1
35	110135	Nipple (1/4 NPT x 7 1/4) Brass (PR22)	1
36	100573	Locknut (1/4 NPT) Brass (PR22)	1
37	201669	Locknut (1/4 NPT) Plated (PR22).....	1
38	100073	Screw (1/4-20 x 1/3) Truss hd	1
39	100141	Nut, grip (1/4-20)	1
Detail A	601076	Piping Assy Final Rinse (includes items 1-5, 7-11, 15, 21-23, 34)	1
Detail B	601247	Piping Assy Wash/Rinse (includes items 5, 7-8, 10, 12-14, 16-20, 24)....	1
—	403563	Piping Assy Fill (includes items 24, 31-41)	1
—	900836	Kit*Repair, 1/4" & 1/2" Vacuum Breaker (Includes one each of 108349, 113219 and 113221)	
—	900837	Kit*Repair 3/4" Vacuum Breaker (Includes one each of 108351 and 113223)	

* Between serial number range R2289 and R2440 maintained 1/4" valves, switching from Parker to GC (see Srv Bulletin #46) then converted to 1/2" valves. Contact factory for machines in this serial number range for correct 1/4" valve.

** Kits 900836 and 900837 were created to repair either style of vacuum breaker (bronze or plastic). Plastic style is no longer available as a complete vacuum breaker.

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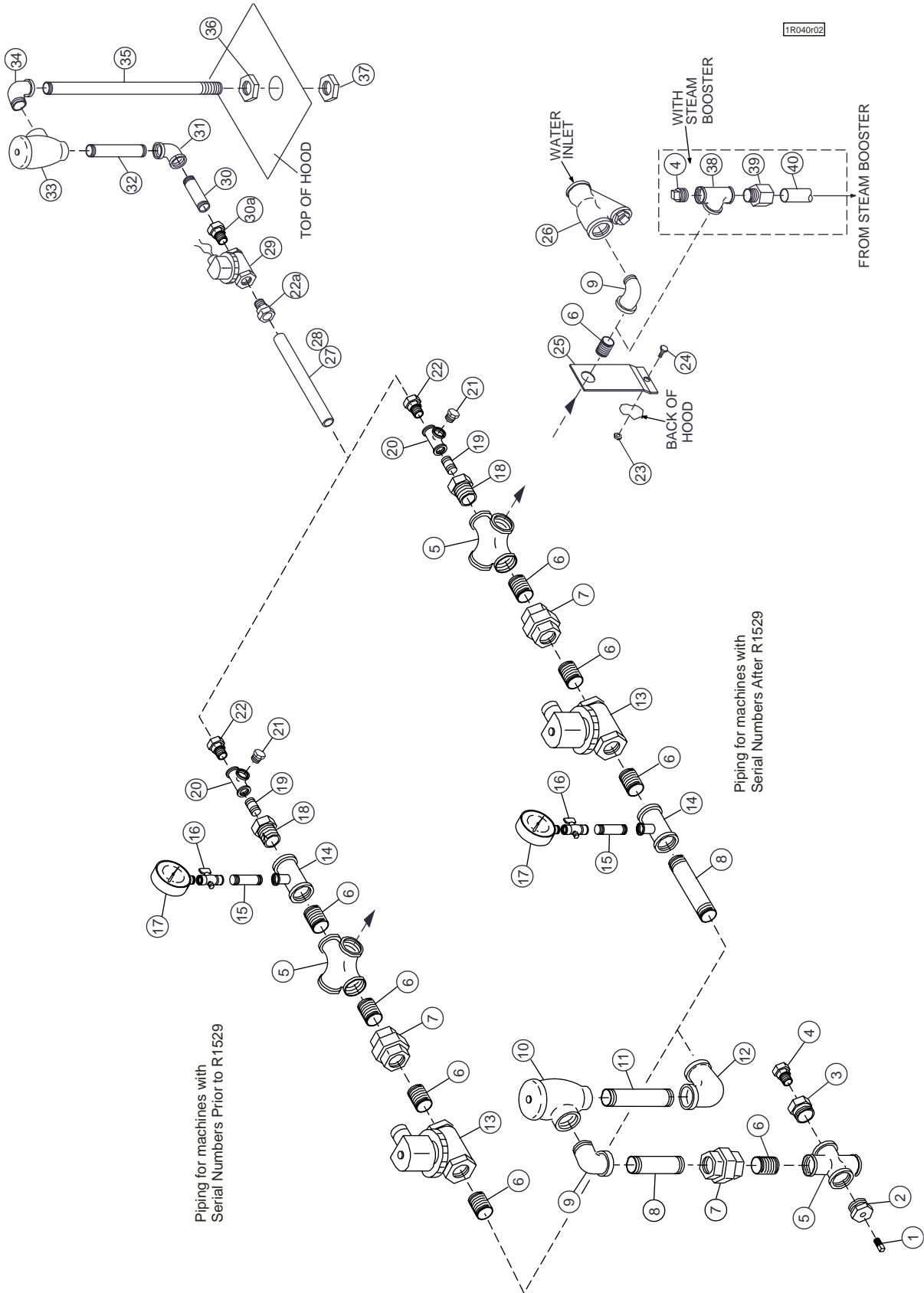


Figure 29– Fill & Outside Rinse Piping With No Booster (Electric) or With Steam Booster

**FILL & OUTSIDE RINSE PIPING,
NO BOOSTER, AND STEAM WITH BOOSTER**

Fig. 29 Item No.	Part No.	Part Description	Qty.
1	101259	Pipe plug (1/8 NPT) Brass	1
2	105976	Bushing, reducing (3/4 NPT x 1/8 NPT)	1
3	102392	Bushing, reducing (3/4 NPT x 1/2 NPT)	1
4	102504	Pipe plug (1/2 NPT) Brass	2
5	100599	Cross (3/4 NPT) Brass	1
6	100184	Nipple, close (3/4 NPT) Brass	5
7	100571	Union (3/4 NPT) Brass	2
8	102490	Nipple (3/4 NPT x 3-1/2") Brass	1
9	102444	Elbow, street (3/4 NPT x 90°) Brass	2
10	104429	Vacuum breaker (3/4 NPT) Brass (bronze).....	1
—	108351	Kit, repair 3/4" vacuum breaker (bronze)	1
—	113223	Kit, Repair 3/4" vacuum breaker (plastic).....	1
11	102654	Nipple (3/4 NPT x 4-1/4") Brass.....	1
12	102442	Elbow (3/4 NPT x 90°) Brass	1
13	111437	Valve, solenoid (3/4 NPT) (Water)	1
—	109903	Repair kit, solenoid valve (3/4 NPT)	1
—	111472	Replacement coil, solenoid valve (3/4 NPT) (120V)	1
14	107418	Tee (3/4 NPT x 3/4 NPT x 1/4 NPT) Brass	1
15	110134	Nipple (1/4 NPT x 2 1/2) Brass	1
16	106418	Petcock (1/4 NPT Female) Brass	1
17	100135	Gauge, pressure (0-60 PSI Male)	1
18	102403	Bushing, reducing (3/4 NPT x 1/4 NPT) Brass	1
19	100947	Nipple (1/4 NPT x Close) Brass	1
20	103403	Tee (1/4 NPT) Brass	1
21	102500	Plug, pipe (1/4 NPT) Brass	1
22	109909	Fitting, compression (1/4 NPT x 1/2 O.D.).....	1
22a	109909	Fitting, compression (1/4" NPT x 1/2" O.D.) (Prior to S/N R2440).....	1
22a	111250	Fitting, compression (1/2" O.D. x 1/2" MPT) (After S/N R2441)	1
23	100141	Nut, grip (1/4-20)	1
24	100073	Screw (1/4-20 x 1/2") Truss hd	1
25	311694	Bracket, piping support	1
26	110768	Line strainer (3/4 NPT) Brass	1
27	107380	Tubing, copper (64KB)	A/R
28	107380	Tubing, copper (64KB)	A/R
*29	109885	Valve, solenoid (1/4 NPT).....	1
—	111172	Repair kit, solenoid valve (1/4 NPT)	1
—	111469	Replacement coil, solenoid valve (1/4 NPT) (120V)	1
29	113352	Valve Solenoid (1/2" NPT) (After S/N R2441)	1
—	113392	Repair kit (1/2") Solenoid Valve	1
—	113357	Replacement Coil (120V)	1
30	101262	Nipple (1/4 NPT x 1-1/2") Brass	1
30	100947	Nipple, close 1/4 NPT Brass (After S/N R2441)	1
30a	102388	Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2441)	1
31	102422	Elbow (1/4 NPT x 90°) Brass	1
32	110134	Nipple (1/4 NPT x 2-1/2") Brass.....	1

**FILL & OUTSIDE RINSE PIPING,
NO BOOSTER, AND STEAM WITH BOOSTER (cont.)**

Fig. 29 Item No.	Part No.	Part Description	Qty.
33	107069	Vacuum breaker (1/4 NPT) Brass (Prior to S/N R2561).....	1
—	108349	Repair Kit, vacuum breaker (1/4 & 1/2)	1
33	113218	Vacuum Breaker (1/4" NPT) Brass (After S/N R2562)	1
—	113219	Kit, Repair 1/4" vacuum breaker	1
34	101261	Elbow, street (1/4 NPT x 90°) Brass	1
35	110135	Nipple (1/4 NPT x 7-1/4" RTOE) Brass	1
36	100573	Locknut (1/4 NPT) Brass	1
37	201669	Locknut (1/4 NPT) Nickel-Plated	1
38	102525	Tee (3/4 NPT x 1/2 NPT x 3/4 NPT) Brass	1
39	109879	Compression, fitting (3/4 NPT X 7/8" O.D.)	1
40	107314	Tubing (7/8" O.D.) Copper	A/R
—	601245	Piping Assy, Wash/Rinse (includes items 1 - 23)	1
—	403563	Piping Assy, Fill (includes items 22,26,29 thru 37)	1
**—	900836	Kit*Repair, 1/4" & 1/2" Vacuum Breaker (Includes one each of 108349, 113219 and 113221)	
**—	900837	Kit*Repair 3/4" Vacuum Breaker (Includes one each of 108351 and 113223)	

* Between serial number range R2289 and R2440 maintained 1/4" valves, switching from Parker to GC (see Srv Bulletin #46) then converted to 1/2" valves. Contact factory for machines in this serial number range for correct 1/4" valve.

** Kits 900836 and 900837 were created to repair either style of vacuum breaker (plastic or bronze). Plastic style is no longer available as a complete vacuum breaker.

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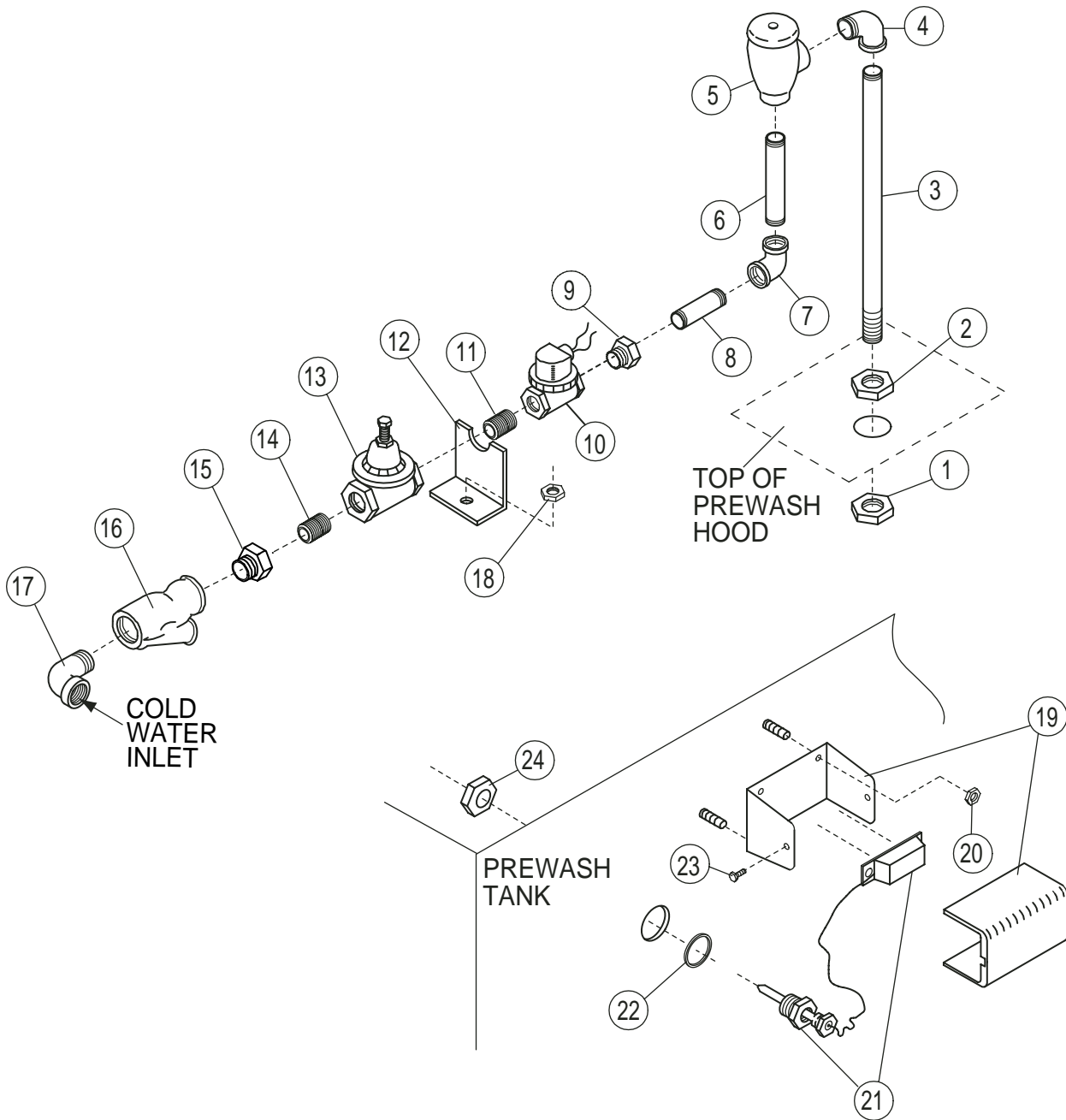


Figure 30 – Cold Water Thermostat for Prewash Option

COLD WATER THERMOSTAT FOR PREWASH OPTION

Fig. 30 Item No.	Part No.	Part Description	Qty.
1	201669	Locknut (1/4 NPT) (Nickel Plated)	1
2	100573	Locknut (1/4 NPT) Brass	1
3	110135	Nipple (1/4 NPT x 7 1/4) Brass	1
4	101261	Elbow, street (1/4 NPT x 90°) Brass	1
5	107069	Vacuum breaker (1/4 NPT) Brass (bronze).....	1
—	108349	Repair Kit, 1/4" and 1/2" vacuum breaker (bronze)	1
—	113219	Kit, Repair 1/4" vacuum breaker (plastic).....	1
6	110134	Nipple (1/4 NPT x 2-1/2) Brass	1
7	102422	Elbow (1/4 NPT x 90°) Brass	1
8	101262	Nipple (1/4 NPT x 1-1/2) Brass (Prior to S/N R2440)	1
8	100947	Nipple, close 1/4 NPT Brass (After S/N R2441)	1
9	102388	Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2441)	1
**10	109885	Valve, solenoid (1/4 NPT) (Prior to S/N R2440)	1
—	111172	Repair kit, solenoid valve (1/4 NPT)	1
—	111469	Replacement coil, solenoid valve (1/4 NPT) (120V coil)	1
10	113352	Valve Solenoid (1/2" NPT) (After S/N R2441)	1
	113392	Repair kit, valve 1/2"	1
	113357	Replacement coil (120V).....	1
11	100947	Nipple, Close (1/4NPT) Brass	1
12	319549	Bracket, piping support	1
*13	108265	Valve, pressure reducing (1/2 NPT)	1
*14	100947	Nipple, Close (1/4NPT) Brass	1
15	102388	Bushing, reducer (1/2 x 1/4) Brass	1
16	104421	Line strainer (1/2 NPT) Brass	1
17	102438	Elbow, street (1/2 NPT x 90°) Brass	1
18	100141	Nut, grip (1/4-20)	1
19	107922	Box, thermostat and cover	1
20	107966	Nut, grip (10-32 w/nylon insert)	2
21	109069	Thermostat w/capillary	1
22	201041	Washer	1
23	106460	Screw (6-32 x 1/4" Truss head).....	2
24	100547	Locknut (1/2" NPT SST).....	1
—	403563	Piping Assy., fill (includes items 1-9)	1
***—	900836	Kit*Repair, 1/4" & 1/2" Vacuum Breaker (Includes one each of 108349, 113219 and 113221)	
***—	900837	Kit*Repair 3/4" Vacuum Breaker (Includes one each of 108351 and 113223)	

* Note: Items 13 and 14 are optional unless incoming water supply pressure exceeds 25 PSI [173kPa].

** Between serial number range R2289 and R2440 maintained 1/4" valves, switching from Parker to GC (see Srv Bulletin #46) then converted to 1/2" valves. Contact factory for machines in this serial number range for correct 1/4" valve.

***Kits 900836 and 900837 were created to repair either style of vacuum breaker (plastic or bronze). Plastic style is no longer available as a complete vacuum breaker.

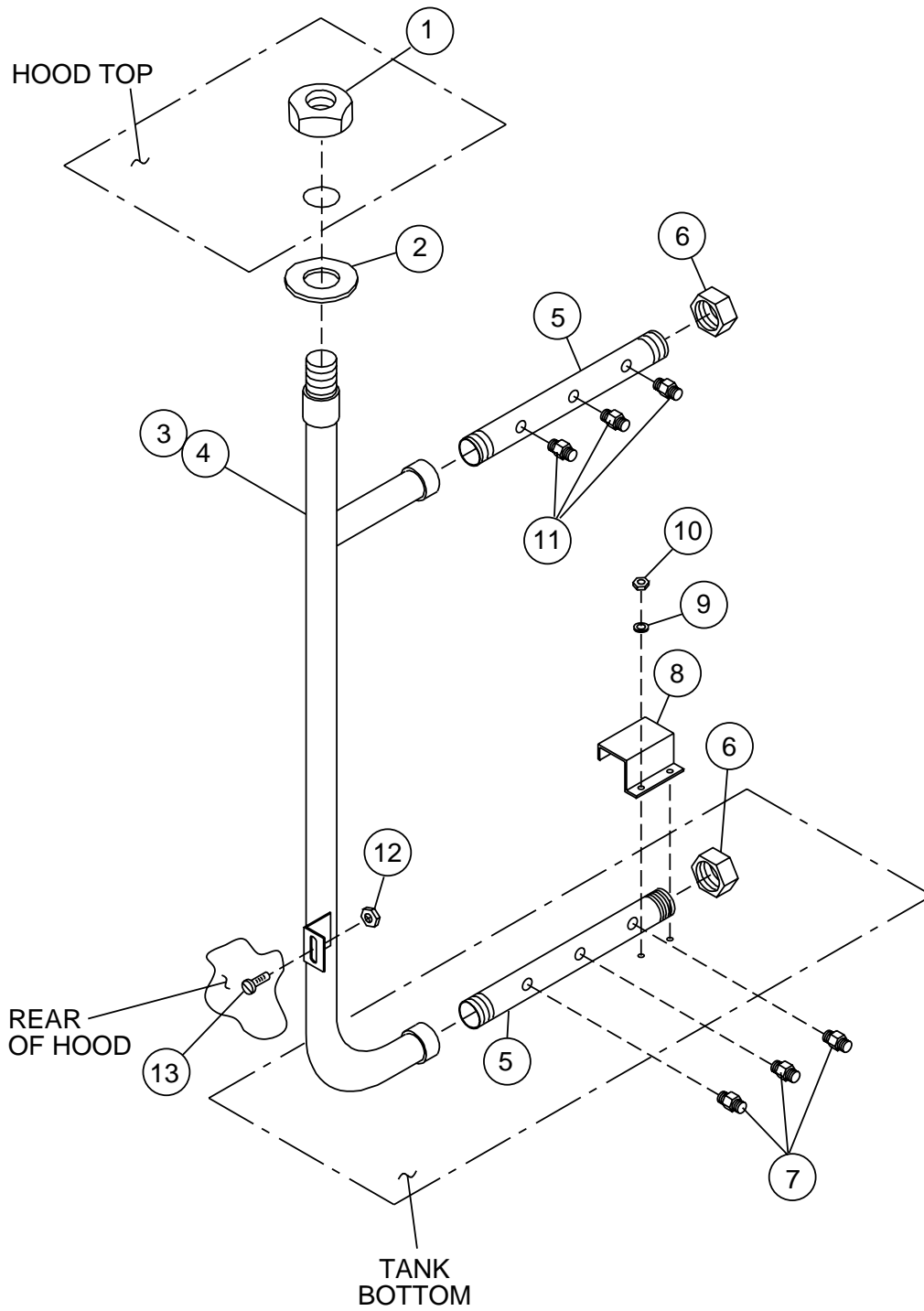


Figure 31 – Inside Rinse Piping

INSIDE RINSE PIPING

Fig. 31 Item No.	Part No.	Part Description	Qty.
1	100156	Locknut 3/4 NPT Brass	1
2	108620	Gasket Rinse Pipe	1
3	311405	Manifold, Final Rinse (Standard)	1
4	311404	Manifold, Final Rinse (High Hood)	1
5	205421	Pipe Final Rinse.....	2
6	106734	Cap 1/2" Plastic	2
7	112022	Nozzle Spray Lower,	3
8	315294	Support – Rinse Pipe	1
9	106486	Washer, Lock 10-32 Split	1
10	104985	Nut, Plain 10-32.....	1
11	106530	Nozzle, Spray Upper	3
12	100141	Nut Grip 1/4-20	1
13	100778	Screw 1/4-20 x 3/8 Truss Head	1

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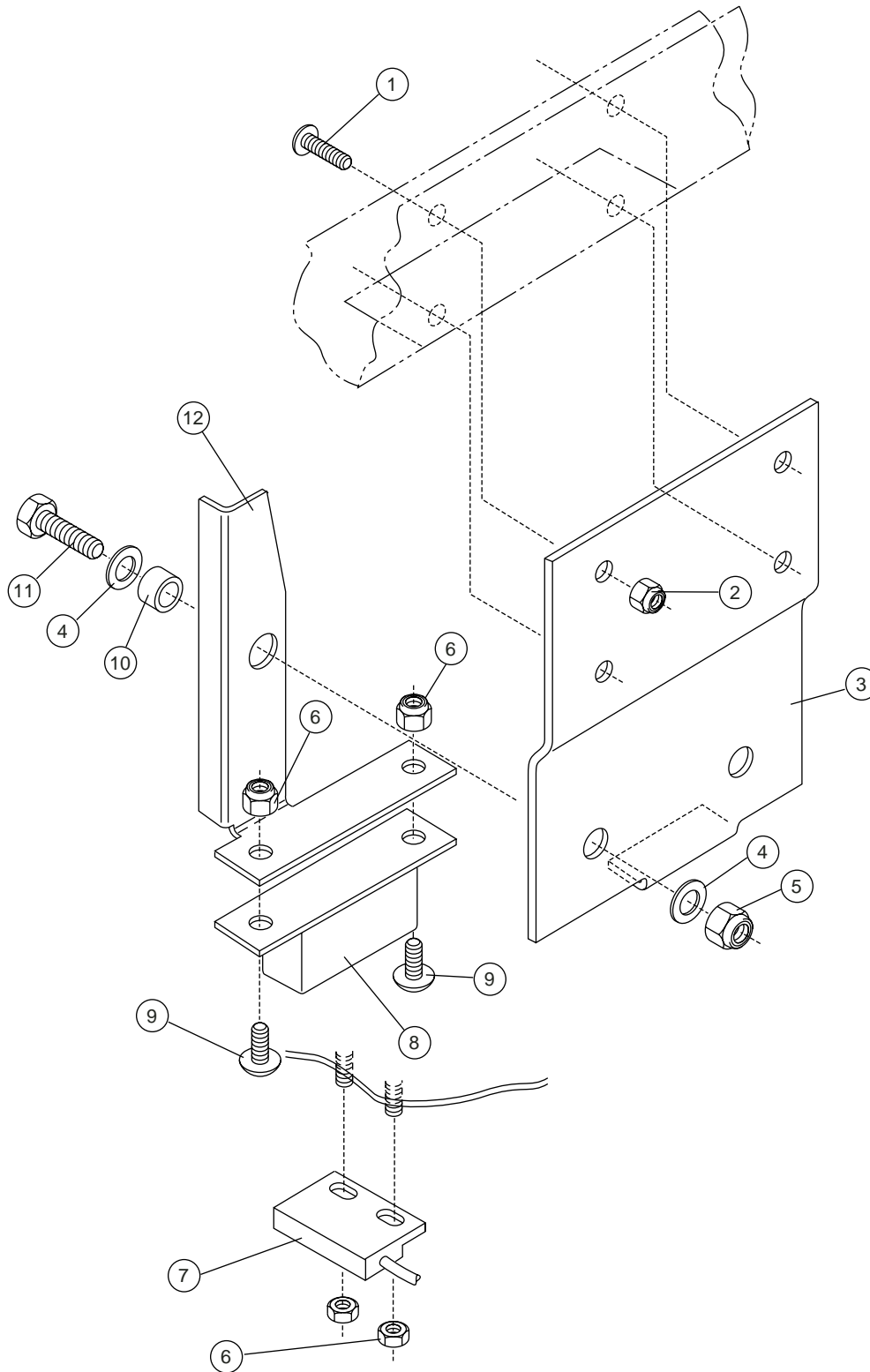


Figure 32 – Rinse Saver Mechanism (L-R Shown)

RINSE SAVER MECHANISM (L-R SHOWN)

Fig. 32 Item No.	Part No.	Part Description	Qty.
1	100754	Screw 10-32 x 1/2" Flat Head	4
2	100194	Nut, Grip 10-32	4
3	319302	Bracket, Rinse Switch Mounting.....	1
4	106026	Washer 1/4 x 5/8 x 1/16 SST.....	2
5	100141	Nut, Grip 1/4-20 SST	1
6	104971	Nut, Grip 6-32	4
7	113721	Reed Switch Aleph	1
8	111026	Magnet SST	1
9	106382	Screw 6-32 x 3/8 Truss Head	2
10	205377	Sleeve, Rinse Switch	1
11	100736	Bolt 1/4-20 x 3/4 Hex Head	1
12	319303-2	Arm, Rinse Switch (L-R)	1
—	411101	Rinse Actuator Assy. (L-R)	1
		(includes items 3-8 and 9-12)	

See next page for R-L Rinse Saver Mechanism

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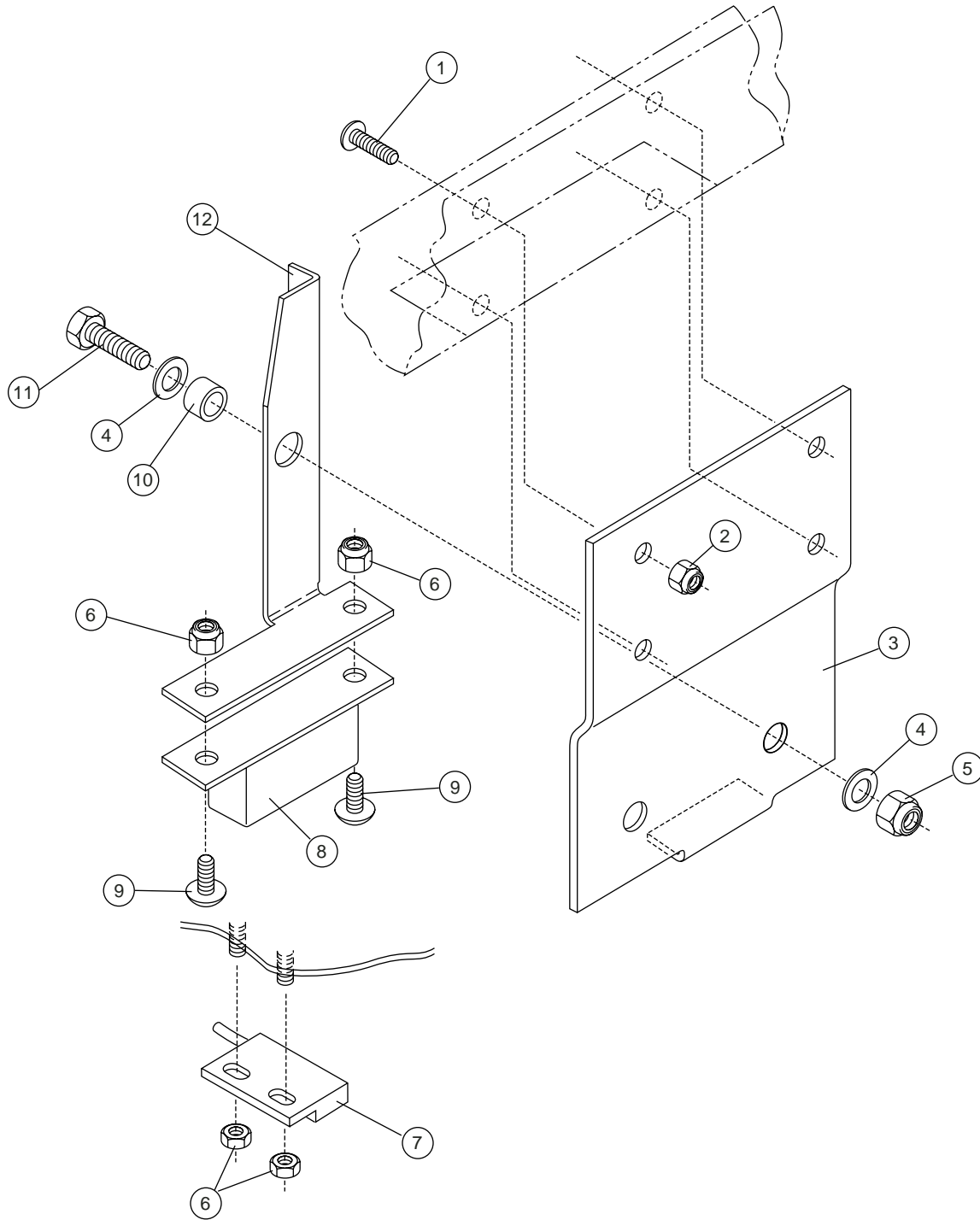


Figure 33 – Rinse Saver Mechanism (R-L Shown)

RINSE SAVER MECHANISM (R-L SHOWN)

Fig. 33 Item No.	Part No.	Part Description	Qty.
1	100754	Screw 10-32 x 1/2" Flat Head	4
2	100194	Nut, Grip 10-32	4
3	319302	Bracket, Rinse Switch Mounting.....	1
4	106026	Washer 1/4 x 5/8 x 1/16 SST.....	2
5	100141	Nut, Grip 1/4-20 SST	1
6	104971	Nut, Grip 6-32	4
7	113721	Reed Switch Aleph	1
8	111026	Magnet SST	1
9	106382	Screw 6-32 x 3/8 Truss Head	2
10	205377	Sleeve, Rinse Switch	1
11	100736	Bolt 1/4-20 x 3/4 Hex Head	1
12	319303-1	Arm, Rinse Switch (R-L)	1
—	411100	Rinse Actuator Assy. (R-L)	1
		(includes 3-6 and 8-12)	

See previous page for L-R Rinse Saver Mechanism

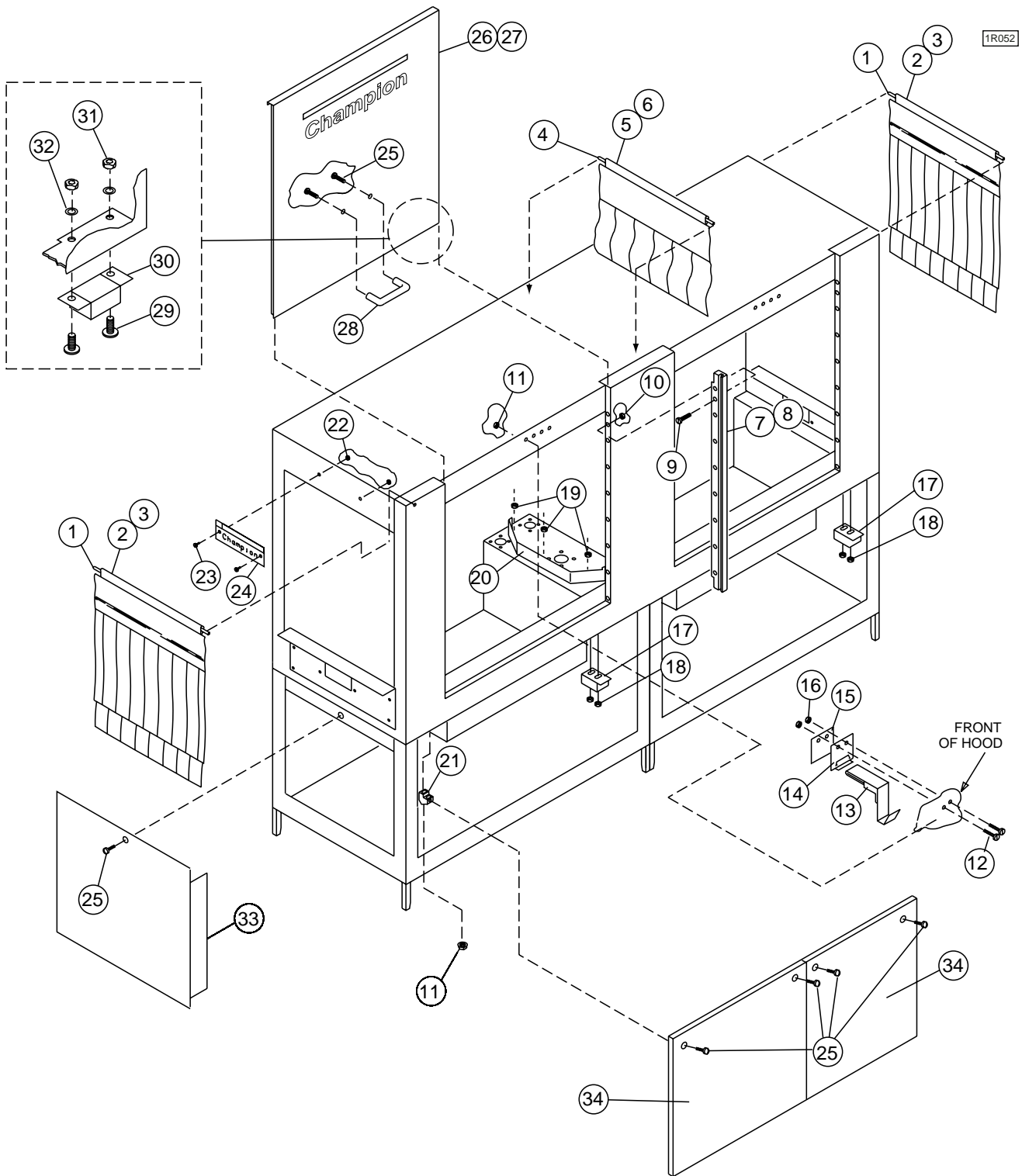


Figure 34 – Doors, Curtains, Miscellaneous

DOORS, CURTAINS, MISCELLANEOUS

Fig. 34 Item No.	Part No.	Part Description	Qty.
1	108250	Rod, curtain (End)	2
2	108042	Curtain, end (Standard)	2
3	109588	Curtain, end (High-Hood)	2
4	204506	Rod, curtain (Center)	1
5	108043	Curtain, center (Standard)	1
6	109589	Curtain, center (High-Hood)	1
7	110691	Guide, door (Standard)	2
8	110692	Guide, door (High-Hood)	2
9	107970	Screw (3-32 x 1") Fillister hd	14
10	107965	Nut, grip (8-32) w/nylon insert	14
11	100141	Nut, grip (1/4-20)	6
12	100073	Screw (1/4-20 x 1/2") Truss hd	2
13	317344	Hook, door catch	1
14	317345	Bracket, door catch	1
15	313359	Stop, door.....	1
16	100141	Nut, grip (1/4-20)	1
17	113721	Switch Reed Aleph	2
18	108954	Nut, grip (6-32) w/nylon insert	4
19	107967	Nut, grip (1/4-20) w/nylon insert	3
20	314013	Baffle	1
21	108578	Bracket, panel	4
22	107016	Nut (4-40) w/nylon insert	4
23	107015	Screw (4-40 x 1/4") Round hd.....	4
24	109158	Nameplate 'Champion'	2
25	100073	Screw (1/4-20 x 1/2") Truss hd	5
26	316990	Door - 24" (High-Hood)	1
27	316992	Door - 24" (Standard)	1
28	108966	Handle, door	1
29	100007	Screw (1-32 x 3/8") Truss hd.....	2
30	111026	Switch, magnet reed	1
31	100194	Nut, grip (10-32)	2
32	106486	Washer, lock (10-32) split	2
33	313036	Panel, end.....	1
34	317149	Panel, front	2

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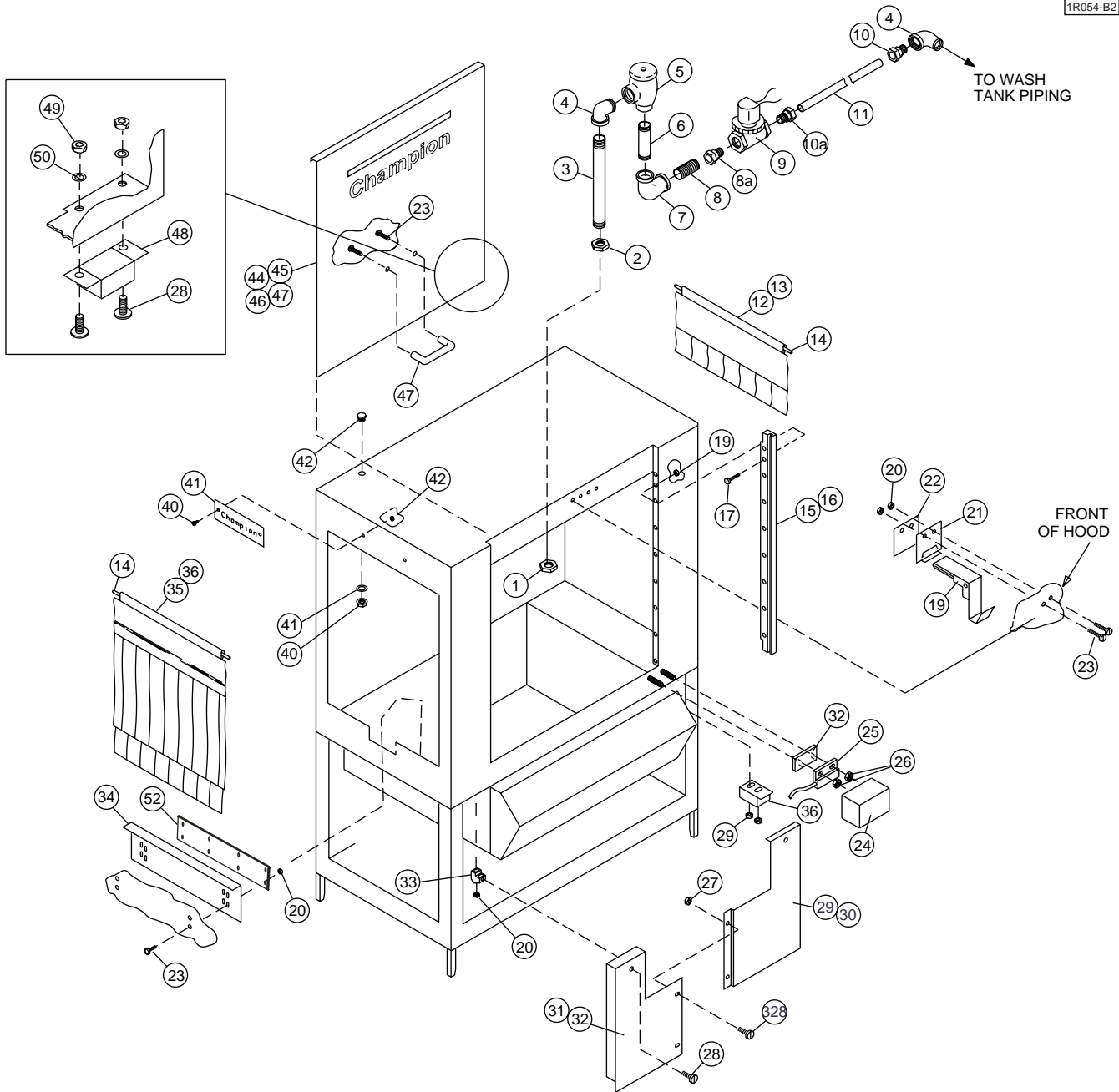


Figure 35 – Hood (PR22, PR36)

HOOD (PR22, PR36)

Fig. 35 Item No.	Part No.	Part Description	Qty.
1	201669	Locknut (1/4 NPT) Nickel.....	1
2	100573	Locknut (1/4 NPT) Brass	1
3	110135	Nipple, RTOE (1/4 NPT x 7-1/4") Brass	1
4	101261	Elbow, street (1/4 NPT x 90) Brass	2
5	107069	Vacuum breaker 1/4" (bronze).....	1
—	108349	Repair Kit, 1/4" vacuum breaker (bronze)	1
—	113219	Kit, Repair 1/4" vacuum breaker (plastic).....	1
6	110134	Nipple (1/4 NPT x 2-1/2") Brass	1
7	102422	Elbow (1/4 NPT x 90) Brass	1
8	101262	Nipple (1/4 NPT x 1-1/2") Brass.....	1
8	100947	Nipple, close 1/4 NPT Brass (After S/N R2441)	1
8a	102388	Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2441)	1
*9	109885	Valve, solenoid 1/4"	1
—	111172	Repair kit, valve 1/4"	1
—	111469	Replacement, coil solenoid valve (1/4" NPT) (120V coil)	1
9	113352	Valve Solenoid (1/2" NPT) (After S/N R2441)	1
	113392	Repair kit, Valve 1/2".....	1
	113357	Replacement coil (120V).....	1
10	109909	Fitting, compression (1/4 NPT x 1/2")	1
10a	109909	Fitting, compression (1/4 NPT x 1/2") (Prior to S/N R2440).....	1
10a	111250	Fitting, compression (1/2 O.D. x 1/2 MPT) Brass (After S/N R2441)	1
11	107315	Tubing, copper (1/2" O.D.) (64KB) w/PR36	A/R
12	108043	Curtain, center (Standard)	1
13	109589	Curtain, center (High-Hood)	1
14	108250	Curtain rod.....	2
15	110691	Guide, door (Standard)	2
16	110692	Guide, door (High-Hood)	2
17	107970	Screw (8-32 x 1") Fillister hd	14
18	107965	Nut, grip (8-32) w/Nylon insert	14
19	317344	Hook, door catch	1
20	100141	Nut, grip (1/4-20)	6
21	317345	Bracket, door catch	1
22	313359	Door stop	1
23	100073	Screw (1/4-20 x 1/2") Truss hd	10
24	319991-2	Cover, door switch (PR36)	1
25	113721	Reed Switch Aleph	1
26	108954	Nut, grip (6-32) w/Nylon insert	6
27	107966	Nut, grip (10-32) w/Nylon insert	4
28	100007	Screw (10-32 x 3/8") Truss hd.....	4
29	313698	Panel, front RH (PR22, PR36)	1
30	311302	Panel, front RH (PR22)	1
31	313967	Panel, front LH (PR36)	1
32	319993	Back plate, door switch (PR36).....	1
33	108578	Bracket, panel	2
34	317690	Table flange	1
35	108042	Curtain, end (Standard)	1
36	109588	Curtain, end (High-Hood)	1
37	110856	Nut (1/4" NPT) Plug	1
38	110750	Gasket 1/4"	1

HOOD (PR22, PR36) (cont.)

Fig. 35 Item No.	Part No.	Part Description	Qty.
39	107016	Nut, grip (440) w/Nylon insert	2
40	107015	Screw (440 x 1/4") Round hd	2
41	109158	Nameplate, "Champion"	1
42	110855	Plug (1/4" NPT).....	1
43	316991	Door (14") Standard (PR22)	1
44	317009	Door (14") High-Hood (PR22)	1
45	316992	Door (24") Standard (PR36)	1
46	316990	Door (24") High-Hood (PR36)	1
47	108966	Door Handle	1
48	111026	Magnet, reed switch.....	1
49	100194	Nut, grip (10-32)	2
50	106486	Washer, lock (#10) Split	2
51	111478	Bolt (10-32 x 1/2" hex) w/Loctite	1
52	325667	Track Stiffener	2
—	403563	Piping Assy, fill (includes items 1-10)	A/R
—	108618	Gasket, hood	1
**—	900836	Kit*Repair, 1/4" & 1/2" Vacuum Breaker (Includes one each of 108349, 113219 and 113221)	
**—	900837	Kit*Repair 3/4" Vacuum Breaker (Includes one each of 108351 and 113223)	

* Between serial number range R2289 and R2440 maintained 1/4" valves, switching from Parker to GC (see Srv Bulletin #46) then converted to 1/2" valves. Contact factory for machines in this serial number range for correct 1/4" valve.

** Kits 900836 and 900837 were created to repair either style of vacuum breaker (plastic or bronze). Plastic style is no longer available as a complete vacuum breaker.

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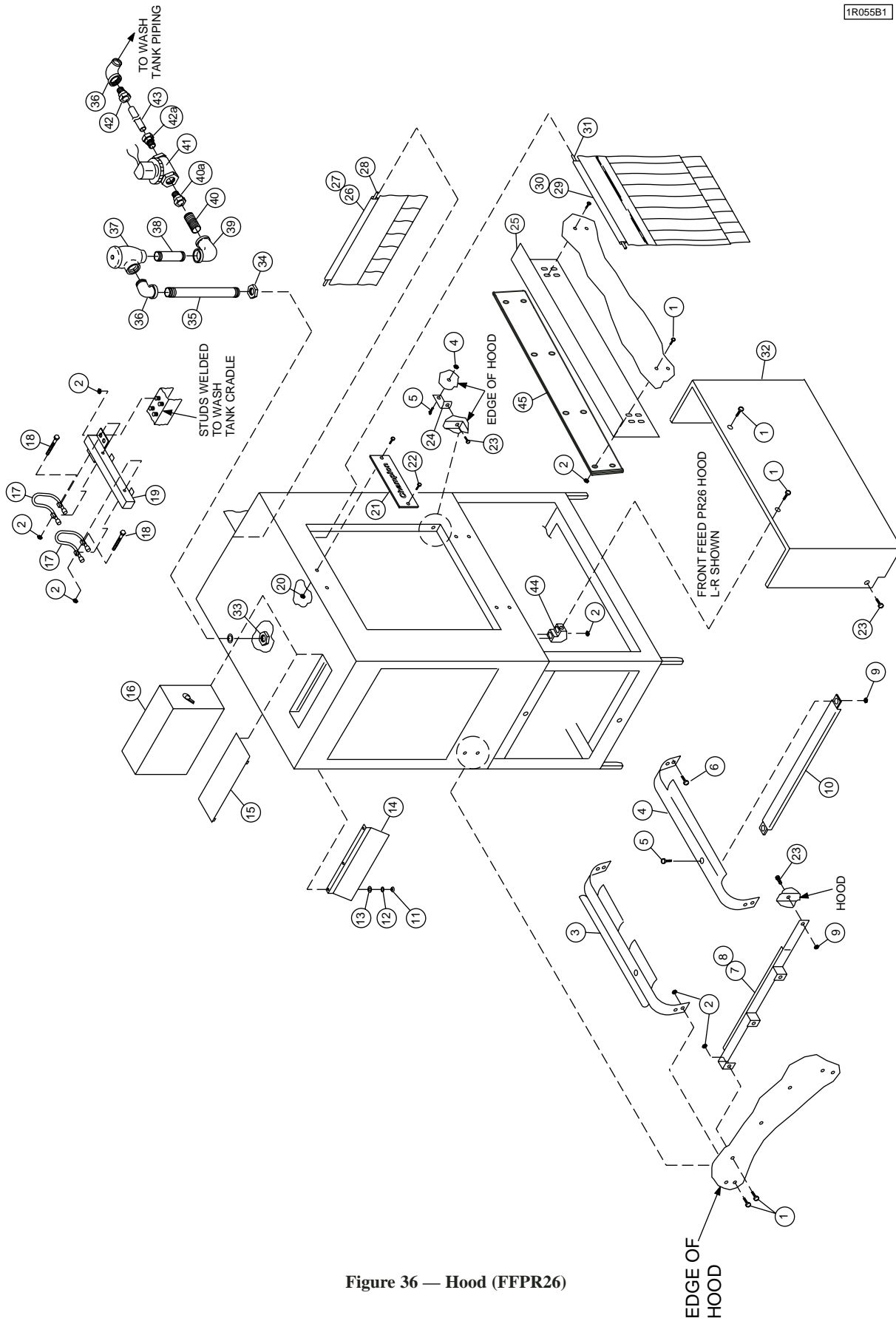


Figure 36 — Hood (FFPR26)

HOOD (FFPR26)

Fig. 36 Item No.	Part No.	Part Description	Qty.
1	100073	Screw (1/4-20 x 1/2") Truss hd	11
2	100141	Nut, grip (1/4-20)	19
3	314489	Track, rear	1
4	314515	Track, front	1
5	100754	Screw (10-32 x 1/2") Flat hd	3
6	100736	Bolt (1/4-20 x 3/4") Hex hd	4
7	314762	Track, side (L R)	1
8	314512	Track, side (R-L)	1
9	100194	Nut, grip (10-32)	4
10	315392	Track support	1
11	104985	Nut, plain (10-32)	3
12	106486	Washer, lock (#10) Split	3
13	107033	Washer, flat (#10)	3
14	315122	Splash shield, vent	1
15	315125	Cover, No vent (Optional)	1
16	401487	Vent Stack Assy	1
17	313598	Lever, pawl bar	2
18	107999	Bolt (1/4-20 x 1-3/4") Hex hd	2
19	314772	Pawl bar	1
20	107016	Nut, grip (440) w/Nylon Insert	2
21	109158	Nameplate "Champion"	1
22	107015	Screw (440 x 1/4") Round hd	2
23	100097	Screw (10-32 x 1/2") Truss hd	2
24	314516	Rack guide	1
25	317690	Table flange	1
26	108043	Curtain, center (Standard)	1
27	109589	Curtain, center (High-Hood)	1
28	108250	Curtain rod, Center	1
29	108042	Curtain, end (Standard)	1
30	109588	Curtain, end (High-Hood)	1
31	111146	Curtain rod, End	1
32	314730	Front panel	1
33	201669	Locknut (1/4 NPT) (Nickel-Plated)	1
34	100573	Locknut (1/4 NPT) Brass	1
35	110135	Nipple, RTOE (1/4 NPT x 7-1/4") Brass	1
36	101261	Elbow, street (1/4 NPT x 90°) Brass	2
37	107069	Vacuum breaker (1/4 NPT) (bronze).....	1
—	108349	Repair Kit, vacuum breaker 1/4" & 1/2" (bronze)	1
—	113219	Kit, Repair 1/4" vacuum breaker (plastic).....	1
38	110134	Nipple (1/4 NPT x 2-1/2") Brass	1
39	102422	Elbow (1/4 NPT x 90°) Brass	1
40	101262	Nipple (1/4 NPT x 1-1/2") Brass	1
40	100947	Nipple, close 1/4 NPT Brass (Not Shown) (After S/N R2441)	1
40a	102388	Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2441)	1
*41	109885	Valve, solenoid (1/4 NPT)	1

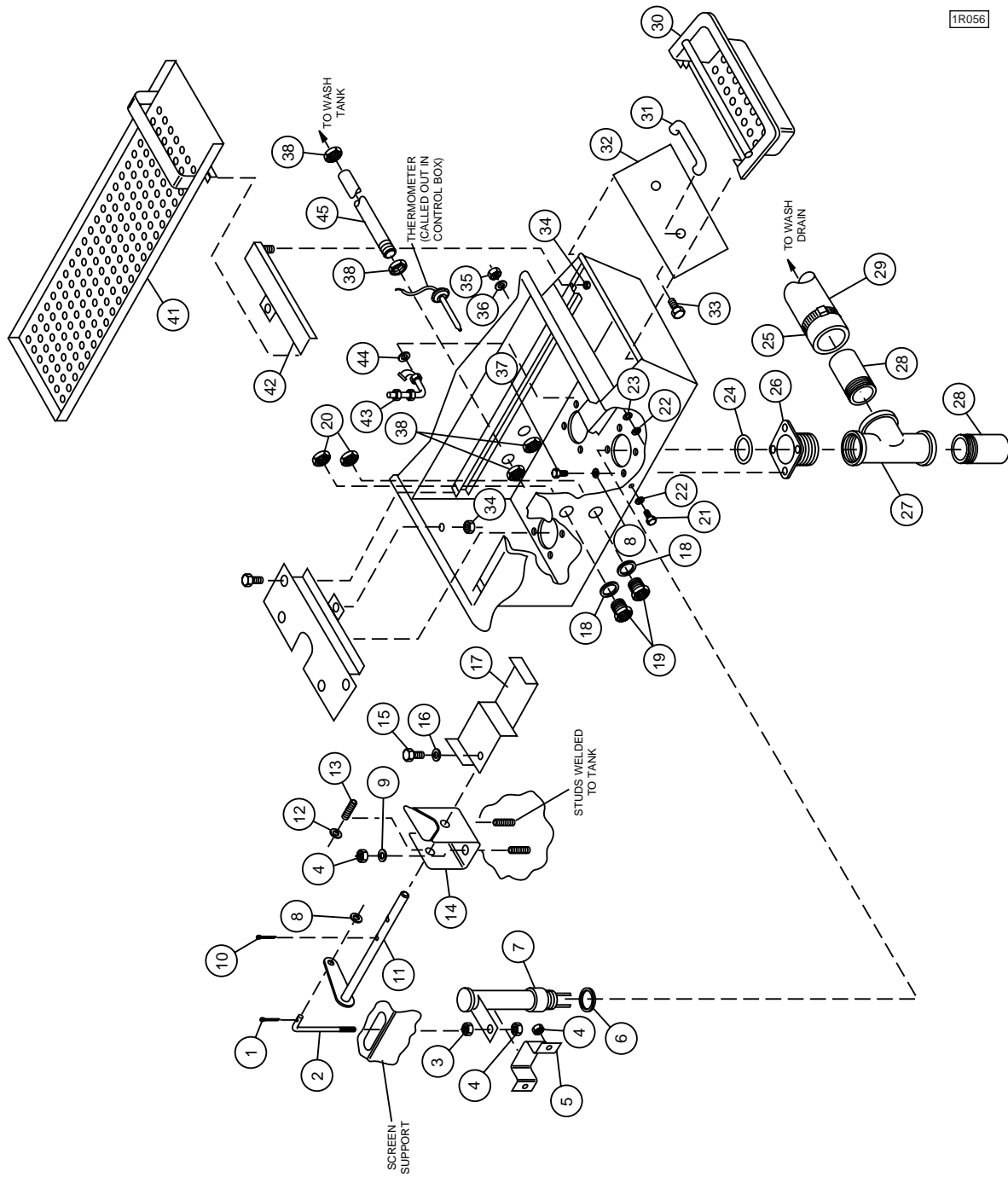
HOOD (FFPR26) (cont.)

Fig. 36 Item No.	Part No.	Part Description	Qty.
—	111172	Repair kit, solenoid valve (1/4 NPT)	1
—	111469	Replacement coil, solenoid valve (1/4 NPT) (120V coil).....	1
41	113352	Valve Solenoid (1/2" NPT) (After S/N R2441)	1
	113392	Repair kit, valve 1/2"	1
	113357	Replacement coil (120V).....	1
42	109909	Fitting, compression (1/4 NPT x 1/2" O.D.)	2
42a	109909	Fitting Compression (1/4 NPT x 1/2" O.D.) (Prior to S/N R2440)	1
42a	111250	Fitting Compression (1/2" O.D. x 1/2" MPT) Brass (After S/N R2441)	1
43	107315	Tubing, copper (1/2" O.D.)	A/R
44	108578	Bracket, panel	2
45	325667	Track Stiffener	1
—	108618	Gasket, hood	A/R
—	403563	Piping Assy Fill (includes items – 33 thru 42)	1
**—	900836	Kit*Repair, 1/4" & 1/2" Vacuum Breaker (Includes one each of 108349, 113219 and 113221)	
**—	900837	Kit*Repair 3/4" Vacuum Breaker (Includes one each of 108351 and 113223)	

* Between serial number range R2289 and R2440 maintained 1/4" valves, switching from Parker to GC (see Srv Bulletin #46) then converted to 1/2" valves. Contact factory for machines in this serial number range for correct 1/4" valve.

** Kits 900836 and 900837 were created to repair either style of vacuum breaker (plastic or bronze). Plastic style is no longer available as a complete vacuum breaker.

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Figure 37 – Tank (PR22)

TANK (PR22)

Fig. 37 Item No.	Part No.	Part Description	Qty.
1	108875	Cotter pin (3/32" x 1/2")	1
2	205121	Lift rod, overflow	1
3	107967	Nut, grip (1/4-20) w/Nylon Insert	1
4	100141	Nut, grip (1/4-20)	5
5	317892	Support, overflow	1
6	111532	O-ring, overflow	1
7	316916	Overflow tube (5-1/2")	1
8	106026	Washer, flat (1/4")	5
9	106482	Washer, lock (1/4") Split	2
10	108875	Cotter pin (3/32" x 1/2")	1
11	317051	Lift arm	1
12	102376	Washer, flat (5/16")	1
13	111391	Spring, latch bracket	1
14	316552	Latch bracket	1
15	105254	Bolt (10-32 x 1/2") Hex hd	1
16	106486	Washer, lock (#10) Split	1
17	316554-1	Drain lever.	1
18	109034	Gasket (1/2 NPT) Plug	2
19	108418	Plug (1/2 NPT) Plastic	2
20	108417	Nut (1/2 NPT) Plastic	2
21	106314	Bolt (3/8-16 x 1/2") Hex hd	1
22	104618	Washer, flat (3/8")	2
23	100143	Nut, grip (3/8-16)	1
24	112257	O-ring, drain body	1
25	107340	Clamp, hose (M28)	2
26	111034	Drain body	1
27	111060	Tee (1-1/2 NPT x 1-1/4 NPT x 1-1/4 NPT) Galvanized	1
28	111113	Nipple, toe (1-1/4 NPT x 2") Galvanized	2
29	204979	Hose, drain	1
30	311272	Scrap basket.....	1
31	108966	Handle, cover	1
32	320988	Cover, scrap basket	1
33	100073	Screw (1/4-20 x 1/2") Truss hd	2
34	100194	Nut, grip (10-32)	4
35	104584	Nut, plain (1/2-13)	1
36	104882	Washer, flat (1/2")	1
37	100735	Bolt (1/4-20 x 5/8") Hex hd	4
38	100547	Locknut (1/2 NPT) SST	5
39	311628	Screen support rear	1
40	100097	Screw (10-32 x 1/2") Truss hd.....	2
41	305763	Scrap screen	1
42	312649	Screen support front	1
43	110854	Dual Float switch.....	1
44	110750	Gasket, float switch	1
45	204533	Nipple, crossflow (1/2 NPT x 13-1/2" SST).....	1
—	408213	Drain Mechanism Assy (Includes items 10-17)	1

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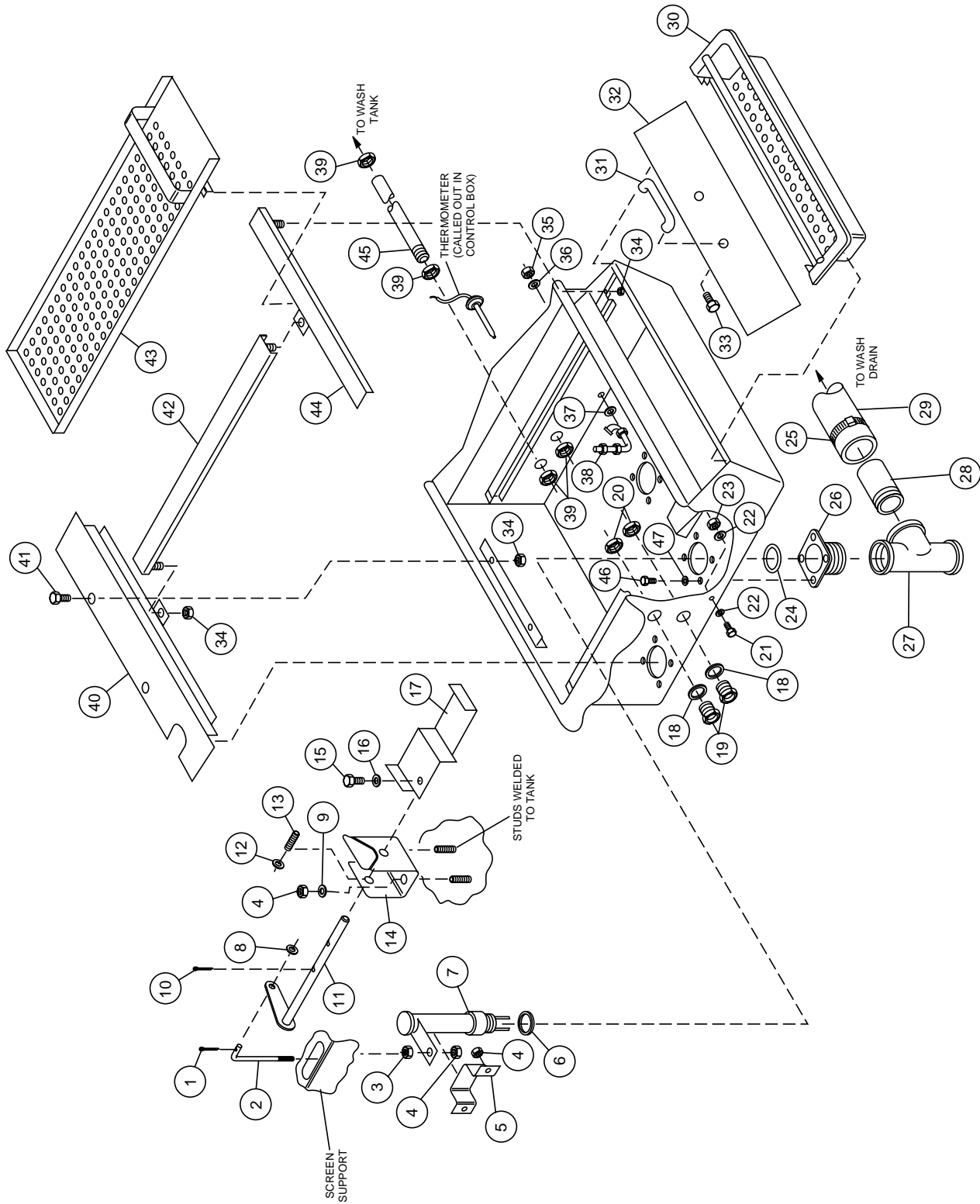


Figure 38 – Tank (PR36)

TANK (PR36)

Fig. 38 Item No.	Part No.	Part Description	Qty.
1	108875	Cotter pin (3/32" x 1/2")	1
2	205121	Lift rod, overflow	1
3	107967	Nut, grip (1/4-20) w/Nylon insert	1
4	100141	Nut, grip (1/4-20)	5
5	317892	Support, overflow	1
6	111532	O-ring, overflow.....	1
7	316916	Overflow tube (5-1/2")	1
8	106026	Washer, flat (1/4")	5
9	106482	Washer, lock (1/4") Split	2
10	108875	Cotter pin (3/32" x 1/2")	1
11	317051	Lift arm	1
12	102376	Washer, flat (5/16")	1
13	111391	Spring, latch bracket	1
14	316552	Latch bracket	1
15	111478	Bolt (10-32 x 1/2") Hex hd	1
16	106486	Washer, lock (#10) Split	1
17	317163-1	Drain lever	1
18	109034	Gasket (1/2 NPT) Plug	2
19	108418	Plug (1/2 NPT) Plastic.....	2
20	108417	Nut (1/2 NPT) Plastic	2
21	106314	Bolt (3/8-16 x 1/2") Hex hd	1
22	104618	Washer, flat (3/8")	2
23	100143	Nut, grip (3/8-16)	1
24	112257	O-ring, drain body	1
25	107340	Clamp, hose (M28)	2
26	111034	Drain body	1
27	111060	Tee (1-1/2 NPT x 1-1/4 NPT x 1-1/4 NPT) Galvanized	1
28	111113	Nipple, toe (1-1/4 x 2") Galvanized.....	1
29	111117	Hose, drain	1
30	311273	Scrap basket	1
31	108966	Handle, cover.....	1
32	305720	Cover, scrap basket	1
33	100073	Screw (1/4-20 x 1/2") Truss hd	2
34	100194	Nut, grip (10-32)	4
35	104584	Nut, plain (1/2-13)	1
36	104882	Washer, flat (1/2")	1
37	110750	Gasket, float switch	1
38	110854	Dual Float switch.....	1
39	100547	Locknut (1/2 NPT) SST	1
40	313811	Screen support, rear	1
41	100097	Screw (10-32 x 1/2") Truss hd.....	1
42	306910	Screen support center	1
43	305783	Scrap screen	1
44	313959	Screen support front	1
45	204539	Nipple, crossflow (1/2 NPT x 13-1/2") SST.....	1
46	100735	Bolt (1/4-20 X 5/8) Hex hd	4
47	106026	Washer, flat (1/4")	1

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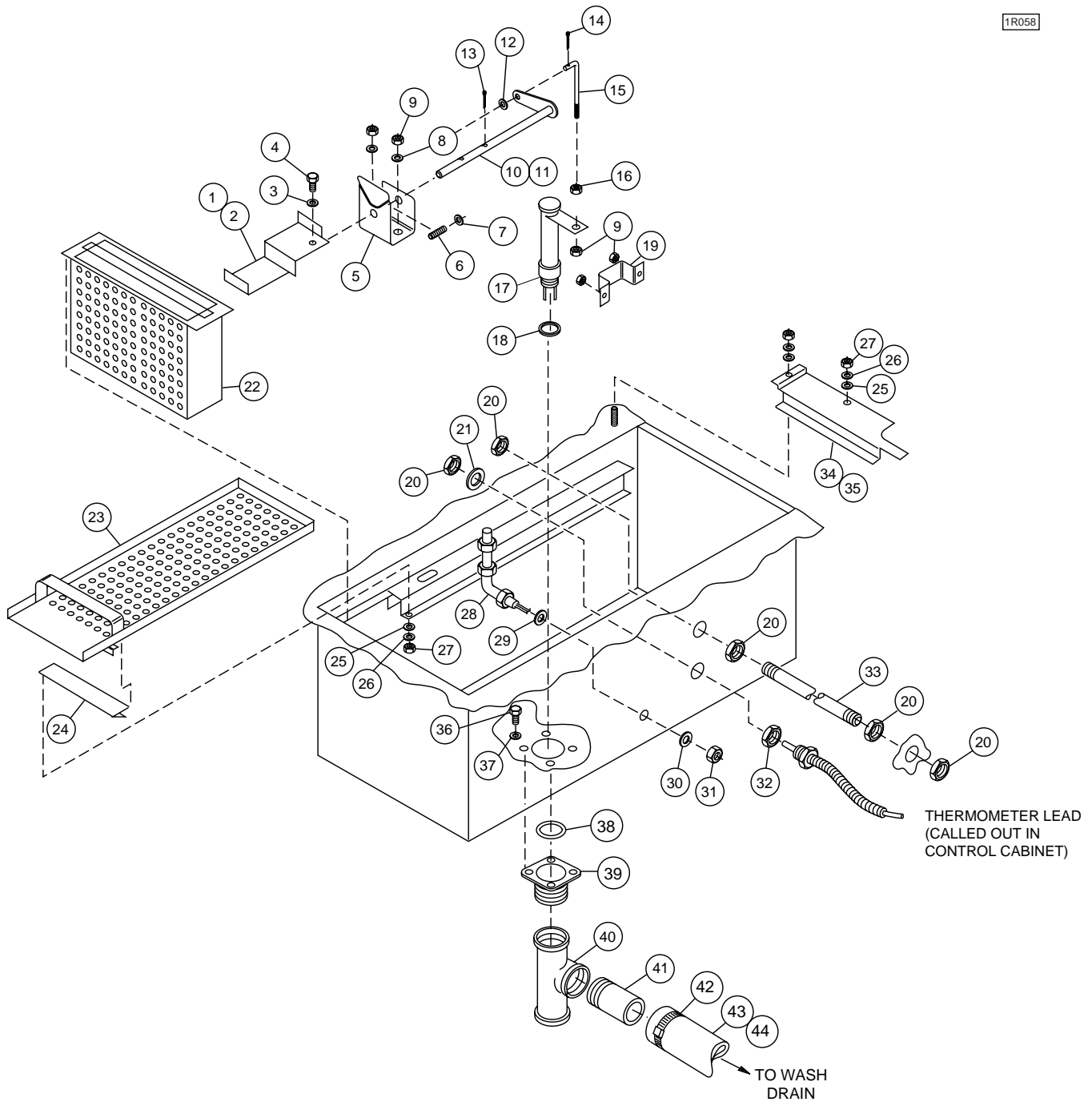


Figure 39– Tank (FFPR26)

TANK (FFPR26)

Fig. 39 Item No.	Part No.	Part Description	Qty.
1	316554	Drain lever (L-R)	1
2	316554-1	Drain lever (R-L)	1
3	106486	Washer, lock (#10) Split	1
4	111478	Bolt (10-32 x 1/2") Hex hd	1
5	316552	Latch bracket	1
6	111391	Spring, latch bracket	1
7	102376	Washer, flat (5/16")	1
8	106482	Washer, lock (1/4) Split	2
9	100141	Nut, grip (1/4-20)	5
10	317050	Lift arm (L,R)	1
11	317051	Lift arm (R-L)	1
12	106026	Washer, flat (1/4")	1
13	108875	Cotter pin (3/32" x 1/2")	1
14	108875	Cotter pin (3/32" x 1/2")	1
15	205121	Lift rod, overflow	1
16	107967	Nut, grip (1/4-20) w/Nylon Insert	1
17	316916	Overflow tube (5-1/2")	1
18	111532	O-ring, overflow	1
19	314294	Support, overflow	1
20	100547	Locknut (1/2 NPT) SST	5
21	109034	Gasket, thermometer	2
22	314771	Scrap basket	1
23	305763	Scrap screen	1
24	312649	Screen support, front	1
25	107033	Washer, flat (#10)	4
26	106486	Washer, lock (#10)	4
27	104985	Nut, plain (10-32)	4
28	110854	Float switch	1
—	111151	C-clip (2 per float switch)	2
29	110750	Gasket float switch	1
30	107589	Washer, lock (1/2")	1
31	104584	Nut, plain (1/2-13)	1
32	201041	Washer, flat (7/8" I.D. x 1/8" Thick)	1
33	204981	Nipple, crossflow (1/2" NPT x 11") SST	1
34	314763	Screen support, Rear (L,R)	1
35	314764	Screen support, Front (R-L)	1
36	100735	Bolt (1/4-20 x 5/8") Hex hd	4
37	106026	Washer, flat (1/4")	4
38	112257	O-ring, drain body	1
39	111034	Drain body	1
40	111060	Tee (1-1/2 NPT x 1-1/4 NPT x 1-1/4 NPT) Galvanized	1
41	111113	Nipple, toe (1-1/4 NPT x 2") Galvanized	2
42	107340	Clamp, hose (M28)	1
43	111117	Hose, drain (44KB, KL44, 44WS)	3 ft.
44	111117	Hose, drain (54KB)	4 ft.
—	408212	Drain Mechanism Assy (L-R) (Includes Items 1,3-7,10,13)	1
—	408213	Drain Mechanism Assy (R-L) (Includes Items 2-7, 11, 13)	1

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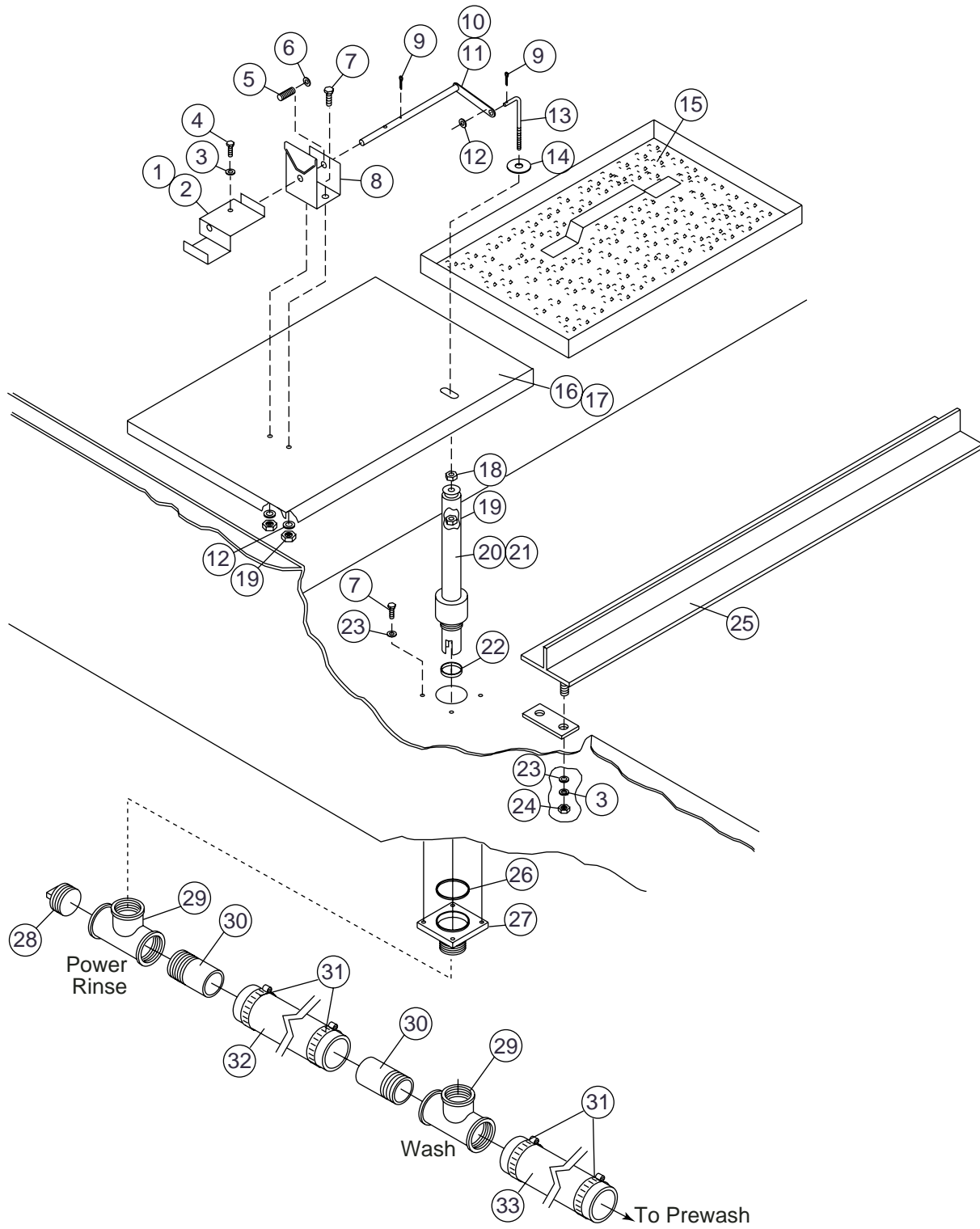


Figure 40 – Drain Unit and Screens
Wash Tank, Power Rinse Tank

**DRAIN UNIT AND SCREENS
WASH TANK, POWER RINSE TANK**

Fig. 40 Item No.	Part No.	Part Description	Qty.
1	317164-1	Drain lever (L-R)	1
2	317164-2	Drain lever (R-L)	1
3	106486	Washer, lock (#10)	2
4	111478	Bolt (10-32 x 1/2") Hex hd	1
5	111391	Spring, overflow lift	1
6	102376	Washer, flat (5/16")	1
7	100735	Bolt (1/4-20 x 5/8") Hex hd	6
8	316552	Latch bracket	1
9	108875	Cotter pin (3/32" x 1/2")	2
10	317050	Lift arm, (L-R)	1
11	317051	Lift arm, (R-L)	1
12	106026	Washer, flat (1/4")	1
13	205080	Lift rod, overflow	1
14	104925	Washer, lift rod	1
15	305164	Screen	6
16	316835	Filler (RH)	1
17	317069	Filler (LH)	1
18	107967	Nut, grip (1/4-20) w/nylon insert	1
19	100141	Nut, grip (1/4-20)	2
20	314463	Overflow (7") (Wash)	1
21	314457	Overflow (7-1/2") (Rinse)	2
22	111532	O-ring, overflow	1
23	107033	Washer, flat (#10)	2
24	104985	Nut, plain (10-32)	1
25	305163	Screen support	1
26	112257	O-ring.....	1
27	111034	Drain body	1
28	100579	Pipe plug (1-1/4 NPT) Galvanized	1
29	111059	Tee (1-1/4" NPT x 1-1/4" NPT x 1-1/2" NPT)	2
30	204383	Nipple, toe 1" NPT x 2" galvanized	2
31	107340	Clamp, Hose	4
32	111117	Hose (14")	1
33	111117	Hose (27-1/4")	1

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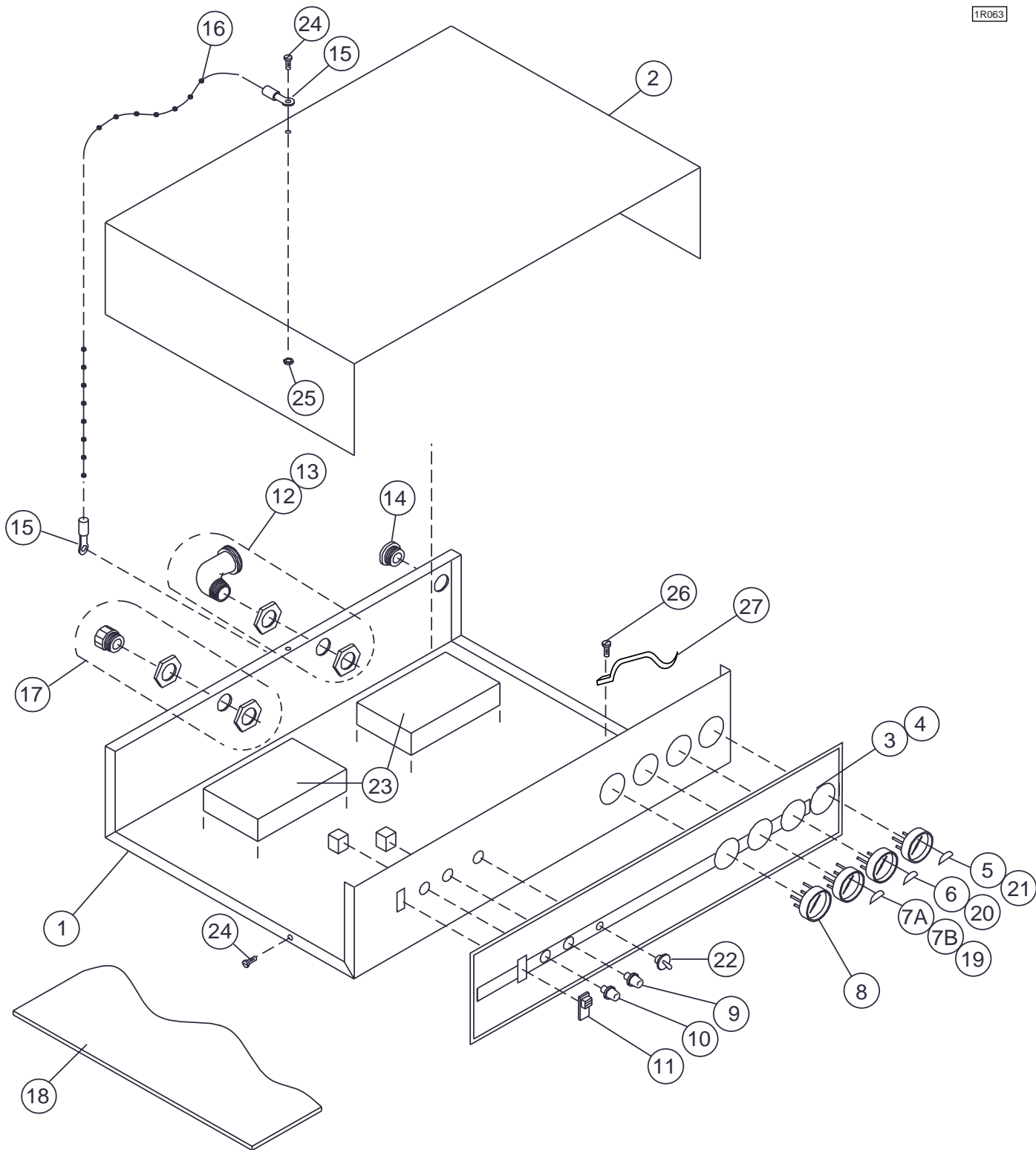


Figure 41 – Control Cabinet

CONTROL CABINET

Fig. 41 Item No.	Part No.	Part Description	Qty.
1	317186	Control box 36"	1
2	317405	Cover, control cabinet 36"	1
3	111596	Decal 36" Cabinet (64/40/60KPRB)	1
4	111597	Decal 36" Cabinet (64/40/60KB)	1
5	113622	Thermometer 4' Gas Filled - Final Rinse (Replaces 108391).....	1
6	107440	Thermometer 8' - Rinse	1
7A	107440	Thermometer 8' - Wash Prewash (L-R) PR22, PR 26, PR 36.....	1
7B	109499	Thermometer 12' - Wash (R-L)	1
8	107440	Thermometer 8' - Prewash.....	1
9	900726	Kit, Stop Pushbutton (Red)	1
10	900725	Kit, Start Pushbutton (Green)	1
11	111980	Power switch/Circuit Breaker - 5Amp	
12	110920	Connector (1" x 90°)	1
13	100882	Connector (1-1/4" x 90°).....	1
14	107964	Bushing	1
15	107368	Coupling, chain end	2
16	107367	Chain, bead	1 ft.
17	110919	Connector (1")	1
18	109056	Insulation	1
19	112087	Label - Thermometer Overlay - Wash	1
20	113663	Label - Thermometer Overlay - Rinse	1
21	113644	Label -Thermometer Overlay - Final Rinse	1
22	107351	Switch, toggle DPOT (Blower, Dryer)	1
23	111357	Pad,vibration damping.....	2
24	100097	Screw (10-32 x 1/2") Truss hd	4
25	100194	Nut, grip (10-32)	2
26	104883	Screw (6-32 X 3/8)Round hd	2
27	112307	Wire, retainer screw mount	2
—	900725	Kit, Start pushbutton (Green) (Kit includes: Qty. 1 each P/N 111614, green pushbutton and P/N 111617, Contact Block N.O.)	
—	900726	Kit, Stop pushbutton (Red) (Kit includes: Qty. 1 each P/N 111615, red pushbutton and P/N 111616, Contact Block N.C.)	

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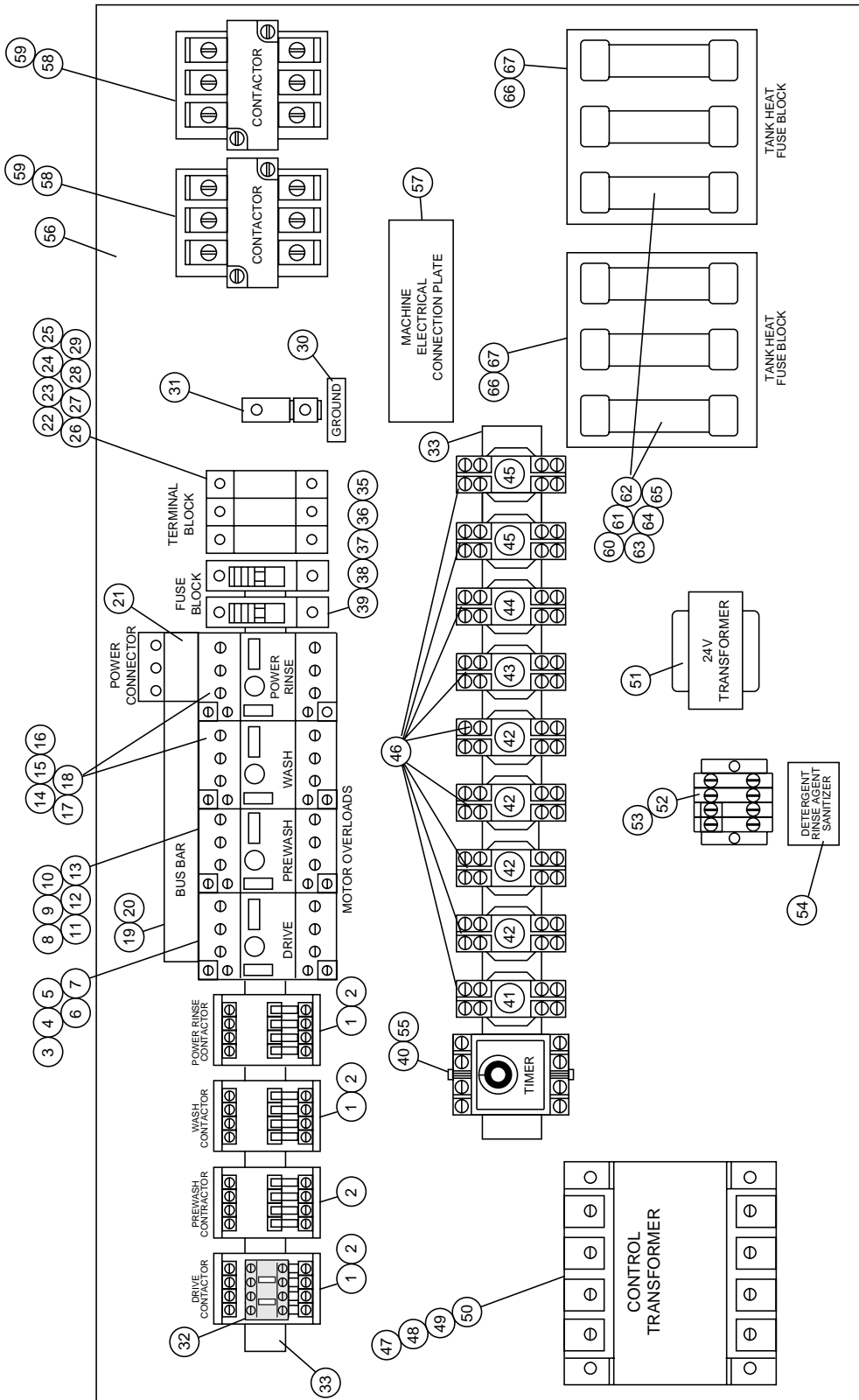


Figure 42 – Control Panel

CONTROL PANEL

Fig. 42 Item No.	Part No.	Part Description	Qty.
*1	108122	Contactora (Motor) 12 Amp, 3 Pole w/Aux Switch (40/60/64KB)	2
*2	108122	Contactora (Motor) 12 Amp, 3 Pole w/Aux Switch (40/60/64KPRB)	3
3	110805	Starter Mtr OL GV2-M08 w/Aux - 1/4 HP Drive (208-240V/1PH)	1
4	110803	Starter Mtr OL GV2-M06 w/Aux - 1/4 HP Drive (208-240V/3PH)	1
5	110802	Starter Mtr OL GV2-M05 w/Aux - 1/4 HP Drive (380-415V/3PH)	1
6	110802	Starter Mtr OL GV2-M05 w/Aux - 1/4 HP Drive (440-480V/3PH)	1
7	110801	Starter Mtr OL GV2-M04 w/Aux - 1/4 HP Drive (575V/3PH)	1
8	110807	Starter Mtr OL GV2-M14 w/Aux - 1HP Prewash (208-240V//1PH)	1
9	110805	Starter Mtr OL GV2-M08 w/Aux - 1HP Prewash (208V/1PH)	1
10	110805	Starter Mtr OL GV2-M08 w/Aux - 1HP Prewash (220-240V/3PH)	1
11	110804	Starter Mtr OL GV2-M07 w/Aux - 1HP Prewash (380-415V/3PH)	1
12	110804	Starter Mtr OL GV2-M07 w/Aux - 1HP Prewash (440-480V/3PH)	1
13	110803	Starter Mtr OL GV2-M06 w/Aux - 1HP Prewash (575V/3PH)	1
14	111630	Overload, Motor -2HP Wash/Power Rinse (208-240V/ 1PH)	1
15	112691	Overload, Motor -2HP Wash/Power Rinse (208-240V/3PH)	1
16	110805	Starter Mtr OL GV2-M08 w/Aux-2HP Wash/Power Rinse (380-415V/3PH)	1
17	110805	Starter Mtr OL GV2-M08 w/Aux-2HP Wash/Power Rinse (440-480V/3PH)	1
18	112692	Overload, Motor -2HP Wash/Power Rinse (575V/3PH)	1
19	111671	Bus bar 3 Unit (64KB)	1
20	111634	Bus bar 4 Unit (64KPRB)	1
21	111636	Power connector, 3 pole.....	1
22	111833	Terminal block (208-240V/1PH)	1
23	111833	Terminal block (208-240V/1PH)	1
24	111833	Terminal block (208-220V/3PH) 70°Rise	1
25	111833	Terminal block (208-240V/3PH) 40°Rise	1
26	111833	Terminal block (208-240V/3PH)	1
27	111833	Terminal block (380-415V/3PH).....	1
28	111833	Terminal block (440-480V/3PH).....	1
29	111833	Terminal block (575V/3PH)	1
30	104873	Label, ground.....	1
31	103309	Wire lug-ground.....	1
*32	108130	Auxiliary switch (Drive contactor)	1
33	110849	Din Rail 16-1/2" (specify length 16 1/2").....	2
34	110849	Din Rail 12" (specify length 12")	1
35	111153	Fuse block.....	2
36	111823	Fuse (ATDR-6) (208-240V)	2
37	111822	Fuse (ATDR-5) (380-415V)	2
38	111821	Fuse (ATDR-3) (440-480V)	2
39	111821	Fuse (ATDR-3) (575V)	2
40	112351	Timer 0-6 Min. Off Delay	1
41	111068	Relay-120V	1
42	111067	Relay-24V (64KB)	4
43	111067	Relay 24V (64KPRB)	5
44	111067	Relay-24V (Table limit switch)	1
45	111068	Relay-120V (Booster-Electric)	1

* When replacing a drive motor contactor, Item 1 or 2, and machine S/N is prior to S/N R1666, you must order Item 32, P/N 108130 in addition to P/N 108122.

CONTROL PANEL (cont.)

Fig. 42 Item No.	Part No.	Part Description	Qty.
46	111036	Socket, relay (1 Per Relay)	A/R
47	107091	Transformer, Control (500VA) (208-240V)	1
48	107091	Transformer, Control (500VA) (440-480V)	1
49	109148	Transformer, Control (500VA) (380-415V)	1
50	111046	Transformer, Control (500VA) (575V)	1
51	111277	Transformer, Control (120V to 24V)	1
52	107171	Terminal block (4 pole)	1
53	112279	Jumper, shorting	1
54	112296	Label, chemical connections	1
55	112352	Socket, timer	1
56	317185	Inner panel	1
57	108615	Data plate, machine electrical connection	1
58	111827	Contactor (Heat-Electric) 60Amp 3 Pole (208-240V)	1
59	111827	Contactor (Heat-Electric) 60Amp 3 Pole (440-480V) (575V)	1
60	111230	Fuse (OT-60)(Heat-Electric) (208-220V)	3
61	111240	Fuse (OT-50) (Heat-Electric) (220-240V)	3
62	108517	Fuse (ATMR-25) (Heat-Electric) (208-220V)	3
63	100922	Fuse (ATMR-20) (Heat-Electric) (575V)(480V)	3
64	180173	Fuse (A4J40) (Heat-Electric) (208-220V)	3
65	180176	Fuse (A4J60) (Heat-Electric) (208-220V)	3
66	180171	Fuse Block 600V/30A (440-480V)	2
67	106925	Fuse Block 600V/50A (208-220V)	2

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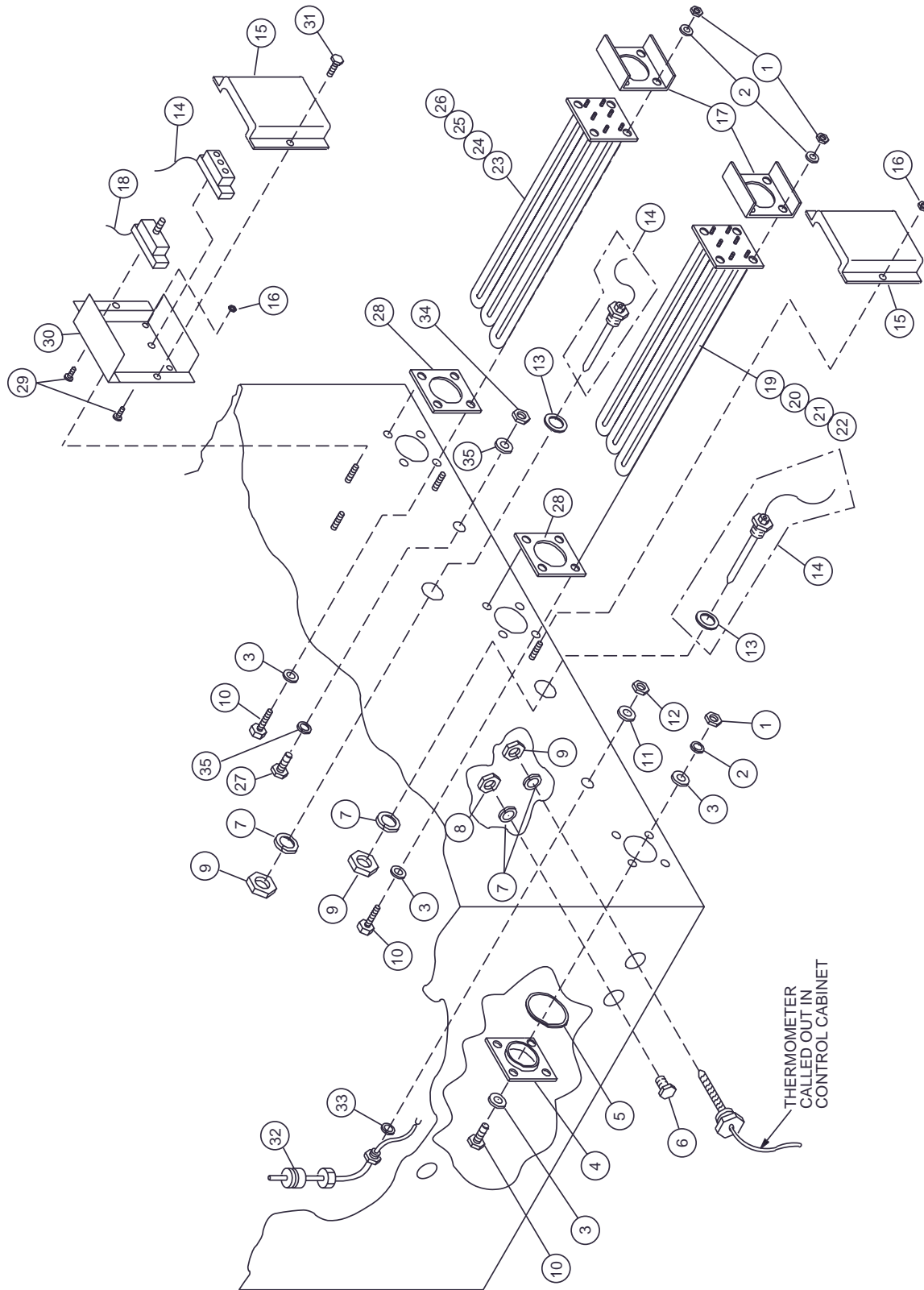


Figure 43 – Tank Heat (Electric, R-L Shown)

TANK HEAT (ELECTRIC, R-L SHOWN)

Fig. 43 Item No.	Part No.	Part Description	Qty.
1	100154	Nut, plain (5/16-18).....	12
2	106013	Washer, lock (5/16") Split	12
3	102376	Washer, flat (5/16")	1
4	109638	Flange, blockoff	5
5	112257	O-ring	1
6	108418	Plug (1/2" NPT) Plastic	5
7	109034	Gasket, plug	8
8	108417	Nut (1/2" NPT) Plastic	5
9	100547	Locknut (1 1/2" NPT) SST	3
10	100740	Bolt (5/16-18 x 1") Hex hd	12
11	107589	Washer, lock (1/2")	1
12	104584	Nut, plain (1/2-13)	1
13	201041	Washer (7/8" ID x 1/8" thick)	3
14	109069	Thermostat w/capillary	1
15	109682	Cover, heater	3
16	107966	Nut, grip (10-32) w/nylon insert	2
17	308949	Junction box, heater	2
18	110561	Thermostat (Hi Limit) w/capillary	1
19	109751	Heater Element-10KW (208V)	1
20	107844	Heater Element-10KW (240V)	1
21	107846	Heater Element-10KW (480V)	1
22	111120	Heater Element-10KW (575V)	1
23	107839	Heater Element-5KW (208V)	1
24	107840	Heater Element-5KW (240V)	1
25	107842	Heater Element-5KW (480V)	1
26	111123	Heater Element-5KW (575V)	1
27	106314	Bolt (3/8-16 x 1/4") Hex hd	1
28	108345	Gasket, heater	2
29	100100	Screw (8-32 x 1/4") Round hd	2
30	314102	Box, dual thermostat	1
31	100097	Screw (10-32 x 1/2") Truss hd	2
32	110854	Switch, dual float (40-60KB/KPRB)(64KPRB Prewash only)	A/R
32	111019	Switch, dual float (64KB/KPRB Wash & Rinse)	A/R
—	111151	C-clip (2 per float).....	2
33	110750	Gasket, float switch	1
34	100143	Nut, grip (3/8-16)	2
35	104618	Washer, flat (3/8")	2

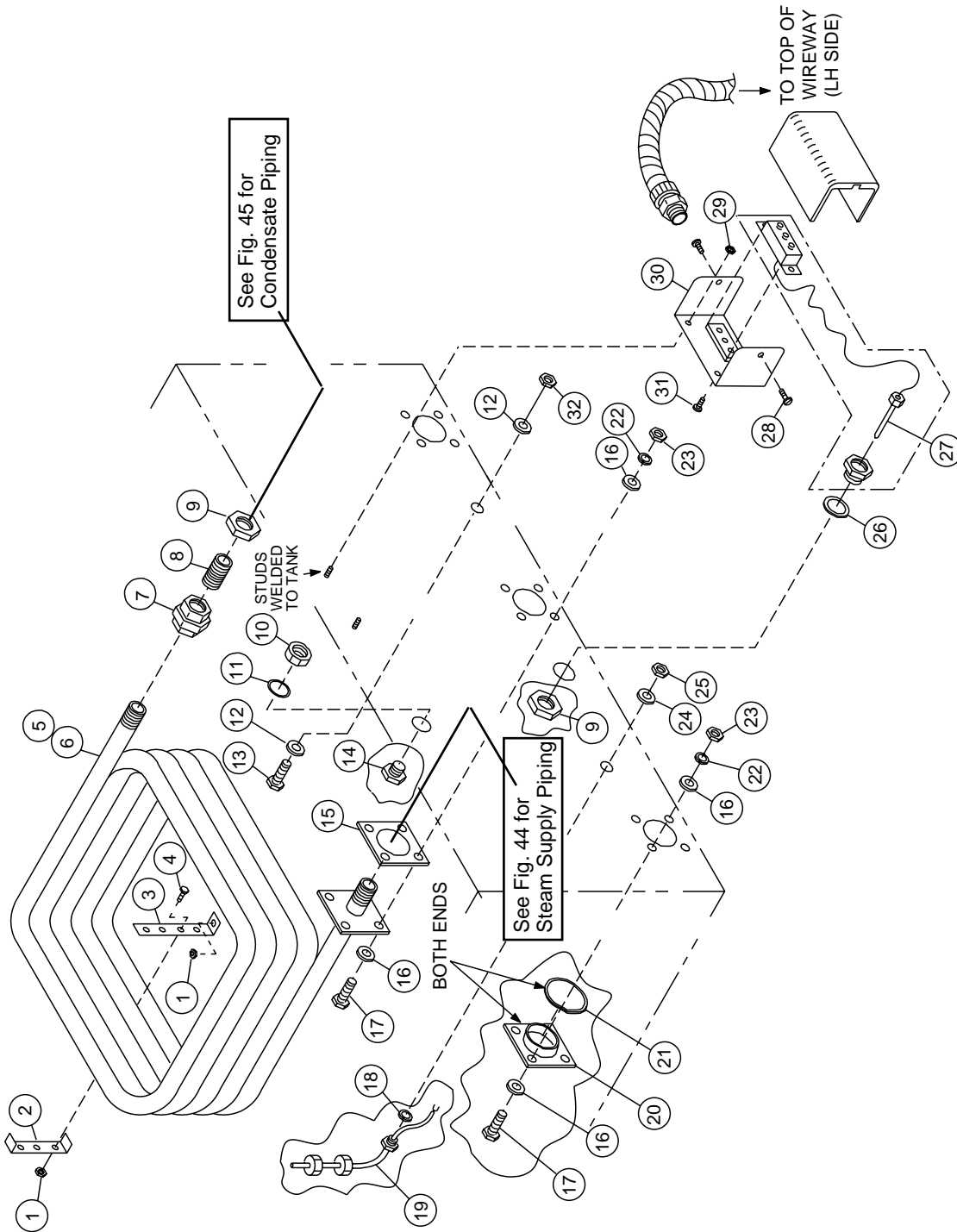


Figure 44 – Tank Heat (Steam Coils, R-L Shown)

TANK HEAT (STEAM COILS, R-L SHOWN)

Fig. 44 Item No.	Part No.	Part Description	Qty.
1	100141	Nut, grip (1/4-20)	3
2	B2850-2	Bracket, steam coil	1
3	B2850-1	Bracket, steam coil	1
4	104585	Bolt (1/4-20 x 1-1/4") Hex hd	3
5	305138	Steam coil, (R-L)	1
6	305137	Steam coil, (L-R)	1
7	102550	Union (1/2" NPT) SST	1
8	100704	Nipple (1/2" NPT x 1-3/4 RTOE) SST	1
9	100547	Locknut (1/2" NPT) SST	3
10	108417	Nut (1/2" NPT) Plastic	6
11	109034	Gasket (1/2" NPT) Plug	1
12	104618	Washer, flat (3/8")	16
13	106314	Bolt (3/8-16 x 1/2") Hex hd	1
14	108418	Plug (1/2" NPT).....	1
15	108345	Gasket, steam coil	1
16	104618	Washer 3/8 x 7/8 x 1/17 SST.....	16
17	100740	Bolt (5/16-18 x 1")	8
18	110750	Gasket, float switch	1
19	110854	Switch, dual float (40-60KB / KPRB)	A/R
19	111019	Switch, dual float (64KB / 64KPRB Wash & Rinse)	A/R
—	111151	C-clip (2 per float switch)	2
20	109683	Flange, block off	2
21	112257	O-ring.....	2
22	106407	Washer, lock *3/8") Split.....	8
23	100140	Nut, plain (3/8-16).....	8
24	107589	Washer, lock (1/2")	1
25	104584	Nut, plain (1/2-13).....	1
26	201041	Washer (7/8" I.D. x 1/8")	1
27	109069	Thermostat w/capillary	1
28	106460	Screw (6-32 x 1/4") Truss hd	2
29	107966	Nut, grip (10-32) w/nylon insert	1
30	107922	Box and cover, thermostat	1
31	100100	Screw (8-32 x 1/4") Round hd.....	1
32	100143	Nut, grip (3/8-16")	1

— See Fig. 44 for Steam piping to steam coil

— See Fig. 45 for Condensate piping from steam coil

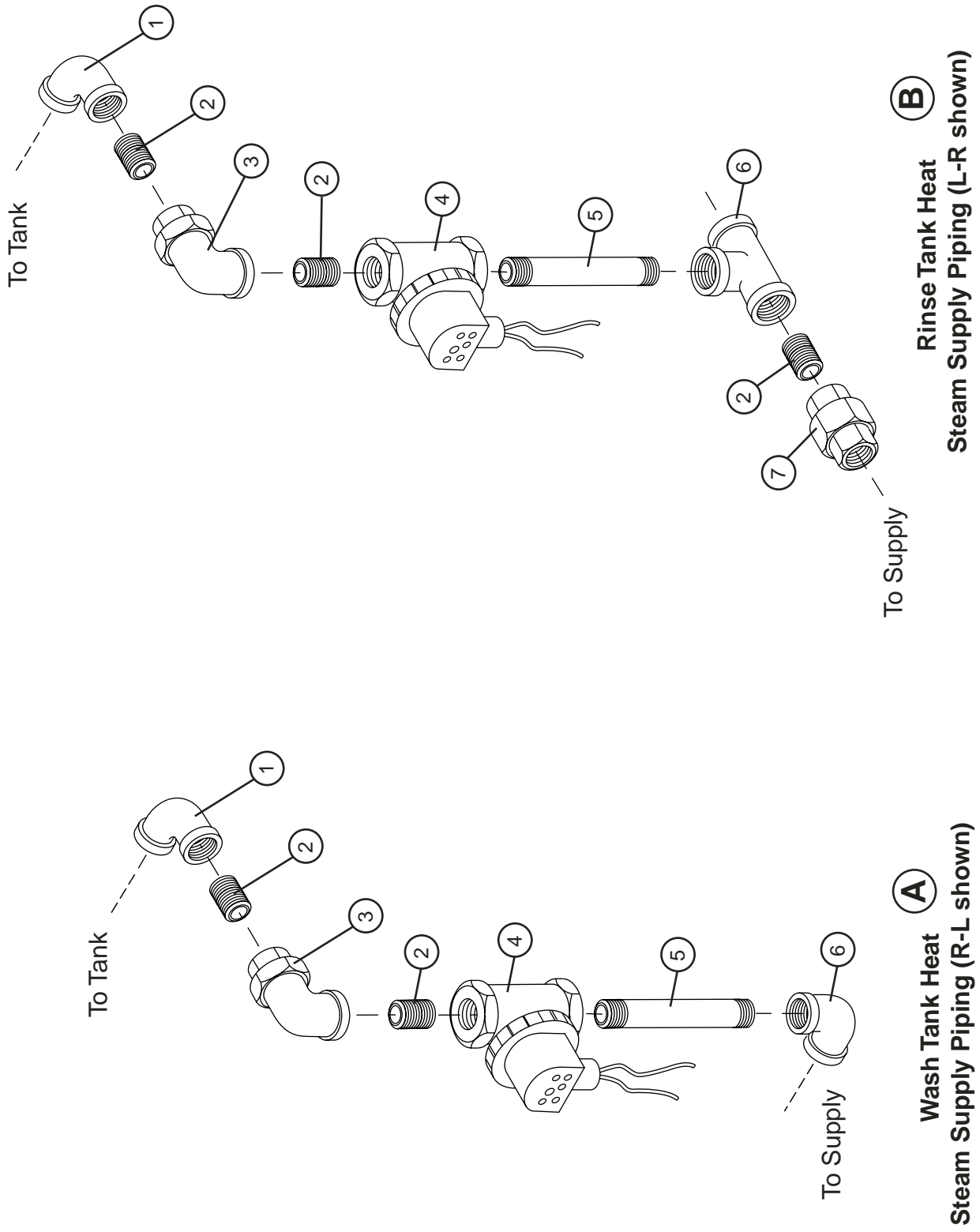


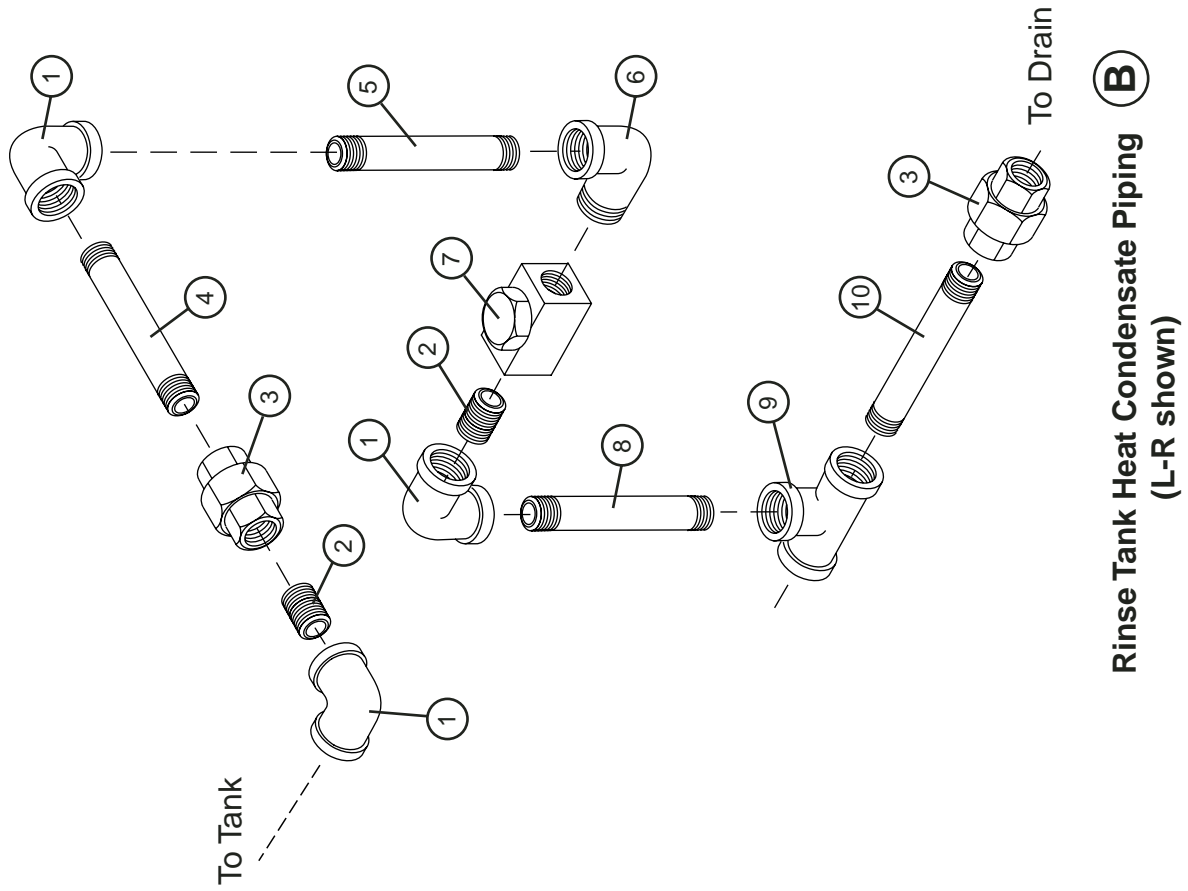
Figure 45 – Tank Heat (Steam Supply Piping)

WASH TANK HEAT (STEAM SUPPLY PIPING, R-L SHOWN)

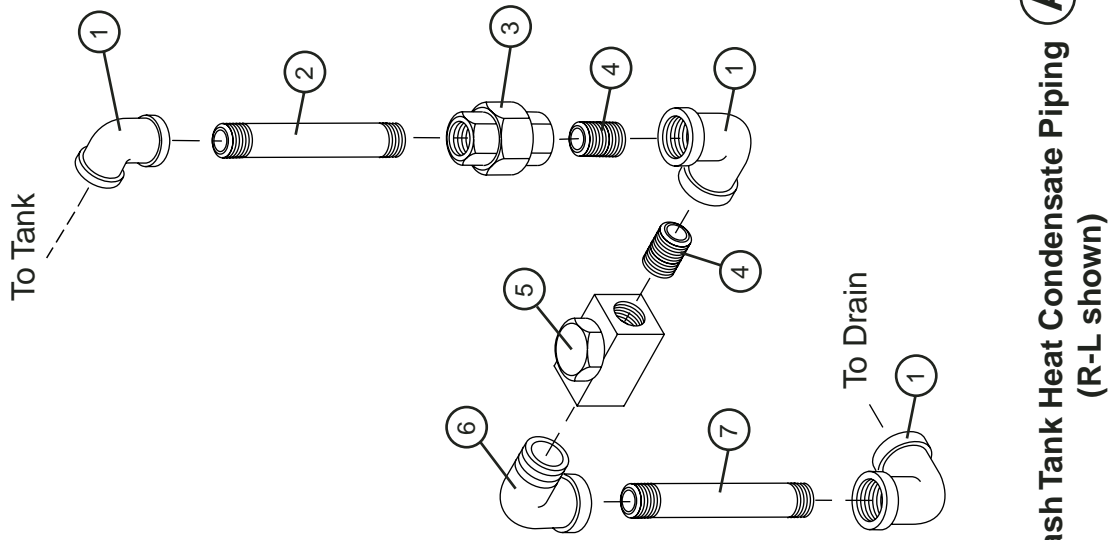
Fig. 45a Item No.	Part No.	Part Description	Qty.
1	105738	Elbow, red (3/4" NPT x 1/2" NPT 90°).....	1
2	105803	Nipple, 3/4" NPT x Close BI.....	1
3	106485	Union, elbow 3/4" NPT female	1
4	109887	Valve, solenoid 3/4" NPT	2
—	109903	Repair kit, solenoid valve (3/4")	1
—	111472	Replacement coil, solenoid valve (3/4") (120V coil)	1
5	112321	Nipple, 3/4" NPT x 14-1/2" BI	1
6	105730	Elbow, 3/4" NPT x 90° BI.....	1

RINSE TANK HEAT (STEAM SUPPLY PIPING, L-R SHOWN)

Fig. 45b Item No.	Part No.	Part Description	Qty.
1	105738	Elbow, red. 3/4" NPT x 1/2" NPT x 90°BI	1
2	105803	Nipple, 3/4" NPT x Close BI.....	3
3	106485	Union, elbow 3/4" NPT female BI	1
4	109887	Valve, solenoid 3/4" NPT	1
—	109903	Repair kit, solenoid valve (3/4")	1
—	111472	Replacement coil, solenoid valve (3/4") (120V coil)	1
5	112321	Nipple, 3/4" NPT x 14-1/2" BI	1
6	105752	Tee, 3/4" NPT BI.....	1
7	105779	Union 3/4" NPT BI	1



Rinse Tank Heat Condensate Piping **(B)**
(L-R shown)



Wash Tank Heat Condensate Piping **(A)**
(R-L shown)

Figure 46 – Tank Heat (Condensate Piping)

WASH TANK HEAT (CONDENSATE PIPING, R-L SHOWN)

Fig. 46a Item No.	Part No.	Part Description	Qty.
1	102288	Elbow 1/2" NPT x 90° BI	3
2	105783	Nipple, 1/2" NPT x 2" BI	1
3	105778	Union, 1/2" NPT BI.....	1
4	105782	Nipple, 1/2" NPT x Close BI.....	2
5	111380	Steam Trap 1/2" NPT	1
6	100147	Elbow, street 1/2" NPT x 90° BI	1
7	109966	Nipple, 1/2" NPT x 9-3/4" BI	1

RINSE TANK HEAT (CONDENSATE PIPING, L-R SHOWN)

Fig. 46b Item No.	Part No.	Part Description	Qty.
1	102288	Elbow 1/2" NPT x 90° BI	3
2	105782	Nipple, 1/2" NPT x Close BI.....	2
3	105778	Union, 1/2" NPT BI.....	2
4	105793	Nipple, 1/2" NPT x 5" BI	1
5	107489	Nipple, 1/2" NPT x 4" BI	1
6	100147	Elbow, street 1/2" NPT x 90° BI	1
7	111380	Steam Trap 1/2" NPT	1
8	109966	Nipple, 1/2" NPT x 9-3/4" BI	1
9	105757	Tee, red. 3/4" x 1/2" x 1/2" NPT BI	1
10	107488	Nipple, 1/2" NPT x 3-1/2" BI	1

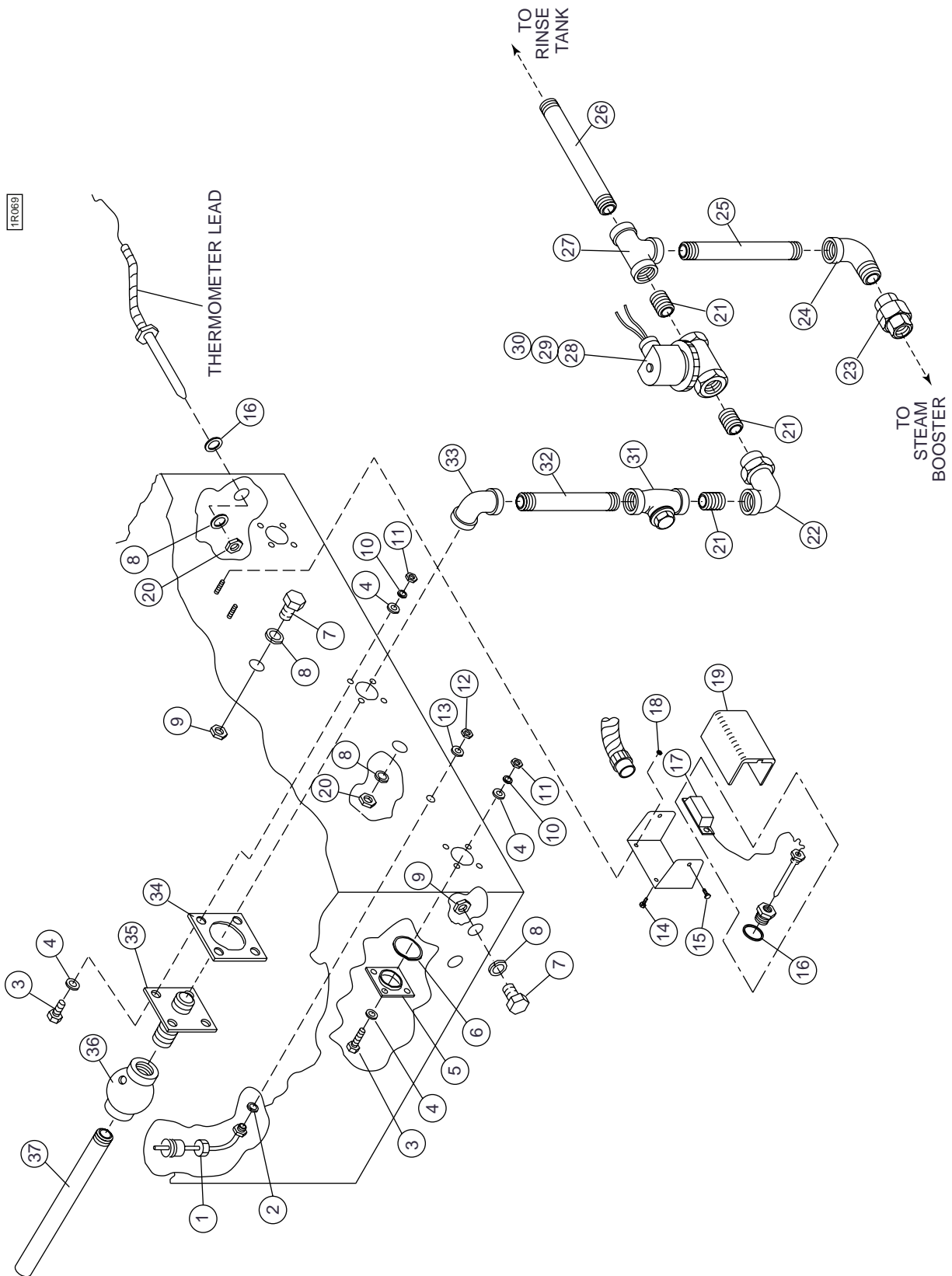
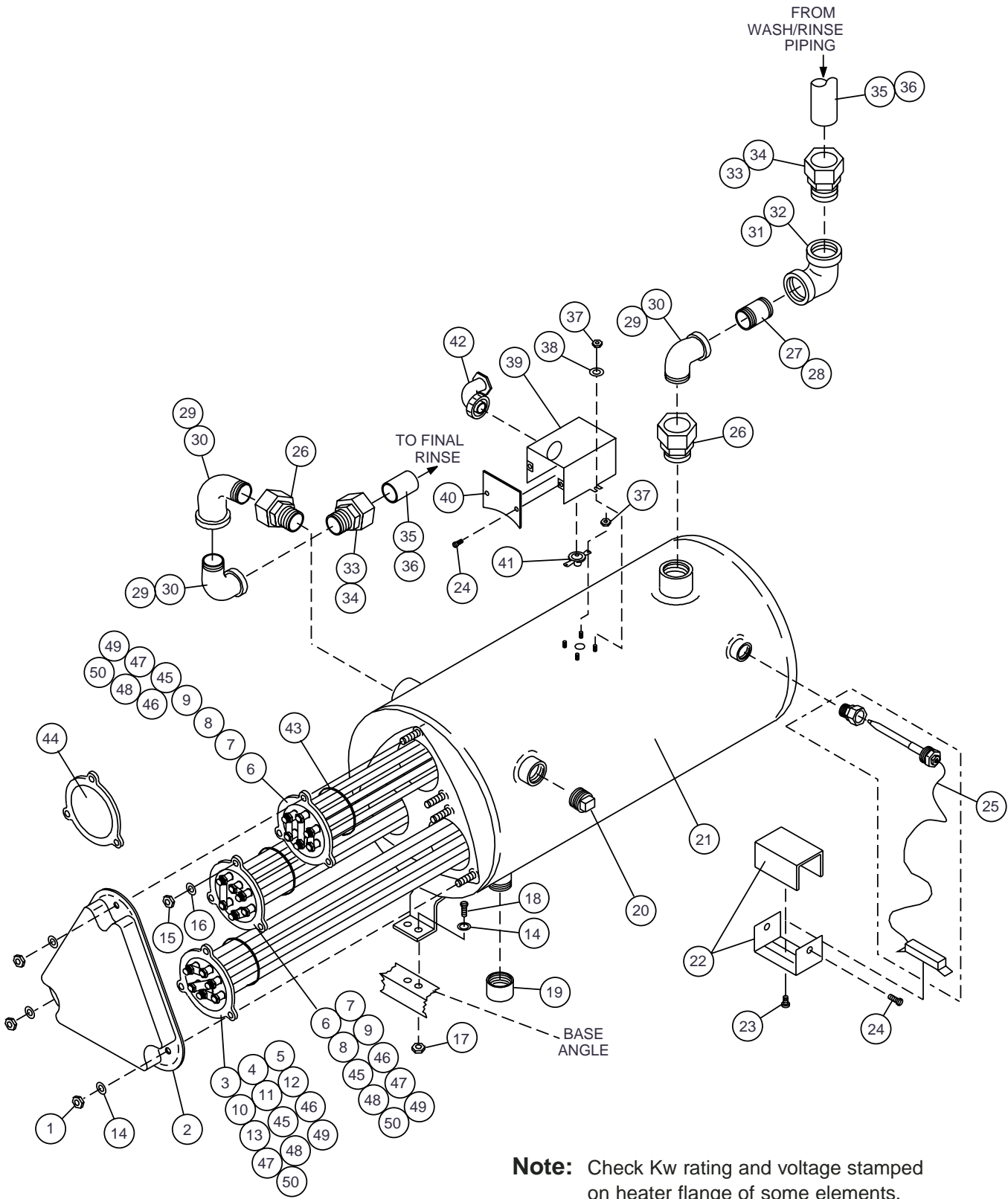


Figure 47 – Tank Heat (Steam Injector, R-L Shown)

TANK HEAT (STEAM INJECTOR, R-L SHOWN)

Fig. 47 Item No.	Part No.	Part Description	Qty.
1	110854	Switch, dual float (40KB, 60KB)	1
1	111019	Switch, dual float (64KB/64KPRB, Wash & Rinse)	1
—	111151	C-clip (2 per float switch)	2
2	110750	Gasket, float switch	1
3	100740	Bolt (5/16-19 x 1")	12
4	102376	Washer, flat (5/16")	24
5	109683	Block off	1
6	112257	O-ring.....	1
7	108418	Plug (1/2 NPT) Plastic.....	4
8	109034	Gasket (1/2 NPT).....	6
9	108417	Nut (1/2 NPT) Plug, Plastic	2
10	106013	Washer, lock (5/16") Split	12
11	100154	Nut, plain (5/16-18).....	12
12	104584	Nut, plain (1/2-13)	1
13	107589	Washer, flat (1/2")	1
14	100100	Screw (8-32 x 1/4") Round head	1
15	106460	Screw (6-32 x 1/4") Truss head	2
16	201041	Washer (7/8" ID x 1/8" TK)	2
17	109069	Thermostat	1
18	107966	Nut, grip (10-32) w/nylon insert	2
19	107922	Box and Cover, thermostat	2
20	100547	Locknut (1/2 NPT)	2
21	105803	Nipple close 3/4" NPT.....	3
22	106485	Union, elbow 3/4" x 90 female	1
23	105779	Union 3/4 NPT B.I.	1
24	105731	Street elbow 3/4" B.I.	1
25	105841	Nipple 3/4" x 10" B.I.	1
26	105844	Nipple 3/4" x 11" B.I.....	1
27	105752	Tee 3/4" NPT B.I.	1
28	109887	Valve, 3/4" Steam Jackes Evans	1
29	109903	Repair, kit 3/4" solenoid valve	1
30	108516	Replacement coil, solenoid valve 120v	1
31	100856	Valve, check 3/4" NPT	1
32	105834	Nipple 3/4" x 8" B.I.	1
33	105738	Elbow, red 3/4" x 1/2" x 90°	1
34	108345	Gasket, heater	1
35	305143	Flange, weldment.....	1
36	201110	Steam injector	1
37	101677	Nipple toe 1" x 9" SST	1



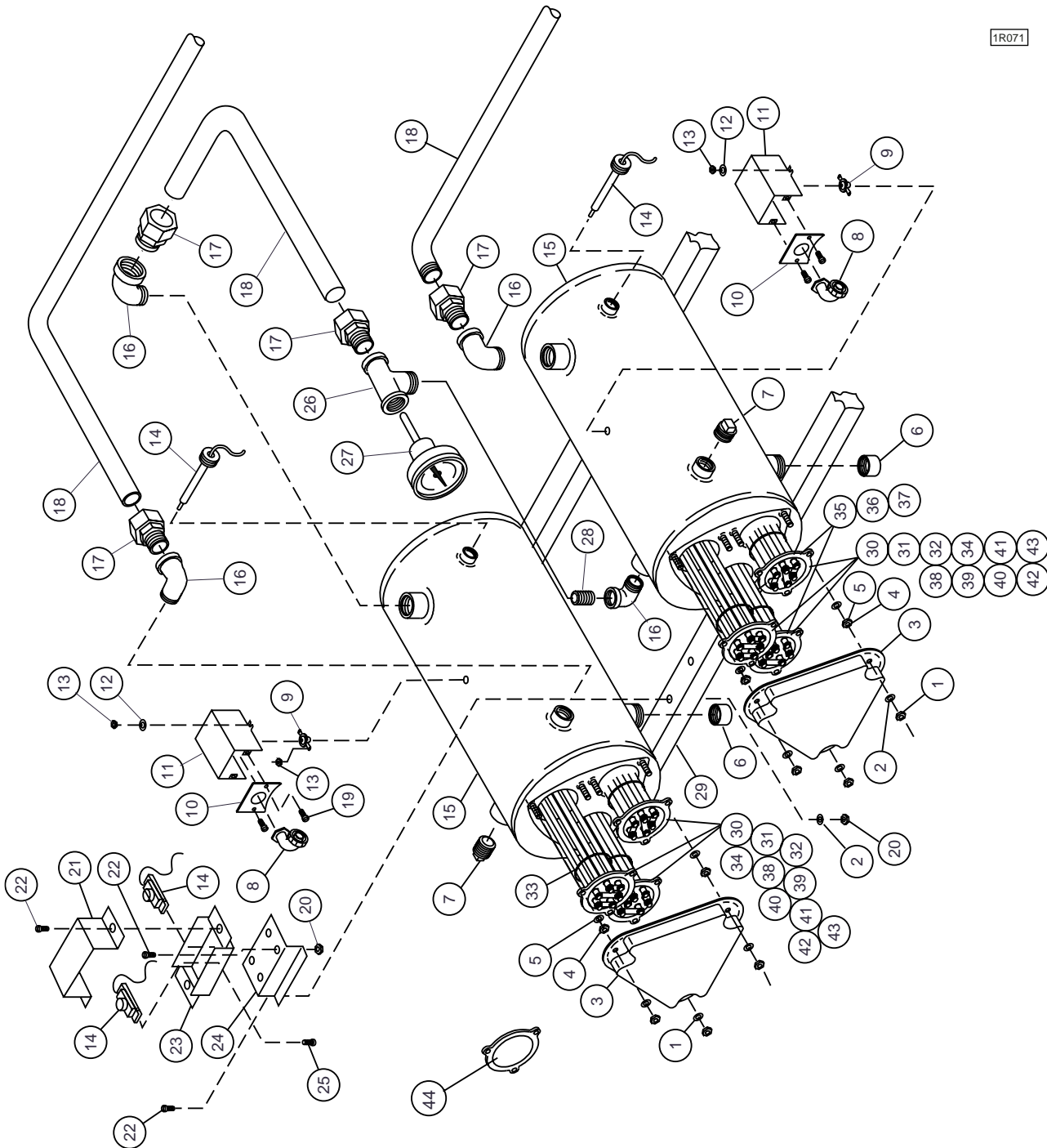
Note: Check Kw rating and voltage stamped on heater flange of some elements.

Figure 48 – Electric Booster (40°F/22°C Rise)

ELECTRIC BOOSTER (40°F/22°C RISE)

Fig. 48 Item No.	Part No.	Part Description	Qty.
1	107967	Nut, grip (1/4-20) w/nylon insert	9
2	108576	Cover, booster	1
3	111265	Heater - 18KW (208V) (380V/3PH, connected WYE).....	1
4	111266	Heater - 18KW (240V) (415V/3PH, connected WYE).....	1
5	111267	Heater - 18KW (480V)	1
6	111232	Heater - 10KW (208V) (380V/3PH, connected WYE).....	2
7	111233	Heater - 7.5/10KW (44WS) (240V) (415V/3PH, connected WYE).....	1
8	111234	Heater - 10KW (480V)	2
9	111383	Heater - 10KW (575V)	2
10	111235	Heater - 5KW (208V) (380V/3PH connected WYE)	1
11	111236	Heater - 5KW (240V) (415V/3PH, connected WYE)	1
12	111237	Heater - 5KW (480V)	1
13	111384	Heater - 5KW (575V)	1
14	106026	Washer, flat (1/4")	7
15	100003	Nut, plain (1/4-20).....	9
16	106482	Washer, lock (1/4") Split	9
17	100141	Nut, grip (1/4-20)	4
18	100734	Bolt (1/4-20 x 1/2") Hex hd	4
19	100113	Cap (3/4 NPT) SST	1
20	102505	Pipe plug (3/4 NPT) Brass	1
21	305407	Tank, booster assembly	1
22	107922	Box cover, thermostat	1
23	100100	Screw (8-32 x 3/8) Round hd	1
24	106460	Screw (6-32 x 3/8) Truss hd	2
25	109069	Thermostat, heat	1
26	102392	Bushing (3/4 NPT x 1/2 NPT) Brass	2
27	102567	Nipple (1/2 NPT x 3") Brass	1
28	102469	Nipple (3/4 NPT x 2-3/4").....	1
29	102438	Elbow, street (1/2 NPT x 90°) Brass	3
30	102444	Elbow, street (3/4 NPT x 90°) Brass	3
31	102435	Elbow (1/2 NPT x 90°) Brass	1
32	102442	Elbow (3/4 NPT x 90°) Brass	1
33	109925	Fitting, compression (1/2" Copper x 1/2 NPT)	2
34	109879	Fitting, compression (3/4 NPT x 3/4 Copper).....	1
	109880	Fitting, compression (3/4 Copper x 90°) (Not shown)	A/R
35	107314	Tubing (3/4) Copper	A/R
36	107380	Tubing (1/2) Copper	A/R
37	107966	Nut, grip (10-32) w/Nylon insert	4
38	107033	Washer, flat (#10)	2
39	110929	Box, thermostat	1
40	110930	Cover, box	1
41	110562	Thermostat, Hi Limit.....	1
42	103217	Connector, sealtite (1/2" x 90°)	1
43	109985	O-ring.....	3
44	109458	Blockoff, heater (if installed)	1
45	112059	Heater 12KW (208V/3PH)	3
46	111334	Heater 12KW (240V/3PH)	3
47	112059	Heater 12KW (380V/3PH, WYE)	3
48	111334	Heater 12KW (415V/3PH, WYE).....	3
49	112060	Heater 12KW (480V/3PH)	3
50	112061	Heater 12KW (575V/3PH)	3
—	110836	Connector, sealtite (1/2" Straight) (Not shown)	A/R

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Note: Check Kw rating and voltage stamped on heater flange of some elements.

Figure 49 – Electric Booster (70°F/39°C Rise)

ELECTRIC BOOSTER (70°F/39°C RISE)

Fig. 49 Item No.	Part No.	Part Description	Qty.
1	107967	Nut, grip (1/4-20) w/Nylon insert	6
2	106026	Washer, flat (1/4)	16
3	108576	Cover, booster	2
4	100003	Nut, plain (1/4-20)	18
5	106482	Washer, lock (1/4) Split	18
6	100113	Cap (3/4 NPT) SST	2
7	102505	Pipe plug (3/4 NPT) Brass	2
8	103217	Connector, sealtite (1/2" x 90°)	A/R
9	110562	Thermostat, High Limit	2
—	110836	Connector, sealtite (1-12" Straight) (Not shown)	A/R
10	110930	Cover, thermostat - High Limit	2
11	110929	Box, thermostat - High Limit	2
12	107033	Washer, flat (#10)	4
13	107966	Nut, grip (10-32) w/Nylon Insert	6
14	109069	Thermostat, heat	2
15	305407	Tank, booster assembly	2
16	102444	Elbow, street (3/4 NPT x 90°) Brass	4
17	109879	Fitting, compression (3/4 NPT x 3/4) Copper	4
—	109880	Fitting, compression (3/4 Copper x 90°) (Not shown)	A/R
18	102104	Tubing (3/4) Copper	A/R
19	111319	Screw (6-32 x 1/2") Truss hd.	4
20	100141	Nut, grip (1/4-20)	12
21	109682	Cover, thermostat box	1
22	100734	Bolt (1/4-20 x 1") Hex hd	12
23	314102	Box, dual thermostat	1
24	309319	Bracket - 2 Thermostats	1
25	100100	Screw (8-32 x 1/4") Round hd.	2
26	102525	Tee (3/4 NPT x 1/2 NPT x 3/4 NPT) Brass	1
27	104682	Thermometer - 2" Stem	1
28	100184	Nipple (3/4 NPT) Close	1
29	314908	Base - 2 Tank	1
30	111308	Heater Element - 9KW (208V) (380V/3PH, connected WYE)	3
31	111305	Heater Element - 9KW (240V) (415V/3PH, connected WYE)	3
32	108579	Heater Element - 9KW (480V)	3
33	109985	O-ring	3
34	111122	Heater Element - 9KW (575V) 40° Rise	4
35	111265	Heater Element - 18KW (208V)	2
36	111266	Heater Element - 18KW (240V)	2
37	111267	Heater Element - 18KW (480V)	2
38	112059	Heater 12KW (208V/3PH)	3
39	111334	Heater 12KW (240V/3PH)	3
40	112059	Heater 12KW (380V/3PH, WYE)	3
41	111334	Heater 12KW (415V/3PH, WYE)	3
42	112060	Heater 12KW (480V/3PH)	3
43	112061	Heater 12KW (575V/3PH)	3
44	109458	Block off plate	1

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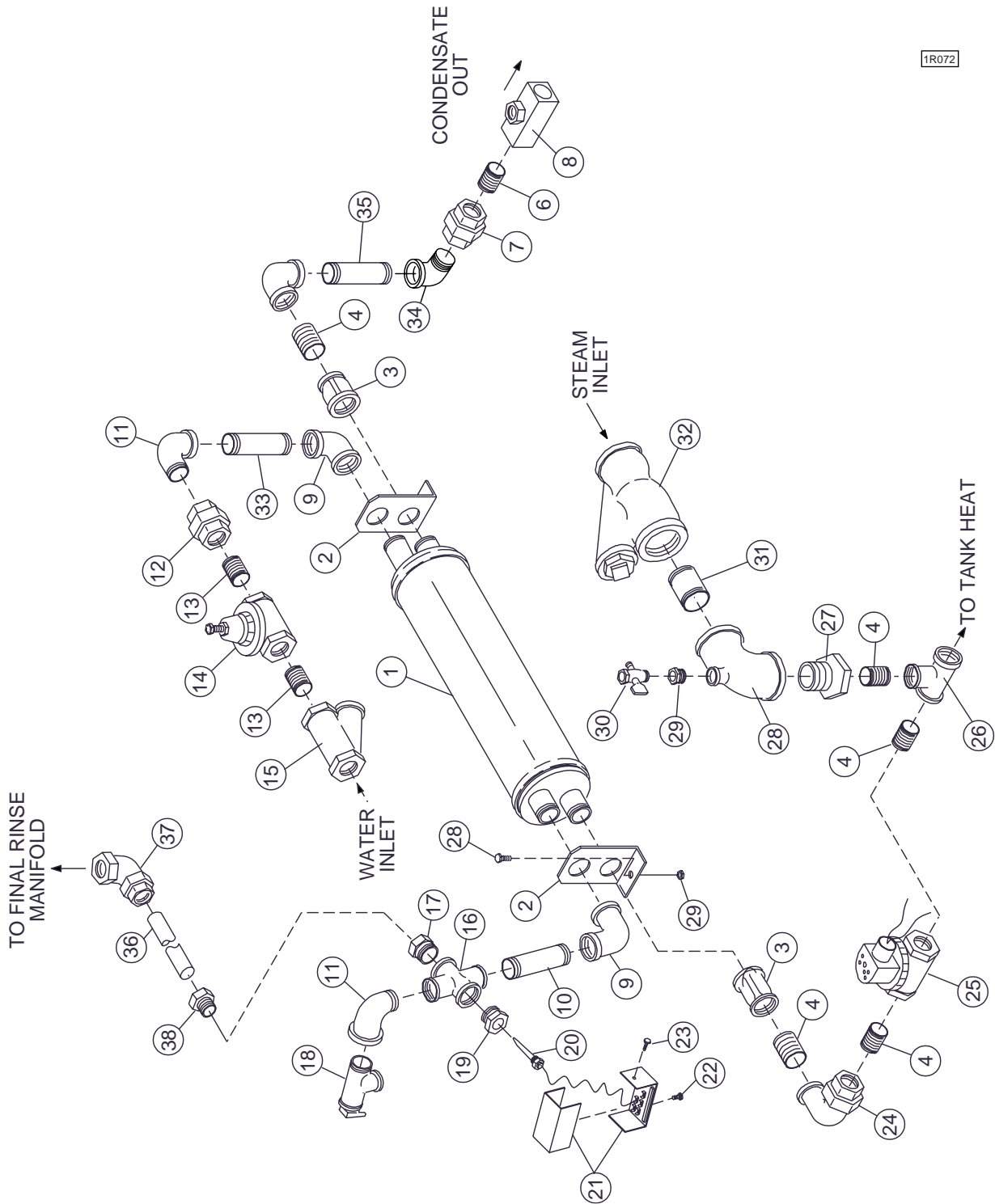


Figure 50 – K2 Steam Booster

K2 STEAM BOOSTER

Fig. 50 Item No.	Part No.	Part Description	Qty.
1	311654	Booster-K2 (Includes items 2-4, 9)	1
2	315596	Support bracket-booster.....	2
3	105725	Coupling, red 1" x 3/4" BI	2
4	105803	Nipple 3/4" NPT close BI	5
5	105738	Elbow, red 3/4" NPT x 1/2" NPT BI.....	1
6	105782	Nipple 1/2" NPT close BI	1
7	105778	Union 1/2" NPT BI	1
8	111380	Steam trap 1/2" NPT	1
9	102442	Elbow 3/4" NPT x 90° brass	2
10	102489	Nipple 3/4" NPT x 2 1/2" NPT brass	1
11	102444	Elbow street 3/4" NPT x 90° brass	2
12	100571	Union 3/4" NPT brass	1
13	100184	Nipple 3/4" NPT close brass	2
14	107550	Pressure regulating valve 3/4"	1
15	110768	Strainer, line 3/4" NPT brass.....	1
16	100599	Cross 3/4" NPT brass	1
17	109879	Fitting compression (3/4" NPT Male x 3/4" Copper)	1
18	104649	Valve, relief 3/4" NPT brass	1
19	102392	Bushing, red 3/4" NPT x 1/2" NPT brass	1
20	109069	Thermostat w/capillary	1
21	107922	Box & cover, thermostat	1
22	100100	Screw 8-32 x 3/8" round head.....	1
23	106460	Screw 6-32 x 3/8" truss head.....	1
24	106485	Union elbow 3/4" NPT female	1
25	109887	Valve, solenoid 3/4" NPT	1
—	109903	Repair Kit, solenoid valve (3/4"NPT).....	1
—	111472	Replacement coil, solenoid valve (3/4" NPT) 120V coil)	1
26	105752	Tee, 3/4" NPT BI	1
27	103522	Bushing, reducer (1" NPT x 3/4" NPT) BI	1
28	105771	Tee (1-1/4" NPT x 1/2" NPT x 1-1/4" NPT) BI	1
29	102402	Bushing, reducer (1/2" NPT x 1/4" NPT) BI	1
30	100123	Petcock, (1/4" NPT male) brass	1
31	105875	Nipple (1-1/4" NPT x 3") brass.....	1
32	100263	Strainer, line (1-1/4" NPT) brass.....	1
33	102490	Nipple, (3/4" NPT x 3 1/2") brass.....	1
34	100147	Elbow, street (1/2"NPT x 90°) BI	1
35	107488	Nipple (1/2" NPT x 3 1/2") BI	1
36	107314	Tubing 3/4" copper	A/R
37	109880	Fitting 3/4" x 3/4" x 90°	1
38	109879	Fitting (3/4" NPT x 3/4" Copper)	1

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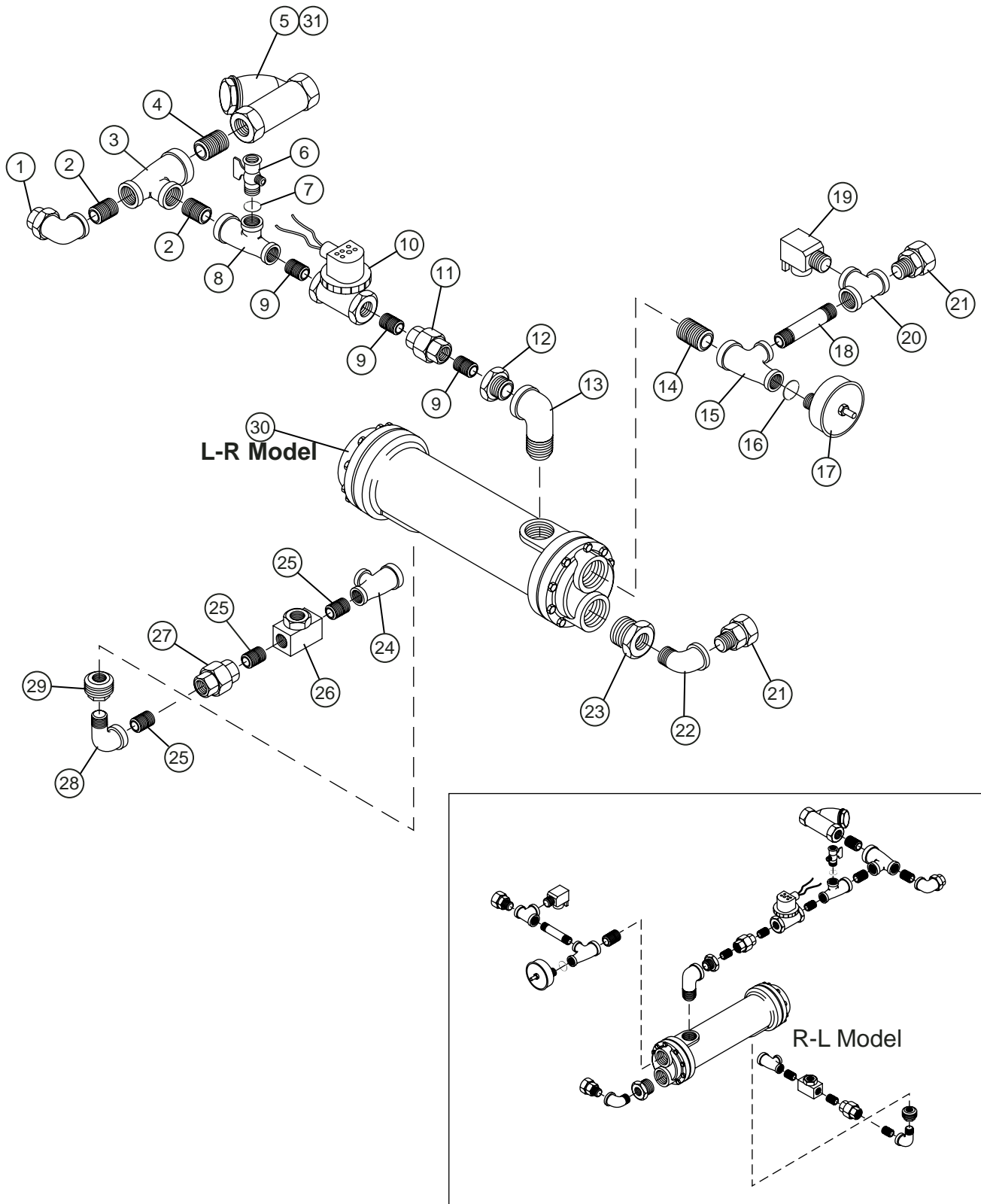


Figure 51 – Thrush Steam Booster (40°F/22°C -70°F/39°C Rise)

THRUSH STEAM BOOSTER
(40°F/22°C & 70°F/39°C RISE)

Fig. 51 Item No.	Part No.	Part Description	Qty.
1	107211	Union Elbow 1" x 90° NPT BI	1
2	105847	Nipple close 1" NPT BI.....	2
3	105774	Tee red 1 1/2" x 1" x 1" NPT BI.....	1
4	105881	Nipple close 1 1/2" NPT BI	1
5	101249	Strainer line 1 1/2" NPT	1
6	100123	Cock gauge 1/4"	1
7	102402	Bushing red 1/2" x 1/4" NPT	1
8	112346	Tee red 1" x 3/4" x 1/2" NPT	1
9	105803	Nipple close 3/4" NPT.....	3
10	109887	Valve, 3/4" NPT	1
—	109903	Repair Kit, solenoid valve (3/4"NPT).....	1
—	111472	Replacement coil, solenoid valve (3/4" NPT) 120V coil)	1
11	105779	Union 3/4" NPT BI	1
12	100978	Bushing red 1/2" x 3/4" BI	1
13	107500	Elbow, street 1/12" x 90'	1
14	101061	Nipple close 1 1/4" NPT brass	1
15	100583	Tee 1 1/4" x 3/4" x 3/4" NPT brass.....	1
16	102392	Bush red 3/4" x 1/2" NPT brass	1
17	100128	Fenwal Thermostat.....	1
18	102490	Nipple 3/4"NPT x 3 1/2" NPT brass	1
19	104649	Relief Valve 3/4"	1
20	102521	Tee 3/4" NPT brass	1
21	109879	Fitting Comp 7/8" OD x 3/4" NPT male.....	2
22	102444	Elbow, street 3/4" NPT x 90' NPT brass	1
23	102399	Bushing red 1-1/4" NPT x 3/4" brass	1
24	112354	Tee red 1" x 1/2" x 3/4" NPT BI.....	1
25	105782	Nipple close 1/2" NPT BI	3
26	111380	Steam trap 1/2" NPT	1
27	105778	Union 1/2" NPT BI	1
28	100147	Elbow, street 1/2" NPT x 90° BI	1
29	112349	Bushing red 1-1/2" NPT x 1/2" BI	1
30	112308	Amtrol Steam Booster	1
31	105749	Plug 3/4" NPT BI	1

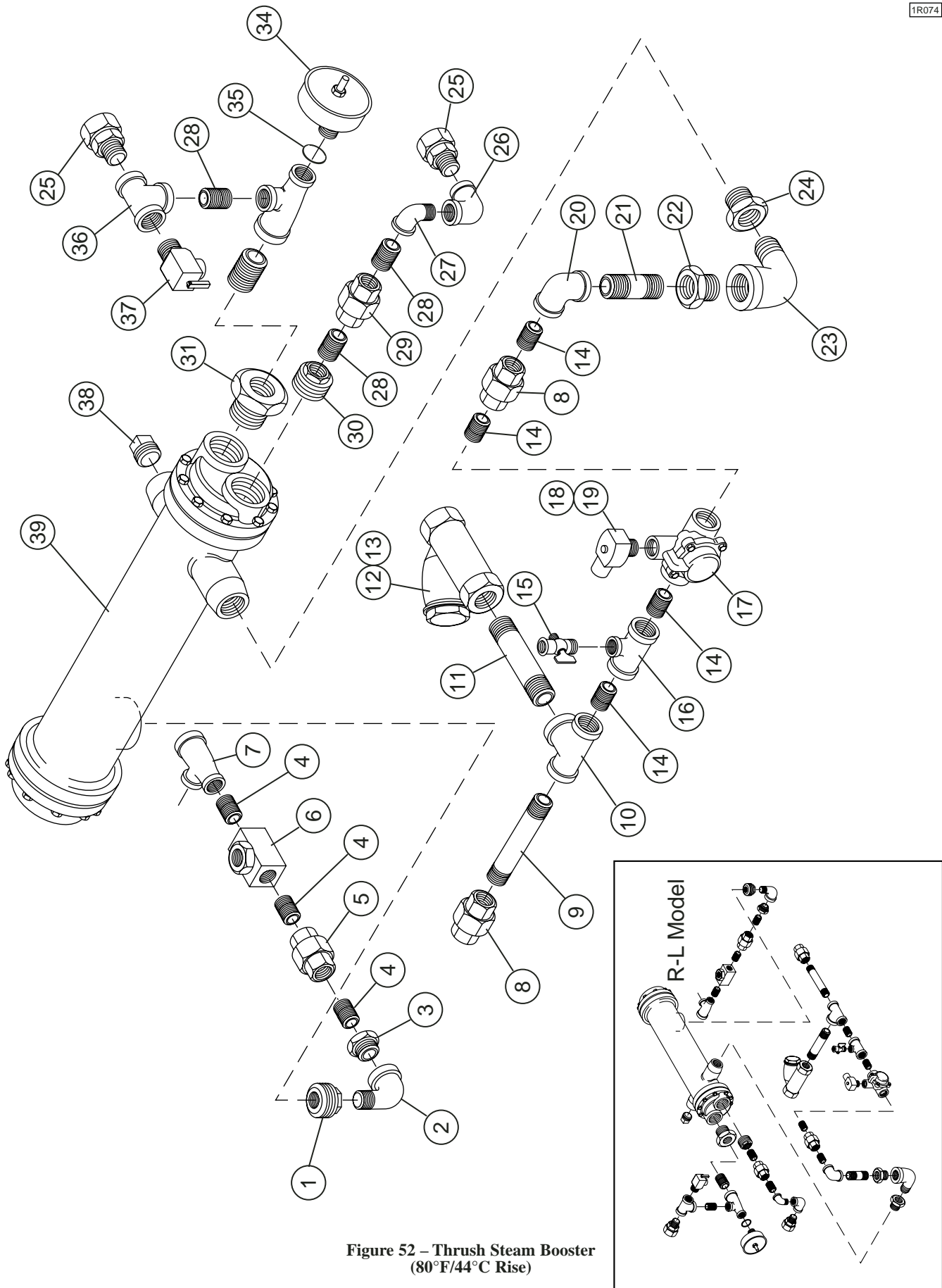


Figure 52 – Thrush Steam Booster
(80°F/44°C Rise)

**THRUSH STEAM BOOSTER
(80°F/44°C RISE)**

Fig. 52 Item No.	Part No.	Part Description	Qty.
1	112341	Bushing red 2" x 3/4" BI.....	1
2	105731	Elbow, street 3/4" x 90" BI	1
3	103465	Bushing red 3/4" x 1/2" BI	1
4	105782	Nipple close 1/2" NPT BI	3
5	105778	Union 1/2" NPT BI	1
6	111380	Steam trap 1/2" NPT	1
7	112354	Tee red 1" x 1/2" x 3/4" NPT BI.....	1
8	105780	Union 1" NPT BI.....	1
9	105860	Nipple 1" NPT x 8" BI.....	1
10	110196	Tee red 1" x 1" x 1-1/2" NPT BI.....	1
11	106606	Nipple 1-1/2" NPT x 6" BI.....	1
12	101249	Strainer Line 1-1/2" NPT BI	1
13	105749	Plug 3/4" NPT BI	1
14	105847	Nipple close 1" NPT BI.....	4
15	100123	Gauge cock 1/4"	1
16	112358	Tee red 1" x 1" x 1/4" NPT BI	1
17	110005	Valve, 1" NPT steam	1
18	110120	Steam coil 120V	1
19	110007	Repair kit 1" steam	1
20	105733	Elbow 1" NPT x 90° BI	1
21	105851	Nipple 1" NPT x 2 1/2" BI.....	1
22	100979	Bushing red 1 1/2" x 1" NPT BI	1
23	107500	Elbow, street 1-1/2" NPT x 90° BI	1
24	100983	Bushing red 2" x 1-1/2" NPT BI.....	1
25	109879	Fitting com 7/8" OD x 3/4" NPT male	2
26	102442	Elbow 3/4" x 90' brass.....	1
27	102444	Elbow, street 3/4" x 90' brass.....	1
28	100184	Nipple close 3/4" NPT brass	3
29	100571	Union 3/4" NPT brass	1
30	106583	Bushing red 2" x 3/4" NPT brass	1
31	106498	Bushing red 2" x 1-1/4" NPT brass.....	1
32	101061	Nipple close 1-1/4" NPT brass	1
33	100583	Tee 1 1/4" x 3/4" x 3/4" brass	1
34	100128	Fenwal Thermostat.....	1
35	102392	Bushing red 3/4" NPT x 1/2" NPT brass	1
36	102521	Tee 3/4" NPT brass	1
37	104649	Relief valve 3/4" NPT	1
38	112355	Plug 2" NPT BI	1
39	112309	Amtrol Steam Booster.....	1

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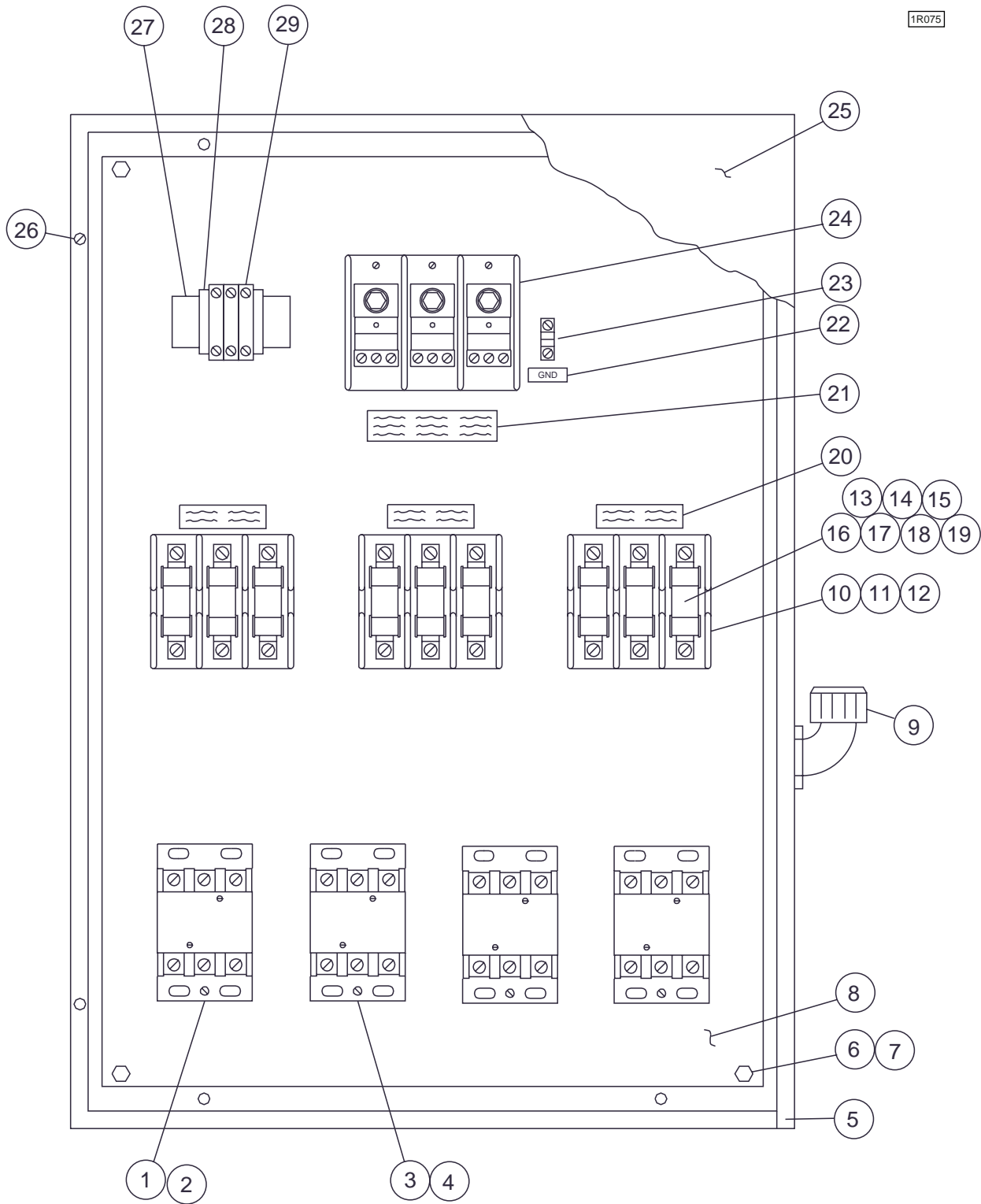


Figure 53 – Control Panel, Electric Booster (70°F/39°C Rise)

CONTROL PANEL, ELECTRIC BOOSTER (70°F/39°C RISE)

Fig. 53 Item No.	Part No.	Part Description	Qty.
1	111827	Contractor - 60A - 3 Pole (208V-240V)	3
2	111827	Contractor - 60A - 3 Pole (208-240V)	1
2	111827	Contractor - 60A - 3 Pole (208-240V)	1
2	111827	Contractor - 60A - 3 Pole (380V, 415V, 480V)	1
3	111827	Contractor - 60A - 3 Pole (208V-240V, 480V, 575V)	1
4	111827	Contractor - 60A - 3 Pole (380V, 415V)	1
5	313774	Control cabinet	1
6	106482	Washer, lock (1/4") Split	4
7	100734	Bolt (1/4-20 x 1/2") Hex hd	4
8	313743	Inner panel	1
9	110920	Connector, sealtite (1" x 90°)	2
10	180171	Fuse block (208V-240V)	1
11	180171	Fuse block (380V, 415V).....	3
12	180171	Fuse block (480V) (575V).....	2
13	180060	Fuse 70A, 250V (208V-240V)	6
14	180042	Fuse 100A, 300V (208V)	3
15	108448	Fuse 90A, 250V (240V)	3
16	180176	Fuse 60A, 600V (380V, 415V, 480V)	3
17	180175	Fuse 50A, 600V (380V, 415V, 480V)	3
18	180174	Fuse 45A, 600V (380V, 480V, 575V)	6
19	180172	Fuse 35A, 600V (415V, 575V)	6
20	108498	Label, fuse amps	A/R
21	108615	Label, machine electrical connection	1
22	104873	Label, ground.....	1
23	103310	Lug, ground	1
24	109014	Terminal block (208V-240V, 380V, 415V)	1
25	313744	Cover, control cabinet	1
26	100097	Screw (10-32 x 1/2") Truss hd.....	2
27	110849	Din rail (480V, 575V/3PH).....	A/R
28	110900	End stop (480V, 575V/3PH).....	2
29	110912	Terminal block (480V, 575V/3PH).....	3
29	109014	Terminal block (208-240, 380V, 415V) (Do not use items 27, 28 with P/N 109014)	1
—	701156-1	Control Cabinet Assy. (208V) (Includes items 1, 3, 5-8, 10, 14, 15, 20-26).....	1
—	701156-2	Control Cabinet Assy. (240V) (Includes items 1, 3, 5-8, 10, 13, 15, 20-26).....	1
—	701156-3	Control Cabinet Assy. (480V) (Includes items 2, 3, 5-8, 12, 16, 17, 20-29).....	1
—	701156-4	Control Cabinet Assy. (380V) (Includes items 2, 4-8, 11, 16, 18, 20-26).....	1
—	701156-5	Control Cabinet Assy. (415V) (Includes items 2, 4-8, 11, 16, 19-26)	1
—	701176-6	Control Cabinet Assy. (575V) (Includes items 2, 4-8, 11, 16, 18, 19-26).....	1

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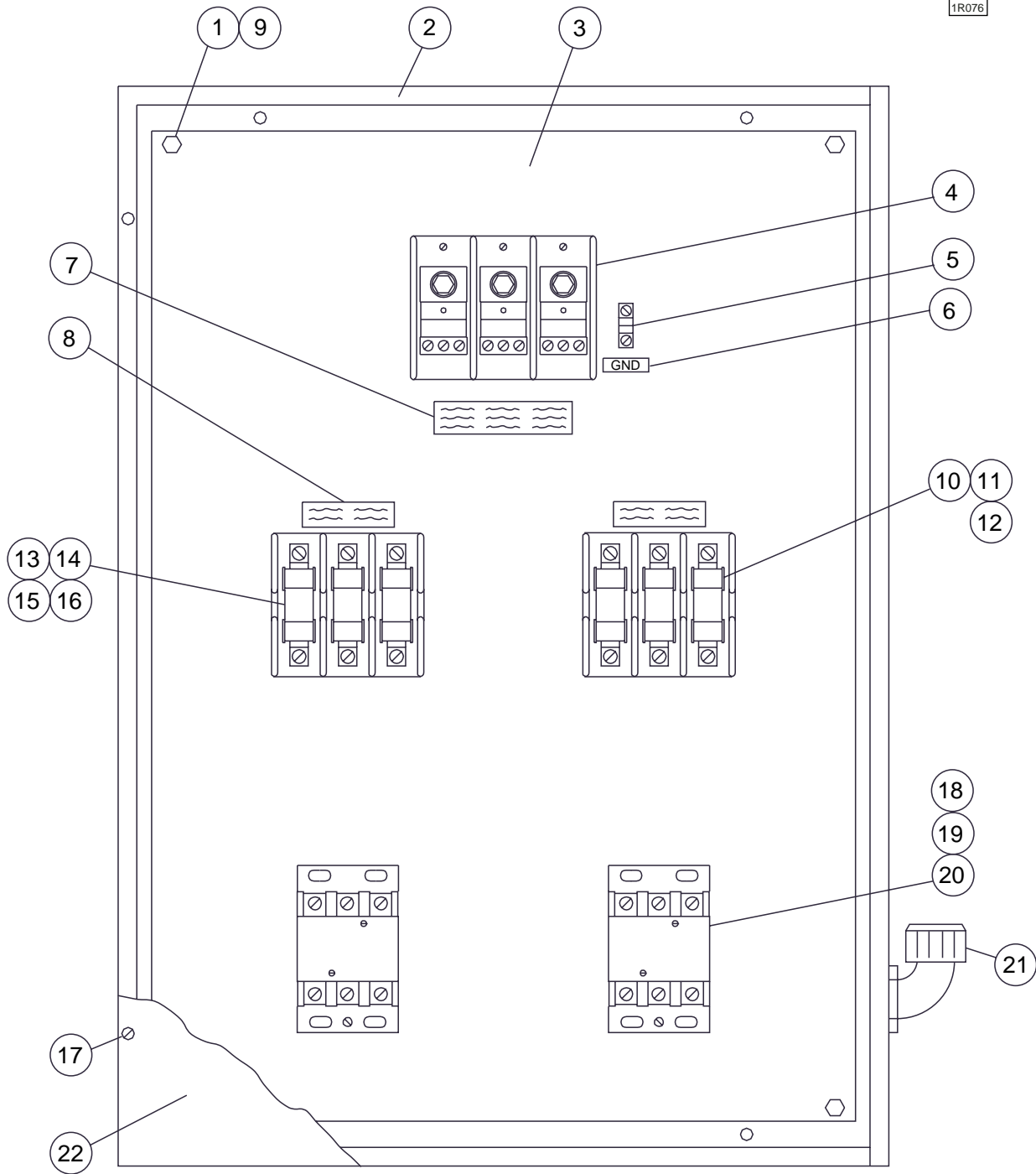


Figure 54 – Control Panel, Electric Booster (40°F/22°C Rise)

CONTROL PANEL, ELECTRIC BOOSTER (40°F/22°C RISE)

Fig. 54 Item No.	Part No.	Part Description	Qty.
1	100734	Bolt (1/4-20 x 1/2") Hex hd	4
2	313774	Control cabinet	1
3	313743	Inner panel	1
4	109014	Terminal block	1
5	103310	Lug, ground	1
6	104873	Label, ground.....	1
7	108615	Label, machine electrical connection	1
8	108498	Label, fuse amps	2
9	106482	Washer, lock (1/4") Split	4
10	180171	Fuse block (208V-240V) 44KB/PRB	2
11	180171	Fuse block (380V, 415V, 575V).....	2
12	180171	Fuse block (480V) (575V).....	1
13	180060	Fuse 70A, 600V (208V-240V)	6
—	180175	Fuse 50A, 600V (240V/1PH)	8
—	180173	Fuse 40A, 600V (240V/3PH)	9
14	180176	Fuse 60A, 600V (480V)	3
15	180172	Fuse 35A, 600V (575V)	6
16	180174	Fuse 45A, 600V (208-240V, 380V, 415V)	6
17	100097	Screw (10-32 x 1/2") Truss hd.....	2
18	111827	Contractor - 60 Amp, 3 Pole (208V-240V)	2
19	111827	Contractor - 60 Amp, 3 Pole (480V).....	1
20	111827	Contractor - 60 Amp, 3 Pole (208-240V, 380V, 415V, 575V)	2
21	110920	Connector, sealtite (1" x 90°)	2
22	313744	Cover, control cabinet	1
—	701336-1	Control Cabinet Assy. (208V-240V) (Includes items 1-8, 10, 13, 18)	1
—	701336-5	Control Cabinet Assy. (480V) (Includes items 1-8, 12, 14, 19)	1
—	700985-7	Control Cabinet Assy. (380V) (Includes items 1-8, 11, 16, 20)	1
—	700985-8	Control Cabinet Assy. (415V) (Includes items 1-8, 11, 16, 20)	1
—	700985-5	Control Cabinet Assy. (575V) (Includes items 1-8, 11, 15, 20)	1

1R077

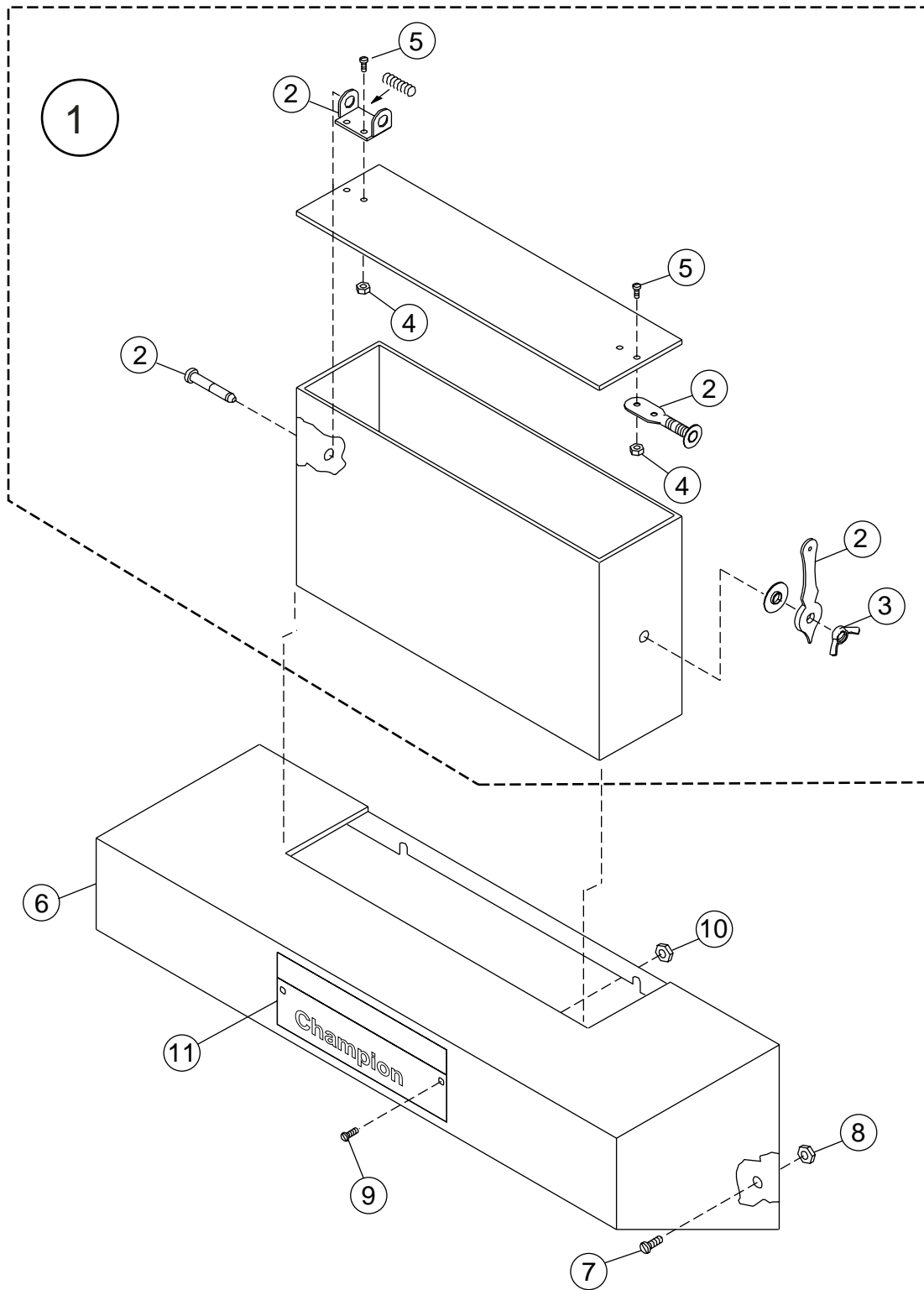


Figure 55 – Vent Hood Assembly

VENT HOOD ASSEMBLY

Fig. 55 Item No.	Part No.	Part Description	Qty.
1	401487	Vent Stack Assembly (Includes items 2-5)	1
2	201589	Regulator Assembly	1
3	112258	Nut, wing (1/4-20 SST)	1
4	108954	Nut, grip (6-32) w/nylon insert	4
5	104883	Screw (6-32 x 3/8") Round hd.....	4
6	307228	Vent hood.....	1
7	100734	Bolt (1/4-20 x 1/2") Hex hd	4
8	100141	Nut, grip (1/4-20)	4
9	107015	Screw (4-40 x 1/4") Round hd.....	2
10	107016	Nut, grip (4-40) w/nylon insert	2
11	109158	Nameplate "Champion"	1
—	401889-S	Vent Hood Assembly (Includes items 1-10)	—

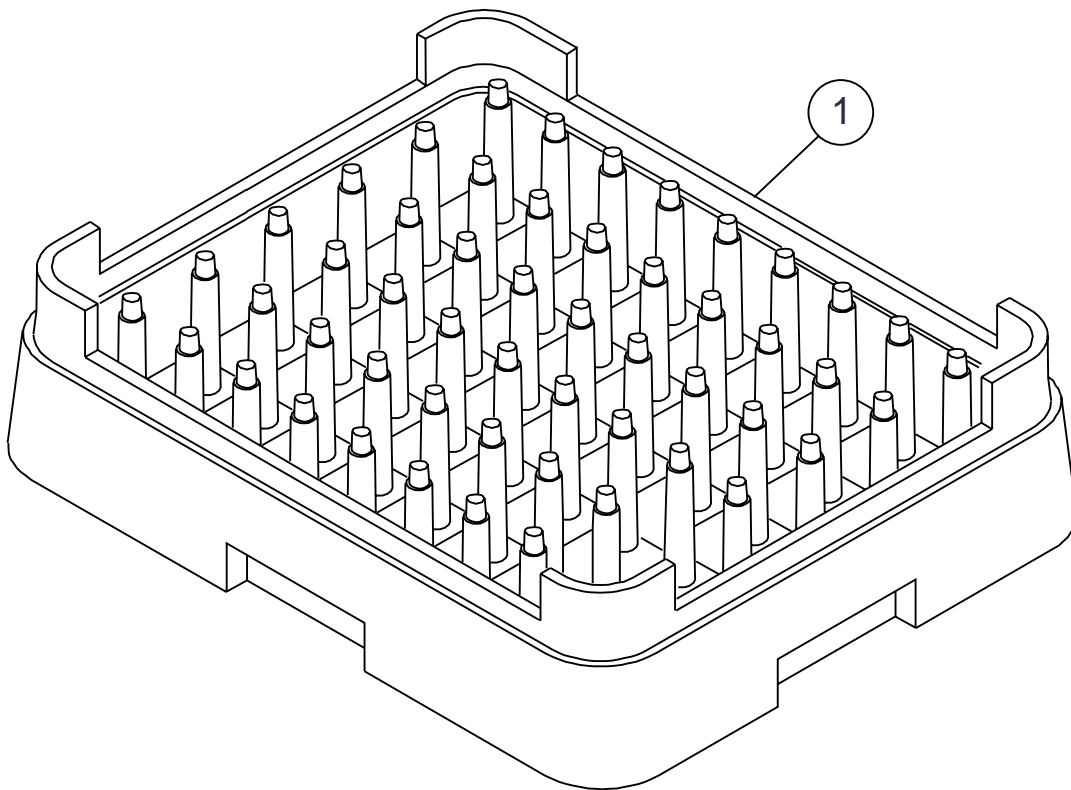
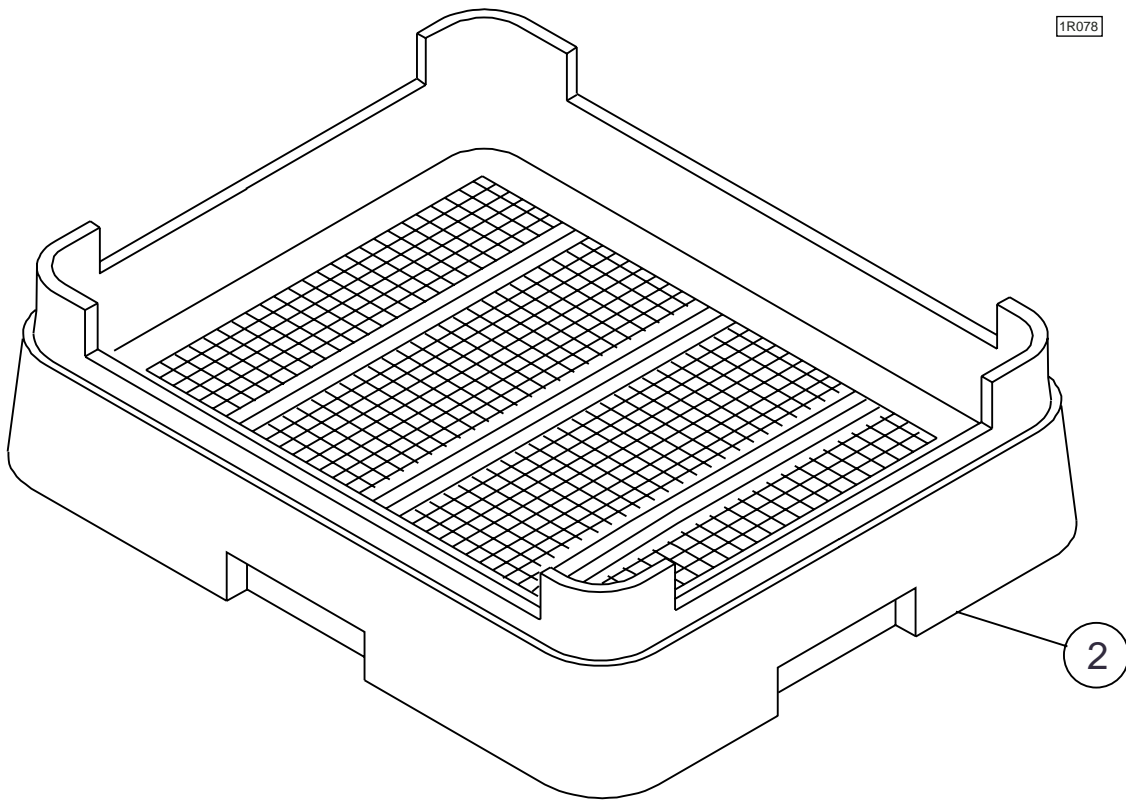


Figure 56 – Dish Racks

DISH RACKS

Fig. 56 Item No.	Part No.	Part Description	Qty.
1	101285	Rack, peg	1
2	101273	Rack, combination	1

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ELECTRICAL SCHEMATICS

1CR	RACK SWITCH RELAY
2CR	FINAL RINSE SWITCH RELAY
3CR	DOOR SAFETY HOLD-IN RELAY
4CR	RINSE SWITCH RELAY
5CR	WASH FILL SWITCH RELAY
7CR	TABLE LIMIT SWITCH RELAY
8CR	DRIVE RELAY
1M	DRIVE MOTOR CONTACTOR
1MOL	DRIVE MOTOR OVERLOAD
3M	WASH MOTOR CONTACTOR
3MOL	WASH MOTOR OVERLOAD
4M	RINSE MOTOR CONTACTOR
4MOL	RINSE MOTOR OVERLOAD
5M	BLOWER MOTOR CONTACTOR
5MOL	BLOWER MOTOR OVERLOAD
AS	ARC SUPPRESSOR
BC-	BOOSTER CONTACTOR/STEAM VALVE
BR	BOOSTER HOLD-IN RELAY
BWR.SW.	BLOWER SWITCH
CR	HOLD-IN RELAY
DSS	DOOR SAFETY SWITCH
FRFV	FINAL RINSE FILL VALVE
FRSW	FINAL RINSE SWITCH
FU_	FUSE-TRANSFORMER
HC-	HEAT CONTACTOR/STEAM VALVE
HLTS	HIGH LIMIT THERMOSTAT (IF USED)
ISO	ISOLATION SWITCH (IF USED)
LT	ISOLATION SWITCH LIGHT (IF USED)
MSW	MOTOR STOP SWITCH (IF USED)
PCB	POWER SWITCH/CIRCUIT BREAKER
RSW	RACK SWITCH
RWFV	RINSE TANK FILL VALVE
RFSW	RINSE TANK FLOAT SWITCH
T1	CONTROL TRANSFORMER
TR	IDLE PUMP TIMER
TS	THERMOSTAT
WFSW	WASH TANK FLOAT SWITCH
WFV	WASH FILL VALVE

NOTES:

1. WIRE NO. 7 AND 8 ARE CONNECTED TOGETHER IN JUNCTION BOX.
2. WHEN TABLE LIMIT SWITCH IS USED, SEPARATE WIRE 7 AND 8, WIRE TABLE LIMIT SWITCH (TLS) AS SHOWN. WHEN MACHINE IS SUPPLIED WITH MOTORIZED RACK ADVANCE (MRA) AND A 120V TLS IS USED, CONNECT WIRES INTO DISH MACHINE JUNCTION BOX. DISCONNECT WIRE 7 AND ADD TLS IN SERIES.
3. 8CR RELAY AND CONTACT USED FOR PREFERRED SYSTEM.

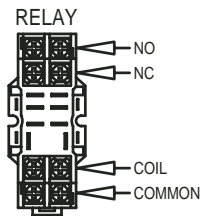
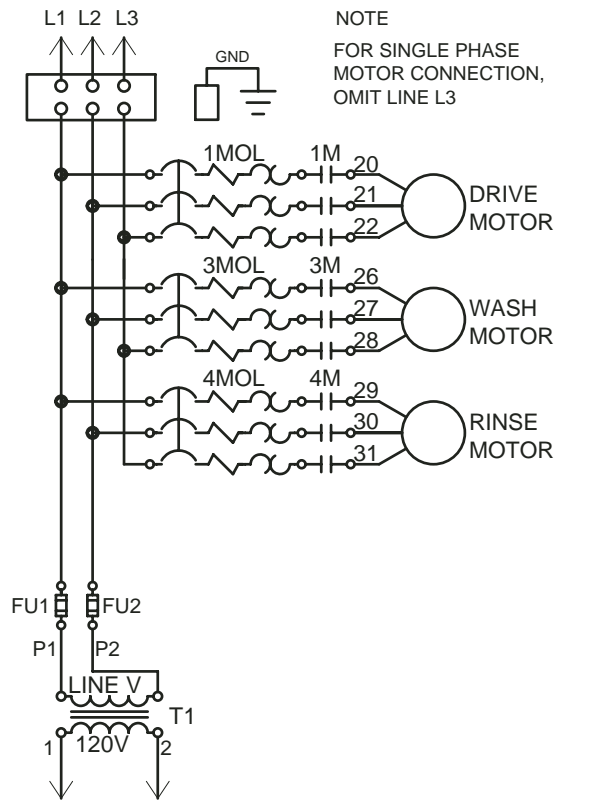
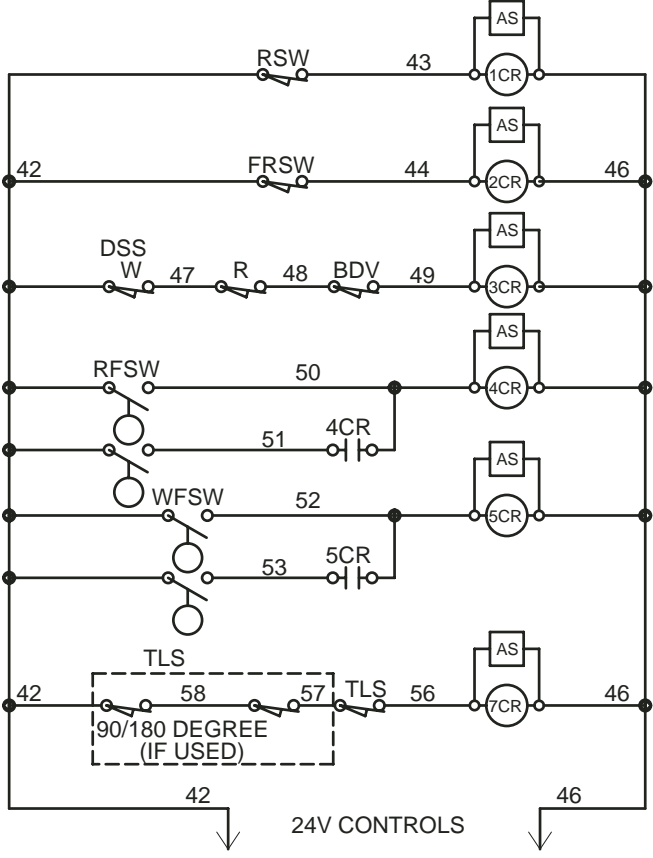
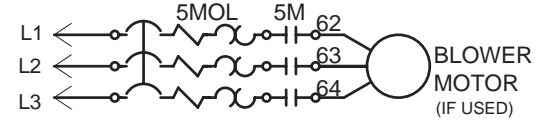
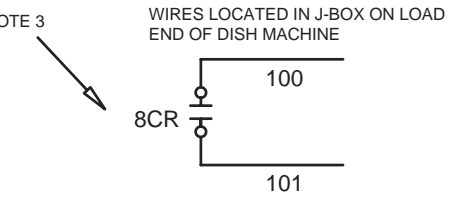
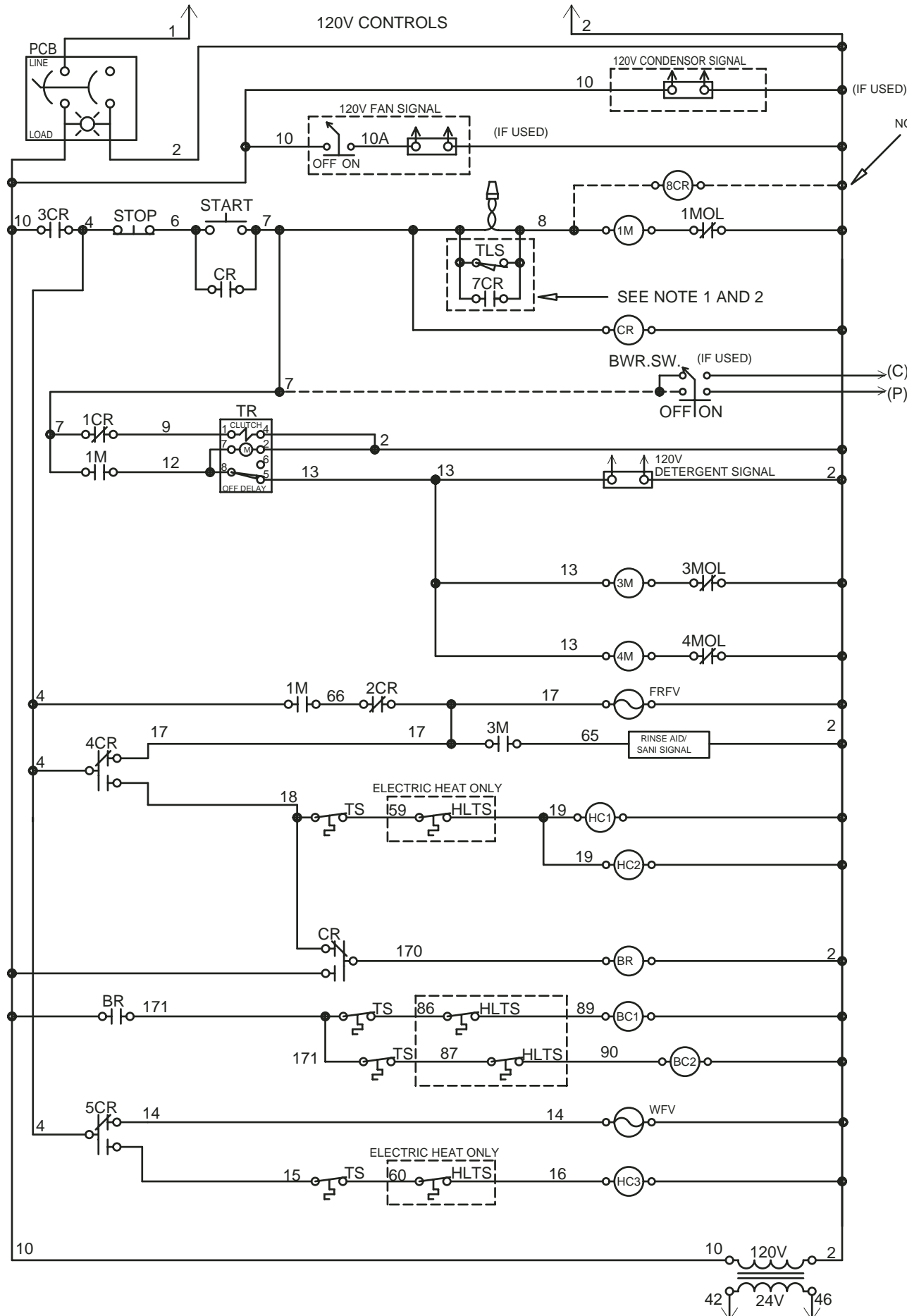
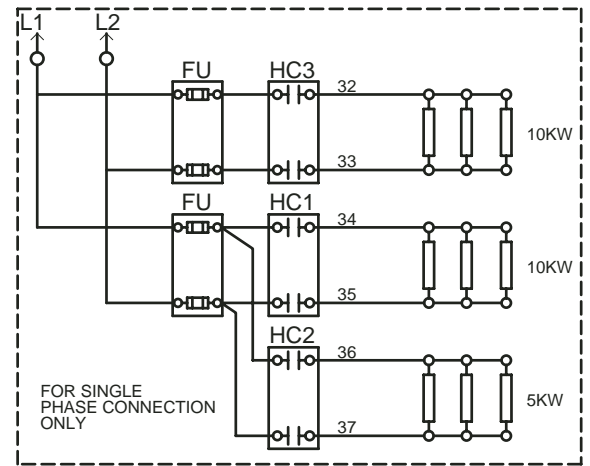
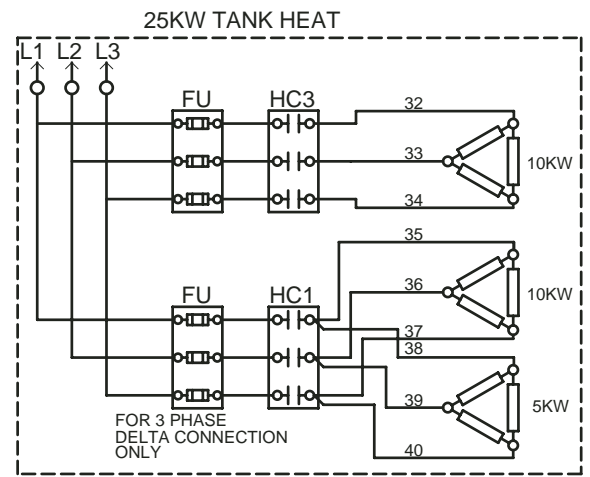


DIAGRAM STATE
POWER OFF
DOORS CLOSED
TANKS EMPTY



NOTE
FOR SINGLE PHASE
MOTOR CONNECTION,
OMIT LINE L3



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	A. LANNI	SCALE	1=1
DATE	94-10-06	SHEET	1 OF 1

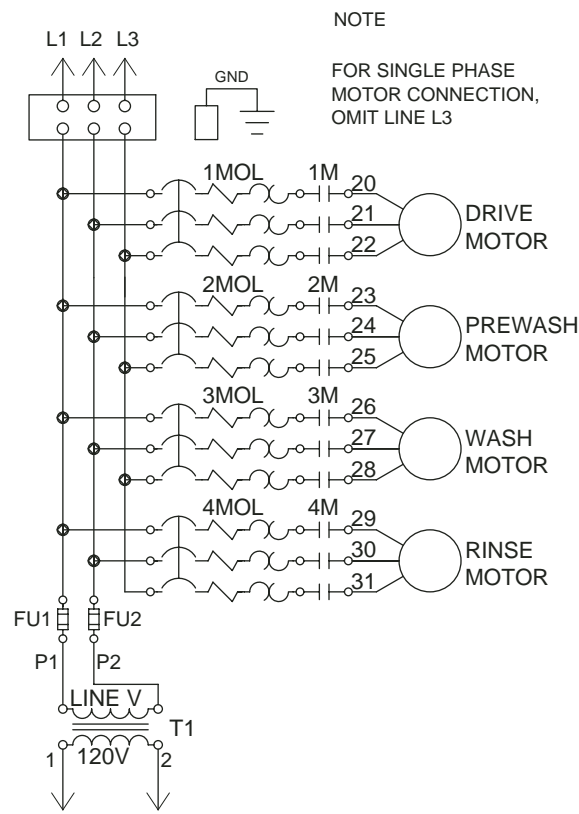
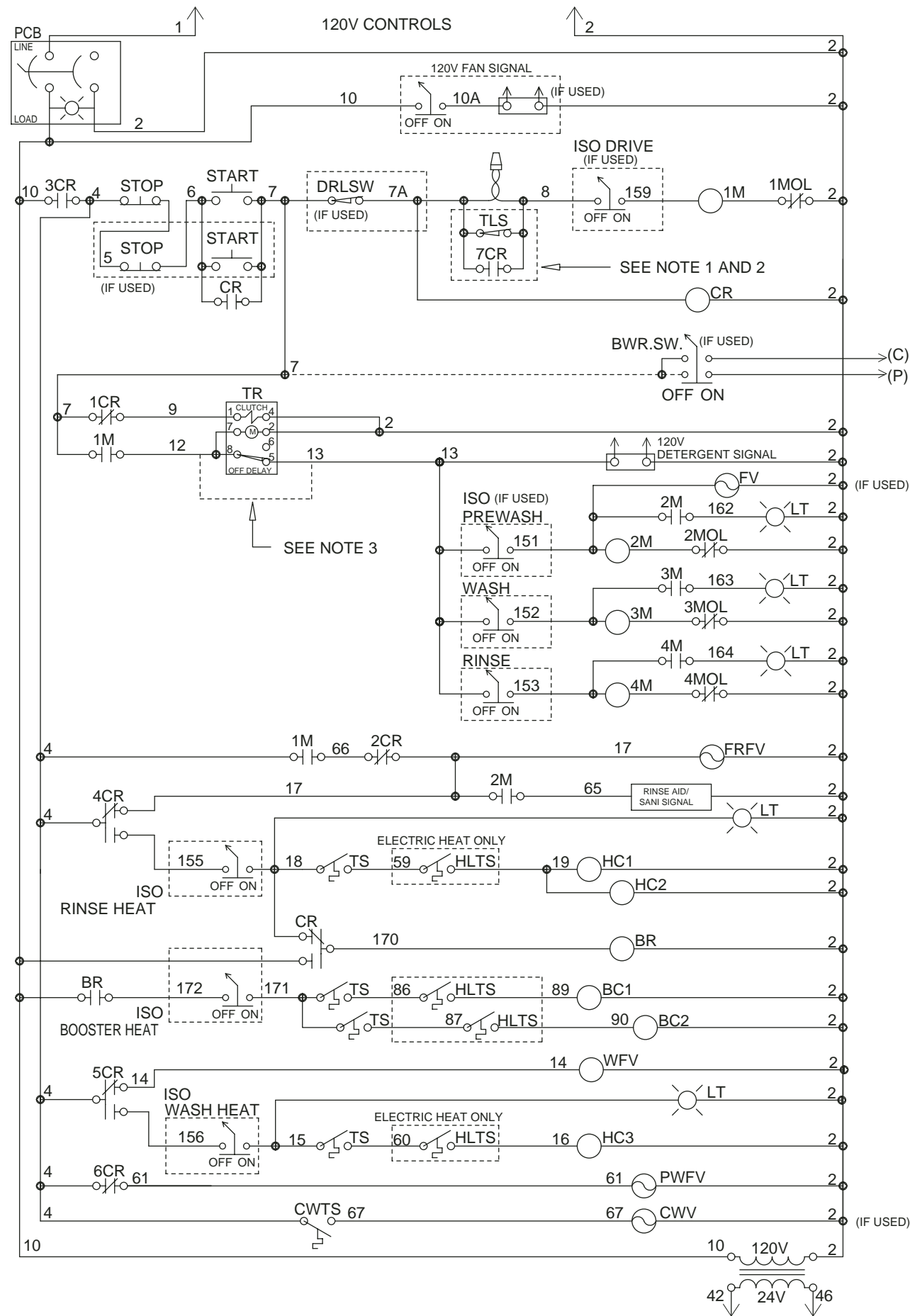
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F	ADD CONDENSOR SIGNAL CONNECTION POINT	2FEB98	JCN
G	CHANGED BOOSTER CONTROL LOGIC	17FEB98	JCN
H	REMOVED CWT CIRCUITRY	14DEC01	JCN

REV.	DESCRIPTION	DATE	BY
I	ADDED DRIVE RELAY FOR PREFERRED SYSTEM	5FEB04	JAM

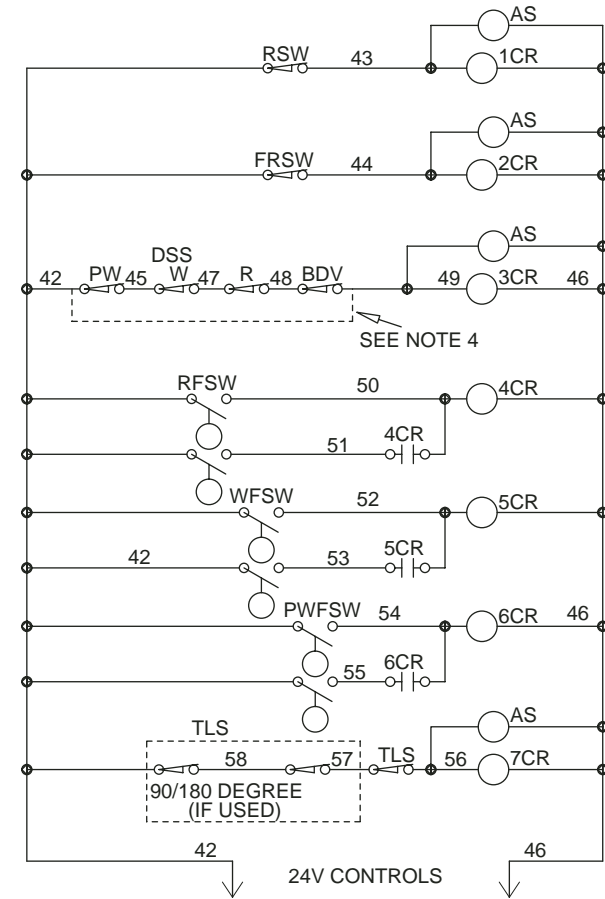
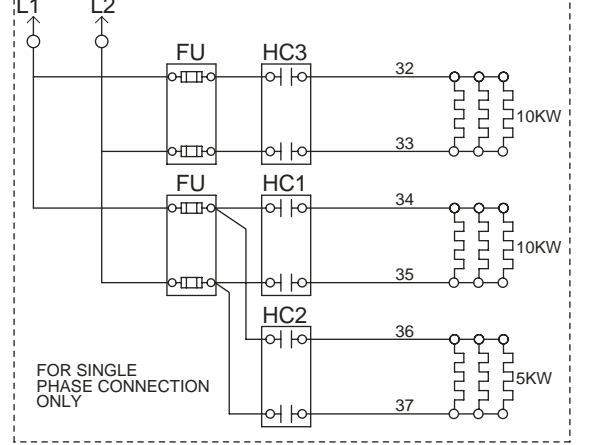
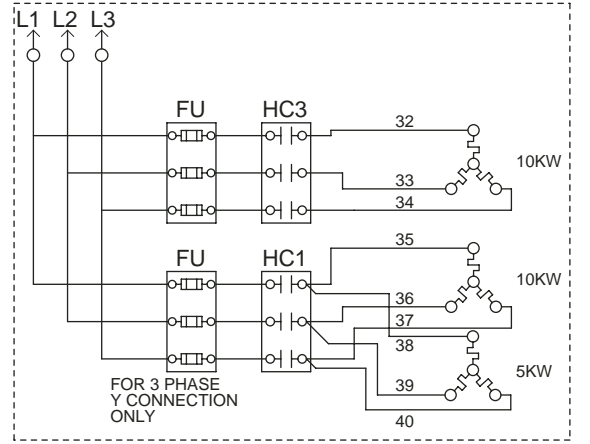
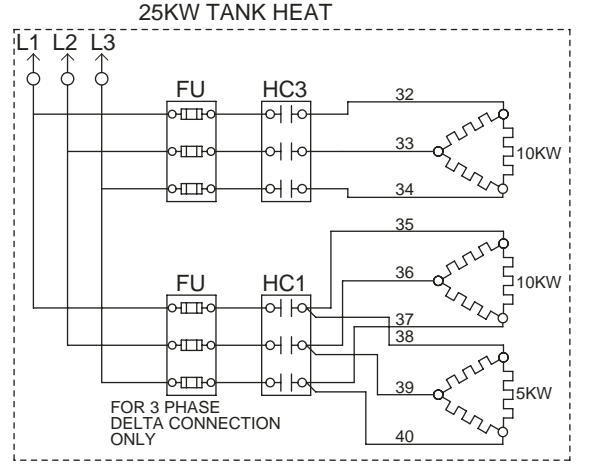
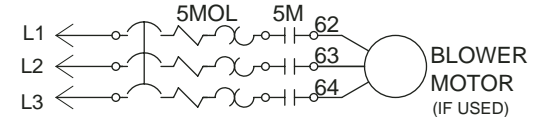
Champlon
The Dishwashing Machine Specialists

40/60/64-KB
STEAM/ELECTRIC
B 700935 REV. **I**

1CR	RACK SWITCH RELAY
2CR	FINAL RINSE SWITCH RELAY
3CR	DOOR SAFETY HOLD IN RELAY
4CR	RINSE FILL SWITCH RELAY
5CR	WASH FILL SWITCH RELAY
6CR	PREWASH FILL SWITCH RELAY
7CR	TABLE LIMIT SWITCH RELAY
1M	DRIVE CONTACTOR
1MOL	DRIVE MOTOR OVERLOAD
2M	PREWASH CONTACTOR
2MOL	PREWASH MOTOR OVERLOAD
3M	WASH CONTACTOR
3MOL	WASH MOTOR OVERLOAD
4M	RINSE CONTACTOR
4MOL	RINSE MOTOR OVERLOAD
5M	BLOWER CONTACTOR
5MOL	BLOWER MOTOR OVERLOAD
AS	ARC SUPPRESSOR
BC-	BOOSTER CONTACTOR/STEAM VALVE
BR	BOOSTER HOLD-IN RELAY
BWR.SW.	BLOWER SWITCH
CR	HOLD-IN RELAY
CWTS	COLD WATER THERMOSTAT
CWV	COLD WTER VALVE
DSS	DOOR SAFTEY SWITCH
FRFV	FINAL RINSE FILL VALVE
FRSW	FINAL RINSE SWITCH
FU_	FUSE-TRANSFORMER
FV	FLUSHING VALVE
HC-	HEAT CONTACTOR
HLTS	HIGH LIMIT THERMOSTAT (IF USED)
ISO	ISOLATION SWITCH (IF USED)
LT	ISOLATION SWITCH LIGHT (IF USED)
MSW	MOTOR STOP SWITCH (IF USED)
PCB	POWER SWITCH/CIRCUIT BREAKER
PWFV	PREWASH FILL VALVE
RSW	RACK SWITCH
RWFV	RINSE TANK FILL VALVE
RWFV	RINSE TANK FILL VALVE
RWFSW	RINSE TANK FLOAT SWITCH
T1	CONTROL TRANSFORMER
TR	IDLE PUMP TIMER
TS	THERMOSTAT
WFSW	WASH TANK FLOAT SWITCH
WV	WASH FILL VALVE



NOTE
FOR SINGLE PHASE MOTOR CONNECTION, OMIT LINE L3



- NOTES:
- WIRE NO. 7 AND 8 ARE CONNECTED TOGETHER IN JUNCTION BOX.
 - WHEN TABLE LIMIT SWITCH IS USED, SEPARATE WIRE 7 AND 8, WIRE TABLE LIMIT SWITCH (TLS) AS SHOWN. WHEN MACHINE IS SUPPLIED WITH MOTORIZED RACK ADVANCE (MRA) AND A 120V TLS IS USED, CONNECT WIRES INTO DISH MACHINE JUNCTION BOX. DISCONNECT WIRE 7 AND ADD TLS IN SERIES.
 - JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
 - USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.

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	A.LANNI	SCALE	N/A
DATE	94-10-04	SHEET	1 OF 1

REV.	DESCRIPTION	DATE	BY
B	RENUMBER BOOSTER THERMOSTAT	93-12	LANNI
C	RENUMBER 120V CIRCUIT-4CR & 5CR RENUMBER 24V CIRCUIT-DDS, 6CR & 4CR	94-03	LANNI
D	ADD FAN SIGNAL SWITCH, MOVE ISO HEAT SWITCH FROM WIRE 4 TO WIRE 15 & 18, REDRAW B SIZE	94-10	LANNI

REV.	DESCRIPTION	DATE	BY
E	CHANGED BOOSTER LOGIC	5DEC97	JCN
F	ADDED REMOTE STOP/START	25JULY01	JCN
G	ADDED ARC SUPPRESSORS	4FEB02	JCN

Champion
The Dishwashing Machine Specialists

40/60/64-KPRB
STEAM/ELECTRIC
B 700936 REV. **G**