

# **TECHNICAL MANUAL**

**INSTALLATION MANUAL FOR EXPORT UNITS  
SERVICE MANUAL FOR DOMESTIC UNITS**

**FOR JACKSON MODELS:**

**CONSERVER 24LT**

**CONSERVER 24LTP**





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# SPECIFICATIONS

## PERFORMANCE/CAPABILITIES

### OPERATING CAPACITY (RACKS/HOUR)

RACKS PER HOUR	24
DISHES PER HOUR	600
GLASSES PER HOUR	600

### OPERATING CYCLE (SECONDS)

WASH TIME	56
DRAIN TIME	29
RINSE TIME	35
TOTAL CYCLE TIME	120

### TOTAL WATER CONSUMPTION

GALLONS PER HOUR (80% CAP.)	28.8
GALLONS PER RACK	1.2

### TEMPERATURES

WASH ---°F (MINIMUM)	120
WASH ---°F (RECOMMENDED)	140
RINSE ---°F (MINIMUM)	120
RINSE ---°F (RECOMMENDED)	140

## ELECTRICAL REQUIREMENTS

WASH PUMP MOTOR HORSEPOWER 3/4

**NOTE: Typical Electrical Circuit is based upon (1) 125% of the full amperage load of the machine and (2) typical fixed-trip circuit breaker sizes as listed in the NEC 2002 Edition. Local codes may require more stringent protection than what is displayed here. Always verify with your electrical service contractor that your circuit protection is adequate and meets all applicable national and local codes. These numbers are provided in this manual simply for reference and may change without notice at any given time.**

<u>VOLTS</u>	<u>PH</u>	<u>HZ</u>	<u>RINSE HEATER RATINGS</u>	<u>TOTAL AMPS</u>	<u>TYPICAL ELECTRICAL CIRCUIT</u>
115	1	60	N/A	10	15 AMP

## WATER REQUIREMENTS

INLET TEMPERATURE (RECOMMENDED)	140°F
INLET TEMPERATURE (MINIMUM)	120°F
GALLONS PER HOUR	28.8
WATER LINE SIZE NPT (MINIMUM)	1/2"
DRAIN LINE SIZE NPT (MINIMUM)	1 3/8"
FLOW PRESSURE P.S.I.	20±5
MINIMUM CHLORINE REQUIRED (PPM)	50

## FRAME DIMENSIONS

WIDTH	24 1/4"
DEPTH	22 5/8"
HEIGHT	33 1/4"

**NOTE: Always refer to the machine data plate for specific electrical and water requirements. The material provided on this page is for reference only and may be subject to change without notice.**

# INSTALLATION INSTRUCTIONS

Jackson MSC Inc. 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 with you when you call so that our staff can refer you, if necessary, to the proper page. Technical support is available from 8:00 a.m. to 5:00 p.m. (EST), Monday through Friday. Technical support is not available on holidays. Contact technical support toll free at 1-888-800-5672. Please remember that technical support is available for service personnel only.

**VISUAL INSPECTION:** Before installing the unit, check the container and machine for damage. A damaged container is an indicator that there may be some damage to the machine. If there is damage to both the container and machine, do not throw away the container. 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 may result in there being damage to the unit while in transit. If such a situation occurs, do not return the unit to Jackson; instead, contact the carrier and ask them to send a representative to the site to inspect the damage to the unit and to complete an inspection report. You must contact the carrier within 48 hours of receiving the machine. Also, contact the dealer through which you purchased the unit.

**UNPACKING THE DISHMACHINE:** Once the machine has been removed from the container, ensure that there are no missing parts from the machine. This may not be obvious at first. If it is discovered that an item is missing, contact Jackson immediately to have the missing item shipped to you.

**LEVEL THE DISHMACHINE:** The dishmachine is designed to operate while being level. This is important to prevent any damage to the machine during operation and to ensure the best results when washing ware. The unit comes with 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 from front to back before making any connections.

**PLUMBING THE DISHMACHINE:** All 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 prior to connecting it to any component of the dishmachine. It is necessary to remove all foreign debris from the water line that may 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.


**CONNECTING THE DRAIN LINE:** The Conserver 24 series machines are a pumped (pressure) drain capable of pumping waste water to a height of 24 inches from the floor to the kitchen's drain system. The dishmachines are supplied with a 10 foot long hose that extends from the rear side of the machine. 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 gallons per minute.

**WATER SUPPLY CONNECTION:** Ensure that you have read the section entitled "PLUMBING THE DISHMACHINE" above before proceeding. Install the water supply line (1/2" pipe size minimum) to the dishmachine line strainer using copper pipe. It is recommended that a water shut-off valve be installed in the water line between the main supply and the machine to allow access for service. The water supply line is to be capable of 20 ± 5 PSI "flow" pressure at the recommended temperature indicated on the data plate.

Do to areas where the water pressure fluctuates or is greater than the recommended pressure, it is recommended installing supplied water pressure regulator. Do not confuse static pressure with flow pressure. Static pressure is the line pressure in a "no flow" condition (all valves and services are closed). Flow pressure is the pressure in the fill line when the fill valve is opened during the cycle.

It is also recommended that a shock absorber (not supplied with the Conserver 24 series models) be installed in the incoming water line. This prevents line hammer (hydraulic shock), induced by the solenoid valve as it operates, from causing damage to the equipment.

**PLUMBING CHECK:** Slowly turn on the water supply to the machine after the incoming fill line and the drain line have been installed. Check for any leaks and repair as required. All leaks must be repaired prior to placing the machine in operation.

 ***This equipment is not recommend 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.***

## INSTALLATION INSTRUCTIONS (CONTINUED)

**ELECTRICAL POWER CONNECTION:** 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 supply and place a tag at the disconnect switch to indicate that you are working on the circuit.


The dishmachine data plate is located on the front of the machine. Refer to the data plate for machine operating requirements, machine voltage, total amperage load and serial number.

To install the incoming power lines, remove the kick panel. This will require taking a phillips head screwdriver and removing the two (2) 1/4 turn screws at the bottom of the kickplate; open the door slightly while carefully lifting the kickplate up and out of the way. Install 3/4" conduit into the pre-punched holes in the back of the control box. Route power wires and connect to power block and grounding lug. Install the service wires (L1 and L2) to the appropriate terminals as they are marked on the terminal block. Install the grounding wire into the lug provided. It is recommended that "DE-OX" or another similar anti-oxidation agent be used on all power connections.

**VOLTAGE CHECK:** Ensure that the power switch is in the OFF position and apply power to the dishmachine. 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. Do not run the dishmachine if the voltage is too high or too low. Shut off the service breaker and mark it as being for the dishmachine. 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.

## CHEMICAL DISPENSING EQUIPMENT

The Conserver 24LT dishmachine is not supplied with integral chemical dispensing feeder pumps. Instead, an independent chemical dispensing system **must** be connected to the unit prior to use in order to achieve required cleanliness and sanitation. Please consult the literature that accompanied your independent chemical dispensing system for information concerning installation and operation of the dispenser.

 **The Conserver 24LT requires that a separate chemical feeder be connected to it to provide the required sanitizer. This feeder needs to be able to provide 2.271 ml of a 10% Chlorine sanitizer for every machine cycle.**

*Chemical feeder dispensing tubes are fed into the Conserver 24LT through the white bulkhead fitting in the back lower portion of the unit.*

 **WARNING: CHLORINE-BASED SANITIZERS CAN BE DETRIMENTAL TO YOUR MACHINE IF THE CHEMICAL SOLUTION IS TOO STRONG. SEE YOUR CHEMICAL PROFESSIONAL TO ENSURE YOUR DISPENSER IS SET UP CORRECTLY.**

### TO PREPARE PUMPS FOR OPERATION

The Conserver 24LTP dishmachine is supplied with detergent, rinse additive and sanitizer dispensing 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 FEEDER PUMPS

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

 **CAUTION: Water must be in the sump and wash tank prior to the dispensing of chemicals. Sanitizer in concentration is caustic and may cause damage without dilution.**

1. Verify that the proper chemical tube stiffener inlet is in the proper container.
2. Use the toggle switches on the right side of control box to prime each pump. There are two (2) switches mounted by the chemical feeder pumps. One will prime the sanitizer pump only, and the second will prime either the detergent or rinse aid pump, depending upon which way it is depressed.
3. To prime the pumps, hold the switch in the momentary position until chemical can be observed entering the sump.
4. Detergent is dispensed as required during the wash cycle by the cam timer. The amount of detergent may need to be increased or decreased depending on water quality and type of detergent. It is adjusted by changing Cam 7 on the cam timer. See the Conserver 24LTP cam timer operation instructions.
5. Rinse additive is dispensed as required into the final rinse. The amount of rinse aid may need to be adjusted depending on water hardness and results. It can be changed by changing Cam 6 on the cam timer. See the Conserver 24LTP cam timer operation instructions.
6. Sanitizer (either chlorine or iodine) is dispensed into the final rinse. The amount of sanitizer may need to be adjusted depending on the concentration and type of sanitizer used. It is adjusted by changing Cam 8 on the cam timer. See the Conserver 24LTP cam timer operation instructions.

 **WARNING: Some of the chemicals used in dishwashing may cause chemical burns if they come on contact with your skin. Wear appropriate protective gear when handling these chemicals. If you do come in contact with these chemicals flush the area with fresh water.**

## DETERGENT CONTROL

Detergent usage and water hardness are two factors that contribute greatly to how efficiently your dishmachine will operate. Using detergent in the proper amount can become, in time, a source of substantial savings. A qualified water treatment specialist can tell you what is needed for maximum efficiency from your detergent, but you should still know some basics so you'll understand what they are talking about.

First, you must understand that hard water greatly effects the performance of the dishmachine. Water hardness is the amount of dissolved calcium and magnesium in the water supply. The more dissolved solids in the water, the greater the water hardness. Hard water works against detergent, thereby causing the amount of detergent required for washing to increase. As you use more detergent, your costs for operating the dishmachine will increase and the results will decrease. The solids in hard water also may build-up as a scale on wash and rinse heaters, decreasing their ability to heat water. Water temperature is important in removing soil and sanitizing dishes. If the water cannot get hot enough, your results may not be satisfactory. This is why Jackson recommends that if you have installed the machine in an area with hard water, that you also install some type of water treatment equipment to help remove the dissolved solids from the water before it gets to the dishmachine.

Second, hard water may have you adding drying agents to your operating cycle to prevent spotting, when the real problem is deposited solids on your ware. As the water evaporates off of the ware, the solids will be left behind to form the spotting and no amount of drying agent will prevent this. Again, using treated water will undoubtedly reduce the occurrences of this problem.

Third, treated water may not be suitable for use in other areas of your operation. For instance, coffee made with soft water may have an acid or bitter flavor. It may only be feasible to install a small treatment unit for the water going into the dishmachine itself. Discuss this option with your qualified water treatment specialist.

Even after the water hardness problems have been solved, there still must be proper training of dishmachine operators in how much detergent is to be used per cycle. Talk with your water treatment specialist and detergent vendor and come up with a complete training program for operators. Using too much detergent has as detrimental effects as using too little. The proper amount of detergent must be used for job. It is important to remember that certain menu items may require extra detergent by their nature and personnel need to be made aware of this. Experience in using the dishmachine under a variety of conditions, along with good training in the operation of the machine, can go a long way in ensuring your dishmachine operates as efficiently as possible.

Certain dishmachine models require that chemicals be provided for proper operation and sanitization. Some models even require the installation of third-party chemical feeders to introduce those chemicals to the machine. Jackson does not recommend or endorse any brand name of chemicals or chemical dispensing equipment. Contact your local chemical distributor for questions concerning these subjects.

Some dishmachines come equipped with integral solid detergent dispensers. These dispensers are designed to accommodate detergents in a certain sized container. If you have such a unit, remember to explain this to your chemical distributor upon first contacting them.

As explained before, water temperature is an important factor in ensuring that your dishmachine functions properly. The data plate located on each unit details what the minimum temperatures must be for either the incoming water supply, the wash tank and the rinse tank, depending on what model of dishmachine you have installed. These temperatures may also be followed by temperatures that Jackson recommends to ensure the highest performance from you dishmachine. However, if the minimum requirements are not met, the chances are your dishes will not be clean or sanitized. Remember, a dish can look clean, but it may not be sanitized. Instruct your dishmachine operators to observe the required temperatures and to report when they fall below the minimum allowed. A loss of temperature can indicate a much larger problem such as a failed heater or it could also indicate that the hot water heater for your operation is not up to capacity and a larger one may need to be installed.

There are several factors to consider when installing your dishmachine to ensure that you get the best possible results from it and that it operates at peak efficiency for many years. Discuss your concerns with your local chemical distributor and water treatment specialist before there is a problem.



## OPERATION INSTRUCTIONS

**PREPARATION:** Before proceeding with the start-up of the unit, verify the following:

1. The strainer is in place and is clean.
2. That the wash arms are screwed securely into place and that their endcaps are tight. The wash arms should rotate freely.
3. Verify all chemical levels for machine chemical feeder pumps are correct.

**POWER UP:** To energize the unit, turn on the power at the service breaker. The voltage should have been previously verified as being correct. If not, the voltage will have to be verified.

**FILLING THE WASH TUB:** For the initial fill, close the door and ensure that the auto/manual switch is in the "AUTO" position and turn the power switch to the "ON" position. The machine will automatically fill. Allow the cycle light to turn off. Open the door and check the water level. Close the door, the machine will now automatically run a warm up cycle. For the initial fill, run the machine through 3 cycles to fill the tub sump. The machine will run a partial cycle and fill to the bottom of the pan strainer. Open the door and verify that the water level is correct.

Hereafter, the water level is controlled by the timer that has been preset at the factory. Verify that there are no other leaks on the unit before proceeding any further. The wash sump must be completely filled before operating the wash pump to prevent damage to the component. Once the wash tub is filled, the unit is ready for operation.

The machine runs a complete cycle to drain and fill. If the machine is not allowed to drain, the water will build up inside the tub. After the initial fill, the rinse water for the current cycle will become the wash water for the next cycle.

**WARE PREPARATION:** Proper preparation of ware will help ensure good results and less re-washes. If not done properly, ware may not come out clean and the efficiency of the dishmachine will be reduced. It is important to remember that a dishmachine is not a garbage disposal and that simply throwing unscrapped dishes into the machine simply defeats the purpose altogether of washing the ware. Scraps should be removed from ware prior to being loaded into a rack. Pre-rinsing and pre-soaking are good ideas, especially for silverware and casserole dishes. Place cups and glasses upside down in racks so that they do not hold water during the cycle. The dishmachine is meant not only to clean, but to sanitize as well, to destroy all of the bacteria that could be harmful to human beings. In order to do this, ware must be properly prepared prior to being placed in the machine.

**DAILY MACHINE PREPARATION:** Refer to the section entitled "PREPARATION" at the top of this page and follow the instructions there. Afterwards, check that all of the chemical levels are correct and/or that there is plenty of detergent available for the expected workload.

**WARM-UP CYCLES:** For a typical daily start-up, it is recommended to run the machine through 3 cycles to ensure that all of the cold water is out of the system and to verify that the unit is operating correctly. To cycle the machine, ensure that the power is on and that the tub has filled to the correct level.

**WASHING A RACK OF WARE:** To wash a rack, open the door completely and slide the rack into the unit. Close the door, the cycle will then automatically begin and cycle light will come on. When the cycle light goes out, open the doors and remove the rack of clean dishes. Replace with a rack of soiled ware and close the door. The process will then repeat itself.

**OPERATIONAL INSPECTION:** Based upon usage, the pan strainer may 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 does, it will reduce the washing capability of the machine. Instruct operators to clean out the pan strainer at regular intervals or as required by work load.

**SHUTDOWN AND CLEANING:** At the end of the workday, close the door. Start a cycle. Wait approximately five seconds and then place the power switch to the "OFF/DRAIN" position. The machine will run a wash cycle, drain and turn off. DO NOT spray water into the machine, it will not drain without running another drain cycle. Once the wash tub is drained, remove the pan strainer. Remove soil and debris from the strainer and set to the side. Unscrew the wash arms from their manifolds. Remove the endcaps and flush the arms with water. If the nozzles appear to be clogged, use a toothpick to remove the obstruction. Wipe the inside of the unit out, removing all soil and scraps. Reassemble the wash arms and replace them in the unit. The arms only need to be hand tight, do not use tools to tighten them down. Reinstall the strainer and close the door.

# CONSERVER 24LT CAM TIMER OPERATION INSTRUCTIONS

The Conserver 24LT cam timer is a 2 minute, 8 cam timer with an OFF-DRAIN function.

The following is a description of set points for each cam and function for each switch.

**CAM 1:** Cam 1 is a cut cam with a single notch and serves as the Cycle/Reset.

**FUNCTION:** When the machine is in the operation mode the notch is the home position. The machine will set 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 back to the home position and hold.

**CAM 2:** Cam 2 is a cut cam and provides the off/drain function.

**FUNCTION:** The function of the off/drain cam is controlled by the power switch. When the power switch is in the ON position the off/drain function is disabled. To use the off/drain, start a cycle and place the power switch in the OFF position. The machine will run a wash cycle, drain and stop. The machine will hold this state of operation until the power switch is turned on, when turned on the machine will fill, run a rinse cycle and stop at the home position.

The off/drain cam works off the normally open contacts of cam 2. This requires the switch to be held closed by the cam. The off/drain cam switch will pick up just after the cycle cam switch and drop back down just after the wash cycle cam switch.

**CAM 3:** Cam 3 is a cut cam and controls the wash and rinse cycles.

**FUNCTION:** The wash and rinse cam works off the normally open contacts of cam 3. This requires the switch to be held closed by the cam. The wash/rinse cam switch will pick up just after the cycle cam switch and drop back down just before the off/drain cycle cam switch. Wash pump will run approximately 58 seconds. The machine will drain and fill. The rinse cycle will start after the fill, approximately at the 82 second mark and will last 35 seconds. The machine will then return to the home position.

**NOTE:** 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. (See the attached drawing)

**CAM 4:** Cam 4 is an adjustable cam and controls the drain valve.

**FUNCTION:** The drain valve cam works off the normally closed contacts of cam 4. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the drain valve. The pumped drain and fill cams require adjustment due to varying water pressure. The drain must be adjusted to remove whatever water the fill brings into the machine.

**SETTINGS:** The right side of cam 4 must be set to pick up the switch arm just before the wash cycle cam switch drops. If the drain valve does not close first, the water in the drain hose will back up into the pump housing and wash tank.

Any adjustment made to the drain should be made with the left side of cam 4. The adjustment must be moved back into the wash time until all water is drained from the wash tank.

**CAM 5:** Cam 5 is an adjustable cam and controls the fill valve.

**FUNCTION:** The fill valve cam works off the normally closed contacts of cam 5. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the fill valve. The pumped drain and fill cams require adjustment due to varying water pressure. Cam 5 must be adjusted to fill the wash tank to the proper operating water level. (Remember, the drain cycle must remove what the fill cycle brings in.)

## CONSERVER 24LT CAM TIMER OPERATION INSTRUCTIONS (CONTINUED)

SETTINGS: The left side of cam 5 must be set to drop in just past the stop point of the off/drain cam. There must be a dwell between the off/drain and the fill, so that the fill will not run while the machine is in the off state.

Any adjustment made to the fill should be made with the right side of cam 5. Proper water level will be achieved when the water touches the bottom of the strainer pan.

CAM 6: Cam 6 is an adjustable cam and controls the sanitizer pump.

FUNCTION: The sanitizer pump cam works off the normally closed contacts of cam 6. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the pump.

SETTINGS: The left side of cam 6 must be set to drop in just past the starting point of the fill cam. The adjustment for sanitizer volume must be made with the right side of the cam.

CAM 7: Cam 7 is an adjustable cam and controls the detergent pump.

FUNCTION: The detergent pump cam works off the normally closed contacts of cam 7. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the pump.

SETTINGS: The left side of cam 7 must be set to drop in just past the starting point of the wash cam. The adjustment for detergent volume must be made with the right side of the cam.

CAM 8: Cam 8 is an adjustable cam and controls the rinse aid pump.

FUNCTION: The rinse aid pump cam works off the normally closed contacts of cam 8. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the pump.

SETTINGS: The left side of cam 8 must be set to drop in just past the starting point of the fill cam.

# CONSERVER 24LTP CAM TIMER OPERATION INSTRUCTIONS

The Conserver 24LTP cam timer is a 2 minute 8 cam timer with an OFF-DRAIN function.

The following is a description of set points for each cam and function for each switch.

**CAM 1:** Cam 1 is a cut cam with a single notch and serves as the cycle/reset.

**FUNCTION:** When the machine is in the operation mode the notch is the home position. The machine will set 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 back to the home position and hold.

**CAM 2:** Cam 2 is a cut cam and provides the off/drain function.

**FUNCTION:** The function of the off/drain cam is controlled by the power switch. When the power switch is in the ON position the off/drain function is disabled. To use the off/drain, start a cycle and place the power switch in the OFF position. The machine will run a wash cycle, drain and stop. The machine will hold this state of operation until the power switch is turned on, when turned on the machine will fill, run a rinse cycle and stop at the home position.

The off/drain cam works off the normally open contacts of cam 2. This requires the switch to be held closed by the cam. The off/drain cam switch will pick up just after the cycle cam switch and drop back down just after the wash cycle cam switch.

**CAM 3:** Cam 3 is a cut cam and controls the wash and rinse cycles.

**FUNCTION:** The wash and rinse cam works off the normally open contacts of cam 3. This requires the switch to be held closed by the cam. The wash/rinse cam switch will pick up just after the cycle cam switch and drop back down just before the off/drain cycle cam switch. Wash pump will run approximately 58 seconds. The machine will drain and fill. The rinse cycle will start after the fill, approximately at the 82 second mark and will last 35 seconds. The machine will then return to the home position.

**NOTE:** 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.

**CAM 4:** Cam 4 is an adjustable cam and controls the drain valve.

**FUNCTION:** The drain valve cam works off the normally closed contacts of cam 4. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the drain valve. The pumped drain and fill cams require adjustment due to varying water pressure. The drain must be adjusted to remove whatever water the fill brings into the machine.

**SETTINGS:** The right side of cam 4 must be set to pick up the switch arm just before the wash cycle cam switch drops. If the drain valve does not close first the water in the drain hose will back up into the pump housing and wash tank.

Any adjustment made to the drain should be made with the left side of cam 4. The adjustment must be moved back into the wash time until all water is drained from the wash tank.

**CAM 5:** Cam 5 is an adjustable cam and controls the fill valve.

**FUNCTION:** The fill valve cam works off the normally closed contacts of cam 5. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the fill valve. The pumped drain and fill cams require adjustment due to varying water pressure. Cam 5 must be adjusted to fill the wash tank to the proper operating water level. Remember, the drain cycle must remove what the fill cycle brings in.

**SETTINGS:** The left side of cam 5 must be set to drop in just past the stop point of the off/drain cam. There must be a dwell between the off/drain and the fill, so that the fill will not run while the machine is in the off state.

Any adjustment made to the fill should be made with the right side of cam 5. Proper water level will be achieved when the water touches the bottom of the strainer pan.

## CONSERVER 24LTP CAM TIMER OPERATION INSTRUCTIONS (CONTINUED)

CAM 6: Cam 6 is an adjustable cam and controls the sanitizer pump.

FUNCTION: The sanitizer pump cam works off the normally closed contacts of cam 6. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the pump.

SETTINGS: The left side of cam 6 must be set to drop in just past the starting point of the fill cam. The adjustment for sanitizer volume must be made with the right side of the cam.

CAM 7: Cam 7 is an adjustable cam and controls the detergent pump.

FUNCTION: The detergent pump cam works off the normally closed contacts of cam 7. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the pump.

SETTINGS: The left side of cam 7 must be set to drop in just past the starting point of the wash cam. The adjustment for detergent volume must be made with the right side of the cam.

CAM 8: Cam 8 is an adjustable cam and controls the rinse aid pump.

FUNCTION: The rinse aid pump cam works off the normally closed contacts of cam 8. This requires the switch to be held open by the cam and allowed to drop into the notch to operate the pump.

SETTINGS: The left side of cam 8 must be set to drop in just past the starting point of the fill cam.

## PREVENTATIVE MAINTENANCE

The dishmachines covered in this manual are designed to operate with a minimum of interaction with the operator. However, this does not mean that some items will not wear out in time. Jackson highly recommends that any maintenance and repairs not specifically discussed in this manual should be performed by **QUALIFIED SERVICE PERSONNEL ONLY**. Performing maintenance on your dishmachine may void your warranty if it is still in effect, so if you have a question or concern, do not hesitate to contact one of the **QUALIFIED SERVICE AGENCIES** listed in the back of this manual.

There are many things that operators can do to prevent catastrophic damage to the dishmachine. One of the major causes of component failure has to do with prescrapping procedures. A dishmachine is not a garbage disposal; any large pieces of material that are put into the machine shall remain in the machine until they are either broken up (after spreading out on your ware!) or physically removed. Strainers are installed to help catch debris, but they do no good if they are clogged. Have operators regularly inspect the pan strainers to ensure (1) that they are free of soil and debris and (2) they are laying flat in the tub.

When cleaning out strainers, do **NOT** beat them on waste cans. The strainers are made of metal and can be forgiving; but once severe damage is done, it is next to impossible for the strainer to work in the way it was designed to. Wipe out strainers with a rag and rinse under a faucet if necessary. For stubborn debris, a toothpick should be able to dislodge any obstructions from the perforations. Always ensure that strainers are placed back in the machine before operation and that they lay flat in the tub.

You may wish to also refer to the page entitled "Detergent Control" in order to learn more about how your water hardness will effect the performance of your machine. Hard water makes dishmachines work harder and decreases efficiency.

Again, it is important to remind operators that trying to perform corrective maintenance on the dishmachine could lead to larger problems or even cause harm to the operator. If a problem is discovered; secure the dishmachine using proper shut down procedures as listed in this manual and contact a **QUALIFIED SERVICE AGENCY** as listed in the back of this manual.

Some problems, however, may have nothing to do with the machine itself and no amount of preventative maintenance is going to help. A common problem has to do with temperatures being too low. Verify that the water temperatures coming to your dishmachine match the requirements listed on the machine data plate. There can be a variety of reasons why your water temperature could be too low and you should discuss it with a **QUALIFIED SERVICE AGENCY** to determine what can be done.

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.
2. Ensure that all strainers are in place before operating the machine.
3. Ensure that all wash and/or rinse arms are secure in the machine before operating.
4. Ensure that drains are closed/sealed before operating.
5. Remove as much soil from dishes by hand 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 to machine have been verified as being at the correct concentrations.
9. Clean out the machine at the end of every workday as per the instructions in the manual.
10. Always contact a **QUALIFIED SERVICE AGENCY** whenever a serious problem arises.
11. Follow all safety procedures, whether listed in this manual or put forth by local, state or national codes/regulations.

## TROUBLESHOOTING SECTION



**WARNING:** Inspection, testing and repair of electrical equipment should only be performed by a qualified service technician. Many of the tests require that the unit have power to it and live electrical components be exposed. **USE EXTREME CAUTION WHEN TESTING THE MACHINE.**

**Problem: Nothing on the machine operates; power switch is on and the power light is off.**

1. The circuit breaker may be tripped. Reset the circuit breaker. If the breaker trips again, contact an electrician immediately to verify the machine's amp draw and breaker size.
2. The machine may not be plugged into the wall. Plug the machine in.
3. The power cord may not be connected correctly at the terminal block. Verify and correct as required.

**Problem: The machine does not fill. The power switch is on, the power light is on and the rinse/fill light is off.**

1. The door is not completely closed. Close the door.
2. Faulty cam timer/cam timer microswitch. Ensure that the timer is wired correctly and that it is receiving power. If the timer is moving, replace the fill microswitch.
3. Faulty door switch. Ensure that the striker plate is activating the door switch. Check the switch wiring. If everything appears to be correct, then replace the switch.

**Problem: The machine will not fill. The power switch is on, the power light is on and the rinse/fill light is on.**

1. No incoming water. Ensure that water is hooked to the machine and that all service valves are open. Ensure that the water is at  $20 \pm 5$  PSI flow pressure.
2. Faulty rinse solenoid valve. Check the wiring of the solenoid valve. If it is correct replace the coil or valve as required.
3. Obstruction in the water line. Remove the obstruction.

**Problem: Wash temperature is lower than expected.**

1. Low incoming water temperature. Verify that the incoming water temperature is as indicated on the machine data plate.
2. Defective temperature gauge. Replace the gauge.
3. Faulty rinse solenoid valve. Verify that the rinse solenoid valve is working. If not, repair or replace as required.

**Problem: The machine fills slowly (rinse is weak).**

1. Low incoming water pressure. Verify that the incoming water is at  $20 \pm 5$  PSI flow pressure. If not, adjust as required.
2. Clogged or obstructed rinse tube plate. Verify that the component is free from debris and soil.
3. Clogged or obstructed incoming water line. Remove the obstruction.

**Problem: The machine fills excessively.**

1. Faulty rinse solenoid valve. Check the wiring of the solenoid valve. If it is correct replace the coil or valve as required.
2. Fill cam is out of adjustment. Adjust the fill cam to ensure a proper water level.
3. Incoming water pressure is too high. Verify that the incoming water is at  $20 \pm 5$  PSI flow pressure. If not, adjust as required.

**Problem: Wash tank water level is too low.**

1. Low incoming water pressure. Verify that the incoming water is at  $20 \pm 5$  PSI flow pressure. If not, adjust as required.
2. Fill cam is out of adjustment. Adjust the fill cam to ensure a proper water level.
3. Drain valve is leaking. Remove the drain hose to verify that the valve is not obstructed. If the valve is clear, but does not seal properly, it should be replaced.

**Problem: Dishes are not coming clean.**

1. Low incoming water pressure. Verify that the incoming water is at  $20 \pm 5$  PSI flow pressure. If not, adjust as required.
2. Clogged or obstructed rinse tube plate. Verify that the component is free from debris and soil.
3. Chemicals are not being provided in the correct concentrations. Contact your chemical representative to verify chemical concentrations and dispenser operation.

## TROUBLESHOOTING SECTION (CONTINUED)



**WARNING:** Inspection, testing and repair of electrical equipment should only be performed by a qualified service technician. Many of the tests require that the unit have power to it and live electrical components be exposed. **USE EXTREME CAUTION WHEN TESTING THE MACHINE.**

**Problem: Door drops hard and will not stay closed.**

1. The door spring is broken. Replace as required.
2. The door hinge is bent. Replace as required.

**Problem: Water flooding from the machine.**

1. The drain valve is not operating. Verify the wiring of the valve motor. If it is correct then replace the valve.
2. Incoming water pressure is too high. Verify that the incoming water is at  $20 \pm 5$  PSI flow pressure. If not, adjust as required.
3. Timer motor shorted out during the rinse/fill cycle or has a defective microswitch. Verify that the timer operates and that it and the fill microswitch are wired correctly. If either component is defective, replace them.

**Problem: Water begins draining from the machine at the beginning of the cycle.**

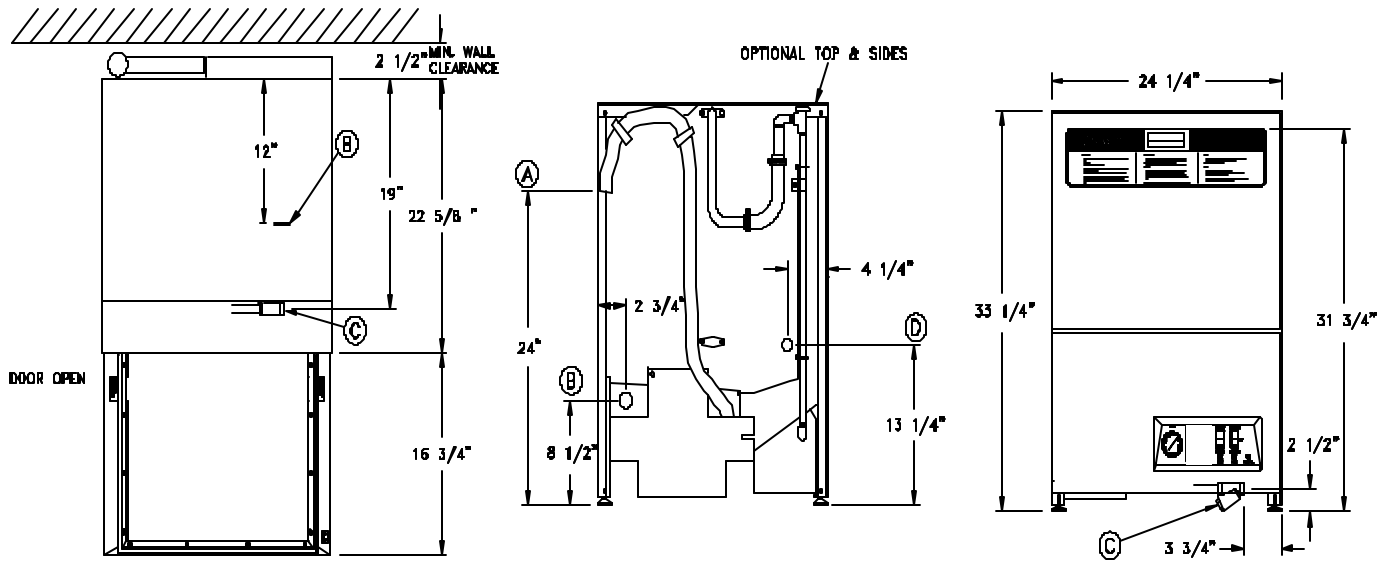
1. Drain valve stuck in the open position. Remove the valve assembly; correct or replace the valve.
2. The drain valve is not installed correctly and water is leaking by the connections. Correct by tightening the connections.
3. The drain valve is damaged. Replace the drain valve.

**Problem: Water leaks from the vacuum breaker.**

1. Vacuum breaker plunger or the seat is deformed. Repair using parts from a vacuum breaker repair kit.
2. Lime or scale build-up in the vacuum breaker. Open the vacuum breaker and remove the plunger and the seat. Use a deliming solution to dissolve the lime and scale. Reassemble the vacuum breaker when finished.
3. There may be an obstruction preventing the vacuum breaker from properly seating. Remove the obstruction.



# DIMENSIONS



**Legend:**

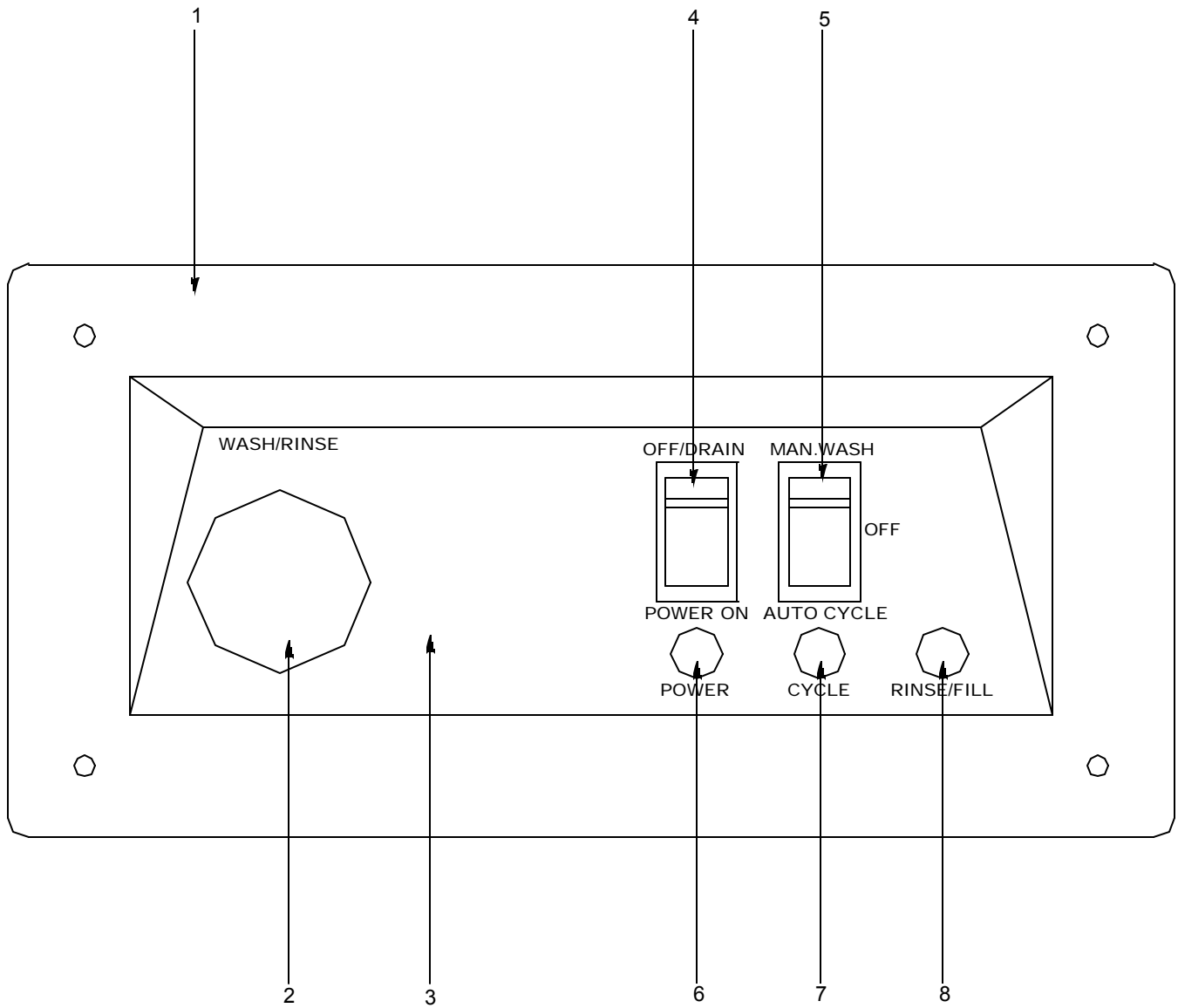
- A - Drain Connection flexible hose; 6'-0" free length, 1" ID x 1 3/8 OD
- B - Electrical Connection.
- C - Water Inlet 1/2" Female Pipe Thread, 2 1/2"
- D - Detergent Feeder Connection

**Note:** All dimensions from floor can be increased 1" with adjustable feet supplied.

**Dimensions:**

Height (minimum)	33 1/4"
Height (maximum)	34 1/4"
Width	24 1/4"
Depth	22 5/8"
Wall Clearance (minimum)	2 1/2"
Inside Clearance Height	14 1/2"
Inside Clearance Width	20 1/4"
Inside Clearance Depth	21 1/4"
Door Open Depth	39 1/2"

# CONTROL PANEL ASSEMBLY



\* - Item is not shown

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Control Panel	9330-041-73-89
2	1	Wash Thermometer	6685-111-68-48
3	1	Decal, Control Panel	9905-031-73-92
4	1	Switch, ON/FILL & OFF/DRAIN	5930-011-49-55
5	1	Delime Switch	5930-301-49-00
6	1	Light, Red	5945-111-44-45
7	1	Light, Amber	5945-111-44-44
8	1	Light, Green	5945-111-44-43
9*	4	Nut, Wing, Nylon, 1/4"-20	5310-994-01-00



## ORDERING REPLACEMENT WIRE

Jackson dishmachines have several color and gauges of wire used in them and it may become necessary to replace these wires. Wire may be ordered from Jackson MSC Inc., but please note that it is only available in feet. Ensure that you order the correct color and gauge.

### BLACK WIRE:

6 Gauge	6145-002-15-91
8 Gauge	6145-104-43-00
10 Gauge	6145-104-16-00
12 Gauge	6145-112-01-00
14 Gauge	6145-104-09-00
18 Gauge	6145-104-01-97
18 Gauge with Orange Stripes	6145-011-35-66
18 Gauge with White Stripes	6145-011-35-65
18 Gauge with Yellow Stripes	6145-011-35-64

### BLUE WIRE:

6 Gauge	6145-002-15-93
8 Gauge	6145-104-44-00
10 Gauge	6145-104-42-00
14 Gauge	6145-104-04-00
18 Gauge	6145-104-35-00
18 Gauge with Black Stripes	6145-011-46-35
18 Gauge with Red Stripes	6145-011-46-37
18 Gauge with White Stripes	6145-011-46-36
18 Gauge with Yellow Stripes	6145-011-46-38
20 Gauge	6145-104-06-97
20 Gauge with Black Stripes	6145-104-17-97
20 Gauge with White Stripes	6145-104-13-97

### GREEN WIRE:

8 Gauge	6145-002-15-94
14 Gauge	6145-104-03-00
18 Gauge	6145-104-32-00
18 Gauge with Yellow Stripes	6145-001-44-96
20 Gauge	6145-104-05-97
20 Gauge with Black Stripes	6145-011-59-57
20 Gauge with Yellow Stripes	6145-104-11-97

### GREY WIRE:

18 Gauge	6145-104-36-00
18 Gauge with Black Stripes	6145-011-81-71
18 Gauge with Blue Stripes	6145-011-81-72
18 Gauge with Red Stripes	6145-011-46-41
18 Gauge with White Stripes	6145-011-35-60
18 Gauge with Yellow Stripes	6145-011-46-42
20 Gauge	6145-104-03-97

### RED WIRE:

6 Gauge	6145-002-15-92
8 Gauge	6145-104-45-00
10 Gauge	6145-104-08-00
14 Gauge	6145-104-05-00
18 Gauge	6145-104-37-00
18 Gauge with Black Stripes	6145-011-59-56
18 Gauge with Blue Stripes	6145-011-81-74
18 Gauge with White Stripes	6145-011-81-73
18 Gauge with Yellow Stripes	6145-011-81-75
20 Gauge	6145-104-02-97

### WHITE WIRE:

10 Gauge	6145-104-19-00
14 Gauge	6145-104-10-00
18 Gauge	6145-104-39-00
18 Gauge with Black Stripes	6145-011-35-70
18 Gauge with Blue Stripes	6145-011-46-40
18 Gauge with Green Stripes	6145-011-35-69
18 Gauge with Grey Stripes	6145-002-20-18
18 Gauge with Red Stripes	6145-011-35-67
18 Gauge with Yellow Stripes	6145-011-35-68
20 Gauge	6145-104-04-97
20 Gauge with Orange & Yellow Stripes	6145-104-16-97
20 Gauge with Yellow Stripes	6145-104-15-97

### YELLOW WIRE:

18 Gauge	6145-104-33-00
18 Gauge with Black Stripes	6145-011-81-68
18 Gauge with Blue Stripes	6145-011-81-70
18 Gauge with Red Stripes	6145-011-81-69
20 Gauge	6145-104-07-97

### MISCELLANEOUS WIRE:

Brown (18 Gauge)	6145-104-20-00
Brown (20 Gauge)	6145-104-08-97
Orange (18 Gauge)	6145-104-34-00
Orange with Black Stripes (18 Gauge)	6145-011-35-62
Orange with Blue Stripes (18 Gauge)	6145-011-46-39
Orange with White Stripes (18 Gauge)	6145-011-35-63
Orange with Yellow Stripes (18 Gauge)	6145-011-35-61
Orange (20 Gauge)	6145-104-10-97
Pink (18 Gauge)	6145-011-82-69
Purple (18 Gauge)	6145-104-31-00
Violet (20 Gauge)	6145-104-09-97
Plug, GFI	6145-001-97-90
Cable, 16 Gauge, 3 Wire Romex	6145-001-98-29
Cord, Hubble Plug MC	6145-011-47-23
Cord, S-J	6145-011-49-02
Cord, Power	6145-011-70-28
Cord, 115V Power	6145-309-02-00
Cord, 125V Power, 96" Long	6145-309-04-00

## ORDERING REPLACEMENT CONDUIT & FITTINGS/HOSE & TUBING

Jackson dishmachines come with a wide variety of conduit and fittings for use in routing the wires of the machine. The list below provides for most of stock of such items. When ordering, remember that Jackson does not offer pre-cut sections of conduit for your machine, instead it is sold by the foot. Please take into account the slack that will be necessary once installing the new conduit to ensure that it fits correctly. It is recommended that you order at least 6" more conduit than you require to ensure that you have enough for trimming. Tubing and hose are ordered by the foot. Jackson MSC Inc. reserves the right to require minimum ordering quantities for the items below.

### CONDUIT:

Conduit, 1/2", Liquidtite	5975-101-25-00
Conduit, 1/2", Non-Metallic	5975-111-46-57
Conduit, 1/2", PVC	5975-105-04-00
Conduit, 1/2", Sealbite	5975-105-01-00
Conduit, 1/2", Xtraflex	5975-105-06-44
Conduit, 3/8", Liquidtite	5975-105-02-00
Conduit, 3/4", Cole-Flex	5975-105-05-00
Conduit, 3/4", Liquidtite	5975-105-03-00
Conduit, 3/4", Non-Metallic	5975-011-47-71
Conduit, 3/4" Xtraflex	5975-105-07-44
Conduit, 1", Carlon	5975-011-68-42

### CONDUIT FITTINGS:

Elbow, Cole-Flex, 1/2", 90°	5975-205-40-00
Elbow, Xtraflex, 1/2", 90°	5975-205-44-44
Elbow, Xtraflex, 3/4", 90°	5975-205-45-44
Fitting, 1/2" Straight	5975-011-45-13
Fitting, 1/2", Straight, Zinc Plated	5975-111-89-89
Fitting, 1/2", 45°	5975-011-45-23
Fitting, 1/2", 45°, Zinc Plated	5975-111-89-86
Fitting, 1/2", 90°	5975-011-45-14
Fitting, 1/2", 90°, Zinc Plated	5975-111-89-88
Fitting, 3/4", Straight	5975-011-47-72
Fitting, 3/4", 45°	5975-011-47-74
Fitting, 3/4", 90°	5975-011-47-73
Fitting, 1", Straight	5975-011-70-75
Fitting, 1", 90°	5975-011-68-43
Fitting, Cole-Flex, 1/2" Straight	5975-205-03-00
Fitting, Cole-Flex, 3/4" Straight	5975-205-41-00
Fitting, Cole-Flex, 3/4", 90°	5975-204-42-00
Fitting, Liquidtite, .231 ID/.394 OD	5975-011-49-03
Fitting, Liquidtite, .25 ID/.546 OD	5975-011-65-51
Fitting, Liquidtite, .27 ID/.48 OD	5975-011-59-50
Fitting, Liquidtite, 1/2", 90°	5975-111-01-00
Fitting, Liquidtite, 3/8", Straight	5975-205-03-82
Fitting, Liquidtite, 3/8", 90°	5975-205-02-82
Fitting, Liquidtite, 3/4", Straight	5975-205-15-02
Fitting, Liquidtite, 3/4", 45°	5975-205-01-82
Fitting, Liquidtite, 3/4", 90°	5975-205-07-82
Fitting, Xtraflex, 1/2", Straight	5975-205-47-44
Fitting, Xtraflex, 3/4", Straight	5975-205-46-44
Nut, 1-1/4"	5975-011-42-54

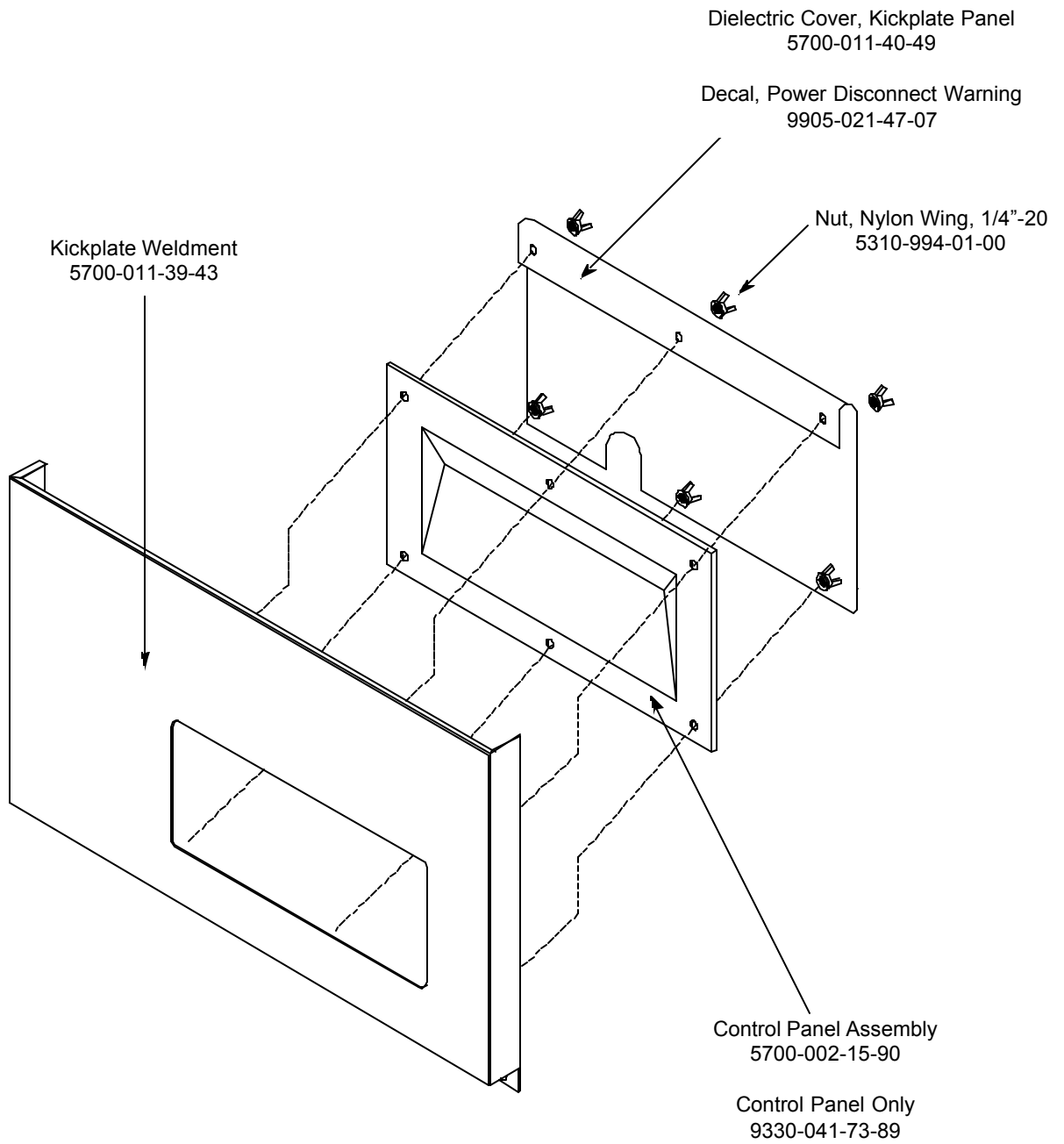
### HOSE:

Hose, 3/16" ID x 5/16" OD	4720-601-40-00
Hose, 1/4" ID x .062" Wall, Excelon	4720-111-59-46
Hose, 1/4" ID x 1/2" OD, 300-350 PSI	4720-011-95-43
Hose, 3/8" ID x 5/8" OD, 300 PSI	4720-002-31-63
Hose, 3/8" ID x 5/8" OD, PVC	4720-011-35-41
Hose, 3/8" ID x 3/4" OD, PVC	4720-111-35-41
Hose, 1/2" ID x 3/4" OD	4720-011-94-01
Hose, 1/2" ID, Reinforced	4720-011-63-06
Hose, 5/8" ID x 7/8" OD, PVC	4720-601-14-00
Hose, 3/4" ID x 1" OD	4720-011-94-10
Hose, 3/4" ID, Nylon Reinforced	4720-011-63-02
Hose, 1" ID x 1-1/4" OD, EPDM	4720-111-39-73
Hose, 1 1/4" ID x 1 1/2" OD, Reinforced	4720-601-42-00
Hose, 1 1/4" ID, Reinforced	4720-011-44-47
Hose, 1 1/2" ID, Clear Wire Reinforced	4720-111-34-60
Hose, 2" ID, Nylon Reinforced	4720-011-63-25
Hose, 2" ID, Reinforced Flex Drain	4720-011-63-04
Hose 2" ID x 3" OD, EPDM	4720-011-88-02

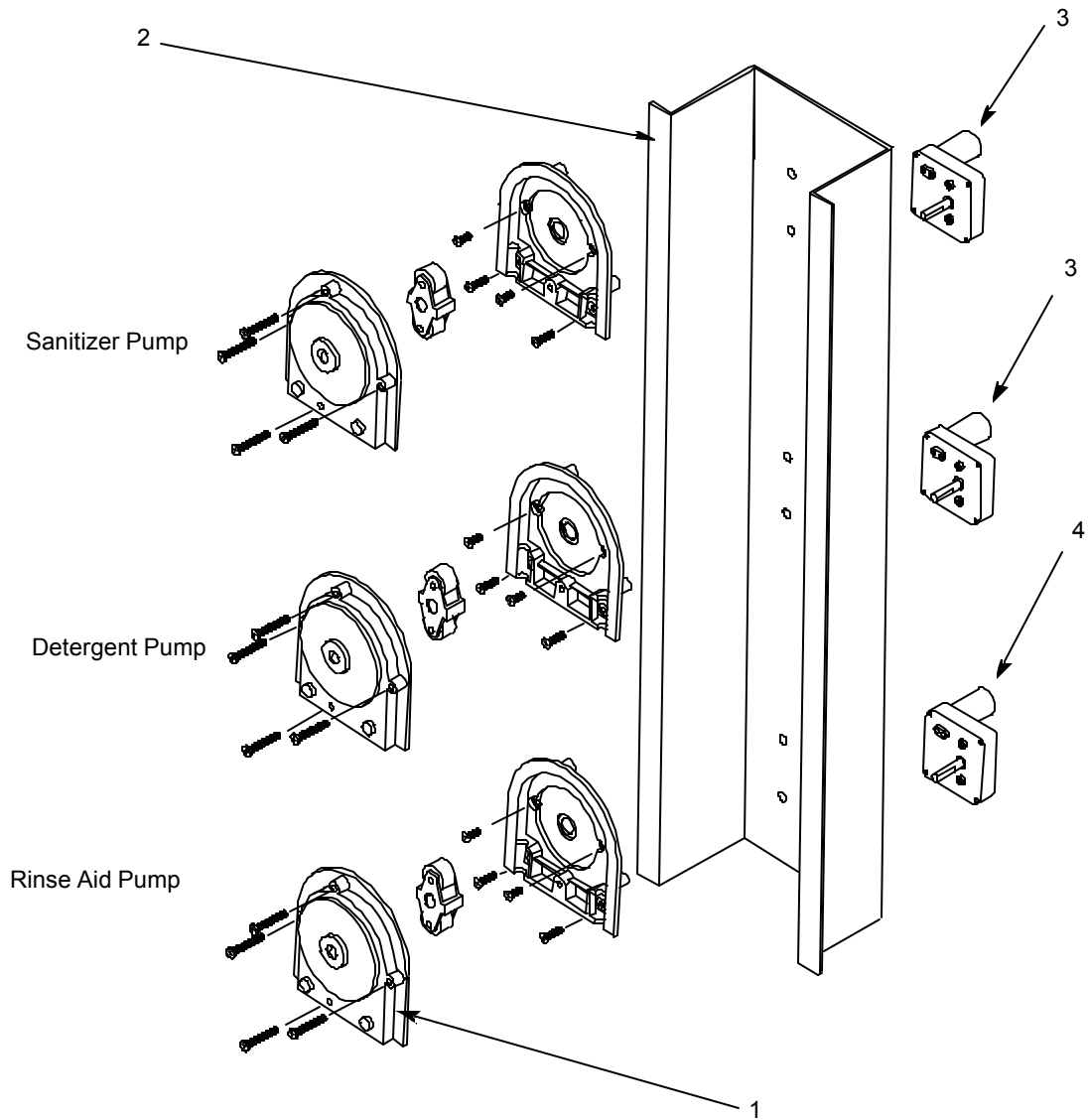
### TUBING:

Tubing, 1/8" OD, Paraflex	4720-111-58-09
Tubing, 3/16" ID x .54" OD, CPVC	4720-111-35-31
Tubing, 1/4" OD	4720-111-51-65
Tubing, 1/4" OD, Blue	4720-601-11-00
Tubing, 1/4" OD, Red	4720-601-12-00
Tubing, 1/4" OD, White	4720-601-13-00
Tubing, 1/4" OD, Paraflex	4720-111-51-70
Tubing, 1/4" ID x 3/8" OD, Tygon	4720-001-97-65
Tubing, 1/2" ID x 13/16" OD, Polypropolene	4720-601-24-00
Tubing, 5/16" x 7/16" OD, Clear	4720-111-35-34
Tubing, 5/16" ID x 1/2" OD, Flexible	4720-011-35-21
Tubing, 3/8" ID x 1/16" Wall, Clear	4720-601-22-00
Tubing, 3/8" OD, White Polypropolene	4720-011-50-49
Tubing, 5/8" ID with .125" Wall	4720-002-12-20
Tubing, 3/4" ID x 1/8" Wall, Polypropolene	4720-601-25-00
Tubing, 3/4" ID x 1-1/8" OD, Nylon	4720-001-84-01
Tubing, 1" Polybrade	4720-011-69-16
Tubing, 1" ID x 1-3/8" OD, Polypropolene	4720-601-23-00
Tubing, 1 1/2" Polybrade	4720-011-69-17

# KICK PLATE ASSEMBLY



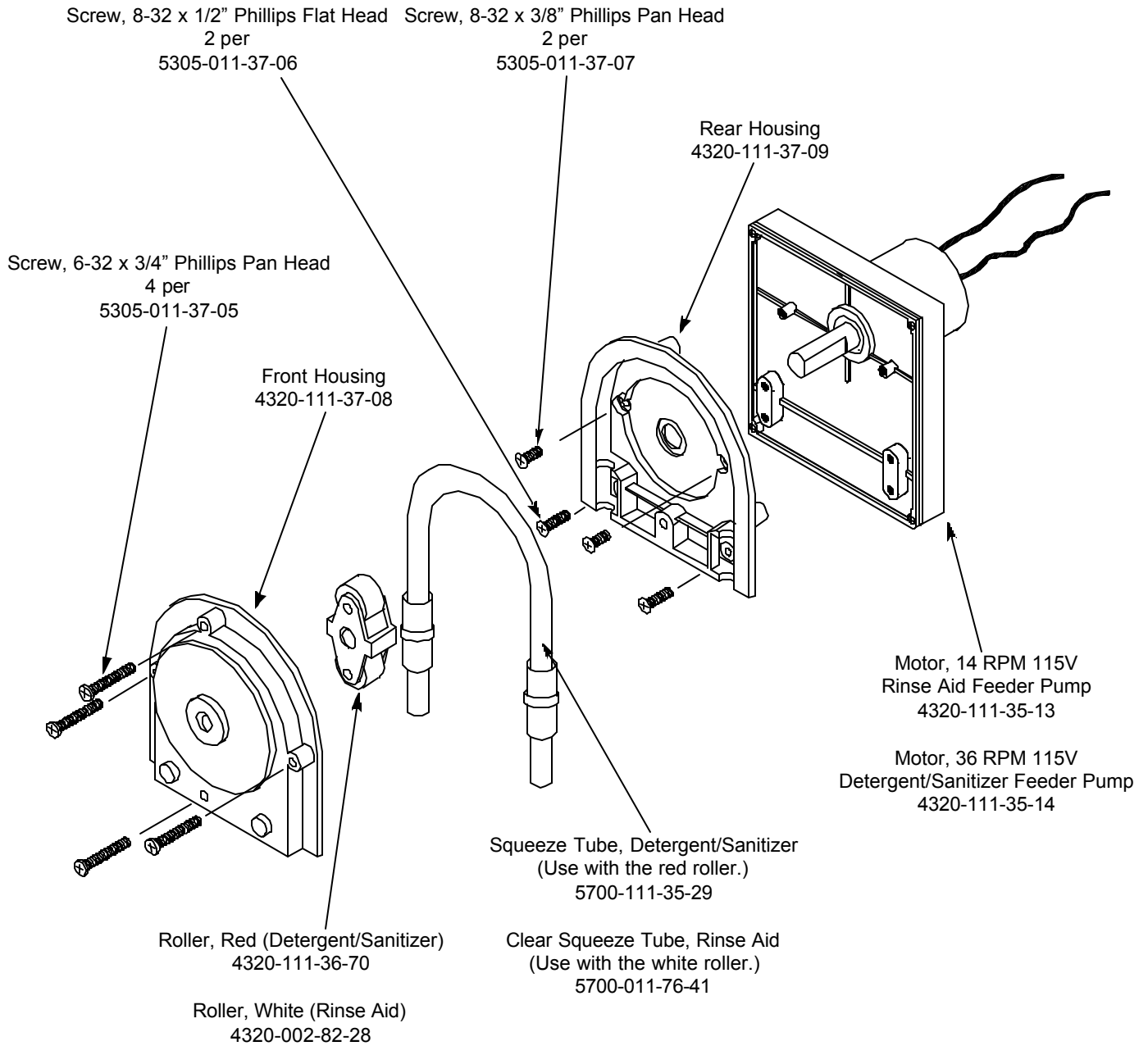
# CHEMICAL FEEDER PUMP MOUNTING ASSEMBLY



Note: Items 5 & 6 are not shown.

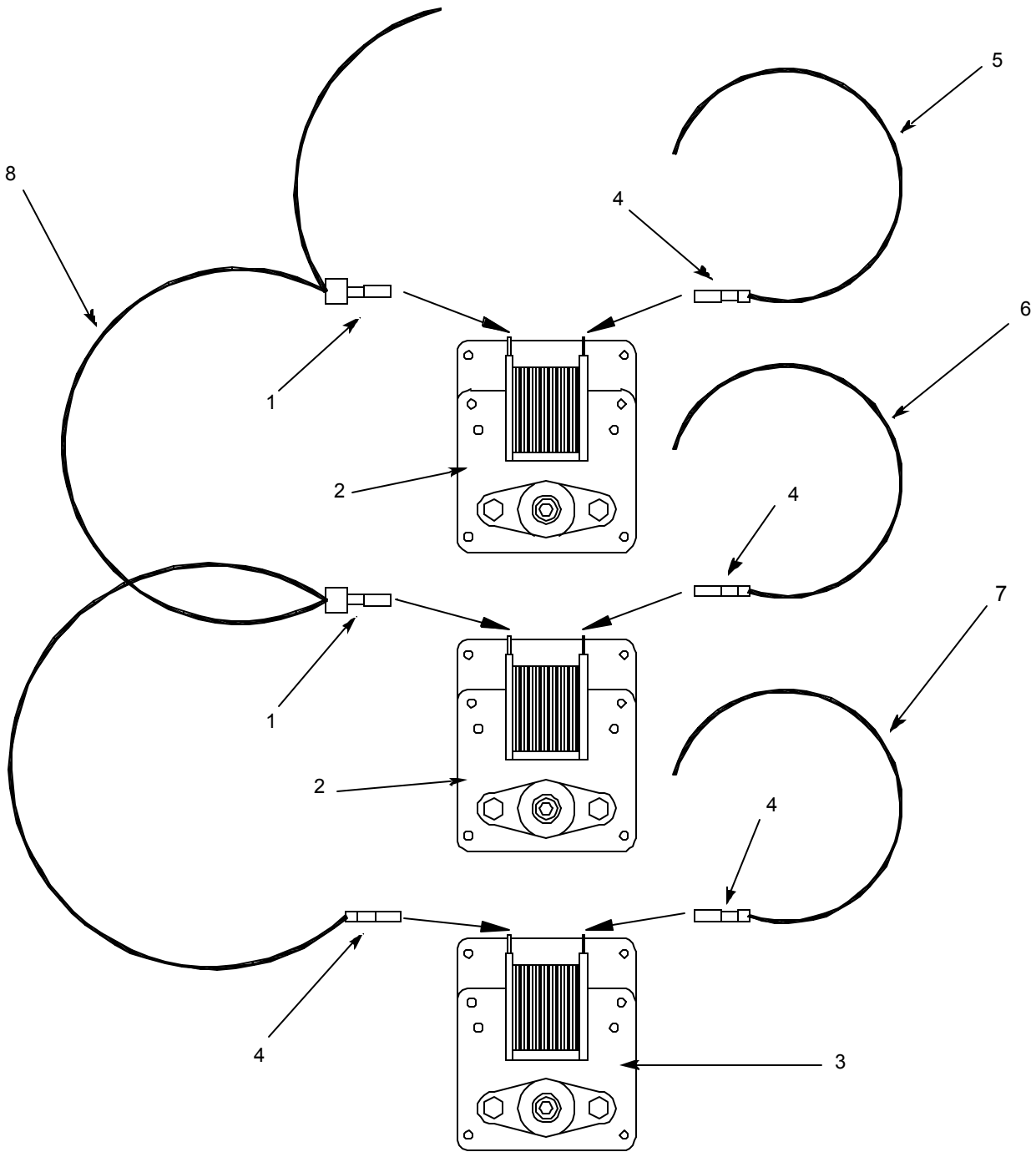
ITEM	QTY	DESCRIPTION	Mfg. No.
1	3	Kit, Chemical Feeder Pump Assembly	4320-121-37-10
2	1	Mounting Plate, Chemical Feeder Pump Assembly	5700-021-62-09
3	1	Motor, Chemical Feeder Pump, 115V, 36 RPM	4320-111-35-14
4	1	Motor, Chemical Feeder Pump, 115V, 14 RPM	4320-111-35-13
5	2	Squeeze Tube, Sanitizer and Detergent Pump	5700-011-76-41
6	1	Squeeze Tube, Rinse Aid Pump	5700-111-35-29

# CHEMICAL FEEDER PUMP ASSEMBLY



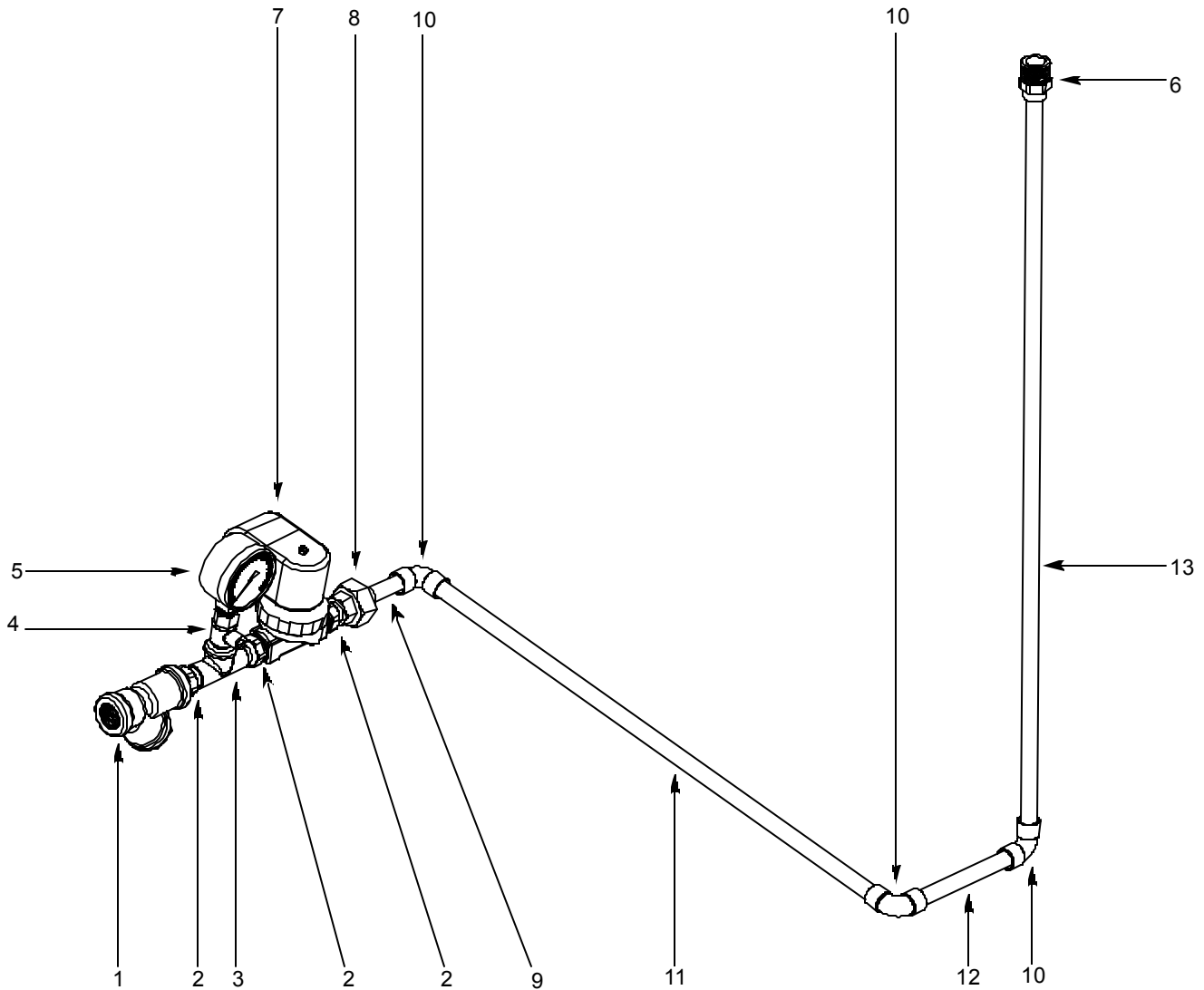


# CHEMICAL FEEDER PUMP WIRING ASSEMBLY



ITEM	QTY	DESCRIPTION	Mfg. No.
1	2	Terminal, Closed, Blue	5940-200-57-00
2	2	Motor, Chemical Feeder Pump, 115V, 36 RPM	4320-111-35-14
3	1	Motor, Chemical Feeder Pump, 115V, 14 RPM	4320-111-35-13
4	4	Terminal, Female, .250 x .032, Red	5940-200-58-00
5	1.5 FT	Wire, 18 Ga., White with Red Stripe	6145-011-35-67
6	1.5 FT	Wire, 18 Ga., Black with Yellow Stripe	6145-011-35-64
7	1.5 FT	Wire, 18 Ga., Orange with Black Stripe	6145-011-35-62
8	1.45 FT	Wire, 18 Ga., White	6145-104-39-00

## INCOMING PLUMBING ASSEMBLY



ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Strainer, Inlet, 1/2"	4730-217-01-10
2	3	Adapter, 1/2" Ftg. X Male	4730-011-59-53
3	1	Fitting, Tee, 1/2" x 1/2" x 1/4"	4730-411-25-01
4	1	Valve, Ball, Test Cock, 1/4" Bronze	4810-011-72-67
5	1	Gauge, 0-100 PSI	6685-111-88-34
6	1	Adapter, Male (CU to MSPS)	4730-401-03-01
7	1	Valve, Solenoid, 110 Volt	4810-100-12-18
8	1	Union, 1/2", Copper to Copper	4730-412-05-01
9	1	Tube, Copper, 1/2" x 2" Long	5700-001-04-66
10	3	Elbow, 1/2" 90° Copper to Copper	4730-406-01-01
11	1	Tube, Copper, 1/2" x 19 1/2" Long	5700-011-59-84
12	1	Tube, Copper, 1/2" x 4 1/2" Long	5700-011-59-83
13	1	Tube, Copper, 1/2" x 25 1/2" Long	5700-011-59-85

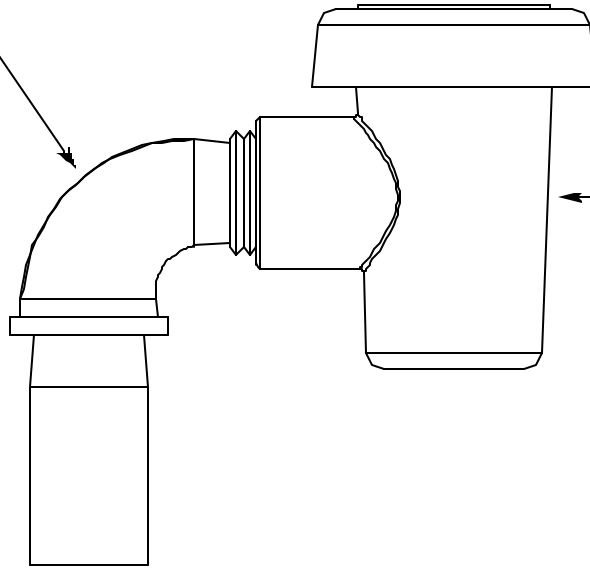
# VACUUM BREAKER & WASH ARM ASSEMBLIES

## Vacuum Breaker Assembly

Elbow, 90°, Street, Brass  
4730-206-08-00

Vacuum Breaker, 1/2"  
4820-300-07-00

Nipple, Drain  
5700-011-40-74

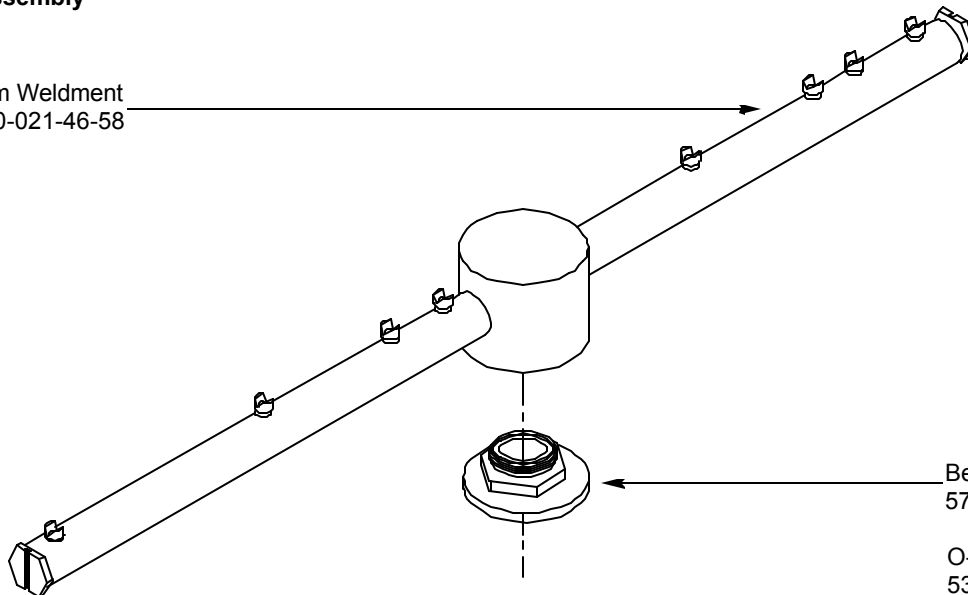


## Wash Arm Assembly

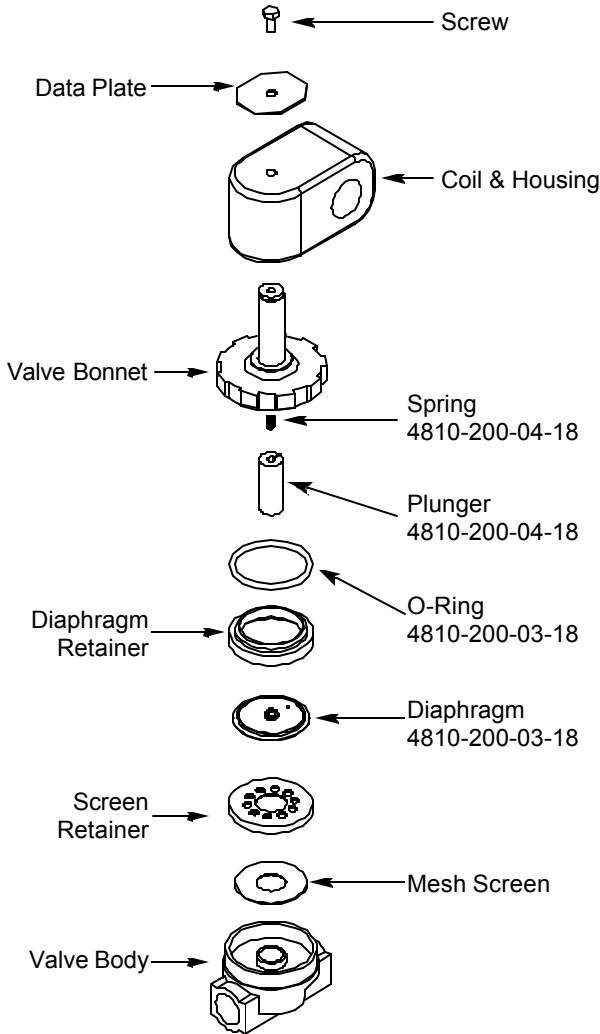
Wash Arm Weldment  
5700-021-46-58

Bearing Assembly  
5700-021-35-97

O-ring  
5330-002-60-69

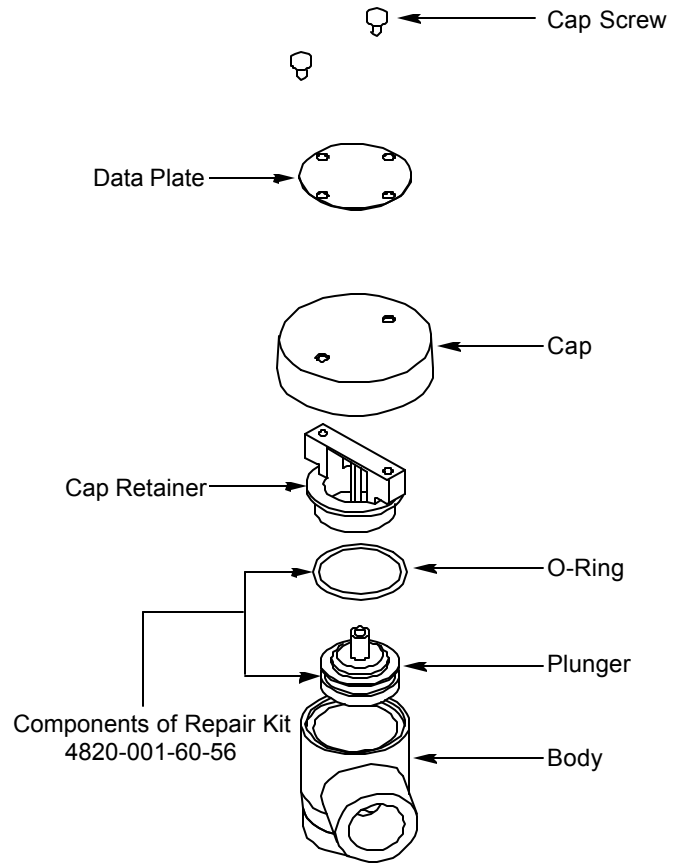


# 1/2" SOLENOID VALVE & 1/2" NPT VACUUM BREAKER REPAIR PARTS KITS



**Complete 110 Volt Solenoid Valve Assembly**  
4810-100-12-18

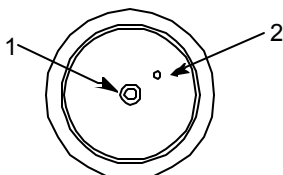
**Coil & Housing only**  
4810-200-01-18



**Complete Vacuum Breaker Assembly**  
4820-300-07-00

**Possible Problems:**

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

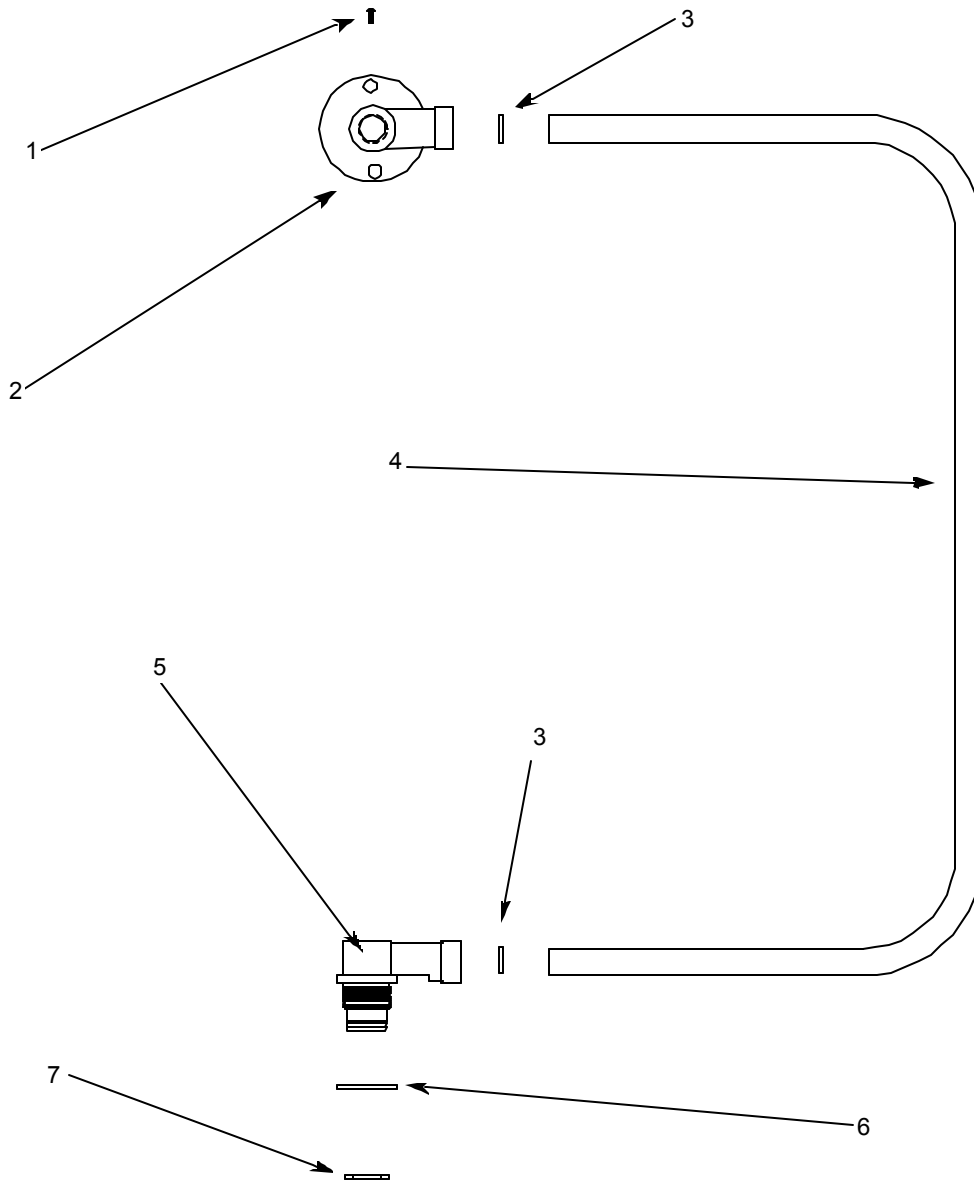


**TO TAKE THE SOLENOID VALVE APART**

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.

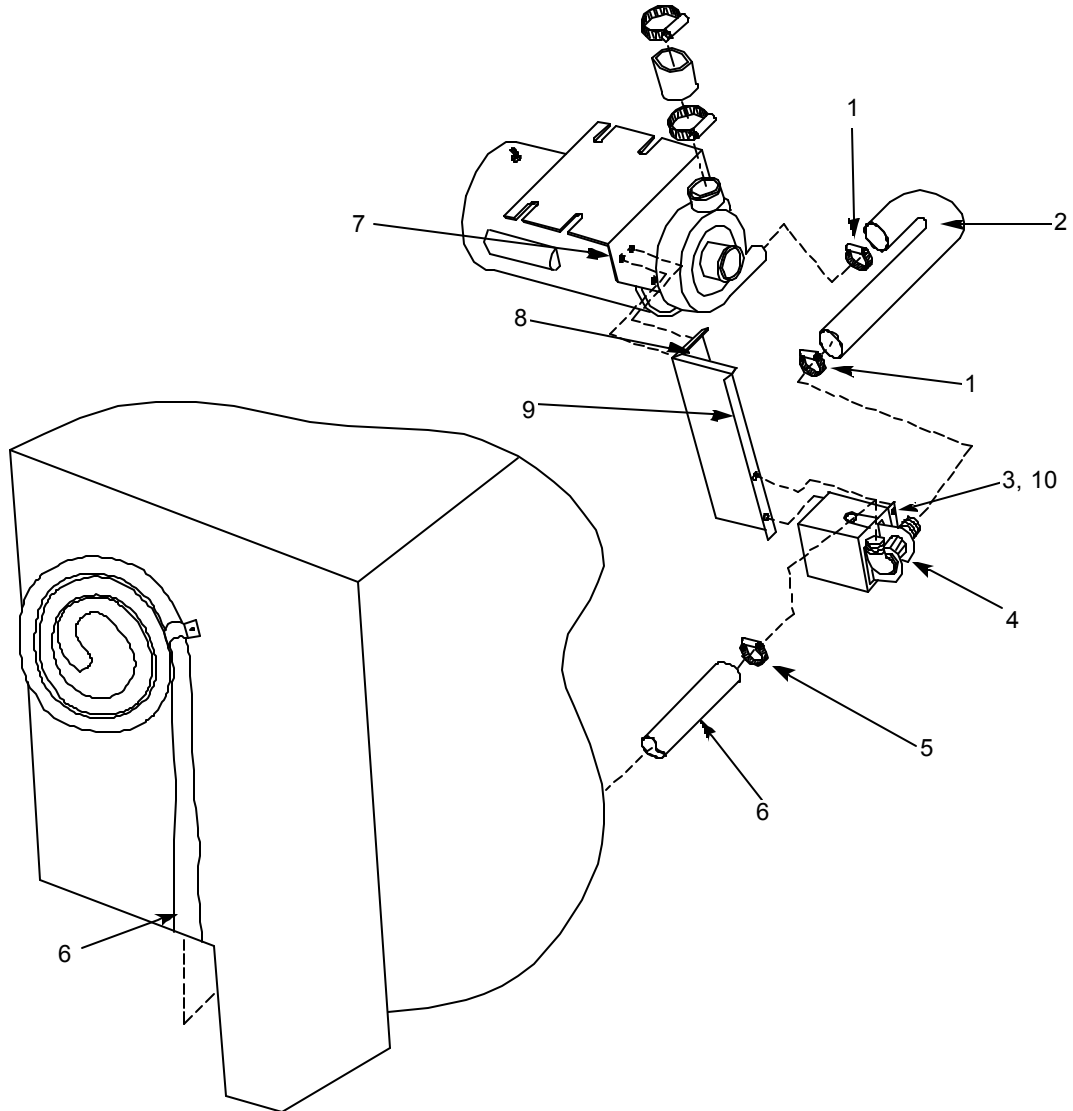
TO REASSEMBLE - Place the diaphragm cartridge in the body with the pilot port extension UP. Hold the plunger with the synthetic seat against the pilot port. Make sure the o-ring is in place, then lower the bonnet and enclosing tube assembly over the plunger. Screw the bonnet assembly snugly down on the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

# WASH MANIFOLD ASSEMBLY



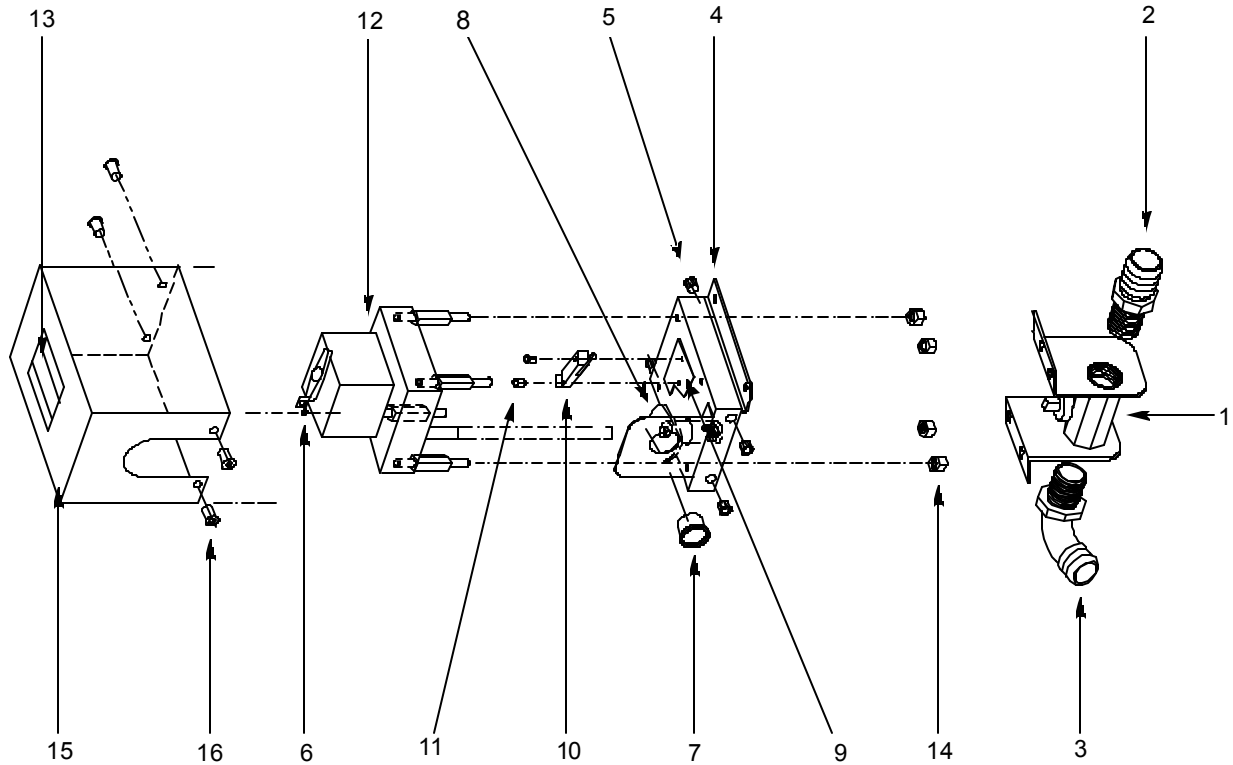
ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Screw, with Rubber Washer, 1/4"-20	5305-974-01-00
2	1	Casting, Upper Wash Manifold	5700-021-52-81
3	2	O-Ring	5330-111-35-15
4	1	Tube, Manifold	5700-002-13-75
5	1	Casting, Lower Wash Manifold	5700-021-52-80
6	1	Gasket, Lower Wash Manifold Casting	5330-200-23-00
7	1	Nut, Brass	5700-000-86-23

## DRAIN PLUMBING ASSEMBLY



ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Clamp, 3/16" to 1 1/2"	4730-719-06-09
2	1	Hose, Formed Drain	4720-121-40-36
3	2	Bolt, 10-32 x 1/2" Slotted Truss Head	5305-173-04-00
4	1	Diverter Valve Assembly, 115V	5700-002-23-22
5	1	Clamp, 11/16" to 1 1/4"	4730-002-18-40
6	1	Hose, 1" I.D. x 10 Feet Long	5700-011-39-72
7	2	Locknut, 1/4"-20 S/S Hex with Nylon Insert	5310-374-01-00
8	2	Bolt, 1/4"-20 x 1/2" Long	5305-274-02-00
9	1	Bracket, Valve Mounting with Tricnuts	5700-021-66-37
10	2	Washer, #10 External Tooth Star	5311-273-02-00

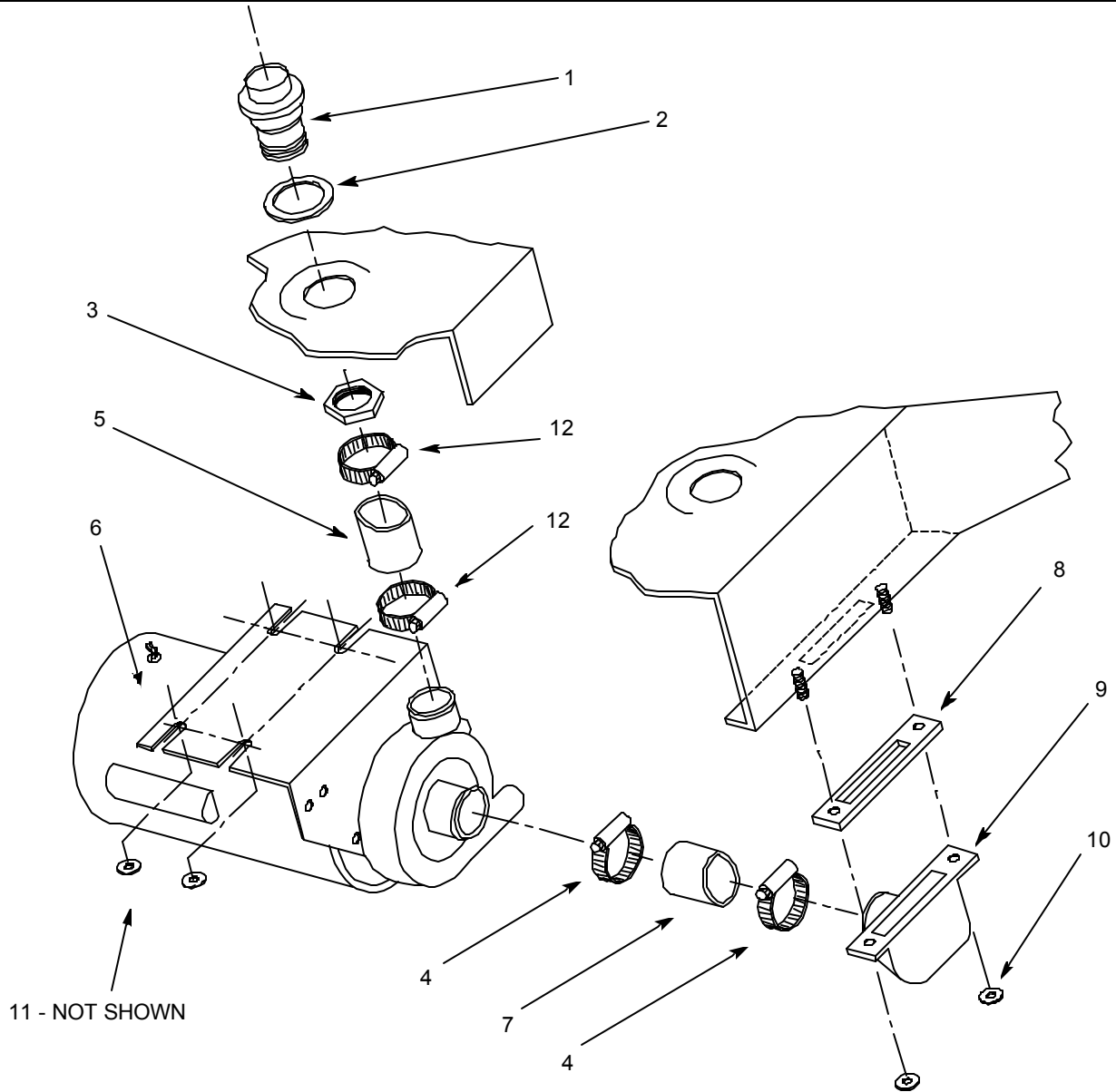
# DRAIN VALVE ASSEMBLY



ITEM	QTY	DESCRIPTION
1	1	Ball Valve with Brackets
2	1	1" Hosebarb, Straight x 3/4" NPT
3	1	1" Hosebarb, 90° x 3/4" NPT
4	1	Motor Mounting Plate Weldment
5	4	Tric-Nut, 10-32 AK Fastener, S/S
6	1	#10 External Tooth Lock Washer
7	1	Grommet, Heyco
8	1	Cam Weldment
9	1	Dielectric Plate
10	1	Micro Switch
11	2	Screw, 4-40 x 5/8" Phillipshead
12	1	Motor, 14 RPM, 115V
13	1	Warning Decal
14	4	Locknut, 10-32 S/S Hex with Nylon Insert
15	1	Valve Cover
16	4	Screw, 10-32 x 3/8" Truss Head

Mfg. No.
5700-002-23-28
4730-011-65-86
4730-011-65-87
5700-031-96-02
5340-111-58-10
5311-273-02-00
5975-210-03-00
5700-021-65-78
5700-011-65-80
5930-011-65-81
5305-011-49-70
4320-111-35-13
9905-100-75-93
5310-373-02-00
5700-031-65-70
5305-173-12-00

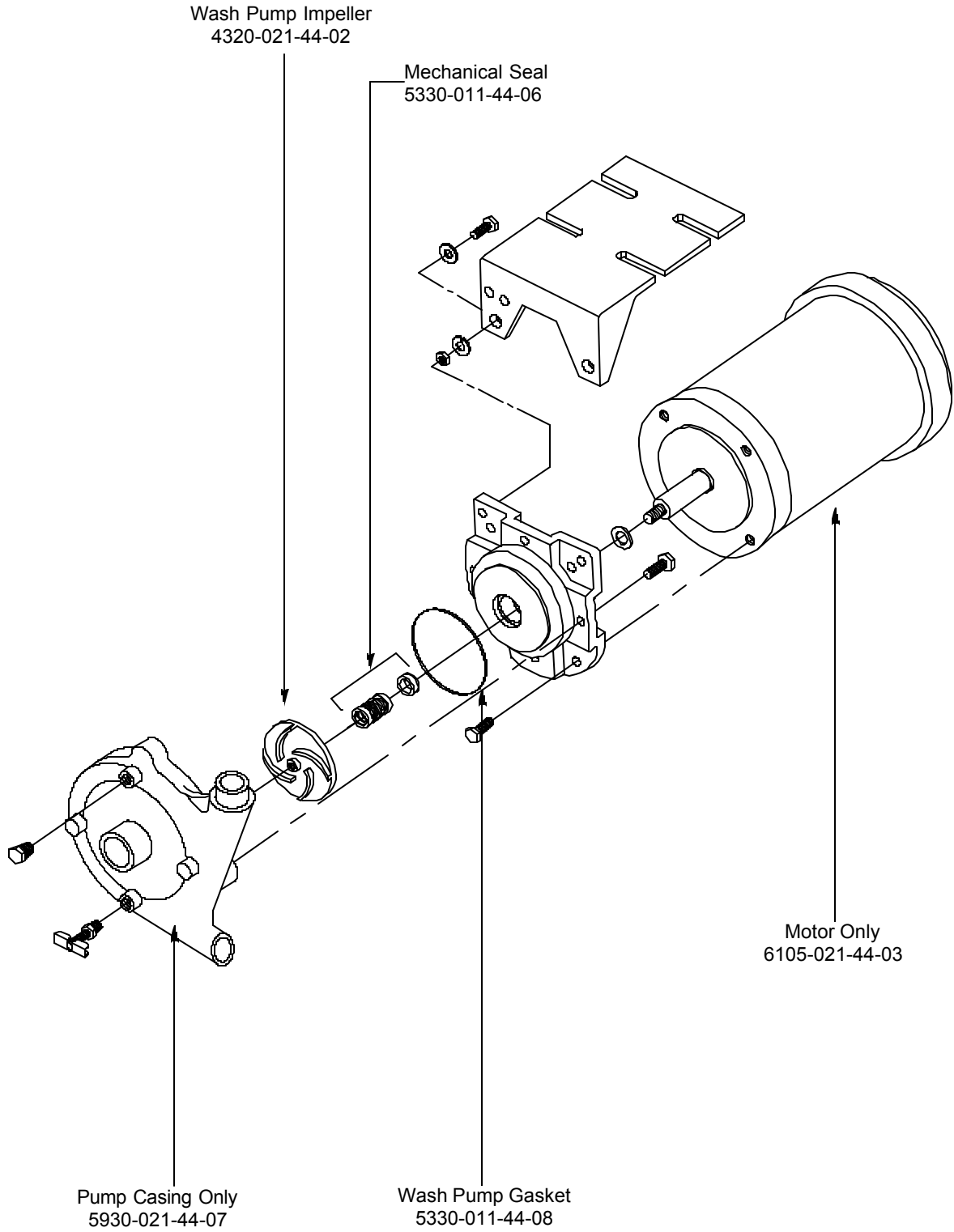
# WASH MOTOR TO WASH TUB ASSEMBLY



ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Discharge Hub	5700-021-37-90
2	1	Gasket	5330-200-23-00
3	1	Hex Nut	5700-000-86-23
4	2	Clamp, Worm	4730-719-06-09
5	1	Hose, 1 1/4" ID	5700-011-44-48
6	1	Wash Motor/Pump	6105-131-50-93
7	1	Hose, 1 1/2" ID	5700-011-22-92
8	1	Gasket, Suction Adapter	5330-021-40-87
9	1	Suction Adapter	9515-031-39-86
10	6	1/4" Flatwasher	5311-174-01-00
11	6	Locknut, 1/4"-20 with Nylon Insert	5310-374-01-00
12	2	Hose Clamp, HS28	4730-719-01-37



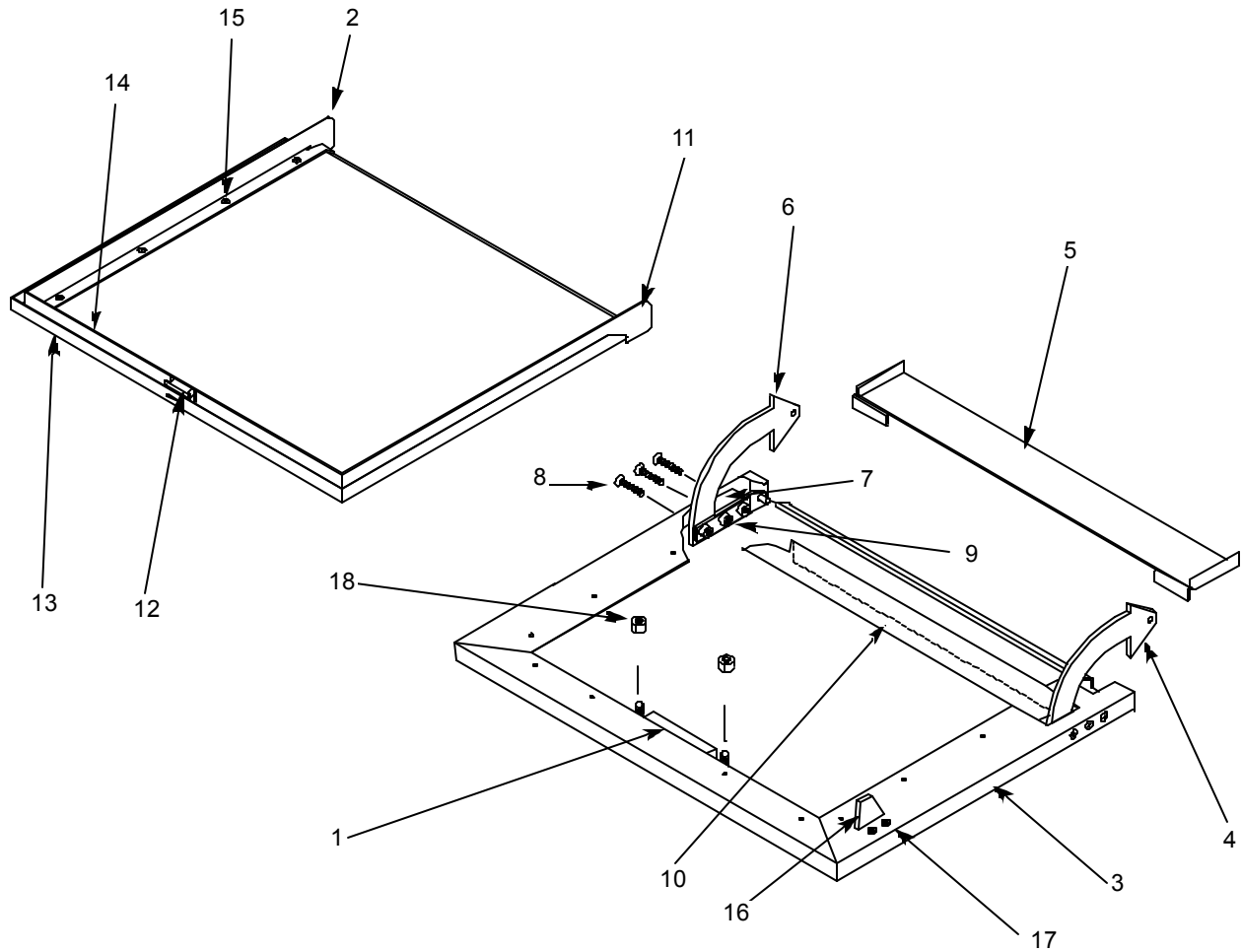
# WASH MOTOR ASSEMBLY



Order the complete assembly using number 6105-131-50-93

# DOOR ASSEMBLY

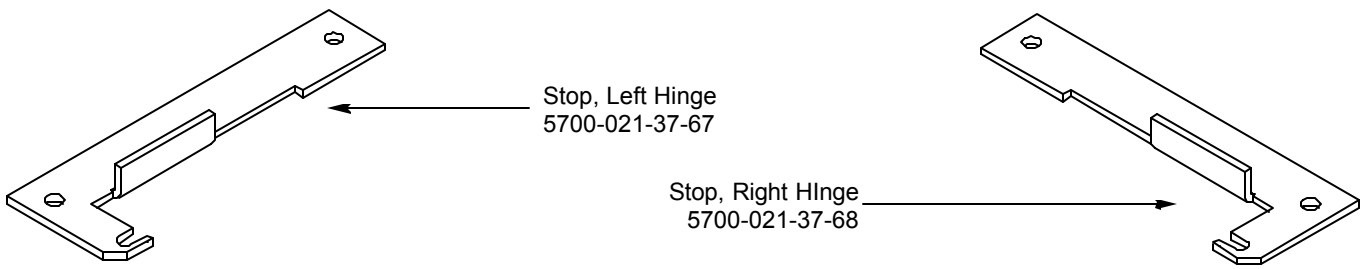
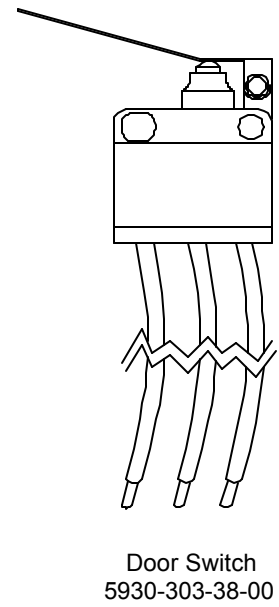
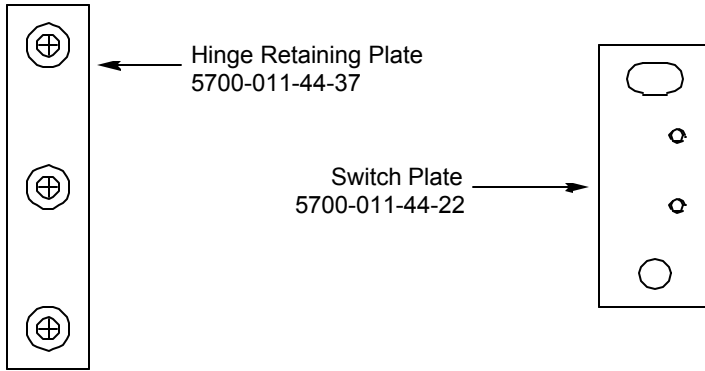
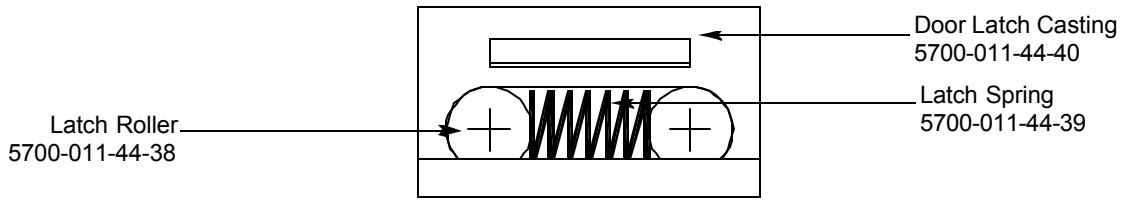
Order this entire assembly using Mfg. No.: 5700-011-39-15.



ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Door Handle, S/S	5340-011-60-25
2	1	Seal Channel, Inner Door, Left	5700-031-32-89
3	1	Outer Door Weldment	5700-021-35-72
4	1	Right Hinge Assembly Weldment	5700-021-38-75
5	1	Spray Baffle	5700-031-37-56
6	1	Left Hinge Assembly Weldment	5700-021-38-76
7	2	Spacer, Hinge UHMW	5700-011-44-23
8	6	Fastener, Screw, 1/4"-20 x 1-1/2" Long	5305-011-44-50
9	2	Hinge Retaining Plate Assembly	5700-011-44-37
10	1	Baffle, Door	5700-001-44-75
11	1	Seal Channel, Inner Door, Right	5700-031-32-91
12	1	Latch Assembly	5700-011-44-41
13	1	Inner Door	5700-031-32-85
14	1	Seal Channel, Inner Door, Top	5700-031-32-90
15	12	Fastener, Screw, 10-32 Counter Sink, 1/2" Long	5305-011-44-51
16	1	Striker, Door Switch	5700-011-44-24
17	2	Fastener, Screw 10-32 x 1/2" Long	5305-011-44-52
18	2	Locknut, 10-32, with Nylon Insert	5310-373-02-00

# MISCELLANEOUS DOOR SUB-ASSEMBLIES

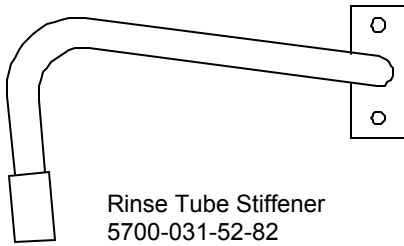
## Door Latch Assembly 5700-011-44-41



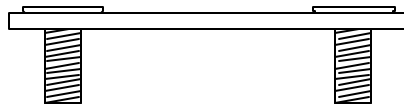
Hinge Components secured with:  
Locknut, 1/4"-20 S/S Hex  
5310-374-01-00



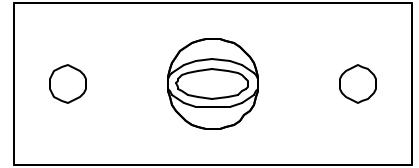
# MISCELLANEOUS PARTS



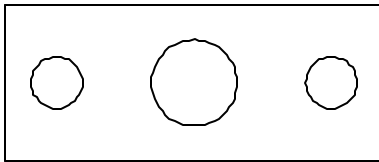
Rinse Tube Stiffener  
5700-031-52-82



Rinse Plumbing Plate  
5700-011-82-73



Rinse Plumbing Plate with Tube  
5700-011-82-74

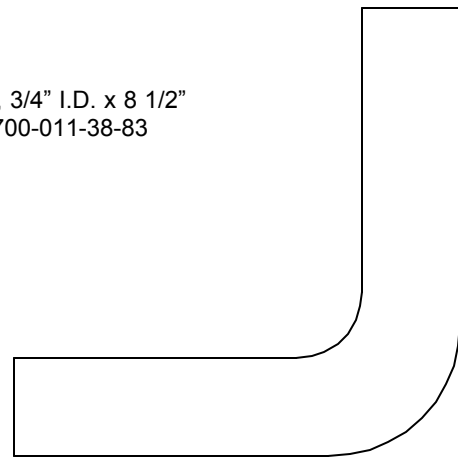


Vellumoid Rinse Gasket  
5330-111-42-81

Hose, 3/4" I.D. x 8 1/2"  
5700-011-38-83

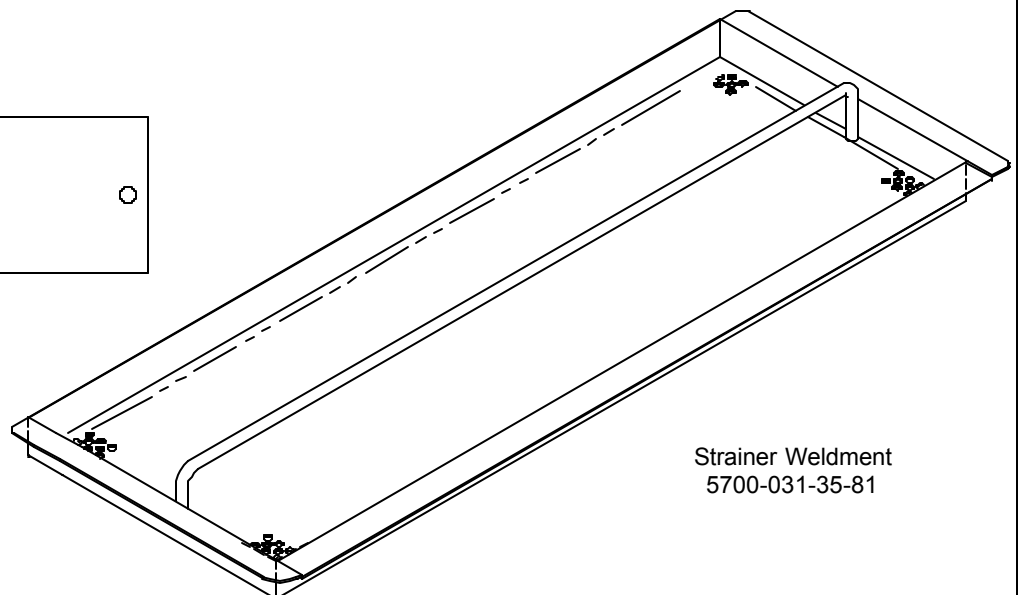
This end to the  
Injector Weldment

This end to the Rinse  
Tube Stiffener



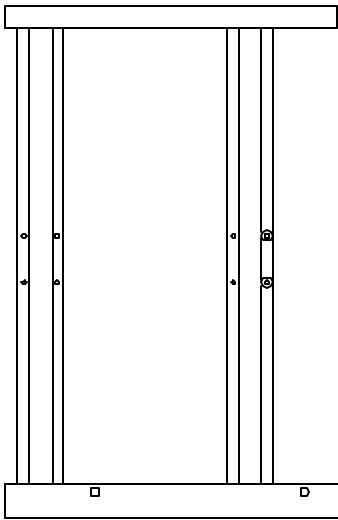
Strainer Spacer  
5700-021-35-83

Attaches with:  
Nut, Nylon Wing, 1/4"-20  
5310-994-01-00

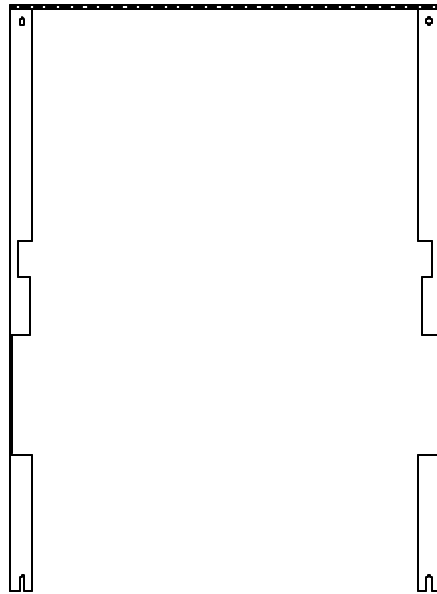


Strainer Weldment  
5700-031-35-81

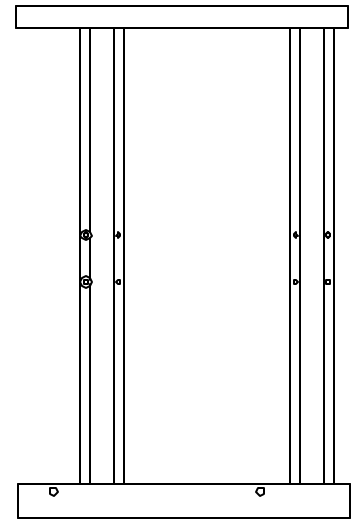
# FRAME, SHROUD, & PANEL COMPONENTS



Left Frame Weldment  
5700-011-73-85



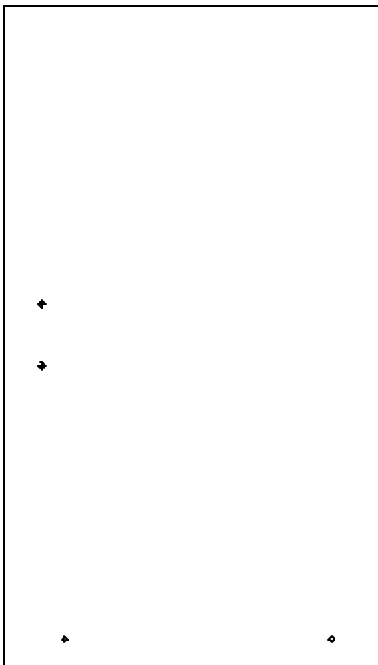
Shroud Weldment  
5700-031-38-15



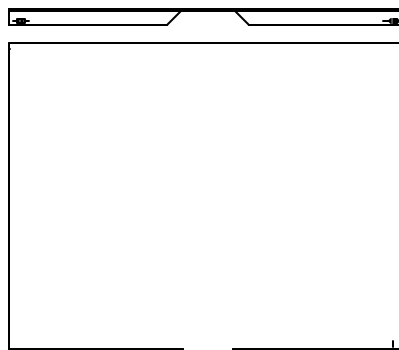
Right Frame Weldment  
5700-011-73-86

Secured with 10-32 x 1/2" Long Screws  
5305-173-04-00

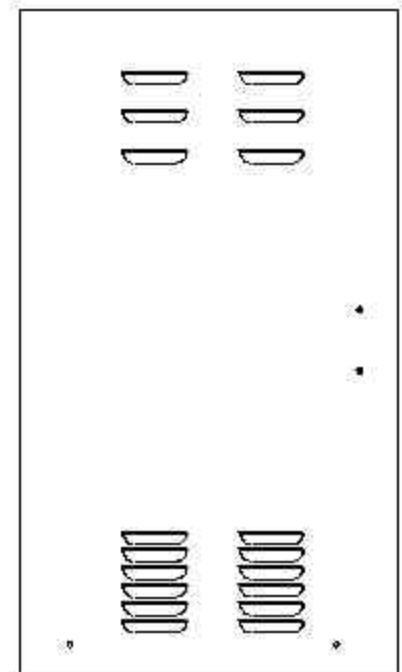
The swivel feet used on the unit may be ordered using number 5340-108-02-00



Left Dress Panel  
5700-041-38-37



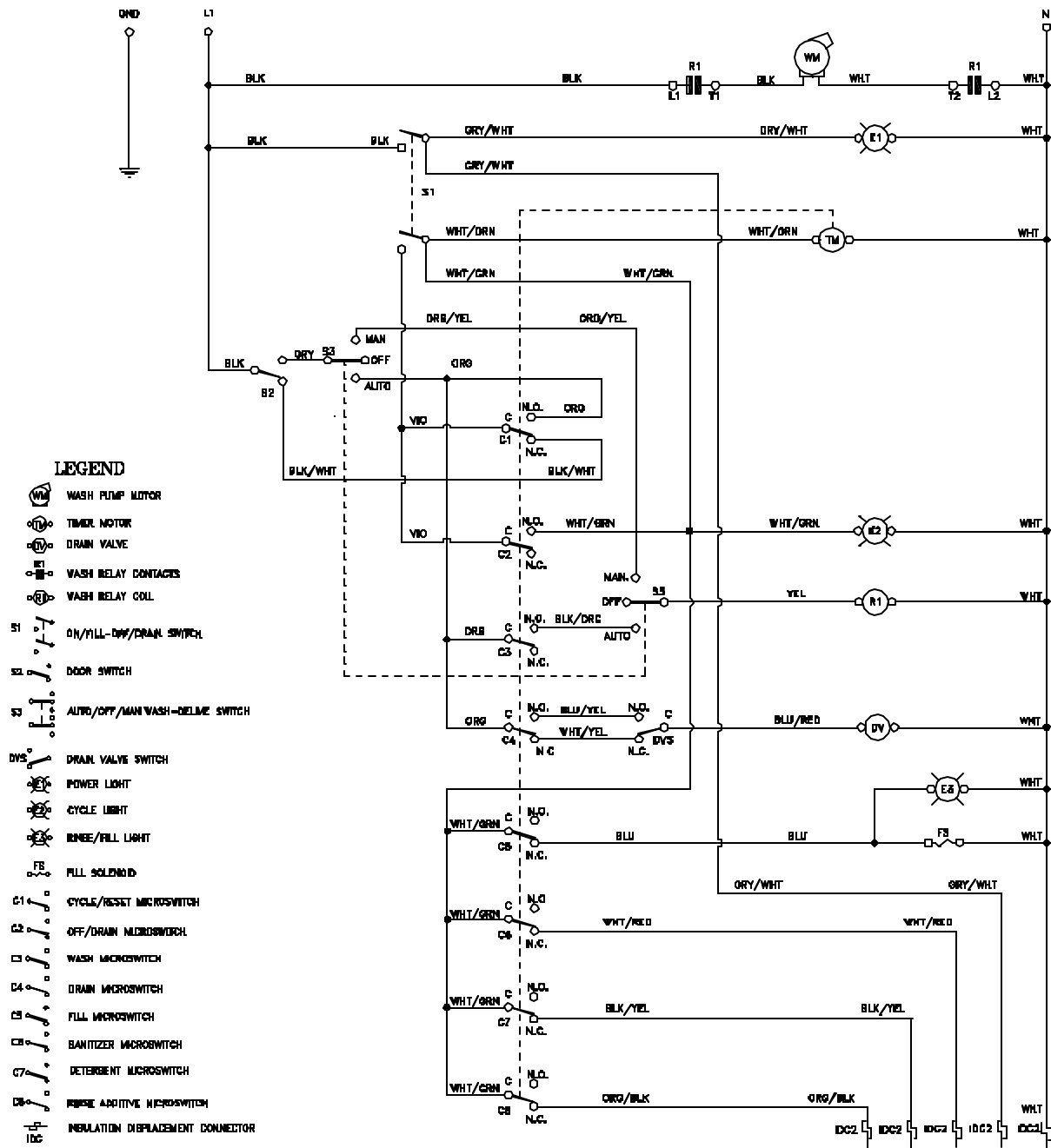
Top Panel  
5700-041-38-38



Right Dress Panel  
5700-041-38-08

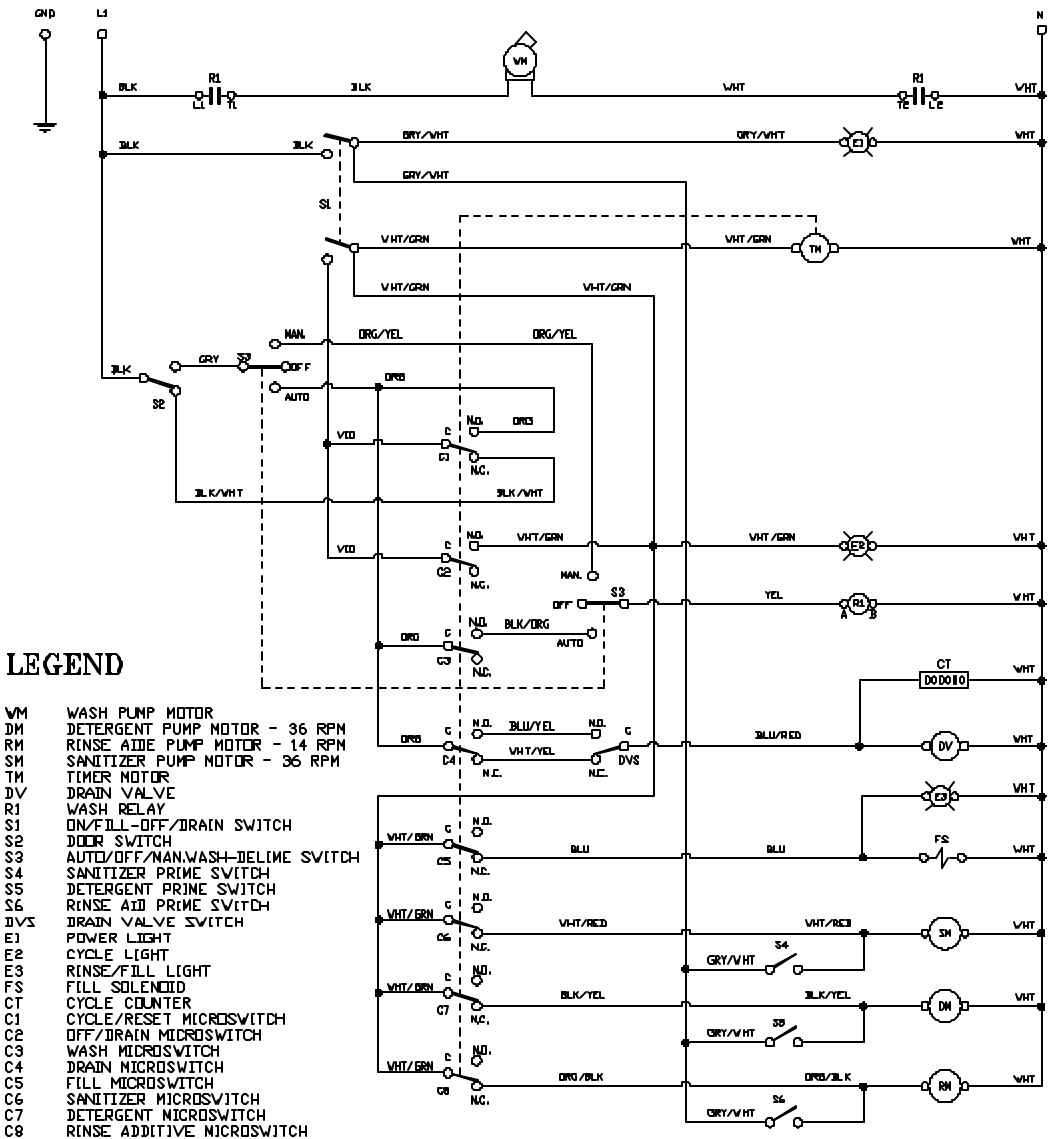
The panels are secured with 10-32 x 1/2" Truss Head Screws, 5305-011-39-36

# CONSERVER 24LT ELECTRICAL DIAGRAM 115 VOLT - 60 HERTZ - SINGLE PHASE



05700-031-74-04

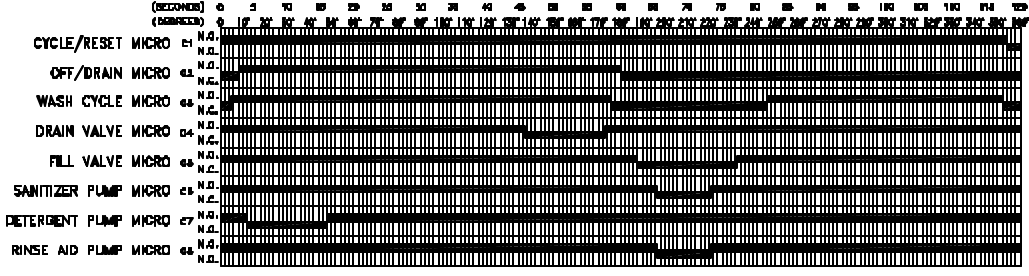
# CONSERVER 24LTP ELECTRICAL DIAGRAM 115 VOLT - 60 HERTZ - SINGLE PHASE



## LEGEND

- VM WASH PUMP MOTOR
- DM DETERGENT PUMP MOTOR - 36 RPM
- RM RINSE AIDE PUMP MOTOR - 14 RPM
- SM SANITIZER PUMP MOTOR - 36 RPM
- TM TIMER MOTOR
- DV DRAIN VALVE
- R1 WASH RELAY
- S1 ON/FILL-OFF/DRAIN SWITCH
- S2 DOOR SWITCH
- S3 AUTO/OFF/MAN/WASH-DELIME SWITCH
- S4 SANITIZER PRIME SWITCH
- S5 DETERGENT PRIME SWITCH
- S6 RINSE AID PRIME SWITCH
- S8 DRAIN VALVE SWITCH
- IVX
- E1 POWER LIGHT
- E2 CYCLE LIGHT
- E3 RINSE/FILL LIGHT
- FS FILL SOLENOID
- CT CYCLE COUNTER
- C1 CYCLE/RESET MICROSWITCH
- C2 OFF/DRAIN MICROSWITCH
- C3 WASH MICROSWITCH
- C4 DRAIN MICROSWITCH
- C5 FILL MICROSWITCH
- C6 SANITIZER MICROSWITCH
- C7 DETERGENT MICROSWITCH
- C8 RINSE ADDITIVE MICROSWITCH

## TIMING CHART



9905-002-55-90a

# IMPORTANT INFORMATION DATA SHEET

**Model:** \_\_\_\_\_

**Serial No.:** \_\_\_\_\_

**Installation Date:** \_\_\_\_\_

**Service Rep. Name:** \_\_\_\_\_

**Phone No.:** \_\_\_\_\_

**Notes:** \_\_\_\_\_

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