



*Warewashing Systems*

# INSTALLATION, OPERATION, AND SERVICE MANUAL



**CONSERVER® XL2 DISHMACHINES**

Conserver® XL2 Manual • 07610-002-10-23-T

# CONSERVER®



# **MANUFACTURER'S WARRANTY**

## **ONE YEAR LIMITED PARTS AND LABOR WARRANTY**

**ALL NEW JACKSON DISHWASHERS ARE WARRANTED TO THE ORIGINAL PURCHASER TO BE FREE FROM DEFECTS IN MATERIAL OR WORKMANSHIP, UNDER NORMAL USE AND OPERATION, FOR A PERIOD OF (1) ONE YEAR FROM DATE OF PURCHASE, BUT IN NO EVENT TO EXCEED (18) EIGHTEEN MONTHS FROM DATE OF SHIPMENT FROM THE FACTORY.**

Jackson WWS agrees under this warranty to repair or replace, at its discretion, any original part which fails under normal use due to faulty material or workmanship during the warranty period, providing the equipment has been unaltered, and has been properly installed, maintained, and operated in accordance with the applicable factory instruction manual and failure is reported to an authorized service agency within the warranty period. This includes the use of factory-specified genuine replacement parts, purchased directly from a Jackson-authorized parts distributor or service agency. Use of generic replacement parts may create a hazard and void warranty certification.

The labor to repair or replace such failed part will be paid by Jackson WWS, within the continental United States, Hawaii, and Canada, during the warranty period provided a Jackson WWS authorized service agency, or those having prior authorization from the factory, performs the service. Any repair work by persons other than a Jackson WWS authorized service agency is the sole responsibility of the customer. Labor coverage is limited to regular hourly rates; overtime premiums and emergency service charges will not be paid by Jackson WWS.

Accessory components not installed by the factory carry a (1) one year parts warranty only. Accessory components such as table limit switches, pre-rinse units, etc. that are shipped with the unit and installed at the site are included. Labor to repair or replace these components is not covered by Jackson WWS.

This warranty is void if failure is a direct result from shipping, handling, fire, water, accident, misuse, acts of God, attempted repair by unauthorized persons, improper installation, if serial number has been removed or altered, or if unit is used for a purpose other than originally intended.

### **TRAVEL LIMITATIONS**

Jackson WWS limits warranty travel time to (2) two hours and mileage to (100) one-hundred miles. Jackson WWS will not pay for travel time and mileage that exceeds this, or any additional fees—such as those for air or boat travel—without prior authorization.

### **WARRANTY REGISTRATION**

To register your product, go to [www.jacksonwws.com](http://www.jacksonwws.com) or call 1-888-800-5672. Failure to register your product will void the warranty.

### **REPLACEMENT PARTS WARRANTY**

Jackson replacement parts are warranted for a period of (90) ninety days from date of installation or (180) one-hundred-eighty days from the date of shipment from the factory, whichever occurs first.

### **PRODUCT CHANGES AND UPDATES**

Jackson WWS reserves the right to make changes in the design and specification of any equipment as engineering or necessity requires.

THIS IS THE ENTIRE AND ONLY WARRANTY OF JACKSON WWS. JACKSON'S LIABILITY ON ANY CLAIM OF ANY KIND, INCLUDING NEGLIGENCE, WITH RESPECT TO THE GOODS OR SERVICES COVERED HEREUNDER, SHALL IN NO CASE EXCEED THE PRICE OF THE GOODS OR SERVICES OR PART THEREOF WHICH GIVES RISE TO THE CLAIM.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING FOR FITNESS OR MERCHANTABILITY, THAT ARE NOT SET FORTH HEREIN, OR THAT EXTEND BEYOND THE DURATION HEREOF. UNDER NO CIRCUMSTANCES WILL JACKSON WWS BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECT OR CONSEQUENTIAL, OR FOR DAMAGES IN THE NATURE OF PENALTIES, ARISING OUT OF THE USE OR INABILITY TO USE ANY OF ITS PRODUCTS.

### **ITEMS NOT COVERED**

THIS WARRANTY DOES NOT COVER CLEANING OR DELIMING OF THE UNIT OR ANY COMPONENT SUCH AS, BUT NOT LIMITED TO, WASH ARMS, RINSE ARMS, OR STRAINERS AT ANYTIME. NOR DOES IT COVER ADJUSTMENTS SUCH AS, BUT NOT LIMITED TO, TIMER CAMS, THERMOSTATS, OR DOORS BEYOND (30) THIRTY DAYS FROM THE DATE OF INSTALLATION. IN ADDITION, THE WARRANTY WILL ONLY COVER REPLACEMENT WEAR ITEMS SUCH AS CURTAINS, DRAIN BALLS, DOOR GUIDES, OR GASKETS DURING THE FIRST (30) THIRTY DAYS AFTER INSTALLATION. ALSO, NOT COVERED ARE CONDITIONS CAUSED BY THE USE OF INCORRECT (NON-COMMERICAL) GRADE DETERGENTS, INCORRECT WATER TEMPERATURE OR PRESSURE, OR HARD WATER CONDITIONS.

## REVISION HISTORY

Revision Letter	Revision Date	Made by	Applicable ECNs	Details
F	5-7-04	MAW	7040	Added new logo. Changed to new layout. Added new parts for the redesigned Conservor XL unit.
G	11-8-06	MAW	N/A	Added instructions and schematics for use with universal timers.
H	11-28-07	MAW	7107, 7257, 7478, 7293, 7553, 7122, 7447, 7559, 7258, 7518	Converted to centered layout with bottom date stamp for revisions. Combined installation and technical manuals. Added bowl option and new style control box for universal timers. Combined installation & service manuals into one: obsolete I/O manual 7610-002-04-66.
I	9-22-09	ARL	N/A	Corrected shim kit part number on pg. 57.
J	3-20-12	RLC	8226	Made Buzzers optional.
K	5-22-12	RLC	QOF 386	Updated parts.
L	3-7-13	RLC	QOF NBD-219	Update Manufacturer Information. Updated Pump assembly view.
M	8-21-13	RLC	8271	Added magnet cover.
N	8-18-14	KAP	8305	Updated P/N on pg. 54.
O	8-29-14	KAP	N/A	Removed part on pg. 50. Corrected P/N 05700-021-34-38 pg. 50. Updated part on pg. 52.
P	9-15-14	KAP	QOF 386	Updated P/N 8 and 8a on pg. 39. 05700-003-25-02 and 05700-003-25-03.
Q	4-19-16	JH	8369	Removed the XL, AXL, AXL2, AXL2-CML, and AXL2-CMR units from the manual. Changed Hood and Controls on the XL2 to new design. Removed list of Service Repair Centers. Updated the Hood Assembly, pg. 35. Removed references to old/new styles and parts associated with the old style. Removed 60 Hz motor assembly from pg.45. Changed P/Ns of 60 Hz motor assembly and parts on pg. 46. Added new 3/4" plumbing, new air-gap, and new air-gap insert to pg. 42. Removed vacuum breaker repair kit from pg. 44.
R	4-17-17	JH	8417 8497	Changed timer from 05945-111-35-32 to 05945-004-11-78. Added Delay Timer and Delay Timer Cover to Control Box. Audited manual and corrected all incorrect P/Ns. Complete update of the manual to new format.
S	8-28-17	JH	N/A	Corrected Cantilever Arm part number. Added 115 V Chemical Feeder Pump Assemblies to the Control Box pages. Removed assembly numbers from Chemical Feeder Pump Components page and referenced Control Box pages.
T	11-15-17	JH	N/A	Changed picture of machine on the cover. Removed references to optional machine cycles.



## **Conserver® XL2 Series**

### **Conserver XL2**

Low-temperature, chemical-sanitizing, dual-rack dishmachine.

### **Conserver XL2-CML**

Low-temperature, chemical-sanitizing, dual-rack dishmachine with left-hand feed-through.

### **Conserver XL2-CMR**

Low-temperature, chemical-sanitizing, dual-rack dishmachine with right-hand feed-through.

### **Conserver XLS**

Solid Dispenser Option.

The manufacturer provides technical support for all of the dishmachines detailed in this manual. We strongly recommend that you refer to this manual before making a call to our technical support staff. Please have this manual open when you call so that our staff can refer you, if necessary, to the proper page. Technical support is not available on holidays.

Contact technical support toll free at 1-888-800-5672.

Technical support is available for service personnel only.

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## SYMBOLS



- risk of injury to personnel.



- risk of damage to equipment.



- risk of electrical shock.



- caustic chemicals.



- reference data plate.



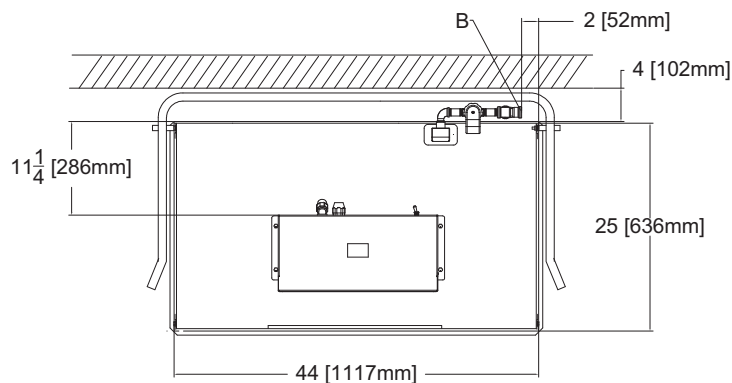
- lockout electrical power.

**NOTICE** - important note.

## ABBREVIATIONS & ACRONYMS

**ANSI** - American National Standards Institute  
**CFM** - Cubic Feet per Minute  
**GHT** - Garden Hose Thread  
**GPH** - Gallons per Hour  
**GPM** - Gallons per Minute  
**GPG** - Grains per Gallon  
**HP** - Horse Power  
**Hz** - Hertz  
**ID** - Inside Diameter  
**kW** - Kilowatts  
**LPM** - Liters per Minute  
**NFPA** - National Fire Protection Association  
**NPT** - National Pipe Thread  
**PSI** - Pounds per Square Inch  
**V** - Volts

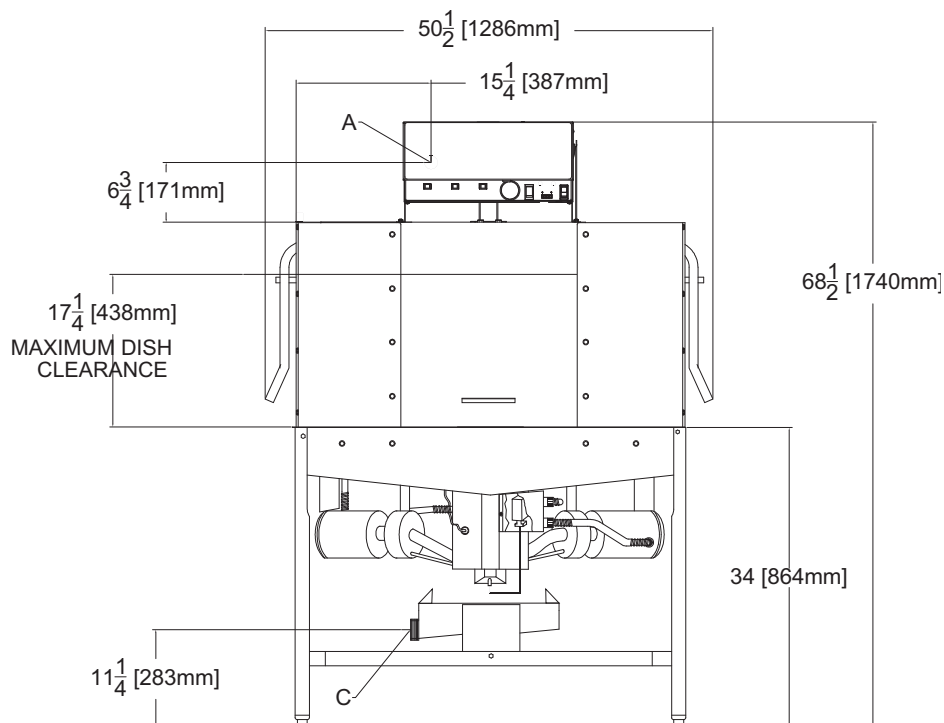
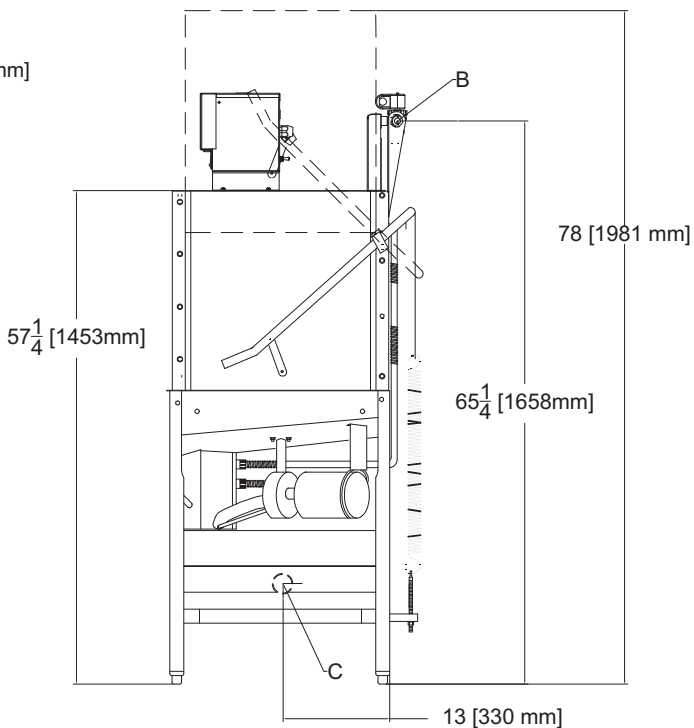




## LEGEND:

- A - Electrical connection
- B - Water inlet 1/2" NPT
- C - Drain connection 2" NPT

All dimensions from the floor can be increased 1/2" using the machine's adjustable feet.



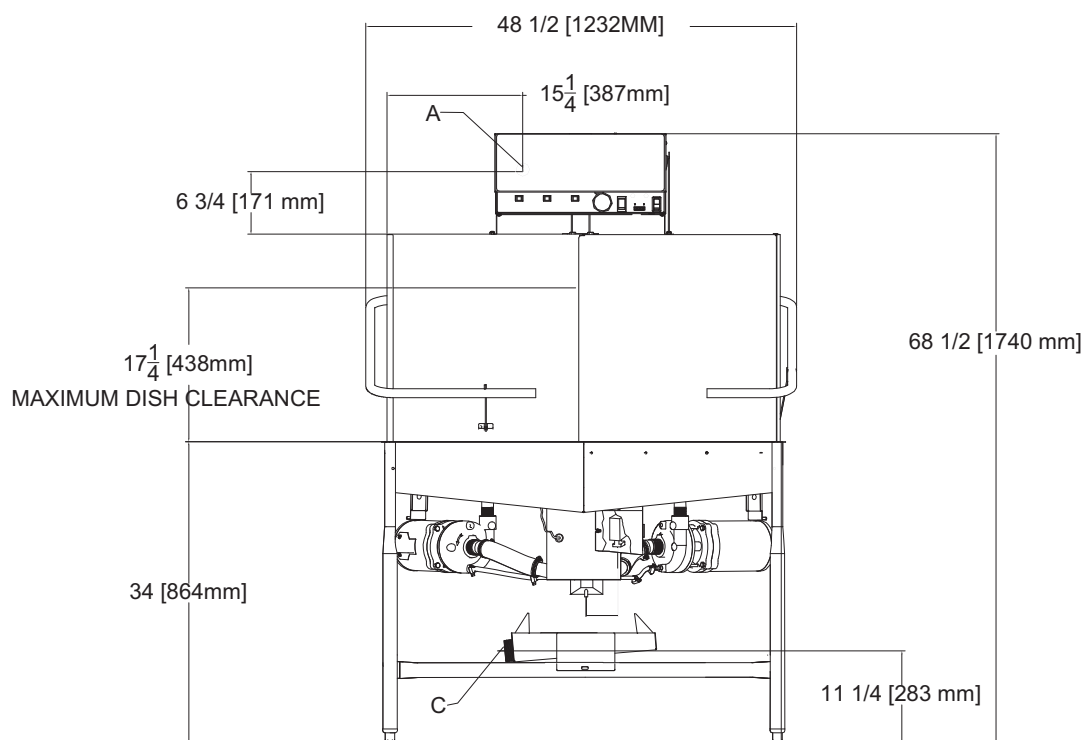
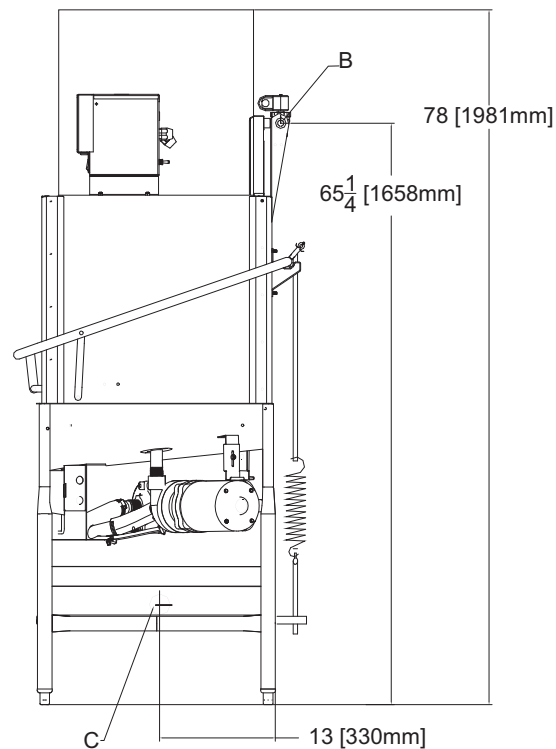
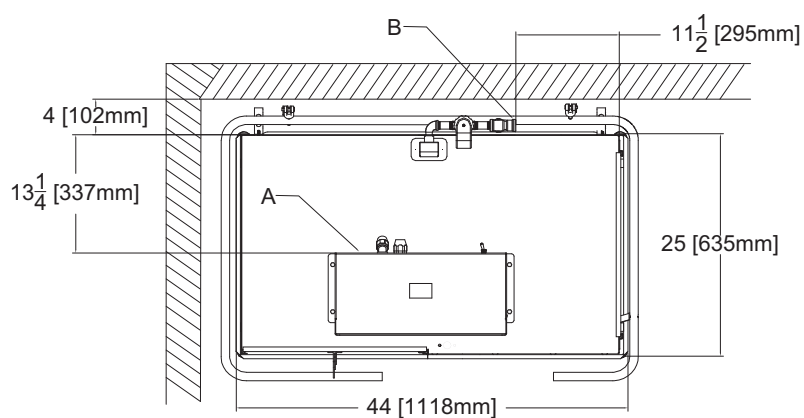
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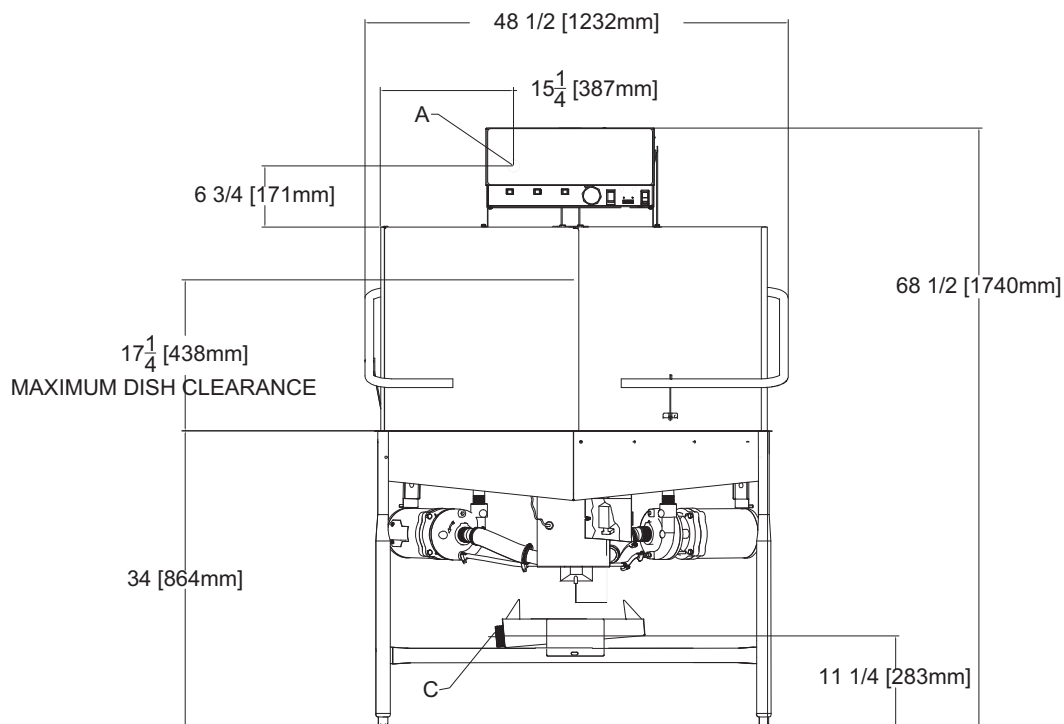
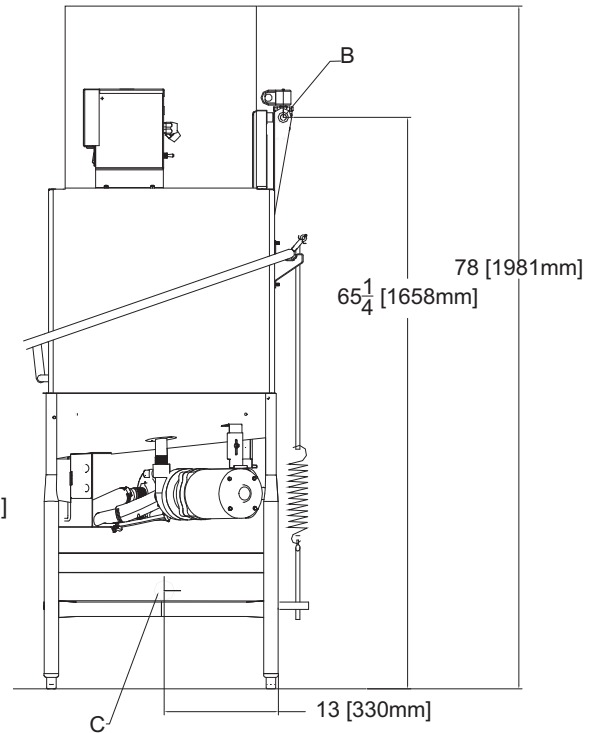
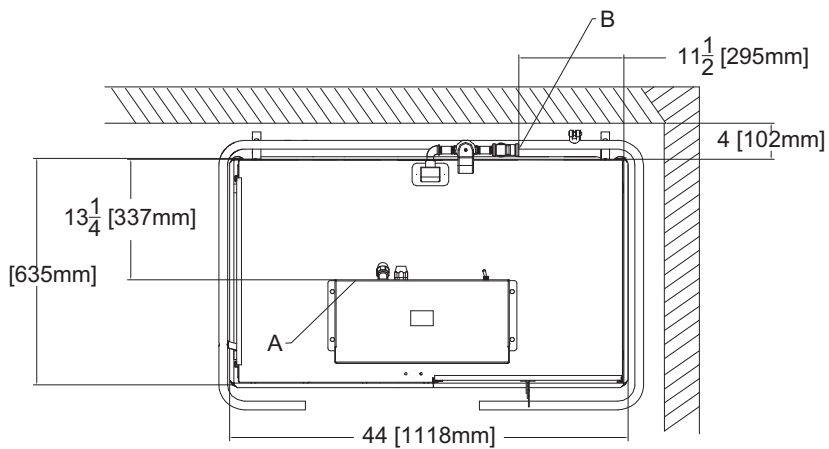
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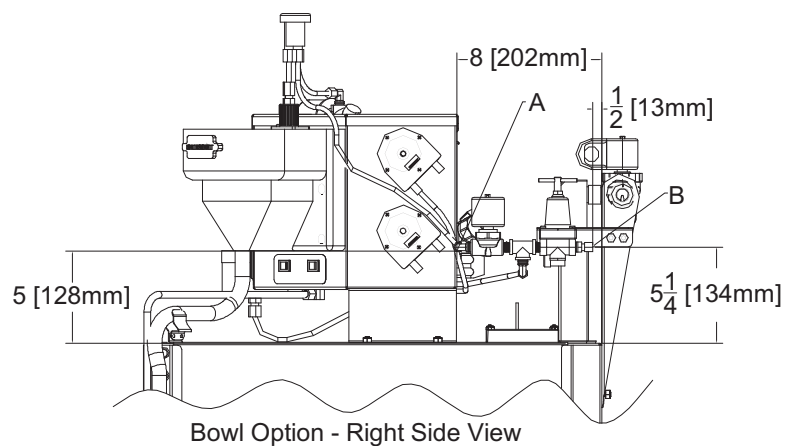
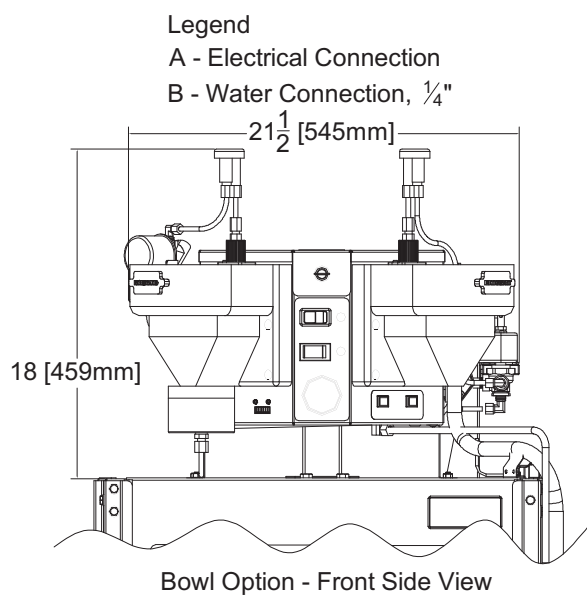
A - Electrical connection

B - Water inlet 1/2" NPT

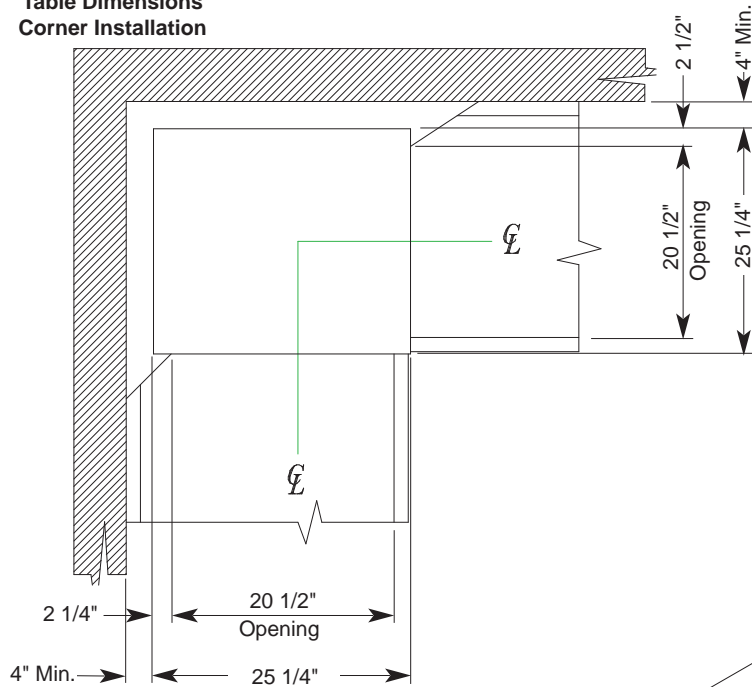
C - Drain connection 2" NPT

All dimensions from the floor can be increased 1/2" using the machine's adjustable feet.

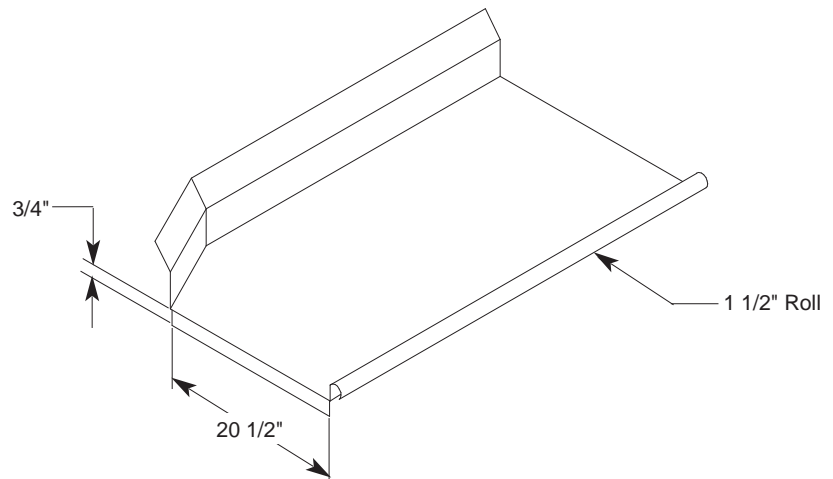




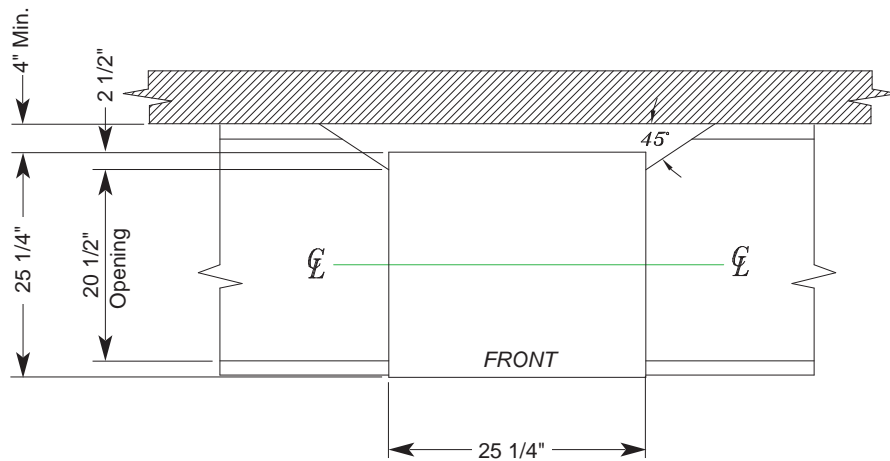
**Table Dimensions  
Corner Installation**



**Table Dimensions  
Connection to Dishmachine**



**Table Dimensions  
Straight-through Installation**



## SPECIFICATIONS

## OPERATING CAPACITIES

### Model Designation:

XL2

### Operating Capacity:

Racks per Hour	74
Dishes per Hour	1850
Glasses per Hour	2664

### Tank Capacity:

Wash Tank (gallons)	3.1
Wash Tank (liters)	11.7

### Wash Pump Capacity:

GPM	61
LPM	231

### Electrical Loads (as applicable):

Wash Motor HP	1.0
---------------	-----

### Operating Times (seconds):

Wash	53
Rinse	14
Dwell	20
Total Cycle Time	87

**NOTICE** Always refer to the machine data plate for specific electrical and water requirements.  
The material provided in this manual is for reference only and is subject to change without notice.

### Water Temperatures (°F):

Wash Temperature (minimum/recommended)	120/140
Rinse Temperature (minimum/recommended)	120/140
Inlet Temperature (minimum/recommended)	120/140

### Other Water Requirements:

Water Flow Pressure (PSI)	20 +/- 5
GPH	91.26
Water Line Size (NPT)	3/4"
Drain Line Size (NPT)	2"
Minimum Chlorine Required (PPM)	50

## NOTICE



All electrical ratings provided in this manual are for reference only. Always refer to the machine data plate to get exact electrical information for this machine. **All electrical work performed on machines should be done in accordance with applicable local, state, territorial, and national codes.** Work should only be performed by qualified electricians and authorized service agents.

Note that all electrical wiring used in this series of machines must be rated, at a minimum, for 212 °F (100 °C), and that only copper conductors must be used.

Where applicable, heating element amperage draws have been adjusted for the assumed input voltage. The manufacturer assumes incoming voltages will be either 115, 208, 230, or 460 Volts. Some heating elements used in the machines are rated for other voltages, such as 240 Volts and 480 Volts. Always verify the amperage draw of the machine in operation when sizing circuit protection.

**Available Electrical Characteristics:**

- 115 V, 60 Hz, Single-phase
- 208-230 V, 60 Hz, Single-phase
- 208-230 V, 50 Hz, Single-phase

**XL2**  
**Electrical Characteristics**

VOLTS	115	208-230	208-230
PHASE	1	1	1
FREQ	60	60	50
WASH MOTOR LOAD	10.0 A	5.0 A	7.8 A
WASH MOTOR 2 LOAD	10.0 A	5.0 A	7.8 A
TOTAL LOAD	20.0 A	10.0 A	15.6 A

## INSPECTION

***Do not throw away the container if damage is evident!***

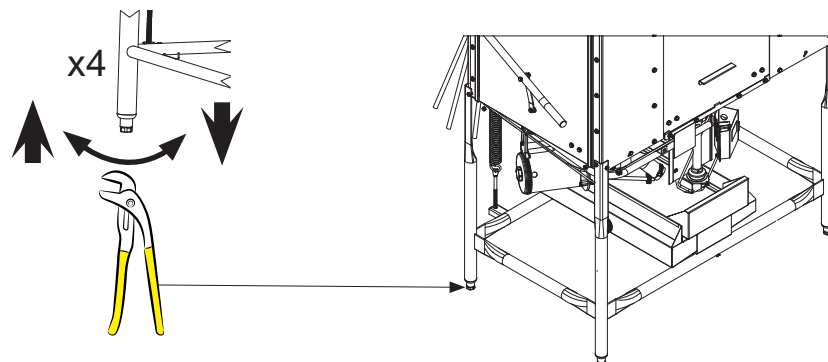
Before installing the unit, check the packaging and machine for damage. If the packaging is damaged, the machine might also be damaged. If there is damage to both the packaging and machine, do not throw away the packaging. The dishmachine has been inspected and packed at the factory and is expected to arrive to you in new, undamaged condition. However, rough handling by carriers or others might result in damage to the unit while in transit. If so, do not return the unit to the manufacturer; instead, contact the carrier and ask them to send a representative to the site to inspect the damage and complete an inspection report. You must contact the carrier and dealer that sold you the unit within 48 hours of receiving the machine.

## UNPACKING

While removing the machine from the packaging, ensure that there are no missing parts. If an item is missing, contact the manufacturer immediately.

## LEVELING

The dishmachine must be level in its operating location to prevent damage to the machine during operation and to ensure the best results. The unit comes with four adjustable bullet feet, which can be turned using a pair of channel locks (or by hand if the unit can be raised safely). Ensure that the unit is level from side-to-side and front-to-back before making any connections.



## PLUMBING

Plumbing connections must comply with all applicable local, state, and national plumbing codes. The plumber is responsible for ensuring that the incoming water line is thoroughly flushed before connecting it to any component of the dishmachine. It is very important to remove all foreign debris from the water line that might potentially get trapped in the valves or cause an obstruction. Any valves that are fouled as a result of foreign matter left in the water line—and any expenses resulting from this fouling—are not the responsibility of the manufacturer.

***The plumber MUST flush the incoming water line!***



## PRESSURE REGULATOR

*Take care not to confuse  
static pressure with  
flow pressure!*

The manufacturer has an optional water pressure regulator to accommodate areas where water pressure fluctuates or is higher than the recommended pressure. Take care not to confuse static pressure with flow pressure: static pressure is line pressure in a “no flow” condition (all valves and services are closed); flow pressure is the pressure in the fill line when the valve is opened during the cycle.

See the Plumbing Options page.

## SHOCK ABSORBER

It is suggested that a shock absorber (not supplied) be installed on the incoming water line. This prevents water hammer (hydraulic shock)—induced by the solenoid valve as it operates—from causing damage to the equipment.

See the Plumbing Options page.

## DRAIN LINE

The drains for the models covered in this manual are gravity discharge drains. All piping to the machine must be 2" NPT and must not be reduced. There must also be an air-gap between the machine drain line and the floor sink or drain. If a grease trap is required by code, it should have a flow capacity of 5 GPM.

## PLUMBING CHECK

After installing the incoming fill line and drain line, slowly turn on the water supply to the machine. Check for any leaks and repair as required. All leaks must be repaired before operating the machine.

## ELECTRICAL POWER CONNECTIONS



**Disconnect electrical power at the breaker or disconnect switch and tag-out in accordance with procedures and codes.**



Electrical and grounding connections must comply with the applicable portions of the National Electrical Code ANSI/NFPA 70 (latest edition) and/or other electrical codes.

Disconnect electrical power supplies and place a tag at the disconnect switch to indicate that you are working on the circuit.

Refer to the data plate for machine operating requirements, machine voltage, total amperage load, and serial number.

The main power terminal blocks (for the dishmachine and for the rinse booster heater, if applicable) are located at the top of the machine. You will have to remove the top cover to access these connections. Route incoming power lines within conduit that will connect via fittings to the pre-punched holes in the back of the Control Box. Install power and ground wires to lugs as indicated by the appropriate decals in the control box. Use copper conductors only. Use of an anti-oxidation agent is permissible on the power connections. Tighten all connections.

Verify the incoming voltage matches the voltage indicated on the decal next to the incoming power pre-punched hole.

**NOTICE** *It is recommended that "DE-OX" or similar anti-oxidation agent be used on all power connections.*

## THERMOSTATS

The thermostats on this dishmachine have been set at the factory. They should only be adjusted by an authorized service agent.

## VOLTAGE CHECK



1. Ensure the power switch is in the OFF position and apply power to the dishmachine.
2. Check the incoming power at the terminal block and ensure it corresponds to the voltage listed on the data plate. If not, contact a qualified service agency to examine the problem.



**CAUTION!** Do not run the dishmachine if the voltage is too high or too low (refer to applicable electrical codes).

3. Shut off the service breaker and mark it as being for the dishmachine.
4. Advise all proper personnel of any problems and of the location of the service breaker. Replace the control box cover and tighten-down the screws.

## PREPARING CHEMICAL PUMPS



**CAUTION!** Chlorine-based sanitizers can be detrimental to this machine if the chemical solution is too strong. See a chemical professional to ensure the dispenser is set-up correctly.

These dishmachines are supplied with detergent, rinse-aid, and sanitizer chemical feeder pumps.

Locate the open ends of the chemical tubes with the tube stiffeners and place each one in the appropriate container.

- A. Red Tubing = Detergent
- B. Blue Tubing = Rinse-aid
- C. White Tubing = Sanitizer

## PRIMING CHEMICAL PUMPS

Chemical feeder pumps need priming when the machine is first installed or if the chemical lines have been removed and air was allowed to enter.



**CAUTION!** Water must be in the sump and wash tank before chemicals are dispensed.

1. Verify that the proper chemical tube stiffener inlet is in the proper container.
2. Use the toggle switches on the control box to prime each pump. There are three switches mounted by the peristaltic pumps. One will prime the detergent, the second will prime the rinse-aid, and the third will prime the sanitizer.
3. To prime the pumps, hold the switch in the momentary position until the chemical can be observed entering the sump.

## PRIMING CHEMICAL PUMPS



**WARNING!** Some of the chemicals used in dishwashing might cause chemical burns if they come in contact with skin. Wear protective gear when handling these chemicals. If any contact with skin occurs, immediately follow the treatment instructions provided with the chemicals.

4. Detergent is dispensed as required by the timer during the wash cycle. The amount of detergent might need to be increased or decreased depending on water quality and type of detergent.



5. Rinse-aid is dispensed as required into the final rinse. The amount of rinse-aid might need to be adjusted depending on water hardness and results.



6. Sanitizer is dispensed into the final rinse. The amount of sanitizer might need to be adjusted depending on the concentration and type of sanitizer used.



7. Please refer to the next page for instructions on adjusting the chemical feeder pumps on the CAM timer.

## TIMER CHANGE

### NOTICE

*Machines with serial numbers before 16J325683 have the old timer.*

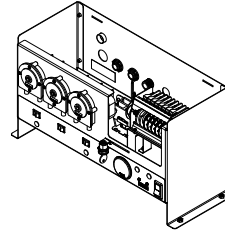


### WARNING:

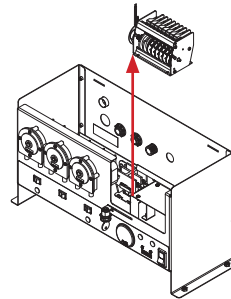


*Disconnect electrical power at the breaker or disconnect switch and tag-out in accordance with procedures and codes.*

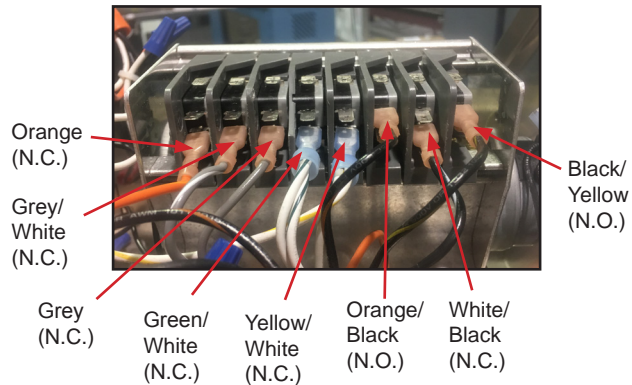
1. Remove the top of the control box.



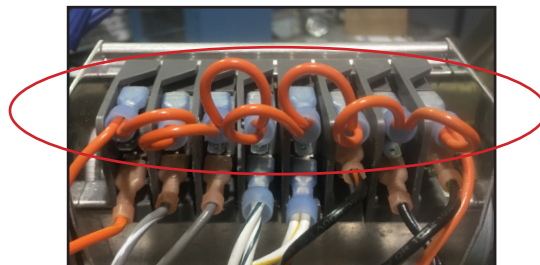
2. Remove the wires from the old timer.
3. Remove the old timer.



4. Replace with the new timer.
5. Configure wires as shown below:

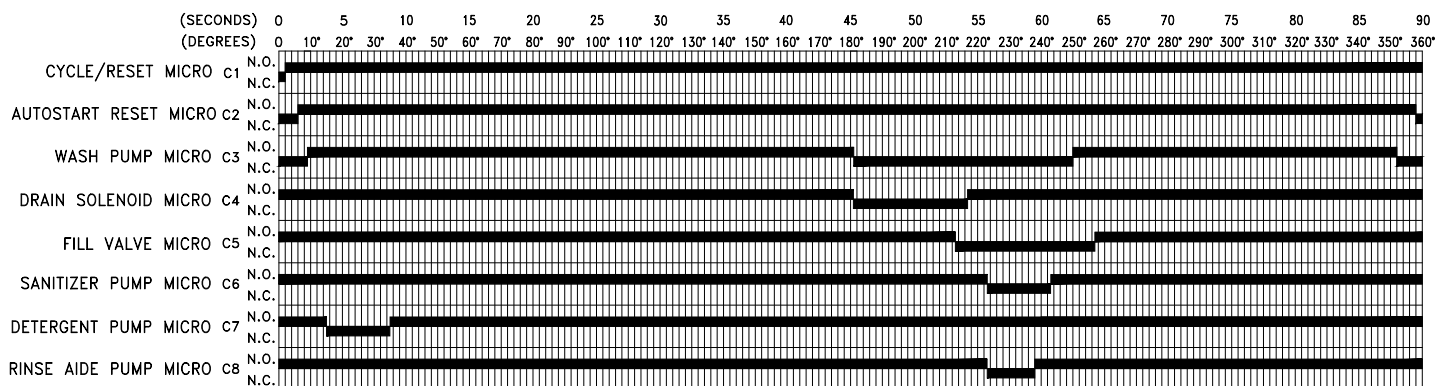


6. Place orange wires on top terminals.

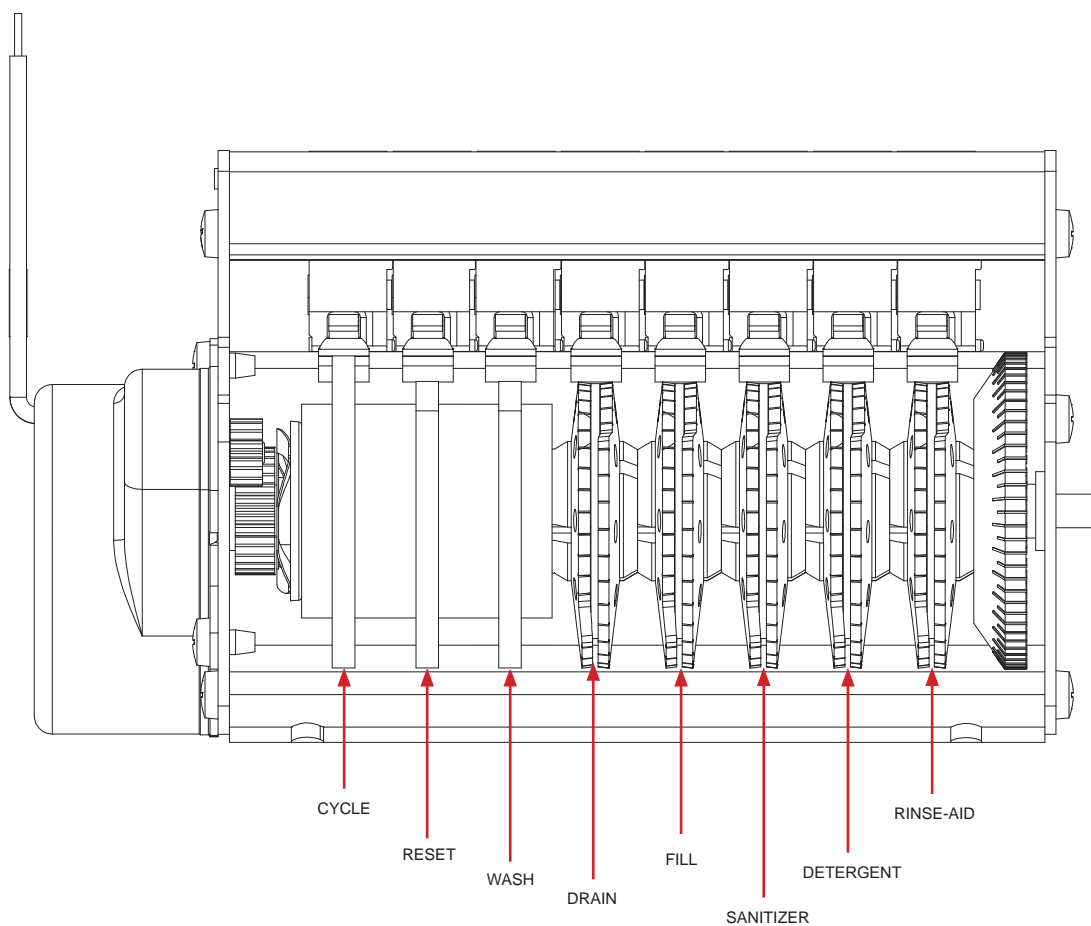


7. The timer change is complete. See next page for more information.

## TIMING CHART



## CAMs



## CAM TIMER OPERATION

*CAM 1 is a cut CAM with a single notch that serves as the cycle control.*

*CAM 2 is the reset CAM.*

*CAM 3 is a cut CAM that provides the wash cycle timing.*

*CAM 4 is an adjustable CAM that controls the drain valve.*

*CAM 5 is an adjustable CAM that controls the fill valve and the amount of water used.*

The CAM timer is a 1-minute, 30-second, 8-CAM timer that controls the operation of the dishmachine. The following is a description of the setpoints for each CAM and the function of each switch.

**FUNCTION:** When the machine is in operation mode the notch is in the home position. The machine will remain idle until the door is opened, then CAM 1 moves to the start position and holds until the door is closed. The closing of the door will start the next cycle. The CAM will rotate a complete cycle and return to the home position and hold.

**FUNCTION:** The wash CAM works off the normally-open contacts of CAM 3. This requires the microswitch to be held closed by the CAM. It will close and energize the wash pump two seconds after the cycle switch is activated. The pump will operate through the wash cycle then shut down for the dwell period. As the CAM rotates, it energizes the pump for the rinse cycle. When CAM 1 reaches its home position it will de-energize CAM 3, shutting down the wash pump.

The last 5 CAMs are adjustable. The following instructions will require that the timer position have the CAMs to the front and the motor to the left as shown below.

**FUNCTION:** The drain solenoid CAM works off the normally-closed contacts of CAM 4. When the cycle starts, the switch is held open until it drops into the notch of the CAM. This energizes the drain solenoid, which drains the machine. After a 12-second delay, the CAM reverses the switch, de-energizing the drain solenoid. This CAM might need adjusted depending on water pressure. The drain solenoid must remain open long enough to drain the machine.

**SETTINGS:** The right side of CAM 4 must be set to pick up the switch just before the wash/rinse cycle CAM switch drops. It will hold the drain solenoid open to drain the tank during the dwell period. Adjustments to drain time are made with the left side of CAM 4. The CAM must be moved back into the wash time until all water is being drained from the machine.

**FUNCTION:** The fill solenoid CAM works off the normally-closed contacts of CAM 5. The switch is held open by the CAM until it drops into the notch of the CAM. This energizes the fill solenoid, which starts filling the machine with water. After a 10-second delay, the CAM reverses the switch, de-energizing the fill solenoid. This CAM might need adjusted depending on water pressure. The fill solenoid must remain open long enough to fill the machine to the correct level.

**SETTINGS:** The right side of CAM 5 must be set to allow the switch to drop two seconds before the drain solenoid is de-energized to ensure the detergent residue is flushed from the machine. It will hold the fill solenoid open until the CAM switch arm is raised. At that time the fill solenoid is de-energized, shutting off the incoming water. If the tub isn't filled to the correct level, the fill time needs adjusted. Adjustments to fill time are made with the left side of CAM 5. To increase the water level, open the notch of the CAM. To decrease the water level, close the notch.

## CAM TIMER OPERATION

*CAM 6 is an adjustable  
CAM that controls the  
sanitizer pump.*

**FUNCTION:** The sanitizer pump CAM works off the normally-closed contacts of CAM 6. The switch is held open by the CAM until it drops into the notch of the CAM. This energizes the sanitizer pump. The time the pump remains energized must be determined in the field to suit water conditions and the chemical used.

**SETTINGS:** The left side of CAM 6 must be set to allow the switch to drop in past the starting point of the fill CAM and after the drain solenoid has closed. Adjustments to sanitizer time are made with the right side of CAM 6. To increase the sanitizer time, open the notch of the CAM. To decrease, close the notch in small increments until the correct level is reached.

*CAM 7 is an adjustable  
CAM that controls the  
detergent pump.*

**FUNCTION:** The detergent pump CAM works off the normally-closed contacts of CAM 7. The switch is held open by the CAM until it drops into the notch of the CAM. This energizes the detergent pump. The time the pump remains energized must be determined in the field to suit water conditions and the chemical used.

**SETTINGS:** The left side of CAM 7 must be set to drop in past the starting point of the wash pump CAM. Adjustments to detergent time are made with the right side of CAM 7. To increase the detergent time, open the notch of the CAM. To decrease, close the notch in small increments until the correct level is reached.

*CAM 8 is an adjustable  
CAM that controls the  
rinse-aid pump.*

**FUNCTION:** The rinse-aid pump CAM works off the normally-closed contacts of CAM 8. The switch is held open by the CAM until it drops into the notch of the CAM. This energizes the rinse-aid pump. The time the pump remains energized must be determined in the field to suit water conditions and the chemical used.

**SETTINGS:** The left side of CAM 8 must be set to drop in past the starting point of the fill CAM after the drain solenoid has closed. Adjustments to rinse-aid time are made with the right side of CAM 8. To increase the rinse-aid time, open the notch of the CAM. To decrease, close the notch in small increments until the correct level is reached.

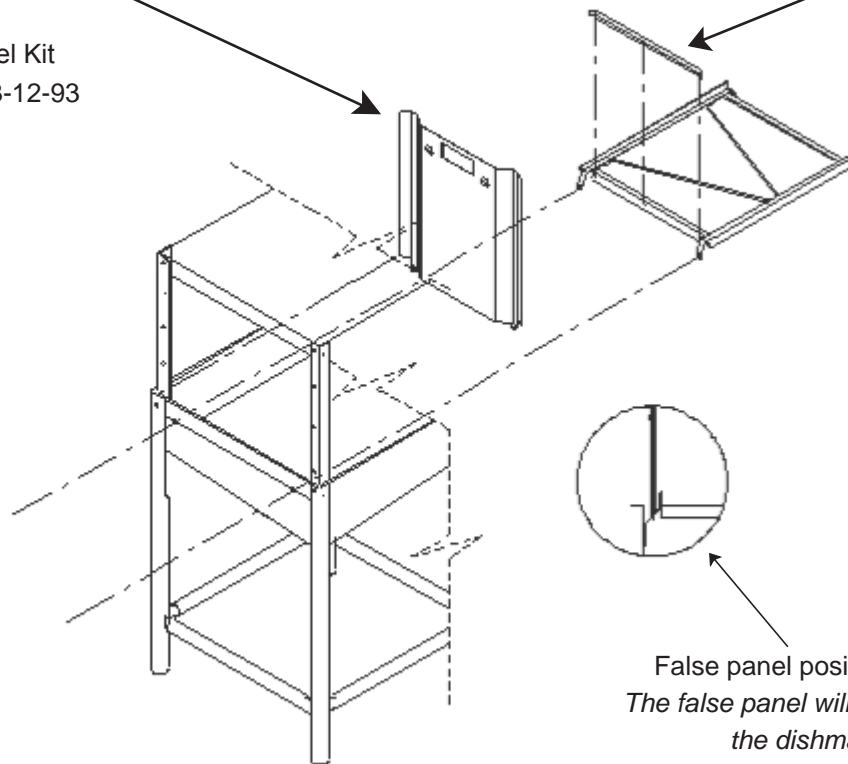


## FALSE PANEL

False Panel Weldment  
05700-002-51-66

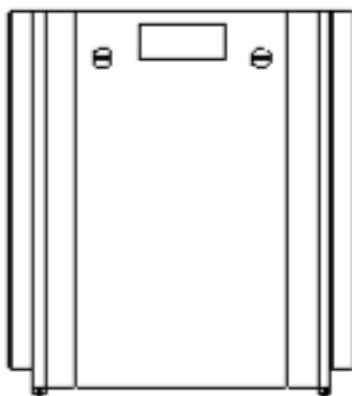
False Panel Kit  
05700-003-12-93

Rack rail removed and repositioned  
for a corner operation



False panel positioned in unit.  
*The false panel will mount inside of  
the dishmachine.*

Insert this side first

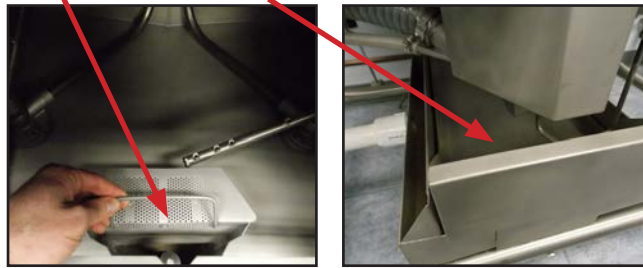


Bottom of side panel

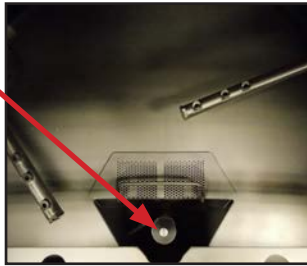
1. Remove the rack assembly from the dishmachine.
2. Position the panel in the dishmachine on the side to be closed.
3. Hold the panel against the side of the dishmachine and push upward.
4. The panel will clip in at the top, inside of the unit.
5. The holes in the false panel will line up with the rack assembly holes.
6. Reinstall the screws for the rack assembly which will secure the false panel to the unit.
7. Reassemble the rack track in an "L" shape for a corner operation.

**PREPARATION** Before operating the unit, verify the following:

1. The sump strainer and pan strainer are in place and clean.



2. The drain stopper is installed.



3. The wash/rinse arms are installed, secure, and rotate freely.



**POWER UP** To place the unit in standby, flip the "OFF/ON/FILL" switch to the ON position.

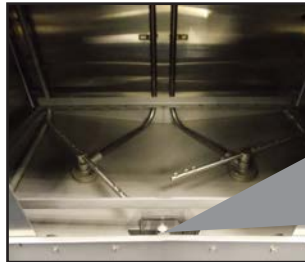


## FILLING THE WASH TUB

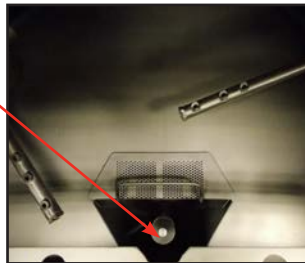
1. For the initial fill, close the door and depress and hold the "OFF/ON/FILL" switch in the FILL position for approximately 8-10 seconds.



2. Open the door and verify that the water level is correct. Water must be between the two lines on the drain stopper. After this, the water level is controlled by the timer that has been preset at the factory.



3. Verify that the drain stopper is preventing the wash tub water from pouring out excessively. There might be some slight leakage from the drain hole. Verify that there are no other leaks on the unit before proceeding any further.



4. The wash tub must be completely filled before operating the wash pump to prevent damage to components. Once the wash tub is filled, the unit is ready for operation.

**FIRST RACK**

The first rack of ware that you place into the unit can have the effect of quickly reducing the temperature of the wash tank. This is because you are introducing cold materials into the dishmachine and the unit has to circulate water to activate the heating cycle. You might have to run the first rack through the unit again. Any time the unit has not been operated for an extended period of time this is possible, but unlikely. This is usually dependent on the type of ware you are using, its temperature, and the ambient temperature of the kitchen area. To ensure proper operation, always observe the temperatures of the wash and rinse when first starting the unit.

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**WARE PREPARATION**

Proper preparation of ware is essential for the smooth, efficient operation of your dishmachine. If done properly, you can expect to have fewer re-washes and use substantially less detergent. Any ware placed inside the machine should have all solid food waste and scraps removed. It is recommended that ware also be sprayed down before being placed in the dishmachine.

Place cups and glasses upside-down in racks so they don't hold water during the cycle. Presoak flatware in warm water to assist in removing food. Load plates and saucers in the same direction, with the food surface facing the unload end of the machine.

---

**WASHING A RACK OF WARE**

To wash a rack, open the door completely (avoid hot water dripping from the doors) and slide the rack into the unit. Close the doors and the unit will start automatically. Once the cycle is completed, open the door (again careful of the dripping hot water) and remove the rack of clean ware. Replace with a rack of soiled ware and close the doors. The process then repeats itself.

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**OPERATIONAL INSPECTION**

Based upon usage, the pan strainer might become clogged with soil and debris as the workday progresses. Operators should regularly inspect the pan strainer to ensure it has not become clogged. If the strainer becomes clogged, it will reduce the washing capability of the machine. Instruct operators to clean out the pan strainer at regular intervals or as required by workload.

## SHUTDOWN & CLEANING

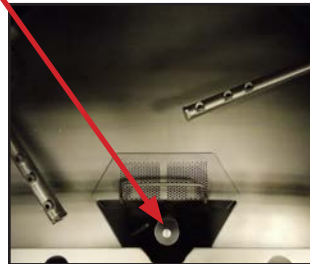
1. Turn machine off by flipping the “OFF/ON/FILL” switch to the “OFF” position.



2. Open the door.



3. Remove the drain stopper and allow tub to drain (**WARNING! Wash tank water will be hot**).



4. Remove the sump strainer and pan strainer.



5. Use a hand-scraper to scrape foodsoil into a trash basket.

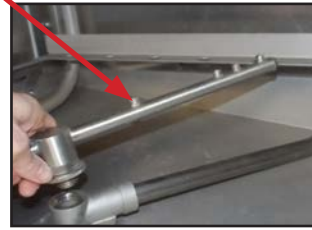


6. Rinse and replace.
7. Unscrew the wash/rinse arms from their manifolds.

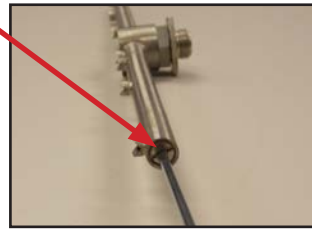


**SHUTDOWN  
& CLEANING**

8. Verify the nozzles and arms are free from obstruction. If clogged, remove end-caps, clean nozzles with a brush, and flush with fresh water.



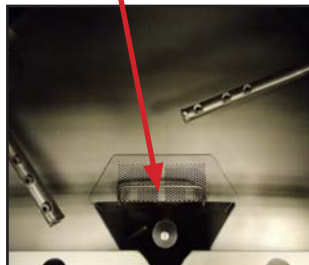
9. Replace end-caps and ensure they have been tightened.



10. Spray or wipe out interior of machine.  
11. Replace wash/rinse arms.



12. Ensure sump strainer and scrap screen are clean and securely in place.



13. Use stainless steel polish to clean and protect the outside of the dishmachine.

**DELIMING**

1. Flip the "OFF/ON/FILL" switch to the "ON" position.



2. Close door and hold the "OFF/ON/FILL" switch in the "FILL" position for approximately 8-10 seconds.
3. Water must be between two lines on drain stopper.



4. Add deliming solution per chemical supplier's instructions.
5. Close the door.



6. Flip the NORMAL/DELIME switch on the back of the control box to DELIME.
7. Run machine the period of time recommended by chemical supplier.
8. Wait five minutes, then inspect the inside of the machine. If the machine is not delimed, run again.
9. Flip the NORMAL/DELIME switch to NORMAL.
10. Run two cycles to remove residual deliming solution.
11. Drain and re-fill the machine.



**CAUTION!** *This equipment is not recommended for use with deionized water or other aggressive fluids. Use of deionized water or other aggressive fluids will result in corrosion and failure of materials and components. Use of deionized water or other aggressive fluids will void the manufacturer's warranty.*

**PREVENTATIVE  
MAINTENANCE**

The manufacturer highly recommends that any maintenance and repairs not specifically discussed in this manual be performed only by QUALIFIED SERVICE PERSONNEL. Performing maintenance on your dishmachine may void your warranty, lead to larger problems, or even cause harm to the operator.

By following the operating and cleaning instructions in this manual, you should get the most efficient results from your machine. As a reminder, here are some steps to take to ensure that you are using the dishmachine the way it was designed to work:



1. Ensure that the water temperatures match those listed on the machine data plate. There can be a variety of reasons why your water temperature could be too low.
2. Ensure that all strainers are clean and securely in place before operating the machine. When cleaning out strainers, do NOT beat them on waste cans. Wipe out strainers with a rag and rinse under a faucet if necessary. Use a toothpick to dislodge any stubborn debris.
3. Ensure that all wash/rinse arms are secure in the machine before operating.
4. Ensure that the drain stopper is in position before operating.
5. Remove as much soil from ware as possible before loading into racks.
6. Do not overfill racks.
7. Ensure that glasses are placed upside-down in the rack.
8. Ensure that all chemicals being injected into machine have been verified as being at the correct concentrations.
9. Clean out the machine at the end of every workday per the Shutdown and Cleaning section of this manual.
10. Follow all safety procedures, whether listed in this manual or put forth by local, state, or national codes/regulations.

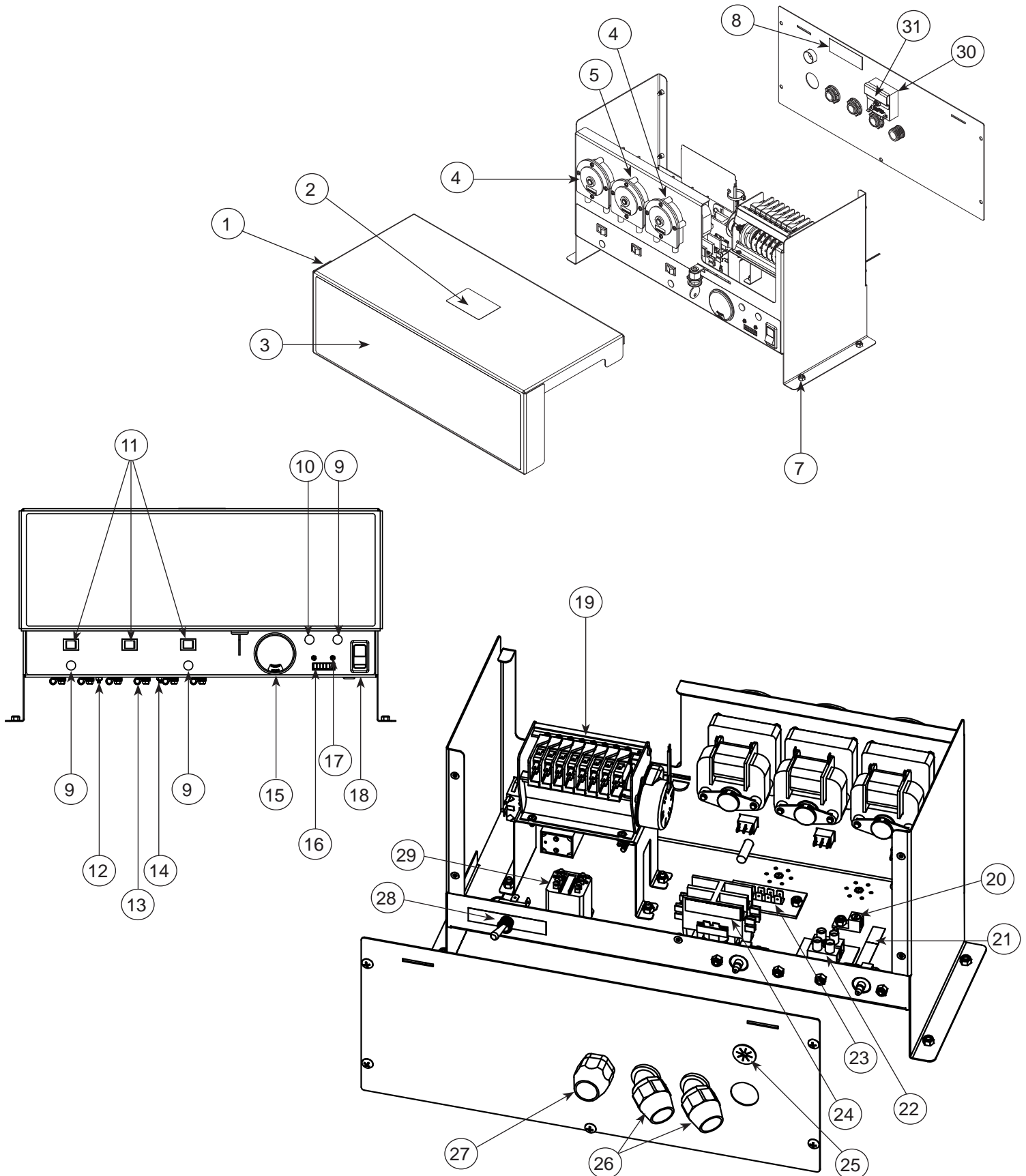


PROBLEM	POSSIBLE CAUSE	REMEDY
Dishmachine will not run, no voltage at wash relay terminals L1 and T1.	<ol style="list-style-type: none"> <li>1. Service disconnect switch off or faulty.</li> <li>2. Branch circuit breaker tripped/fuse blown.</li> <li>3. Loose or broken connection to dishmachine.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn disconnect on.</li> <li>2. Reset or replace.</li> <li>3. Tighten or replace connections.</li> </ol>
Machine will not run in "ON" position unless cam timer is moved off the "home" position.	<ol style="list-style-type: none"> <li>1. Door switch shorted out.</li> <li>2. Faulty control relay.</li> <li>3. Faulty "cycle reset" microswitch in cam timer.</li> </ol>	<ol style="list-style-type: none"> <li>1. With the door open, check for voltage between ORANGE/WHITE door switch and neutral. If 120 V, replace the door switch.</li> <li>2. With the door open, check for voltage between connections #9 and #3 on control relay. If 120 V, replace control relay.</li> <li>3. Replace microswitch.</li> </ol>
Machine will not run in "ON" position but works in Delime mode.	<ol style="list-style-type: none"> <li>1. Faulty cycle reset cam microswitch.</li> <li>2. Faulty cam timer motor.</li> <li>3. Faulty control relay.</li> <li>4. Faulty NORMAL/DELIME switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. With the switch in the Normal position, rotate the cams manually off the home position. Check the voltage between the ORANGE and BLACK/WHITE wires on the cycle reset switch. If it is 120 V, then the switch is open and should be replaced.</li> <li>2. If cam timer is not rotating, check the voltage to the motor. If voltage is present when the door is closed, replace the motor.</li> <li>3. Check the voltage across contacts #9 and #6. If 120 V when the door is closed, replace the relay.</li> <li>4. In the NORMAL position, check the voltage between WHITE/BLACK and WHITE/RED wires to switch. If 120 V, replace the switch.</li> </ol>
Machine will not run. Wash pump motor will run if wash relay is depressed manually (nothing else works).	<ol style="list-style-type: none"> <li>1. Open door switch.</li> <li>2. Faulty control relay.</li> </ol>	<ol style="list-style-type: none"> <li>1. With door closed, measure voltage between BLUE and WHITE/BLACK wires on terminals #6 and #9 of the relay. If 120 V, replace the relay.</li> <li>2. Measure between the BLACK wires on terminals #6 and #9 of the relay. If 120 V, replace the relay. Measure between the WHITE/BLACK wire on terminal 4 and the ORANGE/WHITE wire on terminal 7 of the relay. If 120 V, replace relay.</li> </ol>
Machine will not run in "ON" position or in Delime mode.	<ol style="list-style-type: none"> <li>1. Door switch is defective.</li> <li>2. Faulty OFF/ON/FILL switch.</li> <li>3. Faulty NORMAL/DELIME switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. With door open, check for voltage between ORANGE/WHITE door switch and neutral. If 120 V, replace the door switch.</li> <li>2. With switch ON, check voltage between BLACK and WHITE/BLACK wires to switch. Replace the switch if 120 V.</li> <li>3. In the NORMAL position, check the voltage between WHITE/BLACK and WHITE/RED wires to switch. If 120 V, replace the switch.</li> </ol>
Machine cycles continuously.	<ol style="list-style-type: none"> <li>1. Cycle reset switch loose.</li> <li>2. Faulty cycle reset switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reposition switch assembly, bend metal lever if necessary.</li> <li>2. Measure between BLACK/YELLOW and ORANGE wires on "cycle reset" switch while timer is rotating. As the switch lever drops into home position you should measure 120 V. If not, adjust or replace the switch.</li> </ol>
Machine fills continuously even with no power applied to the machine.	<ol style="list-style-type: none"> <li>1. Incorrect pressure.</li> <li>2. Water inlet solenoid valve allowing water into machine.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check water pressure during fill, pressure must be 15 PSI.</li> <li>2. Repair or replace water inlet solenoid valve.</li> </ol>

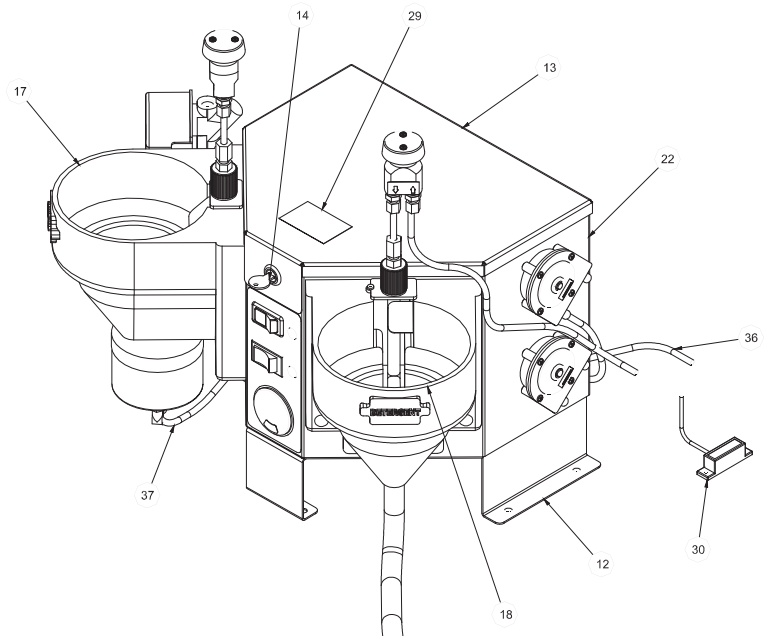
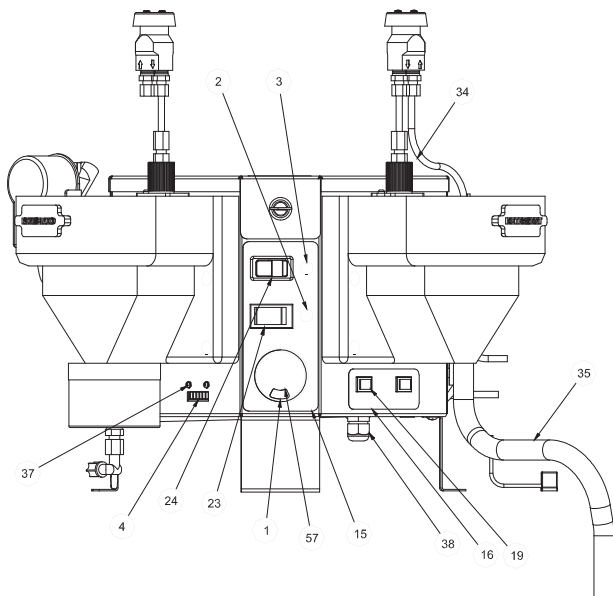
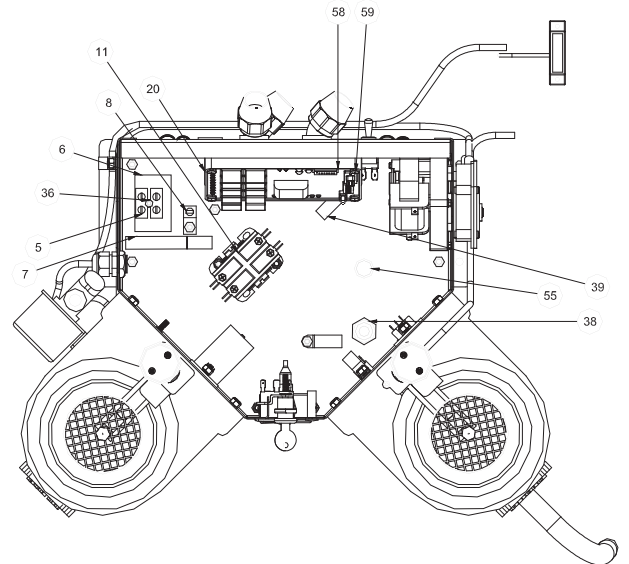
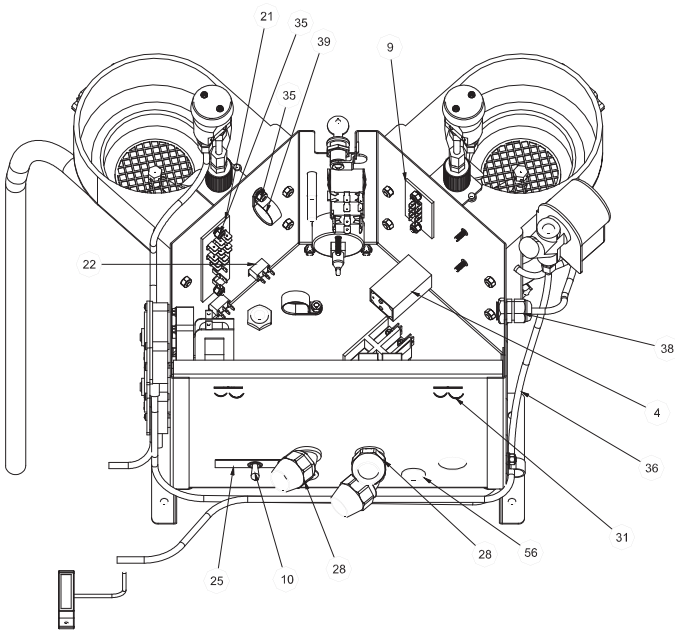
PROBLEM	POSSIBLE CAUSE	REMEDY
Machine will not fill, other functions work.	<ol style="list-style-type: none"> <li>1. Y-strainer plugged.</li> <li>2. Water valve turned off.</li> <li>3. Faulty solenoid valve diaphragm.</li> <li>4. Faulty solenoid coil.</li> <li>5. Faulty fill microswitch.</li> <li>6. Faulty OFF/ON/FILL switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean strainer.</li> <li>2. Turn on water valve.</li> <li>3. Replace diaphragm, clean foreign material out of valve body and orifices.</li> <li>4. If coil has voltage but no continuity, replace coil (continuity is measured across coil connectors with wires removed).</li> <li>5. Will not fill during cycle only. During fill, measure between the ORANGE and WHITE/GREEN wires. If 120 V, adjust or replace switch.</li> <li>6. Depress switch, measure between BLACK and WHITE/GREEN wire. If 120 V, replace switch.</li> </ol>
Machine fills continuously, only when the power is on.	<ol style="list-style-type: none"> <li>1. Faulty fill microswitch.</li> <li>2. Cam timer stalled in fill position.</li> <li>3. Shorted OFF/ON/FILL switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair/replace switch.</li> <li>2. If cam timer is not rotating, check the voltage to the timer motor. If 120V when door is closed, replace the timer motor.</li> <li>3. Check voltage between BLACK and WHITE/GREEN connections of the switch in the "ON" position. If you do not read 120 V, replace switch.</li> </ol>
Wash motor does not run. Other functions work, but the wash motor runs only when the wash relay is manually pushed down.	<ol style="list-style-type: none"> <li>1. Faulty control relay.</li> <li>2. Faulty wash relay.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the voltage across relay contacts #7 and #4. If 120 V during the wash cycle, replace the relay.</li> <li>2. Check voltage at relay coil between ORANGE/BLACK and WHITE wires. If you read 120 V, coil is faulty. Replace the relay.</li> </ol>
Wash motor does not run even when the wash relay is manually depressed; other functions work.	<ol style="list-style-type: none"> <li>1. Loose wire connections to motor, delime switch, or from contactors.</li> <li>2. Mechanical binding in pump.</li> <li>3. Faulty wash motor.</li> <li>4. Faulty wash relay.</li> <li>5. High or low voltage problem.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten wires.</li> <li>2. On end of motor, opposite pump, remove endcap. With large slot type screwdriver, fit into slot in end of shaft. Turn to dislodge. Run motor as normal. If it still does not run, replace motor.</li> <li>3. If the motor has the correct incoming voltage and the pump is okay, replace the motor.</li> <li>4. With the wash relay pushed in, check the voltage between T1 and L1 of the relay. If 120 V, replace the relays.</li> <li>5. Check voltage at motor and at power terminal block. Compare to electrical specifications.</li> </ol>
Wash motor runs continuously.	<ol style="list-style-type: none"> <li>1. The NORMAL/DELIME switch is in the Delime position.</li> <li>2. Wash relay contacts are welded closed.</li> <li>3. Cam timer stalled in wash or rinse cycle.</li> <li>4. Wash motor microswitch faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1. Place the switch in the Normal position.</li> <li>2. Turn machine off. If wash relay doesn't release, replace contactor.</li> <li>3. If cam timer is not rotating, check the voltage to the timer motor. If no voltage when the door is closed, check wires and/or replace motor.</li> <li>4. Tighten connections, make sure switch makes contact, replace if necessary.</li> </ol>
Machine will not hold water.	<ol style="list-style-type: none"> <li>1. Faulty drain ball.</li> <li>2. Obstructed drain hole.</li> <li>3. Drain linkage is binding.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace drain ball.</li> <li>2. Clear obstruction.</li> <li>3. Repair drain mechanism parts.</li> </ol>

PROBLEM	POSSIBLE CAUSE	REMEDY
Machine runs with door open.	<ol style="list-style-type: none"> <li>1. Door switch shorted.</li> <li>2. Faulty wash relay (wash relay contacts welded closed).</li> <li>3. Faulty control relay.</li> </ol>	<ol style="list-style-type: none"> <li>1. With machine off, open doors, and with both wires to door switch unplugged, measure continuity between wires on switch. If there is continuity, replace the switch.</li> <li>2. Turn machine off, if wash relay doesn't release, replace contactor.</li> <li>3. With power off, remove WHITE/RED and BLACK/YELLOW wires from control relay terminals #9 and #6. If there is continuity, replace relay.</li> </ol>
Low pumped water pressure.	<ol style="list-style-type: none"> <li>1. Water level is too low.</li> <li>2. Sump strainer clogged.</li> <li>3. Wash arms clogged.</li> <li>4. Obstruction in pump housing or wash manifold.</li> <li>5. Pump impeller worn or broken.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase fill time on cam timer, or decrease drain timer, or increase incoming water pressure.</li> <li>2. Clean strainer.</li> <li>3. Clean arms and jets.</li> <li>4. Disassemble and clear.</li> <li>5. Replace the pump impeller.</li> </ol>
Sanitizer pump doesn't run during the cycle or through the use of the prime switch.	<ol style="list-style-type: none"> <li>1. Loose motor terminal wire.</li> <li>2. Faulty sanitizer pump motor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten connections.</li> <li>2. If you read 120 V at the sanitizer motor terminals during the sanitizer feed cycle, replace the motor.</li> </ol>
Machine keeps tripping the service breaker.	<ol style="list-style-type: none"> <li>1. Power supply shorted to ground.</li> <li>2. Faulty door switch or detergent safety switch.</li> <li>3. Pump impeller jammed.</li> <li>4. Wash pump motor faulty.</li> <li>5. Circuit breaker is too small.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check for loose wires or burned connections.</li> <li>2. Check for loose or wet connections at switch and at wire connectors. Bypass switch to verify that switch is problem; replace if required.</li> <li>3. Clear impeller.</li> <li>4. Check motor voltage and amp load. If amp load is over 12 A, replace the motor.</li> <li>5. Replace with properly-sized breaker. Refer to the data plate.</li> </ol>
Machine will not drain.	<ol style="list-style-type: none"> <li>1. Loose wire connection.</li> <li>2. Drain hole/strainer obstructed.</li> <li>3. Not enough time to drain.</li> <li>4. Drain linkage binding.</li> <li>5. Faulty drain microswitch on timer.</li> <li>6. Faulty drain microswitch on timer.</li> <li>7. Drain solenoid defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten wires to timer drain microswitch.</li> <li>2. Clear obstructions.</li> <li>3. Adjust fill cam on timer and/or the drain cam.</li> <li>4. Repair drain parts.</li> <li>5. With power off and the drain cam on the timer in the home position, remove the WHITE/YELLOW wire from the microswitch.</li> <li>6. Measure the continuity between the ORANGE wire on the microswitch and the tab that the WHITE/ YELLOW wire is attached onto. If there is no continuity, replace the microswitch.</li> <li>7. Check for voltage at solenoid valve during the drain cycle. Replace if voltage is present.</li> </ol>
Sanitizer pump runs continuously.	<ol style="list-style-type: none"> <li>1. Shorted sanitizer microswitch on cam timer.</li> <li>2. Shorted prime switch.</li> <li>3. Loose or broken wire.</li> <li>4. Faulty sanitizer microswitch on cam timer.</li> </ol>	<ol style="list-style-type: none"> <li>1. If there is not 120 V between the ORANGE and GREY wires on the sanitization pump motor microswitch when switch is out of the home position, replace the switch.</li> <li>2. If there is not 120 V between GREY and WHITE/RED wires to prime switch, replace the switch. Sanitizer pump does not run during the cycle, but runs when primed.</li> <li>3. Tighten connections to microswitch.</li> <li>4. When sanitizer cam is in home position, measure voltage between ORANGE and GREY wires on the microswitch. If 120 V, replace switch.</li> </ol>

PROBLEM	POSSIBLE CAUSE	REMEDY
Prime switch does not activate sanitizer pump.	<ol style="list-style-type: none"> <li>1. Faulty prime switch.</li> <li>2. Faulty delime switch.</li> </ol>	<ol style="list-style-type: none"> <li>1. With the prime switch in the prime position, check for voltage between the GREY and WHITE/RED wires to switch. If 120 V, replace the switch.</li> <li>2. With the delime switch in the DELIME position, check for voltage between the WHITE/BLACK and WHITE/RED wires to the delime switch. If 120 V, replace the delime switch.</li> </ol>
Detergent not feeding; rinse-aid feeds okay.	<ol style="list-style-type: none"> <li>1. Misadjusted cam.</li> <li>2. Faulty detergent microswitch on cam timer.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust detergent cam on cam timer.</li> <li>2. When the detergent cam is in the home position, measure voltage between ORANGE and GREY/ WHITE wires. If 120 V, replace the microswitch.</li> </ol>
Rinse-aid not feeding, detergent feeds okay.	<ol style="list-style-type: none"> <li>1. Misadjusted cam.</li> <li>2. Faulty rinse-aid microswitch on cam timer.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust rinse-aid cam on cam timer.</li> <li>2. When the rinse aid cam is in the home position, measure the voltage between the ORANGE and ORANGE/YELLOW wires. If 120 V, replace the microswitch.</li> </ol>
Sanitizer pump does not run during the cycle, but runs when primed.	<ol style="list-style-type: none"> <li>1. Loose or broken wire.</li> <li>2. Faulty sanitizer microswitch on cam timer.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten connections to microswitch.</li> <li>2. When sanitizer cam is in home position, measure voltage between ORANGE and GREY wires on the microswitch. If 120 V, replace switch.</li> </ol>



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Control Box Top	05700-003-81-49
2	1	Decal, Warning–Disconnect Power	09905-004-08-16
3	1	Upper Decal, XL2	09905-004-30-02
4	2	Chemical Feeder Pump Assembly, 36 RPM (230 V Units)	05700-003-78-74
		Chemical Feeder Pump Assembly, 36 RPM (115 V Units)	05700-003-25-02
5	1	Chemical Feeder Pump Assembly, 14 RPM (230 V Units)	05700-003-31-86
		Chemical Feeder Pump Assembly, 14 RPM (115 V Units)	05700-003-25-03
7	18	Lock Nut, 10-24 SS Hex w/Nylon Insert	05310-373-01-00
8	1	Decal, Copper Conductors	09905-011-47-35
9	3	Light, Red	05945-504-07-18
10	1	Light, Green	05954-504-08-18
11	3	Switch, Prime	05930-011-49-54
12	6	Screw, 6-32 x 3/8" w/Washer	05305-002-25-91
13	6	P Clamp	05975-002-61-42
14	11	Lock Nut, 6-32 Hex w/Nylon Insert	05310-373-03-00
15	1	Gauge, Thermometer	06685-004-31-45
16	1	Cycle Counter, 115 V	05990-111-35-38
17	2	Screw, 4-40 x 1/4" Phillips Pan Head w/Washer	05305-002-32-38
18	1	Switch, Power	05930-111-38-79
19	1	Timer	05945-004-11-78
20	1	Lug, Ground	05940-200-76-00
21	1	Decal, Power Connection	09905-011-47-64
22	1	Terminal Block	05940-500-09-61
23	1	Terminal Board	05940-021-94-85
24	1	Contactor, 115 V, 30 A	05945-002-74-20
25	1	Bushing, Heyco Split	05975-200-40-00
26	2	Fitting, 1/2", 45-degree, Plastic	05975-011-45-23
27	1	Fitting, 1/2", Plastic	05975-011-45-13
28	1	Switch, Delime	05930-301-21-18
29	1	Relay, Pole 115 V	05945-111-35-19
	1	Relay, Pole 230 V	05945-111-47-51
30	1	Delay Timer	05945-004-42-10
31	1	Cover, Delay Timer	05700-004-42-54
	1	Lock, Control Box (Not Shown)	05340-102-01-00



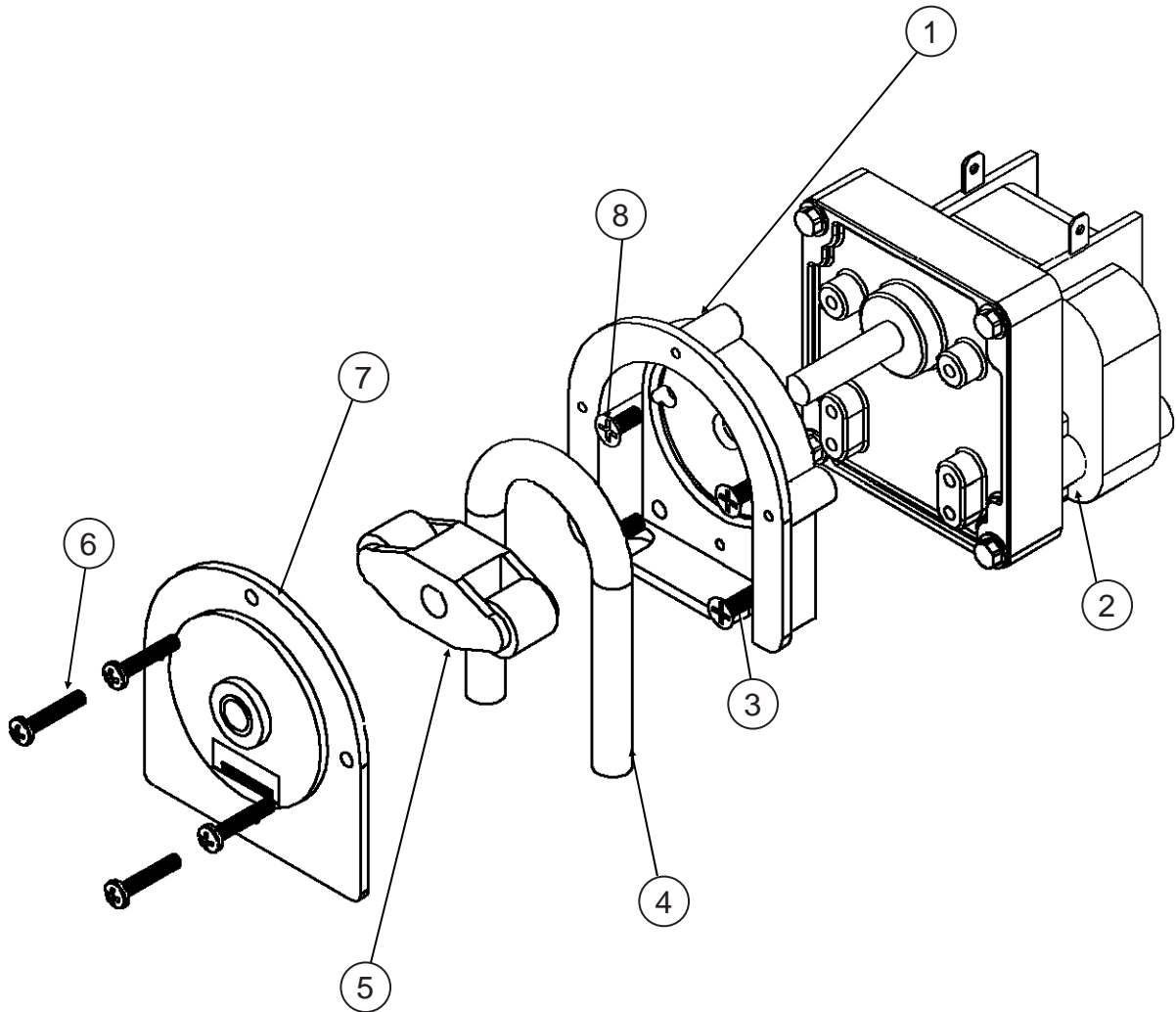


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Thermometer	06685-111-68-49
2	1	Cycle Light, Green	05945-504-08-18
3	1	Power Light, Red	05945-504-07-18
4	1	Cycle Counter, 115 V	05990-111-35-38
	1	Cycle Counter, 230 V	05990-111-47-42
5	1	Terminal Block	05940-500-09-61
6	1	Terminal Block Spacer	05700-011-40-05
7	1	Decal, Power Connections	09905-011-47-64
8	1	Ground Wire Lug	05940-200-76-00
9	1	Terminal Board	05940-021-94-85
10	1	Switch, Delime	05930-301-21-18
11	1	Contactor, 115 V	05945-109-05-69
12	2	Stand, Control Box	05700-003-30-29
13	1	Cover, Control Box	05700-003-30-88
14	1	Lock Kit	05340-102-01-00
15	1	Decal, Control Box	09905-003-30-85
16	1	Decal, Sanitizer and Rinse-aid	09905-003-30-86
17	1	Dispenser, Solid Rinse	09515-003-24-70
18	1	Dispenser, Solid Detergent	09515-003-24-71
19	2	Switch, Prime	05930-011-49-54
20	1	Bracket, Control Board	05700-003-30-91
21	1	Terminal Board	05940-002-78-97
22	1	Weldment, Control Box	05700-003-31-00
23	1	Switch, DPD	05930-301-49-00
24	1	Switch	05930-111-38-79
25	1	Decal, Delime/Normal	09905-011-34-96
26	1	Decal, Copper Conductors	09905-011-47-35
27	1	Bushing, Split	05975-200-40-00
28	3	Fitting	05975-011-45-23
29	1	Decal, Warning-Disconnect Power	09905-100-75-93
30	1	Switch, Reed	05930-002-36-80
31	2	Cotter Pin, 3/32" x 3/4"	05315-207-01-00
32	6	Screw, 10-32 x 3/8" Long	05305-173-12-00
33	18	Locknut, 10-32 Hex with Nylon Insert	05310-373-02-00

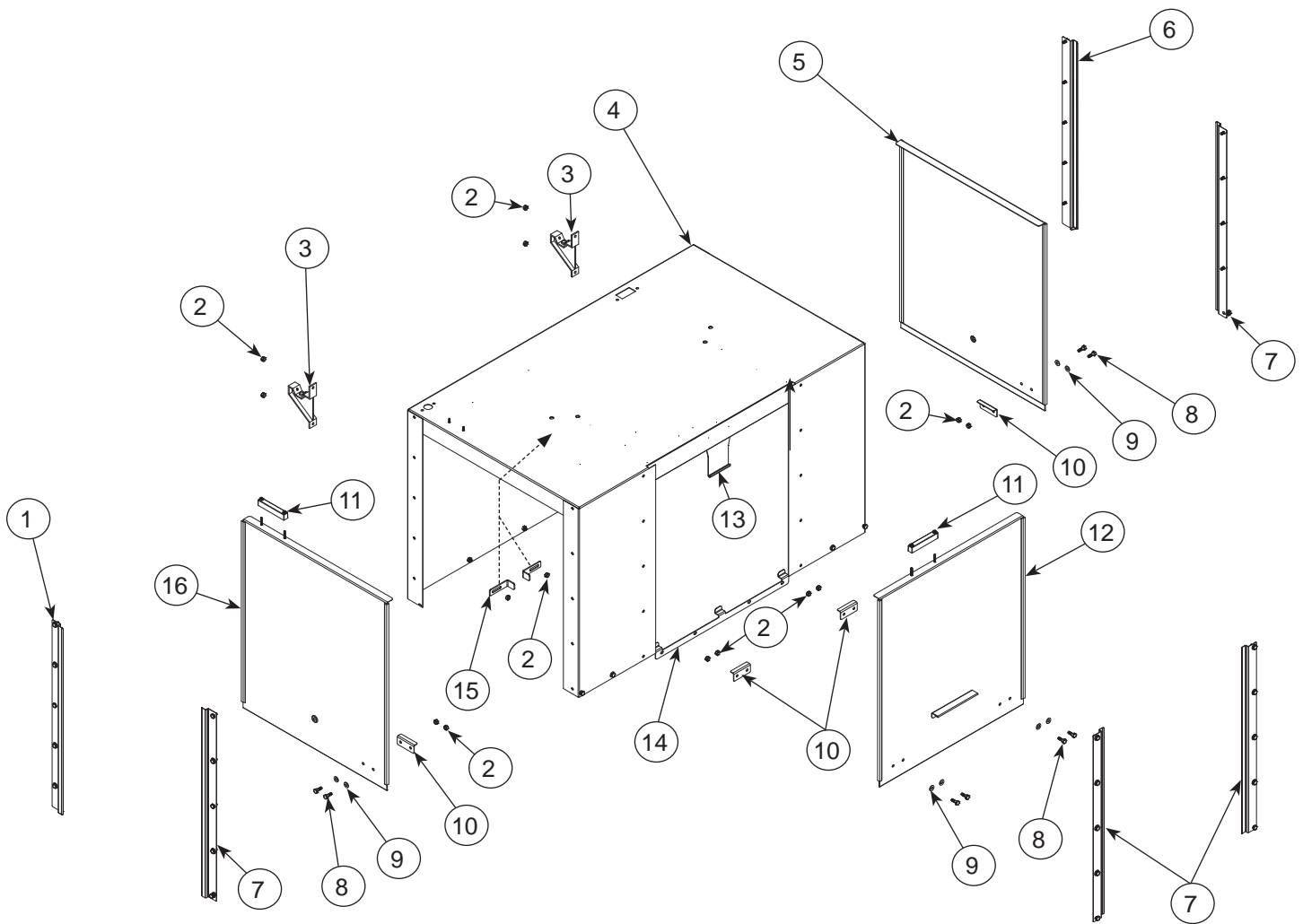


ITEM	QTY	DESCRIPTION	PART NUMBER
34	8	Screw, 10-32 x 1/2" Phillips Truss Head	05305-011-39-36
35	14	Locknut, 10-24 Hex with Nylon Insert	05310-373-01-00
36	1	Locknut, 6-32 Hex with Nylon Insert	05310-373-03-00
37	4	Screw, 4-40 x 1/4" Long	05305-002-32-38
38	2	Fitting, LiquidTite .231 x .394	05975-011-49-03
39	3	Clamp, 1" Nylon Loop	04730-002-41-88
40	1	Bushing, Snap 1/2"	05975-210-05-00
41	1	Stand, Control Box Front	05700-003-31-20
42	2	Vacuum Breaker, 1/4" Bottom Outlet	04810-002-74-72
43	4	Fitting, 1/4" x 1/4" Comp Straight Brass	04730-011-48-56
44	1	Clamp, 5/8" Nylon	04730-011-39-01
45 - 54	-	See Chemical Feeder Pump Components page.	N/A
55	1	Plug, 3/4"	04730-011-60-21
56	1	Plug	05975-011-47-81
57	1	Decal, Wash/Rinse	09905-002-82-46
58	1	Universal Timer	05945-003-33-09
59	4	Screw, 10-32 x 1" Phillips Pan Head	05305-002-19-42

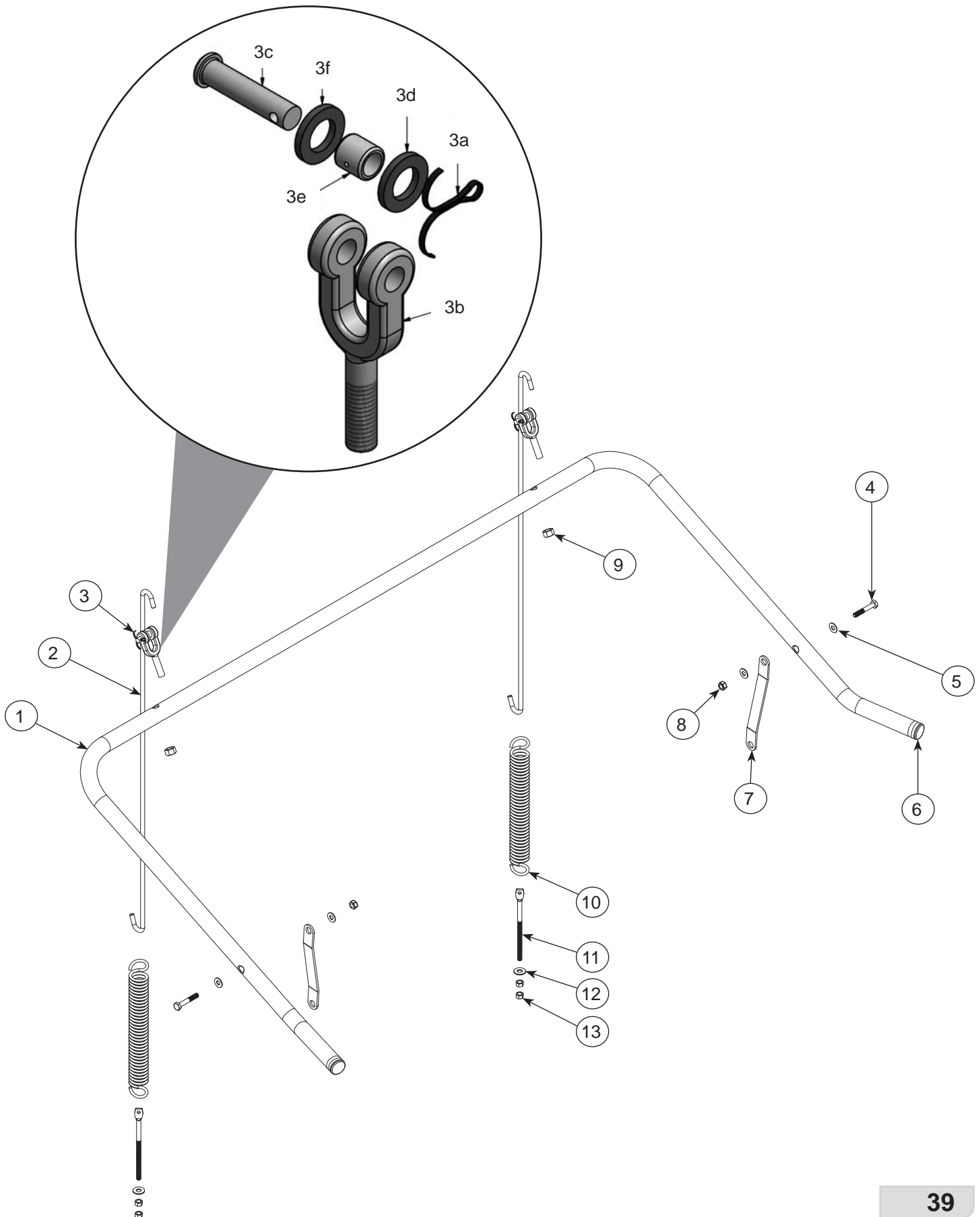
**NOTICE** For complete Chemical Feeder Pump Assembly part numbers, see the Control Box pages in the Parts section.



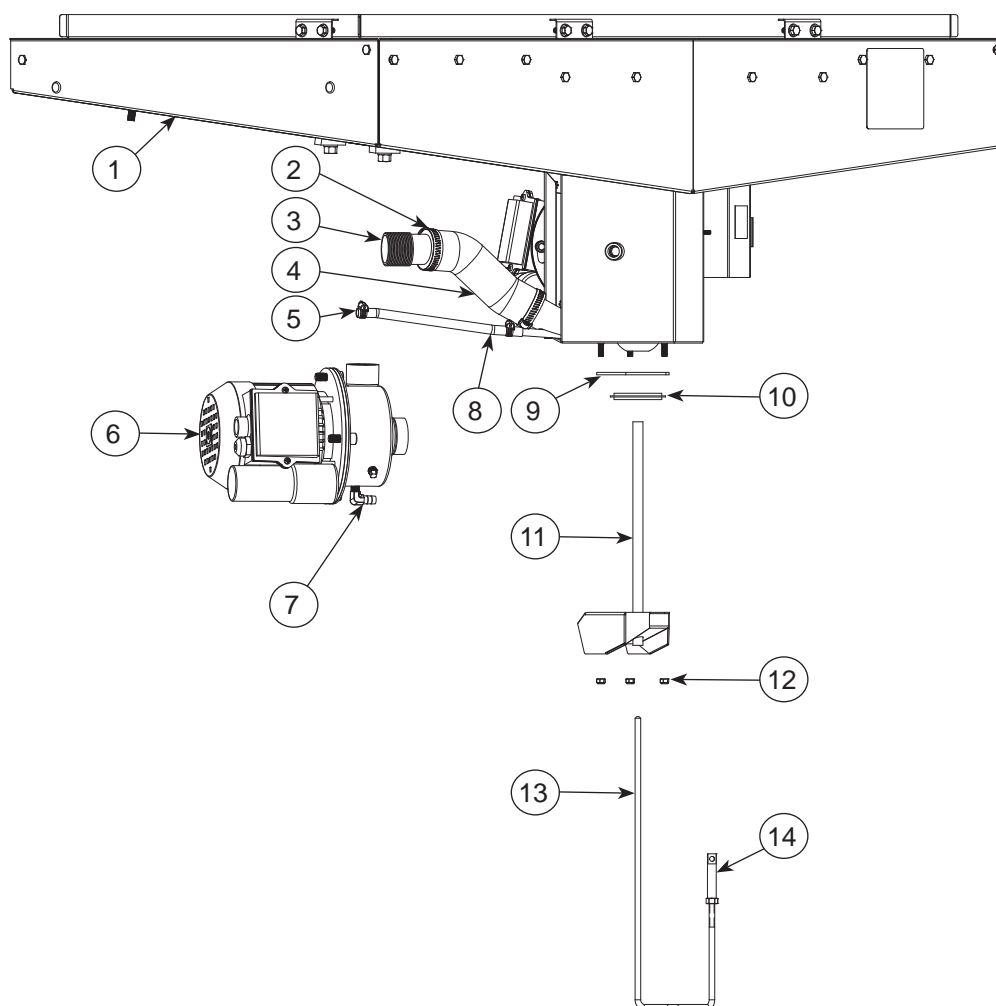
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Rear Housing	04320-111-37-09
2	1	Motor, 14 RPM 115 V Rinse-aid Feeder Pump	04320-111-35-13
		Motor, 14 RPM 230 V, Rinse-aid Feeder Pump	04320-111-47-46
	1	Motor, 36 RPM 115 V, Detergent/Sanitizer Feeder Pump	04320-111-35-14
		Motor, 36 RPM 230 V, Detergent/Sanitizer Feeder Pump	04320-111-47-47
3	2	Screw, 8-32 x 1/2" Phillips Flat Head	05305-011-37-06
4	1	Tube, 3/16" x 8" Clear Tygoprene	05700-003-22-89
5	1	Roller, White	04320-002-82-28
6	4	Screw, 6-32 x 3/4" Phillips Pan Head	05305-011-37-05
7	1	Front Housing	04320-111-37-08
8	4	Screw, 8-32 x 3/8" Flat Head	05305-011-37-07



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Door Guide, Left Rear	05700-021-84-71
2	14	Lock Nut, 1/4-20 w/Nylon Insert	05310-374-01-00
3	2	Bracket, Cantilever Support	09515-003-15-64
4	1	Hood Weldment, XL2	05700-003-25-05
5	1	Door Assembly, Right Side	05700-004-14-11
6	1	Door Guide, Right Rear	05700-021-84-70
7	4	Door Guide	05700-021-44-94
8	8	Bolt, Hex Head 1/4-20 x 3/4"	05305-274-04-00
9	8	Washer, 1/4" ID SS	05311-174-01-00
10	4	Door Stop	05700-011-46-30
11	2	Door Switch	05930-111-51-69
12	1	Front Door Assembly	05700-004-07-52
	1	Front Door Assembly w/Studs	05700-003-04-64
13	1	Door Catch	05700-011-46-50
14	1	Front Door Stop	05700-021-60-27
15	2	Manifold L-Bracket	05700-011-34-63
16	1	Door Assembly, Left Side	05700-004-07-51
	1	Door Weldment Only, Left Side	05700-003-02-98

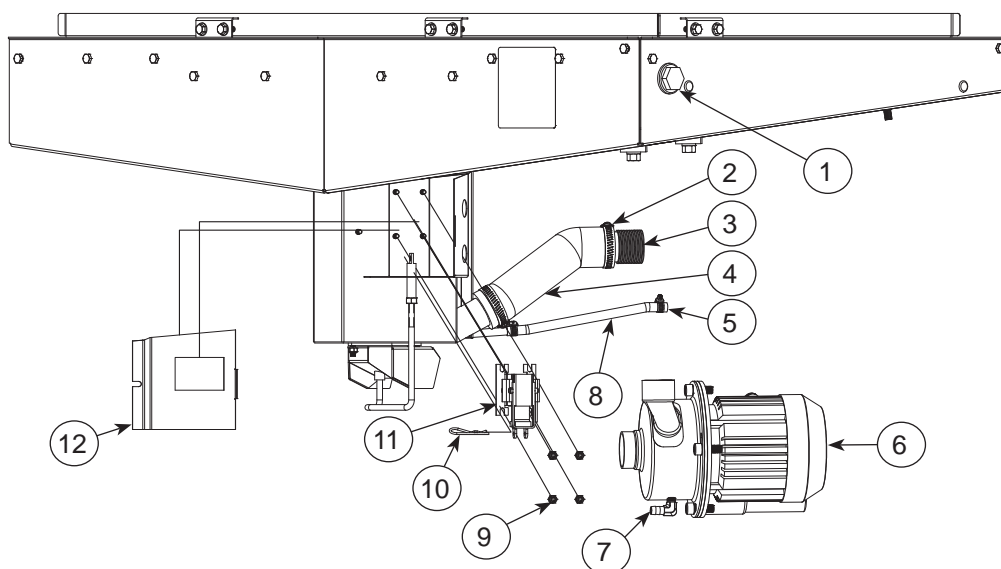


ITEM	QTY	DESCRIPTION	PART NUMBER
	1	Complete Cantilever Arm Assembly	05700-002-60-64
1	1	Cantilever Arm	05700-002-60-65
2	2	Rod, Spring Universal	05700-003-67-39
3	2	Yoke Assembly	05700-000-75-77
3a	1	Cotter Pin	05315-207-01-00
3b	1	Yoke	05700-000-75-78
3c	1	Clevis Pin	05315-700-01-00
3d	2	Nylon Washer	05311-369-03-00
3e	1	Bushing	03120-100-03-00
4	2	Screw, Cap 1/4-20 x 1 5/8"	05305-004-23-57
5	4	Washer, 1/4" ID SS	05311-174-01-00
6	2	Plug, Cantilever	05340-011-35-00
7	2	Cantilever Arm Connector	05700-011-90-99
8	2	Lock Nut, 1/4-20 w/Nylon Insert	05310-374-01-00
9	2	Lock Nut, 3/8-16 SS	05310-256-04-00
10	2	Spring, Cantilever	05340-109-02-00
11	2	Bolt, Hanger Eye 3/8-16	05306-956-05-00
12	2	Washer, 3/8" ID x 7/8" OD	05311-176-02-00
13	4	Nut, Hex 3/8-16 SS	05310-276-01-00

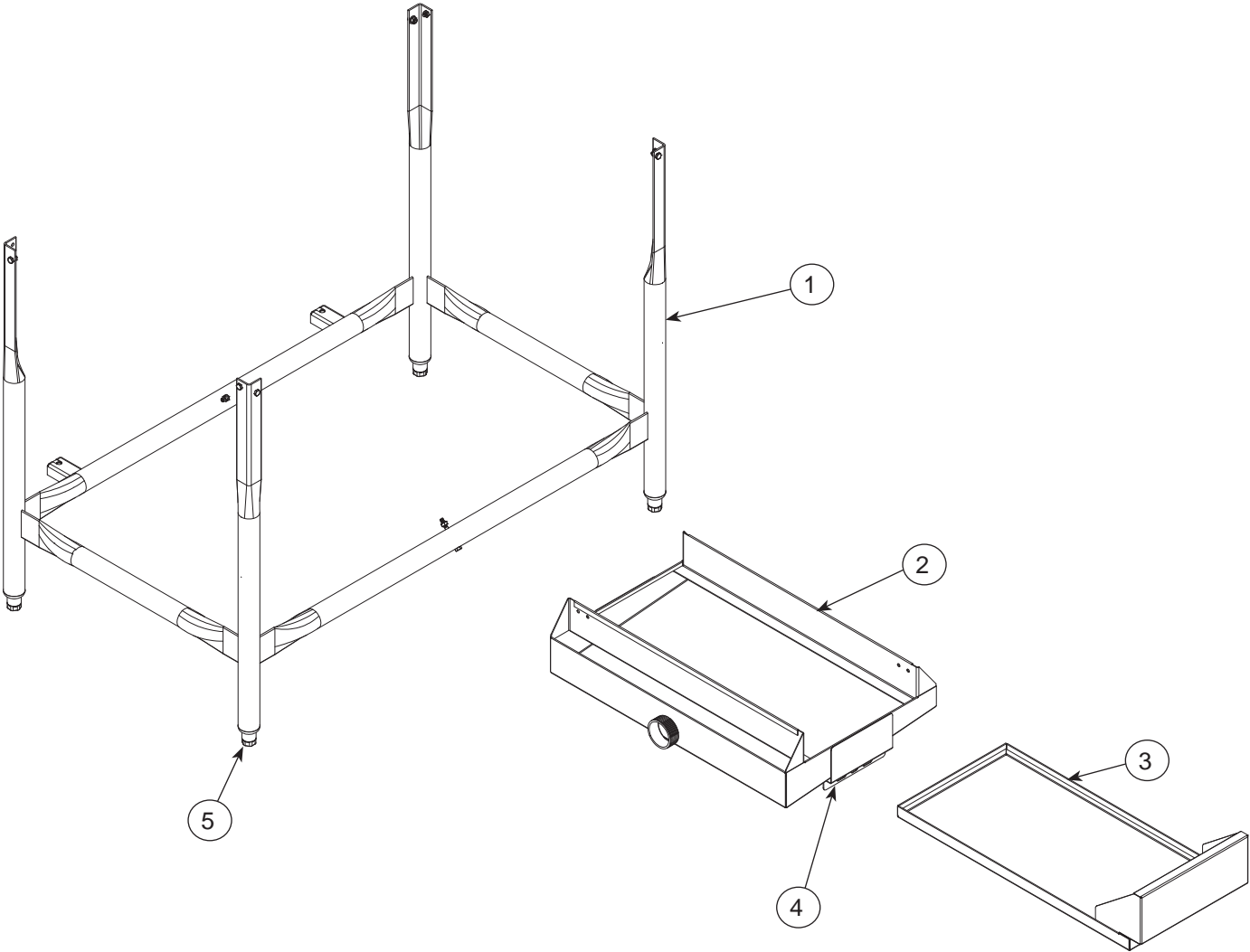


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Wash Tub Weldment	05700-002-21-50
2	2	Hose Clamp, Regular, 1 5/16" x 2 1/4"	04730-719-18-00
3	1	Pump Inlet Nipple	05700-021-33-50
4	1	Hose, 1 1/2" ID x 7 3/4"	05700-111-33-52
5	2	Hose Clamp, Mini, 7/16" x 25/32"	04730-011-36-05
6	1	Wash Motor	See "Wash Motors" page.
7	1	Hose Barb Fitting, 3/8" x 1/8" Male	04730-002-18-96
8	1	Hose, 3/8" ID x 12" Long	05700-002-69-73
9	1	Spillway Gasket	05700-111-34-52
10	1	Drain Seat Insert	05700-004-37-18
11	1	Spillway Weldment	05700-003-52-13
12	3	Locknut, 10-24 S/S Hex w/Nylon Insert	05310-373-01-00
13	1	Drain Link Assembly	05700-002-38-21
14	1	Drain Link Connector	05700-002-38-10



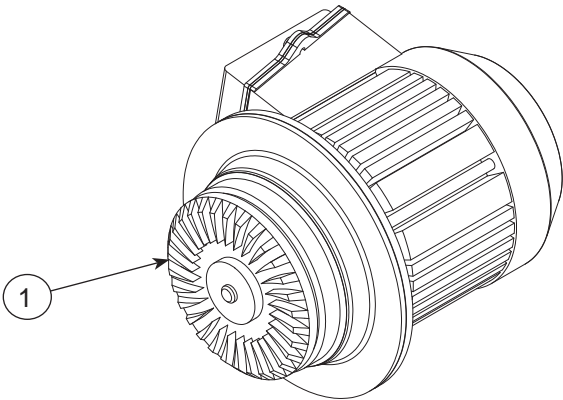


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Plug	04730-011-60-21
2	2	Hose Clamp, Regular, 1 5/16" x 2 1/4"	04730-719-18-00
3	1	Pump Inlet Nipple	05700-021-33-50
4	1	Hose, 1 1/2" ID x 7 3/4"	05700-111-33-52
5	2	Hose Clamp, Mini, 7/16" x 25/32"	04730-011-36-05
6	1	Wash Motor	See "Wash Motors" page.
7	1	Hose Barb Fitting, 3/8" x 1/8" Male	04730-002-18-96
8	1	Hose, 3/8" ID x 12" Long	05700-002-69-73
9	4	Locknut, 10-24 S/S Hex w/Nylon Insert	05310-373-01-00
10	1	Cotter Pin 1/8" x 1"	05315-002-15-39
11	1	Drain Solenoid, 115 V	04810-200-11-00
	1	Drain Solenoid, 230 V	04810-111-87-74
12	1	Drain Solenoid Box Cover	05700-031-33-27



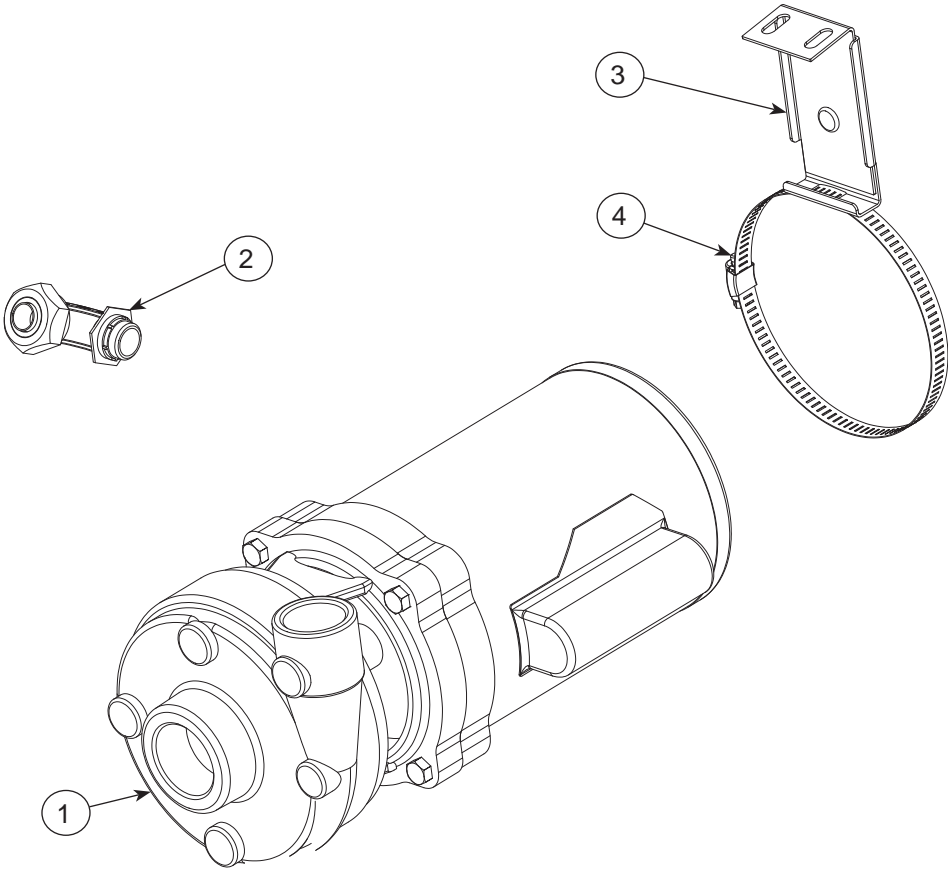
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Double Bracket Frame, 60 Hz Machine	05700-002-61-22
	1	Single Bracket Frame, 50 Hz Machine (Not Shown)	05700-031-45-16
2	1	Accumulator	05700-031-66-24
3	1	Accumlator Strainer	05700-021-47-17
4	1	Accumulator Stop Clip	05700-011-49-11
5	4	Adjustable Bullet Foot	05340-108-01-03

60 Hz

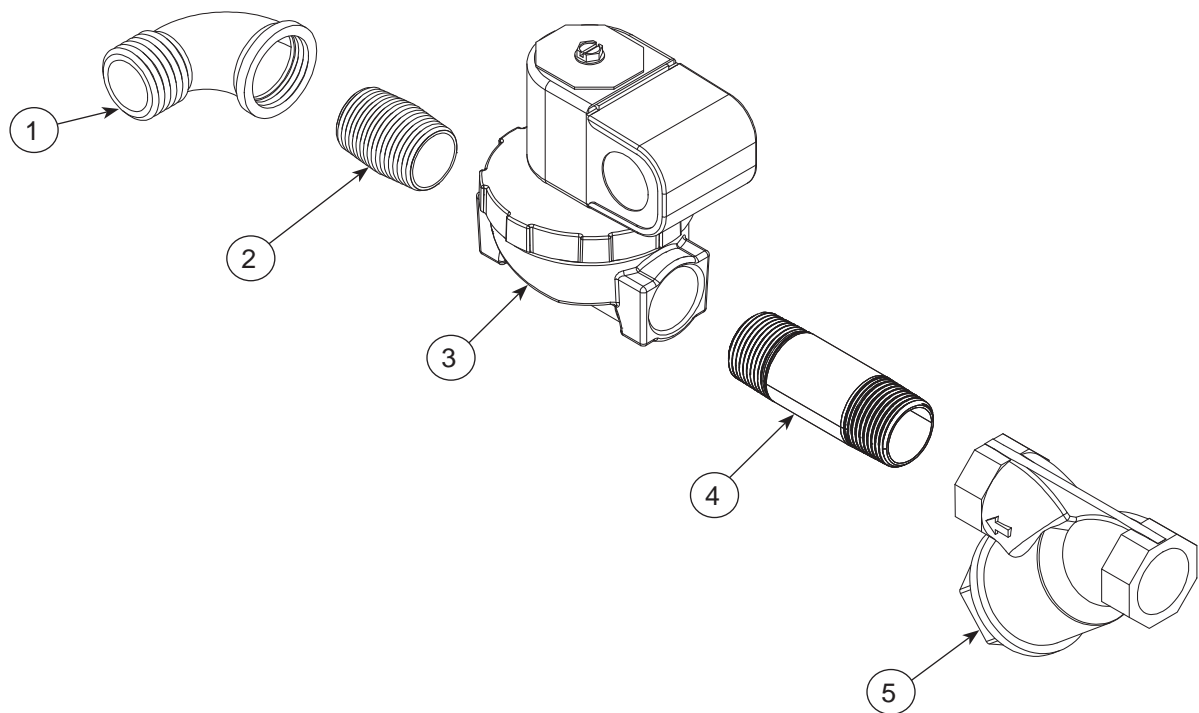


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Motor, 1 HP/115-230 V/60 Hz	06105-004-24-80

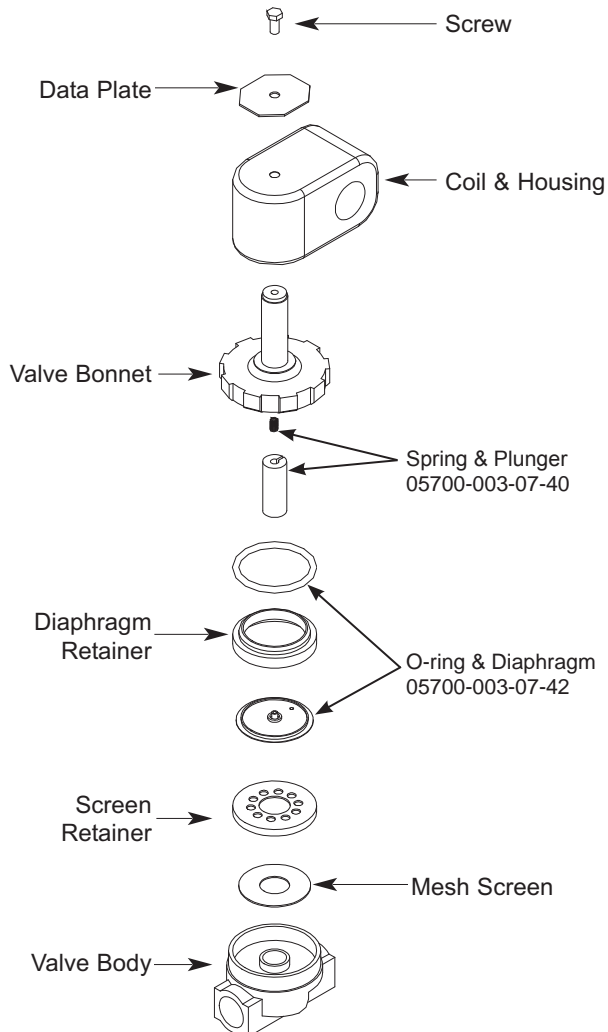
50 Hz



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Motor, 1 HP/230 V/50 Hz	06105-002-19-87
2	1	Liquidtite Connector, 90-degree	05975-111-01-00
3	1	Pump Support Assembly	05700-002-05-88
4	1	Clamp, 5 5/8"– 6"	04730-011-34-90



ITEM	QTY	DESCRIPTION	PART NUMBER
	1	Complete Inlet Plumbing Assembly, 3/4"	05700-004-34-44
1	1	Street Elbow, 3/4" 90-degree	04730-206-04-34
2	1	Brass Nipple, 3/4" X 1 3/8"	04730-207-34-00
3	1	Solenoid Valve, 3/4" 110 V	04810-100-53-00
4	1	Brass Nipple, 3/4" x 3"	04730-011-38-29
5	1	Y-Strainer	04730-717-02-06

**Complete 115 Volt Solenoid Valve Assembly**

04810-100-53-00

**Coil & Housing only**

04810-200-01-18

**Complete 230 Volt Solenoid Valve Assembly**

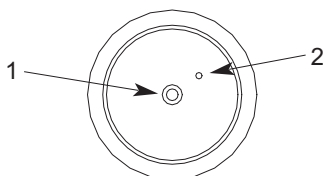
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**Coil & Housing only**

04810-200-02-18

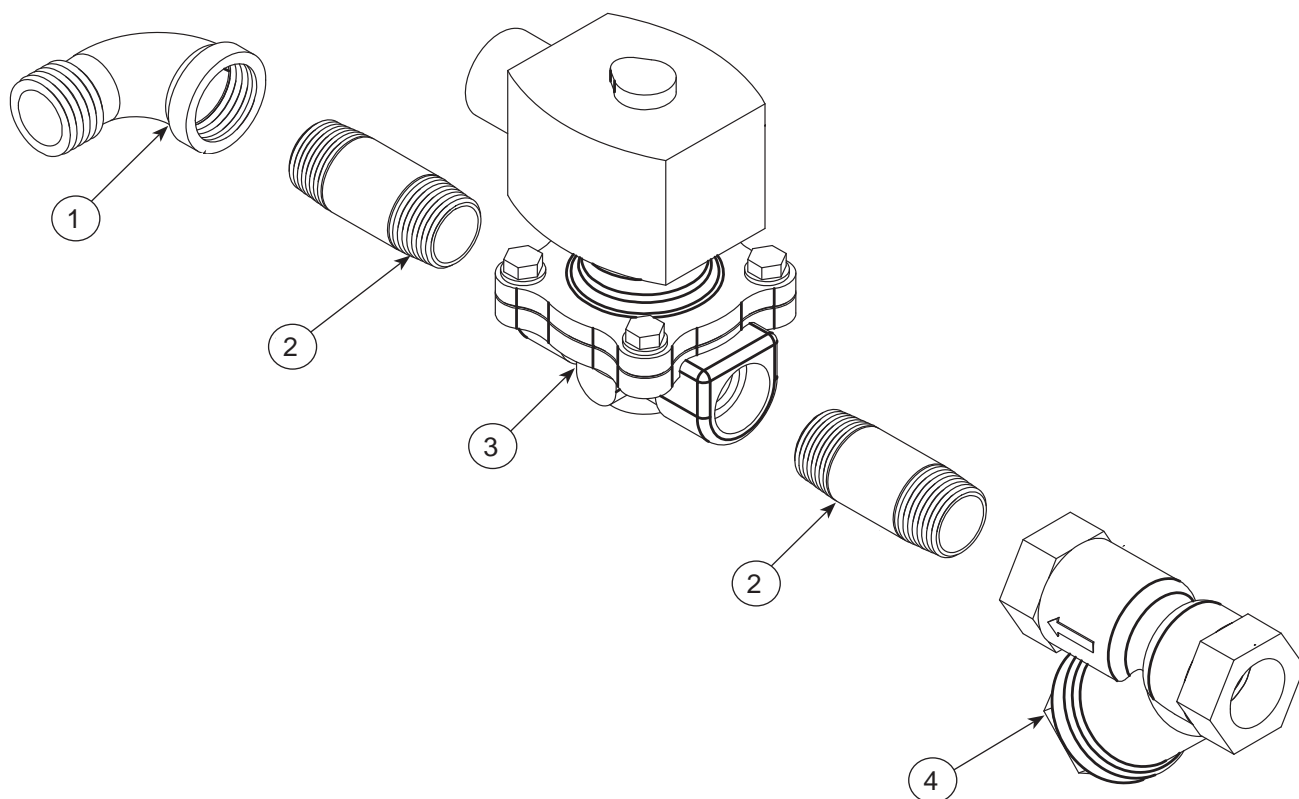
**Possible Problems:**

1. Pilot port extension #1 clogged. Clean hole.
2. Hole #2 Clogged. Pass heated straight pin through hole.

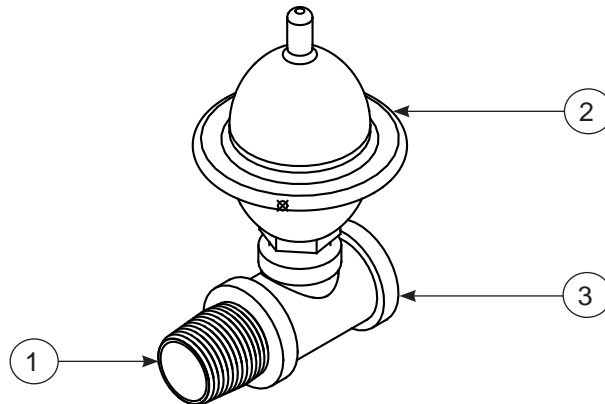
**TO TAKE THE SOLENOID VALVE APART**

**DISASSEMBLY** - These valves may be taken apart by unscrewing the bonnet and the enclosing tube assembly from the valve body assembly. After unscrewing, carefully lift off the bonnet and enclosing tube assembly. Don't drop the plunger. The o-ring seal and diaphragm cartridge can now be lifted out. Be careful not to damage the machined faces while the valve is apart.

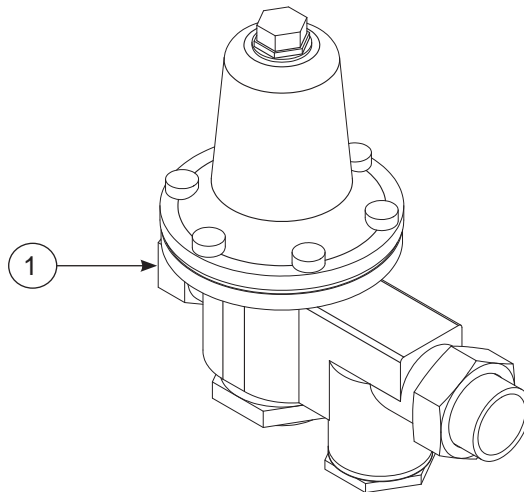
**TO REASSEMBLE** - Place the diaphragm cartridge in the body with the pilot port extension UP. Hold the plunger with the synthetic seat against the pilot port. Make sure the o-ring is in place, then lower the bonnet and enclosing tube assembly over the plunger. Screw the bonnet assembly snugly down on the body assembly.



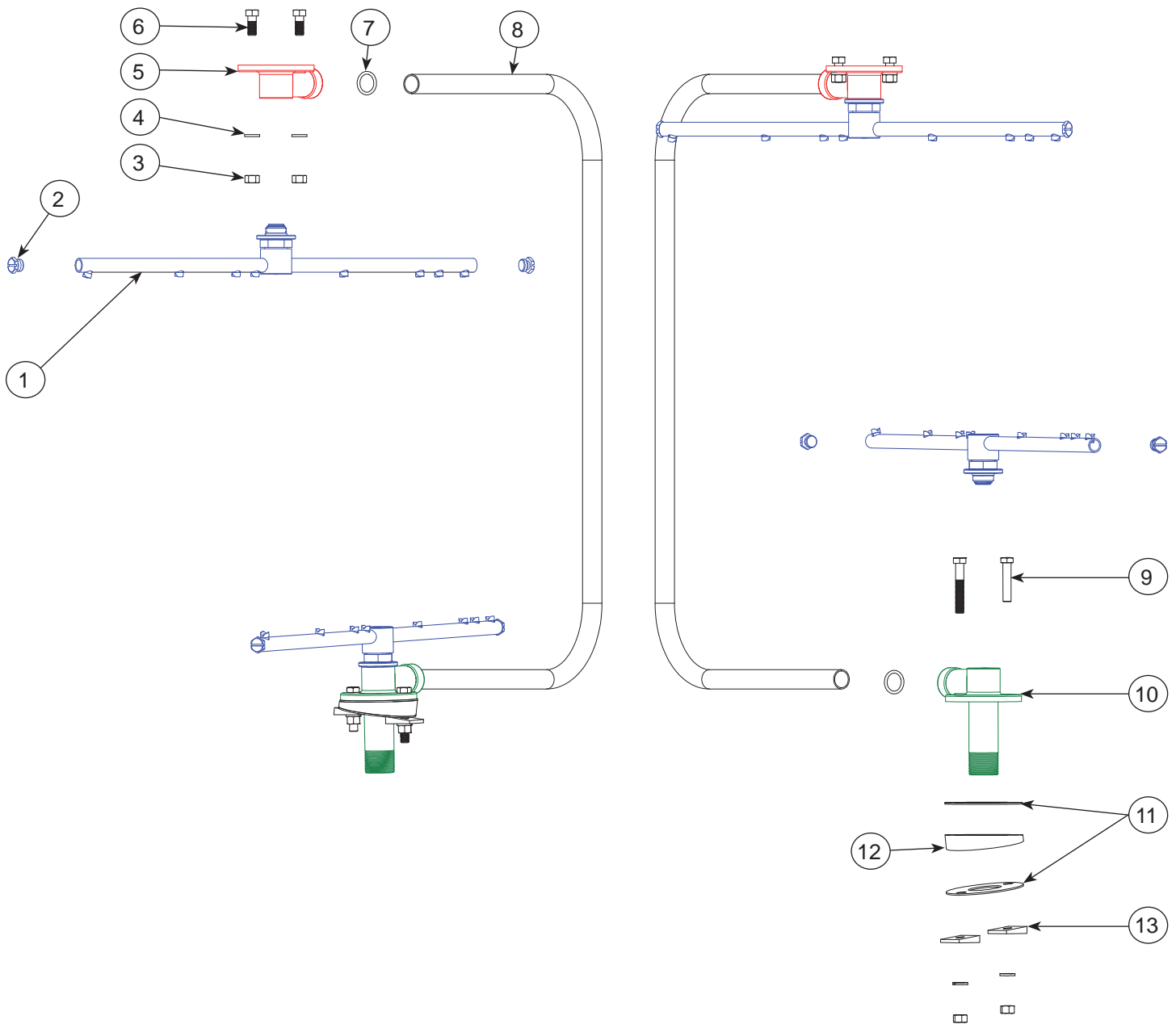
ITEM	QTY	DESCRIPTION	PART NUMBER
	1	Complete Inlet Plumbing Assembly, 1/2"	05700-003-23-71
1	1	Street Elbow 1/2" 90 Degrees	04730-206-08-00
2	2	Brass Nipple 1/2" x 2"	04730-207-19-00
3	1	Valve Solenoid 1/2" 120V	04810-003-71-55
4	1	Y-Strainer 1/2"	04730-217-01-10

**SHOCK ABSORBER (WATER ARRESTOR) OPTION**

ITEM	QTY	DESCRIPTION	PART NUMBER
	1	Complete Water Arrestor Assembly, 1/2"	05700-002-64-67
	1	Complete Water Arrestor Assembly, 3/4"	05700-002-61-29
1	1	Nipple, 1/2" NPT, Close, Brass	04730-207-15-00
	1	Nipple, 3/4" NPT, Close, Brass	04730-207-34-00
2	1	Water Arrestor	06685-100-05-00
3	1	Tee, 1/2" x 1/2" x 1/2"	04730-211-27-00
	1	Tee, 3/4" x 3/4" x 1/2"	04730-211-06-00

**PRESSURE REGULATOR OPTION**

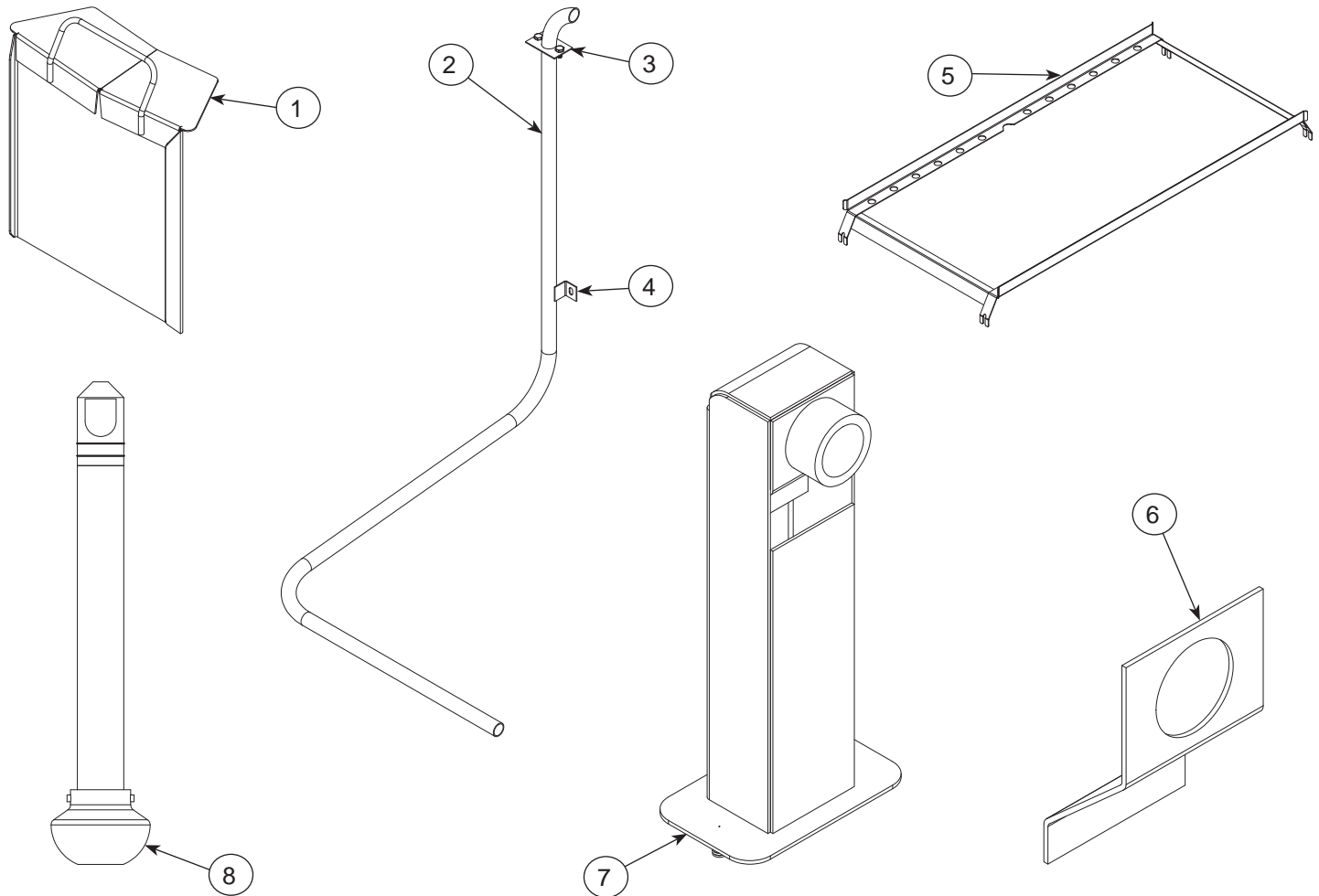
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Water Pressure Regulator, 1/2" NPT	05700-100-04-07
	1	Water Pressure Regulator, 3/4" NPT	06685-011-58-22





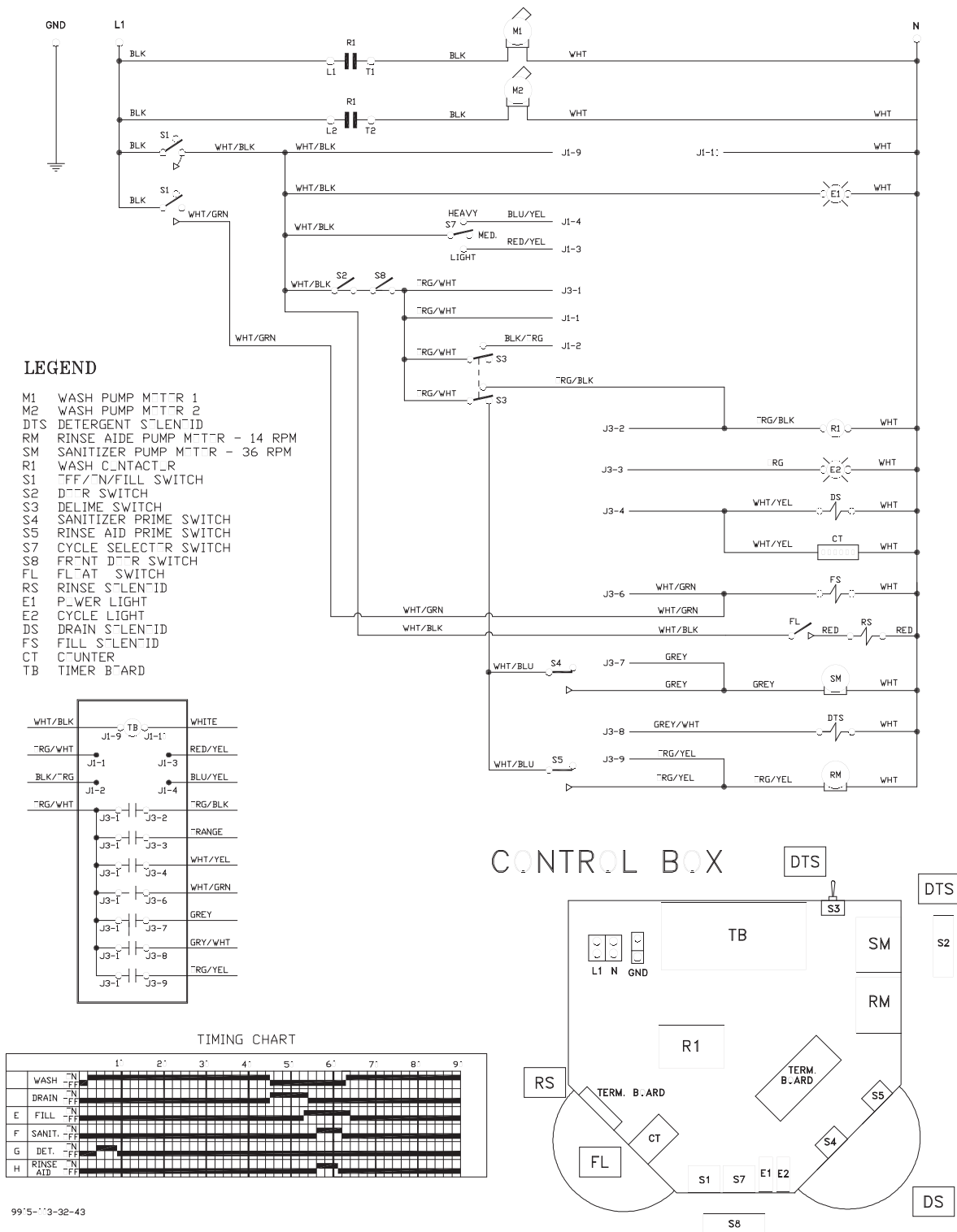
ITEM	QTY	DESCRIPTION	PART NUMBER
1	4	Wash Arm	05700-002-57-98
2	8	End-cap (included with arm but can order separately)	05700-011-35-92
3	8	Hex Nut 3/8"	05310-276-01-00
4	8	Lockwasher	05311-276-01-00
5	2	Upper Manifold	05700-031-34-82
6	4	Hex Head Bolt 3/8-16 X 7/8"	05306-011-36-95
7	4	O-Ring	05330-111-35-15
8	2	Manifold	05700-031-34-59
9	4	Hex Head Bolt 3/8" x 1-3/4"	09515-003-15-64
10	2	Lower Wash Manifold	05700-031-46-00
11	4	Wash Manifold Gasket	05700-111-35-03
12	2	Wash Manifold Wedge	09515-011-46-61
13	4	Square Bevel Washer 3/8"	05311-011-35-36

Parts are not shown to scale in relation to each other.

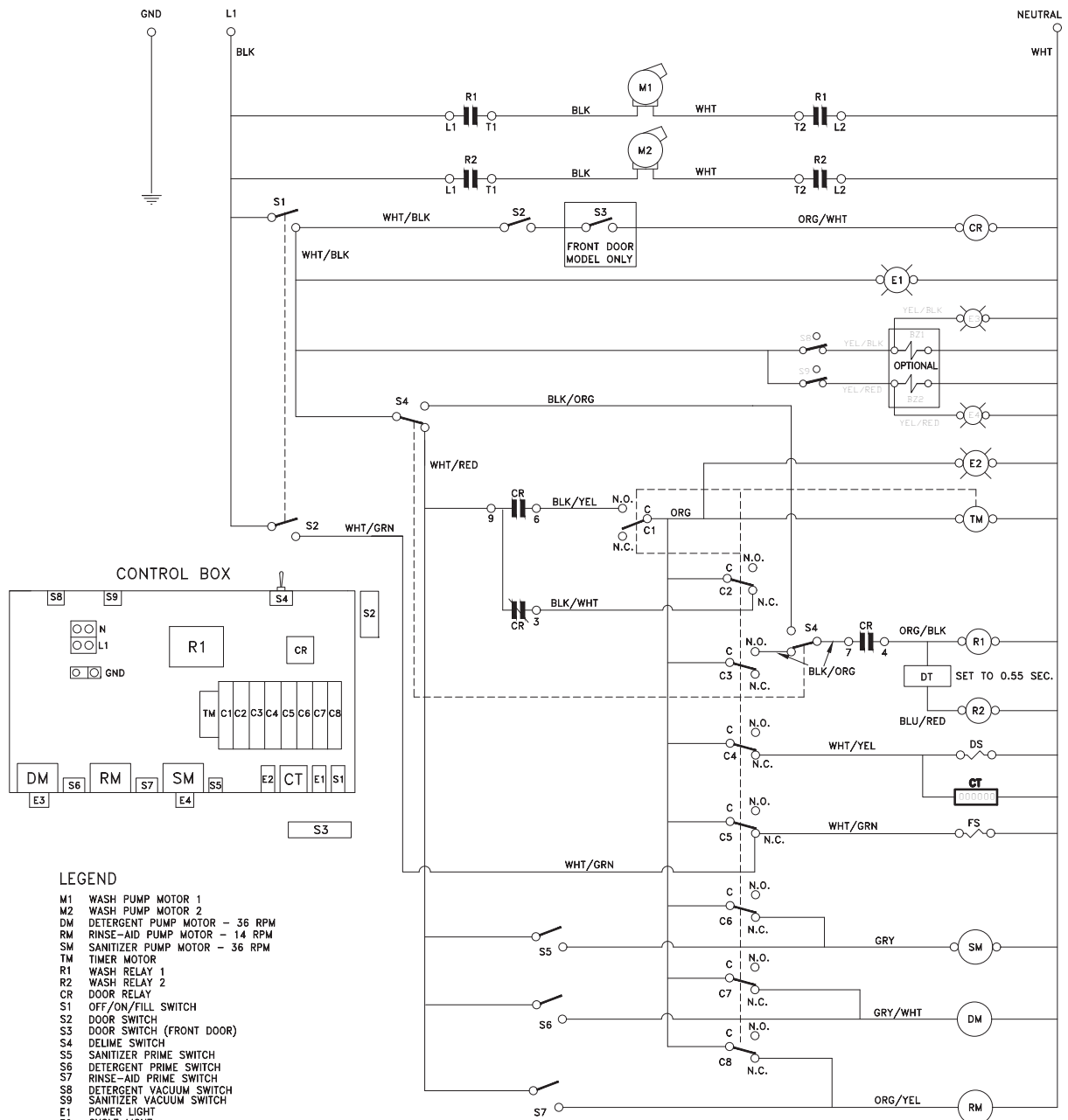


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Intake Pump Strainer	05700-031-45-26
2	1	Injection Tube	05700-002-21-52
3	1	Injection Tube Gasket	05700-011-45-36
4	1	Injection Tube Bushing	05975-002-47-54
5	1	Rack Guide	05700-031-45-92
6	1	Air-gap Insert, 3/4"	05700-004-34-43
7	1	Air-gap, 3/4"	05700-004-34-42
8	1	Standpipe	05700-031-35-55

## Solid Dispenser Option

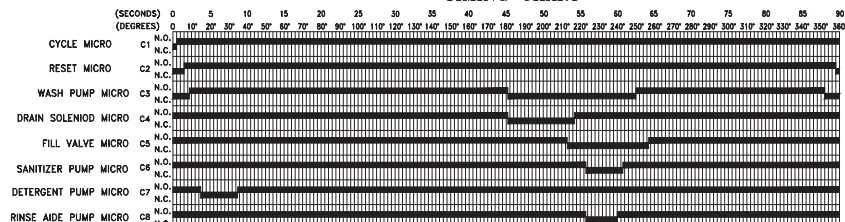


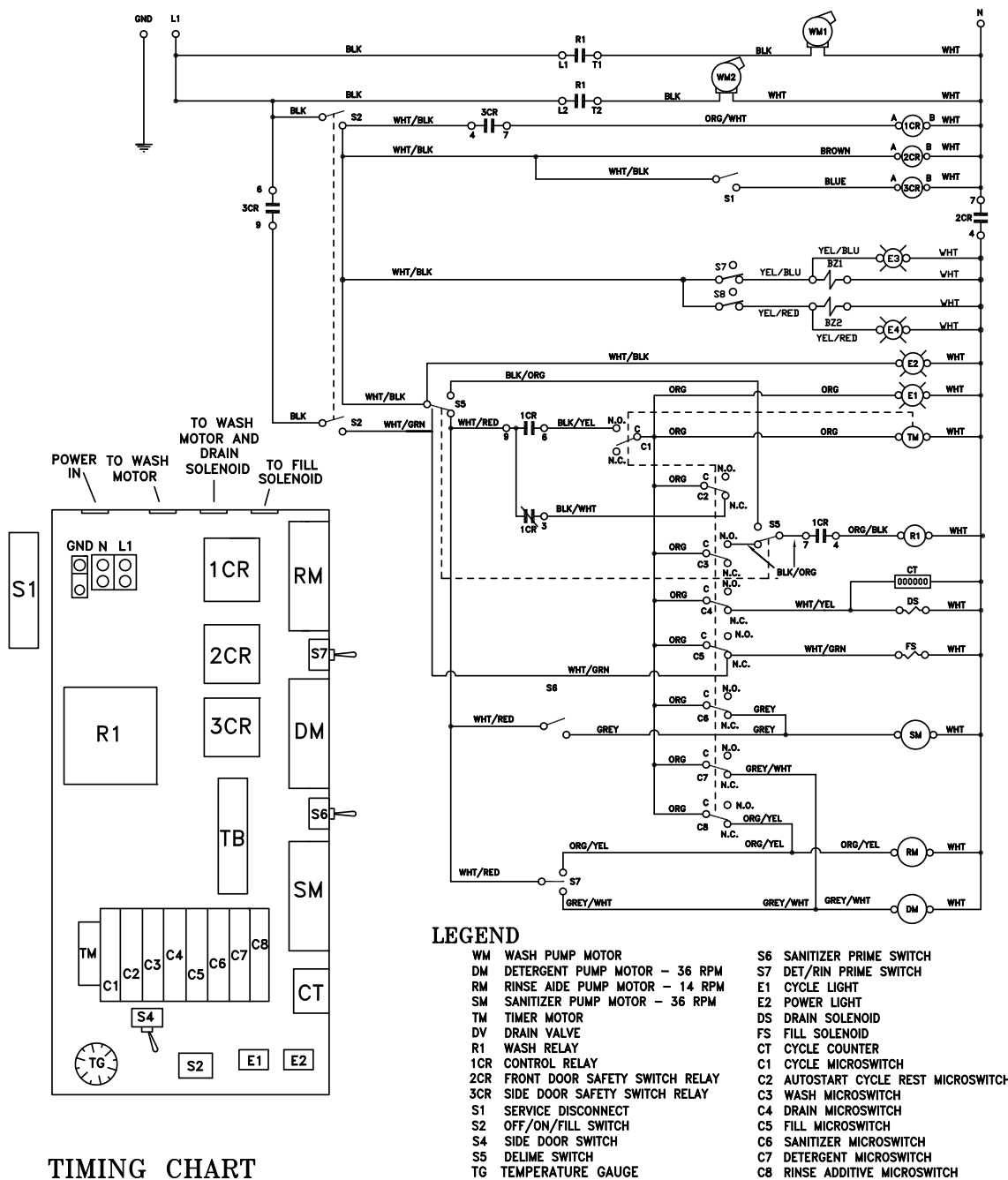
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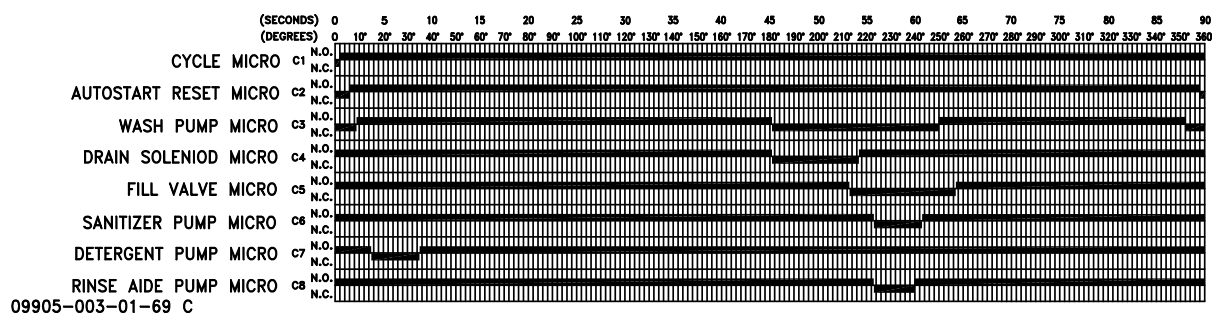
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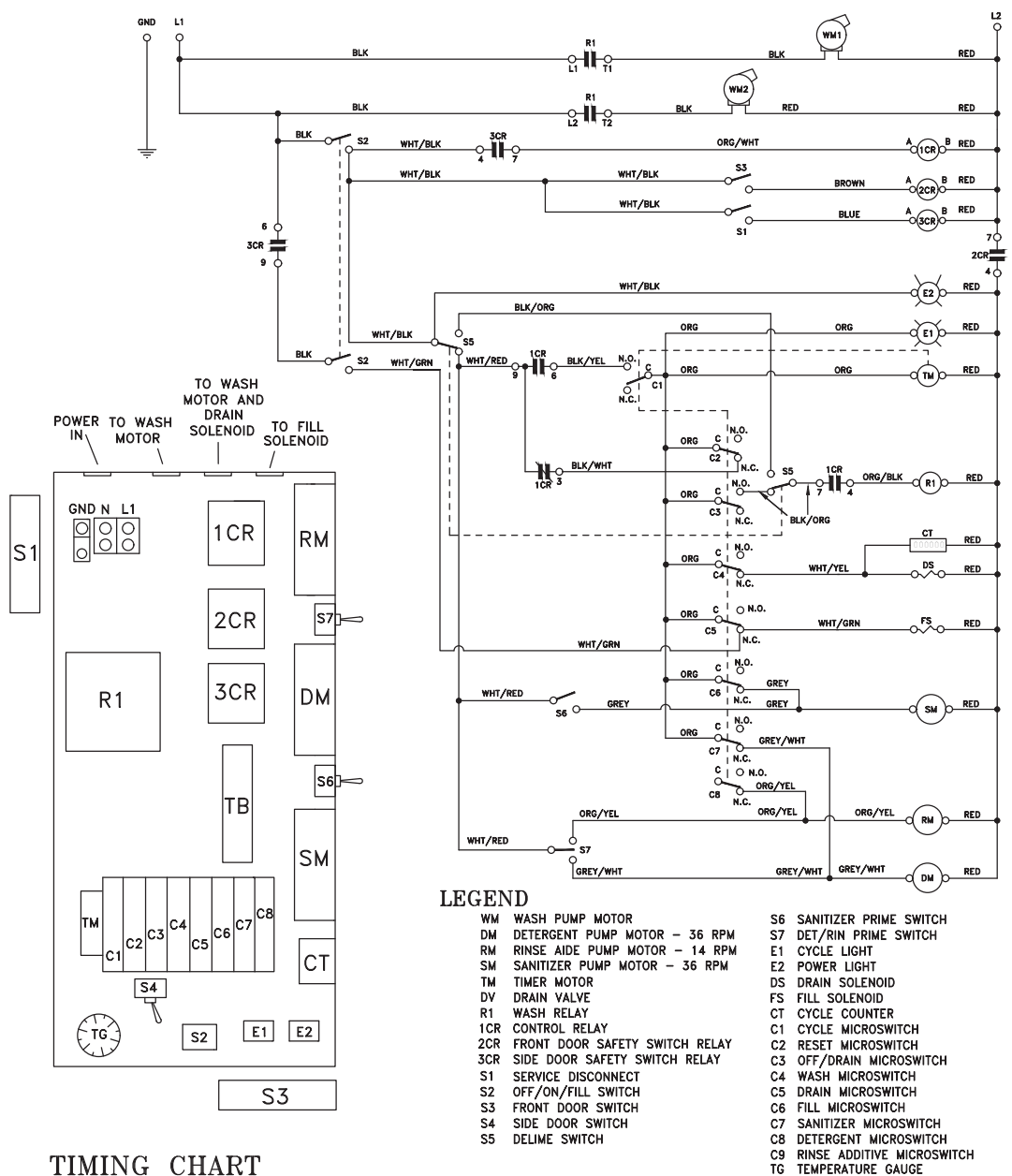
TIMING CHART



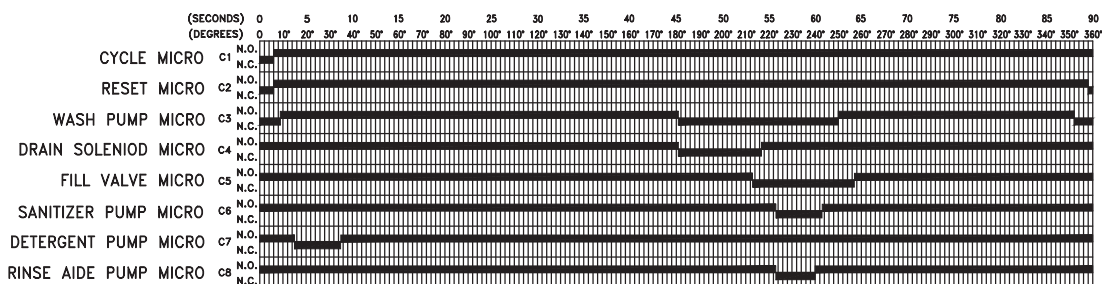


## TIMING CHART

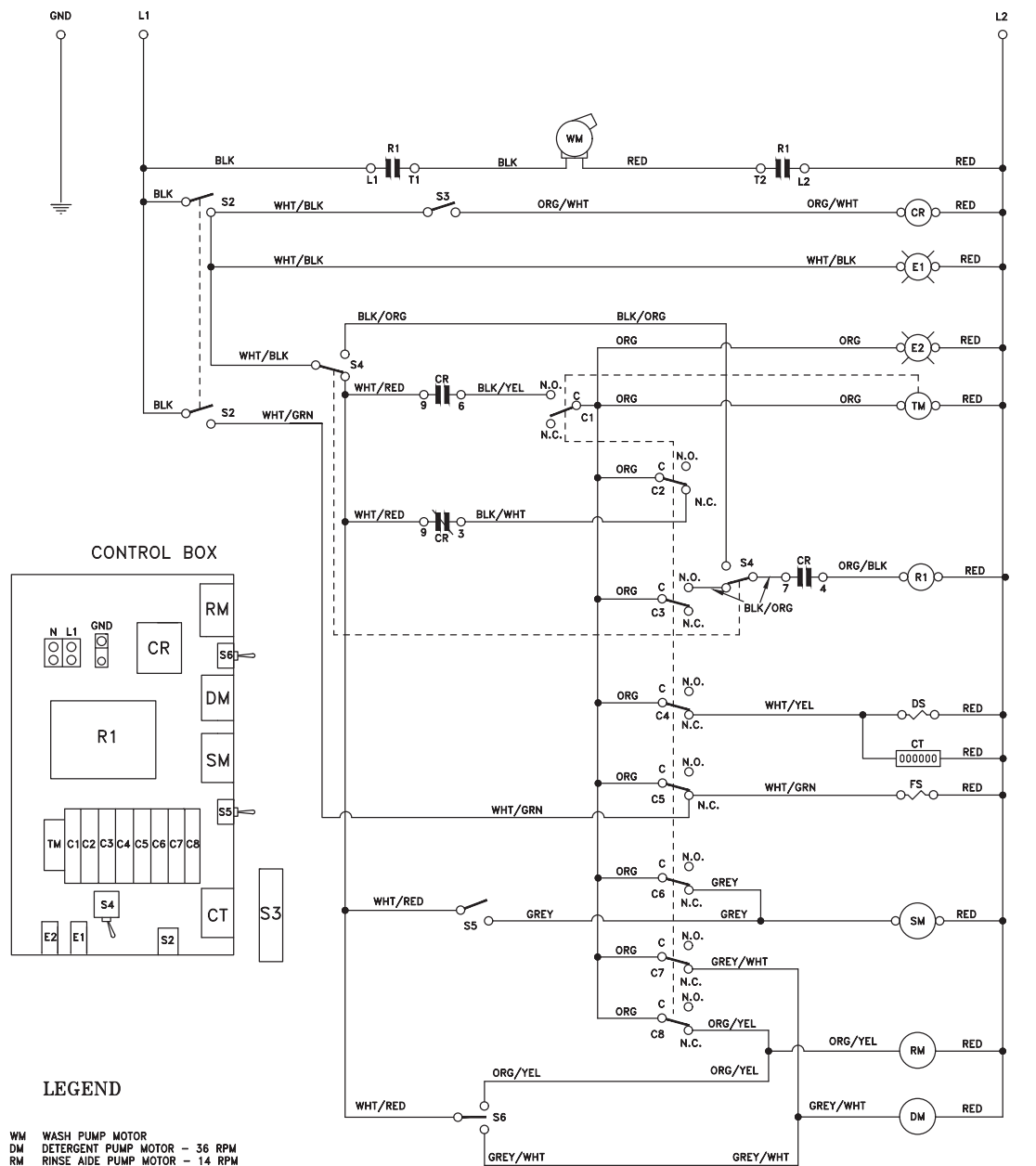




## TIMING CHART

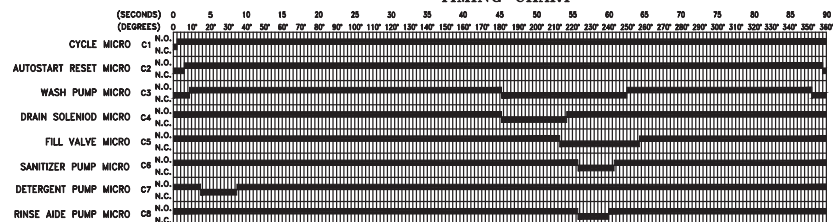


9905-003-08-93 C



9905-002-50-31 B

TIMING CHART





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