# Champion®

The Dishwashing Machine Specialists

*For machines beginning with serial no. 84000 thru 99999 and serial no. R1000 and above*

# Technical Manual

## Single Tank Rack Conveyor with/without Prewash

| Basic Model | With (PR22) 22" Prewash | With (PR36) 36" Prewash | With (FFPR26) 26" Front Feed Prewash |
|---|---|---|---|
| 44KB | 44KPRB | PR36/44KB | FFPR26/44KB |
| 54KB | 54KPRB | PR36/54KB | FFPR26/54KB |
| 44WS | 66WS | PR36/44WS | FFPR26/44WS |
| KL44 | KL66 | PR36/KL44 | FFPR26/KL44 |

**Machine Serial No.**

**March, 2005**

**Manual P/N 112844 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 ____________

_________________________________________________________________________

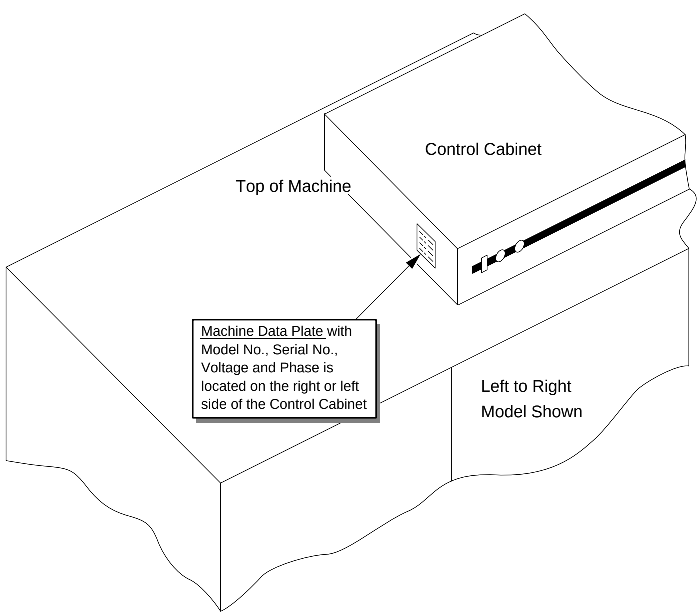
**Champion Service:**

Champion (USA)
Phone: 1 (336) 661-1556
1 (800) 858-4477
Fax: 1 (336) 661-1660

Champion (Canada)
Phone: 1 (905) 562-4195
1 (800) 263-5798
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.



# Revision History

The revisions listed below cover machine design changes prior to the publication of this manual, P/N 112844, dated June, 1998.

| Revision Date | Revised Pages | Serial Number Effectivity | Comments |
|---|---|---|---|
| 04/01/93 | — | 84565 | Redesign of cradle, replaced cradle roller with slide |
| 04/01/93 | — | 84545 | Additon of stiffener to idle pump mechanism |
| 04/01/93 | — | 84565 | Redesign of wash system, addition of adjustable restrictors |
| 04/01/93 | — | — | Removed water shock arrestor from the rinse piping |
| 04/01/93 | — | — | Repositioned PRV on rinse piping |
| 04/01/93 | — | 84565 | Redesign of final rinse pipes and nozzles |
| 04/01/93 | — | 84565 | Redesign of drain mechanism and filler panel |
| 04/01/93 | — | 84565 | Redesign of rinse saver switch |
| 04/01/93 | — | 84545 | Redesign and relocation of door safely switch |
| 04/01/93 | — | 84565 | Redesign of drain mechanism and overflow |
| 04/01/93 | — | 84350 | Change in booster to 63Kw |
| 10/20/93 | — | 85331 | Changed 63Kw element combination to (3) 9Kw & (2) 18Kw in the electric booster tank |
| 04/01/93 | — | 84350 | Redesign of booster cabinet components |
| 10/20/93 | — | 85261 | Redesign of control cabinet using Furnas components |
| 09/02/94 | — | 86424 | Replace SST rinse manifold with brass fittings |
| 3/21/95 | — | 87001 | Changed design of ON-OFF/circuit breaker switch, new P/N 111980 issued |
| 5/12/95 | — | 87150 | Redesigned pump assemblies and changed impellers to all stainless steel construction |
| 9/28/95 | — | 87575 | Redesign of booster to use 12Kw heaters |
| 3/3/96 | — | 88124 | Redesign of final rinse switch assembly |
| 7/19/96 | — | 88503 | Redesign of control cabinet terminal block |
| 1/8/97 | — | 89120 | Changed design of pump timer, new P/N 112351 |
| 3/5/97 | — | 89277 | Redesign of wash system to debossed spray pipes |
| 11/26/97 | — | 90513 | Redesign of KL 44/66 final rinse assembly, cradle and final rinse switch assembly |
| 8/3/98 | — | 99999 | Changed S/N format to R1000 and above |

# Revision History

| Revision Date | Revised Pages | Serial Number Effectivity | Comments |
|---|---|---|---|
| 10/30/98 | All | 84000-<br>& above | Issue of new manual and new parts replacement lists<br>*Supersedes previous manual P/N 110874 beginning with date January 1989 thru June 1993.* |
| 12/3/99 | 142,144 | R1649 | Added 7CR, 120VAC Hold-in relay to control cabinet circuit to maintain power to booster circuit. |
| 02/01/01 | 41,42 | R1766 | Changed pump valve P/N 111696 to 112380, Oring P/N 111725 to gasket 112338, and Suction Flange P/N 111841 to 112379. |
| 02/01/01 | 68,69 | R1529 | Insert new piping for outside rinse with electric booster (new figure & parts) |
| 02/01/01 | 72 | R1529 | Insert new piping for outside rinse with no electric booster and with steam booster. |
| 02/21/01 | 135,139,143 | — | Change part number 111642 to 108122 |
| 02/21/01 | 136,140,144,163,165 | — | Change part number 111826 to 111827 |
| 12/05/01 | 140,144 | — | Corrected descriptions on contactors |
| 12/05/01 | 136,140,143,144 | — | Added Fuse size numbers to descriptions |
| 01/02/02 | 69,73,77 | R2426 | Change vacuum breaker 3/4" P/N 104429 to 113222 |
| 01/02/02 | 81,85 | R2426 | Change vacuum breaker 1/2" P/N 100500 to 113220 |
| 01/02/02 | 70,74,78,82<br>86,89,111,115 | R2562 | Change vacuum breaker 1/4" P/N 107069 to 113218 |
| 01/02/02 | 69,73,77,81<br>85,89,111,116 | R2346 | Change Parker/Evans solenoid valve 1/4" P/N 109885 and 1/2" P/N 109886 to GC solenoid valve 1/2" P/N 113352 along with repair kit, coil and piping changes |
| 01/02/02 | 112,115,116 | R2208 | Added new table flange P/N 325492 and track stiffener P/N 325667 |
| 01/02/02 | 125 | R1690, R1719<br>R2074, R2127 | Added new water baffles 325159 and 325160 |
| 05/20/02 | 70,74,78,82,86<br>89,112,116 | | Added 900836 Kit* Repair, 1/4" & 1/2" Vacuum Breaker and 900837 Kit* Repair, 3/4" Vacuum Breaker |
| 02/05/03 | 41 | — | Replaced impellers with new part numbers. |
| 02/05/03 | 133 | — | Replaced P/N 108391 with 113622. |
| 02/05/03 | 139,143 | — | Replaced Furnace (Siemens) overloads with Telemecanique (Square D) overloads. |
| 7/22/03 | 69,70,73,74,77,78,81<br>82,85,86,89,111,112,115 | — | Revised plastic style vacuum breakers with bronze style |
| 7/23/03 | 133 | — | Corrected part numbers on overlays. |
| 3/11/04 | 45,47,97,99,101,103, | R3285 | Replaced 111090 with 113721 reed switch. |
| | 105, 107, 108, 111 | | |
| 3/11/04 | v | — | Replaced B700933 revision N with revision O. |
| 6/16/05 | 129 | | Change quantity on part 105186. |

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# LIST OF FIGURES

## LIST OF FIGURES (Cont.)

## ELECTRICAL SCHEMATICS

# 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.

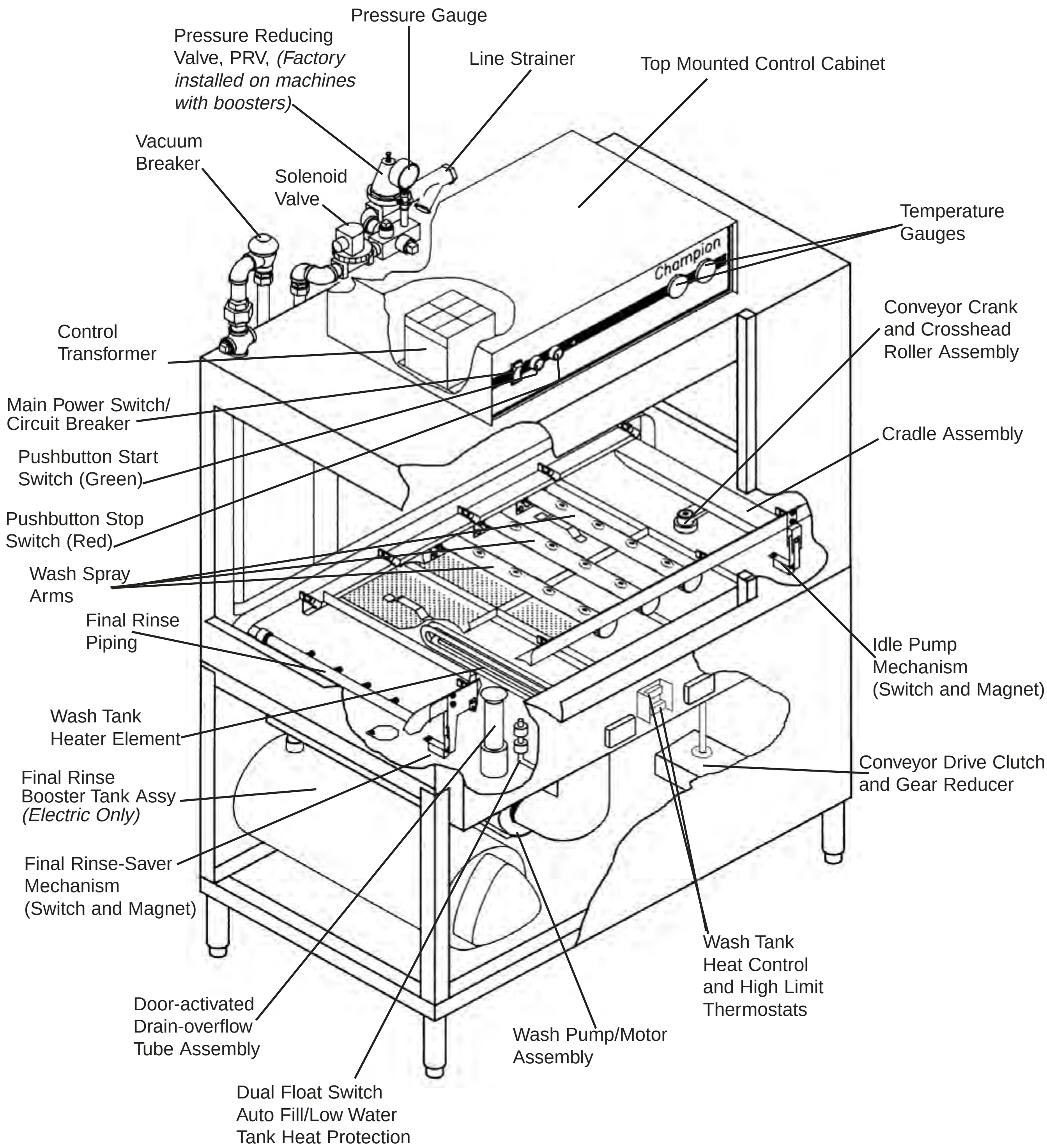
**Warranty of Parts:** Champion warrants all new machine parts produced or authorized by Champion to be free from defects in material and workmanship for a period of 90 days from date of invoice. If any defect in material and workmanship is found to exist within the warranty period Champion will replace 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 single tank rack conveyor dishwashing machine. This machine is fully automatic and is equipped with a 2 H.P. wash pump motor 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

| | |
|---|---|
| Single tank - Basic ................................................ | 44KB, 54KB, 44WS, KL44 |
| Single tank with 22" Prewash .............................. | 44KPRB, 54KPRB, 66WS, KL66 |
| Single tank with 36" Prewash .............................. | PR36/44KB, PR36/54KB, PR36/44WS, PR36/KL44 |
| Single tank with 26" Front Feed Prewash ............ | FFPR26/54KB, FFPR26/44WS, FPR26/KL44 FFPR26/44KB |

- The 44KB and 54KB basic models, along with their respective prewash options, are high temperature (180˚F/82°C final rinse) sanitizing models.

- The 44WS models, along with their respective prewash options, are water and energy saving, high temperature (180˚F/82°C final rinse) sanitizing models.

- The KL44 model, along with its respective prewash option, is a low temperature (140˚F/60°C final rinse), chemical sanitizing model for use with sodium hypochlorite solution (chlorine bleach) as the sanitizing agent.

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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 Ll 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 (except for the 44WS and 66WS models that have a single point electrical connection).***
*A fused disconnect switch or circuit breaker (supplied by user) is required to protect each power supply circuit.*

## 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.

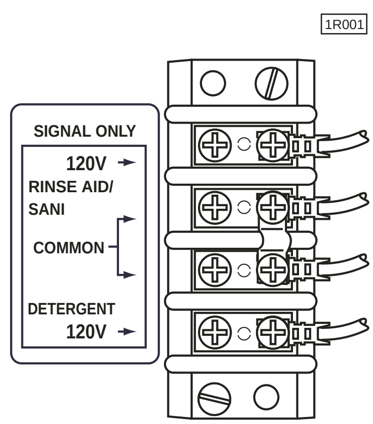
   • The load end requires 200 CFM @ 1/4" (SP), [95 Liters/sec] without prewash.

   • 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 beginning with S/N 88503 and above.
   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.



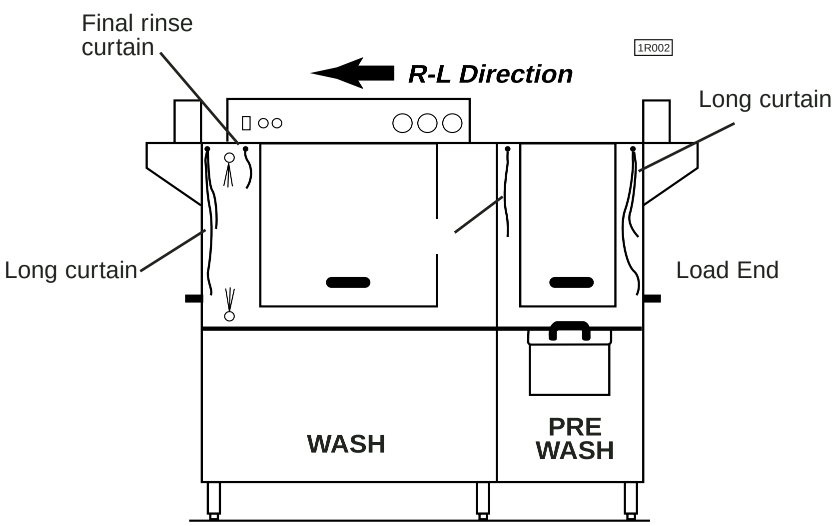

**Chemical Connection Terminal Board**

## Curtain Locations

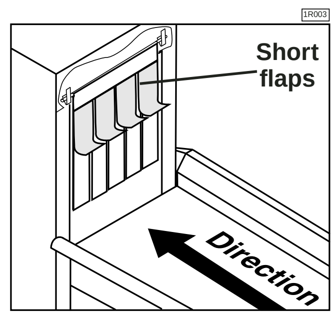
1. Refer to the illustrations below and hang the curtains as shown.
   J-hooks are located in the corners of each section to accept the curtain rods.
   - Standard long curtain 24" x 20-1/4" [610mm x 515mm]
   - High hood long curtain 24" x 22-3/4" [610mm x 578mm]

   - Standard short curtain 24" x 13-1/4" [610mm x 337mm]
   - High hood short cutain 24" x 20-1/4" [610mm x 515mm]

   - Final rinse curtain 24" x 6-1/4" [610mm x 159mm]
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.




**Curtain Locations**
***(Machine with prewash shown)***



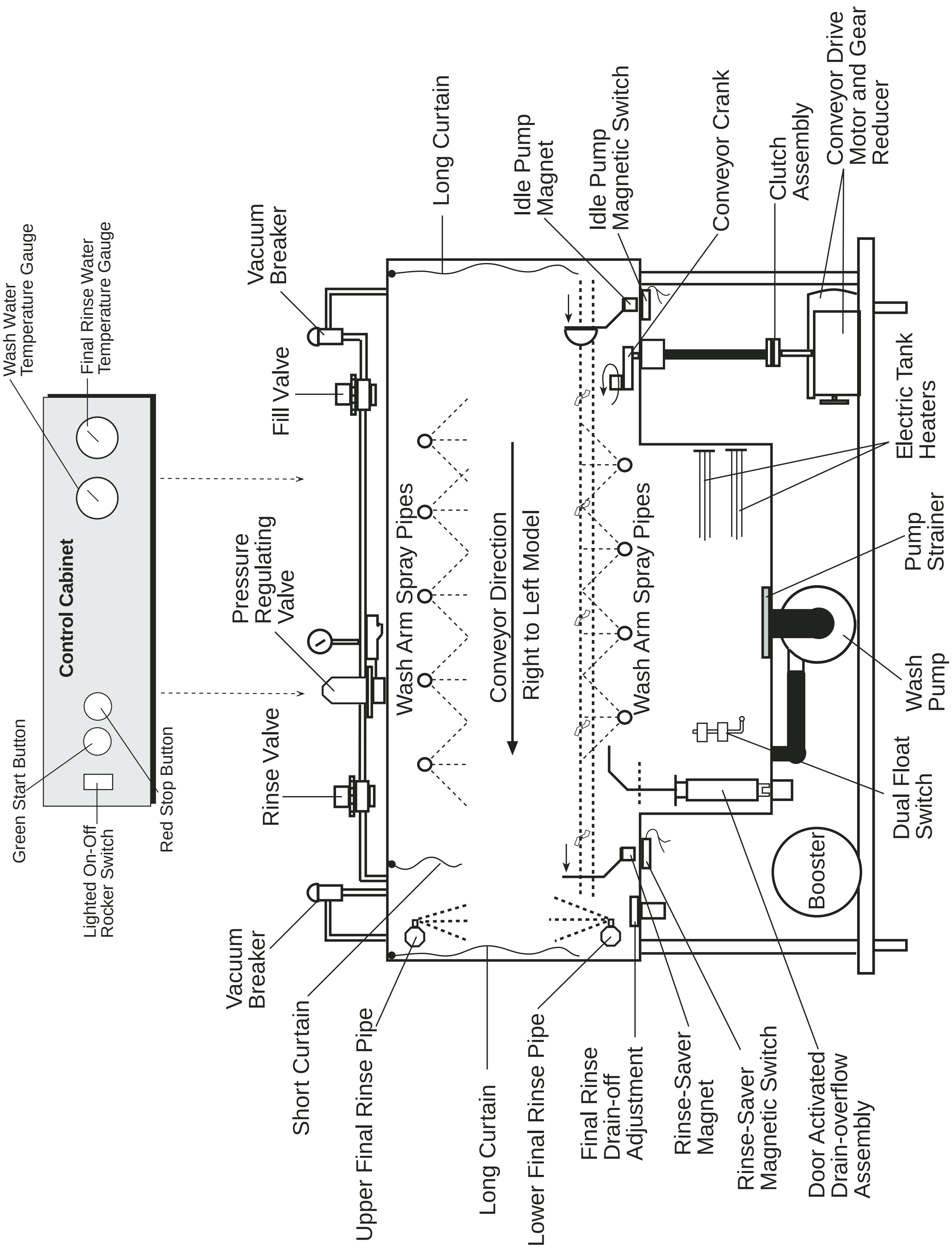

***Short flaps on long curtains face the load end of dishwasher***

## 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

| Action | Result |
|---|---|
| Turn Power Switch on | Lighted On-Off Rocker Switch on control cabinet will illuminate |
| | Float switch activated<br>Tank(s) fill with water |
| *Doors are closed<br>Door activated drains are closed* | When machine is full float switch cuts off water and calls for heat.<br>(Wait for proper temperature) |
| Press green start button | Conveyor drive motor is activated |
| Insert soiled rack | Wash pump starts<br>Continuous power on wire #13 and #2 120V Detergent signal |
| Rack conveys thru machine | |
| Rack activates final rinse | 20 psi required flow pressure<br>Power to wire #70 and #2 120V<br>Rinse/Sanitize signal |
| Rack exits the machine | Wash pumps shut down (timer)<br>Conveyor continues to run |
| Press stop push button | Conveyor drive will stop |
| Drain machine for cleaning after each meal period or every 2 hours of use | Check detergent and rinse aid supply. Replenish if necessary |

# 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:

- KL44, KL66 **- 140°F/60°C**
- 44KB, 54KB, 44WS **- 160°F/71°C**
- 44KPRB, 54KPRB, 66WS **- 160°F/71°C**

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.
7. Push the rack into the machine, and the pumps will start automatically.
8. 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.
9. The pumps will automatically stop shortly after the last rack leaves the machine.
   The conveyor will continue to run.
10. 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.
11. 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.

If you have the chemical sanitizing model (KL44 and KL66), **carefully** follow the following procedure before deliming:

> **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 flourine. Mixing may cause hazardous gases to form. Consult your chemical supplier.*

1. Remove the suction tube assembly from the bleach container and place it as close as possible to the floor. Place a catch pan under it.
2. Cycle the machine approximately six times to purge the lines of the bleach.
3. Proceed with deliming process.

# 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 for 44KB, 54KB, 44WS, 44KPRB, 54KPRB, 66WS 120°F/49°C for KL44, KL66 |
| | 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,WS models) be sure the thermostat is set to maintain 180°F/82°C temperature. (KL models) check incoming water is set min. 120°F/49°C-140°F/60°C. 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.

1R004

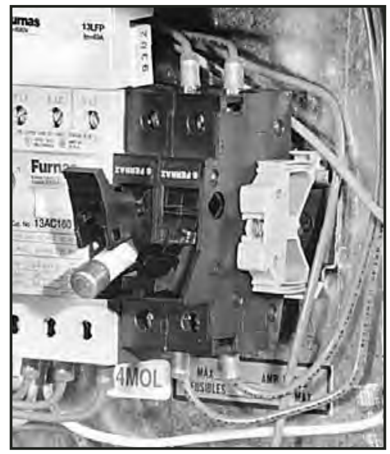



**Figure 1**
**Fuse Blocks**

### 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 auxilary 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.

1R005


**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.

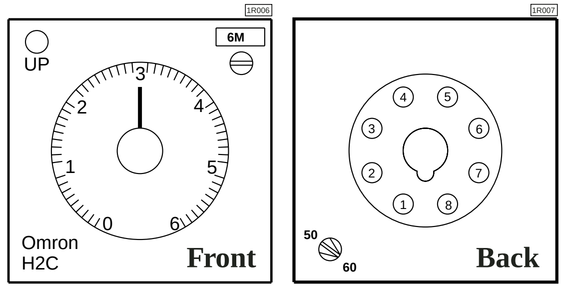



**Figure 3**
**Pump Timer**

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

### 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 –

1R008

**Figure 4**
**Dual Float Switch**

<u>Refer to Fig. 4</u>
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.

# ELECTRICAL SERVICE (Cont.)

## Thermostat Locations and Adjustments

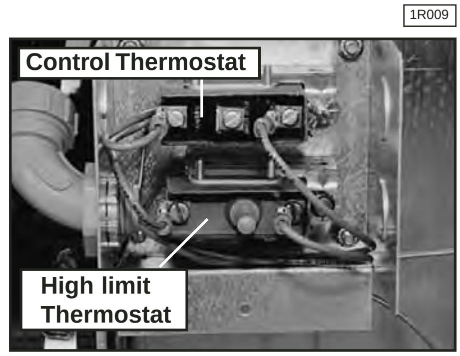



**Figure 5**
**Tank Heat Thermostats**

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.

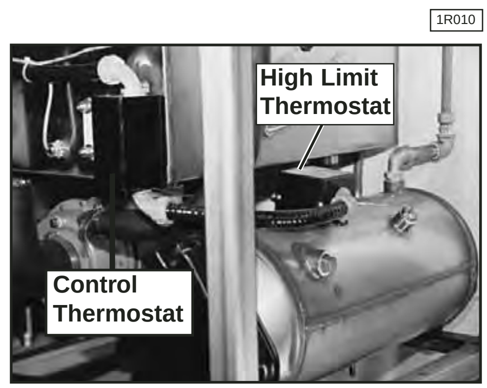



**Figure 6**
**Booster Thermostat Locations**

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 7**
**Booster – High Limit Thermostat**

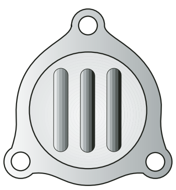
# ELECTRICAL SERVICE (Cont.)

### Heater Element Wiring – Booster Tank and Wash Tank Heater Elements

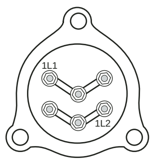
<u>Refer to the illustrations and follow the steps below to properly install terminal jumpers and to make line power connections to a replacement element.</u>

**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.

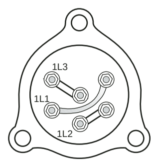
**Configuration A**
Booster tank element
View of calrod coils



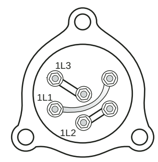
**Terminal Connections** view of element



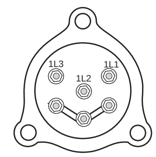
208V/1 Phase



208-240V/3 Phase
Delta Connection

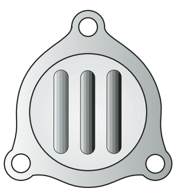


480V/3 Phase
575V/3 Phase
Delta Connection

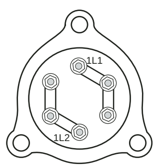


208-240V/3 Phase
Wye Connection for
380-415V/3 Phase

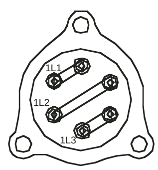
**Configuration B**
Booster tank element
View of calrod coils



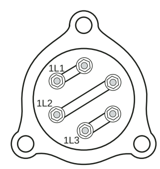
**Terminal Connections** view of element



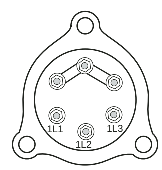
208V/1 Phase



208-240V/3 Phase
Delta Connection

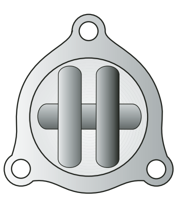


480V/3 Phase
575V/3 Phase
Delta Connection

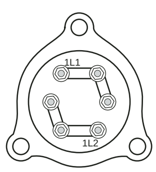


208-240V/3 Phase
Wye Connection for
380-415V/3 Phase

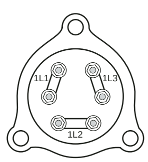
**Configuration C**
Booster tank element
View of calrod coils



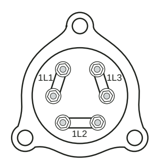
**Terminal Connections** view of element



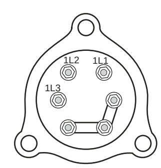
208V/1 Phase



208-240V/3 Phase
Delta Connection

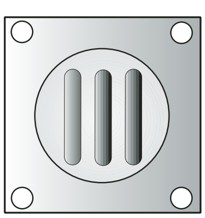


480V/3 Phase
575V/3 Phase
Delta Connection

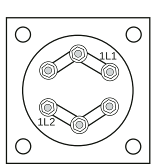


208-240V/3 Phase
Wye Connection for
380-415V/3 Phase

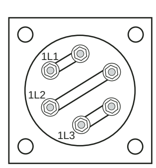
**Configuration D**
Wash tank element
View of calrod coils



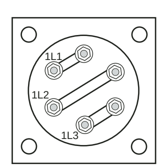
**Terminal Connections** view of element



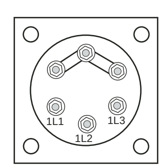
208V/1 Phase



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

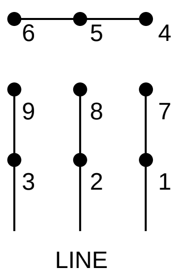
Voltage: Standard motors are multi-voltage
Low voltage: 208-230VAC
High voltage: 460VAC or 575VAC only

Phase: Motors may be single or three phase

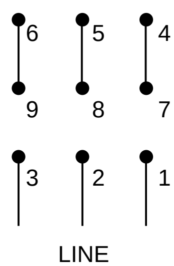
### Wiring Connections:

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

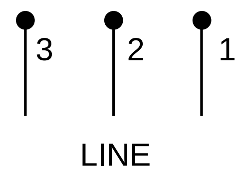
**Low voltage**
**208-230V/3PH**




**High Voltage**
**460V/3PH**

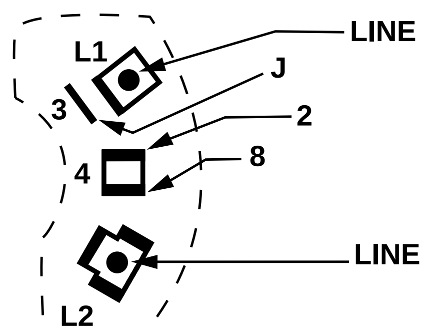



**575V/3PH**
**Only**




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.

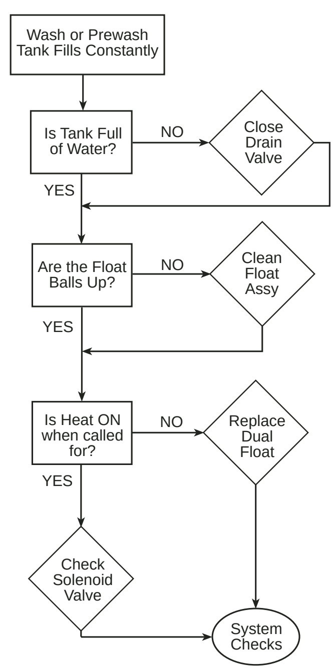
**Inspect the Dual Float:**

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.

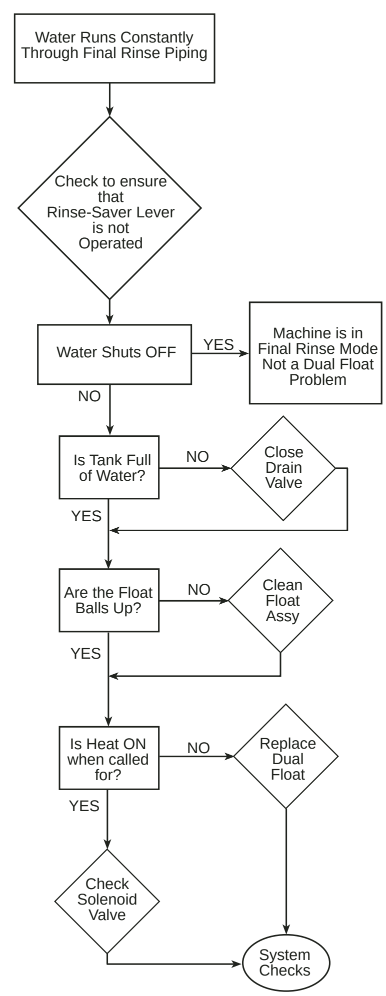
In addition to checking the float operation, perform the following—

**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 (except WS)

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.**

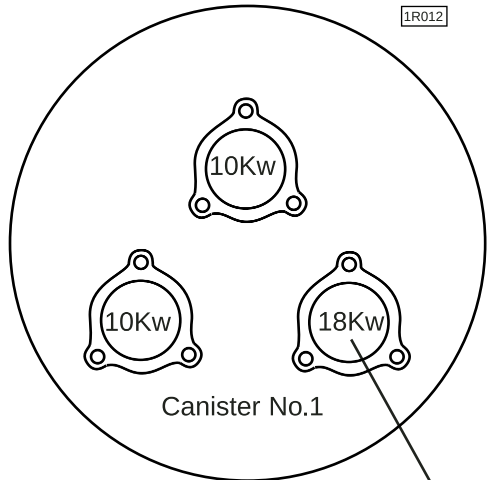



**Figure 8**
**Front View**
**Typical 40°F/22°C Rise Booster**
**One Tank – Total 38Kw Shown**
**For machines built prior to S/N 87575**

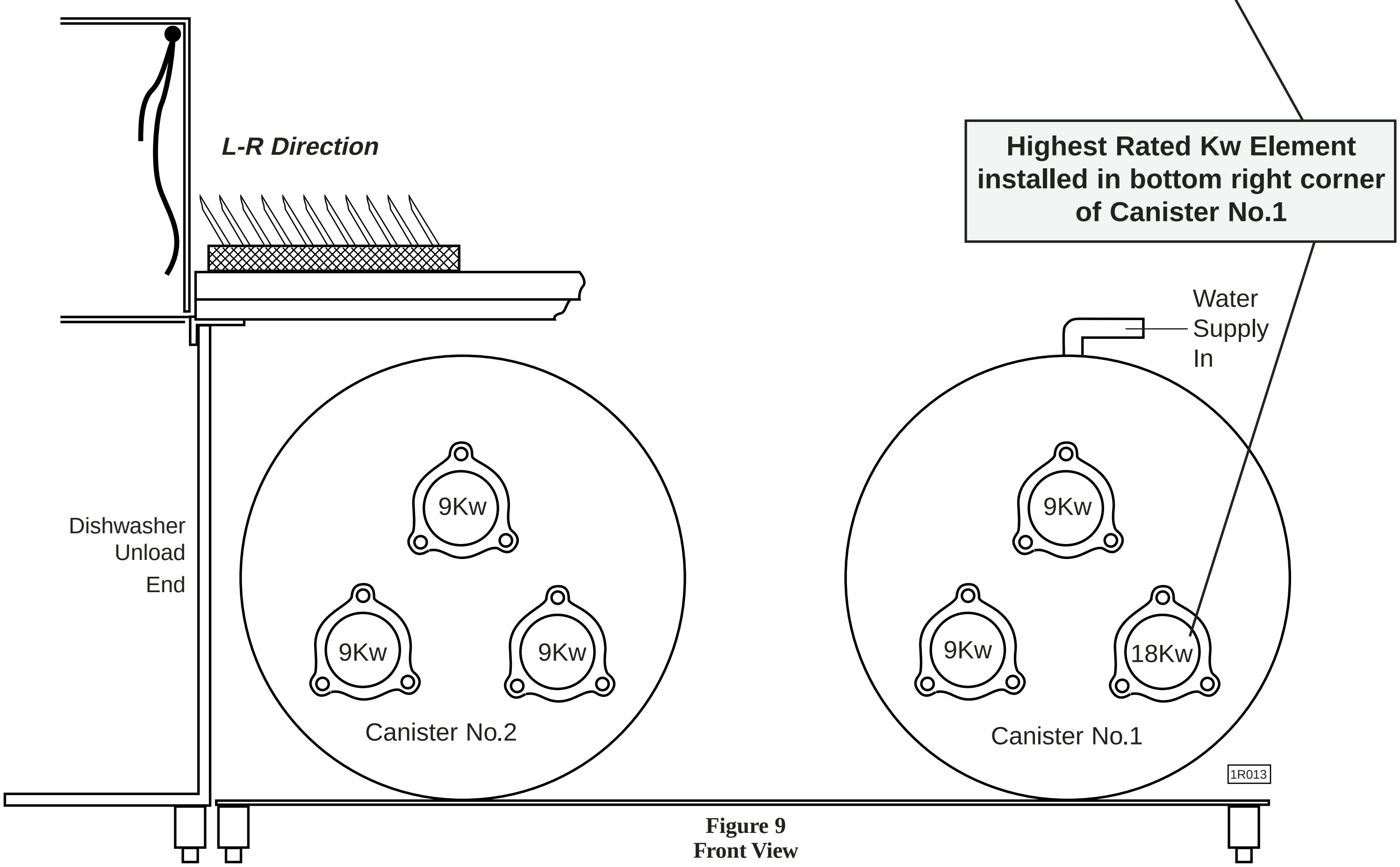
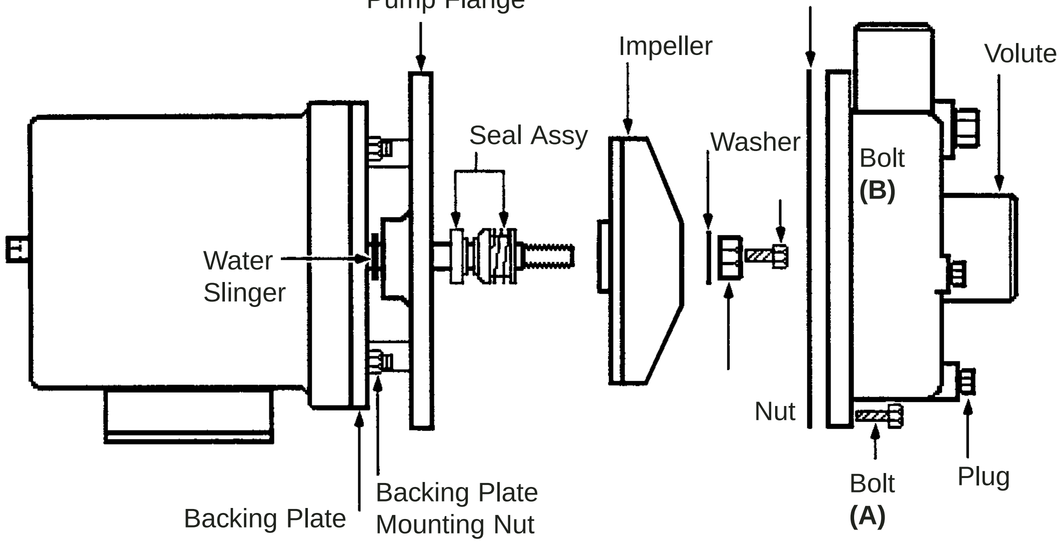



**Figure 9**
**Front View**
**Typical 70°F/39°C Rise Booster**
**Two-Tank – Total 63Kw Shown**
**For machines built prior to S/N 87575**

# 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.

1R014


**Figure 10**
**Idle Pump Switch Assembly**

1R015

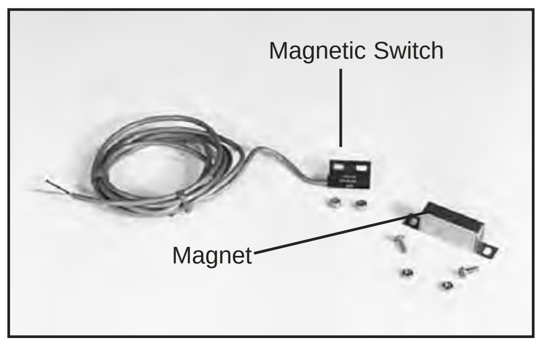



**Figure 11**
**Magnetic Switch and Magnet**

### 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 nutted 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.

### 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.

1R016


**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 crosshead 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.

1R017

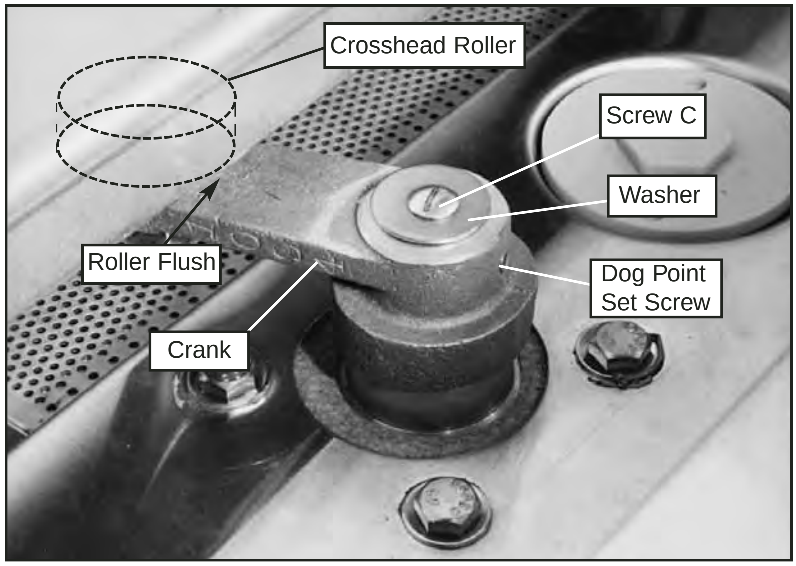



**Figure 13 – Crank Assembly**

### 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.

1R018

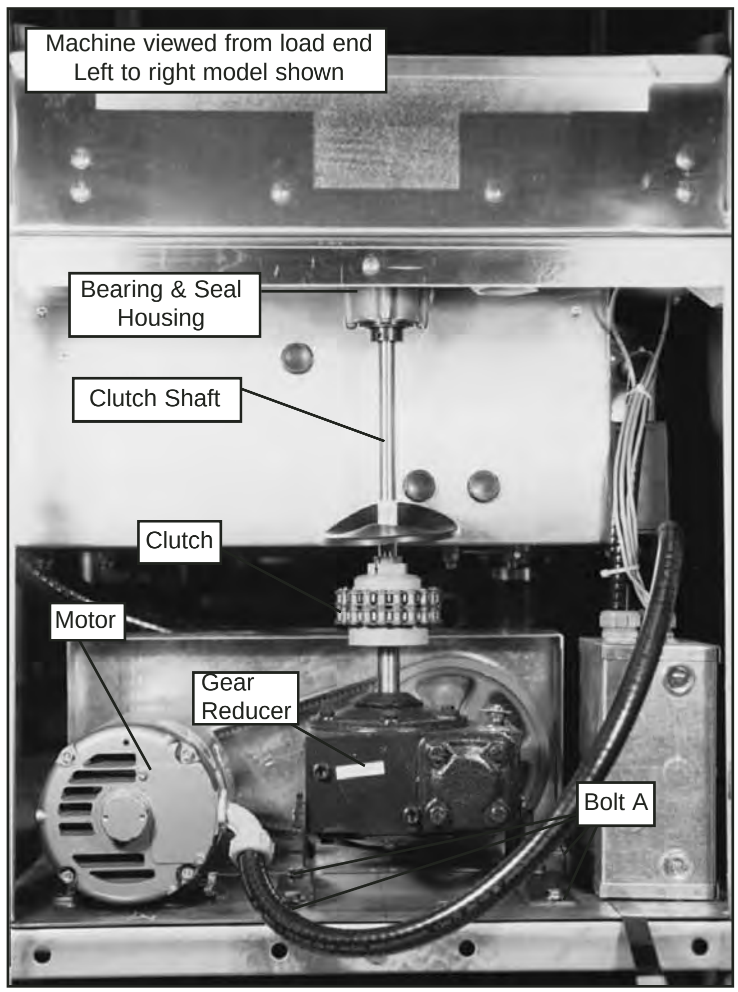



**Figure 14 – Conveyor Drive Assembly**

## Drive Clutch Replacement –

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

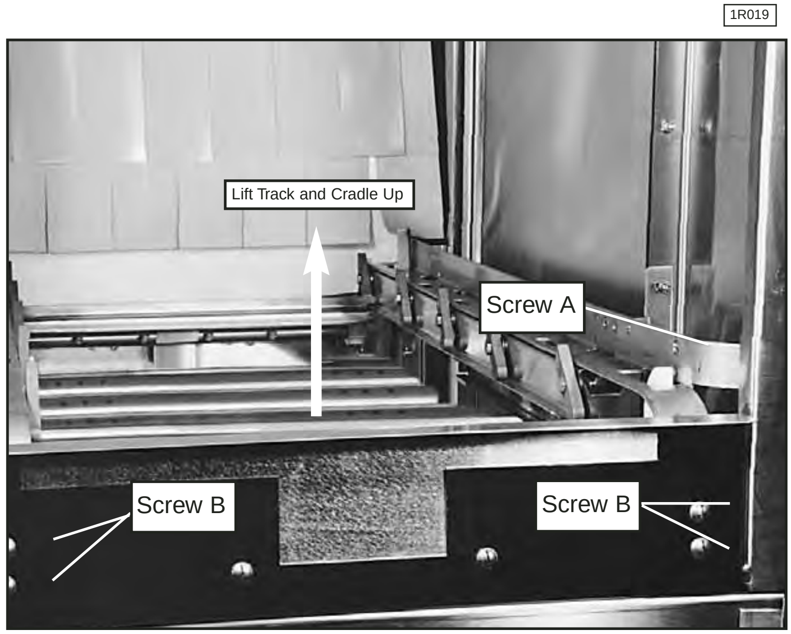



**Figure 15**
**View of Load End of Machine**

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.

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.

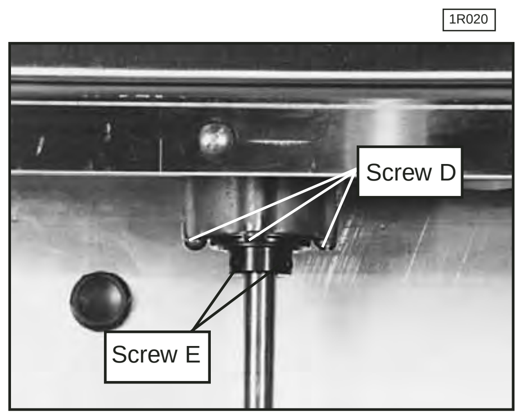



**Figure 16**
**Close-up view of Bearing Housing**

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.

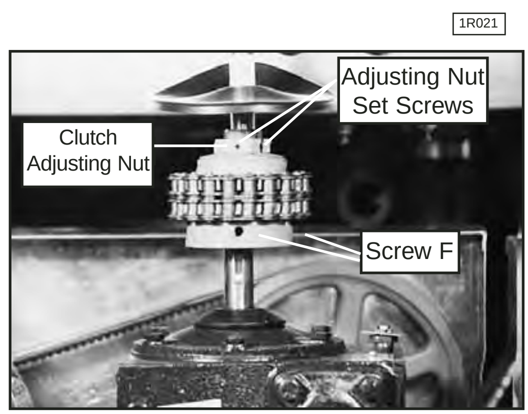



**Figure 17**
**Close-up view of Clutch Assembly**

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.

# 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.

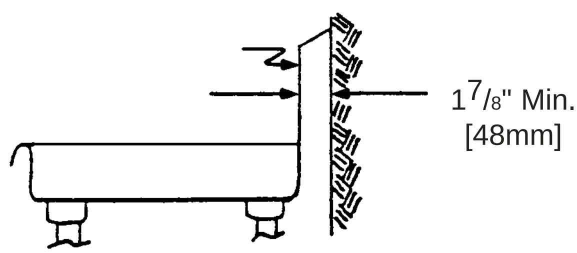
These instructions provide the servicer with a step-by-step method for installing and wiring the table limit switch on a rack conveyor dishwasher.

## 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 backsplash. (See Fig. A)

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

**Fig. A**

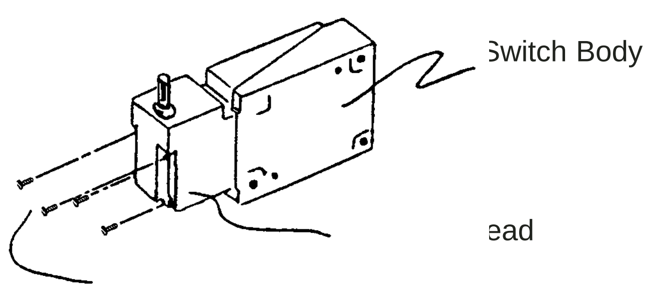



**A. Inspect the Installation Kit** Be sure that your kit contains:

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

**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.*

**Fig. B**



### B. Additional Materials Required for Installation

(*) 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

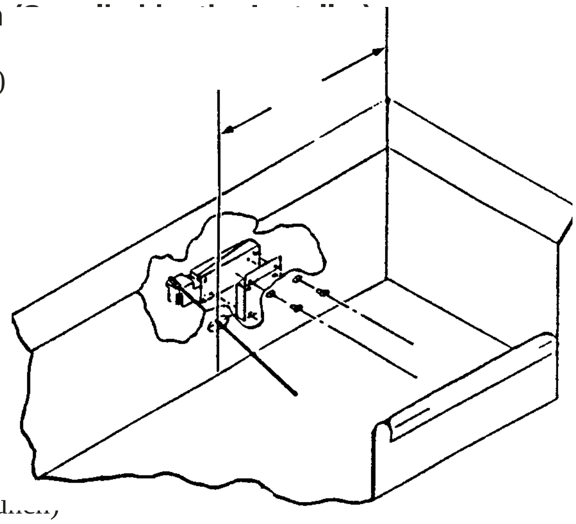


**Fig. C**
**L-R Installation**

### C. Special Tools Required

- Variable speed drill
- 3/16" drill bit
- 5/16" drill bit (If using a Greenlee® 1/2" conduit pu
- 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 28154 ........Punch
P/N 28155 ........Die
P/N 28451 ........Bolt

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 d the required holes.

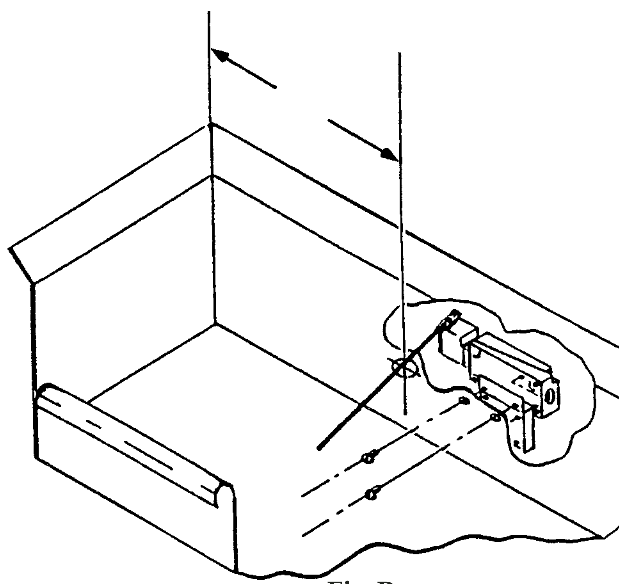


**Fig. D**
**R-L Installation**

### 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.

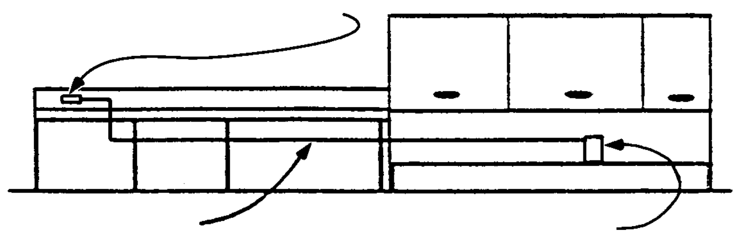
## IV. Wiring and Final Mounting of the Table Limit Switch Assembly

**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)

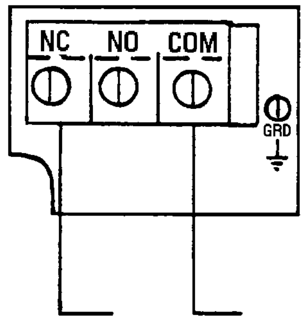
**Fig. E**



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.

**Fig. F**




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

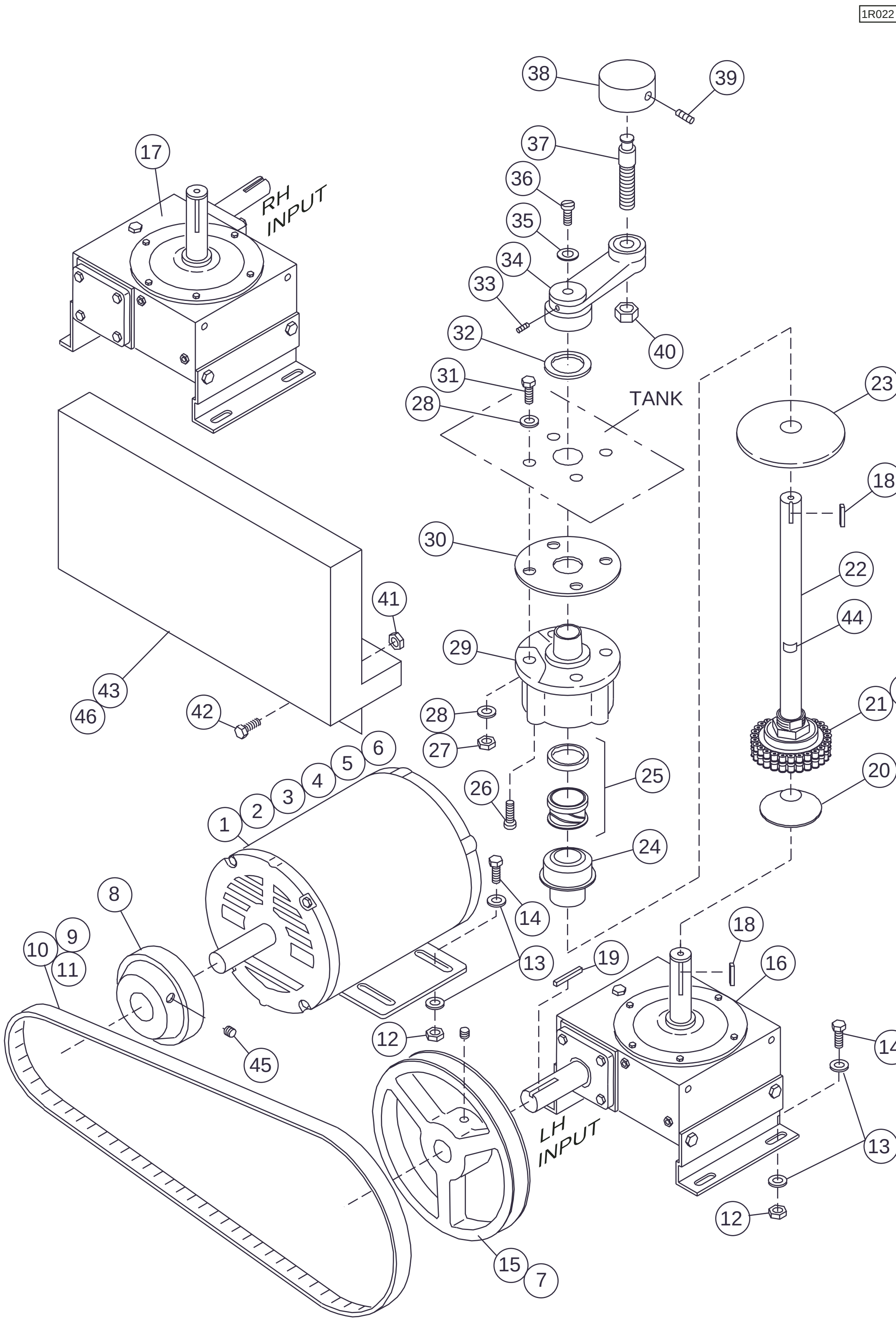



**Figure 18 – Conveyer Drive Assembly**

## CONVEYOR DRIVE ASSEMBLY

| Fig. 18 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 100249 | Motor, 1/4-HP Drive (115V/208-230V-60Hz-1Ph) | 1 |
| 2 | 107181 | Motor, 1/4-HP Drive (208-24V-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-50Hz-3Ph) | 1 |
| 6 | 180240 | Motor, 1/4-HP Drive (575V-60Hz-3Ph) | 1 |
| 7 | 100458 | Sheave (AK74) 3/4" Bore (44WS) | 1 |
| 8 | 103162 | Sheave (AK25) 1/2" Bore (44KB, 54KB, KL44) | 1 |
| 9 | 100801 | Belt - 4L370 (44WS, 66WS) | 1 |
| 10 | 100797 | Belt - 4L340 (44KB, 54KB) | 1 |
| 11 | 100796 | Belt - 4L330 (KL44, KL66) | 1 |
| 12 | 100142 | Nut, grip (5/16-18) | 8 |
| 13 | 102376 | Washer, flat (5/16") | 16 |
| 14 | 100739 | Bolt (5/16-18 X 3/4") Hex hd | 8 |
| 15 | 100454 | Sheave (AK59) 3/4" Bore (44KB, 54KB, KL44) | 1 |
| 16 | 110300 | Box, gear (L-R) | 1 |
| 17 | 110299 | Box, gear (R-L) | 1 |
| 18 | 104916 | Key 3/16" X 3/16" X 3/4" Lg) | 2 |
| 19 | 104915 | Key (3/16" X 3/16" X 1 1/4" Lg) | 1 |
| 20 | 100870 | Slinger, water | 1 |
| 21 | 109661 | Limiter, torque (Includes item 47) | 1 |
| 22 | 202675 | Shaft, drive | 1 |
| 23 | 109374 | Shield, drip | 1 |
| 24 | 100382 | Bearing | 1 |
| 25 | 102244 | Seal (5/8") (2-Piece) | 1 |
| 26 | 104923 | Screw (1/4-20 X 3/8") Round hd | 4 |
| 27 | 100143 | Nut, grip (3/8-16) | 4 |
| 28 | 104618 | Washer, flat (3/8") | 8 |
| 29 | B1074-1 | Housing, bearing | 1 |
| 30 | 108820 | Gasket, bearing housing | 1 |
| 31 | 100153 | Bolt (3/8-16 X 1") Hex hd | 4 |
| 32 | 103180 | Ring, wiper | 1 |
| 33 | 100771 | Screw, set (1/4-20 X 1/4") Socket hd | 1 |
| 34 | 202386 | Crank | 1 |
| 35 | 104925 | Washer, flat (1/4" X 1" O.D.) | 1 |
| 36 | 100007 | Screw (10-32 X 3/8") Truss hd | 1 |
| 37 | 100868 | Stud, crosshead roller | 1 |
| 38 | 202381 | Roller, crosshead | 1 |
| 39 | 100769 | Screw, set (3/8-16 X 3/4") Dog Point | 1 |
| 40 | 107089 | Nut, jam (1/2-13) | 1 |
| 41 | 100141 | Nut, grip (1/4-20) | 2 |
| 42 | 100734 | Bolt (1/4-20 X 1/2") Hex hd | 2 |
| 43 | 313360 | Guard, belt (44KB, 54KB, KL44) | 1 |
| 44 | 110990 | Label - Rotation | 1 |
| 45 | N/A | Screw, set (5/16-18 X 3/8") Dog Point | 2 |
| 46 | 315562 | Guard, belt (44WS) | 1 |
| 47 | 105263 | Set, clutch pad (1 pair for #250 clutch) | 1 |
| — | 900146 | Clutch assy (Includes items 18, 21-23, 44) | — |

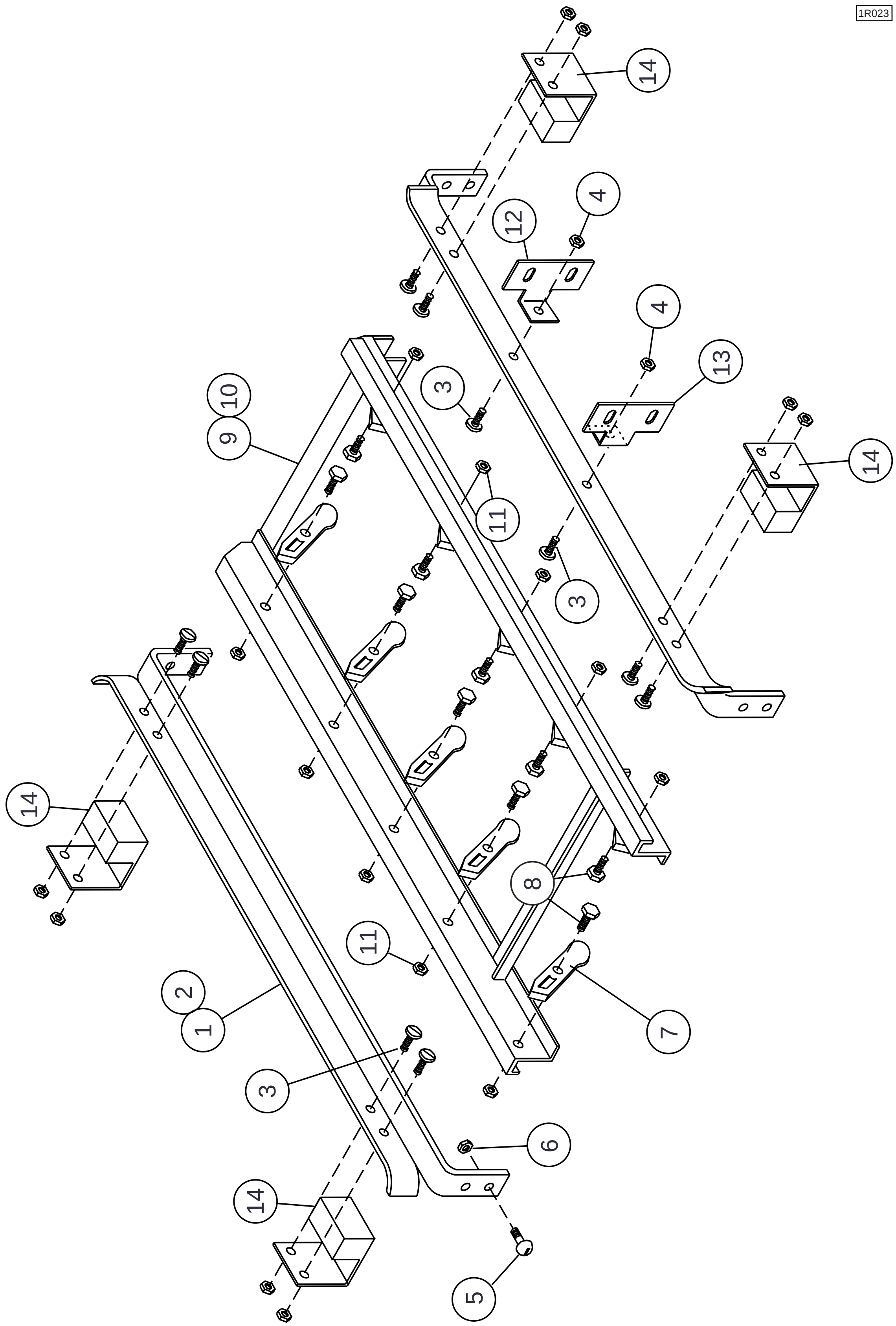



**Figure 19 – Track and Cradle Assembly**
*(For machines beginning with S/N 84565 and above except KL-44/66 beginning with S/N 90513 and above)*

## TRACK AND CRADLE ASSEMBLY

*(For machines beginning with S/N 84565 and above except KL-44/66 beginning with S/N 90513 and above)*

| Fig.19,19a Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 311650 | Track (44KB, 44WS, KL44) | 2 |
| 2 | 313289 | Track (54KB) | 2 |
| 3 | 111296 | Screw (10-32 x 3/8") Flat hd | 9 |
| 4 | 100194 | Nut, grip (10-32) | |
| 5 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 8 |
| 6 | 100141 | Nut, grip (1/4-20) | 8 |
| 7 | 204513 | Pawl | 10 |
| 8 | 110857 | Shoulder bolt | 10 |
| 9 | 316899 | Cradle (44KB, 44WS, KL44) (Beginning with S/N 84565) | 1 |
| 10 | 316900 | Cradle (54KB) (Beginning with S/N 84565) | 1 |
| 11 | 100142 | Nut, grip (5/16-18) | 10 |
| 12 | 315278 | Support – Front (RH) | 1 |
| 13 | 315279 | Support – Front (LH) | 1 |
| 14 | 408092 | Slide Assy, Cradle | 4 |
| — | 408138 | Cradle Assy. (44KB/44WS/KL44)(includes items 7, 8, 9, 11) (Beginning with S/N 84565 and above) | 1 |
| — | 408139 | Cradle Assy. (54KB)(includes items 7, 8, 10, 11) (Beginning with S/N 84565 and above) | 1 |

| Fig.19a Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 15 | 312957 | Cradle (44KB, 44WS, KL44) (Prior to S/N 84565) | 1 |
| 16 | 312956 | Cradle (54KB) (Prior to S/N 84565) | 1 |
| — | 405927 | Cradle Assy. (44KB/44WS/KL44)(includes items 7, 8, 11, 15) (Prior to S/N 84565) | 1 |
| — | 405928 | Cradle Assy. (54KB)(includes items 7, 8, 11, 16) (Prior to S/N 84565) | 1 |

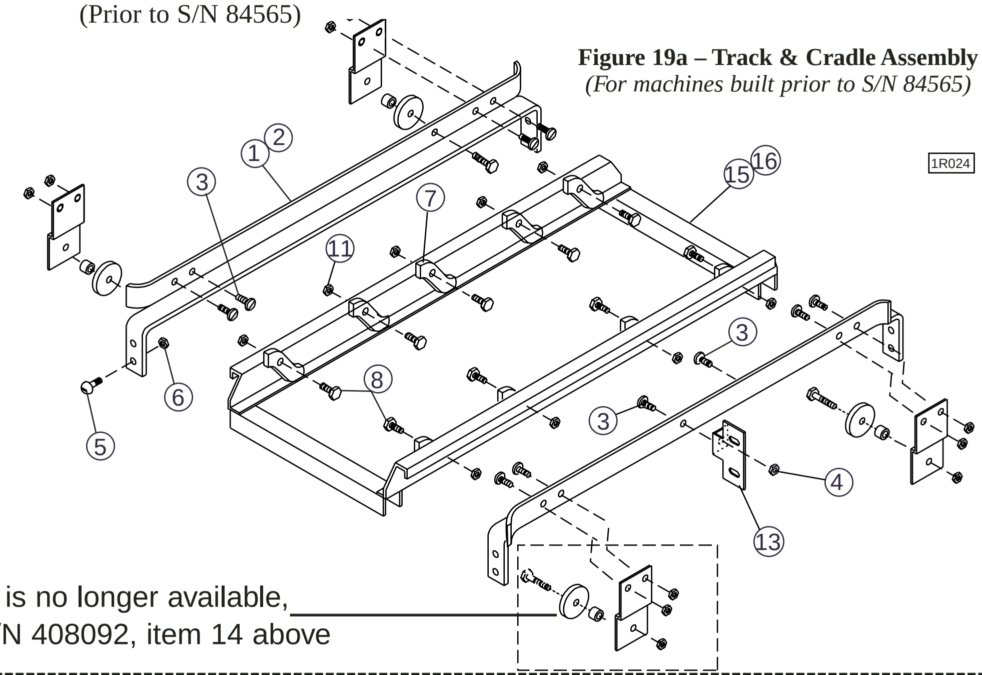



**Figure 19a – Track & Cradle Assembly**
*(For machines built prior to S/N 84565)*

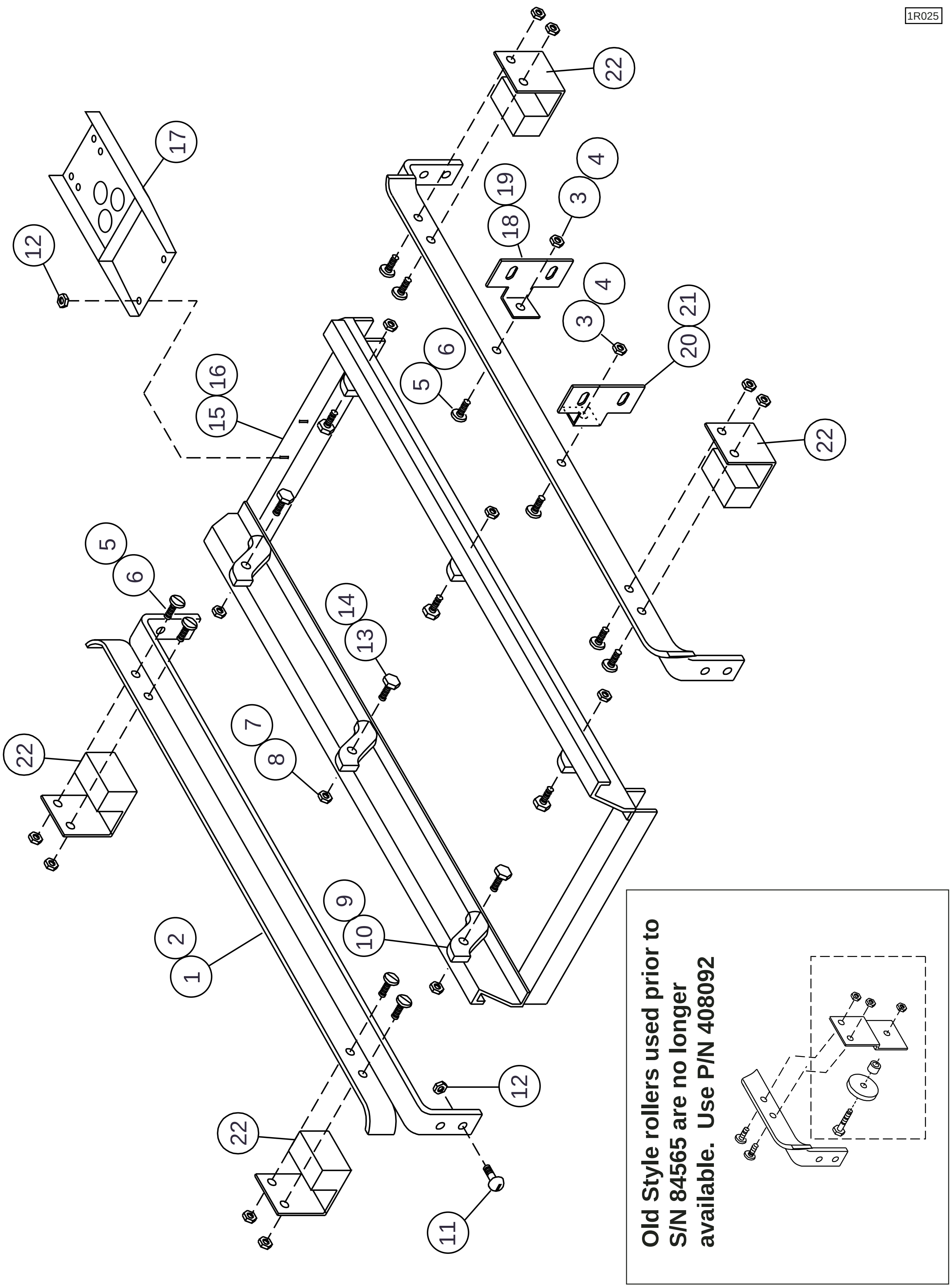



**Figure 20 – Track and Cradle Assembly – PR22, PR36**
*(All S/N's) (PR36 Shown)*

## 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 |
| 13 | 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 |

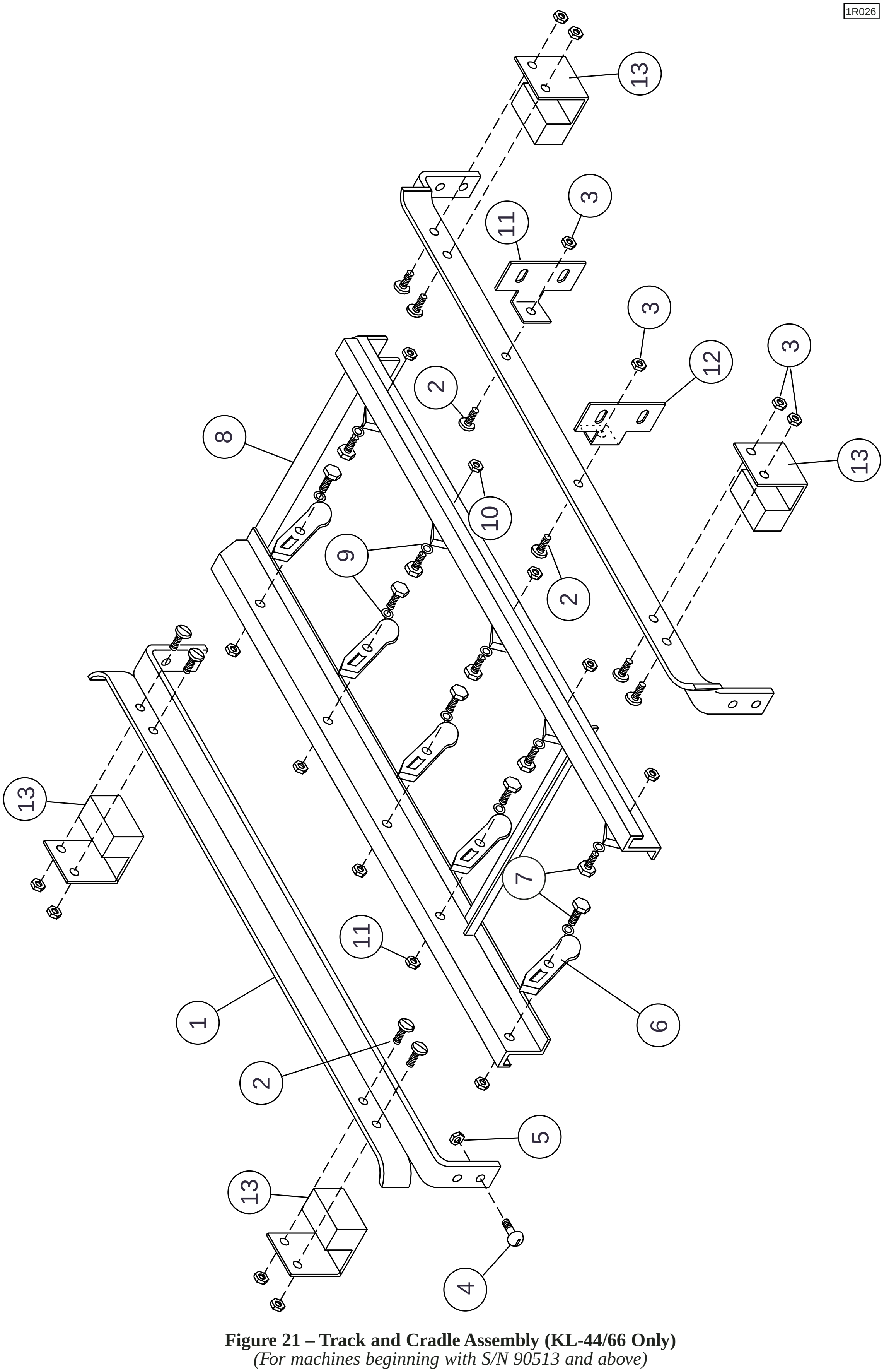



**Figure 21 – Track and Cradle Assembly (KL-44/66 Only)**
*(For machines beginning with S/N 90513 and above)*

## TRACK AND CRADLE ASSEMBLY (KL-44/66 ONLY)
*(For machines beginning with S/N 90513 and above)*

| Fig. 21 Item No. | Part No. | Description | Qty. |
|---|---|---|---|
| 1 | 311650 | Track (KL44) | 2 |
| 2 | 111296 | Screw 10-32 x 3/8" | 9 |
| 3 | 100194 | Nut, Grip 10/32 | 9 |
| 4 | 100073 | Screw 1/4-20 x 1/2" | 8 |
| 5 | 100141 | Nut, Grip 1/4-20 | 8 |
| 6 | 204513 | Pawl | 10 |
| 7 | 110857 | Shoulder Bolt | 10 |
| 8 | 322552 | Cradle | 1 |
| 9 | 102376 | Washer 5/16 x 3/4 x 1/16" | 10 |
| 10 | 109009 | Nut 5/16 w/nylon insert | 10 |
| 11 | 315278 | Support, front (RH) | 1 |
| 12 | 315279 | Support, front (LH) | 1 |
| 13 | 408092 | Slide Assy., Cradle | 4 |
| — | 412005 | Cradle Assembly (Includes items 6-10) | 1 |

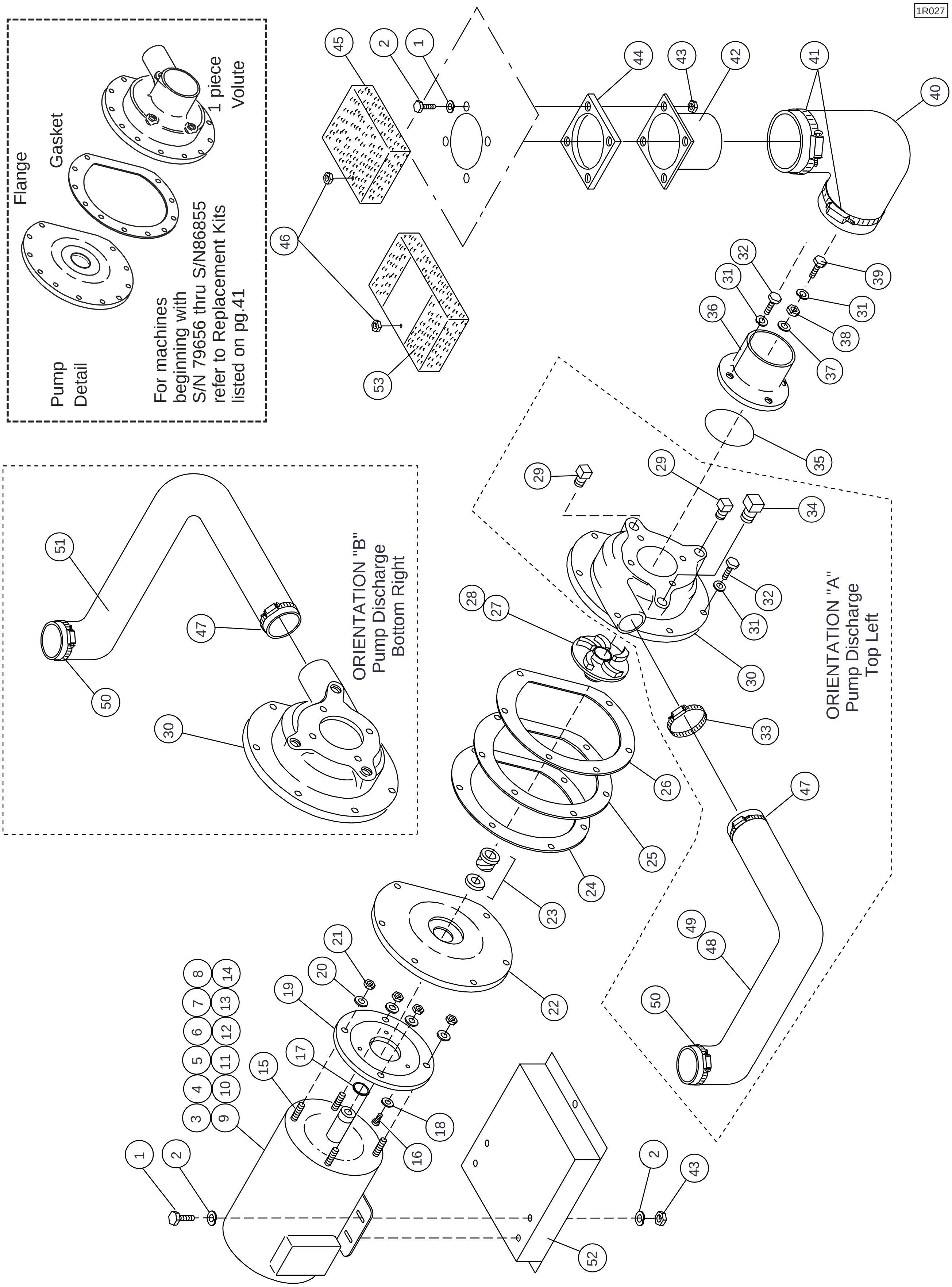



**Figure 22 – Motor and Pump Assembly**
***(Wash and Prewash) (All S/N's)***

## MOTOR AND PUMP ASSEMBLY

*(Wash and Prewash) (All S/N's)*

| Fig. 22 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| — | | *Machines beginning with S/N 79656 thru S/N 86855 were built with a one piece pump volute (See detail top of page 40). This design is no longer available and is replaced with the kits listed below. Figure 22 and the parts breakdown beginning with Item 1 below will apply to the new pump assembly after conversion with the appropriate kit.* | |
| | | **Replacement Kits (For machines beginning with S/N 79656 thru S/N 86855)** | |
| — | 900737 | Kit, gasket (Includes Qty. 1 each of Item 24-26) | A/R |
| — | 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 |
| | | **(For machines beginning with S/N 79656 thru S/N 86855 after conversion and all machines beginning with S/N 86856 and above)** | |
| 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 machined | 1 |

## MOTOR/PUMP ASSEMBLY (Cont.)
*(Wash and Prewash)*

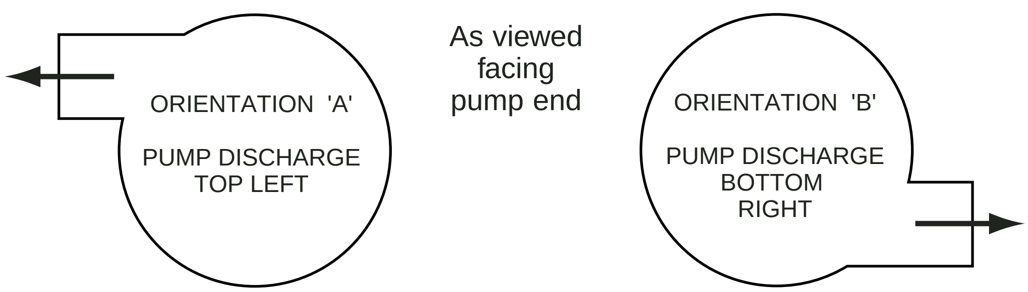
| Fig. 22 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 32 | 100736 | Bolt (1/4-20 X 3/4") Hex hd | 10 |
| 33 | 111964 | Clamp, discharge pump hose | 1 |
| 34 | 102504 | Plug (1/2" NPT) Brass | 1 |
| 35 | 112338 | Gasket, Pump Suction Flange | 1 |
| 36 | 112379 | Flange, suction machined | 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 | 311761 | Strainer, pump intake (All except KL44/66 wash pump) | 1 |
| 46 | 107967 | Nut, grip (1/4-20) w/nylon insert | 1 |
| 47 | 110858 | Clamp, discharge hose | 1 |
| 48 | 109578 | Hose, discharge *(Orientation A)*<br>(Use for R-L direction 44/54KB, KL44, 44WS, FFPR26)<br>( Use for R-L & L-R direction PR36 units) | 1 |
| 49 | 110459 | Hose, discharge *(Orientation A)*<br>(Use for R-L & L-R direction PR22 units) | 1 |
| 50 | 104165 | Clamp, hose (M40) | 1 |
| 51 | 110457 | Hose, discharge *(Orientation B)*<br>(Use for L-R direction 44/54KB, KL44, 44WS, FFPR26) | 1 |
| 52 | 312645 | Base, motor mount | 1 |
| 53 | 322550 | Strainer, pump intake (KL44/66 wash pump only) | 1 |

**Pump Assemblies – ORIENTATION "A"**

| Fig. 22 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| — | 451524 | Pump Assy. lHP, 208-240V/60Hz/lPH<br>(Includes items 1-2, 9, 15-26, 27, 29-32, 34-39) | 1 |
| — | 451523 | Pump Assy. lHP, 208-240V/460v/60Hz/3PH<br>(Includes items 1-2, 10, 15-26, 27, 29-32, 34-39) | 1 |
| — | 451637 | Pump Assy. lHP, 575V/60Hz/3PH<br>(Includes items 1-2, 14, 15-26, 27, 29-32, 34-39) | 1 |
| — | 451668 | Pump Assy. lHP, 380V/50Hz/3PH<br>(Includes items 1-2, 11, 15-26, 27, 29-32, 34-39) | 1 |
| — | 451674 | Pump Assy. lHP, 380V/60Hz/3PH<br>(Includes items 1-2, 12, 15-26, 27, 29-32, 34-39) | 1 |
| — | 451670 | Pump Assy. lHP, 415V/50Hz/3PH<br>(Includes items 1-2, 13, 15-26, 27, 29-32, 34-39) | 1 |
| — | 451526 | Pump Assy. 2HP, 208-240V/60Hz/lPH<br>(Includes items 1-2, 3, 15-26, 28, 29-32, 34-39) | 1 |
| — | 451525 | Pump Assy. 2HP, 208-240V/460V/60Hz/3PH<br>(Includes items 1-2, 4, 15-26, 28, 29-32, 34-39) | 1 |
| — | 451656 | Pump Assy. 2HP, 380V/50Hz/3PH<br>(Includes items 1-2, 5, 15-26, 28, 29-32, 34-39) | 1 |
| — | 451685 | Pump Assy. 2HP, 380V/60Hz/3PH<br>(Includes items 1-2, 6, 15-26, 28, 29-32, 34-39) | 1 |
| — | 451647 | Pump Assy. 2HP, 415V/5OHz/3PH<br>(Includes items 1-2, 7, 15-26, 28, 29-32, 34-39) | 1 |
| — | 451639 | Pump Assy. 2HP, 575V-60Hz-3PH<br>(Includes items 1-2, 8, 15-26, 28, 29-32, 34-39) | 1 |

## MOTOR AND PUMP ASSEMBLY (Cont.)
*(Wash and Prewash)*

| Fig. 22 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| | | **Pump Assemblies – ORIENTATION "B"** | |
| — | 451361 | Pump Assy. lHP, 208-240V/60Hz/lPH (Includes items 1-2, 9, 15-26, 27, 29-32, 34-39) | 1 |
| — | 451615 | Pump Assy. lHP, 208-240V/460V/60Hz/3PH (Includes items 1-2, 10, 15-26, 27, 29-32, 34-39) | 1 |
| — | 452383 | Pump Assy. lHP, 575V/60Hz/3PH (Includes items 1-2, 14, 15-26, 27, 29-32, 34-39) | 1 |
| — | 451363 | Pump Assy. 2HP, 208-240V/60Hz/lPH (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 |




Use for R-L direction:
44/54KB, KL44, KL66 wash
44WS, FFPR26 prewash
Also, for R-L and L-R direction:
PR22 and PR36 prewash

Use for L-R direction:
44/54KB, KL44, KL66 wash
44WS, FFPR26 prewash

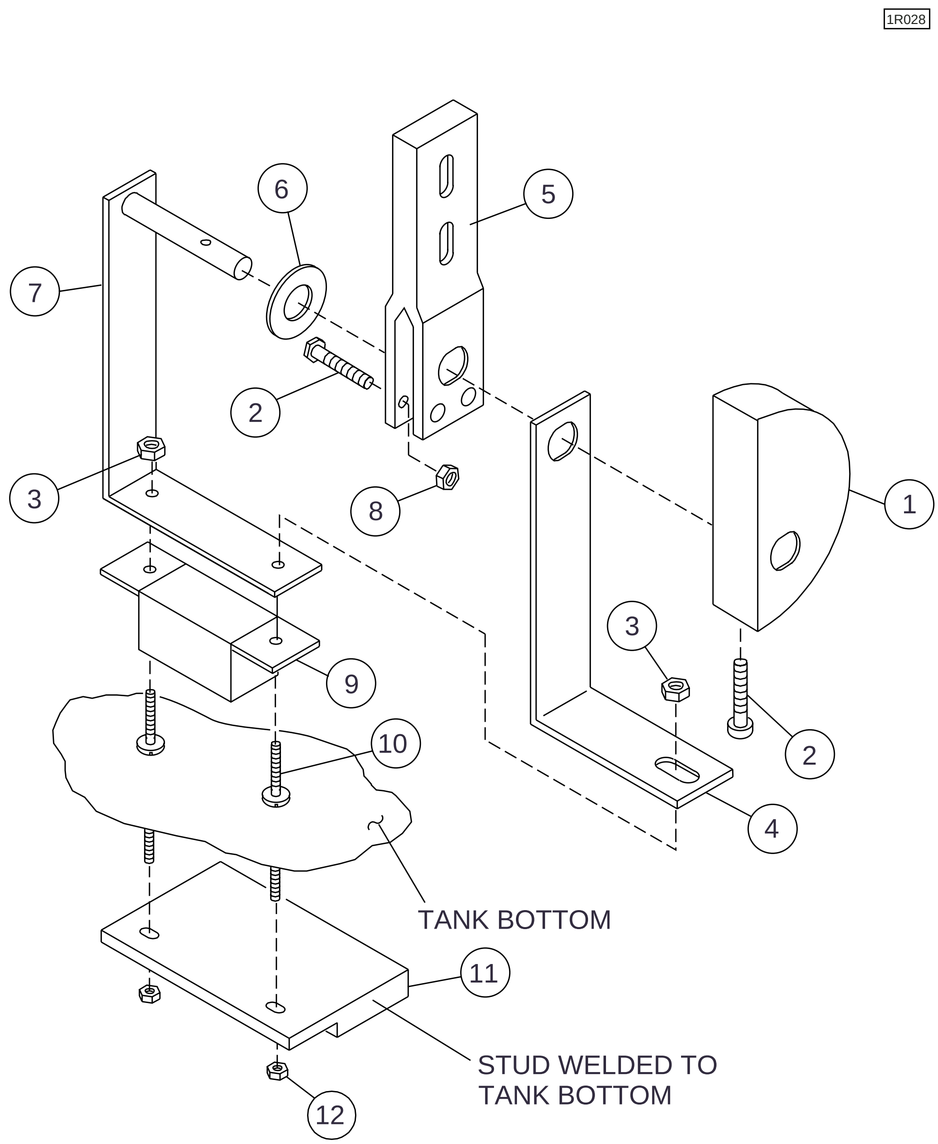



**Figure 23 – Idle Pump Mechanism**
*(All S/N's)*

## IDLE PUMP MECHANISM
*(All S/N's)*

| Fig. 23 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 | Reed Switch Aleph | 1 |
| 12 | 104971 | Nut, grip (6-32) | 2 |
| — | 408221 | Idle Pump Mechanism Assy (R-L 44KB, 44WS, KL44, 54KB, PR36) (R-LPR26) (includes items 1-10) | 1 |
| — | 408220 | Idle Pump Mechanism Assy (L-R 44KB, 44WS, KL44, 54KB, PR36) (R-L PR26) (includes items 1-10) | 1 |

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

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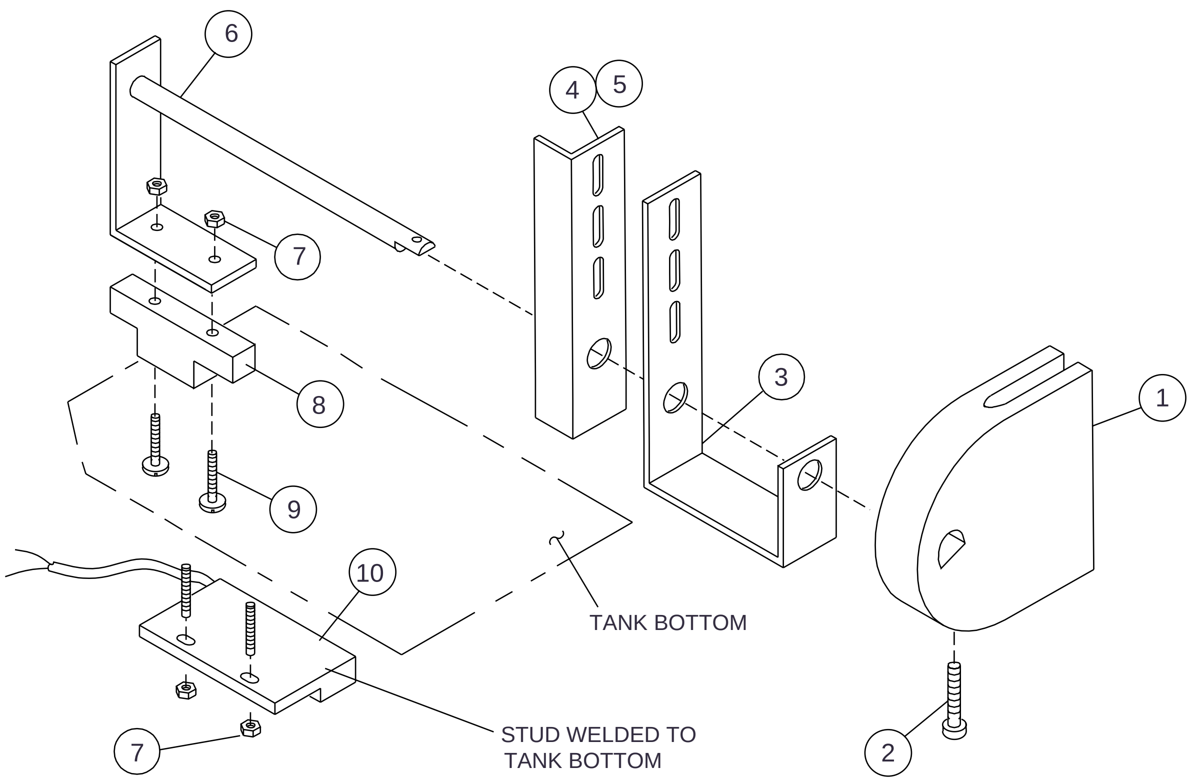


**Figure 24 – Idle Pump Switch (FFPR26 Only)**
*(R-L Shown) (All S/N's)*

## IDLE PUMP SWITCH (FFPR26 Only)
*(R-L Shown) (All S/N's)*

| Fig. 24 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 | Switch Reed Aleph | 1 |

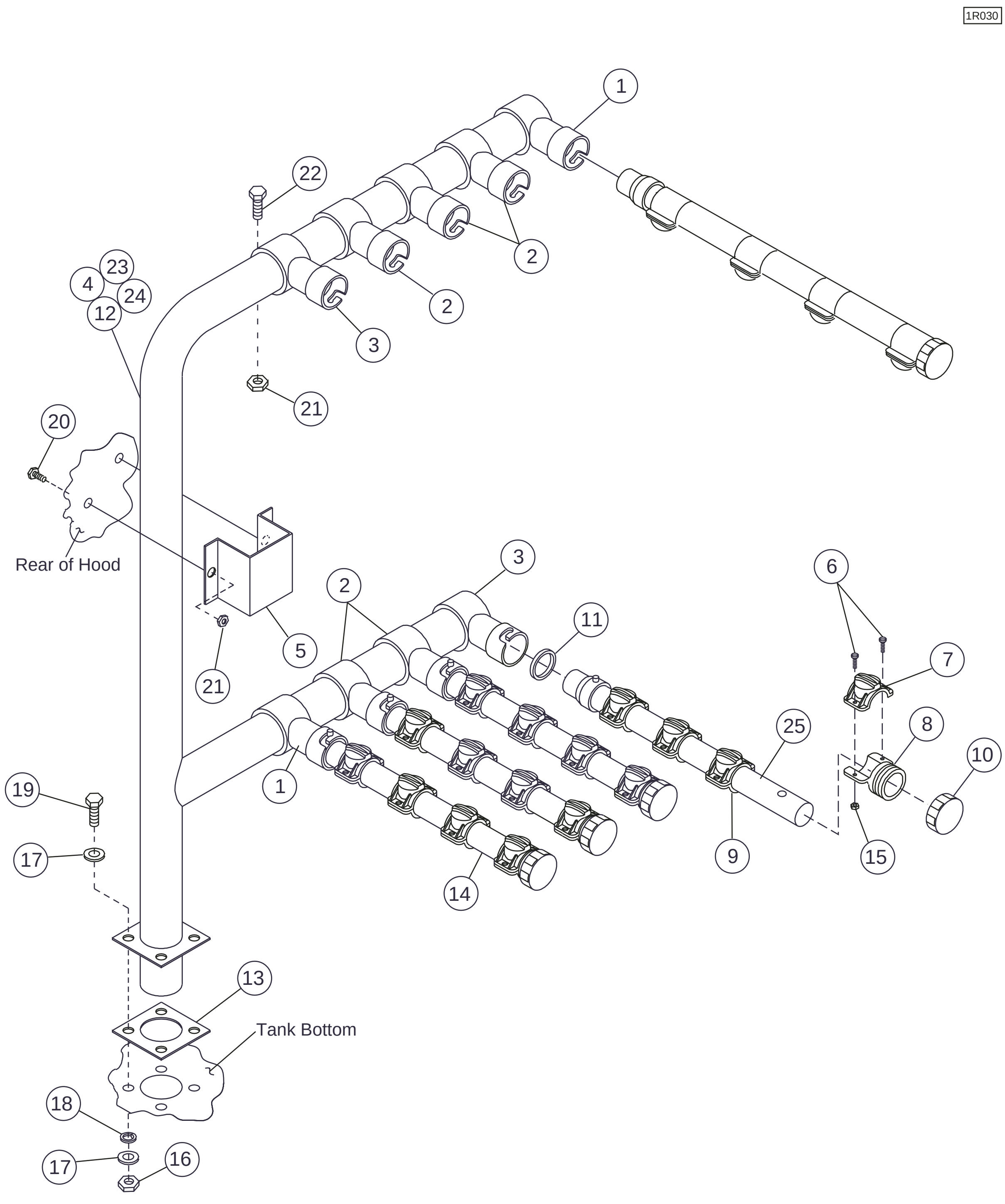


**Figure 25 – Wash System Assembly**
*(For machines prior to S/N 84565)*

## WASH SYSTEM ASSEMBLY

*(For machines prior to S/N 84565)*

| Fig. 25 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 108846 | Quick Coupler #3 | 2 |
| 2 | 108416 | Quick Coupler #2 | 5 |
| 3 | 108847 | Quick Coupler #1 | 2 |
| 4 | 312623 | Standpipe (R to L) | 1 |
| 5 | 313212 | Bracket, Stand Pipe | 1 |
| 6 | 108442 | Screw, M5 x 15 mm Fillister Head | 8 |
| 7 | 108446 | Nozzle Top | 4 |
| 8 | 108445 | Adapter, Cap | 1 |
| 9 | 108444 | Nozzle Bottom | 3 |
| 10 | 108447 | Cap | 1 |
| 11 | 108443 | Gasket | 1 |
| 12 | 312618 | Standpipe (L to R) | 1 |
| 13 | 108345 | Gasket, Standpipe | 1 |
| 14 | 406136 | Spray Pipe Assembly (includes items 6,7,8,9,10,11,15,25) | 9 |
| 15 | 108441 | Nut, Plain M5 | 8 |
| 16 | 100154 | Nut, Plain 5-16-18 | 4 |
| 17 | 102376 | Washer, Flat 5/16 | 8 |
| 18 | 106013 | Washer, Lock 5/16 Split | 4 |
| 19 | 100740 | Bolt, 5/16-18 x 1" Hex Head | 4 |
| 20 | 100073 | Screw, 1/4-20 x 1/2 Truss Head | 2 |
| 21 | 100141 | Nut, Grip 1/4-20 | 11 |
| 22 | 100736 | Bolt, 1/4-20 x 3/4 Hex Head | 9 |
| 23 | 313927 | Standpipe (L to R) Hi-Hood | 1 |
| 24 | 313928 | Standpipe (R to L) Hi-Hood | 1 |
| 25 | ——— | Spray Pipe (No longer available as separate part, use Item 14) | 1 |

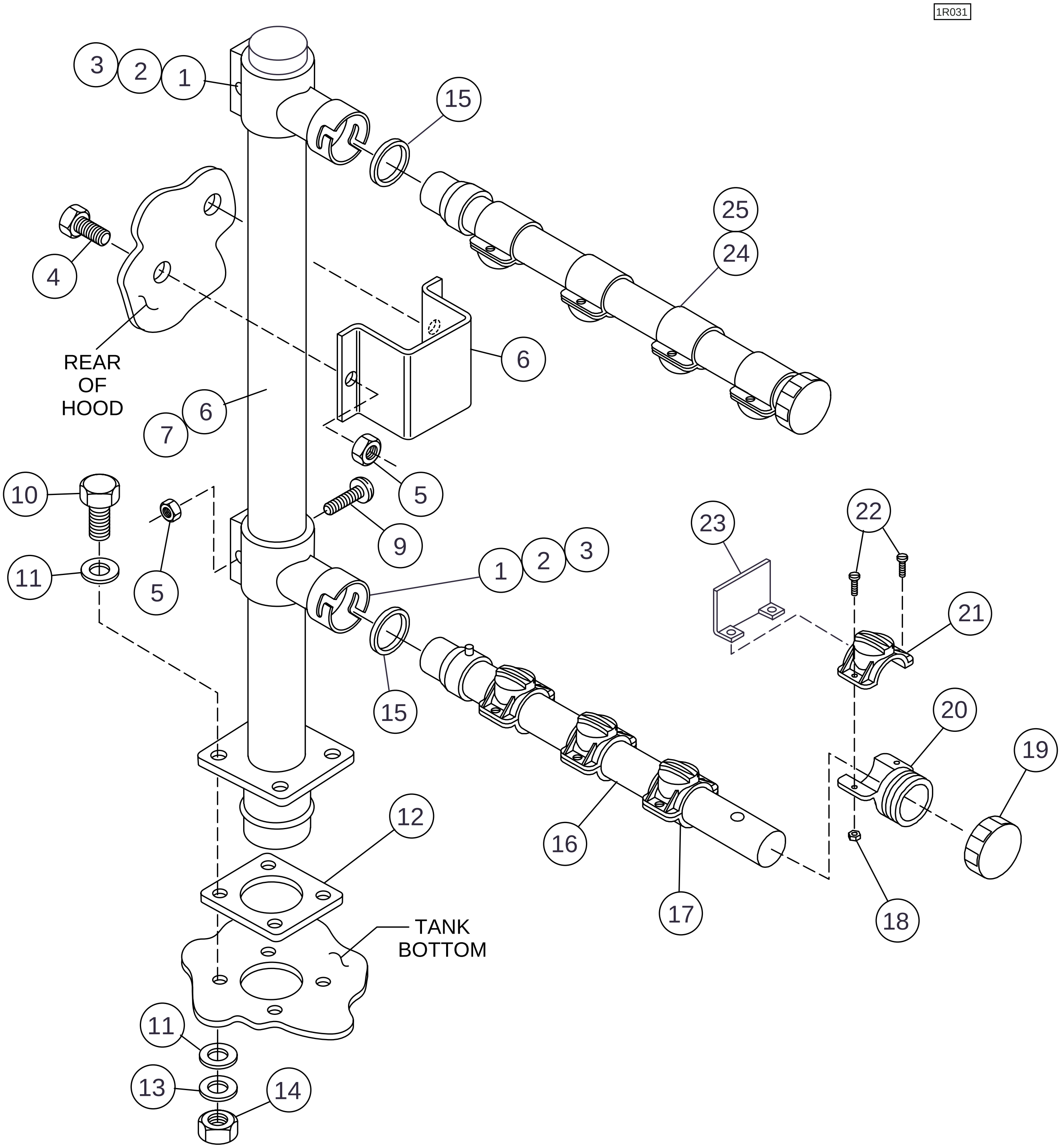


**Figure 26 – Wash System Assembly (PR22, FFPR26)**
*(For machines prior to S/N 84565)*

## WASH SYSTEM ASSEMBLY (PR22, FFPR26)
*(For machines prior to S/N 84565)*

| Fig. 26 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 108648 | Quick Coupler (PR22) Upper & Lower | 2 |
| 2 | 111088 | Quick Coupler (FFPR26) (R-L Lower)(L-R Upper) | 1 |
| 3 | 111089 | Quick Coupler (FFPR26) (L-R Lower)(R-L Upper) | 1 |
| 4 | 100073 | Screw, 1/4-20 x 1/2 Truss Head | 2 |
| 5 | 100141 | Nut, Grip 1/4-20 | 4 |
| 6 | 313212 | Bracket, Standpipe | 1 |
| 7 | 311649 | Standpipe, Standard | 1 |
| 8 | 311868 | Standpipe, High-Hood | 1 |
| 9 | 100736 | Bolt, 1/4-20 x 3/4 Hex Head | 2 |
| 10 | 100740 | Bolt, 5/16-18 x 1" Hex Head | 4 |
| 11 | 102376 | Washer, Flat 5/16" | 8 |
| 12 | 108345 | Gasket, Standpipe | 1 |
| 13 | 106013 | Washer, Lock 5/16" Split | 4 |
| 14 | 100154 | Nut, Plain 5/16-18 | 4 |
| 15 | 108443 | Gasket, Spray Pipe | 1 |
| 16 | ——— | Spray Pipe (No longer available as separate part, use Item 24 or 25) | 1 |
| 17 | 108444 | Nozzle Bottom | 3 |
| 18 | 108441 | Nut, Plain M5 | 8 |
| 19 | 108447 | Cap | 1 |
| 20 | 108445 | Adapter, Cap | 1 |
| 21 | 108446 | Nozzle Top | 4 |
| 22 | 108442 | Screw, M5 x 15mm Fillister Head | 8 |
| 23 | 314729 | Splash Shield (FFPR26) | 1 |
| 24 | 406136 | Spraypipe Assy. (PR22) (incl. items 15 thru 22) | 2 |
| 25 | 406789 | Spraypipe Assy. (FFPR26) (incl. items 15 thru 23) | 2 |

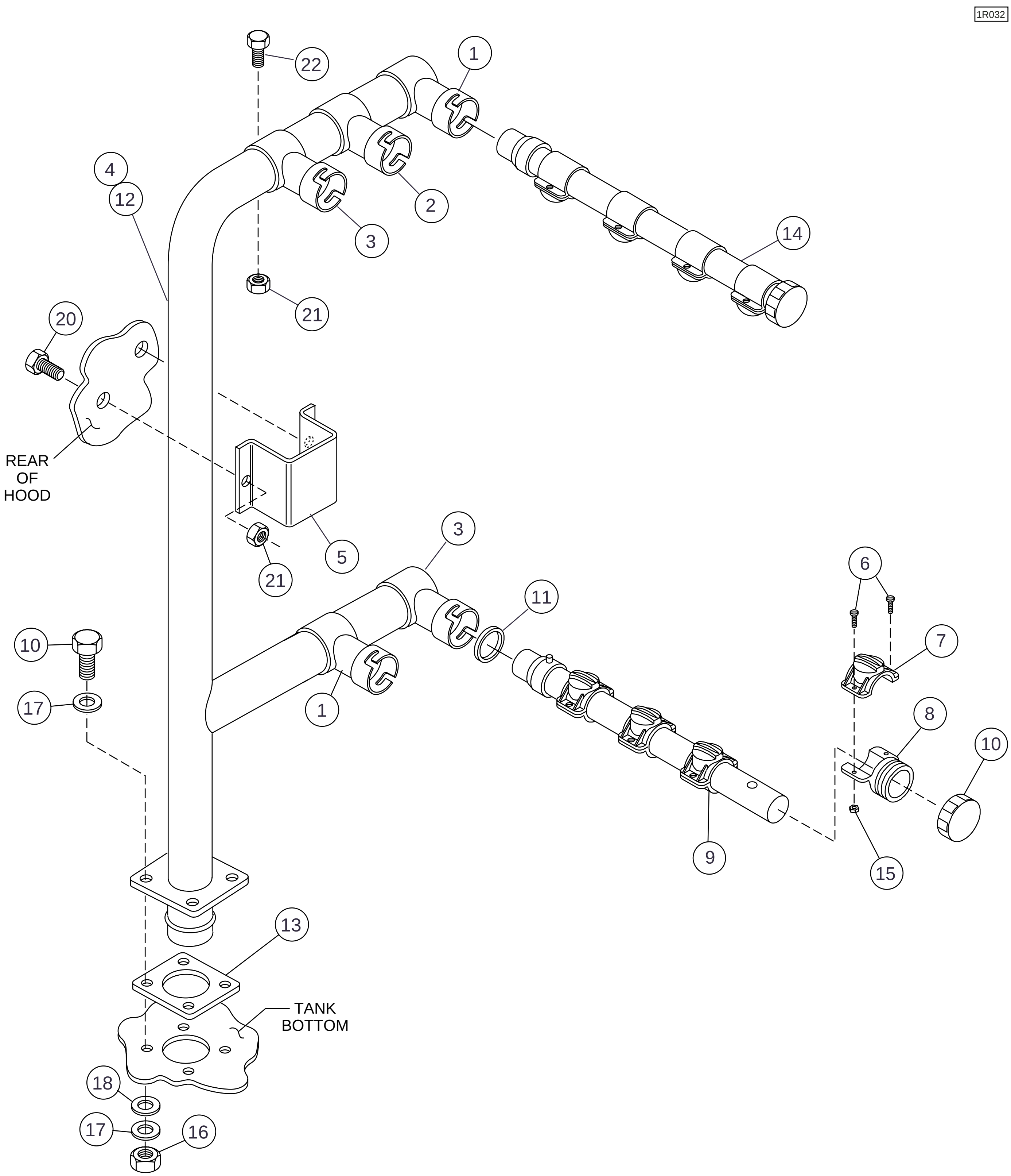


**Figure 27 – Wash System Assembly (PR36)**
*(For machines prior to S/N 84565)*

## WASH SYSTEM ASSEMBLY (PR36)
*(For machines prior to S/N 84565)*

| Fig. 27 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 108846 | Quick Coupler #3 | 2 |
| 2 | 108416 | Quick Coupler #2 | 1 |
| 3 | 108847 | Quick Coupler #1 | 2 |
| 4 | 313575 | Stand Pipe, Standard | 1 |
| 5 | 313212 | Bracket, Stand Pipe | 1 |
| 6 | 108442 | Screw M5 x 15mm Fillister Head | 8 |
| 7 | 108446 | Nozzle Top | 4 |
| 8 | 108445 | Cap Adapter | 1 |
| 9 | 108444 | Nozzle Bottom | 3 |
| 10 | 108447 | Cap | 1 |
| 11 | 108443 | Gasket, Spray Pipe | 1 |
| 12 | 313576 | Standpipe, High Hood | 1 |
| 13 | 108345 | Gasket, Standpipe | 1 |
| 14 | 406136 | Spray Pipe Assembly (includes item 6,7,8,9,10,15) | 5 |
| 15 | 108441 | Nut, Plain M5 | 8 |
| 16 | 100154 | Nut, Plain 5/16-18 | 4 |
| 17 | 102376 | Washer, Flat 5/16 | 8 |
| 18 | 106013 | Washer, Lock 5/16 Split | 4 |
| 19 | 100740 | Bolt, 5/16-18 x 1" Hex Head | 4 |
| 20 | 100073 | Screw, 1/4-20 x 1/2 Hex Head | 2 |
| 21 | 100141 | Nut, Grip 1/4-20 | 7 |
| 22 | 100736 | Bolt, 1/4-20 x 3/4 Hex Head | 5 |

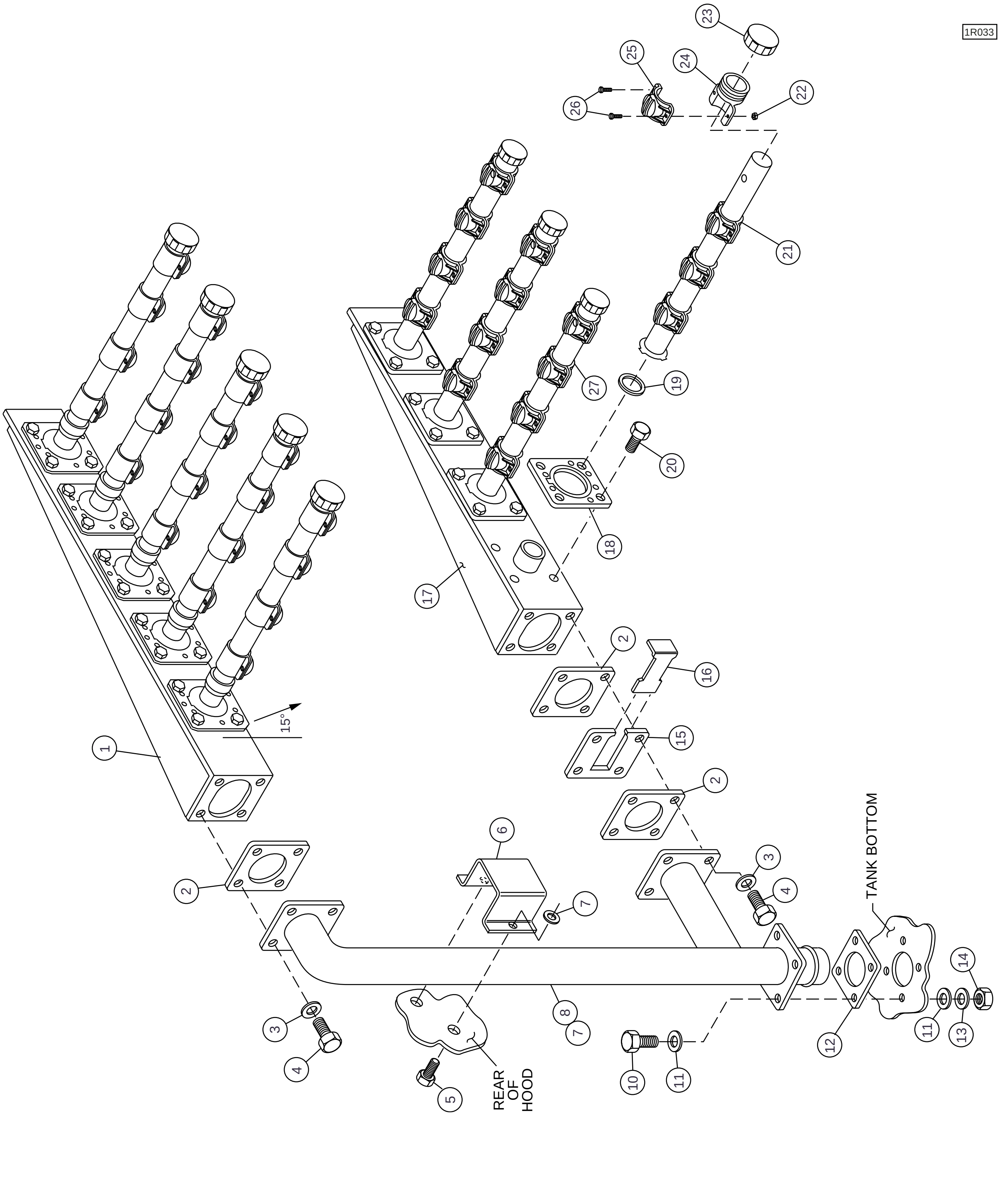


**Figure 28 – Wash System Assembly**
*(For machines beginning with S/N 84565 thru 89276)*

## WASH SYSTEM ASSEMBLY

*(For machines beginning with S/N 84565 thru 89276)*

| Fig. 28 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 408126 | Manifold Assy, upper | 1 |
| 2 | 111456 | Gasket, manifold | 3 |
| 3 | 106482 | Washer, lock (1/4") split | 8 |
| 4 | 100736 | Bolt (1/4-20 x 3/4") Hex hd | 8 |
| 5 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 2 |
| 6 | 313212 | Bracket, standpipe | 1 |
| 7 | 100141 | Nut, grip (1/4-20) | 2 |
| 8 | 315633 | Standpipe (Standard) | 1 |
| 9 | 316885 | Standpipe (Hi-Hood) | 1 |
| 10 | 100740 | Bolt (5/16-18 x 1") Hex hd | 4 |
| 11 | 102376 | Washer, flat (5/16") | 8 |
| 12 | 108345 | Gasket, standpipe | 1 |
| 13 | 106013 | Washer, lock (5/16") split | 4 |
| 14 | 100154 | Nut, plain (5/16-18) | 4 |
| 15 | 316772 | Plate, restrictor | 1 |
| 16 | 316773 | Slide, restrictor | 1 |
| 17 | 316681 | Manifold Assy, lower | 1 |
| 18 | 111454 | Plate, locking manifold | 9 |
| 19 | 111505 | O-ring | 9 |
| 20 | 111370 | Bolt (10-32 x 5/8") Hex hd (locking) | 36 |
| 21 | 108444 | Nozzle, bottom | 3 |
| 22 | 108441 | Nut, plain (M5) | 8 |
| 23 | 108447 | Cap | 1 |
| 24 | 108445 | Cap, adapter | 1 |
| 25 | 108446 | Nozzle, top | 4 |
| 26 | 108442 | Screw (M5 x 15 mm) Fillister hd | 8 |
| *27 | 408124 | Spray Pipe Assy (includes items 21-26) (not shown) | 9 |

* **Note:** P/N 408124 can be replaced with P/N 900775, debossed spraypipe assembly.

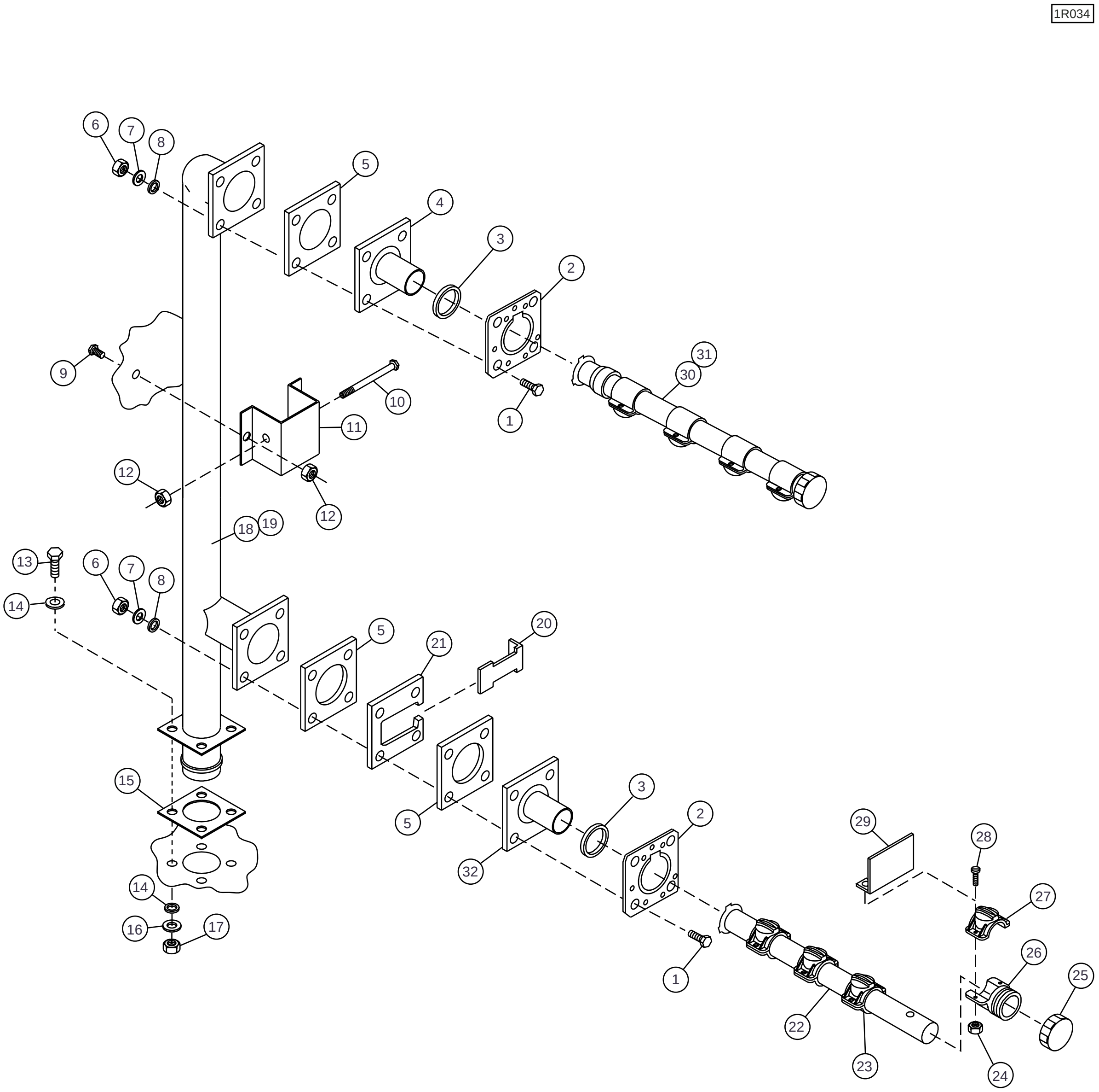


**Figure 29 – Wash System Assembly (PR22, FFPR26)**
*(For machines beginning with S/N 84565 thru 89276)*

## WASH SYSTEM ASSEMBLY (PR22, FFPR26)

*(For machines beginning with S/N 84565 thru 89276)*

| Fig. 29 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 107137 | Bolt (10-32 x 7/8") Hex hd | 8 |
| 2 | 111454 | Locking plate, manifold | 2 |
| 3 | 111505 | O-ring | 2 |
| 4 | 316794 | Flange Assy, upper | 1 |
| 5 | 111456 | Gasket, flange | 3 |
| 6 | 100194 | Nut, grip (10-32) | 8 |
| 7 | 106486 | Washer, lock (10-32) Split | 8 |
| 8 | 107033 | Washer, flat (10-32) | 2 |
| 9 | 100073 | Screw, (1/4-20 x 2-1/2") Truss hd | 1 |
| 10 | 106028 | Bolt (1/4-20 x 2-1/2") Hex hd | 1 |
| 11 | 313212 | Bracket, standpipe | 1 |
| 12 | 100141 | Nut, grip (1/4-20) | 4 |
| 13 | 100740 | Bolt (5/16-18 x l") Hex hd | 4 |
| 14 | 102376 | Washer, flat (5/16") | 8 |
| 15 | 108345 | Gasket, standpipe | 1 |
| 16 | 106013 | Washer, lock (5/16") Split | 4 |
| 17 | 100154 | Nut, plain (5/16-18) | 4 |
| 18 | 315625 | Standpipe, (Standard) | 1 |
| 19 | 316885 | Standpipe, (High-Hood) | 1 |
| 20 | 316773 | Slide, restrictor | 1 |
| 21 | 316772 | Plate, restrictor | 1 |
| 22 | ——— | Spray pipe (Not available as separate part, use Item 30 or 31) | 1 |
| 23 | 108444 | Nozzle bottom | 3 |
| 24 | 108441 | Nut, plain (M5) | 8 |
| 25 | 108447 | Cap | 1 |
| 26 | 108445 | Adapter, cap | 1 |
| 27 | 108446 | Nozzle top | 4 |
| 28 | 108442 | Screw (M5 x l5mm) Fillister hd | 8 |
| 29 | 314729 | Splash shield (FFPR26) | 1 |
| *30 | 408124 | Spraypipe Assy (PR22) (includes items 22-28) | 2 |
| *31 | 408125 | Spraypipe Assy (FFPR26) (includes items 22-29) | 2 |
| 32 | 408287 | Flange Assy, lower | 1 |

* **Note:** P/N 408124 and P/N 408125 can be replaced with P/N 900775, debossed ............ spraypipe assembly.

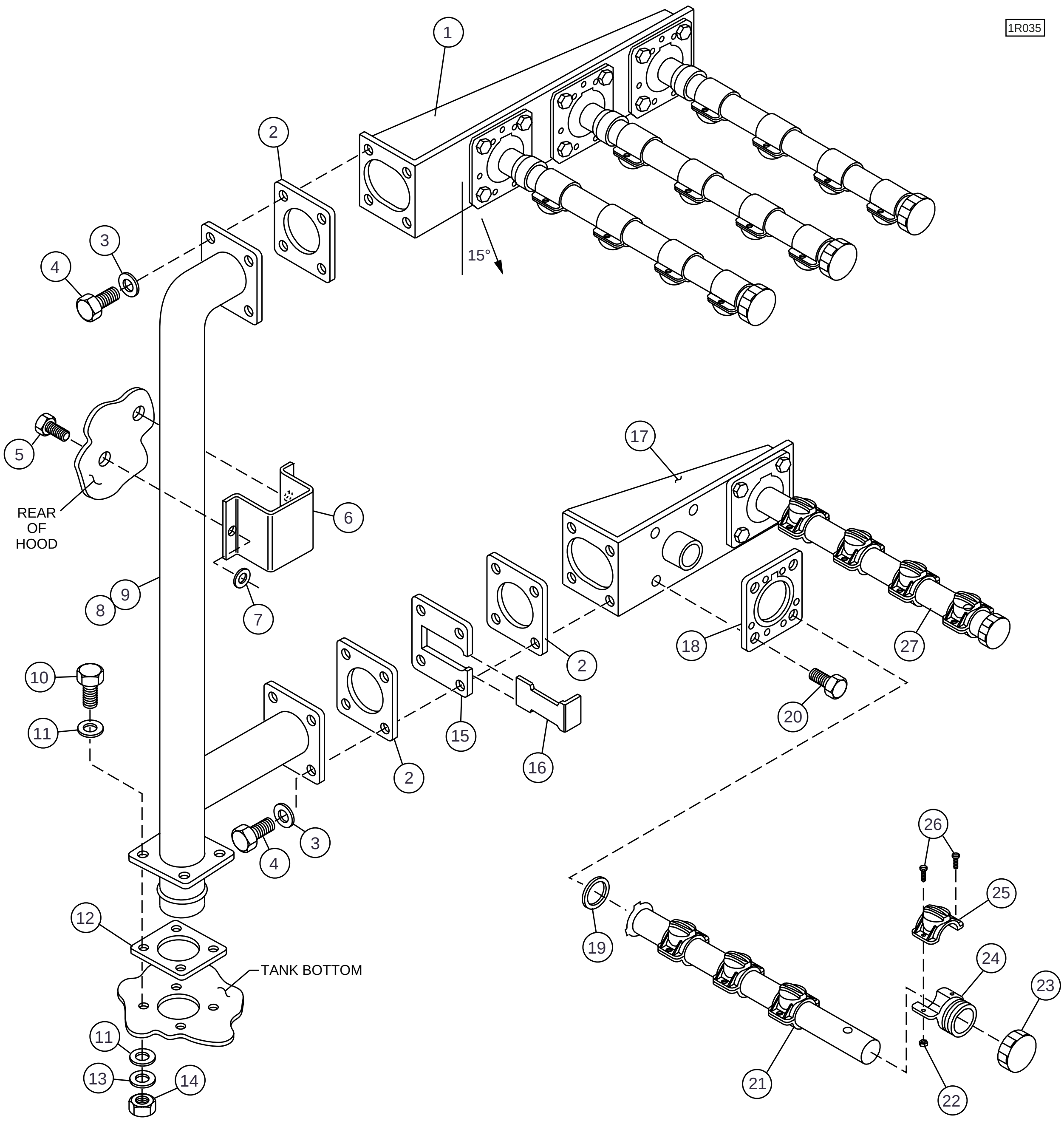


**Figure 30 – Wash System Assembly  (PR36)**
*(For machines beginning with S/N 84565 thru 89276)*

## WASH SYSTEM ASSEMBLY (PR36)
*(For machines beginning with S/N 84565 thru 89276)*

| Fig. 30 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 316688 | Manifold Assy, upper | 1 |
| 2 | 111456 | Gasket, manifold | 3 |
| 3 | 106482 | Washer, lock (1/4") Split | 8 |
| 4 | 100736 | Bolt (1/4-20 x 3/4") Hex hd | 8 |
| 5 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 2 |
| 6 | 313212 | Bracket, standpipe | 1 |
| 7 | 100141 | Nut, grip (1/4-20) | 2 |
| 8 | 315633 | Standpipe (Standard) | 1 |
| 9 | 316885 | Standpipe (Hi-Hood) | 1 |
| 10 | 100740 | Bolt (5/16-18 x 1") Hex hd | 4 |
| 11 | 102376 | Washer, flat (5/16") | 8 |
| 12 | 108345 | Gasket, standpipe | 1 |
| 13 | 106013 | Washer, lock (5/16") Split | 4 |
| 14 | 100154 | Nut, plain (5/16-18) | 4 |
| 15 | 316772 | Plate, restrictor | 1 |
| 16 | 316773 | Slide, restrictor | 1 |
| 17 | 316691 | Manifold Assy, lower | 1 |
| 18 | 111454 | Locking Plate, manifold | 5 |
| 19 | 111505 | O-ring | 5 |
| 20 | 111478 | Bolt (10-32 x 1/2") Hex hd (Locking) | 20 |
| 21 | 108444 | Nozzle, bottom | 3 |
| 22 | 108441 | Nut, plain (M5) | 8 |
| 23 | 108447 | Cap | 1 |
| 24 | 108445 | Adapter, cap | 1 |
| 25 | 108446 | Nozzle, top. | 4 |
| 26 | 108442 | Screw (M5 x l5mm) Fillister hd | 8 |
| *27 | 408124 | Spray Pipe Assembly (includes items 21-26)<br>(SST Spray pipe is not available as a separater part) | 5 |

* **Note:** P/N 408124 can be replaced with P/N 900775, debossed spraypipe assembly.

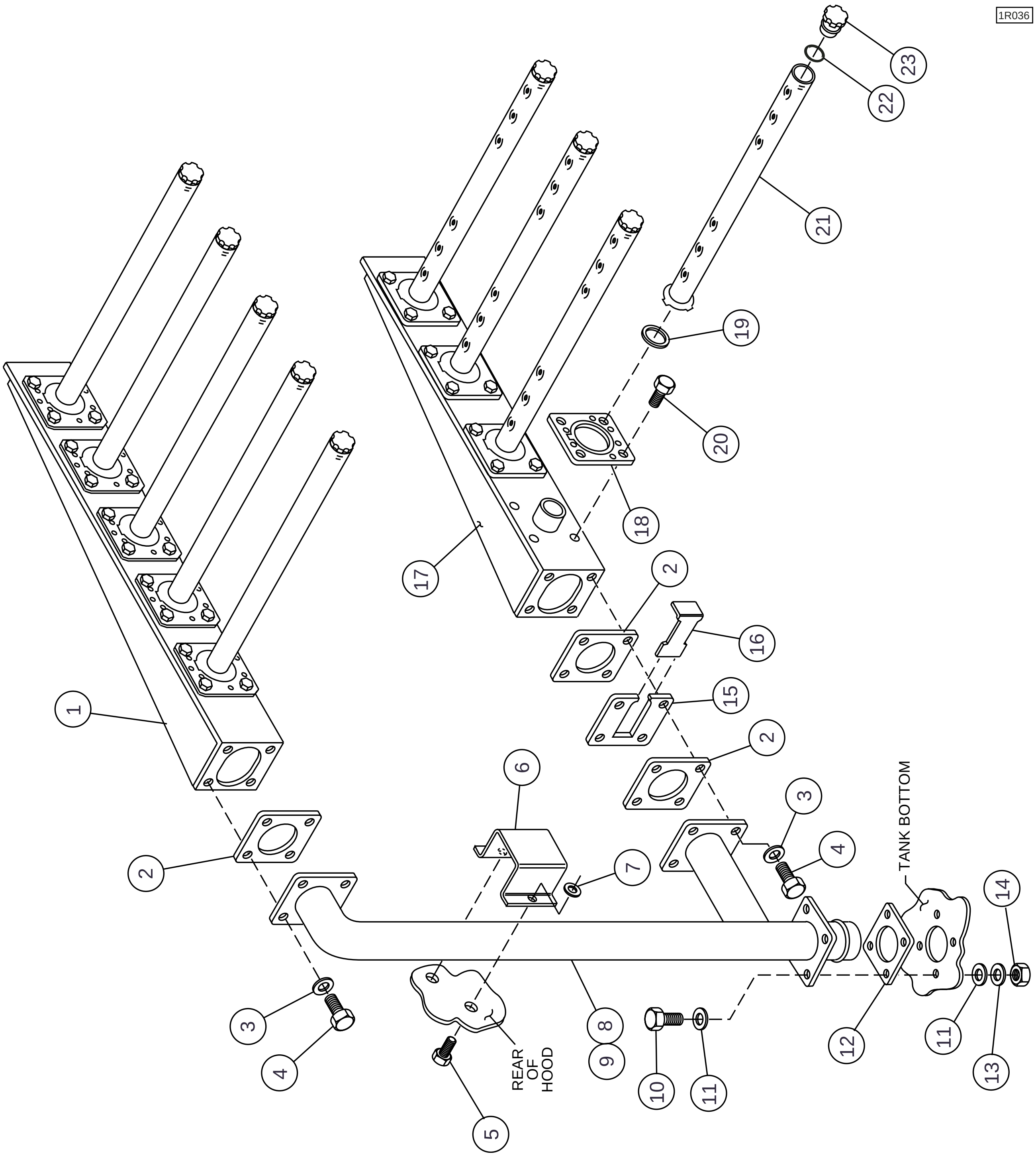


**Figure 31 – Wash System Assembly**
*(For machines beginning with S/N 89277 and above)*

## WASH SYSTEM ASSEMBLY

*(For machines beginning with S/N 89277 and above)*

| Fig. 31 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 408126 | Manifold Assy. 44/54KB | 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 | 315633 | Standpipe Weldment (standard) | 1 |
| 9 | 316885 | Standpipe Weldment (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 | 316681 | Manifold, Weld 4 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 |
| *— | 900775 | Spraypipe Assy (Includes Items 21-23) | — |

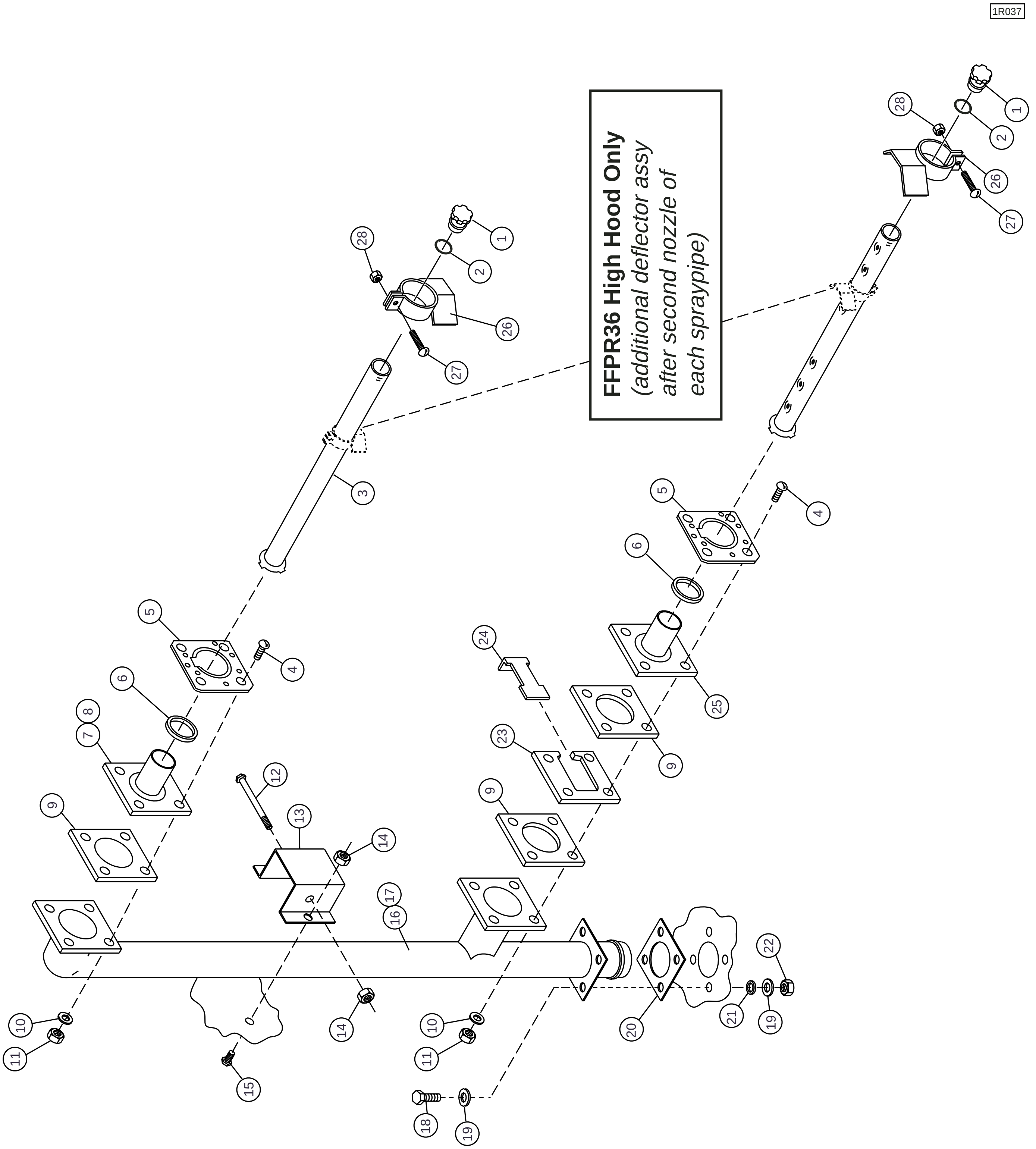


**Figure 32 – Wash System Assembly (PR22, FFPR26)**
*(For machines beginning with S/N 89277 and above)*

## WASH SYSTEM ASSEMBLY (PR22, FFPR26)
*(For machines beginning with S/N 89277 and above)*

| Fig. 32 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 |
| — | 900775 | Spraypipe Assy (Includes Items 1-3) | — |

** **Note:** FFPR36 High Hood units use Qty. 4 each of Items 26-27.
(See Fig. 32, pg.62)

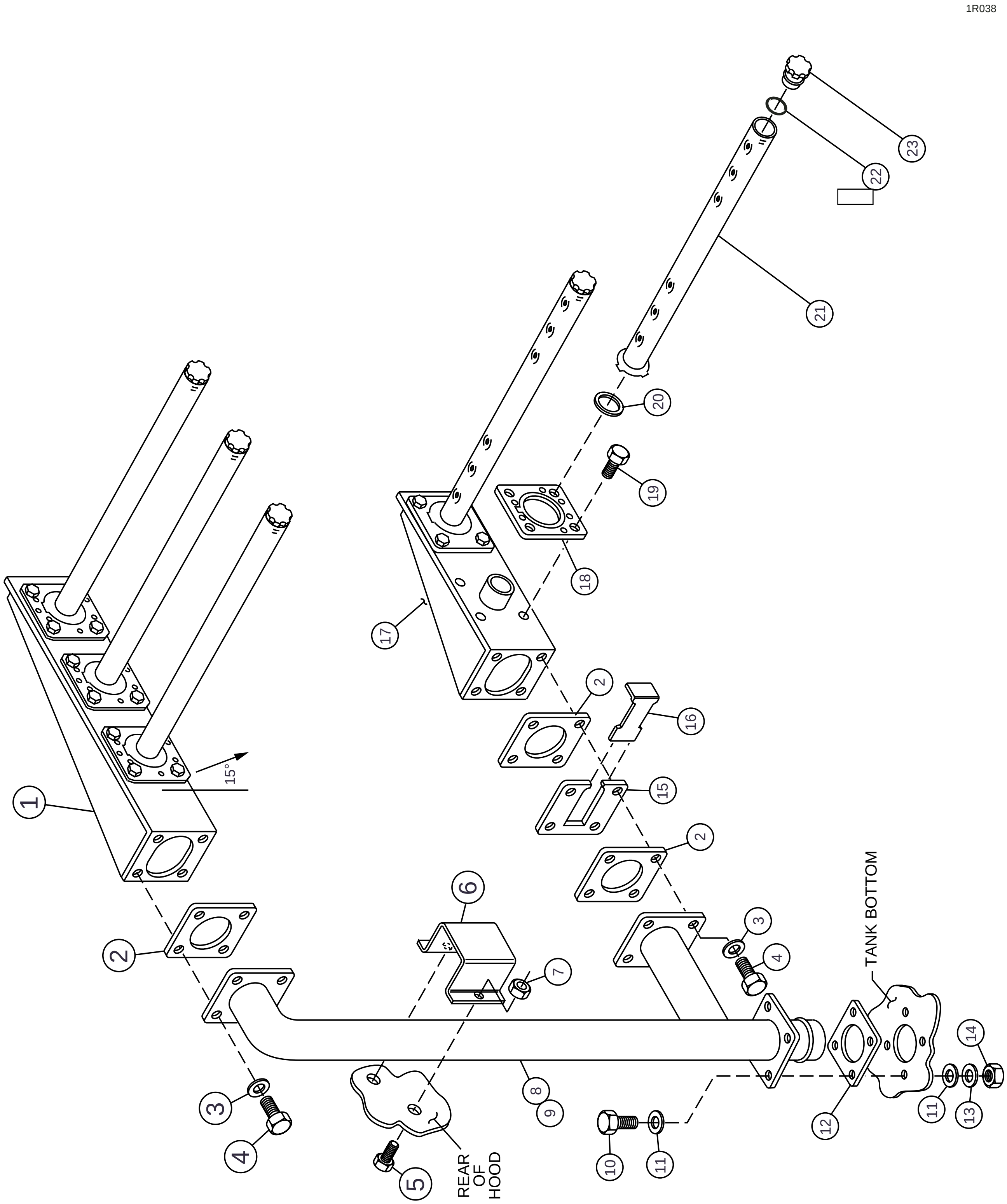


**Figure 33 – Wash System Assembly  (PR36)**
*(For machines beginning with S/N 89277 and above)*

## WASH SYSTEM ASSEMBLY (PR36)

*(For machines beginning with S/N 89277 and above)*

| Fig. 33 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 Brakcet | 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 |
| — | 900775 | Spraypipe Assy (Includes Items 21-23) | — |

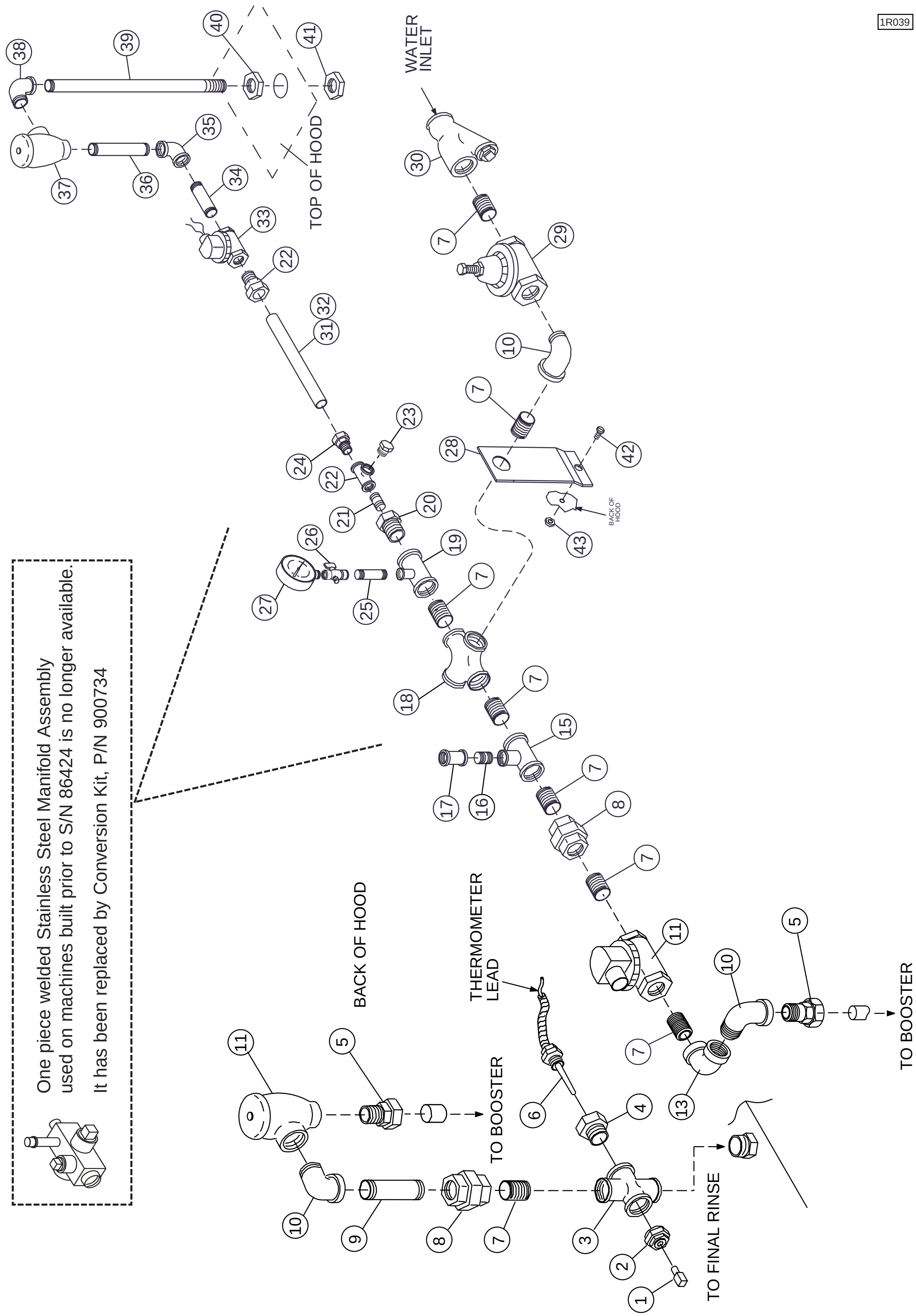


**Figure 34 – Outside Rinse Piping With Electric Booster**
*(Prior to Serial Number R1529)*

## FILL & OUTSIDE RINSE PIPING, ELECTRIC WITH BOOSTER
*(Prior to Serial Number R1529)*

| Fig. 34 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.) | 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 (44KB) | A/R |
| 32 | 107380 | Tubing, copper (54KB) | A/R |
| 33 | 109885 | Valve, solenoid (1/4 NPT) (120V coil) | 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 | 1 |
| 35 | 102422 | Elbow (1/4 NPT x 90°) Brass | 1 |
| 36 | 110134 | Nipple (1/4 NPT x 2 1/2) Brass | 1 |
| 37 | 107069 | Breaker, vacuum (1/4 NPT) Brass | 1 |
| — | 108349 | Kit, repair 1/4" vacuum breaker | 1 |
| 38 | 101261 | Elbow, street (1/4 NPT x 90°) Brass | 1 |
| 39 | 110135 | Nipple (1/4 NPT x 7 1/4) Brass | 1 |
| 40 | 100573 | Locknut (1/4 NPT) Brass | 1 |
| 41 | 201669 | Locknut (1/4 NPT) Plated | 1 |
| 42 | 100073 | Screw (1/4-20 x 1/3) Truss hd | 1 |
| 43 | 100141 | Nut, grip (1/4-20) | 1 |
| — | 601247 | Piping Assy Final Rinse (includes items 3,-5,7-10,) | 1 |
| — | 601077 | Piping Assy Wash/Rinse (includes items 7-12, 15-27) | 1 |
| — | 403563 | Piping Assy Flll (includes items 24, 31-41) | 1 |
| — | 900734 | Kit, Conversion (Stainless Steel Manifold) (Prior to S/N 86424) | — |

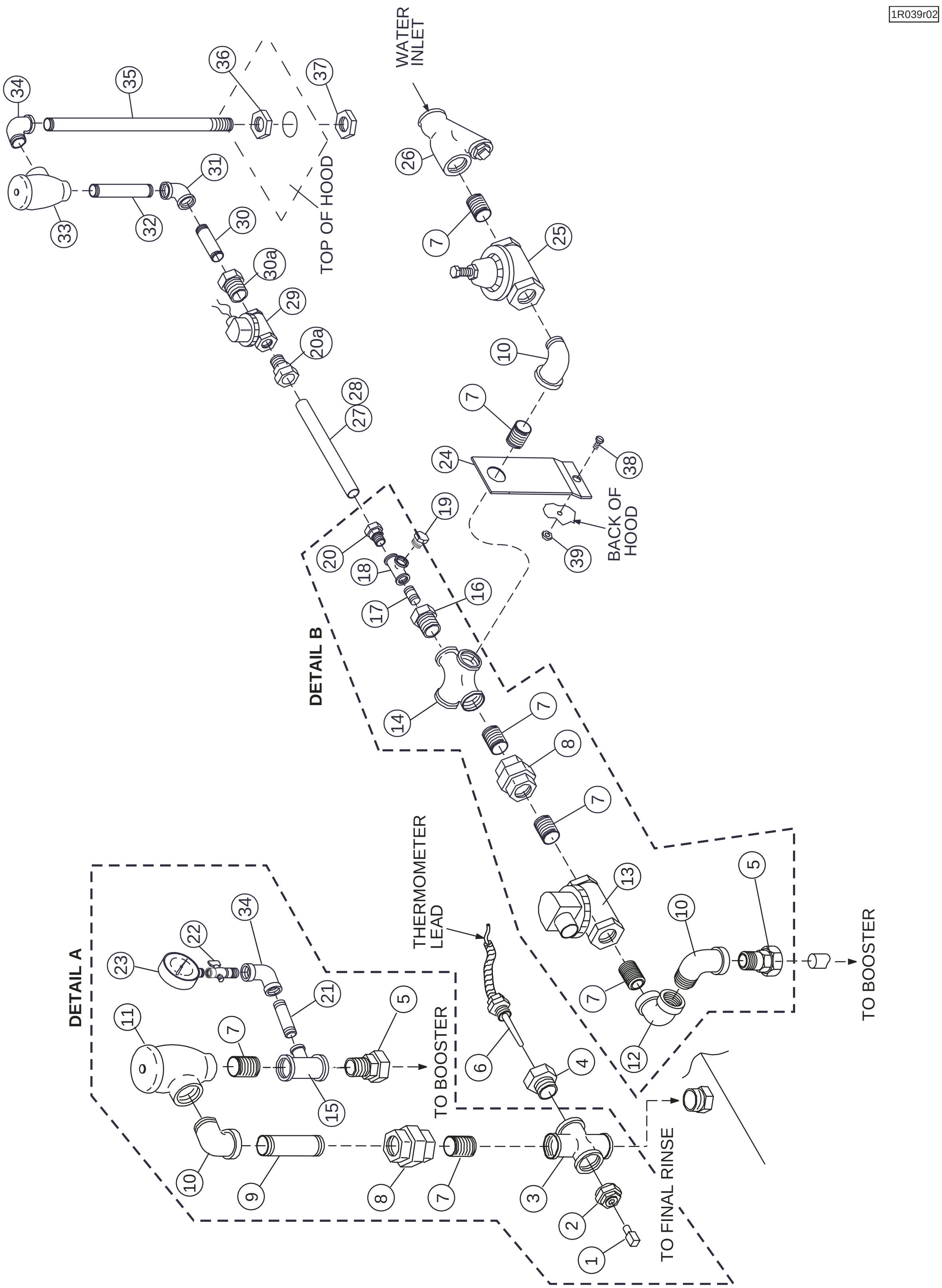


**Figure 35 – Outside Rinse Piping With Electric Booster (After Serial Number R1530)**

## OUTSIDE RINSE PIPING
## WITH ELECTRIC BOOSTER AFTER SERIAL NUMBER R1530

| Fig. 35 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 | 100599 | Cross (3/4 NPT) Brass | 1 |
| 4 | 102392 | Bushing, Reducing (3/4 NPT x 1/2 NPT) Brass | 1 |
| 5 | 109879 | Compression, fitting (3/4 NPT x 7/8 OD) | 2 |
| 6 | 108391 | Thermometer, 48" lead | 1 |
| 7 | 100184 | Nipple, Close (3/4 NPT) Brass | 7 |
| 8 | 100571 | Union (3/4 NPT) Brass | 2 |
| 9 | 102469 | Nipple (3/4 NPTx 2-3/4" 1g) Brass | 1 |
| 10 | 102444 | Elbow, street (3/4 NPT x 90°) Brass | 1 |
| 11 | 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 |
| 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 coil) | 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 | Compression, fitting (1/4 NPT x 1/2 OD) | 1 |
| 20a | 109909 | Fitting, compression 1/4" NPT x 1/2" OD (Prior to S/N R2425) | 1 |
| 20a | 111250 | Fitting, compression 1/2" OD x 1/2" MPT (After S/N R2426) | 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) | 1 |
| 27 | 107380 | Tubing, copper | A/R |
| 28 | 107380 | Tubing, copper | A/R |
| *29 | 109885 | Valve, solenoid (1/4 NPT) (Prior to S/N R2425) | 1 |
| — | 111172 | Repair kit, (1/4") Solenoid valve | 1 |
| — | 111469 | Replacement coil (1/4") (120V) Solenoid coil | 1 |
| 29 | 113352 | Valve Solenoid (1/2" NPT) (After S/N R2436) | 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 R2435) | 1 |
| 30 | 102388 | Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2436) | 1 |
| 30a | 100947 | Nipple, close 1/4 NPT Brass (After S/N R2436) | 1 |

## OUTSIDE RINSE PIPING
## WITH ELECTRIC BOOSTER AFTER SERIAL NUMBER R1530 (cont.)

| Fig. 35 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 31 | 102422 | Elbow (1/4 NPT x 90°) Brass (PR22) | 1 |
| 32 | 110134 | Nipple (1/4 NPT x 2 1/2) Brass (PR22) | 1 |
| 33 | 107069 | Breaker, vacuum (1/4 NPT) Brass (bronze) | 1 |
| **— | 108349 | Kit, repair 1/4" vacuum breaker (bronze) | 1 |
| **— | 113219 | Kit, Repair 1/4" vacuum breaker (plastic) | 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 head | 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) | |
| Detail B | 601247 | Piping Assy Wash/Rinse (includes items 5,7,8,10,12-14,16-20,24) | |
| — | 403563 | Piping Assy Fill (includes items 20a, 29-36) | |
| — | 900836 | Kit* Repair, 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 R2435 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 are no longer available for complete vacuum breakers.

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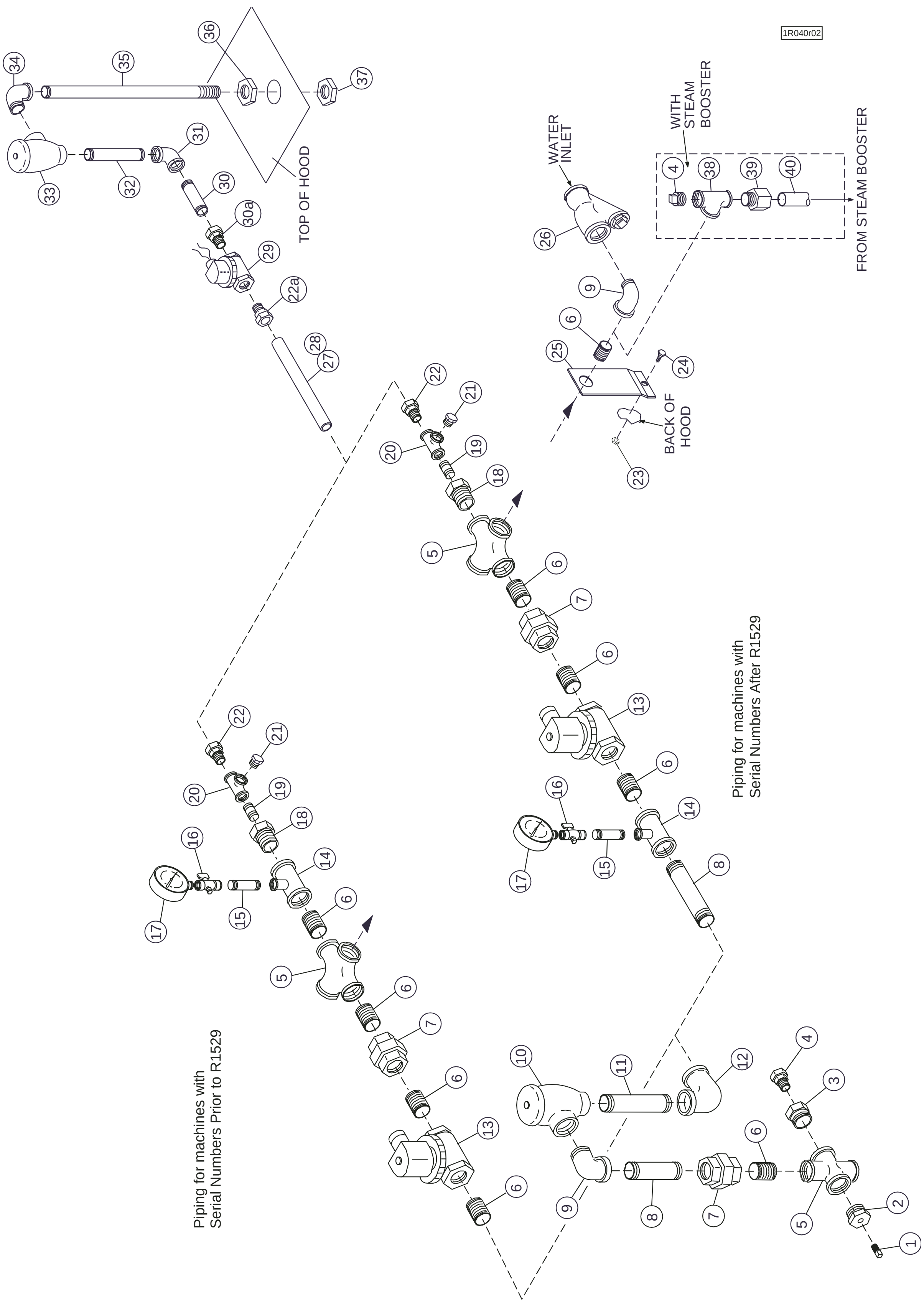


**Figure 36 – Fill & Outside Rinse Piping With No Electric Booster or With Steam Booster (All S/N’s)**

## FILL & OUTSIDE RINSE PIPING WITH NO BOOSTER OR WITH STEAM BOOSTER

*(All S/N's)*

| Fig. 36 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 x1/2" OD (Prior to S/N R2425) | 1 |
| 22a | 111250 | Fitting, compression 1/2" OD x 1/2" MPT (After S/N R2426) | 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 (44KB) | A/R |
| 28 | 107380 | Tubing, copper (54KB) | A/R |
| *29 | 109885 | Valve, solenoid (1/4 NPT) (Prior to S/N R2435) | 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 R2436) | 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 | 102388 | Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2436) | 1 |
| 30a | 100947 | Nipple, close 1/4 NPT Brass (Not Shown) (After S/N R2436) | 1 |

## FILL & OUTSIDE RINSE PIPING WITH NO BOOSTER OR WITH STEAM BOOSTER (cont.)

*(All S/N's)*

| Fig. 36 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 31 | 102422 | Elbow (1/4 NPT x 90°) Brass | 1 |
| 32 | 110134 | Nipple (1/4 NPT x 2-1/2") Brass | 1 |
| 33 | 107069 | Vacuum breaker (1/4 NPT) Brass (bronze) | 1 |
| **— | 108349 | Repair Kit, vacuum breaker (1/4 & 1/2) (bronze) | 1 |
| **— | 113219 | Kit, Repair 1/4" vacuum breaker (plastic) | 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 |
| — | 403564 | Piping Assy, Wash/Rinse (includes items 1 thru 13, 18,19,20,25,26) | 1 |
| — | 403563 | Piping Assy, Fill (includes items 26,29 thru 37) | 1 |
| — | 900734 | Kit, Conversion (Stainless Steel Manifold) (Prior to S/N 86424) | — |
| **— | 900836 | Kit* Repair, 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 R2435 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 are no longer available for complete vacuum breakers.

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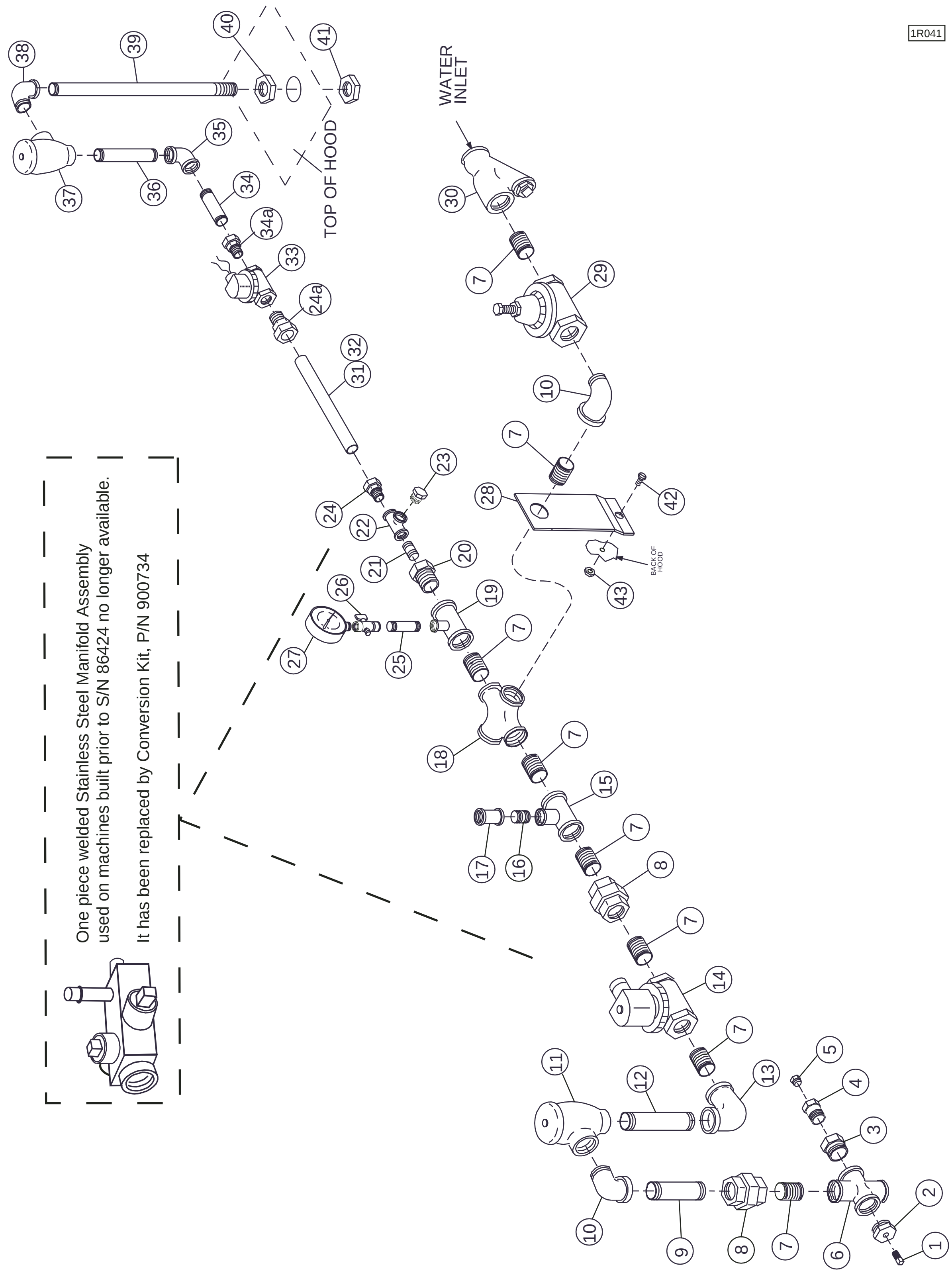


**Figure 37 – Fill & Outside Rinse Piping With No Booster (KL44, KL66)**
*(All S/N's)*

## FILL & OUTSIDE RINSE PIPING WITH NO BOOSTER (KL-44, KL-66) ALL S/N'S

| Fig. 37 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 100210 | Plug, pipe (1/8 NPT) SST | 1 |
| 2 | 111345 | Bushing, Reducing (3/4 NPT x 1/8 NPT) | 1 |
| 3 | 102393 | Bushing. Reducing (3/4 NPT x 1/2 NPT) | 1 |
| 4 | 108027 | Bushing, Reducing (1/2 NPT x 1/4 NPT) | 1 |
| 5 | 107463 | Plug, pipe (1/4 NPT )Plastic | 1 |
| 6 | 100537 | Cross (3/4 NPT) SST | 1 |
| 7 | 100184 | Nipple (3/4 NPT x Close) Brass | 6 |
| 8 | 100571 | Union (3/4 NPT) Brass | 2 |
| 9 | 102490 | Nipple (3/4 NPTx 3 1/2) Brass | 1 |
| 10 | 102444 | Elbow, street (3/4 NPT x 90°) Brass | 1 |
| 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 | 102654 | Nipple (3/4 NPT x 4 1/4) Brass | 1 |
| 13 | 102442 | Elbow (3/4 NPT x 90°) Brass | 1 |
| 14 | 111437 | 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 |
| 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.) | 1 |
| 24a | 109909 | Fitting, compression 1/4" NPT x 1/2" OD (Prior to S/N R2425) | 1 |
| 24a | 111250 | Fitting, compression 1/2" OD x 1/2" MPT (After S/N R2426) | 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 (Not installed at factory) | — |
| 30 | 110768 | Strainer, line (3/4 NPT) Brass | 1 |
| 31 | 107380 | Tubing, copper (44KB) | A/R |
| 32 | 107380 | Tubing, copper (54KB) | A/R |
| *33 | 109885 | Valve, solenoid (1/4 NPT) (Prior to S/N R2436) | 1 |
| — | 111172 | Repair kit, solenoid valve (1/4 NPT) | 1 |
| — | 111469 | Replacement coil, solenoid valve (1/4 NPT) (120V coil) | 1 |
| 33 | 113352 | Valve Solenoid (1/2" NPT) (After S/N R2436) | 1 |
| — | 113392 | Repair kit (1/2") Solenoid Valve | 1 |
| — | 113357 | Replacement Coil (120V) | 1 |

## FILL & OUTSIDE RINSE PIPING WITH NO BOOSTER (KL-44, KL-66) ALL S/N'S (cont.)

| Fig. 37 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 34 | 101262 | Nipple (1/4 NPT x 1 1/2) Brass | 1 |
| 34 | 102388 | Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2436) | 1 |
| 34a | 100947 | Nipple, close 1/4 NPT Brass (Not Shown) (After S/N R2436) | 1 |
| 35 | 102422 | Elbow (1/4 NPT x 90°) Brass | 1 |
| 36 | 110134 | Nipple (1/4 NPT x 2 1/2) Brass | 1 |
| 37 | 107069 | Breaker, vacuum (1/4 NPT) Brass (bronze) | 1 |
| — | 108351 | Kit, Repair 3/4" Vacuum Breaker (bronze) | 1 |
| — | 113219 | Kit, Repair 1/4" vacuum breaker | 1 |
| 38 | 101261 | Elbow, street (1/4 NPT x 90°) Brass | 1 |
| 39 | 110135 | Nipple (1/4 NPT x 7 1/4) Brass | 1 |
| 40 | 100573 | Locknut (1/4 NPT) Brass | 1 |
| 41 | 201669 | Locknut (1/4 NPT) Plated | 1 |
| 42 | 100073 | Screw (1/4-20 x 1/3) Truss hd | 1 |
| 43 | 100141 | Nut, grip (1/4-20) | 1 |
| — | 601247 | Piping Assy Final Rinse (includes items 3,4,5,6,7,8,9,10,14) | 1 |
| — | 601077 | Piping Assy Wash/Rinse (includes items 5,8,10,11,12,13,15,17,18,22,23) | 1 |
| — | 403563 | Piping Assy Flll (includes items 23,26,27,28,29,30,31,32,33,34) | 1 |
| — | 900734 | Kit, Conversion (Stainless Steel Manifold) (Prior to S/N 86424) | — |
| **— | 900836 | Kit* Repair, 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 R2435 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 are no longer available for complete vacuum breakers.

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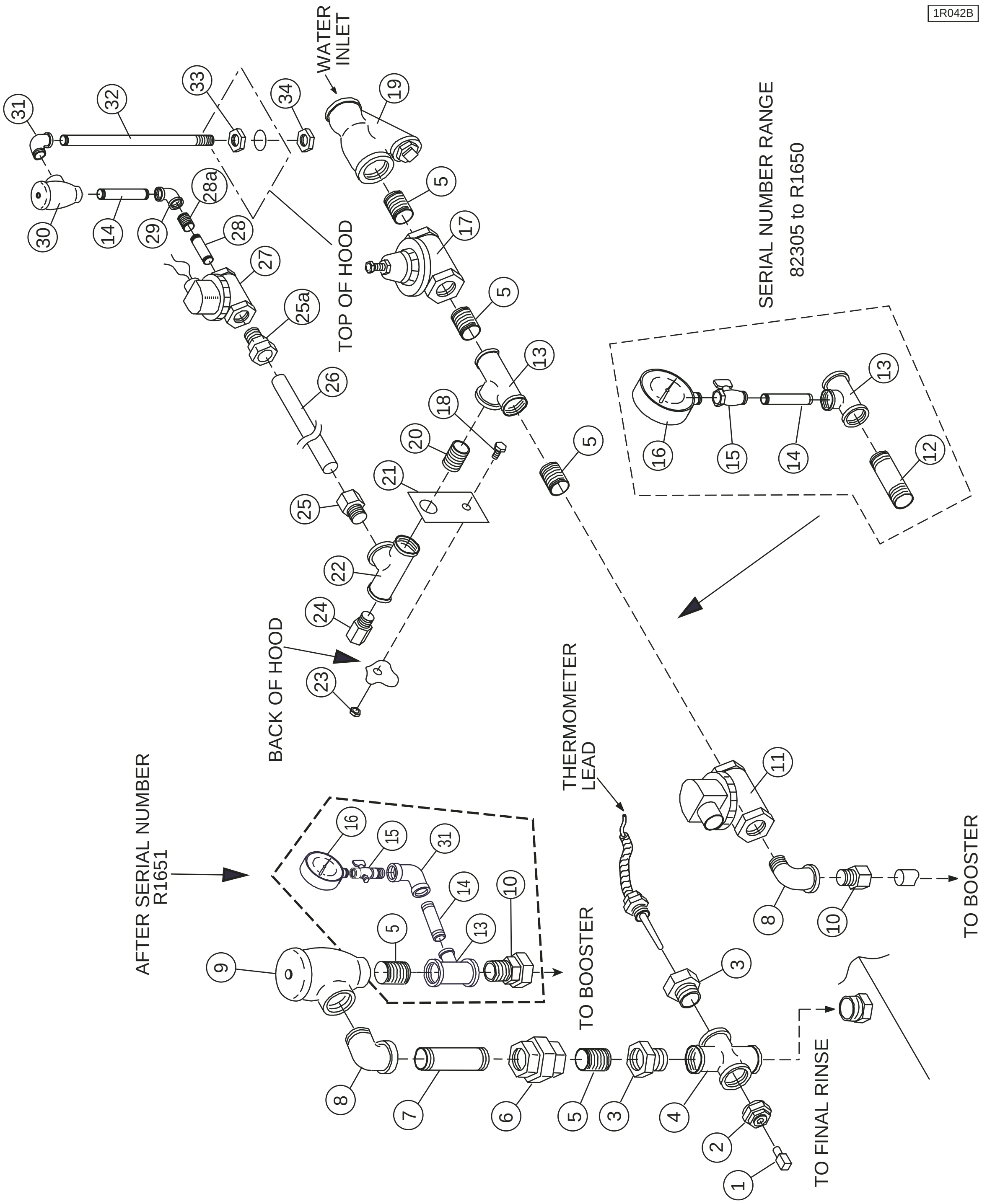


**Figure 38 – Fill & Outside Rinse Piping 44WS – With Electric Booster**
*(For machines beginning with S/N 82305 and above)*

## FILL & OUTSIDE RINSE PIPING 44WS – WITH ELECTRIC BOOSTER

*(For machines beginning with S/N 82305 and above)*

| Fig. 38 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) | 2 |
| 4 | 100599 | Cross (3/4 NPT) Brass | 1 |
| 5 | 100209 | Nipple, close (1/2 NPT) Brass | 4 |
| 6 | 102549 | Union (1/2 NPT) Brass | 1 |
| 7 | 102572 | Nipple (1/2 NPT x 4 1/2") Brass | 1 |
| 8 | 102438 | Elbow, street (1/2 NPT x 90°) Brass | 1 |
| 9 | 100500 | Vacuum breaker (1/2 NPT) (bronze) | 1 |
| — | 108349 | Kit Repair 1/4 & 1/2 (bronze) | 1 |
| — | 113221 | Repair Kit, 1/2" vacuum breaker (plastic) | 1 |
| 10 | 109925 | Fitting, compression (1/2 NPT x 5/8" O.D.) | 2 |
| *11 | 109886 | Valve, solenoid (1/2 NPT) (Prior to S/N R2435) | 1 |
| — | 109902 | Repair kit, solenoid valve (1/2 NPT) | 1 |
| — | 111471 | Replacement coil, solenoid valve (1/2 NPT) (120V coil) | 1 |
| 11 | 113352 | Valve Solenoid (1/2" NPT) (After S/N R2436) | 1 |
| — | 113392 | Repair kit (1/2") Solenoid Valve | 1 |
| — | 113357 | Replacement Coil (120V) | 1 |
| 12 | 102567 | Nipple (1/2 NPT x 3") Brass | 1 |
| 13 | 102517 | Tee (1/2 NPT x 1/2 NPT x 1/4 NPT) Brass | 1 |
| 14 | 110134 | Nipple (1/4 NPT x 2 1/2") Brass | 2 |
| 15 | 106418 | Petcock (1/4 NPT) Female | 1 |
| 16 | 100135 | Gauge, pressure (0-60 PSI Male) | 1 |
| 17 | 108265 | Valve, pressure reducing (1/2 NPT) | 1 |
| 18 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 1 |
| 19 | 104421 | Strainer, line (1/2 NPT) Brass | 1 |
| 20 | 100947 | Nipple, close (1/4 NPT) Brass | 1 |
| 21 | 316238 | Bracket, piping support | 1 |
| 22 | 103403 | Tee (1/4 NPT) Brass | 1 |
| 23 | 100141 | Nut, grip (1/4-20 ) | 1 |
| 24 | 102500 | Plug, pipe (1/4 NPT) Brass (44WS) | 1 |
| 25 | 109909 | Fitting, compression (1/4 NPT x 1/2" O. D.) | 1 |
| 25a | 109909 | Fitting, compression 1/4 NPT x 1/2" (Prior to S/N R2435) | 1 |
| 25a | 111250 | Fitting, compression 1/2 OD x 1/2 MPT Brass (After S/N R2436) | 1 |
| 26 | 107315 | Tubing (1/2" O.D.) Copper | A/R |
| *27 | 109885 | Valve, solenoid, (1/4 NPT) (Prior to S/N R2435) | 1 |
| — | 111172 | Repair kit, solenoid valve (1/4 NPT) | 1 |
| — | 111469 | Replacement Coil, solenoid valve (1/4 NPT) (120V Coil) | 1 |
| 27 | 113352 | Valve Solenoid (1/2" NPT) (After S/N R2436) | 1 |
| — | 113392 | Repair kit (1/2") Solenoid Valve | 1 |
| — | 113357 | Replacement Coil (120V) | 1 |
| 28 | 101262 | Nipple (1/4 NPT x 1-1/2") Brass (Prior to S/N R2435) | 1 |
| 28 | 102388 | Bushing, reducing (1/2 x 1/4 NPT) (After S/N R2436) | 1 |
| 28a | 100947 | Nipple, close 1/4" NPT (After S/N R2436) | 1 |

## FILL & OUTSIDE RINSE PIPING 44WS – WITH ELECTRIC BOOSTER (cont.)

*(For machines beginning with S/N 82305 and above)*

| Fig. 38 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 29 | 102422 | Elbow (1/4 NPT x 90° ) Brass | 1 |
| 30 | 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 |
| 31 | 101261 | Elbow, street (1/4 NPT x 90° )Brass | 2 |
| 32 | 110135 | Nipple (1/4 NPT x 7-1/4" RTOE) Brass | 1 |
| 33 | 100573 | Locknut (1/4 NPT) Brass | 1 |
| 34 | 201669 | Locknut (1/4 NPT) Nickel-Plated | 1 |
| — | 601103 | Piping Assy., Wash/Rinse (includes items 5,8,10 thru 17,19,20,22,24,25) | 1 |
| — | 601104 | Piping Assy, Final Rinse (includes items 1 thru 10) | 1 |
| — | 403563 | Piping Assy, Fill (includes items 14,25,27 thru 34) . | 1 |
| **— | 900836 | Kit* Repair, 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 R2435 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 are no longer available as a complete vacuum breaker.

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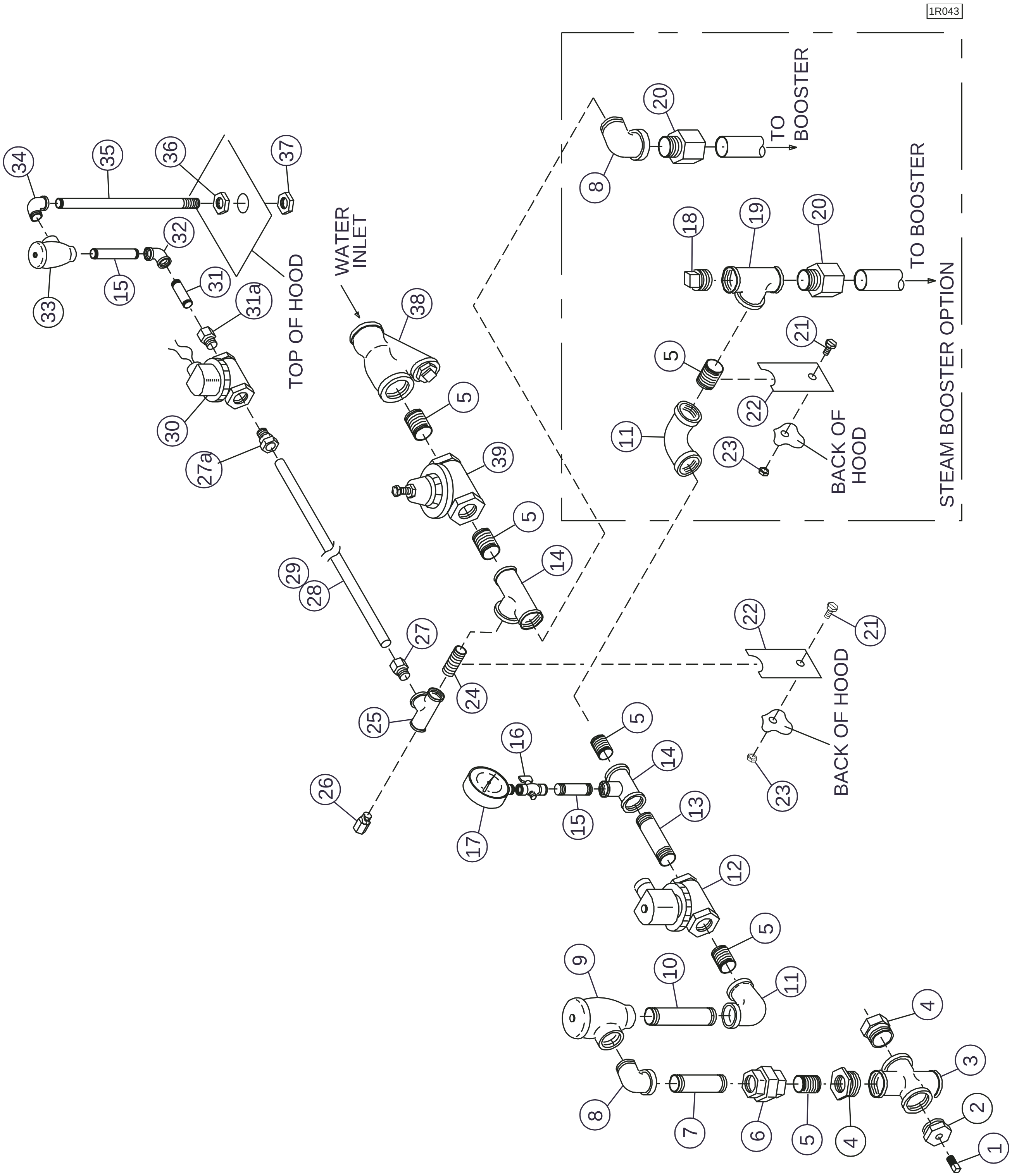


**Figure 39 – Fill & Outside Rinse Piping 44WS – No Booster and Steam Booster**
*(For machines beginning with S/N 82305 and above)*

## FILL AND OUTSIDE RINSE PIPING 44WS
## NO BOOSTER AND STEAM BOOSTER
*(For machines beginning with S/N 82305 and above)*

| Fig. 39 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) Brass | 1 |
| 3 | 100599 | Cross (3/4 NPT) Brass | 1 |
| 4 | 102392 | Bushing, reducing (3/4 NPT x 1/2 NPT) Brass . | 2 |
| 5 | 100209 | Nipple, close (1/2 NPT) Brass | 4 |
| 6 | 102549 | Union (1/2 NPT) Brass | 1 |
| 7 | 102569 | Nipple (1/2 NPT x 3-1/2") Brass | 1 |
| 8 | 102438 | Elbow, street (1/2 NPT x 90°) Brass | 1 |
| 9 | 100500 | Vacuum breaker (1/2 NPT) (bronze) | 1 |
| **— | 108349 | Repair Kit, 1/4" and 1/2" vacuum breaker (bronze) | 1 |
| **— | 113221 | Kit, Repair 1/2" vacuum breaker (plastic) | 1 |
| 10 | 102572 | Nipple (1/2 NPT x 4 1/2") Brass | 1 |
| 11 | 102435 | Elbow (1/2 NPT x 90°) Brass | 2 |
| 12 | 109886 | Valve, solenoid (1/2 NPT) (Prior to S/N R2435) | 1 |
| — | 109902 | Repair kit, solenoid valve (1/2 NPT) | 1 |
| — | 111471 | Replacement coil, solenoid valve (l/2 NPT) (120V coil) | 1 |
| 12 | 113352 | Valve Solenoid (1/2" NPT) (After S/N R2436) | 1 |
| — | 113392 | Repair kit (1/2") Solenoid Valve | 1 |
| — | 113357 | Replacement Coil (120V) | 1 |
| 12 | 100209 | Nipple, close 1/2" NPT Brass (After S/N R2436) | 1 |
| 13 | 102567 | Nipple (1/2 NPT x 3") Brass | 1 |
| 14 | 102517 | Tee (1/2 NPT x 1/2 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 | 1 |
| 18 | 102504 | Pipe plug (1/2 NPT) Brass | 1 |
| 19 | 102514 | Tee (1/2 NPT) Brass | 1 |
| 20 | 109925 | Fitting, compression (1/2 NPT x 5/8" O.D.) | 1 |
| 21 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 1 |
| 22 | 316238 | Bracket, piping support | 1 |
| 23 | 100141 | Nut, grip (1/4-20) | 1 |
| 24 | 100947 | Nipple, Close (1/4NPT) Brass | 1 |
| 25 | 103403 | Tee (1/4 NPT) Brass | 1 |
| 26 | 102500 | Pipe plug (1/4 NPT) Brass (44WS) | 1 |
| 27 | 109909 | Fitting, compression (1/4 NPT x 1/2" O.D.) | 1 |
| 27a | 109909 | Fitting, compression 1/4" NPT x 1/2" OD (Prior to S/N R2425) | 1 |
| 27a | 111250 | Fitting, compression 1/2" OD x 1/2" MPT (After S/N R2426) | 1 |
| 28 | 107315 | Tubing, copper (1/2 O.D.) (No booster) | A/R |
| 29 | 107315 | Tubing, copper (1/2 O.D.) (With booster) | A/R |
| *30 | 109885 | Valve, solenoid (1/4 NPT) (Prior to ) | 1 |
| — | 111172 | Repair kit, solenoid valve (1/4 NPT) | 1 |
| — | 111469 | Replacement coil, solenoid valve (1/4 NPT) (120V coil) | 1 |
| 30 | 113352 | Valve Solenoid (1/2" NPT) (After S/N R2436) | 1 |
| — | 113392 | Repair kit (1/2") Solenoid Valve | 1 |
| — | 113357 | Replacement Coil (120V) | 1 |

## FILL AND OUTSIDE RINSE PIPING 44WS NO BOOSTER AND STEAM BOOSTER (cont.)

*(For machines beginning with S/N 82305 and above)*

| Fig. 39 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 31 | 101262 | Nipple (1/4 NPT x 1-1/2) Brass (Prior to S/N R2435) .......................... | 1 |
| 31 | 102388 | Bushing, Reducing 1/2 x 1/4 Brass (After S/N R2436) .......................... | 1 |
| 31a | 100947 | Nipple, close 1/4 NPT Brass (Not Shown) (After S/N R2436) ............. | 1 |
| 32 | 102422 | Elbow (1/4 NPT x 90°) Brass ................................................................. | 1 |
| 33 | 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 |
| 34 | 101261 | Elbow, street (1/4 NPT x 90°) Brass .................................................... | 1 |
| 35 | 110135 | Nipple (1/4 NPT x 7 1/4) Brass ............................................................ | 1 |
| 36 | 100573 | Locknut (1/4 NPT) Brass ...................................................................... | 1 |
| 37 | 201669 | Locknut (1/4 NPT) (Nickel-Plated) ....................................................... | 1 |
| 38 | 104421 | Line strainer (1/2 NPT) Brass ................................................................ | 1 |
| 39 | 108265 | Valve, pressure reducing (1/2 NPT) ....................................................... | 1 |
| — | 601105 | Piping Assy. W/R (No booster) (includes items 1 thru 23) .................... | 1 |
| — | 403563 | Piping Assy., fill (includes items 15,23,32 thru 39) ................................ | 1 |
| **— | 900836 | Kit* Repair, 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 R2435 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 are no longer available as a complete vacuum breaker.

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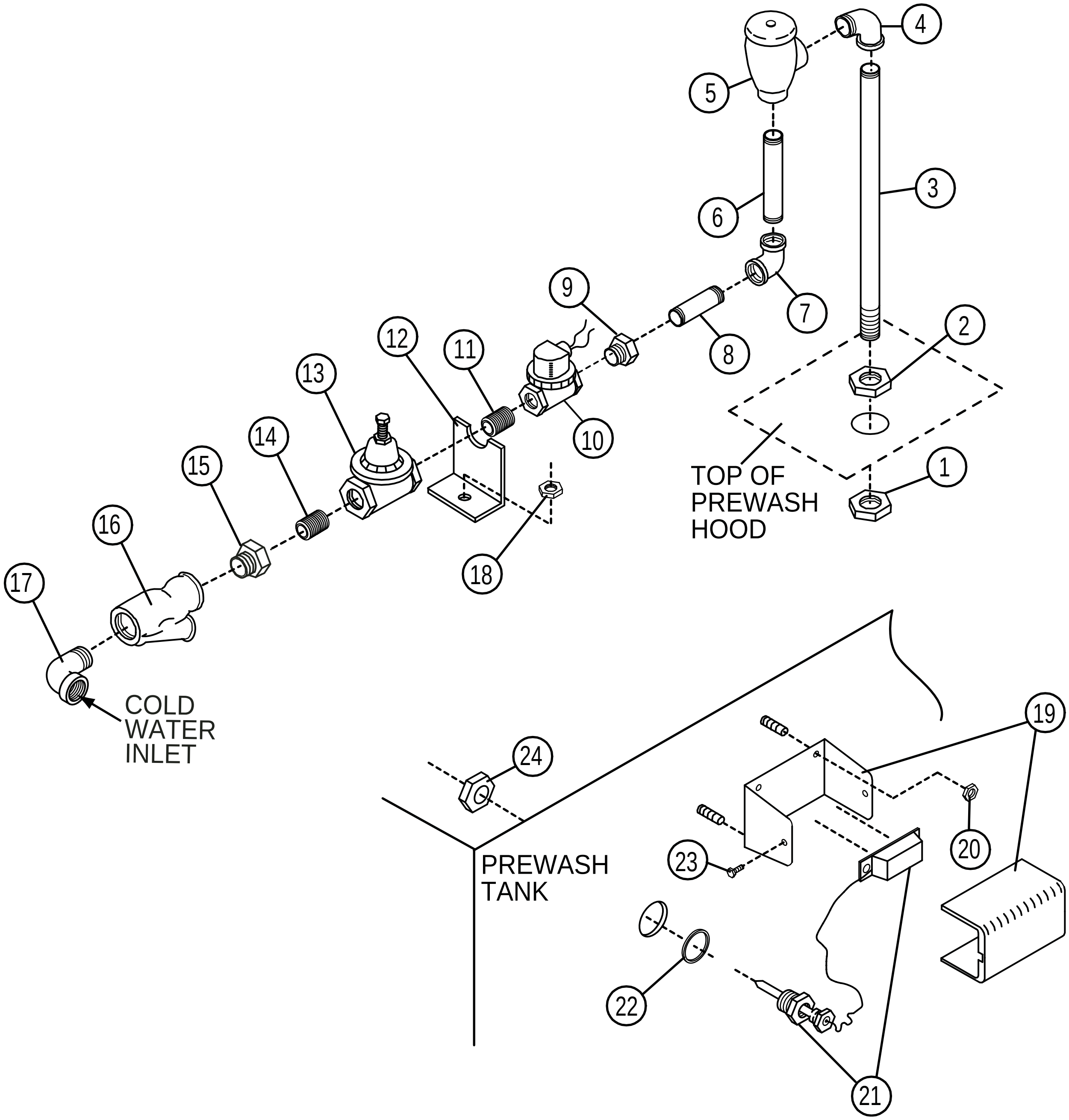


**Figure 40 – Cold Water Thermostat for Prewash Option**
*(All S/N's)*

## COLD WATER THERMOSTAT FOR PREWASH OPTION
*(All S/N's)*

| Fig. 40 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 R2425) | 1 |
| 8 | 100947 | Nipple, close 3/4" NPT (After S/N R2426) | 1 |
| 9 | 102388 | Bushing, reducing (1/2 x 1/4 NPT) (After S/N R2426) | 1 |
| **10 | 109885 | Valve, solenoid (1/4 NPT) (Prior to S/N R2435) | 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 R2436) | 1 |
| — | 113392 | Repair kit (1/2") Solenoid Valve | 1 |
| — | 113357 | Replacement Coil (120V) | 1 |
| 11 | 100947 | Nipple, Close (1/4 NPT) Brass | 1 |
| 12 | 319549 | Bracket, piping support | 1 |
| *13 | 108265 | Valve, pressure reducing (1/2 NPT) | 1 |
| *14 | 100947 | Nipple, Close (1/4 NPT) 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 | Lockout (1/2" NPT SST) | 1 |
| — | 403563 | Piping Assy., fill (includes items 1-9) | 1 |
| ***— | 900836 | Kit* Repair, 1/2" Vacuum Breaker (Includes one each of 108349, 113219 and 113221) | |

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

** Between serial number range R2289 and R2435 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.

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

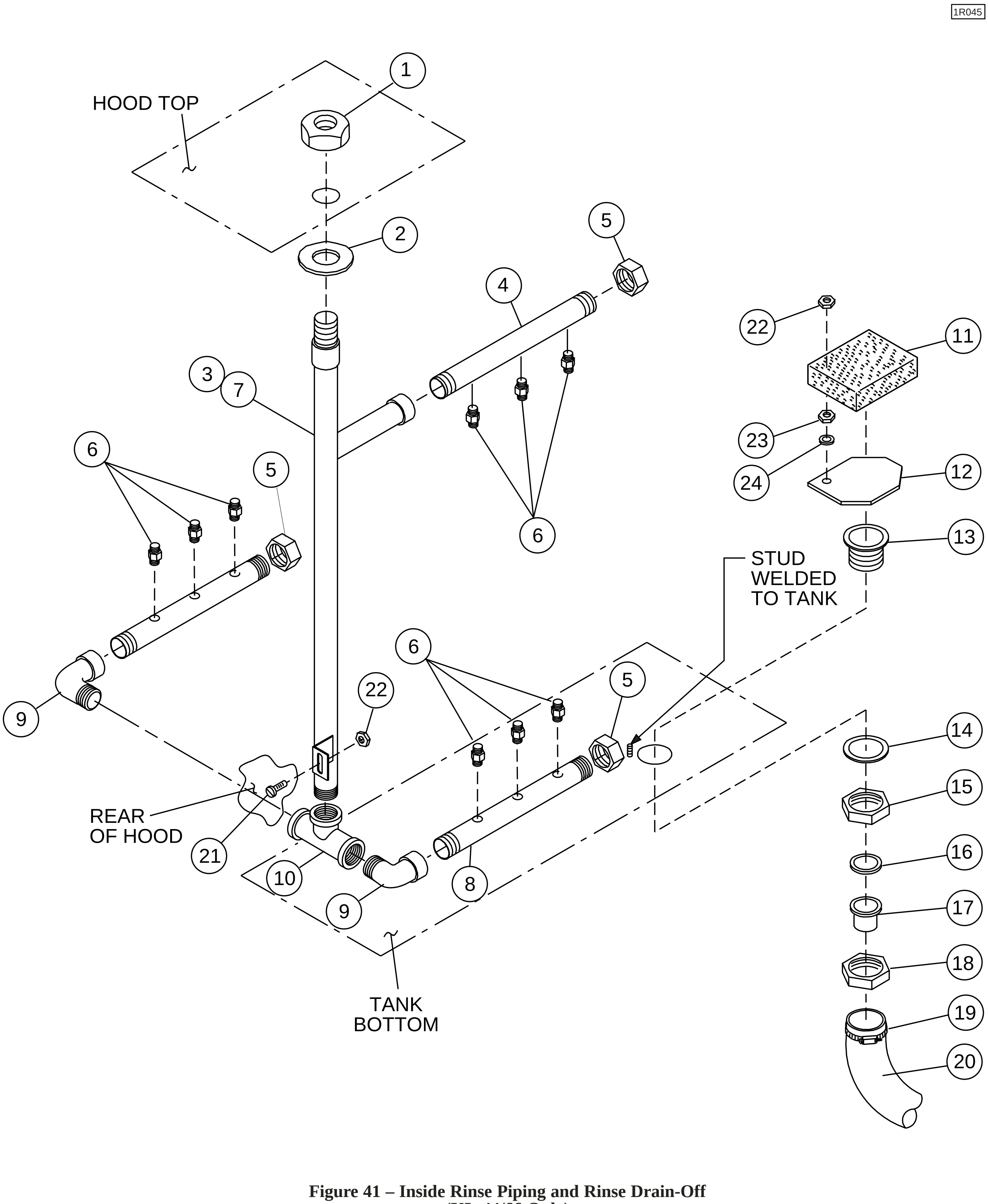


**Figure 41 – Inside Rinse Piping and Rinse Drain-Off**
**(KL-44/66 Only)**
*(For machines beginning with S/N 90513 and above)*

## INSIDE RINSE PIPING AND RINSE DRAIN-OFF (KL-44/66 ONLY)

*(For machines beginning with S/N 90513 and above)*

| Fig. 41 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 100548 | Locknut 3/4 NPT SST | 1 |
| 2 | 108620 | Gasket Rinse Pipe | 1 |
| 3 | 322372 | Manifold, Final Rinse (Standard) | 1 |
| 4 | 205754 | Pipe Final Rinse Upper | 1 |
| 5 | 106734 | Cap 1/2" Plastic | 3 |
| 6 | 112493 | Nozzle 1/8 NPTM | 9 |
| 7 | 322586 | Manifold, Final Rinse (High Hood) | 1 |
| 8 | 205755 | Pipe Final Rinse Lower | 1 |
| 9 | 100554 | Tee 1/2" NPT SST | 1 |
| 10 | 100516 | Elbow Street 1/2 x 90 SST | 2 |
| 11 | 311761 | Screen, Drain Body | 1 |
| 12 | 315682 | Restrictor, Drain | 1 |
| 13 | 107863 | Drain Body | 1 |
| 14 | 107864 | Washer, Drain Body | 1 |
| 15 | 107865 | Nut, Drain Body | 1 |
| 16 | 107866 | Washer, Outlet Pipe | 1 |
| 17 | 109283 | Tail Piece | 1 |
| 18 | 107867 | Nut, Outlet Pipe | 1 |
| 19 | 107340 | Hose Clamp | 1 |
| 20 | 111400 | Hose Drain | 1 |
| 21 | 100778 | Screw 1/4-20 x 3/8 Truss Head | 1 |
| 22 | 100141 | Nut Grip 1/4-20 | 1 |
| 23 | 100003 | Nut Plain 1/4-20 | 1 |
| 24 | 106482 | Washer Lock 1/4" Split | 1 |

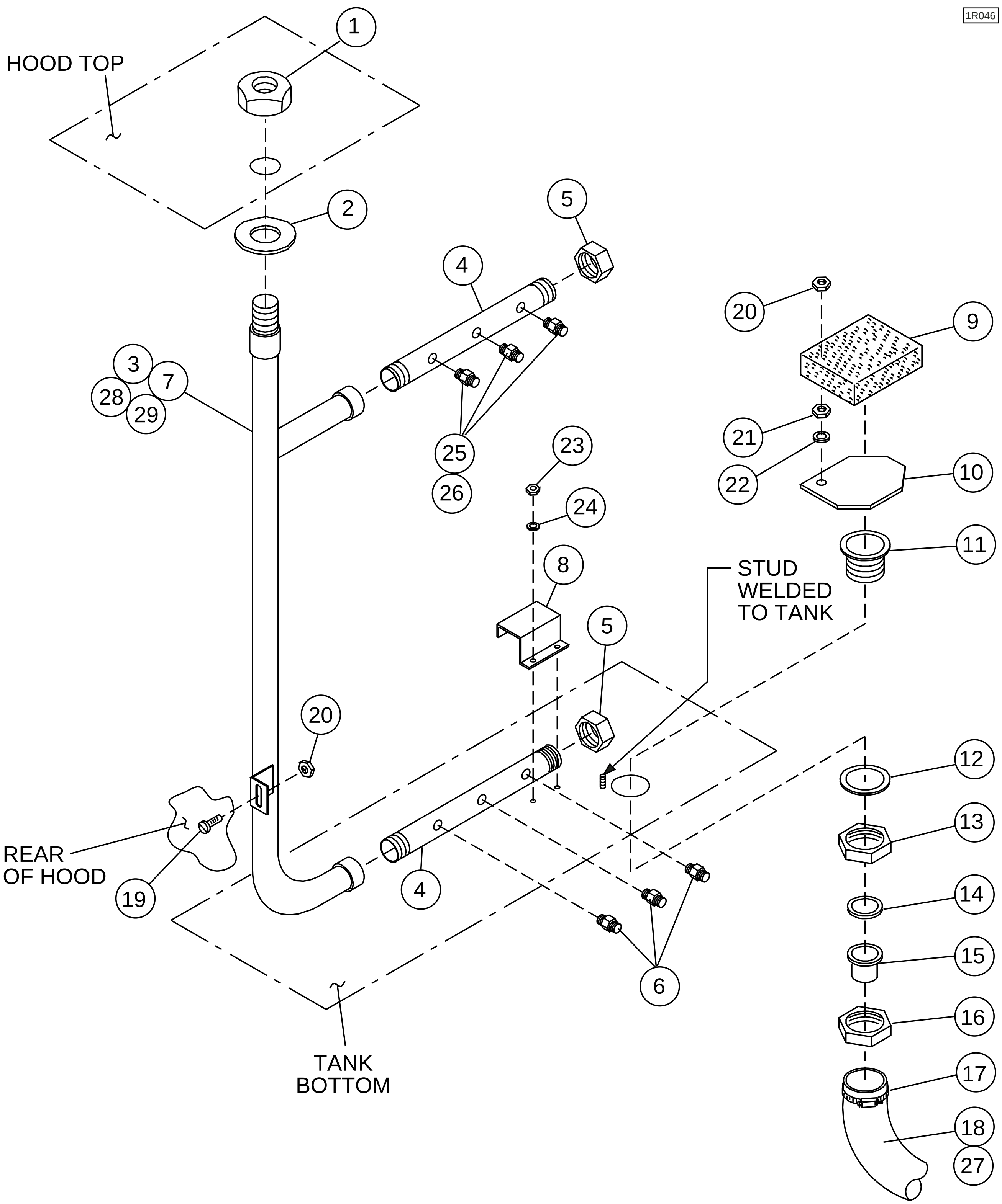


**Figure 42 – Inside Rinse Piping and Rinse Drain-Off**
**(Models KB, WS, KL)**
*(For machines beginning with S/N 87575 and above)*

## INSIDE RINSE PIPING AND RINSE DRAIN-OFF (MODELS KB, WS, KL)

*(For machines beginning with S/N 87575 and above)*

| Fig. 42 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) 44KB, 44WS, 54KB | 1 |
| 4 | 205421 | Pipe Final Rinse, 44KB, KL44, 54KB, 44WS | 2 |
| 5 | 106734 | Cap 1/2" Plastic | 2 |
| 6 | 112022 | Nozzle Spray Lower, 44KB, KL44, 54KB, 44WS | 3 |
| 7 | 311404 | Manifold, Final Rinse (High Hood) 44KB, 44WS, 54KB | 1 |
| 8 | 315294 | Support – Rinse Pipe | 1 |
| 9 | 311761 | Screen, Drain Body | 1 |
| 10 | 315682 | Restrictor, Drain | 2 |
| 11 | 107863 | Drain Body | 1 |
| 12 | 107864 | Washer, Drain Body | 1 |
| 13 | 107865 | Nut, Drain Body | 1 |
| 14 | 107866 | Washer, Outlet Pipe | 1 |
| 15 | 109283 | Tail Piece | 1 |
| 16 | 107867 | Nut, Outlet Pipe | 1 |
| 17 | 107340 | Hose Clamp | 1 |
| 18 | 111400 | Hose Drain | 1 |
| 19 | 100778 | Screw 1/4-20 x 3/8 Truss Head | 1 |
| 20 | 100141 | Nut Grip 1/4-20 | 1 |
| 21 | 100003 | Nut Plain 1/4-20 | 1 |
| 22 | 106482 | Washer Lock 1/4" Split | 1 |
| 23 | 104985 | Nut, Plain 10-32 | 1 |
| 24 | 106486 | Washer, Lock 10-32 Split | 1 |
| 25 | 106530 | Nozzle, Spray Upper 44KB, 54KB, KL44 | 3 |
| 26 | 0508376 | Nozzle, Spray Upper 44WS | 3 |
| 27 | 111444 | Hose Drain 54KB | 1 |

**SPECIAL NOTE: Model KL44/66 Final Rinse Manifolds**

| | | | |
|---|---|---|---|
| 28 | 317192 | Manifold – Final Rinse (Standard KL44) (Prior to S/N 85280) | 1 |
| 29 | 317193 | Manifold – Final Rinse (High Hood KL44) (Prior to S/N 85280) | 1 |
| 28 | 311405 | Manifold – Final Rinse (Standard KL44) (Beginning with S/N 85280 thru S/N 90512) | 1 |
| 29 | 311404 | Manifold – Final Rinse (High Hood KL44) (Beginning with S/N 85280 thru S/N 90512) | 1 |

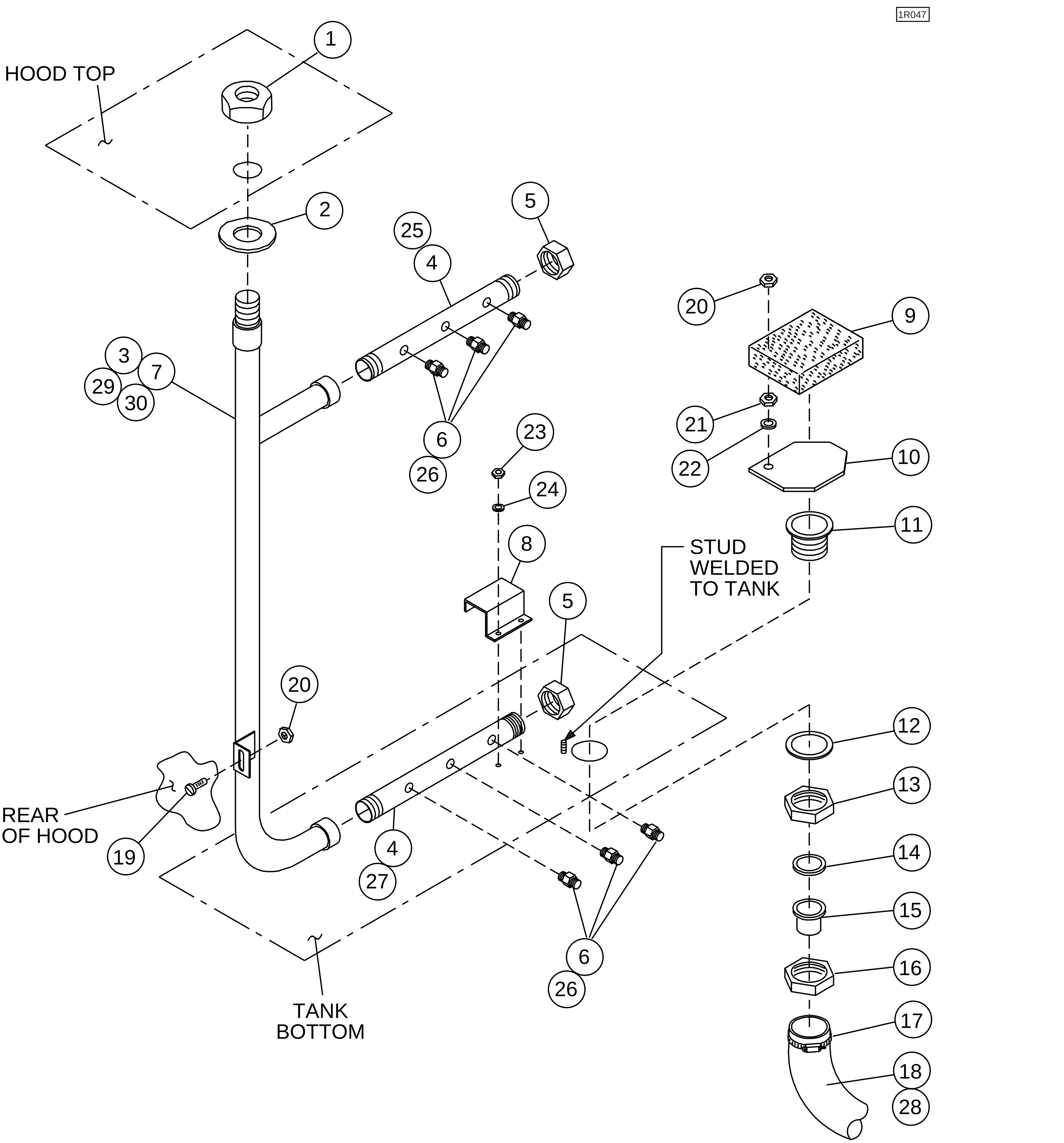


**Figure 43 – Inside Rinse Piping and Rinse Drain-Off**
*(For machines prior to S/N 87575)*

## INSIDE RINSE PIPING AND RINSE DRAIN-OFF

*(For machines prior to S/N 87575)*

| Fig. 43 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 100156 | Locknut (3/4 NPT) Brass | 1 |
| 2 | 108620 | Gasket, manifold | 1 |
| 3 | 311405 | Manifold, final rinse (Standard) (44KB, 44WS, 54KB) | 1 |
| 4 | 205107 | Rinse Pipe, upper & lower (44KB,KL44) | 2 |
| 5 | 106734 | Cap, rinse pipe | 2 |
| 6 | 111519 | Nozzle, final rinse (44KB, KL44, 54KB) | 8 |
| 7 | 311404 | Manifold, final rinse – (High-Hood) (44KB, 44WS, 54KB) | 1 |
| 8 | 315294 | Support, rinse pipe | 1 |
| 9 | 311761 | Screen, drain body | 1 |
| 10 | 315682 | Restrictor, drain | 1 |
| 11 | 107863 | Drain body | 1 |
| 12 | 107864 | Washer, drain body | 1 |
| 13 | 107865 | Nut, drain body | 1 |
| 14 | 107866 | Washer, outlet pipe | 1 |
| 15 | 109283 | Tail piece | 1 |
| 16 | 107867 | Nut, outlet pipe | 1 |
| 17 | 107340 | Hose clamp (M28) | 2 |
| 18 | 111400 | Hose, drain (44KB, KL44, 44WS) | 1 |
| 19 | 100778 | Screw (1/4-20 x 3/8") Truss hd | 1 |
| 20 | 100141 | Nut, grip (1/4-20) | 2 |
| 21 | 100003 | Nut, plain (1/4-20) | 1 |
| 22 | 106482 | Washer, lock (1/4") Split | 1 |
| 23 | 104985 | Nut, plain (10-32) | 2 |
| 24 | 106486 | Washer, lock (10-32) Split | 2 |
| 25 | 204810 | Rinse pipe, upper (44WS) | 1 |
| 26 | 111517 | Nozzle, final rinse (44WS) | 10 |
| 27 | 205107 | Rinse pipe, lower (44WS) | 1 |
| 28 | 111444 | Hose, drain (54KB) | 1 |

**SPECIAL NOTE: Model KL44/66 Final Rinse Manifolds**

| | | | |
|---|---|---|---|
| 29 | 317192 | Manifold – Final Rinse (Standard KL44) (Prior to S/N 85280) | 1 |
| 30 | 317193 | Manifold – Final Rinse (High Hood KL44) (Prior to S/N 85280) | 1 |
| 29 | 311405 | Manifold – Final Rinse (Standard KL44) (Beginning with S/N 85280 thru S/N 90512) | 1 |
| 30 | 311404 | Manifold – Final Rinse (High Hood KL44) (Beginning with S/N 85280 thru S/N 90512) | 1 |

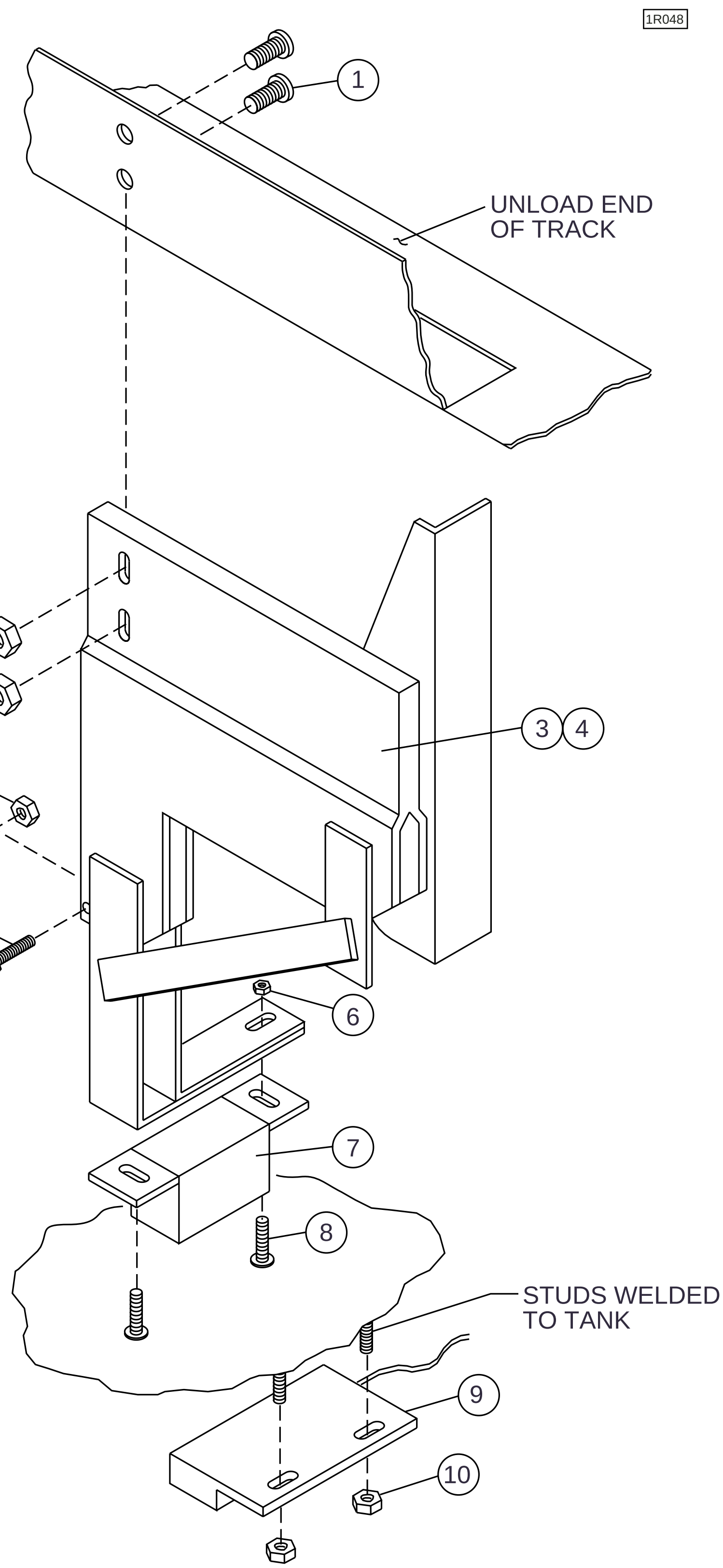


**Figure 44 – Rinse Saver Mechanism**
*(For machines prior to S/N 88123)*

## RINSE SAVER MECHANISM

*(For machines prior to S/N 88123)*

| Fig. 44 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 111296 | Screw (10-32 x 3/8") Flat hd | 2 |
| 2 | 100194 | Nut, grip (10-32) | 3 |
| 3 | N/A | Support Assy. (R-L) | 1 |
| 4 | N/A | Support Assy. (L-R) | 1 |
| 5 | 107137 | Bolt (10-32 x 7/8") Hex hd | 1 |
| 6 | 104971 | Nut, grip (6-32) | 2 |
| 7 | 111026 | Switch, magnet reed | 1 |
| 8 | 111319 | Screw (6-32 x 1/2") Truss hd | 2 |
| 9 | 113721 | Switch Reed Aleph | 1 |
| 10 | 108954 | Nut, grip (6-32 w/nylon insert) | 2 |

**This style rinse saver mechanism is no longer available.**

Service replacement kits are listed below:
Refer to pages 88-91 for component parts contained in the kits.

| | | |
|---|---|---|
| — | 900735 | 44KB, 44KPRB, 54KB, 54KPRB, KL44, 44WS, 66WS<br>Machine direction L-R |
| — | 900736 | 44KB, 44KPRB, 54KB, 54KPRB, KL44, 44WS, 66WS<br>Machine direction R-L |

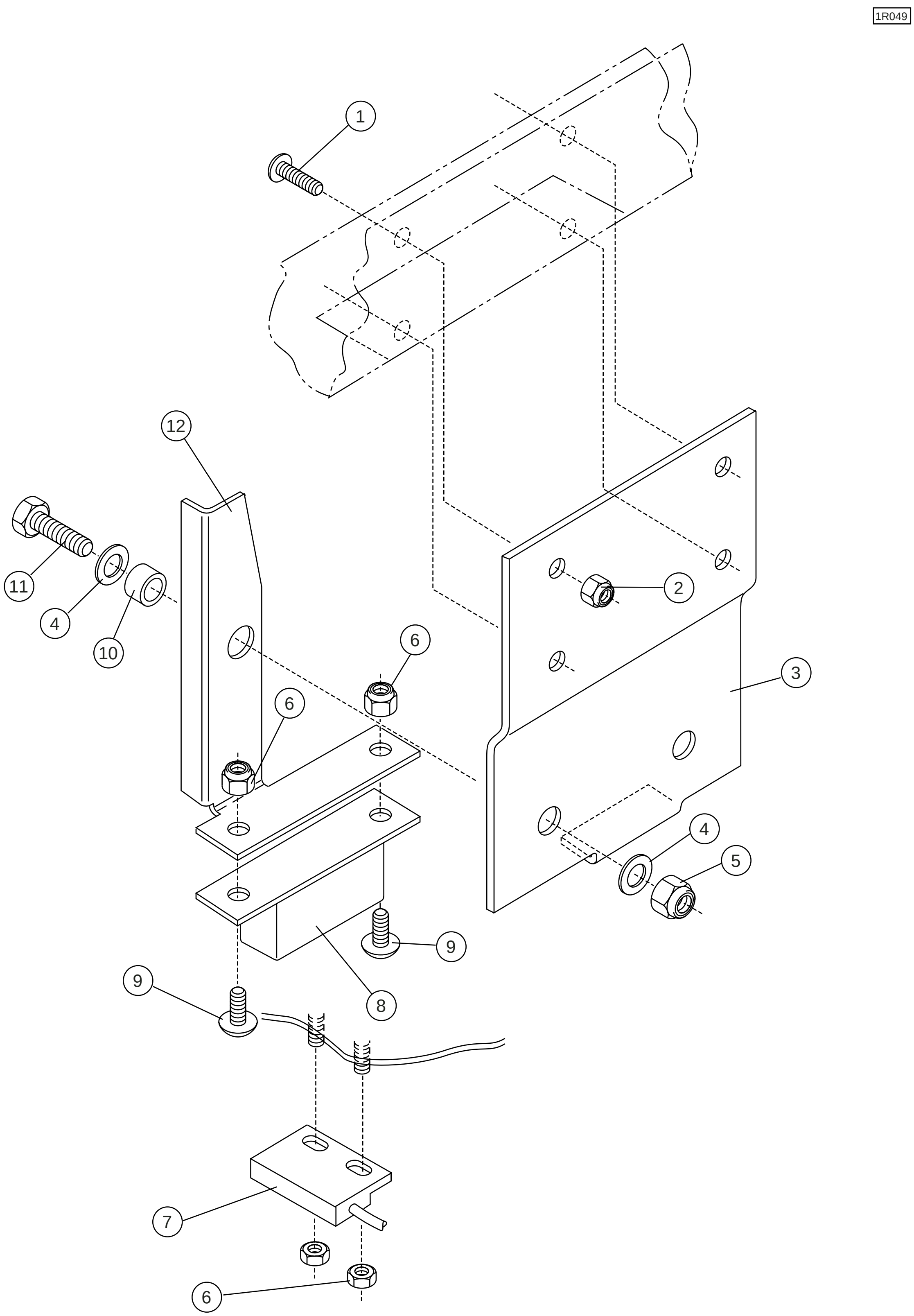


**Figure 45 – Rinse Saver Mechanism (L-R Shown)**
*(For machines beginning with S/N 88123 and above)*

## RINSE SAVER MECHANISM (L-R SHOWN)

*(For machines beginning with S/N 88123 and above)*

| Fig. 45 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)<br>(includes items 3-8 and 9-12) | 1 |

**See next page for R-L Rinse Saver Mechanism**

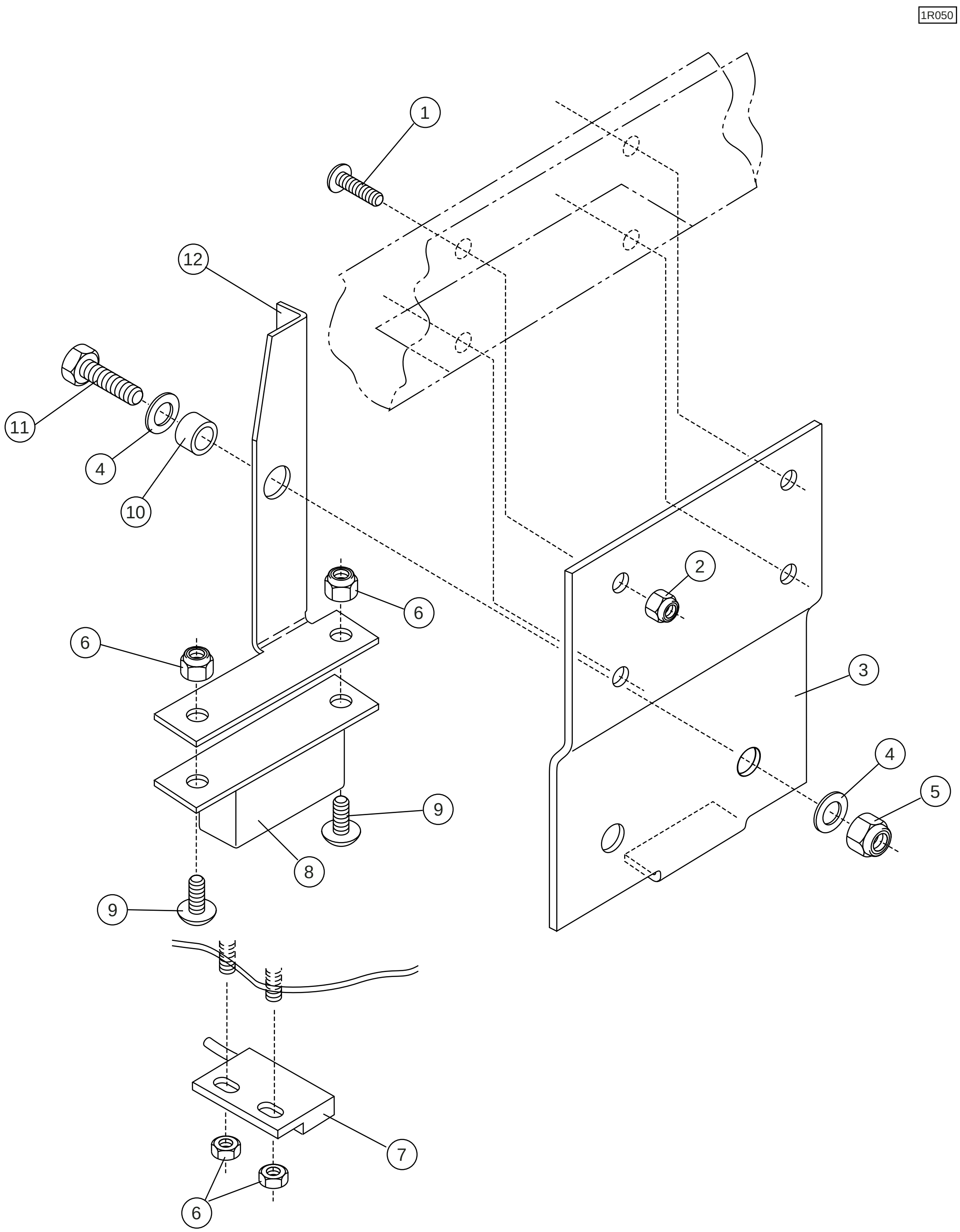


**Figure 46 – Rinse Saver Mechanism (R-L Shown)**
*(For machines beginning with S/N 88123 and above)*

## RINSE SAVER MECHANISM (R-L SHOWN)

*(For machines beginning with S/N 88123 and above)*

| Fig. 46 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) (includes 3-6 and 8-12) | 1 |

**See previous page for L-R Rinse Saver Mechanism**

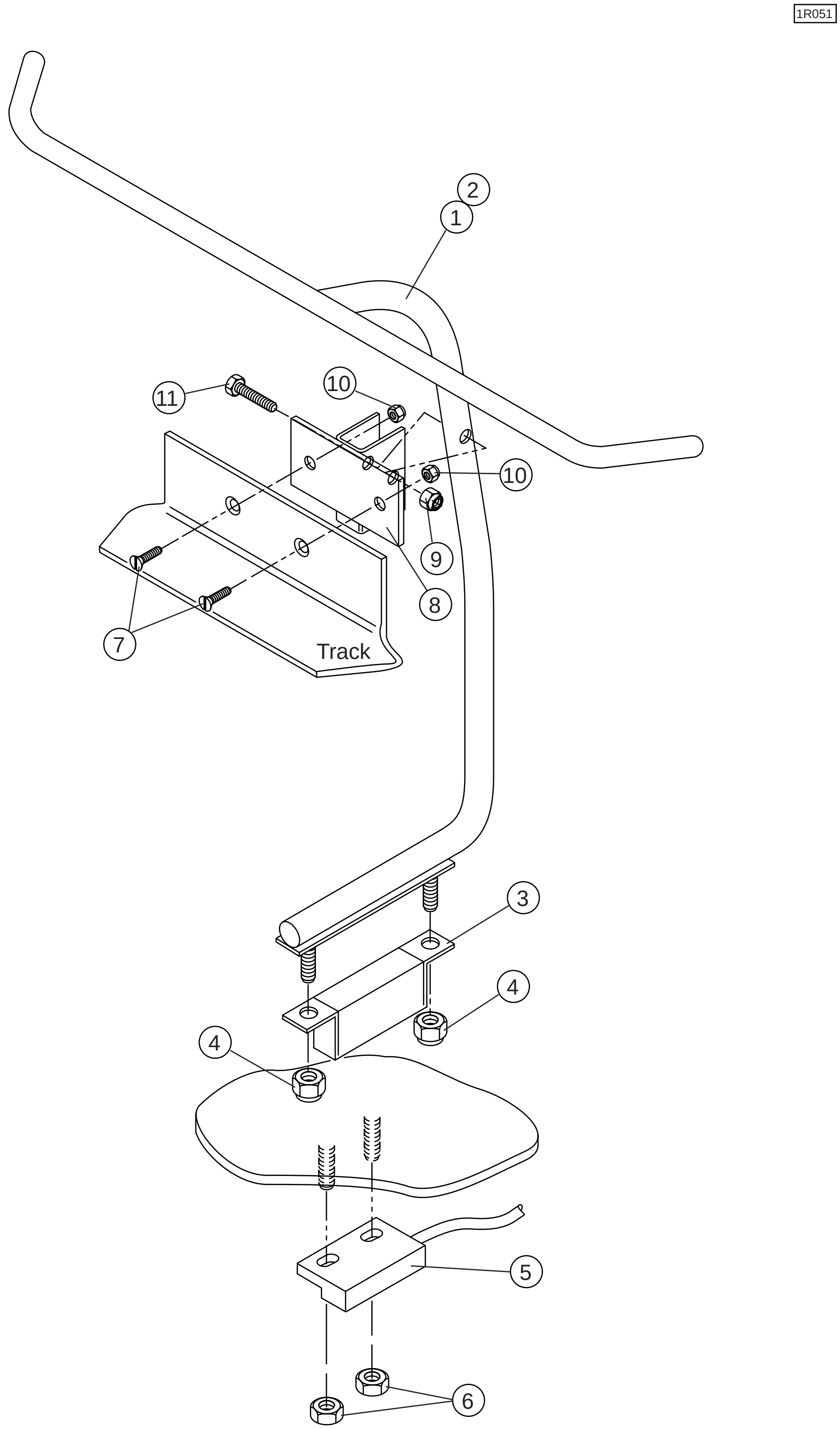


**Figure 47 – Rinse Saver Mechanism (KL-44/66 Only)**
*(For machines beginning with S/N 90513 and above)*

## RINSE SAVER MECHANISM (KL-44/66 ONLY)

*(For machines beginning with S/N 90513 and above)*

| Fig. 47 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 322554 | Final Rinse Lever (R-L) | 1 |
| 2 | 322555 | Final Rinse Lever (L-R) | 1 |
| 3 | 111026 | Magnet SST | 1 |
| 4 | 108954 | Nut Grip 6-32 w/Nylon Insert | 2 |
| 5 | 113721 | Reed Switch Aleph | 1 |
| 6 | 104971 | Nut Grip 6-32 | 2 |
| 7 | 100754 | Screw 10-32 x 1/2 Flat Head | 2 |
| 8 | 322574 | Mtg. Bracket Rinse Lever | 1 |
| 9 | 100141 | Nut Grip 1/4-20 | 1 |
| 10 | 107966 | Nut Grip 10-32 w/Nylon Insert | 2 |
| 11 | 100738 | Bolt 1/4-20 x 1" Hex Head | 1 |

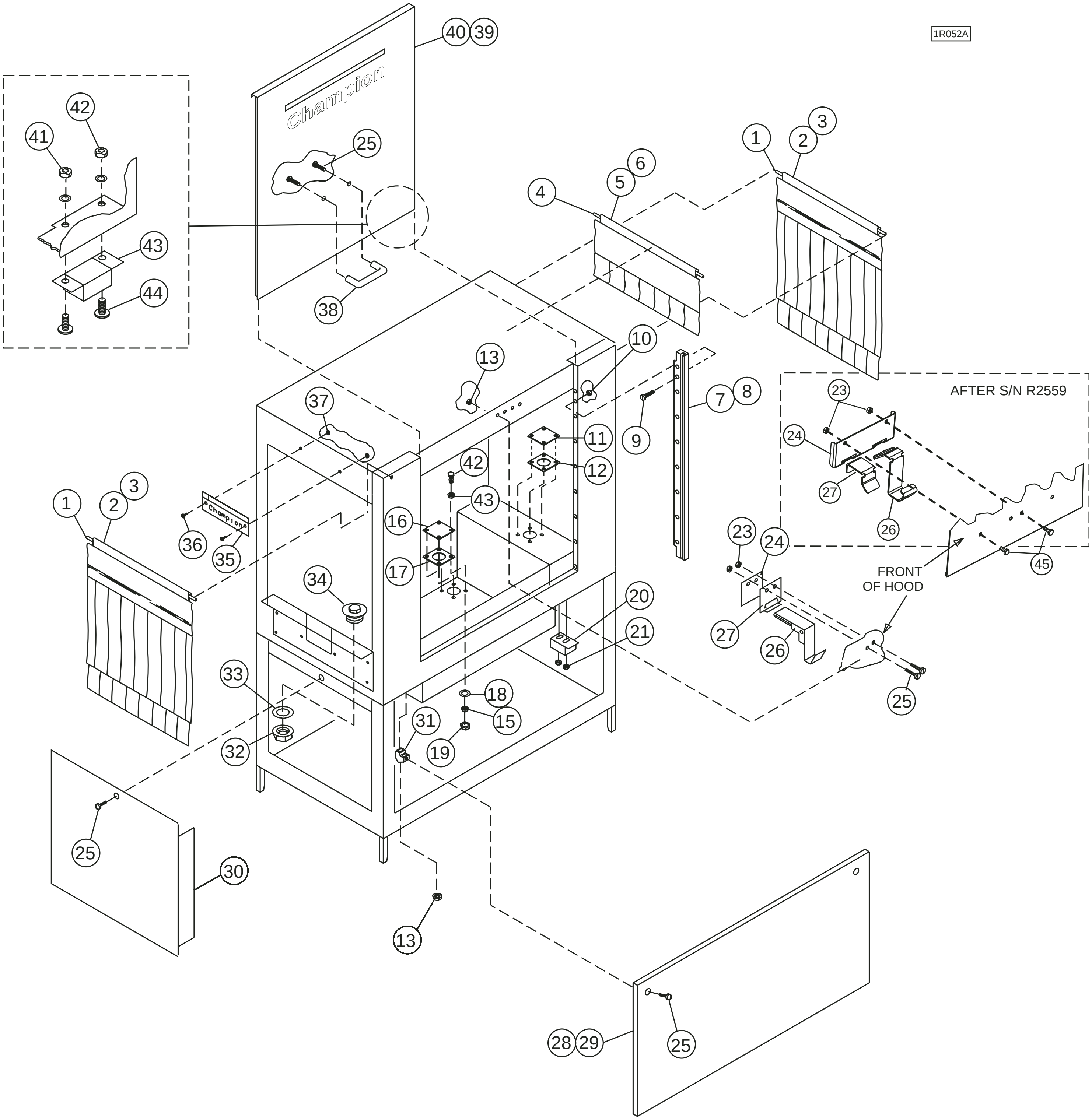


Figure 48 – Doors, Curtains, Miscellaneous

## DOORS, CURTAINS, MISCELLANEOUS

| Fig. 48 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 | 109723 | Curtain, center (Standard) | 1 |
| 6 | 109723 | 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 | 312003 | Plate, drive blockoff | 1 |
| 12 | 110741 | Gasket, drive blockoff | 1 |
| 13 | 100141 | Nut, grip (1/4-20) | 6 |
| 14 | 100740 | Bolt (5/16-18 x 1") Hex hd | 12 |
| 15 | 102376 | Washer, flat (5/16") | 24 |
| 16 | 312101 | Plate, standpipe blockoff | 1 |
| 17 | 108345 | Gasket, standpipe blockoff | 1 |
| 18 | 106013 | Washer, lock (5/16") split | 12 |
| 19 | 100154 | Nut, plain (5/16-18) | 12 |
| 20 | 113721 | Switch Reed Aleph | 2 |
| 21 | 108954 | Nut, grip (6-32) w/nylon insert | 4 |
| 22 | 107999 | Bolt (1/4-20 x 3/4") Hex hd | 1 |
| 23 | 100141 | Nut, grip (1/4-20) | 1 |
| 24 | 313359 | Stop, door (Prior to S/N R2558) | 1 |
| — | 325922 | Stop, door stop/catch combo (Prior to S/N R2559) | 1 |
| 25 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 4 |
| 26 | 325921 | Hook, door catch (Prior to S/N R2558) | 1 |
| — | 325921 | Hook, door stop/catch combo (Prior to S/N R2559) | 1 |
| 27 | 317345 | Bracket, door catch (Prior to S/N R2558) | 1 |
| — | 325920 | Bracket, door stop/catch combo (After S/N R2559) | 1 |
| 28 | 311303 | Panel, front (44KB, KL44, 44WS, 54KB) | 1 |
| 29 | 313292 | Panel, front 10" (54KB) (Not shown) | 1 |
| 30 | 313036 | Panel, end | 1 |
| 31 | 108578 | Bracket, panel | 2 |
| 32 | 107865 | Nut, drain blockoff | 1 |
| 33 | 107864 | Washer, drain blockoff | 1 |
| 34 | 110755 | Plug, drain | 1 |
| 35 | 109158 | Nameplate ‘Champion’ | 2 |
| 36 | 107015 | Screw (4-40 x 1/4") Round hd | 4 |
| 37 | 107016 | Nut (4-40) w/nylon insert | 4 |
| 38 | 108966 | Handle, door | 1 |
| 39 | 316992 | Door - 24" (Standard) | 1 |
| 40 | 316990 | Door - 24" (High-Hood) | 1 |
| 41 | 100194 | Nut, grip (10-32) | 2 |
| 42 | 106486 | Washer, lock (10-32) split | 2 |
| 43 | 111026 | Switch, magnet reed | 1 |
| 44 | 100007 | Screw (1-32 x 3/8") Truss hd | 2 |
| 45 | 100735 | Bolt (1/4-20 x 5/8) Hex head | 2 |
| — | 314388 | Plate, drain blockoff (Not shown) | 1 |
| — | 108345 | Gasket, drain blockoff (Not shown) | 1 |

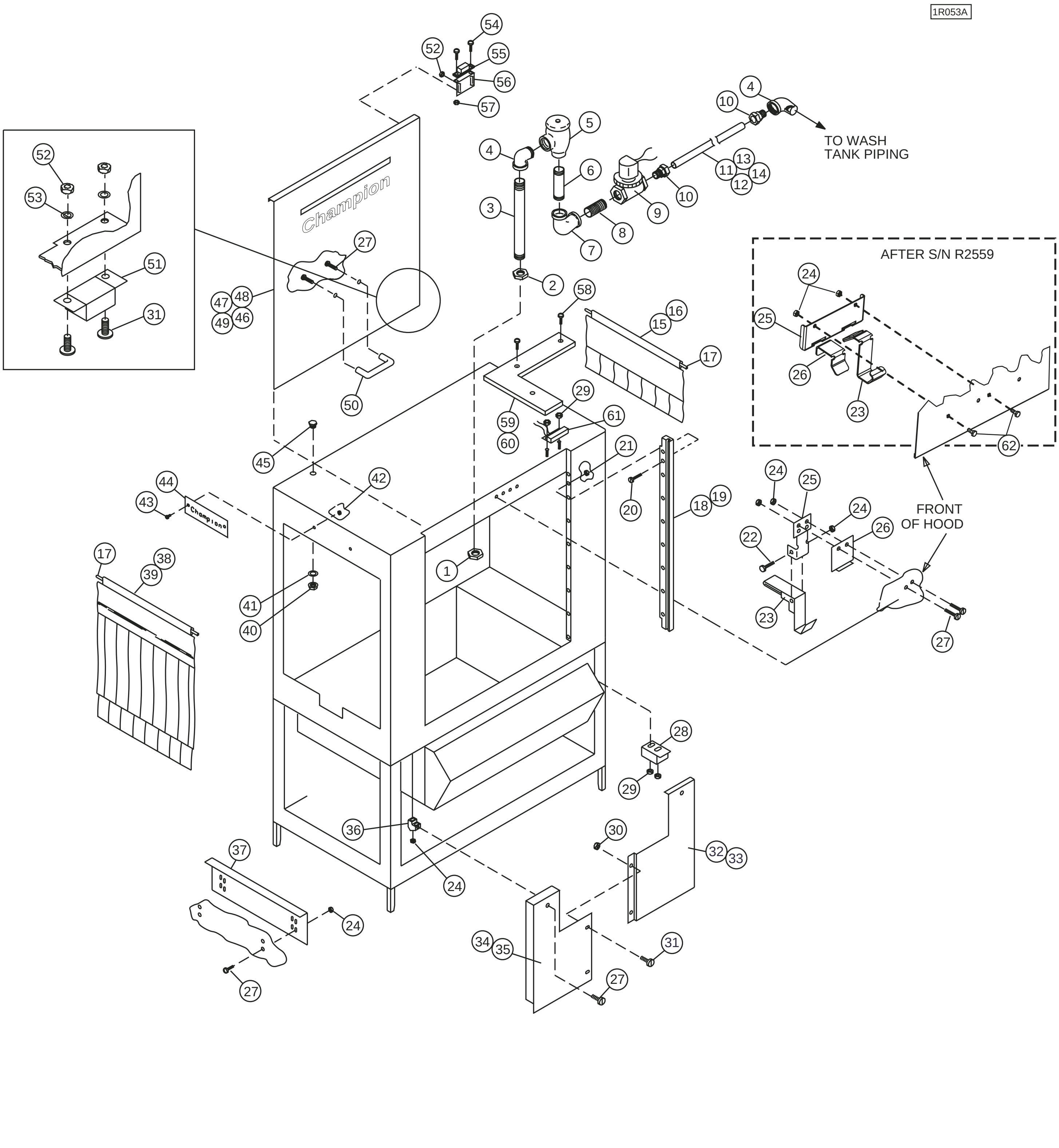


**Figure 49 – Hood (PR22, PR36)**
*(For machines prior to S/N 87575)*

## HOOD (PR22, PR36)

*(For machines prior to S/N 87575)*

| Fig. 49 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" | 1 |
| — | 108349 | Repair kit, 1/4" & 1/2" vacuum breaker | 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 |
| 9 | 109885 | Valve, solenoid 1/4" | 1 |
| — | 111172 | Repair kit, solenoid valve (1/4" NPT) | 1 |
| — | 111469 | Replacement coil, solenoid valve (1/4" NPT) (120V coil) | 1 |
| 10 | 109909 | Fitting, compression (1/4 NPT x 1/2") | 2 |
| 11 | 107315 | Tubing, copper (1/2" O.D.) (44KB, 44WS, KL44) w/PR36 | A/R |
| 12 | 107315 | Tubing, copper (1/2" O.D.) (54KB) w/PR36 | A/R |
| 13 | 107315 | Tubing, copper (1/2" O.D.) (44KB, 44WS, KL44) w/PR22 | A/R |
| 14 | 107315 | Tubing, copper (1/2" O.D.) (54KB) w/PR22 | A/R |
| 15 | 108043 | Curtain, center (Standard) | 1 |
| 16 | 109589 | Curtain, center (High-Hood) | 1 |
| 17 | 108250 | Rod, curtain | 2 |
| 18 | 110691 | Guide, door (Standard) | 2 |
| 19 | 110692 | Guide, door (High-Hood) | 2 |
| 20 | 107970 | Screw (8-32 x 1") Fillister hd | 14 |
| 21 | 107965 | Nut, grip (8-32) w/Nylon insert | 14 |
| 22 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 10 |
| 23 | 317344 | Hook, door catch (Prior to S/N R2558) | 1 |
| — | 325921 | Hook, door stop/catch combo (After S/N R2559) | 1 |
| 24 | 100141 | Nut, grip (1/4-20) | 6 |
| 25 | 317345 | Bracket, door catch (Prior to S/N R2558) | 1 |
| — | 325920 | Bracket, door stop/catch combo (After S/N R2559) | 1 |
| 26 | 313359 | Door stop (Prior to S/N R2558) | 1 |
| — | 325922 | Stop door stop/catch combo (After S/N R2559) | 1 |
| 27 | 100073 | Screw, 1/4-20 x 1/2" Truss Hd | 10 |
| 28 | 113721 | Switch Reed Aleph (PR22) | 1 |
| 29 | 108954 | Nut, grip (6-32) w/Nylon insert | 2 |
| 30 | 107966 | Nut, grip (10-32) w/Nylon insert | 4 |
| 31 | 100007 | Screw, (10-32 x 3/8") Truss Hd | 4 |
| 32 | 313698 | Panel, front RH (PR22) | 1 |
| 33 | 313968 | Panel, front RH (PR36) | 1 |
| 34 | 311302 | Panel, front LH (PR22) | 1 |
| 35 | 313967 | Panel, front LH (PR36) | 1 |
| 36 | 108578 | Bracket, panel | 2 |
| 37 | 312863 | Table flange | 1 |
| 38 | 108042 | Curtain, end (Standard) | 1 |
| 39 | 109588 | Curtain, end (High-Hood) | 1 |
| 40 | 110856 | Nut (1/4" NPT) Plug | 1 |
| 41 | 110750 | Gasket 1/4" | 1 |

## HOOD (PR22, PR36) (Cont.)
*(For machines prior to S/N 87575)*

| Fig. 49 Item No. | Part No. | Part Descrption | Qty. |
|---|---|---|---|
| 42 | 107016 | Nut, grip (440) w/Nylon insert | 2 |
| 43 | 107015 | Screw (440 x 1/4") Round hd | 2 |
| 44 | 109158 | Nameplate, “Champion” | 1 |
| 45 | 110855 | Plug (1/4" NPT) | 1 |
| 46 | 316991 | Door (14") Standard (PR22) | 1 |
| 47 | 317009 | Door (14") High-Hood (PR22) | 1 |
| 48 | 316992 | Door (24") Standard (PR36) | 1 |
| 49 | 316990 | Door (24") High-Hood (PR36) | 1 |
| 50 | 108966 | Handle, door | 1 |
| 51 | 111026 | Magnet, reed switch | 1 |
| 52 | 100194 | Nut,grip (10-32) | 2 |
| 53 | 106486 | Washer, lock (#10) Split | 2 |
| 54 | 106382 | Screw, 6-32 x 3/8" Truss Hd (PR36) | 2 |
| 55 | 111026 | Magnet, Reed Switch (PR36) | 1 |
| 56 | 317125 | Bracket, magnet (PR36) | 1 |
| 57 | 104971 | Nut, grip 6-32 (PR36) | 2 |
| 58 | 100212 | Screw, 10-32 x 3/4" Truss Hd | 3 |
| 59 | 317124 | Chaseway, reed switch (PR36 w/ 44KB, KL44. 44WS) | 1 |
| 60 | 317126 | Chaseway, reed switch (PR36 w/ 54KB) | 1 |
| 61 | 113721 | Reed Switch Aleph (PR36) | 1 |
| 62 | 100735 | Bolt (1/4-20 x 5/8) Hex Head | 2 |
| — | 403563 | Piping Assy, fill (includes item - 1-10) | A/R |
| — | 108618 | Gasket, hood | 1 |

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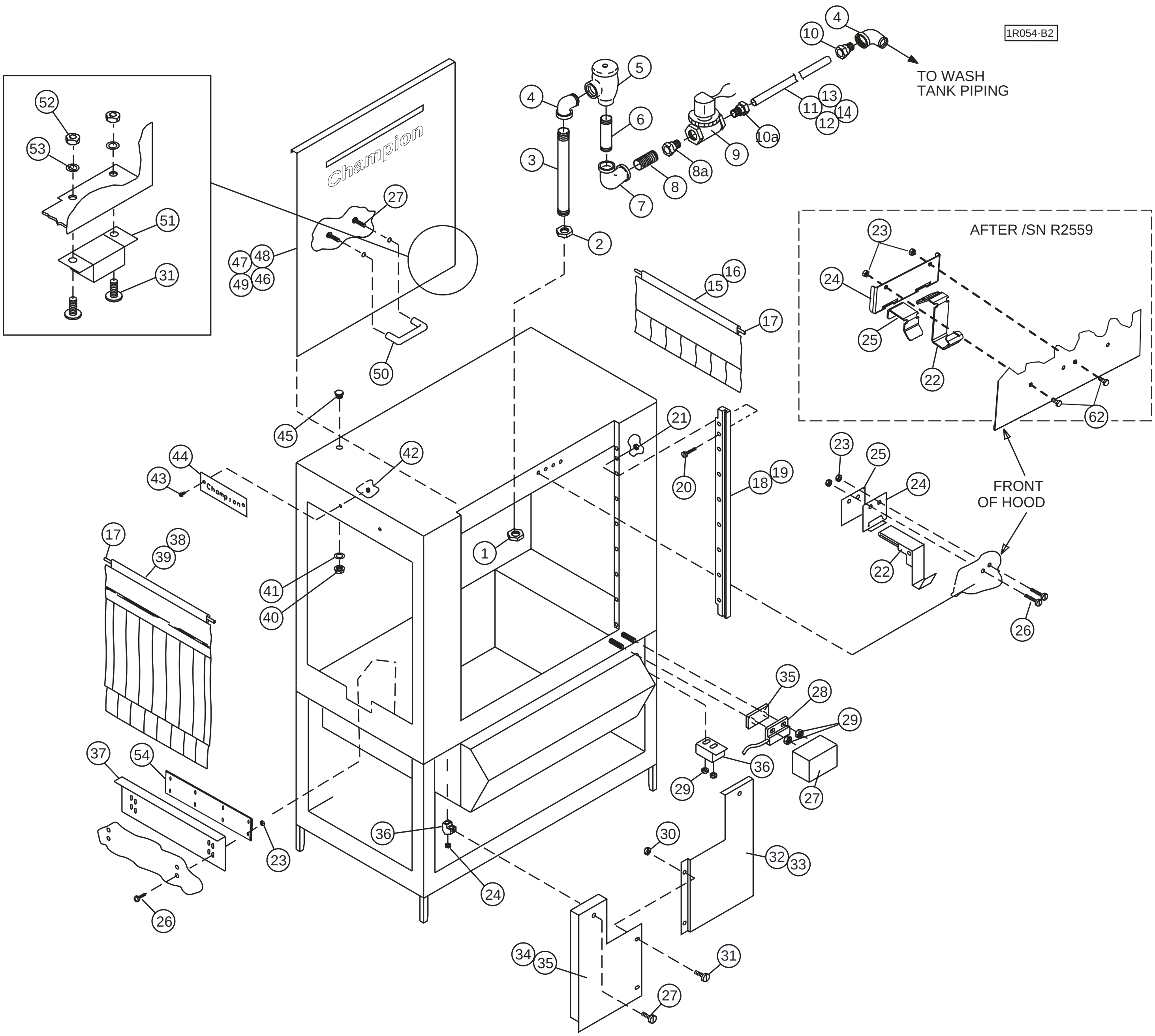


**Figure 50 – Hood (PR22, PR36)**
*(For machines beginning with S/N 87575 and above)*

## HOOD (PR22, PR36)

*(For machines beginning with S/N 87575 and above)*

| Fig. 50 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 (Prior to S/N R2435) | 1 |
| 8 | 100947 | Nipple, close 1/4 NPT Brass (Not Shown) (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" (Prior to S/N R2435) | 1 |
| — | 111172 | Repair kit, solenoid valve (1/4" NPT) | 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 OD x 1/2 MPT Brass (After S/N R2441) | 1 |
| 11 | 107315 | Tubing, copper (1/2" O.D.) (44KB, 44WS, KL44) w/PR36 | A/R |
| 12 | 107315 | Tubing, copper (1/2" O.D.) (54KB) w/PR36 | A/R |
| 13 | 107315 | Tubing, copper (1/2" O.D.) (44KB, 44WS, KL44) w/PR22 | A/R |
| 14 | 107315 | Tubing, copper (1/2" O.D.) (54KB) w/PR22 | A/R |
| 15 | 108043 | Curtain, center (Standard) | 1 |
| 16 | 109589 | Curtain, center (High-Hood) | 1 |
| 17 | 108250 | Rod, curtain | 2 |
| 18 | 110691 | Guide, door (Standard) | 2 |
| 19 | 110692 | Guide, door (High-Hood) | 2 |
| 20 | 107970 | Screw (8-32 x 1") Fillister hd | 14 |
| 21 | 107965 | Nut, grip (8-32) w/Nylon insert | 14 |
| 22 | 317344 | Hook, door catch (Prior to S/N R2558) | 1 |
| — | 325921 | Hook, door stop/catch combo (After S/N R2559) | 1 |
| 23 | 100141 | Nut, grip (1/4-20) | 6 |
| 24 | 317345 | Bracket, door catch (Prior to S/N R2558) | 1 |
| — | 325920 | Bracket, door stop/catch combo (After S/N R2559) | 1 |
| 25 | 313359 | Door stop (Prior to S/N R2558) | 1 |
| — | 325922 | Stop door stop/catch combo (After S/N R2559) | 1 |
| 26 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 10 |
| 27 | 319991-2 | Cover, door switch (PR36) | 1 |
| 28 | 113721 | Reed Switch Aleph | 1 |
| 29 | 108954 | Nut, grip (6-32) w/Nylon insert | 6 |
| 30 | 107966 | Nut, grip (10-32) w/Nylon insert | 4 |
| 31 | 100007 | Screw (10-32 x 3/8") Truss hd | 4 |
| 32 | 313698 | Panel, front RH(PR22, PR36) | 1 |
| 33 | 311302 | Panel, front RH(PR22) | 1 |

## HOOD (PR22, PR36) (Cont.)

*(For machines beginning with S/N 87575 and above)*

| Fig. 50 Item No. | Part No. | Part Descrption | Qty. |
|---|---|---|---|
| 34 | 313967 | Panel, front LH(PR36) | 1 |
| 35 | 319993 | Back plate, door switch (PR36) | 1 |
| 36 | 108578 | Bracket, panel | 2 |
| 37 | 317690 | Table flange (Prior to S/N R2207) | 1 |
| 37 | 325492 | Table Flange (KL44, 44KB, 44WS) (After S/N R2208 | 2 |
| 38 | 108042 | Curtain, end (Standard) | 1 |
| 39 | 109588 | Curtain, end (High-Hood) | 1 |
| 40 | 110856 | Nut (1/4" NPT) Plug | 1 |
| 41 | 110750 | Gasket 1/4" | 1 |
| 42 | 107016 | Nut, grip (440) w/Nylon insert | 2 |
| 43 | 107015 | Screw (440 x 1/4") Round hd | 2 |
| 44 | 109158 | Nameplate, “Champion” | 1 |
| 45 | 110855 | Plug (1/4" NPT) | 1 |
| 46 | 316991 | Door (14") Standard (PR22) | 1 |
| 47 | 317009 | Door (14") High-Hood (PR22) | 1 |
| 48 | 316992 | Door (24") Standard (PR36) | 1 |
| 49 | 316990 | Door (24") High-Hood (PR36) | 1 |
| 50 | 108966 | Handle, door | 1 |
| 51 | 111026 | Magnet, reed switch | 1 |
| 52 | 100194 | Nut,grip (10-32) | 2 |
| 53 | 106486 | Washer, lock (#10) Split | 2 |
| 54 | 111478 | Bolt (10-32 x 1/2" hex) w/Loctite | 1 |
| 55 | 325667 | Track Stiffener | 2 |
| 55 | 100735 | Bolt (1/4-20 x 5/8) Hex Head | 2 |
| — | 403563 | Piping Assy, fill (includes item - 1-10) | A/R |
| — | 108618 | Gasket, hood | 1 |
| **— | 900836 | Kit * Repair 1/2 Vacuum Breaker (includes one each of 108349, 113, 219, and 113221) | |

* 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 range for correct 1/4" valve.

** Kit 900836 was 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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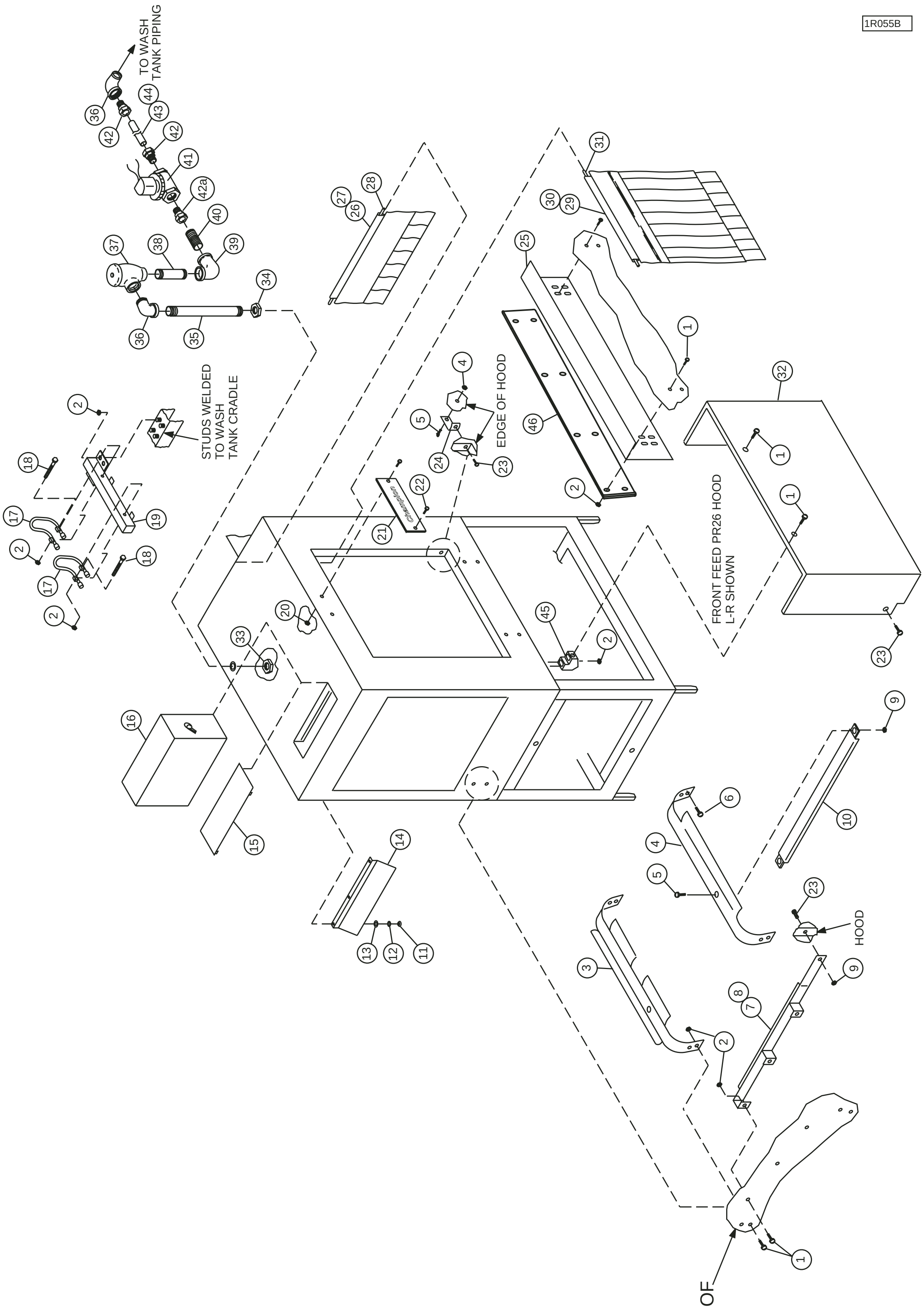


**Figure 51 – Hood (FFPR26)**
*(All S/N's)*

## HOOD (FFPR26)
*(ALL S/N'S)*

| Fig. 51 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 | 312863 | Table flange (For machines prior to S/N 87575) | 1 |
| — | 317690 | Table flange (For machines beginning with S/N 87575 thru R2207) | 1 |
| 25 | 325942 | Table flange (KL44, 44KB, 44WS) (After S/N R2208) | 2 |
| 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 | Repair Kit, 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 (Prior to S/N R2436) | 1 |
| 40 | 100947 | Nipple, close 1/4" NPT (After S/N R2436) | 1 |
| 40a | 102388 | Bushing, reducing (1/2 x 1/4 NPT) (After S/N R2436) | 1 |
| *— | 900836 | Kit* Repair, 1/2" Vacuum Breaker<br>(Includes one each of 108349, 113219 and 113221) | |

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

## HOOD (FFPR26) (Cont.)

*(ALL S/N'S)*

| Fig. 51 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| *41 | 109885 | Valve, solenoid (1/4 NPT) (Prior to S/N R2436) | 1 |
| — | 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 R2436) | 1 |
| — | 113392 | Repair kit (1/2") Solenoid Valve | 1 |
| — | 113357 | Replacement Coil (120V) | 1 |
| 42 | 109909 | Fitting, compression (1/4 NPT x 1/2" O.D.) | 1 |
| 42a | 109909 | Fitting, compression 1/4 NPT x 1/2" (Prior to S/N R2435) | 1 |
| 42a | 111250 | Fitting, compression 1/2 OD x 1/2 MPT Brass (After S/N R2436) | 1 |
| 43 | 107315 | Tubing, copper (1/2" O.D.) (44KB, 44WS, KL44) | A/R |
| 44 | 107315 | Tubing, copper (1/2" O.D.) (54KB) | A/R |
| 45 | 108578 | Bracket, panel | 2 |
| — | 108618 | Gasket, hood | A/R |
| — | 403563 | Piping Assy Fill (includes items – 33 thru 42) | 1 |
| 46 | 325667 | Track Stiffener | 2 |

*Between serial number range R2289 and R2435 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.

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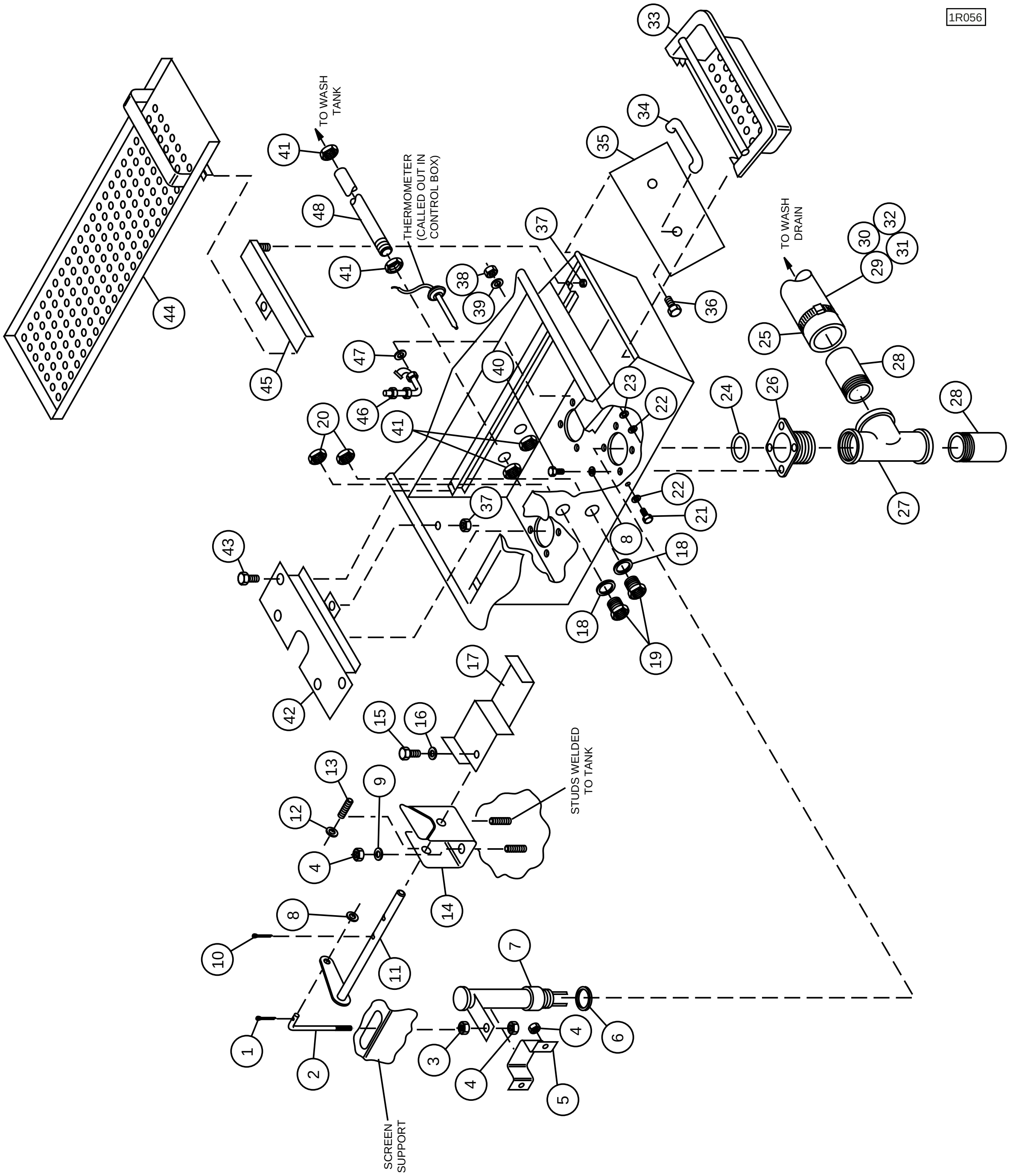



**Figure 52 – Tank  (PR22)**
*(For machines beginning with S/N 84565 and above)*

## TANK (PR22)

*(For machines beginning with S/N 84565 and above)*

| Fig. 52 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 | 314294 | 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, L-R (44KB, 44WS, KL44) | 1 |
| 30 | 204980 | Hose, drain, L-R (54KB) | 1 |
| 31 | 204973 | Hose, drain, R-L (44KB, 44WS, KL44) | 1 |
| 32 | 204977 | Hose, drain, R-L (54KB) | 1 |
| 33 | 311272 | Scrap basket | 1 |
| 34 | 108966 | Handle, cover | 1 |
| 35 | 305706 | Cover, scrap basket (Prior to S/N 86395) | 1 |
| — | 320988 | Cover, scrap basket (Beginning with S/N 86395) | 1 |
| 36 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 2 |
| 37 | 100194 | Nut, grip (10-32) | 4 |
| 38 | 104584 | Nut, plain (1/2-13) | 1 |
| 39 | 104882 | Washer, flat (1/2") | 1 |
| 40 | 100735 | Bolt (1/4-20 x 5/8") Hex hd | 4 |
| 41 | 100547 | Locknut (1/2 NPT) SST | 5 |
| 42 | 311628 | Screen support rear | 1 |
| 43 | 100097 | Screw (10-32 x 1/2") Truss hd. | 2 |
| 44 | 305763 | Scrap screen | 1 |
| 45 | 312649 | Screen support, front | 1 |
| 46 | 110854 | Float switch | 1 |
| — | 111151 | C-clip (2 per float switch) | 2 |
| 47 | 110750 | Gasket, float switch | 1 |
| 48 | 204533 | Nipple, crossflow (1/2 NPT x 13-1/2" SST) | 1 |
| — | 408213 | Drain Mechanism Assy (Includes items 10-17) | 1 |

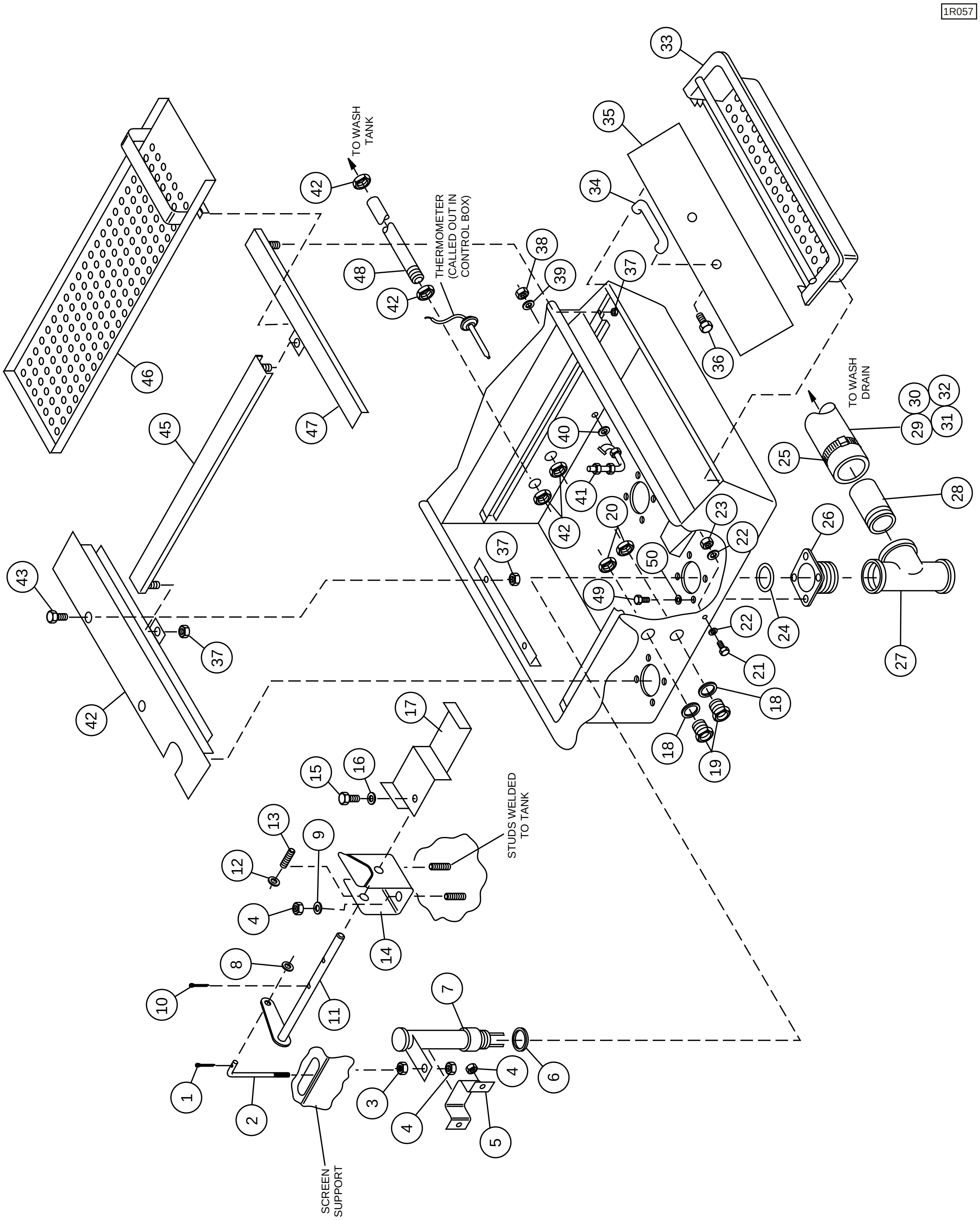



**Figure 53 – Tank (PR36)**
*(For machines beginning with S/N 84565 and above)*

## TANK (PR36)

*(For machines beginning with S/N 84565 and above)*

| Fig. 53 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 | 314294 | 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 (l/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, tee (1-1/4 NPT x 2") Galvanized | 1 |
| 29 | 111117 | Hose, drain, L-R (44KB, 44WS, KL44) | 5 ft. |
| 30 | 111117 | Hose, drain, L-R (54KB) | 5 ft. |
| 31 | 111117 | Hose, drain, R-L (44KB, 44WS, KL44) | 3 ft. |
| 32 | 111117 | Hose, drain, R-L (54KB) | 4 ft. |
| 33 | 311273 | Scrap basket | 1 |
| 34 | 108966 | Handle, cover | 1 |
| 35 | 305720 | Cover, scrap basket | 1 |
| 36 | 100073 | Screw (1/4-20 x 1/2") Truss hd | 2 |
| 37 | 100194 | Nut, grip (10-32) | 4 |
| 38 | 104584 | Nut, plain (1/2-13) | 1 |
| 39 | 104882 | Washer, flat (1/2") | 1 |
| 40 | 110750 | Gasket, flat switch | 1 |
| 41 | 110854 | Float switch | 1 |
| — | 111151 | C-clip (2 per float switch) | 2 |
| 42 | 100547 | Locknut (1/2 NPT) SST | 5 |
| 43 | 313811 | Screen support, rear | 1 |
| 44 | 100097 | Screw (10-32 x 1/2") Truss hd | 2 |
| 45 | 306910 | Screen support, Center | 1 |
| 46 | 305783 | Scrap screen | 2 |
| 47 | 313959 | Screen support, front | 1 |
| 48 | 204539 | Nipple, crossflow (1/2 NPT x 14-1/2") SST | 1 |
| 49 | 100735 | Bolt (1/4-20 X 5/8") Hex hd | 4 |
| 50 | 106026 | Washer, flat (1/4") | 4 |

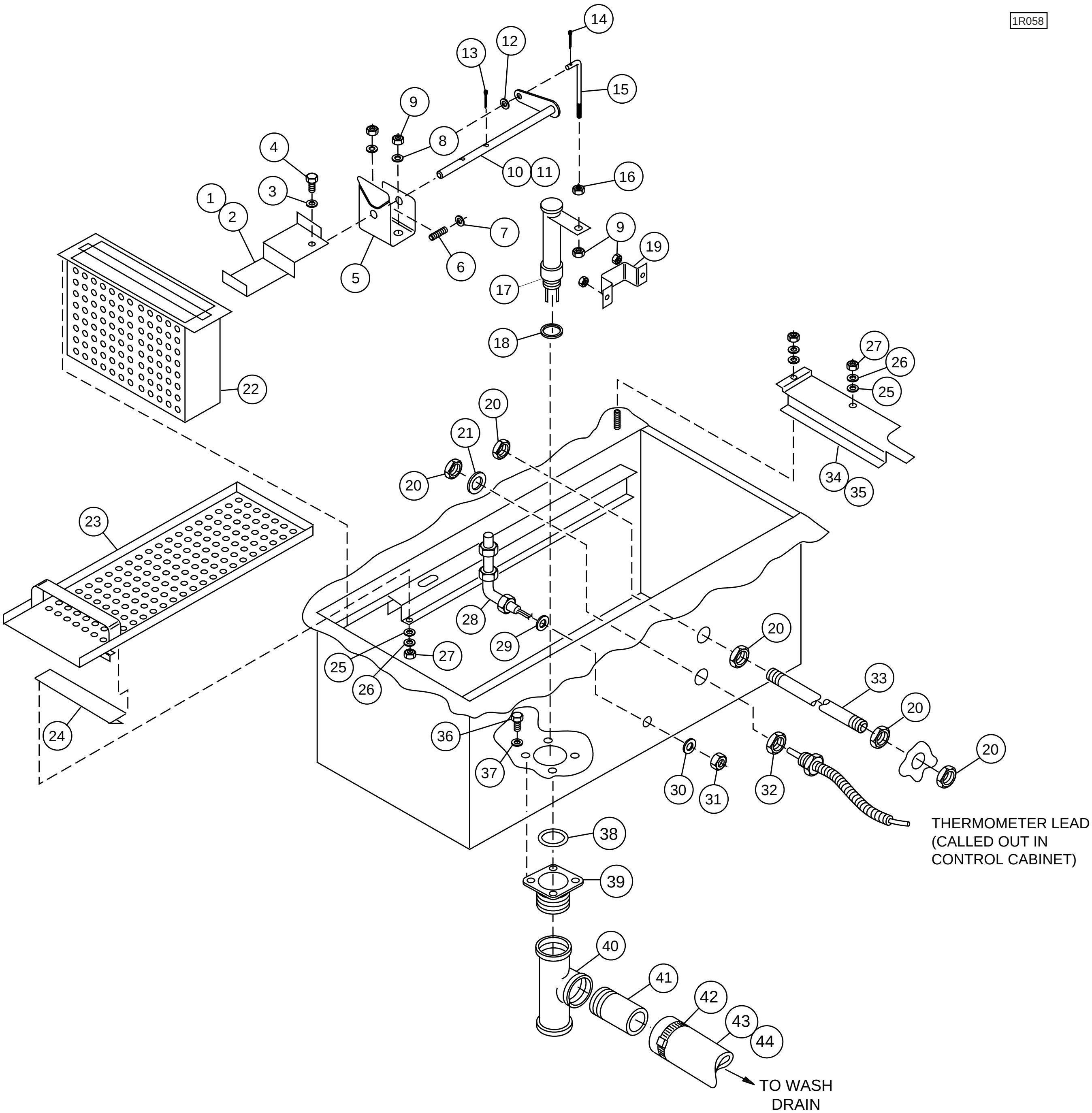



**Figure 54 – Tank (FFPR26)**
*(For machines beginning with S/N 84565 and above)*

## TANK (FFPR26)

*(For machines beginning with S/N 84565 and above)*

| Fig. 54 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 (#l0) 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 (l-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 |

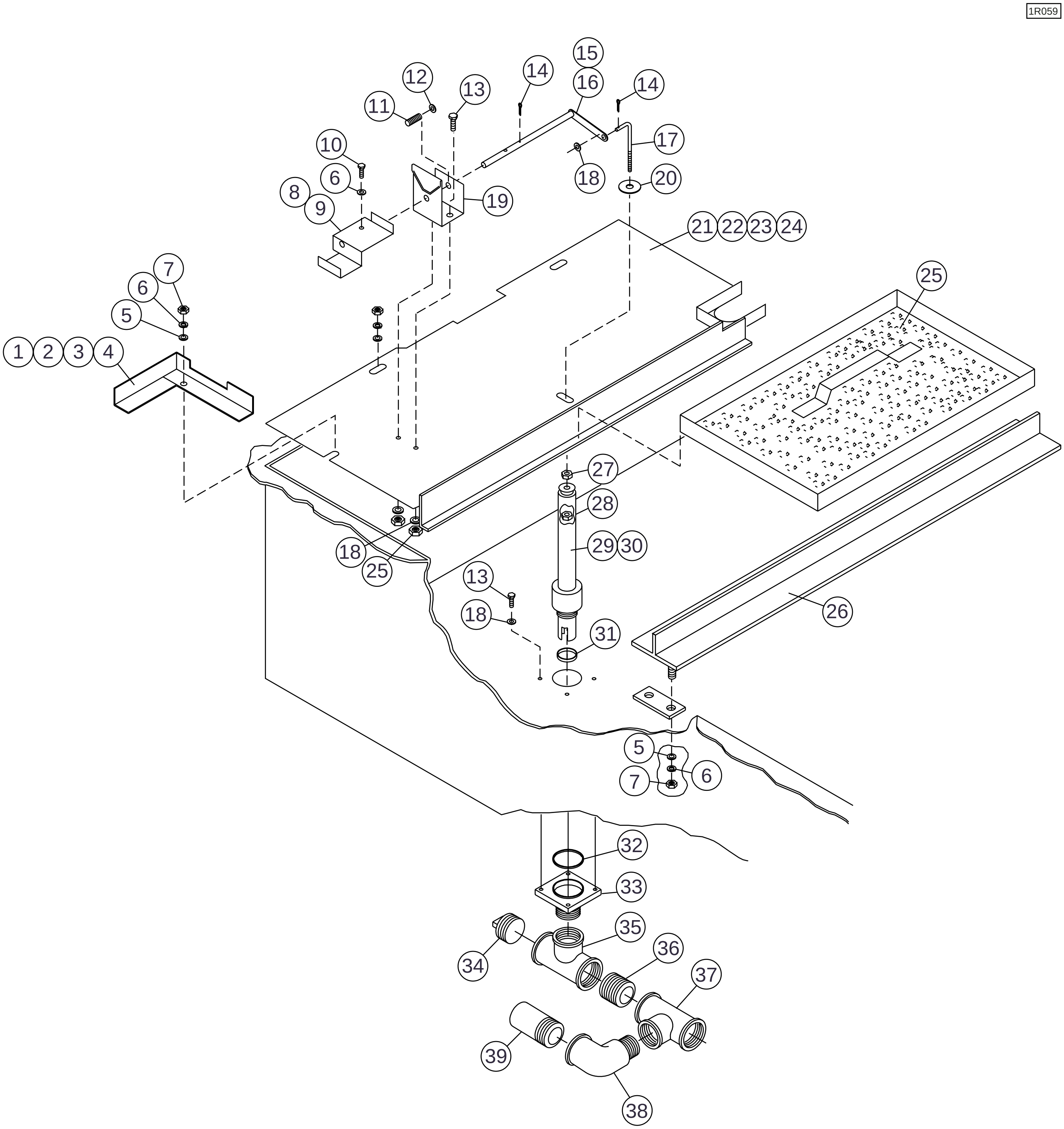



**Figure 55 – Drain Unit and Screens**
**Wash Tank**
*(For machines beginning with S/N 84565 and above)*

## DRAIN UNIT AND SCREENS
## WASH TANK
*(For machines beginning with S/N 84565 and above)*

| Fig. 55 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 317037 | Baffle, water, R-L (44KB) | 1 |
| 1 | 325159 | Baffle, water, R-L (44KB, 44WS) (After S/N R1690) | 1 |
| 2 | 317036 | Baffle, water, L-R (44KB) | 1 |
| 2 | 325160 | Baffle, water, L-R (KL44, 44KB, 44WS) (After S/N R1719) | 1 |
| 3 | 317039 | Baffle, water, R-L (54KB) | 1 |
| 3 | 325159 | Baffle, water, R-L (54KB) (After S/N R2127) | 1 |
| 4 | 317038 | Baffle, water, L-R (54KB) | 1 |
| 4 | 325160 | Baffle, water, L-R (54KB) (After S/N R2074) | 1 |
| 5 | 107033 | Washer, flat (#10) | 7 |
| 6 | 106486 | Washer, lock (#10) Split | 8 |
| 7 | 104985 | Nut, plain (10-32) | 7 |
| 8 | 316554-1 | Drain lever (R-L) | 1 |
| 9 | 316554-2 | Drain lever (L-R) | 1 |
| 10 | 111478 | Bolt (10-32 x 1/2") Hex hd | 1 |
| 11 | 111391 | Spring, overflow lift | 1 |
| 12 | 102376 | Washer, flat (5/16") | 1 |
| 13 | 100735 | Bolt (1/4-20 x 5/8") Hex hd | 6 |
| 14 | 108875 | Cotter pin (3/32" x 1/2") | 2 |
| 15 | 317051 | Lift arm, (R-L) | 1 |
| 16 | 317050 | Lift arm, (L-R) | 1 |
| 17 | 205080 | Lift rod, overflow | 1 |
| 18 | 106026 | Washer, flat (1/4") | 7 |
| 19 | 316552 | Latch bracket | 1 |
| 20 | 102376 | Washer, lift rod | 1 |
| 21 | 317041 | Support, drain/Screen-R-L (44KB,KL44,44WS) | 1 |
| 22 | 317040 | Support, drain/Screen-L-R (44KB,KL44,44WS) | 1 |
| 23 | 317043 | Support, drain/Screen-R-L (54KB) | 1 |
| 24 | 317042 | Support, drain/Screen-L-R (54KB) | 1 |
| 25 | 305164 | Screen. | 6 |
| 26 | 305163 | Support, screen | 2 |
| 27 | 107967 | Nut, grip (1/4-20) w/nylon insert | 1 |
| 28 | 100141 | Nut, grip (1/4-20) | 1 |
| 29 | 314463 | Overflow (7") (44KB, KL44, 44WS) | 1 |
| 30 | 314457 | Overflow (7-1/2") (54 KB) | 1 |
| 31 | 111532 | O-ring, overflow | 1 |
| 32 | 112257 | O-ring | 1 |
| 33 | 111034 | Drain body | 1 |
| 34 | 100579 | Pipe plug (1-1/4 NPT) Galvanized | 1 |
| 35 | 111059 | Tee (1-1/4" NPT x 1-1/4" NPT x 1-1/2" NPT) | 1 |
| 36 | 101062 | Nipple close 1 1/4" NPT galvanized | 1 |
| 37 | 111655 | Tee red (1-1/4" NPT x 1-1/4"NPT x 1" NPT) | 1 |
| 38 | 111656 | Elbow street 1" NPT galvanized | 1 |
| 39 | 204383 | Nipple toe 1" NPT x 2" galvanized | 1 |

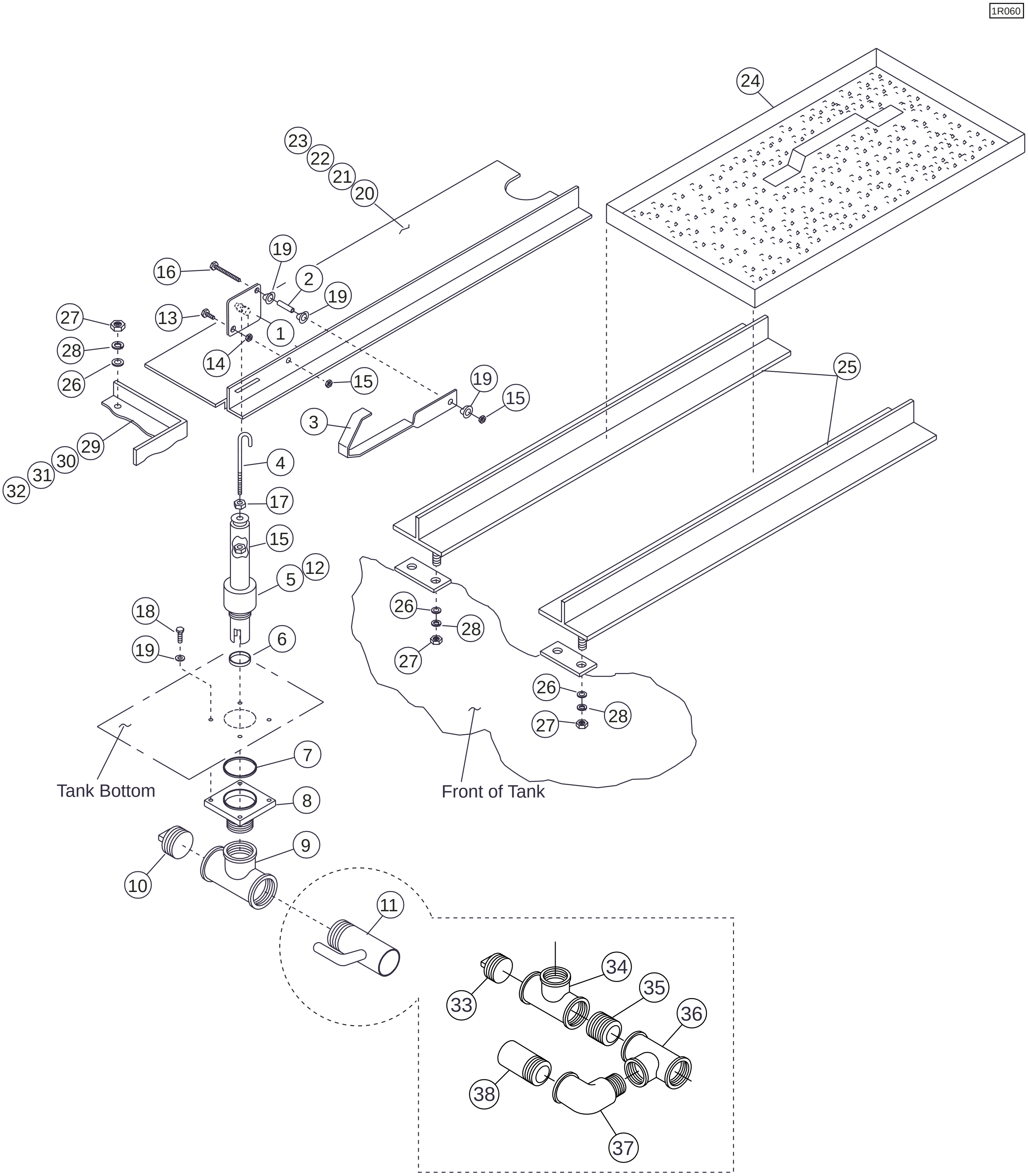


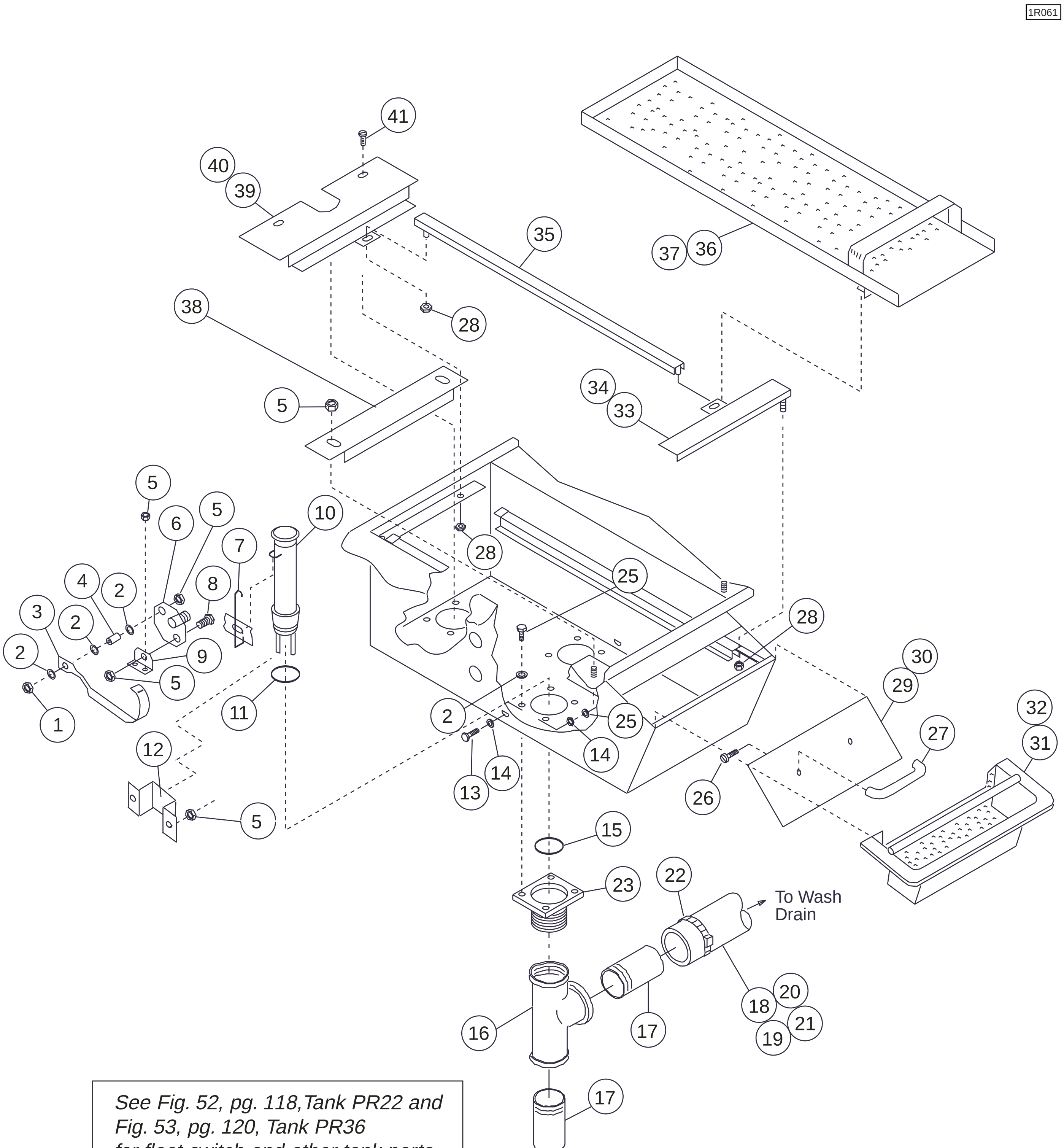

**Figure 56 – Drain Unit and Screens**
**Wash Tank**
*(For machines beginning with S/N 80677 thru S/N 84565)*

## DRAIN UNIT AND SCREENS
## WASH TANK
*(For machines beginning with S/N 80677 thru 84565)*

| Fig. 56 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 314118 | Cam | 1 |
| 2 | 111441 | Spacer (9/32 x 1-3/4" | 1 |
| 3 | 314112 | Lever, drain | 1 |
| 4 | 315177 | Lift rod, overflow | 1 |
| 5 | 314463 | Overflow (7") (44KB, KL44, 44WS) | 1 |
| 6 | 111532 | O-ring, overflow | 1 |
| 7 | 112257 | O-ring | 1 |
| 8 | 111034 | Drain body | 1 |
| 9 | 111059 | Tee 1-1/4" x 1-1/4" x 1-1/2" Galvanized | 1 |
| 10 | 100579 | Pipe, plug 1-1/4" Galvanized | 1 |
| *11 | ——— | Pipe, rinse drain off (No longer available. Use Items 33-38 listed below) | — |
| 12 | 314457 | Overflow (7-1/2") (54 KB) | 1 |
| 13 | 100736 | Bolt (1/4-20 x 3/4" Hex hd) | 1 |
| 14 | 100003 | Nut, plain 1/4-20 | 1 |
| 15 | 100141 | Nut, grip (1/4-20) | 3 |
| 16 | 106028 | Bolt (1/4-20 x 2-1/2" Hex hd) | 1 |
| 17 | 107967 | Nut grip (1/4-20 w/nylon insert) | 1 |
| 18 | 100735 | Bolt (1/4-20 x 5/8") Hex hd | 4 |
| 19 | 106026 | Washer, flat (1/4") | 7 |
| 20 | 311496 | Support, drain/Screen-R-L (44KB,KL44,44WS) | 1 |
| 21 | 311500 | Support, drain/Screen-L-R (44KB,KL44,44WS) | 1 |
| 22 | 313303 | Support, drain/Screen-R-L (54KB) | 1 |
| 23 | 313305 | Support, drain/Screen-L-R (54KB) | 1 |
| 24 | 305164 | Screen. | 6 |
| 25 | 305163 | Support, screen | 2 |
| 26 | 107033 | Washer, flat (#10) | 6 |
| 27 | 104985 | Nut, plain (10-32) | 6 |
| 28 | 106486 | Washer, lock (#10) Split | 6 |
| 29 | 314362 | Baffle, water, R-L (44KB) | 1 |
| 30 | 314363 | Baffle, water, L-R (44KB) | 1 |
| 31 | 315103 | Baffle, water, R-L (54KB) | 1 |
| 32 | 315102 | Baffle, water, L-R (54KB) | 1 |

*** NOTE:** Item 11 above is no longer available and is replaced by Items 33-38 listed below. All machines are now produced with Items 33-34 beginning with S/N 86681 above.

| | | | |
|---|---|---|---|
| 33 | 100579 | Pipe plug (1-1/4 NPT) Galvanized | 1 |
| 34 | 111059 | Tee (1-1/4" NPT x 1-1/4" NPT x 1-1/2" NPT) | 1 |
| 35 | 101062 | Nipple close 1 1/4" NPT galvanized | 1 |
| 36 | 111655 | Tee red 1 1/4" x 1 1/4" x 1" | 1 |
| 37 | 111656 | Elbow street 1" NPT galvanized | 1 |
| 38 | 204383 | Nipple toe 1 x 2 galvanized | 1 |

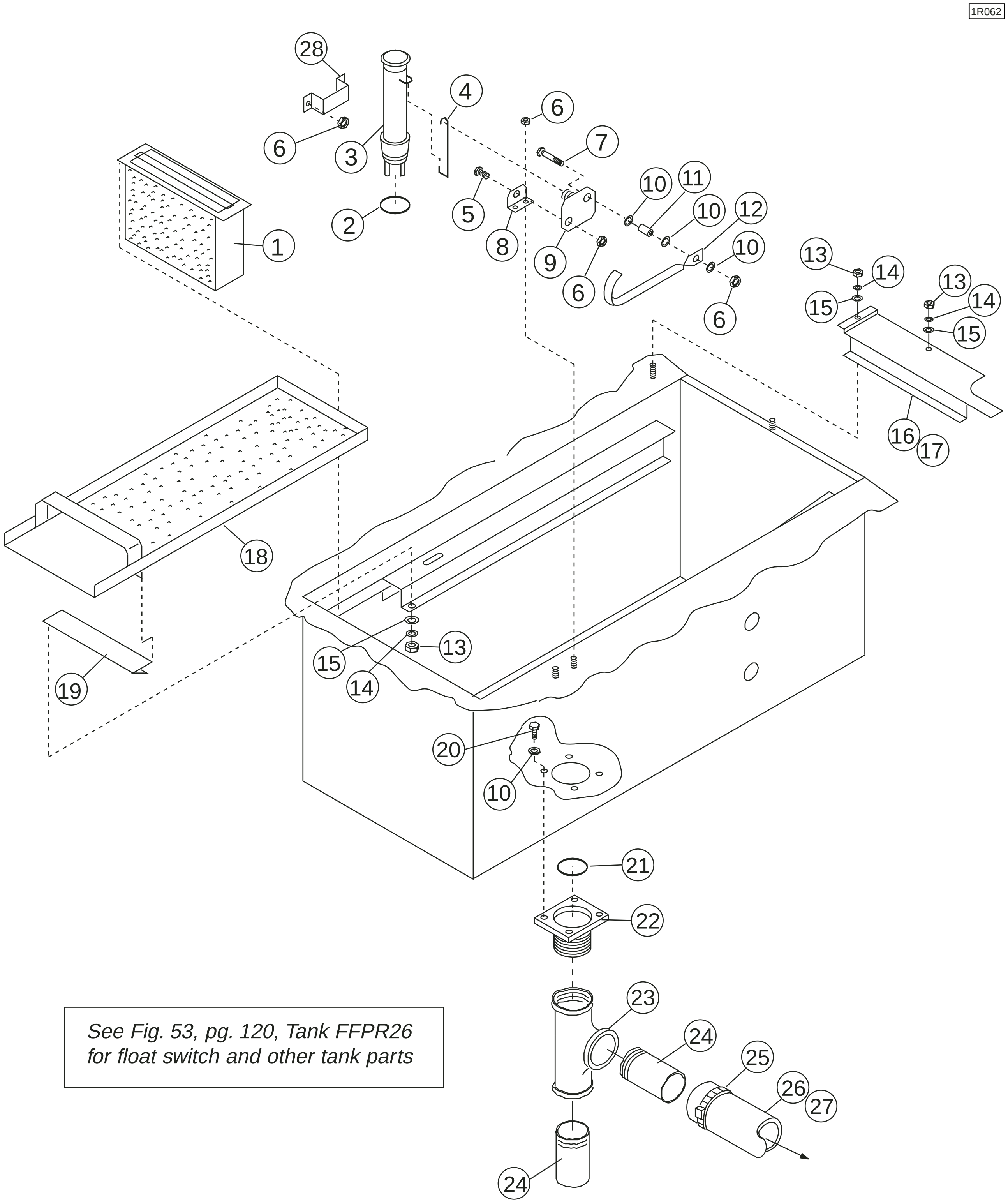



*See Fig. 52, pg. 118,Tank PR22 and Fig. 53, pg. 120, Tank PR36 for float switch and other tank parts*

**Figure 57 – Drain Unit and Screens (PR22, PR36)**
*(For machines beginning with S/N 80677 thru S/N 84565)*

## DRAIN UNIT AND SCREENS
## (PR22, PR36)
*(For machines beginning with S/N 80677 thru 84565)*

| Fig. 57 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 100738 | Bolt (1-4/20 x 1" Hex Hd) | 1 |
| 2 | 106026 | Washer, flat 1/4-20 | 3 |
| 3 | 314112 | Lever, drain | 1 |
| 4 | 105186 | Spacer (9-32 x 1/2") | 1 |
| 5 | 100141 | Nut, grip (1/4-20) | 1 |
| 6 | 314118 | Cam | 1 |
| 7 | 314293 | Rod, lift | 1 |
| 8 | 100736 | Bolt (1/4-20 x 3/4" Hex Hd) | 1 |
| 9 | 314462 | Bracket, cam | 1 |
| 10 | 314117 | Overflow (5-1/2") PR22, PR36 | 1 |
| 11 | 111532 | O-ring, overflow | 1 |
| 12 | 314294 | Support, overflow | 1 |
| 13 | 106314 | Bolt (3/8-16 x 1/2" Hex Hd) | 1 |
| 14 | 104618 | Washer, flat 3/8" | 2 |
| 15 | 112257 | O-ring | 1 |
| 16 | 111060 | Tee, 1-1/2" x 1-1/4" x 1-1/4" Galvanized | 1 |
| 17 | 111113 | Nipple, TOE 1-1/4" NPT x 2" Glavanized | 2 |
| 18 | 204979 | Hose, drain (44KB, 44WS, KL44) (L-R) | 1 |
| 19 | 204980 | Hose, drain (54KB) (L-R) | 1 |
| 20 | 204973 | Hose, drain (44KB, 44WS, KL44) (R-L) | 1 |
| 21 | 204977 | Hose, drain (54KB) (R-L) | 1 |
| 22 | 107340 | Clamp, hose | 2 |
| 23 | 111034 | Drain body | 1 |
| 24 | 100143 | Nut, grip (3/8-16) | 1 |
| 25 | 100735 | Bolt (1/4-20 x 5/8" Hex hd) | 4 |
| 26 | 100073 | Screw (1/4-20 x 1/2" Truss Hd) | 2 |
| 27 | 108966 | Handle, cover | 1 |
| 28 | 100194 | Nut, grip 10-32 | 6 |
| 29 | 305720 | Cover, scrap basket (PR36) | 1 |
| 30 | 305706 | Cover, scrap basket (PR22) | 1 |
| 31 | 311723 | Basket, scrap basket (PR36) | 1 |
| 32 | 311722 | Basket, scrap basket (PR22) | 1 |
| 33 | 313959 | Support, screen front (PR36) | 1 |
| 34 | 312649 | Support, screen front (PR22) | 1 |
| 35 | 306910 | Support, screen center (PR36 Only) | 1 |
| 36 | 305783 | Screen (PR36) | 2 |
| 37 | 305763 | Screen (PR22) | 2 |
| 38 | 315096 | Support, drain lever (PR36) | 1 |
| 39 | 313811 | Support, screen rear (PR36) | 1 |
| 40 | 311628 | Support, screen rear (PR22) | 1 |
| 41 | 100097 | Screw (10-32 x 1/2" Truss Head) | 2 |




See Fig. 53, pg. 120, Tank FFPR26 for float switch and other tank parts

**Figure 58 – Drain Unit and Screens (FFPR26)**
*(For machines beginning with S/N 80677 thru S/N 84565)*

## DRAIN UNIT AND SCREENS (FFPR26)

*(For machines beginning with S/N 80677 thru 84565)*

| Fig. 58 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 314771 | Basket, scrap basket (FFPR26) | 1 |
| 2 | 111532 | O-ring, overflow | 1 |
| 3 | 314117 | Overflow (5-1/2") | 1 |
| 4 | 314293 | Rod, lift | 1 |
| 5 | 100736 | Bolt (1/4-20 x 3/4" Hex Hd) | 1 |
| 6 | 100141 | Nut, grip (1/4-20) | 6 |
| 7 | 100738 | Bolt (1-4/20 x 1" Hex Hd) | 1 |
| 8 | 314462 | Bracket, cam | 1 |
| 9 | 314118 | Cam | 1 |
| 10 | 106026 | Washer, flat 1/4-20 | 7 |
| 11 | 105186 | Spacer (9-32 x 1/2") | 1 |
| 12 | 314112 | Lever, drain | 1 |
| 13 | 104985 | Nut, plain (10-32) | 4 |
| 14 | 106486 | Washer, lock #10 | 4 |
| 15 | 107033 | Washer, flat #10 | 4 |
| 16 | 314763 | Support, screen rear (L-R) | 1 |
| 17 | 314764 | Support, screen rear (R-L) | 1 |
| 18 | 305763 | Screen (FFPR26) | 2 |
| 19 | 312649 | Support, screen front (FFPR26) | 1 |
| 20 | 100735 | Bolt (1/4-20 x 5/8" Hex Hd) | 4 |
| 21 | 112257 | O-ring | 1 |
| 22 | 111034 | Drain body | 1 |
| 23 | 111060 | Tee, 1-1/2" x 1-1/4" x 1-1/4" Galvanized | 1 |
| 24 | 111113 | Nipple, TOE 1-1/4" NPT x 2" Glavanized | 2 |
| 25 | 107340 | Clamp, hose | 2 |
| 26 | 204971 | Hose, drain (44KB, 44WS, KL44) (L-R) | 1 |
| 27 | 204974 | Hose, drain (54KB) | 1 |
| 28 | 314294 | Support, overflow | 1 |

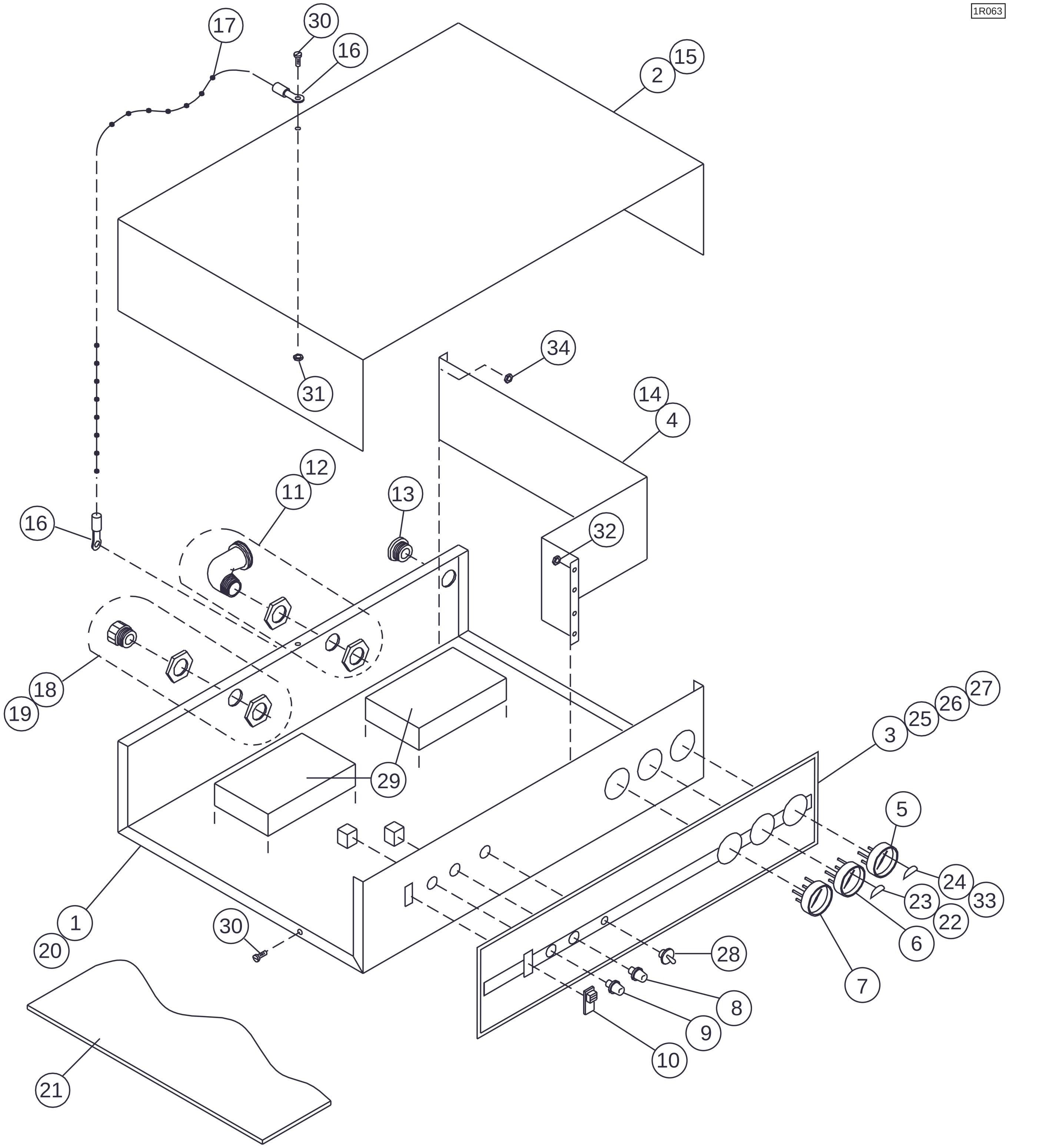



**Figure 59 – Control Cabinet**
*(For machines beginning with S/N 84000 and above)*

## CONTROL CABINET

*(For machines beginning with S/N 84000 and above)*

| Fig. 59 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 313410 | Control box 26"(44KB, 54KB, KL44, 44KPRB, 54KPRB, KL66)........ (Prior to S/N 85303) | 1 |
| 1 | 317186 | Control box 36" (44KB, 54KB, KL44, 44KPRB, 54KPRB, KL66 ........ 44WS, 66WS) (Beginning with S/N 85303 and above) | 1 |
| 2 | 304863 | Cover, control cabinet 26" (44KB, 54KB, KL44, 44KPRB, 54KPRB, KL66) (Prior to S/N 85303) .................................................. | 1 |
| 2 | 317405 | Cover, control cabinet 36" (44KB, 54KB, KL44, 44KPRB, 54KPRB, KL66) (Beginning with S/N 85303 and above) ..................... | 1 |
| 3 | 110866 | 26" Decal (44KB, 54KB, KL44) 44WS (Prior to S/N 85303) .............. | 1 |
| 4 | 305169 | Separator (44KB, 54KB, KL44, 44KPRB, 54KPRB, KL66) ................ | 1 |
| 5 | 113622 | Thermometer- 4' Gas Filled - Final Rinse (Replaces 108391) ................ | 1 |
| 6 | 107440 | Thermometer- 8' - Wash ........................................................................ | 1 |
| 7 | 107440 | Thermometer- 8' - Prewash .................................................................... | 1 |
| 8 | 900726 | Kit, Stop Pushbutton (Red) ................................................................ | 1 |
| 9 | 900725 | Kit, Start Pushbutton (Green) .............................................................. | 1 |
| 10 | 110844 | Power switch/Circuit breaker - 5A (Prior to S/N 87001) ....................... | 1 |
| — | 111980 | Power switch/Circuit Breaker- 5A (Beginning with S/N 87001) | |
| 11 | 110920 | Connector (1" x 90°) ............................................................................ | 1 |
| 12 | 100882 | Connector (1-1/4" x 90°) (44WS, 66WS) ............................................ | 1 |
| 13 | 107964 | Bushing ..................................................................................................... | 1 |
| 14 | 305300 | Separator (44WS, 66WS) ....................................................................... | 1 |
| 15 | 304864 | Cover, control cabinet (44WS) (Prior to S/N 85303) ............................. | 1 |
| 16 | 107368 | Coupling, chain end ............................................................................... | 2 |
| 17 | 107367 | Chain, bead . ........................................................................................... | 1 ft. |
| 18 | 110919 | Connector (1") ........................................................................................ | 1 |
| 19 | 100881 | Connector (1-1/4") (44WS, 66WS)......................................................... | 1 |
| 20 | 313409 | Control box 30" (44WS, 66WS) (Prior to S/N 85303) .......................... | 1 |
| 21 | 109056 | Insulation ................................................................................................. | 1 |
| 22 | 112091 | Label - Thermometer Overlay - Wash 120°F (KL44) ........................... | 1 |
| 23 | 112087 | Label - Thermometer Overlay - Wash 150° (44KB, 44WS, 54KB) ...... | 1 |
| 24 | 113644 | Label -Thermometer Overlay - Final Rinse 180°F (44KB,44WS,54KB) | 1 |
| 25 | 111340 | 30" Decal (44WS)(Prior to S/N 85303) .............................................. | 1 |
| — | 111593 | 36" Decal (44WS)(Beginning with S/N 85303 and above) .................. | 1 |
| 26 | 110867 | 30" Decal (44KPRB, 54KPRB, KL66)(Prior to S/N 85303) ................ | 1 |
| — | 111594 | 36" Decal (44KPRB, 54KPRB, KL66, 44WS, 66WS) ......................... (Beginning with S/N 85303 and above) | 1 |
| 27 | 111341 | 30" Decal (66WS)(Prior to S/N 85303) ................................................ | 1 |
| 28 | 107351 | Switch, toggle DPOT (Blower, Dryer) .................................................. | 1 |
| 29 | 111357 | Pad,vibration damping.. ........................................................................... | 2 |
| 30 | 100097 | Screw (10-32 x 1/2") Truss hd ............................................................... | 4 |
| 31 | 100194 | Nut, grip (10-32) . .................................................................................. | 2 |
| 32 | 107966 | Nut, grip (10-32) w/nylon insert .......................................................... | 2 |
| 33 | 112092 | Label, thermometer overlay - Final Rinse (KL44) ................................. | 1 |
| — | 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.) | |

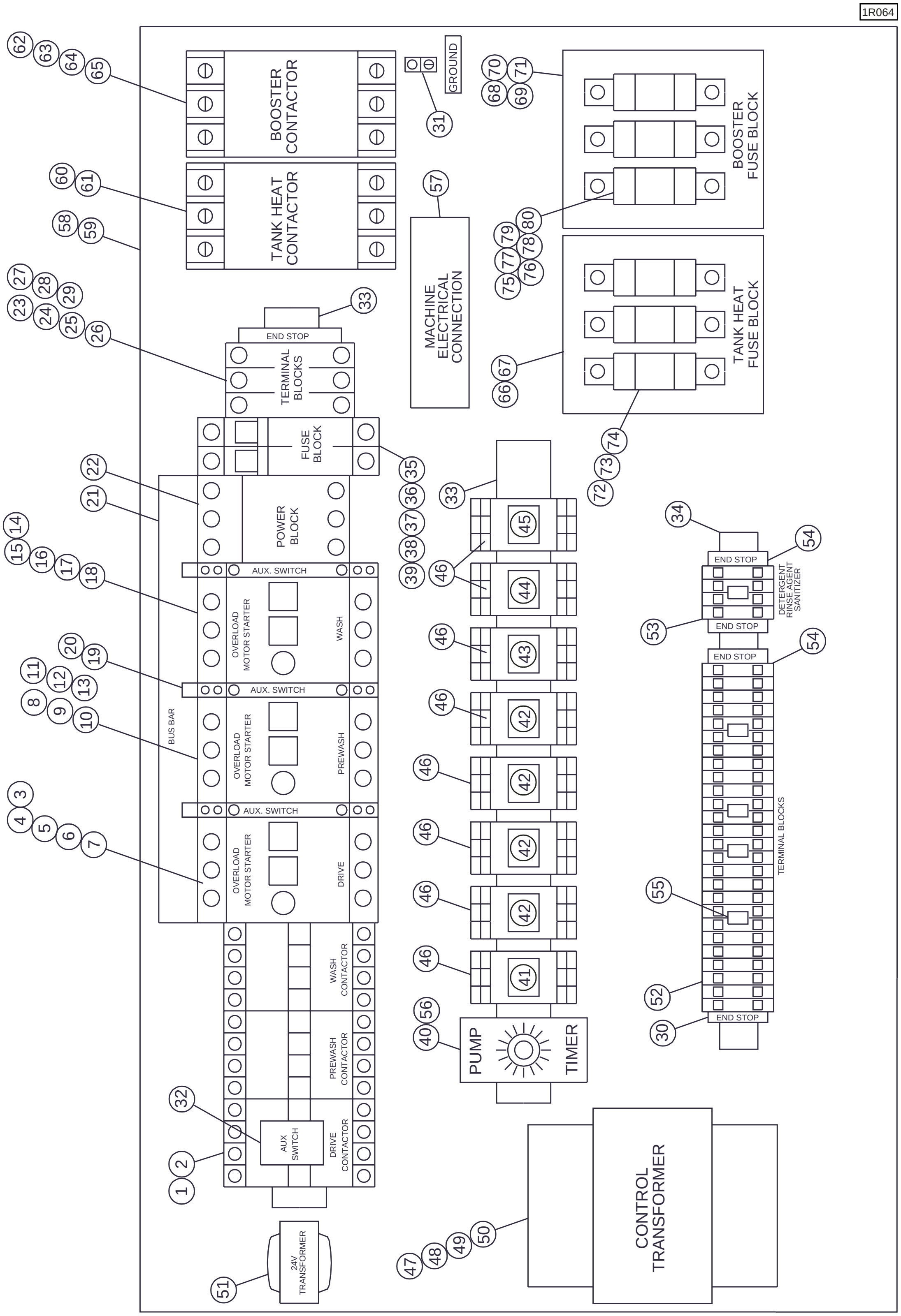



**Figure 60 – Control Panel**
*(For machines beginning with S/N 84000 thru S/N 85261)*

## CONTROL PANEL

*(For machines beginning with S/N 84000 thru S/N 85261)*

| Fig. 60 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 108122 | Contactor (Motor) 12 Amp, 3 Pole w/Aux Switch (44KB, 54KB, KL44,44WS) | 2 |
| 2 | 108122 | Contactor (Motor) 12 Amp, 3 Pole w/Aux Switch (44KPRB, 54KRPB, KL66, 66WS) | 3 |
| 3 | 110805 | Overload, Motor - 1/4HP Drive (208-240VAPH) | 1 |
| 4 | 110804 | Overload, Motor - 1/4HP Drive (208-240V/3PH) | 1 |
| 5 | 110802 | Overload, Motor - 1/4HP Drive (380V,415V/3PH) | 1 |
| 6 | 110802 | Overload, Motor - 1/4HP Drive (440-480V/3PH) | 1 |
| 7 | 110801 | Overload, Motor - 1/4HP Drive (575V/3PH) | 1 |
| 8 | 110807 | Overload, Motor - 1HP Prewash (208-240VAPH) | 1 |
| 9 | 110806 | Overload, Motor - 1HP Prewash (208V/3PH) | 1 |
| 10 | 110805 | Overload, Motor - 1HP Prewash (220-240V/3PH) | 1 |
| 11 | 110804 | Overload, Motor - 1HP Prewash (380V,415V/3PH) | 1 |
| 12 | 110804 | Ovcrload, Motor - 1HP Prewash (440-480V/3PH) | 1 |
| 13 | 110804 | Overload, Motor - 1HP Prewash (575V3PH) | 1 |
| 14 | 110809 | Overload, Motor - 2HP Wash (208-240V/lPH) | 1 |
| 15 | 110807 | Overload, Motor - 2HP Wash (208-240V/3PH) | 1 |
| 16 | 110806 | Overload, Motor - 2HP Wash (380V,415V/3PH) | 1 |
| 17 | 110805 | Overload, Motor - 2HP Wash (440-480V/3PH) | 1 |
| 18 | 110805 | Overload, Motor - 2HP Wash (575V 3PH) | 1 |
| 19 | 110811 | Auxillary contact (44KB, 54KB, KL44, 44WS) | 2 |
| 20 | 110811 | Auxillary contact (44KPRB, 54KPRB, KL66, 66WS) | 3 |
| 21 | 110812 | Bus bar - 3 Pole | 1 |
| 22 | 110813 | Block, bus bar | 1 |
| 23 | 110971 | Terminal block (208-240V1PH) | 2 |
| 24 | 110912 | Terminal block (208-240V/3PH) | 3 |
| 25 | 111229 | Terminal block (44WS, 66WS) (208-240V/3PH) | 3 |
| 26 | 110912 | Terminal block (380-415V/3PH) | 3 |
| 27 | 110912 | Terminal block (440-480V/3PH) (575V/3PH) | 3 |
| 28 | 110912 | Terminal block (44WS, 66WS) (480V/3PH) | 3 |
| 30 | 110900 | End stop | 5 |
| 31 | 103309 | Wire lug, ground | 1 |
| 32 | 108130 | Auxillary switch (Drive Contactor) KL44, KL66 | 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 (208-240V) (ATDR-6) | 2 |
| 37 | 111821 | Fuse (380V,415V) (ATDR-3) | 2 |
| 38 | 111821 | Fuse (440-480V) (ATDR-3) | 2 |
| 39 | 111115 | Fuse (575V) (ATMR-2) | 2 |
| 40 | 112351 | Timer 0-6 Min. Off Delay | 1 |
| 41 | 111068 | Relay- 120V | 1 |
| 42 | 111067 | Relay - 24V (44KB, 54KB, KL44, 44WS) | 1 |
| 43 | 111067 | Relay - 24V (44KPRB, 54KPRB, KL66, 66WS) | 5 |

## CONTROL PANEL (Cont.)
*(For machines prior to S/N 85261 thru 84000)*

| Fig. 60 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 44 | 111067 | Relay-24V (Table Limit Switch) | l |
| 45 | 111068 | Relay-120V (Booster-Electric) | 1 |
| 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 | 110862 | Terminal block | 20 |
| 53 | 110862 | Terminal block (Dispenser connections) | 4 |
| 54 | 110863 | End plate | 4 |
| 55 | 110901 | Jumper | 5 |
| 56 | 112352 | Socket, timer. | l |
| 57 | 108615 | Data plate, machine electrical connection | 1 |
| 58 | 314103 | Inner panel (Prior to S/N 85303) | 1 |
| — | 317185 | Inner panel (Beginning with S/N 85303 and above) | 1 |
| 59 | 314073 | Inner panel (44WS, 66WS) (Prior to S/N 85303) | 1 |
| — | 317185 | Inner panel (44WS, 66WS) (Beginning with S/N 85303 and above) | 1 |
| 60 | 111827 | Contactor (Heat-Electric) 60Amp 3 Pole (208-240V)(44WS, 44/54KPRB) | 1 |
| 61 | 111827 | Contactor (Heat-Electric) 60Amp 3 Pole (440-480V) (575V) | 1 |
| 62 | 111827 | Contactor (Booster-Electric 40°) 60Amp 3 Pole (208-240V) | 1 |
| 63 | 111827 | Contactor (Booster-Electric 40°) 60Amp 3 Pole (440-480V) (575V) | 1 |
| 64 | 111231 | Contactor (Booster-Electric 70°) 75Amp 3 Pole(208-240V)(44WS,66WS) | 1 |
| 65 | 111827 | Contactor (Booster-Electric 70°) 60Amp 3 Pole (440-480V)(575V) | 1 |
| 66 | 108275 | Fuse block (Heat-Electric) (208-240V) 44WS, 66WS | l |
| 67 | 106925 | Fuse block (Heat-Electric) (440-480V)(575V) 44WS, 66WS | l |
| 68 | 108275 | Fuse block (Booster-Electric 40°) (208-240V) 44WS, 66WS | 1 |
| 69 | 106925 | Fuse block (Booster-Electric 40°) (440-480V) (575V) 44WS, 66WS | 1 |
| 70 | 108424 | Fuse block (Booster-Electric 70°) (208-240V) 44WS, 66WS | 1 |
| 71 | 180171 | Fuse block (Booster-Electric 70°) (440-480V) (575V) 44WS, 66WS | 1 |
| 72 | 111230 | Fuse (OT-60) (Heat-Electric) (208-220V) 44WS, 66WS | 3 |
| 73 | 111240 | Fuse (FT-50) (Heat Electric) (220-240V) 44WS, 66WS. | 3 |
| 74 | 108517 | Fuse (ATMR-25) (Heat-Electric) (440-480V) 44WS, 66WS | 3 |
| — | 100917 | Fuse (ATMR-15) (Heat-Electric) (575V) | 3 |
| 75 | 111230 | Fuse (OT-60) (Booster-Electric 40°) (208-220V) 44WS, 66WS | 3 |
| 76 | 111240 | Fuse (OT-50) (Booster-Electric 40°) (220-240V) 44WS, 66WS | 3 |
| 77 | 108517 | Fuse (ATMR-25) (Booster-Electric 40°) (440-480V) 44WS, 66WS | 3 |
| — | 100922 | Fuse (ATMR-20) (Booster-Electric 40°) (575V) 44WS, 66WS | 3 |
| 78 | 108448 | Fuse (JJN-90) (Booster-Electric 70°) (208-220V) 44WS, 66WS. | 3 |
| 79 | 180059 | Fuse (A3T80) (Booster-Electric 70°) (220-240V) 44WS, 66WS. | 3 |
| 80 | 180173 | Fuse (A4J40) (Booster-Electric 70°) (440-480V) 44WS, 66WS | 3 |
| — | 180172 | Fuse (A4J35) (Booster-Electric 70°) (575V) 44WS, 66WS | 3 |

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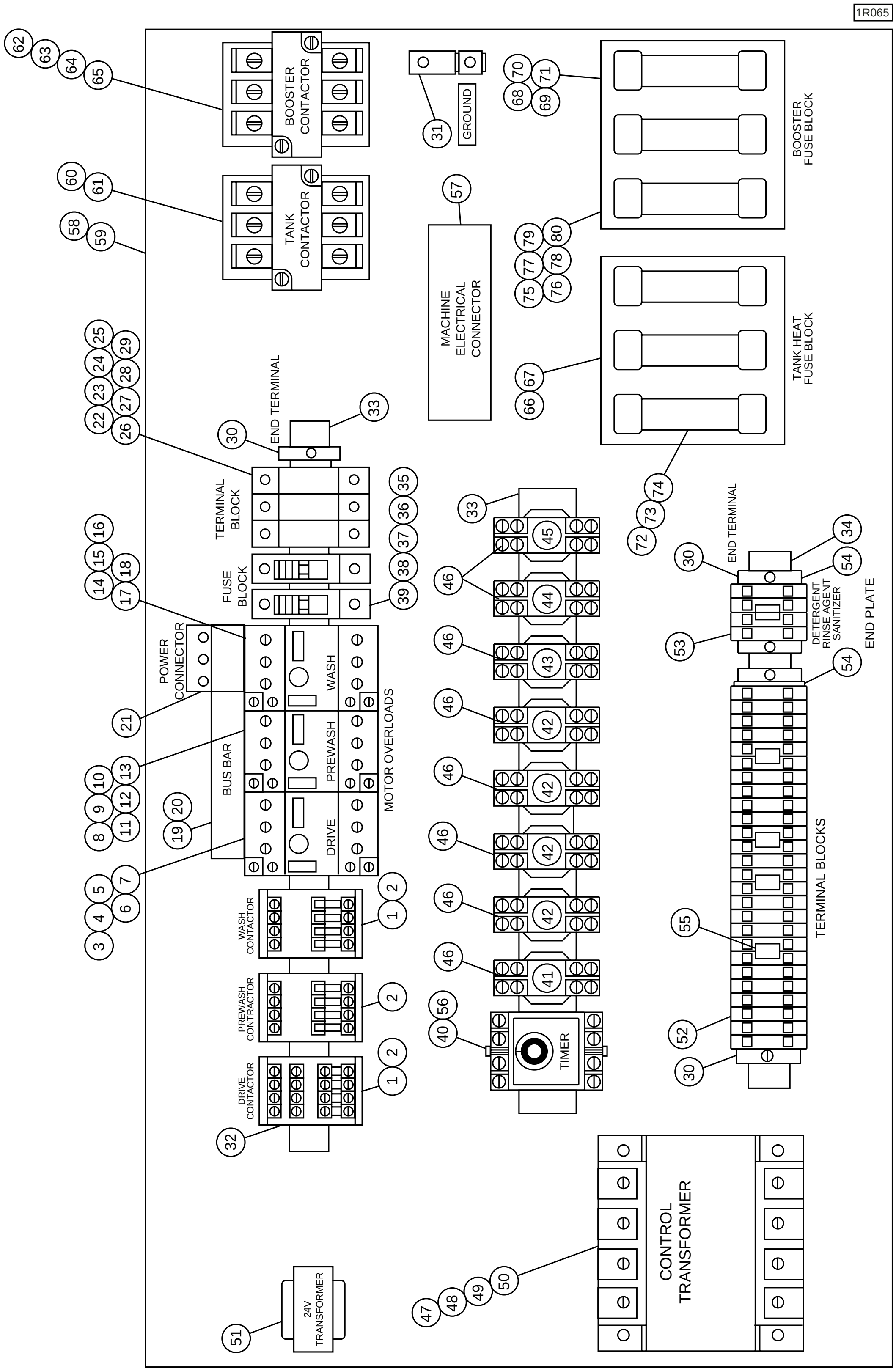


**Figure 61 – Control Panel**
*(For machines beginning with S/N 85261 thru 88502)*

## CONTROL PANEL

*(For machines beginning with S/N 85261 thru 88502)*

| Fig. 61 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 108122 | Contactor (Motor) 12 Amp, 3 Pole w/Aux Switch (44-54KB,KL44,44WS) | 2 |
| 2 | 108122 | Contactor (Motor) 12 Amp, 3 Pole w/Aux Switch (44-54KPRB,KL66,66WS) | 3 |
| 3 | 110805 | Starter Mtr OL GV2-M08 w/Aux-1/4 HP Drive (208-240V/IPH) | 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//lPH) | 1 |
| 9 | 110805 | Starter Mtr OL GV2-M08 w/Aux-1HP Prewash (208V/lPH) | 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 (208-240V/ lPH) | 1 |
| 15 | 110806 | Starter Mtr OL GV2-M10 w/Aux-2HP Wash (208-240V/3PH) | 1 |
| 16 | 110805 | Starter Mtr OL GV2-M08 w/Aux-2HP Wash (380-415V/3PH) | 1 |
| 17 | 110805 | Starter Mtr OL GV2-M08 w/Aux-2HP Wash (440-480V/3PH) | 1 |
| 18 | 110804 | Starter Mtr OL GV2-M07 w/Aux-2HP Wash (575V/3PH) | 1 |
| 19 | 111633 | Bus bar 2 Unit (44KB, 54KB, KL44, 44WS) | 1 |
| 20 | 111671 | Bus bar 3 Unit (44KPRB, 54KPRB, KL66, 66WS) | 1 |
| 21 | 111636 | Power connector, 3 pole | 1 |
| 22 | 110971 | Terminal block (208-240V/lPH) 44WS, 66WS | 2 |
| 23 | 110912 | Terminal block (208-240V/lPH) 44-54KB, 44-54KPRB, KL44, KL66 | 2 |
| 24 | 110971 | Terminal block (208-220V/3PH) 44WS, 66WS, 70°Rise | 3 |
| 25 | 110912 | Terminal block (208-240V/3PH) 44WS, 66WS, 40°Rise | 3 |
| 26 | 110912 | Terminal block (208-240V/3PH) | 3 |
| 27 | 110912 | Terminal block (380-415V/3PH) | 3 |
| 28 | 110912 | Terminal block (440-480V/3PH) | 3 |
| 29 | 110912 | Terminal block (575V/3PH) | 3 |
| 30 | 110900 | End stop | 5 |
| 31 | 103309 | Wire lug-ground | 1 |
| 32 | 111639 | Auxiliary switch (Drive contactor) KL44, KL66 | 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 | 100906 | Fuse (208-240V) | 2 |
| 37 | 100906 | Fuse (380-415V) | 2 |
| 38 | 100906 | Fuse (440-480V) | 2 |
| 39 | 100906 | Fuse (575V) | 2 |
| 40 | 112351 | Timer 0-6 Min. Off Delay 112351 | 1 |
| 41 | 111068 | Relay-120V | 1 |
| 42 | 111067 | Relay-24V (44KB,54KB, KL44, 44WS) | 4 |
| 43 | 111067 | Relay 24V (44KPRB, 54KPRB, KL66, 66WS) | 5 |
| 44 | 111067 | Relay-24V (Table limit switch) | l |
| 45 | 111068 | Relay-120V (Booster-Electric) | 1 |

## CONTROL PANEL (Cont.)

*(For machines beginning with S/N 85261 thru 88502 )*

| Fig. 61 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 | 110862 | Terminal block ................ | 20 |
| 53 | 110862 | Terminal block (Dispenser connections) ................ | 4 |
| 54 | 110863 | End plate ................ | 4 |
| 55 | 110901 | Jumper ................ | 5 |
| 56 | 112352 | Socket, timer ................ | l |
| 57 | 108615 | Data plate, machine electrical connection ................ | 1 |
| 58 | 314103 | Inner panel 317185 44/54KPRB ................ | 1 |
| 59 | 314073 | Inner panel (44WS, 66WS) 317185 ................ | 1 |
| 60 | 111827 | Contactor (Heat-Electric) 60Amp 3 Pole (208-240V) ................ | 1 |
| 61 | 111827 | Contactor (Heat-Electric) 50Amp 3 Pole (440-480V) (575V) ................ | 1 |
| 62 | 111827 | Contactor (Booster-Electric 40°) 60Amp 3 Pole (208-240V) 44KB/WS, 44/54KPRB ................ | 1 |
| 63 | 111827 | Contactor (Booster-Electric 40°) 50Amp 3 Pole (440-480V) (575V) .... | 1 |
| 64 | 111231 | Contactor (Booster-Electric 70°) 75Amp 3 Pole (208-240V)(44WS,66WS) | 1 |
| 65 | 105514 | Contactor (Booster-Electric 70°) 50Amp 3 Pole (440-480V) (575V) .... | 1 |
| 66 | 108275 | Fuse block 250V/60A (Heat-Electric) (208-240V) 44WS, 66WS........... | l |
| 67 | 106925 | Fuse block 600V/30A (Heat-Electric) (440-480V) (575V) 44WS, 66WS.. | l |
| 68 | 108275 | Fuse block 250V/60A (Booster-Electric 40°) (208-240V) 44WS, 66WS | 1 |
| 69 | 106925 | Fuse block 600V/30A (Booster-Electric 40°) (440-480V) (575V) 44WS, 66WS | 1 |
| 70 | 108424 | Fuse block 600V/100A (Booster-Electric 70°) (208-240V) 44WS, 66WS | 1 |
| 71 | 180171 | Fuse block 600V/60A (Booster-Electric 70°) (440-480V) (575V) 44WS, 66WS | 1 |
| 72 | 111230 | Fuse (OT-60) (Heat-Electric) (208-220V) 44WS, 66WS ................ | 3 |
| 73 | 111240 | Fuse (FT-50) (Heat Electric) (220-240V) 44WS, 66WS................ | 3 |
| 74 | 108517 | Fuse (ATMR-25) (Heat-Electric) (440-480V) 44WS, 66WS ................ | 3 |
| — | 100922 | Fuse (ATMR-20) (Heat-Electric) (575V) 44WS, 66WS................ | 3 |
| 75 | 111230 | Fuse (OT-60) (Booster-Electric 40°) (208-220V) 44WS, 66WS ............ | 3 |
| 76 | 111240 | Fuse (FT-50) (Booster-Electric 40°) (220-240V) 44WS, 66WS ............ | 3 |
| — | 180174 | Fuse (A4J-45) (Booster-Electric 40°) (208-220V) 44KPRB ................ | 3 |
| 77 | 108517 | Fuse (ATMR-25) (Booster-Electric 40°) (440-480V) 44WS, 66WS ...... | 3 |
| — | 100922 | Fuse (ATMR-20) (Booster-Electric 40°) (575V) 44WS, 66WS ............. | 3 |
| 78 | 108448 | Fuse (JJN-90) (Booster-Electric 70°) (208-220V) 44WS, 66WS. .......... | 3 |
| 79 | 180059 | Fuse (A3T-80) (Booster-Electric 70°) (220-240V) 44WS, 66WS. .......... | 3 |
| 80 | 180173 | Fuse (JKS-40) (Booster-Electric 70°) (440-480V) 44WS, 66WS. .......... | 3 |
| — | 180172 | Fuse (JKS-35) (Booster-Electric 70°) (575V) 44WS, 66WS ................ | 3 |

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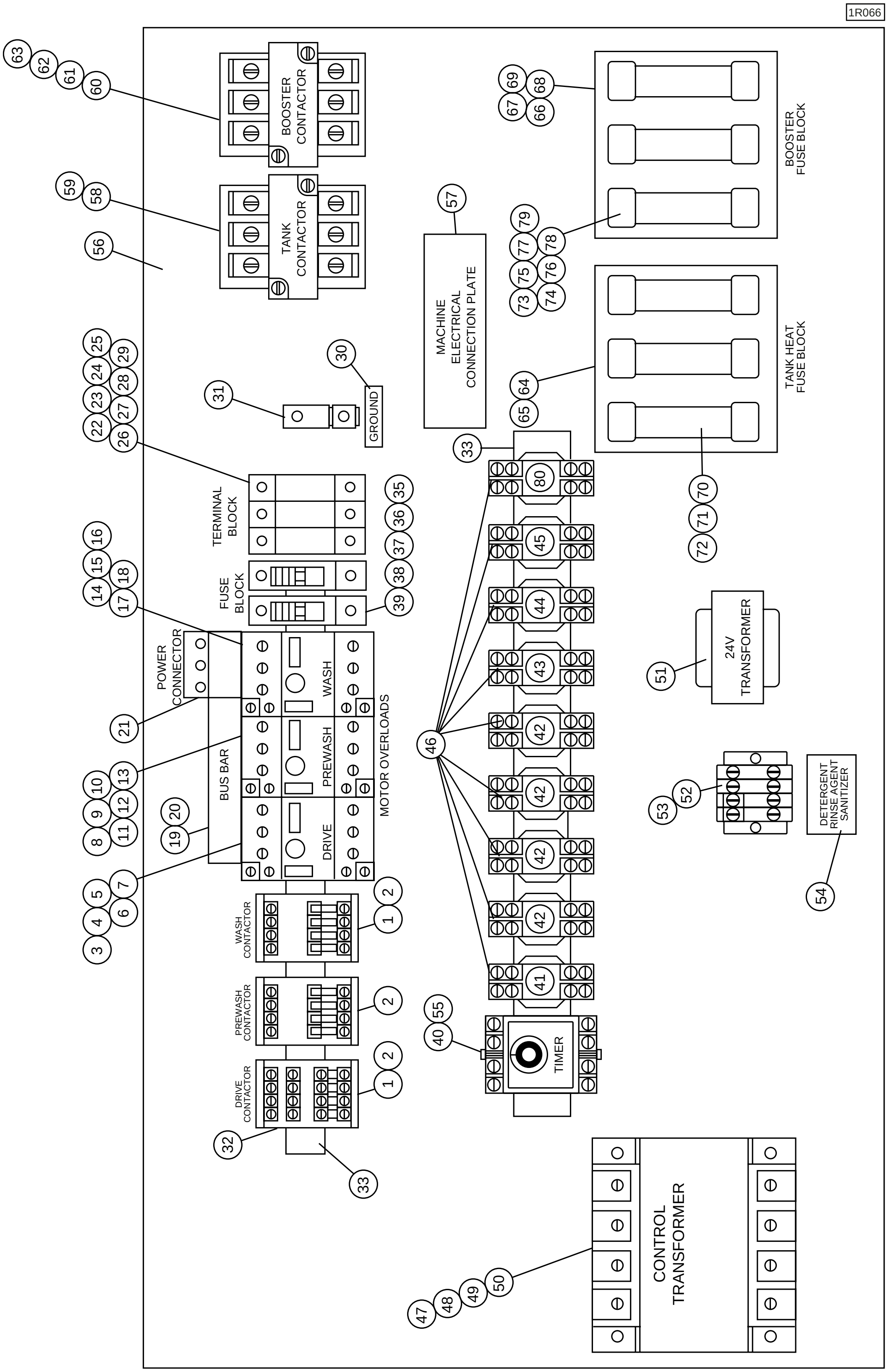


**Figure 62 – Control Panel**
*(For machines beginning with S/N 88503 and above)*

## CONTROL PANEL

*(For machines beginning with S/N 88503 and above)*

| Fig. 62 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 108122 | Contactor (Motor) 12 Amp, 3 Pole w/Aux Switch (44-54KB,KL44,44WS) | 2 |
| 2 | 108122 | Contactor (Motor) 12 Amp, 3 Pole w/Aux Switch (44-54KPRB,KL66,66WS) | 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//lPH) | 1 |
| 9 | 110805 | Starter Mtr OL GV2-M08 w/Aux-1HP Prewash (208V/lPH) | 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 (208-240V/ lPH) | 1 |
| 15 | 112691 | Overload, Motor -2HP Wash (208-240V/3PH) | 1 |
| 16 | 111627 | Overload, Motor -2HP Wash (380-415V/3PH) | 1 |
| 17 | 111627 | Overload, Motor -2HP Wash (440-480V/3PH) | 1 |
| 18 | 112692 | Overload, Motor -2HP Wash (575V/3PH) | 1 |
| 19 | 111633 | Bus bar 2 Unit (44KB, 54KB, KL44, 44WS) | 1 |
| 20 | 111671 | Bus bar 3 Unit (44KPRB, 54KPRB, KL66, 66WS) | 1 |
| 21 | 111636 | Power connector, 3 pole | 1 |
| 22 | 111833 | Terminal block (208-240V/lPH) 44WS, 66WS | 1 |
| 23 | 111833 | Terminal block (208-240V/lPH) 44-54KB, 44-54KPRB,KL44, KL66 | 1 |
| 24 | 111833 | Terminal block (208-220V/3PH) 44WS, 66WS, 70°Rise | 1 |
| 25 | 111833 | Terminal block (208-240V/3PH) 44WS, 66WS, 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 | 111639 | Auxiliary switch (Drive contactor) KL44, KL66 | 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 (44KB,54KB, KL44, 44WS) | 4 |
| 43 | 111067 | Relay 24V (44KPRB, 54KPRB, KL66, 66WS) | 5 |
| 44 | 111067 | Relay-24V (Table limit switch) | l |
| 45 | 111068 | Relay-120V (Booster-Electric) | 1 |

## CONTROL PANEL (Cont.)
*(For machines beginning with S/N 88503 and above)*

| Fig. 62 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 44/54KPRB,44WS, 66WS | 1 |
| 57 | 108615 | Data plate, machine electrical connection | 1 |
| 58 | 111827 | Contactor (Heat-Electric) 60Amp 3 Pole (208-240V) 44/54KPRB | 1 |
| 59 | 111827 | Contactor (Heat-Electric) 50Amp 3 Pole (440-480V) (575V) | 1 |
| 60 | 111827 | Contactor (Booster-Electric 40°) 60Amp 3 Pole (208-240V) 44WS, 44KB, 44/54KPRB | 1 |
| 61 | 111827 | Contactor (Booster-Electric 40°) 50Amp 3 Pole (440-480V) (575V) | 1 |
| 62 | 111231 | Contactor (Booster-Electric 70°) 75Amp 3 Pole (208-240V)(44WS,66WS) | 1 |
| 63 | 111827 | Contactor (Booster-Electric 70°) 60Amp 3 Pole (440-480V) (575V) | 1 |
| 64 | 108275 | Fuse block (Heat-Electric) (208-240V) 44WS, 66WS | l |
| 65 | 106925 | Fuse block (Heat-Electric) (440-480V) (575V) 44WS, 66WS | l |
| 66 | 108275 | Fuse block (Booster-Electric 40°) (208-240V) 44WS, 66WS | 1 |
| 67 | 106925 | Fuse block (Booster-Electric 40°) (440-480V) (575V) 44WS, 66WS | 1 |
| 68 | 108424 | Fuse block (Booster-Electric 70°) (208-240V) 44WS, 66WS | 1 |
| 69 | 180171 | Fuse block (Booster-Electric 70°) (440-480V) (575V) 44WS, 66WS | 1 |
| 70 | 111230 | Fuse (OT-60) (Heat-Electric) (208-220V) 44WS, 66WS | 3 |
| 71 | 111240 | Fuse (OT-50) (Heat Electric) (220-240V) 44WS, 66WS | 3 |
| 72 | 108517 | Fuse (ATMR-25) (Heat-Electric) (440-480V) 44WS, 66WS | 3 |
| — | 100922 | Fuse (ATMR-20) (Heat-Electric) (575V) 44WS, 66WS | 3 |
| 73 | 111230 | Fuse (OT-60) (Booster-Electric 40°) (208-220V) 44WS, 66WS | 3 |
| 74 | 111240 | Fuse (OT-50) (Booster-Electric 40°) (220-240V) 44WS, 66WS | 3 |
| — | 100922 | Fuse (ATMR-20) (Booster-Electric 40°) (575V) 44WS, 66WS | 3 |
| 76 | 108448 | Fuse ( JJN-90) (Booster-Electric 70°) (208-220V) 44WS, 66WS. | 3 |
| 77 | 180059 | Fuse (A3T80)(Booster-Electric 70°) (220-240V) 44WS, 66WS. | 3 |
| 78 | 180173 | Fuse (A4J40) (Booster-Electric 70°) (440-480V) 44WS, 66WS. | 3 |
| — | 180172 | Fuse (A4J35) (Booster-Electric 70°) (575V) 44WS, 66WS. | 3 |
| 79 | 180174 | Fuse (A4J45) (Booster-Electric 40°) (208-220V) 44KPRB | 3 |
| 80 | 111068 | Relay-120V (Booster Hold-in) Beginning w/serial no. R1649 and above | 1 |

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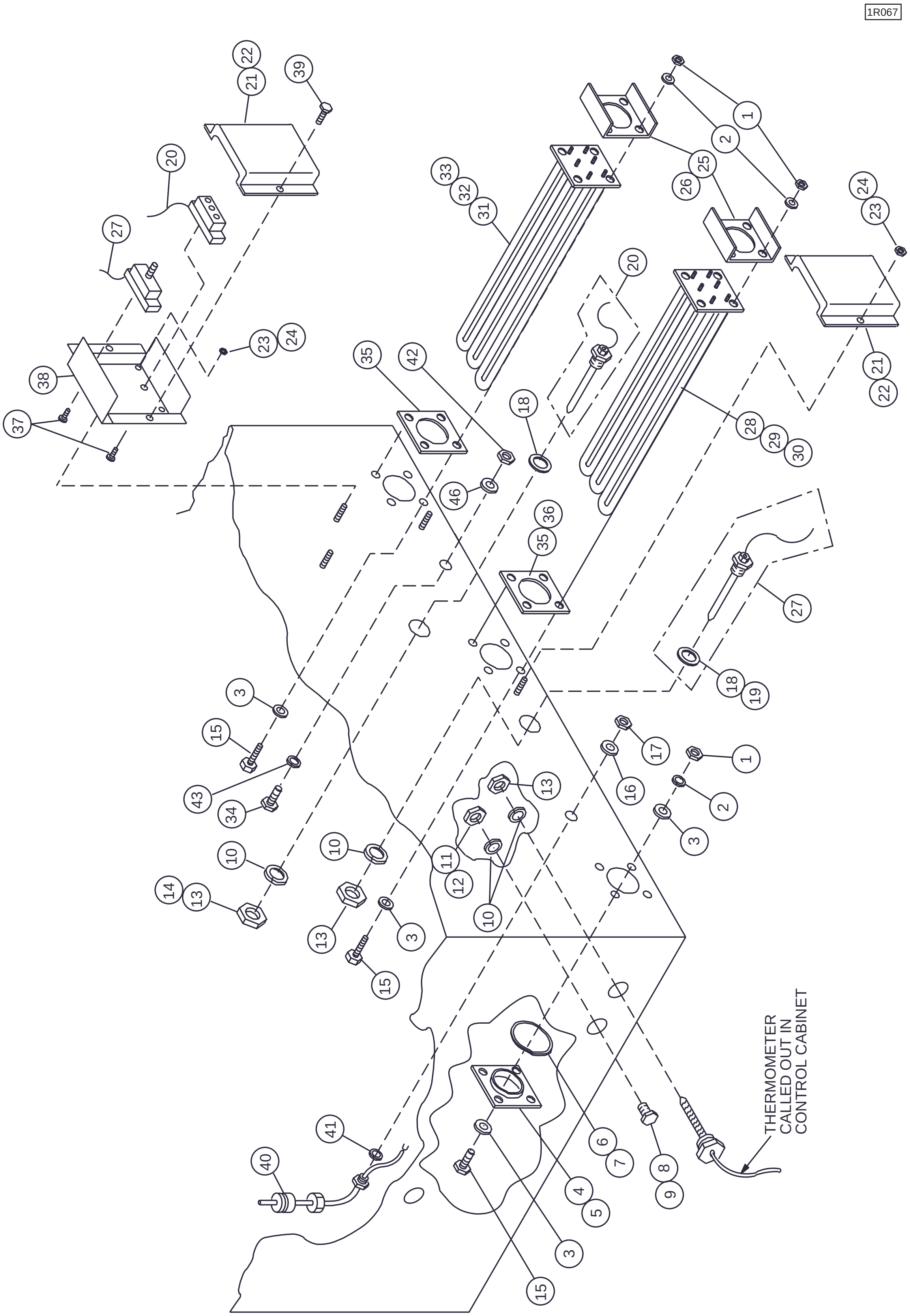



**Figure 63 – Tank Heat (Electric, R-L Shown)**

## TANK HEAT (ELECTRIC, R-L SHOWN)

| Fig. 63 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") | 16 |
| 4 | 109683 | Flange, blockoff (44KB, 44WS) | 1 |
| 5 | 109683 | Flange, blockoff (KL44) | 2 |
| 6 | 112257 | O-ring (44KB, 44WS) | 1 |
| 7 | 112257 | O-ring (KL44) | 2 |
| 8 | 108418 | Plug (1/2 NPT) Plastic (44KB, 54KB, 44WS) | 5 |
| 9 | 108418 | Plug (1/2 NPT) Plastic (KL44) | 6 |
| 10 | 109034 | Gasket (1/2 NPT) Plug | 8 |
| 11 | 108417 | Nut (1/2 NPT) Plug (44KB, 54KB, 44WS) | 5 |
| 12 | 108417 | Nut (1/2 NPT) Plug (KL44) | 6 |
| 13 | 100547 | Locknut (1 1/2 NPT) SST (44KB, 54KB, 44WS) | 3 |
| 14 | 100547 | Locknut (1/2 NPT) SST (KL44) | 2 |
| 15 | 100740 | Bolt (5/16-18 x 1") Hex hd | 12 |
| 16 | 107589 | Washer, lock (1/2") | 1 |
| 17 | 104584 | Nut, plain (1/2-13) | 1 |
| 18 | 201041 | Washer (7/8" ID x 1/8") (44KB, 54KB, 44WS) | 3 |
| 19 | 201041 | Washer (7/8" ID x 1/8") (KL44) | 2 |
| 20 | 109069 | Thermostat w/capillary | 1 |
| 21 | 109682 | Cover, heater (44KB, 54KB, 44WS) | 3 |
| 22 | 109682 | Cover, heater (KL44) | 1 |
| 23 | 107966 | Nut, grip (10-32) w/nylon insert (44KB, 54KB, 44WS) | 2 |
| 24 | 107966 | Nut, grip (10-32) w/nylon insert (KL44) | 4 |
| 25 | 308949 | Junction box, heater (44KB,54KB,44WS) | 2 |
| 26 | 308949 | Junction box, heater (KL44) | 1 |
| 27 | 110561 | Thermostat (High-Limit) w/capillary | 1 |
| 28 | 109751 | Heater Element-l0KW (208V) | 1 |
| 29 | 107844 | Heater Element-l0KW (240V) | 1 |
| 30 | 107846 | Heater Element-l0KW (480V) | 1 |
| — | 111120 | Heater Element-10KW (575V) | |
| 31 | 107839 | Heater Element-5KW (208V) (44KB, 54KB, 44WS) | 1 |
| 32 | 107840 | Heater Element-5KW (240V) (44KB ,54KB, 44WS) | 1 |
| 33 | 107842 | Heater Element-5KW (480V) (44KB, 54KB, 44WS) | 1 |
| — | 111123 | Heater Element-5KW (575V) (44KB, 54KB, 44WS) | 1 |
| 34 | 106314 | Bolt (3/8-16 x 1/2") Hex hd | 1 |
| 35 | 108345 | Gasket, heater (44KB, 54KB, 44WS) | 2 |
| 36 | 108345 | Gasket, heater (KL44) | 1 |
| 37 | 100100 | Screw (8-32 x 1/4") Round hd | 2 |
| 38 | 314102 | Box, dual thermostat | 1 |
| 39 | 100097 | Screw (10-32 x 1/2") Truss hd | 2 |
| 40 | 110854 | Switch, float | 1 |
| 41 | 110750 | Gasket, float switch | 1 |
| — | 111151 | C-clip (2 per float switch) | 2 |
| 42 | 100143 | Nut, grip (3/8-16) | 1 |
| 43 | 104618 | Washer, flat (3/8") | 2 |

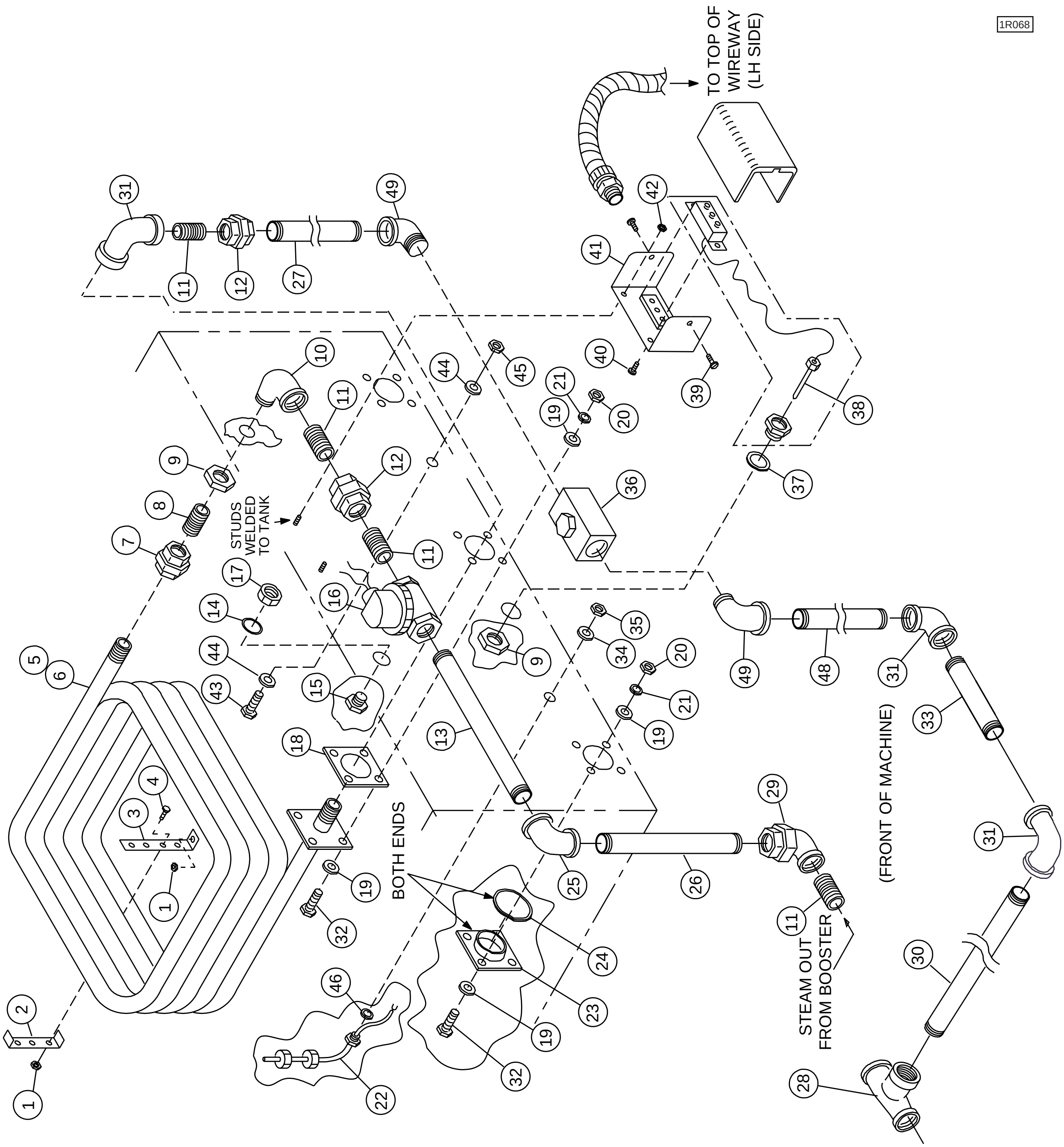



**Figure 64 – Tank Heat  (Steam Coils, R-L Shown)**

## TANK HEAT (STEAM COILS, R-L SHOWN)

| Fig. 64 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 | 105738 | Elbow, reducing (3/4" NPT x 1/2" NPT x 90°) B.I. | 1 |
| 11 | 105803 | Nipple (3/4" NPT) Close | 1 |
| 12 | 105779 | Union (3/4" NPT) | 1 |
| 13 | 105846 | Nipple (3/4" NPT x 12") B.I. | 2 |
| 14 | 109034 | Gasket (1/2" NPT) Plug | 8 |
| 15 | 108418 | Plug (1/2" NPT) Plastic | 6 |
| 16 | 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 |
| 17 | 108417 | Nut (1/2" NPT), Plastic | 6 |
| 18 | 108345 | Gasket, steam coil | 1 |
| 19 | 102376 | Washer, flat (5/16") | 16 |
| 20 | 100154 | Nut, plain (5/16) | 8 |
| 21 | 106013 | Washer, lock (5/16") Split | 8 |
| 22 | 110854 | Switch, dual float | 1 |
| — | 111151 | C-clip (2 per float switch) | 2 |
| 23 | 109683 | Flange, blockoff | 2 |
| 24 | 112257 | O-ring | 2 |
| 25 | 105730 | Elbow (3/4" NPT x 90°) B.I | 1 |
| 26 | 105782 | Nipple close (1/2" NPT) B.I. | 2 |
| 27 | 105783 | Nipple (1/2"NPT x 2") B.I. | 2 |
| 28 | 105757 | Tee (3/4" NPT x 1/2" NPT x 1/2") B.I. | 1 |
| 29 | 106485 | Union, elbow (3/4" NPT x 90°) Female B.I. | 1 |
| 30 | 107488 | Nipple (1/2" NPT x 3 1/2") B.I. | 1 |
| 31 | 102288 | Elbow (1/2" NPT x 90°) B.I. | 3 |
| 32 | 100740 | Bolt (5/16-18 x 1") | 8 |
| 33 | 112322 | Nipple (l/2" NPT x 23") B.I | 1 |
| 34 | 107589 | Washer, lock (1/2") | 1 |
| 35 | 104584 | Nut, plain (1/2"-13) | 1 |
| 36 | 111380 | Steam trap (1/2") | 1 |
| 37 | 201041 | Washer (7/8" I.D. x 1/8" thick) | 1 |
| 38 | 109069 | Thermostat w/capillary | 1 |
| 39 | 106460 | Screw (6-32 x 1/4") Truss hd | 2 |
| 40 | 100100 | Screw (8-32 x 1/4") Round hd | 1 |
| 41 | 107922 | Box and cover, thermostat | 1 |
| 42 | 107966 | Nut, grip (10-32) W/Nylon insert | 2 |
| 43 | 106314 | Bolt (3/8-16 x 1/2") Hex hd | 2 |
| 44 | 104618 | Washer, flat (3/8") | 2 |
| 45 | 100143 | Nut, grip (3/8-16") | 1 |
| 46 | 110750 | Gasket, float switch | 1 |
| 47 | 105778 | Union (1/2" NPT) B.I. | 1 |
| 48 | 111306 | Nipple (1/2" NPT x 5-1/2) | 1 |
| 49 | 100147 | Elbow, street (1/2" NPT x 90°) B.I. | 1 |

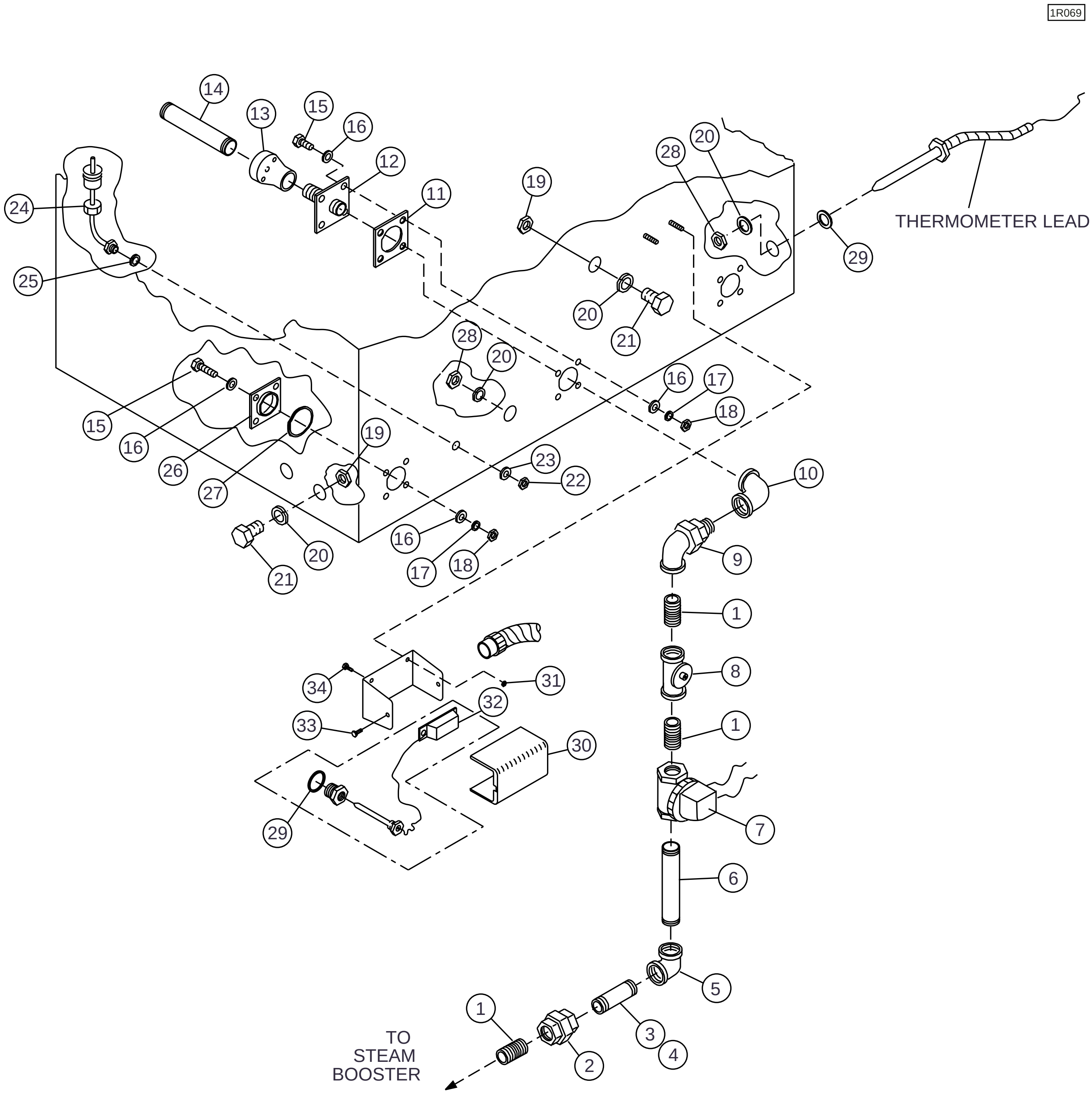
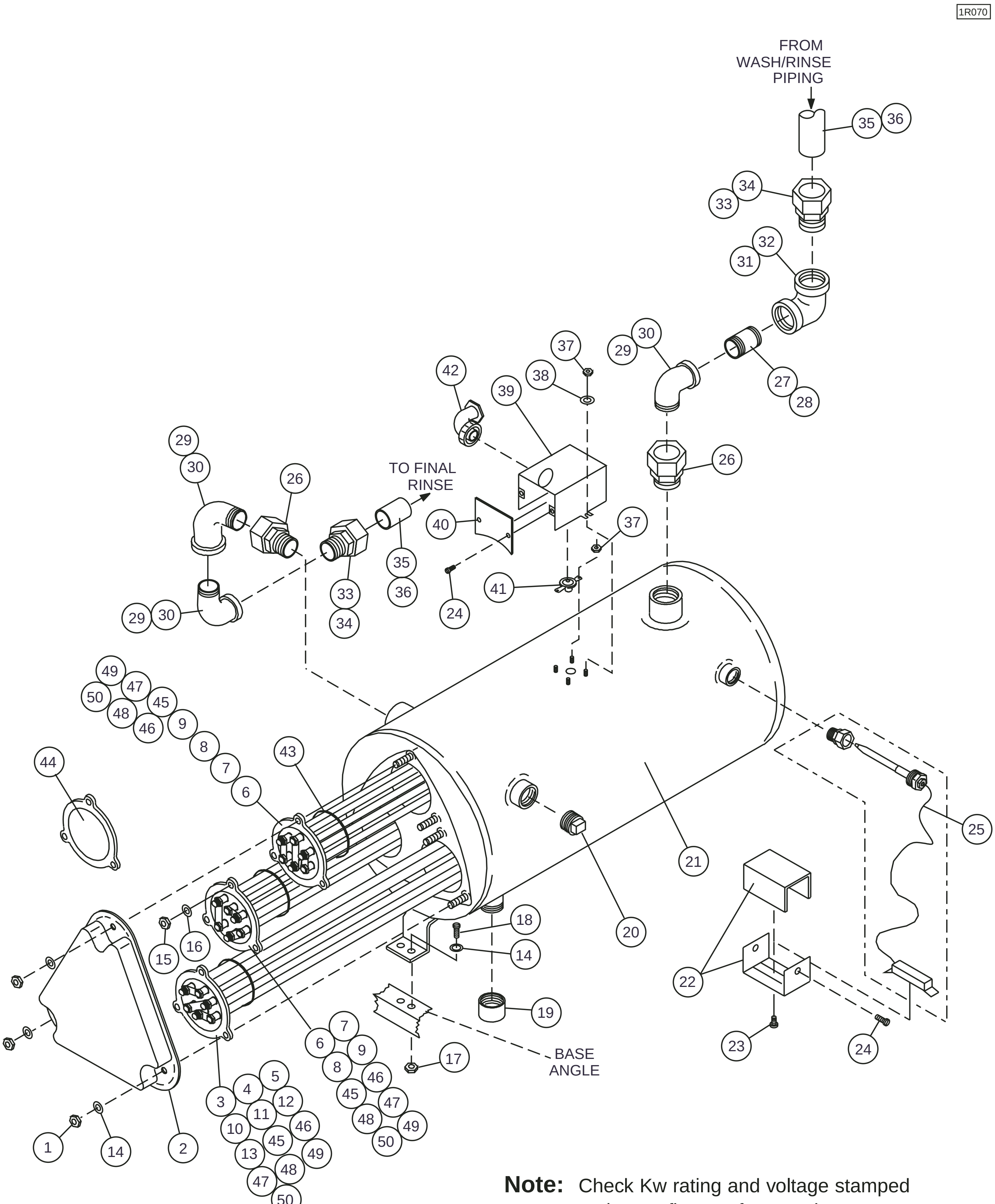



**Figure 65 – Tank Heat  (Steam Injector, R-L Shown)**

## TANK HEAT (STEAM INJECTOR, R-L SHOWN)

| Fig. 65 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 105803 | Nipple (3/4 NPT) Close B.I. | 3 |
| 2 | 105779 | Union (3/4 NPT) B.I. | 1 |
| 3 | 105806 | Nipple (3/4 NPT x 2" ) B.I.(44KB, 44WS, KL44) | 1 |
| 4 | 105841 | Nipple (3/4 NPT x 10") B.I. (54KB) | 1 |
| 5 | 105730 | Elbow (3/4 NPT x 90°) B.I. | 1 |
| 6 | 105817 | Nipple (3/4 NPT x 4") B.I | 1 |
| 7 | 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 |
| 8 | 100853 | Valve, check (3/4 NPT) | 1 |
| 9 | 107502 | Union elbow (3/4 NPT x 90° Male) B.I. | 1 |
| 10 | 105738 | Elbow, reducing (3/4 NPT x 1/2 NPT x 90°) B.I. | 1 |
| 11 | 108345 | Gasket, heater | 1 |
| 12 | 305143 | Flange Assembly | 1 |
| 13 | 201110 | Injector, steam | 1 |
| 14 | 101677 | Nipple (1" NPT x 9" TOE) SST | 1 |
| 15 | 100740 | Bolt (5/16-18 x 1") | 12 |
| 16 | 102376 | Washer, flat (5/16") | 24 |
| 17 | 106013 | Washer, lock (5/16") Split | 12 |
| 18 | 100154 | Nut, plain (5/16-18) | 12 |
| 19 | 108417 | Nut (1/2 NPT) Plug, Plastic | 4 |
| 20 | 109034 | Gasket (1/2 NPT) Plug | 6 |
| 21 | 108418 | Plug (1/2 NPT) Plastic | 4 |
| 22 | 104584 | Nut, plain (1/2-13) | 1 |
| 23 | 107589 | Washer, flat (1/2") | 1 |
| 24 | 110854 | Switch, float | 1 |
| — | 111151 | C-clip (2 per float switch) | 2 |
| 25 | 110750 | Gasket, float switch | 1 |
| 26 | 109683 | Block off | 2 |
| 27 | 112257 | O-ring | 2 |
| 28 | 100547 | Locknut (1/2 NPT) | 2 |
| 29 | 201041 | Washer (7/8" ID x 1/8" THK) | 2 |
| 30 | 107922 | Box and Cover, thermostat | 1 |
| 31 | 107966 | Nut, grip (10-32) w/nylon insert | 2 |
| 32 | 109069 | Thermostat W/capillary | 1 |
| 33 | 106460 | Screw (6-32 x 1/4") Truss hd | 2 |
| 34 | 100100 | Screw (8-32 x 1/4") Round hd | 1 |

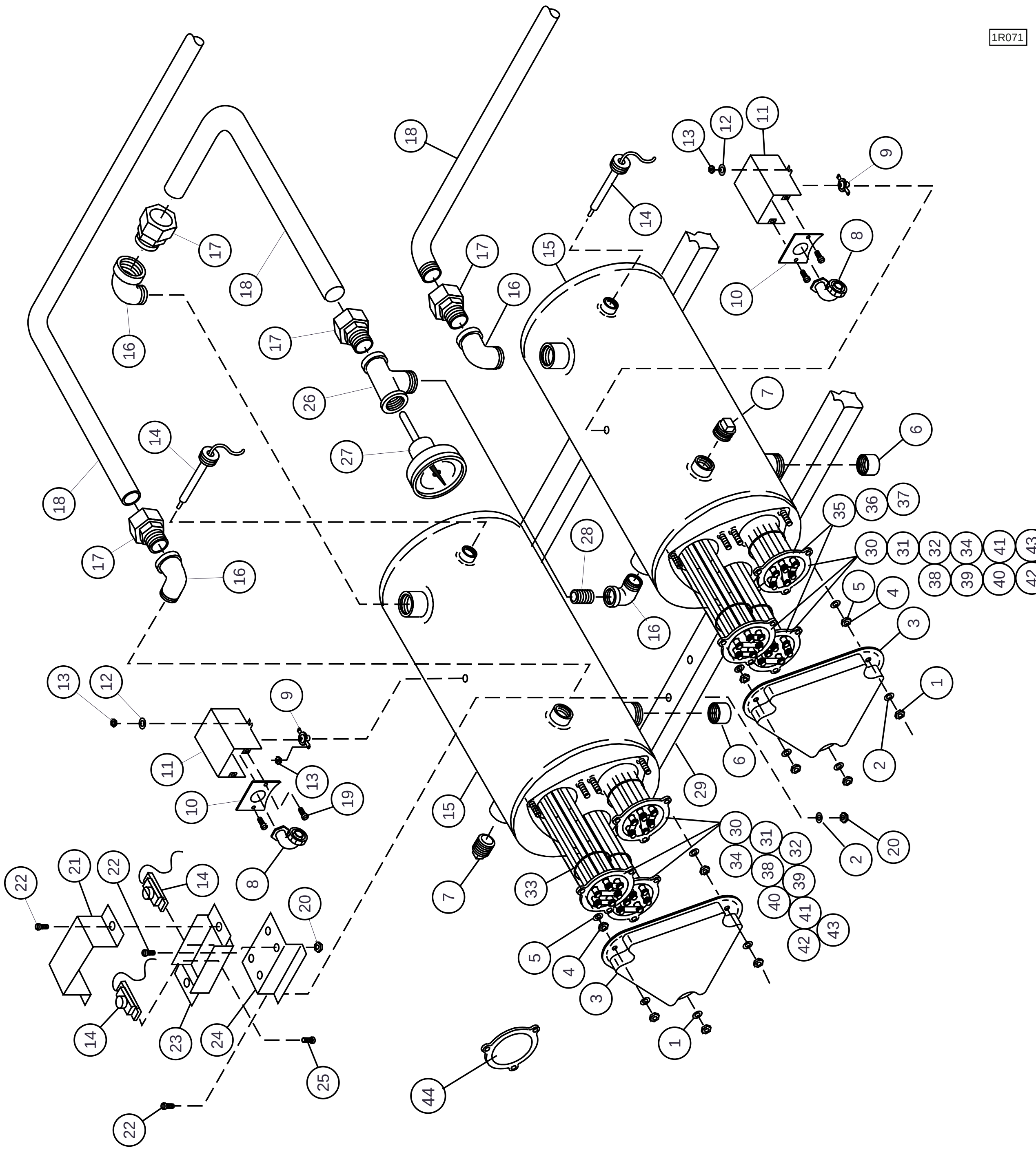



**Note:** Check Kw rating and voltage stamped on heater flange of some elements.

**Figure 66 – Electric Booster (40°F/22°C Rise)**

## ELECTRIC BOOSTER (40°F/22°C RISE)

| Fig. 66 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, conected 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) (44WS) | 2 |
| 10 | 111235 | Heater - 5KW (208V) (380V/3PH connected WYE) (44WS) | 1 |
| 11 | 111236 | Heater - 5KW (240V) (415V/3PH, connected WYE) (44WS) | 1 |
| 12 | 111237 | Heater - 5KW (480V) (44WS) | 1 |
| 13 | 111384 | Heater - 5KW (575V) (44WS) | 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 hed | 2 |
| 25 | 109069 | Thermostat, heat | 1 |
| 26 | 102392 | Bushing (3/4 NPT x 1/2 NPT) Brass (44WS) | 2 |
| 27 | 102567 | Nipple (1/2 NPT x 3") Brass (44WS) | 1 |
| 28 | 102469 | Nipple (3/4 NPT x 2-3/4") | 1 |
| 29 | 102438 | Elbow, street (1/2 NPT x 90°) Brass (44WS) | 3 |
| 30 | 102444 | Elbow, street (3/4 NPT x 90°) Brass | 3 |
| 31 | 102435 | Elbow (1/2 NPT x 90°) Brass (44WS) | 1 |
| 32 | 102442 | Elbow (3/4 NPT x 90°) Brass | 1 |
| 33 | 109925 | Fitting, compression (1/2" Copper x 1/2 NPT) (44WS) | 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 (44WS 40° Rise) | 1 |
| 45 | 112059 | Heater 12KW (208V/3PH) (Beginning with S/N 87575 & above) | 3 |
| 46 | 111334 | Heater 12KW (240V/3PH) (Beginning with S/N 87575 & above) | 3 |
| 47 | 112059 | Heater 12KW (380V/3PH, WYE) (Begin with S/N 87575 & above) | 3 |
| 48 | 111334 | Heater 12KW (415V/3PH, WYE) (Begin with S/N 87575 & above) | 3 |
| 49 | 112060 | Heater 12KW (480V/3PH) (Beginning with S/N 87575 & above) | 3 |
| 50 | 112061 | Heater 12KW (575V/3PH) (Beginning with S/N 87575 & above) | 3 |
| — | 110836 | Connector, sealtite (1/2" Straight) (Not shown) | A/R |




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

**Figure 67 – Electric Booster (70°F/39°C Rise)**

## ELECTRIC BOOSTER (70°F/39°C RISE)

| Fig. 67 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) (Beginning with S/N 87575 and above) | 3 |
| 39 | 111334 | Heater 12KW (240V/3PH) (Beginning with S/N 87575 and above) | 3 |
| 40 | 112059 | Heater 12KW (380V/3PH, WYE) (Begin with S/N 87575 and above) | 3 |
| 41 | 111334 | Heater 12KW (415V/3PH, WYE) (Begin with S/N 87575 and above) | 3 |
| 42 | 112060 | Heater 12KW (480V/3PH) (Beginning with S/N 87575 and above) | 3 |
| 43 | 112061 | Heater 12KW (575V/3PH) (Beginning with S/N 87575 and above) | 3 |
| 44 | 109458 | Block off plate | 1 |

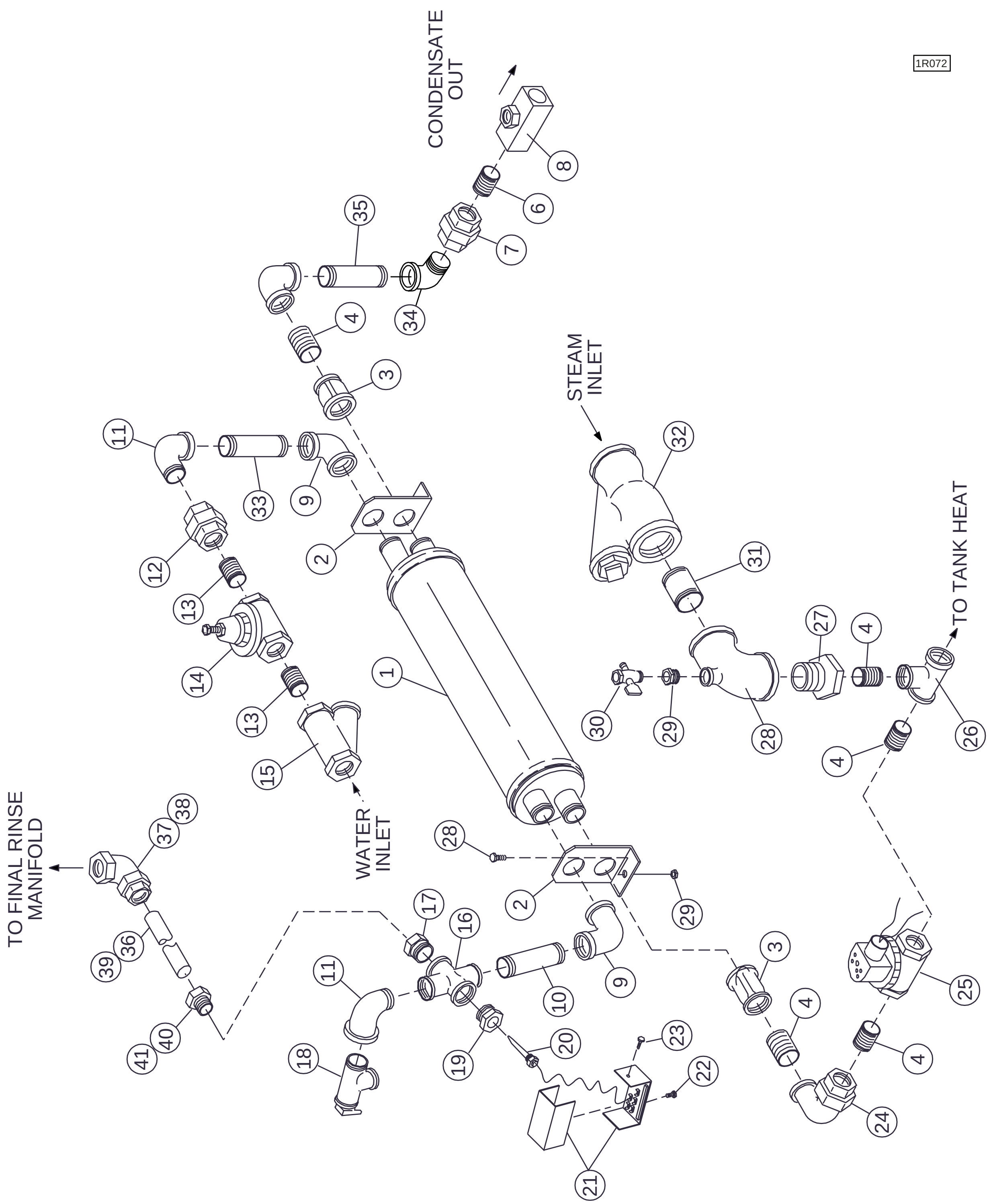



**Figure 68 – K2 Steam Booster**

## K2 STEAM BOOSTER

| Fig. 68 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 (44KB, KL44, 54KB) | A/R |
| 37 | 109880 | Fitting 3/4" x 3/4" x 90° (44KB, KL44, 54KB) | 1 |
| 38 | 109910 | Fitting, compression 1/2" x 1/2" x 90° (44WS) | 1 |
| 39 | 107380 | Tubing 1/2" copper (44WS) | A/R |
| 40 | 109879 | Fitting, (3/4" NPT x 3/4" Copper) (44KB, KL44, 54KB) | 1 |
| 41 | 109925 | Fitting, compression (1/2" NPT x 1/2" Copper) (44WS) | 1 |

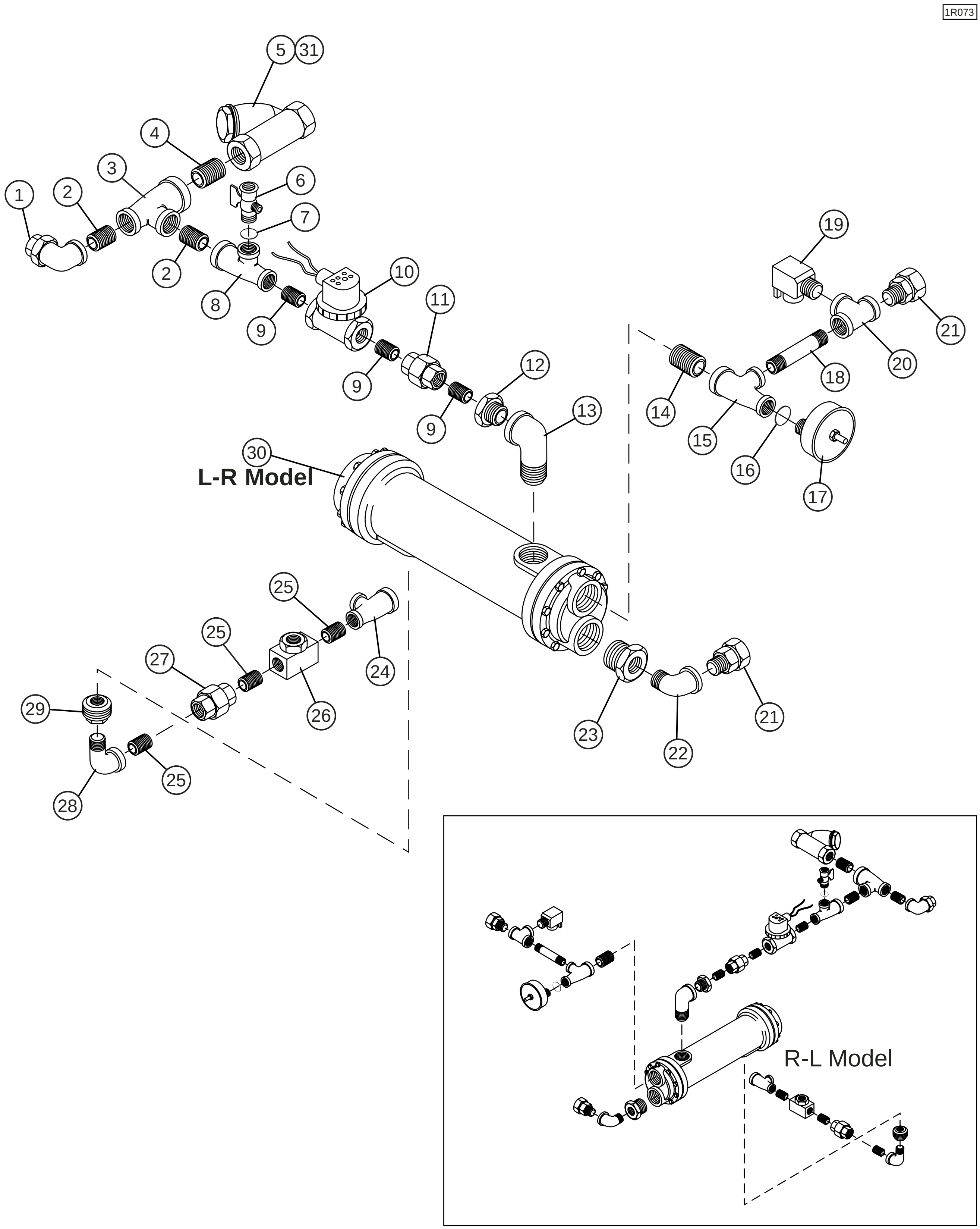



**Figure 69 – Thrush Steam Booster (40°F/22°C -70°F/39°C Rise)**

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

| Fig. 69 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 |

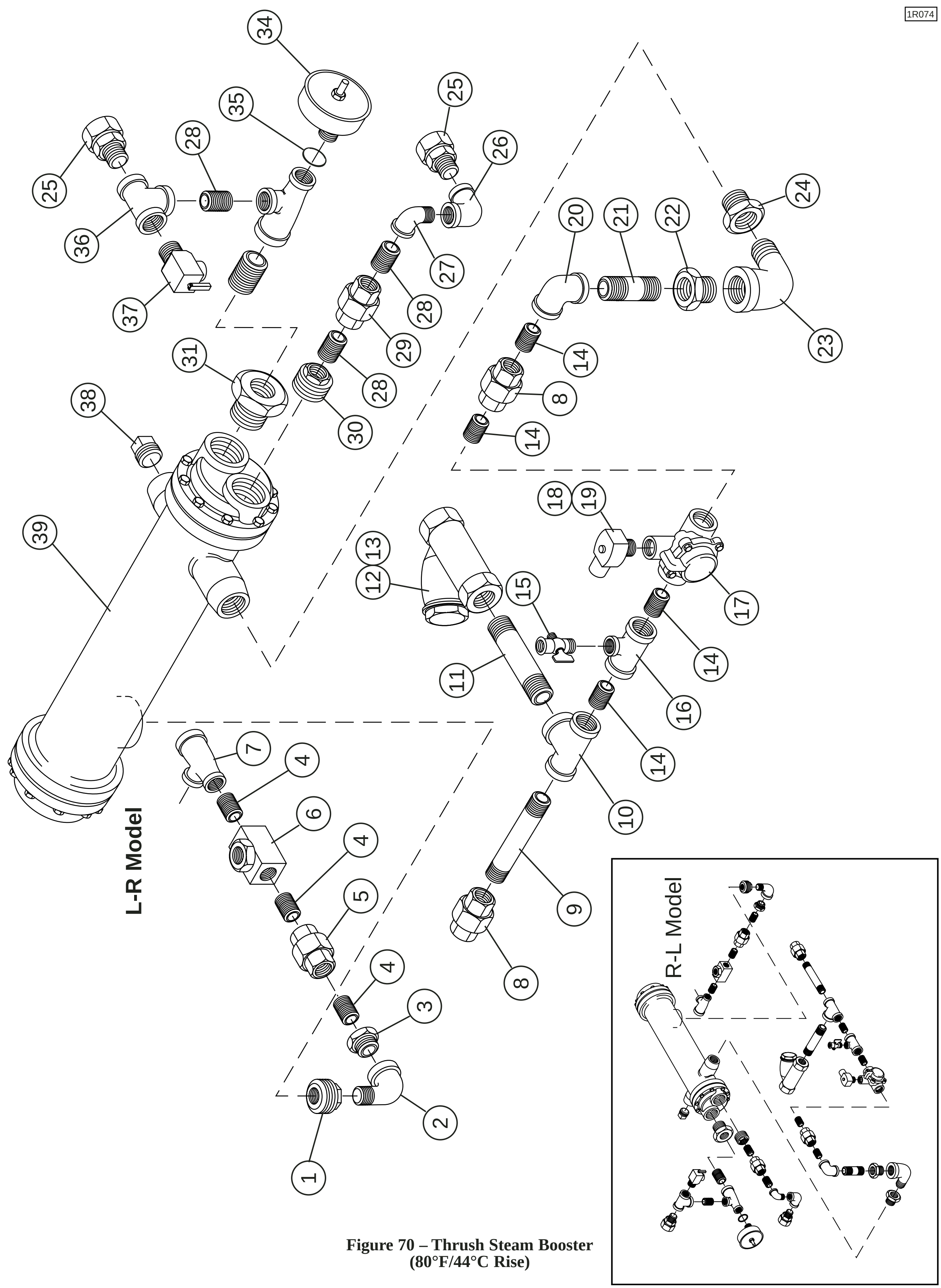



**Figure 70 – Thrush Steam Booster (80°F/44°C Rise)**

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

| Fig. 70 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 |

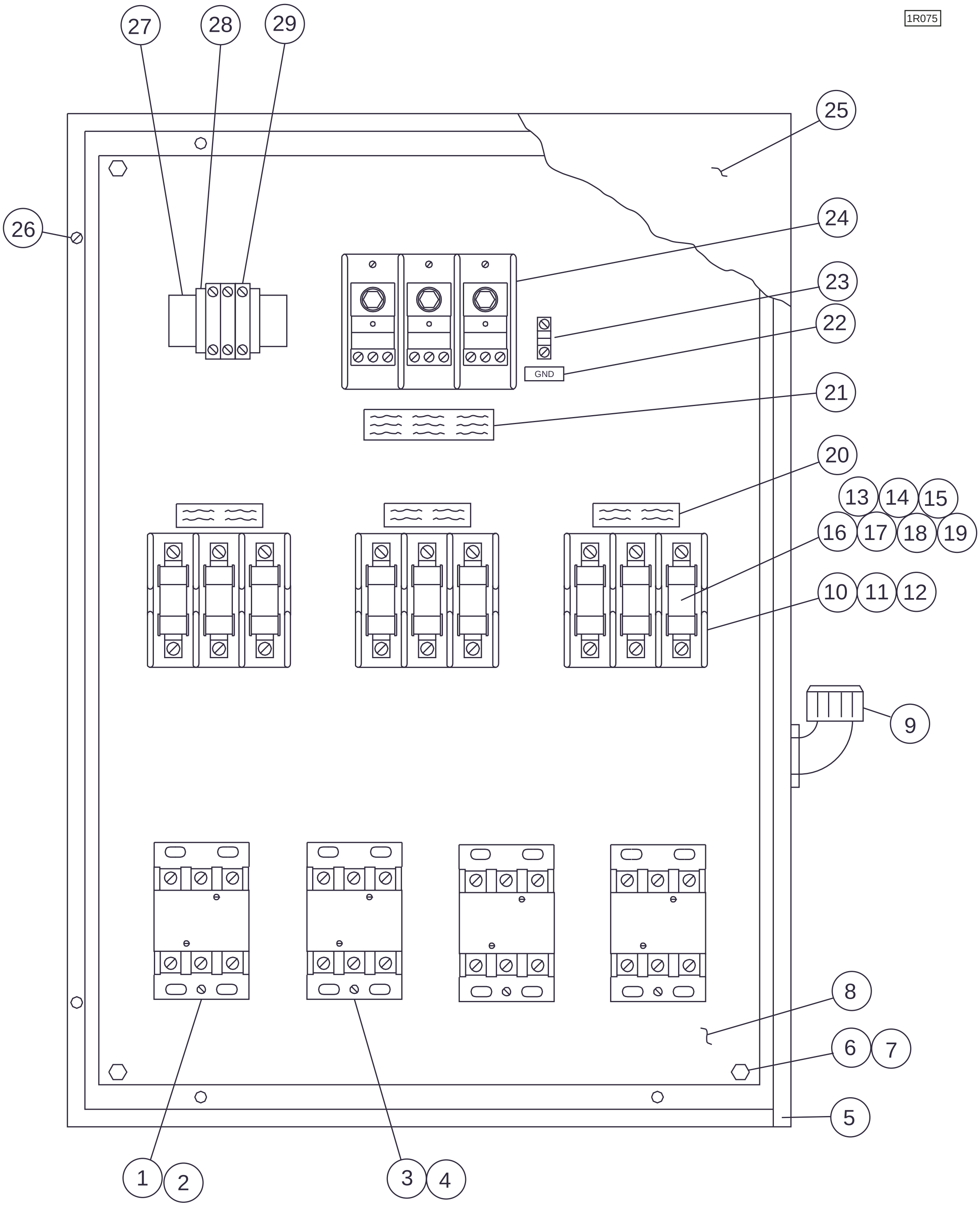



**Figure 71 – Control Panel, Electric Booster (70°F/39°C Rise)**

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

| Fig. 71 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 111827 | Contractor - 60A - 3 Pole (208V-240V) 44/66WS .................................. | 3 |
| 2 | 111827 | Contractor - 60A - 3 Pole (208-240V) 44/66WS................................... | 1 |
| 2 | 111827 | Contractor - 60A - 3 Pole (208-240V) 44/66WS | |
| 2 | 111827 | Contractor - 60A - 3 Pole (380V, 415V, 480V) 44/66WS .................. | 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 | 108424 | Fuse block (208V-240V) (Prior to S/N 85303) ..................................... | 3 |
| — | 180171 | Fuse block (208V-240V) (Beginning with S/N 85303 and above) ........ | 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 |
| — | 180173 | Fuse 40A (208V-240V) 44/66WS ......................................................... | 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)<br>(Do not use items 27, 28 with P/N 109014) ........................................... | 1 |
| — | 701156-1 | Control Cabinet Assy. (208V)<br>(Includes items 1, 3, 5-8, 10, 14, 15, 20-26)........................................... | 1 |
| — | 701156-2 | Control Cabinet Assy. (240V)<br>(Includes items 1, 3, 5-8, 10, 13, 15, 20-26)........................................... | 1 |
| — | 701156-3 | Control Cabinet Assy. (480V)<br>(Includes items 2, 3, 5-8, 12, 16, 17, 20-29)........................................... | 1 |
| — | 701156-4 | Control Cabinet Assy. (380V)<br>(Includes items 2, 4-8, 11, 16, 18, 20-26)............................................... | 1 |
| — | 701156-5 | Control Cabinet Assy. (415V)<br>(Includes items 2, 4-8, 11, 16, 19-26)..................................................... | 1 |
| — | 701176-6 | Control Cabinet Assy. (575V)<br>(Includes items 2, 4-8, 11, 16, 18, 19-26)............................................... | 1 |

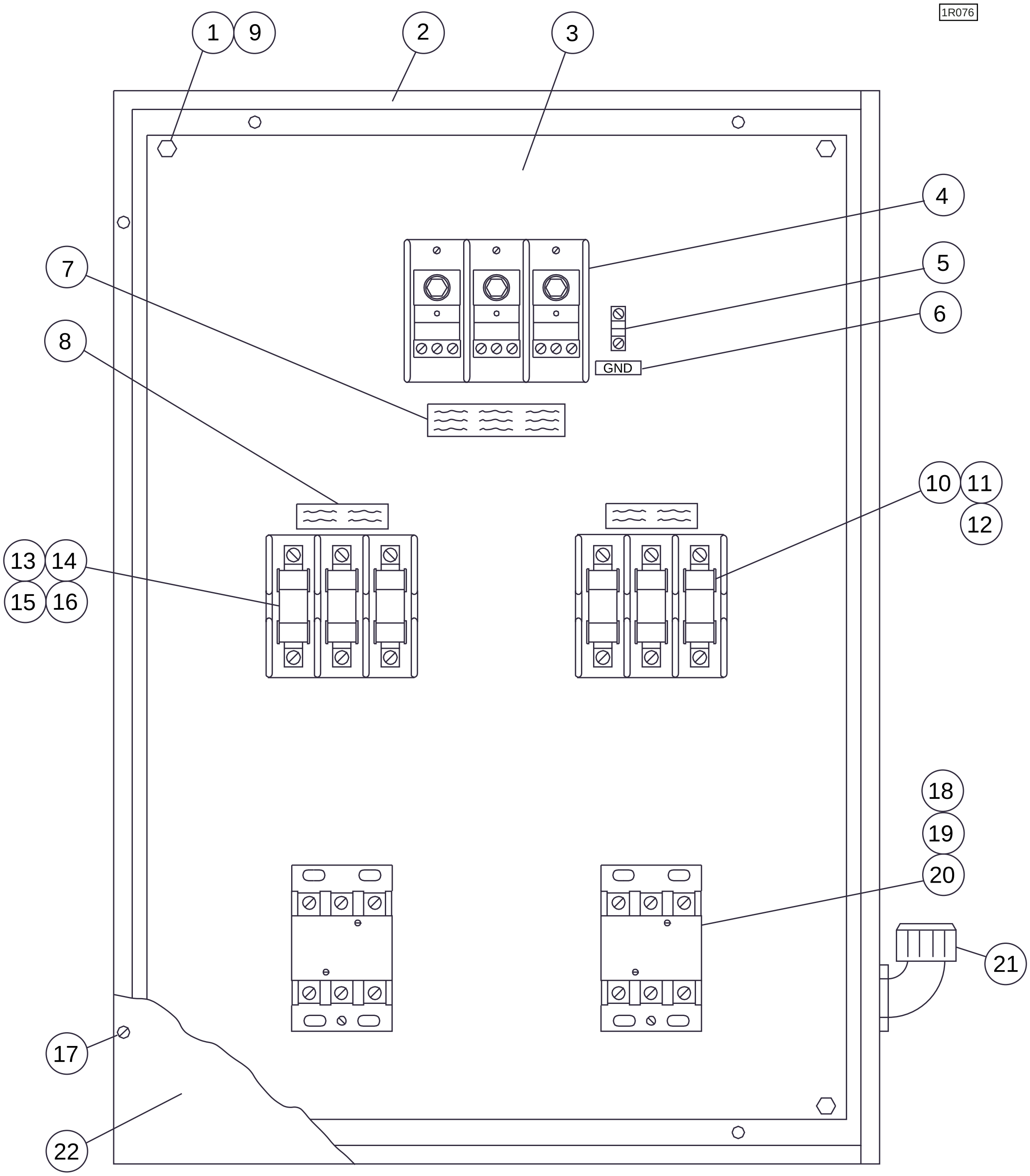



**Figure 72 – Control Panel, Electric Booster (40°F/22°C Rise)**

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

| Fig. 72 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 | 108424 | Fuse block (208V-240V) 44KB/PRB (Prior to S/N 85303) | 2 |
| 10 | 180171 | Fuse block (208V-240V) 44KB/PRB (Beginning S/N 85303 & above) | 2 |
| 11 | 180171 | Fuse block (380V, 415V, 575V) | 2 |
| 12 | 180171 | Fuse block (480V) (575V) | 1 |
| 13 | 180060 | Fuse 70A, 600V (208V-240V) 44KB/KPRB | 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 |

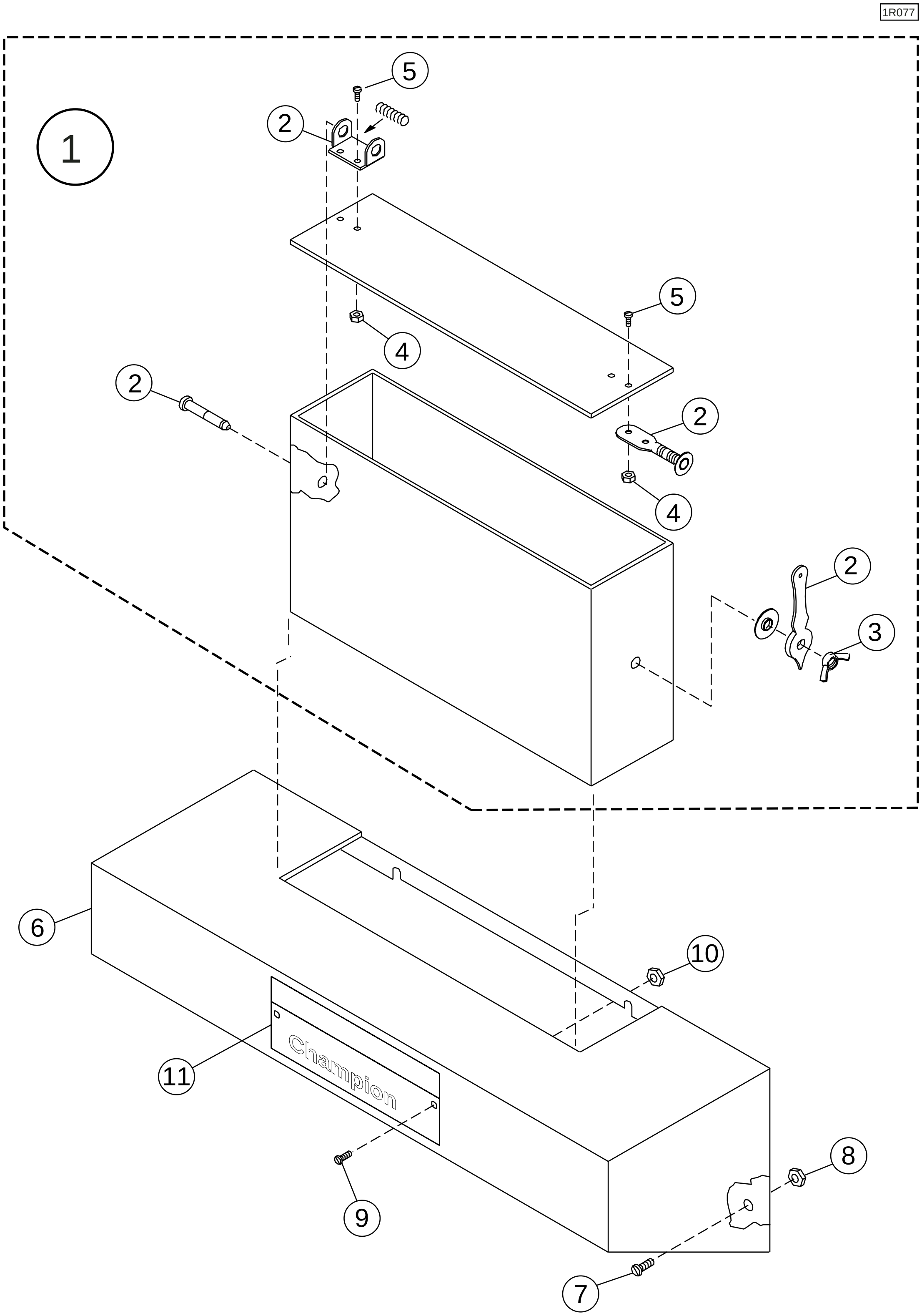



**Figure 73 – Vent Hood Assembly**

# VENT HOOD ASSEMBLY

| Fig. 73 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) | — |

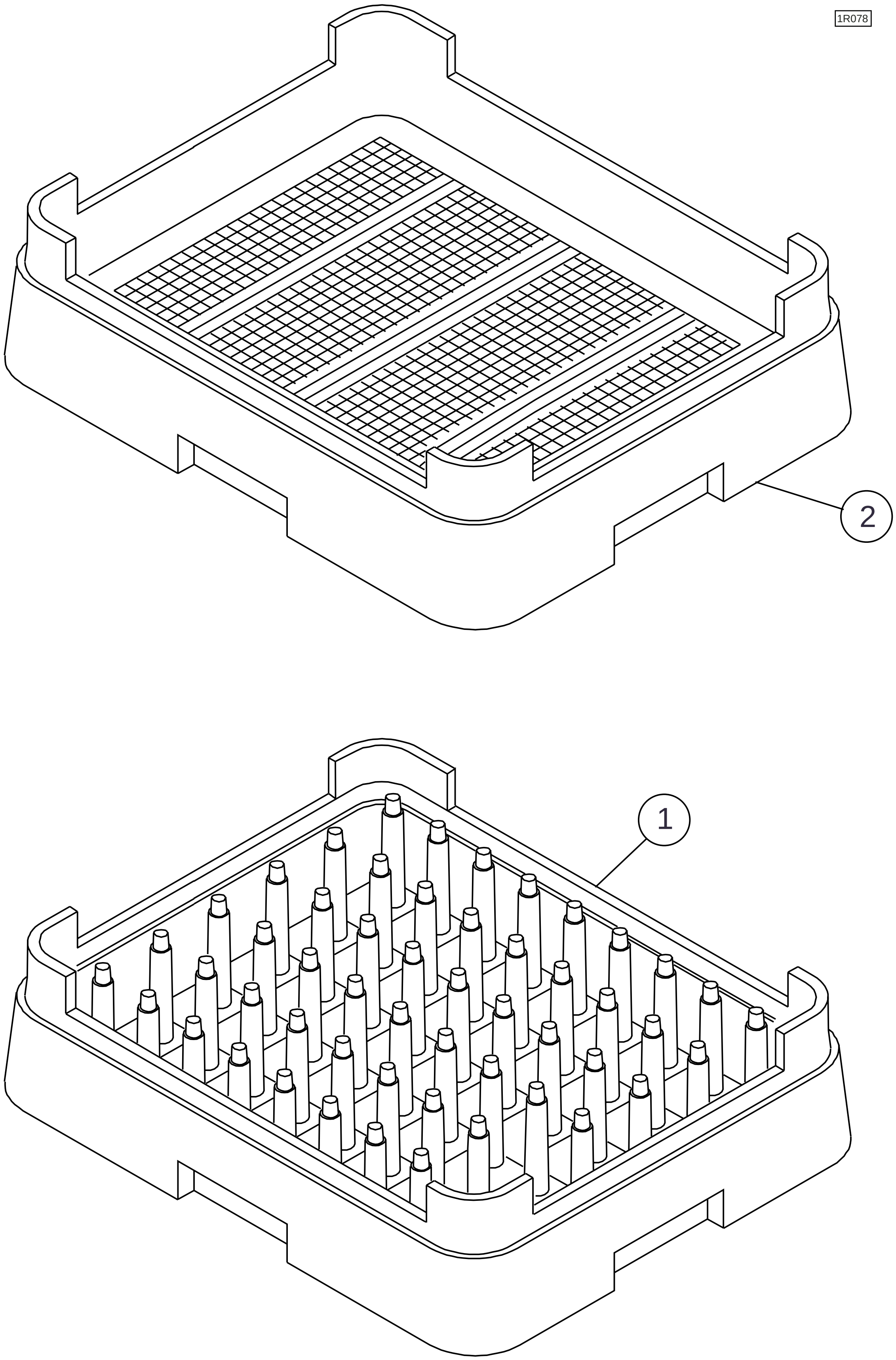



**Figure 74 – Dish Racks**

## DISH RACKS

| Fig. 74 Item No. | Part No. | Part Description | Qty. |
|---|---|---|---|
| 1 | 101285 | Rack, peg | 1 |
| 2 | 101273 | Rack, combination | 1 |

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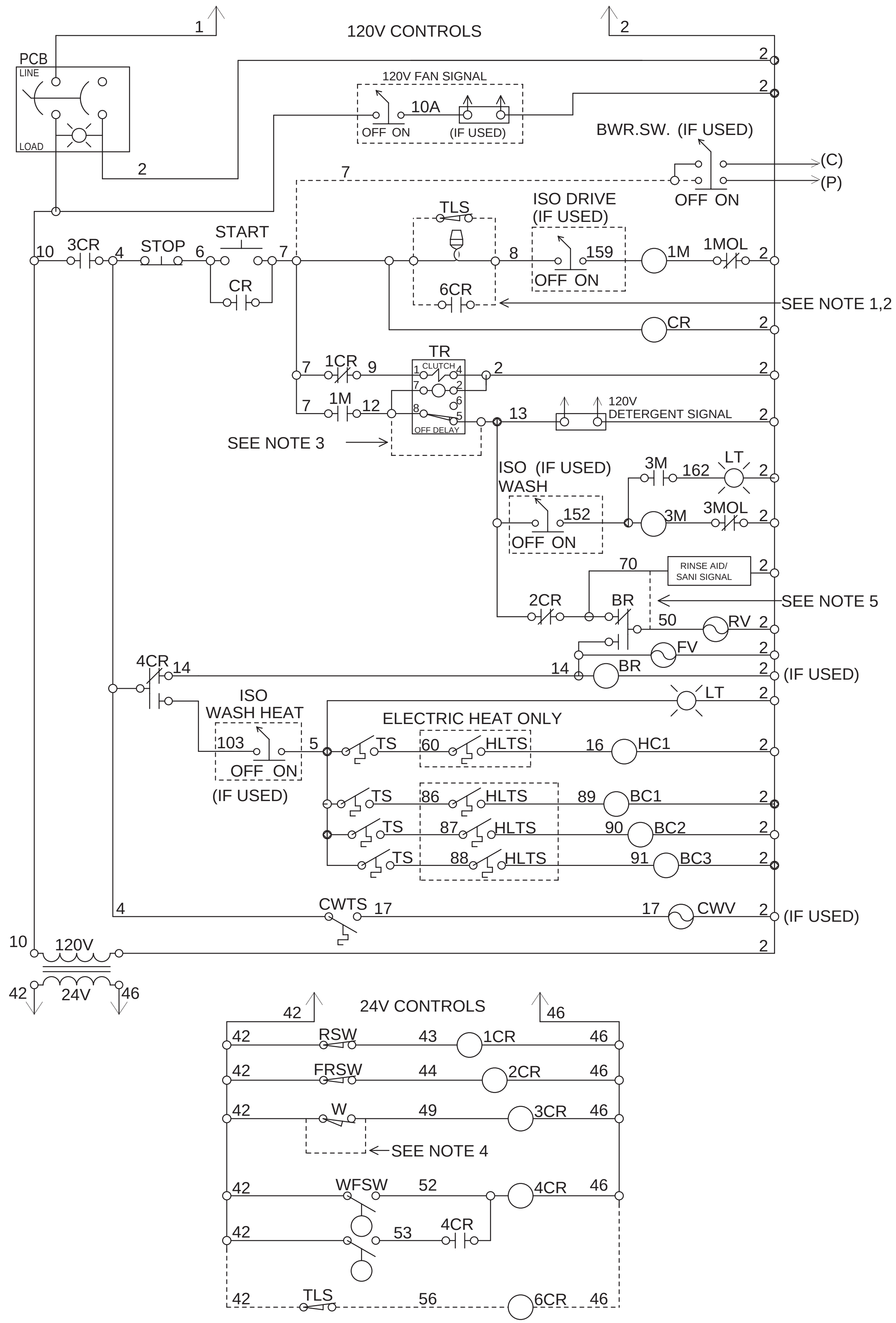
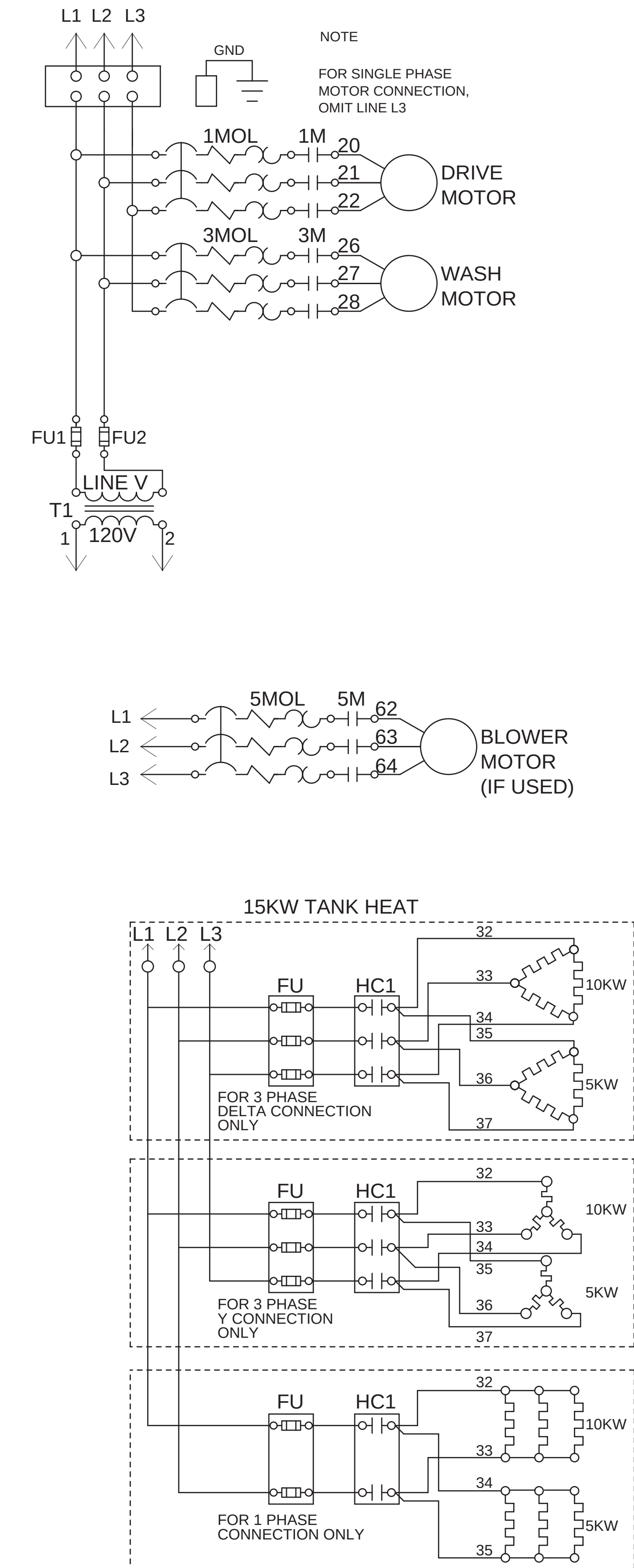
# ELECTRICAL SCHEMATICS

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. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.
5. BR RELAY USED WITH A BUILT IN BOOSTER, WITHOUT BUILT IN BOOSTER A JUMPER BETWEEN WIRE 50 AND 70 IS USED.

| | |
|---|---|
| 1CR | RACK SWITCH SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD-IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD-IN RELAY |
| 1M | DRIVE MOTOR CONTACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 3M | WASH MOTOR CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER MOTOR CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| BC- | BOOSTER HEAT CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD-IN RELAY |
| CWTS | COLD WATER THERMOSTAT |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | FILL VALVE |
| HC- | HEAT CONTACTOR |
| HLTS | HIGH LIMIT THERMOSTAT |
| 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 |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |




| | | | |
|---|---|---|---|
| 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 | 94-11-15 | SHEET | 1 OF 1 |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| E | REMOVE HC2 ON 1PH TANK HEAT<br>REDRAW B SIZE | 94-11 | AL |
| F | MOVE ISO TO OTHER SIDE OF 4CR | 94-11 | AL |
| G | REMOVE MOTOR SWITCH, ADD FAN SWITCH | 95-05-25 | AL |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| H | CHANGE BR RELAY NOTE | 96-02-14 | AL |
| I | ADDED AUX CONTACTS TO ISO SWITCH | 5MAY97 | JCN |
| J | REDRAWN POWER SWITCH/CIRCUIT BRREAKER | 2FEB98 | JCN |

**Champion**
The Dishwashing Machine Specialists

44/54KB
STEAM/ELECTRIC
B 700930 REV. J

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. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.
5. BR RELAY USED WITH A BUILT IN BOOSTER, WITHOUT BUILT IN BOOSTER A JUMPER BETWEEN WIRE 50 AND 70 IS USED.

| | |
|---|---|
| 1CR | RACK SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD-IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD-IN RELAY |
| 7CR | BOOSTER HEAT HOLD-IN RELAY |
| 1M | DRIVE MOTOR CONTACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 3M | WASH MOTOR CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER MOTOR CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| AS | ARC SUPPRESSOR |
| BC- | BOOSTER CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD-IN RELAY |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | FILL VALVE |
| HC- | HEAT CONTACTOR/STEAM VALVE |
| HLTS | HIGH LIMIT THERMOSTAT (IF USED) |
| ISO | ISOLATION SWITCH (IF USED) |
| LT | ISOLATION LIGHT (IF USED) |
| MSW | MOTOR STOP SWITCH (IF USED) |
| PCB | POWER SWITCH/CIRCUIT BREAKER |
| RSW | RACK SWITCH |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |

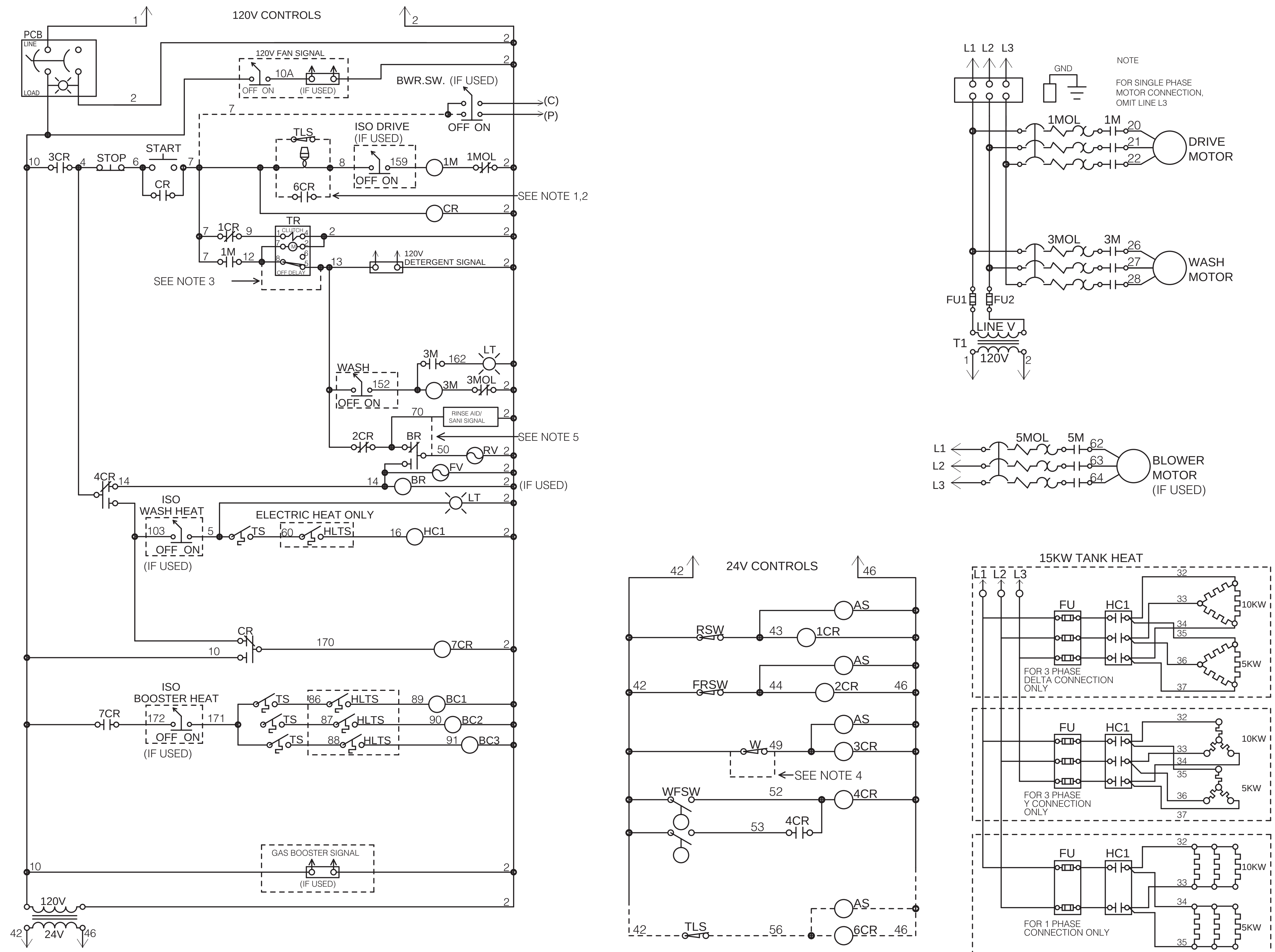
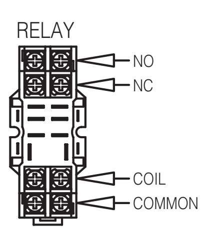



DIAGRAM STATE
POWER OFF
DOORS CLOSED
TANKS EMPTY




| | | | | |
|---|---|---|---|---|
| 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 | | |
| DATE | 15NOV94 | SHEET 1 | OF | 1 |

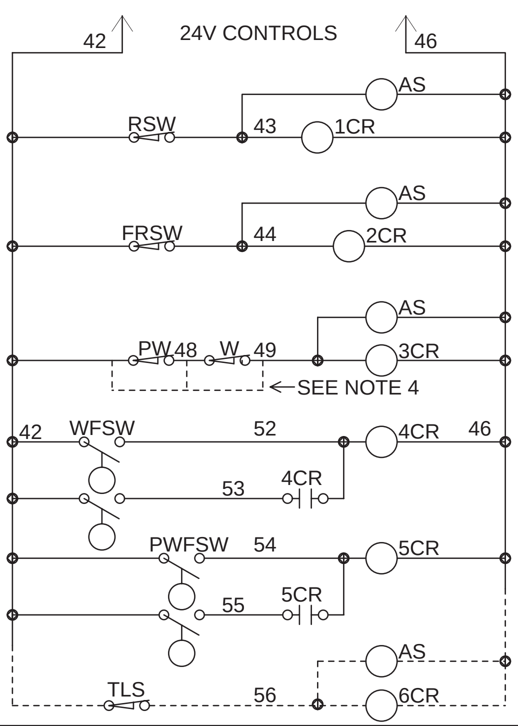
| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| I | ADDED MOTOR AUX CONTACTS TO ISO CKT | 5MAY97 | JCN |
| J | REDRAWN POWER SWITCH/CIRCUIT BREAKER | 2FEB98 | JCN |
| K | ADDED GAS BOOSTER SIGNAL | 12JUNE98 | JCN |

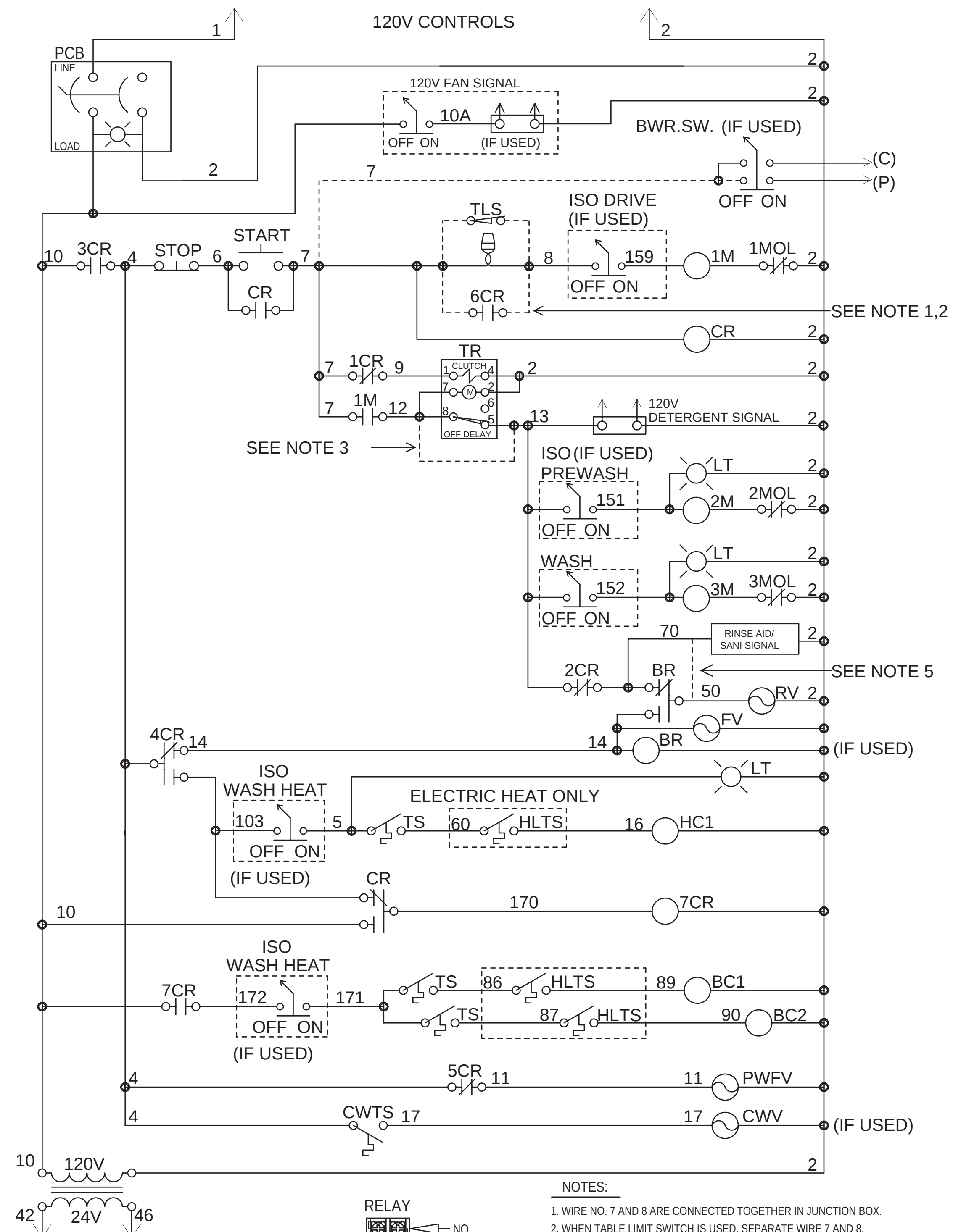
| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| L | ADDED NEW BOOSTER LOGIC | 3DEC99 | JCN |
| M | REMOVED UNUSED CWT REFERENCE | 4OCT01 | JCN |
| N | ADDED ARC SUPPRESSORS | 1FEB02 | JCN |

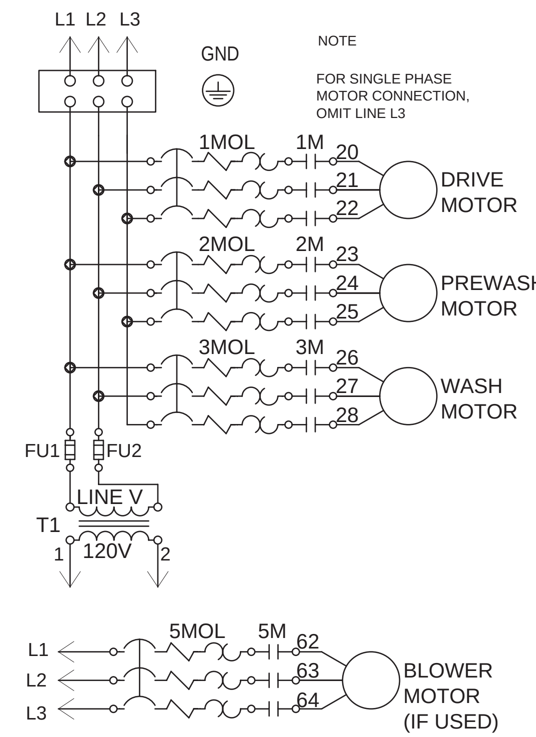
**Champion**
The Dishwashing Machine Specialists

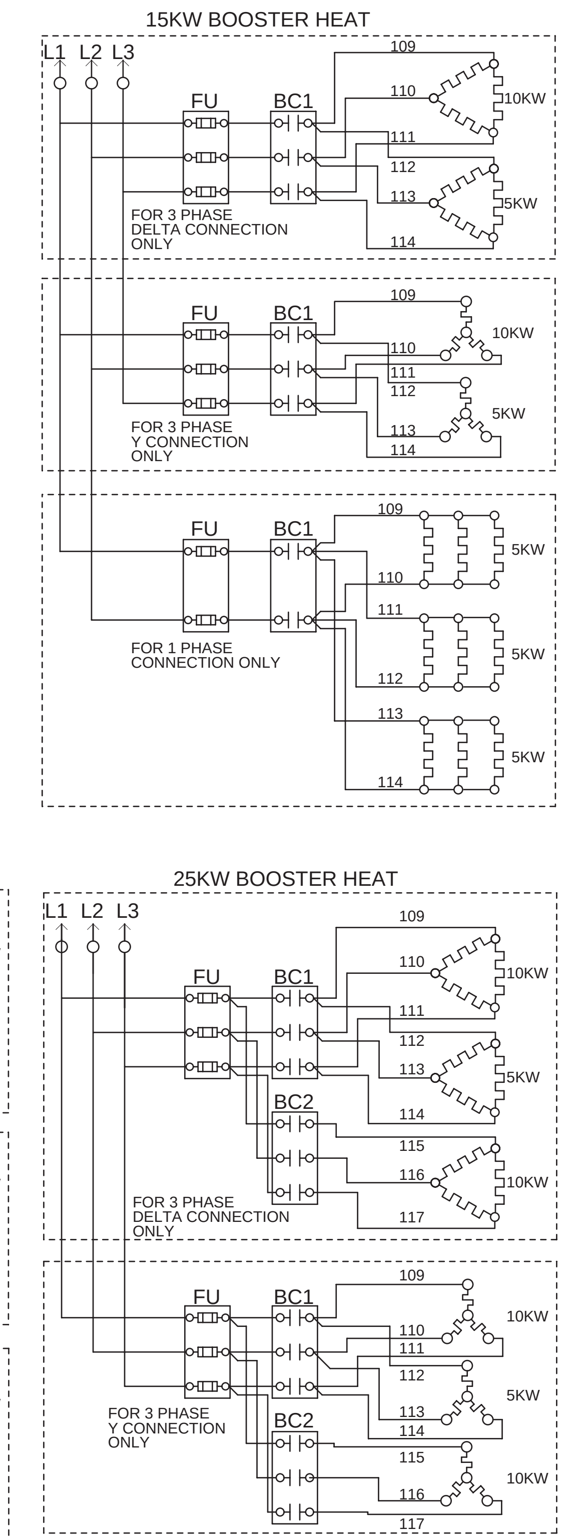
44/54KB
STEAM/ELECTRIC
B 700930 REV. N

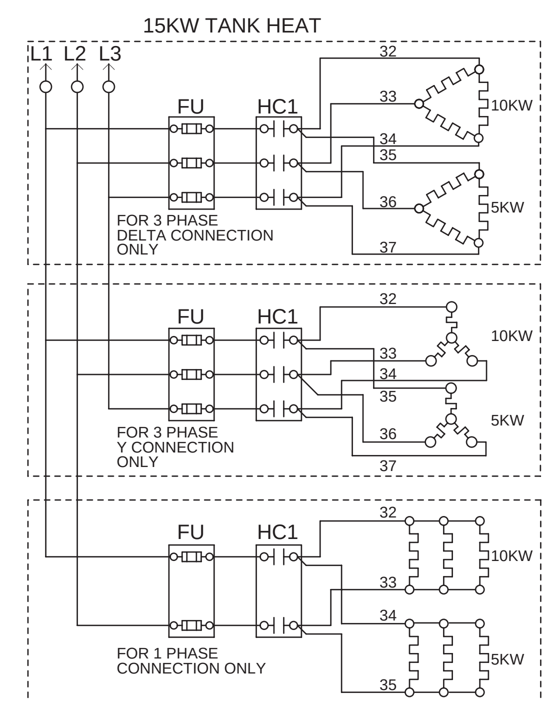
| | |
|---|---|
| 1CR | RACK SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD IN RELAY |
| 5CR | PREWASH FILL HOLD IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD IN RELAY |
| 7CR | BOOSTER HEAT HOLD-IN RELAY |
| 1M | DRIVE MOTOR CONTACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 2M | PREWASH MOTOR CONTACTOR |
| 2MOL | PREWASH MOTOR OVERLOAD |
| 3M | WASH MOTOR CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER MOTOR CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| AS | ARC SUPPRESSOR |
| BC- | BOOSTER CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD-IN RELAY |
| CWTS | COLD WATER THERMOSTAT |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | FILL 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 |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |

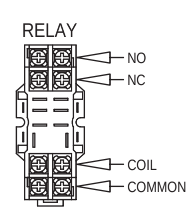



NOTES:

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. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.
5. BR RELAY USED WITH A BUILT IN BOOSTER, WITHOUT BUILT IN BOOSTER A JUMPER BETWEEN WIRE 50 AND 70 IS USED.

DIAGRAM STATE
POWER OFF
DOORS CLOSED
TANKS EMPTY

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| C | REMOVE HC2, BC2 ON 1PH HEAT | 94-2 | AL |
| D | REDRAW, B SIZE | 94-8 | AL |
| E | MOVE ISO TO OTHER SIDE OF 4CR | 94-11 | AL |
| F | REMOVE MOTOR SWITCH, ADD FAN SWITCH | 95-04-19 | AL |
| G | CHANGE BR RELAY NOTE | 96-02-14 | AL |
| H | REDRAWN POWER SWITCH/CIRCUIT BREAKER | 20MAY98 | JCN |
| I | CHANGED BOOSTER LOGIC, ADDED 7CR | 3DEC99 | JCN |
| | | | |

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 ELECTRICAL CODES.

| AUTHENTICATION | |
|---|---|
| DR.BY | A.LANNI |
| DATE | 94-11-15 |
| APP.BY | |
| DATE | |
| SCALE | |
| SHEET | 1 OF 1 |

**Champion**
The Dishwashing Machine Specialists

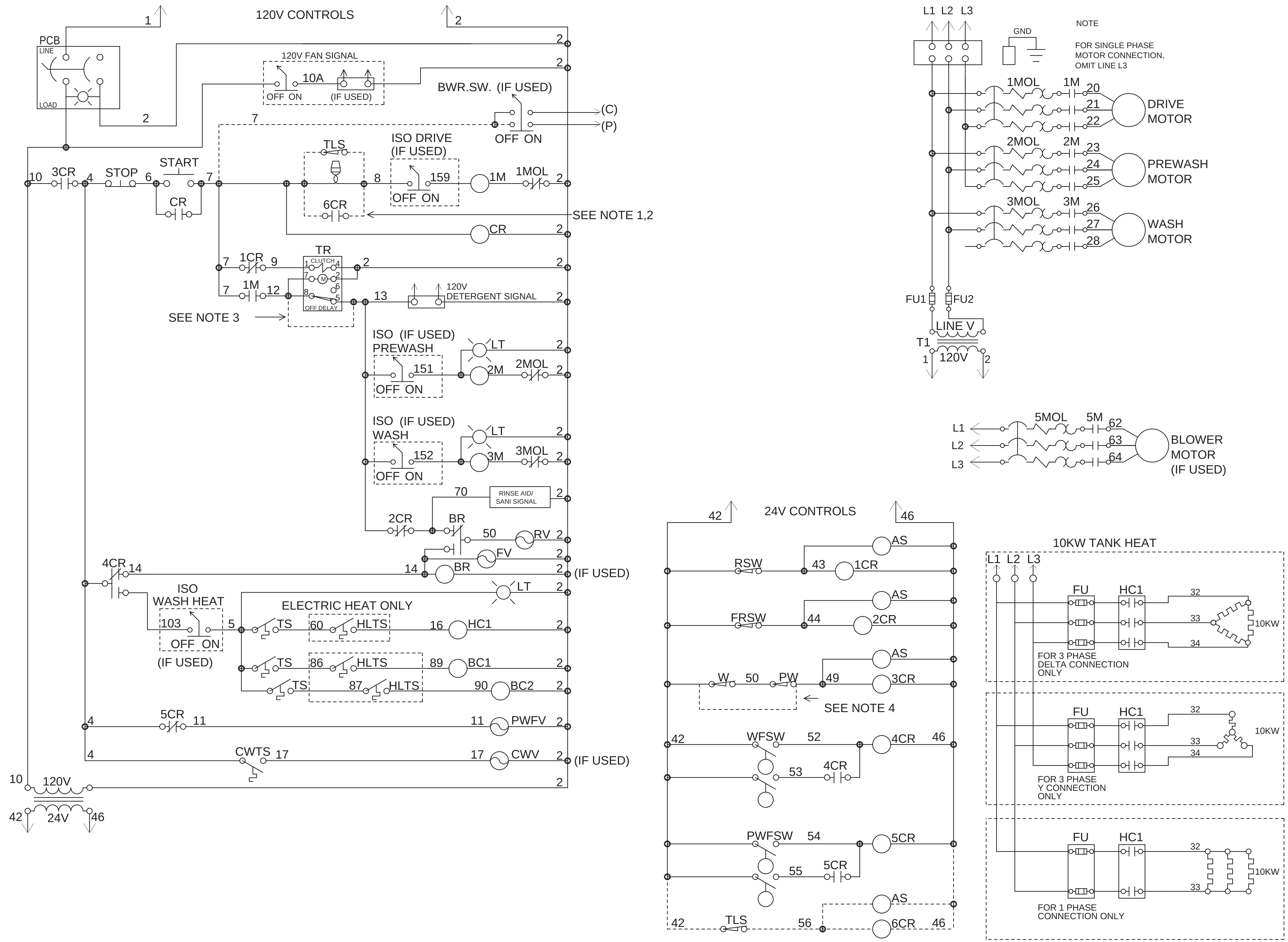
TITLE 66/WS
STEAM/ELECTRIC

B 701021 REV. J

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. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.

| | |
|---|---|
| 1CR | RACK SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD IN RELAY |
| 5CR | PREWASH FILL HOLD IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD IN RELAY |
| 1M | DRIVE MOTOR CONACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 2M | PREWASH MOTOR CONTACTOR |
| 2MOL | PREWASH MOTOR OVERLOAD |
| 3M | WASH MOTOR CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| AS | ARC SUPPRESSOR |
| BC- | BOOSTER CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD IN RELAY |
| CWTS | COLD WATER THERMOSTAT |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | WASH FILL VALVE |
| 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 |
| PWFSW | PREWASH FLOAT SWITCH |
| PWFV | PREWASH FILL VALVE |
| RSW | RACK SWITCH |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |
| WFSW | WASH FLOAT SWITCH |




| | | | |
|---|---|---|---|
| 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 | 94-11-15 | SHEET | 1 OF 1 |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| E | REDRAWN POWER SWITCH/CIRCUIT BREAKER | 20MAY98 | JCN |
| F | ADDED ARC SUPPRESSOR | 1FEB02 | JCN |
| G | ADDED MISSING 5CR RELAY COIL TO 120 VOLT CIRCUIT | 11 MAR 02 | MJM |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

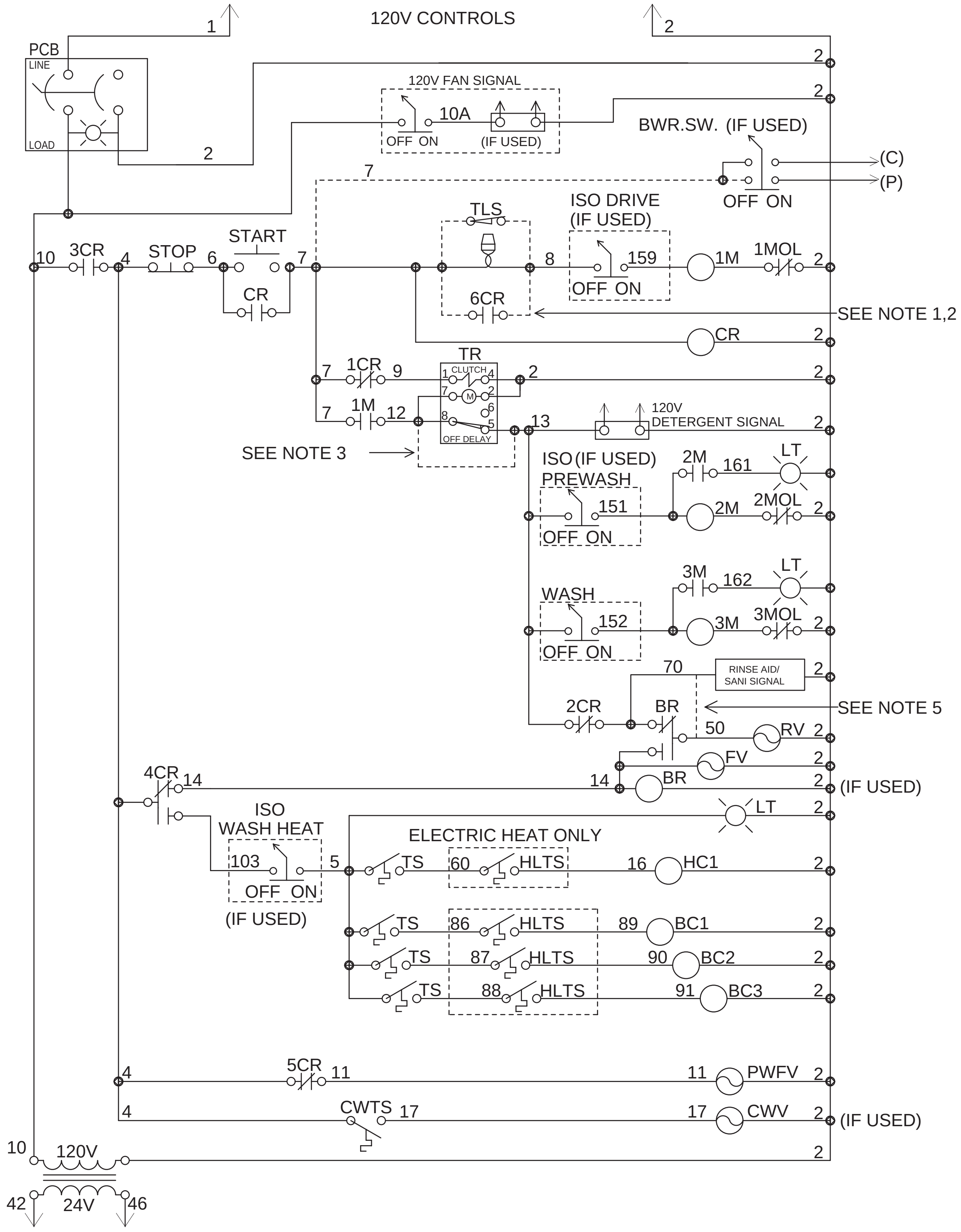
**Champion**
The Dishwashing Machine Specialists

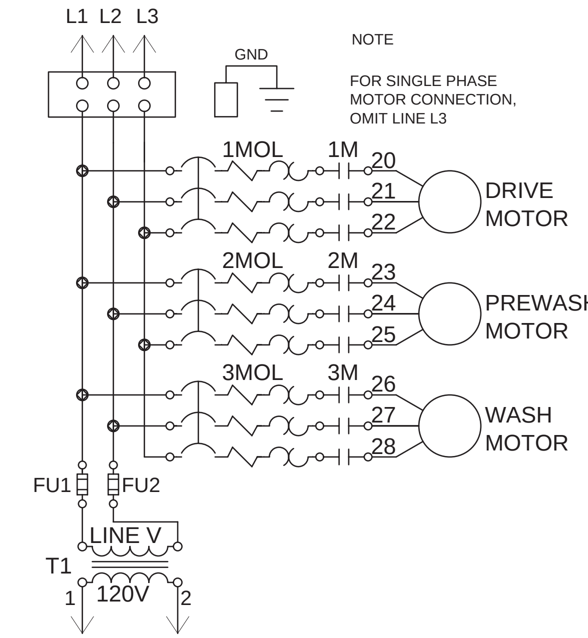
KL-66
STEAM/ELECTRIC
B 700932
REV. G
**

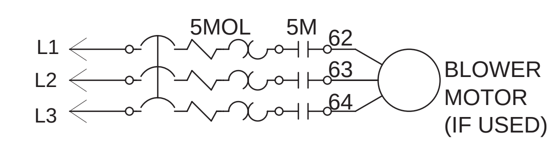
NOTES:

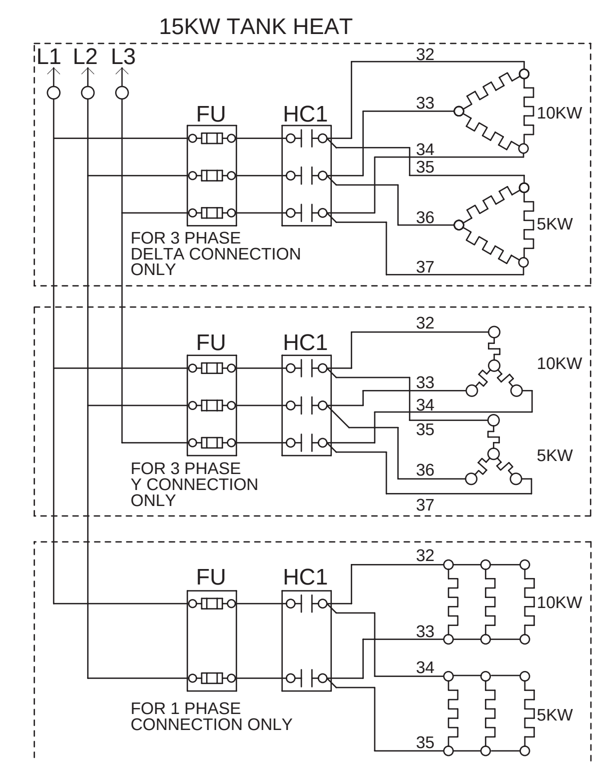
1. WIRE NO. 7 AND 8 ARE CONNECTED TOGETHER IN JUNCTION BOX.
2. WHEN TABLE LIMIT SWITCH IS USED, SEPARATE WIRE 7 AND 8, WIRE TABLE LIMIT SWITCH (TLS) AS SHOWN. WHEN MACHINE IS SUPPLIED WITH MOTORIZED RACK ADVANCE (MRA) AND A 120V TLS IS USED, CONNECT WIRES INTO DISH MACHINE JUNCTION BOX. DISCONNECT WIRE 7 AND ADD TLS IN SERIES.
3. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.
5. BR RELAY USED WITH A BUILT IN BOOSTER, WITHOUT BUILT IN BOOSTER A JUMPER BETWEEN WIRE 50 AND 70 IS USED.

| | |
|---|---|
| 1CR | RACK SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD-IN RELAY |
| 5CR | PREWASH FILL HOLD-IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD-IN RELAY |
| 1M | DRIVE MOTOR CONTACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 2M | PREWASH MOTOR CONTACTOR |
| 2MOL | PREWASH MOTOR OVERLOAD |
| 3M | WASH MOTOR CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER MOTOR CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| BC- | BOOSTER CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD-IN RELAY |
| CWTS | COLD WATER THERMOSTAT |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | FILL VALVE |
| HC- | HEAT CONTACTOR/STEAM VALVE |
| HLTS | HIGH LIMIT THERMOSTAT (IF USED) |
| ISO | ISOLATION SWITCH (IF USED) |
| LT | ISOLATION LIGHT (IF USED) |
| MSW | MOTOR STOP SWITCH (IF USED) |
| PCB | POWER SWITCH/CIRCUIT BREAKER |
| PWFV | PREWASH FILL VALVE |
| RSW | RACK SWITCH |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |



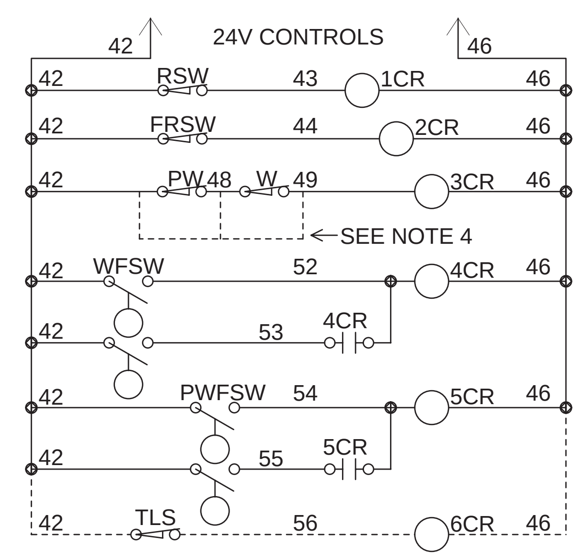
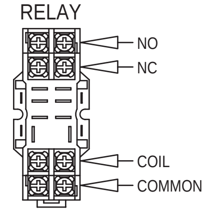




DIAGRAM STATE
POWER OFF
DOORS CLOSED
TANKS EMPTY

RELAY




| | | | |
|---|---|---|---|
| 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 | 94-11-15 | SHEET | 1 OF 1 |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| F | MOVE ISO TO OTHER SIDE OF 4CR | 94-11 | AL |
| G | REMOVE MOTOR SWITCH, ADD FAN SWITCH | 95-04-19 | AL |
| H | CHANGE BR RELAY NOTE | 96-02-14 | AL |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| I | ADDED RELAY DIAGRAM | 96-12-09 | JCN |
| J | ADDED MOTOR AUX CONTACTS TO ISO CKT | 16APRIL97 | JCN |
| K | REDREW POWER SWITCH/CIRCUIT BREAKER | 30JAN98 | JCN |

**Champion**
The Dishwashing Machine Specialists

44/54KPRB
STEAM/ELECTRIC

B 700933 REV. K

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. BR RELAY USED WITH A BUILT IN BOOSTER, WITHOUT BUILT IN BOOSTER A JUMPER BETWEEN WIRE 50 AND 70 IS USED.

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

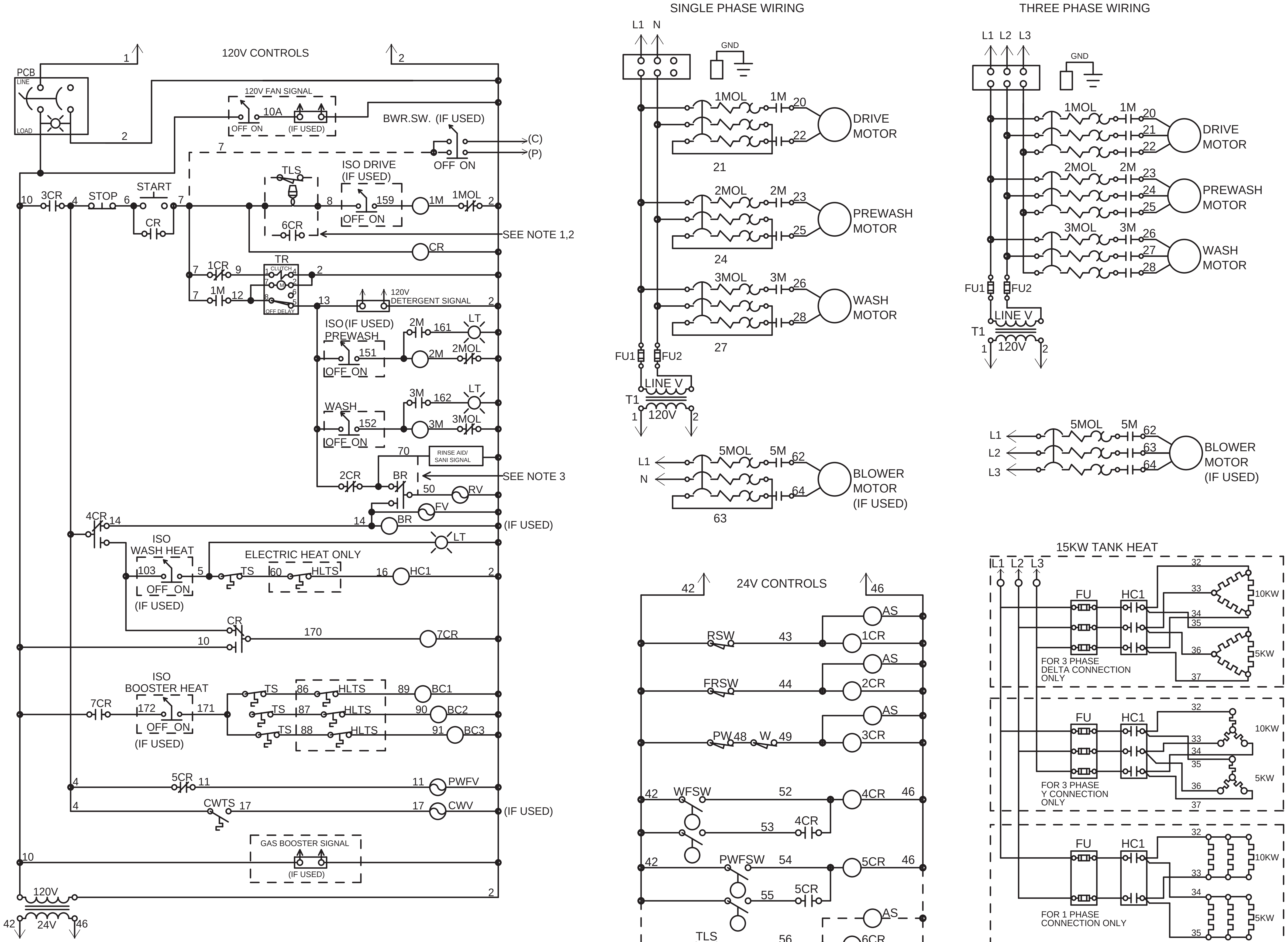
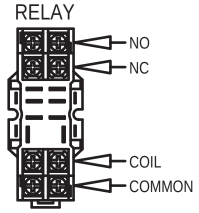



DIAGRAM STATE
POWER OFF
DOORS CLOSED
TANKS EMPTY

RELAY




| | | | |
|---|---|---|---|
| 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 | |
| DATE | 15NOV94 | SHEET 1 OF 1 | |

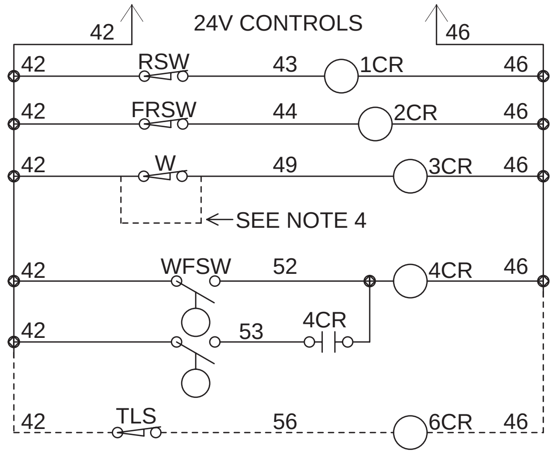
| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| J | ADDED MOTOR AUX CONTACTS TO ISO CKT | 16APRIL97 | JCN |
| K | REDREW POWER SWITCH/CIRCUIT BREAKER | 30JAN98 | JCN |
| L | ADDED GAS BOOSTER SIGNAL | 12JUNE98 | JCN |

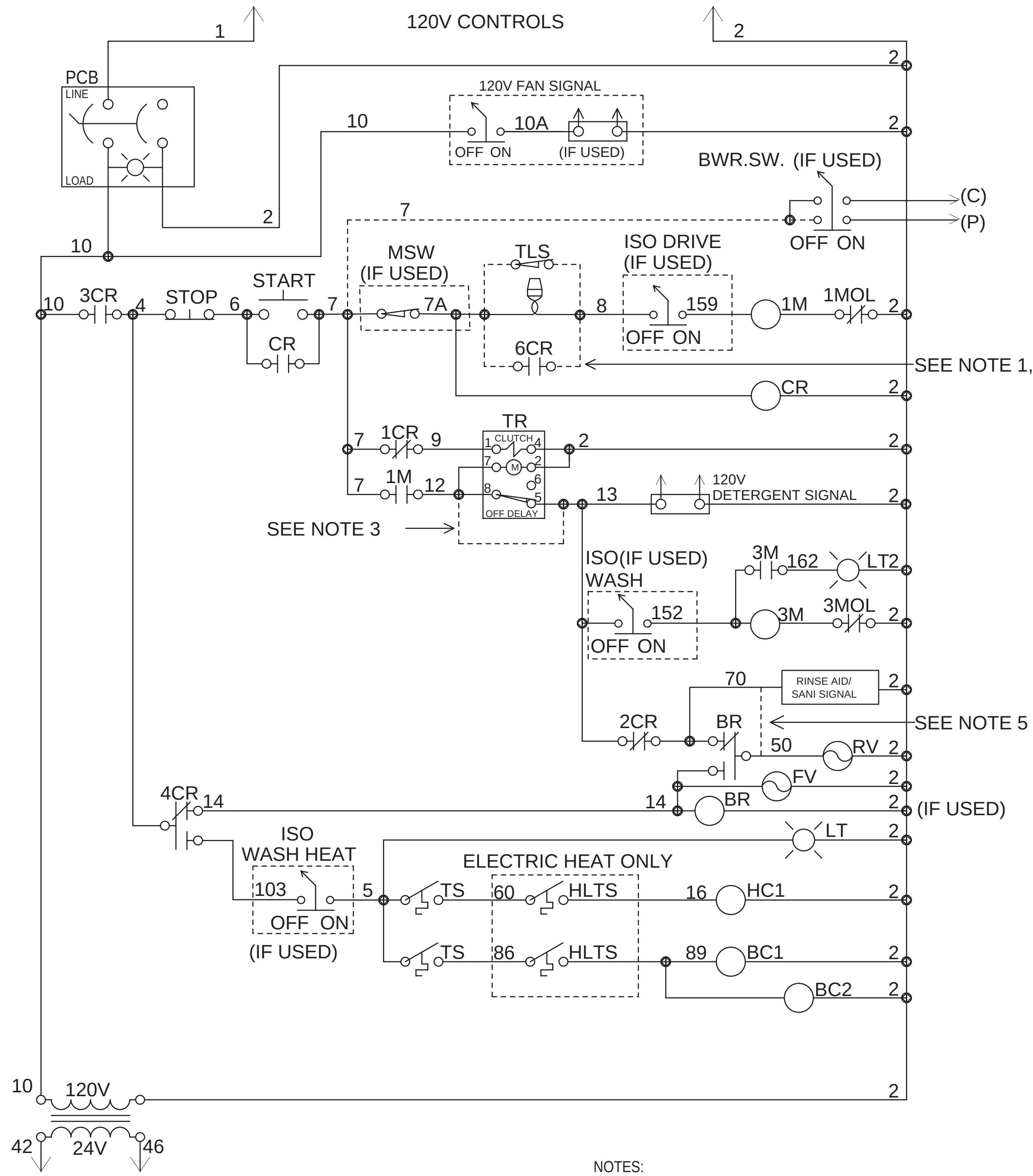
| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| M | ADDED NEW BOOSTER LOGIC | 3DEC99 | JCN |
| N | ADDED ARC SUPPRESSOR TO REED CIRCUITS | 30MAR01 | JCN |
| O | ADDED SINGLE PHASE WIRING | 02SEP03 | JAM |

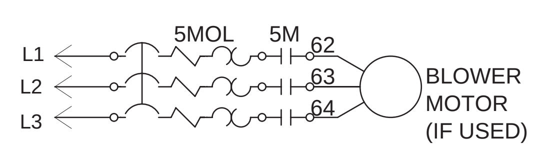
**Champion**
The Dishwashing Machine Specialists

44/54KPRB
STEAM/ELECTRIC

B 700933 REV. O

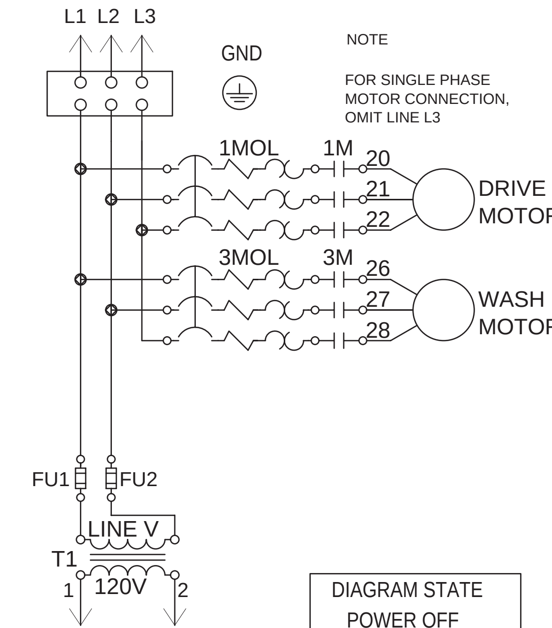



**NOTES:**

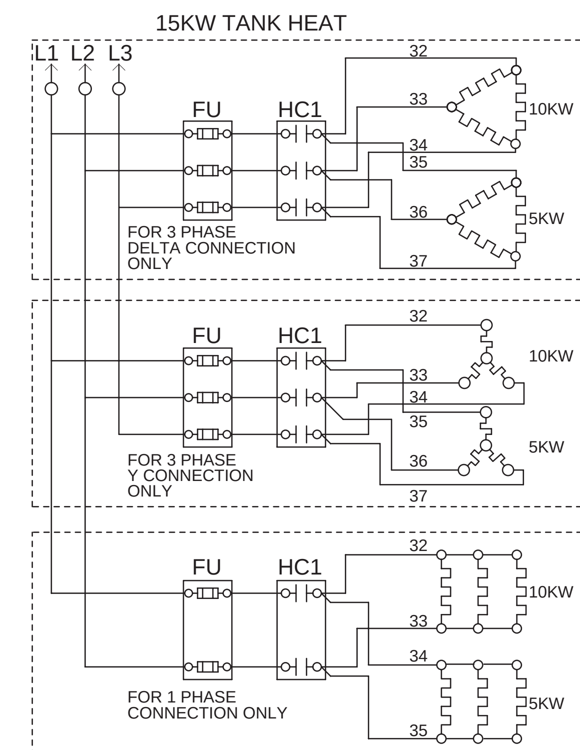
1. WIRE NO. 7 AND 8 ARE CONNECTED TOGETHER IN JUNCTION BOX.
2. WHEN TABLE LIMIT SWITCH IS USED, SEPARATE WIRE 7 AND 8, WIRE TABLE LIMIT SWITCH (TLS) AS SHOWN. WHEN MACHINE IS SUPPLIED WITH MOTORIZED RACK ADVANCE (MRA) AND A 120V TLS IS USED, CONNECT WIRES INTO DISH MACHINE JUNCTION BOX. DISCONNECT WIRE 7 AND ADD TLS IN SERIES.
3. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.
5. BR RELAY USED WITH A BUILT IN BOOSTER, WITHOUT BUILT IN BOOSTER A JUMPER BETWEEN WIRE 50 AND 70 IS USED.

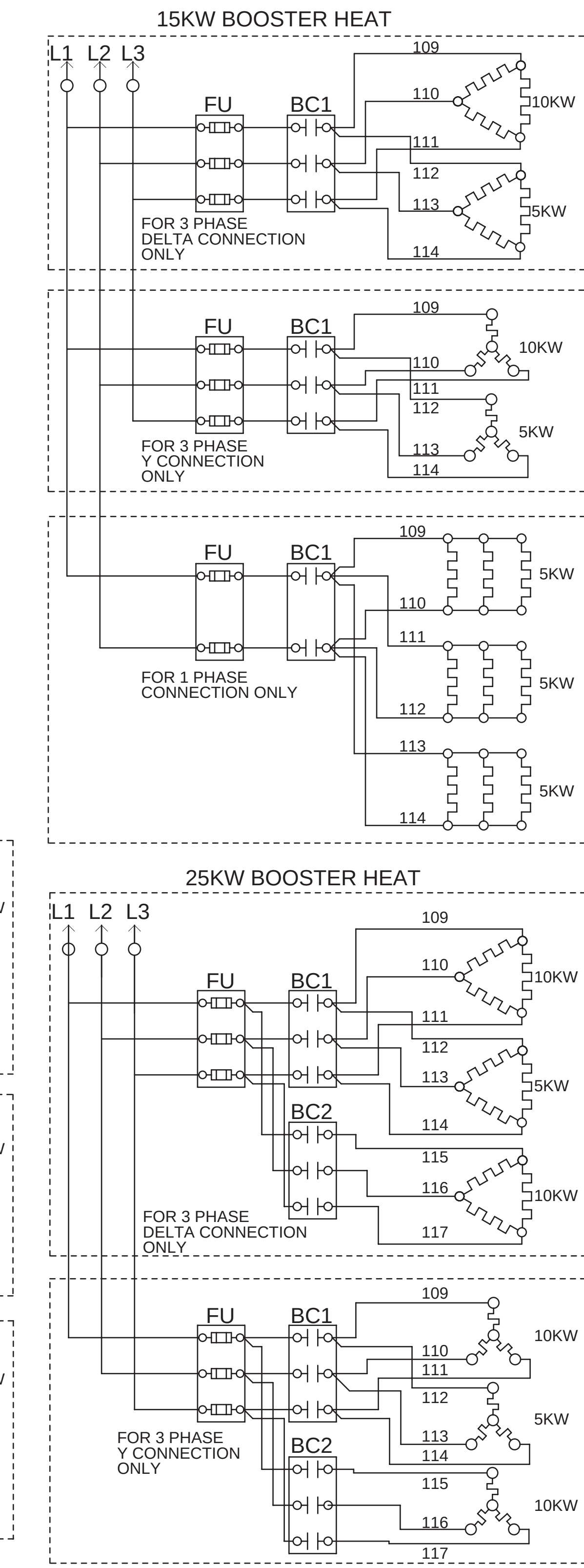



NOTE

FOR SINGLE PHASE MOTOR CONNECTION, OMIT LINE L3

DIAGRAM STATE
POWER OFF
DOORS CLOSED
TANKS EMPTY




| | |
|---|---|
| 1CR | RACK SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD IN RELAY |
| 1M | DRIVE CONTACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 3M | WASH CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| BC- | BOOSTER CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD-IN RELAY |
| CWTS | COLD WATER THERMOSTAT |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | FILL 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 |
| RSW | RACK SWITCH |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| C | REMOVE HC2, BC2 ON 1o HEAT | 94-2 | AL |
| D | ADD DRIVE MOTOR STOP SWITCH OPTION | 94-2 | AL |
| E | REDRAW, B SIZE | 94-8 | AL |
| F | MOVE ISO TO OTHER SIDE OF 4CR | 94-11 | AL |
| G | CHANGE BR RELAY NOTE | 96-02-14 | AL |
| H | ADDED MOTOR AUX CONTACT TO ISO CKT. | 16APRIL97 | JCN |
| I | REMOVED CWT, BC2 TO OPERATE WITH BC1 | 10DEC97 | JCN |
| J | REDRAWN POWER SWITCH/CIRCUIT BREAKER | 20MAY98 | JCN |

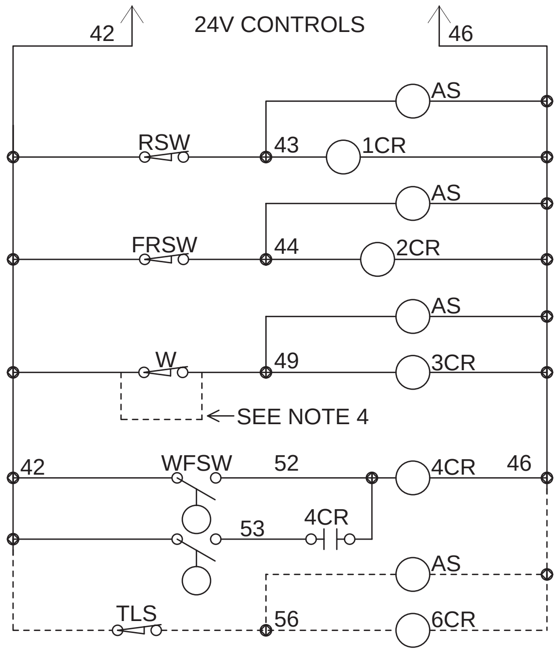
CUSTOMER TO SUPPLY RATED VOLTAGE/PHASE/Hz, AS SPECIFIED PER ORDER, TO DISCONNECT SWITCH. ALL POWER SUPPLIED TO EACH CONNECTION POINT MUST COMPLY WITH ALL LOCAL ELECTRICAL CODES.

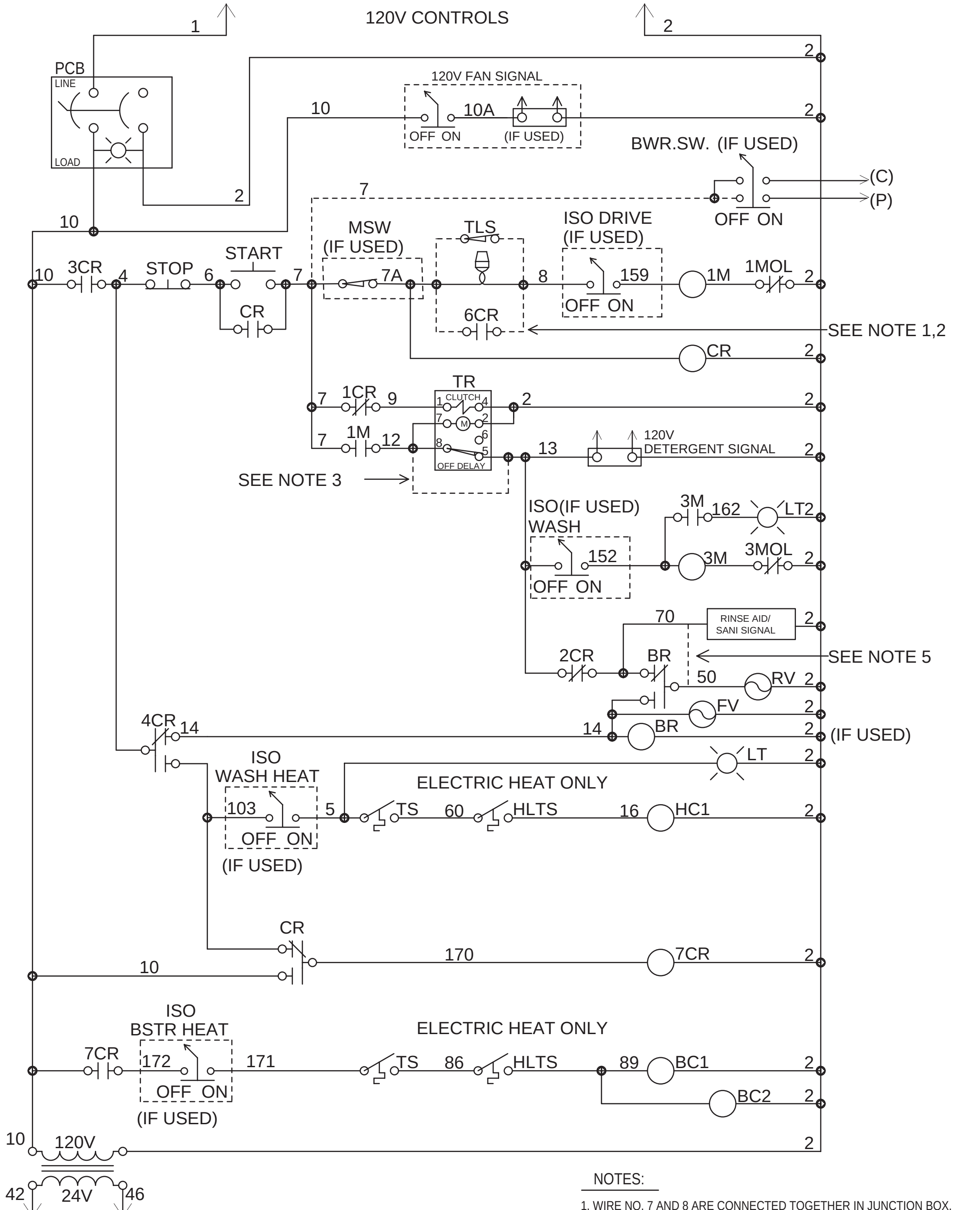
| AUTHENTICATION | |
|---|---|
| DR.BY | A.LANNI |
| DATE | 94-11-15 |
| APP.BY | |
| DATE | |
| SCALE | 1=1 |
| SHEET | 1 OF 1 |

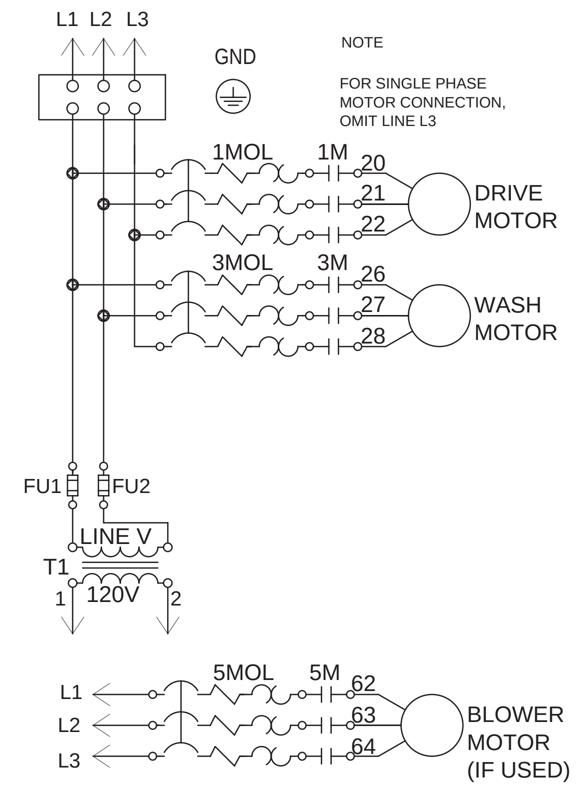
**Champion**
The Dishwashing Machine Specialists

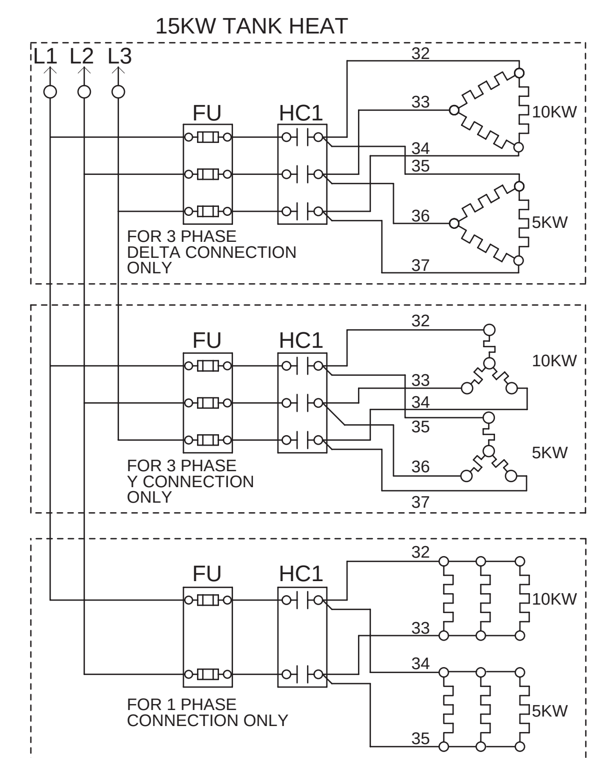
TITLE 44/WS
STEAM/ELECTRIC

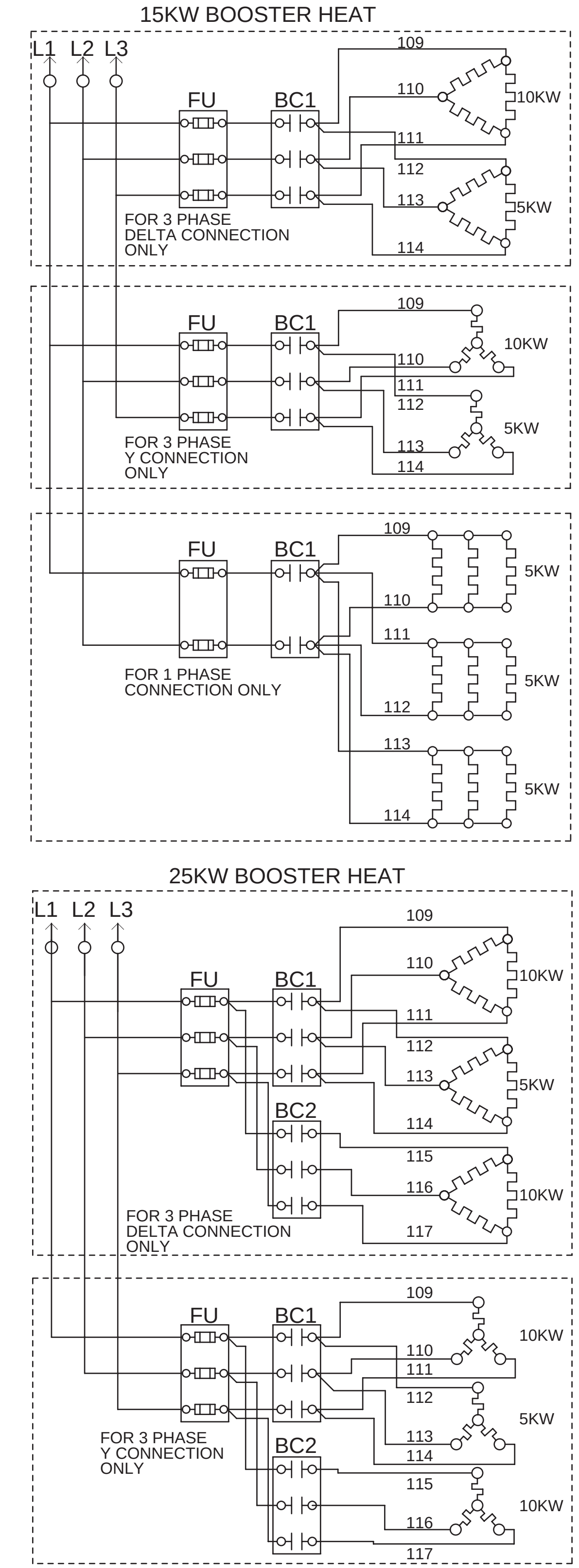
B 701020 REV. J



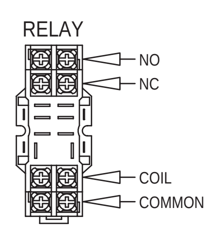




| | |
|---|---|
| 1CR | RACK SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD IN RELAY |
| 1M | DRIVE CONTACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 3M | WASH CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| AS | ARC SUPPRESSOR |
| BC- | BOOSTER CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD-IN RELAY |
| CWTS | COLD WATER THERMOSTAT |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | FILL 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 |
| RSW | RACK SWITCH |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |

DIAGRAM STATE
POWER OFF
DOORS CLOSED
TANKS EMPTY




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. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.
5. BR RELAY USED WITH A BUILT IN BOOSTER, WITHOUT BUILT IN BOOSTER A JUMPER BETWEEN WIRE 50 AND 70 IS USED.

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| F | MOVE ISO TO OTHER SIDE OF 4CR | 94-11 | AL |
| G | CHANGE BR RELAY NOTE | 96-02-14 | AL |
| H | ADDED MOTOR AUX CONTACT TO ISO CKT. | 16APRIL97 | JCN |
| I | REMOVED CWT, BC2 TO OPERATE WITH BC1 | 10DEC97 | JCN |
| J | REDRAWN POWER SWITCH/CIRCUIT BREAKER | 20MAY98 | JCN |
| K | CHANGED BOOSTER LOGIC | 3DEC99 | JCN |
| L | ADDED ARC SUPPRESSOR | 1FEB01 | JCN |

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 ELECTRICAL CODES.

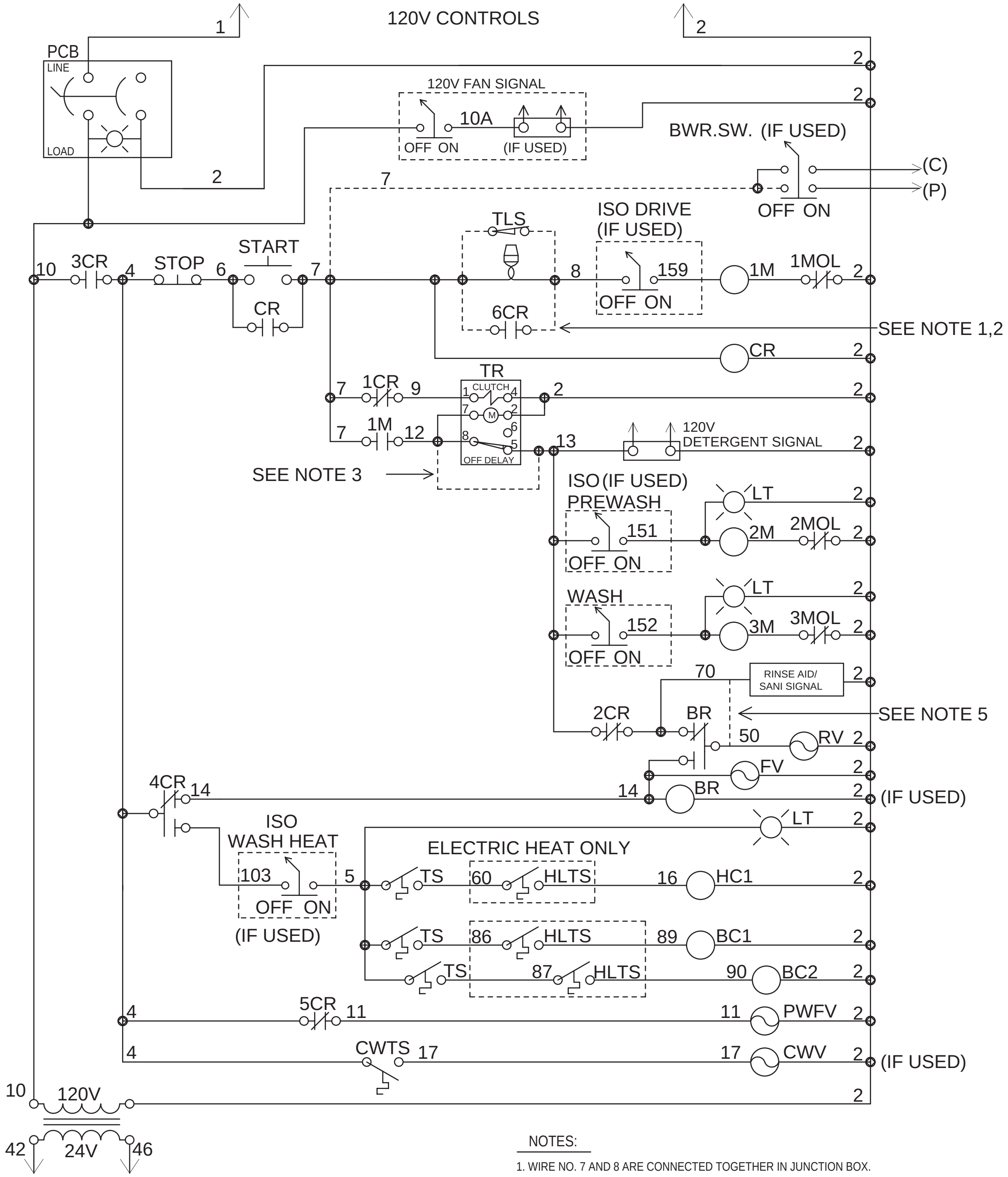
| AUTHENTICATION | |
|---|---|
| DR.BY | A.LANNI |
| DATE | 94-11-15 |
| APP.BY | |
| DATE | |
| SCALE | 1=1 |
| SHEET | 1 OF 1 |

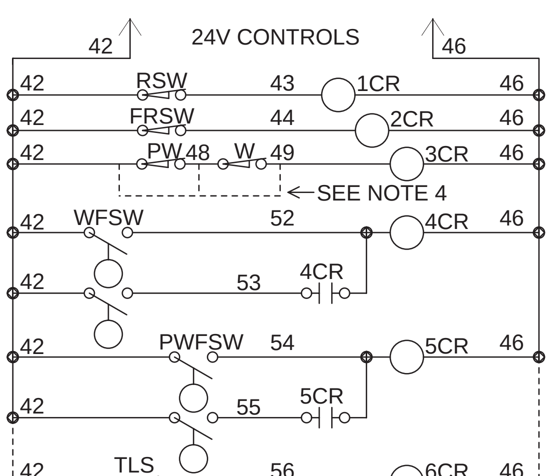
**Champion**
The Dishwashing Machine Specialists

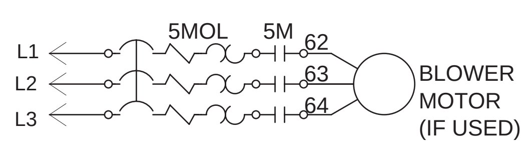
TITLE 44/WS
STEAM/ELECTRIC

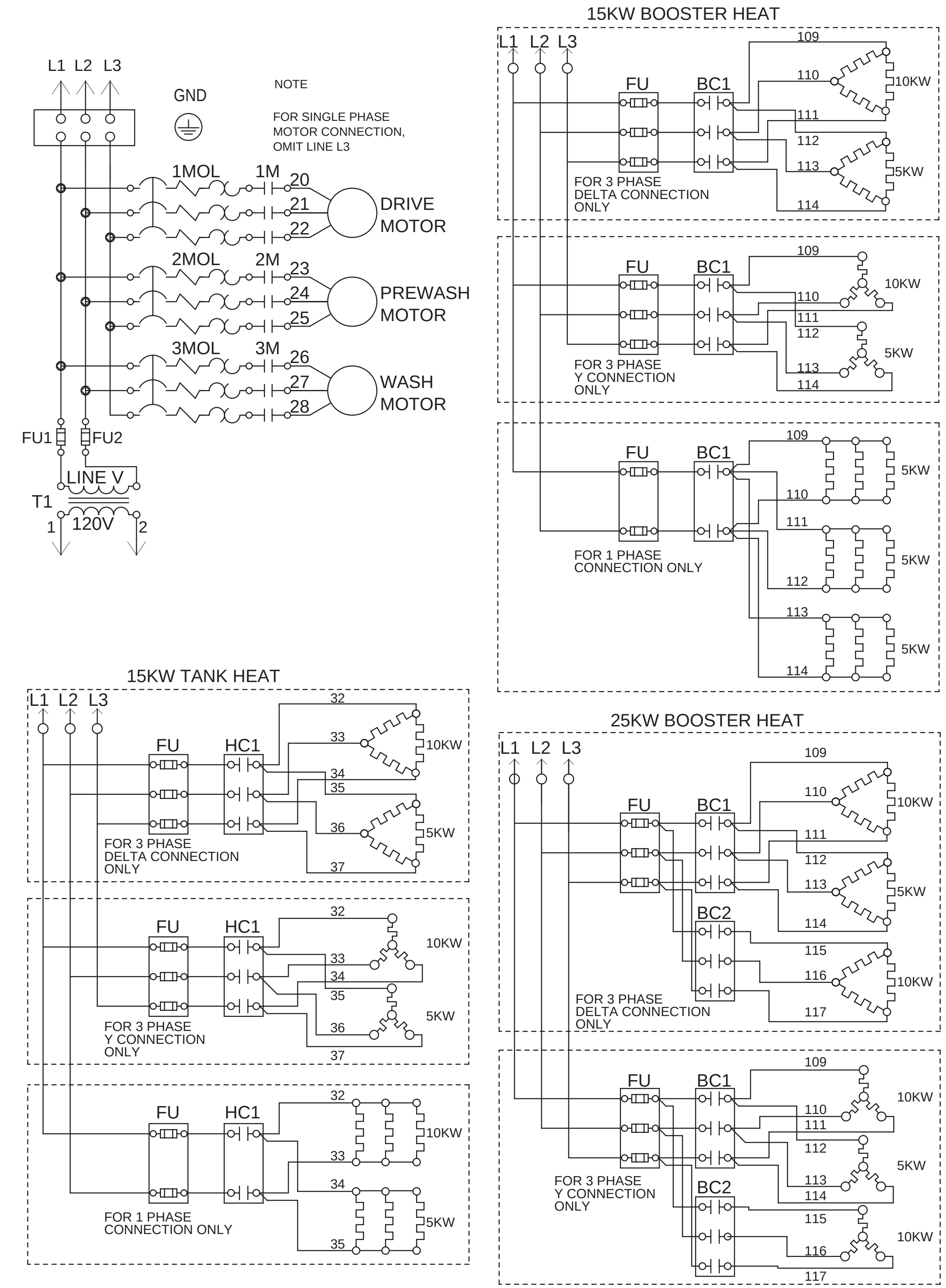
B 701020 REV. L

| | |
|---|---|
| 1CR | RACK SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD IN RELAY |
| 5CR | PREWASH FILL HOLD IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD IN RELAY |
| 1M | DRIVE MOTOR CONTACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 2M | PREWASH MOTOR CONTACTOR |
| 2MOL | PREWASH MOTOR OVERLOAD |
| 3M | WASH MOTOR CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER MOTOR CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| BC- | BOOSTER CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD-IN RELAY |
| CWTS | COLD WATER THERMOSTAT |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | FILL 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 |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |




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. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.
5. BR RELAY USED WITH A BUILT IN BOOSTER, WITHOUT BUILT IN BOOSTER A JUMPER BETWEEN WIRE 50 AND 70 IS USED.

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| B | RENUMBER BOOSTER, REDRAW | 94-1 | AL |
| C | REMOVE HC2, BC2 ON 1PH HEAT | 94-2 | AL |
| D | REDRAW, B SIZE | 94-8 | AL |
| E | MOVE ISO TO OTHER SIDE OF 4CR | 94-11 | AL |
| F | REMOVE MOTOR SWITCH, ADD FAN SWITCH | 95-04-19 | AL |
| G | CHANGE BR RELAY NOTE | 96-02-14 | AL |
| H | REDRAWN POWER SWITCH/CIRCUIT BREAKER | 20MAY98 | JCN |
| | | | |

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 ELECTRICAL CODES.

| AUTHENTICATION | |
|---|---|
| DR.BY | A.LANNI |
| DATE | 94-11-15 |
| APP.BY | |
| DATE | |
| SCALE | 1=1 |
| SHEET | 1 OF 1 |

**Champion**

The Dishwashing Machine Specialists

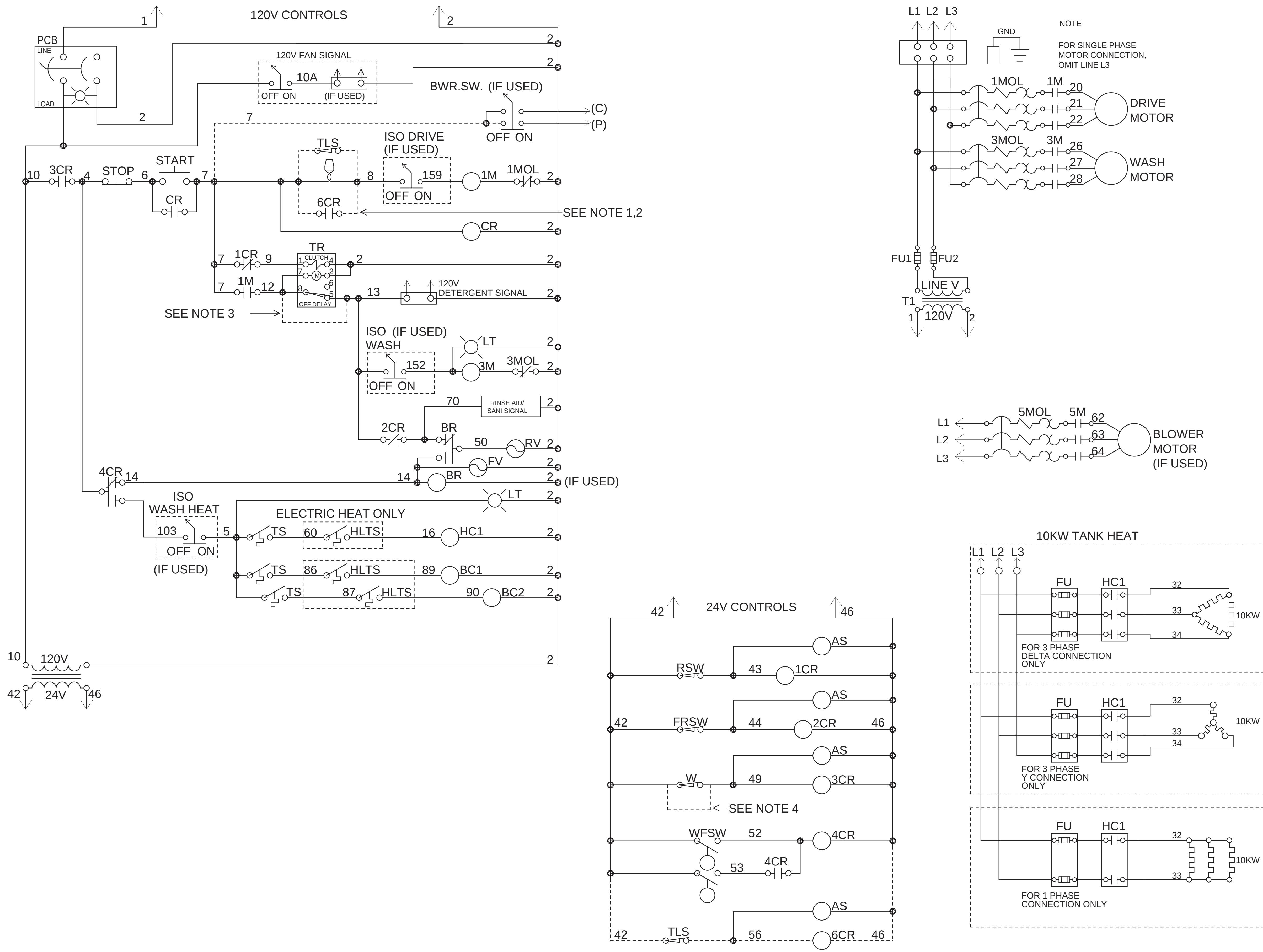
TITLE 66/WS STEAM/ELECTRIC

B 701021 REV. H

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. JUMPER TO BE USED WHEN IDLE PUMP IS NOT USED.
4. USE JUMPER WHEN DOOR SAFETY SWITCHES ARE NOT USED.

| | |
|---|---|
| 1CR | RACK SWITCH RELAY |
| 2CR | FINAL RINSE SWITCH RELAY |
| 3CR | DOOR SAFETY SWITCH RELAY |
| 4CR | WASH FILL HOLD IN RELAY |
| 6CR | TABLE LIMIT SWITCH HOLD IN RELAY |
| 1M | DRIVE MOTOR CONACTOR |
| 1MOL | DRIVE MOTOR OVERLOAD |
| 3M | WASH MOTOR CONTACTOR |
| 3MOL | WASH MOTOR OVERLOAD |
| 5M | BLOWER CONTACTOR |
| 5MOL | BLOWER MOTOR OVERLOAD |
| AS | ARC SUPPRESSOR |
| BC- | BOOSTER CONTACTOR/STEAM VALVE |
| BR | BOOSTER RELAY |
| BWR.SW. | BLOWER SWITCH |
| CR | HOLD IN RELAY |
| CWTS | COLD WATER THERMOSTAT |
| DSS | DOOR SAFETY SWITCH |
| FU | FUSE/FUSE BLOCK |
| FV | WASH FLOAT SWITCH |
| 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 |
| RV | RINSE VALVE |
| T1 | CONTROL TRANSFORMER |
| TLS | TABLE LIMIT SWITCH |
| TR | PUMP TIMER |
| TS | THERMOSTAT |
| WFSW | WASH FLOAT SWITCH |




| | | | |
|---|---|---|---|
| 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 | 94-11-15 | SHEET | 1 OF 1 |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| B | ADD FAN SIGNAL AND DRIVE ISO RENUMBER BOOSTER THERMOSTAT | 93-11 | AL |
| C | MOVE ISO TO OTHER SIDE OF 4CR REDRAW B SIZE | 94-11 | AL |
| D | REMOVE MOTOR SWITCH, ADD FAN SWITCH | 95-05-03 | AL |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| E | REDRAWN POWER SWITCH/CIRCUIT BREAKER | 20MAY98 | JCN |
| F | REMOVED UNUSED CWT REFERENCE | 4OCT01 | JCN |
| G | ADDED ARC SUPPRESSOR | 1FEB02 | JCN |

**Champion**
The Dishwashing Machine Specialists

KL-44
STEAM/ELECTRIC

B 700931 REV. G

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