

INSTALLATION/OPERATION & TECHNICAL MANUAL

WAREFORCE I, WAREFORCE II

WAREFORCE II-CL, WAREFORCE II-CR

WAREFORCETM

November 6, 2015
07610-003-67-04 K

Jackson WWS, INC.
P.O. BOX 1060
HWY. 25E
BARBOURVILLE, KY 40906
FAX (606) 523-9196
PHONE (606) 523-9795
www.jacksonwws.com



REVISION	REVISION DATE	MADE BY	APPLICABLE ECN	DETAILS
A	03/05/09	RC	N/A	
B	09/24/09	ARL	N/A	Corrected shim kit part number on page 46.
C	12/15/09	RC	N/A	Added SDS information.
D	03/10/10	RC	100309-1608-CW	Corrected schematics on pages 56 and 57
E	06/09/10	RC	100609-1502-CW	Removed Warranty registration information
F	03/20/12	RC	ECR 8226	Made low chemical alarm optional
G	03/07/13	RC	QOF NDB-219	Updated Manufacturer information Update Pump Assembly
H	08/15/13	RC	ECR 8271	Added Door magnet cover.
I	08/18/14	KAP	8305	Changed part number on pg. 43
J	08/29/14	KAP	N/A	Removed part pg. 39 Corrected part number 05700-021-34-38 pg. 39 Updated part on pg. 41
K	11/06/15	JH	ECR 8364 N/A	Added mechanical timer exploded view, BOM, and schematics. Removed service repair centers section.

WAREFORCE I SERIES

- WAREFORCE I = Low temperature, chemical sanitizing, single-rack dishmachine
WAREFORCE II = Low temperature, chemical sanitizing, dual-rack dishmachine
WAREFORCE II-CL = Low temperature, chemical sanitizing, dual-rack dishmachine
with left-hand feed-through
WAREFORCE II-CR = Low temperature, chemical sanitizing, dual-rack dishmachine
with right-hand feed-through
WAREFORCE II S = Solid Dispenser Option

Model: _____

Serial No.: _____

Installation Date: _____

Service Rep. Name: _____

Phone No.: _____

Jackson WWS, 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.

TABLE OF CONTENTS

<u>SECTION</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
I.	SPECIFICATION INFORMATION	
	Specifications for the WAREFORCE I	2
	Specifications for the WAREFORCE II Series	3
	Dimensions WAREFORCE I	4
	Dimensions WAREFORCE II	5
	Dimensions WAREFORCE II-CL	6
	Dimensions WAREFORCE II-CR	7
	WAREFORCE II-S Option	8
	Table Dimensions	9
II.	INSTALLATION/OPERATION INSTRUCTIONS	
	Installation Instructions	11
	Electrical Instructions	12
	Chemical Dispensing Equipment	13
	Operation Instructions	14
	Universal Timer Programming Instructions	16
III.	PREVENTATIVE MAINTENANCE	18
IV.	TROUBLESHOOTING SECTION	20
V.	PARTS SECTION	
	Control Box Assemblies (Mechanical Timer)	30
	Control Box Assemblies (Universal Timer)	32
	S Bowl Option	34
	Chemical Feeder Pump Assembly	36
	Hood Assembly	37
	Hood Assembly, WAREFORCE II	38
	Cantilever Arm Assembly (Double Bracket Mount)	39
	WAREFORCE I Wash Tub & Frame Assembly	41
	Wash Tub Assembly (Left Front View), WAREFORCE II	42
	Wash Tub Assembly (Right Front View), WAREFORCE II	43
	Frame Weldment & Accumulator, WAREFORCE II Series	44
	Incoming Plumbing Assemblies	45
	Solenoid Valve Repair Kits, 3/4"	46
	Vacuum Breaker Repair Kit, 3/4" NPT	46
	Wash Motor Assembly, WAREFORCE I	47
	Motor & Pump Assembly	48
	Wash Manifold Assembly	49
	Drain Solenoid Assembly	50
	Miscellaneous Parts	51
	WAREFORCE II-CML Assembly Options	52
	WAREFORCE II-CMR Assembly Options	54
	False Panel Installation	56
VI.	ELECTRICAL DIAGRAMS	
	WAREFORCE I (115 Volt, 60 Hz, Single Phase, Mechanical Timer)	58
	WAREFORCE I (115 Volt, 60 Hz, Single Phase, Universal Timer)	59
	WAREFORCE II (115 Volt, 60 Hz, Single Phase, Mechanical Timer)	60
	WAREFORCE II (115 Volt, 60 Hz, Single Phase, Universal Timer)	61
	WAREFORCE II-CL/CR (115 Volt, 60Hz, Single Phase)	62
	WAREFORCE II-CL/CR (208-230 Volt, 60 Hz, Single Phase)	63
	WAREFORCE I (115 Volt, 60 Hz, Single Phase)	64
	WAREFORCE II CML/CMR (115 Volt, 60 Hz, Single Phase)	65

SECTION 1: SPECIFICATION INFORMATION

SECTION 1: SPECIFICATION INFORMATION

WAREFORCE I SPECIFICATIONS

PERFORMANCE/CAPABILITIES

OPERATING CAPACITY (RACKS/HOUR)	
RACKS PER HOUR	37
DISHES PER HOUR	925
GLASSES PER HOUR	925

OPERATING CYCLE (SECONDS)

WASH TIME	42
RINSE TIME	25
DWELL TIME	23
TOTAL CYCLE TIME	90

TANK CAPACITY (MINIMUM)

WASH TANK (GALLONS)	1.49
WASH TANK (LITERS)	5.6

WASH PUMP CAPACITY

GALLONS PER MINUTE	61
LITERS PER MINUTE	231

TEMPERATURES

WASH---°F (MINIMUM)	120
WASH---°C (MINIMUM)	48.9
WASH---°F (RECOMMENDED)	140
WASH---°C (RECOMMENDED)	60
RINSE---°F (MINIMUM)	120
RINSE---°C (MINIMUM)	48.9
RINSE---°F (RECOMMENDED)	140
RINSE---°C (RECOMMENDED)	60

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	12	15 AMP
220	1	50	N/A	8	15 AMP

WATER REQUIREMENTS

INLET TEMPERATURE (MINIMUM)	120°F
INLET TEMPERATURE (MINIMUM)	48.9°C
INLET TEMPERATURE (RECOMMENDED)	140°F
INLET TEMPERATURE (RECOMMENDED)	60°C
GALLONS PER HOUR	55.5
LITERS PER HOUR	210
WATER LINE SIZE NPT (Minimum)	3/4"
DRAIN LINE SIZE NPT (Minimum)	2"
FLOW PRESSURE PSI	20 ± 5
MINIMUM CHLORINE REQUIRED (PPM)	50

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 is subject to change without notice.

SECTION 1: SPECIFICATION INFORMATION

WAREFORCE II SERIES SPECIFICATIONS

PERFORMANCE/CAPABILITIES

OPERATING CAPACITY (RACKS/HOUR)	
RACKS PER HOUR	74
RACKS PER HOUR (OPTION)	96
DISHES PER HOUR	1850
GLASSES PER HOUR	1850

OPERATING CYCLE (SECONDS)

WASH TIME	42
RINSE TIME	25
DWELL TIME	25
TOTAL CYCLE TIME	90
TOTAL CYCLE TIME (OPTION)	72

TANK CAPACITY (MINIMUM)

WASH TANK (GALLONS)	3.1
WASH TANK (LITERS)	11.7

WASH PUMP CAPACITY

GALLONS PER MINUTE	61
LITERS PER MINUTE	231

TEMPERATURES

WASH---°F (MINIMUM)	120
WASH---°C (MINIMUM)	48.9
WASH---°F (RECOMMENDED)	140
WASH---°C (RECOMMENDED)	60
RINSE---°F (MINIMUM)	120
RINSE---°C (MINIMUM)	48.9
RINSE---°F (RECOMMENDED)	140
RINSE---°C (RECOMMENDED)	60

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	23	30 AMP

WATER REQUIREMENTS

INLET TEMPERATURE (MINIMUM)	120°F
INLET TEMPERATURE (MINIMUM)	48.9°C
INLET TEMPERATURE (RECOMMENDED)	140°F
INLET TEMPERATURE (RECOMMENDED)	60°C
GALLONS PER HOUR	111
GALLONS PER HOUR (OPTION)	192
WATER LINE SIZE NPT (MINIMUM)	3/4"
DRAIN LINE SIZE NPT (MINIMUM)	2"
FLOW PRESSURE PSI	20 ± 5
MINIMUM CHLORINE REQUIRED (PPM)	50

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 is subject to change without notice.

SECTION 1: SPECIFICATION INFORMATION

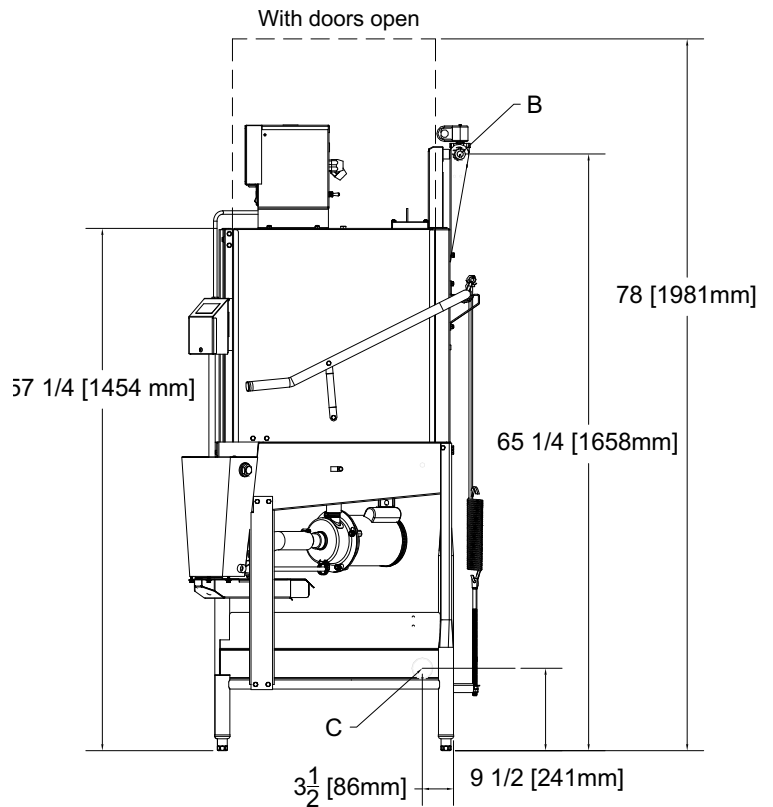
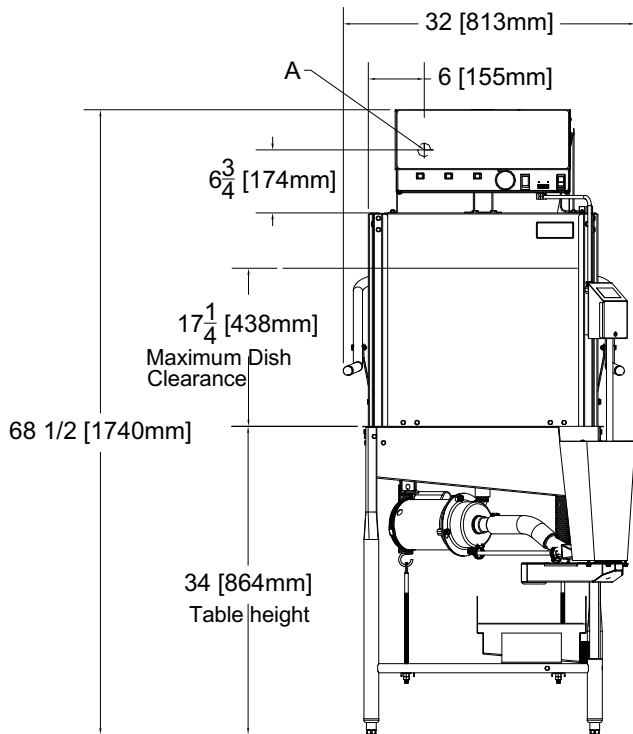
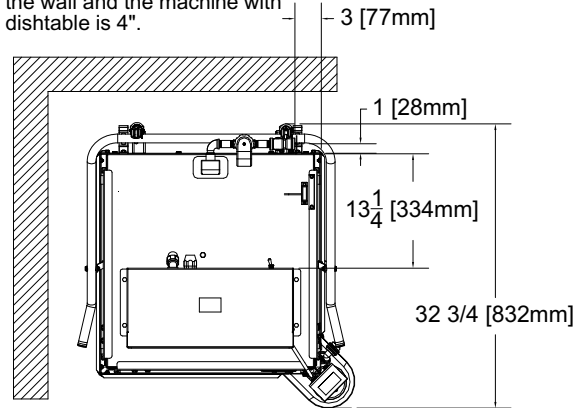
DIMENSIONS WAREFORCE I

LEGEND:

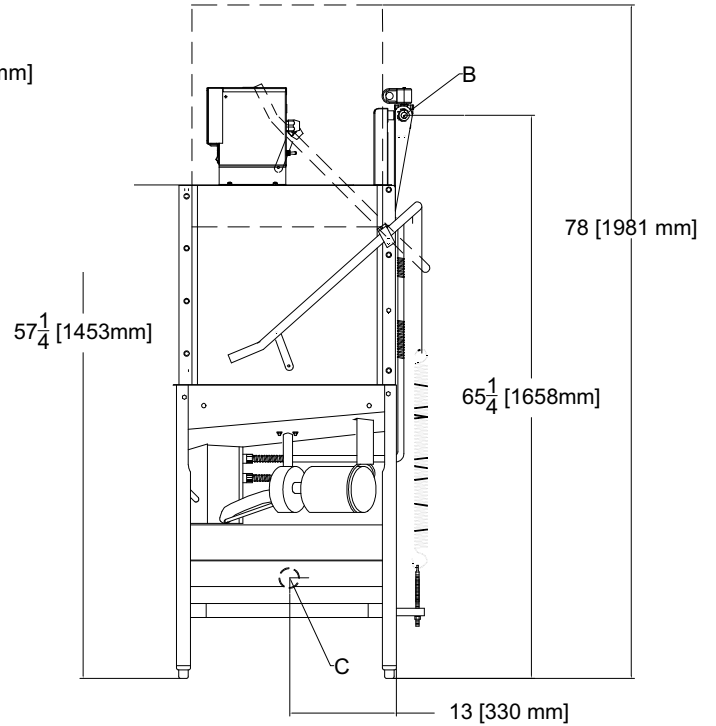
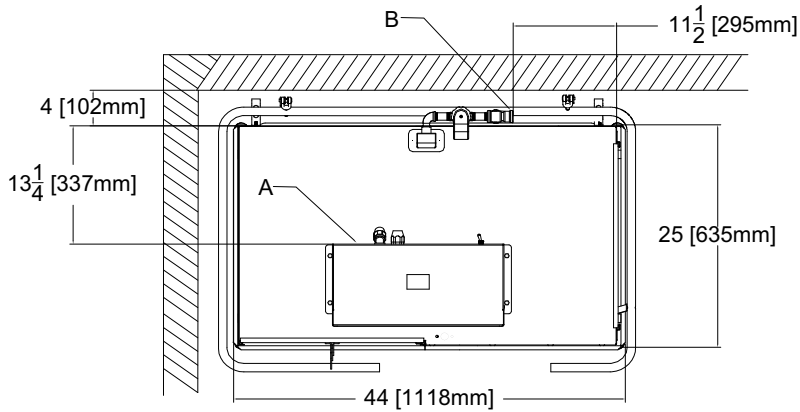
- A - Electrical connection
- B - Water inlet 1/2" I.P.S
- C - Drain connection 2" I.P.S

All vertical dimensions are +/- 1/2" from floor due to adjustable bullet feet.

Standard clearance between the wall and the machine with dishtable is 4".



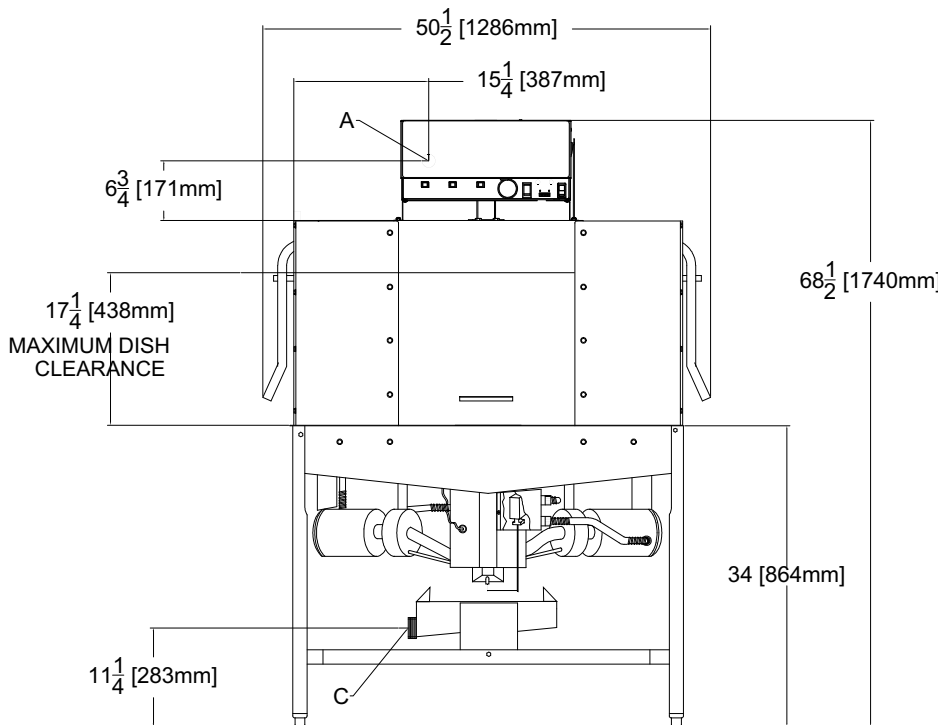
SECTION 1: SPECIFICATION INFORMATION
DIMENSIONS WAREFORCE II



LEGEND:

- A - Electrical connection
- B - Water inlet 1/2" I.P.S
- C - Drain connection 2" I.P.S

All vertical dimensions are +/- 1/2" from floor due to adjustable bullet feet.



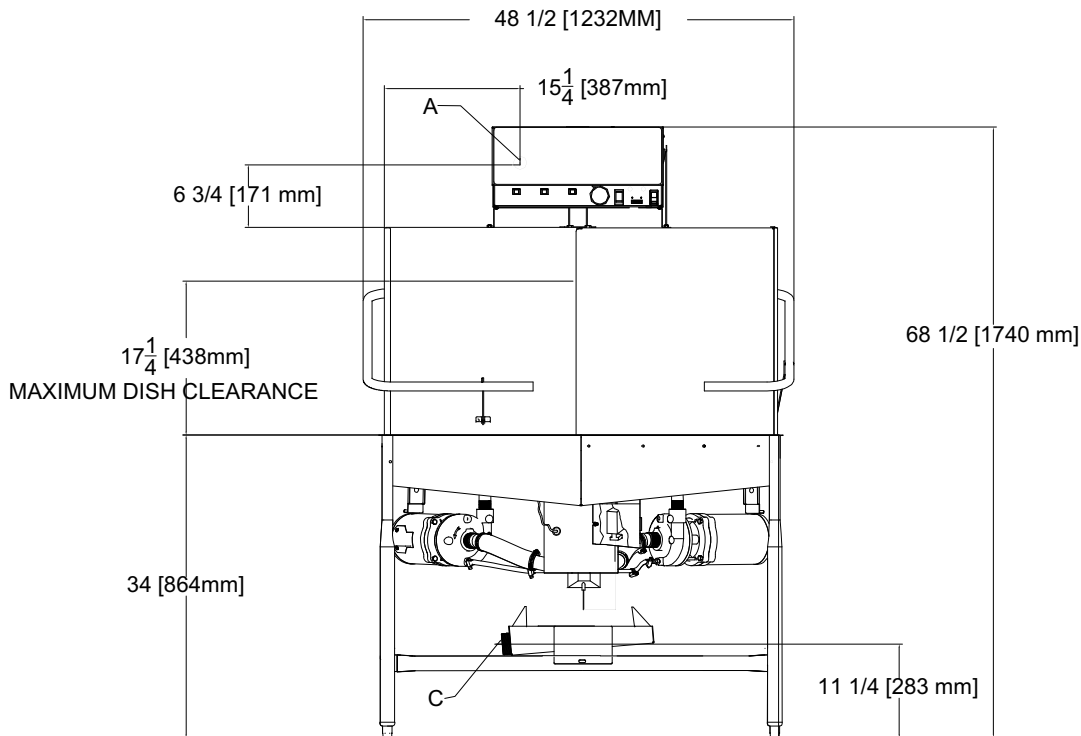
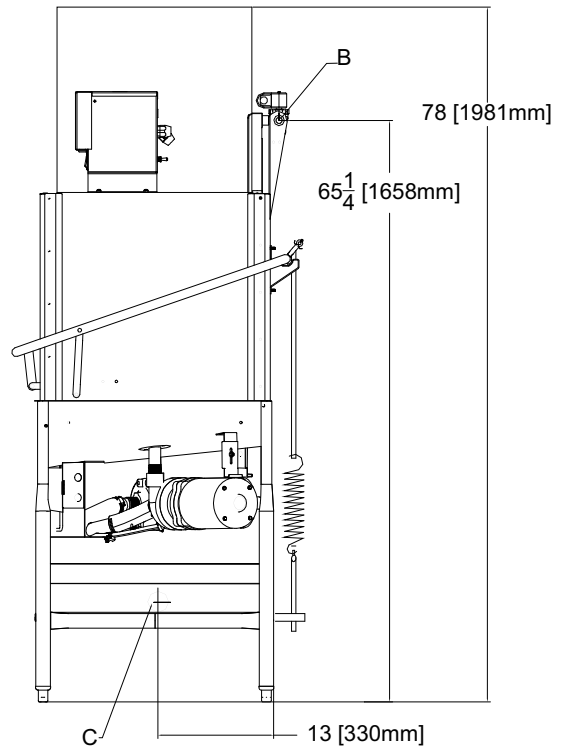
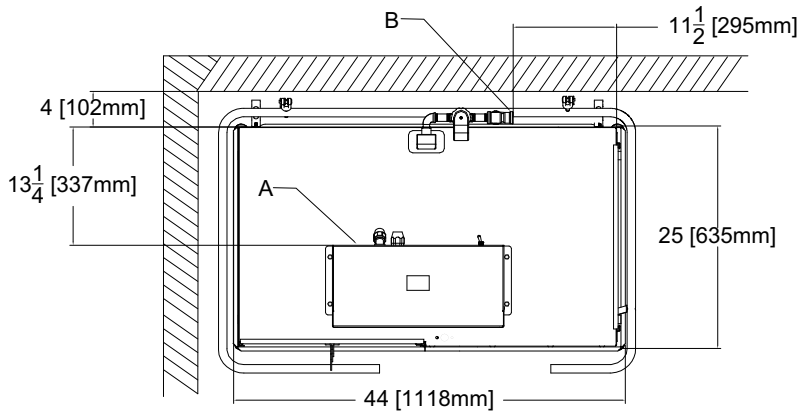
SECTION 1: SPECIFICATION INFORMATION

DIMENSIONS WAREFORCE II-CL

LEGEND:

- A - Electrical connection
- B - Water inlet 1/2" I.P.S
- C - Drain connection 2" I.P.S

All vertical dimensions are +/- 1/2" from floor due to adjustable bullet feet.



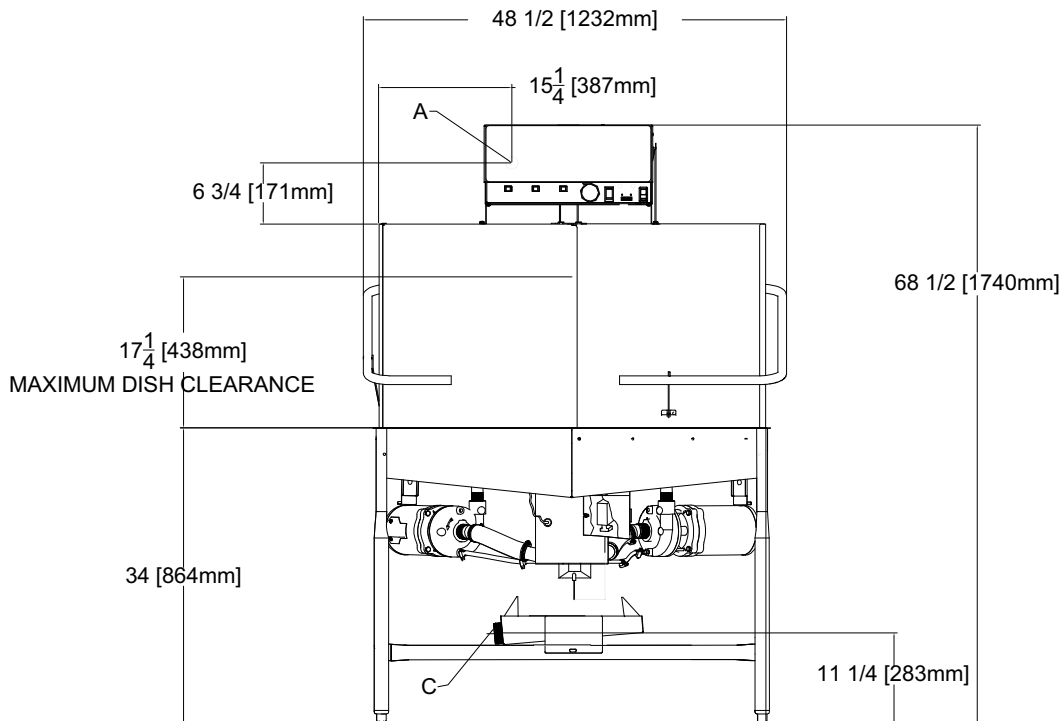
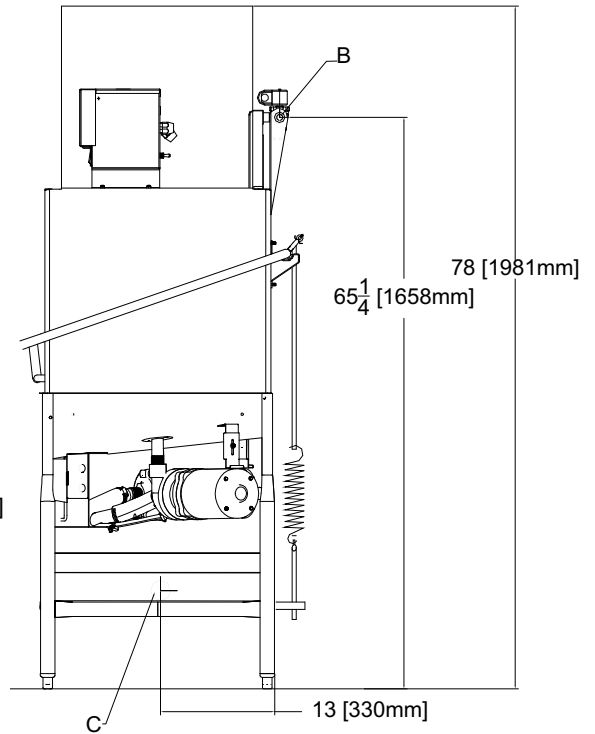
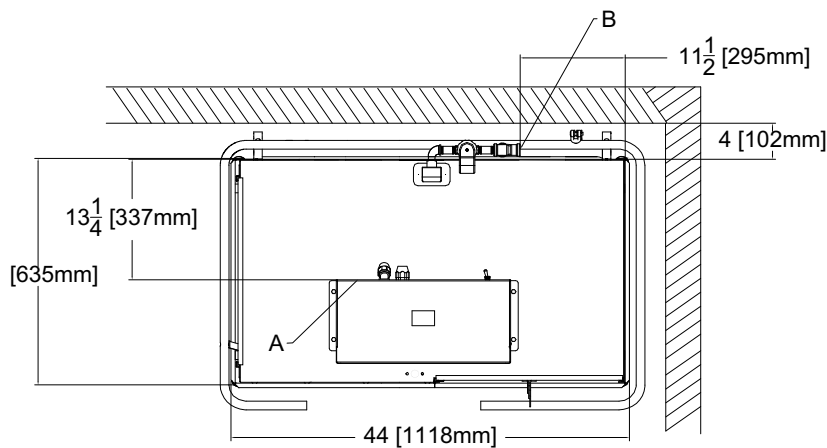
SECTION 1: SPECIFICATION INFORMATION

DIMENSIONS WAREFORCE II-CR

LEGEND:

- A - Electrical connection
- B - Water inlet 1/2" I.P.S
- C - Drain connection 2" I.P.S

All vertical dimensions are +/- 1/2" from floor due to adjustable bullet feet.

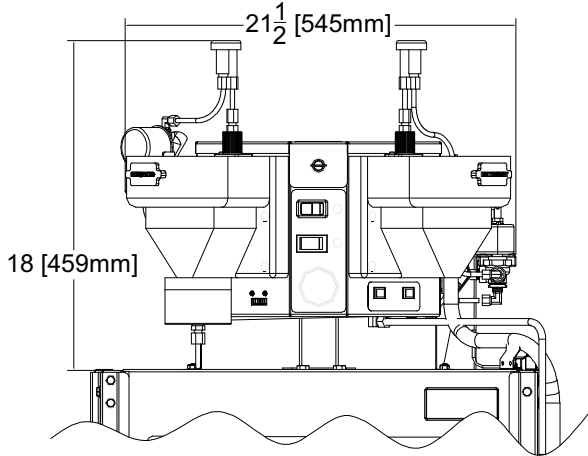


SECTION 1: SPECIFICATION INFORMATION
S BOWL OPTION

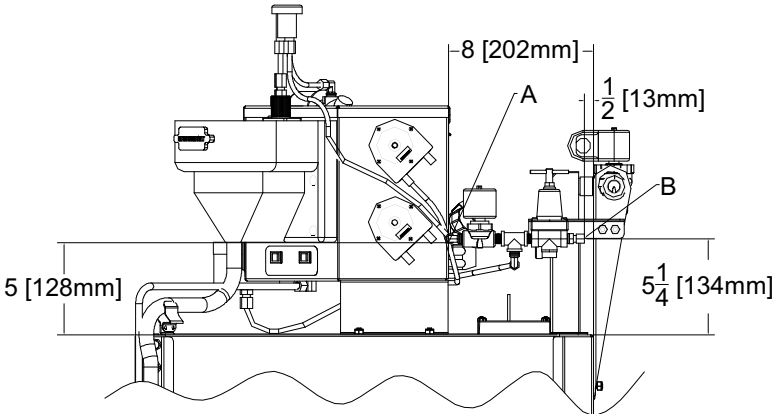
Legend

A - Electrical Connection

B - Water Connection, 1/4"



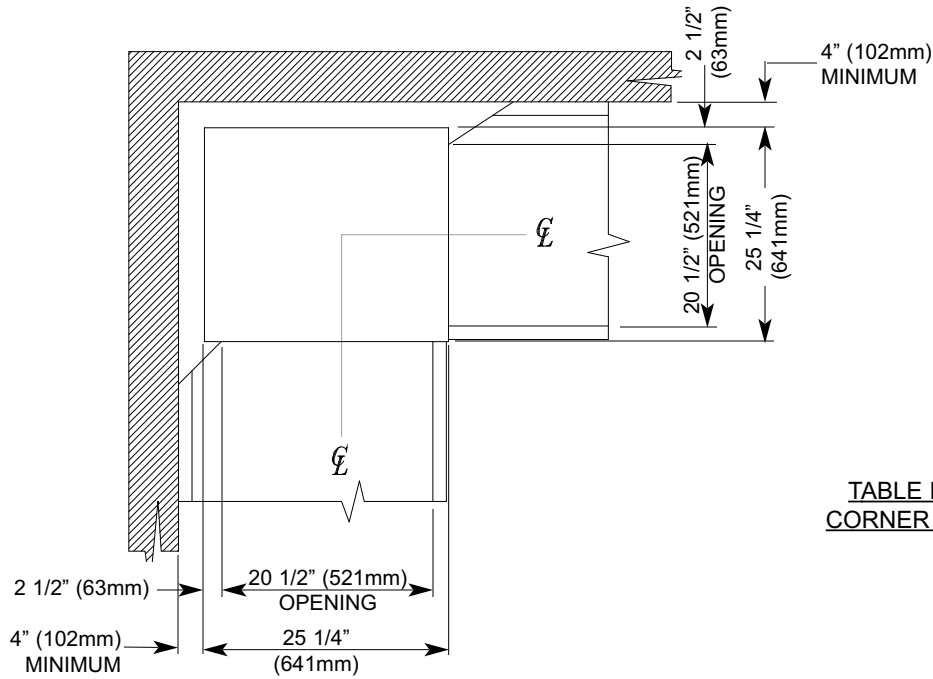
Bowl Option - Front Side View



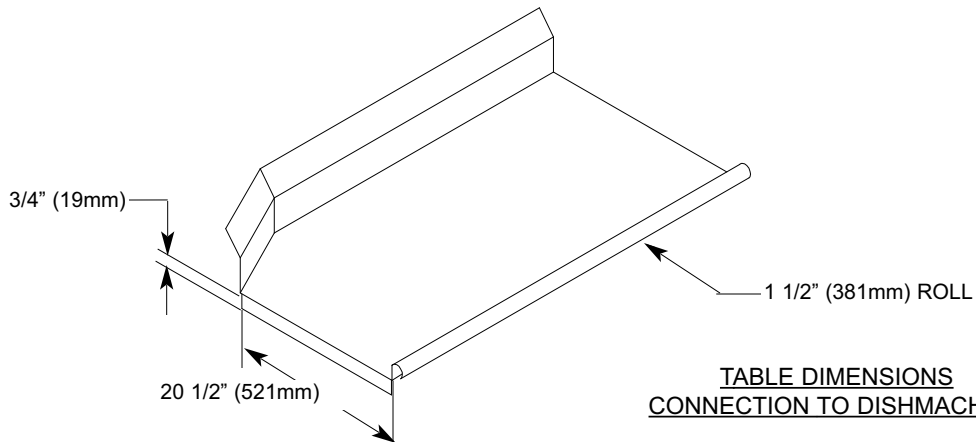
Bowl Option - Right Side View

SECTION 1: SPECIFICATION INFORMATION

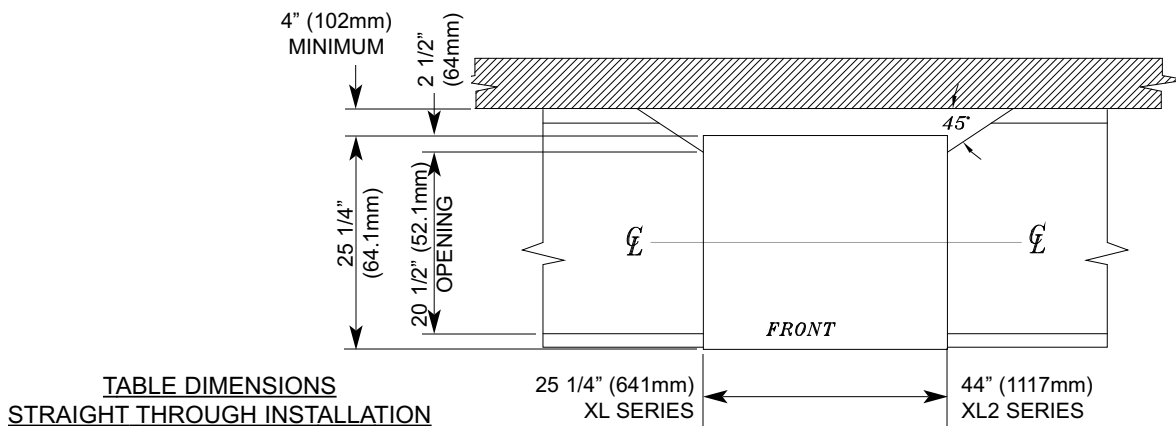
TABLE DIMENSIONS



**TABLE DIMENSIONS
CORNER INSTALLATION**



**TABLE DIMENSIONS
CONNECTION TO DISHWASHER**



**TABLE DIMENSIONS
STRAIGHT THROUGH INSTALLATION**

**SECTION 2:
INSTALLATION/OPERATION
INSTRUCTIONS**

SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

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 that sold you 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 drain for the WareForce/II series is a gravity discharge drain. All piping from the 2" MNPT connection on the waste accumulator must be pitched (1/4" per foot) to the floor or sink drain. All piping from the machine to the drain must be a minimum 2" NPT and shall 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 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 (3/4" 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.

In areas where the water pressure fluctuates or is greater than the recommended pressure, it is suggested that a water pressure regulator be installed.

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 Wareforce I/II 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.

SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

ELECTRICAL INSTRUCTIONS

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 right side and to 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, open the control box. This will require taking a phillips head screwdriver and removing the one (1) screw on the front cover of the control box. 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 & N) 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.



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.

SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

CHEMICAL DISPENSING EQUIPMENT

TO PREPARE PUMPS FOR OPERATION

This WAREFORCE dishmachine is supplied with detergent, rinse additive and sanitizer dispensing 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 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 peristaltic-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 6 on the cam timer.
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 7 on the cam timer.
6. Chlorine based sanitizer 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 5 on the cam timer.



WARNING: Some of the chemicals used in dishwashing may cause chemical burns if they come in contact with your skin. Wear protective gear when handling these chemicals. If you do come in contact with these chemicals, immediately flush the affected area with fresh water. Always refer to the chemical agent packaging for safe handling and first-aid instructions.

SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

OPERATION INSTRUCTIONS

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

1. The sump strainer is in place and is clean.
2. The drain stopper is installed.
3. That the wash and rinse arms are screwed securely into place and that their endcaps are tight. The wash and rinse arms should rotate freely.

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 doors and depress and hold the OFF/ON/FILL rocker switch in the FILL position for approximately 8 - 10 seconds. Open the doors 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 the drain stopper is preventing the wash tub water from pouring out excessively. There may be some slight leakage from the drain hole. Verify that there are no other leaks on the unit before proceeding any further. The wash tub 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 water level was set at the factory. If the water level is not at the level noted above, it will require adjustment. Check to ensure that the recommended water pressure is being supplied to the machine (20 ± 5 PSI). If the water pressure is correct then the fill valve will need adjustment. Use the following steps to adjust the cam. Turn power off at the machine circuit breaker. Open the control box cover. Locate the timer fill valve cam (Cam 4 from the timer motor). Locate the spanner wrench taped to the electrical panel. The spanner wrench is used to adjust the cam.

To increase the water level, open the notch of the adjustable cam. To decrease the water level, close the notch. Care must be taken that the set point does not extend into the home position of the timer. Do not move the side of the cam that starts the fill; this will change the sequence of cycle operation. With the door closed turn the power circuit breaker on. Open and close the door to run a cycle, then check the water level. Adjust as necessary then close the control box cover.

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. Lift the doors and the cycle light will illuminate. When the light goes out, close the doors, the unit will start, run through the cycle, and shut off automatically. Repeat this two more times. The unit should now be ready to proceed with the washing of ware.

SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

OPERATION INSTRUCTIONS (CONTINUED)

WASHING A RACK OF WARE: To wash a rack, open the doors completely (being careful for hot water that may drip 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 watching for the dripping hot water) and remove the rack of clean ware. Replace with a rack of soiled ware and close the doors. 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 doors. When the unit completes the cycle, turn the power switch to the OFF position and open the doors. Manually remove the drain stopper from the tub and allow the tub to drain (NOTE: the wash tank water will be hot so caution is advised). Once the wash tub is drained, remove the pan strainer and the pump suction strainer. Remove soil and debris from the strainer and set to the side. Unscrew the wash and rinse arms from their manifolds. Remove the endcaps and flush the arms with water. Use a brush to clean out the inside of the arms. 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 and rinse 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 strainers and close the doors.

SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

UNIVERSAL TIMER PROGRAMMING INSTRUCTIONS

INSTRUCTIONS FOR CHEMICAL FEEDER PUMPS (FOR INSTALLATION TECHNICIAN ONLY)

To access the programming mode, the machine must be ON, and idle (between cycles).

On the timer board, press both the MOVE and ENTER buttons on the timer board simultaneously.

The PROGRAM light will illuminate and the A light will blink.

Once in the programming mode, the MOVE button is used to scroll between the programming categories and the ENTER button is used to select the category.

Press the MOVE button to move the blinking light between FILL, RINSE AID, DETERGENT or SANITIZER.

Press the ENTER button for the chosen category.

The PROGRAM light will illuminate along with the lights corresponding to the time values for the chosen category. The ACCEPT light will blink.

To change the value of a parameter, use the MOVE button to move the blinking light to the time option (time is in seconds). In the time categories, each second in use will light up. To deselect the option, press ENTER and the light will go off, press ENTER again and it will illuminate. Once you have set your time category, press the MOVE button until the ACCEPT light is blinking and press ENTER. This will save the changed parameters.

Once you press the ENTER button when the ACCEPT light is blinking, you will exit the programming mode. To change any other values, you will have to return to the programming mode. To revert back to a previous setting, you must return to that option and change the parameter back to the previous setting.

Once in the programming mode, if there have been no keypad inputs for approximately 2 minutes, the system will automatically exit out of the programming mode. Any changes to parameters will be saved when the programming mode is automatically exited.

All time adjustments are in seconds. Refer to the chart below for the adjustable outputs.

Please note that options A, B, and D are not adjustable outputs.

SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

UNIVERSAL TIMER PROGRAMMING INSTRUCTIONS (CONTINUED)

Please note that options A, B and D are not adjustable outputs.

Timer Programming Board

	PGM		Time in seconds.
	A		8.0
	B		4.0
DRAIN	C		2.0
	D		1.0
FILL	E		0.8
SANITIZER	F		0.4
DETERGENT	G		0.2
RINSE AID	H		0.1
	ACCEPT		



SECTION 3: PREVENTATIVE MAINTENANCE

SECTION 3: PREVENTATIVE MAINTENANCE

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 a **QUALIFIED SERVICE AGENCY**.

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 prescraping 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 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**.

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.

SECTION 4: TROUBLESHOOTING SECTION

SECTION 4: TROUBLESHOOTING

COMMON PROBLEMS (DOMESTIC UNITS)



WARNING: Inspection, testing and repair of electrical equipment should be performed only by qualified service personnel. Certain procedures in this section require electrical tests or measurements while power is applied to the machine. **Exercise extreme caution at all times.** If test points are not easily accessible, disconnect power, attach test equipment and reapply power to test. When replacing electrical parts, disconnect power at source circuit breaker.

Problem: Dishmachine will not run, no voltage at wash relay terminals L1 and T1.

1. Service disconnect switch off or faulty. Turn disconnect on.
2. Branch circuit breaker tripped/fuse blown. Reset or replace.
3. Loose or broken connection to dishmachine. Tighten or replace connections.

Problem: Machine will not run in "ON" position unless cam timer is moved off the "home" position.

1. Door switch shorted out. With the door open, check for voltage between ORANGE/WHITE door switch and neutral. If 120V, replace the door switch.
2. Faulty control relay. With the door open, check for voltage between connections #9 & #3 on control relay. If 120V, replace control relay.
3. Faulty "cycle reset" microswitch in cam timer. Replace microswitch.

Problem: Machine will not cycle in "ON" position, works in Delime mode.

1. Faulty cycle reset cam microswitch. 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 120V, then the switch is open and should be replaced.
2. Faulty cam timer motor. If cam timer is not rotating, check the voltage to the motor. If voltage is present when the door is closed, replace the motor.
3. Faulty control relay. Check the voltage across contacts #9 and #6. If 120V when the door is closed, replace the relay.
4. Faulty NORMAL/DELIME switch. In the NORMAL position, check the voltage between WHITE/BLACK & WHITE/RED wires to switch. If 120V, replace the switch.

Problem: Machine will not run. Wash pump motor will run if wash relay is depressed manually (nothing else works).

1. Open door switch. With door closed, measure voltage between BLUE and WHITE/BLACK wires on terminals #6 & #9 of the relay. If 120V, replace the relay.
2. Faulty control relay. Measure between the BLACK wires on terminals #6 & #9 of the relay. If 120V, replace the relay. Measure between the WHITE/BLACK wire on terminal 4 and the ORANGE/WHITE wire on terminal 7 of the relay. If 120V, replace relay.

Problem: Machine will not run in "ON" position or in Delime mode.

1. Faulty door switch. With door closed, check for voltage between WHITE/BLACK and ORANGE/WHITE wires to the door switch. If 120V, replace open switch.
2. Faulty OFF/ON/FILL switch. With switch ON, check voltage between BLACK and WHITE/BLACK wires on switch. Replace the switch if 120V.
3. Faulty NORMAL/DELIME switch. In the NORMAL position, check the voltage between WHITE/BLACK & WHITE/RED wires to switch. If 120V, replace the switch.

Problem: Machine cycles continuously.

1. Cycle reset switch loose. Reposition switch assembly, bend metal lever if necessary.
2. Faulty cycle reset switch. Measure between BLACK/YELLOW & ORANGE wires on "cycle reset" switch while timer is rotating. As the switch lever drops into home position you should measure 120V. If not, adjust or replace the switch.

Problem: Machine fills continuously even with no power applied to machine.

1. Solenoid valve dirty or faulty. Clean valve, replace plunger and/or diaphragm.

SECTION 4: TROUBLESHOOTING

COMMON PROBLEMS (DOMESTIC UNITS)

Problem: Machine will not fill, other functions work.

1. Y-strainer plugged. Clean strainer.
2. Water valve(s) turned off. Turn on water valves.
3. Faulty solenoid valve diaphragm. Replace diaphragm, clean foreign material out of valve body and orifices.
4. Faulty solenoid coil. If coil has voltage but no continuity, replace coil (continuity is measured across coil connectors with wires removed).
5. Faulty fill microswitch. Will not fill during cycle only. During fill, measure between the ORANGE and WHITE/GREEN wires. If 120V, adjust or replace switch).
6. Faulty OFF/ON/FILL switch. Depress switch, measure between BLACK and WHITE/GREEN wire. If 120V, replace switch.

Problem: Machine fills continuously, only when the power is on.

1. Faulty fill microswitch. Repair/replace switch.
2. Cam timer stalled in fill position. If cam timer is not rotating, check the voltage to the timer motor. If 120V when door is closed, replace the timer motor.
3. Shorted OFF/ON/FILL switch. Check voltage between BLACK and WHITE/GREEN connections of the switch in the "ON" position. If you do not read 120V, replace switch.

Problem: Wash motor does not run, other functions work, motor runs only when the wash relay is manually pushed down.

1. Loose wire connection to microswitch, relay, or contactor. Tighten wires.
2. Faulty wash cam microswitch. During wash cycle, check voltage between ORANGE and BLACK/ ORANGE wires on the microswitch. If 120V, replace the switch.
3. Faulty delime switch. During wash cycle, check the voltage between the two BLACK/ORANGE wires (not jumpers). If 120V, replace the delime switch.

Problem: Wash motor does not run, other functions work, motor runs only when the wash relay is manually pushed down.

1. Faulty control relay. Check the voltage across relay contacts #7 & #4. If 120V during the wash cycle, replace the relay.
2. Faulty wash relay. Check voltage at relay coil between ORANGE/BLACK and WHITE wires. If you read 120V, coil is faulty. Replace the relay.

Problem: Wash motor does not run even when the wash relay is manually depressed; other functions work.

1. Loose wire connections to motor, delime switch, or from contactors. Tighten wires.
2. Mechanical binding in pump. If motor has correct incoming voltage, and its overload is tripping, repair or replace the pump.
3. Mechanical binding in pump. 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.
4. Faulty wash motor. If the motor has the correct incoming voltage and the pump is okay, replace the motor.
5. Faulty wash relay. With the wash relay pushed in, check the voltage between T1 and L1 of the relay. If 120V, replace the relays.
6. High or low voltage problem. Check voltage at motor and at power terminal block. Compare to electrical specifications.

Problem: Wash motor runs continuously.

1. The NORMAL/DELIME switch is in the Delime position. Place the switch in the Normal position.
2. Wash relay contacts are welded closed. Turn machine off. If wash relay doesn't release, replace contactor.
3. Cam timer stalled in wash or rinse cycle. 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.
4. Wash motor microswitch faulty. Tighten connections, make sure switch makes contact, replace if necessary.

Problem: Machine will not hold water.

1. Faulty drain ball. Replace drain ball.
2. Obstructed drain hole. Clear obstruction.
3. Drain linkage is binding. Repair drain mechanism parts.

SECTION 4: TROUBLESHOOTING

COMMON PROBLEMS (DOMESTIC UNITS)

Problem: Machine runs with door open.

1. Door switch shorted. 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.
2. Faulty wash relay (wash relay contacts welded closed). Turn machine off, if wash relay doesn't release, replace contactor.
3. Faulty control relay. With power off, remove WHITE/RED & BLACK/YELLOW wires from control relay terminals #9 & #6. If there is continuity, replace relay.

Problem: Low pumped water pressure.

1. Water level is too low. Increase fill time on cam timer, or decrease drain timer, or increase incoming water pressure.
2. Sump strainer clogged. Clean strainer.
3. Wash arms clogged. Clean arms and jets.
4. Obstruction in pump housing or wash manifold. Disassemble and clear.
5. Pump impeller worn or broken. Replace the pump impeller.

Problem: Sanitizer pump doesn't run during the cycle or through the use of the prime switch.

1. Loose motor terminal wire. Tighten connections.
2. Faulty sanitizer pump motor. If you read 120V at the sanitizer motor terminals during the sanitizer feed cycle, replace the motor.

Problem: Machine keeps tripping the service breaker.

1. Power supply shorted to ground. Check for loose wires or burned connections.
2. Faulty door switch or detergent safety switch. Check for loose or wet connections at switch and at wire connectors. Bypass switch to verify that switch is problem; replace if required.
3. Pump impeller jammed. Clear impeller.
4. Wash pump motor faulty. Check motor voltage and amp load. If amp load is over 12 amps, replace the motor.
5. Circuit breaker is too small. Replace with properly sized breaker. Refer to the data plate.

Problem: Machine will not drain.

1. Loose wire connection. Tighten wires to timer drain microswitch.
2. Drain hole/strainer obstructed. Clear obstructions.
3. Not enough time to drain. Adjust fill cam on timer and/or the drain cam.
4. Drain linkage binding. Repair drain parts.
5. Faulty drain microswitch on timer. With power off and the drain cam on the timer in the home position, remove the WHITE/YELLOW wire from the microswitch.
6. Faulty drain microswitch on timer. 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.
7. Drain solenoid defective. Check for voltage at solenoid valve during the drain cycle. Replace if voltage is present.

Problem: Sanitizer pump runs continuously.

1. Shorted sanitizer microswitch on cam timer. If there is not 120V between the ORANGE and GREY wires on the sanitization pump motor microswitch when switch is out of the home position, replace the switch.
2. Shorted prime switch. If there is not 120 volts between GREY and WHITE/RED wires to prime switch, replace the switch. Sanitizer pump does not run during the cycle, but runs when primed.
3. Loose or broken wire. Tighten connections to microswitch.
4. Faulty sanitizer microswitch on cam timer. When sanitizer cam is in home position, measure voltage between ORANGE and GREY wires on the microswitch. If 120V, replace switch.

SECTION 4: TROUBLESHOOTING

COMMON PROBLEMS (DOMESTIC UNITS)

Problem: Prime switch does not activate sanitizer pump.

1. Faulty prime switch. With the prime switch in the prime position, check for voltage between the GREY and WHITE/RED wires to switch. If 120V, replace the switch.
2. Faulty delime switch. With the delime switch in the DELIME position, check for voltage between the WHITE/BLACK and WHITE/RED wires to the delime switch. If 120V, replace the delime switch.

Problem: Detergent not feeding; rinse aid feeds okay.

1. Misadjusted cam. Adjust detergent cam on cam timer.
2. Faulty detergent microswitch on cam timer. When the detergent cam is in the home position, measure voltage between ORANGE and GREY/ WHITE wires. If 120V, replace the microswitch.

Problem: Rinse aid not feeding, detergent feeds okay.

1. Misadjusted cam. Adjust rinse aid cam on cam timer.
2. Faulty rinse aid microswitch on cam timer. When the rinse aid cam is in the home position, measure the voltage between the ORANGE and ORANGE/YELLOW wires. If 120V, replace the microswitch.

Problem: Sanitizer pump does not run during the cycle, but runs when primed.

1. Loose or broken wire. Tighten connections to microswitch.
2. Faulty sanitizer microswitch on cam timer. When sanitizer cam is in home position, measure voltage between ORANGE and GREY wires on the microswitch. If 120V, replace switch.

SECTION 4: TROUBLESHOOTING

COMMON PROBLEMS (EXPORT UNITS)



WARNING: Inspection, testing and repair of electrical equipment should be performed only by qualified service personnel. Certain procedures in this section require electrical tests or measurements while power is applied to the machine. **Exercise extreme caution at all times.** If test points are not easily accessible, disconnect power, attach test equipment and reapply power to test. When replacing electrical parts, disconnect power at source circuit breaker.

Problem: Dishmachine will not run, no voltage at wash relay terminals L1 and T1.

1. Service disconnect switch off or faulty. Turn disconnect on.
2. Branch circuit breaker tripped/fuse blown. Reset or replace.
3. Loose or broken connection to dishmachine. Tighten or replace connections.

Problem: Machine will not run in "ON" position unless cam timer is moved off the "home" position.

1. Door switch shorted out. With the door open, check for voltage between ORANGE/WHITE door switch and neutral. If 220V, replace the door switch.
2. Faulty control relay. With the door open, check for voltage between connections #9 & #3 on control relay. If 220V, replace control relay.
3. Faulty "cycle reset" microswitch in cam timer. Replace microswitch.

Problem: Machine will not cycle in "ON" position, works in Delime mode.

1. Faulty cycle reset cam microswitch. 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 220V, then the switch is open and should be replaced.
2. Faulty cam timer motor. If cam timer is not rotating, check the voltage to the motor. If voltage is present when the door is closed, replace the motor.
3. Faulty control relay. Check the voltage across contacts #9 and #6. If 220V when the door is closed, replace the relay.
4. Faulty NORMAL/DELIME switch. In the NORMAL position, check the voltage between WHITE/BLACK & WHITE/RED wires to switch. If 220V, replace the switch.

Problem: Machine will not run. Wash pump motor will run if wash relay is depressed manually (nothing else works).

1. Open door switch. With door closed, measure voltage between BLUE and WHITE/BLACK wires on terminals #6 & #9 of the relay. If 120V, replace the relay.
2. Faulty control relay. Measure between the BLACK wires on terminals #6 & #9 of the relay. If 220V, replace the relay. Measure between the WHITE/BLACK wire on terminal 4 and the ORANGE/WHITE wire on terminal 7 of the relay. If 220V, replace relay.

Problem: Machine will not run in "ON" position or in Delime mode.

1. Faulty door switch. With door closed, check for voltage between WHITE/BLACK and ORANGE/WHITE wires to the door switch. If 220V, replace open switch.
2. Faulty OFF/ON/FILL switch. With switch ON, check voltage between BLACK and WHITE/BLACK wires on switch. Replace the switch if 220V.
3. Faulty NORMAL/DELIME switch. In the NORMAL position, check the voltage between WHITE/BLACK & WHITE/RED wires to switch. If 220V, replace the switch.

Problem: Machine cycles continuously.

1. Cycle reset switch loose. Reposition switch assembly, bend metal lever if necessary.
2. Faulty cycle reset switch. Measure between BLACK/YELLOW & ORANGE wires on "cycle reset" switch while timer is rotating. As the switch lever drops into home position you should measure 220V. If not, adjust or replace the switch.

Problem: Machine fills continuously even with no power applied to machine.

1. Solenoid valve dirty or faulty. Clean valve, replace plunger and/or diaphragm.

SECTION 4: TROUBLESHOOTING

COMMON PROBLEMS (EXPORT UNITS)

Problem: Machine will not fill, other functions work.

1. Y-strainer plugged. Clean strainer.
2. Water valve(s) turned off. Turn on water valves.
3. Faulty solenoid valve diaphragm. Replace diaphragm, clean foreign material out of valve body and orifices.
4. Faulty solenoid coil. If coil has voltage but no continuity, replace coil (continuity is measured across coil connectors with wires removed).
5. Faulty fill microswitch. Will not fill during cycle only. During fill, measure between the ORANGE and WHITE/GREEN wires. If 220V, adjust or replace switch).
6. Faulty OFF/ON/FILL switch. Depress switch, measure between BLACK and WHITE/GREEN wire. If 220V, replace switch.

Problem: Machine fills continuously, only when the power is on.

1. Faulty fill microswitch. Repair/replace switch.
2. Cam timer stalled in fill position. If cam timer is not rotating, check the voltage to the timer motor. If 220V when door is closed, replace the timer motor.
3. Shorted OFF/ON/FILL switch. Check voltage between BLACK and WHITE/GREEN connections of the switch in the "ON" position. If you do not read 220V, replace switch.

Problem: Wash motor does not run, other functions work, motor runs only when the wash relay is manually pushed down.

1. Loose wire connection to microswitch, relay, or contactor. Tighten wires.
2. Faulty wash cam microswitch. During wash cycle, check voltage between ORANGE and BLACK/ORANGE wires on the microswitch. If 220V, replace the switch.
3. Faulty delime switch. During wash cycle, check the voltage between the two BLACK/ ORANGE wires (not jumpers). If 220V, replace the delime switch.

Problem: Wash motor does not run, other functions work, motor runs only when the wash relay is manually pushed down.

1. Faulty control relay. Check the voltage across relay contacts #7 & #4. If 220V during the wash cycle, replace the relay.
2. Faulty wash relay. Check voltage at relay coil between ORANGE/BLACK and WHITE wires. If you read 220V, coil is faulty. Replace the relay.

Problem: Wash motor does not run even when the wash relay is manually depressed; other functions work.

1. Loose wire connections to motor, delime switch, or from contactors. Tighten wires.
2. Mechanical binding in pump. If motor has correct incoming voltage, and its overload is tripping, repair or replace the pump.
3. Mechanical binding in pump. 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.
4. Faulty wash motor. If the motor has the correct incoming voltage and the pump is okay, replace the motor.
5. Faulty wash relay. With the wash relay pushed in, check the voltage between T1 and L1 of the relay. If 220V, replace the relays.
6. High or low voltage problem. Check voltage at motor and at power terminal block. Compare to electrical specifications.

Problem: Wash motor runs continuously.

1. The NORMAL/DELIME switch is in the Delime position. Place the switch in the Normal position.
2. Wash relay contacts are welded closed. Turn machine off. If wash relay doesn't release, replace contactor.
3. Cam timer stalled in wash or rinse cycle. 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.
4. Wash motor microswitch faulty. Tighten connections, make sure switch makes contact, replace if necessary.

Problem: Sanitizer pump doesn't run during the cycle or through the use of the prime switch.

1. Loose motor terminal wire. Tighten connections.
2. Faulty sanitizer pump motor. If you read 220V at the sanitizer motor terminals during the sanitizer feed cycle, replace the motor.

SECTION 4: TROUBLESHOOTING

COMMON PROBLEMS (EXPORT UNITS)

Problem: Machine runs with door open.

1. Door switch shorted. 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.
2. Faulty wash relay (wash relay contacts welded closed). Turn machine off, if wash relay doesn't release, replace contactor.
3. Faulty control relay. With power off, remove WHITE/RED & BLACK/YELLOW wires from control relay terminals #9 & #6. If there is continuity, replace relay.

Problem: Low pumped water pressure.

1. Water level is too low. Increase fill time on cam timer, or decrease drain timer, or increase incoming water pressure.
2. Sump strainer clogged. Clean strainer.
3. Wash arms clogged. Clean arms and jets.
4. Obstruction in pump housing or wash manifold. Disassemble and clear.
5. Pump impeller worn or broken. Replace the pump impeller.

Problem: Machine keeps tripping the service breaker.

1. Power supply shorted to ground. Check for loose wires or burned connections.
2. Faulty door switch or detergent safety switch. Check for loose or wet connections at switch and at wire connectors. Bypass switch to verify that switch is problem; replace if required.
3. Pump impeller jammed. Clear impeller.
4. Wash pump motor faulty. Check motor voltage and amp load. If amp load is over 12 amps, replace the motor.
5. Circuit breaker is too small. Replace with properly sized breaker. Refer to the data plate.

Problem: Machine will not drain.

1. Loose wire connection. Tighten wires to timer drain microswitch.
2. Drain hole/strainer obstructed. Clear obstructions.
3. Not enough time to drain. Adjust fill cam on timer and/or the drain cam.
4. Drain linkage binding. Repair drain parts.
5. Faulty drain microswitch on timer. With power off and the drain cam on the timer in the home position, remove the WHITE/YELLOW wire from the microswitch.
6. Faulty drain microswitch on timer. 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.
7. Drain solenoid defective. Check for voltage at solenoid valve during the drain cycle. Replace if voltage is present.

Problem: Machine will not hold water.

1. Faulty drain ball. Replace drain ball.
2. Obstructed drain hole. Clear obstruction.
3. Drain linkage is binding. Repair drain mechanism parts.

Problem: Sanitizer pump runs continuously.

1. Shorted sanitizer microswitch on cam timer. If there is not 120V between the ORANGE and GREY wires on the sanitization pump motor microswitch when switch is out of the home position, replace the switch.
2. Shorted prime switch. If there is not 220 volts between GREY and WHITE/RED wires to prime switch, replace the switch. Sanitizer pump does not run during the cycle, but runs when primed.
3. Loose or broken wire. Tighten connections to microswitch.
4. Faulty sanitizer microswitch on cam timer. When sanitizer cam is in home position, measure voltage between ORANGE and GREY wires on the microswitch. If 220V, replace switch.

SECTION 4: TROUBLESHOOTING

COMMON PROBLEMS (EXPORT UNITS)

Problem: Prime switch does not activate sanitizer pump.

1. Faulty prime switch. With the prime switch in the prime position, check for voltage between the GREY and WHITE/RED wires to switch. If 220V, replace the switch.
2. Faulty delime switch. With the delime switch in the DELIME position, check for voltage between the WHITE/BLACK and WHITE/RED wires to the delime switch. If 220V, replace the delime switch.

Problem: Detergent not feeding; rinse aid feeds okay.

1. Misadjusted cam. Adjust detergent cam on cam timer.
2. Faulty detergent microswitch on cam timer. When the detergent cam is in the home position, measure voltage between ORANGE and GREY/ WHITE wires. If 220V, replace the microswitch.

Problem: Rinse aid not feeding, detergent feeds okay.

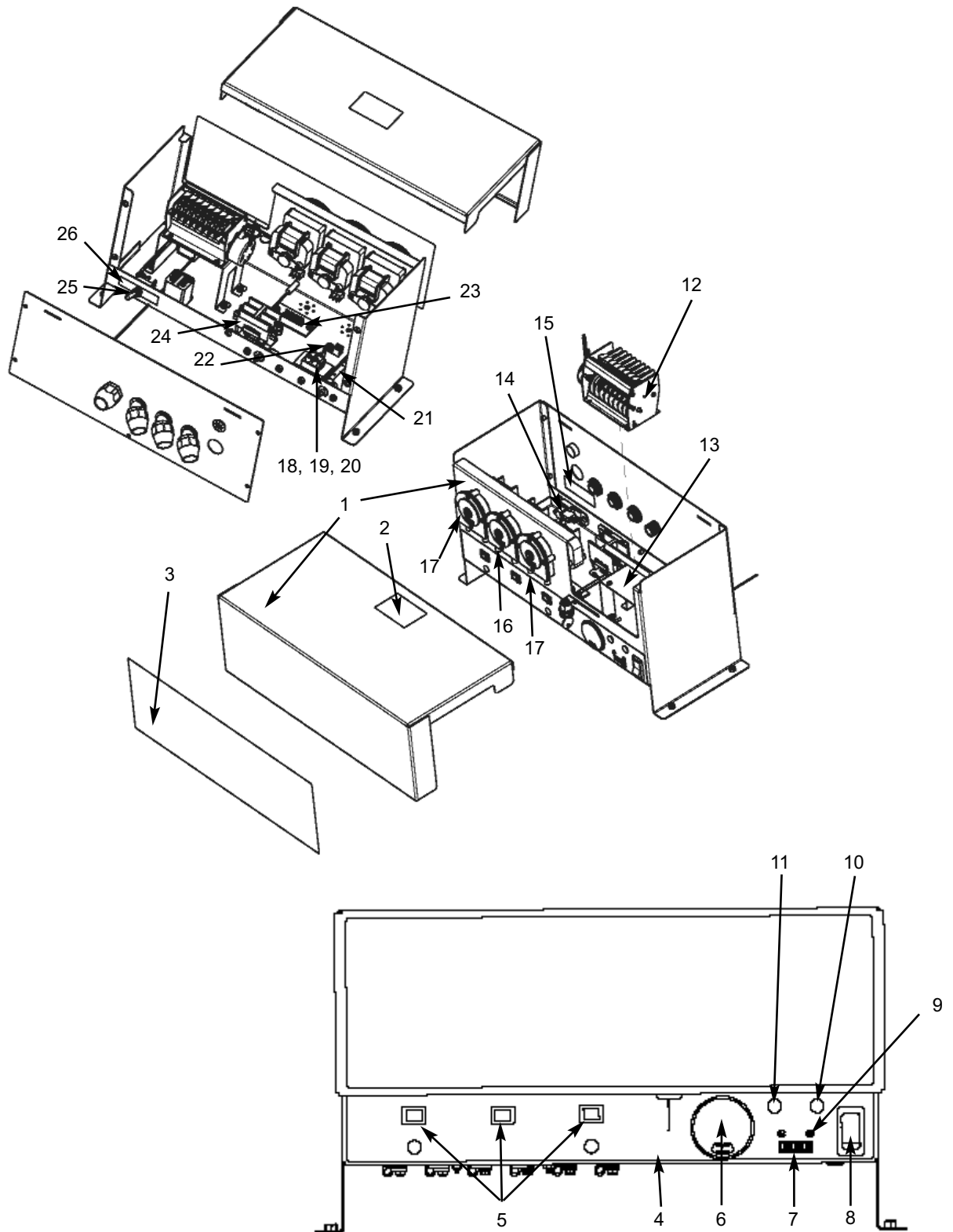
1. Misadjusted cam. Adjust rinse aid cam on cam timer.
2. Faulty rinse aid microswitch on cam timer. When the rinse aid cam is in the home position, measure the voltage between the ORANGE and ORANGE/YELLOW wires. If 220V, replace the microswitch.

Problem: Sanitizer pump does not run during the cycle, but runs when primed.

1. Loose or broken wire. Tighten connections to microswitch.
2. Faulty sanitizer microswitch on cam timer. When sanitizer cam is in home position, measure voltage between ORANGE and GREY wires on the microswitch. If 220V, replace switch.

SECTION 5: PARTS SECTION

SECTION 5: PARTS SECTION
CONTROL BOX ASSEMBLIES - MECHANICAL TIMER

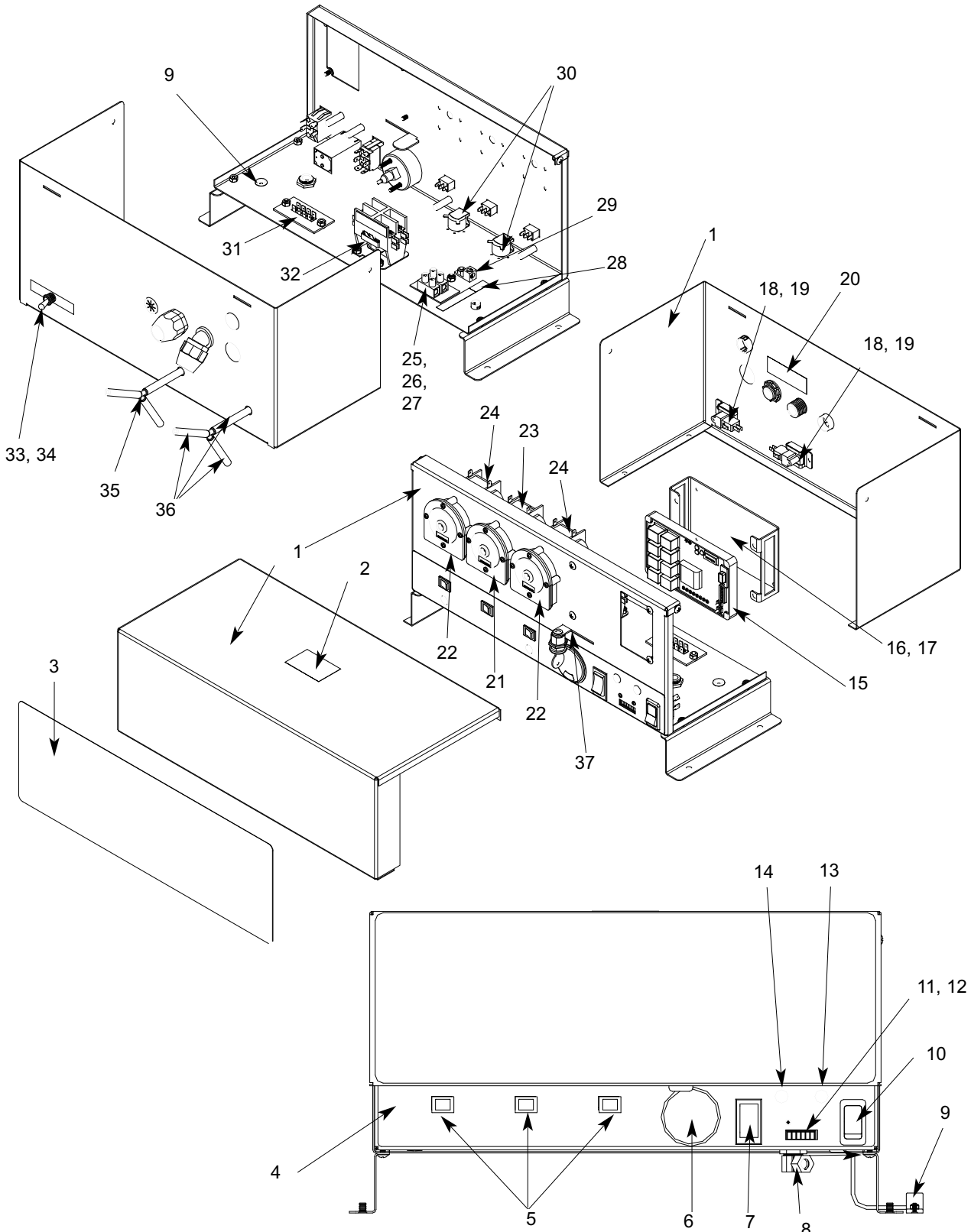


SECTION 5: PARTS SECTION

CONTROL BOX ASSEMBLIES - MECHANICAL TIMER (CONTINUED)

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Control Box Assembly	05700-003-81-49
2	1	Decal, Warning-Disconnect Power	09905-004-08-16
3	1	Decal, Control Box Upper	09905-004-27-26
4	1	Decal, Control Box Lower	09905-004-21-08
5	3	Switch, Prime	05930-011-49-54
6	1	Thermometer	06685-111-68-49
		Decal, Wash/Rinse 120F	09905-002-82-46
7	1	Cycle Counter, 115 Volt	05990-111-35-38
8	1	Switch, On/Off, DPST	05930-111-38-79
9	4	Screw, 4-40 x 1/4" Long	05305-002-32-38
10	1	Power Light, Red	05945-504-07-18
11	1	Cycle Light, Green	05945-504-08-18
12	1	Mechanical Timer	05945-111-35-32
13	1	Timer Mounting Bracket	05700-004-08-77
14	2	Switch, Pressure	06685-003-36-13
15	1	Decal, Copper Conductors	09905-011-47-35
16	1	Chemical Feeder Pump Kit Assembly, 14 RPM w/Motor	05700-003-25-03
	1	Motor Only, 14 RPM, 115 V	04320-111-35-13
17	2	Chemical Feeder Pump Kit Assembly, 36 RPM w/Motor	05700-003-25-02
	2	Motor Only, 36 RPM, 115 V	04320-111-35-14
	3	Stiffener, 17 3/8"	05700-002-66-49
	FT	Tubing, Blue, 1/4 x 120	05700-011-37-17
	FT	Tubing, Red, 1/4 x 120	05700-011-37-15
	FT	Tubing, White, 1/4 x 120	05700-011-37-13
	FT	Tubing, Blue, 1/4 x 80	05700-011-37-16
	FT	Tubing, Red, 1/4 x 80	05700-011-37-14
	FT	Tubing, White, 1/4 x 80	05700-011-37-12
18	1	Terminal Block	05940-500-09-61
19	1	Terminal Block Spacer	05700-011-40-05
20	1	Locknut, 6-32 Hex with Nylon Insert	05310-373-03-00
21	1	Decal, Power Connections	09905-011-47-64
22	1	Ground Wire Lug	05940-200-76-00
23	1	Terminal Board	05940-021-94-85
24	1	Contactactor, 115 Volt	05945-109-05-69
25	1	Switch, Delime	05930-301-21-18
26	1	Decal, Delime/Normal	09905-011-34-96

SECTION 5: PARTS SECTION
CONTROL BOX ASSEMBLIES - UNIVERSAL TIMER



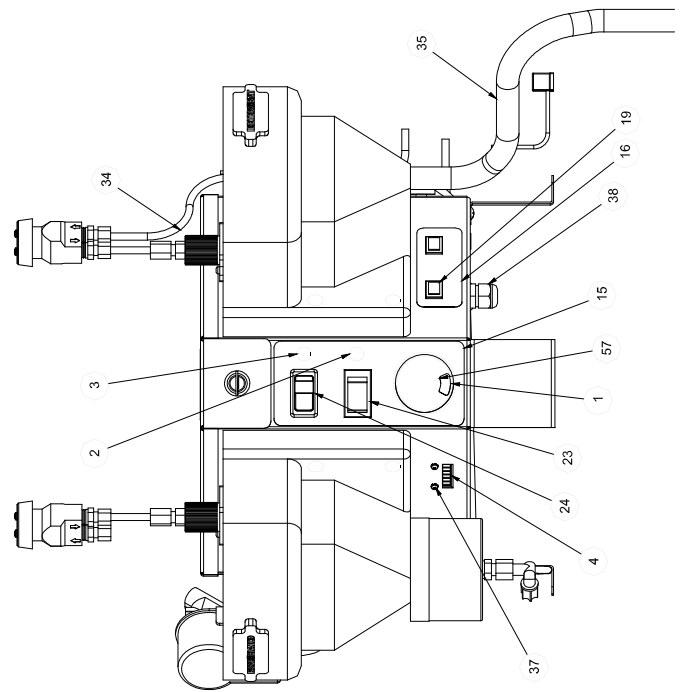
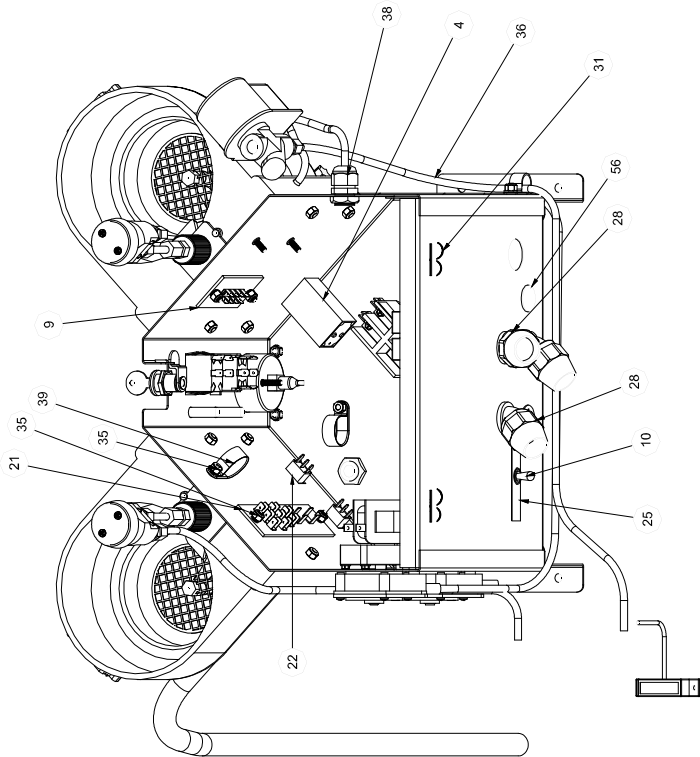
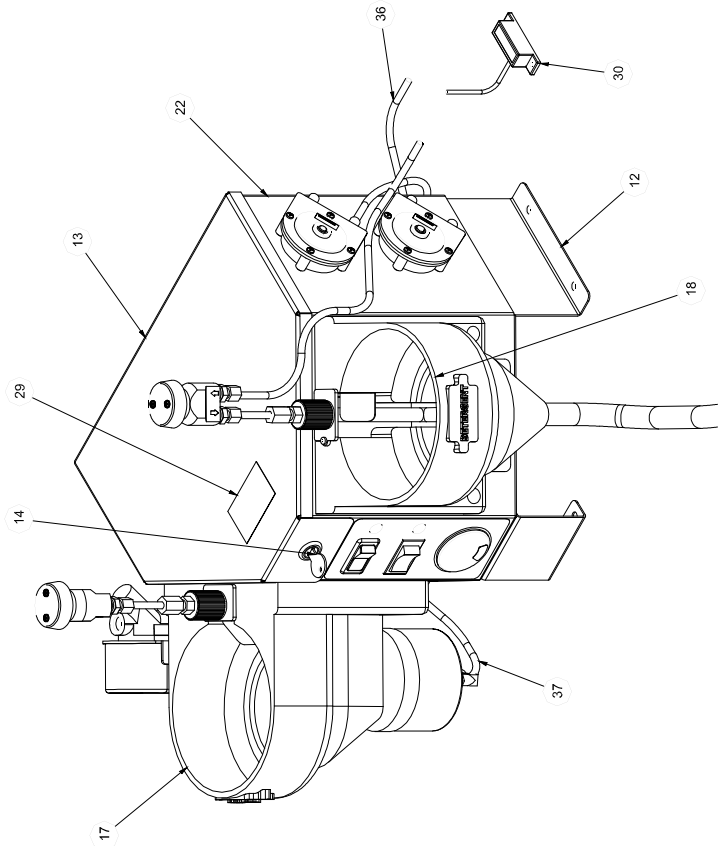
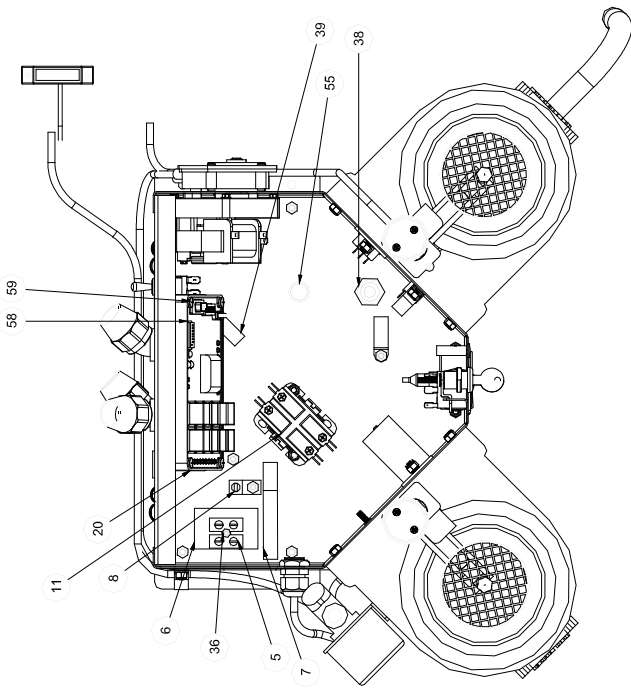
SECTION 5: PARTS SECTION

CONTROL BOX ASSEMBLIES - UNIVERSAL TIMER (CONTINUED)

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Control Box Assembly	05700-003-16-83
2	1	Decal, Warning-Disconnect Power	09905-100-75-93
3	1	Decal, Control Box Upper	09905-003-67-09
4	1	Decal, Control Box Lower	09905-003-20-07
5	3	Switch, Prime	05930-011-49-54
6	1	Thermometer	06685-111-68-49
		Decal, Wash/Rinse 120F	09905-002-82-46
7	1	Switch, DPD	05930-301-49-00
8a	1	Fitting, Brass	04730-206-23-00
8b	2	Nut, Lock	05700-000-66-01
9a	1	Switch, Reed	05930-002-36-80
9b	1	Grommet	05325-011-46-73
10	1	Switch, On/Off, DPST	05930-111-38-79
11	1	Cycle Counter, 115 Volt	05990-111-35-38
11	1	Cycle Counter, 240 Volt	05990-111-47-42
12	4	Screw, 4-40 x 1/4" Long	05305-002-32-38
13	1	Power Light, Red	05945-504-07-18
14	1	Cycle Light, Green	05945-504-08-18
15	1	Universal Timer	05945-003-33-09
16	1	Timer Mounting Bracket	05700-003-53-04
17	4	Screw, 10-32 x 3/8" Long	05305-173-12-00
18	2	Switch, Pressure	06685-003-36-13
19	2	Bracket, Switch Pressure	05700-003-53-03
20	1	Decal, Copper Conductors	09905-011-47-35
21	1	Motor Only, 14 RPM, 115 V	04320-111-35-13
21	1	Motor Only, 14 RPM, 240 V	04320-111-47-46
22	2	Motor Only, 36 RPM, 115 V	04320-111-35-14
22	2	Motor Only, 36 RPM, 240 V	04320-111-47-47
23	1	Chemical Feeder Pump Kit Assembly, 14 RPM w/Motor	05700-003-25-03
24	2	Chemical Feeder Pump Kit Assembly, 36 RPM w/Motor	05700-003-25-02
	3	Stiffener, 17 3/8"	05700-002-66-49
	FT	Tubing, Blue	04720-601-11-00
	FT	Tubing, Red	04720-601-12-00
	FT	Tubing, White	04720-601-13-00
25	1	Terminal Block	05940-500-09-61
26	1	Terminal Block Spacer	05700-011-40-05
27	1	Locknut, 6-32 Hex with Nylon Insert	05310-373-03-00
28	1	Decal, Power Connections	09905-011-47-64
29	1	Ground Wire Lug	05940-200-76-00
30	2	Buzzer, 115V(Optional)	05990-003-36-12
31	1	Terminal Board	05940-021-94-85
32	1	Contact, 115 Volt	05945-109-05-69
32	1	Contact, 240 Volt	05945-002-74-20
33	1	Switch, Delime	05930-301-21-18
34	1	Decal, Delime/Normal	09905-011-34-96
35	2	Wye, 1/4" Barbed PVDT	04730-003-36-14
36	6	Tubing, 5/16 ID	05700-003-53-26
37	1	Lock Kit	05340-102-01-00
		Locknut, 6-32 Hex with Nylon Insert	05310-373-03-00
		Locknut, 10-24 Hex with Nylon Insert	05310-373-01-00

SECTION 5: PARTS SECTION

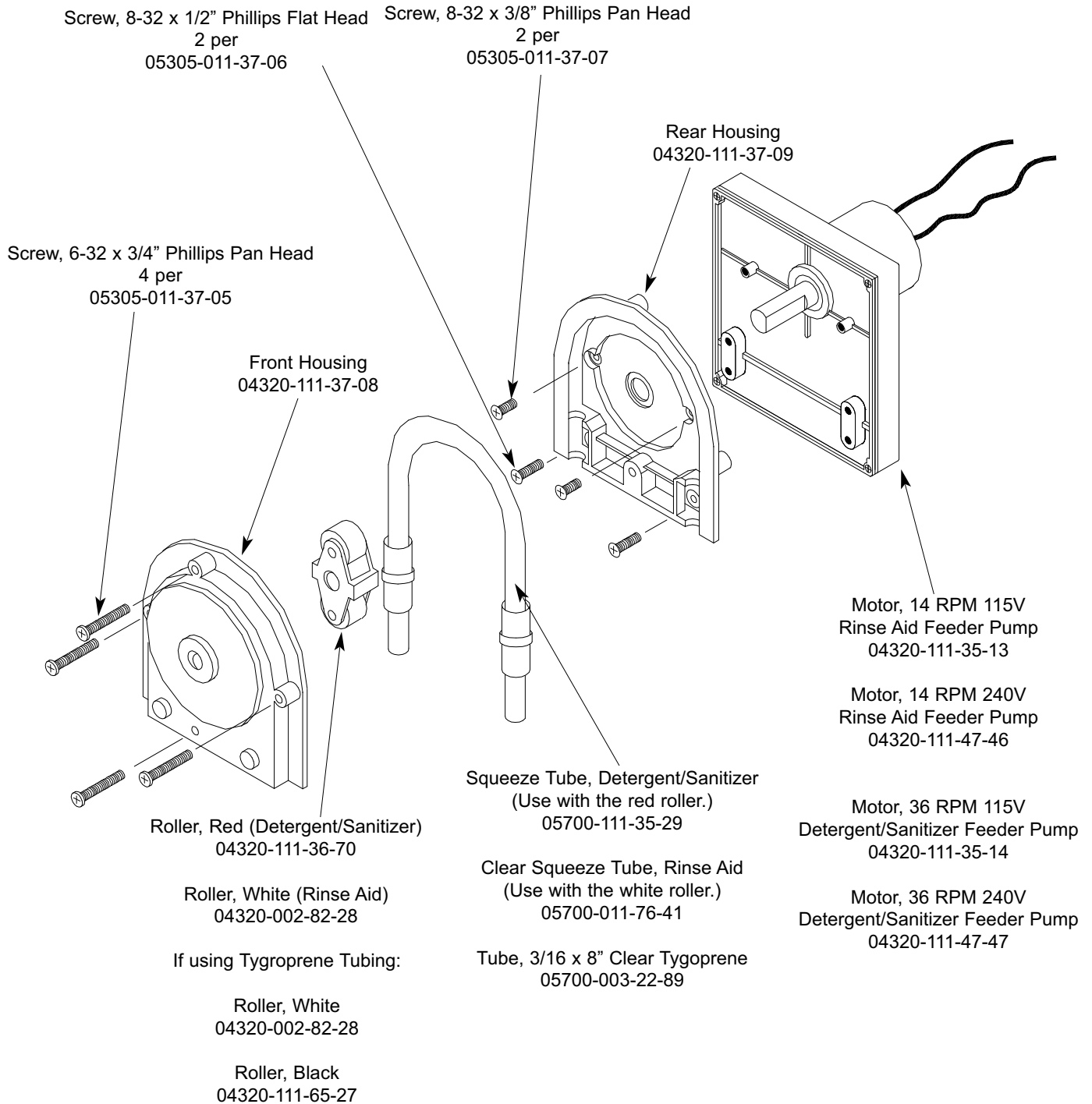
S BOWL OPTION



SECTION 5: PARTS SECTION**S BOWL OPTION**

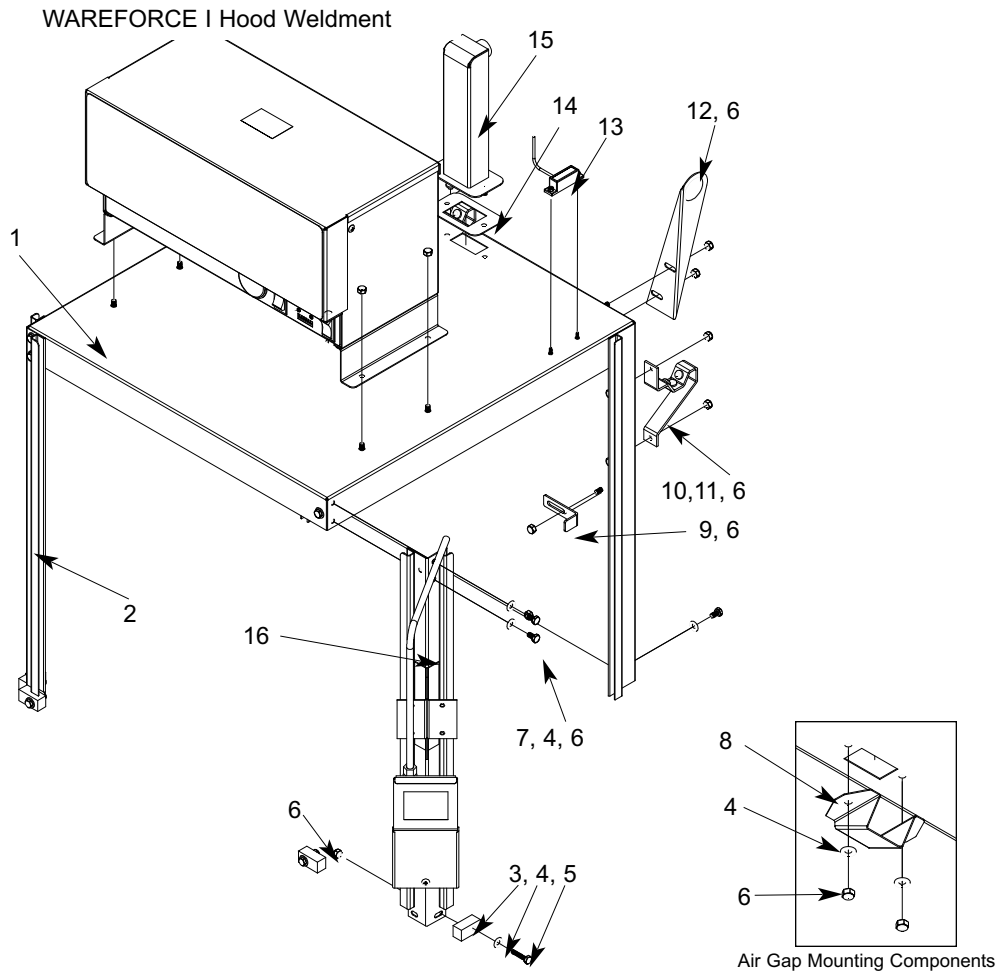
ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Thermometer	06685-111-68-49
2	1	Cycle Light, Green	05945-504-08-18
3	1	Power Light, Red	05945-504-07-18
4	1	Cycle Counter, 115 Volt	05990-111-35-38
4	1	Cycle Counter, 240 Volt	05990-111-47-42
5	1	Terminal Block	05940-500-09-61
6	1	Terminal Block Spacer	05700-011-40-05
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	Contact, 115 Volt	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 aPin, 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
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 .231x.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	Bacuum 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 Peri Pump Assembly Page	N/A
55	1	Plug, 3/4"	04730-011-60-21
56	1	Plug	05975-011-47-81
57	1	Decal, Wash/Rinse 120F	09905-002-82-46
58	1	Universal Timer	05945-003-33-09
59	4	Screw, 10-32 x01" Phillips Pan Head	05305-002-19-42

SECTION 5: PARTS SECTION
CHEMICAL FEEDER PUMP ASSEMBLY



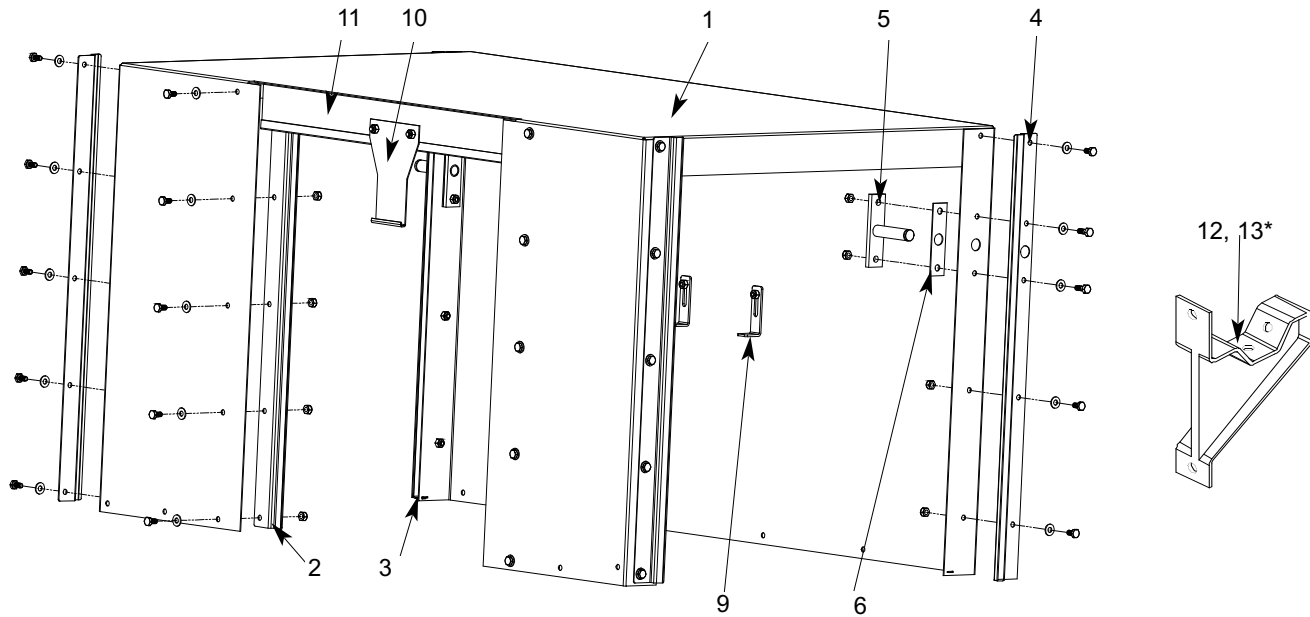
SECTION 5: PARTS SECTION

HOOD ASSEMBLY



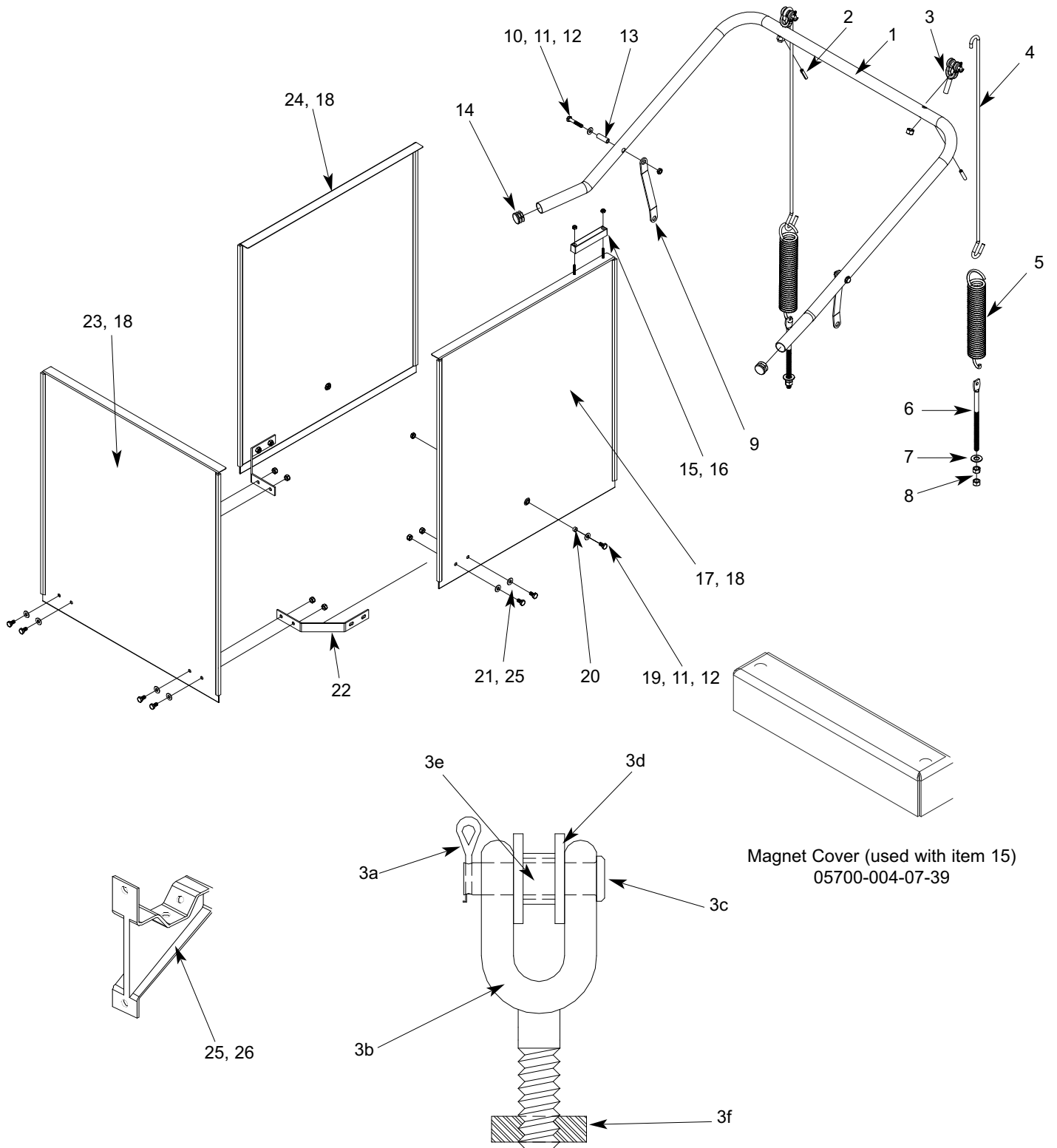
ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Hood Weldment, WAREFORCE I	05700-003-22-05
2	1	Hood Support	05700-002-78-99
3	4	Block Spacer	05700-002-81-02
4	16	Washer, 1/4" ID S/S	05311-174-01-00
5	4	Screw, 1/4"-20 x 1 1/8" Long S/S	05305-274-21-00
6	27	Locknut, 1/4"-20 S/S Hex with Nylon Insert	05310-374-01-00
7	10	Screw, 1/4"-20 x 1/2" Long S/S	05305-274-02-00
8	1	Shield, Air Gap	05700-002-13-35
9	1	Bracket, Manifold Positioning Tube	05700-011-34-63
10	2	Bracket, Cantilever Support	09515-003-15-64
11	6	Wear Button	05700-011-88-01
12	1	Bracket, Plumbing Support	05700-021-34-02
13	1	Reed Switch	05930-002-36-80
14	1	Gasket, Air Gap	05330-002-14-48
15	1	Weldment, Air Gap	05700-002-81-70
16	1	Hood Support Weldment	05700-003-22-54

SECTION 5: PARTS SECTION
WAREFORCE II HOOD ASSEMBLY



ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Hood Weldment, WAREFORCE II	05700-003-25-05
2	4	Door Guide	05700-021-44-94
3	1	Door Guide, Left Rear	05700-021-33-16
4	1	Door Guide, Right Rear	05700-021-33-15
5	2	Arm Support Weldment	05700-011-43-52
6	2	Arm Support Weldment Gasket	05700-111-36-01
7*	1	Front Door Stop (Not Shown)	05700-021-60-27
8*	1	Stiffener, Hood Support (Not Shown)	05700-002-47-39
9	2	Manifold L-Bracket	05700-011-34-63
10	1	Door Catch	05700-011-46-50
11	1	Hood Stiffener	05700-002-08-24
12*	2	Bracket, Cantilever Support	09515-003-15-64
13*	6	Wear Button	05700-011-88-01
14	1	Door Guide, Left Rear, New Style	05700-021-84-71
15	1	Door Guide, Right Rear, New Style	05700-021-84-70

SECTION 5: PARTS SECTION
CANTILEVER ARM (DOUBLE BRACKET MOUNT)



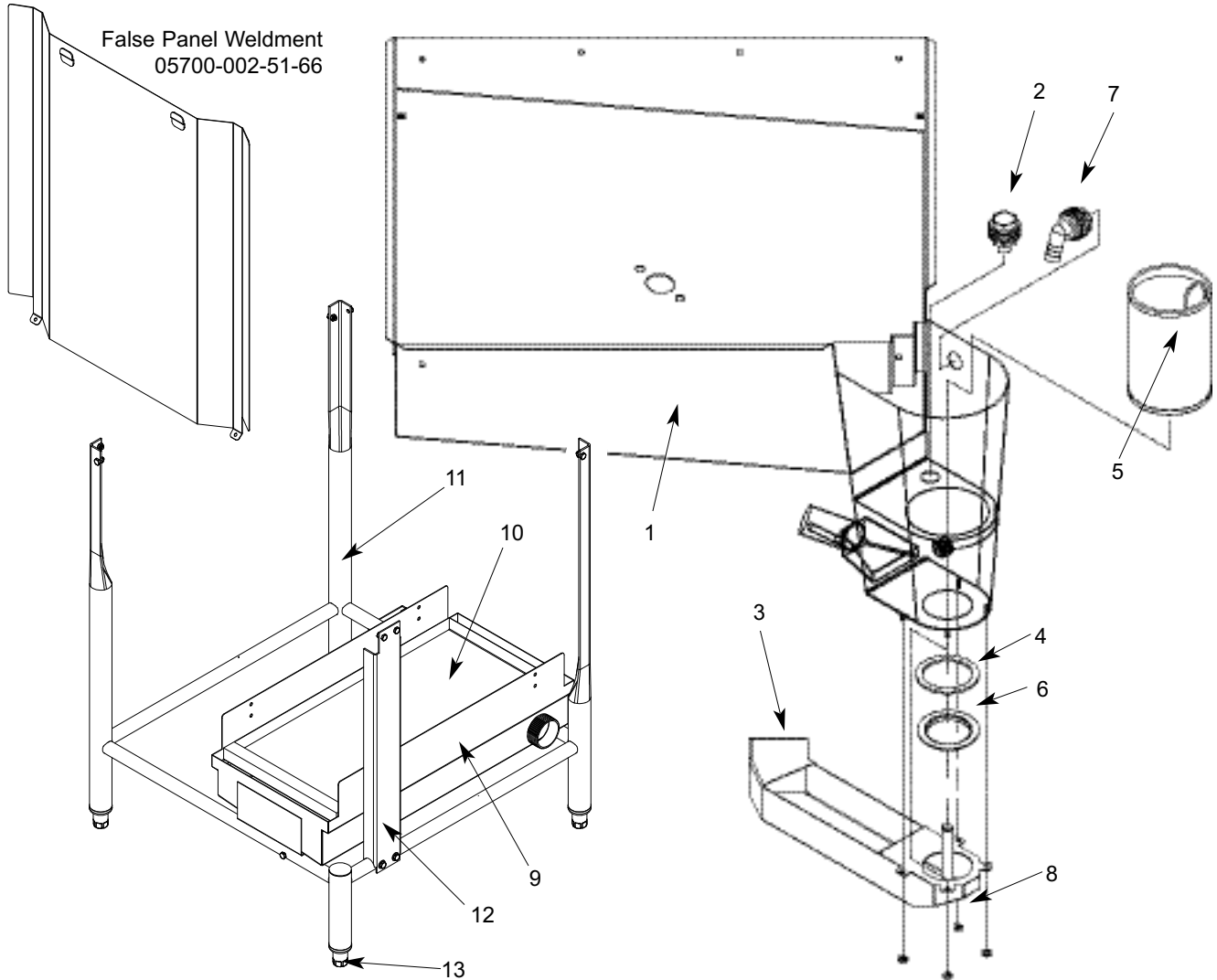
SECTION 5: PARTS SECTION
CANTILEVER ARM (DOUBLE BRACKET MOUNT) (CONTINUED)

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Arm, Cantilever, WAREFORCE I	05700-003-52-91
1*	1	Arm, Cantilever, WAREFORCE II	05700-002-60-65
2	1	Spring Pin, 1/4" Dia. x 1 1/8" Long	05315-407-06-00
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, 5/16" x 1 3/8"	05315-700-01-00
3d	2	Nylon Washer	05311-369-03-00
3e	1	Bushing	03120-100-03-00
3f	2	Locknut, 3/8"-16 S/S Hex Center	05310-256-04-00
4	2	Rod, Spring, WAREFORCE I	05700-002-10-52
4	2	Rod, Spring, WAREFORCE II	05700-002-29-38
5	2	Spring, WAREFORCE I	05340-109-02-00
5	2	Spring, WAREFORCE II	05340-109-02-00
6	2	Bolt, Hanger Eye 3/8"-16	05306-956-05-00
7	2	Washer, Impeller 3/8" I.D. x 7/8" O.D.	05311-176-02-00
8	4	Nut, 3/8"-16 S/S Hex	05310-276-01-00
9	2	Cantilever Arm Connector	05700-011-90-99
10	2	Screw, 1/4"-20 x 1 1/2" Long S/S	05305-274-23-00
11	2	Washer, 1/4" ID S/S	05311-174-01-00
12	2	Locknut, 1/4"-20 S/S Hex with Nylon Insert, Low Profile	05310-374-02-00
13	2	Sleeve, Cantilever Arm	05700-000-85-69
14	2	Plug, Cantilever Arm	05340-011-35-00
15	1	Magnet, Reed Switch	05930-111-51-68
		Magnet Cover	05700-004-07-39
16	2	Locknut, 8-32 S/S Hex with Nylon Insert	05310-272-02-00
17	1	Right Door Weldment Assembly, WAREFORCE I	05700-002-30-88
	1	Right Door Weldment with Studs, WAREFORCE I	05700-002-29-85
17a*	1	Right Door Assembly, WAREFORCE II	05700-003-02-97
	1	Right Door Only, WAREFORCE II	05700-003-02-71
18	6	Door, Guides	05700-111-33-59
19	2	Screw, 1/4"-20 x 1/2" Long S/S	05305-274-02-00
20	2	Spacer, PB Bolt	05700-000-29-40
21	4	Locknut, 1/4"-20 S/S Hex with Nylon Insert	05310-374-01-00
22	2	Door Connector Bracket, WAREFORCE I Only	05700-021-33-39
22*	4	Door Stop, WAREFORCE II Only	05700-011-46-30
23	1	Front Door Assembly, WAREFORCE I	05700-002-30-89
	1	Front Door Only, WAREFORCE I	05700-002-29-83
23a*	1	Front Door Weldment Assembly, WAREFORCE II	05700-003-02-96
	1	Front Door Weldment with Studs, WAREFORCE II	05700-003-03-41
24	1	Left Side Door Assembly, WAREFORCE I	05700-002-30-87
	1	Left Side Door Only, WAREFORCE I	05700-002-29-86
24a*	1	Left Side Door Weldment Assembly, WAREFORCE II	05700-003-02-99
	1	Left Side Door Weldment Only, WAREFORCE II	05700-003-02-98
25	2	Bracket, Cantilever Arm Support	09515-003-15-64
26*	6	Wear Button, 1/2" Dia. UHMW	05700-011-88-01

* Represents an item not shown.

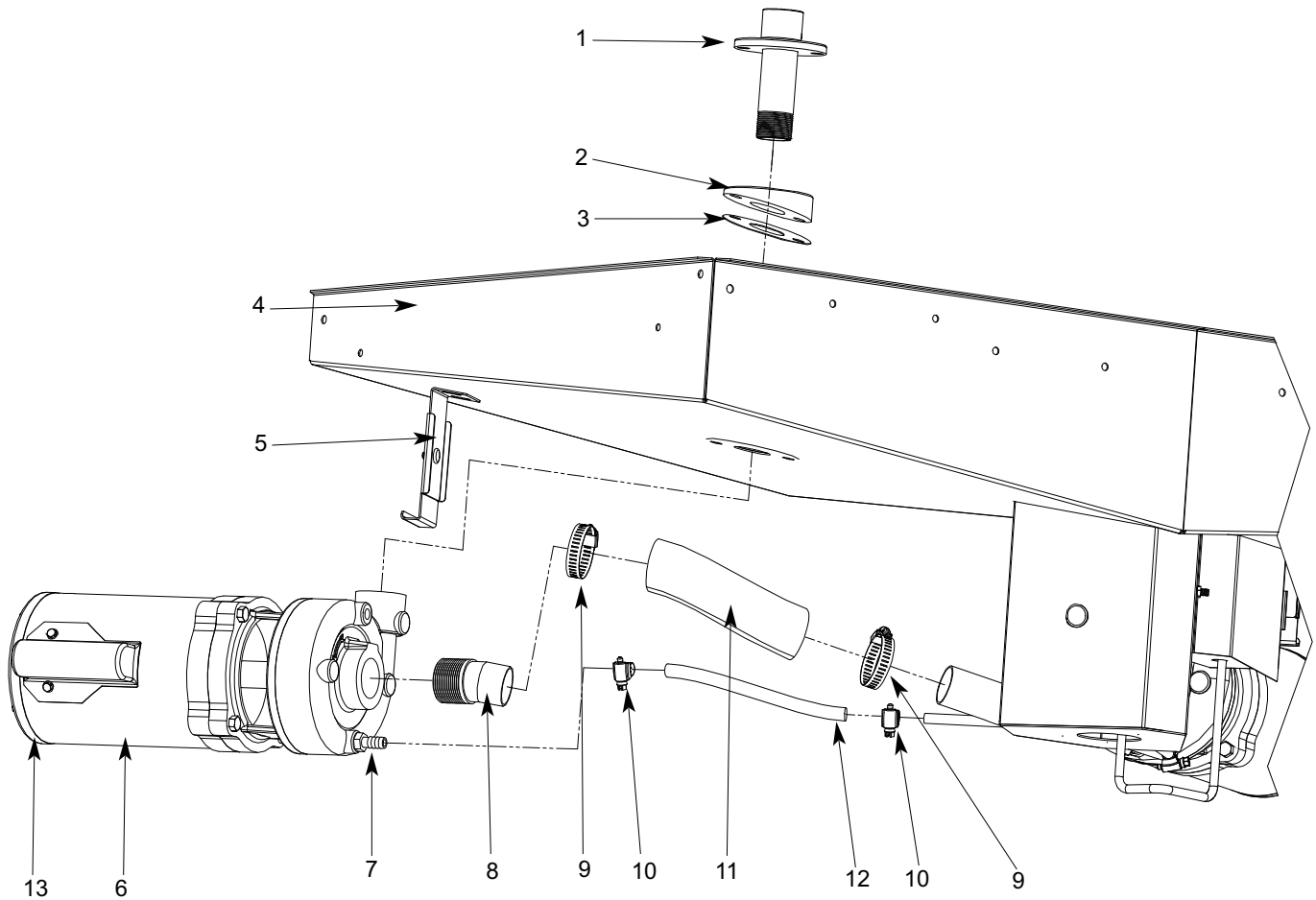
SECTION 5: PARTS SECTION

WAREFORCE I WASH TUB & FRAME ASSEMBLY (Starting with S/N 04D10286)



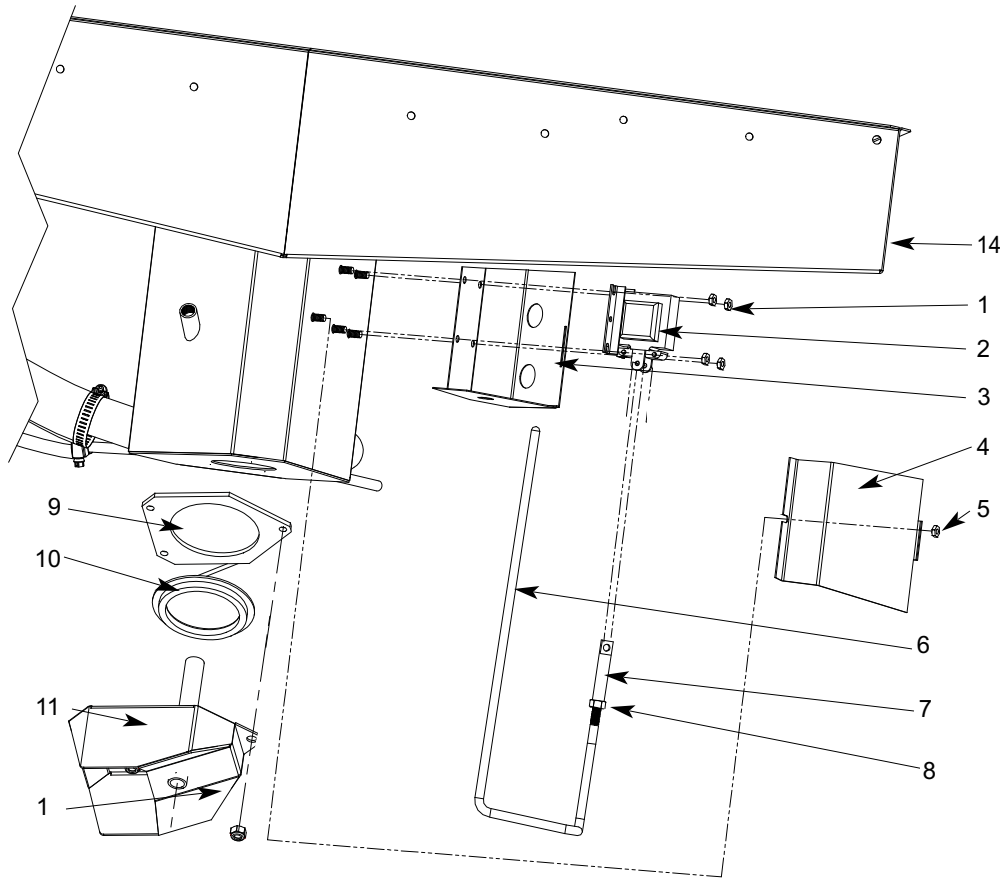
ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Tub Weldment, WAREFORCE I	05700-002-78-30
2	1	Fitting, Chemical Drip	05700-002-05-62
3	1	Spillway Weldment	05700-002-04-41
3	1	Cover, Drain Chute	05700-002-35-53
4	1	Drain Seat Gasket	05700-002-04-42
5	1	Sump Strainer	05700-021-34-38
6	1	Drain Seat Insert	05700-021-34-38
7	1	Bulkhead to 1/2" Hosebarb Fitting	04730-011-45-21
8	4	Locknut, 10-24, with Nylon Insert	05310-373-01-00
9	1	Accumulator Weldment	05700-002-19-05
10	1	Strainer, Accumulator Weldment	05700-031-33-13
11	1	Frame Weldment	05700-002-29-15
12	1	Leg, Tub Support	05700-002-89-32
13	4	Bullet Feet	05340-108-01-03

SECTION 5: PARTS SECTION
WAREFORCE II TUB ASSEMBLY (LEFT FRONT VIEW)



ITEM	QTY	DESCRIPTION	Mfg. No.
1	2	Lower Wash Manifold Weldment	05700-031-46-00
2	2	Casting, Manifold Wedge	09515-011-46-61
3	4	Manifold Gasket	05700-111-35-03
4	1	Wash Tub Weldment	05700-002-21-50
5	2	Wash Motor Support Assembly	05700-021-66-48
	1	Bracket, Pump Support Weldment	05700-021-66-47
	1	Bracket, Lower Pump Support	05700-021-66-46
	1	Nut, 1/4"-20 Serrated Nut	05310-011-66-49
6	2	Wash Motor 60 Cycle	06105-002-69-78
7	1	Fitting, Brass Elbow	04730-002-18-96
8	2	Pump Inlet Nipple	05700-021-46-84
9	4	Hose Clamp, Regular, 1 5/16" - 2 1/4"	04730-719-01-37
10	4	Hose Clamp, Mini, 7/16" - 25/32"	04730-011-36-05
11	2	Hose, 1 1/2" ID x 7 3/4" Long	05700-111-33-52
12	2	Hose, 3/8" ID x 12" Long	05700-002-69-73
13	2	Hose Clamp, Regular, 5 5/8" - 6"	04730-011-34-90

SECTION 5: PARTS SECTION
WAREFORCE II SERIES TUB ASSEMBLY (RIGHT FRONT VIEW)

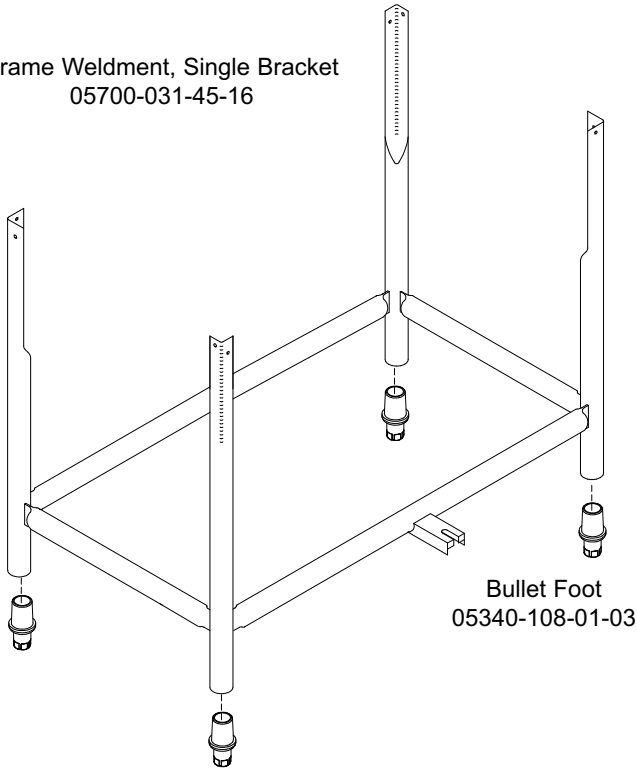


* Represents an item not shown.

ITEM	QTY	DESCRIPTION	Mfg. No.
1	7	Locknut, 10-24 S/S Hex with Nylon Insert	05310-373-01-00
2	1	Drain Solenoid, 115V	04810-200-11-00
2	1	Drain Solenoid, 240V	04810-111-87-74
3	1	Drain Solenoid Box	05700-021-37-53
4	1	Drain Solenoid Box Cover	05700-031-33-27
5	1	Locknut, 1/4"-20 S/S Hex with Nylon Insert	05310-374-01-00
6	1	Drain Link Assembly	05700-002-38-21
6	1	Drain Link	05700-031-46-52
7	1	Drain Link Connector	05700-002-38-10
8	1	Hex Nut, 5/16"-18	05310-275-01-00
9	1	Spillway Gasket	05700-111-34-52
10	1	Drain Seat Insert (Stainless Ring)	05700-021-34-38
11	1	Spillway Weldment	05700-031-37-86
12*	1	Cotter Pin, 1/8" x 1"	05315-002-15-39
13*	1	Solenoid Stop	05700-000-66-40
14	1	Hole Plug	04730-011-60-21

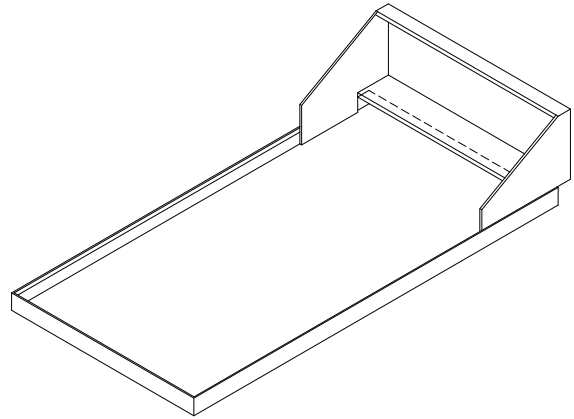
SECTION 5: PARTS SECTION
WAREFORCE II SERIES FRAME WELDMENT & ACCUMULATOR

Frame Weldment, Single Bracket
05700-031-45-16

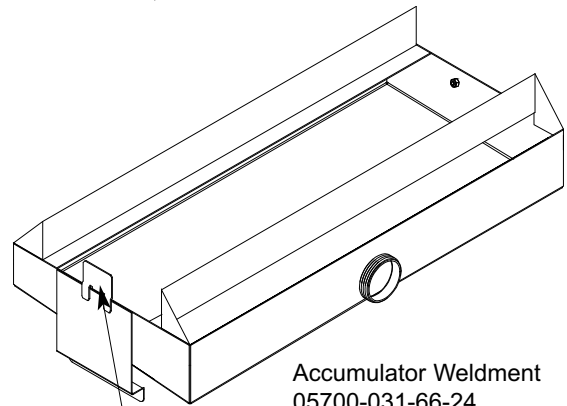
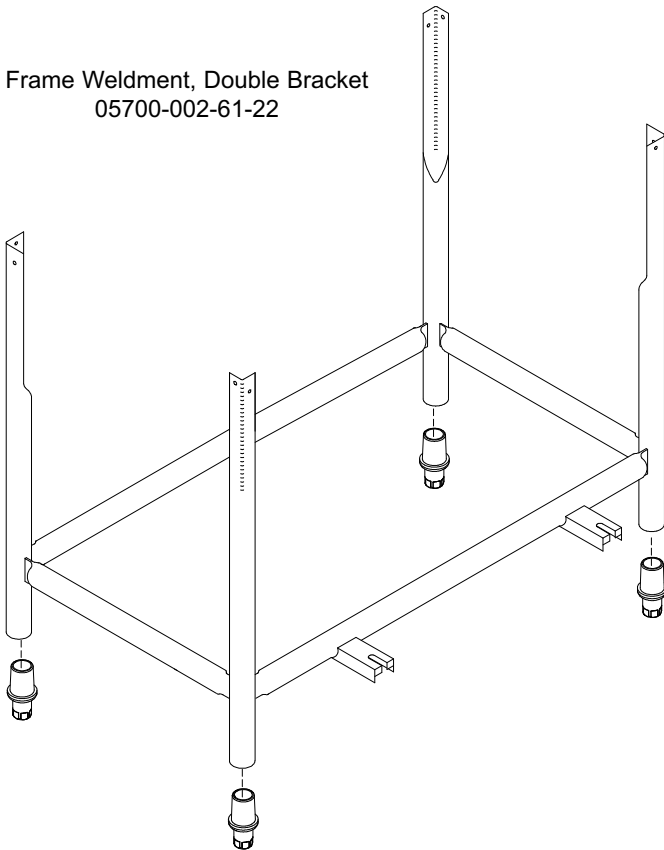


Bullet Foot
05340-108-01-03

Accumulator Strainer
05700-021-47-17



Frame Weldment, Double Bracket
05700-002-61-22



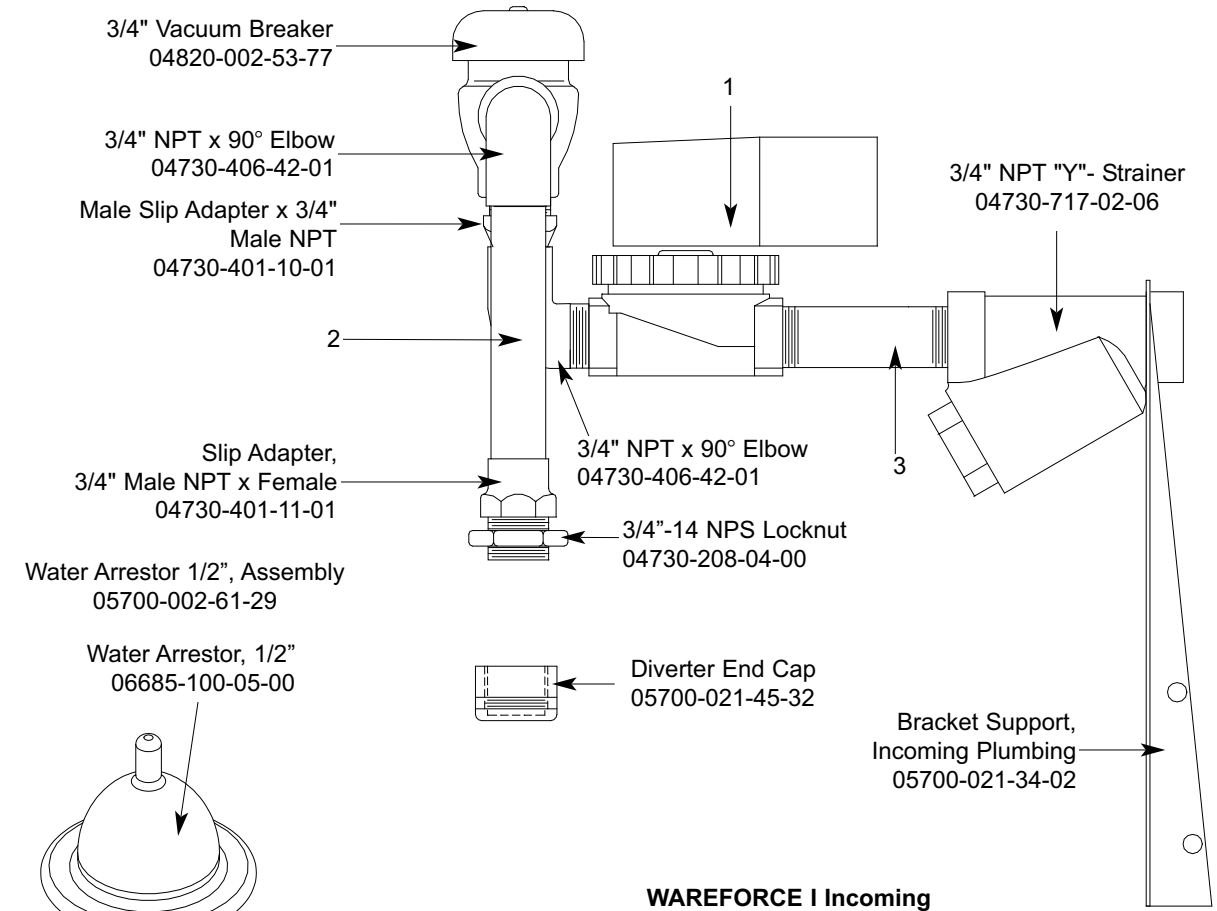
Accumulator Weldment
05700-031-66-24

Accumulator Stop Clip
05700-011-49-11

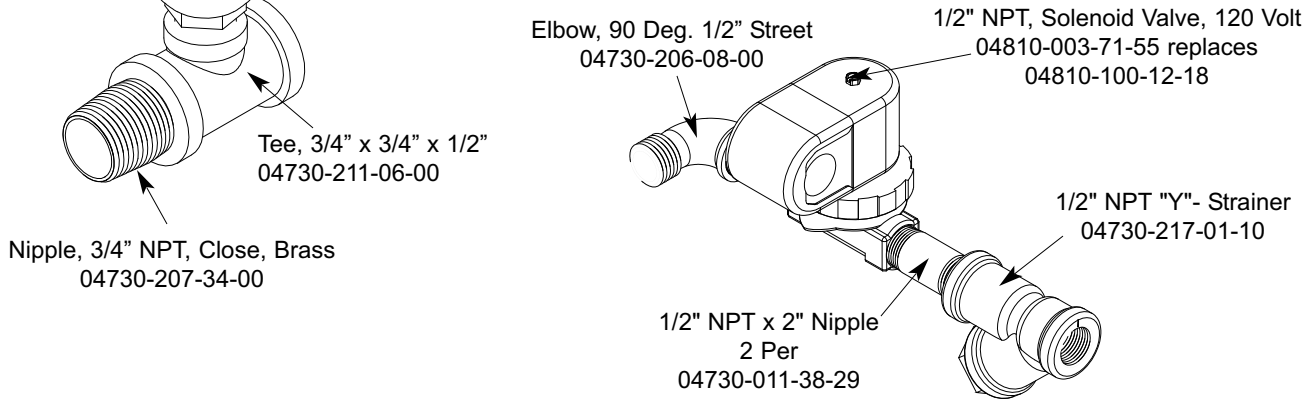
Locknut, 10-24 S/S
with Nylon Insert
05310-373-01-00

SECTION 5: PARTS SECTION

INCOMING PLUMBING ASSEMBLIES



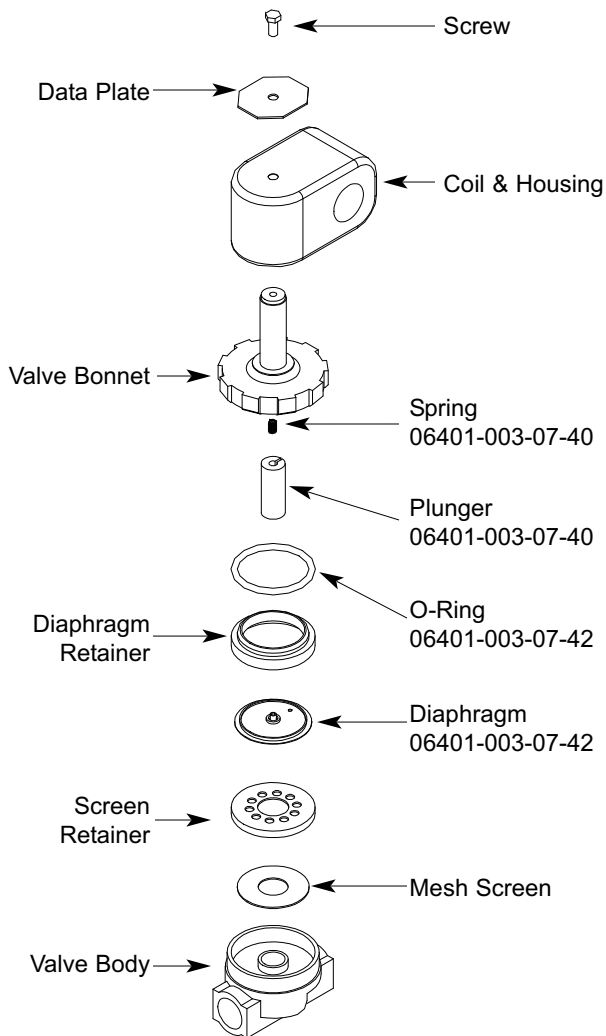
WAREFORCE I Incoming Plumbing Assembly



ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	3/4" NPT, Solenoid Valve, 120 Volt	04810-100-53-00
1	1	3/4" NPT, Solenoid Valve, 240 Volt (WAREFORCE I Export Only)	04810-100-03-18
2	1	3/4" x 6" Copper Tube, WAREFORCE I	05700-011-37-55
2	1	3/4" x 6" Copper Tube, WAREFORCE II	05700-011-37-55
3	1	3/4" NPT x 3" Nipple, WAREFORCE I	04730-011-38-29
3	1	3/4" NPT x 3" Nipple, WAREFORCE II	04730-011-38-29

SECTION 5: PARTS SECTION

3/4" SOLENOID VALVE & 3/4" NPT VACUUM BREAKER REPAIR PARTS KITS



Complete 110 Volt Solenoid Valve Assembly

04810-100-53-00

Coil & Housing only

04810-200-01-18

Complete 240 Volt Solenoid Valve Assembly

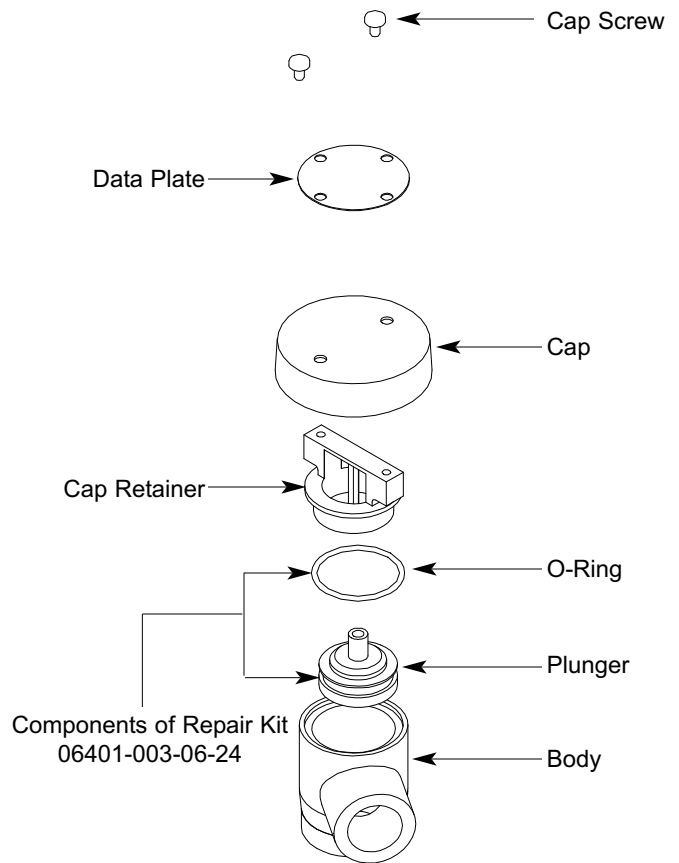
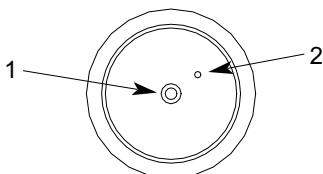
04810-100-03-18

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.



Complete Vacuum Breaker Assembly

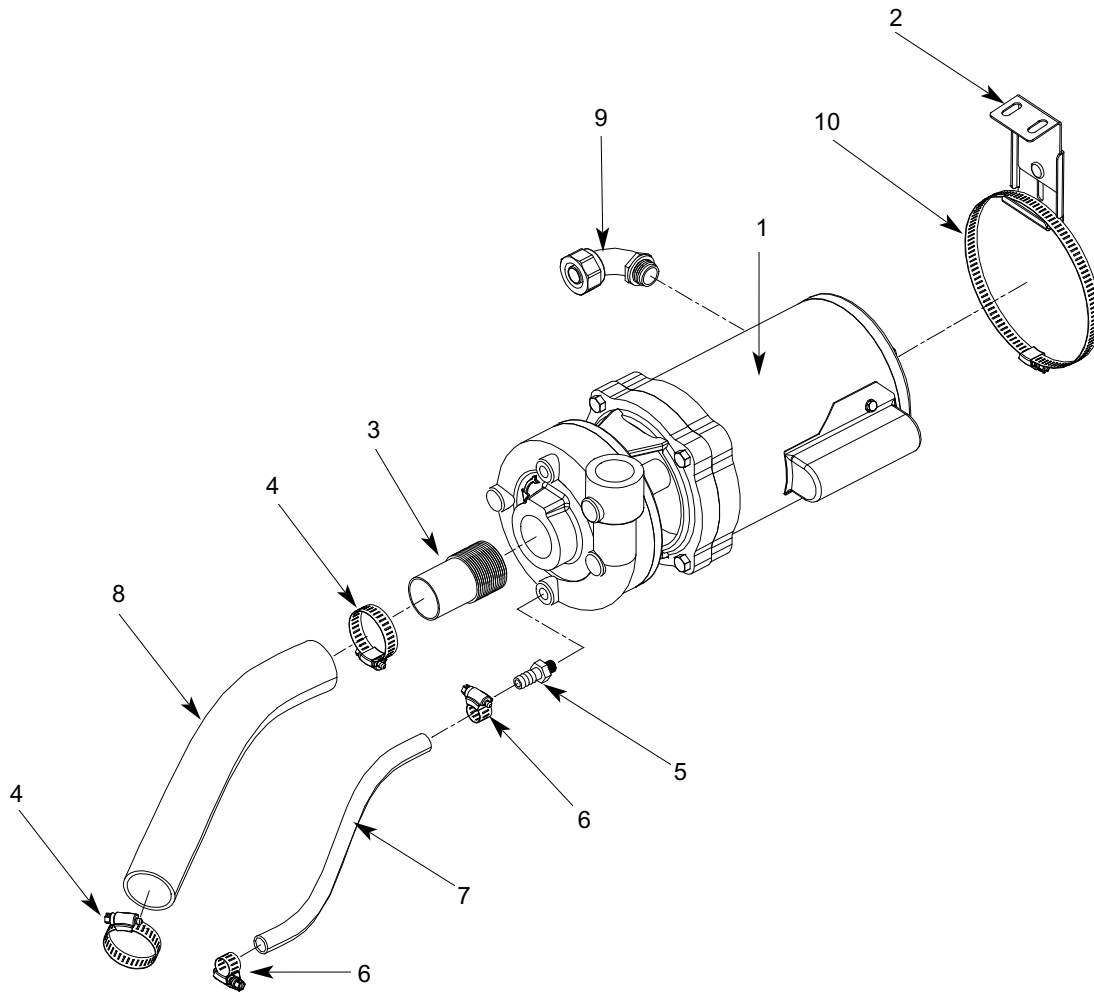
04820-002-53-77

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. 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.

SECTION 5: PARTS SECTION
WAREFORCE I WASH MOTOR ASSEMBLY



ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Pump & Motor Assembly, 50 HZ	06105-002-19-87
	1	Pump Assembly, 50 HZ	05700-002-85-38
	1	Motor Assembly, 50 HZ	06105-002-85-36
1	1	Pump & Motor Assembly, 60 HZ	06105-002-69-78
	1	Pump Assembly, 60 HZ	05700-002-79-51
	1	Motor Assembly, 60 HZ	06105-002-79-61
2	1	Pump Support Assembly	05700-002-05-88
3	1	Nipple, Pump Outlet	05700-021-33-50
4	2	Clamp, 1 5/16" to 2 1/4"	04730-719-01-37
5	1	Fitting, Brass Elbow	04730-002-18-96
6	2	Clamp, 7/16" to 25/32"	04730-011-36-05
7	1	Hose, 3/8" ID x 12" Long (115 Volt Machine)	05700-002-69-73
7	1	Hose, 3/8" ID x 14" Long (240 Volt Machine)	05700-002-04-40
8	1	Hose, 1 1/2" ID x 7 3/4" Long	05700-111-33-52
9	1	Connector, Liquidtite, 90°	05975-111-01-00
10	1	Clamp, 5 5/8" to 6"	04730-011-34-90
11	2	Locknut, 1/4"-20, with Nylon Insert, S/S	05310-374-01-00

SECTION 5: PARTS SECTION

MOTOR & PUMP ASSEMBLY

Complete Pump & Motor Assembly, 60HZ
06105-002-69-78

Complete Pump & Motor Assembly, 50HZ
06105-002-19-87

Motor Only, 60HZ
06105-002-79-61

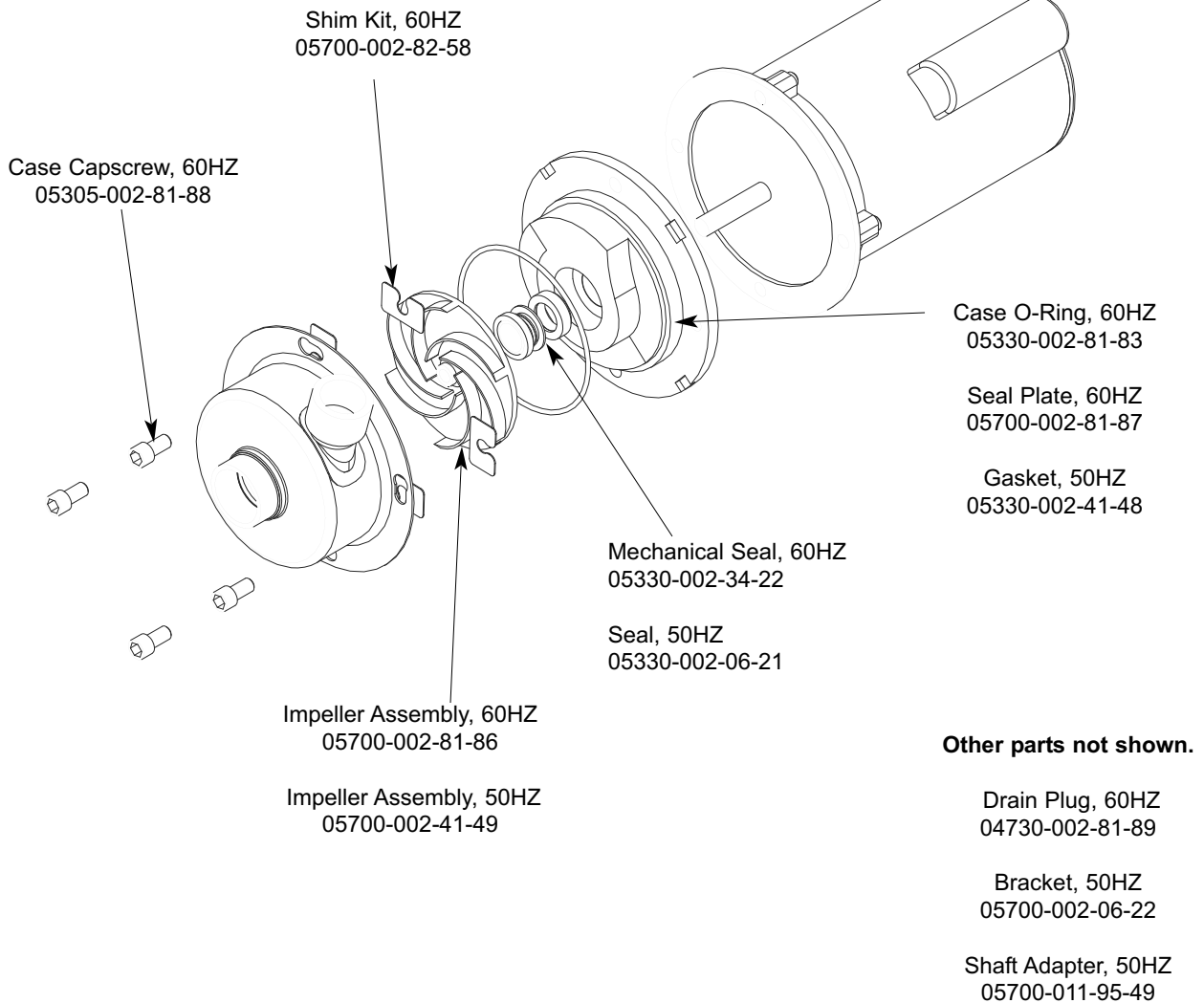
Pump Only Assembly, 60HZ
(Area indicated within box, Casing is included)
05700-002-79-51

Pump Only Assembly, 50HZ
(Area indicated within box, Casing is included)
05700-002-85-38

Motor Only, 50HZ
06105-002-85-36

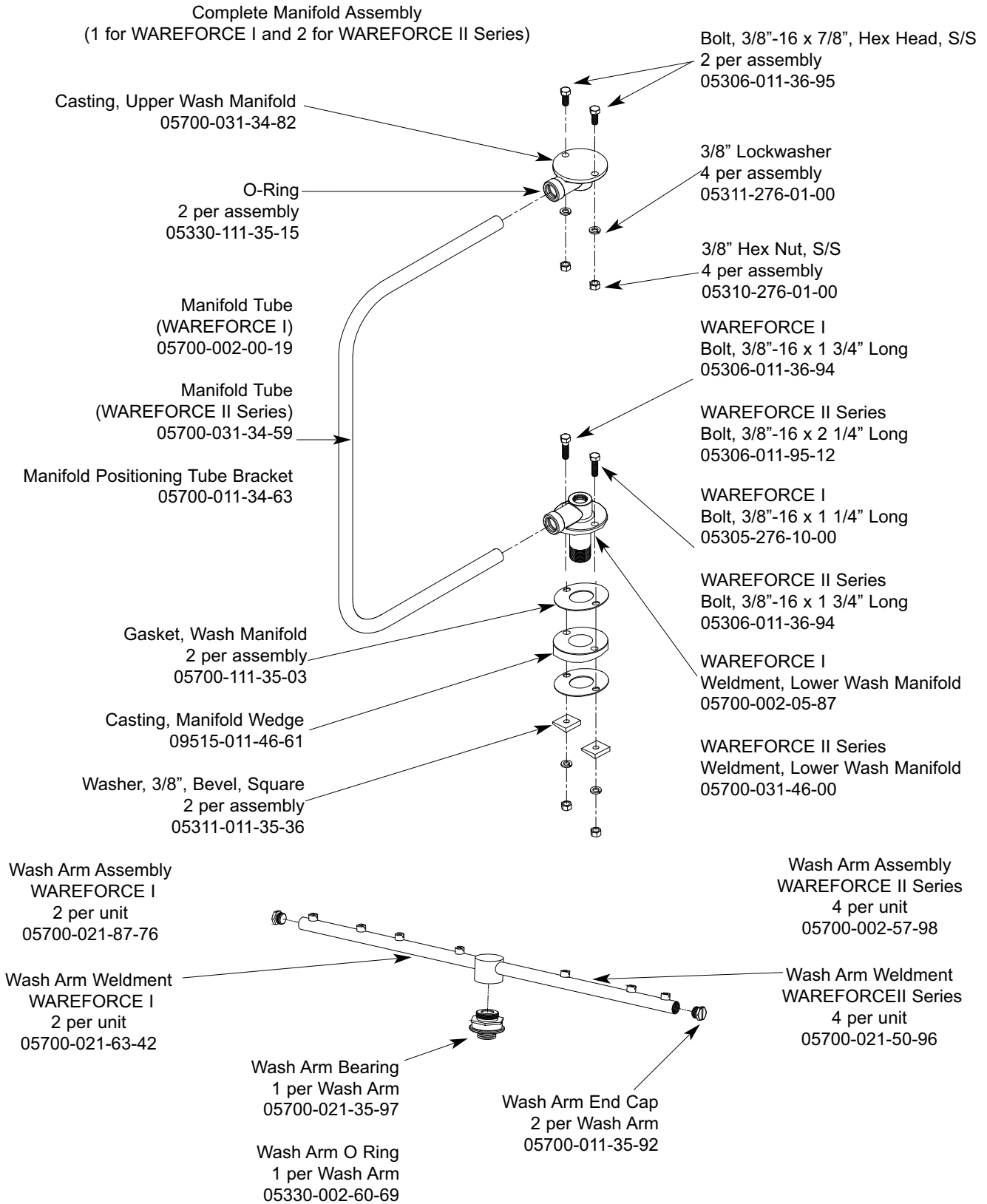
Pump Casing (Not shown), 60HZ
05700-002-85-01

Pump Casing (Not shown), 50HZ
05700-002-41-50



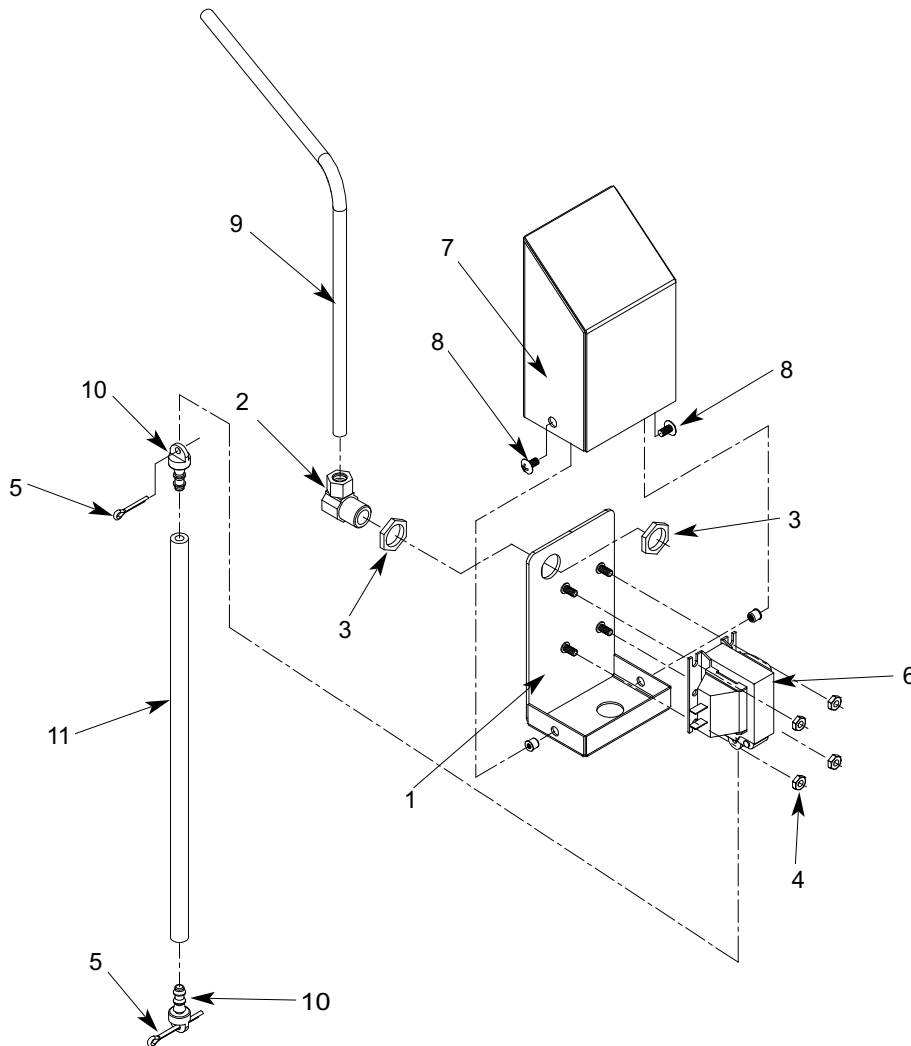
SECTION 5: PARTS SECTION

WASH MANIFOLD ASSEMBLY



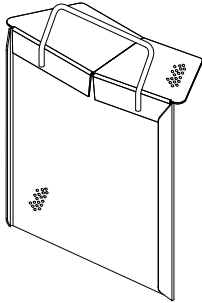
SECTION 5: PARTS SECTION

DRAIN SOLENOID ASSEMBLY

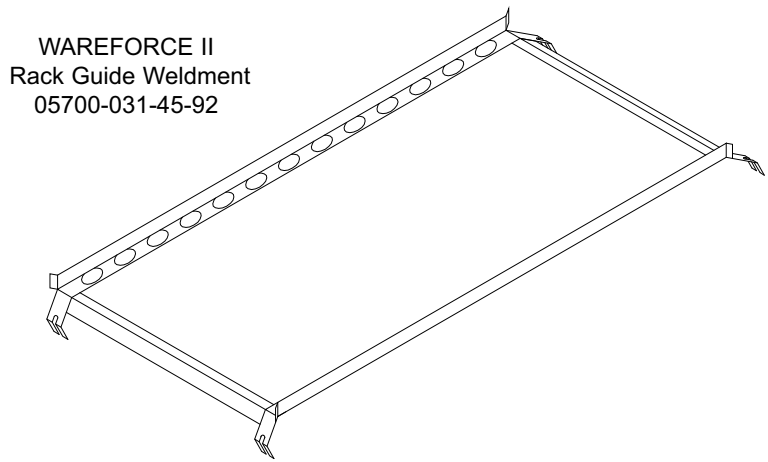


ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Solenoid Housing Weldment, WAREFORCE I	05700-002-79-29
2	1	Elbow, 3/8" Tube x 3/8"-18 NPT	04730-206-23-00
3	2	Locknut, Brass, 3/8"-18 NPT	05700-000-66-01
4	4	Locknut, 10-24 S/S Hex with Nylon Insert	05310-373-01-00
5	2	Cotter Pin, 3/32 x 3/4" Long	05315-207-01-00
6	1	Drain, Solenoid, 115 V	04810-200-11-00
6	1	Kit, Drain, Solenoid, 115 V	06401-003-08-58
6	1	Drain, Solenoid, 240 V	04810-111-87-74
6	1	Kit, Drain, Solenoid, 240 V	06401-003-08-59
7	1	Cover, Solenoid Weldment	05700-002-05-90
8	2	Screw, 10-24 x 3/8", Phillips Head	05305-173-03-00
9	1	Solenoid Conduit, WAREFORCE I	05700-002-92-47
10	2	Hose Eye	05700-002-05-61
11	1	Hose, Plunger Link	05700-002-05-70

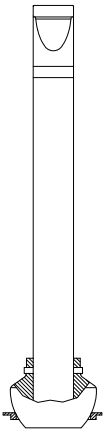
SECTION 5: PARTS SECTION
MISCELLANEOUS PARTS



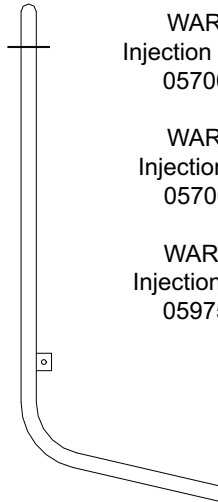
WAREFORCE II
Intake Pump Strainer Weldment
05700-031-45-26



WAREFORCE II
Rack Guide Weldment
05700-031-45-92



Stand Pipe Assembly
05700-031-35-55

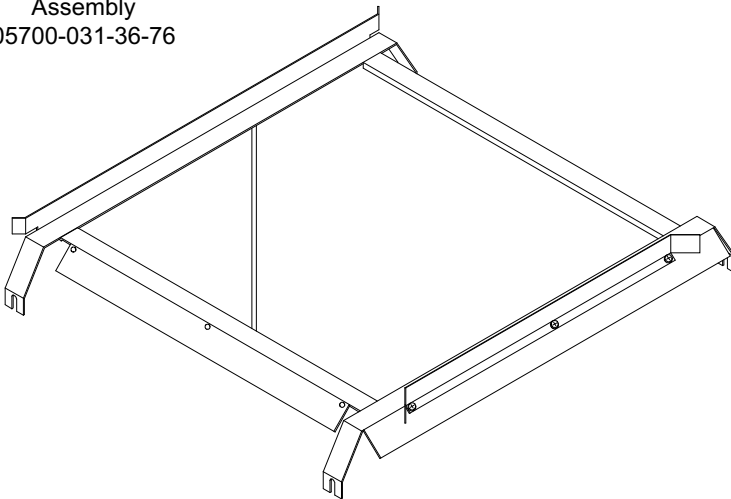


WAREFORCE II
Injection Tube Weldment
05700-002-21-52

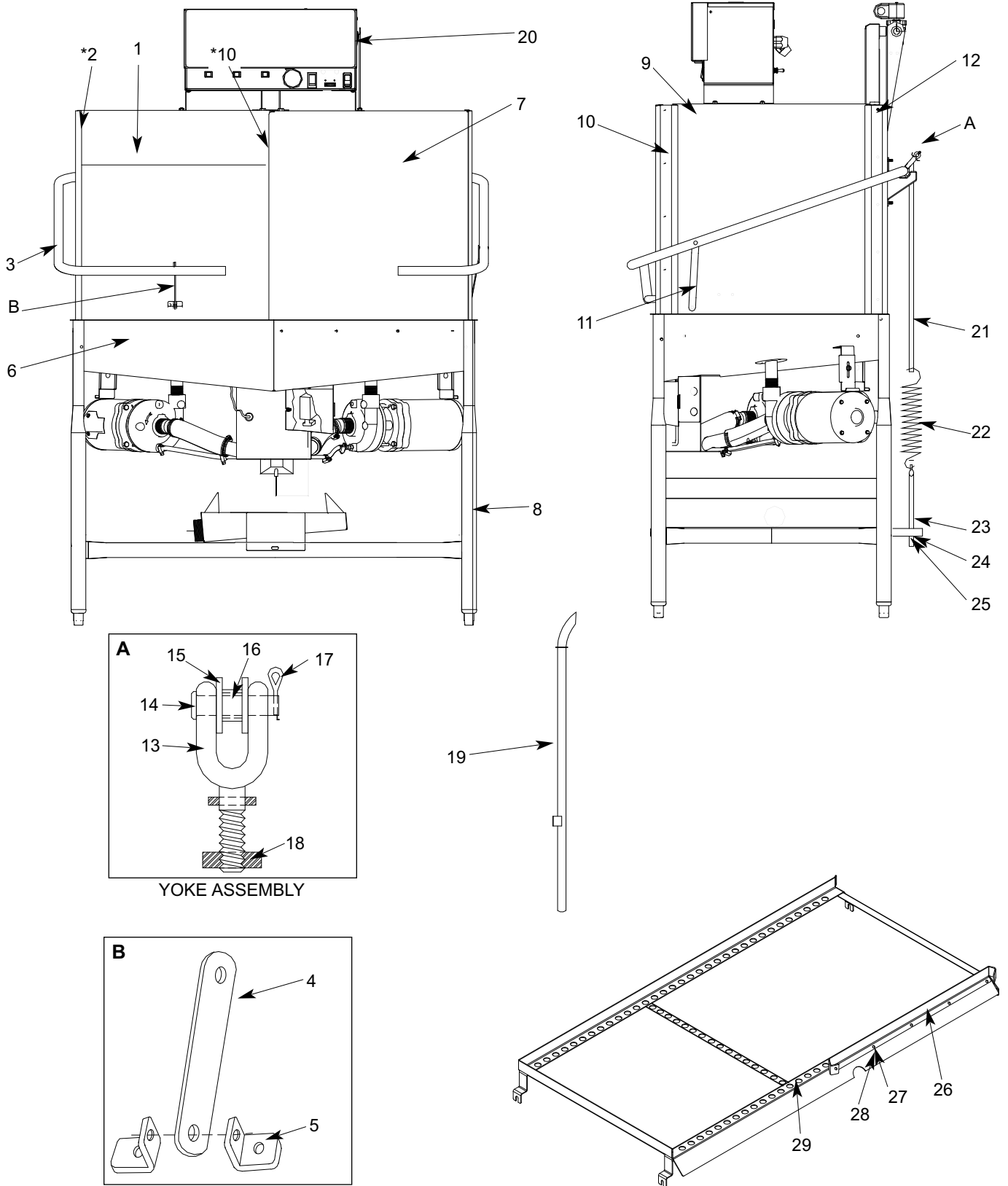
WAREFORCE II
Injection Tube Gasket
05700-011-45-36

WAREFORCE I2
Injection Tube Bushing
05975-002-47-54

WAREFORCE I Rack Guide
Assembly
05700-031-36-76



SECTION 5: PARTS SECTION
CML ASSEMBLY OPTIONS

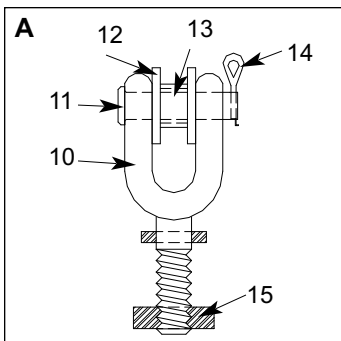
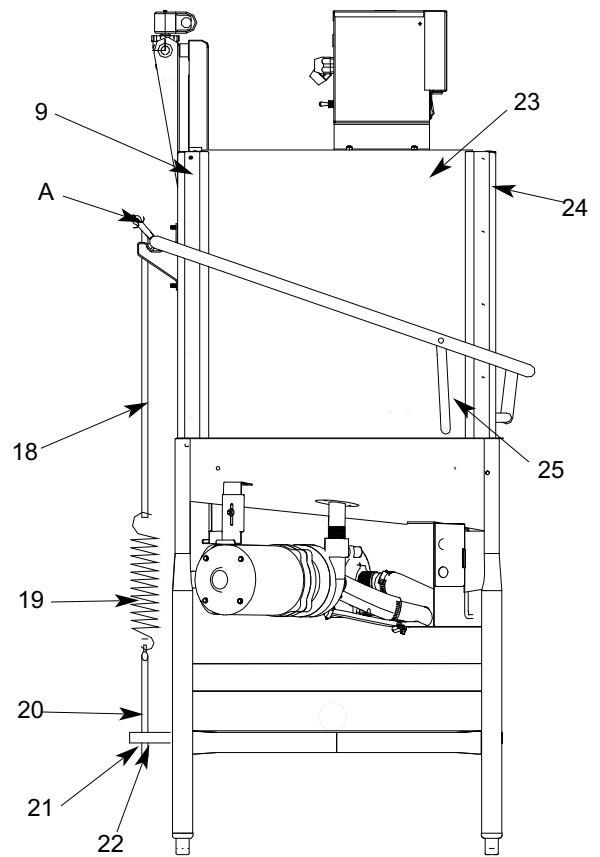
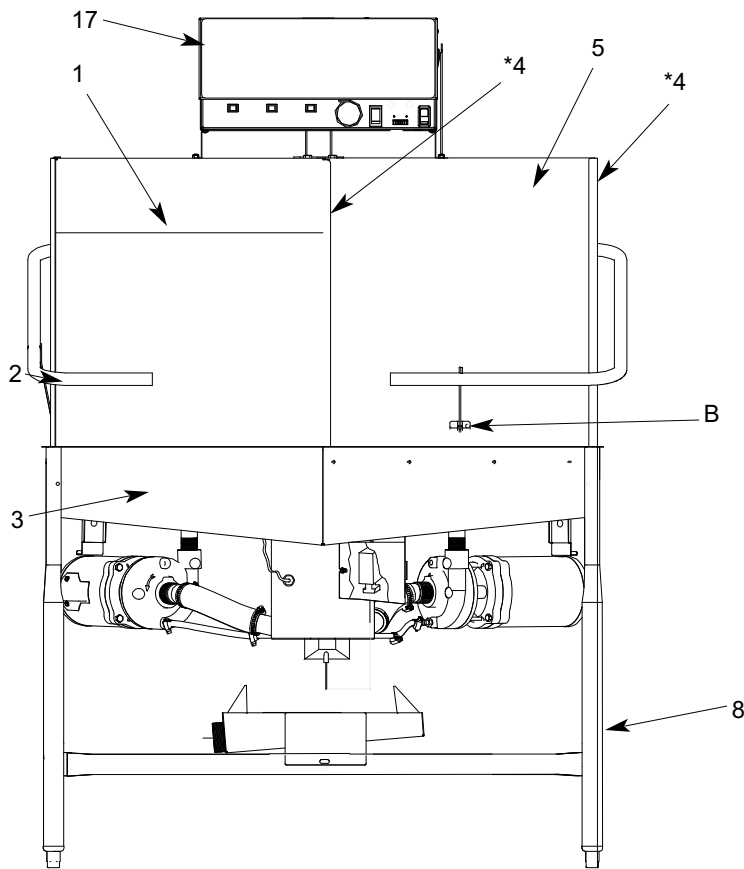


SECTION 5: PARTS SECTION
CML ASSEMBLY OPTIONS (CONTINUED)

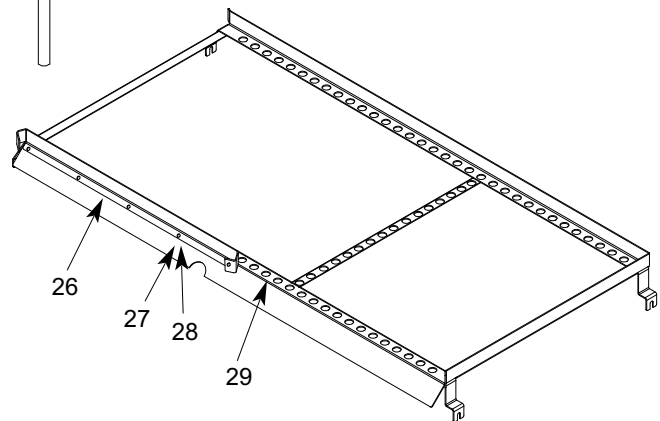
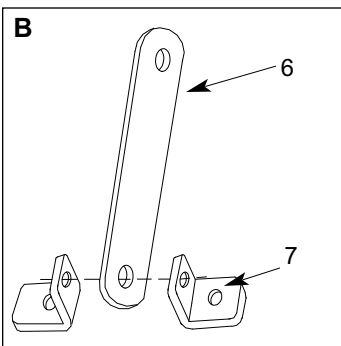
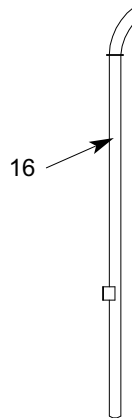
ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Front Door Assembly	05700-003-01-62
	1	Front Door	05700-003-01-61
	2	Door Glides UHMW	05700-111-33-59
2	1	Inner Door Guide	05700-002-07-21
3	1	Cantilever Arm Assembly	05700-002-07-69
	1	Cantilever Arm Weldment	05700-002-09-14
	2	Plug	05340-011-35-00
	2	Spring Pin, 1/4" Dia. X 1 1/8" Long	05315-407-06-00
	2	Yoke Assembly	05700-000-75-77
4	1	Hinge, Slotted	05700-002-07-39
5	2	Front Door Bracket	05700-002-07-37
6	1	Tub Weldment	05700-002-72-64
7	1	Hood Weldment	05700-002-72-67
8	1	Frame Weldment	05700-002-61-22
9	1	Right Door Assembly	05700-002-08-63
	1	Right Door Weldment	05700-002-08-61
	2	Door Glides UHMW	05700-111-33-59
	1	Magnet, Reed Switch	05930-111-51-68
	2	Locknut, 8-32 Hex, with Nylon Insert	05310-272-02-00
10	2	Front Door Guide	05700-021-44-94
11	1	Bracket, Side Door Connecting	05700-002-07-33
12	1	Right Rear Door Guide	05700-021-84-70
A		Yoke Assembly	05700-000-75-77
13	1	Yoke	05700-000-75-78
14	1	Pin, Clevis 5/16" x 1 3/8"	05315-700-01-00
15	2	Washer, Nylon	05311-369-03-00
16	1	Bushing	03120-100-03-00
17	1	Cotter Pin, 3/32" x 3/4"	05315-207-01-00
18	1	Nut, 3/8"-16 S/S, Center Locknut	05310-256-04-00
19	1	Chemical Feed Tube Weldment	05700-002-08-14
	1	Gasket, Chemical Feed Tube	05700-011-45-36
	1	Bushing, 3/4" Hole Snap	05975-002-47-54
20	1	Control Box Assembly	N/A
21	2	Spring Rod	05700-001-28-18
22	2	Spring	05340-109-02-00
23	2	Bolt, Hanger Eye	05306-956-05-00
24	2	Washer, Impeller	05311-176-02-00
25	4	Nut, Hex 3/8"-16 S/S	05310-276-01-00
		Rack Rail Assembly	05700-002-08-64
26	1	Rack Rail Weldment	05700-002-07-65
27	3	Locknut, 10-24 Hex, S/S, with Nylon Insert	05310-373-01-00
28	3	Screw, 10-24 x 1/2" Long S/S	05305-173-18-00
29	1	Guard, Front Track	05700-002-07-44

* Represents an item not shown.

SECTION 5: PARTS SECTION
CMR ASSEMBLY OPTIONS



YOKE ASSEMBLY



SECTION 5: PARTS SECTION
CMR ASSEMBLY OPTIONS (CONTINUED)

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Hood Weldment	05700-003-38-90
2*	1	Cantilever Arm Assembly	05700-002-07-70
	1	Cantilever Arm Weldment	05700-002-09-13
	2	Plug	05340-011-35-00
	2	Spring Pin, 1/4" Dia. x 1-1/8" Long	05315-407-06-00
	2	Yoke Assembly	05700-000-75-77
3	1	Tub Weldment	05700-002-54-34
4*	2	Inner Door Guide	05700-002-07-21
5	1	Front Door Assembly	05700-003-01-62
	1	Front Door	05700-003-01-61
	2	Door Glide, UHMW	05700-111-33-59
6	1	Hinge, Slotted	05700-002-07-39
7	2	Front Door Bracket	05700-002-07-37
8	1	Frame Weldment	05700-002-61-22
9	1	Left Rear Door Guide	05700-021-84-71
A		Yoke Assembly	05700-000-75-77
10	1	Yoke	05700-000-75-78
11	1	Pin, Clevis, 5/16" x 1-3/8"	05315-700-01-00
12	2	Washer, Nylon	05311-369-03-00
13	1	Bushing	03120-100-03-00
14	1	Cotter Pin, 3/32" x 3/4"	05315-207-01-00
15	1	Nut, 3/8"-16, SS, Center Locknut	05310-256-04-00
16	1	Chemical Feed Tube Weldment	05700-002-08-14
	1	Gasket, Chemical Feeding Tube	05700-011-45-36
	1	Bushing, 3/4" Hole, Snap	05975-002-47-54
17	1	Control Box Assembly	N/A
18	2	Spring Rod	05700-001-28-18
19	2	Spring	05340-109-02-00
20	2	Bolt, Hanger Eye	05306-956-05-00
21	2	Washer, Impeller	05311-176-02-00
22	4	Nut, Hex, 3/8"-16, SS	05310-276-01-00
23	1	Left Door Assembly	05700-002-08-84
	1	Left Door Weldment	05700-002-08-60
	2	Door Glide, UHMW	05700-111-33-59
	1	Magnet, Reed Switch	05930-111-51-68
	2	Locknut, 8-32 Hex with Nylon Insert	05310-272-02-00
24	1	Front Door Guide	05700-021-44-94
25	1	Bracket, Side Door Connecting	05700-002-07-33
		Rack Rail Assembly	05700-002-08-85
26	1	Rack Rail Weldment	05700-002-07-64
27	3	Locknut, 10-24 with Nylon Insert	05310-373-01-00
28	3	Screw, 10-24 x 1/2" Long SS	05305-173-18-00
29	1	Guard, Front Track	05700-002-07-44

* Represents an item not shown.

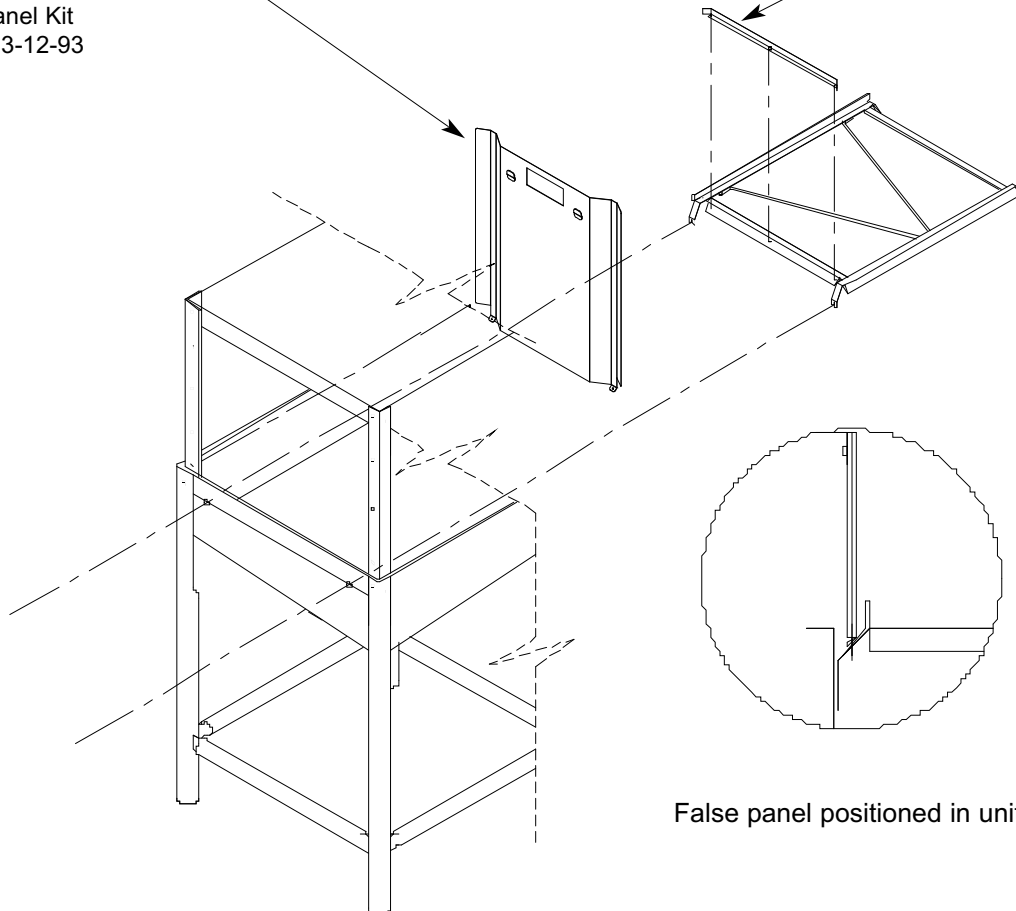
SECTION 5: PARTS SECTION

FALSE PANEL INSTALLATION

False Panel Weldment
05700-002-51-66

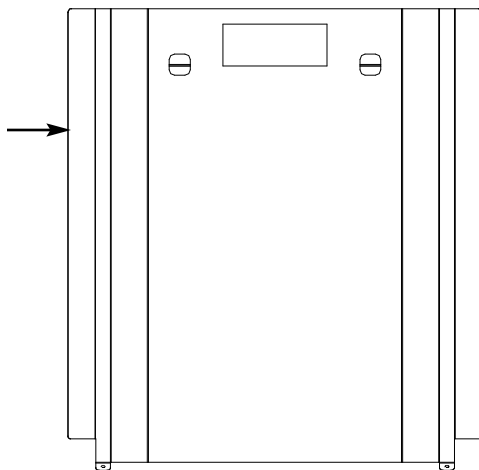
False Panel Kit
05700-003-12-93

Rack rail removed & repositioned for a corner operation.



False panel positioned in unit.

Insert this side first.



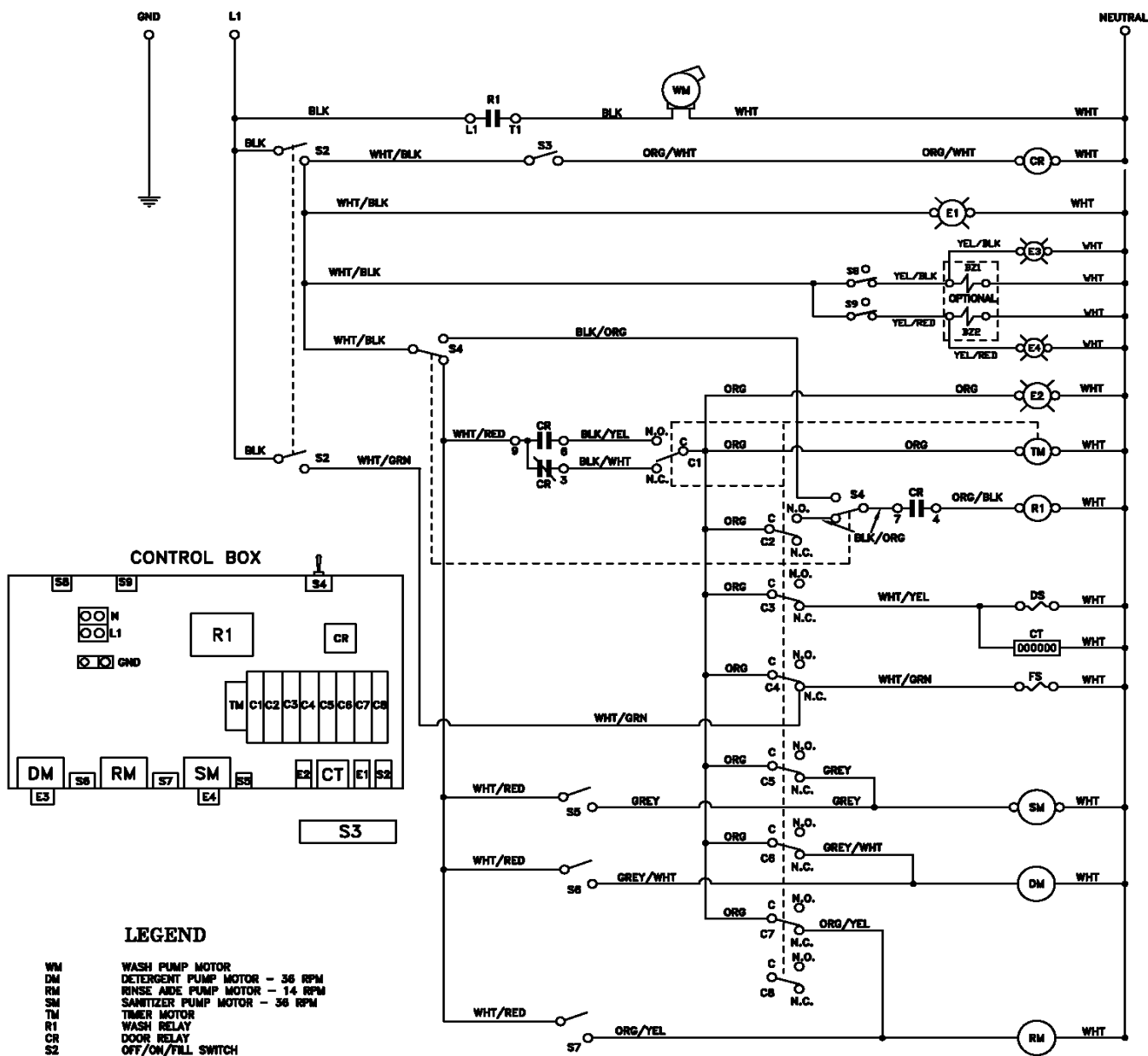
Bottom of side panel.

1. Loosen the rack assembly from the unit.
2. False panel will mount to the rack; inside the dishmachine.
3. Position panel in unit on side to be closed.
4. Hold panel against side of dishmachine and push up.
5. Panel will clip inside the unit under the edge of the hood.
6. Holes in false panel will line up with rack assembly holes.
7. Re-install screws for rack assembly which will secure false panel to unit.
8. Re-assemble the rack track in an "L" shape for a corner operation.

SECTION 6: ELECTRICAL SCHEMATICS

SECTION 6: ELECTRICAL SCHEMATICS

WAREFORCE I 115 VOLT - 60 HERTZ - SINGLE PHASE - MECHANICAL TIMER

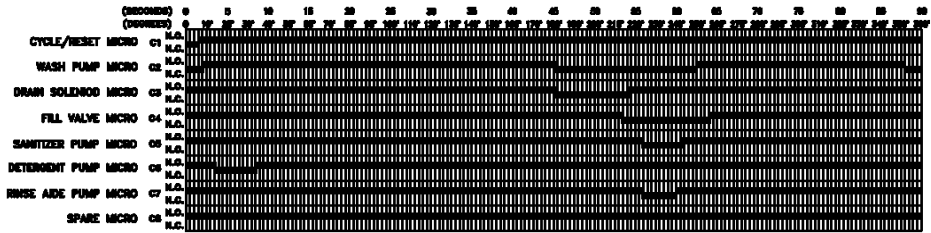


CONTROL BOX

LEGEND

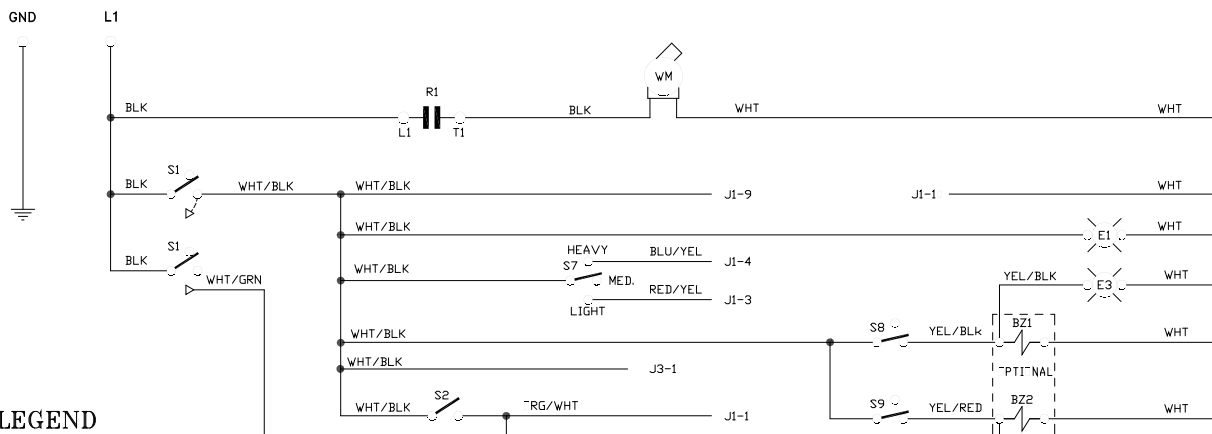
- WM WASH PUMP MOTOR
- DM DETERGENT PUMP MOTOR - 36 RPM
- RM RINSE AIDE PUMP MOTOR - 14 RPM
- SM SANITIZER PUMP MOTOR - 36 RPM
- TM TIMER MOTOR
- R1 WASH RELAY
- CR DOOR RELAY
- S2 OFF/ON/FILL SWITCH
- S3 DOOR SWITCH
- S4 DELIME SWITCH
- S5 SANITIZER PRIME SWITCH
- S6 DETERGENT PRIME SWITCH
- S7 RINSE AID PRIME SWITCH
- S8 DETERGENT VACUUM SWITCH
- S9 SANITIZER VACUUM SWITCH
- E1 POWER LIGHT
- E2 CYCLE LIGHT
- E3 DETERGENT LIGHT
- E4 SANITIZER LIGHT
- DS DRAIN SOLENOID
- FS FILL SOLENOID
- C1 CYCLE/RESET MICROSWITCH
- C2 WASH MICROSWITCH
- C3 DRAIN MICROSWITCH
- C4 FILL MICROSWITCH
- C5 SANITIZER MICROSWITCH
- C6 DETERGENT MICROSWITCH
- C7 RINSE ADDITIVE MICROSWITCH
- C8 SPARE MICROSWITCH
- CT COUNTER
- BZ1 DETERGENT BUZZER
- BZ2 SANITIZER BUZZER

TIMING CHART



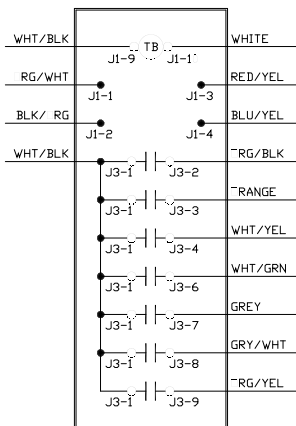
SECTION 6: ELECTRICAL SCHEMATICS

WAREFORCE I 115 VOLT - 60 HERTZ - SINGLE PHASE - UNIVERSAL TIMER



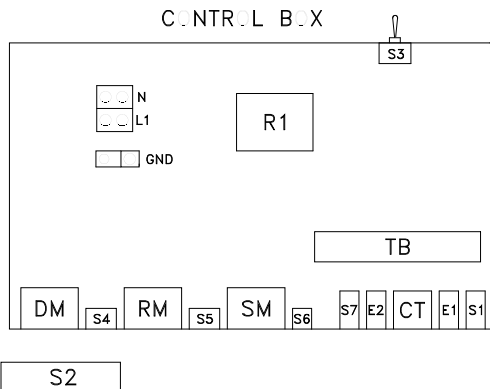
LEGEND

- WM WASH PUMP MOTOR
- DM DETERGENT PUMP MOTOR - 36 RPM
- RM RINSE AIDE PUMP MOTOR - 14 RPM
- SM SANITIZER PUMP MOTOR - 36 RPM
- R1 WASH CONTACTOR
- S1 OFF/FILL SWITCH
- S2 DRAIN SWITCH
- S3 DELIME SWITCH
- S4 DETERGENT PRIME SWITCH
- S5 RINSE AIDE PRIME SWITCH
- S6 SANITIZER PRIME SWITCH
- S7 CYCLE SELECTOR SWITCH
- S8 DETERGENT VACCUME SWITCH
- S9 SANITIZER VACCUME SWITCH
- E1 POWER LIGHT
- E2 CYCLE LIGHT
- E3 DETERGENT LIGHT
- E4 SANITIZER LIGHT
- DS DRAIN SOLENOID
- FS FILL SOLENOID
- CT CENTER
- BZ1 DETERGENT BUZZER
- BZ2 SANITIZER BUZZER
- TB TIMER BOARD



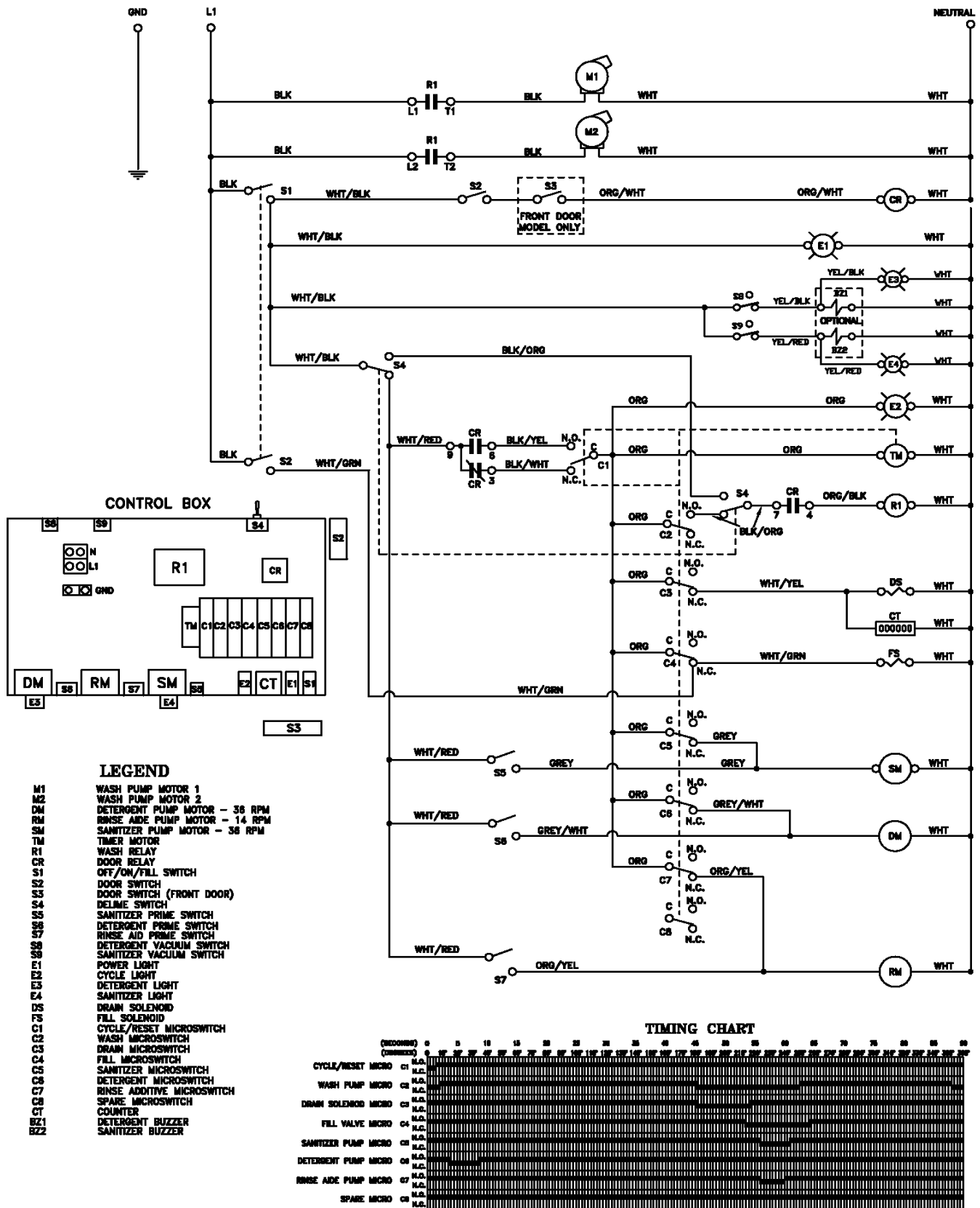
TIMING CHART

	1	2	3	4	5	6	7	8	9
WASH	FF								
DRAIN	FF								
FILL	FF								
SANIT.	FF								
DET.	FF								
RINSE AIDE	FF								



SECTION 6: ELECTRICAL SCHEMATICS

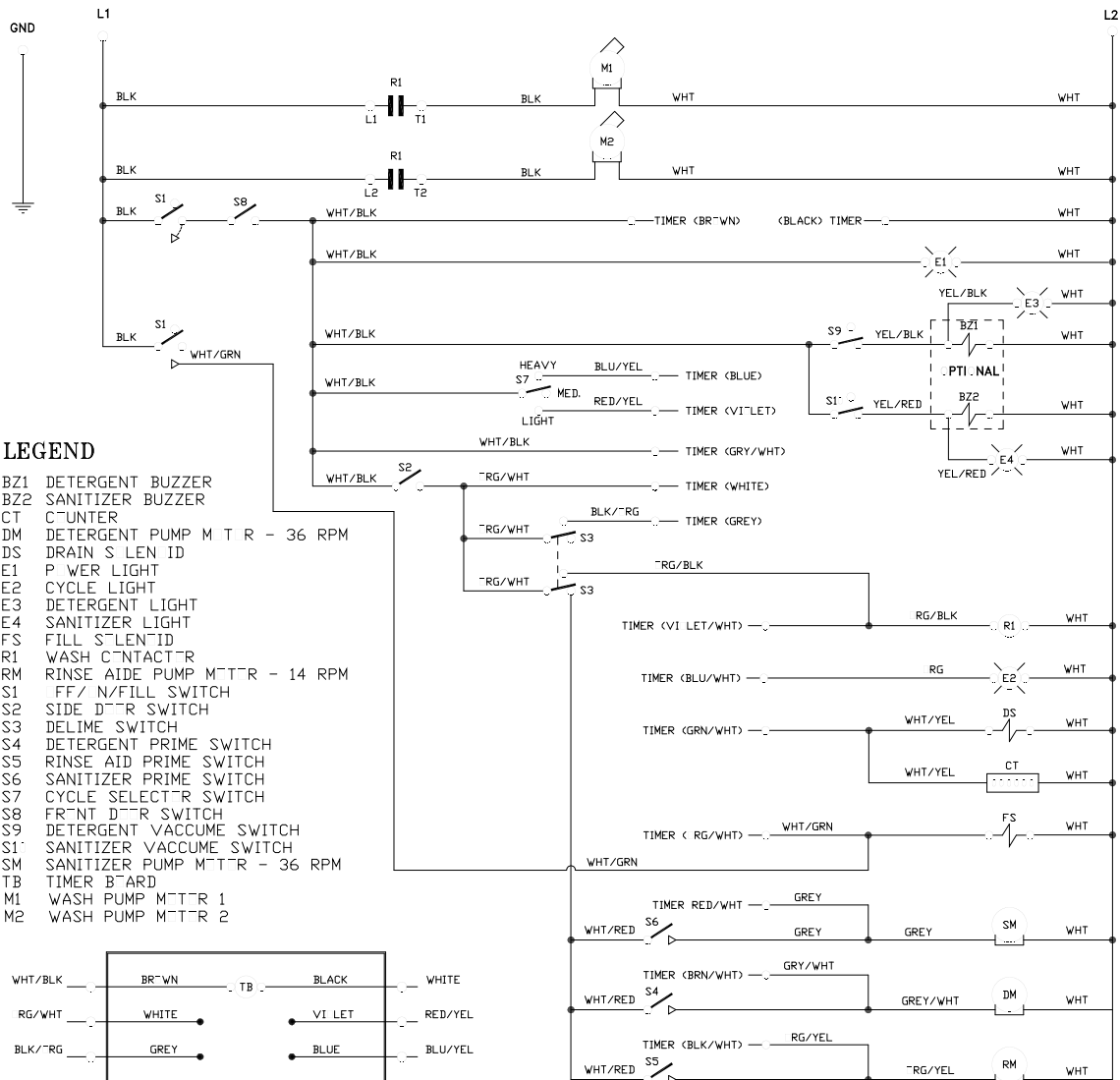
WAREFORCEII 115 VOLT - 60 HERTZ - SINGLE PHASE - MECHANICAL TIMER



09905-004-28-27

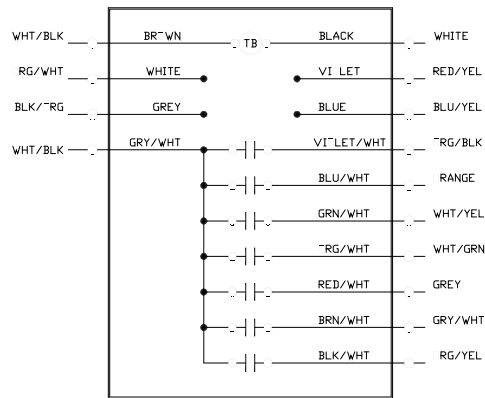
SECTION 6: ELECTRICAL SCHEMATICS

WAREFORCE II 115 VOLT - 60 HERTZ - SINGLE PHASE - UNIVERSAL TIMER



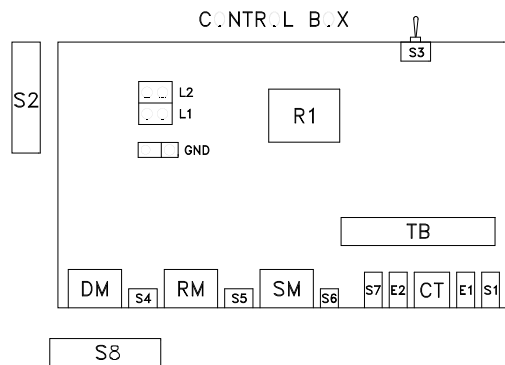
LEGEND

- BZ1 DETERGENT BUZZER
- BZ2 SANITIZER BUZZER
- CT COUNTER
- DM DETERGENT PUMP MOTOR - 36 RPM
- DS DRAIN SLENID
- E1 POWER LIGHT
- E2 CYCLE LIGHT
- E3 DETERGENT LIGHT
- E4 SANITIZER LIGHT
- FS FILL SLENID
- R1 WASH CONTACTOR
- RM RINSE AIDE PUMP MOTOR - 14 RPM
- S1 FF/N/FILL SWITCH
- S2 SIDE DTR SWITCH
- S3 DELIME SWITCH
- S4 DETERGENT PRIME SWITCH
- S5 RINSE AID PRIME SWITCH
- S6 SANITIZER PRIME SWITCH
- S7 CYCLE SELECTOR SWITCH
- S8 FRNT DTR SWITCH
- S9 DETERGENT VACCUME SWITCH
- S10 SANITIZER VACCUME SWITCH
- SM SANITIZER PUMP MOTOR - 36 RPM
- TB TIMER BOARD
- M1 WASH PUMP MOTOR 1
- M2 WASH PUMP MOTOR 2



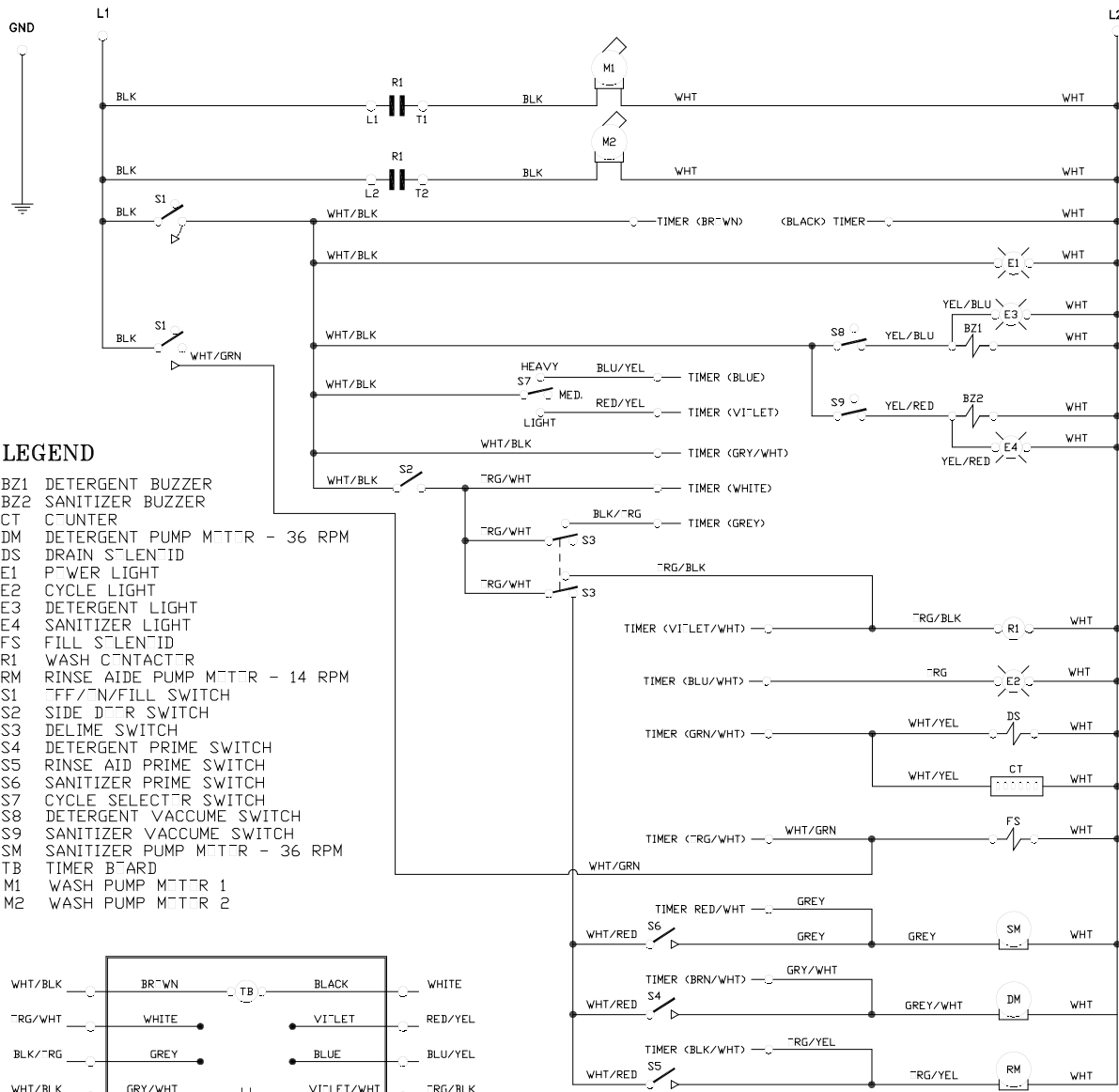
TIMING CHART

	1	2	3	4	5	6	7	8	9
WASH	N	FF							
DRAIN	N	FF							
E FILL	N	FF							
F SANIT.	N	FF							
G DET.	N	FF							
H RINSE AID	N	FF							



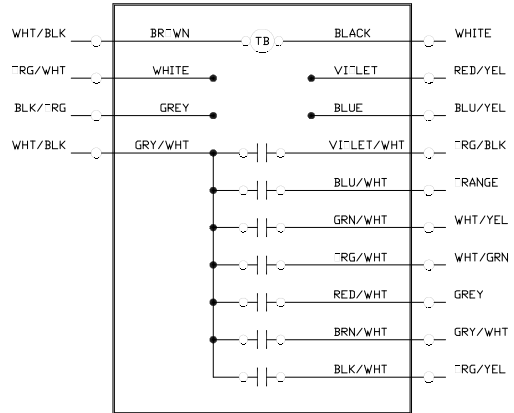
SECTION 6: ELECTRICAL SCHEMATICS

WAREFORCE II-CL/CR 115 VOLT - 60 HERTZ - SINGLE PHASE



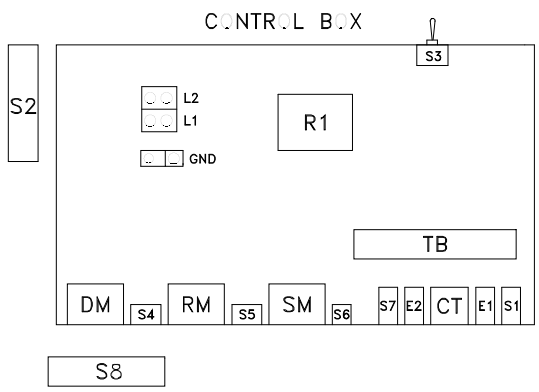
LEGEND

- BZ1 DETERGENT BUZZER
- BZ2 SANITIZER BUZZER
- CT COUNTER
- DM DETERGENT PUMP MOTOR - 36 RPM
- DS DRAIN SILENTER
- E1 POWER LIGHT
- E2 CYCLE LIGHT
- E3 DETERGENT LIGHT
- E4 SANITIZER LIGHT
- FS FILL SILENTER
- R1 WASH CONTACTOR
- RM RINSE AIDE PUMP MOTOR - 14 RPM
- S1 OFF/FILL SWITCH
- S2 SIDE DTR SWITCH
- S3 DELIME SWITCH
- S4 DETERGENT PRIME SWITCH
- S5 RINSE AID PRIME SWITCH
- S6 SANITIZER PRIME SWITCH
- S7 CYCLE SELECTOR SWITCH
- S8 DETERGENT VACCUME SWITCH
- S9 SANITIZER VACCUME SWITCH
- SM SANITIZER PUMP MOTOR - 36 RPM
- TB TIMER BOARD
- M1 WASH PUMP MOTOR 1
- M2 WASH PUMP MOTOR 2



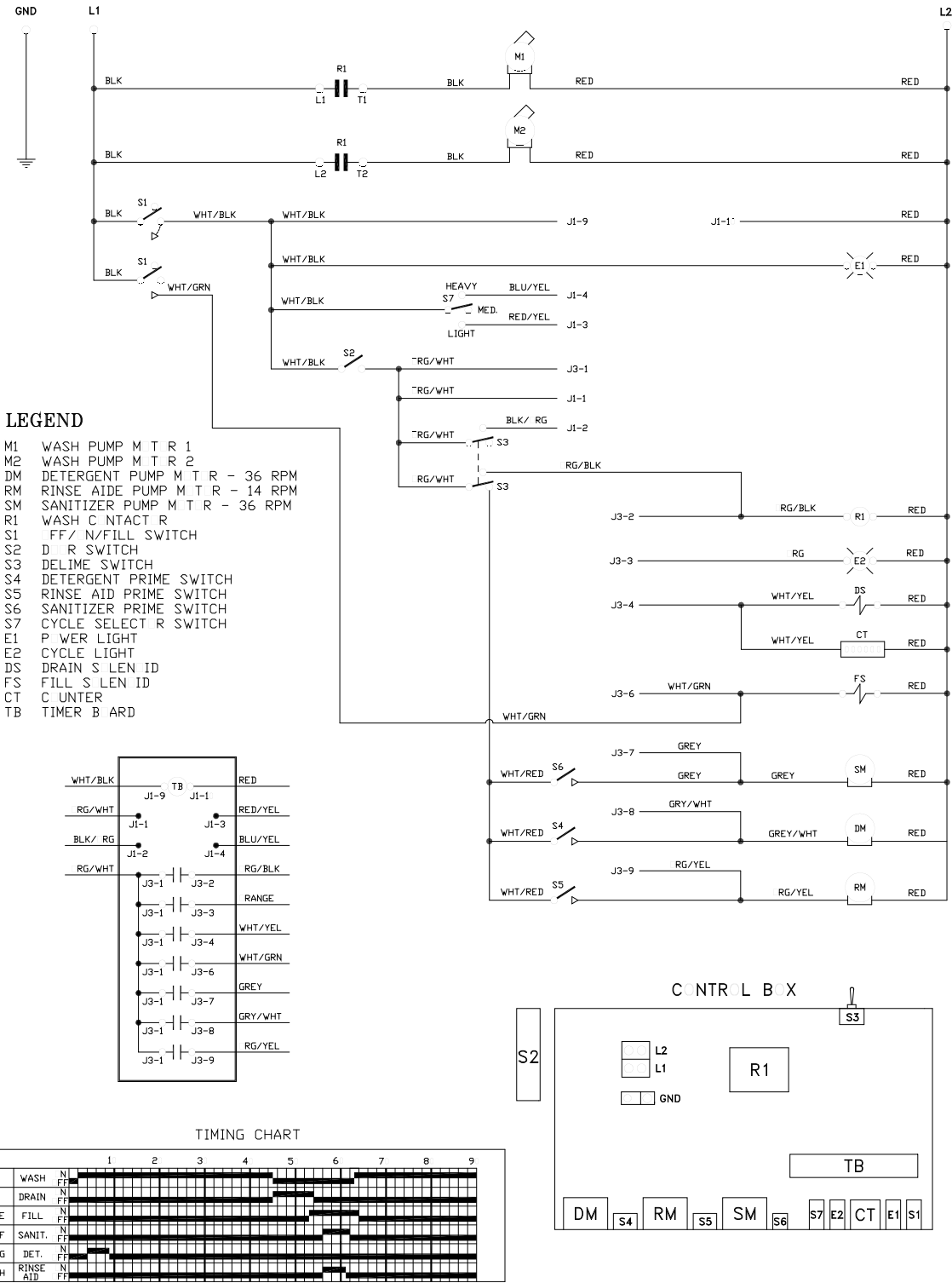
TIMING CHART

		1'	2'	3'	4'	5'	6'	7'	8'	9'
WASH	-N	[Solid bar]								
	-FF	[Solid bar]								
DRAIN	-N	[Solid bar]								
	-FF	[Solid bar]								
FILL	-N	[Solid bar]								
	-FF	[Solid bar]								
SANIT.	-N	[Solid bar]								
	-FF	[Solid bar]								
DET.	-N	[Solid bar]								
	-FF	[Solid bar]								
RINSE AID	-N	[Solid bar]								
	-FF	[Solid bar]								



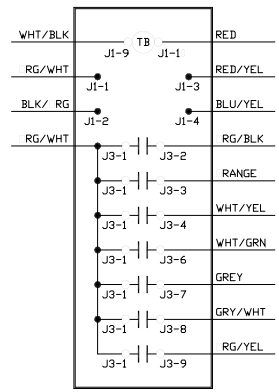
SECTION 6: ELECTRICAL SCHEMATICS

WAREFORCE II-CL/CR 208-230 VOLT - 60 HERTZ - SINGLE PHASE



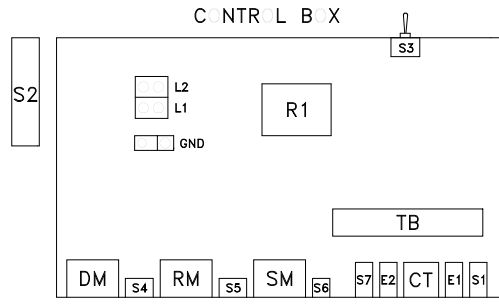
LEGEND

- M1 WASH PUMP M T R 1
- M2 WASH PUMP M T R 2
- DM DETERGENT PUMP M T R - 36 RPM
- RM RINSE AIDE PUMP M T R - 14 RPM
- SM SANITIZER PUMP M T R - 36 RPM
- R1 WASH C N T A C T R
- S1 FF/ N/FILL SWITCH
- S2 D R SWITCH
- S3 DELIME SWITCH
- S4 DETERGENT PRIME SWITCH
- S5 RINSE AID PRIME SWITCH
- S6 SANITIZER PRIME SWITCH
- S7 CYCLE SELECT R SWITCH
- E1 P W E R L I G H T
- E2 C Y C L E L I G H T
- DS D R A I N S E N S I D
- FS F I L L S E N S I D
- CT C U N T E R
- TB T I M E R B A R D

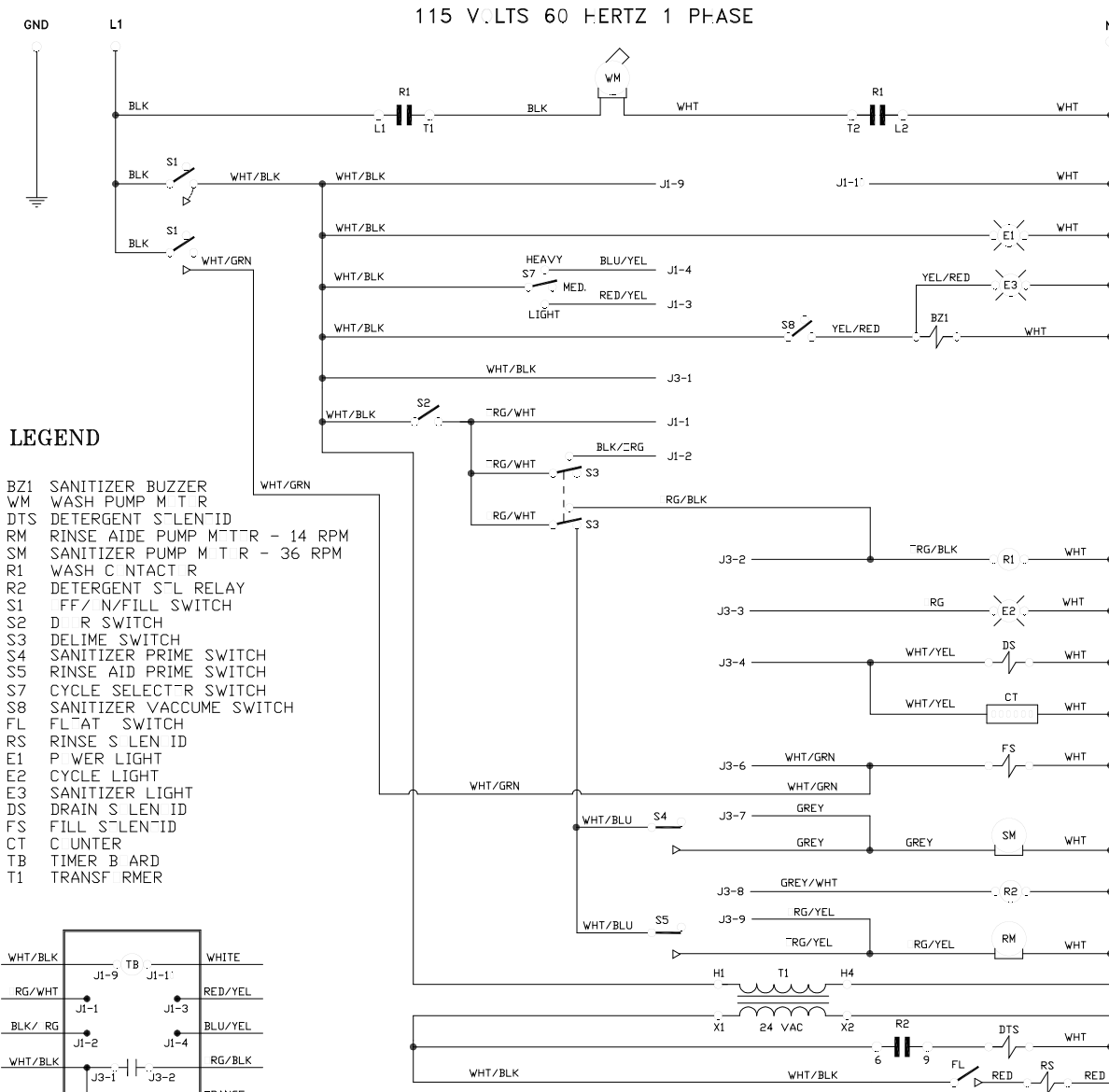


TIMING CHART

		1	2	3	4	5	6	7	8	9
W	WASH	N	FF	FF	FF	FF	FF	FF	FF	FF
D	DRAIN	N	FF	FF	FF	FF	FF	FF	FF	FF
E	FILL	N	FF	FF	FF	FF	FF	FF	FF	FF
F	SANIT.	N	FF	FF	FF	FF	FF	FF	FF	FF
G	DET.	N	FF	FF	FF	FF	FF	FF	FF	FF
H	RINSE AID	N	FF	FF	FF	FF	FF	FF	FF	FF

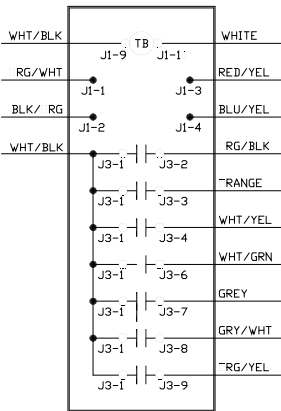


SECTION 6: ELECTRICAL SCHEMATICS

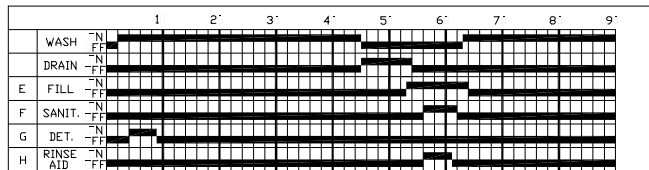


LEGEND

- BZ1 SANITIZER BUZZER
- WM WASH PUMP MOTOR
- DTS DETERGENT SLENID
- RM RINSE AIDE PUMP MOTOR - 14 RPM
- SM SANITIZER PUMP MOTOR - 36 RPM
- R1 WASH CONTACT RELAY
- R2 DETERGENT SLEN RELAY
- S1 FF/ N/FILL SWITCH
- S2 DRAIN SWITCH
- S3 DELIME SWITCH
- S4 SANITIZER PRIME SWITCH
- S5 RINSE AIDE PRIME SWITCH
- S7 CYCLE SELECTOR SWITCH
- S8 SANITIZER VACCUME SWITCH
- FL FLAT SWITCH
- RS RINSE SLEN ID
- E1 P WER LIGHT
- E2 CYCLE LIGHT
- E3 SANITIZER LIGHT
- DS DRAIN SLEN ID
- FS FILL SLENID
- CT C UNTER
- TB TIMER BOARD
- T1 TRANSFORMER

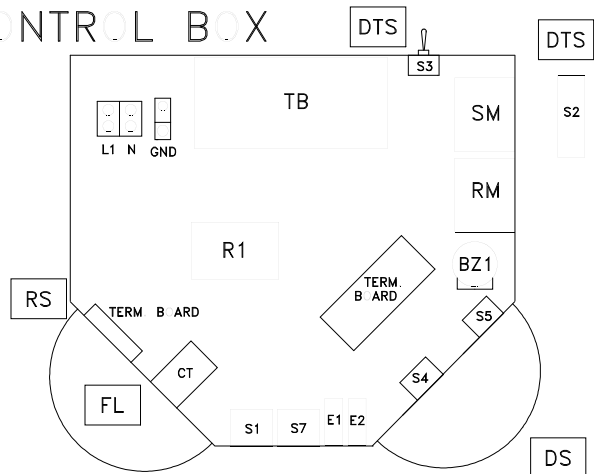


TIMING CHART



1995-113-75-1 B

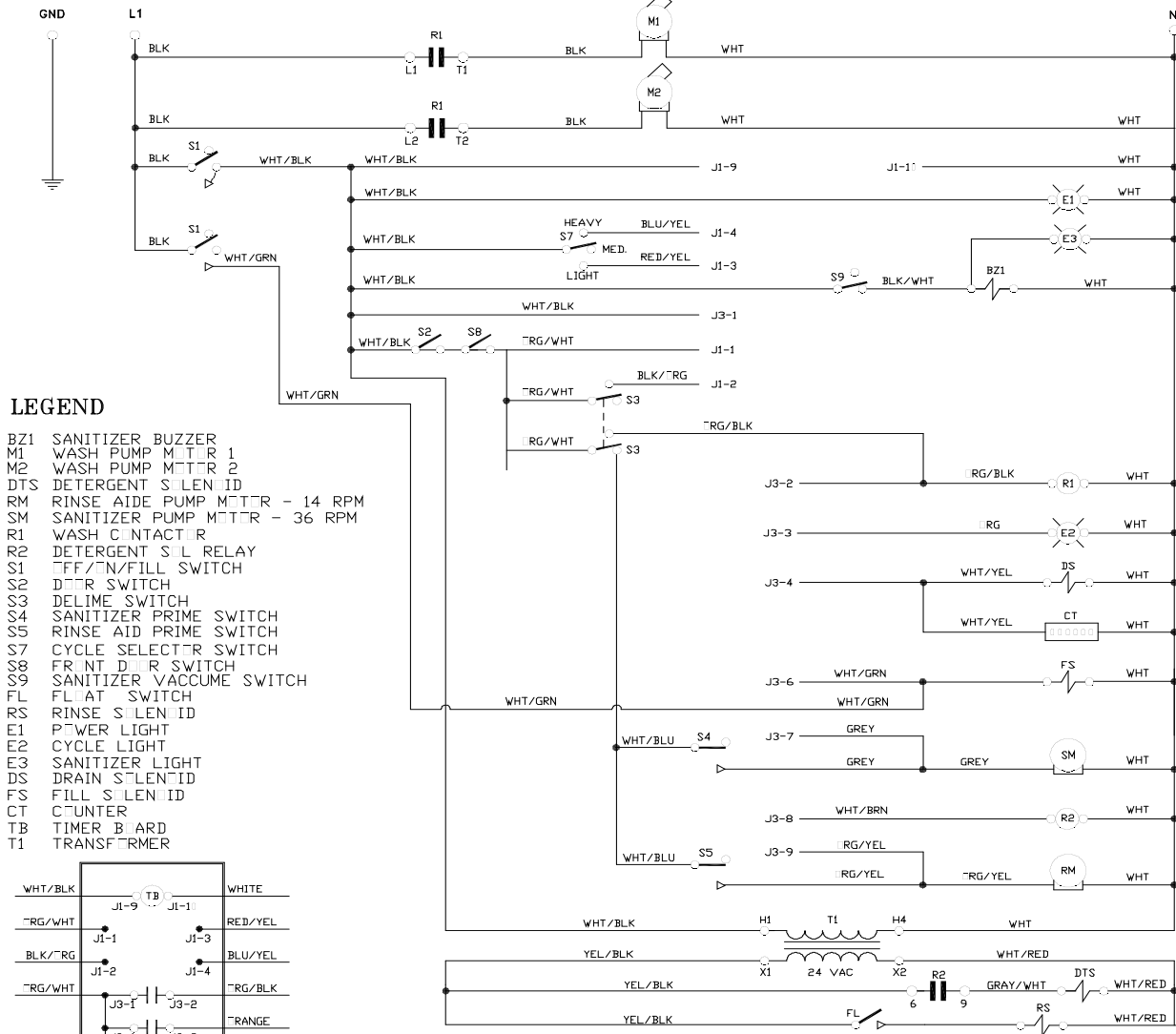
CONTROL BOX



SECTION 6: ELECTRICAL SCHEMATICS

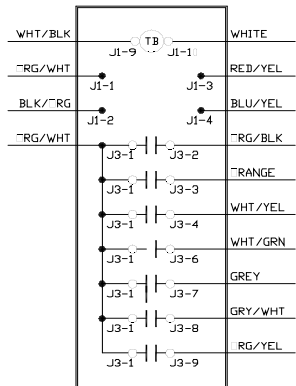
WAREFORCE II (Bowl Dispenser Option) ELECTRICAL DIAGRAM

115 VOLTS 60 HERTZ 1 PHASE



LEGEND

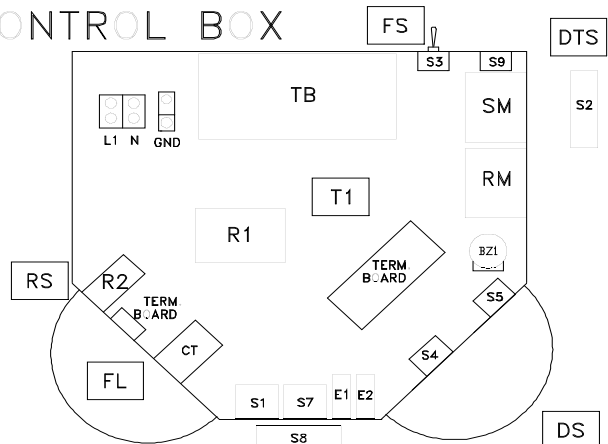
- BZ1 SANITIZER BUZZER
- M1 WASH PUMP MOTOR 1
- M2 WASH PUMP MOTOR 2
- DTS DETERGENT SOLENOID
- RM RINSE AIDE PUMP MOTOR - 14 RPM
- SM SANITIZER PUMP MOTOR - 36 RPM
- R1 WASH CONTACTOR
- R2 DETERGENT SOL RELAY
- S1 TFF/TN/FILL SWITCH
- S2 MOTOR SWITCH
- S3 DELIME SWITCH
- S4 SANITIZER PRIME SWITCH
- S5 RINSE AID PRIME SWITCH
- S7 CYCLE SELECTOR SWITCH
- S8 FRONT DOOR SWITCH
- S9 SANITIZER VACCUME SWITCH
- FL FLAT SWITCH
- RS RINSE SOLENOID
- E1 POWER LIGHT
- E2 CYCLE LIGHT
- E3 SANITIZER LIGHT
- DS DRAIN SOLENOID
- FS FILL SOLENOID
- CT COUNTER
- TB TIMER BOARD
- T1 TRANSFORMER



TIMING CHART

	1	2	3	4	5	6	7	8	9
WASH	NI	FF							
DRAIN	NI	FF							
E FILL	NI	FF							
F SANIT.	NI	FF							
G DET.	NI	FF							
H RINSE AID	NI	FF							

CONTROL BOX



099 5-113-72-11 A

WAREFORCETM

November 6, 2015
07610-003-67-04 K

Jackson WWS, INC.
P.O. BOX 1060
HWY. 25E
BARBOURVILLE, KY 40906
FAX (606) 523-9196
PHONE (606) 523-9795
www.jacksonwws.com